1969

The RADIO-ELECTRONIC MASTER

Division of
Cox Broadcasting Corp.

Catalog of ELECTRONIC PARTS, INSTRUMENTS AND EQUIPMENT Sold through Distributors

COMPANION TO eem
ELECTRONIC ENGINEERS MASTER

33rd Edition

PRINTED IN U.S.A.

1

1969

33rd Edition

Price: $10.00

THE RADIO ELECTRONIC MASTER

OFFICIAL CATALOG

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Other Publications and Services: **eem** — *Electronic Engineers Master* • **electronic products** *Magazine* • *Office Products News* • *United Pricing Reports* • *United Cost Service* • *Audio-File* • *Retirement Advisors, Inc.* • *National Auto Research Publications, Inc.* • *Industrial Machinery News*

DESCRIPTIONS • SPECIFICATIONS **ILLUSTRATIONS • PRICES**

UNITED TECHNICAL PUBLICATIONS
Division of Cox Broadcasting Corporation
645 STEWART AVENUE • GARDEN CITY, N. Y. 11530

New York: Alex Bass, 645 Stewart Avenue, Garden City, N. Y. 11530, (516) 248-9700; **New Jersey:** Tom Crow, 200 Baldwin Road, Parsippany, N. J. 07054, (201) 335-0522; **New England:** John Sly, 679 Main Street, Hingham, Mass. 02043, (617) 749-5326; **Middle Atlantic:** Bernard Gittelman, 1209 Paper Mill Road, Erdenheim, Phila., Pa. 19118, (215) ADams 3-0808; **Southeast:** E. Lucian Neff, 25 Castle Harbor Isle, Fort Lauderdale, Florida 33308, (305) 566-5656; **OHIO:** F. King Bridgman, 3535 Lee Road, Cleveland, Ohio 44120, (216) 752-0225; **Midwest:** Gerald Wolfe, William Facinelli, Bill Pattis, 4761 W. Touhy Avenue, Lincolnwood, Ill. 60646, (312) 679-1100; **Los Angeles & Texas:** David Rafkin, Lee Alward, 1609 Westwood Blvd., Los Angeles, Calif. 90024, (213) 477-4289; **San Francisco & Arizona:** John C. Jones, 1921 California Street, Mountain View, Calif. 94040, (415) 968-0505; **Japan—Tokyo:** International Media Representatives, Ltd., 3 Nakanocho Akasaka, Minatoku, Tokyo 582-5881 — **Osaka:** International Media Representatives, Ltd., P.O. Box 1211, Osaka 362-8771; **Britain & France:** John Ashcraft, 12 Bear Street, Leicester Square, London, WC-2, 01-930-0525; **Benelux & Germany:** John Ashcraft, W. J. M. Sanders, Herengracht 365, Amsterdam, 020-24.09.08.

THE RADIO ELECTRONIC MASTER

1969 — 33rd EDITION

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Library of Congress Catalog Card No. 39-15586

PRINTED IN U.S.A.

GUIDE TO PRODUCT SECTIONS

As publisher of The Radio-Electronic MASTER, we take great pride in the fact that this publication has reflected the progress and growth of the electronic industry for more than 33 years.

The 35 Product Sections listed below broadly categorize related electronic products and services so that you can quickly compare similar items within the sections. However, to locate specific products, always refer to the General Index. NOTE: Catalog pages are arranged alphabetically by manufacturers' names within each section.

Sec. 1200 Pages 21 thru 33	Antennas, Towers, Signal-Distribution Equipment & Accessories
Sec. 1300 Pages 34 thru 74	Audio: High Fidelity Tuners, Amplifiers, Sound Systems, Intercoms, Megaphones, Kits
Sec. 1320 Pages 75 thru 124	Audio: Speakers & Systems, Enclosures, Microphones, Headphones, Accessories
Sec. 1340 Pages 125 thru 136	Audio: Recording & Playback Equipment, Magnetic Tape, Accessories
Sec. 1400 Pages 137 thru 253	Cabinets, Chassis, Racks, Containers, etc.
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Sec. 2400 Pages 817 thru 827	Dials, Knobs, Panel Markers & Nameplates, Bezels, etc.
Sec. 2600 Pages 828 thru 832	Fans, Blowers, Cooling Equipment
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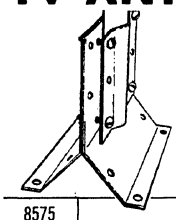
GC-TELCO TV HARDWARE - MOUNTS

TV ANTENNA ROOF MOUNTS

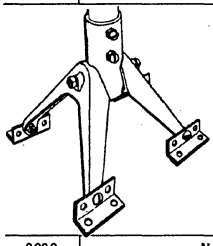


TELCO ALL-PURPOSE ANTENNA MOUNT

Mast will mount vertically on roof or horizontally on house wall

For angle or flat roofs and corners. Will support masts up to 1¾" diameter. Made of extra heavy gauge steel, zinc plated, clear chromate dipped – doubly protected against rust. Salt spray and corrosion resistant.

8575	All purpose antenna mount	4.30	30 lbs.	12	2.57

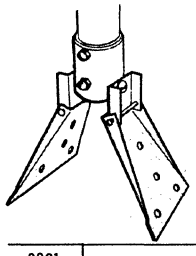


TELCO NO-GUY ROOF MOUNT

Deluxe Cast Iron Base

A combination steel and castiiron base which will mount over roof ridge or on flat surfaces. Legs are adjustable to roof angle. Will accept masts up to 1½" diameter and 10 feet in length without guy wires. All-weather finish.

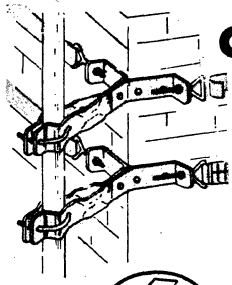
9060	No-Guy Roof Mount	8.85	48 lbs.	12	5.31



TELCO HINGED TYPE RIDGE MOUNT

Adjustable to peaked or flat roofs and side walls. Made of extra heavy gauge steel with heavy pipe supports. Zinc plated and clear chromate dipped for double rust protection.

9021	Fits masts up to 1½"	3.03	19 lbs.	12	1.82
9022	Fits masts up to 2"	4.31	22 lbs.	12	2.57
9019	Fits masts up to 2-¼"	4.98	28 lbs.	12	2.99



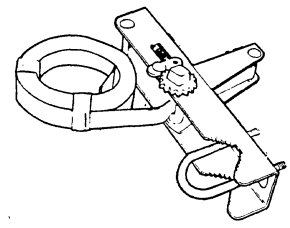
CHIMNEY MOUNTS

TELCO SNAP-IN CHIMNEY MOUNT

Fits masts up to 1¾" diameter. Extra heavy gauge steel construction. Doubly protected against rust. Zinc plated and clear chromate dipped for long life. Chimney clearance of 4". Simply "Snap" mast in place and tighten bolts. Easy to handle. Complete with straps and necessary hardware.

Part No.	Description	Sugg. List	Wt. per Std. Ctn.	Std. Ctn.	Net
	Galvanized Steel Strapping–Heavy Duty Strap Clamp				
8612	Mount with Two ¾" x 10' Straps	4.56	43 lbs.	12	2.74
8610	Mount with Two ¾" x 12' Straps	4.68	43 lbs.	12	2.81
8610-L	Mount with Two ¾" x 18' Straps	5.58	49 lbs.	12	3.36
	Galvanized Steel Strapping–Speed-E Strap Clamp				
8610-F	Mount with Two ¾" x 12' Straps	4.68	43 lbs.	12	2.81
8610-LF	Mount with Two ¾" x 18' Straps	5.58	49 lbs.	12	3.36
	Stainless Steel Strapping–Heavy Duty Strap Clamp				
8614	Mount with Two ¾" x 10' Straps	5.55	43 lbs.	12	3.33
8930	Mount with Two ¾" x 12' Straps	6.73	43 lbs.	12	4.05
8930-L	Mount with Two ¾" x 18' Straps	8.38	44 lbs.	12	5.04
	Stainless Steel Strapping– Speed-E Strap Clamp				
8930-F	Mount with Two ¾" x 12' Straps	6.73	43 lbs.	12	4.05
8930-LF	Mount with Two ¾" x 18' Straps	8.38	44 lbs.	12	5.04

CHIMNEY MOUNTS

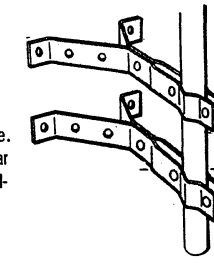


RATCHET TYPE CHIMNEY MOUNT

A new concept in antenna mounts. Easily installed. Supplied with 2 brackets per set. A quality constructed chimney mount designed to withstand high winds and adverse weather conditions. Requires only a wrench to fasten to chimney. The Rachet Mount is chromate dipped-for long life. Accepts masts up to 1½" in diameter. Available in stainless steel or galvanized strapping in 12 or 18 foot lengths.

Part No.	Description	Sugg. List	Wt. per Std. Ctn.	Std. Ctn.	Net
	GALVANIZED STRAPPING ¾"				
8006	Mount with Two 12' lengths of strapping	6.56	42 lbs.	12	3.94
8006-L	Mount, with two 18' lengths of strapping	7.48	48 lbs.	12	4.49
	STAINLESS STEEL STRAPPING, ¾"				
8008	Mount, with two 12' lengths of strapping	7.85	42 lbs.	12	4.71
8008-L	Mount, with two 18' lengths of strapping	9.36	48 lbs.	12	5.61

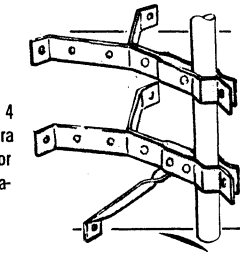
TV ANTENNA WALL MOUNTS



TELCO "SNAP-IN" WALL MOUNT

Simply snap mast into brackets, tighten, and the job is done. Brackets made of heavy gauge steel, Zinc plated and clear chromate dipped for long life. Individually boxed, all hardware included. Accepts masts up to 1¾" diameters.

8306	6" Snap-In Wall Mount	3.38	28 lbs.	12	2.02
8308	8" Snap-In Wall Mount	4.68	40 lbs.	12	2.81



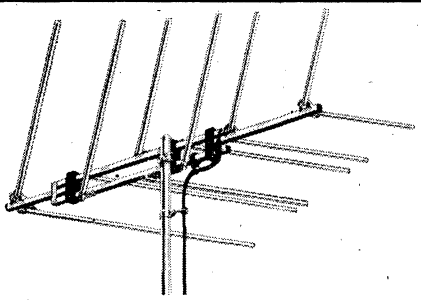
TELCO MASTER DELUXE "SNAP-IN" WALL MOUNT

Brackets are spaced 16" wide for fastening to 16" 2 x 4 centers. Eliminates "side sway" of antennas. Made of extra heavy gauge steel zinc plated and clear chromate dipped for double weather protection. Will accept masts up to 1¾" diameter. Individually boxed, all hardware included.

8312	Wall Mount, 12" Clearance	5.73	57 lbs.	12	3.44
8318	Wall Mount, 18" Clearance	7.60	72 lbs.	12	4.57
8324	Wall Mount, 24" Clearance	10.48	62 lbs.	6	6.29

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

JFD SMOOTH LINE® '82' CH. MATV



'ROUGH RIDER' SERIES MATV ANTENNAS

75 OHM OUTPUT

These antennas are a high quality version of the log periodic home TV antennas. They are made of heavy gold anodized aircraft aluminum and have heavy duty elements with double boom construction.

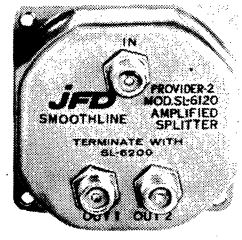
RR/FM-1000 thru RR-1006
LO BAND SINGLE CHANNEL List Price **37.50**

RR-1007 thru RR-1013 HI BAND
SINGLE CHANNEL List Price **37.50**

RR-1101 BROAD BAND VHF List Price **55.00**
RR-1102 BROAD BAND VHF List Price **80.00**
RR-1501 UHF List Price **32.50**
RR-1502 UHF List Price **42.50**

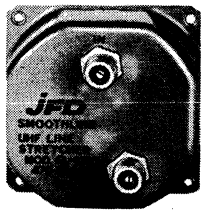
'SYSTEMS' ACCESSORIES

SL-6120



PROVIDER 2-(SL-6120) AMPLIFIED SPLITTER. Provides 2 VHF 75 ohm outputs from single 75 ohm input. 7.5 db gain. Features UHF by-pass with some amplification. List Price **35.00**

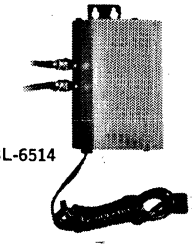
PROVIDER 4-(SL-6140) AMPLIFIED SPLITTER. Provides 4 VHF 75 ohm outputs from single 75 ohm input. 3.5 db gain. Features UHF by-pass. List Price **40.00**



SL-6310

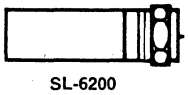
STRETCHER-(SL-6300) VHF LINE STRETCHER AMPLIFIER. 13.5 db gain. 75 ohm input and output. Featuring UHF by-pass and amplification. List Price **37.50**

STRETCHER-(SL-6310) UHF LINE STRETCHER AMPLIFIER. 12 db gain. 75 ohm input and output. VHF by-pass. List Price **37.50**



SL-6514

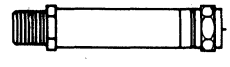
POWER SUPPLY-(SL-6514) 17 VDC SUPPLY for up to 5 SMOOTHLINE accessories. Also powers V-3130 or U-3140 head end amplifiers. 75 ohm input and output. List Price **37.50**



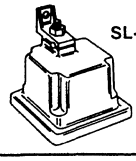
SL-6200

TERMINATOR-(SL-6200) 75 ohm LINE TERMINATOR. Power blocked. List Price **2.50**

POWER BLOCK-(SL-6600) Blocks power on desired cables and outlets. 75 ohm impedance; passes UHF and VHF. List Price **3.75**



SL-6600

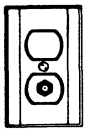


SL-6700

OUTDOOR HOUSING-(SL-6700) Weather-proofs all SMOOTHLINE accessories and amplifiers that have: 2⅜" x 2⅜" x 1" chassis. List Price **12.50**

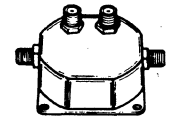
'82' CHANNEL TAPOFFS

U-5517



UNITAP-(U-5512 & U-5517) UNIVERSAL TV TAPOFF. U-5512 has 12 db isolation, U-5517 has 17 db isolation. Through loss: 1.0 U/V U-5512, 0.5 db U/V U-5517. Accepts all usual system coaxial cables. Back matched 75 ohm '82' channel outlet. List Price **4.38**

P-5103



POSITAP-(P-5103) '82' CHANNEL TWO OUTLET SURFACE MOUNT TAPOFF. 17 db isolation; 1.5 db through loss. List Price **7.50**

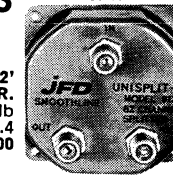
HEAD-END 'NOVERLOAD'® AMPLIFIERS

These units have the following unique features: • ALL SOLID STATE FOR COOL RUNNING RELIABILITY • OPTION OF SELF OR REMOTE POWERING • SEPARATE HI BAND VHF, LO BAND VHF AND UHF BAND GAIN CONTROLS • SEPARATE UHF/VHF INPUTS: COMBINED OUTPUT ON MODEL SL-3155

MODEL SL-3155 '82' CHANNEL HEAD-END AMPLIFIER List Price **199.00**
MODEL V-3130 VHF HEAD-END AMPLIFIER List Price **99.00**
MODEL U-3140 UHF HEAD-END AMPLIFIER List Price **160.00**

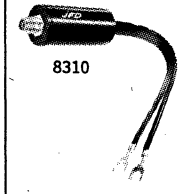
'82' CHANNEL - UNISPLITS AND MATCHERS

8120



UNISPLIT 2-(Model-8120) '82' CHANNEL 2 WAY SPLITTER. 75 ohm impedance. 3.8 db splitting loss at VHF and 4.4 db at UHF. List Price. **15.00**

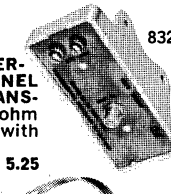
UNISPLIT 4-(Model-8140) '82' CHANNEL 4 WAY SPLITTER. 75 ohm impedance. 8.9 db through loss at VHF and 9.0 db through loss at UHF. List Price **20.00**



8310

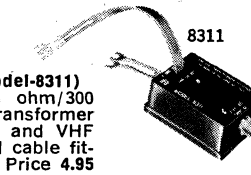
SET-MATCH-(Model-8310) '82' CHANNEL. UHF, VHF, FM indoor 75 ohm/300 ohm Matching Transformer with coaxial cable fitting. List Price **2.95**

8320



MATCHING TRANSFORMER-(Model-8320) '82' CHANNEL OUTDOOR MATCHING TRANSFORMER. 300 ohm/75 ohm Matching Transformer with coaxial cable fitting. List Price **5.25**

8311



MATCHERATOR-(Model-8311) 2-WAY INDOOR 75 ohm/300 ohm Matching Transformer with separate UHF and VHF outputs and coaxial cable fitting. List Price **4.95**

JFD ELECTRONICS CO./ **SYSTEMS DIVISION**

JFD ***"TODAY'S SYSTEMS BUILT FOR TOMORROW'S CHALLENGES"***

Trade Discount Applies To List Prices Only

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JERROLD

TV-FM ANTENNAS

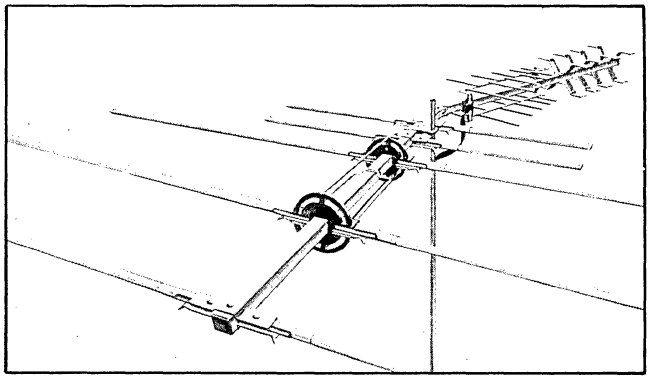
COLORAXIAL™ ANTENNAS

Why Coloraxial? The signals from these excellent antennas deserve to be delivered to the set in the best possible way—by coaxial cable. Strong signals assured even in bad weather. No interference from auto ignition or home appliances. Gets rid of line ghosts and color changes.

COLORAXIAL *Pathfinder*™

82-CHANNEL TV & FM ANTENNAS

Each of the seven antennas in this series is unique, combining a periodic VHF antenna with an advanced design UHF section. VHF and UHF sections are coupled with a hinged joint* allowing each to be individually oriented for maximum directivity.

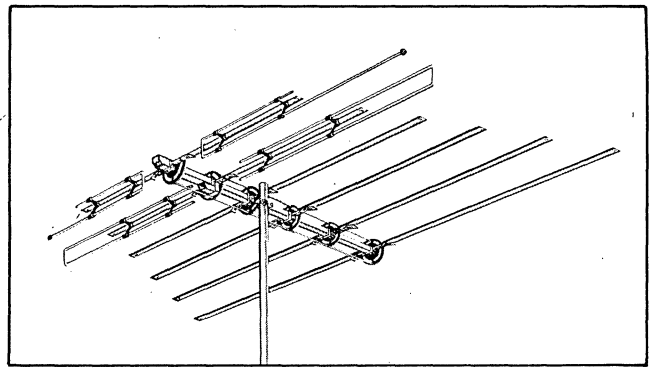


Model PXB-30 Local area ..... **List $19.95**
Model PXB-45* Suburban area ..... **List $27.95**
Model PXB-48 Difficult suburban area ..... **List $27.95**
Model PXB-50* Difficult suburban area ..... **List $37.95**
Model PXB-65 Semi-fringe area ..... **List $47.95**
Model PXB-70* Semi-fringe area ..... **List $57.95**
Model PXB-90 Fringe area ..... **List $67.95**

COLORAXIAL PARALOG Plus™

VHF-TV & FM ANTENNAS

Series of seven high-performance antennas providing strong, clear signals for excellent color TV pictures and FM stereo reception. Bi-modal directors allow a compact parasitic array giving a shorter, easier-to-install antenna than others of comparable gain.



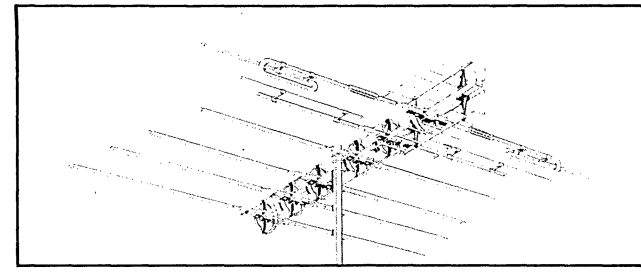
Model PIX-35 Local area ..... **List $18.95**
Model PIX-45 Suburban area ..... **List $26.95**
Model PIX-75 Difficult suburban area ..... **List $34.95**
Model PIX-105 Difficult suburban to fringe area ..... **List $43.95**
Model PIX-135 Fringe area ..... **List $52.95**
Model PIX-165 Deep fringe area ..... **List $61.95**
Model PIX-225 Deepest fringe area ..... **List $81.95**

"COLORAXIAL CONVERTIBLE" ANTENNAS

VU FINDER™

82-CHANNEL TV & FM ANTENNAS

Series of five, high-gain, periodic-type antennas. Unusually flat response across the entire TV and FM spectrum. Each VUfinder shipped complete with a Model FS-1314 frequency splitter to split VHF from UHF for separate inputs to the TV set. Easily convertible from 300-ohm to 75-ohm Coloraxial™ downlead by snap-on transformer, Model STO-82 or STO-83 (see below).

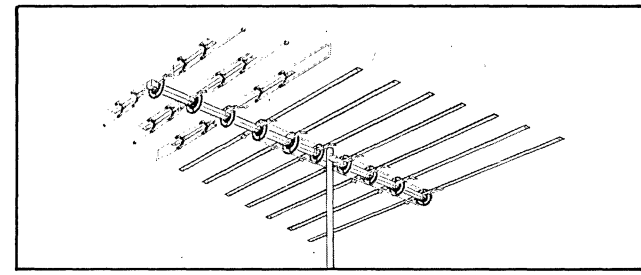


Model VU-831 Local area ..... **List $21.95**
Model VU-832 Metropolitan area ..... **List $30.95**
Model VU-833 Suburban area ..... **List $41.95**
Model VU-834 Difficult suburban to fringe area ..... **List $51.95**
Model VU-836 Deep fringe area ..... **List $79.95**

PARALOG 300 Plus™ NEW!

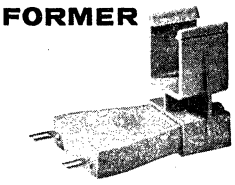
VHF-TV & FM ANTENNAS

Series of seven high-gain, periodic-type antennas similar to VUfinder series but for VHF-TV channels and all FM stations. Unusually flat response across the full frequency range. These antennas provide strong, clear signals, even in difficult reception areas. Easily convertible from 300-ohm to 75-ohm Coloraxial™ downlead by snap-on transformer, Model STO-82 or STO-83 (see below).



Model VIP-301 Local area ..... **List $16.95**
Model VIP-302 Metropolitan area ..... **List $24.95**
Model VIP-303 Suburban area ..... **List $32.95**
Model VIP-304 Difficult suburban area ..... **List $41.95**
Model VIP-305 Fringe area ..... **List $50.95**
Model VIP-306 Deep fringe area ..... **List $59.95**
Model VIP-307 Deepest fringe area ..... **List $79.95**

"COLORAXIAL CONVERTIBLE" MATCHING TRANSFORMER



NEW all-channel snap-on transformer converts any VU, PAU or VIP antenna to 75-ohm Coloraxial™ output, instantly. Improved electrical design for lower loss, better match. Rugged Cycolac housing. Choice of standard "F" fitting or new connectorless, weatherproof cable fitting.

Model STO-82 "F" fitting ..... **List $2.39**
Model STO-83 Universal connectorless fitting ..... **List $2.39**

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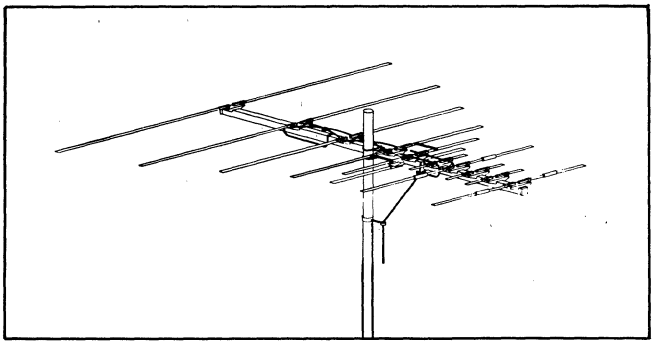
JERROLD TV-FM ANTENNAS AND ROTOR

COLOR GUARD™

VHF-TV & FM ANTENNAS

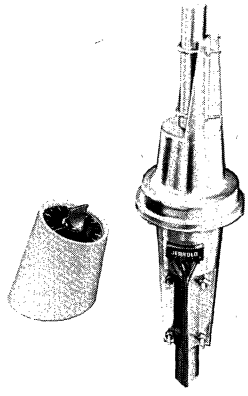
Maximum reception at minimum price. 300-ohm as well as Coloraxial models.



Model CG-13	4 element VHF, 300-ohm	**List $10.95**
Model CG-81	82-channel, 6 element, 300-ohm	**List $15.95**
Model CG-82	82-channel, 11 element, 300-ohm	**List $26.50**
Model CGX-16	5 element VHF Coloraxial	**List $12.95**
Model CGX-16K	Complete kit (CAX-16, 50-foot Coloraxial cable, 5-foot mast and mount)	**List $31.95**
Model CGX-81	82-channel, 6 element Coloraxial	**List $15.95**
Model CGX-82	82-channel, 11 element Coloraxial	**List $26.50**

NEW!

DYNA ○ ROTOR™



The new Jerrold Dyna-Rotor is a revolutionary breakthrough in antenna rotator design, featuring a totally solid-state control circuit and a unique Dynamic Spline drive mechanism. The Dyna-Rotor is completely automatic — just set the control knob to the desired direction, and the antenna turns to the exact selected position — quickly, precisely. Antenna is synchronized with the control at all times; no re-synchronizing ever required. Positive mechanical lock prevents antenna from drifting off selected position, even in high winds. Fastest rotator available, the Dyna-Rotor turns the largest antennas a full 360° in less than 40 seconds. Control unit is attractively styled and completely silent in operation. Dial light indicates antenna is turning. In-line rotor cannot be jammed by ice loading; operates reliably at —20°F.

Model JDR-77 ..... **List $54.95**

PARAPRO™

300/75-OHM UHF ANTENNAS

Ideal add-ons to existing VHF antennas; no combiner required. PUX models have built-in matching transformer for 75-ohm Coloraxial installation; PAU models have 300-ohm outputs convertible to Coloraxial with STO-82 or STO-83 matching transformer (see p. 2).

Model PUX-450	Metropolitan area	**List $10.95**
Model PUX-700	Difficult suburban area	**List $16.95**
Model PUX-900	Fringe area	**List $28.95**
Model PAU-450	Metropolitan area	**List $ 9.95**
Model PAU-700	Difficult suburban area	**List $14.95**
Model PAU-900	Fringe area	**List $25.95**

PARACYL™

300-OHM UHF ANTENNAS

Five models to cover every UHF-TV reception requirement from local to deep fringe areas.

Model JUP-1	Local area	**List $ 6.95**
Model JUP-2	Suburban area	**List $10.95**
Model JUP-3	Difficult suburban area	**List $29.95**
Model JUP-4	Fringe area	**List $39.95**
Model JUP-5	Deep fringe area	**List $54.50**

metrocolor™

75/300-OHM ANTENNAS

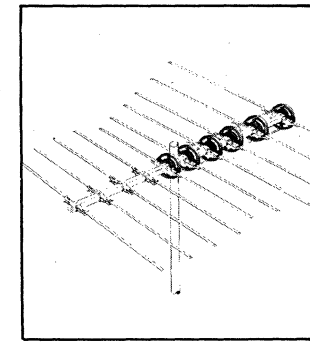
Ghost-killing antennas for strong signal areas.

Model MCX-13	VHF-TV & FM	**List $16.95**
Model MCX-82	UHF, VHF-TV & FM	**List $29.95**

FM ANTENNAS

PARALOG™

FM ANTENNAS



The ultimate in FM antennas with all the features of the Paralog line but designed specifically for the FM band of frequencies. Extremely high front-to-back ratios and negligible minor lobes for the elimination of multi-path interference. The exceptionally high gain (up to a realistic 11.6 dB on the FMP-16) delivers signals that let the tuner do its best—producing hiss-free, full FM reproduction. Flat response assures good reception on all channels—no gain drop-off at band extremities.

Model FMP-8	8 Element Paralog	**List $23.95**
Model FMP-10	10 Element Paralog	**List $29.95**
Model FMP-16	16 Element Paralog	**List $43.95**

OTHER FM ANTENNAS

Model C677M	Golden Turnstile	**List $12.95**
Model FM-5	5 Element Yagi	**List $14.25**
Model FM-10	10 Element Yagi	**List $22.25**
Model G626A	"Lark" All-directional S-type	**List $ 8.95**

Trade Discount Applies To List Prices Only

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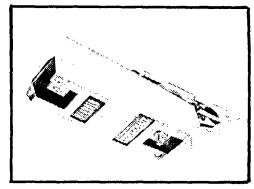
JERROLD TV-FM RECEPTION PRODUCTS

POWERMATE AMPLIFIERS

Powermate solid-state antenna amplifiers are each comprised of universal-mounting (mast, boom or flat surface) amplifier and a remote power supply (usually mounted on back of TV set). High gain and low noise assure finest color and black and white reception.



Model SPC-107L. Brings in distant TV stations clearly but doesn't overload with strong local signals. Model SPC-107L has built-in match at antenna and receiver end of the cable, making separate matching transformers unnecessary .....**List $47.95**

Model SPC-132A-L. Most powerful of all Powermate antenna amplifiers (27.5 dB average gain), the "De-Snower" is recommended for deepest fringe-area reception and for master antenna installations in apartment houses, motels, and hotels. Model SPC-132A-L offers two-transistor pre-amplification at antenna plus three-transistor post-amplifier built into remote power supply .....**List $97.95**

Model APM-106L (TV-FM). Super-gain, low-noise, single transistor Powermate for fringe areas with no overload problems .....**List $39.95**

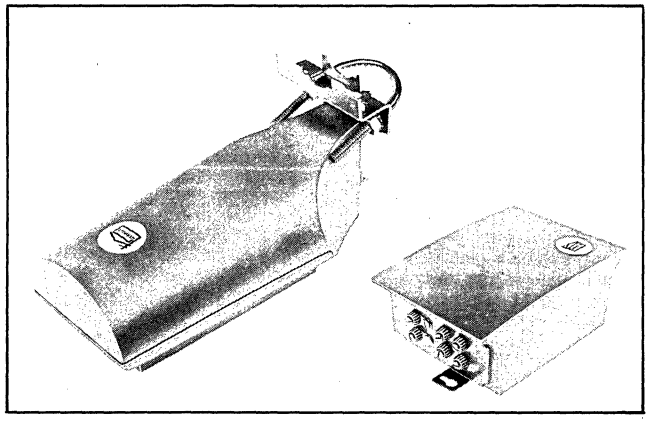
Model SPM-106L (TV). Super-overload, hi-gain, low-noise, twin-transistor Super Powermate for overload problem areas .....**List $44.95**

Model UPC-105. Hi-gain (13.7 dB) UHF Powermate preamplifier. Choice of 75- or 300-ohm antenna input and 75-ohm Coloraxial output. Model 105 remote power supply has a 75-ohm input and output. For individual homes in extreme fringe areas, and master antenna systems..**List $73.25**

Model ACP-105L. This all-channel Powermate provides a substantial 10.5 dB of gain across the entire VHF-FM-UHF spectrum without overloading on strong local signals. Comprised of a mast-mounting ACP solid-state preamplifier and Model 105 indoor power supply. Input impedance is 300 ohms; output impedance is 75 ohms for all-channel Coloraxial cable .....**List $49.95**

Model CPM-107L (TV-FM). High-gain (16 dB nominal) Coloraxial VHF/FM preamplifier recommended for areas a minimum of 15 miles from nearest TV or FM transmitter. Input and output are 75 ohms .....**List $39.95**

Model UPM-104. A high-gain (13.7 dB) UHF preamplifier providing excellent signal reception in fringe and deep-fringe locations. The remote power supply, Model 104, may be mounted up to 100 feet away.
List $39.95

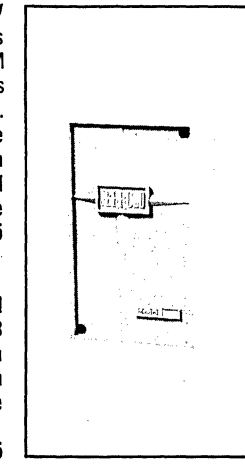


NEW!
Model 4283. New Powermate **Plus** features 82-channel operation, tunable FM trap, lightning protection circuitry, 300-ohm antenna input and built-in choice of single or dual 300-ohm TV-set outputs. Functionally styled mast-mounting preamplifier and remote indoor wall- or set-mounting power supply. Gain is 13.0 dB VHF, 10.0 dB UHF ....**List $39.95**

HOME AMPLIFIERS

Jerrold home TV distribution system amplifiers and amplifier couplers improve reception of weak, fringe-area signals. Models are available for connecting 1 to 4 sets, 75 or 300 ohms, VHF, FM, UHF, or All-channel (VHF/FM/UHF).

Model TAC-4. A TAC-4 Colorcaster Home TV System Amplifier brings in all 82 channels —VHF and UHF—as well as the full FM band. Because it is solid-state and uses coaxial cable it is reliable and trouble-free. Handles 4 sets at once—anywhere in the house—from the same antenna. Provides a full 3 dB gain for each 75-ohm outlet and excellent overload stability in the presence of strong signals .....**List $49.95**



NEW!
Model TAC-1. Single-output 82-channel "Colorcaster" amplifier provides 10.0 dB VHF and 12.0 dB UHF for signal distribution to multiple sets. May be used as high gain preamplifier for color reception in extreme fringe areas. 75-ohm input and output.
List $44.95

Model TC-88. Covers VHF-TV band (channels 2 through 13), and FM. Handles 4 sets. Similar to TAC-4 .....**List $29.95**

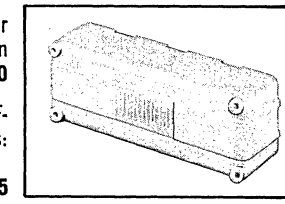
Model TA-24. Powermate Indoor 4-set coupler/amplifier drives 4 TV sets from one antenna. Uses 300-ohm twin-lead. Handles both VHF-TV and FM channels .....**List $24.95**

Model TA-66A. Super Powermate Indoor 4-set coupler is solid-state, twin transistor unit that provides 7.5 dB gain at low band and 6.3 dB gain at high band. Uses 300-ohm twinlead. Gain is higher with fewer sets.
List $34.95

Model TAU-12. Powermate Special—2-set coupler provides sufficient gain (2.7 dB average) to adequately supply 2 UHF tuners. For areas where VHF signal is received off-the-air and only UHF requires amplification. Solid state .....**List $29.95**

MULTI-SET COUPLERS

A complete line of low-cost, 300-ohm, passive multi-set couplers featuring low loss and high isolation between sets, VHF, UHF, and all-channel models for every application.



Model MF-2. For connecting 2 VHF-TV or FM sets to a single antenna. Less than 5 dB loss; isolation: 9 dB ....**List $4.50**

Model MF-4. For connecting 3 or 4 VHF-TV or FM sets to a single antenna. Loss: less than 9 dB; isolation: 15 dB.
List $5.75

NEW!
Model MF-82*. All-channel, 2-set coupler. Unusually high efficiency; 3.5 dB down at each output with 15 dB isolation between outputs. **List $4.50**

Model UV-2. All-channel 2-set coupler for connecting 2 TV/FM sets to a single all-channel antenna. Resistive hybrid circuit gives less than 6.5 dB loss; isolation: 20 dB VHF, 12 dB UHF .....**List $3.75**

Model TX-FM. Special coupler which separates VHF-TV and FM signals to feed TV and FM receivers from a single antenna, without any separation loss .....**List $6.50**

Model M-2A. Economy VHF-TV/FM 2-set coupler. Loss: less than 6.5 dB; isolation: at least 30 dB between sets .....**List $3.10**

*Patent pending.

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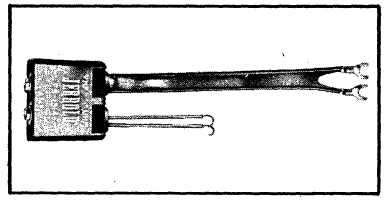
JERROLD TV-FM RECEPTION PRODUCTS

SPLITTERS/MIXERS

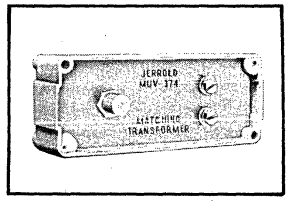


Model FS-1314. 300-ohm VHF/UHF splitter for connecting the downlead of an all-channel antenna to the separate VHF and UHF terminals of the TV set. Low loss, high isolation. **List $3.50**

Model 1425C. For separating or combining high-band and low-band UHF-TV signals. 300-ohm input and output; weatherproof housing for antenna mounting ..... **List $5.66**

Model 1460C. All-channel splitter/mixer for separating or combining VHF and UHF signals. 300-ohm input and output; indoor or outdoor mounting. Used to combine separate VHF and UHF antennas into a single downlead ..... **List $4.95**

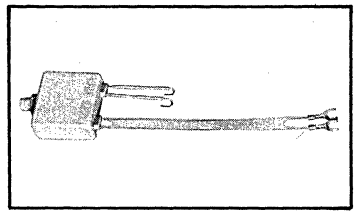
ANTENNA MATCHING TRANSFORMERS



Model MUV-374. An 82-channel, 300/75-ohm matching transformer for use with all-channel antennas. Mountable outdoors, matches 300-ohm antenna output to 75-ohm coaxial cable. AC passing. Complete with weatherboot, mast mounting, bracket and stainless steel strap. **List $5.95**

Model TO-374A. A VHF outdoor, mast-mounted transformer that matches 300-ohm VHF antenna to 75-ohm coaxial cable downlead. AC passing. **List $4.95**

INDOOR MATCHING TRANSFORMERS



Model T-380A. An all-channel (54 to 890 MHz) transformer-type splitting network for rear-of-set mounting. Matches 75-ohm coaxial cable to 300-ohm TV sets. Splits signal providing separate UHF and VHF antenna inputs to TV set. Input: 75 ohms, all-channel (54 to 890 MHz). Output: 300 ohms, individual VHF (54-216 MHz), UHF (470-890 MHz) ..... **List $7.95**

NEW!

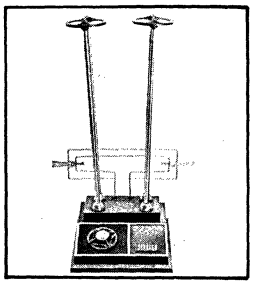
Model FSX-1314. All-channel matching transformer and UHF/VHF separator unit mounts to rear of set. Similar to T-380A. Recommended for Coloraxial installations ..... **List $5.12**

Model T-378. Rugged, matching transformer for installation at the back of a TV receiver. High impact plastic case, has a type "F" fitting for a 75-ohm coaxial input, and special break-resistant twin-lead on the 300-ohm end. Features 60 Hz AC isolation. An F-59A connector is provided (VHF 54-216 MHz only) ..... **List $2.50**

Model T-372. A VHF 300/75-ohm matching transformer with a flat response across the frequency range of 54-216 MHz, and provides AC-DC isolation. For indoor surface mounting. Housed in blister can, with C-61 input connector. C-52 male connector provided ..... **List $5.00**

Model T-373. Flush-mounted version of Model T-372. B-59 cable bushing provided ..... **List $5.00**

INDOOR ANTENNAS



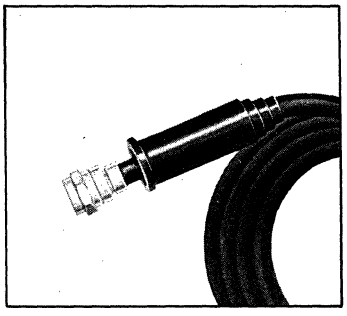
Jerrold's new JIN-Series antennas are designed to provide excellent indoor reception of all 82 VHF-TV and UHF-TV channels, plus FM and FM stereo. These attractively styled top-of-the-set antennas are engineered to deliver more brilliant, lifelike color pictures — excellent for black-and-white, too. Separate 300-ohm outputs for UHF and VHF terminals on the TV set. Twelve position selector switch provides optimum tuning.

Model JIN-3 Deluxe indoor antenna (same as JIN-2) with 12 position switch selector tuning ..... **List $11.95**

Model JIN-4 Premium indoor antenna with folded twin double telescoping dipoles and double UHF loop with added tuning fins ..... **List $17.95**

COLORAXIAL™ CABLE

This is the heart of the Coloraxial installation—the reason for it all. All Jerrold Coloraxial CAC cable is guaranteed to have been factory sweep-tested to eliminate any flaws over its entire length. Each 50-, 75- or 100-foot length is complete with F-56A fittings attached, plus a weatherboot for the outdoor connection. Very easy to install—just screw fittings to connectors.



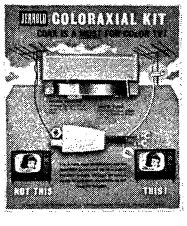
Model CAC-50 50-foot length of 82-channel coaxial cable. Fittings and weatherboot attached ..... **List $10.75**

Model CAC-75 75-foot length of 82-channel coaxial cable. Fittings and weatherboot attached ..... **List $14.50**

Model CAC-100 100-foot length of 82-channel coaxial cable. Fittings and weatherboot attached ..... **List $17.65**

VHF COLORAXIAL CONVERSION KIT

MODEL CAT-2



With this kit, you can easily convert any existing antenna to Coloraxial. Kit consists of one TO-374A mast-mounting matching transformer for any 300-ohm antenna, and one T-378 set-mounting matching transformer. Complete with bracket and mounting strap for the outdoor transformer ..... **List $8.20**

Trade Discount Applies To List Prices Only

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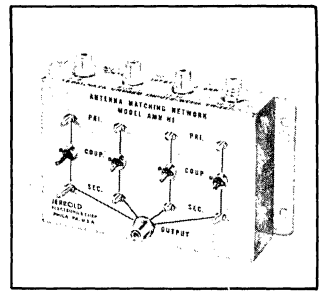
JERROLD TV-FM DISTRIBUTION EQUIPMENT

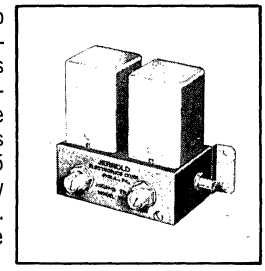
MIXING NETWORKS



Model AMN-HI. A VHF low-loss mixing network for combining into a single output up to 4 non-adjacent, high-band television channels (7 through 13) received from single-channel antennas or amplifiers. May also be used in reverse as a channel splitter. 75-ohm impedance. Insertion loss is 2.0 dB maximum. Field tunable. Designed for indoor mounting at the system head-end.
List $43.75

Model AMN-LO. Basically the same as Model AMN-HI for up to 3 non-adjacent, low-band channels (2 through 6). Impedance is 75 ohms. Insertion loss is 2.5 dB maximum .....**List $43.75**

TRAPS



High "Q" Traps. Each trap consists of two tunable L-C circuits in a modified bridged-tee network. Tuning of units is by means of Teflon-dielectric trimmers with screwdriver adjustment. When both circuits are tuned to an interfering signal, rejection is a minimum of 40 dB. Insertion loss at 1.5 MHz off the interfering frequency is only 3 dB. Impedance 75 ohms. Indoor mount. Shipped with two F-59A connectors for use with RG-59/U coaxial cable.

Model TLB-1.
For low-band channels 2-6 (59.75-83.75 MHz) .....**List $64.25**

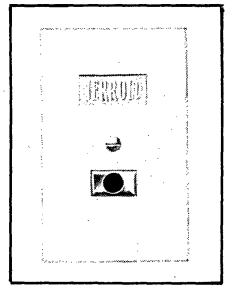
Model TFM-1.
For FM band (88-108 MHz) .....**List $64.25**

Model THB-1.
For high-band channels 7-13 (179.75-211.25 MHz) .....**List $64.25**

Series 1435†. Multi-section, wideband traps provide a minimum of 20 dB (average 23.0 dB) rejection of any specified VHF-TV channel, or the full FM band. Provide sharp cut-off and prevent strong TV or FM channels from causing overloading of the TV set and resulting in sound distortion, cross-modulation, or herringbone pattern on the TV screen. VSWR is 1.5:1. Weatherproof housing. Mountable directly to antenna crossarm. Can be used with either amplified or non-amplified antennas....**List $7.95**
†Specify channel number or FM band.

Model FMR-300. Reduces FM band by 20 dB to prevent FM overload in broadband amplifiers. UHF and VHF television signals are passed. Can be mounted indoors or outdoors at antenna .....**List $5.98**

VARIABLE TAPS

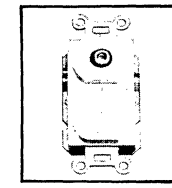


A new concept in flush-mounted tap-offs. Model VT-75 is for 75-ohm use and Model VT-300 is for 300-ohm use. The same model is used at every outlet location. A printed circuit incorporates three color-coded isolation values; the isolation value required is selected by merely positioning the isolation screw according to color-code. Cover plate included.

Model VT-75 .....**List $3.90**
Model VT-300 .....**List $3.60**

Model FT-75. New unit for small distribution systems carrying VHF, FM, and UHF television channels. Flat 12 dB isolation. Can be flush-mounted in a regular electrical outlet box. Accepts CAC, RG-59/U or RG-6/U coaxial cable. Solderless feeder-line connections are made through a twin cable clamp and a single binder screw. Plug, ferrule and ivory-colored plate are provided. Impedance is 75 ohms—**List $3.50**

ULTRA-TAPS



Jerrold Ultra-Taps are the finest TV signal tap-offs for master antenna systems, large or small. Designed for quick, positive installation in standard electrical wall boxes. Equipped with "Gamma" receptacles for push-on coaxial plugs.

Self-Terminating Outlet, Model STO-75F*. Similar to UT-18 but with automatic switch that places a 75-ohm termination across the line when the TV-set cable "G" connector is unplugged—insuring proper termination at all times .....**List $5.00**
*Patent pending.

Models UT-82-59, UT-82-CAC. All-channel tap-off units with a choice of 3 isolation and feed-thru values, each color-coded. Two models for either RG-59 (UT-82-59) or Jerrold "CAC" Cable (UT-82-CAC). Crimp-on bushings and positive-gripping clutch permit fast, solderless connections. The tap terminal accepts G-59, PG-59, and G-56 push-on connectors. Specifications are shown in table.

Model UT-82-59 (Specify W, R, Y) .....**List $4.75**

Model UT-82-CAC (Specify W, R, Y) .....**List $4.75**

Model UT-12 is a VHF-TV feed-thru unit (0 dB) for connecting a TV or FM receiver. It provides a flush-mounted terminal outlet for splitter or tap-off units located elsewhere. Crimp-on bushings for RG-59/U provided .....**List $3.50**

Model UT-22. (Specify W, R, Y) For VHF-TV or FM. Provides choice of three isolation and feed-thru values (color-coded). Taps signals from RG-59-type feeder cables. Provides single "Gamma" receptacle for connecting a TV or FM receiver. Accepts G-59, PG-59, and G-56 75-ohm, and G-300 75-300-ohm adapter, push-on connectors. Specifications are in table .....**List $4.50**

Models UT-83-59, UT-83-CAC. Combination tap-off units for VHF/UHF-TV and FM available in the same isolation and feed-thru values as Model UT-82, these units have additional insolation to separate TV and FM signals for simultaneous connection of both a TV and FM receiver.
List $5.74

Model UT-18.** All-channel TV unit provides flush-mounted outlet for splitter or tap-off units only. Output terminal accepts G-59, PG-59, and G-56 push-on connectors .....**List $3.50**

Model UT-13.** Similar to Model UT-18 except provides an additional FM outlet attenuated 10 dB below the TV signal level .....**List $4.75**
**Not to be used as a line termination. No isolation or feed through.

Model UT-PI. Single outlet cover plate of molded ivory plastic..**List $ .35**

Model UT-PS. Single outlet cover plate of brushed stainless steel **List $1.00**

Model UT-SM. Single outlet surface-mounting housing for use with all Ultra Tap Units. Made of sturdy molded plastic, ivory color .....**List $.60**

ISOLATION AND FEED-THRU LOSS CHART

A = Isolation B = Feed-Thru Loss (values in dB)

FREQUENCY	CHANNEL NUMBER		WHITE (W)	RED (R)	YELLOW (Y)
ULTRA-TAP, MODELS UT-22 AND UT-33					
55.25 MHz	2	A	35.0	27.0	22.5
		B	0.2	0.4	0.2
83.25 MHz	6	A	34.0	25.0	19.0
		B	0.2	0.4	0.3
175.25 MHz	7	A	31.0	21.0	13.0
		B	0.25	0.5	0.4
211.25 MHz	13	A	30.0	20.0	11.5
		B	0.25	0.5	1.0
ULTRA-TAP, MODELS UT-82-CAC AND UT-82-59					
55.25 MHz	2	A	34.0	26.5	22.0
		B	0.5	1.0	1.25
211.25 MHz	13	A	29.5	25.5	20.5
		B	0.5	1.0	1.25
471.25 MHz	14	A	29.5	24.0	17.0
		B	0.5	1.0	1.25
801.25 MHz	69	A	29.5	21.0	14.0
		B	0.5	1.0	1.25
885.25 MHz	83	A	29.5	21.0	14.0
		B	0.75	1.0	1.5

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TV-FM DISTRIBUTION EQUIPMENT

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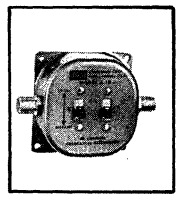
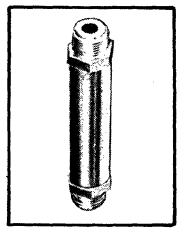
ATTENUATORS



Model A-18 Attenuator. DC-890 MHz precision switch-type. 75 ohms. VSWR 1.26. Power handling up to 500 milliwatts or .5 amp 0-18 dB in 6 dB steps .....**List $12.95**

PDL-In-Line Attenuators. Available in 1, 3, 6, 10 or 20 dB. Models 1, 3 and 6 are all-channel. Models 10 and 20 are VHF only .....**List $5.85**

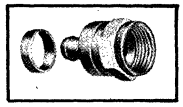


VHF Directional Couplers, Models DC-8, DC-12, DC-16. Model DC-8 (Insertion loss 1.5 dB—Tap loss 9 dB), DC-12 (1 dB-12 dB), DC-16 (.75 dB-16 dB). High isolation from tap to output .....**List $14.30**

82-Channel Directional Couplers, Model DC-12UV. Insertion loss: VHF, 1.75 dB ±0.5; UHF, 2.25 dB-±0.5. Tap loss: 10-54 MHz, 13.0 dB ±0.5; 54-216 MHz, 12.0 dB ±0.5; 470-890 MHz, 12.5 dB ±0.5. High isolation from tap to output .....**List $14.30**

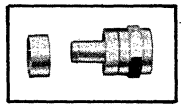
CABLE CONNECTORS

FOR RG-59/U CABLE

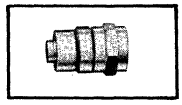


F-59 Male Cable Connector. For use with RG-59/U type cable. Mates with F-61A, F-81, A-61. 75-ohm use. Use Crimping Tool PL-602 or PL-659. Separate ferrule supplied .....**List $.60**

FOR CAC AND RG-6/U CABLE



F-56 Male Cable Connector. For RG-6 cables at 75 ohms. Mates with F-61A, A-61, F-101 and AF-201. Separate ferrule supplied .....**List $.60**

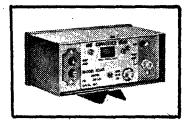


F-56A Male Cable Connector. Similar to type F-59A except for use with Jerrold CAC Cable. 75-ohm use. Built-on CAC size ferrule .....**List $.60**

FOR RG-11/U CABLE

FHC-404 Male Cable Connector. For RG-11 cable; mates with F-61A .....**List $2.10**

UHF CONVERTERS



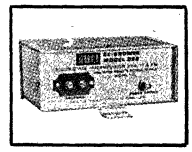
Jerrold UV-Series Single Channel UHF to VHF Converters are designed for Master Antenna Systems, for metropolitan to deep fringe installations.

Model U3V*. For outdoor use. Used in metropolitan or strong signal areas. Impedance is 75- or 300-ohm input (specify when 75-ohm is desired), 75-ohm output .....**List $191.50**

Model U4V*. For outdoor use. Excellent for fringe areas. Impedance is 75- or 300-ohm input (specify when 75-ohm is desired), 75-ohm output. **List $236.90**

Model U5V*. For indoor use, the U5V consists of a Converter-Amplifier Unit, Model 454T, mounted with an Oscillator/Power Supply, Model 464-SS—all solid-state—all in a single compact housing. It's the ideal indoor converter for metropolitan to deep-fringe installations. Specifications are the same as Model U4V .....**List $211.90**

"DESNOWER" PREAMPLIFIERS



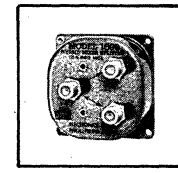
Model DSS-*. "De-Snower" amplifiers are high-gain, single channel preamplifiers for use with cut-to-channel antennas in MATV systems....**List $143.00**

NEW!

Model DSB-107. High output VHF preamplifier with built-in tunable FM trap. Output capability at +40 dBmV per channel, for 7 channels at —46 dB cross-modulation, sufficient to drive small distribution system. FM trap may be tuned to insert 10 dB attenuation on band 1.25 MHz wide within FM band. If no strong FM interference exists, trap can be tuned off FM band. Uses remote power supply, Model 107 ....**List $109.50**

*Specify channel or FM when ordering.

75-OHM LINE SPLITTERS



Model 1562-2 VHF, 2-way, Hybrid. B-59 fittings. Just push RG-59/U cable on and crimp .....**List $ 6.78**

Model 1592 VHF, 2-way, Hybrid. "F" fittings .....**List $11.90**

Model 1514A VHF, 4-way, "F" fittings .....**List $14.29**

Model 1584 VHF, 4-way, Hybrid. "F" fittings .....**List $17.60**

Model G-1518-2 VHF, 8-way, "G" fittings .....**List $29.50**

Model 1502A UHF/VHF, 2-way, "F" fittings .....**List $10.75**

Model SCX-2 UHF/VHF, Outdoor, "F" fittings .....**List $ 5.95**

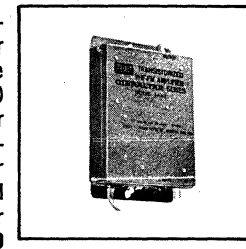
Model 1596 UHF/VHF, 2-way, Hybrid. "F" fittings .....**List $12.38**

Model 1597** UHF/VHF, 4-way, Hybrid, "F" fittings .....**List $17.66**

**Patent pending.

SYSTEM AMPLIFIERS

Jerrold's "Gibraltar" series TV/FM distribution system amplifiers are the result of unmatched experience in solid-state technology. Each model is performance-guaranteed through Jerrold's policy of using only minimum specifications.



Model 3440. Solid-state "Gibraltar" high-gain, low-noise, broadband VHF amplifier for small TV distribution systems. Capable of 12-channel operation. Handles up to 40 TV outlets. Flat response. Provision for both 300-ohm and 75-ohm input. Provides 22 dB minimum gain and better than +42 dBmV minimum output, TV and FM bands. Output impedance is 75 ohms for coaxial distribution .....**List $89.50**

Model 3550. New solid-state, high-gain, broadband "Gibraltar" VHF amplifier for medium size distribution systems. Similar to Model 3440. Provides 33 dB minimum gain and better than +45.5 dBmV output, TV and FM band; 75-ohm input and output impedance .....**List $109.50**

Model 3660. Solid-state, high-gain, broadband "Gibraltar" amplifier for large TV distribution systems such as those in hotels, apartment houses, and schools. Provides 40 dB of gain and better than +50 dBmV output, TV and FM bands. Easily handles more than 100 sets. Capable of 12-channel operation. Flat response across all bands. Separate gain controls for high and low bands. Wall or 19-inch rack mounting. 75-ohm input and output .....**List $216.00**

Model 2880. Broadband, vacuum tube amplifier famous for its high output capability (+60 dBmV). One volt per channel for each 7 channels. Provides 41 dB of low band and 44 dB of high band gain. 75-ohm input and output .....**List $392.85**

Model 5330A. New improved solid-state broadband UHF amplifier featuring increased gain (28.0 dB avg.) and multi-channel output capability. Input and output high-pass filters ensure superior VHF signal rejection. 75-ohm input and output .....**List $190.00**

SIGNAL STRENGTH METER

Model AIM-718. Jerrold's new Signal Strength Meter is the first designed specifically for the installer. Solid-state all-channel (UHF/VHF/FM) direct-reading in dBmV. Completely portable, battery operated. Continuous coverage 54-216 MHz for VHF-TV/FM, 470 to 890 MHz for UHF-TV. Input impedance VHF/UHF 300-ohms. Comes equipped with 300/75 ohm 82 channel matching balun. Sensitivity: 20 μV at 75 ohms, 40μV at 300 ohms. Accuracy: 3 dB on VHF, 6 dB on UHF .....**List $330.83**

Trade Discount Applies To List Prices Only

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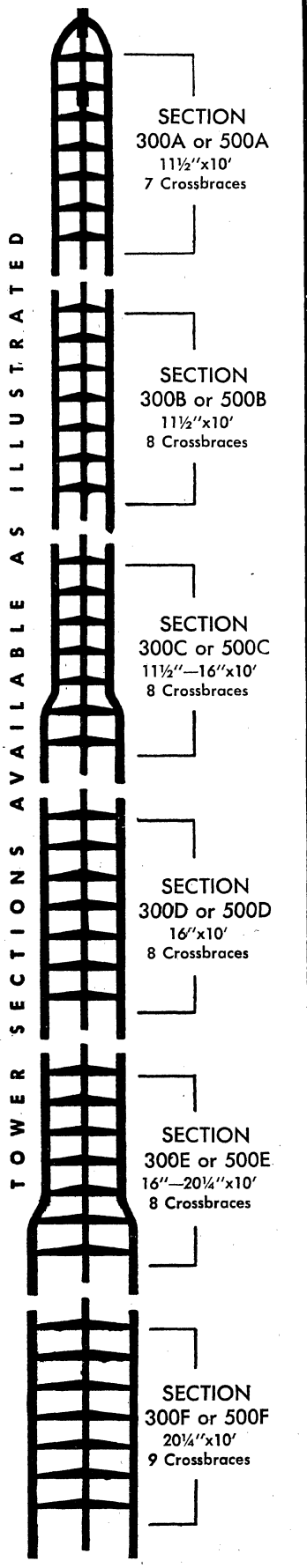
JONTZ MFG. CO.

SELF-SUPPORTING

Super Kwick-Climb

TOWERS

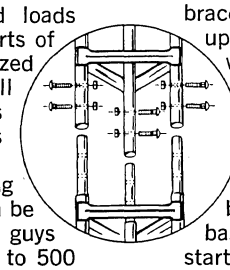
SELF-SUPPORTING UP TO 60 FEET HIGH
HOT DIP GALVANIZED HEAVY DUTY MODELS
ZINC ELECTROPLATED ECONOMY MODELS
NO LOST TOWER FOOTAGE
FAST, EASY SECTIONAL ERECTING



With these two Jontz Tower models you can fill any tower needs . . . from small suburban to heavy-duty commercial installations. Sectional construction and special drive-in bases make erection fast and simple. The Zinc Electroplated Economy Model No. 300 will easily withstand high wind loads normally encountered in most parts of the country. The Hot Dip Galvanized Heavy Duty Model No. 500 will withstand hurricane force winds having been tested at wind loads of 80 mph.

Model No. 500 is self-supporting up to 60 feet high. Model 300 can be extended to 200 ft. by use of guys every 20 feet and Model 500 up to 500 ft. by use of guys every 20 feet. There is no lost tower footage when mounting in either concrete or the special drive-in base. Since the tower is separate from the base, it may be moved to another location without impairing strength.

Both towers are fabricated in 10'0" sections and can be erected in one piece or by sections. Model 300 is made from 1¼"x18 ga. tubular uprights and is zinc electroplated and dipped in clear Butyrate lacquer. The Model 500 is made from 1¼" x 16 ga. tubular uprights and is hot dip galvanized.



New, extra-wide corrugated crossbraces give 75% more weld contact with uprights. Tower sections lock together with 2 self-locking ⅜" bolts in each leg. The splined bolts prevent thread damage and stop hole stretch when tower moves in the wind.

HOW TO ORDER: 1. Specify if to be mounted in concrete or drive-in base. 2. Order by specific sections, starting at the base. See illustration for section numbers.

SHIPPING: For best freight rates, 40 ft. and over towers will be shipped in section combinations permitting 2 telescoped bundles, unless otherwise specified. (Example: a 60 ft. tower will consist of section A, C, D, E, and 2 F's.)

ZINC ELECTROPLATED ECONOMY MODEL NO. 300

Size	Net	Ship Wt.
40'0"	$ 70.80	130 lbs.
50'0"	91.05	172 lbs.
60'0"	111.30	215 lbs.
70'0"	128.15	245 lbs.
80'0"	148.40	292 lbs.

HOT DIP GALVANIZED HEAVY-DUTY MODEL NO. 500

Size	Net	Ship Wt.
40'0"	$ 97.55	160 lbs.
50'0"	122.80	211 lbs.
60'0"	148.05	262 lbs.
70'0"	172.15	302 lbs.
80'0"	197.40	357 lbs.

Add 15 lbs. per Tower for hardware.
Add approximately 3 lbs. per section for galvanized No. 300 Towers.

DRIVE IN TEMPLATE

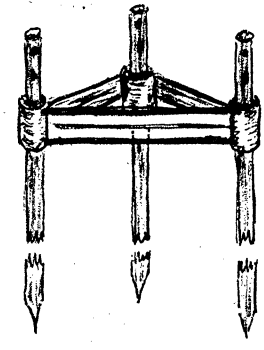
For Jontz self-supporting towers

Specifications:

1—Drive-in legs: 1¼" x 16 gauge x 36".

2—Template: 18" triangle for 40' towers — 22" triangle for 50' or higher — state tower height.

3—Driving cap: 2" x 1¼" to drive individual legs.



2—TEMPLATE: 18" triangle for 40'

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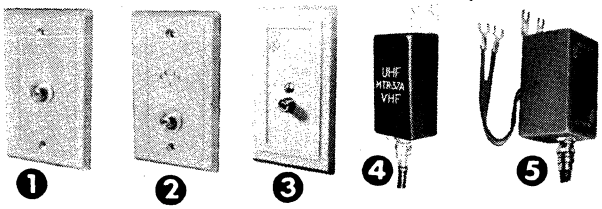
Mosley Electronics, Inc. TV/FM ANTENNA ACCESSORIES

75 OHM VHF/UHF COAX ACCESSORIES



1 Single Lead-in Outlet
Model FCC-1PK single direct antenna coax lead-in receptacle, UHF/VHF, FM-Stereo reception for 75 ohm coax. Constant impedance, molded of polystyrene, Crimp-on ferrule for lead-in, "F" type coax connector attaches TV receiver lead to plate. Mount in F-8 plaster ring or F-9 mounting brackets. Solderless.
MODEL FCC-1PK . . . Wall Plate w/connector, mtg. hdw.

2 Single Lead-in and Rotor Cable Outlet
Model FCC-145PK single direct antenna coax lead-in receptacle for UHF/VHF, FM-Stereo reception utilizing 75 ohm coax with 4 or 5 wire rotor cable plug. Use F-8 plaster ring or F-9 mounting brackets. Solderless.
MODEL FCC-145PK . . . Wall Plate, connector, plug, mtg. hdw.

3 Single & Multiple Lead-in Wall Taps
MC-Series antenna Coax lead-in UHF/VHF, FM Wall Taps utilizing 75 ohm coaxial cable lead-in without rotor. Four models designed for simple, or more intricate, amplified distribution systems. Constant impedance, low insertion loss, low SWR. Connections made with crimp-on ferrules. "F" type coax connector provides secure TV lead connection to Wall Taps. Use F-8 plaster ring or standard electrical box. Complete instructions. 3 colors. Solderless.
MC-1 . . . No resistors, connector, mtg. hdw.
MC-12 . . . Same, but with 12 db. isolation
MC-17 . . . above with 17 db. isolation
MC-23 . . . above with 23 db. isolation

4 UHF or VHF Matching Transformer (indoor/outdoor)
Mounted on outdoor antenna. Model MTR-37A matches 300 ohm antenna to 75 ohm coax; mounted indoors, matches 75 ohm coax to 300 ohm UHF or VHF receiver terminals. Housing molded of polystyrene. Weather-proof. Hardware included. Solderless.
MODEL MTR-37A . . . matching transformer for 300/75 and 75/300 . Mounting hardware.

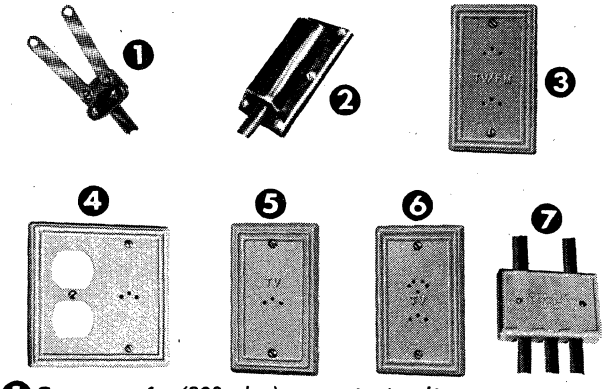
5 UHF & VHF Input-Splitter/Matching Transformer
Model UV-2 for UHF/VHF and FM reception provides separate UHF/VHF antenna inputs to respective terminals. Incorporates features of MTR-37A to provide perfect match of 75 ohm coax lead-in to 300 ohm receiver terminals. High isolation, low loss. Molded polystyrene. Hardware included. Solderless.
MODEL UV-2 . . . UHF/VHF Input-Splitter and Matching Transformer

6 UHF & VHF Coax Splitter (two-set)
Resistive type 75 ohm coax splitter for UHF/VHF or FM. Distributes TV/FM signal to two receivers to permit simultaneous operation without interaction; or mixes 2 single-channel antenna lines to one lead-in line. Low loss, high isolation. Combine to provide a number of lines for larger, amplified systems. Metal container mounts easily. Solderless.
MODEL M-22 . . . 2-set Splitter, 3 crimp-on ferrules, mtg. hdw.

7 UHF & VHF Coax Splitter (four-set)
Model M-24 resistive type 75 ohm coax splitter for UHF/VHF and FM. Permits as many as 4 TV/FM receivers to operate simultaneously from one antenna; or mixes as many as 4 single-channel antenna lines into one receiver lead-in line. Low insertion loss, high isolation. May be combined to provide any number of lines for a large, amplified system. Solderless connections. Metal container mounts easily.
MODEL M-24 . . . 4-set Splitter, 5 crimp-on ferrules, mtg. hdw.

8 Universal Roof-Thru/Wall-Thru
Weatherproof entrance accessory for all types of antenna and rotor lead-in line. Mounts on any sloped roof or on the wall of most non-brick structures with included hardware. Insect-proof housing molded of black Cycolac. Easy-to-install with built-on flange and rubber gasket. No roof cement needed.
MODEL M-60 . . . Universal Roof-Thru/Wall-Thru

300 OHM UHF/VHF TWIN LEAD ACCESSORIES



1 Connector for (300 ohm) transmission line to antenna
Y-TY connector eliminates wire breakage; secure connection of line at TV antenna. Aluminum straps attach to terminals. Grips line securely; positive contact, weatherproof connection. Solderless; polystyrene base.
MODEL 263-S . . . terminal distance 4" or less.
MODEL 263-L . . . for terminal distances 4" to 6".

2 Universal Roof-thru/Wall-thru
Weatherproof entrance accessory for all types of antenna and rotor lead-in line. Mounts on sloped roof or wall of non-brick structure. Hardware included. Insect-proof housing molded of Cycolac. Easy-to-install. Built-on flange and rubber gasket.
MODEL M-60 . . . Universal Roof-Thru/Wall-Thru

3 TV/FM-Stereo Receptacle
Model WPS-11PKB for TV/FM-Stereo reception from one antenna. Resistor type two-set coupler built-in to isolate TV and FM for simultaneous reception without interaction. Use F-9 mounting brackets, or F-8 plaster rings. Low loss. 3 colors. Solderless.
MODEL WPS-11PKB . . . receptacle, 2 plugs, mounting brackets

4 Combination AC/TV Antenna Receptacle
AC outlet cover plate and TV antenna lead-in receptacle. Serves two purposes; non-electrical TV antenna plug-in and AC connection. Mating plugs supplied. Metal barrier plate supplied. Fits over standard electrical boxes. 3 colors. Solderless.
MODEL AC-1PKB . . . receptacle, TV plug, hdw., barrier plate.
MODEL ACA-1PKB . . . above less barrier plate.
MODEL AC11PKB . . . Same as AC-1PKB with two TV plugs.
MODEL AC-145PKB . . . AC/TV and 4 or 5 wire rotor lead-in receptacle with TV plug, one rotor plug & hdw.
MODEL AC-245PKB . . . Above with 2 TV plugs.

5 Single TV Lead-in Receptacle
Model F-1 TV antenna receptacle for TV/FM. Constant impedance, low loss. Molded of polystyrene. Heavy-duty contacts. Use F-8 plaster ring or F-9 mounting brackets. 3 colors. Solderless.
MODEL F-1 . . . receptacle with mounting screws.
MODEL F-1PKB . . . above with plug, mounting brackets.

6 TV Lead-in and Four or Five Wire Rotor Receptacle
Model F-145PKB TV/FM antenna receptacle and 4 or 5 wire rotor cable lead-in. Constant impedance, low loss. Molded of polystyrene. Incorporating heavy-duty contacts. Use plaster ring or F-9 mounting brackets. 3 colors. Solderless.
MODEL F-145PKB TV lead-in and 4 or 5 wire rotor receptacle, mounting screws, plug, rotor plug, mounting brackets.

7 Four-set Coupler for Cable Twin Lead
Designed for heavy-duty cable type twin lead — shielded and unshielded (or flat twin lead) — UHF/VHF B&W/Color TV and FM-Stereo. Resistive type printed circuit coupler permits up to 4 TV sets to operate simultaneously without interaction. Combine to provide any number of outlets. Ground frame adapter securely clamps cable and provides terminal for ground wire. Easy-to-install on baseboard, floor joists, or rafters with just a screwdriver. Molded of Antique Ivory polystyrene. Solderless.
MODEL BL-4PK . . . 4-set coupler with ground frame adapter
MODEL BL-4 . . . Same as above without ground frame adapter

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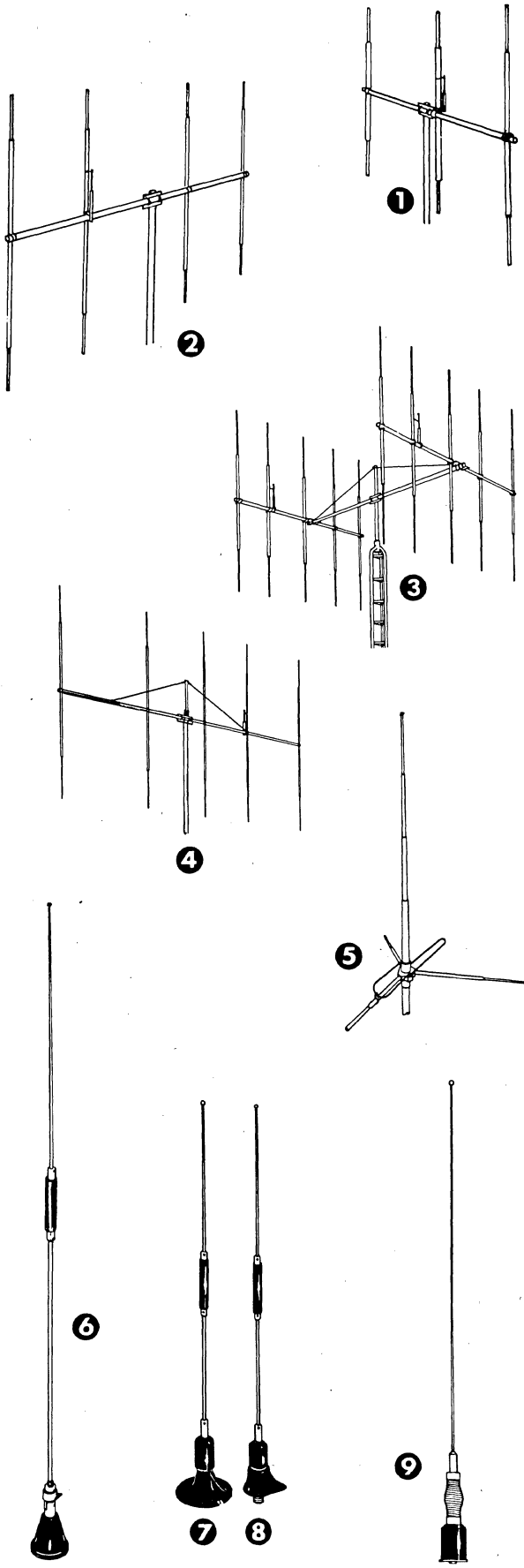
Mosley Electronics, Inc. CITIZENS BAND ANTENNAS



1 BEAM—model AD-311

A deluxe wide spaced gamma matched beam constructed of extra heavy duty, heavy gauge aluminum tubing and featuring associated parts expertly molded of durable plastic. Forward Gain: 8 db. compared to reference dipole or 10.5 db. over isotropic source. Front-to-Back: 25 db. Standing Wave Ratio. 1.5/1 or better. Maximum Element Length: 18' 5". Boom Length: 12' Turning Radius: 12' Horizontal, 6' Vertical. Wind Load (80 Mph EIA Std.); 87 lbs. Wind Surface; 4.5 sq. ft. Assembled Weight; 14 lbs. Shipping Weight: 16 lbs. Vertical Wind Surface: 4.5 sq. ft. Horizontal Wind Surface: 4 sq. ft.

Model AD-311 . . . . . $48.31 Net

Kits (A-311-SK) available for stacking the AD-311 antennas.

2 BEAMS (Scotch-Master series)

Sturdy uni-directional, wide-spaced beams for superior point-to-point communications. Vertically or Horizontally mounted.

A-411-S four-element beam (shown) features VSWR of 1.5/1 or better Gain is 8.7 db. compared to reference dipole or 11.2 db. over isotropic source. Front-to-Back is 20 db. Wind load is 80 lbs. Wind surface area 5 sq. ft. Vertical; 3 sq. ft. Horizontal. Feed point impedance is 52 ohms. All plastic items (clamping blocks etc.) are constructed of high-strength black polystyrene. Weight 14 lbs. Shipping weight 16 lbs. Boom length. 15 ft., maximum element length 18' 8 3/4".

Model A-411-S (Scotch-Master) 4-element beam . . . . . $49.50 Net

Model A-311-S (Scotch-Master) 3-element beam . . . . . $38.50 Net
Model A-511-S (Scotch-Master) 5-element beam . . . . . $60.50 Net
(stacking kits available)

3 BEAMS (Stack'it series)

Mount (stack) two beams on the same mast for added gain over a single beam. Stack'it beam kits include everything needed for the stacking job . . . from two beams, coax yoke, hardware, guy rope, boom, to concise assembly instructions. Feed with 52 ohm coax (not included). Built to withstand 80 MPH winds. Three beam kits available:

Model SKT-3 (Stack'it 3) 3 elements . . . . . $80.25 Net
Model SKT-4 (Stack'it 4) 4 elements . . . . . $93.45 Net
Model SKT-5 (Stack'it 5) 5 elements . . . . . $109.95 Net

4 BEAM (Delta 5) model SA-511-S

Five-element, wide-spaced beam designed and engineered for greater boom-end support and superior Uni-directional radiation. Mounts Vertically or Horizontally. Forward gain: 9.5 db. compared to reference dipole, 11.6 db. over isotropic source; Front-to-Back ratio: 20 db. SWR 1.5/1 or better; gamma match; 52 ohm coax feed; maximum element length: 18' 8¾" ; boom length 24'; turning radius 12' vertical, 15.3' horizontal; wind surface: 6.16 sq. ft. vertical, 3.9 sq. ft. horizontal; windload: 127.5 lbs. vertical, 79.5 lbs. horizontal; assembled weight: 20.5 lbs.; approx. shipping weight: 23.5 lbs.

Model SA-511-S (Delta-5) . . . . . $70.70 Net

5 VERTICAL GROUND PLANE (Devant "1")

Performance proven 5/8 wave vertical antenna. Gain 5.9 db. SWR 1.5/1 or better. Assembled weight, 8 lbs. Height, 19' 8½" Wind surface area, 2 sq. ft. 'Induct-O-Match' matching system. Low angle radiation. Mounts on mast up to 1¼" outside diameter.

Model Devant 1 . . . . . $25.04 Net

6 MARINE VERTICAL (Channel Cat) model CC-27-A

Half-wave vertical antenna. Overall height of 8'3/8" Exposed parts stainless steel or chrome plated brass. Easily installed and removed. Loading through salt resistant weather-proof transformer. Feed point impedance 52 ohm. SWR 1.5/1 or better. No radials. Hinge within base for quick fold-over. Use on cars, trailers, etc. Effective even on wood and fiberglass. Assembled weight 2 lbs. Swiv-L-Mount accessory available for angle mounting (Model SLM). May be clamped to building window ledge with universal clamp accessory (U-1).

Model CC-27-A (Channel Cat) . . . . . $36.78 Net

7 TEMPORARY MOBILE—(Cadet) model SUC-1

For temporary mobile installations. Utilizing suction cup mount. Omni-directional. VSWR: 1.5/1 or better. Length 3 ft. from mounting surface to antenna tip. Roof top mounting recommended. Antenna center loaded. No ground radials or systems. Grounded within base. Operates on fiberglass, wood or metal surfaces. All S/S hw. 12 ft. of coax supplied.

Model SUC-1 (Cadet) . . . . . $22.92 Net

8 MOBILE—(Cadet) model PER-1

Similar to Cadet SUC-1 except designed for permanent installations. No ground system. Operates on fiberglass, wood or metal surfaces, 12 ft. of coax supplied.

Model PER-1 (Cadet) . . . . . $26.66 Net

9 MOBILE—(Deputy) model DP-27

Base loaded mobile antenna. Easy to disconnect. With roof top mount. 'Mobil mate' available for trunk groove or drip rail installation. Complete S/S whip, 18' of coax, chrome plated spring and hw. Length 43¾".

Model DP-27 (Deputy) . . . . . $17.59 Net

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PREMAX ANTENNAS--MOUNTINGS--ACCESSORIES

SERIES C CENTER-LOADED MARINE ANTENNAS

A Center-Loaded Collapsible type Antenna, consisting of two telescoping, adjustable base sections on which the loading coil is mounted, with a tapered top whip section, giving a total extended length of about 19 feet. This Antenna collapses to a single unit with the whip section telescoping through the coil into the lower section, making a collapsed length of 7 feet. The sections are of seamless aluminum, polished or gold anodized, or stainless steel and the coil is wound on low-loss bakelite tubing and treated after assembly with weatherproof coating.

No.	Type	Base O.D.	Base I.D.	Wt. Lbs.	List Price
CLA-619	Aluminum	1.000"	.834"	5	$60.00
CLS-1119	Stainless	1.000"	.900"	7	110.00
CLGA-619	Gold Anodized Aluminum	1.000"	.834"	5	65.00

SERIES B CENTER-LOADED ANTENNAS FOR MOBILE & MARINE USE

Center-Loaded Whip-Type Antennas consist of a standard base section or spring-type on which is mounted a special Premax coil. The top is a taper-ground stainless steel whip 6 ft. in length, giving a total overall height of 9 ft. Various coils are available or the standard 75-meter coil can be adapted by shorting out turns on the coil. Antennas can be used with any of the Standard Premax Mountings shown below, or will fit any 3/8" x 24-thread mounting.

NO.	FREQ.	PRICE
BXS-14	14,000 kc. (20M.)	$25.00
BXS-23	2374 kc. (CAP)	26.00
BXS-31	3105 kc. (APT)	26.00
BXS-38	3800 kc. (75M)	26.00
BXS-43	4325 kc. (CAP)	26.00
BXS-46	4585 kc. (CAP)	26.00
BXM-25	2000 to 3000 kc. (Marine)	26.00
	(Same as BXS but with Spring)	
BSS-14	14,000 kc. (20M.)	42.00
BSS-23	2374 kc. (CAP)	45.00
BSS-31	3105 kc. (APT)	45.00
BSS-38	3800 kc. (75M.)	45.00
BSS-43	4325 kc. (CAP)	45.00
BSS-46	4585 kc. (CAP)	45.00
BSM-25	2000 to 3000 kc. (Marine)	45.00

SERIES B COILS

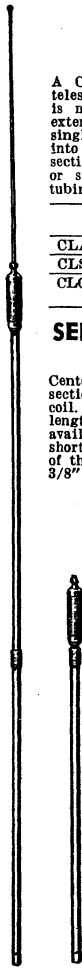
Premax also supplies the Series "B" coils in the standard frequencies above. Special frequencies available on request.

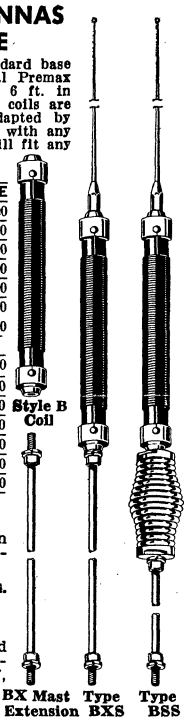
List Price .....$15.00 ea.

MAST EXTENSIONS

Polished Stainless Mast Extensions—threaded 3/8"-24 on both ends and supplied with stainless nuts and lockwashers. Available in 12", 18", 24", 30" and 36" lengths.

Prices range from $6.50 to $15.00 list each


SERIES C

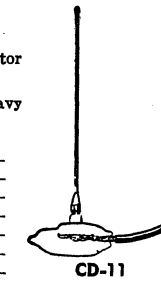

Style B Coil — BX Mast Extension — Type BXS — Type BSS

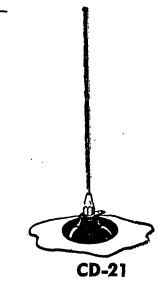
MOBILE VHF WHIPS

Style CD-11 Series—Permanent type. Porcelain insulator mounts thru 1/2" hole in rooftop.

Style CD-21 Series—Emergency type. Attaches by heavy duty suction cup.

NO.	FREQ.	PRICE
CD-112	108 to 120 mc.	$6.00
CD-114	144 mc.	6.00
CD-115	152 to 162 mc.	6.00
CD-212	108 to 120 mc.	4.20
CD-214	144 mc.	4.20
CD-215	152 to 162 mc.	4.20

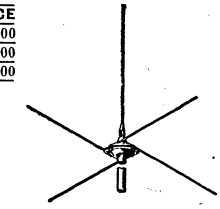

CD-11


CD-21

GROUND PLANE ANTENNAS FOR POINT-TO-POINT USE

For point-to-point installations, Premax has two VHF Antennas: The Style GP-3 which has elements of heavily-plated spring steel with skirt wires that can be bent down to any angle to match coax cable. Mounting is within a water-proof housing that fits standard 1/2" pipe. Cable carries down thru pipe.

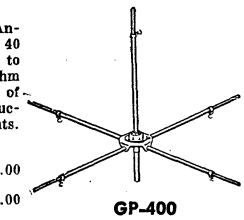
NO.	FREQ.	USE	PRICE
GP-312	120 mc.	For aircraft and CAP.	$12.00
GP-314	140 mc.	For 2 meter and CD.	12.00
GP-315	150 mc.	For police and taxi	12.00


GP-3

PREMAX ADJUSTABLE GROUND PLANE ANTENNAS 20-60 mc

Another low-cost type Ground Plane Antenna is adjustable from 20 to 40 mc. or 40 to 60 mc. Standing wave ratio matching to 52-ohm line is 1.07 to 1.13 and to 72-ohm line is 1.27 to 1.23 depending on type of transformer cable. All-aluminum construction employing adjustable tubular elements.

GP-430	Adjustable 20-40 mc.	$75.00
GP-450	Adjustable 40-60 mc.	60.00


GP-400 Series

MOBILE MOUNTINGS FOR USE WITH WHIPS WITH 3/8"—24 MALE THREAD

Type CA

CA BUMPER MOUNTING

"Chain Style — clamps on any bumper with 1" clearance; no drilling; theft-proof.

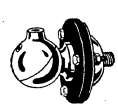
Price $15.00

Type SA-2

SA-2 SPRING ADAPTOR

Stainless steel Spring Adaptor—can be attached to types R-2, R-3, L-1, CA and NA-1 to provide greater flexibility. Height 4 1/4", diameter 2 3/8".

Price $16.00


Type R-2

R-2 UNIVERSAL COAX TYPE MOUNTING

Solid Polished Aluminum split-ball can be adjusted to any angle. Has shielded coax connection and stainless hardware.

Price $19.00

Type R-3

R-3 UNIVERSAL MOUNTING

Solid Polished Aluminum Swivel Ball. Heavy stainless steel back-up plate with grounding screws. Stainless steel hardware.

Price $24.00

Type NA-1

TYPE NA-1

Bumper mounting with ceramic cone insulator and steel bracket.

Price $14.00

Type RS-2

TYPE RS-2 COMBINATION

Similar to R-2 except has spring as shown under SA-2.

Price $40.00

Type F

TYPE F

30° adjustable mounting for fender, cowl or gravel pan. Chrome-plated brass with phenolic insulation.

Price $23.00

Type V

TYPE V

Thru-deck mounting designed for Style BX and BS Center-Loaded Marine Antennas. White porcelain cones with a maximum opening for 1-1/2" deck. Stud threaded 7/16"-24.

Price $14.00

MINI-MOBILE ANTENNAS

Model CBMSF-27 25-50 MHz
New from Premax — Mini CB Spring and Chrome-plated Adjustable 30° Mounting for roof, fender or trunk. Overall height only 27". Stainless steel Whip, chrome-plated brass base with heavy phenolic insulator. Complete with 16' RG-58/U 50-OHM coaxial cable with connector and adapter.
Price $37.00

Model CBMS-25
Same as CBMSF-27 but without Adjustable Mount.
Price $22.50

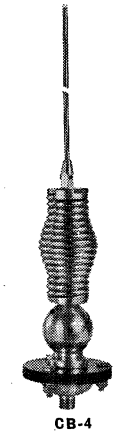
Model CBF-24
Same as CBMSF-27 but without Spring.
Price $32.50

CITIZENS BAND 27 MHz WHIP MOBILE ANTENNAS

Model CB-4 includes type RS-2 Mobile Mounting and Style VS-9108 Whip Antenna.
Price $53.50

Model CB-5
Same as above but with type S-2 Mobile Mounting and Style TS-8108 Whip Antenna.
Price $37.00

Model CB-3
Same as CB-4 but without spring.
Price $31.00


CB-4

CBMSF-27

ALSO AVAILABLE: CITIZEN BAND BUMPER MOUNTINGS WITH FULLY ADJUSTABLE CHAIN TO FIT ANY BUMPER CONTOUR. AVAILABLE WITH OR WITHOUT SPRING.

PREMAX PRODUCTS, DIV. CHISHOLM-RYDER CO., INC.

Trade Discount Applies To List Prices Only
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PREMAX ANTENNAS--MOUNTINGS--ACCESSORIES

VERTICAL TELESCOPING ANTENNAS
PREMAX STAINLESS STEEL ANTENNAS

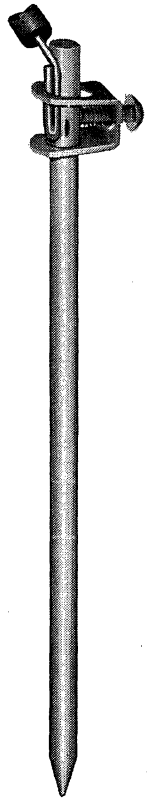
Premax stainless steel antennas, fully telescoping and adjustable, have a locking device that holds the sections firmly at any desired point insuring a perfect electrical contact. Made of a high grade polished stainless steel tubing, hard-drawn to an extremely high tensile and yield strength, they are well suited for the most severe strains from high seas or winds.

PREMAX ALUMINUM ANTENNAS

Premax aluminum antennas are lightweight, corrosion resistant and have adequate strength to meet practically all needs for marine, commercial and mobile installations that demand convenience in erecting and dependable performance. They are constructed of highly polished, specially tempered aluminum tubing engineered to withstand wind velocities up to 60 miles per hour. Also available in gold anodized finish.

SPECIFICATIONS & DESCRIPTIONS OF TELESCOPING VERTICALS

NO.	DESCRIPTION	EXTD.	COLL.	BASE O.D.	BASE I.D.	WGT.	LIST PRICE
SS-1118	3-Sec. Stainless	18'4"	6'3"	.750"	.680"	6	$ 90.00
SS-1124	4-Sec. Stainless	24'3"	6'3"	1.000"	.900"	9	135.00
SS-1130	5-Sec. Stainless	30'0"	6'4"	1.250"	1.120"	13	185.00
SS-1135	6-Sec. Stainless	35'7"	6'4"	1.500"	1.370"	19	255.00
AL-312	2-Sec. Aluminum	12'4"	6'4"	.500"	.334"	1½	15.00
AL-518	3-Sec. Aluminum	18'5"	6'4"	.750"	.584"	3	30.00
AL-324	4-Sec. Aluminum	24'4"	6'4"	1.000"	.834"	5	45.00
AL-530	5-Sec. Aluminum	30'0"	6'5"	1.250"	1.084"	7	60.00
AL-535	6-Sec. Aluminum	35'8"	6'5"	1.500"	1.310"	12	85.00
Gold anodized aluminum finish ..... $20.00 to $97.50							



GET POSITIVE PROTECTION FOR YOUR EQUIPMENT WITH A PREMAX GROUND ROD

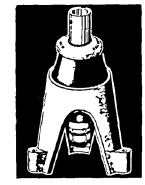
High quality, low cost Premax Ground Rods make it impractical to fuss with makeshift grounding methods. Made of smooth drawn steel with newly designed pencil-point tip for easier driving. Heavy copper plate prevents rust and assures sensitive electrical contact. Available in 4 ft. to 8 ft. lengths; ⅜", ½" and ⅝" diameters. Styles J and G have simple clamp with set-screw for attaching ground lead. Style H has a ⅛" hole drilled in rod through which ground lead can be fastened. Style X is a plain rod to which ground lead can be clamped or soldered.

Size	Weight per 100 Pieces	STYLE J & G Screw Clamp No.	List	STYLE H With Hole No.	List	STYLE X Plain No.	List
⅜"x4'	160	J-64	1.25				
⅜"x6'	230	J-66	1.65				
⅜"x8'	320	J-68	2.00				
½"x6'	400	G-86T	2.90	H-86T	2.95	X-86T	2.70
½"x8'	540	G-88T	3.50	H-88T	3.55	X-88T	3.25
⅝"x6'	630	G-106T	4.25	H-106T	4.30	X-106T	4.10
⅝"x8'	840	G-108T	5.25	H-108T	5.30	X-108T	5.10

GALVANIZED RODS QUOTED ON REQUEST

Freight Allowance of up to $2.00 per cwt. granted on all Ground Rods based on lowest rail freight rate.

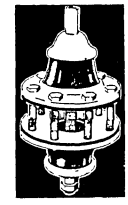
BASE MOUNTINGS FOR VERTICALS



TYPE 1 BASE INSULATOR

Heavy-duty type Base Mounting Insulator with compression rating up to 10,000 lbs. Has wet-process brown-glazed porcelain cones. Available in galvanized malleable iron, gold anodized aluminum, and chrome-plated brass, in rigid-post, hinged-post. Ht. to post base, 7 to 9 inches. Wt. 8 lbs. Alum. 5 lbs.

List Price .....$55.00 to $110.00



TYPE 6 BASE INSULATOR

For marine, mobile unit, roof-top or tower. Lead-thru construction permits connections below deck. Flanges 6" in diameter with 6 bolts on a 5" circle. For ½" to 3" deck. Available in galvanized malleable iron, gold anodized aluminum, and chrome-plated brass. Rigid post, and hinged post styles. Ht. from flange to post base, 3" to 5". Wt. 11½ lbs. Alum. 8 lbs.

List Price .....$80.00 to $170.00

STANDOFF INSULATORS

TYPE 10-S

A heavy-duty Insulator with chrome-plated brass base and head caps—regular or hinged clamps. Insulator is brown-glazed porcelain in extra heavy style. Ht. to center of clamp, about 4½". Wt., 3 lbs.

List Price .....$60.00 to $110.00

TYPE 13-S

Heavy, rugged cast caps and base plates in aluminum, plain or gold anodized, or chrome-plated brass. Heavy brown-glazed porcelain insulator, 3 inches in diameter. Ht. to center of clamp, 4¾". Wt., 2½ lbs.

List Price .....$20.00 to $53.00

MOBILE WHIP ANTENNAS

HEAVY DUTY TAPERED STAINLESS—TYPE ES

Solid one-piece taper-ground whips, ¼" at base tapering to 3/32" at tip with top ball. High-tensile stainless steel fabricated by special formula, comparing favorably with the best spring steel, yet having excellent corrosion-resistant properties.

STANDARD WEIGHT TAPERED STAINLESS WHIP WITH NON-REMOVABLE ADAPTOR—TYPE TS

Stainless steel whips of extremely high tensile strength with a permanent type stainless adaptor, with ⅜" male thread.

STANDARD WEIGHT WHIP WITH REMOVABLE ADAPTOR—TYPE VS

Same whip as above except supplied with a removable adaptor locked in place by dual set screws.

NO.	LENGTH	PRICE
ES-760	60"	$10.50
ES-772	72"	10.50
ES-784	84"	12.00
ES-796	96"	12.00

AD-700 — Separate Stainless Adaptor with ⅜" male thread for ES and ES series whips. $3.40

NO.	LENGTH	PRICE
TS-860	60"	$10.50
TS-872	72"	10.50
TS-884	84"	11.25
TS-896	96"	11.25
TS-8108	108"	12.00
VS-960	60"	12.00
VS-972	72"	12.00
VS-984	84"	12.75
VS-996	96"	12.75
VS-9108	108"	13.50

AD-900 Same as AD-700 except drilled for VS series whips. $3.40

ALL PRICES SHOWN ARE LIST PRICES SUBJECT TO USUAL COMMERCIAL DISCOUNTS.

PRICES EFFECTIVE AT TIME OF PRINTING AND ARE SUBJECT TO CHANGE WITHOUT NOTICE.

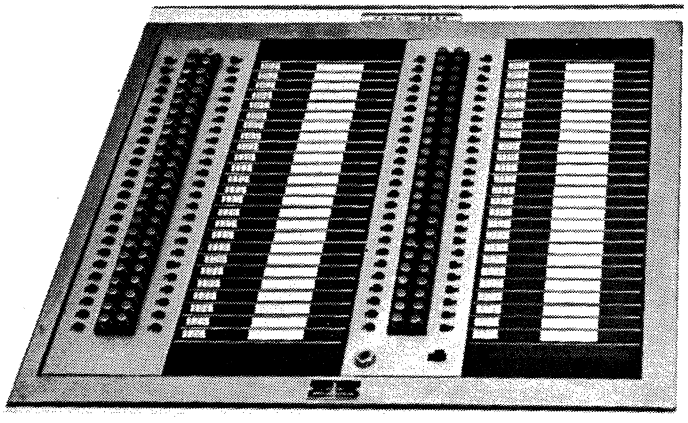
PREMAX PRODUCTS, DIV. CHISHOLM-RYDER CO., INC.

AUDIO/VISUAL/SIGNAL SYSTEMS & PARTS
FOR HOTELS — MOTELS — INSTITUTIONS

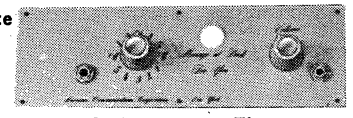
ROOM STATUS CONTROLS

ONLY ONE CONTROL WIRE REQUIRED PER ROOM!
LITERATURE AVAILABLE (SPECIFY NUMBER OF ROOMS).

Model 2L Typical Front Desk Board

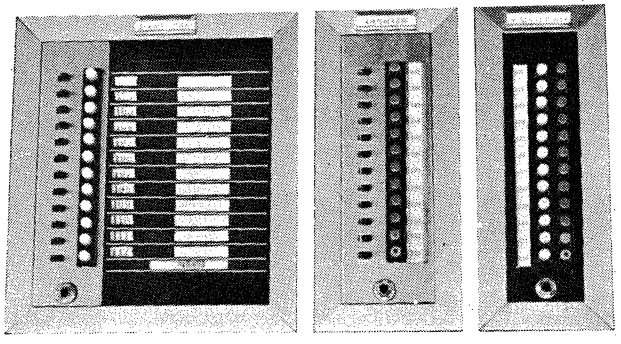


Room Plate



Model 2LMI Boards

Front Desk **Cashier** **Floor**



THESE SYSTEMS ARE PROTECTED BY U. S. PATENTS 3,214,747 and 3,230,520

Model 2L — 2 Lights, 2 Switches per Room
Two lights, green for room available and red for checkout on consoles for front desk and housekeeper. Switches are on front desk board only, and not on housekeeper's board.

When guest checks in, desk moves switch putting out green light. No lights indicate occupied or rented room. When guest checks out, the room clerk throws other switch, putting on red light on his console and red light on housekeeper's board and a small light appears on the guest room panel.

When the maid enters the room, the light on the guest room panel indicates a checkout to her. She pushes in her signal plug to indicate she is working that room. This causes red light on front desk and housekeeper's consoles to blink. When maid is through with room she pushes her plug all the way in and removes it. This puts out all lights and turns on the green lights to indicate room is ready for sale.

Note: Once the maid enters the room and pushes in her plug, either or both the front desk and the housekeeper can give her verbal instructions in regard to the room. Two-way communication is available but not recommended.

(†) Net — Model 2L

Front Office Board	**$14.25 per room**
Housekeeper Board	**9.25 per room**
Guest Room Plate	**7.50 per room**

Does not include cable or wires

NEW, MAID AND INSPECTRESS ROOM STATUS SYSTEM, Model 2LMI

This is a new light system that is equivalent to American's standard 4 light system. It not only shows when a room is ready for sale, occupied or a check out, but also the status of a room when it is being cleaned or inspected. Front desk has one green light and switch per room, cashier has one red light and switch per room. These two boards can be combined for front desk operation. A combination information board with red and green lights for each room, but no switches is at the housekeeper's station, and for the inspectress, there are boards for each floor with a red and green light for every room on the floor.

OPERATION

When a guest checks out, cashier throws switch for the room, lighting red light on her board, also on housekeeper's board, and on floor board as information for inspectress and maid, and a small light on status plate in check out room. When maid sees this light on entering the room she immediately knows it is a check out. She pushes her plug into the maid jack on the room plate. This causes red lights to dim, for the room involved. At this time, the cashier, or housekeeper can give verbal instructions to the maid (one way communication). When maid is through, she removes her plug and all the lights for the room begin to blink, indicating that room has been cleaned.

Inspectress enters and checks the room. If it is acceptable, she pushes her plug into the maid's jack and removes it, causing the small light on the room panel and the red lights on the other boards to stop blinking and to burn steady. Upon seeing the small light on the room panel burn steady, the inspectress knows the room is a checkout. She pushes her plug into her jack on the room panel, causing the room plate light and the red lights on the other boards to go out, while at the same time lighting the green light on the front desk. Front desk now knows he has a room for rental.

Net — Model 2LMI

Front Office Board	**$13.75 per room**
Housekeeper Board	**9.25 per room**
Cashier Board	**8.75 per room**
Floor Board	**10.75 per room**
Guest Room Plate	**9.50 per room**

Does not include wire or cable

(†) Priced per room, up to 100 rooms; less cable, Room Unit (where required). * All switching, signalling systems in these pages protected by Patent Nos. 3,214,747 & 3,230,520.

Single Light Maid Status System

Maid Call System "MC" is the use of the white light or maid's control light of Status Control System 4L as an independent, separate system. This system may be installed alone, and functions to notify the Front Office or Housekeeper when the room has been completed.

Operation:

(1) On Check Out, Room Clerk turns on light on Guest Room Panel.
(2) Light indicates to Maid that room is Check Out.
(3) Light blinks at Front Office and/or Housekeeper's board when Maid inserts plug in room jack.
(4) Light goes off when Maid removes plug.
(5) Room Clerk now knows room is ready for Sale.

As with other systems, Front Office and Housekeeper are in direct communication (one way) with Maid in room.

(†) Net — Model MC

Front Office Board	**$8.75 per room**
Housekeeper Board	**5.25 per room**
Guest Room	**7.50 per room**

Does not include wire or cable

A-P5-A Room Unit, includes Centralized Radio Controls plus jack and light for "blink light" Room Status and Maid Call. **Net $15.00/room.**

AMERICAN COMMUNICATIONS CORPORATION

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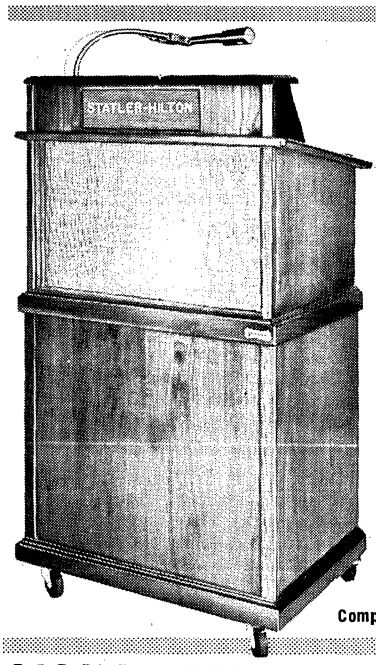


Completely Suspended Speaker System

NEW PORTABLE ELECTRONIC LECTERN

UNQUESTIONABLY THE BEST HEAVY-DUTY ELECTRONIC LECTERN MADE

- **The greatest advance in Lecterns — anechoic speaker suspension system!**
- Completely self-contained. Demountable Base is optional!
- Use anywhere. More built-in features than any other make!
- Most RUGGED, RELIABLE Portable Electronic Lectern on the market!
- **IDEAL** for banquets, conventions, auctions, sales meetings, dances, at Churches, Schools, Hospitals, etc.

AMERICAN'S improved No. A-203 Electronic Lectern is efficient, portable and unified — nothing else to buy (includes microphone, amplifier, anechoic speaker suspension system and long line fluorescent reading light, with provision for optional equipment). When combined with Base, it constitutes a Podium. High-quality cardiod microphone, w/Off-On switch, is adjustable in height and position; side mounted for maximum desk room. Amplifier is high-quality, reliable, high-fidelity type, w/separate Bass and Treble controls to suit any acoustic situation of speaker or audience, and for maximum voice fidelity and minimum feedback. Lectern (top section) lifts off Base (bottom section) for table top use, and has space for reference material under sloped reading desk. Base folds for easy, convenient storage!

Optional equipment: (1) jack with extra speaker for covering large audiences; (2) extra mike jack; (3) neck microphone with long lead, for speaking away from Lectern (as for audience participation, etc.); (4) built-in or remote timer, and signal light. Engraved bakelite Nameplate is extra, **Net: $15.00.**

SPECIFICATIONS

No. A-203A Lectern (only) is fully equipped, ready to use, as described. **A-203B** is above Lectern, plus Base; latter has quiet, ballbearing casters. Made of selected hard wood, in rich walnut. A-203B, overall: 28″ x 19″ x 50″ high. Approx. weights: A-203A, 75 lbs.; A-203B, 105 lbs. Microphone has gooseneck stand. Amplifier audio output, 35 watts. Junction box for A-C linecord. Operates on 115 V., 60 cy. **No. A-203C** is **A-203B** w/jack for second, auxiliary speaker (supplied).

Net Prices

A-203A, $305.00 A-203B, $405.00 A-203C, $435.00

SIGNAL MAIL RACK & MESSAGE-AT-DESK

REQUIRES ONLY ONE CONTROL WIRE PER GUEST ROOM

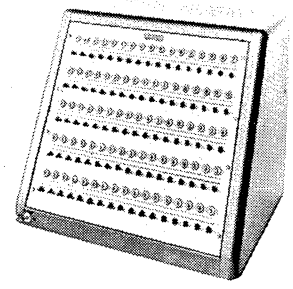
AMERICAN COMMUNICATIONS manufactures two signal systems, either of which may be used to expedite message and/or mail handling in hotels, motels, schools, factories, hospitals, and other institutions.

The **Mail (and Message) Rack Signal System** is comprised of numbered pockets, one for each room with a push button light switch, or light and switch for each pocket. Each pocket is wired to a guest-room. When clerk files mail (or message) in pocket, he lights corresponding lamp; simultaneously, a duplicate lamp in the guest room lights, and advises guest he has a message at main desk.

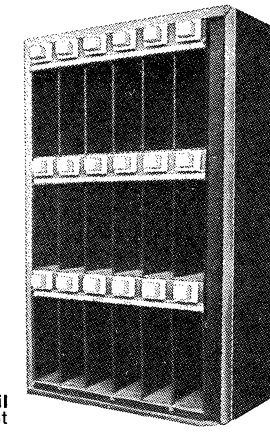
Long-life bayonet lamps in Signal Mail Racks and Message-at-Desk units are easily replaced from front.

A new **2-Way model, No. A-MR2,** with access from either side and lamps and switches on both, enables Mail Clerk to insert mail from one side and silently signal guest and for Telephone Operator to insert messages from the opposite side (and also signal the guest).

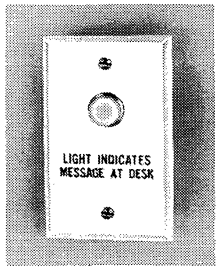
The **Message-at-Desk Unit** is identical with the Mail Rack System, except that there are no pockets — only push button light switches or lamps and switches mounted on a control panel. Message clerk — usually the telephone operator — signals to guest that there is a message (or mail) by moving a switch as above described. **Model A-MD1/85** (illus.), for example, is a desk-top model for 85 guest rooms.



No. A-MD1/85 Message-at-Desk unit, Desk-top type.



No. A-MR3/100 Mail & Message Rack, Key Slot (not shown) is available.



No. A-P20-3-A Signal Plate, in guest room, mounts on standard 1-gang outlet box.

The Racks and Panels are available in a variety of constructions to suit individual requirements as to location and number of rooms, and in standard or special finishes as decor dictates. The Mail Rack is available with key slots.

If guest room is not wired for radio, a separate wall plate, **A-P20-3-A,** is provided for the signal lamp; otherwise, it can be included on the radio control panel or the TV Remote Control Unit.

They may be made for Flush-wall (recessed), Surface-wall or Desk (table-top) mounting. An easily removable end cover plate permits access to wiring. Power Supply unit (included) is controlled by a switch.

SPECIFICATIONS — Signal Mail/Message Racks

Standard finish, velvet black enamel. Material is steel. Standard pocket measurements: approx. 8″ deep x 7¾″ high (incl. 1⅛″ for Key Shelf, where used) x 2″ wide. Specify whether wiring termination board is to be placed at left or right end of Rack.

NET PRICE

A-MR3/-Signal Mail Rack System, standard, ***$13.50** per pocket with American push button switches.

The foregoing **Net Price** is less connecting wire and Room unit, but including Power Supply for up to 100 rooms. Discounts apply on larger installations.

SPECIFICATIONS — Message-at-Desk

Standard finish, Flush or Surface mounting type, velvet black or grey enamel; Desk-top type, grey enamel. Other colors to suit decor are special. Material is steel.

NET PRICE

A-MD1/- Message-at-Desk System, Desk type; and, **A-MD2/- Message-at-Desk System,** Flush Panel type, **$7.50 per room** with American push button switches. Above **Net Price** is less connecting wire and Room Unit, but including Power Supply.

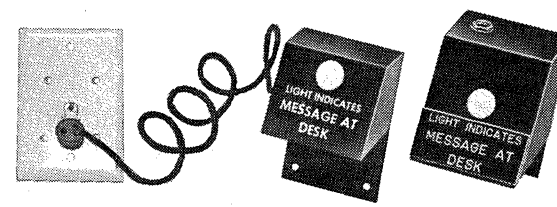
MESSAGE AT DESK CONSOLES

The small Message at Desk consoles are a new development of American. They usually are located on the dresser adjacent to the T.V. set. There is a back mounting plate for screwing to the back of the dresser. A 6 ft. cord with plug connects the console to the master antenna plate. Consoles are finished in satin black, other finishes available.

Consoles Available:

1. Message at desk with light, dimensions: 2¼″ high plus 1¾″ back plate extension, 2⅝″ wide, 1¼″ deep. **$5.50 ea.**
2. Message at desk with light, maid call jack and speaker. Dimensions: 3⅛″ high plus ⅞″ back plate extension, 2¾″ wide, 1⅞″ deep. **$7.50 ea.**
3. Message at desk light, maid call jack, room status control light and speaker to maid, same dimensions as No. 2. **$12.50 ea.**

Cost of master antenna wall plate with jack and antenna tap. Ivory or white, single gang. **$2.25 ea.**

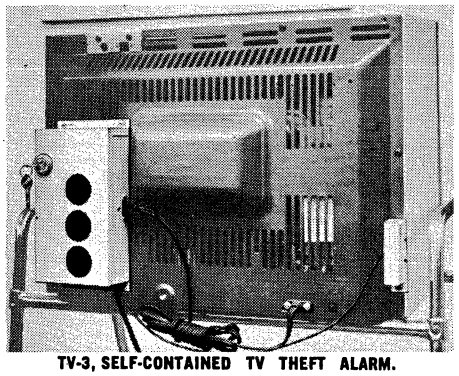


AMERICAN COMMUNICATIONS CORPORATION

AMERICAN'S New TV-set THEFT ALARMS

Pending Patents.

A-TA-B/50 TV-set Theft Alarm for Hotels.



TV-3, SELF-CONTAINED TV THEFT ALARM.

AMERICAN'S TV-set Theft Alarm is now available in designs that meet the needs of occupancies of any size; in addition to the **Model B,** for hotels of 50 rooms or more, there is the new **Model C,** for motels of under 50 room units.

Both models operate to signal the front desk of any attempt to steal the television set it protects.

Installation may be made by any technician, following detailed instructions supplied with each System (Console, and Room Units). **Requires only one control wire per guest room.**

Operation: Equipment under protection (TV-set, appliance, etc.) is electronically protected. Any attempt to remove connection from wall outlet, or cut power cord, starts alarm signal. This signal is indicated at the Front Office as a flashing light, and loud buzz.

There is no alarm in the guest room to alert the thief, but the Front Office signal, once triggered, cannot be stopped until Front Office attendant has operated a Reset switch (which cancels buzz); a room indicator lamp remains lit, however, until house personnel has checked the guest room and restored the circuit to its normal alert condition.

Apartment House owners can now offer their tenants maximum security at negligible cost. Tenant is protected against an unlawful entry.

SPECIFICATIONS

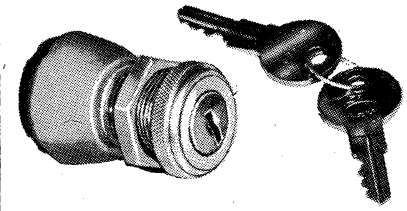
No. A-TA-B/- TV-set Theft Alarm, including Front Office Control Console, complete w/room lights, loud-sounding buzzer, alarm light, flasher, alarm reset and power on-off switches, solid state devices, and power supply; and, Room Kit (Conversion Cord, Conversion Outlet, one each per room). Control Console (A-TA-B/50) measures approx. 15″ x 7¾″ x 9″ deep; wt., approx. 30 lbs.; finish, gray crackle enameled steel. Operates on 115 V., 60 cy. A-C. **Net Price, A-TA-B/-, $12.00/room.** Price is for a maximum of 50 rooms. Cable not included.

TV-3, SELF-CONTAINED TV THEFT ALARM. The TV-3 Theft Alarm mounts on the back of each TV set. Should anyone attempt to cut the power line, pull out the power plug or remove the Theft Alarm, an extremely shrill piercing alarm is set off. The alarm, which is audible throughout the entire building, will run for about an hour. Two options are available to the owner. Option 1 requires the management's presence to shut the alarm off. Option 2 — If the plug is re-inserted in the receptacle, the alarm will shut off by itself. This option allows for a test of the alarm.

The TV-3 is held in place by screws. No internal connections have to be made to the set. All that's required is to plug the TV set's power cord into the TV-3 and then plug the TV-3 into any power receptacle.

NOTE: If Power goes off, Alarm will not be set off.

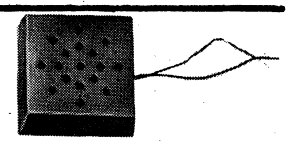
Net: TV-3, $14.00 Quantity discounts.



NEW, 2-POSITION KEY LOCK SWITCH

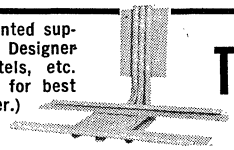
10 Amps., 110 Volt rated. Beautiful finish, keyed tumbler pin lock, installs on any electrical device. Key is removable for safety and security. ¾″ dia. threaded mounting bushing with mounting nut. Can mount on panel from ⅛″ to ¾″ thick. Discounts in quantity. **$2.25 ea.**

MINIATURE, COMPLETELY WATERPROOF SPEAKER

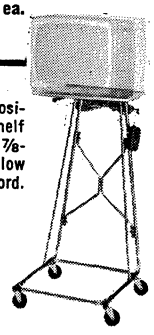


Miniature waterproof speaker for use in all types of equipment. Primarily designed for military use, but is adaptable for other applications. 8 ohms impedance. Rated at 3 watts. Supplied with mounting clamps. Dimensions: 1¾″ square by ¾″ deep. Can be made smaller (1½″ square) or larger. **$15.00 ea.**

TV MOUNTS

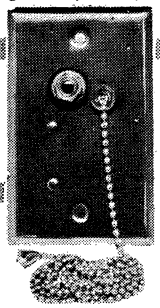


No. A-TVB1 Bracket (left). Swivel wall-mounted support for 19″ TV sets, particularly the Designer series, or equivalent, for hospitals, hotels, etc. Saves floor space. Set easily positioned for best viewing. **Net $9.75.** (Other sizes to order.)



No. A-TVS Roll-away TV Stand (right). Easily positioned under, for example, a hospital bed. Shelf holds set over bed. Hard-rubber casters, bolted ⅞-in. diam. steel tubing. Shipped KD. Bar holds pillow speaker cord or, as shown, TV Remote Control Cord. **Net $25.49.**

PATIENT'S RADIO WALL-PLATE



No. A-RW1 Radio Wall-plate.

Although designed for use by patients in hospitals, the No. A-RW1 Radio Wall-plate shown here, is a convenience wherever used. Operates by pull chain or Nylon cord.

Has stepper switch and a jack. Switch has continuous rotation through "Off", 5 positions for selection of radio programs, and back to "Off", and so-on. Jack provides connection for pillow speaker.

SPECIFICATIONS

No. A-RW1 Radio Wall-plate. Switch is pull-chain actuated, continuous rotation, single-pole. 5 positions and "Off". Either single-circuit or seize-type jack can be supplied, for PL-55 plug; specify which desired. Plate is stainless steel, 2¾ x 4½″ high; overall depth, from front of plate, 2¼″. Fits standard outlet box. Bead chain or nylon cord. 3 ft long; cut to desired length. **Net Price, $7.35**

No. A-RW2 Radio Wall-plate. Dual unit placed between two beds for two patients' use. Size: 4⅝″ x 4⅝″. **Net Price, $12.85**

PILLOW SPEAKER/"MIKE"

No. A-S/M Pillow Speaker, may serve also as Microphone! Ideal for hospital use: Water-resistant, stainless steel case, rugged construction, exceptional fidelity, has bedclothes clip and chain (not shown), and special flat-to-wall plug. Alnico magnet; available voice coil impedances: 3.2, 2,000, 5,000 and 10,000 ohms. Measures ⅞″ x 3″ dia. Cord is 10 ft. long (other lengths to order). **Net Price, $10.50.** Quantity discounts.

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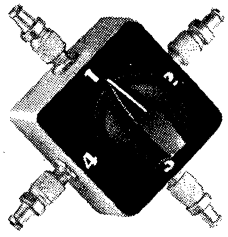
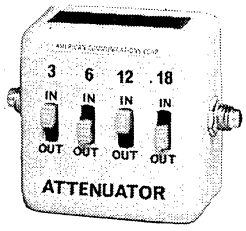
NEW! COAX. SWITCHES | DB ATTENUATORS



No. A-SW/4 Coaxial Switch. Inexpensive, functional equivalent of lab-type switching units, for general-purpose use.

No. A-SW/- Coaxial Switch. Low-cost, small-space, light-weight coaxial switch; with positive detent action; C. F or BN connectors for coax. cable. Illustrated is a 1-pole, 4-position unit for switching one input to four circuits (antennas, transmitters, exciters, receivers, test equipment, etc.). Almost any number of circuits can be switched with 72Ω terminations on all unused circuits. Power rating up to 1 kw., amplitude modulated; impedance, 52-75 ohms. Approx. 2″ x 2″ diam. Supplied w/hardware (pointer knob, mounting bushing, and C, F or BN connectors w/ferrules). **ASW/2,** 1-pole 2-position, **Net $7.75. ASW/4** (illus.), **Net $8.50** (with C or F connectors — others extra).



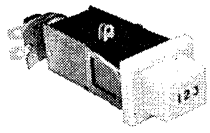
No. A-DB/39 Attenuator. Pays for itself in the time it saves determining loss required for best TV picture, etc. Slide switches are used.

AMERICAN'S No. A-DB/39 and **No. A-DB/58 Attenuators** (the latter not illustrated) provide at low cost, quick and convenient means for determining losses in a number of essential tests in TV installations. These include: measurement of amplifier gain, and equipment losses.

SPECIFICATIONS

Insertion loss of **A-DB/39** is in fixed steps of 3 to 39 db, and, of the **A-DB/59,** 3 to 59 db, for TV frequencies, when used in 75-ohm circuits. Two **A-CH61** solderless TV connectors afford connection to 75-ohm coaxial connectors. Housing is steel, ecru enameled; overall, 2″ x 2″ x 1″ deep **(A-DB/39).**

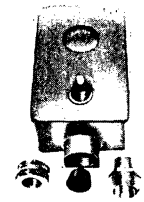
Net: A-DB/39, $9.75; A-DB/59, $19.90.



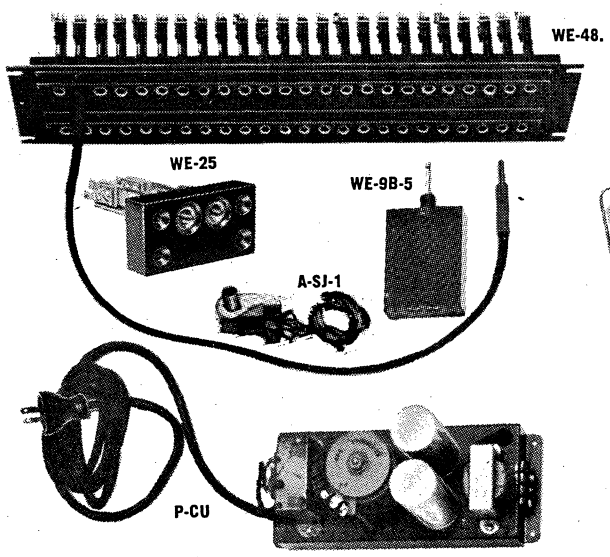
ALTERNATE ACTION PUSH BUTTON SWITCH

Uses standard bayonet type lamps of any voltage from 6 V. to 110 V. A-C or D-C, either incandescent or neon. Switch and lamp are each on separate circuits. Switch can be supplied with either SPST or SPDT. Switching is UL Approved. Lamps can be replaced from front. Lamp does not move when button is pressed, avoiding lamp burnout due to vibration. Normally supplied with SPST and 28 V., 40 Ma. bayonet lamp. **Net** 1 to 25, **$3.00;** 25 to 100, **$2.75;** 100 to 500, **$2.50;** 500 to 1M, **$2.35.** Other quantities write.

WEATHERPROOF MICROPHONE



No. A-WM Weatherproof Microphone. New! Rugged, high-fidelity dynamic microphone in diecast aluminum housing. Supplied complete w/coupling to fit all standard stands and with neoprene cable gland, and nut. Grille opening protected by metallic screen and non-resonant, waterproof covering. Waterproof push-to-talk button permits talk-back for intercom use; signal light indicates "Microphone in Use". Available without switch or light. Impedance 35-50 ohms; can be supplied w/built-in matching transformer tapped for 200/600 ohm lines (other impedances to order). Frequency response 40-15,000 cps. Approx. 3⅜″ x 6¼″ x 2¾″ deep, overall, (less fittings); approx. wt. 3 lbs. **Net $45.85.**



CUE PHONE SYSTEM EQUIPMENT

P-CU Power Supply. As many as 10 head sets can be powered simultaneously by this supply. Supply has proper retard coil for phone operation. Used extensively in hotel ball rooms and other large public areas for communications between control room and personnel. **P-CU** is supplied with a dust cover. **Net: P-CU $48.75.**

Type WE-52D Operator's Head Set for intercommunication. Signals can be transmitted over extremely long distances on an ordinary pair of wires when used with P-CU Cue Phone Power Supply. **Net: WE-52D $38.75.**

Not Shown — **WE-52 DLS,** 15′ coiled cord, including integral switch for mike and 289B plug. **Net $54.40.**

Type WE-9B-5 Adapter. Adapts the WE-289-B Plug to a Cue Phone A-SJ-1 Seize Jack. **Net: WE-9B-5 $15.40.**

Type WE-238-A Jack Panel WE-48. Uses 48 type WE-238-A open circuited telephone jacks with tip ring and sleeve connections. Can be supplied with double-circuited type WE-239-A at additional cost of $1.25 per jack. Size 3½″ x 19″ for standard rack panel.
Net: WE-48 with type **WE-238-A** jacks, **$118.00.**

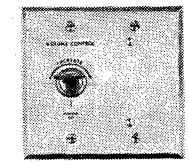
Type WE-110 Telephone Patch Cord. Uses tip ring and sleeve plug. Designed for use with type WE-238-A jack as used in WE-48 Jack Panel. Supplied in 2 ft. lengths. Other lengths to 10 ft. available. **Net: Type WE-110, 2 ft., $7.10.**

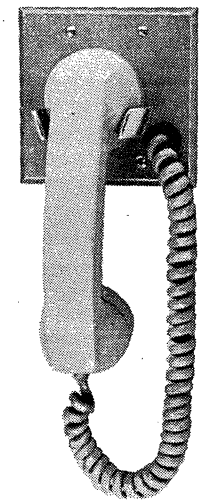
A-SJ-1 Seize Jack (circuit opening), wired, **Net $2.70.**

WE-25 Dual Jack Mounting to accept WE-289B dual plug on Operator's Head Set WE-52D. **Net $7.50.**

ALL NEW — KEY LOCK CONTROLS P.A. VOLUME

No. AKTVC/1 Complete transformer volume control. Step-less locks at any position. Handles 10 watts. **Net $12.35.**





TELEPHONE HANDSET

No. SH-500 Standard Telephone Handset Model 500 is complete with carbon microphone and receiver, plus 6 ft. length coiled cord (other lengths available). **Net $14.75.**

UNIVERSAL HANDSET HOLDER

No. UHH can be obtained with spring action for double pole, double throw or other switch configurations as required. Stainless steel double gang plate, heavy duty die cast switch mechanism chrome plated. Other finishes available. For use with standard **Model 500 Handset** and others. **Net $8.95.**

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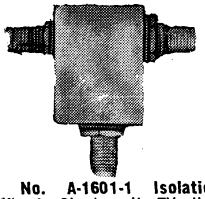
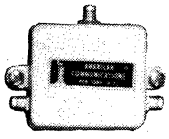
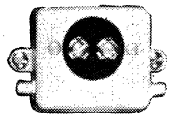
C.A.T.V. AND MASTER ANTENNA SYSTEM COMPONENTS



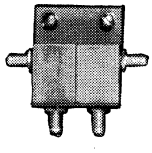
No. A-1601-1 Isolation Unit. A Single-unit TV line tap. Attenuation color codes per Note 1. Outdoor housing; 75 ohms. **Net $1.60.**



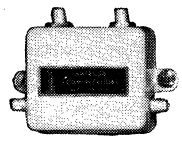
No. A-1601-2 Single-unit Line Tap. 75 ohms (Notes 1, 3) Indoor housing. **Net $1.60.**



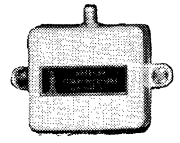
A-1601-3 Single-unit Line Tap, 75 ohms, screw terminals. (Note 3) **Net $1.60.**



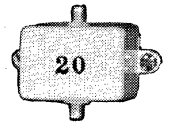
No. A-1602-1 Double-unit Line Tap, for 2 TV sets. (Notes 1, 2) **Net $2.90.**



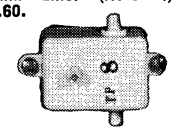
No. A-1602-2 Double-unit Line Tap, for 2 TV sets. (Notes 1, 3) **Net $2.90.**



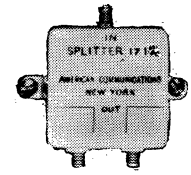
No. A-CTVB Convenience TV Box, w/connector A-CH61. (Note 3) **Net 77¢.**



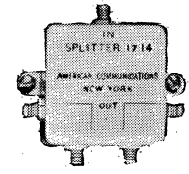
No. A-T/R-T Trunk/ Riser Tap. Various db values of isolation. Creates Risers from Trunk Line. (Note 4) **Net $1.60.**



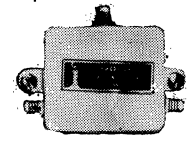
No. A-DBLA DB Line Attenuator Pad. 3-6-10-20-30. (Note 4) **Net $1.77.**



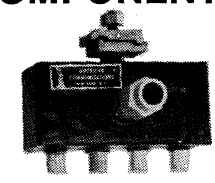
No. A-1712 Line Splitter, hybrid 2-way. Has 3 db forward attenuation. (Note 3) **Net $2.15.**



No. A-1714 Line Splitter, hybrid 4-way. Has 6 db forward attenuation. (Note 3) **Net $3.50.**



FM TAP OFF
American's FM TAP is used to connect an FM set to trunk line with minimum insert loss. The unit consists of a band pass filter for the FM band only, but allows TV spectrum to pass through. **Supplied with three, C or F Fittings. Net $2.25.**

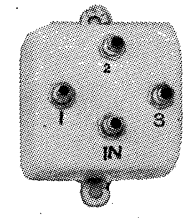


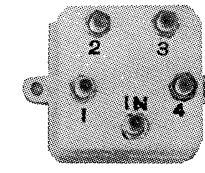
BACK MATCHED DIRECTIONAL COUPLERS WITH UP TO 6 HOUSE TAP-OFFS

A-C or D-C **feed through,** with complete tap isolation. 100% weatherproof, designed to mount on the strand. Low insulation loss and excellent response over entire 50 to 220 MC spectrum. Uses F61 house tap connectors. Input and output connectors are designed for up to ¾" cables (per your order). Tap values available in 10-12-15-18-22-26 and 30 db attenuation. VSWR 1.2:1 max. with up to 20 db or better return loss.

(Net Prices)

Type	No. of House Tap-offs	F. or .308 Connectors	.412 Cable Connectors	.500 Cable Connectors	.750 Cable Connectors
DC2T	2	$7.95	$10.80	$13.10	$15.10
DC4T	4	9.50	12.10	15.08	17.08
DC6T	6	11.10	13.05	16.15	18.15



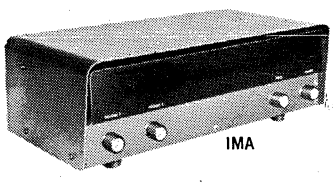


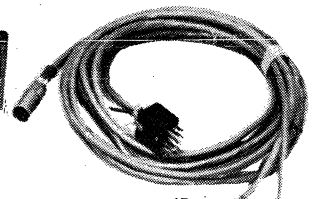
BACK MATCHED HYBRID DIRECTIONAL SPLITTERS

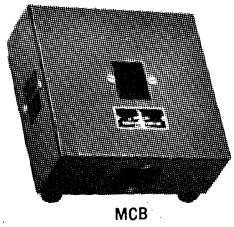
From 2-way to 6-way with VSWR of 1.2:1 max. and with either C or F fittings. Frequency Range of 50 to 220 MC @ 72 ohms impedance.

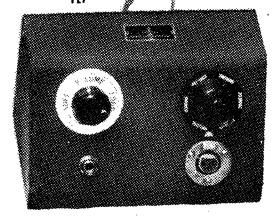
		Net			Net
SP2	— 2-way	$2.65	SP4	— 4-way	$4.45
SP3	— 3-way	3.55	SP6	— 6-way	6.75

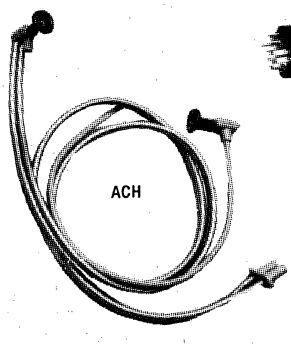
(Note 1) Attenuation coded red, yellow, green, blue.
(Note 2) On mounting bracket.
(Note 3) Surface mount, in A-BC1 Accessory Box.
(Note 4) Surface mount.

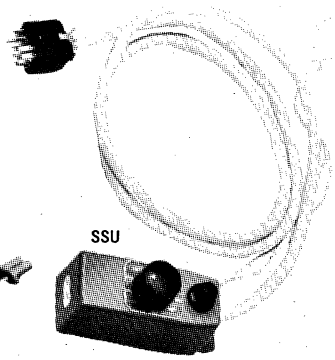












INSTANTANEOUS OR SIMULTANEOUS INTERPRETATION & TRANSLATION SYSTEMS

These systems are used wherever foreign groups assemble for meetings, conventions or governmental business. The system is similar to that used at the United Nations and other international conference halls.

There are usually five languages spoken for the purpose of interpretation.

The system comprises:

1. The initial pickup of the person addressing the audience.
2. Simultaneous transmission to the interpreters through headsets.
3. Each of the five interpreters, in his own language, translates what the speaker has said simultaneously to each separate seat in the auditorium.
4. At each seat there is a special switching device and air conduction head sets for the occupant, allowing him to hear either original address or any of the five interpretations.
5. The switching unit is installed in the seat arm or in the case of a temporary installation, tied to the lower arm.
6. Whenever portable equipment is used, the wires from the switching device are plugged into a specially designed floor molding, that is placed directly under and through the seats.

The system consists of the following equipment:

The Interpreter's Box, Model IB	$135.00
Interpreter's Mixer-Amplifier, 25 W. solid state, Model IMA	160.00
Interpreter's Microphone, lavalier type, Model IM (not shown)	55.00
Seat Switching Unit, Model SSU	18.55
Air Conduction Headset, Model ACH	5.75
Molding Connection Box, built-in short circuit-proof networks, Model MCB	23.85
Special Wired Molding, lies flat on floor, with male and female plugs, 8 ft. section. Other lengths available (8 ft.)	12.50

AMERICAN COMMUNICATIONS CORPORATION

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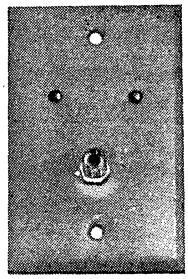
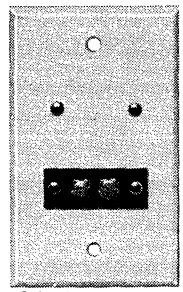
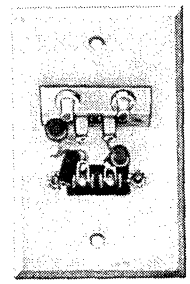
MASTER ANTENNA SYSTEM COMPONENTS



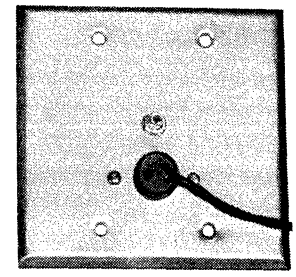
No. A-1601-4 Single-unit Line Tap. TV outlet, 75 ohms (Note 4) **Net $1.60.**



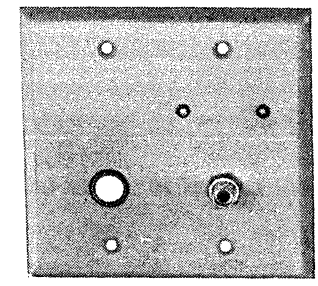
No. A-1601-5 TV Outlet. 300 ohms, screw terminals. (Note 4) **Net $1.60.**



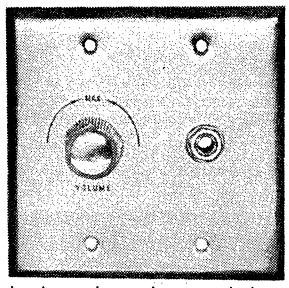
Rear View of 1601-5. Similar circuitry for other TV line taps.



Model 2MA is a 2-gang plate with a master antenna outlet and jack for message at desk or other wired service. **Net $3.00.**



Model 1601-R, is a 2-gang plate with antenna outlet and cable hole for centralized radio or other wired service. **Net $3.00.** Single gang, deduct **$.50 ea.**; Stainless add **$.50 ea.**



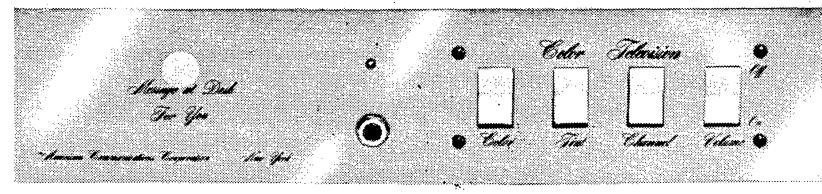
NEW INTERLOCK SPEAKER VOLUME CONTROL & SEIZE JACK, Model A-CU-IN

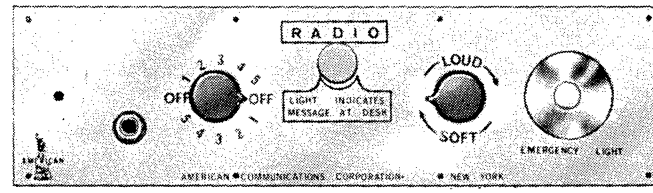
New, patented interlock speaker volume control and seize jack arrangement performs dual functions.

1. Push phone plug all the way into seize jack and remove. This automatically cuts out local speaker volume control and connects line directly to speaker.
2. When local speaker volume control is again wanted, reinsert plug, remove, and volume control will again operate speaker.
3. To connect local speaker to local microphone and amplifier, push amplifier output plug into seize jack.

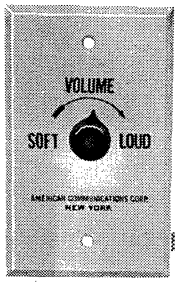
A-CU-, 2 gang plate, white, insulated seize jack, **$7.50.**
A-CU-IN, same as A-CU but with interlock, 2½" deep, **$9.75.** Stainless steel or brass, **$.50 ea. extra.**

TELEVISION & RADIO PARTS





ROOM PANELS —BEAUTIFULLY AND ELEGANTLY MADE—



Model VCA volume control is single gang white plate. 7 to 10 watts @ 70 v., or 8 to 16 ohms. **Net $5.00.** If unit is to be 2-gang, or stainless steel or brass add **$.50** each option.

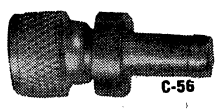
PANEL A — In Rich Gold. Panel has Message-At-Desk Light. Room Status Control and Color T.V. Remote Control. Terminates on screw terminal board or can be furnished with cable for direct connection.
Panel — as shonn. **Cost $28.00.**

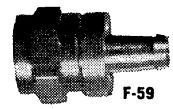
PANEL B — Central Radio Panel using patented 360° Volume Control and 360° Selector Switch. Message at Desk Light. Status Control. Emergency light that goes on in the event of a black-out.
In Rich Gold or Silver, **$27.80.**

PANEL C — Same Panel, less emergency light, **Cost $23.00.**

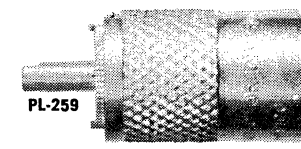
TV COAXIAL CONNECTORS

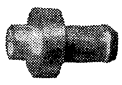
A-61

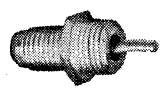

C-56

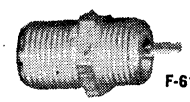

F-59

NW ¼


PL-259


C-51

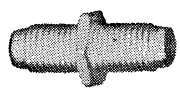

C-61

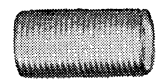

F-61

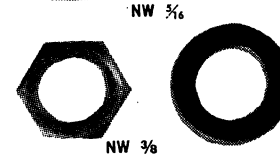
NW 5/16

CTR-72 C

C-52


C-81


F-81


NW ⅜

6U

59U

Multiple prices listed are for quantity orders . . . **1st price,** 1-25 units; **2nd price,** 26-100; **3rd price,** 101-500.

A-61 Adapter. ¼"-32 inside, ⅜"-32 outside. Changes "C" fitting to "F" fitting. **Net $1.75 for 25.**
C-51 Connector, to be swaged for **RG-59/U** coax. **Net 15¢, 12¢, 10¢.**
C-52 Solderless TV Connector for **RG-59/U** coax. **Net 19¢, 15¢ 13¢.**
C-56 Solderless TV Connector for **RG-6/U** coax. **Net 29¢, 20¢, 18¢.**
C-61 Convenience Connector, chassis mount, for **C-52** connector, with ¼"-32 front nut and 5/16"-32 rear. **Net 35¢, 30¢, 22¢.**
C-81 Solderless Cable Connector, or TV convenience connector with ¼"-32 nut. **Net 38¢ 33¢, 26¢.**
F-59 Solderless TV Connector for "F" fitting and RG-59/U coax. **Net 29¢, 20¢, 18¢.**
F-61 Convenience Connector, chassis mount for **F-59** connector, with ⅜"-32 front nut and ⅜"-32 rear. **Net 38¢, 35¢, 30¢.**
F-81 Solderless Cable Connector, or TV convenience connector with ⅜"-32 nut. **Net 49¢, 43¢, 38¢.**
NW ¼ Nut and Washer, ¼"-32 for "C"" fittings. **Net 3¢.**
NW 5/16 Nut and Washer, 5/16"-32 for **C-61. Net 3¢.**
NW ⅜ Nut and Washer, ⅜"-32 for "F" fittings. **Net 3¢.**
PL-259 Connector, for **RG-11/U** or **RG-8/U,** or double shielded equivalents. **Net 45¢, 40¢, 37¢.**
CTR-72 C Terminator, 72 ohms. **Net 42¢, 35¢, 28¢.**
FTR-72 F Terminator, 72 ohms. **Net 42¢, 35¢, 28¢.**
6U Ferrule, crimping ring for **RG-6/U** coax. **Net $1.65** per C.
59U Ferrule, crimping ring for **RG-59/U** coax. **Net $1.65** per C.

AMERICAN COMMUNICATIONS CORPORATION

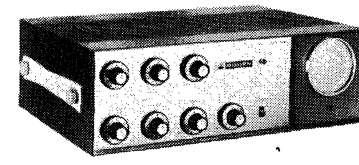
BOGEN SOUND SYSTEMS

FLEX-PAK® PA AMPLIFIERS

Combining operational flexibility, sound quality and dependability, Bogen professional amplifiers offer functions and features unmatched at any price, by any maker. Adaptable to a wide variety of applications once served only by custom designed, custom fabricated equipment, these amplifiers will accommodate virtually any audio signal source, providing a degree of intelligibility and control not previously obtainable in a single chassis amplifier. They include facilities for a host of accessories, engineered to satisfy specific requirements: two and four channel remote controllers, peak limiters, standby controllers for microphone or music channels; optional monitor and speaker units to allow checking of sound levels by both ear and eye; 600-ohm balanced line transformers; high-fidelity phono tops; plug-in microphone transformers, control locking plates, wall mounting kits and many more. All models include output jacks for driving tape recorders and booster amplifiers.

MX60A/MX30A/ MTX30B Shown with MMS-1

M330A/M60A Shown with MSK-1



M120

	*MTX30B All Transistor	MX60A	MX30A	M330A	M60A	M120
POWER OUTPUT	30 w. @ 2% (Full pwr: 30 - 20,000 Hz)	60 w. @ 2% (Full pwr: 21 - 30,000 Hz ±1 db)	30 w. @ 2% (Full pwr: 21-40,000 Hz ±1½ db)	30 w. @ 2%	60 w. @ 3%	120 w. @ 3%
PEAK POWER	50 watts	85 watts	50 watts	50 watts	100 watts	200 watts
POWER CONSUM.	60 watts	180 watts	125 watts	120 watts	160 watts	320 watts
FREQ. RESPONSE	±1 db, 15-25,000 Hz	±1½ db, 10-38,000 Hz	±2 db, 10 - 40,000 Hz	±2 db, 20-20,000 Hz	±2 db, 20-20,000 Hz	±1 db, 20-20,000 Hz
SENSITIVITY	**Mic.:** 2 MV (high imp); **Mag.:** 3 MV; **Aux.:** 0.3-v	**Mic.:** 3.5 MV (high imp); **Mag.:** 2 MV; **Aux.:** 0.15-v	**Mic.:** 3.5 MV (high imp); **Mag.:** 2 MV; **Aux.:** 0.15-v	**Mic.:** 6 MV; **Mag.:** 50 MV; **Aux.:** 0.3-v	**Mic.:** 9 MV **Mag.:** 24 MV; **Aux.:** 0.4-v	**Mic.:** 9 MV; **Mag.:** 24 MV; **Aux.:** 0.4-v
GAIN	**Mic.:** 125 db; **Mag.:** 120 db; **Aux.:** 95 db	**Mic.:** 125 db; **Mag.:** 120 db; **Aux.:** 85 db	**Mic.:** 125 db; **Mag.:** 120 db; **Aux.:** 85 db	**Mic.:** 120 db; **Mag.:** 105 db; **Aux.** 95 db	**Mic.:** 122 db; **Mag.:** 115 db; **Aux.:** 96 db	**Mic.:** 125 db; **Mag.:** 118 db; **Aux.** 99 db
HUM and NOISE (below rated output)	**Mic.** — 70 db; **Mag.** —65 db; **Aux.** — 85 db.	**Mic.** — 70 db	**Mic.** — 70 db	**Mic.** — 65 db; **Aux.** — 80 db	**Mic.:** — 65 db; **Aux.** — 80 db	**Mic.** —65 db; **Mag.** — 65 db; **Aux.** — 80 db
INPUTS	4 mic. (convert to low impedance, with T200, T500 or T50 transformer); 2 mic. (high imp.); 2 mag. phono or tape playback heads; 2 aux. (high imp., high level); 1 600-ohm balanced telephone line with WMT1 transformer; 2 bridging. Note: 4 mics. and any two of the other nine inputs may be simultaneously mixed and faded.	4 mic. (convert to low impedance with T200, T500 or T50 transformer); 1 mic. (high imp. or mag. tape); 2 aux. (high imp. high level/fader); 1 600-ohm balanced telephone line with WMT1 transformer; 1 bridging input/output. Note: 6 inputs can be simultaneously mixed and faded.	4 mic. (convert to low impedance with T200, T500 or T50 transformer); 1 mic. (high imp. or mag. tape); 2 aux. (high imp. high level/fader); 1 600-ohm balanced telephone line with WMT1 transformer; 1 bridging input/output. Note: 6 inputs can be simultaneously mixed and faded.	3 mic. (convert to low impedance with T200, T500 or T50 transformer or 2 convert to mag.); 1 aux. channel (2 inputs/ fader control); 1 600-ohm balanced telephone line with WMT1 transformer. Note: 4 inputs can be simultaneously mixed and faded.	3 mic. (convert to low impedance with T200, T500 or T50 transformer or 2 convert to mag.); 1 aux. channel (2 inputs/ fader control); 1 600-ohm balanced telephone line with WMT1 transformer. Note: 4 inputs can be simultaneously mixed and faded.	3 mic. (convert to low impedance with T200, T500 or T50 transformer or 2 convert to mag.); 1 aux. channel (2 inputs/ fader control); 1 600-ohm balanced telephone line with WMT1 transformer. Note: 4 inputs can be simultaneously mixed and faded.
OUTPUT IMPEDANCE	4, 8, 16 ohms, tape and booster jack, 25-v, balanced (21 ohms), 70-v. balanced (163 ohms)	4, 8, 16 and 83 ohms, balanced 25-v. line, balanced 70-v. line; tape/booster jack	4, 8, 16 and 163 ohms, balanced 25-v. line, balanced 70-v. line; tape/booster jack	4, 8, 16 ohms, balanced 25-v (16 ohms), 70-v (163 ohms); tape /booster jack	4, 8, 16 ohms, balanced 25-v (16 ohms), balanced 70-v (82 ohms); tape/booster jack	8, 16 ohms, bal'd 25-v (5 ohms), bal'd 70-v (41 ohms), bal'd 25-v center tap (1.25 ohms); tape/booster jack
CONTROLS	4 individual mic. (each with speech filter or wide-range switch) • 1 high imp. mic./mag. phono/ tape head/aux.-fader control with speech filter switch • 1 high imp. mic./mag. phono/tape head/ aux.-600 ohm line fader control with speech filter switch • master vol. • bass • treble • power switch • calibrated low freq. filter (variable) determines low freq. cut-off of any of 6 inputs • provision for remote control or precedence of all six inputs and master vol.	4 individual mic. (each with speech filter switch) • 1 mic. /mag./tape with speech filter switch • aux.1/aux. 2 • master vol. • bass • treble • power switch • calibrated low freq. filter (variable) determines low freq. cut-off of all inputs • provision for remote control or precedence of all six inputs and master vol.	4 individual mic. (each with speech filter switch) • 1 mic. /mag./tape with speech filter switch • aux. 1/aux. 2 • master vol. • bass • treble • power switch • calibrated low freq. filter (variable) determines low freq. cut-off of all inputs • provision for remote control or precedence of all six inputs and master vol.	3 mic. • aux. 1/2 • master vol. • bass • treble • power switch • provision for remote control or precedence for mic.	3 mic. • aux. 1/2 • master vol. • bass • treble • power switch • provision for remote control or precedence for mic.	3 mic. • aux. 1/2 • master vol. • bass • treble • power switch • provision for remote control or precedence for mic.
TONE CONTROL ACTION	Treble (10 KHz) + 12 db to −14 db; Bass (50Hz) + 15 db to −9 db	Treble (10 KHz) + 13 db to −15 db; Bass (50Hz) +15 db to −10 db	Treble (10 KHz) + 13 db to −15 db; Bass (60Hz) +15 db to −10 db	Treble (10 KHz)+ 10.5 db to −14.5 db; Bass (50 Hz)+13.5 db to −9 db	Treble (10 KHz) + 12 db to −15.5 db; Bass (50 Hz)+15 db to −9.5 db	Treble (10 KHz) + 12 db to −14.5 db; Bass (50 Hz)+15 db to −9.5 db
TRANSISTORS or TUBES	All Silicon 32-transistors, 3-diodes, 2-zener diodes	8 tubes: 3–12AX7A, 3–7247, 2–8417 plus 5-silicon rectifiers	8 tubes: 3–12AX7A, 3–7247, 2–7868 plus 5-silicon rectifiers	5 tubes: 2–7868, 1–7247, 2–6EU7 plus 2-silicon rectifiers and 1-bias silicon diode	5 tubes: 2–8417, 1–7247, 2–6EU7 plus 2-silicon rectifiers and 1-bias silicon diode	7 tubes: 4-8417, 1-7247, 2-6EU7 plus 3-silicon rectifiers
DIMENSIONS	16½" W, 12" D, 4¾" H	16½" W, 12" D, 4¾" H	16½" W, 12" D, 4¾" H	14⅞" W, 9⅞" D, 5¾" H	14⅞" W, 9⅞" D, 5¾" H	16½" W, 12" D, 4¾" H
SHIP. WEIGHT	28 lbs.	37 lbs.	29 lbs.	20 lbs.	28 lbs.	43 lbs.
NET EACH	$250.50 (Zone 2: $253.00)	$217.50 (Zone 2: $220.85)	$172.50 (Zone 2: $175.10)	$123.00 (Zone 2: $124.80)	$154.50 (Zone 2: $157.00)	$205.50 (Zone 2: $209.35)

* Operates on 105-125 VAC or 12-15 VDC — from −20°C to +70°C (158°F)

(SOLID STATE)

LEAR SIEGLER, INC. / ISi® BOGEN COMMUNICATIONS DIVISION

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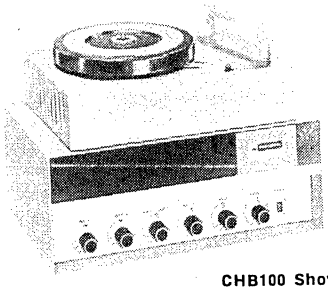
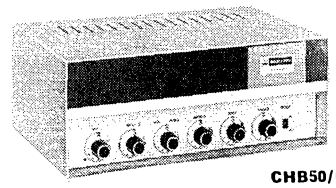
"CHB" SERIES PA AMPLIFIERS

BOGEN SOUND SYSTEMS

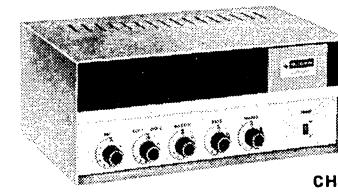
Models CHB100, CHB50 and CHB35A share these outstanding features: systems-tested circuitry for continuous, heavy-duty operation; protected against circuit damage caused by accidental shorting or disconnecting of loudspeaker lines; no "double duty" control devices; built-in remote control circuit permits volume adjustment from up to 2,000 feet away; Memory Level Markers; tape output/booster jack.



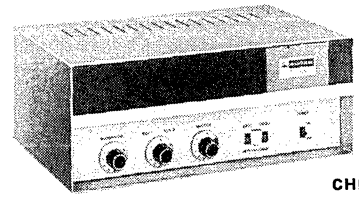
CHB100 Shown with phono-top



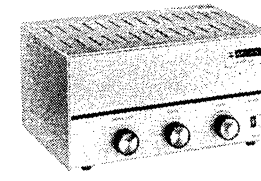
CHB50/CHB35A



CHB20A



CHB14A



CHB10A

	CHB100	CHB50	CHB35A	CHB20A	CHB14A	CHB10A
POWER OUTPUT	100 w. at 5% distortion	50 w. at 5% distortion	35 w. at 5% distortion	20 w. at 5% distortion	14 w. at 5% distortion	10 w.
FREQUENCY RESPONSE	±2 db, 20 to 20,000 Hz	±2 db, 20 to 20,000 Hz	±2 db, 20 to 20,000 Hz	±2 db, 20 to 20,000 Hz	±2 db, 20 to 20,000 Hz	±2 db, 40 to 12,000 Hz
INPUTS	**2 Mic.** (hi-imped.) **1 Mag. Phono 2 Aux.** (hi-imped. hi-level) Provision for WMT-1	**2 Mic.** (hi-imped.) **1 Mag. Phono 2 Aux.** (hi-imped. hi-level) Provision for WMT-1	**2 Mic.** (hi-imped.) **1 Mag. Phono 2 Aux.** (hi-imped. hi-level) Provision for WMT-1	**1 Mic.** (hi-imped.) **2 Aux.** (hi-imped. hi-level) Provision for WMT-1	**1 Mic.** (hi-imped.) **2 Aux.** (hi-imped. hi-level) Provision for WMT-1	**1 Mic.** (hi-imped) **1 Phono** (hi-imped. hi-level) Provision for WMT-1
HUM & NOISE (below rated output)	**Mic.** −70 db **Aux.** −80 db	**Mic.** −70 db **Aux.** −80 db	**Mic.** −65 db **Aux.** −80 db	**Mic.** −65 db **Aux.** −80 db	**Mic.** −55 db **Aux.** −80 db	**Mic.** −60 db **Phono** −75 db
SENSITIVITY	**Mic.** 5 mv **Aux.** .3-v **Mag. Phono** 15 mv	**Mic.** 5 mv **Aux.** .3-v **Mag. Phono** 15 mv	**Mic.** 4 mv **Aux.** .2-v **Mag. Phono** 12 mv	**Mic.** 3 mv **Aux.** .5-v	**Mic.** 4 mv **Aux.** .4-v	**Mic.** 6 mv **Phono** .2-v
GAIN	**Mic.** 125 db **Aux.** 100 db **Mag. Phono** 115 db	**Mic.** 120 db **Aux.** 95 db **Mag. Phono** 110 db	**Mic.** 125 db **Aux.** 100 db **Mag. Phono** 115 db	**Mic.** 125 db **Aux.** 100 db	**Mic.** 120 db **Aux.** 95 db	**Mic.** 110 db **Phono** 90 db
OUTPUT IMPEDANCE	4, 8 and 16 ohms, 25-v line bal., (6 ohms) 70-v line (50 ohms) 2 speaker sockets, screw terminals; tape/booster jack	4, 8 and 16 ohms, 25-v line (12 ohms) 70-v line (100 ohms) 2 speaker sockets, screw terminals; tape/booster jack	4, 8 and 16 ohms, 25-v line (18 ohms) 70-v line (143 ohms) 2 speaker sockets, screw terminals; tape/booster jack	4, 8 and 16 ohms, 25-v line balanced (31 ohms), 70-v line (250 ohms) 2 speaker sockets, screw terminals; tape/booster jack	4, 8 and 16 ohms, 25-v line (45 ohms) 70-v (355 ohms) 2 speaker sockets, screw terminals; tape/booster jack	4, 8 and 16 ohms, 25-v line (62 ohms), 70-v (500 ohms) 1-speaker socket and screw terminal; tape/booster jack
TONE CONTROL ACTION	Treble (10 KHz) +12 db to −15 db Bass (50 Hz) +14 db to −9 db	Treble (10 KHz) +10 db to −15 db Bass (50 Hz) +11 db to −10 db	Treble (10 KHz) +10 db to −16 db Bass (50 Hz) +14 db to −10 db	Treble (10 KHz) +10 db to −16 db Bass (50 Hz) +14 db to −10 db	Treble (10 KHz) −15 db Bass (50 Hz) −17 db	Treble (10 KHz) −24 db
TUBES or TRANSISTORS	Total of 7 tubes and silicon rectifier: 1−6EU7, 1−12AX7, 4−7868, 1−6C4	Total of 5 tubes and silicon rectifier: 1−6EU7, 1−12AX7, 2−6L6GC, 1−6C4	Total of 5 tubes, 2 silicon rectifiers and 1-silicon diode: 1−6EU7, 2−7868, 1−12AX7, 1−6C4	Total of 3 tubes, 2 silicon rectifiers and 1-silicon diode: 1−6EU7, 2−6GW8	Total of 3 tubes, 2 silicon rectifiers: 1−6AU6, 2−ECL86	Total of 2 tubes and silicon rectifier: 1−12AX7/ ECC 83, 1−7868
POWER CONSUMPTION	300 w. 105-125 VAC 50-60 cycles	150 w. 105-125 VAC 50-60 cycles	125 w. 105-125 VAC 50-60 cycles	90 w. 105-125 VAC 50-60 cycles	70 w. 105-125 VAC 50-60 cycles	50 w. 105-125 VAC 50-60 cycles
DIMENSIONS	6¾" H, 15¾" W, 10" D	6¾" H, 15¾" W, 10" D	6¾" H, 15¾" W, 10" D	6¾" H, 15¾" W, 10" D	6¾" H, 15¾" W, 10" D	5¾" H, 11¼" W, 8¼" D
SHIPPING WEIGHT	25 lbs.	21 lbs.	20 lbs.	17 lbs.	17 lbs.	Model CHB10A 12 lbs. Model CHB10A-LC (less cage) 10 lbs.
NET EACH	$129.00 (Zone 2: $131.25)	$97.50 (Zone 2: $99.40)	$81.00 (Zone 2: $82.80)	$66.75 (Zone 2: $68.30)	$52.50 (Zone 2: $54.05)	Model CHB10A $42.00 (Zone 2: $43.10) Model CHB10A-LC (less cage) $39.00 (Zone 2: $39.90)

Accessories: matching phono-top, control-guard locking plate, rack panel mounting kits, carrying cases, remote volume controls . . . and more WMT-1 transformer provides 500/600 ohm telephone line input for wired background music.

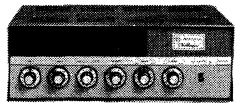
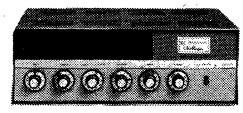
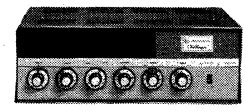
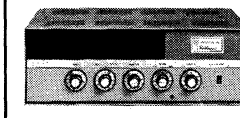
All prices and specifications subject to change without notice. Zone 2 includes the states of Ariz., Ark., Cal., Col., Ida., La., Miss.. Mont., Nev., N.M., Okla., Oreg., Tex., Utah, Wash. and Wyo. Alaska and Hawaii run slightly higher.

BOGEN SOUND SYSTEMS "CHS" SOLID STATE PA AMPLIFIERS

These new "CHS" p.a. amplifiers feature ruggedness, flexibility and dependable performance. Every day their systems-tested circuitry and unique features gain growing acclaim from users in professional sound studios, government, industry, churches and schools throughout the world.

The degree of reliability achieved through advanced, conservative solid-state design could not be realized with conventional tube amplifiers . . . so, Bogen created "CHS" . . . the popular-priced series of solid-state amplifiers to suit every p.a. need. Safe continuous operations from −20°C. (−4°F.) to +65°C. (149°F.).

Unique features: optional panel-mounted preamp. provides 2 additional mic. inputs • hi or lo imped. mic. inputs (no transformer required) • all solid-state (CHS100, CHS50 are all-silicon) • automatic wave-soldered printed circuit boards • AC/DC operation (12 v. battery) with CHS35, CHS20 • provision for mic. precedence and remote vol. control.

	CHS 100	CHS 50	CHS 35	CHS 20
POWER OUTPUT	100 W. @ 5%	50 W. @ 5%	35 W. @ 5%	20 W. @ 5%
PEAK POWER	200 W.	100 W.	70 W.	40 W.
FREQ. RESPONSE	40-20,000 Hz ±2db	40-20,000 Hz ±2db	60-15,000 Hz ±2db	50-15,000 Hz ±2db
SENSITIVITY	Mic. (Lo-imp.): 0.3 mv. Mic. (Hi-imp.): 4.0 mv. Aux.: 0.3 v. Bridging: 1.0 v.	Mic. (Lo-imp.): 0.5 mv. Mic. (Hi-imp.): 3.0 mv. Aux.: 0.2 v. Bridging: 1.0 v.	Mic. (Lo-imp.): 0.6 mv. Mic. (Hi-imp): 4.0 mv. Aux.: 0.5 v. Bridging: 1.0 v.	Mic. (Lo-imp.): 0.6 mv. Mic. (Hi-imp): 4.0 mv. Aux.: 0.5 v. Bridging: 1.0 v.
INPUTS (impedance)	2 Mic. (Hi or Lo imp. unbal.) Hi imp.: 100k ohms Lo imp.: 200 ohms Aux.: (2 inputs on fader): 300k ohms Bridging: Hi imp. (1.0 v.)	2 Mic. (Hi or Lo imp. unbal.) Hi imp.: 100k ohms Lo imp.: 200 ohms Aux.: (2 inputs on fader): 300k ohms Bridging: Hi imp. (1.0 v.)	2 Mic. (Hi or Lo imp. unbal.) Hi imp.: 100k ohms Lo imp.: 200 ohms Aux: (2 inputs on fader): 300k ohms Bridging: Hi imp. (0.6 v.)	1 Mic. (Hi or Lo imp. unbal.) Hi imp.: 100k ohms Lo imp.: 200 ohms Aux: (2 inputs on fader): 300k ohms Bridging: Hi imp. (1.0 v.)
CONTROLS	2 indiv. mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Bass Treble Power Switch Provision for remote control or mic. precedence (all inputs)	2 indiv. mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Bass Treble Power Switch Provision for remote control or mic. precedence (all inputs)	2 indiv. mic. (plus 2 on PMA-2) preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Bass Treble Power Switch Provision for remote control or mic. precedence (all inputs)	1 mic. (plus 2 on PMA-2 preamp.) 1 vol. (fader) for Aux. 1 and 2 Master Volume Bass Treble Power Switch Provision for remote control or mic. precedence (all inputs)
OUTPUT IMPEDANCE	2, 8, 16 ohms 25 v. bal. (c.t.) = 6 ohms 70 v. bal. = 49 ohms 2 quick-disconnect sockets and screw terminals. Tape/Booster: 10k ohms 5.0 v. Bridging: Hi imp. at 0.5v.	4, 8, 16 ohms 25 v. bal. (c.t.) = 12 ohms 70 v. bal. = 100 ohms 2 quick-disconnect sockets and screw terminals Tape/Booster: 10k ohms 5.0 v. Bridging: Hi imp. at 0.5v.	4, 8, 16 ohms 25 v. = 16 ohms 70 v. = 143 ohms 2 quick-disconnect sockets and screw terminals Tape/Booster: 10k ohms 5.0 v. Bridging: Hi imp. at 0.5v.	4, 8, 16 ohms 25 v. = 31 ohms 70 v. = 250 ohms 2 quick-disconnect sockets and screw terminals Tape/Booster: 10k ohms 5.0 v. Bridging: Hi imp. at 0.5v.
TONE CONTROLS	Bass: +10db to −10db at 50 Hz Treble: +10db to −10db at 10 KHz	Bass: +10db to −10db at 50 Hz Treble: +11db to −12db at 10 KHz	Bass: +8db to −23db at 50 Hz Treble: +8db to −15db at 10 KHz	Bass: +8db to −19db at 50 Hz Treble: +12db to −15db at 10 KHz
HUM & NOISE (below rated output)	Mic.: 65db Aux.: 70db	Mic.: 67db Aux.: 70db	Mic.: 64db Aux.: 67db	Mic.: 66db Aux.: 70db
POWER CONSUMPTION	105-125 v. 50-60 Hz	105-125 v. 50-60 Hz	105-125 v. 50-60 Hz 12-15 VDC at 3A	105-125 v. 50-60 Hz 12-15 VDC at 2A
SEMI-CONDUCTORS	Total 14 All-silicon	Total 12 All-silicon	Total 11: 9 silicon 2 germanium	Total 10: 8 silicon 2 germanium
DIMENSIONS	5½"Hx10½"Dx15¼"W	5½"Hx10½"Dx15¼"W	5½"Hx10½"Dx15¼"W	5½"Hx10½"Dx15¼"W
SHIPPING WEIGHT	24 lbs.	21 lbs.	17 lbs.	15 lbs.
NET EACH	$157.15 (Zone 2: $159.20)	$127.45 (Zone 2: $129.35)	$104.95 (Zone 2: $106.50)	$92.25 (Zone 2: $93.60)

Accessories: PMA-2 Preamplifier — panel mounts to provide 2 additional high or low impedance microphone inputs (no transformers required for low impedance). Knobs come through front panel of amplifier.

Matching phono-top. Control-guard locking plate. Plug-in remote volume controllers. Rack panel mounting kits. Carrying cases. WMT-1 transformer—provides 500/600 ohm telephone line input for wired background music.

(SOLID STATE)

LEAR SIEGLER, INC. / ISi® BOGEN COMMUNICATIONS DIVISION

Net

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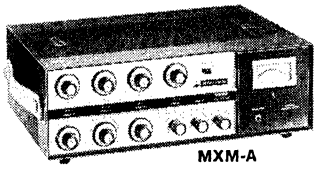
MIXER-PREAMPLIFIERS

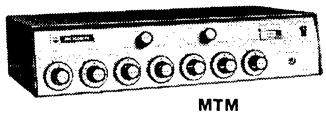
BOGEN SOUND SYSTEMS



MXM-A

MXM-A MIXER-PREAMPLIFIER

Professional, broadcast quality, self-powered unit which accommodates 7 mixed input signals simultaneously (5 may be from high or low impedance mics). One mic. input converts to an equalized mag. phono cartridge or tape playback head. Two aux. (high imped., high level) are connected to a fader control. Bridging input accepts signals from a remote preamplifier or a zero level line. Up to 3 MXM-A's may be paralleled to provide 21 inputs (up to 15 mics.). Output level may be monitored aurally and visually by headset and built-in VU meter. Panel-controlled speech filters for all mic. inputs; separate bass and treble tone controls. Provision for converting high imped. to balanced low imped. microphone inputs by using plug-in transformers. Sockets accept remote control and precedence plug-in units. Panel-controlled calibrated low frequency (notch) filter effectively "tunes out" hum, turntable rumble, etc. **Output:** 20 V. into high imped. load at 1%; 4 V. into 600 ohms at 1%; (from bridging output) 0.1 V. into 1 Meg. **Freq. Response:** 18-38,000 Hz ±1 db. **Output Imped.:** high imped. (less than 3,000 ohms); 500/600 ohms with TL 600 (broadcast quality) plug-in transformer. **Sensitivity:** high imped. 2 MV.; low imped. 0.1 V.; Mag., 1 MV.; bridging 0.5 V.; Aux., 0.1 V. **Hum: (below rated output)** Mic. 60 db. **Tone Controls:** treble: (10 KHz) + 12 db to − 12 db; bass: (50 Hz) + 14 db to − 8 db. **Tubes:** 4-12AX7A, 1-7247, 1-12AU7A plus 3 silicon rectifiers. **Power Consumption:** 47 watts, 117 VAC; 50/60 Hz **Dimen.:** 16½" W, 12" D, 4¾" H. **Ship. Wt.:** 25 lbs. Net Each: **$178.50** (Zone 2: $180.75)



MTM

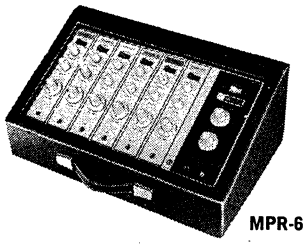
MTM ALL-SILICON TRANSISTOR MIXER-PREAMPLIFIER

Professional, all-silicon transistor, self-powered unit (operates from 120 VAC or 12-15 VDC). Mixes 6 input signals (4 may be low impedance microphones). Unbalanced low impedance microphone inputs convert to balanced (50-600 ohms) with T525U plug-in transformer – or convert to mag. phono/tape input with PMC-1 plug-in module. 2 aux. (high impedance, high level) are connected to a fader control. Up to 3 MTM's may be paralleled to provide 18 inputs. Output level may be monitored aurally (head set) and visually (built-in meter). Sockets accept individual remote control, precedence and compressor plug-in units. Speech filters in mic. channels 1 and 2. R.F. filters in all mic. channels. **Output:** at 0 db: 1.8 V. into 500 ohms (0.5%); at +12 db: 7 V. into 500 ohms (2.5%); output transformer is built-in; no high impedance output. **Freq. Response:** 40-15,000 Hz ± 1½ db. **Output Imped.:** (split output) 125/150 ohms and 125/150 ohms or 500/600 ohms balanced. **Input Imped.:** Mic.: low imped. unbalanced (balanced with T525U transformer); Aux.: 0.2 Meg. **Sensitivity:** low imped. Mic. 0.1 MV; Aux. 0.15 V. **Gain:** Mic. 75 db; Aux. 60 db; Bridging 60 db. **Bass Cut:** −15 db at 50 Hz **Treble Cut:** −15 db at 10 KHz **Hum:** Mic.: −65 db; Aux. −70 db. **Power Consum.:** 5 watts at 117 VAC 50/60 Hz . .12 A at 12 VDC. **Transistors:** 11 silicon plus 5 silicon diodes. **Dimen.:** 16¼" W, 8½" D, 3¾" H. **Ship. Wt.** 9 lbs. Net Each: **$142.50** (Zone 2: $143.30)

RTP-1

RTP-1 ALL-SILICON TRANSISTOR PREAMPLIFIER

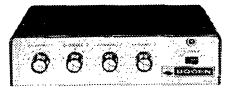
Designed for true broadcast quality, the RTP-1 will drive any number of booster amplifiers or packaged amplifiers over a 500/600 ohm line – even several miles away. Inputs include 2 Mic. (high or low impedance), 2 Aux. on fader control, 1 bridging. Two RTP-1's can be paralleled to provide 6 mixed inputs. Extremely low battery drain. Features include: Headphone monitor jack on front panel; built-in output meter calibrated in VU and db; 117 VAC or 12 VDC operation with internal batteries or external DC power supply; built-in battery tester. **Output:** at 0 db: 1.8 V. into 500 ohms (.1%); at + 12 db: 7 V. into 500 ohms (2.5%); output transformer is built-in; no high impedance output. **Freq. Response:** 20-20,000 Hz ± 1 db. **Output Imped.:** (split output) 125/150 ohms & 125/150 ohms or 500/600 ohms balanced. **Input Imped.:** Mic.: high or low imped. (with T50, T200, T500 transformers); Aux.: 0.1 Meg. **Sensitivity:** low imped. (500 ohms) Mic. 0.5 MV; high imped. Mic. 5 MV.; Aux. .25 V. **Gain:** Mic. 72 db; Aux. 55 db; Bridging 60 db. **Bass Cut:** −12 db at 50 Hz **Hum:** Mic.: −65 db; Aux. −70 db. **Power Consum.:** 5 watts at 117 VAC 50/60 Hz 0.3 amps at 12 VDC. **Transistors:** 9 silicon plus 3 silicon diodes. **Dimen.:** 9" W, 9¼" D, 3½" H. **Ship. Wt.:** 7 lbs. Net Each: **$127.50** (Zone 2: $128.15)



MPR-6

MPR-6 ALL-SILICON TRANSISTOR MIXER-PREAMPLIFIER

All-silicon solid state, 6 channel vocal preamplifier with built-in selective reverb. Will mix six mics. and accept a signal from a phono, tape player, tuner, guitar or other electronic instrument. Two audio output jacks simplify connection to the proper booster amplifier, public address or musical instrument amplifier. Complete with leather carrying strap, mounting feet and provision for mounting on any standard microphone floor stand. **Inputs:** 6 mics. (high imped: 100 K Ω) 1 aux. (high: 100 K Ω). **Controls:** 6 volume, 6 bass, 6 treble, 6 reverb on/off, 1 master vol., 1 reverb intensity, 1 power switch (illuminated). **Connectors:** Mics. standard phone jacks for both high and low level output. Aux. phono jack. **Tone Controls:** Treble −10 db to +10 db at 10KHz. Base −10 db to +10 db at 50 Hz. **Outputs:** High level, 5 v. at 1% distortion (10,000 Ω) Low level, 0.07 v. at 1% distortion (2200 Ω). **Sensitivity:** For 2 v. output — Mic. 8 mv — Aux. 0.3 v. **Freq. Response:** ±2 db from 50 Hz to 20 KHz. **Hum and Noise:** −70 db. **Semiconductors:** 17 silicon transistors, 2 silicon diodes. **Power Requirements:** 105-125 v., 50-60 Hz, 3.6 watts. **Dimen.:** 18¾" x 11¼" x 7¼". **Ship Wt.:** 19 lbs. Net Each: **$187.50** (Zone 2: $189.20)



MX6A-T

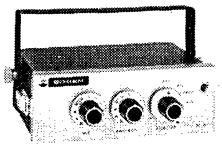
MX6A-T MIXER-PREAMPLIFIER

Adds inputs to any amplifier. Ultra reliability is assured by use of all-silicon semiconductors and printed circuits. The MX6A-T has inputs for 4 high or low impedance microphones with individual volume controls. Two of the four channels will accept tuner or crystal cartridge signals. This mixer is excellent for electric guitars and other electronic musical instruments. The output of the MX6A-T is adequate to drive any packaged amplifier. Up to three MX6A-T units may be paralleled to provide 12 inputs with individual volume controls. **Freq. Response:** 50-20 KHz ±2 db. **Output:** 6 v. at 2%; 4 v. at 1%; 2 v. at 0.5%. **Inputs:** 4 mic. (hi-imp. 150 K) (low-imp. 200 ohms nominal; works well with 50 ohm or 500 ohm mics.) 2 aux. (250 K). **Gain:** mic, (hi-imp. −60 db) −4 mv. at 4 v. output, (low-imp. −80 db) −0.4 mv. at 4 v. output. Aux. −20 db −0.4 v. at 4 v. output. **Power Consump.:** 1.2 w. at 117 VAC 50-60 cps (Hz). **Hum/Noise:** 68 db below 5 v. **Dimen.:** 9¼" x 6" x 2⅝". **Ship. Wt.:** 3 lbs. Net Each: **$48.75** (Zone 2: $49.00)

MOBILE AMPLIFIERS

BT20A; 25w. TRANSISTOR MOBILE PA AMPLIFIER

Power Output: 25 watts @ less than 10% (continuous). **Power Consumption:** Full power: 2.8 amps; Quiescent: .26 amps; 6-15 VDC (6 w. output on 6 VDC). **Inputs:** 1 mic. (low impedance); 1 aux. (tuner, tape, phono). **Gain:** mic., 110 db; aux., 90 db. **Hum and Noise:** mic. −90 db (below rated output); aux. −95 db (below rated output). **Sensitivity:** mic., 1 MV; aux., 0.4 volts. **Output Impedance:** 4, 8, 16 ohms. **Controls:** 1 mic.; 1 aux./power. **Transistors:** (5): 2—2N2926, 1—40234, 2—DTG-110. **Dimensions:** 4½" W, 4" D, 6½" H. **Shipping Weight:** 5 lbs. Net Each: **$63.00** (Zone 2: $63.45)



BT35A; 40w. COMPACT TRANSISTOR MOBILE PA AMPLIFIER

55-watts when used as electronic siren

Excellent for police, fire, CD, and boats; radio receiver connects easily to aux. input. Splash-proof gasket seals chassis in cabinet. Temperature range −20°C. to +65°C. (149°F.). Polarity protection. Accessory siren tone – fog horn generator. Adjustable fixed-lock bracket. Built-in RF/line filters.

Power Output: 40 w. at less than 10% (continuous); 55 w. with siren generator. **Peak Power:** 55 w. **Power Consumption:** Full power: 3.6 amps; Quiescent: .42 amps 12-15 VDC. **Freq. Response:** 150-15,000 Hz ±3 db. **Inputs:** 1 mic. (low imped.); 1 aux. ±1 (high level) tuner/tape/phono, 1 aux. ±2 (high level) accessory (tone signal). **Gain:** mic. 110 db; aux. 90 db. **Hum and Noise:** (below rated output) mic. −90 db; aux. −95 db. **Sensitivity:** mic.: 1 MV; aux.: 0.4 V. **Output Imped.:** 4, 8, 16 ohms (output socket for accessory siren/fog horn generator). **Controls:** 1 mic.; 1 aux. volume; 1 selector switch/power (4 position); power off, mic., radio, aux. **Transistors:** 5 transistors, 1 silicon diode. **Dimen.:** 8" W, 6¼" D, 3" H. **Ship. Wt.:** 8 lbs. Net Each: **$85.50** (Zone 2: $86.20)

SF-1 SIREN/FOG HORN GENERATOR. All-silicon transistor, easily attaches to dashboard or bottom of BT35A. Furnished with 6 ft. cable and plug for attaching to BT35A. Provision for remote/accessory foot switch for generator activation. Siren may be operated automatically or manually. **Net Each: $54.70** (Zone 2: $54.95)

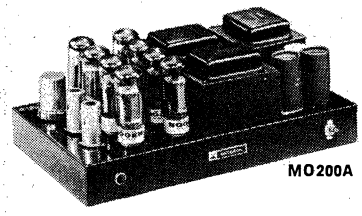
(■ SOLID STATE) All prices and specifications subject to change without notice. Zone 2 includes the states of Ariz., Ark., Cal., Col., Ida., La., Miss., Mont., Nev., N.M., Okla., Oreg., Tex., Utah, Wash. and Wyo. Alaska and Hawaii run slightly higher.

BOOSTER AMPLIFIERS

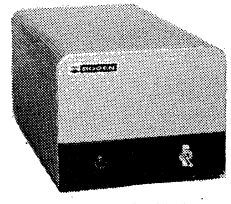
BOGEN SOUND SYSTEMS

Bogen's booster amplifiers embody the most advanced developments in design and techniques of construction. These units deliver maximum power from a small package. They are ideal for sound systems in industrial plants, airports, stadia, schools . . . wherever undistorted power is required. Note their exceptionally wide-range response characteristics. Built-in provision permits paralleling any number of power amplifiers to multiply power output. The models described on the preceding page are ideal preamplifiers for these boosters. The MO200A, MO100A, and MT100 units are unsurpassed for both PA and industrial uses. Their 115-volt output makes them adaptable to unique applications. With a variable frequency audio generator input, they represent relatively inexpensive power sources – any frequency or voltage – capable of driving servos, motors, vibration (shake) tables, ultrasonic equipment. The unique all-silicon transistor model MT100 may be operated from a 12-16 VDC source as well as from 117 VAC. Highly flexible in combination, inputs of identical amplifiers can be paralleled; outputs can be wired in series or parallel to provide any reasonable voltage or power (except MBT60 outputs).

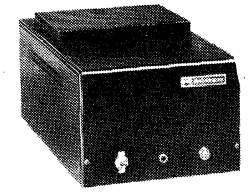
No cage is furnished with MO200A.



MO200A



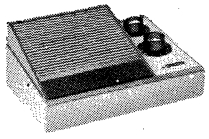
MO100A
MO30A
MBT60



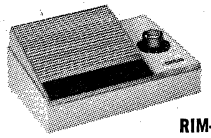
MT100

	MO200A	MO100A	MO30A	ALL-SILICON TRANSISTOR MBT60	ALL-SILICON TRANSISTOR MT100
POWER OUTPUT	200 w. at less than 2% distortion (Full power: 21-50,000 Hz ±1 db at 5%)	100 w. at less than 2% distortion (Full power: 21-50,000 Hz ±1 db at 5%)	30 w. at less than 2% distortion (Full power: 21-40,000 Hz ±1½ db at 5%)	60 w. rms at less than 3% distortion	100 w. rms at less than 1% distortion
FREQ. RESPONSE	8-50,000 Hz ±1 db	8-50,000 Hz ±1 db	10-40,000 Hz ±2 db	12-20,000 Hz ±1 db	15-35,000 Hz ±1 db
OUTPUT IMPEDANCE	Bal. 8 ohms, bal. 25-v (3 ohms) C.T., bal. 70-v (25 ohms) C.T. and 115-v (66 ohms) (for industrial uses)	Bal. 16 ohms, bal. 25-v (6.25 ohms) C.T., bal. 70-v (49 ohms) C.T. and 115-v (132 ohms) (for industrial uses)	Bal. 4, 8, 16 ohms, bal. 25-v (21 ohms), bal. 70-v (163 ohms)	Bal. 2.6, 8 and 16 ohms, bal. 25-v (10.4 ohms) C.T., bal. 70-v (82 ohms)	16 ohms, bal. 25-v (6 ohms) C.T., bal. 70-v (49 ohms) C.T., and 115-v (132 ohms) bal. (for industrial uses)
INPUTS	High imped: 0.5 meg-ohms. Low imped: 500/600 ohms with T161 or T165B line transformer	High imped: 0.5 meg-ohms. Low imped: 500/600 ohms with T161 or T165B line transformer	High imped: 0.5 meg-ohms. Low imped: 600 ohms with T161 or T165B line transformer	High imped: 0.1 meg-ohms, Low imped: 500/600 ohms with TL600 transformer; 10,000 ohms with TL10K transformer	High imped: 0.1 meg-ohms. Low imped: 500/600 ohms with TL600 transformer; 10,000 ohms with TL10K transformer
SENSITIVITY	High imped: better than 2-v. Low imped: with T161 transformer better than 0.5-v	High imped: better than 2-v. Low imped: with T161 transformer better than 0.5-v	High imped: better than 2-v. Low imped: with T161 transformer better than 0.5-v	High imped: 0.15-v. Low imped: with TL600 transformer, 0.04-v	High imped: 0.75-v. Low imped: with TL600 transformer, 0.2-v
HUM (below rated output)	−80 db	−80 db	−80 db	−78 db	−80 db
TUBES or TRANSISTORS	(10) tubes and (3) silicon rectifiers: 2-7247, 8-8417	(5) tubes and (3) silicon rectifiers: 1-7247, 4-8417	(3) tubes and (2) silicon rectifiers, (1) bias sil.-diode 1-7247, 2-7868	(7) all silicon transistors and (7) diodes	(14) all silicon transistors, (1) Zener diode and (2) silicon rectifiers
POWER CONSUM.	500 watts	250 watts	105 watts	115 watts 105-125 VAC, 50/60 Hz	215 watts 105-125 VAC, 50/60 Hz 12 A. at 16 VDC
DIMENSIONS	16" W, 11½" D, 6" H	8" W, 13" D, 6¾" H	8" W, 13" D, 6¾" H	8" W, 13" D, 6¼" H	8"W, 13" D, 6" H
SHIP. WEIGHT	45 lbs.	33 lbs.	23 lbs.	18 lbs.	31 lbs.
NET EACH	$262.50 (Zone 2: $266.55)	$150.00 (Zone 2: $152.95)	$96.00 (Zone 2: $98.05)	$120.00 (Zone 2: $121.60)	$240.00 (Zone 2: $242.80)

INTERCOMS

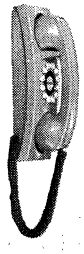


TIA-6
TIA-12



RIM-6

TSL-16



TQ-12A

Bogen intercoms include a wide variety of systems — each designed to answer a specific need.

SERIES "T" INTERCOMS — Fully transistorized, unlimited flexibility, high intelligibility, simple installation and unique styling. Permits multiple simultaneous conversations.

Equipment: TIA-6 Master Station: For systems up to 6 stations — all master or one master plus remotes. **TIA-12 Master Station:** For systems up to 12 stations. **RIA-1 Remote Station:** Can call only 1 pre-selected master and reply when called. **TIM-12 Master Station:** For intermix systems up to 12 masters and/or remotes. **RIM-6 Selective Remote:** Can call any of 6 pre-selected masters.

INTERNAL PHONE SYSTEMS — Extremely flexible telephone systems that provide simultaneous conversations without a costly central exchange. No switching, no dialing, no switchboard delay. **Equipment: TSL-16.** 1 ring button and 15 station selector buttons. **TSL-8.** 1 ring button and 7 station selector buttons. **TRC.** Phone-Page Adapter allows paging from TSL phones. **TQ-1A** for 2 station systems. **TQ-6A** phone for up to 7 station system. **TQ-12A** phone for up to 13 station system. **TRA** Phone-Page Adapter allows paging from TQ phones.

Request Catalog No. 429 for complete details and pricing of Bogen Intercom and Phone Systems.

(SOLID STATE)

LEAR SIEGLER, INC. / ISi ® *BOGEN COMMUNICATIONS DIVISION*

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BELL p/a / COMMERCIAL SOUND EQUIPMENT

TRANSISTORIZED POWER AMPLIFIERS

FEATURES:

- All silicon, solid state circuitry.
- Full automatic output circuit protection (with indicator light).
- Full bass and treble control.
- 4, 8 and 16 ohm output, bal. 25 & 70 V line.
- Available in package or rack mount.

GENERAL:

TPA Series amplifiers are heavy duty, full fidelity. Conservatively designed to meet the most extreme performance requirements within each power range. Special low-noise FET transistors in front end, and four feedback loops for super stable operation and low driving impedance. Rugged aluminum "beam" type chassis combines strength with light weight. Extremely efficient transistor design permits constant use with low power consumption.

OUTPUT CIRCUIT PROTECTION:

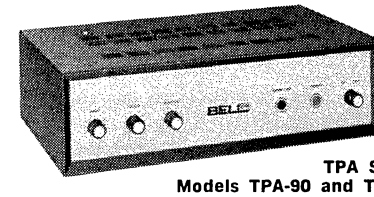
TPA Series amplifiers incorporate the exclusive, fully automatic Bell P/A sensor circuit which protects output transistors against overload or short circuit. Front panel amber light gives visual indication of any such condition. When condition is corrected, sensor circuit automatically and immediately restores amplifier to normal function. No manual reset or time delay required. This feature is invaluable when replacing amplifier in an old system where load and condition of wiring are not known, or in event of accidental shorting.

CONTROL FEATURES:

Full bass and treble controls, as well as master gain control on front panel permitting use of amplifier as power booster for tape playback, phonograph, tuner, or preamp. Two can be used for stereo systems. In a multifunction sound system, amplifiers can be adjusted to produce tonal quality required by each speaker array or to acoustical requirements of each particular area.

Input level to amplifier may be adjusted on rear panel to make unit compatible with nearly any program source.
Provision for a plug-in balanced 600 ohm input transformer makes this amplifier ideal for telephone paging systems or as a booster amplifier for paging with an intercom system.

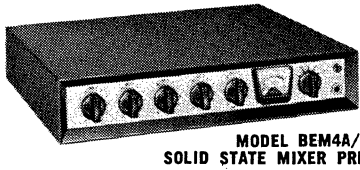
TPA SERIES
Models TPA-20 and TPA-45



TPA SERIES
Models TPA-90 and TPA-200

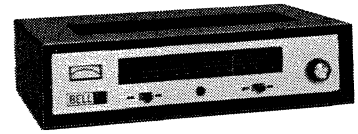
SPECIFICATIONS — Transistorized Power Amplifiers

	TPA-20	TPA-45	TPA-90	TPA-200
POWER OUTPUT:	20 W @ 5%	45 W @ 5%	90 W @ 5%	200 W @ 5%
REGULATION:	1 db @ 1000 Hz better than 3 db overall	1 db @ 1000 Hz better than 3 db overall	1 db @ 1000 Hz better than 3 db overall	1 db @ 1000 Hz better than 3 db overall
HUM & NOISE:	90 db below rated output	90 db below rated output	90 db below rated output	90 db below rated output
GAIN	75 db aux input	75 db aux input	75 db aux input	75 db aux input
INPUT SENSITIVITY:	150 MV	150 MV	150 MV	150 MV
FREQUENCY RESPONSE:	20-20,000 Hz ±1 db	20-20,000 Hz ±1 db	20-20,000 Hz ±1 db	20-20,000 Hz ±1 db
OUTPUT IMPEDANCE:	4, 8, 16Ω 41 (bal 25 V)Ω 333 (bal 70 V)Ω	4, 8, 16Ω 21 (bal 25 V)Ω 167 (bal 70 V)Ω	4, 8, 16Ω 10 (bal 25 V)Ω 80 (bal 70 V)Ω	4 (bal 25 V CT)Ω 8, 16, 32 (bal 70 V CT)Ω
POWER RESPONSE:	50-20,000 Hz, 15 W @ less than 2%	50-20,000 Hz, 30 W @ less than 2%	50-20,000 Hz, 60 W @ less than 2%	50-20,000 Hz, 150 W @ less than 2%
TONE CONTROL:	Treble, 12 db boost, 15 db cut 10,000 Hz Bass, 16 db boost, 14 db cut to 50 Hz	Treble, 12 db boost, 15 db cut 10,000 Hz Bass, 16 db boost, 14 db cut to 50 Hz	Treble, 12 db boost, 15 db cut 10,000 Hz Bass, 16 db boost, 14 db cut to 50 Hz	Treble, 12 db boost, 15 db cut 10,000 Hz Bass, 16 db boost, 14 db cut to 50 Hz
INPUTS:	Aux (hi Z hi level) bal 600Ω w 32B263 trans.	Aux (hi Z hi level) bal 600Ω w 32B263 trans.	Aux (hi Z hi level) bal 600Ω w 32B263 trans.	Aux (hi Z hi level) bal 600Ω w 32B263 trans.
TRANSISTORS:	14 transistors (2 FET's) 7 diodes	16 transistors, (2 FET's), 7 diodes, 1 zener	15 transistors, (2 FET's), 7 diodes, 1 zener	17 transistors, (2 FET's), 7 diodes, 1 zener
POWER CONSUMPTION:	50 W, 120 V, 60 Hz	100 W, 120 V, 60 Hz	150 W, 120 V, 60 Hz	350 W, 120 V, 60 Hz
DIMENSIONS:	3¼" H, 16¼" W, 8½" D	3¼" H, 16¼" W, 8½" D	4¾" H, 16¼" W, 10¼" D	4¾" H, 16¼" W, 10¼" D
WEIGHT:	16 lbs	17 lbs	22 lbs	29 lbs
LIST PRICE:	**$187.50 (Zone — 2 $190.00)**	**$237.50 (Zone 2 — $240.00)**	**$300.00 (Zone 2 — $304.00)**	**$400.00 (Zone 2 — $404.00)**



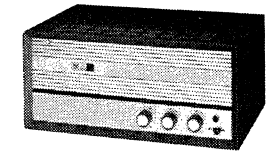
MODEL BEM4A/BEM5
SOLID STATE MIXER PREAMP

Two models: one with four mics and cueing-monitoring feature; one with five mics without cueing-monitoring. All hi Z mics with plug-in lo Z transformer option. Over 70 db gain. Output: +15 dbm @ .5% THD. 4.25 V out. Freq. resp.: 20-20,000 Hz ±2 dbm; Input Sensitivity: Hi Z mic 2 mv; aux 100 mv; Lo Z mic (with No. 2274 trans.). Built-in provision for battery use. Power consumption less than 5 W, 117 V, 60 Hz. Dim.: 2⅞" h, 15" w, 10⅛" d. Ship wt. 9 lbs. **List Prices: BEM4A $225.00 (Zone 2 — $232.50); BEM5 $180.00 (Zone 2 — $184.00).**



MODEL TT-100 SOLID STATE AM/FM TUNER

Adds on to any p.a. system. FM: 3 μv for 30 db, quieting at 300 ohms; 200 kc bandwidth; 40 db image rejection; 50 db signal-to-noise min.; wideband ratio detector; 3 IF stages full limiting at 15 μv; 300 ohms bal., 75 ohm unbal. antenna. AM: 10 μv sensitivity, 8 kc bandwidth (@ 6 db) sensitivity; 10 kc whistle filter; 0.5 RMS min. audio output. Will work into loads over 1,000 ohms. Adj. output level control. Dim.: 4" h, 13¾" w, 8¾" d. Ship wt. 12 lbs. **List Price: $250.00; (Zone 2 — $257.50).**



MODEL 75 BA BOOSTER AMPLIFIER

Specs similar to Model CNA-75. Provides additional power for any amplifier, or may be used with Bell P/A Mixer to form complete system. Accessory plug-in relay provides for remote control of AC input power or standby operation. Power output: 75 W. Freq. resp.: 30 Hz to 15 KC ±2 db. Dim.: 8" h, 15" w, 11" d. Ship wt.: 36 lbs. **List Price: $162.50; (Zone 2 — $167.50).**

Request detailed spec sheets from your BELL P/A Products distributor. Specs and prices subject to change without notice.

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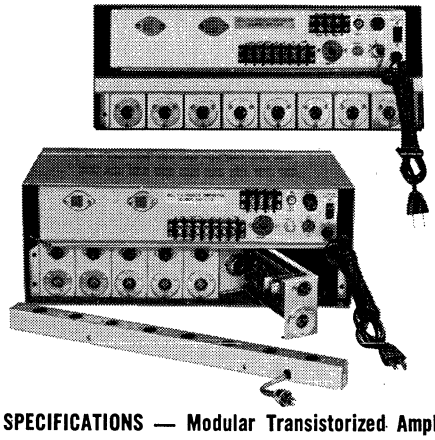
BELL p/a COMMERCIAL SOUND EQUIPMENT

MOD SERIES
Models MOD-20 and MOD-45

MOD SERIES
Models MOD-90 and MOD-200



TRUE MODULAR AMPLIFIERS

FEATURES:

- 1 to 8 modular input preamps.
- Thousands of possible combinations.
- Hundreds of modular arrangements.
- Dozens of basic applications.

GENERAL:

The new Bell P/A MOD Series modular amplifiers incorporate the TPA Series in a unique package concept that makes possible a virtually unlimited number of applications. The new line provides unprecedented flexibility in modules. The new MOD amps are full fidelity, heavy duty construction, conservatively designed to meet the most extreme performance requirements within each power range. As in the TPA Series, Bell P/A's high standards of quality prevail throughout the new modular line.

INPUT MODULES:

Bell P/A MOD Series units are each equipped with one hi Z mic preamp (Model No. MMH-1) and one hi Z, high level, aux program preamp (Model No. PMH-1). Six other preamp modules* may be added, for a total of 8, to satisfy input requirements of nearly any installation. Modules are simple to install in field, requiring no special tools or wiring.

The "stacking" principle utilized in Bell P/A MOD Series permits unusual design flexibility. Channel 1 (to extreme right, facing front of unit) is base channel, and all input modules are stacked to left. Special control modules, such as "priority paging" or "limiter" module, may be placed in any channel so as to mute or limit the gain of all inputs to the left of its position. In this way, it is possible to control from one to all seven other inputs.

When designing a system, it is recommended that MOD xx Basic be special-ordered with required input configuration. Completed unit will be shipped from factory, ready to operate.

* Input modules can be supplied with any standard audio input connector, on special order. For complete information on input modules and specifications, see individual module spec sheets.

*MMH-1	Mic Preamp, Hi Z (1 Megohm)	$30.00
MMH-2	Mic Preamp, Hi Z (Precedence Paging)	38.75
MMH-3	Mic Preamp, Hi Z (Vol Limiting)	50.00
MML-1	Mic Preamp, Bal Lo Z (50-250 Ohms)	52.50
MMF-2	Mic Preamp, Bal Lo Z (Precedence Paging)	68.75
MML-3	Mic Preamp, Bal Lo Z (Vol Limiting)	75.00
PMH-1	Program Preamp, Hi Z High Level	25.00
PMH-2	Program Preamp (Mag Phono)	30.00
PML-1	Program Preamp, Bal 600 Ohms	55.00
TGM-1	Tone Generator (Siren Alarm)	65.00

SPECIFICATIONS — Modular Transistorized Amplifiers

	MOD-20	MOD-45	MOD-90	MOD-200
POWER OUTPUT:	20 W @ 5%	45 W @ 5%	90 W @ 5%	200 W @ 5%
REGULATION:	1 db @ 1000 Hz better than 3 db overall	1 db @ 1000 Hz better than 3 db overall	1 db @ 1000 Hz better than 3 db overall	1 db @ 1000 Hz better than 3 db overall
HUM & NOISE:	90 db below rated output	90 db below rated output	90 db below rated output	90 db below rated output
GAIN:	130 db mic 90 db program	130 db mic 90 db program	130 db mic 90 db program	130 db mic 90 db program
INPUT SENSITIVITY:	1 MV mic 100 MV program	1 MV mic 100 MV program	1 MV mic 100 MV program	1 MV mic 100 MV program
FREQUENCY RESPONSE:	20-20,000 Hz ±1 db	20-20,000 Hz ±1 db	20-20,000 Hz ±1 db	20-20,000 Hz ±1 db
OUTPUT IMPEDANCES:	4, 8, 16Ω 41 (bal 25 V)Ω 333 (bal 70 V)Ω	4, 8, 16Ω 21 (bal 25 V)Ω 167 (bal 70 V)Ω	4, 8, 16Ω 10 (bal 25 V)Ω 80 (bal 70 V)Ω	4 (bal 25 V CT)Ω 8, 16, 32 (bal 70 V CT)Ω
POWER RESPONSE:	50-20,000 Hz, 15 W @ less than 2%	50-20,000 Hz, 30 W @ less than 2%	50-20,000 Hz, 60 W @ less than 2%	50-20,000 Hz, 150 W @ less than 2%
TONE CONTROL:	Treble, 12 db boost, 15 db cut 10,000 Hz Bass, 16 db boost, 14 db cut 50 Hz	Treble, 12 db boost, 15 db cut 10,000 Hz Bass, 16 db boost, 14 db cut 50 Hz	Treble, 12 db boost, 15 db cut 10,000 Hz Bass, 16 db boost, 14 db cut 50 Hz	Treble, 12 db boost, 15 db cut 10,000 Hz Bass, 16 db boost, 14 db cut 50 Hz
INPUTS:	Aux (hi Z hi level) bal 600Ω w 32B263 trans. Plus 1 hi Z mic and 1 aux	Aux (hi Z hi level) bal 600Ω w 32B263 trans. Plus 1 hi Z mic and 1 aux	Aux (hi Z hi level) bal 600Ω w 32B263 trans. Plus 1 hi Z mic and 1 aux	Aux (hi Z hi level) bal 600Ω w 32B263 trans. Plus 1 hi Z mic and 1 aux
TRANSISTORS:	19 transistors, (5 FET's), 7 diodes	21 transistors, (5 FET's), 7 diodes	20 transistors, (5 FET's), 7 diodes	22 transistors, (5 FET's), 7 diodes
POWER CONSUMPTION:	50 W, 120 V, 60 Hz	100 W, 120 V, 60 Hz	150 W, 120 V, 60 Hz	350 W, 120 V 60 Hz
DIMENSIONS:	6¼" H, 16¼" W, 8½" D	6¼" H, 16¼" W, 8½" D	7¾" H, 16¼" W, 10¼" D	7¾" H, 16¼" W, 10¼" D
WEIGHT:	19 lbs	20 lbs	25 lbs	32 lbs
LIST PRICE:	$262.50 (Zone 2 — $265.50)	$312.50 (Zone 2 — $315.50)	$375.00 (Zone 2 — $379.00)	$475.00 (Zone 2 — $479.00)

Request detailed spec sheets from your BELL P/A products distributor. Specs and prices subject to change without notice.

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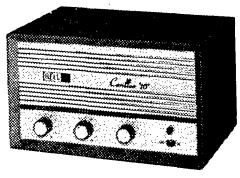
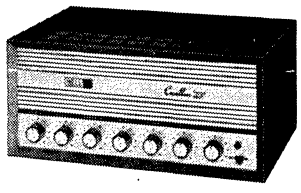
BELL p/a / COMMERCIAL SOUND EQUIPMENT

CARILLON SERIES — Models CN-10 and CN-20



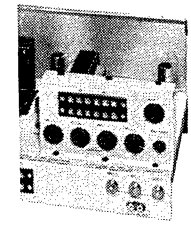
CARILLON SERIES — Model CN-23, CN-35, CN-75 and CN-110



ALL-PURPOSE AMPLIFIERS

with exclusive lo Z adapters

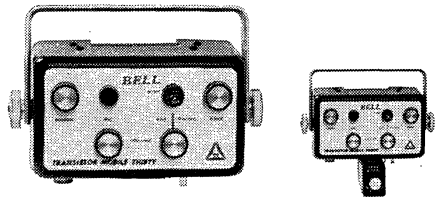
Bell P/A's "Carillon" Series, with circuit design and performance proven over 36 years. Compactly built, economically priced, designed for exceptional hi-fi performance in all types of systems. All units are equipped with Bell P/A's exclusive lo Z adapters to improve versatility, performance and simplicity of operation. Models CN35, 75 and 110 have DC filament voltage on all preamp stages to reduce hum and noise to more than 65 db below rated output. Models CNA-10 and CNA-20 have three inputs for simultaneous use of mic, recorder tape player, plus tuner or other program source. (Models CNA-23, CNA-35, CNA-75 and CNA-110 have five of these inputs.)



Bell P/A exclusive lo Z adapters provide screw terminal, male XLR and female XLR input connectors for lo Z mic, 600 ohm line inputs and relay paging.

SPECIFICATIONS — "Carillon" Series Amplifiers

	MODEL CNA-10	MODEL CNA-20	MODEL CNA-23	MODEL CNA-35	MODEL CNA-75	MODEL CNA-110
POWER OUTPUT:	10 W @ less than 8% 20 W peak power	17.5 W @ less than 5% 35 W peak power	17.5 W @ less than 5% 35 W peak power	35 W less than 5% 70 W peak power	65 W @ less than 5% 130 W peak power	110 W @ 5% 220 W peak power
REGULATION:	Better than 3 db	Better than 3 db	Better than 3 db	Better than 3 db	Better than 3 db	Better than 3 db
HUM & NOISE:	More than 60 db below 10 W	More than 65 db below 20 W	More than 65 db below 20 W	More than 65 db below 35 W	70 db below rated output	70 db below rated output
GAIN:	108 db overall	118 db overall	120 db overall	120 db overall	120 db overall	120 db overall
INPUT SENSITIVITY:	Aux .170 V Phono .210 V Mic .0025 V WITH ADAPTER: Program (600Ω) .014 V Mic (50Ω) .0001 V	Aux .260 V Phono .330 V Mic .0037 V WITH ADAPTER: Program (600Ω) .016 V Mic (50Ω) .0002 V	Aux .180 V Phono .230 V Mic .004 V WITH ADAPTER: Program (600Ω) .013 V Mic (50Ω) .0002 V	Aux .240 V Phono .330 V Mic .005 V WITH ADAPTER: Program (600Ω) .020 V Mic (50Ω) .0002 V	Aux .280 V Phono .330 V Mic .005 V WITH ADAPTER: Program (600Ω) .018 V Mic (50Ω) .0002 V	Aux .250 V Phono .300 V Mic .004 V WITH ADAPTER: Program (600Ω) .018 V Mic (50Ω) .00016 V
FREQUENCY RESPONSE:	20 to 20,000 Hz ±2 db	20 to 20,000 Hz ±2 db	20 to 20,000 Hz ±2 db	20 to 20,000 Hz ±2 db	20 to 20,000 Hz ±2 db	20 to 20,000 Hz ±2 db
OUTPUT IMPEDANCE:	4, 8, 16, 500 (70 V)Ω	4, 8, 16, 250 (70 V)Ω	4, 8, 16, 250 (70 V)Ω	4, 8, 16 (25 V), and 125 (70 V)Ω	4, 8 (25 V), 16, 83 (70 V)Ω	4, 8 (25 V), 16, 50 (70 V)Ω
POWER CONSUMPTION:	120 V, 60 Hz, 65 W (.63 amps)	At 120 V, 60 Hz, 75 W (.70 amp)	120 V, 60 Hz, 80 W (0.8 amps)	At 120 V, 60 Hz, 130 W (1.4 amps)	At 123 V, 60 Hz, 175 W (1.9 amps)	123 V, 60 Hz, 350 W (3.5 amps)
TONE CONTROL:	High cut at 10,000 Hz — 20 db	High cut at 10,000 Hz — 20 db	Treble, 12 db boost, 15 db cut 10,000 Hz Bass, 16 db boost, 7.5 db cut 50 Hz	Treble, 12 db boost, 15 db cut 10,000 Hz Bass, 16 db boost, 7.5 db cut 50 Hz	Treble, 11 db boost, 16 db cut 10,000 Hz Bass, 18 db boost, 10 db cut 50 Hz	Treble, 11 db boost, 16 db cut 10,000 Hz Bass, 18 db boost, 10 db cut to 50 Hz
TUBES:	6L6GC, 12AX7, 6AV6 (2) Silicon Diodes	(2) 6V6GT, 12AX7, (2) 6AV6 (2) Silicon Diodes	(2) 6V6GT, (3) 12AX7, 6AV6 (2) Silicon Diodes	(2) 6L6GC, (3) 12AX7, 12AV6 (4) Silicon Diodes (Rectifier)	(2) 6CA7 (EL34), (3) 12AX7 (ECC-83), 12AV6 (8) Silicon Diodes (Rectifier)	(4) 6CA7 (EL34), (3) 12AX7 (ECC83), 12AV6 (8) Silicon Diodes (Rectifier)
DIMENSIONS:	7⅛" H, 11⅝" W, 9½" D	7⅛" H, 11⅝" W, 9½" D	7⅞" H, 15" W, 11" D	7⅞" H, 15" W, 11" D	7⅞" H, 15" W, 11" D	7⅞" H, 15" W, 11" D
WEIGHT:	14 lbs	16 lbs.	19 lbs	22 lbs	28 lbs	34 lbs
LIST PRICE:	**$80.00** **(Zone 2 — $82.50)**	**$107.50** **(Zone 2 — $110.00)**	**$122.50** **(Zone 2 — $126.25)**	**$145.00** **(Zone 2 — $147.50)**	**$195.00** **(Zone 2 — $198.75)**	**$245.00** **(Zone 2 — $247.50)**



MODEL TM-30 MOBILE AMPLIFIER

Compact, solid state, with universal mounting sling for top, rear or bottom mounting and positioning. Power output 30 W (50 W with Model S/TM-30 siren). Power consumption: 12 V, DC nominal, 200 ma quiescent, 4a @ 30 W output. Freq. resp. 100 Hz to 10 kc. Mic sensitivity 1 mv; phono .2v; aux .1v. One each mic, phono and aux inputs. 4, 8 & 16 ohm outputs (plug-in connector). One tone control, 15 db cut @ 10 kc. Quick-change front panel fuse. Dim.: 5⅞" h, 8½" w, 5" d (including mounting bar in up position). Ship wt. 4¼ lbs. **List Price: $122.50; (Zone 2 — $126.25.)**

MODEL UT-35 UTILITY AMPLIFIER

Solid state circuitry. 30 W 5% — 35 W less than 10% 120 V, 60 Hz; 27.5 W — 32.5 W less than 10%, 14.7 V dc (car batt./gen.). Regulation: 1.5 db @ 1,000 Hz, better than 3 db @ 50-15KHz. Hum & noise: 70 db below rated output. Gain: aux 59 db, .130 V; mic 90 db, .0035 V. Freq. resp.: 6 db below rated output, 30 to 20 KHz ±1 db. Output Z: 4, 8, 16, 25 (25 V) 200 (70 V) ohm. Hi level, hi aux and phono inputs. Lo level, lo Z mic input. 85 W-.80 Amp power consumption @ rated output, 120 V, 60 Hz. 14.7 V dc @ 3.75 Amps. Dim.: 7⅞" h, 15" w, 11" d. Ship wt. 25 lbs. **List Price: $200.00; (Zone 2 — $204.00.)**

Request detailed spec sheets from your BELL P/A distributor. **Specs and prices subject to change without notice.**

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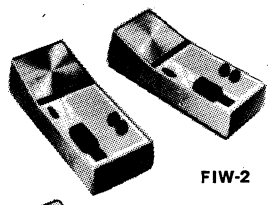
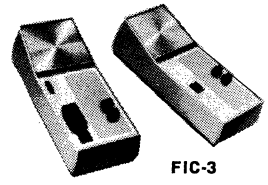
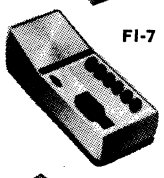
FANON — INTERCOMS FOR HOME AND BUSINESS

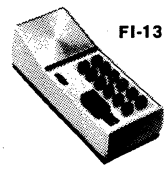
"FI" SERIES — DELUXE INTERCOM SYSTEM

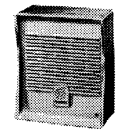
- Solid state circuits
- Push-button operation
- New styling


FIW-2


FIC-3


FI-7


FI-13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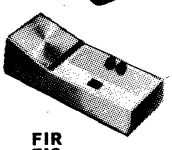
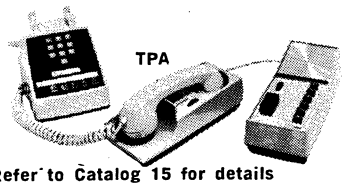

FIR
FIC

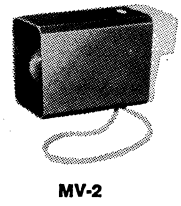

TPA

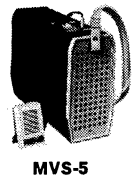
BM-4

Refer to Catalog 15 for details

FIC-3	Trans. deluxe 2 station system with 50′ cable	Net 35.50
FIS	Transistorized deluxe staff station for FIC-3	Net 27.75
FIC	Additional indoor remote for FIC-3	Net 10.75
FID-3	Transistorized deluxe 2 station door intercom system with 50′ cable	Net 33.95
FID	Additional outdoor remote for "FI" series	Net 7.65
FI-3	Transistorized deluxe master only	Net 27.75
FI-7	Transistorized deluxe 7 station master for all-master or master to remote installation	Net 30.95
FI-13	Transistorized deluxe 13 station master for all master or master to remote installation	Net 42.95
FIR	Transistorized deluxe remote for FI-7, FI-13	Net 9.95
FIW-2	Transistorized deluxe 2 station, 2 channel wireless intercom system	Net 59.95
FIW-1	Additional wireless intercom station for FIW-2	Net 30.75
TPA	Telephone amplifier accessory for "FI" masters	Net 11.25
BM-3	Temperature fire-sensing device for FIC-3, FID-3, FI-3	Net 3.95
BM-4	Temperature and rate of rise fire detector for FIC-3,	
PR-15	FID-3, FI-3	Net 7.75
	Paging and talkback relay accessory for FI-7, FI-13 master. Used with any PA system	Net 19.95

MEGAPHONES


MV-2

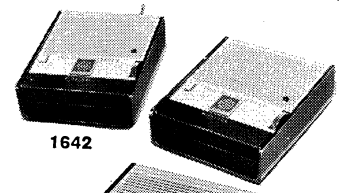

MVS-5

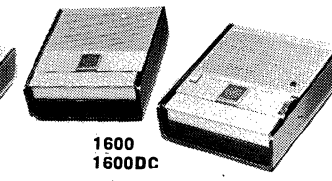
MV-3
MV-4
MV-8S
MV-16S

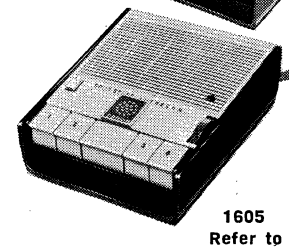
MV-2	Transistorized, 1 watt battery powered megaphone.	Net 12.95
MV-3	Electric, battery powered megaphone.	Net 29.95
MV-4	Transistorized, 4 watt battery powered megaphone.	Net 44.95
MV-8S	Transistorized, 8 watt battery powered megaphone.	Net 59.95
MV-16S	Transistorized, 16 watt battery powered megaphone with built-in siren alarm.	Net 74.95
MVS-5	Transistorized, 8 watt portable P.A. system.	Net 67.50
CL-16	Auto cigarette lighter adaptor cord for MV-16S.	Net 4.50
MVR	Auto window rack holder for MVS-5.	Net 3.00
STM-16	Mtg. bracket for MV-16S, MV-8S, MV-4, MV-3	Net 11.95

TWO-STATION "PACKAGED" INTERCOMS
1600 SERIES — SOLID STATE INTERCOMS

New economy series — Blister-packed for standard cartons


1642


1600
1600DC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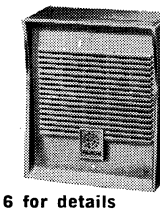
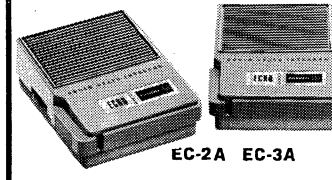
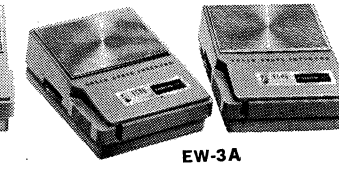

161

Refer to Catalog 16 for details

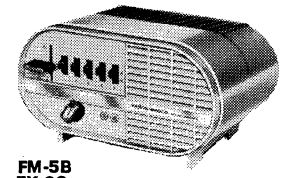
1600	Transistorized 2 station system w/built-in AC power supply and 50′ cable	Net 19.95
1600DC	Same as above less AC power supply	Net 17.75
ES-16	Transistorized 2 station door intercom w/built-in AC power supply and 50′ cable	Net 19.95
ES-16DC	Same as above less A.C. power supply	Net 17.75
PS-16	AC power supply for 1600DC and ES-16DC	Net 5.25
1605	Single 5 station master for master to remote instal.	Net 15.95
(BL)16SY	"Starter system" — one 1605 master two 162 remotes and two 2WP cable	Net 29.95
161	Additional outdoor remote for above systems	Net 5.25
162	Additional indoor remote for above systems	Net 4.50
2WP	50′ 2 conductor cable with plug terminations	Net 2.00
2WP-100	100′ 2 conductor cable with plug terminations	Net 3.40
1642	Transistorized 2 station wireless intercom	Net 29.95
1643	Additional single wireless station for 1642	Net 15.95

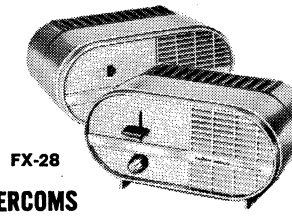

EC-2A EC-3A


EW-3A

ECONOMY "ECHO" INTERCOMS

EC-2A	Transistorized battery operated two-station system with 50 ft. cable. Less battery	Net 9.95
EC-3A	Transistorized, AC operated 2-station system	Net 11.95
EW-3A	Transistorized, AC, 2-station wireless system	Net 19.95


FM-5B
FX-6C


FX-28

DELUXE "FX" INTERCOMS

FM-5B	Five station master for master-to-remote installations with "remote-to-remote" talking feature.	Net 26.95
FX-6C	Six station master for all master or master-to-remote.	Net 25.45
FX-2B	Deluxe two-station system with 50 ft. cable	Net 26.95
FSB	Additional remote with 50 ft. cable for FX-2B	Net 9.50
FCB	Remote for FM-5 and FX-6C	Net 10.25

Refer to Catalog 1 for details

Net

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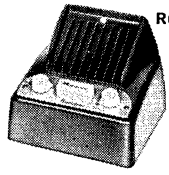
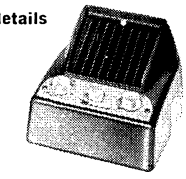
FANON INTERCOMS



Refer to Catalog 2 for details



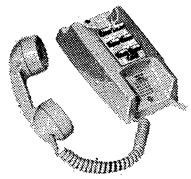
IJM - CAM Series

INDUSTRIAL INTERCOMS

JMR	Two station system with 50 ft. cable. ..... Net 44.95
IJM-5	Six station master for all master or master-to-remote installations. ..... Net 37.50
IJM-10	Eleven station master for all master or master-to-remote installations. ..... Net 42.75

AC Transformer Powered, Balanced Line Types:

CAM-5	MASCOFONE. Six station master for all master, master-to-remote or intermixed installations ..... Net 56.95
CAM-10	MASCOFONE. Eleven station master for all master, master-to-remote or intermixed installations Net 62.95
JR	Remote with call switch used with JMR, IJM-5, IJM-10. Net 14.25
JL	Remote less call switch (non-private). Used with all above industrial intercoms. ..... Net 13.50
JS	Remote with call switch. Used with CAM-5, CAM-10 ..... Net 17.25
JS-6 JL	Remote with call switch and six-station selector switch. Used with CAM-5, CAM-10 ..... Net 26.95



TELEPHONE INTERCOM SYSTEMS

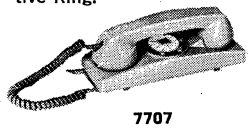
8807 **Selective Ring — Selective Talk**
100% Trunkage — Pushbutton Operation

Refer to Catalog 5 for details

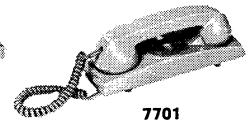
8811	An eleven station capacity phone with ten selector buttons ..... Net $38.95
8807	A seven-station capacity phone with six selector buttons ..... Net 31.50
8801	Single button telephone used with any multi-station telephone ..... Net 23.95
PSA-88	Power supply used in conjunction with "88" Series Net ..... Net 19.50
PR-12	Paging relay for "88" phones ..... Net 22.50
PR-13	Paging and talkback relay for "88" phones .... Net 44.95
EB-881	Loud buzzer for optional use with any "88" phone. Net 2.25

SOLID STATE TELEPHONE INTERCOMS

"77 Series"— Completely new in circuit design, styling and application. Common Talk . . . Selective Ring.



7707



7701

7713

7713	13 station capacity phone for all-master, master-remote intermixed ..... Net 26.95
7707	7 station capacity phone for all-master, master-remote and intermixed ..... Net 24.50
7701	Remote phone used with 7713, 7707 or all remote systems ..... Net 20.95
PS-77	AC power supply for 7713, 7707, 7701 telephones. Net 14.95
PR-7	Paging relay for 7713, 7707. Used with any p.a. system. Net 22.50

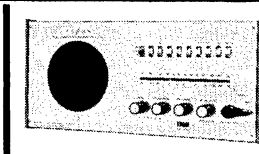
SOLID STATE PAGING TELEPHONE INTERCOMS

- Local Paging—Eliminates Annoying P.A. "Blast"
- Wide Area Coverage • Modern Styling

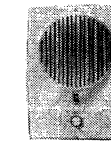
PT-7

PT-7	Paging telephone unit, use up to 20 per system. Net 21.50
APS-5	Solid state, 5 watt amplifier and power supply. Net 47.75

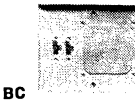
FANON BUILT-IN INTERCOMS



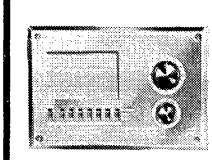
5509



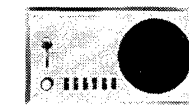
56



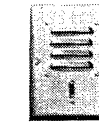
BC



MC MCL



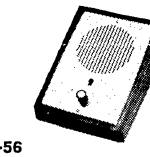
4405



BD

WC-55

WC-56



Refer to Catalog 6 for details

Masters	Specify copper or chrome finish.
4405	Six station, transistorized master with plaster box. Net 37.50
MCL	Seven station master, less radio, with plaster box. Net 34.25
MC	Seven station master with AM radio, and plaster box. Net 52.50
5509	Ten station master with AM-FM radio and plaster box. Net 107.25
WC-55	Walnut table top cabinet for 5509 master. ... Net 23.95
WC-56	Walnut cabinet for 56 remote, for desk or wall. Net 9.75
Remotes	
BC	Indoor remote. With plaster ring. Used with 4405, MCL and MC. ..... Net 6.50
BD	Outdoor remote. With plaster ring. Used with 4405, MCL. MC and 5509. ..... Net 6.50
BDR	Outdoor remote with bell button. With plaster ring. Used with 4405, MCL, MC and 5509. ..... Net 7.95
BJ	Indoor remote with phono jack. With plaster ring. Used with 4405, MCL and MC. ..... Net 8.95
56	Indoor remote. With plaster ring. Used with 5509. Net 10.50
WJT	Phono input assembly & wall box, used with 5509 master. Net 3.00

A system is made up of a "roughing-in" package and its respective "electronic" package.

"Roughing-In" Packages

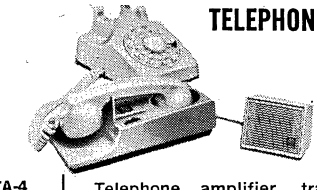
IK	Consists of all plaster boxes and wire required for EKL, or EK. ..... Net 13.50
44-IK	Consists of all plaster boxes and wire required for 44-EK. Net 13.50
55-IK	Consists of all plaster boxes and wire required for 55-EK. Net 18.75

"Electronic Equipment" Packages

Specify copper or chrome

EKL	Consists of MCL, three BC and one BD. Less plaster boxes and wire. ..... Net 53.95
EK	Consists of MC, three BC and one BD. Less plaster boxes and wire. ..... Net 62.95
44-EK	Consists of 4405, three BC and one BD. Less plaster boxes and wire. ..... Net 44.95
55-EK	Consists of 5509, three 56 and one BD. Less plaster boxes and wire. ..... Net 127.50

TELEPHONE AMPLIFIER



Refer to Catalog 7 for details

TA-4	Telephone amplifier, transistorized with extension speaker ..... Net 14.95

FANON — AMPLIFIERS, P.A. SYSTEMS, HORNS & SPEAKERS

Refer to Catalog 3D for details

FMA Series

BC-350 with MH-3

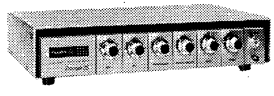
3512—3527

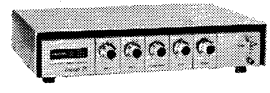
FMM-35AD

FMA-100	100 watt, POWER-FLEX P.A. amplifier.	Net 125.95
FMA-65	65 watt, POWER-FLEX P.A. amplifier.	Net 110.95
FMA-35	35 watt, POWER-FLEX P.A. amplifier.	Net 82.95
FMA-20	20 watt, POWER-FLEX P.A. amplifier.	Net 65.95
FMA-11	11 watt, POWER-FLEX P.A. amplifier	Net 47.95
FMB-100	100 watt, POWER-FLEX booster amplifier.	Net 116.95
FMB-65	65 watt, POWER-FLEX booster amplifier.	Net 100.50
ARM	Above amplifiers mounted on 19" rack panel, add:	14.95
BC-350	35 watt FM/AM receiver and P.A. amplifier	Net 179.95
MH-3	Metal cover for BC-350.	Net 14.95
ASC-10	Speaker area selector control.	Net 20.25
BMT	600 ohm balanced line transformer.	Net 20.95
CCP-1	Control cover for 100, 65 and 35 w. amplifiers	Net 7.50
LZT	Low impedance microphone transformer.	Net 17.25
MP-2	Two channel microphone preamplifier.	Net 21.75
PPC-1	Priority paging control.	Net 10.45
RMC-2	Remote microphone volume control.	Net 9.75
3600	Phono turntable, 117v AC.	Net 27.00
S-2	Systems case with two 12" speakers, cables, plugs. Net	62.95
MM-4	4 channel microphone mixer.	Net 20.25
3512	12 watt, transistorized P.A. for 12v DC.	Net 52.50
3527	27 watt, transistorized P.A. for 12v DC.	Net 62.95
FMM-35AD	35 watt, transistorized P.A. for 12v DC or 117v AC. Net	110.25
PS-27	117v AC power supply for 3512 and 3527.	Net 38.95
3612	Phono turntable for 12v DC.	Net 37.45

"TRIUMPH" SERIES — SOLID STATE AMPLIFIERS

- Totally New Design
- Unmatched Flexibility
- Heavy Duty Performance
- Made in U.S.A.


TRI-35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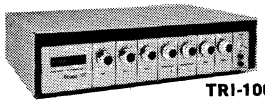
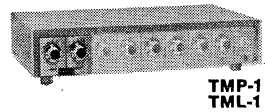

TRI-100

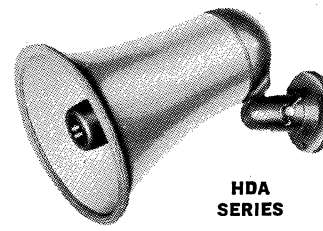

TMP-1
TML-1

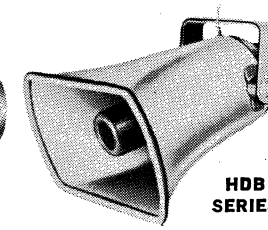
TRI-15	15 watt, P.A. Amplifier	Net 56.95
TRI-25	25 watt, P.A. Amplifier	Net 65.95
TRI-35	35 watt, P.A. Amplifier	Net 82.95
TRI-50	50 watt, P.A. Amplifier	Net 109.95
TRI-100	100 watt, P.A. Amplifier	Net 129.95

OPTIONAL ADD-ON ACCESSORIES

ASC-10	Speaker Area Selector Control	Net 20.25
3600	Phono Turntable, 117 V AC	Net 27.00
S-2	Systems case with two 12" speakers, cables, plugs Net	62.95
TLX-1	Low Impedance Microphone Adaptor	Net 10.50
TPP-1	Priority Paging Control	Net 6.75
TML-1	2 Channel Mic. Preamplifier, Low Imp.	Net 14.95
TMP-1	2 Channel Mic. Preamplifier, High Imp.	Net 14.95
TWM-1	500/600 ohm Balanced Line Adaptor	Net 7.50

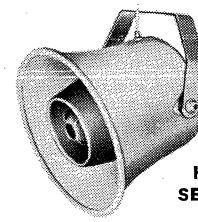
Refer to Catalog 11 for details

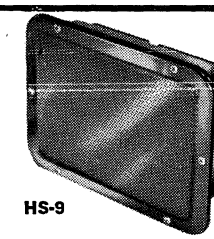

HDA SERIES


HDB SERIES

FANON PAGING AND TALKBACK SPEAKERS

HDA-5A-8	15 watt—swivel base—5¼" bell, 8 ohms	Net 7.45
HDA-5A-45	15 watt—swivel base—5¼" bell, 45 ohms	Net 7.90
HDA-5-8	15 watt—swivel base—6" bell, 8 ohms	Net 9.95
HDA-5-45	15 watt—swivel base—6" bell, 45 ohms	Net 10.40
HDA-6-8	15 watt—swivel base—6½" bell, 8 ohms	Net 13.30
HDA-6-45	15 watt—swivel base—6½" bell, 45 ohms	Net 13.75
HDA-10-8	30 watt—swivel base—10" bell, 8 ohms	Net 18.25
HDA-10-45	30 watt—swivel base—10" bell, 45 ohms	Net 18.75
HDB-8-8	25 watt—wide angle—8½x5½" bell, 8 ohms	Net 18.25
HDB-8-45	25 watt—wide angle—8½x5½" bell, 45 ohms	Net 18.75
HDB-12-8	30 watt—wide angle—11x6½" bell 8 ohms	Net 24.95
HDB-12-45	30 watt—wide angle—11x6½" bell, 45 ohms	Net 25.40

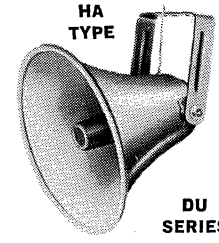

HFA SERIES


HS-9

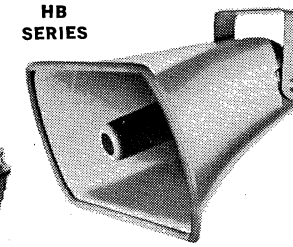
FANON HI-FIDELITY AND SPECIAL PURPOSE

HFA-8	5 watt—swivel base—8" bell, 4 ohms	Net 13.75
HFA-12	10 watt—co-axial—12" bell, 8 ohms	Net 29.95
HS-9	10 watt—flush mount—6x9", 8 ohms	Net 16.60

HA TYPE


DU SERIES

HB SERIES



FANON REFLEX TRUMPETS

HA-15	2½ ft. air column—15" bell	Net 16.60
HA-20	3½ ft. air column—20" bell	Net 19.95
HB-15	2½ ft. air column—15x 8" wide angle	Net 21.60
HB-20	3½ ft. air column—20x10" wide angle	Net 23.25

FANON HIGH POWER DRIVERS

DU-25	25 watt, deluxe weatherproof driver, 16 ohms.	Net 12.50
DU-35	35 watt, deluxe weatherproof driver, 16 ohms.	Net 16.60
DU-45	45 watt, deluxe weatherproof driver, 16 ohms.	Net 21.60
DU-60	60 watt, deluxe weatherproof driver, 16 ohms.	Net 26.60
DU-35T	35 watt with transformer, weatherproof 16 ohms. Net	23.25
DU-60T	60 watt with transformer, weatherproof, 16 ohms Net	32.25

Net

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FANON WALKIE-TALKIES FANON

3 SPACE AGE INTEGRATED* CIRCUITS 3

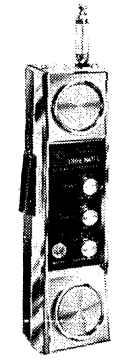
5 WATTS

6 CHANNELS

WEATHER PROOF

- Power Boost Antenna
- Range Booster
- Converts to Base Station
- P.A. Facility

Here is the ultimate in hand-held CB-transceivers, incorporating engineering advances not available in any other unit on the market. Features 5 full watts, 6 channel operation, 3 IC-Circuits, power-boost loading coil, separate mike and speaker die-cast metal cabinet, variable squelch, battery-indicator and RF-power meter, automatic noise limiter, strong-signal limiter, range booster, PA facility, external power jack, mike jack, antenna jack, and chargeable jack. IC-5000 rapidly converts for base station performance with an optional AC-power supply.



3 WATTS 6 CHANNELS WEATHER PROOF

Model IC-3000—A top performance professional unit. Incorporates all the features of the IC-5000, but rated at 3 watts. Takes the same optional accessories as Model IC-5000.

*** Fanon's Integrated Circuits are the electronic engineering miracles of the space age, containing transistors and diodes in a capsule no larger than standard full size transistors.**

These complete I.C. circuits in miniature open the door to a new high in performance and dependability.

IC-5000	15 Transistors, 5 Watts, 6 Channel, 3 IC, Loaded Antenna, Earphone, Hand and Shoulder Strap ..... Net **99.95** Each
IC-3000	15 Transistors, 3 Watts, 6 Channel, 3 IC, Loaded Antenna, Earphone, Hand and Shoulder Strap ..... Net **79.95** Each
AUC-1	Cigarette Lighter Adaptor Cord ..... Net **7.15**
CHB-2	AC Supply and Recharger Combination ..... Net **21.50**
EAC-1	External Antenna Adaptor Cord ..... Net **5.25**
EBP-1	Portable Pack that Holds Eight "D" Cells (not included) ..... Net **10.50**
RB-12	Package of Twelve Rechargeable Nickel-Cadmium Batteries ..... Net **26.25**
VC-2	Rugged Carrying Case ..... Net **5.25**

1 WATT — 3 CHANNELS I.C. CIRCUIT

IC-1000	12 Transistors, 1 Watt, 3 Channel, One IC, Metal Case, Earphone, Hand and Shoulder Strap ..... Net **49.95** Each
AUC-1	Cigarette Lighter Adaptor Cord. Net **7.15**
CHB-3	Heavy Duty AC Power Supply. Net **21.50**
EAC-1	External Antenna Adaptor Cord. Net **5.25**
LA-1	Center Loaded 50" Ten-Section Antenna ..... Net **5.65**
NCA-1	Sealed, Nickel-Cadmium Rechargeable Battery Pack ..... Net **22.25**
VC-1	Carrying Case ..... Net **2.95**

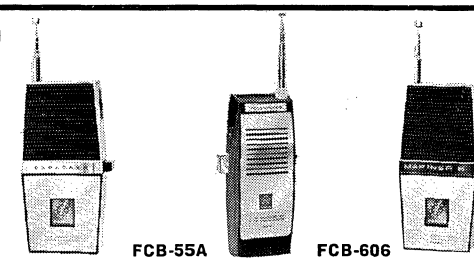
½ WATT — 3 CHANNELS I.C. CIRCUIT

IC-500	11 Transistors, 500 mw, 3 Channel, One IC, Metal Case, Earphone, Hand and Shoulder Strap ..... Net **39.95** Each
AUC-1	Cigarette Lighter Adaptor Cord. Net **7.15**
CHB-3	Heavy Duty AC Power Supply. Net **2.50**
EAC-1	External Antenna Adaptor Cord. Net **5.25**
LA-1	Center Loaded 50" Ten-Section Antenna ..... Net **5.65**
NCA-1	Sealed, Nickel-Cadmium Rechargeable Battery Pack ..... Net **22.25**
VC-1	Carrying Case ..... Net **2.95**

100 MW — 3 CHANNELS I.C. CIRCUIT

IC-100	11 Transistors, 3 Channel, 100 mw, One IC, Earphones, Hand and Shoulder Straps ..... Net **59.95** Pair
IC-10	11 Transistors, 100 mw, 3 Channel, One IC, Metal Case, Earphone, Hand and Shoulder Strap ..... Net **29.95** Each
AUC-1	Cigarette Lighter Adaptor Cord. Net **7.15**
CHB-3	Heavy Duty AC Power Supply. Net **2.50**
LA-1	Center Loaded 50" Ten-Section Antenna ..... Net **5.65**
PS-140	Economy AC Adaptor ..... Net
NCA-1	Sealed, Nickel-Cadmium Rechargeable Battery Pack ..... Net **22.25**
VC-3	Carrying Case ..... Net **2.95**

LOWEST PRICED WALKIE-TALKIES



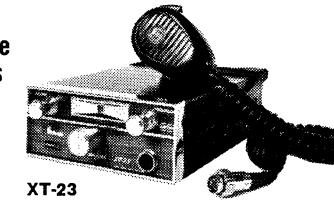
FCB-303 FCB-55A FCB-606

BL-FCB-303	EXPLORER II—3 Transistors, Batteries, Blister Packed. Net ..... **11.95** Pair
FCB-303	Same as Above Styrofoam Box ..... Net **11.95** Pair
BL-FCB-55A	ADVENTURER — 5 Transistors, Earphones, Batteries, Cases, Blister Packed ..... Net **16.50** Pair
FCB-55A	Same as Above Gift Boxed ..... Net **16.50** Pair
BL-FCB-606	MARINER 6—6 Transistors with Volume Control, Batteries, Blister Packed ..... Net **17.95** Pair
FCB-606	Same as Above Styrofoam Box ..... Net **17.95** Pair

5 WATT BASE & MOBILE C.B. RIGS

Fanfare Series

XM-2300 M-2300



XT-23

M-2300	23 Channel Tube Type Base ..... Net **189.95**
XM-2300	23 Channel Deluxe Tube Type Base ..... Net **199.95**
T-23	23 Channel Solid State Mobile ..... Net **159.95**
XT-23	23 Channel Solid State Deluxe Mobile ..... Net **199.95**

ABOVE EQUIPMENT INCLUDES MOUNTING BRACKETS, MICROPHONE AND CRYSTALS.

Take it from Mickey Mantle†

"ON LAND... AT SEA... there's a new wonderful, exciting world of sound... at your command!"

FEDTRO® POWERHOUSE MEGAPHONES

FEDTRO MEG-3600 DELUXE POWERHOUSE TRANSISTORIZED MEGAPHONE

• Waterproof • Impactproof • Rustproof

SPECIAL FEATURES

- Superior Power Range
- Tonal Quality and Clarity of the Highest Fidelity
- Perfectly Balanced Pistol Grip with Trigger Switch and Fingertip Volume Control
- All Aluminum Construction
- All Weather Durable Handy Carrying Strap
- Instant Battery Loading
- Special Blast Signal Stops and Starts the Action... Marine Signal... Boat Horn... Fog Horn..."Mayday" ...Designed to meet U.S. Coast Guard Distress Signalling Regulations

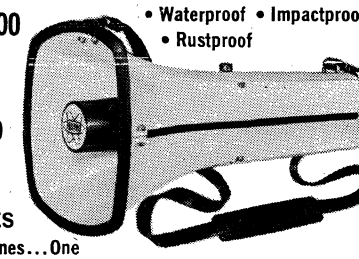
magnificently finished in gleaming harmonious tones of brilliant red and lustrous ivory

$79.95 *

*Suggested selling price. Slightly higher in Western states.

FEDTRO MEG-3300 DELUXE POWERHOUSE TRANSISTORIZED MEGAPHONE

• Waterproof • Impactproof • Rustproof



SPECIAL FEATURES

- Two Dynamic Microphones... One Built-In and Additional "Plug-In" Detachable Microphone
- Use 4 Ways:
  Over Shoulder • Trumpet Grip
  • *Thru Regular Mike*
  • *Thru Detachable Mike*
- Super Power Range
- Superior Clarity
- Perfect Tonal Quality
- Hi-Impact PVC Construction
- Fingertip Volume Control
- Adjustable Carrying Strap & Shoulder Cushion
- Instant Battery Loading

$59.95 *

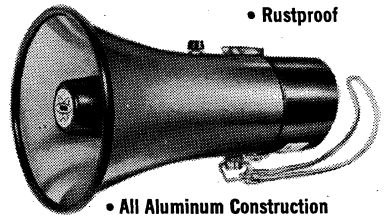
*Suggested selling price. Slightly higher in Western states.

magnificently finished in gleaming harmonious tones of lustrous ivory and ebony black

FEDTRO MEG-1200 MICRO-MEG POWERHOUSE TRANSISTORIZED MEGAPHONE

the ultimate in transistorized miniaturization

• Waterproof • Impactproof • Rustproof



SPECIAL FEATURES

- Transistorized
- Miniaturized...only 8½ inches long
- Power Packed Amplification
- All Aluminum Construction
- Fingertip Volume Control
- Elegant Wrist-Strap Swivel Chain
- Noise-Cancelling Microphone

$39.95 *

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magnificently finished in gleaming harmonious tones of iridescent Imperial silver smartly trimmed with ebony black.

FEDTRO MEG-1000B POWERHOUSE TRANSISTORIZED MEGAPHONE

• Waterproof • Impactproof • Rustproof

SPECIAL FEATURES

- All Aluminum Construction
- Superior Clarity and Tonal Quality
- Durable Handy Carrying Strap
- Instant Battery Loading
- Noise-Cancelling Microphone
- Fingertip Volume Control
- Power Packed Amplification

$39.95

*Suggested selling price. Slightly higher in Western states.

magnificently finished in gleaming harmonious tones of brilliant red and elegant ebony black

FEDTRO®
POWERHOUSE
OFFICIAL MEGAPHONE FOR THE
MEXICAN 1968 OLYMPIC GAMES

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proven sound around the world®

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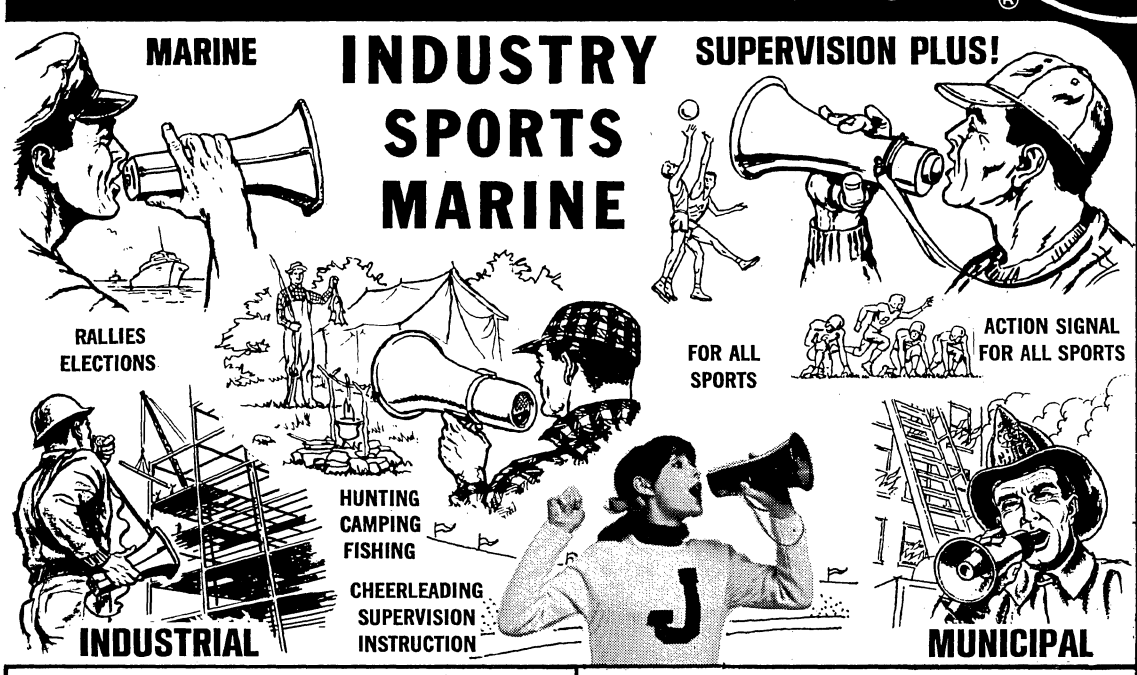
"FEDTRO...the proven sound of champions"

THE WORLD'S LEADING SUPPLIER OF TRANSISTORIZED MEGAPHONES

FEDTRO®



FEDTRO POWERHOUSE MEGAPHONE SPECIFICATION GUIDE

MODEL NO.	FEDTRO MEG-5000	FEDTRO MEG-3600	FEDTRO MEG-3300	FEDTRO MEG-1200	FEDTRO MEG-1000B
ELECTRIC POWER SOURCE	9 Volts	6 Volts	6 Volts	6 Volts	6 Volts
OUTPUT	25 Watts	16 Watts	14 Watts	5 Watts	5 Watts
BATTERIES	6 Flashlight "C" cells*	4 Flashlight "D" cells**	4 Flashlight "D" cells**	4 Flashlight "C" cells*	4 Flashlight "D" cells**
DIMENSIONS	Diameter 8⅝", Length 13½"	Diameter 7⅛", Length 12¾"	Diameter 7", Length 12¾"	Diameter 5¼", Length 8½"	Diameter 7¼", Length 12¼"
WEIGHT	5½ lbs.	3 lbs.	2¼ lbs.	1 lb. 10 ozs.	2.7 lbs.
POWER RANGE	Up to 5000 feet†	Up to 3600 feet†	Up to 3300 feet†	Up to 1200 feet†	Up to 1200 feet†
EXCLUSIVES	Built-in Blast-Signal	Built-in Blast-Signal	Two Dynamic Microphones	Ultra Miniaturization	Economy plus

*Eveready #1035 or equivalent.
**Eveready #950, Burgess #2 or equivalent.
†Depending on environment, climatic conditions and existing area noise levels.

The bell of Fedtro Powerhouse Megaphone model numbers 5000, 3600, 3300 and 1000B are protected and cushioned with a rubber bumper rim, and the bell of model number 1200 is protected and cushioned with a poly-vinylchloride bumper rim.

All Fedtro Powerhouse Megaphones are magnificently packaged in an attractive re-usable, multi-color, sturdy compartment... ideal for quick, easy storage of the unit.

FEDTRO MEG-5000 ULTRA DELUXE POWERHOUSE TRANSISTORIZED MEGAPHONE

the finest instrument of its kind in the world

• Waterproof • Rustproof • Impactproof

SPECIAL FEATURES

- Super Range & Power
- The Ultimate in Clarity and Tonal Quality
- Versatility • Detachable Mike
- All Aluminum Construction
- Fingertip Volume Control
- Adjustable Carrying Strap and Shoulder Cushion
- Instant Battery Loading
- Special Blast Signal Stops and Starts the Action... Boat Horn... Fog Horn..."Mayday"...Designed to meet U.S. Coast Guard Distress Signalling Regulations

magnificently finished in brilliant red and lustrous ivory

• Use 4 Ways:
Pistol Grip • Over Shoulder
• On its own legs • Tripod Mount

$119.95*

*Suggested selling price. Slightly higher in Western states.

THE OFFICIAL MEGAPHONE OF THE N.Y. WORLD'S FAIR
FEDTRO

Unisphere... presented by United States Steel
© 1961 New York World's Fair 1960-1965 Corporation

FEDTRO®

proven sound around the world®

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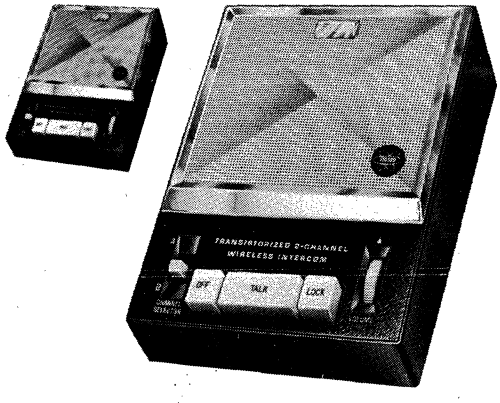
FOR FEDTRO INTERCOMS, SEE PAGES 54, 55
FOR FEDTRO POWERHOUSE TRUMPET SPEAKERS, SEE PAGE 84

take it from Mickey Mantle†

ENJOY NEW WONDERFUL CONVENIENCE

WIRELESS INTERCOMS!

JUST PLUG IN... AND TALK!



the **EXECUTIVE DELUXE**

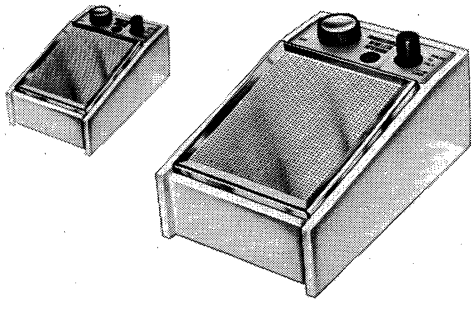
the finest instrument of its kind in the world!

The most desirable, functional, elegant 2-channel, 2-station transistorized wireless intercom... magnificently packaged. Designed for the most discriminating taste. 2-channel selectivity permits private conversation between rooms of your choice. By merely the flick of a switch you can select and talk on either one of two "private lines". No wires to connect! No installation! **Input:** 100/120 Volt AC, 50/60 cycles, 4 watts. **Carrier frequency:** Channel "A"—200 KC ±5%, Channel "B"—165 KC±5%.

MODEL INT-2C2W (Set of 2) **$59.95***

MODEL INT-SW2C (Extra Single Station) **$29.95***

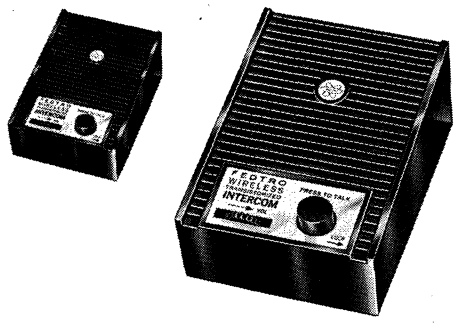
*Suggested selling price.



the **DIRECTOR**

Wonderful... effortless 2-way communication. A quality wireless intercom magnificently packaged. The set of 2 units are elegantly designed and superbly engineered for total efficiency. No wires to connect! No installation! Fully transistorized. As many stations as necessary can be added... three, four, five and up. **Input:** 100/120 Volt AC, 50/60 cycles, 3.5 watts. **Carrier frequency:** 200 KC±5%.

MODEL INT-2WR (Set of 2) **$39.95*** *Suggested selling price.



the **AMBASSADOR**

the lowest priced quality WIRELESS!

A fully transistorized wireless intercom, at a price that can't be beat. Nothing to connect! No wires, no installation. Just plug in... and talk. Wonderful 2-way communication between any 2 rooms, house to house, office to office... any two areas. Additional stations can be added as needed. **Input:** 100/120 Volts AC, 50/60 cycles, 3.5 watts. **Carrier frequency:** 200 KC±5%.

MODEL INT-2LPW (Set of 2) **$24.95***

*Suggested selling price.

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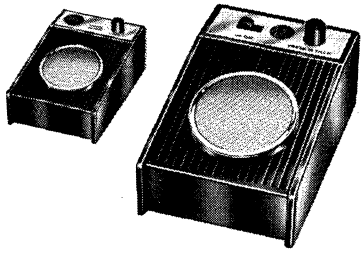
with QUALITY TRANSISTORIZED INTERCOMS by FEDTRO®

BATTERY OPERATED!

HOOKS UP IN SECONDS!



the COMMANDANT DELUXE

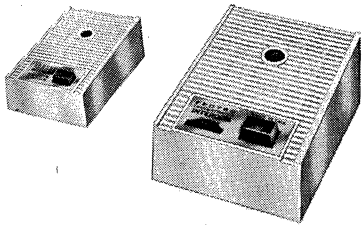
Deluxe transistorized 2-station intercom, handsomely designed and superbly packaged. Special signal buzzer lets you call even when units are off! Complete with 50 feet of cable. Operates off one standard 9 Volt transistor radio battery.

MODEL INT-2S (2-Station) **$14.95***

MODEL INT-RE (Extra Remote Station) **$4.95***

MODEL INT-WA (Outdoor/Indoor Door Station) **$4.95***

*Suggested selling price.



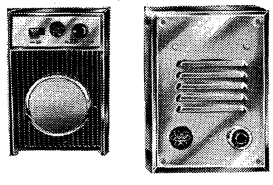
the BROADCASTER

the lowest priced quality intercom in the world!

An economy quality fully transistorized intercom... budget priced. Signal buzzer lets you call even when units are off. Hooks up in seconds. The 50 feet of cable supplied with this unit is designed with plugs on each end. Thus each end of the cable simply plugs into each intercom station. Operates off one standard 9 Volt transistor radio battery.

MODEL INT-2EC (2-Station) **$9.95***

*Suggested selling price.

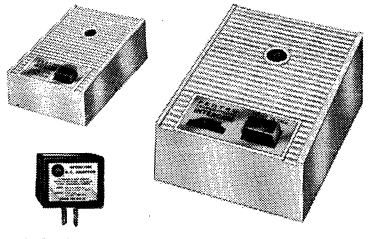


the "BUTLER"

A transistorized "door-answering" intercom with built-in "electronic buzzer" door signal. New safety and convenience. Permits answering front or back door "electronically". Special signal buzzer lets you call even when units are off! Complete with 50 feet of cable.

MODEL INT-DR (2-Station) **$15.95***

*Suggested selling price.



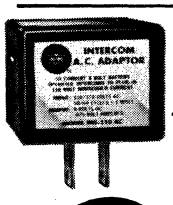
A.C. 110 VOLT OPERATED

the CONTROLLER

This fully transistorized intercom plugs into any wall outlet. Operates off house current for less than a penny per day. Complete with 50 feet of cable that just plugs into units. Nothing to hook-up. **Input:** 110/120 Volts AC, 50/60 cycles, one watt. **Output:** 9 Volts DC.

MODEL INT-2ACEC (2-Station) **$10.95***

*Suggested selling price.



INTERCOM A.C. ADAPTOR

Instantly converts your battery operated intercom to plug-in household current. No wires to connect! No installation. Simply clips into your transistor intercom . . . and permits you to plug your battery operated intercom into any ordinary household AC outlet. Replaces 9 Volt batteries such as Eveready 216 and Burgess 2U6. **Input:** 110/120 Volt AC, 50/60 cycles, one watt. **Output:** 9 Volts DC.

MODEL INT-110AC $2.95* *Suggested selling price.

FEDTRO®

POWERHOUSE
OFFICIAL MEGAPHONE FOR THE
MEXICAN 1968 OLYMPIC GAMES

THE OFFICIAL MEGAPHONE OF THE N.Y. WORLD'S FAIR
FEDTRO®

Unisphere presented by USS United States Steel
© 1961 New York World's Fair 1964 1965 Corporation

FEDTRO®

proven sound around the world®

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FOR FEDTRO POWERHOUSE TRANSISTORIZED MEGAPHONES, SEE PAGES 52 & 53

FOR POWERHOUSE TRUMPET SPEAKERS, SEE PAGE 84

PRICES

Prices in this MASTER should not be considered as final. INQUIRE ABOUT LATEST PRICES AND DELIVERY.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

ORDERING

Since previous editions of the MASTER are frequently referred to, it is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

NEWCOMB

PORTABLE PHONOGRAPHS & TRANSCRIPTION PLAYER / P.A. SYSTEMS

R&RT SERIES

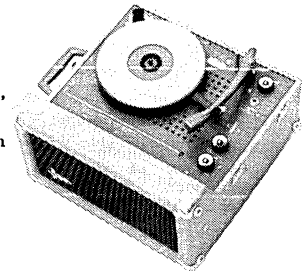
R SERIES ARE VACUUM TUBE MODELS, teaching tools of moderate cost and proven reliability. They are built for intensive usage with maximum reliability, optimum performance, and minimum maintenance; they include many convenience, performance, and safety features.

RUGGEDLY BUILT, both R and RT Series models have cases made of crack-proof, warp-proof, glue-blocked plywood covered with warm gray, washable, scratch-resistant vinyl. They are further protected with metal corners and kickproof, die-formed, perforated metal grilles and vent plates. Come-apart hinges obviate the most vulnerable part of case construction. Ready access for servicing is provided. Cases rest on spring-floated feet. All are transformer powered for maximum safety and best performance. All are UL approved. Made in the U.S.A. Handy bid specifications are available from the factory to authorized personnel. Condensed operating instructions in large type and clearly illustrated are plastic-coated and permanently mounted in lids. SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

RT SERIES MODELS WITH TRANSPECTRUM SOUND ARE FULLY TRANSISTORIZED. The purity and range of Transpectrum Sound is not only the result of using transistors properly in completely new and original circuitry, but more importantly it is the result of Newcomb interrelationship engineering — the precise matching and balancing of all parts of the system so that the performance of the whole machine exceeds what might be expected from summing up the contributions made by the various components. All RT phonographs are equipped with Newcomb's lighted Instant Stop-Pause-Go control, the finest instructional pause device on the market.

MODEL R-124

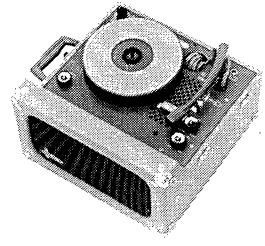
Monophonic Phonograph



The Newcomb Model R-124 high fidelity, transformer-powered phonograph is an extraordinary combination of ruggedness and high fidelity sound — in every respect an outstanding value. It has an instant-start, 4-speed motor. Idler release is interlocked with a separate motor switch. A "Bi-Coupled" 12 watt vacuum tube output system drives a weighty 6" x 9" oval dual-cone high fidelity loudspeaker. High fidelity cartridge is the "Power Point" plug-in type. Turntable has a rubber mat and "twist-up" 45 center spindle. There is a standard phone jack for external speaker, headphones, or Newcomb Headphone Listening Center accessory. Power cord stows in a Hideaway compartment on side of case. Dual-acting bass-treble tone control matches source material to listening requirements. Volume control is compensated for realistic balance at low sound levels. Dimensions: 8¼" x 14¾" x 14¾"; weight 20 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved.
MODEL R-124, fixed speed, 4 speed, **PROFESSIONAL NET $69.50**
MODEL R-124V, variable speed, 4 speed, with tempo control to vary speed as much as 20%, **PROFESSIONAL NET $85.95**

MODEL R12-C4

Monophonic Phonograph



A transformer-powered ten-watt utility model, the R12-C4 provides safety, dependability, and high performance at low cost. The powerful output system is stabilized with inverse feedback to maintain intelligibility at all volume levels. It is carefully matched to a 9" oval dual-cone loudspeaker. The tweeter cone markedly improves distribution and treble response. Cartridge is heat- and moisture-resistant ceramic "Power Point" type with turnover dual-sapphire styli. The R12-C4 is equipped with a rubber record mat and "twist-up" 45 center post, output jack for headphones or external speaker, drop pad to protect pickup, positive tone arm lock screw, pilot light, and a tuckaway compartment in deck for cord stowage. It has a bass-treble tone control, compensated volume control, and main power switch that turns off everything including idler pressure. Dimensions: 8¼" x 14⅛" x 14⅛"; weight 19 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved.
MODEL R12-C4, fixed speed, 4 speed, **PROFESSIONAL NET $62.50**

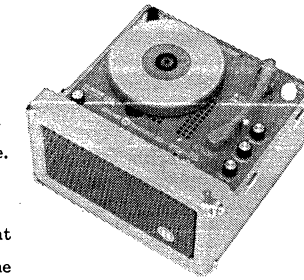
MODEL R-164

Monophonic Portable Combination Transcription Player P.A. System

The R-164 is a versatile, medium-powered, portable combination transcription player/p.a. system that will play any size record up to 17¼" masters. Carefully matched to the 12 watt "Bi-Coupled" output system is a round 12" dual-cone high fidelity loudspeaker with 25' cord whose enclosure forms the top lid of the case. On the slanted, lighted operating panel are volume-mixing controls, separate treble control, and bass control that does not affect voice. There is a mike input jack, and an output jack for the speaker, headphones, or Newcomb Listening Center Accessory. The R-164 has a long tone arm of cast metal, "Power Point" type plug-in ceramic high fidelity cartridge, rubber record mat, "twist-up" 45 spindle, pickup stop post, drop pad, lock screw, jeweled pilot light, Hideaway cord stowage, idler-retracting separate power switch. Dimensions 11" x 15½' x 15½", weight 25 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved.
MODEL R-164, fixed speed, 4 speed, **PROFESSIONAL NET $93.25**
MODEL R-164V, variable speed, 4 speed, with tempo control to vary speed as much as 20%, **PROFESSIONAL NET $107.50**

MODEL RT-20

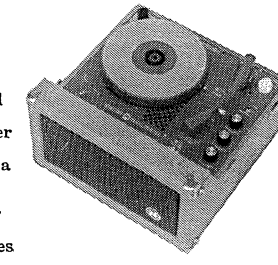
Transistorized Monophonic Phonograph



A deluxe, high quality, transformer-powered phonograph, the RT-20 has a 20 watt amplifier with 7 solid-state elements and 20-20,000 cycle response. Loudspeaker is a 6" x 9" oval unit of exceptional efficiency and fidelity. Transistors are mounted on a chimney-shaped aluminum heat sink which concentrate air flow for efficient cooling. The high compliance, high fidelity cartridge with jewel styli is the ceramic turnover plug-in type proven preferable for school use. It safely plays stereo as well as mono discs. The RT-20 has separate wide-range bass and treble tone controls which adjust to provide best reproduction of all program material from voice narration to symphonic music, compensated volume control, numbered calibrations on controls for instant return to previously selected settings. There is an output-to-tape jack, a headphone output pack, a new and improved pickup arm mount, new arm-and-stylus guard of advanced design. Hideaway a.c. stowage compartment. Bright pilot light is in the Newcomb Instant Stop-Pause-Go control. Dimensions: 14" x 14" x 8"; weight 17½ pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved.
MODEL RT-20, fixed speed, 4 speed, **PROFESSIONAL NET $78.50**
MODEL RT-20V, variable speed, 4 speed, with tempo control to vary speed from +5% to —15% and lighted strobe, **PROFESSIONAL NET $93.50**

MODEL RT-20B

Transistorized Monophonic Phonograph

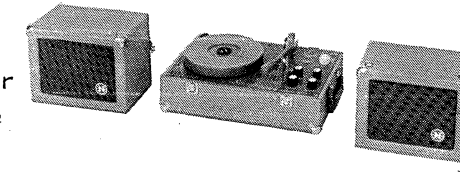


An economical unit that retains Newcomb's matchless dependability and delivers fine sound, the RT-20B has a transformer-powered 20 watt amplifier utilizing 7 solid-state elements with a 20-20,000 cycle frequency response and a 6" x 9" oval dual-cone high fidelity loudspeaker. The high fidelity, high compliance cartridge safely plays either stereo or mono records. A rubber mat is bonded to the 8" turntable which includes a non-tilt "twist-up" 45 adapter. The RT-20B includes separate wide-range bass and treble tone controls, compensated volume control, numbered calibrations, headphone jack, Hideaway a.c. cord stowage compartment, advanced-design arm-and-stylus guard. Dimensions: 14" x 14" x 8"; weight 17 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved.
MODEL RT-20B, fixed speed, 4 speed, **PROFESSIONAL NET $73.50**
MODEL RT-20BV, variable speed, 4 speed, with tempo control to vary speed from +5% to —15% and lighted strobe, **PROFESSIONAL NET $88.50**

MODEL RTS-40

10 transistor

Stereophonic Phonograph



Compact and easily carried, the RTS-40 is an all-solid-state transformer-powered phonograph that will reproduce stereophonic records in full stereo with outstanding realism and play monophonic discs as well. Amplifiers deliver 40 watts with 20-20,000 cycle response to two high fidelity dual-cone 6" x 9" oval loudspeakers. The ceramic phono pickup is a durable, high compliance, turnover, plug-in type mounted in a cast metal tone arm. A unique guard protects stylus against dropping and wrong placement. The precision-balanced 4-speed, fixed-speed motor drives an 8" metal turntable with bonded rubber mat and "twist-up" non-tilt 45 adapter. Controls are ganged for both channels and have numbered calibrations. Separate wide-range bass and dual-range treble tone controls and compensated volume control permit best reproduction of all material from speech to symphony. The RTS-40 includes Newcomb's Instant Stop-Pause-Go control, Hideaway cord compartment, output-to-tape-recorder jack, and two headphone jacks with special circuits to protect 8-ohm dynamic sets. Dimensions: 9⅜" x 10½" x 16¼"; weight 20 pounds. 117 volts, 60 cycles a.c. Transformer powered. UL approved. **PROFESSIONAL NET $139.50**

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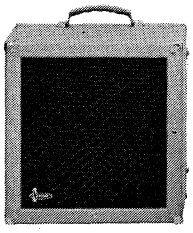
NEWCOMB

STEREO PHONOGRAPHS, TRANSCRIPTION PLAYERS, HEADPHONE LISTENING CENTERS, TABLE RADIOS

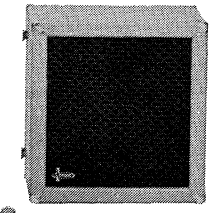
R SERIES

RS-1620V 4 speed, variable speed RS-1620 4 speed, fixed speed

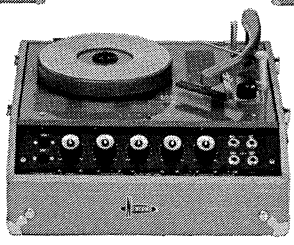


STEREOPHONIC

PORTABLE COMBINATION TRANSCRIPTION PLAYER P.A. SYSTEM



20 WATTS PEAK

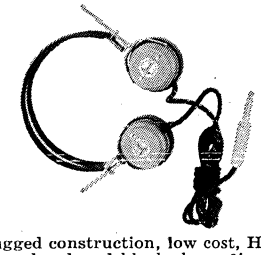


Shown with Acra-Set tone arm lifting accessory available at additional cost

Newcomb RS-1620V stereophonic/monophonic portable combination transcription player/public address systems are simple to operate, durable, economical. Stereo or mono at the flip of a switch. Bi-Coupled output system delivers 10 watts peak per channel, 20 watts peak combined. Compatible cartridge is a turnover ceramic, plug-in type with jeweled styli. Rubber-matted turntable plays records to 17¼" masters. Tempo control +5% to −15%. Two mike inputs and left and right input jacks for radio or tape. On lighted, slanted panel are separate mixers for each mike and phono, voice filters, separate bass and treble tone controls ganged for both channels, but bass does not affect voice. Player unit measures 8" x 15½" x 16½". For use on 117 volts, 60 cycles a.c.

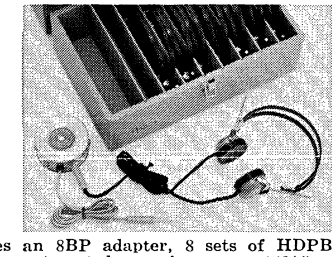
	Variable Speed Model Number	Prof. Net	Fixed Speed Model Number	Prof. Net
With S-212 split case containing two 12" dual cone hi-fi drivers. Closed case: 16¾" x 16¼" x 13⅛". 21 lbs.	RS-1620V-2	$215.00	RS-1620-2	$205.00
With S-212HF split case containing two 2-way systems — 12" woofers, 3½" tweeters. Closed: 16¾"x 16¼"x 13⅛", 23 lbs.	RS-1620V-HF2	$239.00	RS-1620-HF2	$229.00
With 2 C-100 2-way reproducers ea. in sep. encl. Each measures 10¼"x 14¾"x 20", 19½ lbs.	RS-1624V-C2	$309.50	RS-1620-C2	$299.50

NEWCOMB HEADPHONES AND LISTENING CENTER ACCESSORIES



MODEL **HDPB** monophonic headphones

Good sound, rugged construction, low cost, HDPB phones are colored red and black, have 6' cords, standard phone plugs. Plated metal parts, plastic-covered spring headband. Vertical adjustment springs are tubular sleeves with large friction-contact area for maximum life. NET $4.60

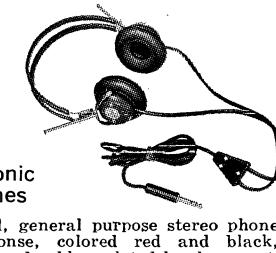


MODEL **LC8BP** listening center

Kit includes an 8BP adapter, 8 sets of HDPB phones, compartmented carrying case. 14¼" x 8¹⁵⁄₁₆" x 7¾", 10 pounds. NET $67.30

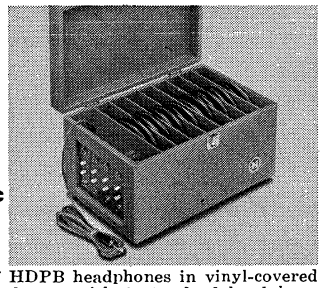
MODEL **8BP** circular adapter

More convenient and space saving than panel-in-case type, the 8 BP free-standing adapter has 10' cord and phone jack for source connection, 8 jacks for HDPB phones, an additional jack for another adapter. NET $17.50



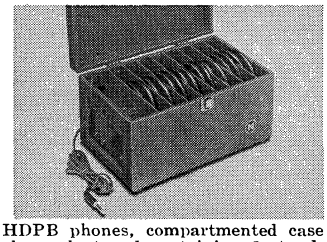
MODEL **HDPS** stereophonic headphones

Economical, general purpose stereo phones with good response, colored red and black, have plastic-covered cables, plated hardware, standard stereo phone plugs, soft neoprene ear cushions that are comfortable on ears, form sound-tight seal. NET $7.75



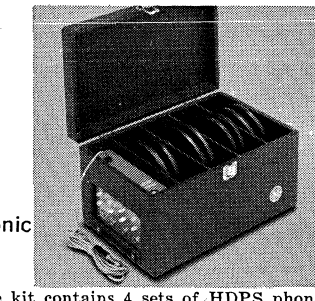
MODEL **R-HDB8C** listening center

Eight sets of HDPB headphones in vinyl-covered compartmented case with 8 standard headphone jacks and 8 level controls in end panel; 10' source cord and output jack for additional adapter. 14¼" x 8¹⁵⁄₁₆" x 7¾", 11 pounds. NET $69.95



MODEL **R-HDB8** listening center

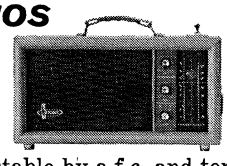
Kit with 8 HDPB phones, compartmented case with terminal panel at end containing 8 standard phone jacks, has 10' source connection cord, jack for additional kit, measures 14¼" x 8¹⁵⁄₁₆" x 7¾", 11 pounds. NET $59.55



MODEL **RHS-4C** stereophonic listening center

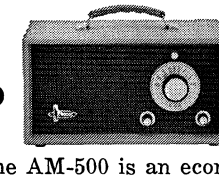
This deluxe kit contains 4 sets of HDPS phones in compartmented case that has connector panel at one end. There are 4 standard stereo phone jacks on panel and 8 level controls providing volume adjustment for each ear. 10' source cord and plug. Output jack for additional kit. 14¼" x 8¹⁵⁄₁₆" x 7⅞", 10 pounds. NET $69.95

TABLE MODEL RADIOS



AFM-1500
AM & FM

Highly sensitive, rendered very stable by a.f.c. and temperature-compensated oscillators, the AFM-1500 provides high fidelity sound through its 15 watts peak push-pull amplifier and 20 watt, 9" oval, dual-cone loudspeaker. It has a telescoping FM antenna, "Hi-Q" ferrite rod AM antenna, tuning eye, reference scale, large tuning knob, compensated volume control, external antenna terminals, jack for external speaker or headphones, jack for external amplifier, p.a. or tape recorder. 16¾" x 9¾" x 8⅝", 20¼ lbs. 70 watts, 117 volts, 60 cycles a.c. **PROF. NET: $164.50**



AM-500
AM

Trim, rugged, easy to carry, the AM-500 is an economical, continuous-duty transformer-powered radio with a 5 watts peak, inverse-feedback amplifier and 8" oval, dual-cone loudspeaker whose special tweeter cone gives improved distribution and high frequency response. It has a built-in "Hi-Q" antenna and terminals for external antenna. Pilot light index illuminates direct-driven dial. Same jacks as AFM-1500. Neat power cord stowage on back of both 6½" x 8" x 15½", 10 lbs. 40 watts, 117 volts, 60 cycles a.c.
PROF. NET: $59.95

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NEWCOMB

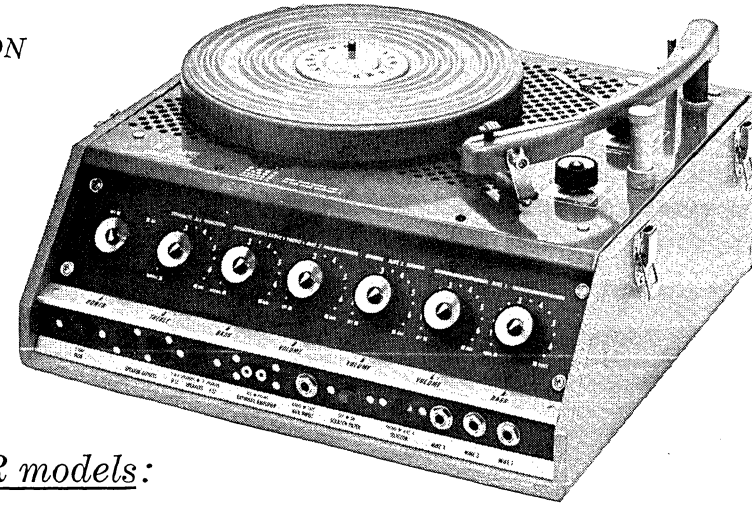
TR SERIES

HIGH POWER, PORTABLE, COMBINATION

TRANSCRIPTION PLAYER

PUBLIC ADDRESS SYSTEMS

...outstanding for their highest quality sound, intelligibility, portability, versatility, and simplicity of operation...



features common to all TR models:

FOUR SPEED, VARIABLE SPEED, play any size record up to 17¼" masters.

AMERICAN-MADE MOTOR delivers full starting torque at any speed setting, no warm-up required, stable under all conditions, requires no more attention than conventional fixed-speed motors.

INDEPENDENT MOTOR SWITCH automatically retracts idler.

TEMPO CONTROL, separate from speed selector, varies speed +5% to −15%. No flutter-producing friction discs or cone drives.

SPEED-O-SCOPE neon strobe.

BIG TURNTABLE—10", 2 lbs.

STA-KLEEN, deep-ribbed rubber mat, special groove for handling 45's.

LONG TONE ARM, one-piece, cast metal, raises upright for stylus inspection, mounted on resilient acoustical filter, has stylus pressure adjustment for 78's or LP's.

RUGGED STOP POST prevents putting arm in wrong position.

LOCK SCREW secures arm during transportation.

DROP PAD, rubber-covered, protects stylus and cartridge.

PHONO PICK-UPS: GE twist-needle with individually replaceable sapphire styli in "M" models. High fidelity ceramic in others.

STEREO CONVERSION: ceramic cartridge may be replaced with stereo cartridge. Then a patch cord is connected between stereo output jack to auxiliary input jack on second player for perfectly balanced, fully controllable stereo.

HIGH POWER AMPLIFIERS, low distortion, inverse feedback, some have ultra-linear circuits, all engineered for optimum performance with speakers used. Frequency response ±2 db 20—20,000 cycles.

TRANSFORMER-POWERED for safety and performance.

BROAD-BAND OUTPUT TRANSFORMERS humidity-protected with mylar or acetate. Impedance selector—4 or 8 ohms (16, 8, & 4 on TRS-1680).

FUSE POST accessible from front panel.

COMPLETE, FLEXIBLE CONTROLS: separate volume mixers for phono and mike; voice filter, scratch filter; phono bass control does not affect voice mike; bass controls electrically interlocked with phono volume to automatically protect against bass overload at high levels, greatly reducing operating experience required for perfect results.

OUTPUT JACKS: "ALL" used to feed entire program to external amplifier, amplified monitor, or tape recorder. "PHONO" delivers phono signal only; useful for caller or m.c. who wants to monitor music only without interference from own voice. "STEREO" on ceramic models.

INPUT JACKS: One for each mike; number depends on model. "AUXILIARY" for signal from radio, tape machine, or stereo channel.

ILLUMINATED, SLOPING OPERATING PANEL.

TWO JEWELED PILOT LIGHTS.

RUGGED CASE made of warp-proof, crack-proof ⅜" plywood, glue-blocked, covered with scratch-resistant, washable, gray vinyl.

METAL CORNER PROTECTORS.

COME APART HINGES.

SPRING-FLOATED FEET.

HEAVY #18 GAUGE STEEL MOTOR BOARD, reinforced.

THROUGH VENTILATION for long parts life.

EASY ACCESS. Hinged motor board raises to reach tubes and motor. Perforated bottom plate unscrews to check wiring.

KICKPROOF GRILLES of die-formed metal and armored baskets protect speakers.

25' SPEAKER CORDS with stowage provisions. Straps for wall hanging.

HIDEAWAY COMPARTMENT for 8' power cord.

FULL-SIZE HANDLES on all cases and a hand-hold slot on player units for assistant carrier.

PERMANENT SERIAL NUMBER stamped in metal and riveted to motor board.

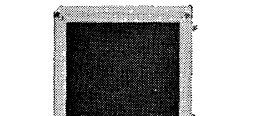
TRANSPARENT PLASTIC CARD HOLDER on each case.

PRINTED INSTRUCTION BOOK with each system.

CONDENSED INSTRUCTIONS sealed in plastic permanently attached inside lid.

BID SPECIFICATIONS AVAILABLE from factory to authorized personnel.

MADE IN U.S.A.



TR-1625 SERIES 25 WATT CERAMIC PICKUP STEREO JACK

TR-1625 Series player-amplifier units are carefully matched to the reproducers for great efficiency and better coverage than has heretofore been possible with a system in this class. It is equipped with a plug-in, "power point" type, high fidelity ceramic cartridge with separate jeweled standard and microgroove styli. It has a separate treble tone control, bass control that does not affect mike, phono volume mixer, mike volume mixer, scratch filter switch, voice filter switch. There are output jacks for 2 speakers, "Phono," "All," stereo; input jacks for one mike and another for auxiliary equipment.

	PROF. NET
MODEL TR-1625 in a single split case with one 12" dual-cone 30-watt speaker, 35 lbs.	139.50
MODEL TR-1625-2, two cases, includes one S-212, 50 lbs.	172.50
MODEL TR-1625-NE2, three cases, two N-12ET, 63 lbs.	237.00
MODEL TR-1625-CS2, three cases, two CS-48, 73 lbs.	247.00
MODEL TR-1625-SCS2, three cases, two SCS-412, 124 lbs.	387.00

Stereo compatible pickup safely plays stereo records monophonically.

TR-1625M SERIES 25 WATT MAGNETIC PICKUP

When monophonic music reproduction is to be a player's primary function, a Newcomb TR model equipped with a magnetic cartridge is your best choice. The TR-1625M is equipped with a GE variable reluctance, twist-needle cartridge with sapphire styli and necessary preamplifier built in. Motor is a 4-pole deluxe unit. Player has a separate treble tone control, bass control that does not affect mike, phono volume mixer, mike volume mixer, scratch filter switch, voice filter switch. There are output jacks for 2 speakers, "Phono," and "All"; input jacks for mike and auxiliary.

	PROF. NET
MODEL TR-1625M in a single split case with one 12" dual-cone 30-watt speaker, 36 lbs.	154.50
MODEL TR-1625M-2, two cases, includes one S-212, 51 lbs.	187.50
MODEL TR-1625M-NE2, three cases, two N12ET, 64 lbs.	252.00
MODEL TR-1625M-RHF, two cases with one 2-way speaker system in base reflex enclosure, 18" x 24" x 12½", 65 lbs.	211.50
MODEL TR-1625M-CS2, three cases, two CS48, 74 lbs.	262.00
MODEL TR-1625M-SCS2, three cases, two SCS-412, 125 lbs	402.00

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NEWCOMB

HIGH POWER PORTABLE TRANSCRIPTION PLAYER P.A. SYSTEMS

TR SERIES

TR-1640 SERIES 40 WATT CERAMIC PICKUP STEREO JACK

TR-1640 models provide impressive audience coverage at moderate cost. Motor is a heavy-duty, four-pole unit. Player is equipped with a plug-in, "power point" type, high fidelity ceramic cartridge with separate jeweled standard and microgroove styli, ultra-linear amplifier. It has a treble tone control for all channels, bass tone for phono, phono volume mixer, mike volume mixer, bass tone for mike, impedance switch for speakers, scratch filter switch. There are output jacks for 2 speakers, "Phono," "All," stereo. Inputs for one mike auxiliary.

	PROF. NET
MODEL TR-1640 in a single split case with one 12" 50-watt speaker, 36 lbs.	169.95
MODEL TR-1640-E2, two cases, includes one S-212, 51 lbs.	196.50
MODEL TR-1640-E4, three cases, one S-212, one S-212E, 72 lbs.	261.00
MODEL TR-1640-2, two cases, one S-212H, 51½ lbs.	209.50
MODEL TR-1640-4, three cases, one S-212H, one S-212E, 72½ lbs.	273.05
MODEL TR-1640-NE2, three cases two N12ET, 64 lbs.	261.00
MODEL TR-1640-NE4, five cases, four N12ET, 98 lbs.	390.00
MODEL TR-1640-NH2, three cases, two N12HT, 78 lbs.	331.00
MODEL TR-1640-NH4, five cases, four N12HT, 126 lbs.	530.00
MODEL TR-1640-CS2, three cases, two CS48, 74 lbs.	271.00
MODEL TR-1640-CS4, five cases, four CS48, 118 lbs.	410.00
MODEL TR-1640-SCS2, three cases, two SCS-412, 125 lbs.	411.00
MODEL TR-1640-SCS4, five cases, four SCS-412, 220 lbs.	690.00

Stereo compatible pickup safely plays stereo records monophonically.

TR-1640M SERIES 40 WATT MAGNETIC PICKUP

A more powerful music room model which handles with ease four speakers, the TR-1640M player unit has an ultra-linear output system, two-way crossover-network loudspeaker systems, and the GE variable reluctance cartridge. The phono circuit is converted to a second mike channel by flipping a selector switch. It has a treble tone control for all channels, phono volume mixer, phono bass tone control, mike bass tone, mike volume mixer, impedance switch for speakers, scratch filter. There are output jacks for 2 speakers, "Phono," and "All"; input jacks for 2 mikes and auxiliary.

	PROF. NET
MODEL TR-1640M-HF in a single split case with 2-way speaker system including a 12" 50-watt woofer, crossover and separate 3½" tweeter, 36½ lbs.	205.00
MODEL TR-1640M-E2, two cases, includes one S-212, 52 lbs.	220.00
MODEL TR-1640M-E4, three cases, one S-212, one S-212E, 73 lbs.	284.50
MODEL TR-1640M-HF2, two cases, one S-212HF, 54 lbs.	244.00
MODEL TR-1640M-HF4, three cases, one S-212HF, one S-212E, 75½ lbs.	309.50
MODEL TR-1640M-KN, two cases, one KN-200, 66 lbs.	288.25
MODEL TR-1640M-KN2, three cases, two KN-200, 101 lbs.	421.00
MODEL TR-1640M-NE2, three cases, two N12ET, 65 lbs.	284.50
MODEL TR-1640M-NE4, five cases, four N12ET, 99 lbs.	413.50
MODEL TR-1640M-NH2, three cases, two N12HT, 79 lbs.	354.50
MODEL TR-1640M-NH4, five cases, four N12HT, 127 lbs.	553.50
MODEL TR-1640M-NN2, three cases, two N12NT, 86 lbs.	394.50
MODEL TR-1640M-NN4, five cases, four N12NT, 141 lbs.	633.50
MODEL TR-1640M-CS2, three cases, two CS48, 75 lbs.	294.50
MODEL TR-1640M-CS4, five cases, four CS48, 119 lbs.	433.50
MODEL TR-1640M-SCS2, three cases, two SCS-412, 126 lbs.	434.50
MODEL TR-1640M-SCS4, five cases, four SCS-412, 221 lbs.	713.50

TR-1656M SERIES 56 WATT MAGNETIC PICKUP

These fully integrated systems achieve phenomenal acoustic output. They include 56 watts peak output system, four-pole deluxe motor, GE variable reluctance cartridge. The phono channel converts to a *third* microphone channel by flipping a switch. First mike channel has separate bass attenuating control for voice clarity. Second mike is flat. Phono tone controls regulate third mike. There are a separate treble tone control for all channels, bass tone for phono, phono volume mixer, mike 2 mixer, mike 1 mixer, mike 1 bass tone, speaker impedance switch, scratch filter. Output jacks for 2 speakers, "Phono," and "All"; input jacks for 3 mikes and auxiliary.

	PROF. NET
MODEL TR-1656M-HF2, two cases, includes one S-212HF, 57 lbs.	288.50
MODEL TR-1656M-HF4, three cases, one S-212HF, one S-212HFE, 80 lbs.	377.00
MODEL TR-1656M-X2, two cases, one S-212X, 59 lbs.	311.00
MODEL TR-1656M-X4, three cases, one S-212X, one S-212XE, 84 lbs.	421.50
MODEL TR-1656M-NF2, two cases, one S-212NF, 63 lbs.	329.85
MODEL TR-1656M-NF4, three cases, one S-212NF, one S-212NFE, 92 lbs.	459.35
MODEL TR-1656M-KN2, three cases, two KN-200, 104 lbs.	465.85
MODEL TR-1656M-KN4, five cases, four KN200, 176 lbs.	731.35
MODEL TR-1656M-NE2, three cases, two N12ET, 68 lbs.	329.00
MODEL TR-1656M-NE4, five cases, four N12ET, 102 lbs.	458.00
MODEL TR-1656M-NH2, three cases, two N12HT, 82 lbs.	399.00
MODEL TR-1656M-NH4, five cases, four N12HT, 130 lbs.	598.00
MODEL TR-1656M-NN2, three cases, two N12NT, 89 lbs.	439.00
MODEL TR-1656M-NN4, five cases, four N12NT, 144 lbs.	678.00
MODEL TR-1656M-CS2, three cases, two CS48, 78 lbs.	339.00
MODEL TR-1656M-CS4, five cases, four CS48, 122 lbs.	478.00
MODEL TR-1656M-SCS2, three cases, two SCS-412, 129 lbs.	479.00
MODEL TR-1656M-SCS4, five cases, four SCS-412, 224 lbs.	758.00

DIMENSIONS OF NEWCOMB TR PLAYERS

Single speaker TR players form a single case with the speaker mounting used as the lid. They measure 16¾" x 16¼" x 13¼". In multiple-speaker models (except TRS-1680) the phono-amplifier unit closed measures 16¾" x 16¼" x 8½". Speaker dimensions are given on facing page. Accessory speakers may be added to one- or two-speaker models at any time.

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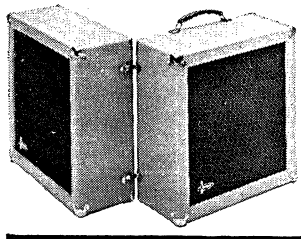
NEWCOMB

PORTABLE
LOUDSPEAKERS

TR SERIES

Newcomb makes many types of portable loudspeakers for use with Newcomb Portable Combination Transcription Player/Public Address Systems. They vary in portability, directivity, efficiency, and frequency response. For example, the column speaker is highly directive, but not nearly as easy to carry as the compact S-212 Series models. The KN-200 reproducer combines widest frequency range with highest efficiency and exceptional intelligibility. The N-12 Series speakers are highly efficient, directive, intelligible and portable. All are excellent instruments, built to withstand rough treatment. Construction and finish matches player units.

ON THIS PAGE ARE SHOWN THE VARIOUS LOUDSPEAKER MODELS USED WITH NEWCOMB TR SERIES SYSTEMS

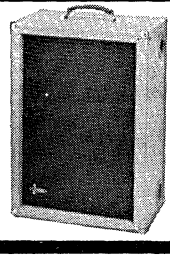


NEWCOMB S-212 SERIES

These open-back designs are the most popular of all square dance system reproducers because they provide a unique combination of light weight, high output per watt input, and low cost. Their wide-range response makes them ideal for general use. Each model includes two independent reproducers in a split case. Speakers snap together back-to-back for carrying. Case size: 16¾″ x 16¼″ x 13⅛″. 25′ cords stow on hooks inside case.

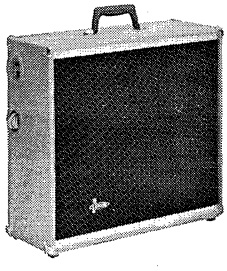
- **MODEL S-212** includes two 12″ dual-cone wide range 30 watts peak reproducers of good conversion efficiency. Impedance per speaker is 8 ohms. Weight: 21 lbs. **PROFESSIONAL NET: $64.50**
- **MODEL S-212E** is same as S-212 but has series extension jacks. **PROFESSIONAL NET: $64.50**
- **MODEL S-212H** includes two 50 watts peak 12″ reproducers of wide-range and excellent conversion efficiency. Impedance per speaker is 8 ohms. Weight 21½ lbs. **PROFESSIONAL NET: $77.50**
- **MODEL S-212HE** is same as S-212H but has series extension jacks. **PROFESSIONAL NET: $77.50**
- **MODEL S-212HF** includes two 50 watt speak 12″ woofers and two 3½″ tweeters with crossover. Impedance per reproducer is 8 ohms. Weight 23 lbs. **PROFESSIONAL NET: $88.50**
- **MODEL S-212HFE** is same as S-212HF but has series extension jacks. **PROFESSIONAL NET: $88.50**
- **MODEL S-212X** includes two 60 watts peak super-power, aluminum-dome 12″ dual-cone loudspeakers of superior efficiency and very wide range. Impedance per speaker is 8 ohms. Weight: 25 lbs. **PROFESSIONAL NET: $110.65**
- **MODEL S-212XE** is same as S-212X but has series extension jacks. **PROFESSIONAL NET: $110.65**
- **MODEL S-212NF** includes two 60 watts peak super-power woofers and two 3½″ tweeters with crossover. These systems combine exceptional response range with super efficiency. Impedance per reproducer is 8 ohms. Weight: 29 lbs. **PROFESSIONAL NET: $129.50**
- **MODEL S-212NFE** is same as S-212NF but has series extension jacks. **PROFESSIONAL NET: $129.50**

MODELS WITH "E" SUFFIX are only for use with other speakers and are not intended for use alone.



NEWCOMB KN-200 REPRODUCER

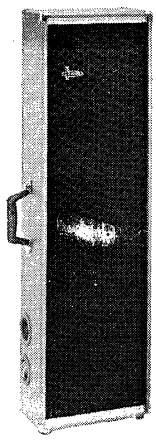
Designed to give you all the sound, all the quality, all the range, all the coverage inherent in your fine Newcomb sound system, the KN-200 is a fully-enclosed, ducted-port, two-way speaker system of advanced design. It is highly efficient, delivers the widest frequency response possible with a portable speaker... full music reproduction plus crisp high frequency intelligibility. The KN-200 includes a massive 12″ woofer, crossover, horn tweeter and treble control. It includes a parallel extension jack and impedance change switch for 8 or 16 ohms. 25 foot cord stows into "Hideaway" compartment. Size: 10¼″ x 16⅞″ x 23½″. Weight: 35 lbs. **PROFESSIONAL NET: $132.75**



NEWCOMB N-12 SERIES SPEAKERS

Most unusual for a portable speaker, Newcomb N-12 models are back-loaded, dual-labyrinth reproducers for those who want high directivity, firm bass, crisp and clean highs. They provide the advantages of a closed-back reproducer in problem halls and auditoriums. 25 foot cord stows in "Hideaway" compartment. Enclosure measures 7⅞″ x 18¼″ x 19½″. Offered in three models...

- **MODEL N12ET** is a 30 watts peak system using an efficient 12″ woofer and two 3½″ tweeters and crossover. Included is a series-type extension jack with shorting switch which permits using the N12ET as either a regular or extension speaker. Impedance is 8 ohms. Weight 17 pounds. **PROFESSIONAL NET: $64.50**
- **MODEL N12HT** is a 50 watts reproducer with a 12″ heavy duty woofer, a directional horn tweeter and · crossover network. This reproducer provides highest sound output per watt input. Included are a parallel extension jack and impedance changing switch. Impedance: 8 and 16 ohms. Weight: 24 pounds. **PROFESSIONAL NET: $99.50**
- **MODEL N12NT** is a 60 watts peak reproducer with an extra heavy duty 12″ woofer, a directional horn tweeter and · crossover network. This reproducer provides highest sound output per watt input. Included are a parallel extension jack and an impedance changing switch. Impedances: 8 and 16 ohms. Weight 27½ pounds. **PROFESSIONAL NET: $119.50**



NEWCOMB COLUMN SPEAKER, MODEL CS48

This is one of the most practical of all column speakers. It combines exceptional directivity with portability, has good efficiency and greater effective range than most columns. Power handling capacity is 60 watts peak. 25 foot cord and plug tuck into "Hideaway" cord compartment. It has an extension jack and switch for use with extension speakers. Size: 39⅞″ x 11¼″ x 6⅜″. Weight: 22 lbs.

PROFESSIONAL NET: $69.50

NEWCOMB SUPER COLUMN, MODEL SCS-412

Here's the best column speaker you've ever heard. The Newcomb SCS-412 gives you super intelligibility, super efficiency, super power handling capacity. It contains four *twelve-inch* speakers specially developed for column use. Its peak power handling capacity of 120 watts makes for dependability and unusually low distortion when used with conventionally-powered systems. Each amplifier watt is converted into more sound than is available from any other column. The SCS-412 makes small amplifiers sound like big ones. It will project your voice clear as crystal, syllable-perfect over the noisiest big crowd. It takes a man-size system to produce these results. The SCS-412 stands 56″ high, is 15″ wide, 7½″ deep, weighs 42½ pounds. Impedance is 8 ohms. It has a 25 foot cord, "Hideaway" cord compartment, series type jack with shorting switch. **PROFESSIONAL NET: $139.50**

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NEWCOMB

STEREOPHONIC SYSTEMS
MICROPHONES, ACCESSORIES

TR SERIES

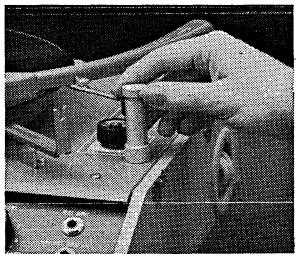
Built with a great reserve of power for most uses — 40 watts peak per channel — the Newcomb TRS-1680 is perhaps the most complete and flexible portable sound system ever built. It reproduces stereo or mono with the turn of a knob. Stereo or mono tape or radio can be fed to the system. Live music and speech are reproduced either stereo- or monophonically.

TRS-1680 SERIES 80 WATT

It has three mike channels. The central mike puts the speaker or square dance caller in the middle, midway between the reproducers. There are separate treble, bass, and volume controls for phono or other reproduced sound. Each mike channel has its own, individual tone and volume controls. Mike tone controls are rotated for treble adjustment, pushed or pulled for bass. There is a blend control to provide any degree of stereo you wish. There are "Left" and "Right" inputs for radio, tape, or auxiliary; a scratch filter; "All" or "Phono" monitor jacks; jacks for two or four speakers with an impedance-matching switch. Turntable-amplifier unit DIMENSIONS: 9¼" x 17⅞" x 18⅝"; 43 lbs. POWER CONSUMPTION: 180 watts, 117 volts, 60 cycles a.c. A wide choice of reproducers to meet specific assignments is offered...

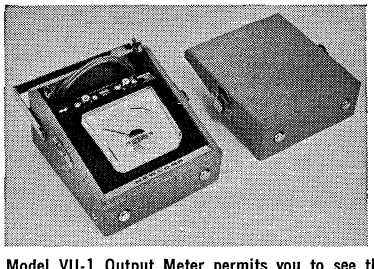
	PROF. NET
MODEL TRS-1680-NF2, two cases, includes one S-212NF, 72 lbs.	$429.00
MODEL TRS-1680-NF4, three cases, two S212NF, 101 lbs.	$558.50
MODEL TRS-1680-KN2, three cases, two KN-200, 113 lbs.	$565.00
MODEL TRS-1680-KN4, five cases, four KN-200, 183 lbs.	$830.50
MODEL TRS-1680-NH2, three cases, two N12HT, 91 lbs.	$498.50
MODEL TRS-1680-NH4, five cases, four N12HT, 139 lbs.	$697.50
MODEL TRS-1680-NN2, three cases, two N12NT, 98 lbs.	$538.50
MODEL TRS-1680-NN4, five cases, four N12NT, 153 lbs.	$777.50
MODEL TRS-1680-CS2, three cases, two CS48, 87 lbs.	$438.50
MODEL TRS-1680-CS4, five cases, four CS48, 131 lbs.	$577.50
MODL TRS-1680-SCS2, three cases, two SCS-412, 138 lbs.	$578.50
MODEL TRS-1680-SCS4, five cases, four SCS-412, 233 lbs.	$857.50

ACRA-SET TONE ARM LIFTER AND RECORD-CUEING DEVICE MODEL A-1



Acra-Set is an accessory available at additional cost for repeating passages and protecting records. You simply twist the knob on top to gently lift or lower tone arm. Lifter has a 100-division scale and a traveling stop with a pointer. It is simply installed by drilling a 3/16" hole which is readily located with a template. Holes are predrilled at the factory on current transcription players. Specify your model number when ordering; correct template and C-1 cue sheets will be supplied. **PROF. NET: $12.50**

MODEL VU-1 PORTABLE VISUAL OUTPUT METER



Model VU-1 Output Meter permits you to see that your voice is being amplified to the proper level, helps you make the most of your fine Newcomb TR system. Meter is high quality instrument with jeweled d'Arsonval movement and a scale calibrated in both db and volume units from 0 to 100 over the working range of the system. Also indicates overloading. Simple internal adjustment matches meter to any TR player; instructions are permanently mounted in lid. One end of the supplied patch cord connects player to "All" monitor jack, other end to "Input" on meter. Supplementary "All" monitor jack on meter. **PROF. NET: $29.95**

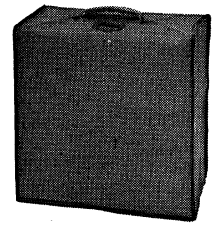
AMPLIFIED MUSIC MONITORS

With a Newcomb Amplified Monitor you can hear reproduced music without interference or feedback squeal from caller's or speaker's voice. Connected to "Phono" channel of transcription player, monitor reproduces music only, not mike channels. Or, it may be connected to "All" jack to reproduce voice and music. It can also be used as a stereo channel with a TR-1625 or TR-1640.

MODEL M-12: 12" speaker; 10 watt amplifier; 17⅞" x 13⅜" x 7½"; 17¼ lbs. **PROF. NET: $79.50**

MODEL M-9: 9" oval, dual-cone speaker; 10 watt amplifier; 13¼" x 10⅛" x 7"; 10 lbs. **PROF. NET: $69.50**

PROTECTIVE CANVAS COVERS



Made of tightly woven, fleece-lined, rubberized mackintosh covert, with stout zipper closure and flap that tucks under handle. Transparent slot for identification.

No. CA-102 for use with TR-1625, TR-1625M, TR-1640, TR-1640M amplifier sections only. **PROF. NET: $5.95**

No. CA-103 for use with S-212 type split case speaker assemblies and all TR series systems with single speaker in case lid. **PROF. NET: $5.95**

No. CA-104 for use with TRS-1680 amplifier section only. **PROF. NET: $5.95**

No. CA-110 for use with KN-200 or K-400 reproducers. **PROF. NET: $6.63**

No. CA-111 for use with C-100 or J-200 reproducers. **PROF. NET: $5.95**

No. CA-119 for use with M-12 monitor. **PROF. NET: $5.95**

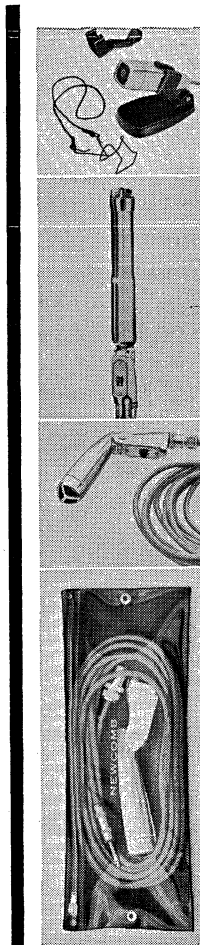
No. CA-132 for use with M-9 monitor. **PROF. NET: $5.95**

No. CA-136 for use with all N-12 series reproducers. PROF. **NET: $5.95**

No. CA-137 for use with CS48 column speaker. **PROF. NET: $9.30**

No. SCS-412 for use with SCS-412 column speaker. **PROF. NET: $12.63**

MICROPHONES



Model N-30 Crystal Microphone with lavaliere cord, stand adapter, switch, and shielded plug. **PRO. NET 13.95**

Model N-30D Desk Mounting for N-30 only. **PRO. NET 1.85**

Model N-36 Dynamic Professional Quality Microphone is the perfectionist's choice with any TR system, especially intended for use with TR-1640M, TR-1656M and TRS-1680 series models. Supplied with shielded cord and plug and on-off switch. **PRO. NET 50.00**

Model N-23 Dynamic Microphone of very high quality with switch and shielded plug, recommended for general purpose use with all TR series systems. **PRO. NET 39.50**

Model MS-23 Accessory Bag of heavy plastic, zippered, for microphones, etc., can be attached inside lid of speaker case. **PRO. NET 2.10**

Model PP-61 Stereo Conversion Pickup Cartridge, plug-in type, for any TR series player equipped with stereo output jack and plug-in ceramic cartridge. **PRO. NET 4.65**

Model WC-64 Connecting Cable, four feet long with plugs for connecting two TR ceramic models together for stereo. **PRO. NET 4.65**

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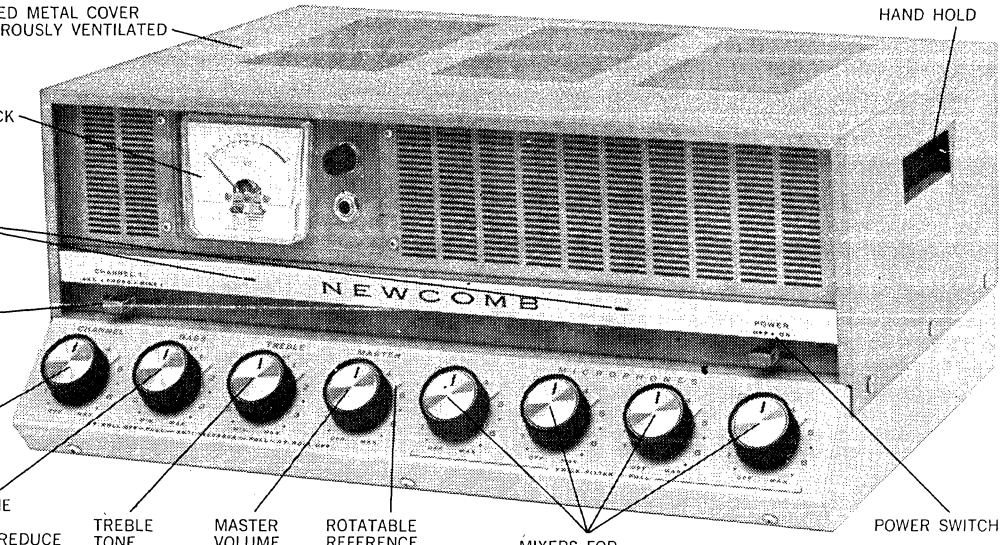
MODULAR PUBLIC ADDRESS AMPLIFIERS

CUSTOM SERIES K

MODULAR PUBLIC ADDRESS AMPLIFIERS OF THE VERY BEST QUALITY



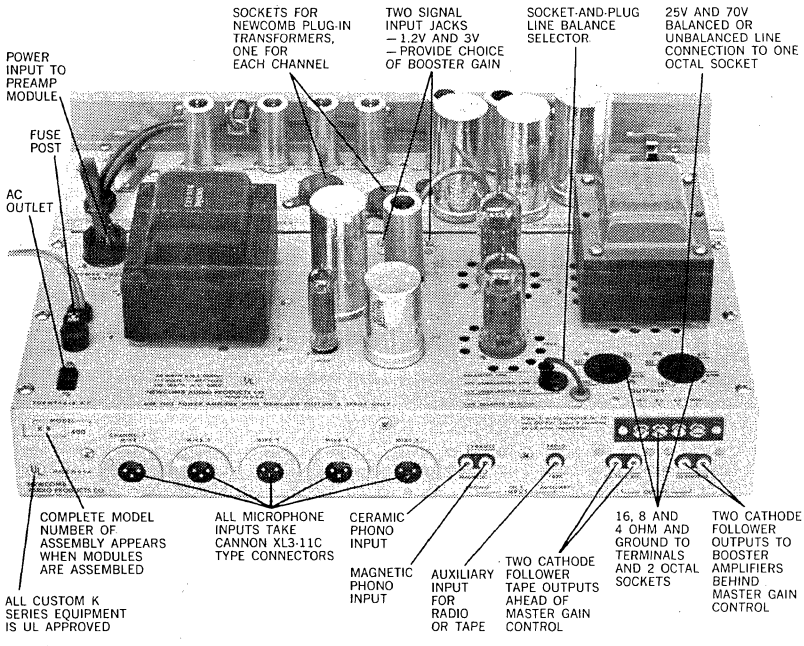
Flexibility and performance without equal are provided by Newcomb Custom K Series public address amplifiers. "Custom" has a very real meaning in this instance. Within minutes you can assemble exactly the right combination of channels, power and features to custom fit a particular situation. You are not faced with the hours of assembly labor and testing necessary with conventional modular designs. You simply select the Newcomb Custom K mixer/preamplifier with the number of channels — three, four, or five — you need. Then choose the power amplifier module — 40, 60, or 125 Watts — needed for the location. Drop the power amplifier into the preamplifier chassis. Two plug-in connections. No soldering. Drive a few sheet metal screws and you're in business. Take your choice of a well-ventilated cabinet cover or a rack panel mount. A VU meter accessory with a phone jack is available and can be quickly added to any front end. A remote control accessory is available for the four-channel module.

Any preamplifier may be used as a mixer by itself by inserting a Model P Power Supply instead of a power amplifier module. Any power output module becomes a straight power amplifier when it is mounted in the Newcomb Model KB Booster Chassis. The Newcomb Custom K modular system is so simple and straightforward that it's a wonder public address amplifiers weren't made this way to begin with.

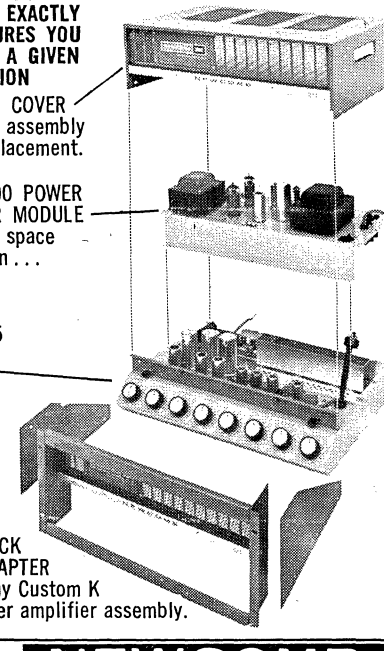
All modules are completely interchangeable.

The latest developments in vacuum tube technology and skilled hand craftsmanship are united to produce superb performance. Performance of Newcomb Custom K Series amplifiers has no equal. They operate with extremely low distortion at all power levels, supply unusually high useful power, run unbelievably cool. Vacuum tube design was chosen for the Custom K Series because no other method of amplification today provides the same combination of maximum performance, stability, reliability, extended life, and outright value. With vacuum tubes, repairs are easier and faster to make, cost less.

Visually, Custom K Series assemblies are exceedingly handsome, finished in soft, light shades of green. The control panel is slanted for convenient operation either seated or standing, and it is well illuminated. Custom K Series models abound with such refinements as movable reference markers on all knobs. To cut in a voice filter you simply pull the appropriate mixer knob. To kill feedback, pull tone control knobs. When you're out to prove what you can do, when you're putting in a model job, a job you'll be proud to put your nameplate on, that's the time to build with Newcomb Custom K.



INSTANTLY PUT TOGETHER EXACTLY THE FEATURES YOU NEED FOR A GIVEN INSTALLATION



NEWCOMB AUDIO PRODUCTS CO. NEWCOMB

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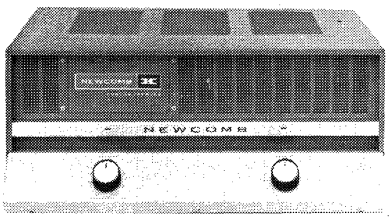
MODULAR PUBLIC ADDRESS AMPLIFIERS

CUSTOM SERIES K

70 COMBINATIONS FROM 14 UNITS

The modular concept makes it possible for you to get exactly the features you need without delay. Four chassis and four power units combine to form **15** basic assemblies. The VU meter may be added to **12** assemblies. **8** models (K4R assemblies with and without VU meter) become remote-control units with the addition of the RB4 accessory. All **35** may be rack panel mounted or covered for free-standing use. (UL requires that they be purchased with one or the other.)



MODEL KB BOOSTER CHASSIS WITH MODEL KCB COVER

AS SIMPLE TO SPECIFY AS THEY ARE TO ASSEMBLE

Model number of a basic assembly consists of a combination of preamp model number and power amplifier model number as follows:

Preamp Mixer ↓ / Power Amp →	Model 1250 125 watts	Model 600 60 watts	Model 400 40 watts	Model P Power Supply
Model K5 5 Channel	K5 – 1250 $439.00	K5 – 600 $399.00	K5 – 400 $369.00	K5 – P $277.00
Model K4R 4 Channel	K4R – 1250 $424.50	K4R – 600 $384.50	K4R – 400 $354.50	K4R – P $262.50
Model K3 3 Channel	K3 – 1250 $399.00	K3 – 600 $359.00	K3 – 400 $329.00	K3 – P $237.00
Model KB Booster Chassis	KB – 1250 $237.00	KB – 600 $197.00	KB – 400 $167.00	← Complete Power Amplifier Only / ↑ Complete Mixer-Preamp Only

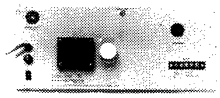
Specifications For Complete Mixer-Preamplifier Power Amplifier Assemblies			
Mike Gain	133 db	130 db	128 db
Auxiliary Gain	85.4 db	82.4 db	80.4 db
Hum, input shorted: Mike, −60 db below full output Magnetic pickup, −50 db below full output Auxiliary input, −60 db below full output All controls off, −80 db below full output			

List prices of combinations are shown without cover, rack mounting or VU meter.

SPECIFICATIONS — K3, K4R, K5 MIXER-PREAMPLIFIERS

All of the Newcomb Custom K mixer-preamplifier modules have space at the back of the chassis into which may be inserted either a Model 400, 600 or 1250 power amplifiers or the Model P power supply. Power is normally supplied to the front end by the power amplifier module; Model P is used when the preamp section is to be used as a separate mixer-control unit. Mixer models differ principally in the number of input channels. Each has one mike channel that is convertible by switch to use with a magnetic or ceramic phono pickup (preamp provides full RIAA response curve) or with a flat tuner or tape input. **Outputs:** 2 from each of two cathode followers, one before and one after the master control. Maximum output from followers: 10 volts into high impedance load. **Distortion:** less than ½%. D.C. on all filaments. **Frequency response:** ±1 db 20-20,000 cycles. **Bass tone control range:** −18 db to +18 db. **Low frequency roll off:** 3 db at 100 cycles, −12 db at 20 cycles. **Treble tone control range:** −18 db to +18 db. **High frequency roll off:** 3 db at 5,000 cycles, −12 db at 20,000 cycles. **Microphone impedance:** 2 megohms convertible to low impedance by Newcomb hum-free plug-in transformer. **Input volts required** for 1 volt output from cathode followers: **Mikes,** .0028 volts, gain 54* db, 2 megohms. **Magnetic,** .0022 volts, 100,000 ohms. Equalized to full RIAA curve. **Ceramic pickup,** .086 volts. Equalized to RIAA curve. **Tuner or Tape input** (Aux.), .34 volts, ½ meg., gain 6.4* db. *Gain stated is with 1 meg. output load. With 600 ohm output using TR-100 add 13 db. **Hum** below 10 volts output (inputs shorted): **Mikes,** −80 db. **Magnetic pickup,** −70 db. **Aux. input,** −80 db. **All controls off,** −100 db. Socket supplies power for VU-2T volume indicating meter. Note: K4R provides for remote control of all inputs. **Dimensions,** all models: 17" x 13⅝" x 7⅜" (height dimension includes KC cover). **Weight,** all models: 7 pounds. All microphone inputs require Cannon XL3-11C type connectors.

	Model K3	Model K4R	Model K5
Number of Channels and mixing controls	3	4	5
Number of Channels with voice filters	2	3	4
Tubes	two 6AB4 three 12AX7	three 6AB4 three 12AX7	four 6AB4 three 12AX7
LIST: (with tubes, without cover)	$199.50	$225.00	$239.50



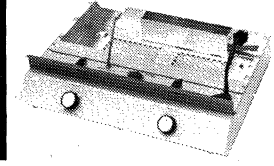
FOR SEPARATE MIXER-PREAMPLIFIER ONLY...

MODEL P POWER SUPPLY takes the place of the power amplifier in the space provided in the K3, K4R, and K5 preamp modules, and supplies power to them through an octal socket. (It is never needed when a Model 400, 600, or 1250 power amplifier is used.) Model P includes a socket for a plug-in output transformer and output terminals for a balanced or unbalanced 600 ohm line. **Maximum 600 ohm output** = 0 VU. **Input** power: 117 volts, 60 cycles, 22 watts. **Wt.** 4½ lbs. **List:** (with tubes) $37.50.

SPECIFICATIONS — 400, 600, 1250 POWER AMPLIFIER MODULES

The power amplifier modules in Newcomb's Custom K Series are not usable alone; they must be installed in a K3, K4R, or K5 mixer-preamplifier chassis. If they are to be used simply as a booster amplifier, they can be mounted in a Model KB Booster Chassis. Circuits in all power amplifier modules are resistance-capacity coupled, screen-regulated, with fixed bias and inverse feedback. They include power supply for K3, K4R, and K5 preamps. All have an a.c. outlet and an external fuse post. All three models have some identical specifications: **Input impedance:** 1 megohm convertible to low impedance with hum-free plug-in line or bridging transformers. **Output impedances:** 4, 8, and 16 ohms to a terminal strip and two octal sockets; 25 and 70 volts balanced or unbalanced line to one octal socket. **Hum and noise:** 80 db below steady state power rating.

	Model 400	Model 600	Model 1250
POWER OUTPUT: steady state RMS at less than 5% T.H.D.	40 watts	60 watts	125 watts
POWER OUTPUT: at less than 1% T.H.D.	35 watts	50 watts	110 watts
PEAK POWER: (Note: Music power peak rating is higher)	80 watts	120 watts	250 watts
INPUT—1.2 V or 3 V required for maximum rated steady state power output			
GAIN: at 1 meg. 1.2 V input tap 3 V input tap	74 db 70 db	76 db 72 db	79 db 75 db
GAIN: at 600 ohms input using TR-100 and 1.2 V input tap 3 V input tap	61 db 57 db	63 db 59 db	66 db 62 db
FREQUENCY RESPONSE: ±2 db 25-15,000 cps at	35 watts	50 watts	110 watts
all ±0 db 20-20,000 cps at	1 watt	1 watt	1 watt
POWER CONSUMPTION: 117 volts, 60 cycles a.c.	110 watts	145 watts	185 watts
TUBES: All models include 5 silicon rectifiers	one 7199 two 6878 one 6CU5	one 7199 two 6L6GC one 6CU5	two 12AU7 two 6550 one 6CU5
WEIGHT:	16½ lbs.	21¼ lbs.	30½ lbs.
LIST: (with tubes)	$129.50	$159.50	$199.50



FOR COMPLETE POWER AMPLIFIER ONLY

MODEL KB CHASSIS is the same size as the K3, K4R, and K5 preamp modules and accommodates Model 400, 600, or 1250 power amplifier modules when they are to be used as boosters. Model KB includes volume control, low frequency roll-off switch, power switch, and pilot lights. It has a lighted, slanted operating panel and factory-wired socket for Newcomb plug-in, hum-free transformers. **Dim.:** 17" x 13⅝" x 7⅜". **Wt.:** 5 lbs. (without cover). **List:** $37.50.

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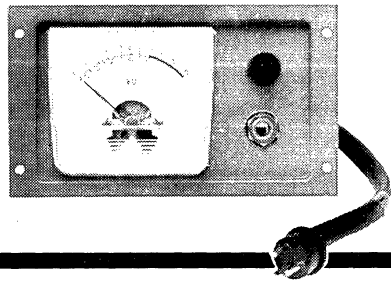
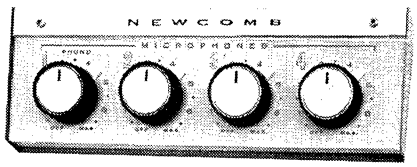
MODULAR PUBLIC ADDRESS AMPLIFIERS

CUSTOM SERIES K



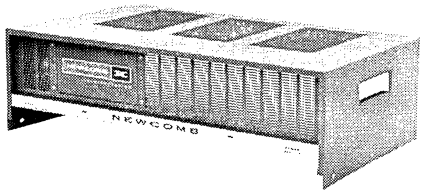
MODEL VU-2T ACCESSORY TRANSISTORIZED VU METER

for use with Newcomb Custom K Model K3, K4R or K5 mixer/preamp, the VU-2T has sensitivity control and a monitor headphone jack for wide-band crystal headphones only. The VU-2T obtains power from the preamp, is installed in place of the removable front plate, simply plugs into the socket provided. LIST: $49.50



MODEL RB4 ACCESSORY REMOTE CONTROL UNIT

for use with the K4R only. A four-channel unit, it may be placed up to 2,000 feet from the amplifier. A 5 wire unshielded cable is required. Cable extra. Dimensions: 3" x 9" x 1⅜". Weight: 1½ pounds. LIST: $19.50

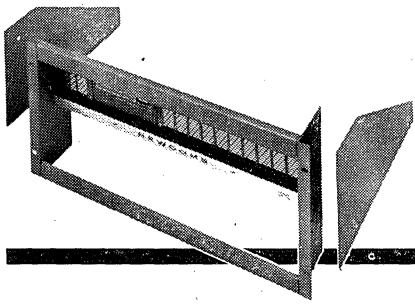


MODEL KC COVER

for assemblies incorporating Model K3, K4R, or K5 mixer-preamplifier modules. Size: 17⁹⁄₁₆" x 12⁷⁄₁₆" x 5⁷⁄₁₆". Weight: 5 pounds. LIST: $25.00

MODEL KCB COVER

for booster amplifier assemblies incorporating Model KB Booster Chassis. Size: 17⁹⁄₁₆" x 12⁷⁄₁₆" x 5⁷⁄₁₆". Weight: 5 pounds. LIST: $25.00



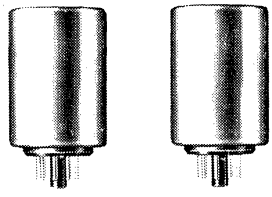
MODEL KR-875 RACK PANEL ADAPTER

for assemblies incorporating Model K3, K4R, or K5 mixer-preamplifier modules. Size: 19" x 8¾". Weight: 5 pounds. LIST: $25.00

MODEL KR-875B RACK PANEL ADAPTER

for assemblies incorporating Model KB Booster Chassis. Size: 19" x 8¾". Weight: 5 pounds. LIST: $25.00

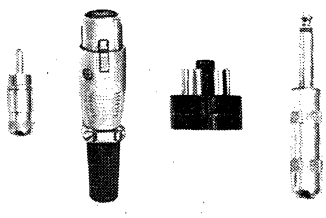
HUM-FREE PLUG-IN TRANSFORMERS



MODEL TR-91 input transformers are designed for all Newcomb amplifiers wired to accept them. They provide 30/50 ohms or 200/250 ohms input impedance depending on wiring of transformer socket. Normal Newcomb amplifier wiring connects the TR-91 for 30/50 ohms. Frequency response: 20 to 20,000 cycles. Wt. 1¼ lbs. LIST: $37.50

MODEL TR-100 input transformers are identical to TR-91 models. They provide 125/150 ohms or 500/600 ohms impedance depending upon wiring of socket with 125/150 ohms normal. Frequency response: 20 to 20,000 cycles. Weight: 1¼ pounds. LIST: $37.50

MODEL TR-92B is a bridging transformer, otherwise identical to above models. Weight: 1¼ pounds. LIST: $37.50



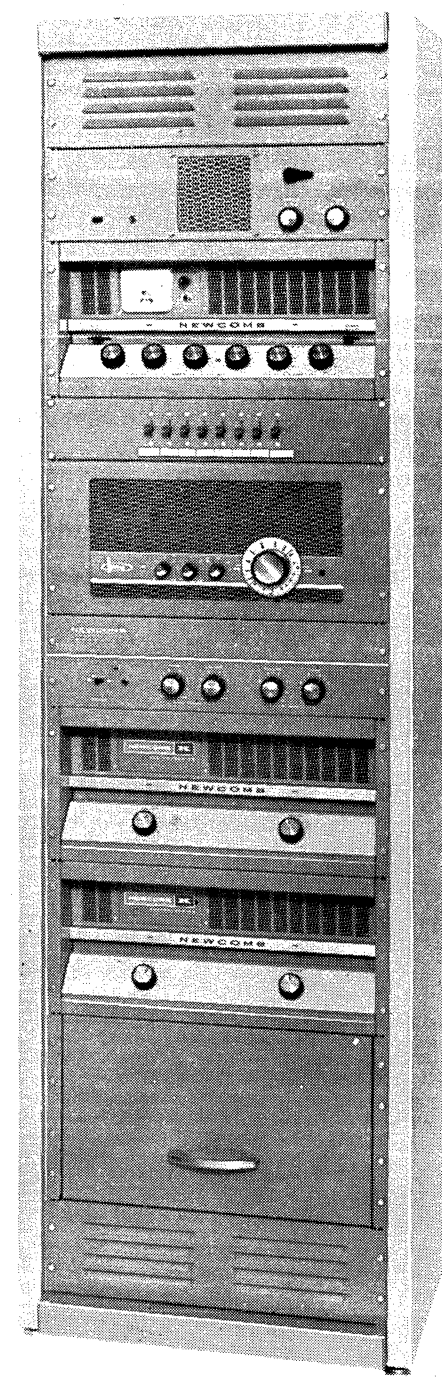
CONNECTORS

MODEL PW-157 is a phono, tape, or radio input plug for all Custom K mixer/preamplifiers. LIST: $.75

MODEL PW-139 is a Cannon XL3-11C type microphone connector. LIST: $2.50

MODEL PW-156 is an octal plug for speaker line outputs. LIST: $.45

MODEL PW-142 is a two-contact shielded phone plug for monitor phones. LIST: $1.50



THE RICHEST-LOOKING RACK PANEL INSTALLATIONS IMAGINEABLE

are provided by Newcomb Custom K amplifiers. The two-tone soft green tints of the finish, recessed panels, the stimulating design of the equipment combine to give an impression of professionalism and permanence. Mounted in the Model 70-19 Cabinet Rack illustrated above, top to bottom, are a Newcomb louvered panel, Newcomb TB2-525G Intercom,- K3 Mixer-preamp, lever key panel, AFM-750-875G AM-FM Radio, E2-525G Industrial Preamplifier, two KB-1250 complete power amplifiers, 1050CG Phono Changer Drawer, louvered panel. All Newcomb rack panel equipment, except Custom K series, is listed in the last two Newcomb Pathfinder pages in this section.

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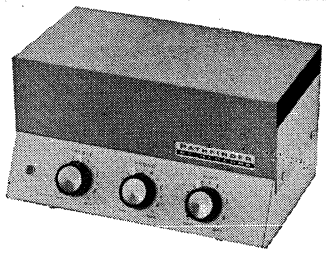
NEWCOMB PATHFINDER PUBLIC ADDRESS EQUIPMENT



MODEL E-10B

10 watt amplifier
Low priced, deluxe, full push-pull output

The Newcomb E-10B offers a surprising number of deluxe features for so compact and economical an amplifier. It has the slanted operating panel and control markers which distinguish all Pathfinder models. The E-10B has separate mixers for microphone and ceramic phono pickup (or radio or tape). Mike input is a standard 3-contact phone jack suitable for high or low impedance mike. The E-10B is wired for plug-in transformers for instant conversion for use with low impedance mike. Output impedances to socket are 4, 8, 16 ohms, plus 25 and 70 volt line taps. Output jack for recorder or booster amplifier. Unit has a wide-range treble tone control, 25,000 hour pilot light. UL approved.

SPECIFICATIONS: Power Output: 10 watts RMS, 20 watts peak at less than 5% distortion. **Frequency Response:** ±2 db 30 through 15,000 cycles. **Mike Gain:** 118 db at 2 meg. .0055 volts delivers full power. **Phono Gain:** 79 db at 1 meg.; 33 volts delivers full power. **Output To Tape Jack:** Delivers 4.4 volts max. or 1 volt at ½ watt output. **Hum:** Fundamental, 70 db below rated output. **Power Response:** ± 3 db, 70 through 13,000 cycles at 5% distortion. **Size:** 10¼" x 6½" x 5¾" high. **Weight:** 9 lbs. **Power Consumption:** 60 watts, 117 volts, 60 cycles. **Tubes:** 1-12AX7, 1-6AU6, 2-6V6, 1-6X4.
LIST: (with tubes) $75.00.

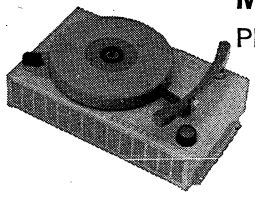
MODEL E-5P

5-channel mixer preamplifier

The Newcomb E-5P is a high performance, low-priced, multipurpose mixer-preamplifier with 4 microphone channels (one convertible to magnetic phono), one high level channel with two inputs (chosen by selector switch) – one for ceramic phono pickup, the other for tape or radio. Master gain control. Each mike input jack is standard 3-contact phone jack. Each mike channel is wired for plug-in transformers for instant conversion to low impedance microphone usage. The E-5P has a VU meter with concealed sensitivity adjustment, outputs for tape, booster, and a.c., 25,000-hour pilot lamp. Operating panel is slanted for easy viewing and operating sitting or standing. Performance is excellent with individual mike input tubes for minimum crosstalk and d.c. on all filaments. UL approved.

SPECIFICATIONS: Cathode Follower Outputs: 6 volts at less than 2% into high impedance load. **Volume Indicating Meter:** Adjustable from 2 to 6 volts. **Frequency Response:** ±2 db 30 through 20,000 cycles. **Mike Inputs:** 2 meg.; .0025 volts for 2 volts out. **Ceramic Phono or Radio or Tape Input:** 1 meg. .32 volts for 2 volts output. **Magnetic Phono Input:** .011 volts for 2 volts output. **Hum:** Fundamental, 80 db below 6 volts output. **Size:** 14⅛" x 8⁵⁄₁₆" x 5" high. **Weight:** 11¾ lbs. **Power Consumption:** 31 watts 117 volts 60 cycles A.C. **Tubes:** 4-12AV6, 1-12AU6, 5-0C5, 1 power silicon rectifier.
LIST: (with tubes) $139.50.

HIGH QUALITY, LOW PRICE PUBLIC ADDRESS AMPLIFIERS WITH MANY DELUXE FEATURES



MODEL P-4

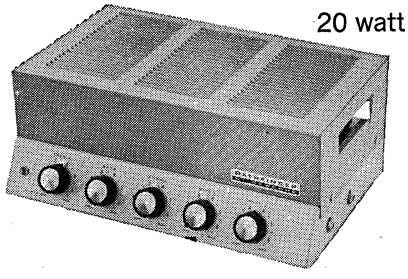
PHONO TOP

The Newcomb P-4 is a 4-speed record player that is designed to fit on top of the E-20, E-40 or E-75 Pathfinder amplifier. It includes an automatic idler release on the power switch to prevent flat spots, a plug-in turnover-type dual-sapphire-styli ceramic cartridge, pickup hold-down screw and drop pad. Dimensions: 8⁵⁄₁₆" x 14" x 5" high over all. Weight: 6 lbs. **LIST: $39.95.**

All Newcomb Pathfinder power amplifiers and the E-5P preamplifier have slanted operating panels for convenient control in either a sitting or standing position. This feature is important, too, with rack mounted installations where units may be mounted near the floor as well as at eye level. All control knobs have white, rotable reference markers for quick return to a pre-determined setting. All have a 25,000 hour pilot light. All are UL approved. Newcomb public address amplifiers Models E-20, E-40, and E-75 all have the following features: Each has two microphone channels with mixer controls and one high level channel with mixer for ceramic phono pickup, radio or tape. Mike channels are wired for Newcomb plug-in transformers for instant conversion to use with low impedance microphones. High level control is compensated; as volume is reduced, bass is proportionately sustained. Mike not affected by this control. There are separate bass and treble master tone controls. Output taps on terminal strip and two sockets are for 25 volt balanced or unbalanced line plus 70 ohms unbalanced, and 16, 8, and 4 ohms. There is an output jack for recorder or booster and an a.c. output receptacle. Pathfinder equipment has a distinctive two-tone finish in soft tints of olive-gray and spruce.

MODEL E-20

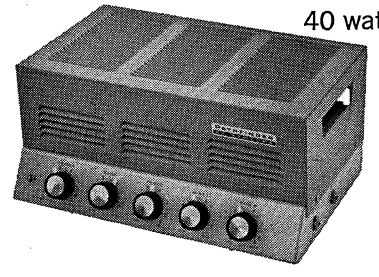
20 watt



SPECIFICATIONS: Power Output: 20 watts RMS, 40 watts peak at less than 5% distortion. **Frequency Response:** ±2 db 30 through 15,000 cycles. **Mike Gain:** 122 db at 2 meg.; .005 volts delivers full power. **Phono Gain:** 83 db at 1 meg. .315 volts delivers full power. **Output To Tape Jack:** Delivers 6 volts max. or 1 volt at ½ watt output. **Hum:** Fundamental, 70 db below rated output. **Power Response:** ±3 db 50 through 20,000 cycles at 5% distortion. **Size:** 14⅛" x 9½" x 5¾" high. **Weight:** 14¼ lbs. **Power Consumption:** 80 watts, 117 volts, 60 cycles A.C. **Tubes:** 1-12AX7, 1-6BR8, 2-EL-84, 1-5Y3.
LIST: (with tubes) $99.50.

MODEL E-40

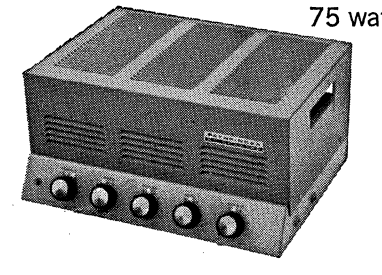
40 watt



SPECIFICATIONS: Power Output: 40 watts RMS, 80 watts peak at less than 5% distortion. **Frequency Response:** ±2 db 30 through 15,000 cycles. **Mike Gain:** 125 db at 2 meg.; .005 volts delivers full power. **Output To Tape Jack:** Delivers 6 volts max. or 1 volt at 1 watt output. **Hum:** Fundamental, 70 db below rated output. **Power Response:** ±2 db 40 through 20,000 cycles at 5% distortion. **Size:** 14⅛" x 9½" x 6¾" high. **Weight:** 19¼ lbs. **Power Consumption:** 160 watts, 117 volts, 60 cycles A.C. **Tubes:** 1-12AX7, 1-6BR8, 4-EL84, 1-5U4.
LIST: (with tubes) $129.50

MODEL E-75

75 watt



SPECIFICATIONS: Power Output: 75 watts RMS, 150 watts peak at less than 5% distortion from a fixed bias, screen regulated, output system. **Frequency Response:** ±2 db 30 through 15,000 cycles. **Mike Gain:** 128 db at 2 meg.; .005 volts delivers full power. **Phono Gain:** 88 db at 1 meg.; 3 volts delivers full power. **Output To Tape Jack:** Delivers 6 volts max. or 1 volt at 1.87 watts output. **Hum:** Fundamental, 70 db below rated output. **Power Response:** ±2 db 50 through 20,000 cycles at 5% distortion. **Size:** 7" x 13½" x 14⅛". **Weight:** 26 lbs. **Power Consumption:** 185 watts, 117 volts 60 cycles. **Tubes:** 2-12AX7, 1-6C4, 2-7027A, 1-6V6GT, 3 power silicon rectifiers.
LIST: (with tubes) $189.50.

SPECIFICATIONS AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

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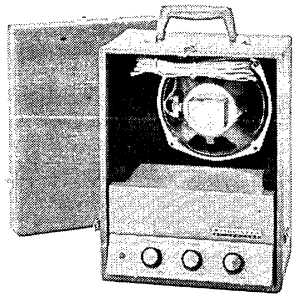
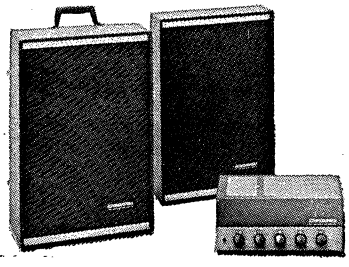
NEWCOMB PATHFINDER PUBLIC ADDRESS SYSTEMS

MODEL E-1008S

10 watt PORTABLE system



The Newcomb E-1008S System consists of one E-10B amplifier and one P-108 speaker assembly. The P-108 contains an efficient 8″ loudspeaker protected by a kickproof, perforated metal grille, microphone carrying straps (but no mike), and space for carrying the E-10B amplifier. Size: 11¼″ x 14¾″ x 9″ deep. System weight: 17½ lbs.
LIST: $115.00.



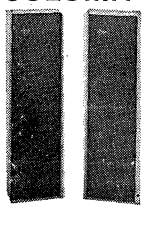
MODEL E-20-212R

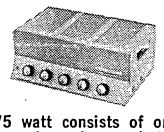
20 watt PORTABLE system

This 20 watt system consists of one Newcomb E-20 amplifier and one P-212R dual speaker assembly which also acts as a carrying case for the amplifier. The P-212R includes two efficient 12″ dual-cone loudspeakers, each with a 25 foot cord and plug. Speaker baffles snap together back to back. Inside are mike carrying straps but no microphone. Speakers are protected by kickproof perforated metal grilles. System closed measures 13½″ x 15¼″ x 23″, weighs 37 lbs.
LIST: $199.50

MODEL E-40-212H 40 watt PORTABLE system. Included in the E-40-212H are one Newcomb E-40 amplifier and one P-212H dual speaker case assembly which also acts as a carrying case for the amplifier. There are two 12″ heavy duty loudspeakers each with a 25 foot cord and plug, kick-proof perforated metal grilles and mike carrying straps but no microphone. Size 13½″ x 15¼″ x 23″, weight 44 lbs.
LIST:$242.00.

COLUMN SPEAKER PERMANENT SYSTEMS





MODEL E-20-2C8F 20 watt consists of one E-20 amplifier, two Model C-8 column speakers, and 100 feet of speaker cord. No microphone. Weight: 54¾ lbs.
LIST: $336.20.

MODEL E-40-2C8F 40 watt consists of one E-40 amplifier, two Model C-8 column speakers, and 100 feet of speaker cord. No microphone. Weight: 60 lbs.
LIST: $366.20.

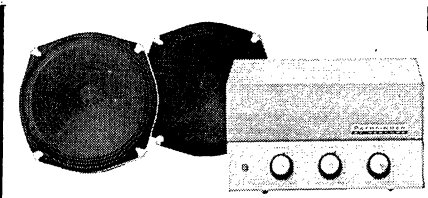
MODEL E-75-4C8F 75 watt consists of one E-75 amplifier, four Model C-8 column speakers, and 200 feet of speaker cord. No microphone. Weight: 107 lbs.
LIST: $662.90.

MODEL E-20-2C12F 20 watt consists of one E-20 amplifier, two model C-12 super column speakers, and 100 feet of speaker cord. No microphone. Weight: 93¼ lbs.
LIST: $569.50.

MODEL E-40-2C12F 40 watt consists of one E-40 amplifier, two model C-12 super column speakers, and 100 feet of speaker cord. No microphone. Weight: 98½ lbs.
LIST: $599.50.

MODEL E-75-2C12F consists of one E-75 amplifier, two model C-12 super column speakers, and 100 feet of speaker cord. No microphone. Weight: 105 lbs.
LIST: $659.50.

MODEL E-75-4C12F 75 watt consists of one E-75 amplifier, four model C-12 super column speakers and 200 feet of speaker cord. No microphone. Weight: 184 lbs.
LIST: $1129.50.



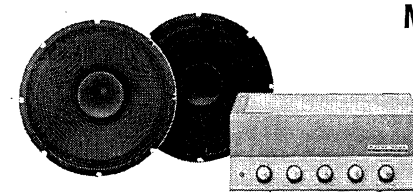
MODEL E-10-28F

10 watt PERMANENT system

This system includes one Newcomb Model E-10B amplifier, two eight-inch extended range loudspeakers, and 100 feet of speaker cord. No microphone included. System weight: 12 lbs.
LIST: $99.00.

MODEL E-20-48F

This is a 20 watt sound system for permanent installation consisting of one Newcomb Model E-20 amplifier, four 8″ extended range loudspeakers, and 200 feet of speaker cord. No microphone. System weight: 20¼ lbs.
LIST: $147.50.



MODEL E-20-212F

20 watt PERMANENT system

This twenty watt system includes one Newcomb E-20 amplifier, two 12″ dual-cone loudspeakers, and 100 feet of speaker cord. No microphone included. System weight: 20¾ lbs.
LIST: $143.50.

MODEL E-40-212FH 40 watt PERMANENT system includes one Newcomb E-40 amplifier, two heavy duty 12″ loudspeakers, and 100 feet of speaker cord. No microphone. System weight: 28 lbs.
LIST: $184.50.

MODEL E-40-412F 40 watt PERMANENT system includes one Newcomb E-40 amplifier, four dual-cone loudspeakers, and 200 feet of speaker cord. No microphone. System weight: 32½ lbs.
LIST: $217.50

MODEL E-75-412FH 75 watt PERMANENT system includes one Newcomb E-75 amplifier, four heavy duty 12″ loudspeakers, and 200 feet of speaker cord. No microphone. System weight: 43 lbs.
LIST: $299.50

SPEAKER ASSEMBLIES

MODEL P-108 is an 8″ speaker in a portable case fitted for carrying the Newcomb E-10B amplifier. It has a kickproof, perforated metal grille, 25 foot cord with octal plug and microphone straps. Dimensions: 11¼″ x 14¾″ x 9″ deep. Weight: 9 lbs.
LIST: $40.00.

MODEL P-212R consists of two efficient 12″ dual-cone speakers, each with 25 foot cord and octal plug. in a split portable case designed to carry the E-20 amplifier with or without the P-4 phone top. Case is covered with gray vinyl, has kickproof, perforated metal grilles, and microphone-carrying straps. Dimensions: 13½″ x 15¼″ x 23″. Weight: 22½ lbs.
LIST: $100.00.

MODEL P-212H consists of two heavy duty 12″ loudspeakers, each with 25 foot cord and octal plug, in a split portable case designed to carry the E-40 amplifier with or without the P-4 phono top. Case is covered with gray vinyl, has kickproof, perforated metal grilles, and microphone-carrying straps. Dimensions: 13½″ x 15¼″ x 23″. Weight: 24½ lbs.
LIST: $112.50.

MODEL C-8 COLUMN SPEAKER combines exceptional vertical directivity with broad horizontal coverage. Enclosure tapered front to back for ganging. Contains four efficient 8″ speakers. Dimensions: 6½″D x 11⅜″W 40″ H. Weight: 20¼ lbs.
LIST: $115.85.

MODEL C-12 SUPER COLUMN SPEAKER with four 12″ speakers provides super intelligibility, super efficiency, super power handling capacity — 120 watts peak. Dimensions: 7½″ D x 15¼″ W x 56″ H. Weight: 39½ lbs.
LIST: $232.50.

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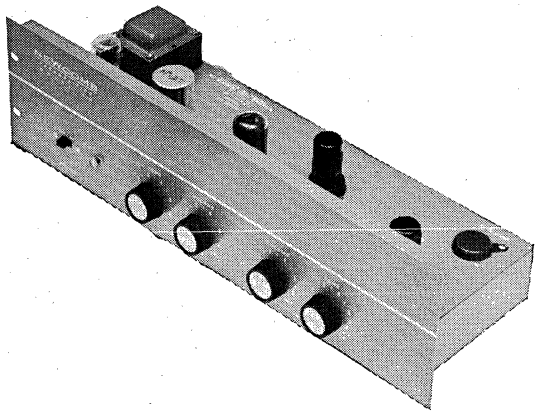


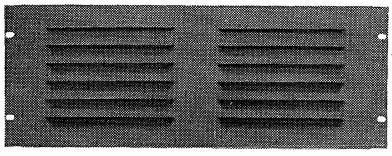
MODEL E2-525G INDUSTRIAL PREAMPLIFIER

Designed for industrial sound systems, the Newcomb E2-525G has 125 to 600 ohm balanced line output. Maximum output at 600 ohms = 10 volts line output. Inputs: one mike at 2 meg impedance, convertible to low impedance by means of Newcomb plug-in transformer (socket provided) · one high level crystal phono; one radio or tape. At 600 ohm line output: mike output of .0015 volts delivers 1 volt; phono input of .15 volts delivers 1 volt out. Frequency response: ±2 db 30 to 15,000 cycles. Electronic remote switching turns mike on and music off when paging. Remote switching line may be unshielded 3-conductor cable up to several thousand feet long. No relays required. There are separate tone controls for mike and phono. Mike input socket is a standard 3-contact phone jack usable with low or high impedance microphones. Tubes: 1-6SF5, 1-6SN7, 1-6J5, 1-6X5, 25 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 5¼" x 6⅛" deep. Weight: 9 lbs. **LIST: $129.50.**

PANELS FOR CABINET RACK

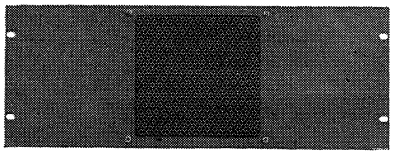
BLANK PANELS

Model Number	Dimensions	Weight lbs.	List
175G	1¾" x 19"	1¾	$3.00
350G	3½" x 19"	1¾	$3.50
525G	5¼" x 19"	2½	$4.00
700G	7" x 19"	3	$4.50
875G	8¾" x 19"	3½	$5.00
1050G	10½" x 19"	4¼	$5.50



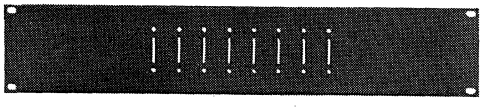
LOUVERED PANELS

Model Number	Dimensions	Weight lbs.	List
L-525G	5¼" x 19"	2½	$5.00
L-700G	7" x 19"	3	$5.75
L-875G	8¾" x 19"	3½	$6.50
L-1050G	10½" 19"	4¼	$7.25



MONITOR PANEL

MODEL 700MPG measures 7" x 19", has perforated metal grille, requires 6" speaker, weight 3 lbs. (See also radio panels.)
LIST: $10.00.



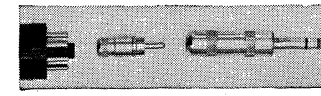
LEVER KEY PANELS

All lever key panels have 1" slots 1" apart wtih 1⅝" mounting holes. Each panel measures 3½" x 19". Weight of each panel is 1¾ lbs.

Model No.	No. of slots	LIST
LK-350-6G	6	$5.00
LK-350-8G	8	$5.50
LK-350-10G	10	$6.00
LK-350-12G	12	$6.50
LK-350-14G	14	$7.00
LK-350-16G	16	$7.50

Name strip Model No.	LIST
SR-6	$2.50
SR-8	$2.60
SR-10	$2.70
SR-12	$2.80
SR-14	$2.90
SR-16	$3.00

CONNECTORS



MODEL PW-156 is an octal speaker plug for all Pathfinder models. **LIST: $.45.**
MODEL PW-157 is a phono tap or radio input plug for all Pathfinder models. **LIST: $.75.**
MODEL PW-144 is a three contact, shielded mike plug for all Pathfinder models. **LIST: $1.75.**

TX-10 SERIES STEREO TAPE RECORDERS

Essentially a machine for the perfectionist, the TX-10 is probably the most foolproof and easiest-on-tape stereo recorder made. It takes any size reel — 3" to 10½". Cybernetically engineered, tape transport is controlled with a single central joystick. It permits sound-on-sound recording, can be monitored before or after recording, has three heads, four-digit counter, stainless steel tape guides, hysteresis motor, differential braking, pointer-to-pointer illuminated meters which show both recording and playback levels. The TX-10 is a two-speed machine — 7½ and 3¾ ips — selected by push button with speed-frequency correction. (15/7½ ips machines available on special order). Response is ±2 db 30-18,000 cps at 7½ ips. There are separate "mike" and "line" inputs and mixing controls for each channel, a balance control, a ganged volume control, pilot light. It accepts Cannon XLR-3-12C male connectors and has easily accessible sockets for Newcomb plug-in transformers to permit use of low impedance microphones.

PROFESSIONAL USERS NET: $750.00 unmounted.
CA-133 CARRYING CASE $25.00.
SR-85 MOUNTING FRAME FOR HI-FI CABINETS $10.00.
SR-86 FRAME FOR RACK MOUNTING in Newcomb Model 35-19 or 70-19 cabinet racks (cannot be used with door) $15.95
SR-97 PAIR OF RACK BRACKETS FOR MOUNTING IN STANDARD 19" RACKS $3.95.

MODEL SA-80B — 2 CHANNEL POWER AMPLIFIER WITH TONE, VOLUME AND BALANCE CONTROLS.
A stereo/mono amplifier designed especially for use with the TX-10, the Newcomb SA-80B amplifier puts out 40 peak watts per channel. Response: ±1 db 20-20,000 cps. Distortion per channel at 20 watts rms less than 1%. Hum below —65 db. It has a balance control and ganged bass, treble, and volume controls. Output impedances per channel — 16, 8, and 4 ohms. 8½" x 16¾" x 16⅜", 32 pounds. **PROFESSIONAL NET $199.50.**

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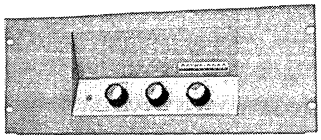
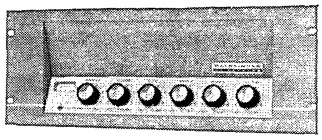
NEWCOMB PATHFINDER PUBLIC ADDRESS EQUIPMENT

RACK AND PANEL EQUIPMENT

AMPLIFIER PANELS — MODEL E-10-700PG

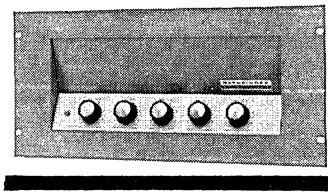


Panel only for rack mounting a standard Newcomb E-10B amplifier. Dimensions: 19" x 7". Weight: 3 lbs.
LIST: $17.50.



MODEL E-52040-700PG

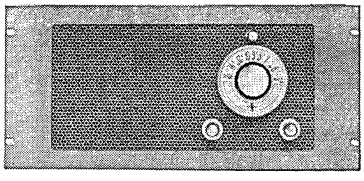
Panel only for either the Newcomb E-5P preamplifier, the E-20 or E-40 amplifier. Dimensions: 19" x 7". Weight: 3½ lbs.
LIST: $18.50.



MODEL E75-875PG

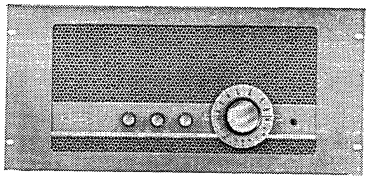
Panel only for rack mounting a standard Newcomb E-75 amplifier. Dimensions: 19" x 8¾". Weight: 4 lbs.
LIST :$19.50.

PANEL MOUNTED RADIOS—MODEL AM-500-875G AM RADIO

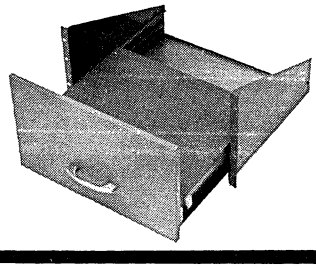


This is a complete, transformer-powered AM radio in which the output amplifier and 8" oval speaker act as a monitor. The output to external amplifiers is taken off ahead of the volume control so adjustment of monitor volume has no affect on output to sound system or tape recorder. The AM-500-875G is a dependable, rugged, continuous duty receiver with a large, direct-driven tuning dial with conelrad markings, lighted index. 40 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 8¾" x 7½" deep. Weight: 12¼ lbs.
LIST: $109.00.

MODEL AFM-750-875G AM-FM RADIO

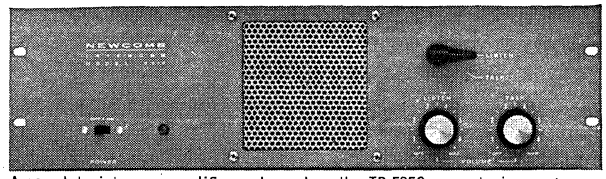


A complete, transformer-powered AM-FM radio in which the output amplifier and 8" oval speaker act as a monitor, the AFM-750-875 has AFC (and defeat switch) and temperature-compensated oscillators for exceptionally stable performance. Output to external amplifier is taken off ahead of the volume control so adjustment of monitor volume has no affect on output to sound system or recorder. 54 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 8¾" x 7½" deep. Weight 14½ lbs.
LIST: $249.00.



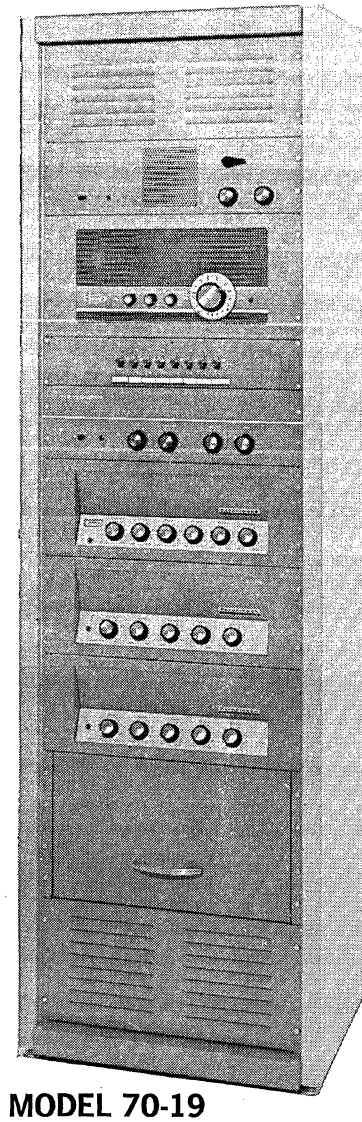
MODEL 1050CG
PHONO CHANGER DRAWER

The front panel dimensions of the 1050CG phonograph changer drawer is 19" x 10½". It has a 16½" x 15" removable motor board. Depth from the top of the motor is 3¾". Clearance above top of motor board is 6⅛". Weight 19¼ lbs. Finest double-extension, roller bearing glides provide a stable level platform for player.
LIST: $65.00.



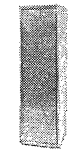
MODEL TB-525G
PANEL-MOUNTED INTERCOM

A complete intercom amplifier and speaker, the TB-525G is designed for industrial installations wherein paging speakers are used for intercommunication. Input and outgoing impedances: 500 ohms. Separate incoming and outgoing volume controls. Talk-listen switch. Pilot light. Tubes: (3) 1-6SL7, 1-6v6, 1-6X5. 40 watts, 117 volts, 60 cycles a.c. Dimensions: 19" x 5¼" x 6⅛" deep. Weight: 9¼ lbs. **LIST: $183.50.**



MODEL 70-19
CABINET RACK

Contemporarily styled, solidly built, beautifully finished in an olive-gray tint compatible with Newcomb Pathfinder equipment, the 70-19 has a ventilated back, provides 70" of panel space. Panels are standard 19" width. Last three digits of model number indicate panel depth. e.g. "875" stands for 8¾" panel depth. Dimensions: 21⅞"x74"x18½" deep. Weight 84 lbs. **LIST: $262.00.**



MODEL 70D Door with lock for front of 70-19 cabinet. Weight: 23 lbs.
LIST: $50.00.

MODEL 35-19 CABINET RACK A short cabinet rack with ventilated back ,35" of panel space. Dimensions: 21⅞" x 39" x 18½" deep. Weight: 52 lbs.
LIST: $187.50.

MODEL 35D Door with lock for front of 35-19 cabinet. Weight: 12 lbs.
LIST: $29.50.

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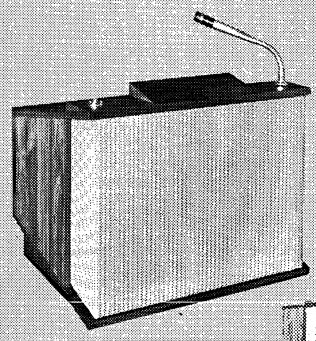
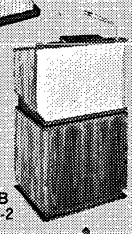
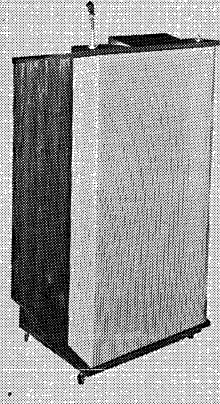
Temple sound columns



MODEL T-2
Table unit
Hand-rubbed, oiled walnut finish.
Tempodium Lectern



MODEL T-2B
Base unit for T-2

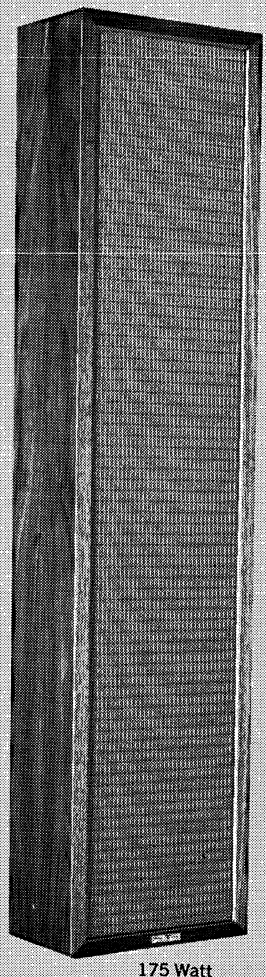


MODEL T-1
Floor unit
Hand-rubbed, oiled walnut finish.

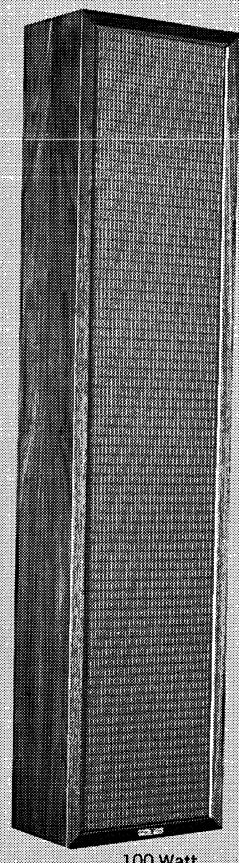
The unchallenged leader with more than 60,000 field-proven installations! A complete line of sound columns from 18 watts to a precedent-shattering 300 watts; 20″ to 84″ in height; 13 attractive models in six different finishes; plus, rugged vinyl covered portables. Featuring "Forward-Additive" effect to provide uniform intensity and maximum intelligibility over a wide range. Important! Only Temple offers a custom design service to suit individual sound column requirements.

The Temple line also includes handsome, efficient roll-about lecterns that project sound realistically, directly from the speaker's rostrum. These practical models have many applications and feature our exclusive dual sound column design—speaker array may be oriented vertically and horizontally. *All products backed by our exclusive two year guarantee.*

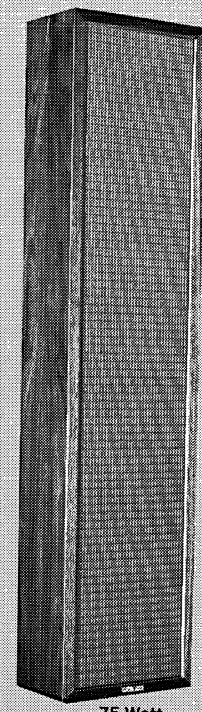
THE MARK OF SOUND SATISFACTION



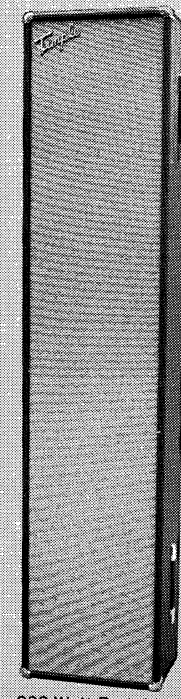
175 Watt



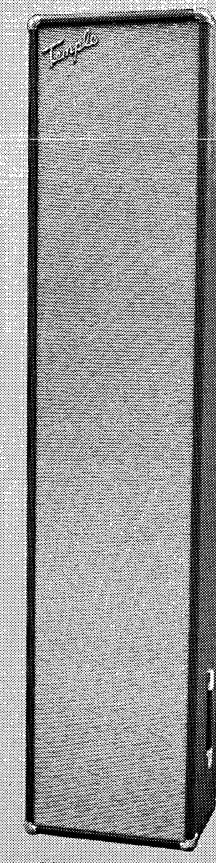
100 Watt



75 Watt



200 Watt Portable



300 Watt Portable

TEMPLE SOUND EQUIPMENT CO., INC

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TEMPLE SOUND EQUIPMENT CO., INC

SOUND COLUMNS

Series	Model	Finish	Dimensions H x W x D (Inches)	Dispersion (Degrees) Horiz.	Dispersion (Degrees) Vert.	Max. Eff. Length (Feet)	Spkr. Complement	Power Rating (Watts)	Freq. Range (hz)	Suggested List Price Zone 1
18 — 18 watts	P-18-s	Portable (Blk. Vinyl)	20 x 7½ x 5	90°	45°	50	Four 5" 6 watt	18	120-10000	84.00
	U-18-s	Utility (Beige)								78.00
20 — 20 watts	E-20-WA	Rich Walnut	30¼ x 7¼ x 5¼	120°	35°	75	Six 5"-6 watt	20	120-15000	115.00
	E-20-BL	Natural Blond								115.00
	E-20-UB	Unfinished Birch (Sanded)								110.00
	U-20	Utility Finish (Beige)								100.00
	U-20-WP	Weatherproof (Beige)								115.00
	P-20	Portable (Blk. Vinyl)								110.00
25 — 25 watts	E-25-WA	Rich Walnut	34½ x 9 x 5¼	120°	32°	100	Five 6"-6 watt	25	100-15000	123.00
	E-25-BL	Natural Blond								123.00
	E-25-UB	Unfinished Birch (Sanded)								117.00
	U-25	Utility Finish (Beige)								110.00
	U-25-WP	Weatherproof (Beige)								123.00
	P-25	Portable (Blk. Vinyl)								117.00
35 — 35 watts	E-35-WA	Rich Walnut	42 x 9½ x 6	120°	28°	125	Six 6"-6 watt	35	70-15000	140.00
	E-35-BL	Natural Blond								140.00
	E-35-UB	Unfinished Birch (Sanded)								135.00
	U-35	Utility Finish (Beige)								125.00
	U-35-WP	Weatherproof (Beige)								140.00
	P-35	Portable (Blk. Vinyl)								135.00
50 — 50 watts	E-50-WA	Rich Walnut	42 x 13 x 8½	120°	28°	125	Four 8"-15 watt	50	40-15000	200.00
	E-50-BL	Natural Blond								200.00
	E-50-UB	Unfinished Birch (Sanded)								190.00
	U-50	Utility Finish (Beige)								170.00
	U-50-WP	Weatherproof (Beige)								200.00
	P-50	Portable (Blk. Vinyl)								190.00
75 — 75 watts	E-75-WA	Rich Walnut	52 x 11¼ x 7	120°	25°	200	Six 8"-15 watt	75	40-15000	225.00
	E-75-BL	Natural Blond								225.00
	E-75-UB	Unfinished Birch (Sanded)								215.00
	U-75	Utility Finish (Beige)								200.00
	U-75-WP	Weatherproof (Beige)								225.00
	P-75	Portable (Blk. Vinyl)								215.00
100 — 100 watts	E-100-WA	Rich Walnut	52 x 13 x 8½	120°	25°	200	Six 8"-15 watt	100	40-15000	240.00
	E-100-BL	Natural Blond								240.00
	E-100-UB	Unfinished Birch (Sanded)								230.00
	U-100	Utility Finish (Beige)								216.50
	U-100-WP	Weatherproof (Beige)								240.00
	P-100	Portable (Blk. Vinyl)								230.00
WIDE RANGE — 120 watts	WA-120-WR	Rich Walnut	54 x 16 x 12	120°	30°	150	Four 10"-30 watt	120	40-18000	330.00
	B-120-WR	Natural Blond								330.00
	P-120-WR	Portable (Blk. Vinyl)								300.00
	U-120-WR	Utility Finish (Beige)								285.00
	UB-120-WR	Unfinished Birch (Sanded)								300.00
	WP-120-WR	Weatherproof (Beige)								330.00
175 watts	P-175-WR	Portable (Blk. Vinyl)	72 x 16 x 12	120°	25°	250	Six 10"-30 watt	175	40-18000	400.00
	U-175-WR	Utility Finish (Beige)								375.00
	WP-175-WR	Weatherproof (Beige)								415.00
200 watts	P-200-WR	Portable (Blk. Vinyl)	60 x 18 x 14	120°	30°	200	Four 12"-60 watt	200	30-18000	450.00
	U-200-WR	Utility Finish (Beige)								425.00
	WP-200-WR	Weatherproof (Beige)								475.00
300 watts	P-300-WR	Portable (Blk. Vinyl)	84 x 18 x 14	120°	25°	300	Six 12"-60 watt	300	30-18000	550.00
	U-300-WR	Utility Finish (Beige)								525.00
	WP-300-WR	Weatherproof (Beige)								575.00

TEMPODIUMS (Lectern with dual sound columns)

	T-1 WAL.	Floor Unit (Hand rubbed, oiled walnut)	49 x 26 x 21	170°	28°	Furnished with two Temple 30 watt sound columns, each containing six 6"—6 watt speakers (T-1 Series).	675.00
	†T-1 WAL./M-A	Floor Unit (Hand rubbed, oiled walnut)	49 x 26 x 21	170°	28°		925.00
	T-2 WAL.	Table Unit (Hand rubbed, oiled walnut)	19 x 26 x 21	170°	35°	Furnished with two Temple 15 watt sound columns, each containing five 3" x 5"—6 watt speakers (T-2 Series).	412.50
	†T-2 WAL./M-A	Table Unit (Hand rubbed, oiled walnut)	19 x 26 x 21	170°	35°		662.50
	T-2B WAL.	Base Unit for T-2 (Hand rubbed, oiled walnut)	30 x 26 x 21				175.00

†NOTE: These use transistorized amplifier (installed), and microphone.

IMPORTANT: All columns 16 ohms impedance. Power ratings are for continuous sine wave input. All portables equipped with 25 ft. cables and phone plugs.

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TALK-A-PHONE WIRELESS AND HOME INTERCOM SYSTEMS

TWO WIRELESS SYSTEMS

Two high-quality wireless intercoms, featuring the exclusive TALK-A-PHONE "SONIC GATE" circuit. Provides communication where permanent or wired systems are not practical. For use in offices, factories, stores, homes, apartments, nurseries, farms, etc. Distinctively styled cabinets combine the look and feel of fine grained leather with the strength and rigidity of steel. Beautifully finished in charcoal gray with brushed chrome side panels. Each station has a translucent indicator which illuminates when "On." All stations must be connected to outlets on the **same electric company service transformer.** Built-in Ground Adapter provides greater sensitivity where electrical wiring is routed over long paths. U.L. Listed.

TALK-A-PHONE 12-STATION SELECTIVE WIRELESS* SYSTEM

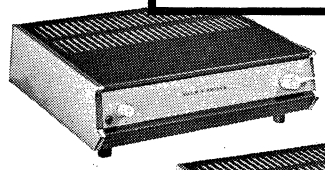
• 6 Separate 2-Way Conversations Simultaneously
• Selective Paging with Reply • Push-Button Channel Selector
• Start a System with any number of Masters and Staffs

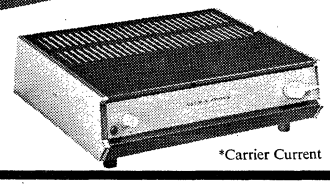
- No Installation
- No Wiring
- No Cables
- Just Plug-in and Talk

Featuring the TALK-A-PHONE "SONIC-GATE".

Your Voice Goes Through . . . | Noise and Hum are Screened Out . . .

The Sonic Gate circuit effectively suppresses line noises and hum by 30 db while system is in actual operation, as well as when in Stand-By position.





*Carrier Current

Provides selective communication. Each Master is equipped with a 6 or 12-channel selector; can converse with any other station selectively; can receive calls on any channel Master elects to use. As many as 6 separate conversations may be held simultaneously, with 12 Masters. Masters can talk with any station in system; can also set up conferences.

Wireless Staff Stations are for use where calls need not be originated, but where reply must be made. They are available for operation on any single channel desired—to match that of Master. They also can be used to receive Paging Calls from any Selective Wireless Master in the system . . . use as many Wireless Staffs as needed (all Staffs must operate on same channel for this purpose). Two or more Wireless Staffs on the same channel will function as a 2-Station System (without Master); they can originate calls and reply to each other.

Start a system with any number of Masters and Staffs. Where up to 12 stations are used, each on a separate channel, Master can converse selectively with any channel. If more than 12 stations are used, channels must be *shared;* stations on same channel will receive all calls to that channel. To change location, merely pick up unit and move . . . no rewiring or new installation is necessary. All stations are equipped with the original TALK-A-PHONE UNI-TRANS feature, which permits continuous one-way transmission for periods when you wish to dictate or "listen-in."

TLCM-8912. 12-Station Selective Wireless Master. Complete with tubes and instructions, ready to use. Operates on 110-120 volts, AC or DC. Size 14"w x 8¾"d x 3⅛"h. Shipping weight, 12½ lbs.
List Price Per Station $188.00.....Net **110.50**

TLCM-8906. 6-Station Selective Wireless Master.
As above except for 6-Station Capacity. Shpg. Wt. 10 lbs.
List Price Per Station $167.00.....Net **98.00**

Wireless Staff Stations. Receive and reply on a single channel only.

T-LCS-901 Channel 1	T-LCS-903 Channel 3	T-LCS-905 Channel 5
T-LCS-902 Channel 2	T-LCS-904 Channel 4	T-LCS-906 Channel 6

Complete with tubes and instructions, ready to use. Operates on 110-120 volts, AC or DC. Size, 10½"w x 8¾"d x 3⅛"h. Shipping weight, 7 lbs.
List Price Per Station $96.00.....Net **56.40**

TALK-A-PHONE 2-STATION WIRELESS* SYSTEM

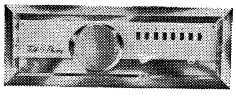
A complete system of 2 stations, ready to use. Simply place each unit where desired, plug each into nearest electrical outlet, and talk! Add more stations anytime. All stations will receive any messages transmitted from any point. Move units anywhere, plug into electrical outlet and use—no re-wiring or new installation necessary. The original TALK-A-PHONE UNI-TRANS is built in—provides continuous one-way transmission; ideal for dictation, or listening-in on baby. 110-120 V. AC-DC. Size, 10½"w x 8¾"d x 3½"h.

T-LC-33. Complete with tubes and instructions. Weight 16 lbs. List Price Per System $167.00....Net **98.00**

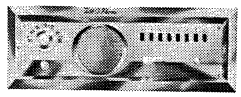
T-LC-17. Additional Single Station. Weight 8 lbs. List Price Each $83.50.....Net **49.00**

CRADLEPHONE—Optional for all units above. Add H to model No. when ordering.
List Price per Station add $65.00.....Net add **38.00**

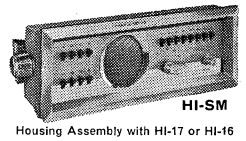
TALK-A-PHONE All-Transistor HOME INTERCOM-RADIO SYSTEMS



HI-9 or HI-8

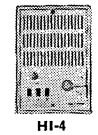


HI-9R or HI-29R

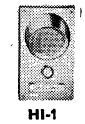


HI-SM

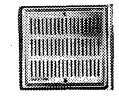
Housing Assembly with HI-17 or HI-16



HI-4



HI-1



K-LR-2R

This TALK-A-PHONE Intercom System saves the housewife and homeowner miles of tiresome steps, hours of time . . . Makes home life easier, more comfortable and more enjoyable . . .

LISTEN-IN ON BABY, CHILDREN OR SICK ROOM . . . from any room in the house, day or night • ANSWER OUTSIDE DOORS FROM ANY ROOM . . . in any part of the house—without opening doors to strangers • TALK FROM ROOM TO ROOM . . . back and forth, upstairs or downstairs, any time, day or night • YOUR FAVORITE RADIO PROGRAMS . . . follow you throughout the house with the flick of a switch.

TALK-A-PHONE All-Transistor Home Intercom units are beautifully finished in gold, polished and satin silver tones. All Masters and Staff Stations are designed for flush mounting; or with optional Housing Assembly, these stations can be mounted on walls, cabinets, or set on tables, shelves, etc. Plaster Ring included for 8 and 16-Station units require 14$\frac{1}{16}$"w, 4$\frac{3}{8}$"h, 3½"d wall opening. Front panel size: 15¼"w, 5¼"h. HI-4 requires 4½"w, 6½"h, 2"d wall opening. Front panel size: 4$\frac{13}{16}$"w x 7$\frac{5}{16}$"h. Sub-Stations are designed for flush mounting only, do not need Plaster Ring. Requires 2" square wall opening, 2" deep. Front Panel size: 3⅜"w, 5⅝"h. Stations do not plug into electrical outlet. Operates from HI-PS Power Supply Unit or battery. Total capacity: up to 16 stations including Central Master. With full instructions.

CENTRAL MASTER STATIONS. Only one used per system. Contains the All-Transistor Amplifier (and radio when built-in). Place in any room. Master can call and converse with any other station (or stations) in system; can listen-in to any Station that user makes "non-private". If system has Model HI-9R Central Master (built-in radio), the Master and any Staff can listen to standard AM radio broadcasts. "Additional" Masters can be used in rooms where it is desired to listen to AM radio programs different from those tuned in at Central Master.

HI-9 Central Master Station. Without radio, less battery
List Price, Each, $102.50.....Net Each **59.95**

HI-9R Central Master Station. With built-in radio. Less battery.
List Price, Each, $159.00.....Net Each **93.30**

HI-17 Central Master Station. Same as HI-9 except has total 16 station capacity. Without built-in radio.
List Price, Each, $152.00.....Net Each **89.00**

HI-29R Additional Master Station. With built-in radio. Less battery.
List Price, Each, $159.00.....Net Each **93.30**

STAFF STATIONS. 4, 8 and 16-Station Capacity Staff Stations can be combined within the same system and used with choice of one 8-station capacity or one 16-station capacity Central Master Station. (When HI-9R is used, any HI-4, HI-8 and HI-16 staff, can listen to radio of HI-9R).

HI-4 Staff Station. Provides same operation as Master. Can call 3 other stations. Can listen to radio of HI-9R.
List Price, Each, $34.00.....Net Each **19.95**

HI-8 Staff Station. Provides same operation as Master. Can call 8 other stations. Can listen to radio of HI-9R.
List Price, Each, $57.00.....Net Each **33.30**

HI-16 Staff Station. Provides same operation as Master. Can call 16 other stations. Can listen to radio of HI-9R.
List Price, Each, $104.00.....Net Each **61.00**

HI-SM HOUSING ASSEMBLY. For enclosing any 8 or 16-Station Capacity Master or Staff, to permit mounting on walls or cabinets, or placing on tables, shelves, etc.
List Price Each $21.00.....Net Each **12.30**

HI-1 OUTDOOR SUB-STATION. For front and rear entrance applications. Complete with push-button for connection to regular house chime, bell or buzzer. Has illuminated nameplate. When caller rings bells, any Master or Staff may reply and converse with caller. Caller operates no controls.
List Price, Each, $29.50.....Net Each **17.25**

O-SM Surface Mounting Accessory for HI-1. Custom-styled metal casting of satin silver finish. Provides an attractive, coordinated base for mounting HI-1 on surface of wall. 3$\frac{3}{16}$" x 5$\frac{13}{16}$" x ⅝". List Price, Each, $5.95.....Net Each **3.50**

K-LR-2R ALTERNATE OUTDOOR SUB-STATION. For flush mounting. Requires wall opening 4½" square, 2" deep. Stainless steel front panel measures 4$\frac{13}{16}$" square. Complete with plaster ring. Without push button or illuminated nameplate.
List Price, Each, $25.50.....Net Each **14.95**

Model K-SM Optional accessory for surface mounting K-LR-2R on wall.
List Price, Each, $7.60.....Net Each **4.45**

Model K-SM-L Optional accessory for Surface mounting HI-4 Staff on wall.
List Price, Each, $8.75.....Net Each **5.10**

HI-JB8 JUNCTION BOX for connecting Masters and Staffs up to a total of 8 stations. See #2 of "How to Determine Cable Needs."
List Price, Each, $8.95.....Net Each **5.25**

HI-JB16 JUNCTION BOX Same as above except for up to 16 stations.
List Price, Each, $15.25.....Net Each **8.95**

HI-PS POWER SUPPLY UNIT. One required per system (only when battery is not used). Plugs into any 120 volt, 60 cycle AC electrical outlet in basement, attic, etc.
List Price, Each, $29.50.....Net Each **17.25**

BATTERY. Use any 9-volt dry battery, such as ignition or telephone battery; or six standard #6 dry cells in series—avajlable from local sources. *Note: When battery is used, power supply is not required.*

HOW TO DETERMINE CABLE NEEDS

Masters and Staff Stations. Use #6226 cable in one of 2 ways: (1) Measure from 1st unit to 2nd unit only; from 2nd unit to 3rd unit only, etc., until last unit is reached—then total. Cable between last and 1st unit not needed. (2) Place a Common Junction Box (Model HI-JB) in attic, basement, closet, etc. Measure from each Master and Staff to Junction Box and total. Double length #6226 required for 16-Station units. Connect HI-4 to nearest 8 or 16-Station unit or to HI-JB with #6214 cable.

Outdoor Sub-Stations: Connect to nearest Master or Staff only with #6202 cable.

Battery or Power Supply Unit: Connect with #6202 cable to Master Stations only.

CABLE. For indoor or outdoor use.

Type No.	No. Pairs	Approx. O.D.	LIST, Per Ft.	NET, Per Ft.
6226	13	⅝"	76c	44c
6214	7	7/16"	39c	23c
6202	1	3/16"	8c	4¾c

All prices slightly higher west of Rockies—All prices and specifications subject to change without notice. Manufactured under exclusive TALK-A-PHONE Patents.

TALK-A-PHONE CO.

Trade Discount Applies To List Prices Only

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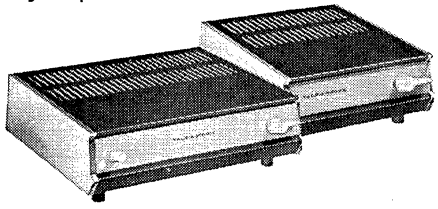
TALK-A-PHONE Deluxe Intercom Systems

Quality intercommunications systems designed for the Office, Business, Plant, House, Farm, Professional Man, or any other private or commercial application. A flick-of-a-finger gives you instant and direct two-way conversation between any two points—anywhere. Masters have translucent indicator which illuminates when system is "on." In cabinets that combine the look and feel of fine grained leather with the strength and rigidity of steel. Beautifully finished in charcoal gray and brushed chrome. Resists industrial liquids and atmospheres. Size: Masters, 10½"w x 8¾"d x 3⅜"h.; Subs, 7½"w x 8¾"d x 2⅜"h. U.L. Listed.

TALK-A-PHONE 2-STATION SYSTEM

2-way voice communication between any two points



K-LC-2 A complete, high-quality intercommunication system. Includes a Master Station, a Sub-Station and 50 feet of interconnecting cable. Additional cable available for distances up to 2000 feet. Easy to install and operate. Master and Sub-Station can originate calls to each other and carry on a 2-way conversation. Sub-Stations can be used "privately" or "non-privately". When "private", Master cannot listen-in on Sub-Station; yet Sub can answer and originate calls. When "non-private", persons at Sub-Station can answer calls at a distance without operating controls, as well as originate calls. Master is equipped with a translucent indicator, illuminated by permanent-type bulb, to show when system is "on". Rugged, high-gain transistorized amplifier is built to withstand continuous use and to require a minimum of maintenance. Adjustable Volume. Only Master plugs into electrical outlet, 110-120 volts, AC or DC. Master in deluxe cabinet finish, Sub-Station cabinet is of same style and color, but is in grained, baked enamel finish. U.L. Listed.

Model K-LC-2 2-Station System complete with easy-to-follow instructions, and 50 feet of cable. Wt. 13 lbs.
List Price complete $76.50.....Net complete **44.95**

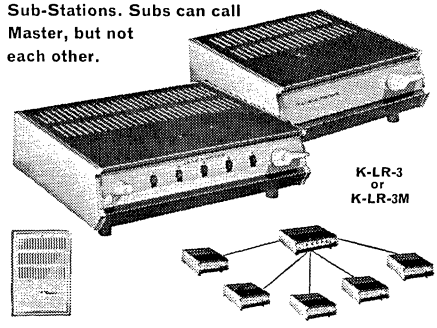
No. 6303 (3 conductor)cable. 175°F. individually covered conductors with overall plastic jacket and milar shield. Provides noise-free cable lines in Industry, Office and Home. For indoor and outdoor use where additional lengths are required between the Master and Sub-Station.
List Price per foot 11c.....Net per foot **6½c**

No. 5303 (3 conductor) cable for indoor use.
List Price per foot 7c.....Net per foot **4c**

Optional Wall Mounting Brackets for Model K-LC-2 Sub-Station are available. See description below.

TALK-A-PHONE MASTER SELECTIVE SYSTEMS

A system of one Master Station which can communicate with from one to ten Sub-Stations. Subs can call Master, but not each other.



K-LR-3 or K-LR-3M

K-LR-3R

K-ML A system consisting of one Master Station and from one to ten Sub-Stations. Master Station can talk and listen to any one Sub-Station, several Sub-Stations or with all Subs simultaneously. Sub-Stations do not communicate with each other. Only the Master Station plugs into an electrical outlet. You may start with only one Master and one or two Sub-Stations and then add later when necessary. Installation of system has optional feature whereby Sub-Stations can be connected "privately," or "non-privately" and still originate calls to the Master under either application. Once a conversation has been initiated with a "non-private" system, persons at Sub-Stations need operate no controls and can reply from a distance. When the system is connected "privately," Master unit cannot "listen in" on Sub-Stations. However, they can reply when called, and also originate calls to the Master. Operates universally on 110-120 volts, AC-DC. U.L. Listed.

K-AC The K-AC-5406 and K-AC-5411 Master Stations operate as above with the added feature of 10 times volume output. A desirable feature for large or noisy areas and for paging. Operates on 120 volts, AC only. U.L. Listed.

Use only one Master in each System.

Optional Wall Mounting Brackets for Models K-LR-3 and K-LR-3M are available. See description below.

Model K-ML-5 Master for 5 Sub-Stations. Wt. 8 lbs.
List Price each $74.00.....Net each **43.30**

Model K-ML-10 Master for 10 Sub-Stations. Wt. 8 lbs.
List Price each, $91.00.....Net each **53.50**

Model K-AC-5406 Master Station. 5 Sub-Station capacity. High Volume Output. Wt. 8 lbs.
List Price each $91.00.....Net each **53.50**

Model K-AC-5411 Master Station. 10 Sub-Station capacity. High Volume Output. Wt. 8 lbs.
List Price each $110.00.....Net each **64.50**

Model K-LR-3 Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. Wt. 6 lbs.
List Price each $33.00.....Net each **19.40**

Model K-LR-3M Sub-Station (in cabinet of same style, color and size as above, but in grained, baked enamel finish) for use with any of above Masters. Wt. 6 lbs.
List Price each $25.50.....Net each **14.95**

Model K-LR-3R Flush mounted Sub-Station for use with any of above Masters. Requires wall opening 4½" W. x 6½" H. Stainless steel front panel measures 4¹³⁄₁₆" W. x 7³⁄₁₆" H. Complete with plaster ring.
List Price each $25.50.....Net each **14.95**

Model K-SM-L Optional accessory for surface mounting K-LR-3R on wall. List Price each $8.75.....Net each **5.10**

Model K-HP-3 Hi-Power Staff Station for wall mounting. Charcoal Gray metal case. Wt. 8 lbs.
List Price each $34.25.....Net each **19.95**

Model K-HP-3V Same as above, but with built-in volume control, adjustable to full output.
List Price each $42.50.....Net each **24.95**

Model K-C-20 Nine-inch weather proof re-entrant horn. Charcoal Gray color. Wt. 5 lbs.
List Price each $51.00.....Net each **29.95**

Model K-C-20V Same as above, but with built-in weather resistant volume control, adjustable to full output.
List Price each $68.00.....Net each **39.95**

K-S-100 Wall Switch for origination of call through K-C-20 or K-HP-3. List Price each $7.40.....Net each **4.35**

Model K-S-111 Wall Mounted Cradle Phone. (Optional accessory). For noisy areas and listening privacy. Use with K-HP-3, K-C-20 and K-S-100. Speaker disconnects when in use.
List Price each $75.00.....Net each **44.00**

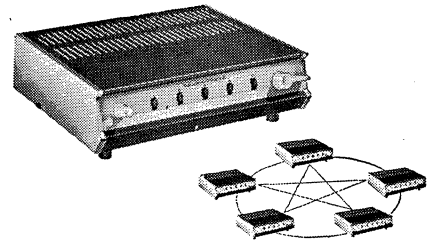
No. 6303 (3 conductor) cable. 175°F. individually covered conductors with overall plastic jacket and milar shield. Provides noise-free cable lines in Industry, Office and Home. For indoor and outdoor use to connect Sub-Station to Master.
List Price per foot 11c.....Net per foot **6½c**

No. 5303 (3 conductor) cable for indoor use.
List Price per foot 7c.....Net per foot **4c**

All systems above are transistorized and come complete with easy to follow instructions, ready to install.

TALK-A-PHONE SUPER SELECTIVE SYSTEMS

A system of up to ten Master-Stations. Each station can call and communicate with any other. Each station operates controls when in conversation.



K-LS A system of all Master Stations. Any Station can call any other Station in system. Several completely private 2-way conversations are possible at same time. A versatile, low cost intercom system offering extreme flexibility, meeting many requirements in industry, offices, homes, etc. Any Station can call and carry on a conversation with any other Station or Stations in the system with absolute "privacy." Have a visitor in your office and your mind is at ease that no one can eavesdrop on your conversation. Stations can be located even 1000 feet apart. Variable volume, adjustable at each unit, controls incoming voice. You can start with two or three masters, and then add later as required. Operates universally on 110-120 volts, AC-DC. U.L. Listed.

K-AC The K-AC-505 and K-AC-510 Master Stations operate as above but provides a system with the added feature of 10 times volume output. A desirable feature for large or noisy areas and for calling many stations at once. K-AC-505 and K-AC-510 Masters cannot be intermixed with any other master. For 120 volts, AC only. U.L. Listed.

Model K-LS-5 Master for five Masters. Wt. 8 lbs. List Price each $74.00.....Net each **43.30**

Model K-LS-10 Master for ten Masters. Wt. 8 lbs. List Price each $91.00.....Net each **53.50**

Model K-AC-505 Master for 5 Masters. Hi-Volume Output. Wt. 8 lbs. List Price $91.00.....Net each **53.50**

Model K-AC-510 Same as K-AC-505 except for 10 Masters. List Price each $110.00.....Net each **64.50**

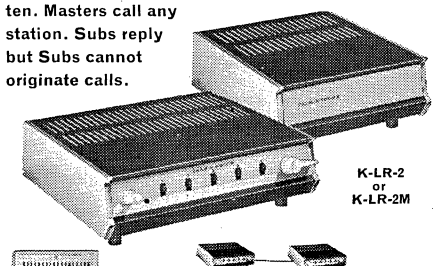
No. 5506 (6-conductor) Cable for connecting K-LS-5 or K-AC-505 Masters. List Price per foot 19c. Net per foot **11c**

No. 9911 (11-conductor) Cable for connecting K-LS-10 or K-AC-510 Masters. List Price per foot 36c. Net per foot **21c**

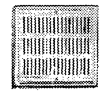
All systems above are transistorized and come complete with easy to follow instructions, ready to install.

TALK-A-PHONE COMBINATION SYSTEMS

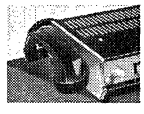
A system combining one or more Master Stations with one or More Sub-Stations up to a combined total of ten. Masters call any station. Subs reply but Subs cannot originate calls.



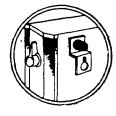
K-LR-2 or K-LR-2M



K-LR-2R



A.



B.

K-CL For the more flexible type of communication system requiring the operation of more than one Master Station, along with Sub-Stations which need not originate calls. Personnel can answer incoming calls even though they are 25 to 40 feet from their unit. Master Stations may talk to each other and to all Sub-Stations in the system selectively; or you can have one or more Sub-Stations which are exclusive to only one Master Station (as illustrated in the diagram at left). Master Stations have the option of making themselves "private" or "non-private" at will. You can begin with two stations (at least one must be a Master) and add other units as required. Model K-CL-5 Master Station has a total inter-connecting capacity of five stations, including Masters and Sub-Stations: while Model K-CL-10 Master Station has a total capacity of ten stations. Sub-Stations are not plugged into electric current. U.L. Listed. 120 volts. AC-DC.

Optional Wall Mounting Brackets for Models K-LR-2 and K-LR-2M are available. See description below.

K-AC The K-AC-605 and K-AC-610 Master Stations operate as above but provides a system with the added feature of 10 times volume output. A desirable feature for large or noisy areas and for calling many stations at once. K-AC-605 and K-AC-610 Masters cannot be intermixed with any other master. For 120 volts, AC only. U.L. Listed.

Model K-CL-5 Master for five station use. Wt. 8 lbs.
List Price each $88.50.....Net each **52.00**

Model K-CL-10 Master for ten station use. Wt. 8 lbs.
List Price each $107.00.....Net each **62.50**

K-AC-605 Master for 5-Station use. Hi-Volume Output. Wt. 8 lbs. Complete with instructions.
List Price each $107.00.....Net each **62.50**

K-AC-610 Same as K-AC-605 except for 10-Station use.
List Price each $123.00.....Net each **72.00**

Model K-LR-2 Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. Wt. 6 lbs.
List Price each $33.00.....Net each **19.40**

Model K-LR-2M Sub-Station (in cabinet of same style, color and size as above, but in grained, baked enamel finish) for use with any of above Masters. Wt. 6 lbs.
List Price each $25.50.....Net each **14.95**

Model K-LR-2R Flush mounted Sub-Station for use with any of above Masters. Requires wall opening 4½" square. Stainless steel front panel measures 4¹³⁄₁₆" square. Complete with plaster ring.
List Price each $25.50.....Net each **14.95**

Model K-SM Optional accessory for surface mounting K-LR-2R on wall. List price each $7.60.....Net each **4.45**

Model K-HP-3 Hi-Power Sub-Station for wall mounting in charcoal gray metal case. Wt. 8 lbs.
List Price each $34.25.....Net each **19.95**

Model K-HP-3V Same as above, but with built-in volume control, adjustable to full output.
List Price each $42.50.....Net each **24.95**

Model K-C-20 Nine-inch weather proof re-entrant horn. Charcoal gray color. List price ea. $51.00. Net each **29.95**

Model K-C-20V Same as above, but with built-in weather resistant volume control, adjustable to full output.
List Price each $68.00.....Net each **39.95**

Model K-S-111 Wall Mounted Cradle Phone. (Optional accessory). For noisy areas and listening privacy. Use with K-HP-3 and K-C-20. Speaker disconnects when in use. List Price each $75.00.....Net each **44.00**

No. 6210 (5 pair) Cable for interconnecting K-CL-5 or K-AC-605 Masters.
List Price per foot 34c.....Net per foot **20c**

No. 6226 (13 pair) Cable for interconnecting K-CL-10 or K-AC-610 Masters.
List Price per foot 76c.....Net per foot **44c**

No. 6902 (2-conductor) Cable for connecting Sub-Station to K-CL-5, K-CL-10, K-AC-605 or K-AC-610.
List Price per foot 4¾c.....Net per foot **2¾c**

All systems above are transistorized and come complete with easy to follow instructions, ready to install.

A. CRADLEPHONE—Optional for any unit above (except K-CL-5, K-CL-10, K-AC-605, K-AC-610, K-C-20(V), K-HP-3(V), K-LR-3R and K-LR-2R.) Add "H" to Model No. when ordering.
List Price Per Station, add $65.00 .....Net, add **38.00**

B. WALL MOUNTING BRACKETS—Optional accessory for use with TALK-A-PHONE Models K-LR-3, K-LR-3M, K-LR-2, K-LR-2M, K-C-41, K-C-41M, K-C-42, K-C-42M, and K-LC-2 Sub Station to enable mounting on wall, side of desk, etc. One pair required per station. Permits mounting with front panel upward, downward or sideward.
Model K-W1 Mounting Brackets, per pair. List Price $1.00 Net **60c**

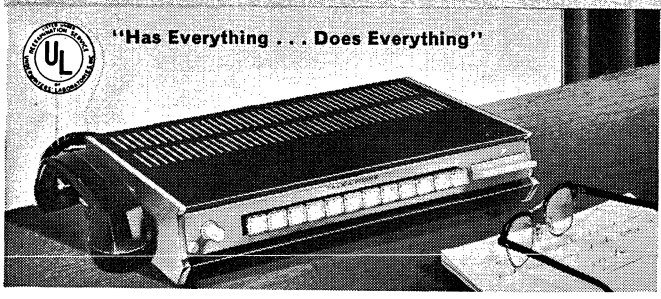
HOW TO DETERMINE CABLE REQUIREMENTS

For Master Selective Systems measure from each Sub-Station to the Master and order total. For **Super Selective Systems**—measure from first Master to second Master only, from second Master to third Master only, etc., and total. Cable between first and last Master not necessary. For **Combination Systems**—Master cable; measure from first Master to second Master only, from second Master to third Master only, etc., and total; Sub-Station cable; measure from each Sub-Station to nearest Master only. Connect K-S-111 at any convenient point between remote speaker and Master Station.

TALK-A-PHONE CO.

All prices slightly higher west of the Rockies. All prices and specifications subject to change without notice. Manufactured under exclusive TALK-A-PHONE Patents.

THE ALL-TRANSISTOR TALK-A-PHONE "CHIEF" AND "CHIEF REDI-POWER" INTERCOMMUNICATION SYSTEMS



One Model Meets Every Requirement

Setting a high standard in quality, design and performance, the TALK-A-PHONE "CHIEF" and "CHIEF REDI-POWER" meets the intercom needs of office, factory, institution, or any other commercial or private application. "CHIEF" Master Stations of 6, 12, 20, 30, 40 or 50 station capacity can be intermixed with "CHIEF REDI-POWER" Masters of different capacities, together with Staff Stations and Horns within the same system in any desired combination. Masters can talk with any other Master or Staff . . . page . . . and can utilize other optional equipment shown as well. Staffs can answer any Master and can originate calls to one Master, or to two Masters selectively.

ONLY THE TALK-A-PHONE "CHIEF" AND "CHIEF REDI-POWER" GIVE YOU ALL THESE FEATURES

- **DISTINCTIVELY STYLED**—Less than 3-inches high. In cabinets that combine the look and feel of fine-grained leather with the strength and rigidity of steel. Attractively finished in charcoal gray and brushed chrome.
- **"PRIVATE" OR "NON-PRIVATE" MASTERS AND STAFFS**—Exclusive Dynasonic Design enables stations to perform "privately" (so no one can listen-in), or "non-privately" (for reply without use of controls). The same station can be "private" to one or more Masters and "non-private" to others.
- **INCOMING CALL CHIME**—A standard feature of Masters. Indicates that your station is being called. Caller talks, voice follows.
- **MONITORING SIGNAL**—A standard feature of Masters and Staffs. Visually indicates to a "non-private" station that it is being monitored.
- **BUSY SIGNAL**—A standard feature of Masters and Staffs. Visually indicates when station you call is "busy." All units have facility to override "busy signal" for important calls.
- **DYNASONIC SELECTOR**—An exclusive TALK-A-PHONE feature that permits intermixing of stations and variation of performance. Add to system at anytime without discarding original equipment.
- **MULTI-MAGIC STATION SELECTOR**—A patented, exclusive TALK-A-PHONE feature that enables selection of up to 30 stations with only 12 push buttons . . . 40 and 50 stations with 14 push buttons . . . in the same attractive cabinet style and size.
- **UNI-TRANS DICTATION CONTROL**—No need to operate or hold down controls when one-way transmission is desired or when Cradle Phone is used.
- **EXTERNAL RELAY CONTROL**—A standard feature of Masters. Enables Master to activate external relays for operating siren, gong, light, etc. Use in extremely high noise level areas to signal personnel, who can then communicate with caller from Master in quieter location or in sound booth. Operates simultaneously with chime within Master.
- **RECIPROCAL POWER SUPPLY**—Each Master operates on 120 volts, AC only, and should be plugged-in. Where no electrical outlet is available, up to 30% of the "Chief" Masters in the system can operate without being plugged-in.
- **NOISE-FREE VOICE RANGE POWER**—The rugged, all-transistor high-gain amplifier provides unsurpassed clarity and naturalness of tone. The exclusive, patented TALK-A-PHONE circuit enables performance without noise, hum or distortion when used with TALK-A-PHONE cable.
- **HI-POWER STAFF STATIONS AND HORNS**—For use with any TALK-A-PHONE Master where high volume at Staff locations is needed. Ideal for paging speakers. K-HP-3 provides more than twice the volume of universal Staff; K-C-20 provides about 4 times greater volume . . . more with REDI-POWER Masters.
- **WALL SWITCH**—Combine with TALK-A-PHONE Horn or Hi-Power Staff to add origination-of-call feature.
- **"LD" LONG DISTANCE**—(optional accessory on Masters). For use over cable lines of 2,000 ft., 5,000 ft., 10,000 ft. or more without loss of volume. Functions only between Masters with LD . . . not between an LD Master and Staff. Built-in at factory at additional cost.
- **CRADLE PHONE**—(optional accessory on Masters or Staffs). Has live microphone. Provides listening privacy and greater speaking convenience. Diminishes background noises in noisy areas. Eliminates use of controls in conversation between Masters. Cuts off incoming voice from loudspeaker when in use.
- **WALL MOUNTED CRADLE PHONE**—(optional accessory). For noisy areas and listening privacy. Use with K-HP-3, K-C-20 and K-S-101 or K-S-102. Speaker disconnects when in use.
- **RIGHT-OF-WAY RELAY**—(optional accessory). Use with "CHIEF REDI-POWER" Masters to page any group of stations with a single button. Paged stations can also be used for intercommunication. K-RW-10 capacity, 10 stations, K-RW-20 capacity, 20 stations. Connects to one Master, other Masters also utilize facilities.
- **POWER PAGING BOOSTER**—(optional accessory). Use with "CHIEF" Masters to page a group of speakers with a single button. 50 watts output. Requires its own paging speakers (as K-C-20, K-HP-3). Provides paging facility only . . . paged stations cannot reply or originate calls through paging speakers. Connects to one Master, other Masters can also utilize facilities.

All "CHIEF" and "CHIEF REDI-POWER" Master Stations come complete with junction box and built-in power supply attached by 6' flexible cable. Master size: 14"w, 3½"h, 8¾"d. For 120 volts, AC only. U.L. Listed.

K-C-4906 Master 6 station capacity. Wt. 13 lbs.
List Price Per Station $167.00.....Net **98.00**

K-C-4912 Master 12 station capacity. Wt. 14 lbs.
List Price Per Station $188.00.....Net **110.50**

K-C-4920 Master 20 station capacity. Wt. 17 lbs.
List Price Per Station $223.00.....Net **131.00**

K-C-4930 Master 30 station capacity. Wt. 20 lbs.
List Price Per Station $258.00.....Net **151.50**

K-C-4940 Master 40 station capacity. Wt. 23 lbs.
List Price Per Station $293.00.....Net **172.00**

K-C-4950 Master 50 station capacity. Wt. 26 lbs.
List Price Per Station $328.00.....Net **192.50**

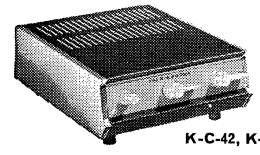
How to Determine Cable Requirements. To inter-connect Master Stations, measure from first Master to second Master only, from second to third Master only, etc., until the last unit in the system is reached, and total. For K-C-4920 and K-CRP-5920, use two lengths of 6226 Cable; and for K-C-4930 and K-CRP-5930 use three lengths of 6226 Cable, etc. To connect K-C-41, K-C-42 or K-HP-3 Staff Stations, measure from Staff Station to the one Master to which Staff Station originates calls. To connect the K-C-42 Staff Station measure a separate length of cable from Staff Station to each Master Station to which Staff originates calls (for each K-C-41 or K-C-42, follow same procedure). Connect K-S-111 at any convenient point between remote speaker and Master Station.

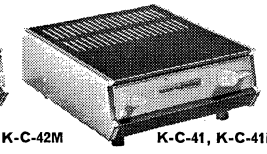
TALK-A-PHONE ALL-TRANSISTOR "CHIEF REDI-POWER" MASTERS
These units have all the operational features of the "CHIEF," plus the additional feature of built-in extra power (up to 30 watts) for use when and as needed. Provides additional volume for calling many stations at once, or noisy locations singly. Needs no separate power booster, which would eliminate return speech. Return speech is received at normal room volume. REDI-POWER Masters have a self-compensating amount of volume, whether you call 2, 10 or 20 stations simultaneously. Each station receives its pre-determined volume with no division of output as you call more stations at once. Use REDI-POWER Masters with "CHIEF" Masters and Staffs in same system. Add K-RW-10 or K-RW-20 and REDI-POWER Masters can page any group of stations with a single selector button. Paged stations can also be used for intercommunication. Operates on 120 volts, AC only. U.L. Listed.

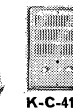
K-CRP-5912 Redi-Power Master station 12 station capacity. Wt. 18 lbs.
List Price Per Station $283.00.....Net **166.00**

K-CRP-5920 Redi-Power Master 20 station capacity. Wt. 21 lbs.
List Price Per Station $318.00.....Net **186.50**

K-CRP-5930. Redi-Power Master 30 station capacity. Wt. 23 lbs.
List Price Per Station $353.00.....Net **207.00**


K-C-42, K-C-42M


K-C-41, K-C-41M


K-C-41R

TALK-A-PHONE "CHIEF" UNIVERSAL STAFF STATIONS For use with any "CHIEF" or "CHIEF REDI-POWER" Master. Like Masters, Staff Stations can be connected "privately" or "non-privately", and can originate calls. When "non-private", calls can be answered at a distance from Staff without using controls. Persons at "non-private" Staffs may reply to all Masters in the system (whether directly connected to them or not). Connected "privately" no one can listen-in to Staff, but any Master can call. "Private" or "Non-Private" Staffs can originate calls to one or two "Private" Masters. Each Staff has "busy signal" and "monitoring signal" features. Staffs do not connect to an electrical outlet . . . are distinctively styled in modern cabinets that combine the look and feel of fine grained leather with the strength and rigidity of steel. Finished in charcoal gray and brushed chrome. Size: 7½"w x 8¾"d x 2⅞"h.

K-C-41. Staff Station for origination-of-call to one Master. Wt. 8 lbs.
List Price, Each $44.30.....Net **26.00**

K-C-41M. Same operation as K-C-41 and in cabinet of same style, color and size, but in grained baked enamel finish. Wt. 8 lbs. List Price, Each $36.00..Net **21.10**

K-C-42. Staff Station for origination-of-call to two Masters. Wt. 8 lbs.
List Price, Each $55.00.....Net **32.20**

K-C-42M. Same operation as K-C-42 and in cabinet of same style, color and size, but in grained baked enamel finish. Wt. 8 lbs. List Price, Each $47.00..Net **27.50**

K-C-42R. Same as K-C-42, but for flush wall mounting. Stainless Steel Front Panel, 4¹³⁄₁₆" x 7⅜". Wall Opening: 4½" w x 6½" h x 2" d. Wt., 5 lbs.
List Price, Each $47.00.....Net **27.50**

K-C-41R. Flush mounted Staff Station for use with any of above Masters. Requires wall opening 4⅛" W. x 6½" H. Stainless steel front panel measures 4¹³⁄₁₆" W. x 7⅜" H. Complete with plaster ring. List Price, Each $36.00.....Net each **21.10**

K-SM-L Optional accessory for surface mounting K-C-41R and K-C-42R on wall. List price, each $8.75.....Net each **5.10**

K-HP-3. Hi-Power Sub-Station for wall mounting in charcoal gray metal case. Wt. 8 lbs.
List Price, Each $34.25.....Net **19.95**

K-HP-3V. Same as above, but with built-in volume control, adjustable to full output. List Price, Each $42.50.....Net **24.95**

K-C-20. Nine-inch weatherproof re-entrant horn. List Price, Each $51.00....Net **29.95**

K-C-20V. Same as above, but with built-in weather resistant volume control, adjustable to full output. List Price, Each $68.00.....Net **39.95**

Optional Wall Mounting Brackets for Models K-C-41, K-C-41M, K-C-42 and K-C-42M are available. See description on preceding page.

Optional Equipment

Cradle Phone Available on all Models except K-C-41R, K-C-42R, K-HP-3 (V) and K-C-20(V). Add "H" to Model No. when ordering.
List Price, Each—add $65.00.....Net add **38.00**

Model K-S-111 Wall Mounted Cradle Phone. List Price, Each $75.00.....Net **44.00**

LD Long Distance Feature Available on Master Stations. Add "LD" to Model No. when ordering. List Price, Each—$22.50.....Net add **12.95**

Model K-S-101 Wall Switch For origination of call to one Master through K-C-20, or K-HP-3, in Chief systems. List Price, Each $15.00.....Net **8.80**

K-S-102 WALL SWITCH. For origination of call to two Masters through K-C-20, or K-HP-3, in Chief systems. List Price, Each $24.50.....Net **14.40**

K-RW-10 Right-of-Way Relay. List Price, Each $79.95.....Net **47.00**

K-RW-20 Right-of-Way Relay. List Price, Each $146.50.....Net **86.00**

K-HP-50 Power Booster. List Price, Each $160.00.....Net **94.00**

CABLE. For indoor or outdoor use.

6206 Cable for connecting K-C-41, K-C-42, K-HP-3, K-C-20 with origination of call. List Price per Ft. 19c.....Net per Ft. **11c**

6214 Cable for inter-connecting K-C-4906 Masters.
List Price per Ft. 39c.....Net per Ft. **23c**

6226 Cable for inter-connecting K-C-4912, K-C-4920, K-C-4930, K-C-4940. K-C-4950, K-CRP-5912, K-CRP-5920 and K-CRP-5930 Masters.
List Price per Ft. 76c.....Net per Ft. **44c**

6902 Cable for connecting K-HP-3, K-C-20 without origination of call.
List Price per Ft. 4¾c.....Net per Ft. **2¾c**

All prices slightly higher west of the Rockies. All prices and specifications subject to change without notice. Manufactured under exclusive TALK-A-PHONE Patents.

TALK-A-PHONE Apartment House Intercom System. With 1 or 2 selective talking circuits; with 1 or 2 independent door opener buttons. Catalog available.

TALK-A-PHONE CO.

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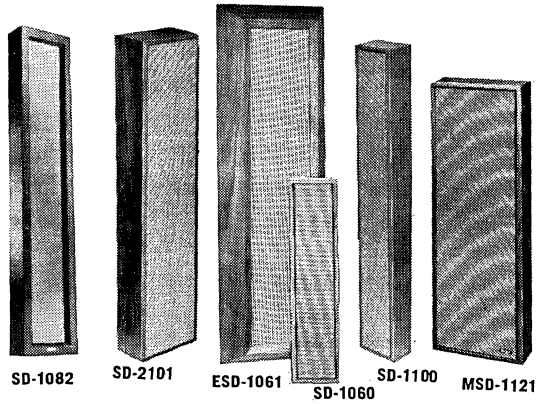
Argos Quality PRODUCTS COMPANY

SOUND COLUMNS • PORTABLE SYSTEMS LECTERNS • SPECIAL PURPOSE SPEAKERS



SOUND DIRECTOR™ Sound Columns

Provide completely intelligible PA system coverage of large audiences in churches, auditoriums, schools, hotel meeting rooms, etc. Simple installation. Available in 6 and 10 speaker columns with 8 speaker option. Models for voice, music or combined use. For complete data, send for free book all about sound columns.

For voice

Model SD-1060 — Six speakers, 16 ohms. For small rooms up to 60 feet. 30 watts. Walnut vinyl finish cane grill. Size: 30¼" x 7" x 3⅛". Ship. Wt. 10 lbs. ....**List Price $74.40**

Model SD-1100 — Ten speakers, 16 ohms, 50 watts. For rooms up to 200'. Converts to eight speakers, for rooms up to 125' Walnut grain vinyl finish; cane grill. Entire column tilts to focus. Size: 49¼" x 7" x 6". Ship. Wt. 26½ lbs.
List Price $116.65

Model SD-1101 — Same as SD-1100, except the deluxe housing is oiled, hand-rubbed walnut. Ship Wt. 29 lbs.
List Price $140.95

Model SD-2100 — Ten speakers, 16 ohms, 50 watts. Some characteristics as SD-1100, except that speaker column may be tilted inside the housing for focusing. Walnut vinyl finish; cane grill. Size 50½" x 10¾" x 8¼". Ship. Wt. 43 lbs.
List Price $149.90

Model SD-2101 — Same as SD-2100, except the deluxe housing is oiled, hand-rubbed walnut. Ship. Wt. 50 lbs.
List Price $175.00

For full range voice and music

New! Model ESD-1061 — Primarily for voice, but an extended lower range makes it great for music, also. For smaller rooms, up to about 60 feet. 100 to 12,000 cps response. 30 watts, six speakers, 16 ohms. In genuine walnut. Size 10½" w. x 33¼" h. x 4" d. Ship Wt. 16 lbs. ..... **List Price $90.75 each.**

Model MSD-1060 — For voice and music under auditorium conditions. Extremely popular with folk music groups. 70 to 15,000 cps, 60 watts. Six 8" speakers, 16 ohms. Walnut vinyl finish. Cane grill. Size: 10¾" x 50½" x 8¼". Ship Wt. 38 lbs.
List Price $140.95

Model MSD-1060 HD — Electrically identical to MSD-1060, except has extra heavy duty construction with shock mounted speakers, protective bar across front and hidden steel grille to protect speakers. Ship. Wt. 45 lbs. .....**List Price $149.90**

Model MSD-1061 — Same as model MSD-1060, except has deluxe oiled walnut housing. Ship. Wt. 45 lbs.
List Price $175.00

Model MSD-1063 — Same as MSD-1061, except unfinished birch. Sanded, ready to stain or paint. Ship. Wt. 49 lbs.
List Price $149.90

Model MSD-4060 — Portable version of MSD-1060. Complete with carrying handle, protective hardware, heavy duty vinyl finish. Ship. Wt. 41 lbs. .....**List Price $149.90**

For high-fidelity music

Model MSD-1121 — Projects high-fidelity music over a large area like nothing else ever created. Focused sound beam controls reverberation, keeps uniform audio levels. 12 speakers, 6 woofers, 6 tweeters with crossover network provide 50 to 17,000 cps at 30 watts. Genuine American walnut, with handsome cane grill. Dimensions: 14½" w. x 42" h. x 5" d. Ship. Wt. 43 lbs. .....**List Price $216.00**

For Custom installations

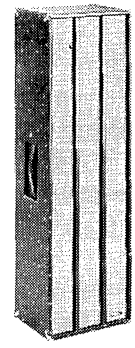
Concealed or back mounted installations can be made using the internal column element without cabinet. All electrical elements included, less outside housing.

Model SDBB-6: 6 speakers, 30 watts, 16 ohms. Ship. Wt. 8 lbs. 5¼" w. x 29" h. x 3" d. ..... **List Price $49.95**

Model SDBB-10: 10 speakers, 50 watts. Ship. Wt. 17½ lbs. 5¼" w. x 47¾" h. x 5¼" d. .....**List Price $77.50**

For outdoor use

Model SD-1082 — "Argonaut" . . . certified by Inland Testing Laboratories to meet rugged environmental standards of U.S. Military Specifications MIL-E-4970A, is warranted as to performance for 3 years in every kind of climate, from tropic to Antarctic. (Send for complete free test report.) Heavy duty vinyl clad. 8 speakers, 40 watts-200 to 10,000 cps response. 9⅛" w. x 49½" h. x 4½" d. Ship. Wt. 37 lbs.
List Price $282.50



MEET THE NEW "THUNDER COLUMN"!

BAND DIRECTOR "300"

Music Reproduction Speaker Column

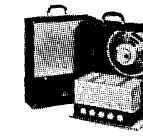
Never before has a sound reproduction device been designed to handle enormous power with such effortless ease and safety! The BAND DIRECTOR "300" is conservatively rated at 150 watts music power while accommodating up to 300 watts on peaks with excellent and undistorted reproduction across the entire spectrum from 40 to 8000 cps.

300 watts peak music power. 4 Jensen electronic instrument speakers with 1¾ lb. magnets. Excellent response—40–8000 cps. Speakers protected by hidden steel mesh. Upholstery-grade vinyl covering. Fused against overload. Plug or terminal connections. Size: 46½" x 14¼" x 10¼". Ship. Wt. 62 lbs.

Model BD-300 .....**Professional Net: $189.95**

Model BD-200 — Similar to BD-300, except has 100 watt music (200 watt peak) power rating. Six 8" speakers. Response: 60 to 13,500 MHz. Size: 51" x 10¾" x 8¼". Ship wt. 59 lbs.
Professional Net: $139.95

SOUND CADDY SYSTEM



SC-2D — Holds two 12" speakers (not included), space below for amplifiers with turntable up to 35 watts and many of greater power. Heavy construction, grey vinyl covering. Size: 17¾" x 22" x 13⅛", wt. 18 lbs.
Professional net $29.95

SC-2DS — illustrated — same as above with two 18 watt 12" speakers. (Amp not incl.) Wt. 26 lbs. .....**Professional net $49.95**

VOICE DIRECTOR Portable Sound System

Performs like a "sound truck in a suitcase". Has unique audience reaching characteristics of a sound column, plus portability of a battery powered transistor amplifier. 25 watts output from "D" cells, 200 hours operation, (400 hours with alkaline batteries). Uniform sound coverage, 50% to 100% greater effective power than any other system of like power output, indoors and out. 6 speakers.

Includes microphone, stand, 18 ft. cable and lavalier. Case measures 30" x 10" x 7". Weight 27 lbs.

PSD-5060, professional net (less batteries) **$179.95**

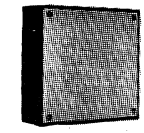
PSD-5060-1, identical to above but with deluxe microphone incorporating a built-in volume control. Wt. 30 lbs. Professional net (less batteries) **$199.95**

Extension Satellite SOUND DIRECTOR. Use with VOICE DIRECTOR for extended coverage or with any P.A. system. 6 speakers; 30 watts; 16 ohms has self-storing stand and 50 feet of cable. Size: 30⅝" x 6⅞" x ¾". **SD-4000** Wt. 12½ lbs. .....**Professional net $59.95**

SPEECH DIRECTOR Portable Lectern

4 speakers. AC/DC amplifier in all solid-state, delivers 12 watts from its own batteries, 15 watts from AC. 2 low impedance microphone inputs, 1 high impedance auxiliary. Miniature unidirectional microphone has built-in volume control, flexible 9" gooseneck stand, lavalier adaptor. Case measures 21" h. x 16" w. x 7⅝" d. Weight, less batteries, 20 lbs. **LSD-6040**.....**professional net $239.95**

NEW MULTI-BAFFLES for walls, ceilings



Size 10¾" sqr. x 3½" d. Mount on ceiling with screws, on walls with clips. 8" speaker, 4.8 oz. magnet, 8 ohms, 10 watts. Antique birch or dusk walnut furniture finish.

DMBX-8S — Baffle with speaker. Ship. Wt. 4¾ lbs. **List Price $17.85**

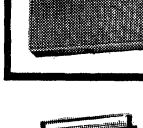
DMBX-8SV — Baffle, speaker, volume control. Ship. Wt. 4¾ lbs.
List Price $21.35

DMBX-8SVT — Baffle, speaker, 70.7-V.* transformer, volume control. Ship. Wt. 5¼ lbs. **List Price $25.35**

DMBX-8 — Multi-Baffle only. Max. spkr. depth 3¼". Ship. Wt., 3 lbs.
List Price $9.90 each.

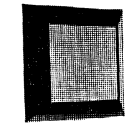
*Also available w/25V. transformer at same price on special order. 12 unit minimum.

New bi-directional "Hallmark"



Talks 2 ways at once for corridor paging, etc. Mounts on wall or ceiling. 8" dual cone spkr. 4.8 oz. magnet, 10 watts, 8 ohms. Dusk Walnut or Antique Birch. 10¾" sqr. x 3½" d. Ship. Wt. 6 lbs. **TCB-8S.**
List Price $24.90

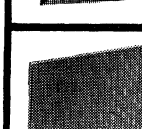
New "Troubador" system



Extension speaker with flair design hangs square or as a diamond. Dual cone 8" speaker, 8 ohms, 15 watts. Antique Birch or Dusk Walnut. 13¼" sqr. 3½" d. Ship. Wt. 5¼ lbs. **TSW-8S.** Audiophile net, **each $13.95**

TSV-8S — Vinyl/clad, 10 watts. Similar to above but with new miracle vinyl/clad wood grain finish, actually more beautiful and durable than wood itself. 10 watts. .....**Audiophile Net $11.95**

"PATIO" OUTDOOR SPEAKER



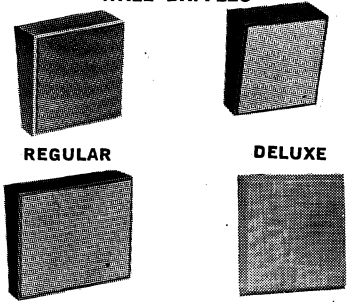
Durable redwood and cane have been combined with special moisture-resistant full-range 8" speaker. 10 watts, 8 ohms. Volume control. ¾" redwood enclosure has sealer coat; can be stained or painted. Baffleboard of marine grade plywood. Size: 14" x 10½" x 3½". Wt. 5½ lbs.

PAT-10 Audiophile net, **each $14.95**

Argos PRODUCTS COMPANY

- **Quality Speaker-Baffle Combinations**
- **Wall Baffles**
- **High Fidelity Speaker Systems**

WALL BAFFLES



REGULAR — DELUXE — PROFESSIONAL — FLAIR

Argos offers 4 wall baffle lines to meet every need. All utilize Argos famous Speedy Mounting Clip for fastest installation:

Regular Wall Baffles (WB series) are the standard of the industry for quality. In blond or walnut wood-grained vinyl with cane grill.

Deluxe Wall Baffles (DWB series) are furniture finished wood in Antique Birch or Dusk Walnut.

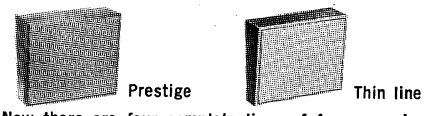
Professional Wall Baffle (PWB) is a large cubic capacity baffle for use with 8" speakers only. In blond or walnut wood grained vinyl.

Flair Baffle (FMB) is a stylish new flush mounting wall or ceiling baffle with concealed mounting screws. In Dusk Walnut or Antique Birch furniture finished wood.

Model	Spkr. Cap.	Width, Height, Depth, Inches	Cubic Inches	Ship. Wt. Lbs.	List Each
WB-4/5D	4/5	6½x 6⅜x4	100	2¾*	$5.38
WB-6D	6	8⅛x 8¾x5	210	4½*	6.50
WB-6/9D	6/9	10 x10¾x6½	400	6¼*	7.75
WB-8D	8	10 x10¾x6½	400	6¼*	7.75
WB-10D	10	12⅛x12⅝x7⅞	800	8*	10.00
WB-12D	12	13⅞x14¼x9⅛	1180	11*	10.63
DWB-8A	8	9¾x10½x6½	400	5½*	10.00
DWB-12A	12	13⅝x14 x9⅛	1180	9*	14.00
PWB-8C	8	16¼x14 x6¼	1000	6	11.25
FMB-8	8	11⅜ sq. x 1¼"	—	2¼	9.25

*Ship. Wt. of 2 in carton

SPEAKER-BAFFLE COMBINATIONS



Prestige — Thin line

Now there are four complete lines of Argos speaker-baffles. Each comes to you completely wired, ready to install. Prestige (PB series) — our finest, with handsome wood furniture finishes in Dusk Walnut and Antique Birch and cane grill. 8" speaker, 15 watts. Thin line **Dual Cone** (WB-408 series) — Slender, handsomely clad in blond or walnut wood-grained vinyl, almost undistinguishable from wood. 8" dual cone speaker, 10 watts, 8 ohms.

"Thinline Heavy-Duty" (WB-212 series) has 12" speaker with 10 oz. ceramic magnet. 18 watt capacity, 8 ohms impedance. Dimensions: 14"h x 16¼"w. x 6¼"d. Blond or walnut vinyl-clad.

Thin line **Low Level** (WB-108 series) Has 8" speaker, 6 watts, 8 ohms, blond or walnut vinyl covering.

PB-508CS—Baffle with speaker. Ship. Wt. 5¾ lbs. (11" x 9¾" x 5⅜") ..... **List Price $19.90**

PB-508CSL — Baffle, speaker, L pad. Ship. Wt. 5¾ lbs. ..... **List Price $23.65**

PB-508CST — Baffle, speaker, 70.7V.* transformer. Ship. Wt. 6¼ lbs. ..... **List Price $24.90**

PB-508CSLT — Baffle, speaker, L pad. 70.7-V.* transformer. Ship. Wt. 6¼ lbs. ... **List Price $27.90**

PB-508C — Baffle only. Max. spkr. depth 4¼". Ship. Wt. of two 6 lbs. ..... **List Price each $9.15**

PB-512C — 12" Prestige Baffle only, max. spkr. depth 6". Ship. Wt. of two 11 lbs. **List Price each $12.50**

WB-408CS — Baffle with speaker. Ship. Wt. 5 lbs. (12¼" x 9¾" x 4⅜") ..... **List Price $16.60**

WB-408CSL — Baffle, speaker, L pad. Ship. Wt. 5 lbs. ..... **List Price $20.35**

WB-408CST — Baffle, speaker, 70.7-V.* transformer. Ship. Wt. 5½ lbs. ..... **List Price $21.55**

WB-408CSLT — Baffle, speaker, L pad. 70.7-V.* transformer. Ship. Wt. 5½ lbs. ... **List Price $24.55**

WB-212CS — Baffle with speaker. Ship. Wt. 9¾ lbs. **List Price $26.25**

WB-212CSL — Baffle, speaker, L pad. Ship. Wt. 9¾ lbs. ..... **List Price $29.95**

WB-212CST — Baffle, speaker, and 70.7-V.* transformer. Ship. Wt. 10¼ lbs. ..... **List Price $31.25**

WB-212CSLT — Baffle, speaker, L pad. 70.7-V.* transformer. Ship. Wt. 10¼ lbs. **List Price $34.25**

WB-212C — 12" baffle only. Maximum speaker depth 4⅝". Ship. Wt. 5¾ lbs. ..... **List Price $10.63**

WB-108CS — Baffle with speaker. Ship. Wt. 4½ lbs. (12¼" x 9¾" x 4⅜") ..... **List Price $13.25**

WB-108CSV — Baffle, speaker, volume control. Ship. Wt. 4½ lbs. ..... **List Price $16.65**

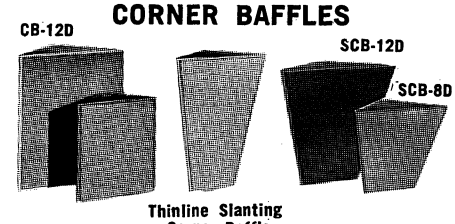
WB-108CST — Baffle, speaker, 70.7-V.* transformer. Ship. Wt. 5 lbs. ..... **List Price $18.25**

WB-108CSVT — Baffle, speaker, volume control, 70.7-V.* transformer. Ship. Wt. 5 lbs. **List Price $20.60**

WB-208C — 8" Thinline Baffle only. Max. spkr. depth 3". Ship. Wt. 3¼ lbs. ..... **List Price $7.75**

*Also available w/25V. transformer at same price on special order. 12 unit minimum.

CORNER BAFFLES



Thinline Slanting Corner Baffle

Favorites for their mounting ease and over-all high quality. Argos corner baffles are now available in 3 series to fill every need. Corner location and bass reflex design provide excellent tone. All have quick clip-on front, are held to walls with Argos Speedy Mounting Clips. Coverings are wood-grained vinyl, walnut or blond, with cane grills.

Thinline Slanting Corner Speaker-Baffle combination

Heavy-duty PA performance in a thin, slanting baffle complete with 8" speaker. 15 watts, 8 ohms. Transformers and L-pads available on special order, min. 12 units. SCB-208S Ship. Wt. 6 lbs. **List Price $23.25**

Slanting Corner Baffles

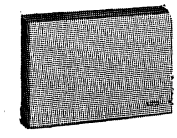
SCB-8D — Take 8" spkr. up to 5½" deep. Internal volume: 680 cubic inches. Size: 15"H x 17¾"W x 9"D. Ship. Wt. 6 lbs. ..... **List Price $15.75**

SCB-12D — Takes 12" spkr. up to 6⅛" deep. Volume: 1240 cubic inches. Size: 20"H x 20¾"W x 10½"D. Ship. Wt. 8 lbs. ..... **List Price $21.60**

Regular Corner Baffles

CB-8D — Takes 8" spkr. up to 4½" deep. Volume: 525 cubic inches. Size: 14"H x 12¼"W x 6½"D. Ship. Wt. 4½" lbs. ..... **List Price $13.10**

CB-12D — Takes 12" spkr. up to 6¼" deep. Volume: 1420 cubic inches. Size: 20"H x 17¾"W x 9"D. Ship. Wt. 8½ lbs. ..... **List Price $20.40**



Space Saver Extension Speaker System

Has 8" woofer, 3½" tweeter, crossover network. 12 watts, 8 ohms. Volume control. Furniture-finished hardwood enclosure 18"x12"x3⅜". Dusk Walnut or Antique Birch finish.

HFB-8SV — Wt. 6½ lbs. **Audiophile net, each $18.95**

TX-12 — A floor model of trim design to blend with any furniture arrangement.

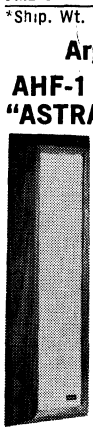
Has superb tonal realism from full-bass to the most crisp, high frequency passages. Features 12" woofer, 8" solid back midrange. 3½" tweeter. Response from 40 to 17,000 cycles. Enclosure is oiled and hand-rubbed ¾" American walnut. 24"x19"x57⅛" deep. Gracefull metal legs. Impedance 8 ohms; terminals marked for stereo phasing. Wt. 25 lbs...**Audiophile net, each $59.95**

Brass legs furnished with TX-12 available as accessory for any speaker system.

Model HFA-1 — Set of cabinet legs. **Audiophile net, $2.95**

Argos Decor/Oriented High Fidelity Speaker Systems

AHF-1 "ASTRA"

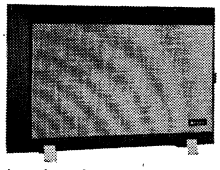


Tall, slender and elegant, "Astra" is first new speaker design in years. Contemporary styling is decoratively ideal for walls and unusual areas. Sound-column design uses scientific focusing principle to add extra projection to high tones. Ideal for stereo. 33¼" h x 10½" w x 4" d. 4 speakers — 2 Jensen woofers, 2 direct radiator tweeters. 50 to 17,000 cps response. Cabinet of genuine walnut with hand-rubbed oil finish. AHF-1 Ship. Wt. 15 lbs.

Audiophile net, each $49.95

The Solitaire — For Places Hi-Fi Could Never Go Before

A delight to see and hear, "Solitaire" offers extraordinary tonal brilliance, yet measures only 18"w x 12"h x 3¼"d. It's designed for desk, table, or wall to carry high fidelity music everywhere in home or office. Genuine walnut cabinet has hand-rubbed oil finish, grill cloth is neutral Belgian linen. Rests on its own miniature legs or hangs like a picture. Contains high-compliance Jensen woofer and separate direct-radiator tweeter give 50 to 17,000 cps. Stereo phased. Built-in volume control. SHF-1 Ship. Wt. 8¾ lbs.

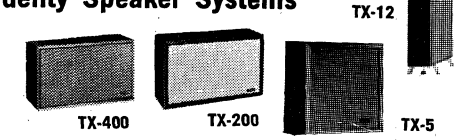


Audiophile net, each $29.95

Argos finest — TX-400 For Areas That Demand Big Systems Performance.

Argos' incomparable craftsmanship is blended with the industry's most advanced speaker technology for the sophisticated high fidelity requirement. Three-way system employs 12" Jensen woofer, 8" solid-back mid-range and horn-loaded compression driver. Distortion-free response from 35-18,000 cps. Genuine ¾" hand-rubbed, oiled walnut cabinet with Belgian linen grill cloth. Size: 25" x 14¾" x 9". Ship. Wt. 31 lbs.

Audiophile net, each $79.95



TX-400 — TX-200 — TX-5

TX-4E Enclosure. Same as enclosure for TX-400 except cut for 12" woofer, 8" mid-range and 3½" tweeter. Wt. 23 lbs.

Audiophile net, each $39.95

New! TX-200 — Where Space is Limited, But High Performance is Required.

Totally new dimension in high fidelity speaker system design — a genuine price breakthrough for such outstanding performance and craftsmanship. Features a high-compression driver matched to specially designed low resonance, high-compliance woofer. Undistorted response from 30-18,000 cps. Hand-rubbed ¾" oiled walnut cabinet, imported Belgian linen grill cloth. Size: 18⅞" x 11⅛" x 7⅞". Ship. Wt. 18 lbs.

Audiophile net, each $45.00

TX-1 — For High Activity Areas Like Game Rooms.

Unequalled for pure value! Unit features a special 8", 45-cycle woofer and 3½" tweeter. Response: 45-17,000 cps. Impedance: 8 ohms. Terminals marked for stereo phasing. Optional miniature legs. Walnut wood-grain vinyl finish. Size: 24" x 11" x 9". Ship. wt. 18 lbs.

Audiophile net, $29.95

TX-1E. Enclosure only, wt. 15 lbs.

Audiophile net, $19.95

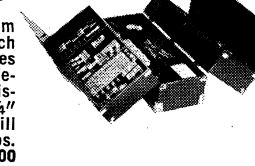
TX-2E. Enclosure, same as TX-1E except genuine hand-rubbed walnut. Ship. wt. 19½ lb. **Audiophile net, $29.95**

TX-5 — Popular Cube Shape Tastefully Fills "Nooks and Crannys"

Has sound fidelity normally associated with more costly and far larger high fidelity speaker systems. The ¾" hand-rubbed oiled walnut cabinet is 12⅜"x 13⅜"x10" deep. Has 8" woofer and a 3½" tweeter. 50 to 17,000 cycles. Wired through crossover network to terminal strip, marked for stereo phasing. 8 ohms.

TX-5 — Wt. 16 lbs. ..... **Audiophile net, each $32.50**

RUGGEDIZED TUBE CADDIES™



TC-600 — Super 600 Tube Caddy.

The most rugged Tube Caddy ever built. Heavy 16 gauge steel runners protect the bottom and corners. Upper fold out sections and covers rest on floor when open. Has over 3300 cubic inches in volume. Holds countless tubes, tools, soldering gun, meters and accessories. New grey vinyl covering. Size: 24" x 16½" x 8½". Ship. Wt. 20½ lbs.

Net Price $29.95

TC-500 — Super Tube Caddy — A real man-size case with space for everything. Over 3300 cubic inches in volume. More durable than ever with extra bracing and more metal corners. New grey vinyl covering. Size: 24" x 16½" x 8½". Ship Wt. 17 lbs.

Net Price $23.95

TC-400 — Carry-All Tube Caddy — Most popular Tube Caddy ever made. Break-away design gives quick access to all sections. Holds up to 262 tubes . . . less with tools. New grey vinyl and more metal corners. Size: 21" x 15" x 8". Ship. Wt. 11 lbs.

Net Price $16.95

TC-200 Tube Caddy Junior — Smaller, easy-to-carry size for quick trips or as companion to other Argos Tube Caddies. Up to 143 tubes, less with tools. Grey vinyl covering. Size: 15¾" x 12½" x 8". Ship. Wt. 8 lbs. ..... **Net Price $10.95**

Argos Products Co.

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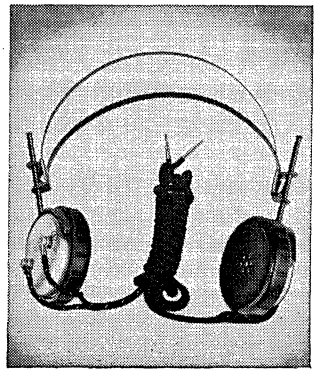
HEADPHONES By C. F. CANNON CO.



BRANDES "SUPERIOR"
Matched Tone Headset

A rugged headset, millions of which are in use all over the world. Large size diaphragms of 2⅛" diameter assure efficient performance. Outside terminals, with polished aluminum cases and bakelite caps. Double coils, two in each receiver. Chrome steel magnets. Steel headband with permanent adjusment. 4½ ft. cotton covered cord.

BS-2—2000 ohms D.C. .....Net $3.12

BRANDES "ADMIRAL"
Matched Tone Headset

The Brandes "Admiral" is of the same general construction as the Brandes Superior, but has terminals on the inside.

BA-2—2000 ohms D.C. .....Net $3.12
BA-3—3000 ohms D.C. .....Net 3.30
BA-5—5000 ohms D.C. .....Net 3.54

THE "CHIEF"
Cannon-Ball Bakelite Headset

A high quality headset of durable molded black plastic. Attractive in appearance, it is a sensitive and practical phone for every headset use. Inside terminals. Diameter of diaphragm is 2⅛". Double coils, two in each receiver. Alnico permanent magnets. Supplied with vinyl plastic covered headband with permanent adjustment and no removable parts. Cotton covered cord, 4½ ft. long.

CC-2—2000 ohms D.C. .....Net $3.03
CC-3—3000 ohms D.C. .....Net 3.18
CC-5—5000 ohms D.C. .....Net 3.69
CC-11—11 ohms D.C. .....Net 3.03

CANNON-BALL ALNICO MAGNETIC No. 25

A New Headset of Unusual Quality, Efficiency and Durability, powered by Alnico V magnets.

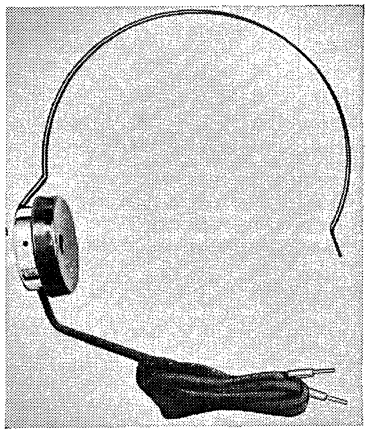
The headband is covered by attractive black extruded vinylite and provides utmost wearing comfort. Limits turn of phone to prevent twisting of cord. Cap and case of molded plastic. Large size diaphragm 2⅛". Equipped with sanitary moisture-resistant plastic cord with riveted crotch piece.

AM-25-2 .....Net $4.14
AM-25-3 .....Net 4.44
AM-25-5 .....Net 5.10

ALNICO MAGNETIC No. 15

A new, small size, extra sensitive double headset, light in weight. Diameter of diaphragm 1⅞". Molded cap and case. Steel adjustable headband. 4½ ft. cord.

AM-15-2 .....Net $2.73
AM-15-3 .....Net 2.88



CANNON-BALL "ALNICO"
Single Headphone

Equal in clarity and volume to most double headsets, efficient and attractive. Permits listening while being addressed by others. Concealed terminals. Diaphragm 1⅞". Bakelite case and caps. Alnico magnet, double coils. 4½ ft. cord. Spring steel headband permanently attached.

AM-15-1—1000 ohms D.C. .....Net $1.48

THE "MASTER"
Cannon-Ball Headset

Used extensively in hospitals and other institutions as well as for general purposes, and is especially recommended for institutions. Inside terminals Aluminum cases with black bakelite caps. Spring steel adjustable headband with no removable parts. Diaphragm 2⅛" diameter. Double coils. Chrome steel magnets. 4½ ft. cotton-covered cord.

MC-2—2000 ohms D.C. .....Net $3.12
MS-3—3000 ohms D.C. .....Net 3.33
MC-5—5000 ohms D.C. .....Net 3.84

CANNON-BALL "EMPIRE"
Lightweight Headset

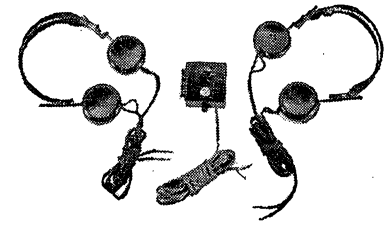
A low-priced light-weight headset with large magnet and double coils. Reproduces with clarity and good volume. Diameter of diaphragm is 1⅞". Polished aluminum cases with bakelite caps. Steel adjustable headband. 4½ ft. cord. Inside terminal connections.

EC-2—2000 ohms D.C. .....Net $2.82
EC-3—3000 ohms D.C. .....Net 2.97

THE "DIXIE"
Cannon-Ball Headset

The "Dixie" is of the same general construction as the "Master" headset except that the terminals are on the outside. Bakelite case Alnico magnets.

CD-2—2000 ohms D.C. .....Net $2.88
CD-3—3000 ohms D.C. .....Net 3.03



CANNON-BALL HEARING AID FOR TELEVISION

Provides private listening without disturbing others. Excellent for persons hard of hearing. Can be attached to any television set and permits listening to phones alone, speaker alone, or both together.

FOR TELEVISION

Kit complete with 15 foot cord and phone volume control.

With 2 headsets.....Net $10.50
With 1 headset.....Net 7.95

MOLDED RUBBER CUSHIONS

Fit standard size headsets. Molded-in air chamber provides maximum wearing comfort.

per pair.....Net $ .60

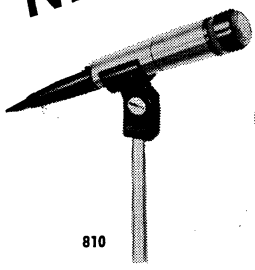
Phones can be supplied with any resistance required or with variations to meet special requirements.

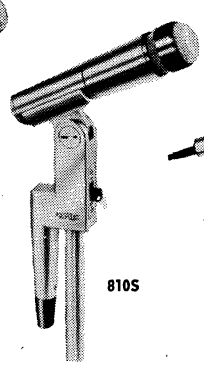
Sanitary plastic covered cords available for institutional use. Write for special quotation.

ASTATIC Microphones, Accessories

NEW!

SETTING A NEW STANDARD OF PERFORMANCE, APPEARANCE, AND DEPENDABILITY.


810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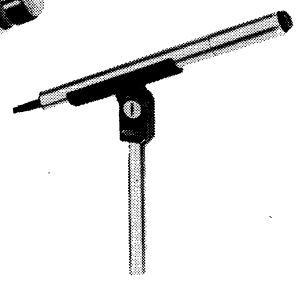
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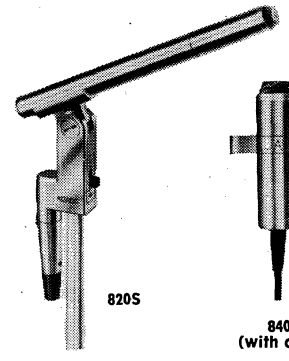
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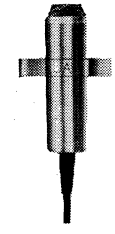
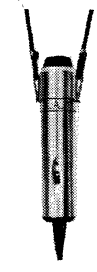

840 (with clip)


840S (with Lavalier cord)

810 ULTRA CARDIOID

Exclusive Astatic "Sibrophase" system provides the greatest front-to-back ratio in the industry. Perfect cardioid polar pattern, wide range tailored response, multi impedance, modern styling, rugged construction. DuPont Mylar® diaphragms all serve to make these new microphones ideal for Public address, Broadcast and Recording, indoors or outdoors. Feedback, unwanted pickup, reverberation, "Pop" & "Blast" are problems of the past. **MODEL 810** for hand held or stand use has the new "Easy-On" swivel adaptor. **MODEL 810S** has an on-off switch built into the integral swivel mount. Both models are available in non-reflecting brushed satin chrome with **black chrome** trim, or in brushed satin gold to harmonize with entertainment or sacramental decor; come with broadcast type connector and 18 feet of shielded cable. **Front to Back Pickup:** 25db. **Output:** —50db at High Z, —54db at Low Z. **Frequency Response:** 40-15,000 Hz. **Impedance:** High Z, EIA 40,000 ohms; Low Z, EIA 150 ohms. **Size:** 5-9/16" x 1-5/16". **Weight:** (less cables) 810—9 ounces; 810S—18 ounces.

	List Price
Model 810—With "easy-on" adaptor	**$85.00**
Model 810 Gold—As above with gold finish	**$90.00**
Model 810S—With built-in on-off switch	**$89.00**
Model 810S Gold—As above with gold finish	**$94.00**

820 OMNIDIRECTIONAL PROBE

A dynamic, slim and modern probe with the ultimate versatility for all sound applications. Omnidirectional sensitivity allows sounds from all directions to come through with uniform volume and clarity. Ideal for choirs and vocal groups and other music or voice pickup where balanced sound is required. Grille screens and filters, and the Du Pont Mylar® "Pop" and "Blast" resistant diaphragm allow the 820 series to perform well indoors or outdoors. **MODEL 820** for hand held or stand use has the new "Easy-On" swivel adaptor, broadcast type connector. **MODEL 820S** has an on-off switch built into the integral swivel mount. Both models are available in non-reflecting brushed satin chrome with **black chrome** trim, or in brushed satin gold to harmonize with entertainment or sacramental decor, comes with 18 ft. of shielded cable. High or Low impedance can be selected by a simple, solderless, pin change. **Output:** —61db at High Z. —60db at Low Z. **Frequency Response:** 40-18,000 Hz. **Impedance:** High Z, EIA 40,000 ohms; Low Z, EIA 150 ohms. **Size:** 9" x ¾" **Weight:** 820: 27 ounces with cable, 820S: 14.5 ounces without cable.

	List Price
Model 820—With "easy-on" adaptor	**$79.50**
Model 820 Gold—As above with gold finish	**$84.50**
Model 820S—With on-off switch built in	**$85.00**
Model 820S Gold—As above with gold finish	**$90.00**

840 LAVALIER

A dramatic little microphone, outstanding in performance whether worn or hand held, that can't be matched for applications requiring the microphone to move with the performer. Complete with tie lapel clip and neck cord accessories — the 840 is engineered for maximum intelligibility despite chest cavity resonance. Response pattern can easily be converted for hand held use. DuPont Mylar® diaphragm provides long life, stable flexibility and "Pop" and "Blast" resistant features. Wide response range and uniform response pattern tailored for voice broadcasting, public address and lecturers. **MODEL 840S** has an on-off switch built into the microphone body. Both models come with 30 feet of super flexible ⅛" diameter cable and are available in non-reflecting brushed satin chrome, or in brushed satin gold. **Output** —59db. **Frequency Response:** 50-12,000 Hz as Lavalier, 50-16,000 Hz as Hand Held. **Impedance:** Low, 150 ohms. **Size:** 840: 2⅝" x ¾", 840S: 3¾" x ¾". **Weight:** (without cables) 840: 1¼ ounces, 840S: 1¾ ounces. **Weight:** (with cables) 840: 5½ ounces, 840S: 6¼ ounces.

	List Price
Model 840—With clips and neck cord	**$85.00**
Model 840 Gold—As above with gold finish	**$90.00**
Model 840S—With built-in, on-off switch	**$90.00**
Model 840S Gold—As above with gold finish	**$95.00**

77-L

MODEL 77 DYNAMIC CARDIOID

A most positive anti-feed microphone. Also available in gold finish. Unidirectional design has suspended cartridge; eliminates external shock mounts. Built-in impedance selector. **Front-to-Back Pick-up:** 18 db differential. **Output:** —48 db. **Frequency Response:** 30-15,000 cps. **Impedance:** Low-Z, 30-50 ohms; medium, 150-250 ohms; high, 40,000 ohms. Shipping Weight: Approximately 2 lbs., 6 oz., less stand.

Model 77—With on-off switch and provisions for locking in "on" position. List Price **$82.50**

Model 77 Gold Finish—List Price **$92.50**

Model 77-L—Head only for mounting on G Stand. List Price. **72.50**

Model 77-L Gold Finish—List Price **82.50**

Model G-77—Includes G Stand and 8' cable. List Price **97.45**

DN-50

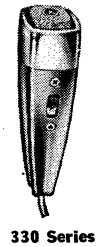
MODEL DN-50 "THE COMMENTATOR"

General Purpose. Unitary moving coil system, carefully proportioned acoustic circuit. **Response:** 50-10,000 cps. **Output:** DN-50, —51 db; DN-HZ, —52 db. Semi or non-directional. Opalescent gray and bright chrome finish. With 10' cable. **Size:** 6⅞" h. 2⅝" grill dia., 4⅝" d. **Net Wt:** 1 lb. 12 oz. (mike only).

MODEL	DESCRIPTION	LIST
DN-50	50 OHM Impedance, 10 Foot Cable	$33.50
GDN-50	50 OHM Impedance, with Grip-To-Talk Stand and 6 FT. of Shielded Cable.	52.70
UG8-DN50	Same as above but Balanced	57.70
DN-HZ	25,000 or more Impedance, 10 Foot Cable	39.70
GDN-HZ	Same as above, with Grip-To-Talk Desk Stand and 6 FT. of Shielded Cable.	59.90

See next page for description of Grip-To-Talk Stand.

SERIES 330 AND GOOSENECK SERIES 330-GS


330 Series

330 Series
(See next page for matching stand)

Small, slim mikes with quality performance for various applications at real low price. Model 331 has momentary on, spring-return switch, furnished with hang-up bracket. Cable provides for audio and relay connections. All other models have slide switch with "lock-on" position complete with lavalier and stand adapter with ⅜"-27 thread. High impedance except Model 335L.

330-GS

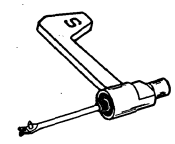
Professional performing, all purpose gooseneck microphones for intercommunications, tape recording, amateur language laboratories and many other applications. Gooseneck is permanently attached, 13" in length. Complete with 7' single conductor, shielded cable (335L-GS, 2-cond. for balanced line).

330-GS Series

Model	Type	Output	Freq.	Body	Grille	Cap	Goose Neck	List
331	Ceramic	—58db	300- 7000	Black	Black	Chrome	—	$17.90
332	Crystal	—54db	30-15000	Chrome	Black	Chrome	—	17.90
332GS	Crystal	—54db	30-15000	Chrome	Chrome	Chrome	Chrome	24.50
333	Ceramic	—58db	30-10000	Black	Black	Chrome	—	17.90
333GS	Ceramic	—58db	30-10000	Black	Black	Black	Chrome	24.50
335H	Dynamic	—56db	100-12000	T.V. Gray	Chrome	Chrome	—	26.50
335H-GS	Dynamic	—56db	100-12000	Chrome	Chrome	Chrome	Chrome	33.00
335L	Dynamic	—57db	100-12000	T.V. Gray	Chrome	Chrome	—	23.50
335L-GS	Dyanmic	—57db	100-12000	Chrome	Chrome	Chrome	Chrome	30.00

ASTATIC PHONOGRAPH NEEDLES AND CARTRIDGES

• For over 25 years Astatic has maintained its number one position as the world's leader in supplying the most complete line of phonograph cartridges for O.E.M.'s and Distributors.



• Needle for needle, Astatic always has the highest quality and the most complete line of needles. Regardless of the original manufacturer of the phonograph, Astatic has the replacement needle for the cartridge on hand and ready for immediate delivery.

Trade Discount Applies To List Prices Only

© United Technical Publications

ASTATIC Microphones, Accessories

D-104

SERIES D-104 "PREMIER"

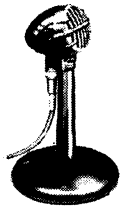
The radio amateur's first choice. Balanced performance. Machined brass parts; heavy mesh grille; chrome finish. Standard ⅝"-27 thread mounting; adaptable to SC-11 lock-switch adapter or can be mounted on Model G (grip-to-talk) stand. Metal seal crystal offers protection against moisture and dryness. Ceramic immune to excessive heat and humidity. 3" dia., -⅛" deep. Weight, 14 oz. Complete with 5' single conductor shielded cable.

Model D-104 Crystal—Output, —46 db; impedance, 1-5 megs; response, 30-7,500 cps rising 500-4,000 cps. List..... $31.00

Model D104C Ceramic—Output, —49 db; all other characteristics similar to D-104. List Price..... $31.00

Model SC-11 Adapter—List Price..... 9.00

Model G Stand—With grip-to-talk On-Off switch. List..... 24.95



JT-30

SERIES JT-30 "SPOKESMAN"

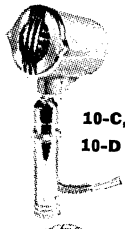
Streamline die-cast alloy housing; gray Hammerlin finish with chrome grille and fittings; including handle and interlocking base. Concentric cable connector. For general PA, recording and communication. 8" high, 2-5/16" grille dia., 5⅛" base die. Weight 21 oz.

Model JT-30 Crystal—Output, —49 db; Impedance, 1-5 megs; response 30-10,000 cps. Complete with 8' single-conductor shielded cable. List Price..... $18.40

Model JT-30-C Ceramic—Same as JT-30 except with —54 db output and 5' cable. List Price..... $18.90

Model JT-30-F Crystal (Head Only)—Same as Model JT-30, except less handle and desk stand. Threaded ⅝"-27 for mounting. List Price..... $15.90

Model JT-30-CF Ceramic (Head Only)—Same as Model JT-30-C, except less handle and desk stand. Threaded ⅝"-27 for mounting. List Price..... $16.40



10-C, 10-D

MODELS 10-C, 10-D "THE VOICE"

Ideal for SSB, AM transmitters, paging and industrial applications. High impedance. **Output:** —52 db, Model 10-D; —54 db, Model 10-C. **Range:** 300-3,000 cps. Plug-in ⅝"-27 thread mounting with 5' cable.

Model 10-C Ceramic—Gray chrome grille. List Price..... $29.70

Model G-10-C Ceramic—Same as above, but with "G" (grip-to-talk) stand. List Price..... $49.90

Model 10-D Dynamic—Chrome body and grille. List Price..... 39.70

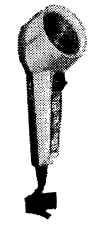
Model G-10-D Dynamic—Same as above, but with "G" (grip-to-talk) stand. List Price..... $59.90

T-3

MODEL T-3 CRYSTAL

For studios, intercom, amateur, PA, recording. **Response:** 30-10,000 cps. **Output Level:** —54 db. Semi- or non-directional. With connector, 10' cable. All chrome finish.

Model T-3 Crystal Microphone—List Price..... $29.30



513H, 511

MODEL 513H MOBILE MICROPHONE

Dynamic mike for Citizens' Band and other communications. Low background noise, feedback and hum. Semi-directional polar pattern. Wide temperature range; humidity-proof. **Frequency Response:** 200-9,000 cps. **Output Level:** —50 db at 1 v./microbar. **Impedance:** 40,000 ohms. With press-to-talk switch, snap-removal mounting bracket and three-conductor (one shielded) coiled cable 5½' long, extended. **Size:** 2¼" w. x 2½" d. x 6" h. **Weight:** 10 oz.

Model 513H Mobile Mike—List Price..... $34.50

MODEL 511 MOBILE MICROPHONE

Ceramic element mike for Citizens' Band and similar uses. Low background noise, feedback and hum. Semi-directional polar pattern. **Frequency Response:** 200-4,000 cps. **Output Level:** —50 db at 1 v./microbar. **Impedance:** 250,000 ohms (1,000 cps). With press-to-talk switch, snap-removal mounting bracket and three-conductor (one shielded) coiled cable extending to 5½'· long. **Size:** 2¼" w. x 2½" d. x 6" h. **Weight:** 7 oz.

Model 511 Ceramic Mike—List Price..... $19.95

531

MODEL 531 MOBILE MICROPHONE

High performance ceramic mike for amateur and Citizens' Band applications. Carefully calculated response characteristic for maximum clarity and intelligibility. Semi-directional polar pattern. Fully shielded to minimize hum pickup. **Frequency Response:** 150-3,500 cps with 6 db rise in 2,000 cps range. **Output Level:** —50 db at 1 v./microbar. **Impedance:** 250,000 ohms, approx. at 1,000 cps (EIA, 100,000 ohms). With press-to-talk switch, molded high impact plastic housing and three-conductor (one-shielded) coiled vinyl cord, 5' long extended. **Size:** 2⅝" W. x 1-5/16" d. x 3⅜" h. **Weight:** 7¼ oz.

Model 531 Mobile Mike—List Price..... $12.75

539

NEW MODEL 539 NOISE CANCELLING MIKE

Super talk power, ceramic mike is highly recommended for CB or ham operations. High output for effective use in noisy locations. features 360° differential cancellation of background noise for sharp, clear speech. Lip bar maintains uniform, close spacing for high output modulation and maximum cancellation. **Frequency Response:** 100-3,500 cps with mike held for close talking using lip bar **Output Level:** —50 db at 1 v./microbar. **Impedance:** 250,000 ohms, approx. at 1 kc (EIA, 100,000 ohms). With press-to-talk DPDT switch; wired for relay or electronic switching. Coiled 3-cond. (one cond. shielded) cable extends to 5 ft. High impact plastic housing. **Size:** 2⅝" w. x 1-5/16" d. x 3⅜" h.

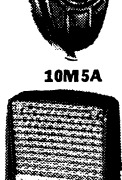
Model 539— Noise Cancelling Mike—List Price..... $17.50

10M5A

MODEL 10M5A "COMMUNICATOR"

For mobile, ship-shore, etc. Sensitive and rugged. **Response:** 100-4,000 cps. **Output Level:** —40 db at 1 v./microbar. Press-to-talk DPST switch. Retracting cable 12-in. coiled extends to 8'. Gray finish.

Model 10M5A Carbon Microphone—List Price..... $29.50



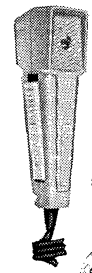
150, 151

SERIES 150 RECORDER MIKES

For tape recorder use. Low cost; high output; outstanding performance; compact in size. **Size:** 2-3/16" sq. x 1¼" d. Plastic housing with rigid metal grille. With 5' cable.

Model 150 Crystal Mike—Frequency response, 30-10,000 cps. **Output:** —48 db. List price..... $6.50

Model 151 Ceramic Mike—Frequency response, 30-8,000 cps. **Output:** —48 db. List price..... $6.50



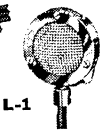
551

MODEL 551 INDUSTRIAL MICROPHONE

Dynamic industrial mike provides high intelligibility in noisy areas. Housing and transformer shielded. Withstands temperatures to 200° F; 180° F indefinitely. Moisture-sealed. Semi-directional polar pattern. **Frequency Response:** 300-6,000 cps, high impedance; 300-6,500 cps, low impedance. **Output Level:** —50 db at 1 mw/10 dynes/cm², low impedance; —46 db at 1 v./microbar, high impedance; both open circuit, 1000 cps. **Impedance:** 150 or 40,000 ohms, adjustable. With press-to-talk switch, virtually unbreakable Delrin* housing, and four-conductor (shielded mike, two relay) coiled cord extends to 8' long. **Size:** 1⅞" x 2" x 6⅞". **Weight:** 23 oz.

Model 551 Industrial Mike—List Price..... $69.50

*DuPont trademark.



L-1

MODEL L-1 CRYSTAL LAPEL MIKE

Tiny dual diaphragm with spring clip and 15' of small diameter single conductor shielded cable. Machined brass housing with wire mesh front and rear grilles; black melamine finish. **Output:** —62 db. **Impedance:** 1-5 megohms. **Response:** 30-10,000 cps. 1½" dia., ¾" deep. **Weight:** 7 oz.

Model L-1 Crystal Lapel Microphone—List Price..... $27.35

200-S, 241-S

"VELVET VOICE" CRYSTAL MICROPHONES

For PA, home recording, ham, paging, radio. Use with floor or desk stand or in hand. Gold finished housing and handle; chrome grille; brown detachable base. ⅝"-27 mounting. 8" high, 2½" grille dia. 5⅛" base dia. Weight, 24 oz.

Model 200—Output. —50 db; impedance, 1-5 megs; response, 30-7,000 cps. With 8' cable. List Price..... $19.50

Model 200-S—With on-off switch in handle. List Price..... $21.50

Model 241-S—Same as 200-S, except response 30-10,000 cps with rising response from 1,500-5,500 cps. List Price..... $21.50

988

With A-8 Stand

MODELS 788, 888, 988 DYNAMICS

Precision "Futura" adjustable impedance, omnidirectional balanced microphones come complete with desk-floor stand adapter, lavalier cord and assembly, belt clip and 20' two wire shielded cable.

"Metro" 788 for indoor or outdoor P.A. or broadcast of music or voice. Built-in on-off switch, rugged construction. 8⅞" x 1⅜" Net Wt. 8 oz without cable.

"Tempo" 888 for sound stage, broadcast, Deluxe P.A. High Fidelity in modern, rugged design. 9⅛" x 1-9/32". Net Wt. 9 oz. without cable.

"Vogue" 988 for finest, most exacting requirements of T.V. and radio. Modern styling, built-in on-off switch, rugged construction. 9-11/32" x 1-9/32". New Wt. 8¾ oz. without cable.

Model	LO-Z Output	HI-Z Output	Response	Impedance	Finish	List
788	—58db	—56db	60-13K,cps	150,HI	Blk & Gold	$79.50
888	—58db	—56db	50-15K,cps	50,200,HI	Blk & Chr.	110.00
988	—58db	—	40-17K,cps	50,150, 250	Blk & Gold	150.00

STANDS, CARTRIDGES AND LINE TRANSFORMER

A-7 A-8

G, UG8 E-1 E-5-G, E-5-B

Model A-7 Desk Stand—With adjustable swivel Use with 330 series. List Price..... $2.45

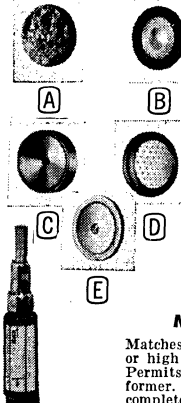
Model A-8 Desk Stand — Use with 788, 888, 988 Series. List Price..... $8.25

Model G Desk Stand—Has grip-to-talk SPST on-off switch, sliding bar for "lock-on". Use with DN-50, DN-HZ, T3, D-104, D-104-C, 10-C, 10-D and 77L. Finish: Bright chrome, gray Hammerlin base. List Price..... $24.95

Model UG8 Stand—Same as Model G, with DPDT switch for balanced or unbalanced line. Thread, 13/16" x 27; eight-terminal strip in base adapts to any circuit. List Price..... $29.95

Model E-5-G and E-5-B Desk Stands—Finish: Gray or brown Hammerlin base with bright chrome stem. Has ⅝"-27 thread. Overall height 8". List Price..... $7.75

Model E-1 Desk Stand—Finish: Gray Hammerlin base, bright chrome trim. Has ⅝"-27 thread. Overall height, 5½". List Price..... $8.25



LT-6

REPLACEMENT MICROPHONE CARTRIDGES

Model	Fig.	Use With Astatic Mike Model	List
MC 151	D	CX, CX-1, 200, 241, JT-30, JT-30-F, JT-40, T-3	$7.00
MC 127	D	CC, CC-1, VC, VC-1, JT-30-C, JT-30-CF, JT-40-C, T-3C	7.00
MC 451	E	10M5, 10M5A, 11M5	8.75
MC 563	B	DN-50, DN-500, DN-HZ, DN-MZ, 10-D	16.50
MC 320	A	D-104	9.50
MC 321	A	D-104-C	7.00
MC 551	C	M301	7.00
MC 558*	....	332	7.00
MC 559-2*	....	331	7.00
MC 560*	....	335H, 335L	7.75

*Mikes without screw-fastened caps should be returned to factory for repairs.

MODEL LT-6 LINE-MATCHING TRANSFORMER

Matches low impedance microphone to high impedance amplifier input; or high impedance dynamic microphone to low impedance amplifier input. Permits long length of cable on the low impedance side of the transformer. Eliminates high frequency loss and objectionable hum pickup. completely shielded. **Input:** 30-50 or 150-250 ohms. **Output:** 40,000 ohms or higher. **Response:** ±1 db, 20-20,000 cps. Supplied with Amphenol 91-852 and 75-MCIF end connectors. Opalescent gray body with chrome finish connectors. **Size:** ⅞" dia.

Model LT-6 Transformer—List Price..... $17.50

THE ASTATIC CORP.

MANUFACTURERS OF PHONOGRAPH CARTRIDGES • NEEDLES • PICKUPS • MICROPHONES • RECORDING TAPE • ELECTRONIC DEVICES

ATLAS SOUND

ATLAS SOUND PAGING AND TALK BACK SPEAKERS

HU and **CJ** models are equipped with the "Versalock" mounting bracket. Rigid, rugged, dependable bracket is completely adjustable on both a horizontal and vertical plane, affording "pin-point" directivity and simple secure mounting. HU horns are constructed of aluminum, while the CJ horns are molded of indestructible Fiberglass. Rugged diecastings and tough steel parts add strength. All are 100% weatherproof.

HU-12N

HU-12N Small in size, low in cost. Excellent for low power paging and talk-back systems where limited coverage is required.

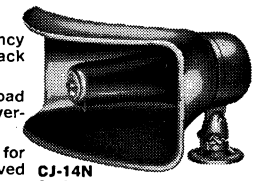
HU-15N
HU-24N

HU-15N The most popular all-purpose, trouble-free speaker of its type and size.

HU-24N Similar to HU-15N. Larger horn improves low frequency response, increases over-all efficiency. For paging and talk-back systems that are also required to reproduce music.

CJ-14N Wide angle speaker with rectangular horn opening for broad sound dispersion in horizontal plane while maintaining good vertical coverage.

EC-10 Lowest priced American-made speaker designed specially for low power systems requiring limited coverage. Gives improved results and high efficiency for intercom and other applications formerly using cone speakers.

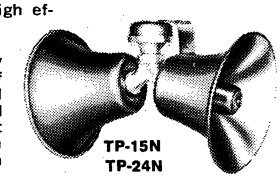


CJ-14N
CJ-30N

Horn sections molded of new tough, all-weather, acrylic plastic. Handsome beige-brown color combination blends with any decor. Tough steel bracket is adjustable and makes mounting simple and secure. Unmatched where size, weight, appearance and high efficiency combined with low cost are factors.

CJ-30N Similar to CJ-14N, except power handling capacity is increased. Larger, wide angle horn improves low frequency response.

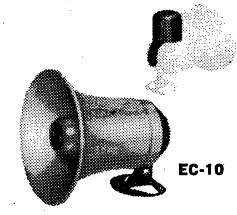
TP-15N One high efficiency driver unit does the work of two for low cost bi-directional coverage in long corridors and outdoors. Universal bracket mounts dual horns at a 10° angle down or out from wall surface or pole.



TP-15N
TP-24N

TP-24N Same as TP-15N but equipped with oversized horns for improved low frequency response. Excellent for bi-directional paging locations required to reproduce music.

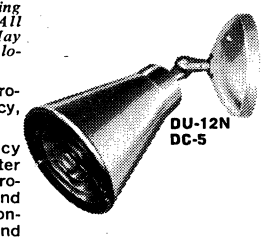
The DeCor speakers described below are designed to simulate a lamp, handsomely styled for contemporary interiors. All horn parts, fully adjustable bracket and base-canopy, are finished in brushed satin aluminum. Base-canopy conceals wiring and matching transformer, if required. All mounting hardware included. May be used outdoors in sheltered location.



EC-10

DU-12N With driver type reproducer unit for high efficiency, directivity and intelligibility.

DC-5 With high efficiency weather-resistant 5" diameter cone speaker for pleasing reproduction of low level voice and music. Ideal for churches, conference halls, restaurants and similar quiet surroundings.

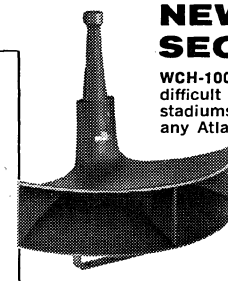


DU-12N
DC-5

MODEL	POWER	IMPEDANCE (specify)	FREQUENCY cps	SOUND LEVEL#	DISPERSION	DIMENSIONS	SHIPPING WEIGHT	NET PRICE
EC-10	6 Watts	8 or 45 ohms	400-13,000	112 db	125°	6¼" Bell dia. 6⅜" deep	2½ lbs.	8Ω $15.15 45Ω $16.65
*HU-12N	7.5 Watts	8 or 45 ohms	350-13,000	115 db	120°	7½" Bell dia. 7¼" deep	3½ lbs.	8Ω $18.75 45Ω $20.25
*HU-15N	25 Watts	8 or 45 ohms	250-13,000	123 db	100°	9¾" Bell dia. 8¾" deep	6 lbs.	8Ω $22.95 45Ω $24.45
HU-24N	25 Watts	8 or 45 ohms	200-13,000	124 db	95°	11¼" Bell dia. 12" deep	6 lbs.	8Ω $25.80 45Ω $27.30
CJ-14N	7.5 Watts	8 or 45 ohms	350-13,000	115 db	120° x 60°	5½" high 9½" wide 8" deep	3½ lbs.	8Ω $21.15 45Ω $22.65
CJ-30N	25 Watts	8 or 45 ohms	250-13,000	121 db	120° x 60°	6" high 14" wide 11¼" deep	7 lbs.	8Ω $27.60 45Ω $29.10
TP-15N	25 Watts	8 or 45 ohms	250-13,000	120 db Each horn	100° Each horn	9¾" Bell dia. 16½" long	7½ lbs.	8Ω $36.45 45Ω $37.95
TP-24N	25 Watts	8 or 45 ohms	200-13,000	121 db Each horn	95° Each horn	11¼" Bell dia. 23" long	8 lbs.	8Ω $40.80 45Ω $42.30
DU-12N	7.5 Watts	8 or 45 ohms	350-13,000	115 db	110°	7" Bell dia. 14" long	4 lbs.	8Ω $24.90 45Ω $26.40
DC-5	6 Watts	8 ohms	120-7,000	105 db	—	7" Bell dia. 14" long	3 lbs.	8Ω $15.75

Available with factory preassembled and prewired T-11 weatherproof line transformer.
Model HU-12NT: Net Price: **$27.00.** Model HU-15NT: Net Price **$29.85**
Measured at 4 ft. on axis rated power.

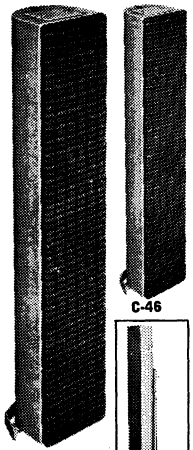
NEW! ATLAS SOUND SECTORAL HORNS



WCH-100 Extremely rugged cast aluminum sectoral horn for difficult environmental or atmospheric locations. Ideal for stadiums, factories, mills, industrial yards, etc. For use with any Atlas Sound driver or unit having 1⅜"-18 thread. Unique mounting bracket permits adjustment in two planes. Dispersion: 120° x 50°. Dimensions: 18" high x 23" wide x 15" deep. Weight 17 lbs.

WCH-200 Same as WCH-100 except designed to accommodate flanged mounted drivers.

WCH-100 ..... **Net Price $69.00**
WCH-200 ..... **Net Price $70.80**



C-66

C-46

ATLAS SOUND Columair SOUND COLUMNS

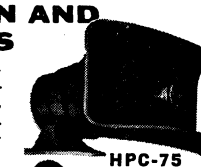
(with exclusive EASY-MOUNT Universal Bracket)

In-line array of 6 frequency adjusted cone speakers. Configuration produces a sound pattern having a broad horizontal and narrow vertical distribution. Uniform sound intensity even at varying distances from the sound column. EASY-MOUNT swivel bracket permits optimum adjustment of critical beam pattern.

SPECIFICATIONS	C-46	C-66	WR-7
Speaker Array	Six, Four-Inch	Six, Six-Inch	
Frequency Range	200-10,000 Hz	125-10,000 Hz	70-15,000 Hz
*Power Capacity	20 Watts	40 Watts	15 Watts
**Vert. Distribution Angle	26-36 Degrees	22-32 Degrees	
**Hor. Distribution Angle	120-160 Degrees	120-160 Degrees	
Impedance (Total)	16 Ohms	16 ohms	8 ohms
Dimensions	28" x 5¼" x 5"	42" x 7¾" x 6"	18" x 8" x 5½"
Net Weight	8¼ Lbs.	18½ Lbs.	8 lbs.
Net Price	$42.00	$63.60	$23.40

Model MK-1 Columair stand attachment kit.——— Net Price $1.70
Model SS-4 Speaker stand for Columair.——— Net Price $16.70

ATLAS SOUND HIGH POWER ELECTRONIC SIREN AND MOBILE SPEAKERS

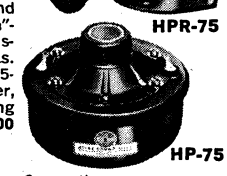


HPC-75

HPC-75 For electronic siren applications and high power mobile power address use. Low silhouette public glass, cobra-flare horn gives widedispersion. Rigid, one-piece cast bracket for fail-safe mounting. Weatherproof. Power: 75 watts. Impedance: 16 ohms. Response: 225-8,000 Hz. Dispersion: 120° x 160°. Dimensions 6" high x 14" wide x 11¼" deep. Shipping wt: 8½ lbs. **Net Price $61.20**

HPR-75

HPR-75 Same as HPC-75 except with round horn and 100° dispersion. Dimensions: 9" bell diameter, 8¾" deep. Wt: 7 lbs. ..... **Net Price $54.00**



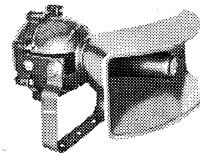
HP-75

HP-75 High power public address and electronic siren driver unit only. 1⅜"-18 driver threads for use on any industry-standard horn. Power: 75 watts. Impedance: 16 ohms. Response: 125-8,000 Hz Dimensions: 4⅜" diameter, 3⅞" deep including threads. Shipping wt: 4¾ lbs. ..... **Net Price $36.00**

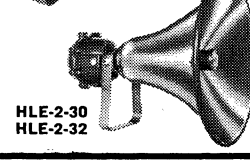
ATLAS SOUND EXPLOSION-PROOF HIGH EFFICIENCY SPEAKERS

Listed by Underwriters Laboratories for use in hazardous locations where explosive atmospheres exist

Highly efficient due to exclusive design of explosion barrier. CLASS 1 speakers for use in atmospheres containing ethyl etber, cyclopropane, gasoline, naphtha, benzine, butane, acetone, lacquer, natural gas, etc. CLASS 2 can be used in Class 1 conditions as well as in atmospheres containing dust of magnesium, coal, coke, flour, starch, grain, etc.
Complete specifications in ATLAS SOUND catalog.
Net Prices from $82.20 to $101.40



HLE-1-30
HLE-1-32



HLE-2-30
HLE-2-32

ATLAS SOUND,
Division of American Trading and Production Corporation,
In Canada: Atlas Radio Corp.
ATLAS SOUND . . . YOU CAN HEAR THE DIFFERENCE

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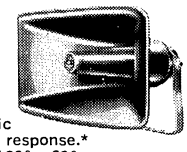
ATLAS SOUND

ATLAS SOUND COBRA-JECTOR

Model CJ-44 All Purpose Wide Angle Projector—FibreGlass Construction Complete with Super Power Driver—



All weather speaker with "Acousti-Matched" built in driver unit. The projector and reproducer are in single package, matched design resulting in maximum conversion efficiency. (Power input in watts versus sound pressure output.) The CJ-44 controlled response has been carefully restricted within frequency limits most useful in PA and high level music reproduction. Power: 40 watts continuous, 60 watts equalized response.* Impedance: 16 ohms. Response: 115-12,000 Hz. Dispersion: 120° x 60°. Dimensions: 23" wide, 13" high, 19" deep. Shipping wt. 19 lbs. **Net Price $55.20**

ATLAS SOUND DR PROJECTORS

NON-RESONANT—STURDY—WEATHERPROOF

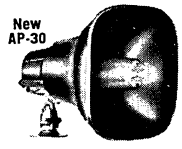
Without acoustical or mechanical equal. All acoustical sound paths are clean and uniform without steps or pockets to disturb normal function of the horn. Critical design features eliminate conditions of turbulence, frequency cancellation and resultant signal distortion.

All are equipped with a heavy duty "U" bracket, securely fastened to a main body casting. Will not fail when subjected to extreme conditions of stress, strain, vibration.

SPECIFICATIONS	DR-54	DR-42	DR-32
Air Column	4½ ft.	3½ ft.	2½ ft.
Low Frequency	115 Hz	140 Hz	190 Hz
Bell Diameter	26 inches	21 inches	16½ inches
Length (less driver)	19 inches	16 inches	12½ inches
Shipping Weight	23 lbs.	14 lbs.	10 lbs.
Net Price	$34.80	$26.10	$22.35

ATLAS SOUND AP PROFESSIONAL SPEAKERS

BUILT-IN TRANSFORMERS WATTS/IMPEDANCE SWITCH SCREW-TO-LINE TERMINALS



A screwdriver is the only tool required to mount, connect and adjust new AP-30 Series with exclusive ATLAS SOUND VARI-TAP CONTROL/CONNECT CENTER. Screw line terminals, built-in transformers and externally adjustable watts/impedance switch save time and costs of installation. Silver plated switch contacts, varnish impregnated transformers and AP-30 driver units are sealed in against water, dirt and corrosion. Terminal/switch cover plate is cable-strain relief and omni-directional mounting bracket adjusts in three planes.

New driver unit provides high efficiency needed with low wattage amplifiers, rugged 30 watt power handling when needed for noise penetration and distance coverage. Professional, metal construction with special corrosion-proofing and melamine enamel finish. Voice/coil diaphragm assembly field replaceable without soldering.

ATLAS SOUND BIG BANSHEE

CJ-125 125-watt* voice speaker. For vocals that cut right through crowd and instrument amplification noise. Ebony fiberglass horn is practically indestructible. Exclusive easy-off adapter mates it with **any** mike stand. Exclusive quick-connect receptacle fits standard phone plug—needs no splicing, slicing, soldering or tightening. Response: 100-12,000 Hz. Impedance: 16 ohms. **$72.60.**

ATLAS SOUND BABY BANSHEE

CJ-40 40-watt* voice speaker. Smaller version of BIG BANSHEE. Response: 140-14,000 Hz. Impedance: 8 ohms. **$35.97.**

SPECIFICATIONS	AP-15	AP-15T	AP-30		AP-30T
POWER—Continuous†	15 Watts		30 Watts		
POWER—Equalized††	20 Watts		40 Watts		
IMPEDANCE—Vari-Tap Selector Switch on Transformer Models	8 ohms	5000, 2500 1300, 666 333, 89, 45 ohms	8 ohms	45 ohms	4000, 2000 1000, 666, 333, 167 ohms
POWER TAPS—Vari-Tap Selector Switch on Transformer Models		70V Line Watts .9, 1.8, 3.8, 7.5, 15.0. 25V Line Watts .48, .94, 1.8, 7.0, 15.0			70V Line Watts 1.2, 2.5, 5, 7.5, 15, 30
FREQUENCY—Hz	275-14,000		225-14,000		
SOUND LEVEL	121 db measured 4' on axis at 15 watts input		125 db measured 4' on axis at 30 watts input		
DISPERSION	110°		100°		
DIMENSIONS	8" W x 8" H x 9" D		10" W x 9½" H x 10½" D		
SHIPPING WEIGHT	4½ lbs.	5 lbs.			6½ lbs.
NET PRICE	$19.95	$27.15	$24.30	$25.80	$31.50

SPECIFICATIONS	AP-30T-25	APC-30T	APT-34T	PD-30T
POWER—Continuous†	30 Watts			30 Watts
POWER—Equalized††	40 Watts			40 Watts
IMPEDANCE—Vari-Tap Selector Switch on Transformer Models	500, 250 125, 83, 42, 21 ohms	2500, 1300, 666, 333, 167, 89, 45 ohms		
POWER TAPS—Vari-Tap Selector Switch on Transformer Models	25V Line Watts 1.2, 2.5, 5, 7.5, 15, 30	70V Line Watts: 1.8, 3.7, 7.5, 15, 30 25V Line Watts: 1.8, 3.7, 7.5, 15		
FREQUENCY— Hz	225-14,000	250-14,000	225-14,000	120-14,000
SOUND LEVEL	125 db measured 4' on axis at 30 watts input	123 db	121 db each horn	126 db**
DISPERSION	100°	120° x 60°	100° Each Horn	Driver Only
DIMENSIONS	10" W x 9½" H x 10½" D	6"Hx14"W x12¾"D	16½"lg. x9¾" Bell Dia.	4¾" Dia. x4⅞"D
SHIPPING WEIGHT	6½ lbs.	8¾ lbs.	9 lbs.	4¾ lbs.
NET PRICE	$31.50	$34.80	$45.00	$25.20

†Integrated speech and music, full range. **Measured on axis at 30 watts input
††Limited to frequencies above horn cutoff. with DR-42 horn.

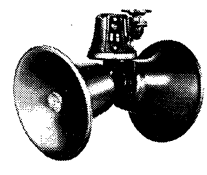
Series AP-30: FREQUENCY RESPONSE: 225-14,000 Hz. SOUND LEVEL 125 db. DISPERSION: 100°. DIMENSIONS: 10" wide, 9½" high, 10½" deep.
APC-30T 25V LINE WATTS: 1.8, 3.7, 7.5, 15. FREQUENCY RESPONSE: 250-14,000 Hz. SOUND LEVEL: 126 db*. DISPERSION: 120° x 60°. DIMENSIONS: 6" high x 14" wide x 12¾" deep.

NEW ATLAS SOUND APT-34T TWIN-HORN SPEAKER

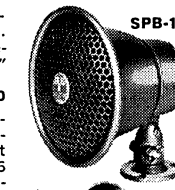
APT-34T Cobra Flare, fiberglass horn version of AP-30T for wide angle, 120° horizontal and 60° vertical dispersion. Includes all the exclusive, Professional Series design features and screwdriver adjustable watts/impedance switch. Built-in combination 70.7/25 volt line transformer has 45 ohm intercom tap.

BX-1 Armored cable adapter for AP-30
Net Price $1.70

BX-2 Armored cable adapter for AP-15
Net Price $1.70

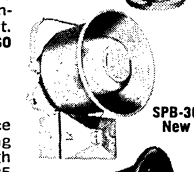


ATLAS SOUND HEAVY DUTY SPEAKERS

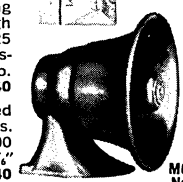


SPB-1 Industrial duty speaker with heavy gauge bell, protective screen and fully adjustable Versalock bracket. Weatherproof. Power: 25 watts. Impedance: 8 ohms. Response: 300-13,000 Hz. Dispersion: 110°. Dimensions: 7¼" bell diameter, 6⅛" deep. Shipping wt. 5½ lbs.
Net Price $27.00

SPB-3C Ruggedized, weatherproof speaker with cast aluminum conduit/armored cable box for industrial service. Combination bulkhead mounting plate and adjustable U bracket adapts to any surface. Power: 25 watts. Impedance: 16 ohms. Response: 300-13,000 Hz. Dispersion: 130°. Dimensions: 6-11/16" wide, 9⅛" high, 4¾" deep. Shipping wt. 6½ lbs. ..... **Net Price $36.60**

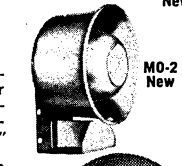


ATLAS SOUND MOBILE SPEAKERS



MO-1 Weatherproof speaker with special, rigid, one-piece cast bracket for fail-safe use on vehicles. Concealed wiring and special, one-piece horn discourage tampering. High efficiency for use with mobile radio transceivers. Power: 25 watts. Impedance: 8 ohms. Response: 300-13,000 Hz. Dispersion: 120°. Dimensions: 7¼" bell diameter, 6⅜" deep. Shipping wt. 4½ lbs. ..... **Net Price $26.40**

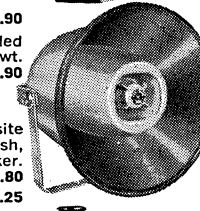
MO-2 Compact mobile communications speaker with welded steel, bracket for concealed, limited space use in vehicles. Power: 25 watts. Impedance: 8 ohms. Response: 300-13,000 Hz. Dispersion: 130°. Dimensions: 6⅝" wide, 8" high, 4¾" deep. Shipping wt. 5 lbs. ..... **Net Price $26.40**



ATLAS SOUND ALL WEATHER HI-FI SPEAKERS

WT-6 Weatherproof, high fidelity type two-way system. Attractive beige color for indoor and outdoor use wherever wide range, clean music reproduction is important. Adjustable bracket. Power: 15 watts. Impedance: 8 ohms. Response: 100-15,000 Hz. Dispersion: 120°. Dimensions: 15" bell diameter, 12" deep. Shipping wt. 16 lbs.
Net price $39.90

Model W-6 identical to WT-6, but less tweeter. Extended range to 8,000 Hz with special cone speaker. Shipping wt. 14 lbs. ..... **Net Price $30.90**



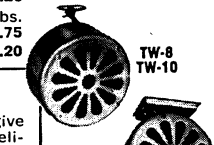
ATLAS SOUND BI-DIRECTIONAL BAFFLES

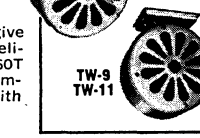
TW-8 Grill openings on both sides gives coverage in opposite directions with any 8" cone speaker. Decorative beige finish, 9" diameter and 5" thin, adjustable bracket. Less speaker. Shipping wt. 3½ lbs. ..... **Net Price $7.80**

TW-10 Same as TW-8, but with speaker ... **Net Price $11.25**

TW-9 with 5" x 6" bracket. Less speaker. Shipping wt. 4 lbs.
Net Price $9.75

TW-11 Same as TW-9, but with speaker ... **Net Price $13.20**

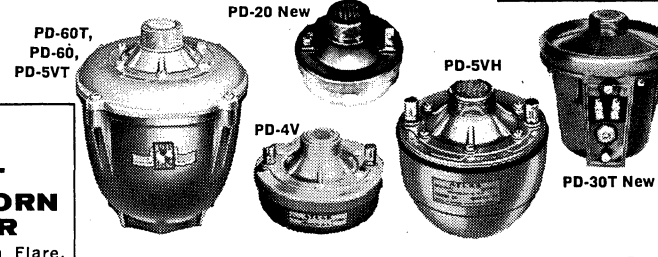




ATLAS SOUND DRIVER UNITS

SUPER POWER—SUPER EFFICIENT

New designs, materials and double weather sealing give the ultimate in response, efficency and trouble-free, reliable service. Models PD-5VH, PD-5VT, PD-60 and PD-60T feature self-aligning, field replaceable diaphragm assemblies. Excellent for replacement in any trumpet with standard 1⅜" x 18" driver threads.



Specifications	PD-60T	PD-5VT	PD-5VH	PD-4V	PD-20	PD-30T
Power (continuous)*	60 watts	40 watts	40 watts	30 watts	20 watts	30 watts
Power (equalized response)†	100 watts	60 watts	60 watts	50 watts	25 watts	40 watts
Voice Coil Impedance	16 ohms	16 ohms	16 ohms	16 ohms	16 ohms	Built-in Transformer
Sound Intensity#	136 db	131 db	131 db	128 db	125 db	126 db
Frequency Response Hz	70-12,000	80-12,000	80-12,000	85-7,000	120-7,000	120-14,000
Transformer Imp. ohms	16, 85, 125, 250, 500, 1,000 2,000	16, 125, 250, 500, 1000, 2000				2500, 1300, 666, 333, 167, 89, 45
Trans. Power Taps. Watts 70 Volt Line	60, 40, 20, 10, 5, 2.5	40, 20, 10, 5, 2.5				1.8, 3.7, 7.5, 15, 30
Shipping Weight	8 lbs.	7 lbs.	5 lbs.	4 lbs.	2¾ lbs.	4¾ lbs.
Net Price	$42.45	$33.30	$24.60	$19.50	$16.35	$25.20

PD-60 Same as PD-60T Less Transformer $34.50 **PD-30T 25V line watts: 1.8, 3.7, 7.5, 15.**
*Integrated speech and music full range. †Input range limited to frequencies above horn cut off.
#Measured 4 ft. on axis 6 ft. air column with integrated full power input.

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ATLAS SOUND

ATLAS SOUND MICROPHONE DESK STANDS AND ACCESSORIES

DS-4 Highly polished molded phenolic base is light beige in color with chrome upright tube. The smooth base will not scratch or mar table tops. Upright tube can be easily removed from base. Base diameter 5", height of tube 4", thread size 5/8"-27. Shipping weight 1/2 lb. ..... **Net Price $1.70**

DS-5 Non-Adjustable Desk Stand Base cast iron, finished in black wrinkle. Base diameter 6", tube height 4" chrome finish. Shipping Weight 2 lbs. **Net Price $2.50**

DS-7 Same as above but equipped with upright adjustable from 8 to 13 inches. Shipping Weight 3 lbs. ..... **Net Price $4.15**

DS-10 "Stream Liner" Desk Stand. Features "Rear Cable Exit". Bright chrome trim. Rubber bumpers. Shipping Weight 1 1/2 lbs. ..... **Net Price $4.30**

TS-8 Adjustable Banquet Stand. Low silhouette base. Upright adjustable from 14 1/2" to 26". In full super-chrome. Shipping Weight 5 1/2 lbs. .. **Net Price $7.70**

DS-9 Professional Desk Stand. Handsome appearance of modern, low silhouette base and tapered upright, both finished in satin chrome, complements the finest microphones. Stable 8" diameter base protects against accidental microphone damage. 4" upright tube. 5 felt base pads (4 lbs.) **Net Price $6.00**

DS-14 Desk stand is functionally and aesthetically suited to slim, elongated microphones. Black wrinkle finished base with protective felt pads and 3" polished chrome upright tube with 5/8"-27 thread. (2 lbs.) .... **Net Price $3.20**

SB-1 Dispatcher and Switchboard Mike Support. 12 inch long, flexible, chrome plated "goose neck" arm mounted on spring loaded swivel, can be swung aside when not in use. Feed thru hole located at the mike end of the "goose neck" so that mike cable can be concealed within flexible arm. Base casting is rear loaded so the base will not tip forward. Finish—Black wrinkle. Shipping Weight 13 lbs. ..... **Net Price $12.65**

SW-1 Gyromatic Swivel permits microphone to be adjusted to any angle. Locks in any position. Die cast finished in chrome ..... **Net Price $3.85**

LO-2 "Lock-On" accessory for instantaneous microphone attachment or removal without threading on or off any stand or support. One half of LO-2 remains fastened to the microphone, the other half stays on the stand. Excellent where microphones must often be removed. Positive lock holds microphone safely in hanging positions on booms, ceiling supports, stage battens. Chrome finish ..... **Net Price $2.65**

SO-1 "Snap-On" accessory. Identical to LO-2 but less locking feature. Spring loaded, ball bearing design for secure, safe microphone attachment and quick disconnect on any upright floor stand ..... **Net Price $2.15**

FS-1 Foot Switch for press-to-talk paging applications using any microphone with a single ended input. May also be hand operated on desks and switchboards. Easily rewired for press-to-open circuit application. ... **Net Price $9.85**

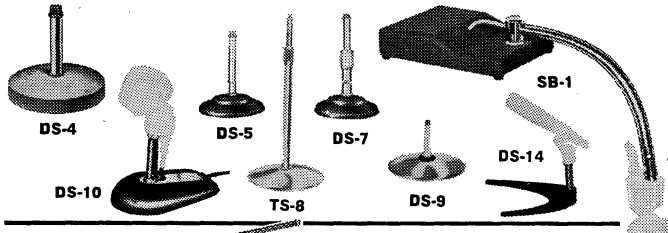
NS-1 "The Chesty" Neck Supported Mike Holder. Permits quick, simple "three way" adjustment. Mike is always in suitably "close talking" position reducing acoustic feedback problems. Wide comfortable chest support prevents rolling due to sudden movement. Cool and lightweight. 6 oz. **Net Price $4.70**

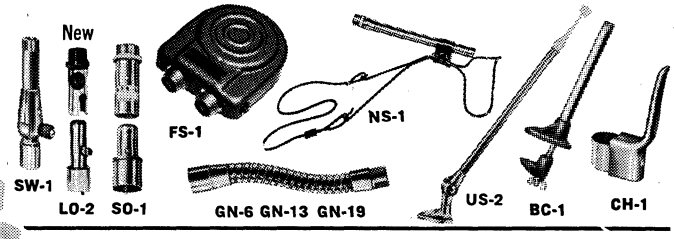
GN "Goose Necks" can be attached to any microphone stand or fixture; ends have 5/8"-27 male and female threads—all finished in bright chrome, model numeral indicates overall length of "goose neck" in inches. **Net Price GN-6 $1.50, GN-13 $2.00, GN-19 $2.80**

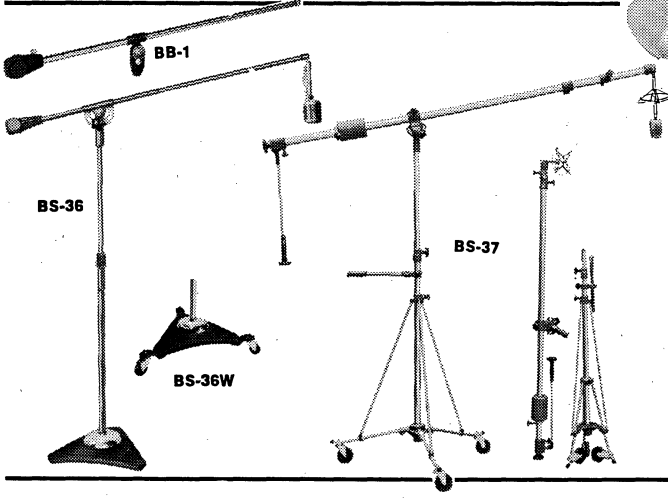
US-2 Multi-Purpose microphone support. For use with language laboratories, dispatcher desks, telephone switchboards, pulpits, etc. Boom arm vertical adjustment and rotation motion is spring loaded and will "float" the mike in desired position without requiring a locking adjustment. Microphone cable may be concealed within boom arm and will feed thru swivel assembly and base flange. A small opening is provided at microphone end of the boom for cable entry. Finished in "super-chrome". Boom arm length 12 3/4"; vertical adjustment of boom 180°; rotation 360°; base length 2 5/8" ... **Net Price $6.65**

BC-1 Bracket Clamp. Can be used with a boom arm, goose neck, etc. Chrome tube 6" long. Clamp can be removed and top flange screwed or bolted in position. 5/8"-27 thread ..... **Net Price $2.80**

CH-1 Cable Hanger. Fits all tubes 7/8" to 1 1/4" diameter. Mike cable can be quickly coiled and looped over the cable hanger when moving, storing or transporting the mike and stand. Finished in polished chromium. **Net Price $2.00**







ATLAS SOUND STANDS

BB-1 "Baby Boom" Attachment. Versatile device can be attached to any floor stand. All swivel parts are precision die castings for smooth operation and secure positioning. Boom 31"—Chrome plated 5/8"-27 thread. Shipping weight 3 1/2 lbs ..... **Net Price $6.20**

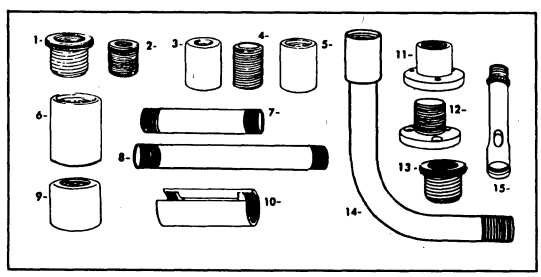
BS-36 Professional Boom Stand with "Safety Air Lock Cushion" offers all advantages of "Floating Action" plus secure and dependable locking adjustment. Air Lock built into vertical section prevents any accidental or sudden slippage of the upright section. A gyromatic swivel joint is provided at the microphone end. Base casting equipped with shock absorbent chrome plated, "domes of silence". Boom length 62" (extension may be added). Vertical extension from 48" to 72".

All tubular sections super-chrome plated. Base finished in polished chrome and black wrinkle. Shipping weight 36 lbs. ..... **Net Price $50.00**

BS-36W Mobile Model. Identical to BS-36 except that base is supplied with ball bearing swivel casters, permitting entire stand to be wheeled to various positions in the studio. Shipping weight 40 lbs. ..... **Net Price $56.65**

BS-37 Porto Boom. For most exacting TV studio, sound motion picture application, etc., ideal for portable service. Fully collapsible to fit automobiles. Air check prevents any accidental collapse of the upright. Upright retracted 5 1/4 ft., extended 9 ft. Boom retracted 7 ft., extended 18 ft. All tubular sections aluminum processed in "Alumilite". Counter weight cast iron with bronze locking mechanism. Base casters 4" swivel type. Base spread 42" on radius. Shipping weight 73 lbs. ..... **Net Price $516.65**

ATLAS SOUND MICROPHONE ADAPTERS AND FITTINGS



Model	Description	Net Price
AD- 1	5/8"-27 female to 1/2" pipe thread male (RCA Adapter)	$ .70
AD- 2	1/8" pipe female to 5/8"-27 male	.50
AD- 3	1/8" pipe female to 5/8"-27 female	.53
AD- 4	3/4" long, 5/8"-27 male running thread	.40
AD- 5	5/8"-27 female to 5/8"-27 female, coupling	.53
AD- 6	7/8"-27 female to 7/8"-27 female, coupling	1.00
AD- 7	3" long tube 5/8"-27 male each end	.67
AD- 8	6" long tube 5/8"-27 male each end	.67
AD- 9	7/8"-27 female to 5/8"-27 female	.73
AD-10	5/8"-24 female to 5/8"-27 female (W. E. Adapter)	1.10
AD-11	Flange, 5/8"-27 female. Base Diameter 1 3/4"	.73
AD-12	Flange, 5/8"-27 male. Base holes on 1 1/4" mounting centers	.73
AD-13	7/8"-27 male to 5/8"-27 female	.73
AD-14	Right angle bent tube: 5/8"-27 male and female each end	1.16
AD-15	Cable "Feed-Thru" adapter: 5/8"-27 male and female each end	1.10

Note: Thread sizes specified as 1/8" pipe is I.P.S. (Electrical fitting) Measures Approx. 3/8" dia. All adapters chrome plated.

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ATLAS SOUND

ATLAS SOUND MICROPHONE STANDS AND ACCESSORIES

New, low profile bases with modern, slim silhouettes are less conspicuous and more functional. Improved designs concentrate base weight at the outer edge for maximum stability. Additional anti-tip bumpers are located between self-leveling, shock-absorbing pads which protect desk, table and floor.

Superchrome plated finishes are lifetime wear and rust resistant. All models have standard 5/8"-27 threads for microphone attachment.

MS-10C Popular, budget-priced floor stand with sturdy, black wrinkle base with stability for average weight microphones.

LOW PROFILE BASES

MS-4 Three tubes with two clutches adjust from standard height for adults to the special low of 25" for children and seated performers. Low silhouette black base.

MS-11C All chrome design with low profile base and more weight for greater stability.

MS-14G Identical to MS-11C, but all gold finished.

MS-11S Automatic version of MS-11C with unique, automatic clutch for effortless, instantaneous changes in height. Adjusted by simply grasping the decorative black control sleeve and raising or lowering the microphone. Removing hand automatically locks the position.

MS-12C Same as MS-11C, with black base.

MS-12S Same as MS-11S with black base.

MS-20 Heavy duty stand for heavier microphones. Larger 12", low contour black wrinkle base has more anti-tip weight. Oversize 1 1/8" tube assembly includes adapter for 5/8"-27 threaded microphones. Will support small speakers.

MS-25 Professional floor stand. Integral air suspension system counter-balances microphone weight to prevent out of control crashdown. Heavy duty, black and chrome base contacts floor on large, 17" circle. Triangular shape and concave sides make it easy to handle. Oversize 1 1/8" tube combination includes 5/8"-27 thread adapter.

CS-1 Tripod base infinitely adjustable from 10" to 42" circle flat on floor. Reverse-collapses to compact 23" for storage. Useful for clustering microphones and supporting small speakers.

CS-52 Handsome, three-legged floor stand. Large, 15" black base stability. Packaged in one, reshippable carton.

CS-42 Similar to CS-52 in design, except that base is readily collapsible for portable use or convenient storage. Packaged in one, reshippable carton.

Model	Type	Height	Base	Tube	Weight	Net Price
MS-10C	Economy	35" to 63"	10" Gray	Chrome	10 lbs.	$7.70
MS-4	Wide range	25" to 65"	10" Gray	Chrome	10 lbs.	11.80
MS-11C	General use	34" to 62"	10" Chrome	Chrome	13 lbs.	10.15
MS-14G	Gold Special	34" to 62"	10" Gold	Gold	12 lbs.	13.00
MS-11S	Auto-locking	39" to 62"	10" Chrome	Chrome	13 lbs.	18.00
MS-12C	General use	34" to 62"	10" Gray	Chrome	12 lbs.	8.15
MS-12S	Auto-locking	39" to 62"	10" Gray	Chrome	12 lbs.	16.30
MS-20	Heavy duty	37" to 66"	12" Gray	Chrome	15 lbs.	12.65
MS-25	Professional	38" to 67"	17" Gray	Chrome	22 lbs.	20.65
CS-1	Collapsible	23" to 62"	Cadmium	Chrome	5 lbs.	15.85
CS-52	Three-legged	34" to 62"	15" Gray	Chrome	9 lbs.	8.80
CS-42	Portable	34" to 62"	16" Gray	Chrome	9 lbs.	10.15

CS Type Demountable Microphone Floor Stands—quick and simple "Come Apart" base design. Stand within the amplifier or speaker carrying case. Legs are chrome plated, tipped with skid-proof rubber shock absorbent bumpers.

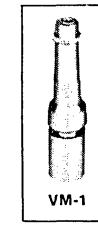
Model	Finish	Height Adj.	Shipping Weight	Net Price
CS-32	Full Chrome	36" to 64"	5 lbs.	$ 9.35
CS-33	Full Chrome	26" to 64"	4 lbs.	11.00

Each stand is individually packed complete in a single carton. Model CS-33 can be collapsed to a total length of only 22½".

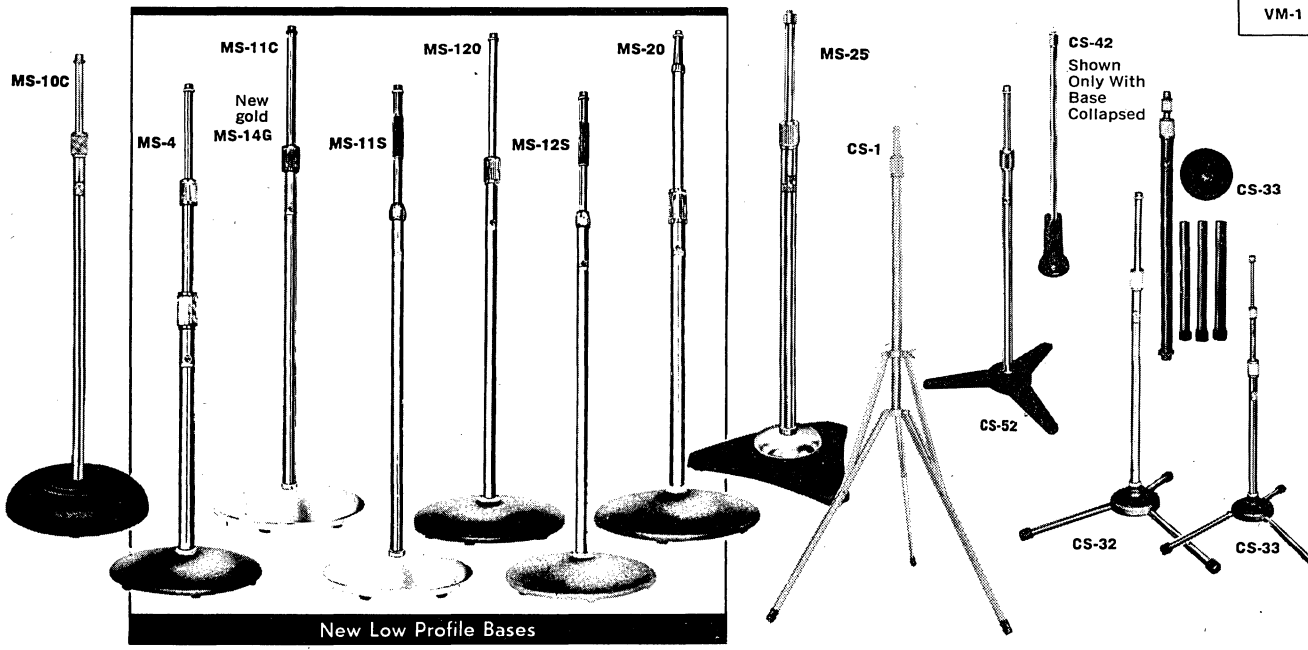
VM-1 SHOCK MOUNT The VM-1 shock mount will eliminate or greatly reduce microphone pick-up of external mechanical shock and stand vibrations.

The shock mount is equipped with male and female 5/8"-27 threads permitting convenient insertion between the microphone and the microphone stand.

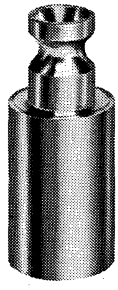
The VM-1 is constructed of die castings and brass turnings finished in bright polished chrome—overall length 4¾", diameter 1" ..... **Net Price $5.35**



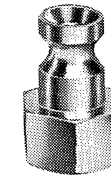
VM-1



New Low Profile Bases



AD-16 STAND ADAPTER. Mates ATLAS SOUND small speaker horns to floor and desk mike stands. 7/8" clearance hole for all speaker stands and larger mike stands. 5/8"-27 female thread for all other mike stands. Large thumb screw assures fast shake-proof connection: ..... **Net Price $3.00**



AD-17 ½" PIPE THREAD ADAPTER. Mates ATLAS SOUND small horns with electrical fittings and nipples with ½" male pipe-thread. Saves time. Assures sturdy, secure speaker installation. Hexagon base for easy tightening. ..... **Net Price $1.65**

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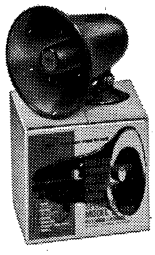
POWERHOUSE TRUMPET SPEAKERS

proven sound around the world®

Take it from Mickey Mantle†

"FEDTRO...the proven sound of champions"

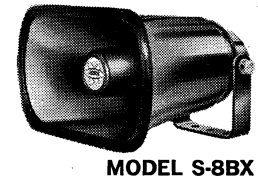
"proven sound around the world".® from the blistering humid depths of Equatorial Africa...to the frigid waters of the Arctic Seas, Fedtro Powerhouse Speakers are ruggedly constructed to guarantee optimum performance, even under the most brutal of climatic extremes. Shockproof, rustproof, and totally weatherized, the entire Fedtro series is ideally suited for the most trying applications of Marine and Mobile use...Public Address, Paging and Talkback Systems. The diaphragm is constructed with a special resinification process, which permits it to withstand higher than 30% power input overloads. Engineered and designed to afford the highest degree of clarity and intelligibility over the complete frequency spectrum, from the compact S-5RD to the mammoth S-16RD, there's a perfect Powerhouse available for your specific needs. Greater efficiency...increased power output...higher intelligibility ...and almost indestructable durability...all add up to why they are **"proven sound around the world".®**



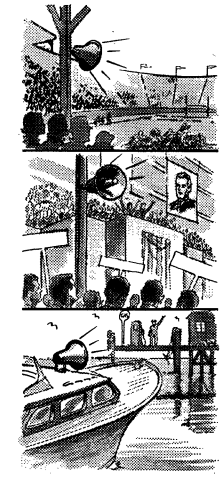
MODEL S-5RD

MODEL S-6RD

MODEL S-8RD



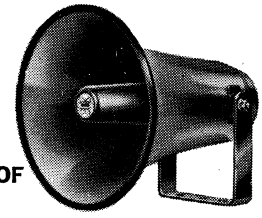
MODEL S-8BX



Ruggedly Constructed for Outdoor, Indoor, Marine and Mobile Use

■ WATERPROOF ■ SHOCKPROOF
■ RUSTPROOF ■ CORROSIONPROOF

DYNAMIC 3-COLOR CUSTOM PACKAGING



MODEL S-12RD

MODEL S-16RD

FEDTRO POWERHOUSE TRUMPET SPEAKER SPECIFICATION CHART

Model No.	Power Rating		Voice Coil Impedance	Frequency Range	Bell Diameter (Horn Opening)	Overall Length	Net Weight
	Program	Peak					
S-5RD	8 watts	12 watts	8 ohms	200 to 13,000 cps.	5 inches	5 inches	approx. 1 lb.
S-6RD	10 watts	15 watts	8 ohms	200 to 13,000 cps.	6 inches	6½ inches	approx. 2 lbs.
S-8RD	15 watts	25 watts	8 ohms	200 to 13,000 cps.	8 inches	8½ inches	approx. 2½ lbs.
S-8BX	15 watts	25 watts	8 ohms	200 to 13,000 cps.	8 inches x 5 inches	8 inches	approx. 2.4 lbs.
S-12RD	30 watts	65 watts	8 ohms	150 to 13,000 cps.	12 inches	13¼ inches	approx. 4.4 lbs.
S-16RD	40 watts	75 watts	8 ohms	150 to 13,000 cps.	16 inches	13 inches	approx. 5.3 lbs.

GET MORE SOUND FOR YOUR DOLLAR WITH FEDTRO POWERHOUSE SPEAKERS!

SUPERIOR QUALITY...

. . . at the lowest prices in the industry

proven sound around the world®

POWERHOUSE OFFICIAL MEGAPHONE FOR THE MEXICAN 1968 OLYMPIC GAMES

THE OFFICIAL MEGAPHONE OF THE N.Y. WORLD'S FAIR

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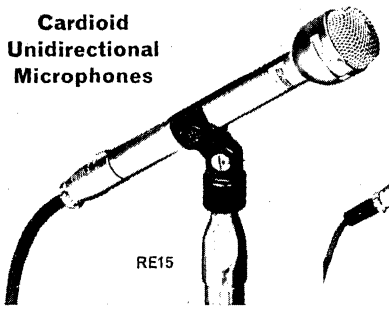
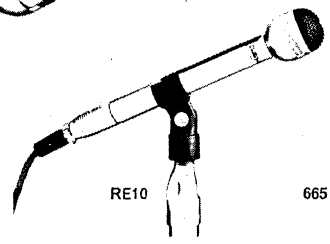
FOR FEDTRO POWERHOUSE TRANSISTORIZED MEGAPHONES, SEE PAGES 52 & 53
FOR FEDTRO TRANSISTORIZED INTERCOMS, SEE PAGES 54 & 55

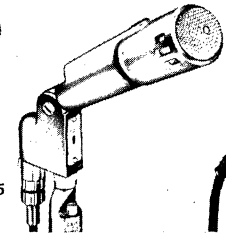
Electro-Voice®

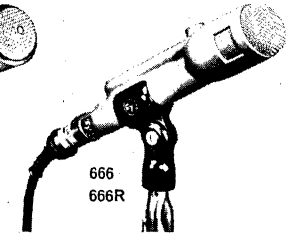
PROFESSIONAL BROADCAST AND RECORDING MICROPHONES

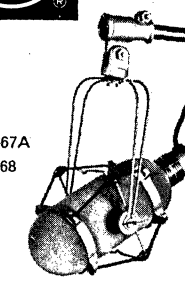
Cardioid Unidirectional Microphones











RE15: Super cardioid "Continuously Variable-D"® (maximum off axis rejection at 150° from front).† Most uniform polar pattern at all frequencies ever offered in a cardioid microphone. Integral bass compensation switch. Response: 80 to 15,000 Hz. Acceptance angle: 150°. Impedance: 150 ohms. Output level: −56 db. Finish: Matte Satin Nickel. Net Each $153.00
APPLICATIONS: Portable boom use/Fishpoled for dialogue in motion picture recording/Individual instrument (or section) pickup for orchestral recording /In professional public address controls effects of resonance and reverberation.

RE10: Similar in design and construction to RE15, but for applications with slightly less rigid performance tolerances. Matte satin nickel finish, black grill and "backbone." Response: 80 to 13,000 Hz. Impedance: Lo-Z. Output: −55 db. Net Each $90.00

666: "Variable-D'"® cardioid eliminates proximity effect for close working.† Most accepted professional cardioid. Acceptance angle: 150°. Frequency response: 40 to 15,000 Hz. Impedance: 50, 150, and 250 ohms. Output level: −58 db. Finish: TV gray. Net Each $162.00

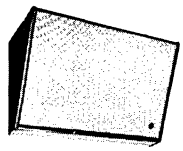
666R: Identical to 666, but with rising low frequency response (4½ db, 100 Hz to 1,000 Hz) for control of room rumble and other low frequency problems. Net Each $162.00

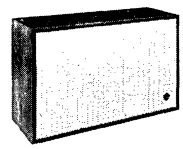
665: "Variable-D"® similar to 666, but for less demanding applications.† Response: 70 to 13,000 Hz. Impedance: 50 and 250 ohms, selectable at recessed integral switch. Finish: TV gray. Net Each $96.00

668: "Continuously Variable-D"® cardioid designed for boom and fishpole use for broadcast and motion pictures.† Extremely smooth cardioid pattern for maximum reduction of ambient noise and reverberation. Built-in equalizer provides choice of 36 response variations to tune microphone to environment. Acceptance angle: 150°. Frequency response: 40 to 10,000 Hz. Impedance: 50, 150, and 250 ohms selectable at computer panel. Output level: −51 db. Finish: TV gray. Net Each $297.00
APPLICATIONS: Boom use in TV and on motion picture location /Fishpoled for dialogue in motion picture recording/Professional public address to control effects of auditorium resonance and reverberation.

667A: Identical to 668, but with six response variations for less demanding applications. Net Each $207.00

Sentry Series Studio Monitor Speaker Systems

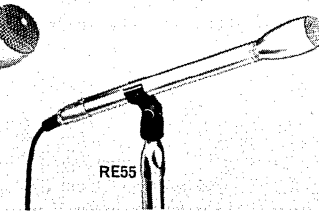

SENTRY I


SENTRY II

SENTRY I: Wall or ceiling mounted system designed specifically for monitor use in recording and broadcast studios. Extremely wide, very flat response. Walnut finished cabinet. Frequency response: 30 to 20,000 Hz. 16 ohms impedance. Permits precise monitoring and use as reference standard. Net Each $180.00

SENTRY II: Floor model, similar to Sentry I above. For free standing floor position. Net Each $180.00
APPLICATIONS: Studio and control room monitoring/Classroom use, music instruction and appreciation courses/Home hi fi.

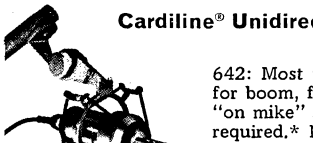
Omnidirectional Microphones



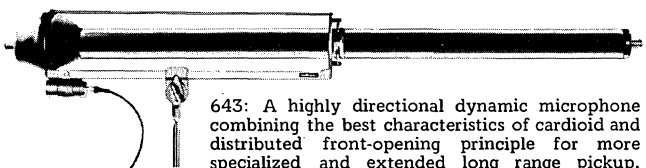
635A: Most popular professional quality performers' microphone. Smooth, carefully shaped response yields "flat effect" when used close up. Built in four stage pop and breath blast filter. Response: 80 to 13,000 Hz. Impedance: 150 ohms. Output level: −55 db. Finish: Matte satin nickel. Net Each $49.20
APPLICATIONS: Stage performances/Wide dynamic range,freedom from proximity effect, assures consistent results regardless of working distance /No windscreen necessary.

RE55: Successor to 655C. Smooth, peak free wide range response combined with functional styling make this the most versatile professional quality omnidirectional dynamic ever offered. Response: 40 to 20,000 Hz. Impedance: 150 ohms. Output level: −55 db. Finish: Matte Satin Nickel. Net Each $126.00
APPLICATIONS: Recording symphony orchestra/Close instrument miking/Hand held for audience participation and interview use/On-the-spot news coverage.

Cardiline® Unidirectional Microphones



642: Most used professional quality microphone for boom, floor stand, or special mounting, where "on mike" sound at extended working distance is required.* Nominal acceptance angle (for speech and vocals) 80°. Two position low frequency compensation. Response: 40 to 10,000 Hz. Impedance: 50, and 250 ohms. Output level: −48 db. Finish: Non-reflecting gray. Net Each $234.00
APPLICATIONS: TV studio booms/Sound track recording/Dialogue and vocals/ Multiple footlight mounting for theatrical productions /Educational classroom television.



643: A highly directional dynamic microphone combining the best characteristics of cardioid and distributed front-opening principle for more specialized and extended long range pickup. cardioid pickup pattern to 100 Hz and is highly directional over balance of range. Impedance: 50, 150, or 250 ohms selected by changing internal connector pin. Light weight extruded and cast aluminum case with integral shock mount and removable wind filter. Output: −48 db. Response: 30 to 10,000 Hz. Net Each $982.80

654A: Slim-trim broadcast dynamic, can be used stand mounted, hand held, or as lavalier. Matches all low impedance inputs. Frequency response: 50 to 15,000 Hz. Output level: −57 db. Non-reflecting gray finish. Net Each $63.00

649B: Smallest dynamic lavalier. Designed for the most demanding professional applications. Response is carefully tailored to compensate lavalier acoustic conditions so resulting signal perfectly matches signals from other stand mounted microphones in use. Response: 70 to 10,000 Hz. Impedance: 150 ohms. Output level: −61 db. Finish: Non-reflecting gray. Net Each $66.00
APPLICATIONS: Live performances, allows artist greatest freedom of movement/ Concealed on person or in set/Consistent "on mike" sound through accurately tailored response.

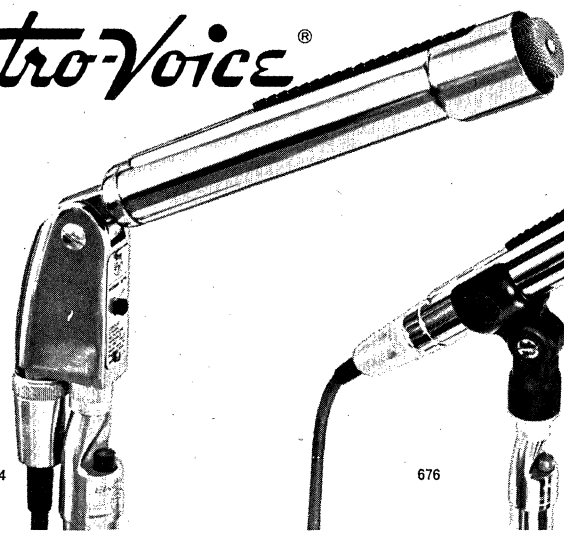
*U.S. Patent No. 3,095,084

†U.S. Patent No. 3,115,207

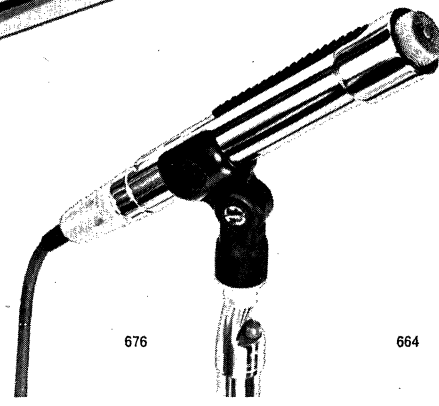
Electro-Voice®

MICROPHONES

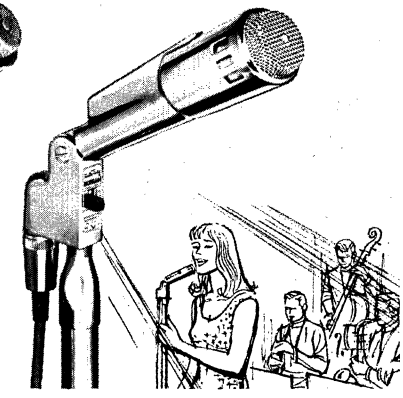
Cardioid Dynamic Microphones



674



676



664

674: Radically new design brings truly professional quality to public address, recording, communications, and other general purpose microphone applications. An exclusive Continuously Variable-D® microphone† which assures uniform symmetrical cardioid pattern at all frequencies. Highest discrimination against feedback and unwanted sound. Exclusive three position switch offers controlled low-frequency attenuation to overcome rumble and feedback when microphone is used at a distance. Slim design permits full view of person speaking. Rugged high pressure die-cast construction. Dual Lo-Z and Hi-Z. E-V QC™4M cable connector allows easy change of impedance without tools by moving a single pin. Frequency response: 60–15,000 Hz. Output: –27 db. Satin chrome finish. Net $53.40

APPLICATIONS: Public address/Base station communications/Quality tape recording in the home and in schools.

674A: Non-reflecting gray finish. Shipped wired for Lo-Z. Net $53.40

674G: Gold finish. Net $56.70

676: Similar to 674, except less mounting stud and on/off switch. For use with stand mounting clamp (supplied) so microphone can easily be removed and used hand-held during performance. Very uniform polar pattern across audio spectrum. Three position bass tilt selector adjusts low frequency response to suit environment. Response: 60–15,000 Hz with low-frequency attenuation switch. Output: –57 db. Dual Lo-Z and Hi-Z. New E-V QC™4M cable connector allows easy change of impedance without tools by moving a single pin. Satin chrome finish. Net $53.40

676A: Non-reflecting gray finish. Shipped wired for Lo-Z. Net $53.40

676G: Gold finish. Net $56.70

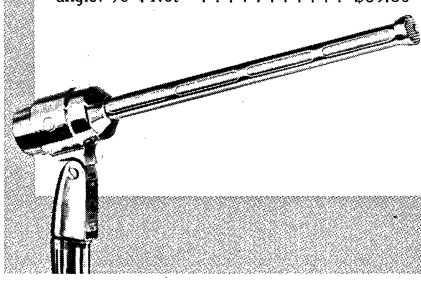
664: Designed for quality tape recording, communications, and public address applications. Cardioid pattern at all frequencies, with Variable-D® feature†. Permits close talking without "booming" or bass attentuation. Provides better discrimination against unwanted sound. Blast filter minimizes wind effect. E-V Acoustalloy® diaphragm shielded from dust and magnetic particles. Response: 60 to 15,000 Hz. Output: –58 db. On/off switch. Dual Lo-Z and Hi-Z. E-V QC™4M cable connector allows easy change of impedance without tools by moving a single pin. Satin chrome finish. Net . . $53.40

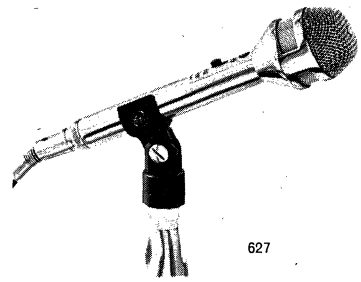
664A: Non-reflecting gray finish. Shipped wired for Lo-Z. Net $53.40

664G: Gold finish. Net $56.70

Unidirectional Line Microphone

644: Combination cardioid and distributed front opening* instrument, making it the most directional PA microphone available. Better than 2½ times working distance of pressure types with virtually no change in response. Extremely high rejection of noise from sides and rear, reducing reverberation and feedback. Narrow front angle of acceptance for best isolation. Very low response to wind noise and shock. Response is smooth from 40 to 10,000 Hz. Output: –53 db. Dual Lo-Z and Hi-Z, selected by moving one wire in cable connector. High pressure die cast case, satin chrome finish. Acceptance angle: 90°. Net $69.30



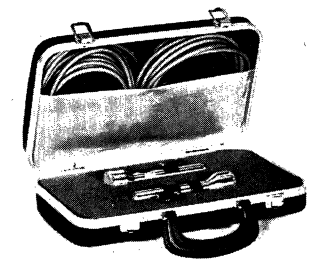


627

627: "Single-D" cardioid. Low frequency response varies with working distance. "Robust" sound enhanced when microphone is close to lips. Low frequency response to sounds more than two feet away is reduced, improving feedback control. Built in breath and pop filter. Acceptance angle: 150°. With on/off switch. Satin chrome finish. Response: 80 to 11,000 Hz. Output: –58 db. Hi-Z or Lo-Z, must be specified. Net $37.80

APPLICATIONS: Auditorium/Music Instruction/Tape recording–home and school /Recording for special effects through use of unique low frequency characteristic.

627N: Same as 627 but with matte satin nickel finish. Net $37.80



Convenient, Durable Carrying Cases

457: Deluxe double carrying case only. Holds two microphones and cables. Attractive instrument-type case with metal trim. Microphones are fully protected by contoured plastic interior that holds them snugly in place assuring protection from scratches, bumps, or other damage. Specify for 627, 631, 664, or 676 microphones. Net $15.00

456: Single microphone carrying case only, has space for cable. Microphone nests in contoured foam plastic insert. Specify for 627, 631, 664, 674, or 676 microphone. Net $5.40

* U.S. Patent No. 3,095,084

† U.S. Patent No. 3,115,207

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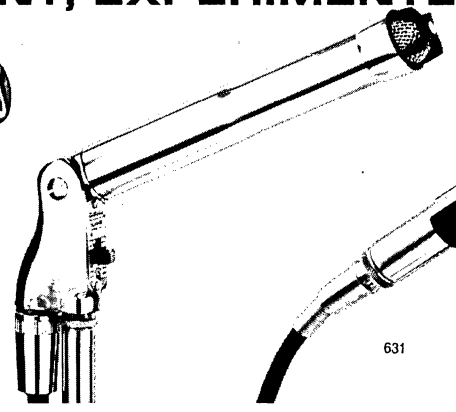
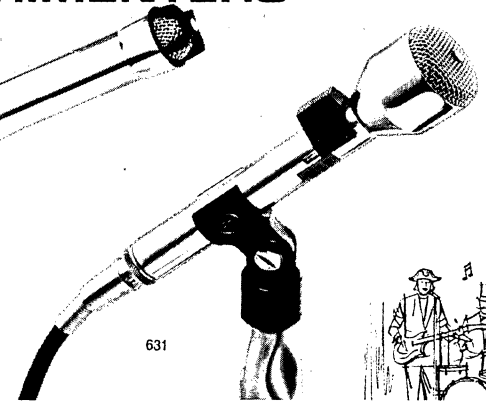
FOR TAPE RECORDING, ENTERTAINMENT, EXPERIMENTERS

Omnidirectional Dynamic Microphones

623



636



631

623: Ideal for PA, recording, and general use. Use on stand or hand-held. On/off switch and tiltable head. Response: 60 to 12,000 Hz. Output: −56 db. E-V QC™4M cable connector allows easy change of impedance without tools by moving a single pin. Satin chrome finish. Acoustalloy® diaphragm. Net $36.00

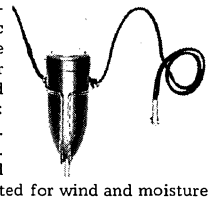
636: Slim dynamic, exceptionally fine for PA, recording, and general use. Response: 60 to 13,000 Hz. Output: −58 db. Pop-proof head and wide pickup range. On/off switch and satin chrome finish. Dual Lo-Z and Hi-Z. E-V QC™4M cable connector allows easy change of impedance by moving a single pin. Net $45.60

636G: Gold finish. Net $48.90

631: High quality dynamic is lightweight, rugged, and shockproof. Effective 4-stage filter allows use close up without blasting, pops, or distortion. Silent, magnetic on/off switch has removable actuator button. Satin chrome, one-piece case. Response: 80 to 13,000 Hz. Output: −55 db. Hi-Z or Lo-Z, must be specified. Net $37.80

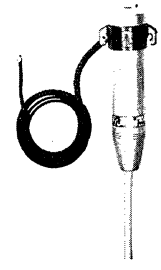
631N: Same as 631, but with matte satin nickel finish. Net $37.80

Lavalier Microphones

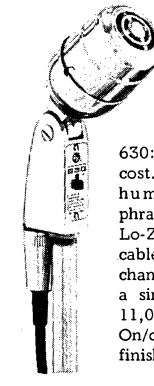


624: Most economical dynamic lavalier on the market. For chest or hand use. Response: 100 to 7,000 Hz. Output: −56 db. Wire mesh head acoustically treated for wind and moisture protection. Hi-Z or Lo-Z must be specified. Lo-Z not balanced to ground. Non-reflecting gray finish. Net $28.20

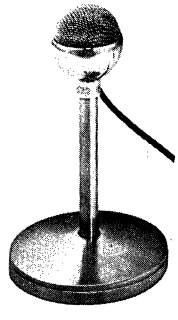
924: Crystal lavalier. Same in appearance as 624, except has chrome finish. Response: 60 to 8,000 Hz. Output: −60 db. Net $14.70



647A: Smallest high quality lavalier in PA field delivers big microphone performance. Extremely rugged construction assures long life. Frequency response: 70 to 10,000 Hz. Output: −60 db. Weighs only 2 oz. Non-reflecting gray finish. Hi-Z or balanced Lo-Z must be specified. Net . . $51.90

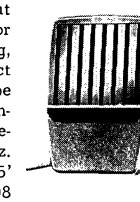


630: Famous for quality at low cost. Unaffected by heat or humidity. Acoustalloy diaphragm and tiltable head. Dual Lo-Z or Hi-Z. E-V QC -4M cable connector allows easy change of impedance by moving a single pin. Response: 60 to 11,000 Hz. Output: −55 db. On/off switch. Satin chrome finish. Net $33.00

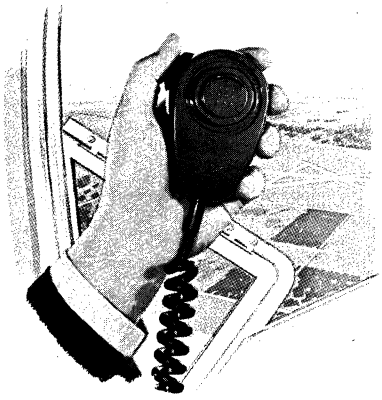


920: Omnidirectional pickup. Strong wire-mesh head acoustically treated for wind and moisture protection. High capacity, moisture sealed crystal. Hi-Z. AC-DC insulated (case not grounded). Satin chrome finish. Frequency response: 60 to 10,000 Hz. Output: −50 db. Excellent for group or conference applications or use where wide angle pickup is desired. Net $17.40

721: New inexpensive ceramic features high output level and light weight for recording, experimenting, and general use. High impact gray plastic case. May be used handheld or with integral fold-out stand. Response: 100 to 5,000 Hz. Output: −52 db. Hi-Z. 5' cable included. Net . $4.08



Electro-Voice® COMMUNICATIONS AND PAGING MICROPHONES



602FTR: Transistorized noise cancelling dynamic mobile with built-in transistor amplifier. Provides level for direct replacement of carbon units. Maximum output: −43 db with 250 ohm load and 27 V supply. Output adjustable from exterior. Response: 100 to 5,000 Hz. Press-to-talk switch and coiled cord with phone plug at terminal end. Lo-Z. Net $40.80

205STCKK: Noise cancelling, single button carbon for aircraft and emergency communications. FAA approved. Blast-proof, waterproof, and shock resistant. Output at ¼": −50 db. Lo-Z. Black phenolic case. Press-to-talk switch and coiled cord. Net $31.50
205STCKKP: With PJ-068 phone plug. Net $34.50

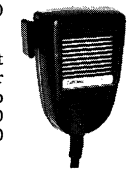
603TR: Transistorized noise cancelling mobile providing all dynamic advantages for direct replacement of carbon units. Built-in transistor amplifier matches level of carbon circuits. Output adjustable with internal potentiometer up to −44 db. Excellent for aircraft applications. Response: 200 to 4,000 Hz. Lo-Z. Press-to-talk switch and coiled cord. Magnetic hanger bracket furnished. Net $88.20

602TR: Similar to 603TR but different case design. Uses conventional hanger bracket. Fixed output level: −48 db (carbon equiv.) Response: 100 to 5,000 Hz. FAA approved. Net $58.50

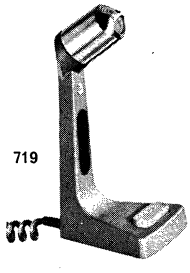
600E: Dynamic mobile of rugged construction. Lo-Z has "open circuit" wiring for multiple paging installations. Hi-Z provides "straight through" circuit for VOX operations. Output level: −55 db. Response: 100 to 7,000 Hz, matched to high intelligibility requirements. Gray. With hang-up bracket. Specify Hi-Z or Lo-Z. Net $24.60

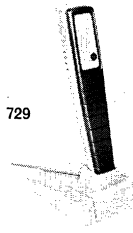
602F: Similar to 602FTR, less transistor amplifier. For circuits designed for dynamic microphones. Output: −60 db. Hi-Z or balanced Lo-Z must be specified. Net $36.30

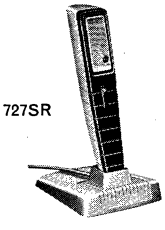
714: Ceramic hand-held unit for paging, ham radio, and CB. Cycolac case for long life and protection from shock. High impedance output: −55. Response tailored for high intelligibility: 100 to 7,000 Hz. DPDT switch. Coiled cord extends to 5'. Bracket included. Net $10.50



717: Similar to 714, except cardioid pickup. Aperture on either side of diaphragm provides attenuation of sound arriving from rear and sides. Output: −55 db. Response: 100 to 7,000 Hz. Net $12.30







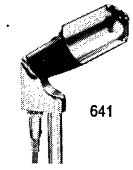
719: Ceramic base station unit for communications or paging. Switch for press-to-talk in base or move to upper part of stand for grip-to-talk use. Stand and head are die cast, nonreflecting gray and chrome plated, respectively. Hi-Z. Output: −58 db. Response: 70 to 7,000 Hz. Net $17.40

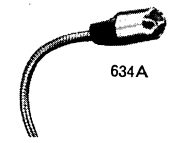
729: Ceramic cardioid reduces random noise, reverberation, and feedback. For PA, paging, home recording, and general communications. Excellent VOX operations. Tailored for single sideband. Output: −60 db. Response: 60 to 8,000 Hz. Hi-Z. 8½' cable. Stand adapter supplied. Net . . . $15.30

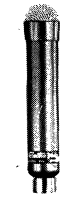
729SR: With relay switch. Net $16.80

727: Omnidirectional, similar in appearance to 729. Withstands extremes of temperature and humidity. Hi-Z. Response: 60 to 8,000 Hz. Output: −55 db. Net $12.60

727SR: With relay switch. Net $14.70



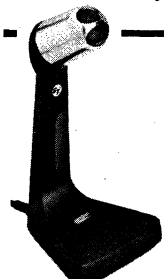




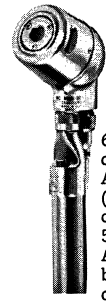
641: Modern two-tone dynamic microphone for public address, home recording, communications, electronic teaching aids, and paging systems. Integral on/off switch. Wide range response: 70 to 10,000 Hz. High output level: −57 db. 15' cable. Case is chrome plated die-cast zinc and gray high impact plastic. Hi-Z or balanced Lo-Z must be specified. Net . . . $24.90

634A: Similar to 641 but without stand mounting stud or on/off switch. Fits any stand, boom, or goosneck with complete cable concealment. Ideal for electronic teaching aids, amateur and commercial communications, and paging systems. Hi-Z or balanced Lo-Z must be specified. Net . . . $18.90

648: Extremely versatile paging, intercom, or talk-back microphone. Omnidirectional with Acoustalloy diaphragm. Non-reflecting gray. Does not include cable. Hi-Z or Lo-Z must be specified. Net $35.40



619TR: Unique base-station microphone with built-in transistor amplifier and speech compressor ideal when high value of average modulation (PEP) is important. Eliminates need for special clipper or compressor equipment and can be used with any impedance or input level. Rugged die-cast stand in non-reflecting gray with chrome die-cast head. Grip-to-talk switch in stand riser, compression meter in base. Response: 150 to 10,000 Hz. Output (at compression threshold) Hi-Z: −42 db; 3000 ohm: −44 db; 150 ohm: −58 db; maximum output with gain and compression controls at max.: −40 db. Net $42.00



606: Differential dynamic is close talking, noise cancelling. Accepts sounds of close origin (¼") and rejects sounds of distant origin. Response: 100 to 5,000 Hz. Output at ¼": −55 db. Acoustalloy diaphragm. Has built-in connector and satin chrome finish. Hi-Z or balanced Lo-Z must be specified. 15' cable. Net $33.00

625TRSKK: Transistorized noise cancelling handset for intercom and communications on aircraft or other applications demanding rejection of high level background noise. No changes required in carbon circuits. Phenolic case holds Lo-Z microphone and 150 ohm magnetic receiver. FAA approved. Response: 100 to 5,000 Hz. Output: −48 db (carbon equiv.). Five-conductor coiled cord. Net $77.10

625SKK: Same as 625TRSKK but without transistor amplifier. For paging, intercom, and communications work. Output: −55 db. Net . $53.40

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Net

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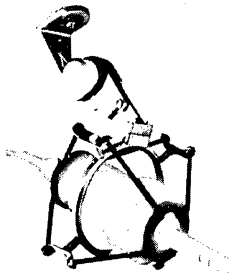
Electro-Voice®

MICROPHONE ACCESSORIES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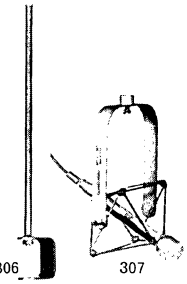

306 307

Suspension Shock Mounts

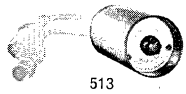
307: Adapts microphone with ¾" shank for boom use. Can be stand mounted. For RE15, 635A, 627,631, etc. Net $20.70
306: Extension for use with 307. Length: 13-7/16". Net $7.80
356: For use with 642 microphone on boom or floor stand when no windscreen is used. Net $31.50
324: For use with 642 microphone. Will accept 326 windscreen. Net $40.80

376

335A

Windscreens

314: Acoustifoam windscreen with zipper-type opening for RE10 and RE15. Net $7.80
326: Acoustifoam windscreen kit for model 642. Compatible with 324 shock mount. Net . . $28.20
327: Package consists of 324 and 326. Acoustifoam windscreen material eliminates "blast" caused by fast panning of boom, or when used outdoors. Net $63.00
335A: Acoustifoam. For use on 630, 641, 634A microphones. Net $7.80
337: For use on 627 microphone. Net $4.80
355: Acoustifoam. Protects against mechanical shock and pickup of dust and magnetic particles. For use with models 655C, 654A, 636, and 623 microphones. Net $6.90
368: For use on 667A or 668 microphone. Fits over standard integral windscreen for use outdoors. Net $56.70
376: Acoustifoam sleeve for 676 and 674 microphones. Net $9.30
524A: Acoustifoam windscreen for use with 666 microphone. Net $7.50


513

380

502B

Transformers and Filters

502B: Matching transformer for use in series with mike line. Lo - Z input to Hi-Z output. Response 30 to 20,000 Hz±1 db. Length, 3¾", diameter 1". Net $9.90
513: Filter for use with low impedance microphones has switch to match 50, 150, or 250 ohms. When used in line between microphone and preamp, rejects unwanted noise below 100 Hz. Terminals provided for cable connections. Net $59.70
380: Attenuator for use in microphone line, attenuates signal 10 db. Net $15.60

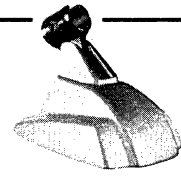
300

310

Clamps

300: Detachable clamp. Adapter fits any 1" to 1-1/8" diameter cylindrical microphone. Provides positive mounting to 5/8"-27 desk or floor stand. Net $4.80
310: Similar to above but designed for ¾" diameter microphones. Net $3.90
310A: Same as above except gray, as furnished with professional microphones. Net $3.90
311: Similar to 310 except cut back for easy snap-in, snap-out. Net $3.90
311A: Same as 311 except gray as furnished with professional microphones. Net $3.90
305: Adapter for mounting 5/8"-27 threads on ½" stand. Net $1.50

418/419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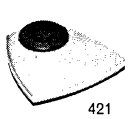
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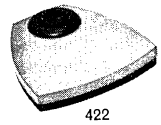
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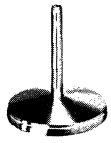
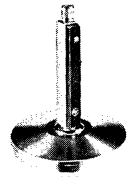

423A


428

Microphone Stands

418: Desk stand for microphones with small type studs such as 611, 623, 630, 641, 636, 674, and new style (after early 1968) 644 and 664. Net $8.10
418S: With switch. Net $11.10
418G: Gold finish. Net $10.20
419: Desk stand for use with microphones having large type stud such as 665 and older style (before early 1968) 644 and 664. Net $8.10
419S: With switch. Net $11.10
419G: Gold finish. Net $10.20
420: Die-cast stand for use with 666, 655C, 654A, 652A, 676, or other models with 1" diameter. Clamp adapts 1" to 1-1/8" mikes without tools. Net $12.60
420G: Same as above except gold finish. Net $16.50
421: Small size. Interchangeable rubber shock mounts to accept ¾" or 1" stand clamps. Net $10.50
422: Similar to 421 but larger to accommodate heavier microphones. Net $10.50
423A: 5-1/8" base with 5" riser. 5/8"-27 thread. Rests firmly on rubber base buttons. Net $3.60
428: Touch to talk lever type DPDT switch. Closes or opens instantly or locks in "talk" position. Fits standard 5/8"-27 thread. Net $18.90

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Electro-Voice®

SOUND REINFORCEMENT LOUDSPEAKERS

MUSICASTER: High fidelity performance in compact, portable system. Aluminum diecast housing protects weatherproof cone speaker, extends bass response. Dual Radax cone radiates smooth highs through 120 degree angle. Provision for mounting 70.7 V line transformer inside. Frequency response: 60 to 13,000 Hz. Nominal impedance: 8 ohms. Power handling capacity: 30 watts program. Sound pressure level: 110 db. 21½" square, 8½" deep. Net $72.00

MUSICASTER II: Same as above except added brilliance and wider coverage. Response: 60 to 18,000 Hz. Complete with crossover. Net $90.00

M253: Multicellular horn (less driver) weatherproof for indoor or outdoor use. Dispersion essentially uniform (60° vertical, 120° horizontal). Two rows of five cells are jig assembled and covered with special black damping compound. Accepts any E-V driver with 1-3/8"-18 thread. Low frequency cutoff 300 Hz. Mounting hardware supplied. Driver-throat built in. 17½" h, 30½" w, 36½" d. Steel construction. Net $189.00

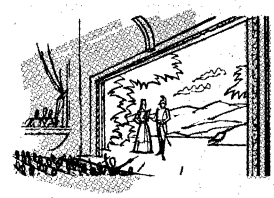
LR7: Largest E-V Line Radiator. Low- and high-frequency response extended. Uses nine 5" by 7" speakers and two T35 VHF drivers for frequency range of 200 to 17,000 Hz. Crossover at 3500 Hz. Horizontal coverage 160°, vertical coverage 60°. Power handling capacity: 50 watts, impedance: 8 ohms. Non-resonant, curved* wood enclosure finished in Mesa Tan. Universal mounting brackets supplied. 60" h.,11"w.,14"d. Net $195.00

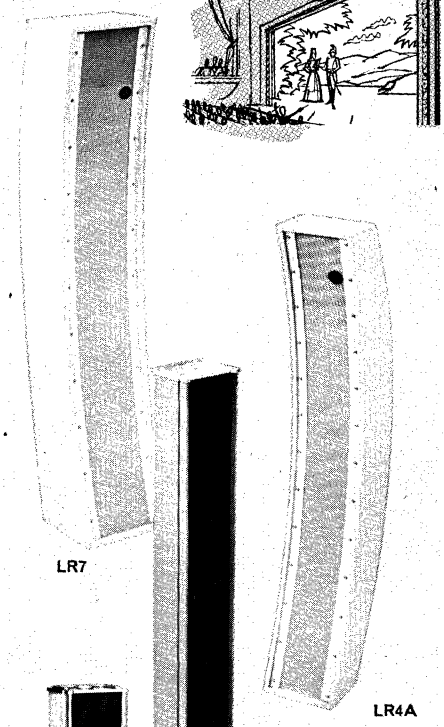
LR4SA: Weatherproofed for outdoor or indoor installation. Extruded aluminum case is finished in Faun metallic. Electrical filters remove end speakers from circuit as frequencies increase, eliminating high frequency lobes at ends. Frequency response: 200 to 10,000 Hz. Impedance: 8 ohms. Power handling capacity: 40 watts program. Dispersion: 30° vertical, 160° horizontal. Sound pressure level: 116 db. 48-3/8" l., 6-5/8" w.,4-7/8" d. Universal mounting bracket and one Model 460 bracket for heavy-duty stand mounting supplied. Net $99.90

LR2SA: Short version of LR4SA. Greater vertical dispersion (45°). Response: 200 to 10,000 Hz. Impedance: 8 ohms. Power handling capacity: 20 watts program. 24½" l., 6-5/8" w., 4-7/8" d. Two Model 460 brackets supplied. Net $55.50

LR4A: Curved design* overcomes unwanted high frequency dispersion at ends, eliminates echo and feedback. Uses nine 3" x 5" and three 3½" cone speakers. 160° horizontal dispersion, 60° vertical dispersion. Frequency response: 200 to 10,000 Hz. Power handling capacity: 25 watts program. Nominal impedance: 8 ohms. 49" h., 7" w., 13" d. Mesa Tan wooden enclosure. Net $94.80

*U.S. Patent No. 3,125,181



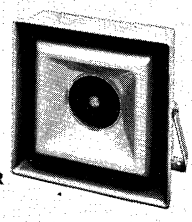


LR7

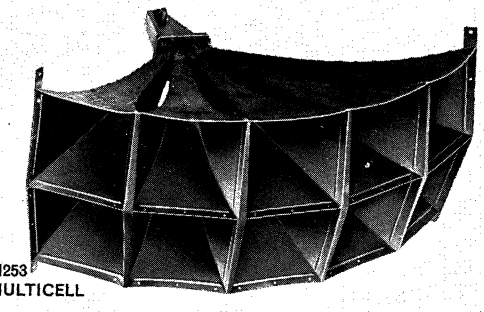
LR4A

LR4SA

LR2SA

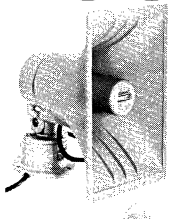


MUSICASTER



M253
MULTICELL

Paging Speakers



PA30AT-7: 30 watt projector with integral 70.7 V line transformer. Line power taps at 30, 15, 8, 4, and 2 watts. Rugged Implex horn. Smooth response for voice or music: 250 to 14,000 Hz. Universal swivel bracket. Power handling capacity: 30 watts. Dispersion: 120° x 90°. EIA sensitivity rating: 60 db. Sound pressure level: 127 db. 11½" h., 6½" w., 9¾" d. Net $28.50

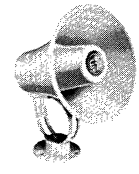
PA30AT-2: Same as above except integral transformer is 25 volts. Net $28.50

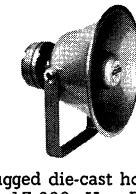
PA30A: Same as PA30AT but no line transformer. Will accept model TR30. Nominal impedance: 8 ohms. 11" h., 6½" w., 8½" d. Net $21.90

PA30A-45: Same as above but with 45 ohm voice coil for intercom systems. Net $23.10

PA30RT-7: 30 watt reentrant projector with round spun-aluminum bell. Integral 70.7 V line transformer with power taps at 30, 15, 8, 4, and 2 watts, part of mounting base. Response: 250 to 14,000 Hz. Power handling capacity: 30 watts. Impedance: 8 ohms. Dispersion: 105°. EIA sensitivity rating: 60 db. Sound pressure level: 127 db. 12-1/8" h., 10¼" d., diameter, 10". Net $30.60

PA30RT-2: Same as above except 25 volt transformer. Net $30.60





PA30R: Same as PA30RT but no line transformer. Will accept model TR30. Nominal impedance 8 ohms. Horn diameter 10", 9¾" deep. Net $23.70

PA30R-45: Same as above but with 45 ohm voice coil. Net $23.70

PA7: Reentrant projector constructed completely of Implex—virtually indestructible. Diaphragm design eliminates loading problems, provides clean reproduction. Handles 7½ watts over range of 400 to 13,000 Hz. 120° dispersion angle. Mounting bracket allows horn to be positioned at any angle. 6¾" diameter, 6" deep. Net $18.75

PA7-45: Same as above but with 45 ohm voice coil. Net $19.50

844A: Smooth response with better lows to provide natural paging without feedback. Handles 30 watts. Rugged die-cast horn, field replaceable voice coil. Frequency response: 250 to 13,000 Hz. Power handling capacity: 30 watts program. Nominal impedance: 8 ohms, nominal dispersion: 90°. EIA sensitivity rating: 54 db. Sound pressure level: 123 db. 9-7/8" diameter, 7-7/8" deep. Net . . $22.95

847: Utilizes E-V CDP® principle. Wide angle speaker provides high articulation over uniform 120° x 90° area. Uses TWO diffraction horns. Power handling capacity: 25 watts. Frequency response: 250 to 10,000 Hz. Sound pressure level: 114 db. Impedance: 16 ohms. Fiberglass Mesa Tan horn. 11¾" l.,7¾" w., 10¼" deep. Net $35.40

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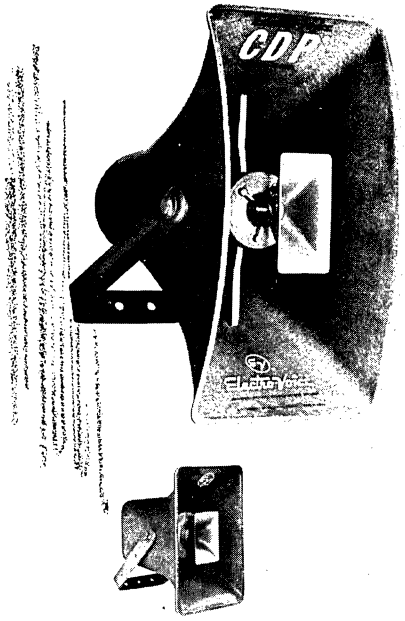
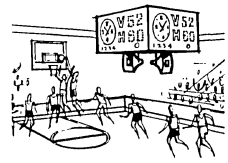
Electro-Voice®

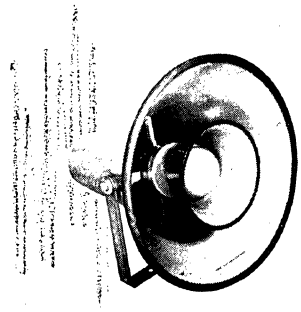
PUBLIC ADDRESS HORNS AND DRIVERS

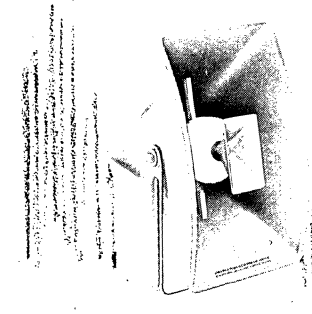




Exclusive E-V Compound Horns permit widest range at lowest distortion, plus complete directional control of both highs and lows. Best wide-angle coverage with exclusive diffraction horns means better sound through entire coverage area. Concentrating compound horn provides highest efficiency at lowest distortion. Natural voice and music reproduction result in higher intelligibility without annoying peaks.

848A: Combines FC100 Compound Diffraction Horn and 1828C driver for finest wide-angle sound, low distortion, and highest quality of any projector. Frequency response: 150 to 10,000 Hz. Impedance: 8 ohms. Dispersion: 90° x 120°. Power handling capacity: 30 watts. Sound pressure level: 120 db. 10½" x 20½" x 20". Net $53.40



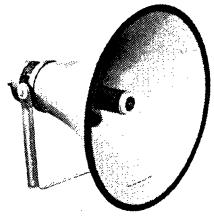


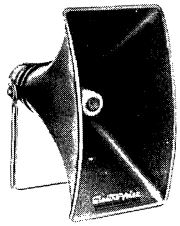
847: Utilizes E-V CDP® principle. Wide angle speaker provides high articulation over 120° x 90° area. Uses TWO diffraction horns. Power handling capacity: 25 watts. Frequency response: 250 to 10,000 Hz. Sound pressure level: 114 db. Impedance: 16 ohms. Fiberglass Mesa Tan horn. 11¾" x 7¾" x 10¼". Net . . $35.40

AC100: Concentrating version of CDP®. Uses round horns for most concentrated coverage. Use with any E-V convertible driver. Low frequency horn cutoff: 100 Hz, taper: 100 Hz. Air column length: 56", sound distribution 80°. High frequency sound distribution: 30°. Crossover: 1,000 Hz. 21" diameter, 21" depth (less driver). Net $55.20

FC100: Provides two diffraction horns for uniform wide-angle coverage. Flexible coverage control by individual adjustment of each horn. Use any E-V convertible driver. Low frequency horn cutoff: 100 Hz, taper: 100Hz. Air column length: 58", sound distribution 90° x 120°, high frequency sound distribution, 90° x 120°. Crossover: 1000 Hz. 10½" x 20½", depth (less driver) 20". Net $32.10

REENTRANT HORNS





AR150: Round concentrating horn for maximum penetration. E-V ring reflector plus new exponential design contributes to wide range. High intelligibility and remarkably natural voice and music quality. High efficiency design. Accepts E-V Convertible Drivers or any standard driver with 1-3/8"-18 thread. Low frequency horn cutoff: 150 Hz, taper 150 Hz. Air column length, 41". Sound distribution, 85°. Diameter 21", depth (less driver), 17". Net $26.10

FR150: Medium-angle, low-cost rectangular horn provides good coverage. Fiberglass horn has Mesa Tan color molded in. Adjustable mounting angle. Can be stacked for multiple speaker applications; ideal for car-top installation. Accepts E-V Convertible Drivers or any standard driver with 1-3/8"-18 thread. Low frequency cutoff: 150 Hz, taper 150 Hz. Air column length, 45". Sound distribution, 70° x 100°. Mouth size 10½" x 20½", depth (less driver) 21". Net . . . $30.00

LINE MATCHING TRANSFORMERS

For use in Constant-Voltage PA Systems

TR SERIES—70.7 V, 4 wattage taps. Secondary impedances 4,8,16 ohms.

TM SERIES—Dual 25 & 70.7 V, 4 wattage taps. Secondary impedances 8 & 16 ohms.

Watts	Model	Net	Model	Net
5	TR5	$ 4.50	TM5	$ 6.21
15	TR15	4.80	TM15	6.90
30	TR30	5.10	TM30	10.20
50	TR50	9.15	—	—
60	—	—	TM60	12.00

TH Transformer Housing: Weatherproof, eliminates soldering on E-V transformers. Wattage indicator dial. Size: 4" h. x 5" w. x 3½" d. Net $5.85

VERSATILE CONVERTIBLE DRIVERS

Designed for smooth, peak-free response with maximum efficiency, Electro-Voice public address drivers offer the greatest possible long term economy with a consistently high level of performance.

The Reentrant Driver model 1828R (30 watts) will produce maximum intelligibility when used with such Electro-Voice horns as the AR150 and FR150, and the HC400, yet its freedom from severe response peaks assures improved results even when installed on other Reentrant Horns.

The versatile Convertible Drivers listed here are easily adapted for use with all Reentrant type Horns (E-V and others), but are especially effective when used with the exclusive Electro-Voice Compound Diffraction Projectors (CDP®), FC100, and AC100.

For use in constant voltage systems, order 1828T or 1829T. All drivers have 1-3/8"-18 threads for attaching horn.

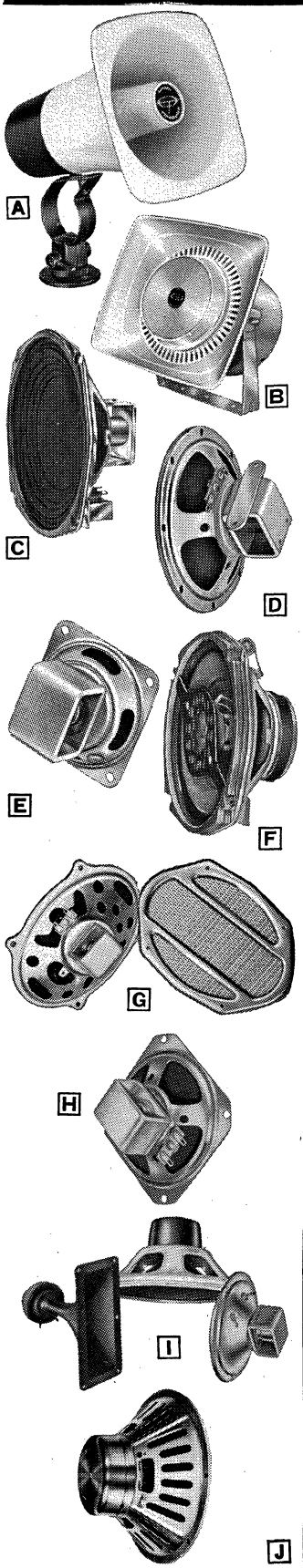
	1828R (DC30R)	1828C (DC30C)	1828T (DC30CT)	1829 (DC60)	1829T (DC60T)
Frequency Response—Hz	150-10,000	150-10,000	150-10,000	140-11,000	140-11,000
Program Power Capacity—Watts	30	30	30	60	60
Sound Pressure Level†					
FC100		120 db	120 db	127 db	127 db
AR150	127 db	127 db	127 db	133 db	133 db
Voice Coil Impedance—ohms	8	8	8	16	16
Transformer Impedance-ohms			167,333,667 1337		83,167 333,667
Transformer Power Taps-watts			30,15,8,4		60, 30, 15,8
Dimensions (overall)	4" dia. 2¾" d.	4" dia. 3¼" d.	5" h 4" w 5¼" d.	5-15/16" 4-1/16"d.	5-15/16" 6-3/8" d.
Net Price	$20.40	$20.10	$29.40	$36.00	$42.00

E-V Diaphragm replacement kits are available for all Electro-Voice public address drivers. †Measured at 4' on axis with full rated power from 750 - 1250 Hz.

OXFORD TRANSDUCER COMPANY

Division of OXFORD ELECTRIC CORPORATION

Quality Speakers for Every Application



A OP SPECIALIST SERIES OP-4

Models OP-6 and OP-8 represent the most advanced weatherproof paging and talkback speakers. They incorporate new design innovations with new materials to provide the highest efficiency with the lowest distortion factors of any competitive units available.

B OH-10 WEATHERPROOF DUAL SPEAKER SOUND SYSTEM

A high efficiency co-axial speaker that reproduces music and voice with the fidelity of an expensive indoor high-fidelity speaker system yet, the OH-10 is rugged and completely weatherproof. Components are housed in die-cast aluminum inclosure which is designed to compliment every setting from the shopping center to the patio.

C SPEAKERS — COMMERCIAL SOUND

Oxford public address speakers are designed for higher output, with less power input. This maximum conversion efficiency in power and coverage permits a reduction in the number of speakers usually required in an installation. And, lower rated power amplifiers may be used with a substantial savings in cost.

D INTER-COM SPEAKERS

Oxford high efficency Inter-com speakers are designed to give round, full and clear reproduction in the voice frequency range and at the same time suppress unwanted background noises. Even whispers will be reproduced with great clarity in areas with high background noise levels . . . shouts are reproduced without distortion.

E ALL WEATHER SPEAKERS

Oxford offers a complete line of All Weather speakers specifically designed for maximum operating performance regardless of weather conditions. They feature exclusive Oxford HYDRO-PRUF cones for full environmental protection. Special moisture protected voice coils prevent humidity damage. Extra heavy cadmium plating, inside and out, resists corrosion.

F CERAMIC SPEAKERS

Featuring shallow construction, these speakers are ideal for in-wall, stereo wing, picture frame, and other installations where space is at a premium. In addition to the standard models, Oxford also offers ceramic units with exclusive Oxford Hidden Magnet design. The magnet is mounted between the basket and the cone, permitting use of the dual cone for extended range while retaining the thin silhouette.

G EXACT REPLACEMENT AUTOMOTIVE RADIO SPEAKERS

A complete line is available, including exact replacement speakers, universal speakers, special units for custom automobiles, and speakers specifically designed for transistorized automobile radios.

H REPLACEMENT SPEAKERS

Oxford manufactures the most complete line of standard replacement speakers available for original equipment, including, phonographs, tape recorders, radios and television sets. The speaker sizes range from 2" through 15", in dimensions to insure a perfect installation.

I HIGH FIDELITY SPEAKERS

The Oxford line offers a full range of woofers, tweeters, extended range and co-axial speakers. They are all designed to reproduce the entire audio spectrum with true high fidelity so necessary for fine stereo reproduction. For the price conscious hi-fi equipment buyer, Oxford offers the most outstanding value.

J PROFESSIONAL MUSICAL INSTRUMENT SPEAKERS

As a "full line" loudspeaker manufacturer, Oxford also produces speakers for many "special purposes." The most popular of these is a series designed for use with electric musical instruments, such as guitars and electronic organs. It is only with a speaker designed for this particular application that the full quality of the instrument and performance can be appreciated.

Manufacturers, Write for Quotes on OEM Quantities.

OXFORD TRANSDUCER COMPANY

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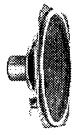
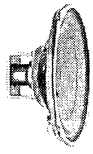
AKTRON REPLACEMENT SPEAKERS

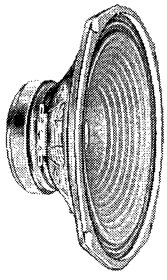
• ALUMINUM VOICE COILS • ALNICO 5 MAGNETS • SPECIALLY TREATED BLUE CONES • BLUE LUMINESCENT BAKED ENAMEL FINISH



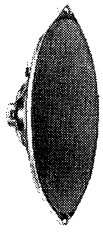
4" SQUARE CUP HOUSING



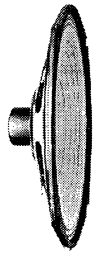
5" PIN CUSHION



8" CERAMIC MAGNET



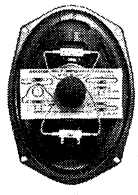
5" x 8" "FOOTBALL SHAPE"



6" x 9" FLAT CUP HOUSING

Size and Shape	Part No.	Magnet Weight Ounces	Dia. Inches	VOICE COIL Impedance (Ohms)	Power in Watts	Max. Depth in Inches	Suggested Dealer Prices
2¼" Round	23A8C	.53 cup	9/16	8	1	1 1/16	$1.78
2¾" Round	28A8C	.53 cup	9/16	8	2	1	1.78
3" Square	3A3C	.53 cup	9/16	3.2	2	1 15/16	1.62
3" Square	3C3	1.00	9/16	3.2	3	1 11/16	1.85
3½" Square	35A3C	.53 cup	9/16	3.2	2	1 3/8	1.62
3½" Square	35C3C	1.00	3/4	3.2	4	1 9/16	1.85
4" Square	4A3C	.53 cup	9/16	3.2	2	1 3/16	1.49
4" Square	4B3	.68	9/16	3.2	2	1 7/8	1.67
4" Square	4C3C	1.00 cup	3/4	3.2	4	1 11/16	1.85
4" Square	4D3	1.47	9/16	3.2	3	2 3/16	2.07
4" Square	4C8C	1.00 cup	3/4	8	4	1 11/16	1.85
5" Pin Cushion	5A3C	.53 cup	9/16	3.2	2	1 11/16	1.66
5" Pin Cushion	5B3	.68	9/16	3.2	2	2	1.85
5" Pin Cushion	5C3C	1.00 cup	3/4	3.2	4	1 13/16	1.96
5" Pin Cushion	5D3	1.47	9/16	3.2	4	2 5/16	2.16
5" Pin Cushion	5D8S	1.47	9/16	8	5	2 5/16	2.32
5" Round	R5A3C	.53 cup	9/16	3.2	2	1 3/4	1.67
5" Round	R5B3	.68	9/16	3.2	2	2 1/16	1.85
5" Round	R5D3	1.47	9/16	3.2	4	2 3/8	2.16
5" Round	R5EU8	*3.00	3/4	8	5	1 3/4	2.79
5¼" Pin Cushion	53B3	.68	9/16	3.2	2	2 1/8	1.91
5¼" Pin Cushion	53C3C	1.00 cup	3/4		4	1 15/16	2.05
•5¼" Pin Cushion	53E8	2.18 cup	1	8	6	2 1/8	2.93
•5¼" Pin Cushion	53GU8	*6.00	1	8	8	2 1/8	4.23
6" Pin Cushion	6B3	.68	9/16		3	2 3/8	2.07
6" Pin Cushion	6C3C	1.00 cup	3/4	3.2	5	2 3/16	2.25
6" Pin Cushion	6D3	1.47	9/16	3.2	5	2 3/4	2.39
6" Pin Cushion	6E3C	2.18 cup	1	3.2	7	2 3/8	2.75
6" Pin Cushion	6E8C	2.18 cup	1	8	7	2 3/8	2.75
8" Pin Cushion	8C3C	1.00 cup	3/4	3.2	5	2 13/16	3.04
8" Pin Cushion	8E3C	2.18 cup	1	3.2	6	2 13/16	3.65
8" Pin Cushion	8F3	3.16	3/4	3.2	8	3 9/16	4.06
8" Pin Cushion	8H3	6.80	1	3.2	12	4 1/16	5.70
8" Pin Cushion	8C8C	1.00 cup	3/4	8	5	2 13/16	3.04
8" Pin Cushion	8E8	2.15	3/4	8	6	3 11/16	3.74
8" Pin Cushion	8E8C	2.18 cup	1	8	7	2 13/16	3.65
8" Round Flat	8E8CF	2.18 cup	1	8	7	2	3.65
8" Pin Cushion	8EU8	*3.00	3/4	8	6	2 5/8	3.72
8" Pin Cushion	8F8	3.16	3/4	8	8	3 9/16	4.06
8" Pin Cushion	8G8	4.64	1	8	10	4	5.36
8" Pin Cushion	8GU8	*6.00	1	8	10	2 7/8	5.17
8" Pin Cushion	‡8GU8D	*6.00	1	8	10	2 7/8	6.08
8" Pin Cushion	8H8	6.80	1	8	12	4	5.70
8" Pin Cushion	8HU8	*10.00	1	8	12	3	5.63
8" Round	8K8	10.10	1¼	8	20	4 9/16	8.40
10" Round	10F3	10.10	3/4	3.2	8	4 3/16	5.30
10" Round	10F8	3.16	3/4	8	8	4 3/16	5.30
10" Round	10H8	6.80	1	8	12	4 13/16	7.42
12" Round	12F3	3.16	3/4	3.2	8	4 7/8	5.85
12" Round	12H3	6.80	1	3.2	12	5 1/2	7.72
12" Round	12F8	3.16	3/4	8	8	4 7/8	5.85
12" Round	12H8	6.80	1	8	12	5 1/2	7.72
12" Round	12HU8	*10.00	1	8	12	4 1/2	7.65
12" Round	12K8	10.10	1¼	8	20	5 13/16	10.30
15" Round	15K8	10.10	1¼	8	20	7¼	15.34
2" x 6"	26A3C	.53 cup	9/16	3.2	2	1 11/16	1.85
3" x 5"	135A3C	.53 cup	9/16	3.2	2	1 5/8	1.75
3" x 5"	135C3C	1.00 cup	3/4	3.2	4	1 11/16	1.98
2½" x 10"	210D3	1.47	9/16	3.2	5	2 3/8	3.65
4" x 6"	46A3C	.53 cup	9/16	3.2	2	1 1/2	1.87
4" x 6"	46B3	.68	9/16	3.2	3	1 7/8	2.02
4" x 6"	46C3C	1.00 cup	3/4	3.2	5	1 9/16	2.14
4" x 8"	48E3C	2.18 cup	1	3.2	5	2 1/8	3.18
•4" x 8"	48E8C	2.18 cup	1	8	5	2 1/8	3.18
4" x 10"	410E3C	2.18 cup	1	3.2	6	3	3.36
4" x 10"	410E8C	2.18 cup	1	8	6	3	3.36
5" x 7"	57A3C	.53 cup	9/16	3.2	2	2 1/8	2.12
5" x 7"	57C3C	1.00 cup	3/4	3.2	5	2 3/16	2.50
5" x 7"	57D3	1.47	9/16	3.2	5	2 3/4	2.77
5" x 7"	57E3C	2.18 cup	1	3.2	7	2 3/8	3.00
5" x 7" Flat	57E3CF	2.18 cup	1	3.2	7	2 1/16	3.00
5" x 7"	57F3X	3.16	1	3.2	8	3 1/16	3.85
5" x 7"	57C8C	1.00 cup	3/4	8	5	2 3/16	2.50
5" x 8"	†F58C8C	1.00 cup	3/4	8	5	2 5/16	3.04
6" x 9"	69A3C	.53 cup	9/16	3.2	2	2 11/16	2.36
6" x 9"	69C3C	1.00 cup	3/4	3.2	5	2 13/16	2.68
6" x 9"	69D3	1.47	9/16	3.2	5	3 3/8	2.99
6" x 9"	69E3C	2.18 cup	1	3.2	7	2 7/8	3.31
6" x 9" Flat	69E3CF	2.18 cup	1	3.2	7	2 1/16	3.31
6" x 9"	69H3	6.80	1	3.2	10	4 1/4	5.58
6" x 9"	69C8C	1.00 cup	3/4	8	5	2 13/16	2.68
6" x 9"	69E8C	2.18 cup	1	8	7	2 7/8	3.31
6" x 10"	†F610E8C	2.18 cup	1	8	7	3 1/16	4.23

*Ceramic Magnet—All others Alnico 5. †Has two mounting holes—Crinoline dust screen, "Football Shape"
•Indicates New Item



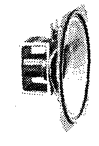
6" x 9" MULTI-IMPEDANCE

MULTI-IMPEDANCE SPEAKERS 10-20-40 OHM

Oaktron's new "three in one" multi-impedance series

- Specially developed heavy voice coil winding for maximum power handling.
- Dual solderless terminal strip arrangement with jumpers for simplified hook up.
- Complete wiring diagram accompanies each speaker.

6" x Pin Cushion	6EMC	2.18 cup	1	10-20-40	6	2¼	$3.24
4" x 6"	46CMC	1.00 cup	¾	10-20-40	5	1 1/16	2.74
4" x 8"	48EMC	2.18 cup	1	10-20-40	5	2¼	3.73
4" x 10"	410EMC	2.18 cup	1	10-20-40	6	3	3.89
5" x 7"	57EMCF	2.18 cup	1	10-20-40	7	2¼	3.73
•5" x 7"	57GUMW	*6.00 cu	1	10-20-40	8	2⅜"	5.62
6" x 9" Flat	69EMCF	2.18 cup	1	10-20-40	7	2¼	3.94
6" x 9" Free Edge Cone	FE69UMW	*10.00 oz.	1	10-20-40	10	3 3/16	7.49



4" WEATHERPROOF

NOTE—Transformer Mounting Boss on all 4", 5" Round, 8" and 12" Speakers.

EIA WARRANTY APPLIES TO ALL OAKTRON SPEAKERS.

WEATHERPROOF SPEAKERS

Specially Impregnated Cones, Gaskets and Dust Caps

3½" Square	35D8M	1.47	9/16	8	3	2	$2.47
4" Square	4A3M	.53 cup	9/16	3.2	2	1 9/16	1.87
4" Square	4D8M	1.47	9/16	8	3	2 3/16	2.43
5" Round	R5D8M	1.47	9/16	8	3	2 3/8	2.50
8" Pin Cushion	8F8M	3.16	3/4	8	8	3 9/16	4.45
8" Pin Cushion	8F45M	3.16	3/4	45	8	3 9/16	4.63
•4" x 8"	48GU8M	*6.00	1	8	9	2 1/16	5.92
6" x 9"	69H8M	6.80	1	8	12	4 1/4	6.44

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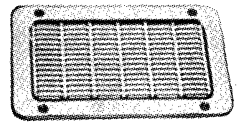
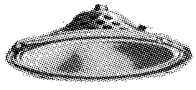
REAR SEAT SPEAKER KITS

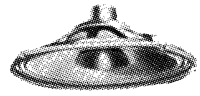
and Accessories

Featuring Oaktron's High Energy cup housing speakers.
Solderless hookup — No special tools required for installation. Includes all necessary hardware.





6" x 9" CUP



TWIN CONE

Model	Speaker	Grille	Control	Speaker	Max. Depth in Inches	Sugg. Dealer Price
RK57	5 x 7	Gray	3 Pos. Switch	57C3C	2 3/16	$5.22
RK57C	5 x 7	Chrome	3 Pos. Switch	57C3C	2 3/16	5.51
RK57F	5 x 7	Gray	Fader	57C3C	2 3/16	5.44
RK57CF	5 x 7	Chrome	Fader	57C3C	2 3/16	5.72
AK69	6 x 9	Gray	3 Pos. Switch	69A3C	2 11/16	5.08
AK69C	6 x 9	Chrome	3 Pos. Switch	69A3C	2 11/16	5.36
AK69F	6 x 9	Gray	Fader	69A3C	2 11/16	5.29
AK69CF	6 x 9	Chrome	Fader	69A3C	2 11/16	5.58
RK69	6 x 9	Gray	3 Pos. Switch	69C3C	2 13/16	5.38
RK69C	6 x 9	Chrome	3 Pos. Switch	69C3C	2 13/16	5.69
RK69F	6 x 9	Gray	Fader	69C3C	2 13/16	5.62
RK69CF	6 x 9	Chrome	Fader	69C3C	2 13/16	5.90
WK69	6 x 9	Gray	3 Pos. Switch	69E8WC	2 7/8	6.41
WK69C	6 x 9 Twin Cone	Chrome	3 Pos. Switch	69E8WC	2 7/8	6.70
WK69F	6 x 9 Twin Cone	Gray	Fader	69E8WC	2 7/8	6.62
WK69CF	6 x 9 Twin Cone	Chrome	Fader	69E8WC	2 7/8	6.91
MK69	6 x 9 Multi-Impedance	Gray	3 Pos. Switch	69EMCF	2 1/4	6.66
MK69C	6 x 9 Multi-Impedance	Chrome	3 Pos. Switch	69EMCF	2 1/4	6.95
MK69F	6 x 9 Multi-Impedance	Gray	Fader	69EMCF	2 1/4	6.88
MK69CF	6 x 9 Multi-Impedance	Chrome	Fader	69EMCF	2 1/4	7.16

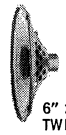
ACCESSORIES:

Part No.	Description	
FA-1	Fader Control with Presoldered Wire and Hardware	$1.57
SW-1	Switch Control with Presoldered Wire and Hardware	1.35
CH57	5 x 7 Chrome Grill with Hardware	1.39
CH69	6 x 9 Chrome Grill with Hardware	1.39
GY57	5 x 7 Gray Grill with Hardware	1.10
GY69	6 x 9 Gray Grill with Hardware	1.10

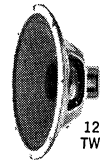
Grills listed above supplied individually visual packed.

TWIN CONE SPEAKERS

Matched dual cones for true high fidelity sound reproduction.



6" x 9" TWIN CONE



12" ROUND TWIN CONE

Size and Shape	Part Number	Magnet Weight Ounces	Dia. Inches	VOICE COIL Impedance (Ohms)	VOICE COIL Power in Watts	Max. Depth in Inches	Sugg. Dealer Price
8" Pin Cushion	8E8WC	2.18 cup	1	8	6	2 13/16	$4.07
8" Pin Cushion	8F8W	3.16	3/4	8	8	3 5/16	4.43
8" Pin Cushion	8H8W	6.80	1	8	12	4	6.16
8" Pin Cushion	8HU8W	*10.00	1	8	12	3	6.03
12" Round	12H8W	6.80	1	8	12	5 1/2	8.21
5" x 7"	57GU8W	*6.00	1	8	8	2 3/8	5.15
6" x 9"	69E8WC	2.18 cup	1	8	6	2 7/8	3.69
6" x 9"	68HU8W	*10.00	1	8	10	3 5/16	5.92

* Ceramic Magnet — all others Alnico 5

INTERCOM SPEAKERS

Size and Shape	Part No.	Magnet Weight Ounces	Dia. Inches	VOICE COIL Impedance (Ohms)	VOICE COIL Power in Watts	Max. Depth in Inches	Sugg. Dealer Price
3 1/2" Square	35A45C	.53 cup	5/8	45	2	1 3/8	$1.82
4" Square	4A45C	.53 cup	5/8	45	2	1 5/16	1.67
4" Square	4D45	1.47	5/8	45	3	2 3/16	2.27
5" Pin Cushion	5D45	1.47	5/8	45	3	2 5/16	2.36
8" Pin Cushion	8F45	3.16	3/4	45	8	3 5/16	4.27

TWEETER SPEAKERS

These speakers are true compression type, using totally enclosed baskets and molded curvilinear cones for maximum high frequency radiation, 8 ohm aluminum voice coils and Alnico 5 magnets—Blue luminescent enamel finish.

Size and Shape	Part Number	Impedance	Magnet Weight	V.C. Dia.	Power Watts	Frequency Response	Max. Depth in Inches	Sugg. Dealer Price
3" Square	3C8T		1.00 oz.	5/16"	4	3000-16,000	1 11/16	$2.07
3 1/2" Square	35D8T		1.47 oz.	5/16"	5	3000-16,000	2	2.36
4" Square	4D8T	8 Ohms	1.47 oz.	5/16"	5	3000-15,000	2 3/16	2.36
5" Round	5D8T		1.47 oz.	5/16"	5	2000-15,000	2 3/8	2.47
4" x 6"	46D8T		1.47 oz.	5/16"	6	2000-17,000	2 3/16	2.75

SYSTEMS — HIGH FIDELITY

Matched Trio for Multi-Speaker Application

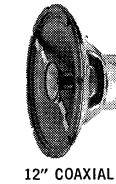
Size in Inches	Part Number	Impedance	Magnet Weight	V.C. Dia.	Power Watts	Frequency Response	Max. Depth in Inches	Sugg. Dealer Price
12 6x9 4x6 Harness with Crossover	ST-124	8 Ohms	12" Woofer 6.80 oz. 6"x9" Mid Range 3.16 oz. 4"x6" Tweeter 1.47 oz.	1" 3/4" 5/16"	12	35-15,000	5 5/8 3 5/16 2 5/16	$17.91

HIGH FIDELITY SPEAKERS

ALL OAKTRON HI-FIDELITY SPEAKERS ARE ENCLOSED IN A PLASTIC COVERING AND INDIVIDUALLY BOXED TO INSURE MAXIMUM PROTECTION.

COAXIAL SPEAKERS

Oaktron's coaxial type speakers are superbly engineered to produce a flat response over a wide range of frequencies. These speakers are finished in a glossy royal blue luminescent enamel and feature a unique cross over network, solid basket compression type tweeters, specially treated aluminum voice coils and Alnico 5 magnets. These features combined with Oaktron's superior workmanship offer the finest in coaxial speakers.



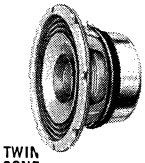
12" COAXIAL

Size in Inches	Part Number	Impedance	Magnet Weight	V.C. Dia.	Power Watts	Frequency Response	Max. Speaker Depth in Inches	Sugg. Dealer Price
8	CA-8	8 Ohms	8" Woofer 3.16 oz. 3" Tweeter .53 oz.	3/4" 5/16"	8	60-14,000	4 1/2	$ 8.55
8	‡CA-8-HD	8 Ohms	8" Woofer 6.80 oz. 3" Tweeter .53 oz.	1" 5/16"	10	50-14,000	4 1/2	11.25
12	CA-12	8 Ohms	12" Woofer 6.80 oz. 3" Tweeter 1.00 oz.	1" 9/16"	12	35-14,000	6 13/16	12.51
12	‡CA-12-HD	8 Ohms	12" Woofer 10.10 oz. 3 1/2" Tweeter 1.00 oz.	1 1/4" 9/16"	20	25-14,000	6 13/16	16.65
15	CA-15	8 Ohms	15" Woofer 6.80 oz. 5" Tweeter 1.00 oz.	1" 9/16"	14	30-13,000	7 13/16	17.28
15	‡CA-15-HD	8 Ohms	15" Woofer 10.10 oz. 5" Tweeter 1.00 oz.	1 1/2" 3/4"	20	20-13,000	7 13/16	22.41
6x9	CA-69	8 Ohms	6x9" Woofer 2.15 oz. 3" Tweeter .53 oz.	3/4" 5/16"	6	70-14,000	3 5/16	7.65
6x9	CA-69-HD	8 Ohms	6x9" Woofer 6.80 oz. 3" Tweeter .53 oz.	1" 5/16"	10	60-14,000	4 5/16	10.26

CLASSIC SERIES

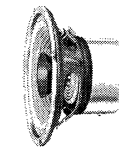
Twin cone speakers:

- Perfectly matched dual cones
- Smooth Response
- Heavy magnets
- Large voice coils



6" TWIN CONE

SAME GENERAL APPEARANCE AS COAXIAL SPEAKERS
Excellent woofer characteristics combined with a perfectly matched twin cone to complete a truly exceptional full range high fidelity speaker.



8" TWIN CONE

Size in Inches	Part Number	Impedance	Magnet Weight	V.C. Dia.	Power Watts	Frequency Response	Max. Speaker Depth in Inches	Sugg. Dealer Price
6	‡FE6W Free Edge Cone	8 Ohms	*6.00 oz.	1"	12	40-15,000	3 5/16	$ 8.46
8	‡FE8KW Free Edge	8 Ohms	10.10 oz.	1 1/4"	20	30-14,000	4 3/4	12.51
8	‡FE-8W Twin Cone	8 Ohms	6.80 oz.	1"	12	40-16,000	4 1/2	9.98
12	‡12K8W	8 Ohms	10.10 oz.	1 1/4"	20	25-13,000	6 3/16	14.85
15	‡15K8W	8 Ohms	10.10 oz.	1 1/4"	20	20-13,000	7 13/16	20.52
6x9	FE-69UW Twin Cone	8 Ohms	*10.00 oz.	1"	10	35-16,000	3 5/16	7.65

‡Chrome Finished Dust Cover. *Ceramic Magnet.

OAKTRON INDUSTRIES, INC.

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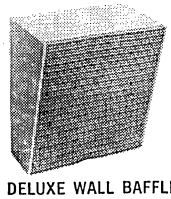
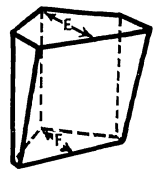
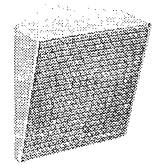
Oaktron Baffles are smartly designed to complement any decor. Rugged one half inch cabinet hardwood construction assures longer service even under the most severe conditions. Beautifully finished in a natural blonde or walnut these baffles represent the ultimate in appearance and sound reproduction. Speaker and baffle mounting hardware included.

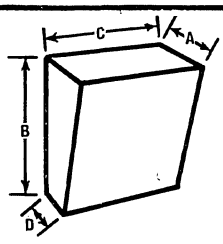


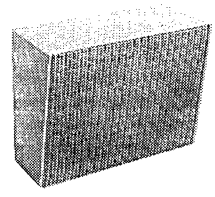
DELUXE WALL BAFFLE





DELUXE "KORNER" BAFFLE





CUSTOM WALL BAFFLE

DELUXE WALL BAFFLES

Speaker Size	Part No.	Furniture Finish	Material	DIMENSIONS A	B	C	D	Sugg. Dealer Price
4"&5"	WB4/5-B	Blonde	Cabinet Hardwood	4½"	6¼"	6½"	2½"	$3.60
4"&5"	WB4/5-W	Walnut	Cabinet Hardwood	4½"	6¼"	6½"	2½"	3.60
6"	WB6-B	Blonde	Cabinet Hardwood	4⅝"	8"	9⅜"	2⅝"	4.48
6"	WB6-W	Walnut	Cabinet Hardwood	4⅝"	8"	9⅜"	2⅝"	4.48
* 8"	WB8-B	Blonde	Cabinet Hardwood	6¼"	10⅝"	9½"	3½"	4.72
* 8"	WB8-W	Walnut	Cabinet Hardwood	6¼"	10⅝"	9½"	3½"	4.72
12"	WB12-B	Blonde	Cabinet Hardwood	9⅛"	14⅛"	13¾"	5⅜"	7.60
12"	WB12-W	Walnut	Cabinet Hardwood	9⅛"	14⅛"	13¾"	5⅜"	7.60

* Also available notched for use with B-8 baffle bracket. Add 15¢ per unit to baffle price. Specify notched when ordering.

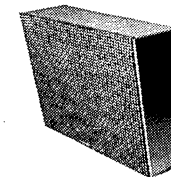
DELUXE "KORNER" BAFFLES

Speaker Size	Model	Furniture Finish	Material	DIMENSIONS A	B	C	D	E	F	Sugg. Dealer Price
8"	KB8-B	Blonde	Cabinet Hardwood	4"	10⅝"	9½"	1"	8¼"	5⅛"	$7.92
8"	KB8-W	Walnut	Cabinet Hardwood	4"	10⅝"	9½"	1"	8¼"	5⅛"	7.92
12"	KB12-B	Blonde	Cabinet Hardwood	5⅜"	14"	13½"	1¾"	11¾"	8⅛"	10.96
12"	KB12-W	Walnut	Cabinet Hardwood	5⅜"	14"	13½"	1¾"	11¾"	8⅛"	10.96

CUSTOM WALL BAFFLES

Speaker Size	Part No.	Furniture Finish	Material	DIMENSIONS A	B	C	D	Sugg. Dealer Price
‡ 8"	CWB8-B	Blonde	Cabinet Hardwood	6"	9⅝"	12"	4¼"	$6.32
‡ 8"	CWB8-W	Walnut	Cabinet Hardwood	6"	9⅝"	12"	4¼"	6.32

SLIMLINE WALL BAFFLES



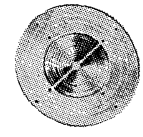
Speaker Size	Part No.	Furniture Finish	Material	DIMENSIONS A	B	C	D	Sugg. Dealer Price
‡ 8"	SWB8-B	Blonde	Cabinet Hardwood	4½"	9⅝"	12"	2⅞"	$5.84
‡ 8"	SWB8-W	Walnut	Cabinet Hardwood	4½"	9⅝"	12"	2⅞"	5.84

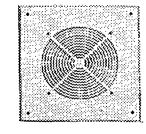
‡ Also available notched for use with B-8A baffle bracket. Add 15¢ per unit to baffle price. Specify notched when ordering.

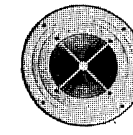
REDUCER RINGS

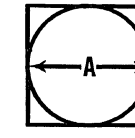
Model	Speaker Size	Material	Sugg. Dealer Price
R12/8	Reduces 12" to 8"	Tempered Presdwood	$1.52
R12/10	Reduces 12" to 10"	Tempered Presdwood	1.52

CEILING BAFFLES









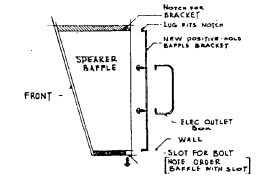
Oaktron's Ceiling Baffles possess qualities and design achieved only after years of engineering in this field. The extremely high efficiency and wide sound dispersion of these units result in superior acoustical sound reproduction. One piece construction eliminates vibration and rattle. Mount directly to the ceiling or to the convenient plaster ring. Available in satin aluminum and white baked enamel steel. Speaker mounting hardware included.

Speaker Size	Model	Finish	Shape	Material	Dimension A	Sugg. Dealer Price
8"	CR8-S	Satin	Round	Aluminum	12¾"	$3.06
8"	CR8-W	White	Round	Steel	12¾"	2.88
8"	CS8-S	Satin	Square	Aluminum	12⅛"	3.06
8"	CS8-W	White	Square	Steel	12⅛"	2.88

PLASTER RING

8"	PR8	Grey	—	Steel	—	$1.98

NEW, POSITIVE HOLD, BAFFLE BRACKET



Used To Mount Notched Deluxe Wall Baffle to Standard Electrical Outlet Box.

Part No.	Material	Finish	Sugg. Dealer Price
B-8	3/32" Steel	Aluminum Painted	$ .57
†B-8A	3/32" Steel	Blue Painted	$ .57

† Used To Mount Notched Custom And Notched Slimline Wall Baffles To Standard Electrical Outlet Box.

Note — Baffles can be supplied with speaker and transformer installed at a total cost of the units supplied plus 60¢ for installation.

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QUAM *Quality Line* SPEAKERS

These speakers are engineered and manufactured solely for replacement, public address, high fidelity and outdoor applications. EIA standard dimensions. Fully dust-proofed. Baked gold enamel finish. EIA service guarantee. Only Quam speakers have the U shaped coil pot construction which provides an unbroken flux path of sufficient cross section to carry the full energy of the magnetic field.

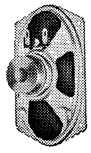
Fig. R

SPECIAL REPLACEMENT SPEAKERS FOR COLOR TV

MODEL No.	SIZE	FIGURE	MAGNET WEIGHT OR FIELD	POWER HANDLING WATTS	DEPTH	SHIP WT., LBS.	DEALER NET
35A2C*	3"x5"	R‡	1.1 oz. Alnico V	4	1-11/16	3/4	$3.00
4A2C*	4"	R‡	1.1 oz. Alnico V	4	1-5/8	3/4	2.86
46A2C*	4"x6"	R‡	1.1 oz. Alnico V	4	1-11/16	1	3.14
52A2C*	5¼"	R‡	1.1 oz. Alncio V	5	1-7/8	1	3.27

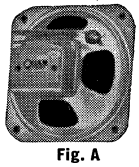
Fig. A

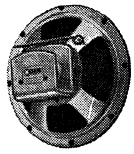
Fig. B

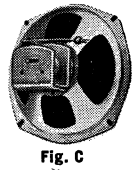
Fig. C

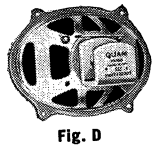
Fig. D

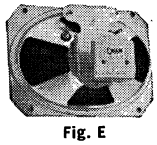
Fig. E

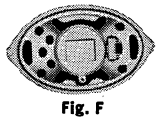
Fig. F

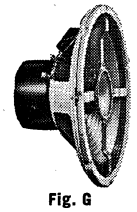
Fig. G

REPLACEMENT SPEAKERS Voice coil impedance 3.2 ohms ±10% except as noted.

22A06Z8**	2¼"	J	.45 oz. Alnico V	.25	1	1/4	$2.85
22A06Z100**	2¼"	J	.45 oz. Alnico V	.25	1	1/4	3.15
25A07	2½"	A	.65 oz. Alnico V	1.5	1-1/4	1/4	2.18
26A07	2"x6"	R	.65 oz. Alnico V	2	1-19/32	1/2	2.55
27A06Z12**	2¾"	J	.55 oz. Alnico V	.25	1	1/4	2.82
30A05	3"	I	.55 oz. Alnico V	2	1-3/16	1/2	1.89
3A05Z8**	3½"	I	.55 oz. Alnico V	2	1-9/32	1/4	2.25
3A05*	3½"	I	.55 oz. Alnico V	2	1-9/32	1/4	1.89
3A07*	3½"	A	.55 oz. Alnico V	2.5	1-11/16	1/2	2.31
3A07Z20**	3½"	I	.55 oz. Alnico V	2.5	1-33/64	1/2	2.58
35A05*	3"x5"	R	.55 oz. Alnico V	2	1-1/2	1/2	2.29
35A05Z8**	3"x5"	R	.55 oz. Alnico V	2	1-1/2	1/2	2.67
4A05*	4"	I	.55 oz. Alnico V	2.5	1-1/2	1/4	1.61
4A07*	4"	A	.65 oz. Alnico V	3	1-3/4	1/2	2.35
4A1	4"	A	1.0 oz. Alnico V	3	1-3/4	3/4	2.51
4A15	4"	A	1.47 oz. Alnico V	3	2-1/16	3/4	2.82
46A07*	4"x6"	E	.65 oz. Alnico V	3.5	1-15/16	3/4	2.85
46A1	4"x6"	E	1.0 oz. Alnico V	3.5	1-15/16	1	2.97
46A1Z10**	4"	A	1.0 oz. Alnico V	3	1-9/16	3/4	3.51
46A15	4"x6"	E	1.47 oz. Alnico V	3.5	2-1/4	1	3.30
410A2MT■	4"x10"	M	1.4 oz. Alnico V	6	2-11/16	1	5.97
410A2Z10§	4"x10"	M	1.4 oz. Alnico V	6	2-11/16	1	5.67
48A2*	4"x8"	M	1.4 oz. Alnico V	4.5	2-1/16	1	4.34
48A2Z20CT†	4"x8"	M	1.4 oz. Alnico V	4.5	2-1/16	1	4.95
410A2*	4"x10"	M	1.4 oz. Alnico V	6	2-11/16	1¼	4.88
5A05*	5"	I	.55 oz. Alnico V	3	1-11/16	1/2	1.91
5A07*	5"	C	.65 oz. Alnico V	3.5	2	3/4	2.58
5A1	5"	C	1.0 oz. Alnico V	3.5	2	1	2.73
5A1Z8**	5"	C	1.0 oz. Alnico V	3.5	2-5/16	1	3.03
5A15	5"	C	1.47 oz. Alnico V	3.5	2-5/16	1	3.03
52A1	5¼"	C	1.0 oz. Alnico V	4	2-1/16	1	2.88
52A1Z8**	5¼"	C	1.0 oz. Alnico V	4	1-7/8	1	3.09
52C10#	5¼"	N	10.0 oz. Ceramic	10	2-1/4	2-1/8	5.82
57A1	5"x7"	D	1.0 oz. Alnico V	5	2-3/8	1	3.03
57A15	5"x7"	D	1.47 oz. Alnico V	5	2-11/16	1	3.66
57A2MT■	5"x7"		1.2 oz. Alnico V	5	2-5/16	1	3.90
57A21	5"x7"	D	2.15 oz. Alnico V	5	2-61/64	1-1/4	4.05
58A15Z8	5"x8"	F	1.47 oz. Alnico V	5	2-3/4	1-1/4	4.26
6A1	6½"	C	1.0 oz. Alnico V	5	2-5/8	1	3.18
6A15	6½"	C	1.47 oz. Alnico V	5	2-5/8	1	3.45
6A31	6½"	C	3.16 oz. Alnico V	6	3-11/64	1-3/4	4.56
69A1*	6"x9"	D	1.2 oz. Alnico V	6	2-3/4	1-1/4	3.27
69A1S*	6"x9"	D	1.2 oz. Alnico V	6	2-1/16	1	4.64
69A2*	6"x9"	D	1.4 oz. Alnico V	8	2-15/16	1-1/2	4.09
69A2MT■	6"x9"		1.4 oz.	8	2-15/16	1-1/4	5.04
69A2Z10§	6"x9"		1.4 oz.	8	2-15/16	1-1/4	4.77
69A3	6"x9"	D	3.2 oz. Alnico V	10	3-5/16	2	5.31
610A1Z8	6"x10"	F	1.2 oz. Alnico V	8	2-13/16	1-3/4	5.10
7A21•	7"	C	1.4 oz. Alnico V	6	2-31/32	1	4.35
8A1	8"	C	1 oz. Alnico V	6	3-1/2	1	3.81
8A21	8"	C	2.15 oz. Alnico V	7	3-13/32	1-1/2	4.41
8A31	8"	C	3.16 oz. Alnico V	9	3-21/32	2	5.22
10C5	10"	L	4.8 oz. Ceramic	9	3-17/32	2-1/4	7.08
12A31	12"	B	3.16 oz. Alnico V	10	4-19/32	3-3/4	7.17
12A6A	12"	B	6.8 oz. Alnico V	14	5-1/4	4-1/2	9.45

* Cup pot; very shallow construction. ** Impedance is designated by number following the letter "Z".

Ceramic magnet. • Dual cone. † 20 ohms, center tapped ■ Multi-tap; 10-20-40 ohms

‡ Illustrates magnet construction; see same size standard speaker for basket shape. § 8-12 ohms

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QUAM *Quality Line* SPEAKERS

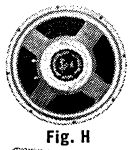
Fig. H

OUTDOOR SPEAKERS

Voice coil impedance 3.2 ohms ±10%

These long-life speakers have the improved Humi-Gard Cone which utilizes a Mylar plastic film to provide maximum resistance to moisture and dirt and sand abrasion, yet does not interfere with response characteristics. Air gap surfaces cadmium plated and enameled. Quantity quotations on request.

All Quam speakers are available weather-proofed for an additional 70c list. When ordering weather-proofed speakers use part numbers appearing in this catalog and add suffix "OT" to part number. (Humi-Gard Cone available only on 3½", 4" 5", and 6½" speakers.)

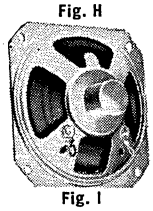
Fig. I

MODEL No.	SIZE	FIGURE	MAGNET WEIGHT OR FIELD	POWER HANDLING WATTS	DEPTH	SHIP. WT., LBS.	DEALER NET
3A07 OT*	3½"	A	.65 oz. Alnico V	2.5	1-33/64	1/2	$2.55
4A05 OT*	4"	I	.55 oz. Alnico V	2½	1-1/2	1/4	2.40
5A05 OT*	5"	I	.55 oz. Alnico V	3	1-11/16	1/2	2.64
8A31PA OT	8"		3.16 oz.	10	3 3/16	2	5.88

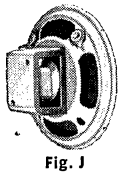
Fig. J

PUBLIC ADDRESS SPEAKERS

Voice coil impedance 8 ohms ± 10%

8A1PA	8"	C	1 oz. Alnico V	8	3-1/2	1-1/4	$3.84
8A21PA	8"	C	2.15 oz. Alnico V	10	3-9/16	2	5.19
8A31PA	8"	C	3.16 oz. Alnico V	10	3-9/16	2	5.97
8A4PA	8"	B	4.64 oz. Alnico V	12	3-3/4	2-3/4	7.23
8A6PA	8"	B	6.8 oz. Alnico V	12	3-7/8	3-1/4	7.80
8C6PA#	8"	O	6.0 oz. Ceramic	12	3	2-1/2	6.39
8C10PA#	8"	O	10.0 oz. Ceramic	12	3-1/8	3	7.17
10C10PA	10"	L	10.0 oz. Ceramic	14	3-25/32	3-1/4	8.70
12A31PA	12"	B	3.16 oz. Alnico V	12	5	3-1/4	7.92
12A4PA	12"	B	4.64 oz. Alnico V	15	5-1/8	3-3/4	9.42
12A6PA	12"	B	6.8 oz. Alnico V	15	5-1/4	4	9.75
12C12PA#	12"	O	12 oz. Ceramic	25	4-1/2	4-1/2	11.97

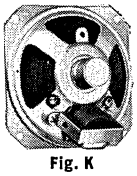
Fig. K

BACKGROUND MUSIC SPEAKERS

Voice coil impedance 8 ohms

MODEL NUMBER	SIZE	FIGURE	FREQUENCY RESPONSE (CPS)	MAGNET WEIGHT	POWER HANDLING WATTS	DEPTH	SHPG. WEIGHT POUNDS	DEALER NET
8C5PAX#	8"	P	50-20000	4.8	10	2-25/32"	2	$6.00
8C6PAX#•	8"	P	50-20000	6.0 oz.	12	3"	2	6.57
8C10PAX#•	8"	P	50-20000	10.0 oz.	15	3-1/8"	2-1/2	7.77
8C6PAS#	8"	Q	50-6000	6.0 oz.	10	2-1/8"	2-1/4	6.57
12C6PAS#•	12"	Q	40-12000	6.0 oz.	15	3-1/2"	2-3/4	8.97
12C10PAX#•	12"	P	50-15000	10.0 oz.	15	4-3/8"	4	10.17

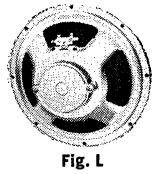
Fig. L

INTERCOM SPEAKERS

Voice coil impedance 45 ohms ±10%

3A07Z45*	3½"	A	.65 oz. Alnico V	2.5	1-33/64	1/2	2.55
4A07Z45*	4"	A	.65 oz. Alnico V	3.0	1-9/16	1/2	2.73
4A1Z45	4"	A	1.0 oz. Alnico V	3.0	1-9/16	3/4	2.91
5A1Z45	5"	C	1.0 oz. Alnico V	3.5	2-5/16	1	3.06

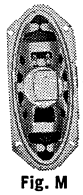
Fig. M

HIGH FIDELITY SPEAKERS

MODEL No.	SIZE	FIGURE	SPEAKER TYPE	FREQUENCY RESPONSE CPS	Pwr Hndlg Watts	V.C. Impedance	Shippg Wt. Lbs.	DEALER NET
15C12CO#	15"	G	Coaxial, 2000cps. Xover	25-18,000	25	8	8	$31.50
12C10CO	12"	G	Coaxial, 2000cps. Xover	50-15,000	14	8	6-1/2	20.70
8C6CO	8"	G	Coaxial, 2000cps. Xover	50-15,000	10	8	2-3/4	13.77
12C12X#•	12"	H	Extended range dual cone	30-16,000	18	8	5-1/2	13.74
8C12X#	8"	H	Extended range	50-14,000	15	8	3-1/4	10.20
69C6X#•	6"x9"	D	Extended Range dual cone	50-15,000	12	8	2-1/2	8.37
15C12L#	15"	H	Low frequency woofer	20-4,000	15	8	7	21.00
12C12L#	12"	H	Low frequency woofer	30-3,000	15	8	5-1/2	13.74
5A15T	5"	A	High frequency tweeter	2,000-15,000	10	14	1	3.90
3A15T	3½"	A	High frequency tweeter	2,000-15,000	10	14	3/4	3.45
CO5-25			Crossover Unit for use with 5A15T&3A15T				1/8	.45

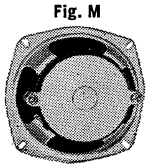
Fig. N

REAR SEAT AUTO SPEAKER KITS

These kits contain everything required for the installation of the speaker. They include a dash-mounting fader control, cable, flocked screen grill, baffle plate, all necessary hardware and complete installation instructions.

†Chrome plated grill. ■ Multi-Tap Speaker
▲Sponge rubber baffle plate gasket

MODEL NUMBER	SIZE	FIELD OR MAGNET WEIGHT	POWER HANDLING WATTS	VOICE-COIL IMPEDANCE (OHMS)	SHPG. WEIGHT POUNDS	DEALER NET
AS-1	6-1/2"	1.47 oz.	5	3.2	2	$5.43
AS1MT■	6-1/2"	1.47 oz.	5	10-20-40	2	6.57
AS-2▲	6" x 9"	2.15 oz.	9	3.2	3-1/2	7.61
AS-4	6" x 9"	1.2 oz.	6	8	1-3/4	4.09
AS5MT■	6" x 9"	1.4 oz.	8	10-20-40	1-3/4	8.37

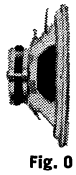
Fig. O

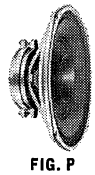
FIG. P

UNIVERSAL REPLACEMENT SPEAKERS

These ingeniously designed speakers fit directly into original equipment without sheering or notching. This eliminates the creation of metallic particles which might otherwise lodge in the voice coil gap.

MODEL No.	SIZE	FIGURE	MAGNET WEIGHT	POWER HANDLING WATTS	SHIP WT., LBS.	DEPTH INCHES	DEALER NET
26A07U	2"x6"	K	.65 oz.	2	1/2	1-19/32	$2.70
3A05U	3½"	K	.55 oz.	2	1/2	1-19/32	1.83
35A05U	3"x5"	K	.55 oz.	2	1/4	1-1/2	2.46
4A05U	4"	K	.55 oz.	2.5	1/4	1-1/2	1.83
4A05XR*	4"x6"	K	.55 oz.	2.5	1/4	1-1/2	2.43
46A07U	4"	K	.65 oz.	3.5	3/4	1-15/16	2.97

FIG. Q

* Includes premounted 2500 ohm transformer

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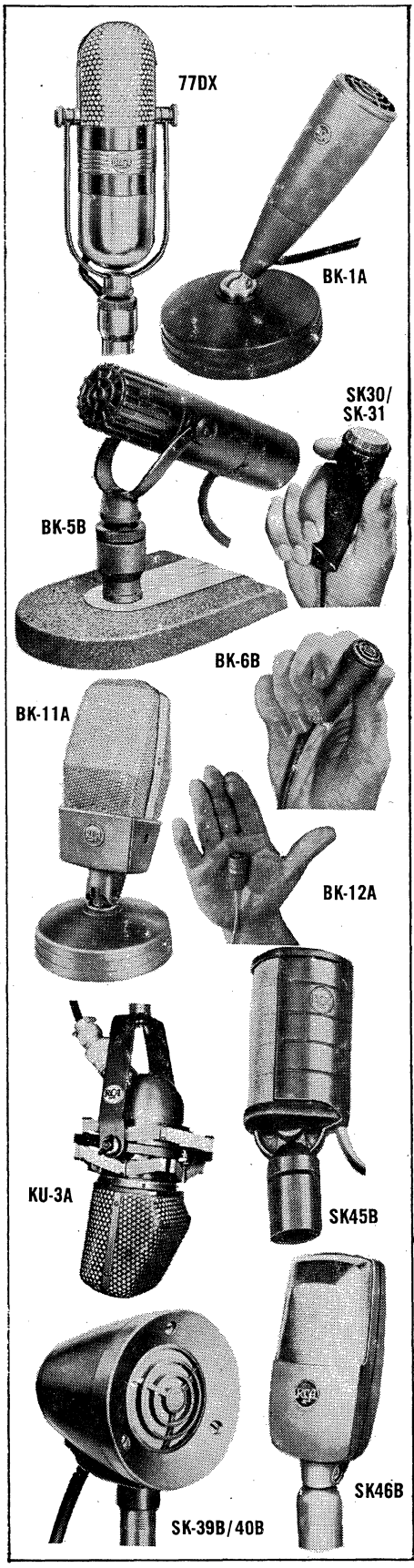
RCA

MICROPHONES AND ACCESSORIES



POLYDIRECTIONAL RIBBON — 77DX

The quality microphone standard of the broadcast industry, the RCA 77DX, is available in two models: one with a low-gloss finish for TV, the other a satin chrome finish for AM and FM. The 77DX offers a choice of unidirectional, bidirectional, or nondirectional pickup patterns which are easily changed by a selector switch. Three frequency-response variations on the basic pickup patterns may also be obtained, thus a total of nine different directional characteristics may be ultilized. The 30- to 20,000-Hz frequency response of the 77DX makes it suitable for every high-fidelity broadcasting and recording application. Output impedance is factory connected for 250 ohms; however, it may be easily reconnected for a 30- or 150-ohm output impedance. This 77DX mounts on a standard ½-inch pipe thread, and comes with 30 feet of three-conductor shielded cable, less plug.

77DX Satin Chrome Finish **$290.00***
77DX-G Low Luster Gray Finish **275.00***

NONDIRECTIONAL DYNAMIC — BK-1A

Ideal for outdoor use or wherever constant handling is required, the BK-1A offers smooth response for both voice and music. The BK-1A is also an excellent unit for sports, panel shows, interviews, and remotes. It provides uniform response from 50 to 15,000 Hz. The swivel mounting of the BK-1A can be used to control directional characteristics. The vertical position is nondirectional; the horizontal position is semidirectional. The output impedance is 250 ohms, but 30- and 150-ohm connections are included. The BK-1A may be mounted on any type stand having ½-inch pipe thread and is perfect for use with the MA-06 desk stand. Thirty feet of three-conductor cable is supplied, less connector.

BK-1A **$86.00***

UNIAXIAL RIBBON — BK-5B

The BK-5B is a high quality ribbon instrument designed especially for use in high noise areas, as well as being suitable for general studio purposes. Maximum sensitivity of the BK-5B is in the major mechanical axis, and this produces an extremely directional cardioid pattern. Frequency response from 30 to 20,000 Hz permits using the BK-5B for all types of high fidelity voice and music pickups. The output is connected for 250 ohms, but may easily be changed to 30 or 150 ohms. It is supplied with thirty feet of three-conductor cable, less connector. A wind-screen is available for outdoor use. The BK-5B is supported by a fork mounting which has ⅛-inch pipe thread.

BK-5B **$158.00***

LAVALIER — BK-6B

The BK-6B is a lightweight microphone with excellent speech balance, ideal for remotes, interviews, and other applications where an inconspicuous microphone is needed. The 2.3-ounce unit is only $2\frac{9}{16}$ by $1\frac{5}{16}$ inches. Wide-range frequency response (60-15,000 Hz) permits using the microphone for all speech applications. The 250-ohm output impedance may be changed to 30 or 150 ohms by a simple change of cable connections. The small size and lanyard mounting make the BK-6B extremely versatile. Thirty feet of two-conductor shielded cable is supplied, less connector.

BK16B with lanyard and fastener **$86.00***

BIDIRECTIONAL RIBBON — BK-11A

In the studio or at indoor remotes, whether a simple interview program or full orchestra pickup, the bidirectional characteristics and excellent frequency response (20 to 20,000 Hz) make the BK-11A an extremely useful production tool. The output can be connected for 30-, 150-, and 250-ohm operation. A three-position switch permits selection of desired frequency ranges for voice and music. The BK-11A has been designed for use with the inexpensive MA-06 desk stand, and it can also be used with any standard ½-inch pipe thread desk or floor stand. Thirty feet of three-conductor cable is supplied without a connector.

BK-11A **$107.00***

SUBMINIATURE LAVALIER — BK-12A

The RCA BK-12A is a high-quality subminiature microphone weighing just 20 grams and measuring only ¾" x 1½". It has a wide-frequency response of 60 to 18,000 Hz, which has been tailored for proper speech balance. A line impedance voice coil permits use with 30- to 250-ohm unloaded inputs. The BK-12A is essentially nondirectional to 6,000 Hz, and as a result, ordinary errors in orientation have negligible effect upon response. It is supplied with lanyard, tie-clip holder, cable clip and 30 feet of two-conductor cable (less connector).

BK-12A **$95.00***

HIGH-OUTPUT UNIDIRECTIONAL RIBBON — KU-3A

The KU-3A is a high-quality microphone for TV, motion picture and recording studio line pickup or wherever boom operation is used. It provides uniform response from 30 to 15,000 Hz. Output impedance is factory connected for 250 ohms; however, it may be easily connected for a 30- or 150-ohm output impedance. It is supplied with voice/music switch, resilient mounting and 12 feet of pigtail cable, less connector.

KU-3A **$675.00***

GENERAL PURPOSE DYNAMIC — SK-30/SK-31

Here is an excellent nondirectional, general-purpose microphone available as a low-impedance (SK-30) or high-impedance (SK-31) unit. It is rugged and lightweight with good response to voice and music (50-14,000 Hz). In addition to being hand held, it may be swivel mounted on a desk or floor stand or it may be mounted on a goose-neck stand. A ⅝-inch-27 thread swivel adaptor is available for floor or desk stand mounting. The microphone comes complete with 20 feet of shielded cable (less connector).

SK-30 ..... **$30.00***
SK-31 ..... **$31.00***

NONDIRECTIONAL DYNAMIC — SK-39B/40B (Low Z — High Z)

Cue and talk-back applications are perfect for this inexpensive dynamic microphone. The SK-39B/40B is rugged and relatively insensitive to mechanical shock and wind. Frequency response is 60 to 10,000 Hz. It may be mounted on any ⅝-inch-27 fixture thread, and is supplied with 7 feet of three-conductor cable (less connector).

SK-39B/40B **$33.00***

NONDIRECTIONAL DYNAMIC — SK-45B

Ideal for talk-back, cue, and public address use, the rugged lightweight SK-45B microphone offers good voice reproduction. It may be connected for a 150- to 200-ohm balanced output or a 15,000-ohm output. Response is from 70 to 12,000 Hz. Mounting with any ⅝-inch-27 fixture thread permits the use of low cost stands. The SK-45B is supplied with 25 feet of two-conductor cable less connector.

SK-45B **$37.00***

BIDIRECTIONAL RIBBON — SK-46

The SK-46 is designed for high quality indoor use. It has excellent frequency response (40 - 15,000 Hz) and bidirectional pickup characteristics. Output impedance is 200 ohms, but it may be reconnected to produce a 15,000-ohm output. Dependable performance as well as attractive styling make the SK-46 an ideal choice for high fidelity applications. The SK-46 has a ⅝-inch-27 mounting thread and is supplied with 25 feet of two-conductor shielded cable (less connnector).

SK-46 ..... **$54.95***

ACCESSORIES

Wind-screen — **MA-25** — For use with BK-5B microphone **$16.50***

Boom Mount — **MA-24** — Shock mounting to isolate BK-5B microphone from vibration **$36.50***

Holder — **MA-07** — ⅝"-27 female thread. For use with BK-6B microphone **$3.35***

Adaptor — **MA-08** — ⅝"-27 female fitting — ½" male pipe thread, to adapt a ⅝"-27 microphone to a ½" pipe thread stand ..... **$ .60***

Adaptor — **MA-09** — ½" female pipe thread, ⅝"-27 male fitting, to adapt a ½" microphone to a ⅝"-27 stand ..... **$ 3.75***

Desk Stand — **MA-06** — ½" pipe fit-male, 4⅜" dia., 1⅜" high. For use with BK-1A and BK-11A microphones. ..... **$ 7.75***

Desk Stand — **MA-05** — ½" pipe fit-male, 4½" wide, 6⅝" long, ¾" high or 1¾" (incl. Stem). Crinkle and chrome finish. 4 lbs. For use with 77DX and BK-5B microphones **$16.75***

Desk Stand — **MA-01** — ⅝"-27 male thread, 7" to 11" chrome tube, 8" dia. Crinkle base. About 2½ lbs. Use MA-08 Adaptor for ½" pipe thread microphone. **$ 5.20***

Banquet Stand — **MA-02** — ⅝"-27 male thread, 13" to 25" chrome tube, 8" dia. Crinkle base. About 6 lbs. Use MA-08 Adaptor for ½" pipe thread microphone. **$ 5.85***

Floor Stand — **MA-03** — ⅝"-27 male thread, ⅞" dia., 35" to 65" chrome tube, 12" dia. Crinkle base. Use MA-08 Adaptor for ½" pipe thread microphone. **$ 9.00***

Floor Stand (Deluxe) — **MA-04** — ⅝"-27 male thread, 1⅛" dia., 37" to 66" chrome tube. Triangular 17" dia. Crinkle base. Use MA-08 Adaptor for ½" pipe thread microphone. **$16.50***

Swivel Adaptor — **MA-32** — For SK-30/SK-31 microphone. (Fits conventional ⅝"-27 thread floor and desk stands) ..... **$ 3.40***

* Optional distributor resale price. All prices subject to change without notice.
Prices may be slightly higher in Alaska, Hawaii and the West.

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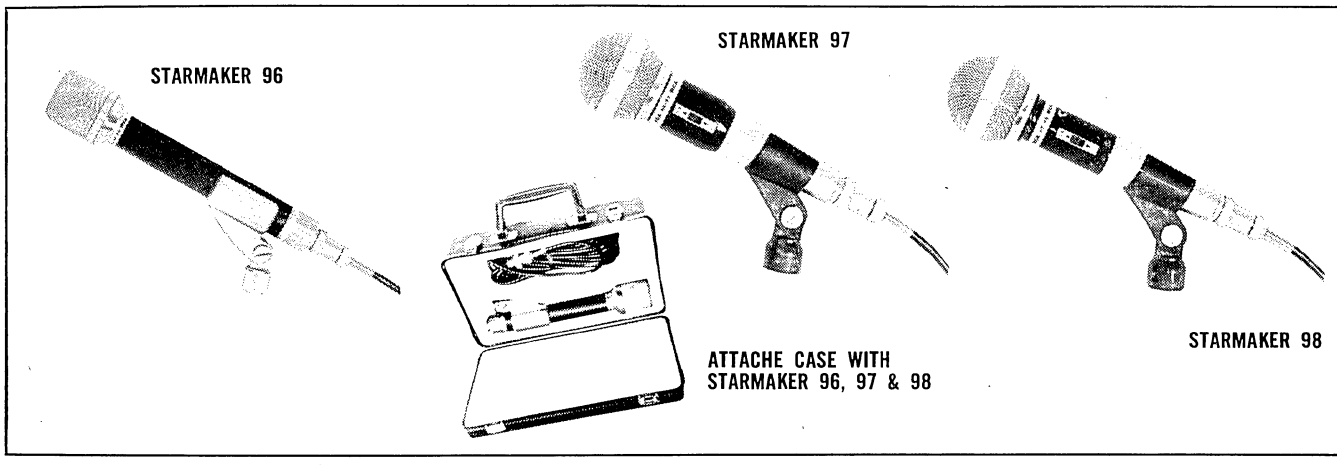
RCA STARMAKER MICROPHONES



the *Starmaker* is here . . .

STARMAKER 96

The Starmaker 96 is an excellent microphone for use on stage, for recording, or in broadcast applications. It has an excellent frequency response (50 to 15,000 Hz) and features a 3-position bass roll-off switch to reduce rumble and unwanted background noise. The cardioid (unidirectional) pick-up pattern effectively reduces feedback and unwanted audience and off-stage sounds. The special 5-pin connector permits switching from low to high impedance (200 or 15,000 ohms) by merely rotating the connector. The 16 oz. (less balance line) unit has a black and chrome finish. The Starmaker 96 comes complete with wind-screen, slip-on swivel mount (⅝"-27 thread), 20 ft. of 2-conductor shielded balance line (less connector) and attractive black attache case.

Starmaker 96 .....**$50.00***

STARMAKER 97

Here is an excellent unit for stage use by individual performers or by groups in which each individual has his own microphone. It has excellent frequency response (50 to 15,000 Hz), a good cardioid (unidirectional) pick-up pattern to reduce feedback and screen out unwanted off-stage sounds, and an on-off muting switch. The special 5-pin connector permits switching from low to high impedance (200 or 15,000 ohms) by merely rotating the connector. This lightweight microphone (6.06 oz. less balance line) has a black and chrome finish, and can be used with any type stand having ⅝"-27 pipe thread. The Starmaker 97 comes complete with wind-screen, fixed slip-on mount, 20 ft. of 2-conductor shielded balance line (less connector) and attractive black attache case.

Starmaker 97 .....**$40.00***

STARMAKER 98

The Starmaker 98 omnidirectional microphone is the perfect unit for on stage, recording, and broadcast use where two or more individuals are using the same microphone. It has excellent frequency response (40 to 17,000 Hz) and features an on-off muting switch. Used in conjunction with several Starmaker 97 microphones, utmost flexibility is obtained when performers switch from group to solo. The special 5-pin connector permits switching from low to high impedance (200 to 15,000 ohms) by merely rotating the connector. Mounting with any ⅝"-27 fixture thread permits the use of low cost stands. This black and chrome finish unit weighs only 6.3 oz., less balance line. The Starmaker 98 comes complete with windscreen, fixed slip-on mount, 20 ft. of 2-conductor shielded balance line (less connector) and attractive black attache case.

Starmaker 98 .....**$40.00***

STARMAKER 99

Especially designed for the home recording enthusiast who needs a replacement, or who prefers a better quality microphone, the Starmaker 99 is a low impedance (500 ohms) microphone with good frequency response (80 to 10,000 Hz). The cardioid (unidirectional) pick-up pattern reduces feedback and unwanted background noises. The Starmaker 99 has an on-off switch for remote operation of tape recorders with remote control capability. The 2.4 oz. (less cable) unit has a black and chrome finish. Included is a desk stand and a 6-ft. cable (less connector) which contains one shielded lead and two leads connected to the switch for controlling external circuits.

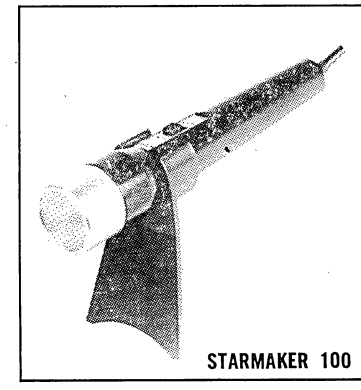
Starmaker 99 .....**$8.00***

STARMAKER 99

STARMAKER 100

The Starmaker 100 is designed for the home recording enthusiast who desires a good omnidirectional microphone as a replacement for the cardioid types which usually accompany tape recorders. It is an ideal microphone for recording groups of two or more persons simultaneously without passing the microphone around. The unit is a high impedance (50,000 ohms) microphone with good frequency response (100 to 8,000 Hz) for voice reproduction. The Starmaker 100 has an on-off switch for remote operation of tape recorders with remote control capability. Finish is black and chrome, and the microphone weighs 6.3 oz., less cable. It comes complete with a desk stand and a 6-ft. cable (less connector) which contains one shielded lead and two leads connected to the switch for controlling external circuits.

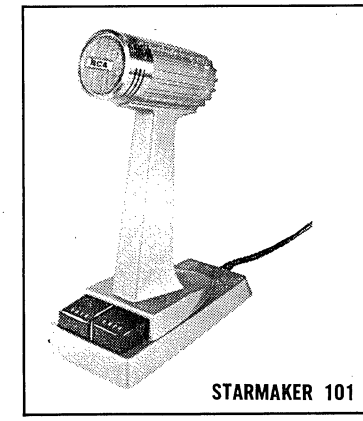
Starmaker 100 .....**$8.00***


STARMAKER 100

STARMAKER 101

Dependable performance and attractive styling (metalic silver and satin chrome finish) make this unit ideal for use in ham, CB, base-station mobile communications, and paging applications. The Starmaker 101 features an output impedance of 50,000 ohms and a frequency response of 70 to 9,000 Hz with maximum intelligibility in the range of 350 to 3,500 Hz. The cardioid pick-up pattern effectively reduces feedback and unwanted background noises. The base of the microphone has a press-to-talk switch, a press-to-lock and press-to-unlock switch and a lift switch which activates the microphone when it is picked up. Wiring changes can be made quickly and simply for use with various types of transmitters. The Starmaker 101 weighs 26 oz. (less connector). The cable includes one shielded lead and two leads connected to the switch for controlling external circuits such as transmitter relays, etc.

Starmaker 101 .....**$44.00***


STARMAKER 101

* Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.

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RoBINS® RECORDING TAPE

ROBINS ELECTRONICS CORP.

"BRAND FIVE" QUADRUPLE-PLAY 1/4 MIL SUPER-LONG RECORDING TIME

Four times more recording and playing time than standard thicknesses on the same reel. Increases playing time of small recorders. Quality tensilized Mylar for greater strength.

Cat. No.	Reel Size	Length Feet	Playing Time per track in minutes at 3¾ ips	List
3C25MT	2½″	500′	50 minutes	$2.25
3C32MT	3¼″	1100′	1 hour 50 minutes	4.50
3D5MT	5″	2400′	4 hours	9.00
3D7MT	7″	4800′	8 hours	18.00

BRAND FIVE RECORDING CASSETTES

Superior Quality Recording Tape. Individually protected in an attractive and convenient permanent storage plastic Canister. Seals out dust and other foreign matter. Built-in "stops" prevent tape from developing slack and unwinding. Has transparent hinged top for identification.

Cat. No.	Record Time	List
2D30	30 min.	$3.35
2D60	60 min.	4.15
2D90	90 min.	6.00
2D120	120 min.	7.80

BRAND FIVE RECORDING TAPE

The fifth oldest brand of recording tape in the world. Dependable quality. Features new improved dry synthetic lubricant to eliminate squeal, stop gumming of heads, and reduce head wear. Offers increased output, reduced distortion at same recording level, better frequency response for sharper, brigher recordings. Improved uniformity for lower modulation noise.

Cat. No.	Reel Size	Length Feet	Playing Time per track in minutes at 3¾ ips	Material	List
15D3	3″	150′	7½	1.5 mil Acetate	$ .80
15D5	5″	600′	30	Standard Play	1.65
15D7	7″	1200′	60	—	2.50
10D3	3″	225′	11	1. mil Acetate	1.00
10D5	5″	900′	45	—	2.05
10D7	7″	1800′	90	—	3.35
10D3M	3″	225′	11	1. mil Polyester	1.10
10D5M	5″	900′	45	—	2.60
10D7M	7″	1800′	90	—	4.50
5D3M	3″	300′	15	.5 mil Polyester	1.15
5D5M	5″	1200′	60	Double Play	3.15
5D7M	7″	2400′	120	—	5.52
5D3MT	3″	300′	15	.5 mil Tensilized	1.35
5D5MT	5″	1200′	60	Polyester	4.90
5D7MT	7″	2400′	120	Double Play	8.05
5D3MS	3″	450′	22½	.5 mil Polyester	$1.50
5D32MS	3¼″	600′	30	Triple Play	1.95
5D5MS	5″	1800′	90	—	5.00
5D7MS	7″	3600′	180	—	8.85
5D3MTS	3″	450′	22½	.5 mil Tensilized	1.65
5D5MTS	5″	1800′	90	Polyester	6.65
5D7MTS	7″	3600′	180	Triple Play	11.15

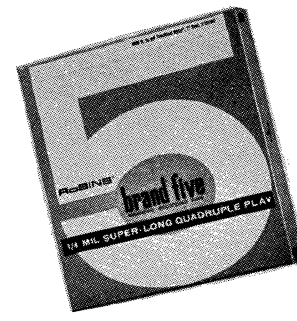
"BRAND SEVEN"... ROBINS ENGINEERED TO PROFESSIONAL QUALITY RECORDING TAPE WITH EXCLUSIVE QUALITY FEATURES

Professional quality. Offers increased output, reduced distortion at same recording level, better frequency response for sharper, brighter recordings. Improved uniformity for lower modulation noise. Features improved dry synthetic lubricant. Calendered to achieve a smoother oxide surface for higher quality recording. Color-Coded Leader Tape and Aluminum Foil Sensing and Cueing Strips pre-spliced to beginning and end of tape on every reel. Attractive 4-color Library Box.

Cat. No.	Reel Size	Length Feet	Playing Time per track in minutes at 3¾ ips	Material	List
15E5	5″	600′	30	1.5 mil Acetate	$2.35
15E7	7″	1200′	60	—	3.80
10E5	5″	900′	45	1. mil Acetate	3.75
10E7	7″	1800′	90	—	5.95
10E5M	5″	900′	45	1. mil Polyester	3.90
10E7M	7″	1800′	90	—	6.70
5E5M	5″	1200′	60	.5 mil Polyester	4.70
5E7M	7″	2400′	120	—	8.10
5E5MS	5″	1200′	60	.5 mil Polyester	6.25
5E7MS	7″	2400′	120	Double Play	11.00
5E32MTS	3¼″	600′	30	.5 mil Polyester	3.30
5E5MTS	5″	1800′	90	Tensilized	7.70
5E7MTS	7″	3600′	180	Triple Play	13.00

"BRAND SEVEN"... ROBINS ENGINEERED TO PROFESSIONAL QUALITY RECORDING TAPE

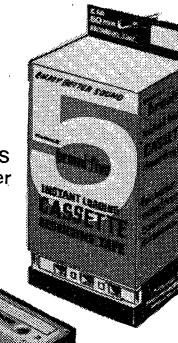
Cat. No.	Reel Size	Length Feet	Playing Time per track in minutes at 3¾ ips	Material	List
5E5MT	5″	1200′	60	.5 mil Polyester Tensilized	5.90
5E7MT	7″	2400′	120	Double Play	10.30

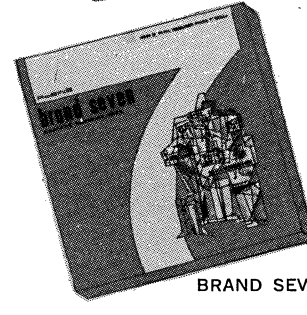


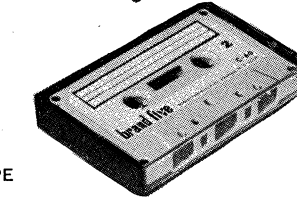
"BRAND FIVE" ¼ mil tapes.

RoBINS BRAND CORRESPONDENCE TAPE

"BRAND FIVE" CASSETTES Packaged in new Dispenser Packs when ordered in increments of 12.







BRAND SEVEN TAPE

RoBINS® BRAND CORRESPONDENCE TAPE

Top quality recording tape in Impact-Resistant Plastic reusable Tape Mailing Canisters. Two-sided address cards included.

Cat. No.	Reel Size	Length Feet	Playing Time per track in minutes at 3¾ ips	Material	List
15H3	3″	150′	7½	1.5 mil Acetate	$1.05
10H3	3″	225′	11	1. mil Acetate	1.25
10H3M	3″	225′	11	1. mil Polyester	1.45
5H3M	3″	300′	16	.5 mil Polyester	1.65
5H3MS	3″	450′	22½	.5 mil Polyester Triple Play	2.30
5H32MS	3¼″	600′	30	.5 mil Polyester Triple Play	2.75

SONORAMIC BRAND RECORDING CASSETTES

Packaged in convenient Self-Mailers.

Cat. No.	Record Time	List
2S30	30 minutes	$2.65
2S60	60 minutes	3.35
2S90	90 minutes	4.50

No. TC-3 IMPACT RESISTANT PLASTIC CASSETTE PERMANENT STORAGE CANISTERS. Package of 3. Built-in "stops" prevent tape from unwinding and becoming slack. Clear hinged cover for identification. **List $1.65**

No. TCB-18 CASSETTE MAILERS. Package of 18. Cardboard. **List $1.65**

Trade Discount Applies To List Prices Only

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ROBINS ELECTRONICS CORP.

RECORDING TAPE RoBINS®

"SONORAMIC" BRAND RECORDING TAPE AND TAPE ACCESSORIES IN MULTI-PACKS

Wide selection of tapes and accessories for economy minded recordists. Attractively "Peg-Packaged" for easy display and handling . . . fast sales.

Cat. No.	Reels per Pkg.	Reel Size	Length Ft. each reel	Total Ft. of tape	Material	List
15S3-P4	4	3″	150′	600′	1.5 mil Acetate	$1.65
15S2-P6	6	2″	75′	450′	1.5 mil Acetate	1.65
10S3-P3	3	3″	225′	675′	1. mil Acetate	1.65
10S2-P4	4	2″	110′	440′	1. mil Acetate	1.65
10S3M-P2	2	3″	250′	500′	1. mil Polyester	1.65
10S2.5M-P3	3	2½″	150′	450′	1. mil Polyester	1.65
5S3M-P2	2	3″	300′	600′	.5 mil Polyester Double Play	1.65
5S2.5M-P3	3	2½″	200′	600′	.5 mil Polyester Double Play	1.65
5S2.5MS-P2	2	2½″	350′	700′	.5 mil Polyester Triple Play	1.65
5S3.2MS-P2	2	3¼″	600′	1200′	.5 mil Polyester Triple Play	2.65
15S7-P2	2	7″	1200′	2400′	1.5 mil Acetate	4.50
10S7-P2	2	7″	1800′	3600′	1. mil Acetate	6.10
15S5-P2	2	5″	600′	1200′	1.5 mil Acetate	2.75
10S5-P2	2	5″	900′	1800′	1. mil Acetate	3.30

RMC-6 Pkg. of 6 Reusable impact resistant Plastic Tape Mailers **1.65**

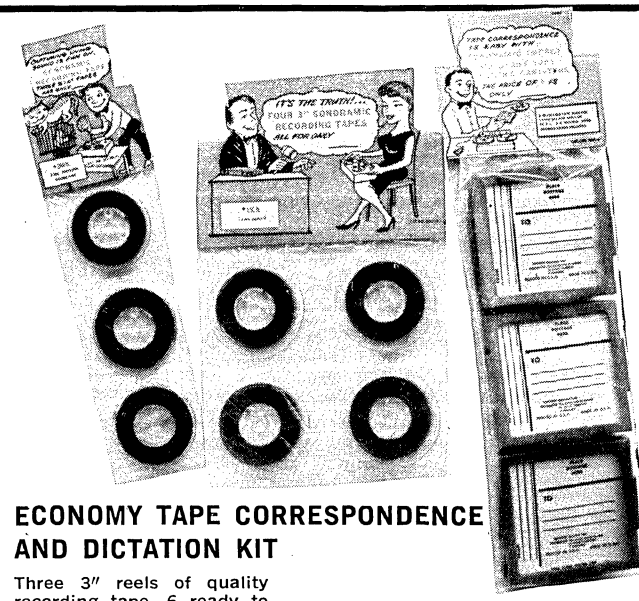
TMC-30 Pkg. of 30 double-sided Address Cards for RMC-6 Mailers **1.25**

TB-15 Pkg. of 15 Cardboard Tape Mailing Boxes..... **1.25**

MAIL-A-TAPE ECONOMICAL CORRESPONDENCE TAPE

Quality Recording Tape in Impact Resistant Plastic Reusable Tape Mailing Canisters. Two sided address cards included.

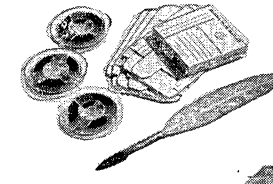
Cat. No.	Reel Size	Length Feet	Playing Time per track in minutes at 3¾ ips	Material	List
15C3	3″	150′	7½	1.5 mil Acetate	$ .90
10C3	3″	225′	11	1. mil Acetate	1.05
10C3M	3″	225′	11	1. mil Polyester	1.25
5C3M	3″	300′	15	.5 mil Polyester	1.45
5C3.2MS	3¼″	600′	30	.5 mil Polyester Triple Play	2.60

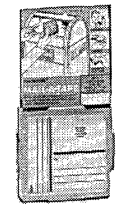


ECONOMY TAPE CORRESPONDENCE AND DICTATION KIT

Three 3″ reels of quality recording tape, 6 ready to address mailers, and simulated feather writing pen. An excellent kit for business or pleasure.

No. TKC-1.....**List $2.50**

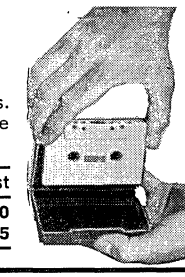




"MAIL-A-TAPE" RECORDING CASSETTES

Packaged in convenient Self-Mailers. Ideal for business or pleasure tape correspondence.

Cat. No.	Record Time	List
2C30	30 minutes	$3.00
2C60	60 minutes	3.65



NEW TAPE EDITING AND CARE ACCESSORY KITS IN CARRYING CASES

No. SKA-1 RECORDIST'S STARTER KIT. Contains: 7″ reel of 1200 ft. 1.5 mil Acetate "Brand Five" Recording Tape, Tape Splicer, Splicing Tape, 75 Tape Clips, 7″ Empty Tape Reel, six 7″ Tape Storage Boxes, 2 oz. bottles of Head Cleaner and Head and Guide Lubricant, 180 Title Labels, 3 Tape Editing Pencils, and Tape Editing and Splicing Guide Book. All in a convenient Vinyl Attache Case. **List** **$16.50**

No. SKA-2 KIT. Contains: three 7″ reels of "Brand Five" Recording Tape, each 1200 ft. 1.5 mil Acetate; TS-7J Tape Splicer, Splicing Tape, Head Demagnetizer, 75 Tape Clips, 2 oz. bottles Head Cleaner, Head and Guide Lubricant; 240 Color Title Labels, 7″ Empty Tape Reel, four 7″ Tape Storage Boxes, and Editing Guide Book. Complete with a convenient Vinyl Attache Case. **List**.....**$33.00**

No. TK-8DLX DELUXE TAPE ACCESSORY KIT. Contains: TS-8D Tape Splicer with Splicing Tape, Tape Threader, Tape Clips, 2 oz. bottles Head Cleaner, Head and Guide Lubricant; Tape Cleaning Cloth, Pair of Reel Holders, 30 Title Labels, and Guide Book. **List**.....**$19.95**

No. TK-4H LOW COST TAPE EDITING KIT. Contains: TS-2 Tape Splicer, Tape Cleaning Cloth, Splicing Tape, Tape Clips, and Guide Book to Tape Splicing and Editing. **List**.....**$3.25**

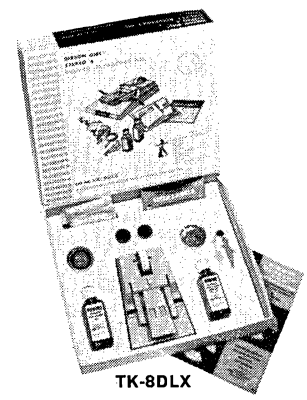
No. TK-19 LOW COST KIT. Contains: TS-5 Splicing Block, 25 self-stick Splicing Patches, 3 Tape Editing Pencils, and Guide Book. **List** **$4.45**

No. TK-21 LOW COST KIT. Contains: TS-3 Splicer, Splicing Tape, and Tape Editing Pencil. **List**.....**$2.90**

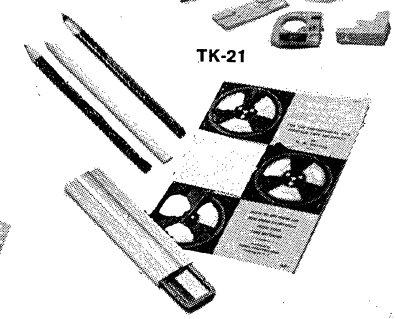
SKA-1

SKA-2

TK-21



TK-8DLX



TK-19

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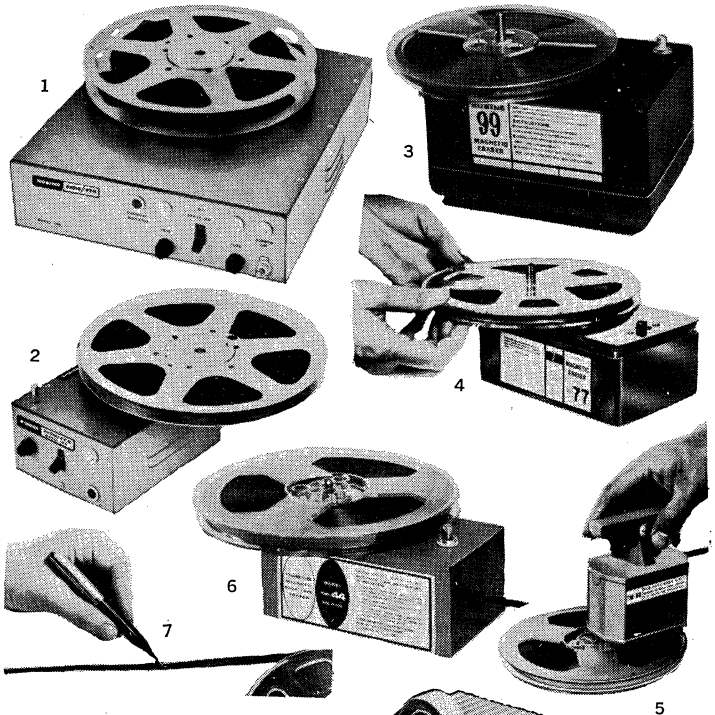
RoBINS® TAPE ACCESSORIES

ROBINS ELECTRONICS CORP.



8. No. TD-6 DELUXE DEMAGNETIZER, UL LIST. Size: 4⅝" x 1¼" dia. 6 ft. heavy duty line cord. **List**.....**$11.50**

9. No. TD-3 ECONOMY DEMAGNETIZER. Components fully encapsulated in hi-impact plastic. Angled probe has soft plastic shield for safe contact with recorder heads. Size: 3½" x 1¼". **List**.....**$6.65**

10. No. TK-9 TAPE EDITING WORKSHOP. Splice, edit, repair, and combine tapes on reels to 7". Two Tape Winders and Deluxe Tape Splicer attached to a sturdy, walnut grain warp-proof base. Base has Tape Timing and Editing Scale. Size: 7" x 14" x 5½" ht. Includes Tape Editing Pencil and Splicing Guide Book. **List**.....**$24.00**

GIBSON GIRL "STEREO' TAPE SPLICERS. For editing single and multiple track recording tapes. Blade centering adjustment provided for lifetime accuracy. Cartridge and cutter pads are replaceable.

11. No. TS-8D DELUXE "STEREO" SPLICER. "See-thru" windows show "Cut" and "Trim" positions. Tape Guide and arms secure tape. Easy threading integral tape dispenser with roll of ½" x 100" Splicing Tape. Safety-lock protects blades when not in use. Made of Cycolac®. **List**.....**$12.95**

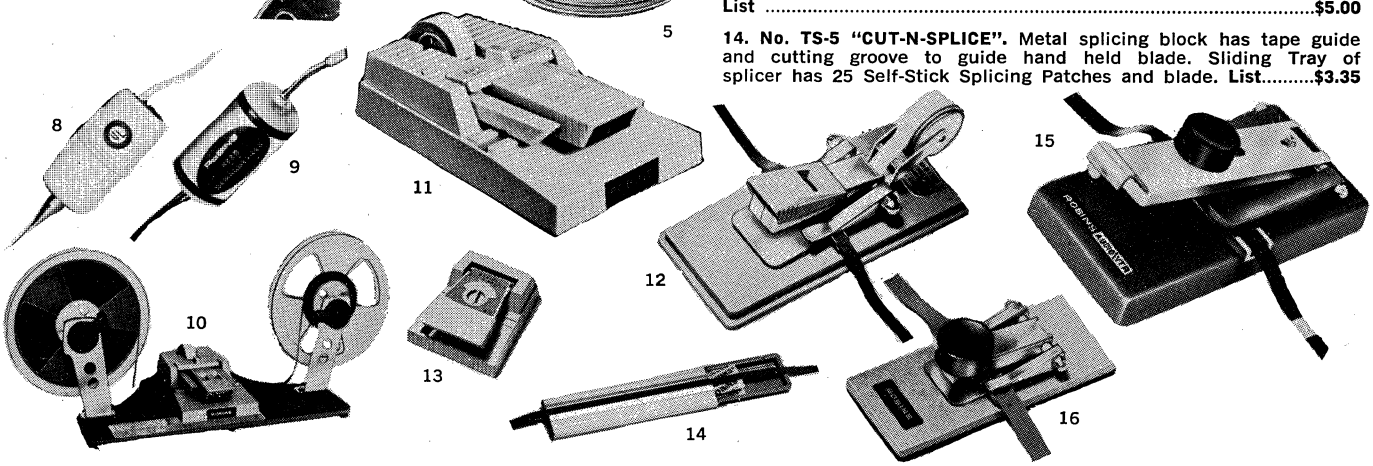
12. No. TS-7S STANDARD SPLICER. Same features as TS-8D. Made of metal and plastic. **List**.....**$10.00**

No. TS-7J JUNIOR SPLICER. Same as TS-7S, less dispenser and splicing tape. (Not illustrated.) **List**.....**$8.15**

REPLACEMENT CUTTER KITS FOR GIBSON GIRL TAPE SPLICERS. Each kit contains cutter cartridges and 2 cutter pads. **No. TZ-2** for No. TS-4A splicers. **No. TZ-3** for No. TS-4S, 4J, 7S, and 7J. splicers. **No. TZ-4** Cutter Pads for No. TS-4A, No. TS-4S, 4J, 7S and 7J. **No. TZ-8** for No. TS-8D. **List each**.....**$1.65**

13. No. TS-6 DELUXE "CUT-N-SPLICE". Adjustable cutter control. Cuts tape at 30°, 45°, and 90°. Includes 25 Self-Stick Patches. **List** **$5.00**

14. No. TS-5 "CUT-N-SPLICE". Metal splicing block has tape guide and cutting groove to guide hand held blade. Sliding Tray of splicer has 25 Self-Stick Splicing Patches and blade. **List**.....**$3.35**



MAGNETIC BULK TAPE ERASERS FOR AUDIO, VIDEO, COMPUTER AND INDUSTRIAL RECORDING TAPE UP TO 1" WIDE. Erasure 50-90 db below saturation level. 115 V. 50-60 Hz. A.C. Safety features: overheat indicator, individually fused circuits.

1. No. TM-120. Accommodates reels to 17" dia. Duty cycle: 10 min. On/10 min. Off. Size 3¾" x 12" x 14". With blower system. **List** **$200.00**

2. No. TM-100. Accommodates reels to 10½" dia. Duty cycle: 5 min. On/15 min. Off. Size: 3¾ x 6" x 8". **List**.....**$100.00**

3. No. TM-99 PROFESSIONAL BULK TAPE ERASER. UL LIST. For tapes to ½" wide on reels to 10½". Erasure 3 to 6 db below normal erase head level. 110 V. 50-60 Hz. A.C. Size: 5¼" x 6¾" x 3¾". **List** **$47.50**

4. TM-77 DELUXE ERASER. For ¼" tape, reels to 7". Erasure 2 to 4 db below erase head level. 110 V. 50-60 Hz. A.C. Size: 2⅜" x 3¾" x 6¼". **List**.....**$26.50**

5. No. TM-88 HAND-HELD ERASER. For ¼" tape, any size reel. Handle has momentary contact switch. Erasure below normal erase head level. Size: 4" x 2¼" x 4¼". Wt. 2 lb. 4 oz. 4 amps 110 V. A.C. **List** **$17.50**

6. No. TM-44 ECONOMY ERASER. For ¼" tape, reels to 7". Erasure below normal erase head level. Size: 5¼" x 2⅛" x 3⅛" 110 V. A.C. Duty cycle: 1 min. On/5 min. Off. **List**.....**$18.50**

7. No. TM-2 MAGNETIC TAPE EDITING PEN. Removes single sounds, noise, etc. from recording when applied to tape. Fade-in, fade-out sounds. **List**.....**$2.10**

HEAD DEMAGNETIZER. Removes signal damaging residual magnetism from recorder heads to improve sound fidelity. 110 V. 50-60 Hz. A.C.

No. TS-3 "SEMI-PRO." Low cost splicer has tape guide with adhesive back, hand held blade for cut and trim operation, with blade cover. (Not illustrated.) **List**.....**$2.65**

No. TS-2 "HOBBYIST". Low cost splicer. Adhesives backed tape guide fastens to recorder. Cutting blades supplied. (Not illustrated.) **List** **$1.30**

15. "GIBSON GIRL" AUDIO/VIDEO TAPE SPLICERS. Heavy duty. Professional precision features are the accepted standard of the industry. Precision cut and "Gibson Girl" trim at sides of splices prevent adhesive of splicing tape from contacting critical parts of recorder. Long life replaceable blades and cutter pads. **No. TS-250** for ¼" tapes. **No. TS-500** for ½" tapes, Sony, Concord, etc. systems, **No. TS-1000** for 1" tape, Ampex Systems. Splicer with straight cut: **No. TS-250S, No. TS-500S,** and **No. TS-1000S. List each**.....**$85.00**

16. AUDIO/VIDEO TAPE SPLICERS. Heavy duty. 25 self-stick Patches supplied. **No. TSV-50** for ½" tape, Sony, Concord, etc. systems. **No. TSV-100** for 1" tape, Ampex systems. **List price each**.....**$19.95**

SPLICING TAPE. Special formula, Mylar. (Not illustrated.)

No. TST-235	¼" x 300". **List**.....	**$1.15**
No. TST-376	⅜" x 275". **List**.....	**1.15**
No. TST-501	½" x 250". **List**.....	**1.15**
No. TST-751	¾" x 150". **List**.....	**1.30**
No. TT-234	¼" x 100". **List**.....	**.45**
No. TT-375	⅜" x 100". **List**.....	**.50**
No. TT-500	½" x 100". **List**.....	**.55**

No. TST-233 Self-Stick Patches for No. TS-5, No. TS-6, and other splicers. Pkg. 75. **List**.....**$1.30**

PATCHES FOR VIDEO SPLICERS. Pre-cut, self-stick.
No. TT-247 ½" Patches for No. TSV-50 splicer. Pkg. of 60. **List**....**$1.65**
No. TT-248 1" Patches for No. TSV-100 splicer. Pkg. of 48. **List**....**$1.65**

Trade Discount Applies To List Prices Only

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ROBINS ELECTRONICS CORP.

TAPE ACCESSORIES

ROBINS®

17. TAPE CLEAN-LUBE SYSTEM FOR ALL RECORDERS. Cleans and lubricates both sides of tape during play. Reduces tape drag. Eliminates squeal. Self-Stick base mounts to deck of recorder. Includes Silicone formula cleaner/lubricant and two replacement applicators. **No. T.L.A-1 List**.....**$4.95**

18. TAPE-LUBE SYSTEM FOR RECORDERS. New dry method. Lubricates both sides of tape during play. Reduces tape drag. Eliminates squeal. Self-Stick base mounts to recorder deck. Spare Lube sticks included. **No. T.L.A-2 List**.....**$3.30**

19. No. THS-1 HEAD-KLEEN SPRAY. Aerosol formula Cleaner removes accumulated oxides, dirt and other particles from recorder heads. Extension nozzle included for hard to reach heads. 4 oz. **List**....**$2.00**

No. TK-3 CARTRIDGE AND CASSETTE RECORDER HEAD-KLEEN KIT. Contains: 1¼ oz. bottles Head Cleaner, Head and Guide Lubricant, and 25 extra long Cleaning Swabs. (Not illustrated.) **List**.....**$1.65**

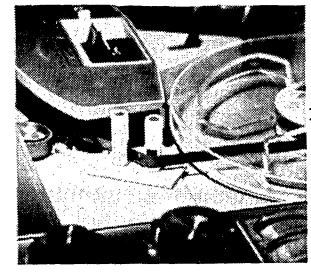
No. THC-4 CASSETTE HEAD-KLEEN TAPE. Removes accumulated oxides and other particles from heads of Cassette Recorders. (Not illustrated.) **List**.....**$3.00**

TAPE-CLEAN. Reusable Silicone treated cloth tape cleans and lubricates heads and guides of recorder when played. **No. THC-5,** 5″ reel Tape-Clean. **List $2.75. No. THC-3,** 3″ reel of Tape-Clean, **List $1.75.** (Not illustrated.)

20. No. TK-6 HEAD CLEANER AND LUBE KIT. 2 oz. bottles Head Cleaner, Head and Guide Lubricant. **List**.....**$2.00**

21. COMPLETE CHEMICAL TAPE KARE KIT. 2 oz. bottles: Head Cleaner, Head and Guide Lubricant, Tape and Phono Drive Oil, Non-Slip for Tape and Phono Drives, and 50 Cleaning Swabbies. **No. TK-7 List** **$3.95**

No. TK-2 TAPE CARE KIT. 2 oz. bottle Head Cleaner and Tape Cleaning Cloth. (Not illustrated.) **List**.....**$2.00**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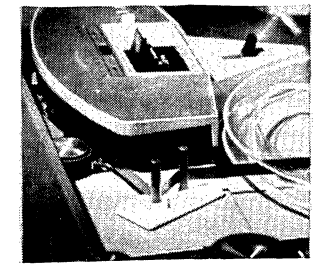
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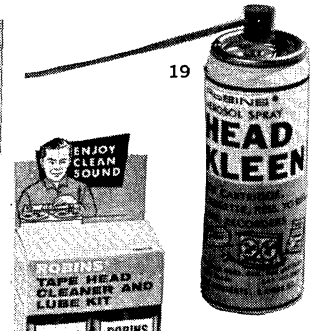
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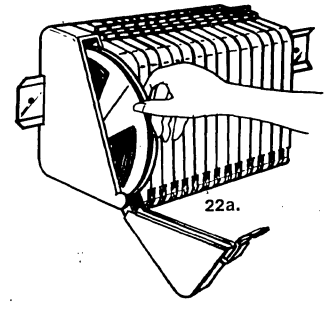
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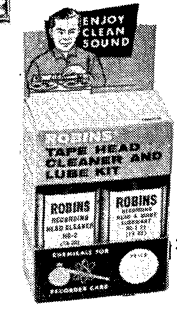
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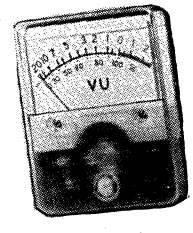
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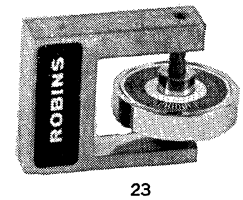
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TAPE LOG DISCS. Index recordings. Write titles on circuit lines of dics. Center space for important information. Index scales at die-cut edges for marking of selections. (Not illustrated.)
No. TLD-15 Pkg. of 15 for 7″ tapes. **List $1.30**
No. TLD-18 Pkg. of 18 for 5″ tapes. **List 1.30**

No. TX-20 HEAD CLEANER. Efficient solvent removes accumulated oxides, dirt, and other particles from recorder heads. 2 oz. bottle. **List** **$1.05**

No. TX-22 HEAD AND GUIDE LUBRICANT. Silicone base liquid. Reduces head and tape wear. Provides friction-free tape path. 2 oz. bottle. **List**.....**$1.05**

No. TX-33 TAPE AND PHONO DRIVE OIL. Highly refined lubricant formulated especially for rotating and moving parts of drives. Inhibits rust and oxidation. 2 oz. bottle. (Not illustrated.) **List $ .80**

No. TX-56 NON-SLIP FOR TAPE AND PHONO DRIVES. Helps stop slippage of idler, pulley belts, and cords. Fast drying and penetrating material dries to tack-free yet non-slip surface. 2 oz. bottle. (Not illustrated.) **List**.....**$1.30**

No. MSW-150 "SWABBIES". Soft cotton tips wound on 6″ applicators for convenient cleaning and oiling in hard to reach places. Pkg. of 150. **List**.....**$1.25**

No. TG-2 TAPE JOCKEY CLOTH. Cleans, lubricates, and protects tape by depositing film of Silicone. Reduces head and tape wear. Eliminates tape squeal and chatter. Pkg. of 3 reusable cloths. (Not illustrated.) **List**.....**$1.15**

22. RECORDER MAINTENANCE KIT. Contains: Head Demagnetizer, 3 Tape Cleaning Cloths, and 3″ reel of Tape-Clean. **No. TK-14**.....**$6.95**

22a. No. TCP-12 "TAPE-SAFES". Set of 12. Stores and protects 7″ tapes. Molded high-impact plastic. Has hinge cover and dovetail groove to fit metal wall mounting bracket. Bracket is included. **List** **$19.35**

No. MRB-1 "HANDY" ALL PURPOSE BRUSH. Soft camel's hair in Gold tone telescoping case with cover and pocket clip. Ideal for dusting and removing particles from tape heads, guides, etc. (Not illustrated.) **List**.....**$1.65**

22b TVU-1 "VU" METER. Prevents overloading or low recording level. 2 color scale. Modulation: 0-100%. VU: −20 db to +3 db. 2700Ω impedance. 1.2 volts gives 0 "VU". Low and high impedance inputs. 500μ. Size: 1 1/16″ x 2″. Threaded mounting screws. ¼″ terminals. Imported. **List**.....**$6.65**

No. TSP-25 EXTRA LONG SENSING STRIPS. ¼″ x 4″ aluminum foil strips prepare tapes for use with recorders having automatic stop and reverse controls and other electronic sensing devices. Pkg. of 25. **List** **$2.00**

No. TSP-50 SENSING PATCHES. ¼″ x ¾″ lengths. Pkg. of 50. **List** **$1.75**

No. TC-75 TAPE CLIPS. Plastic, reusable. Keeps tape from unwinding on reels. Pkg. of 75 in hand plastic container. (Not illustrated.) **List** **$1.25**

No. TG-4 TAPE THREADER. Eliminates awkward fumbling. (Not illustrated.) **List**.....**$1.15**

REPLACEMENT RECORDER PRESSURE PADS. Package of 44 pads in two thicknesses, pre-cut to fit most recorders. "U-cut-it" pads provided for odd makes and models. **No. TP1-1**..... **List $1.15**
No. TPP-2 Self-Stick Pads. **List**.....**$1.30**

23. No. TW-1 PROFESSIONAL TAPE STROBE. Precision all metal, chrome plated. Checks speed accuracy, wow and flutter of 7½, 3¾ ips recorders. **List**.....**$10.00**

No. TK-5 TAPE STROBE AND LIGHT KIT. Checks speed accuracy of recorders at 15, 7½, 3¾ ips. Strobe tape, neon lamp. 110 V. A.C. (Not illustrated.) **List**.....**$2.65**

No. TAT-100 HEAD AZIMUTH ALIGNMENT TAPE. 100 ft. tape with 6KC steady tone for accurate alignment of recorder heads. (Not illustrated.) **List**.....**$1.75**

24. PHONE PICK-UP No. TRP-2. Attaches to phone by suction cup. 5 ft. shielded cable, stripped ends for attaching connector. **List..$3.35**

No. TRP-1 DELUXE PHONE PICK-UP. High efficiency ferrite core gives 3-5 db more gain, high signal to noise ratio. Fastens to phone by Easy-on mechanical spring. 6 ft. cable has stripped ends. (Not illustrated.) **List**.....**$6.70**

"TAPE-VAULTS". Durable metal, enamel finished canisters protect tapes. Ribs on cans nest for stacking. **No. 7C7-2** Pkg. of 2 for 7″ tapes. **List**.....**$1.80. No. TC5-2** Pkg. of 2 for 5″ tapes. **List**.....**$1.30**

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RoBINS® TAPE ACCESSORIES

ROBINS ELECTRONICS CORP.

25. COLOR-CODING TAPE LOG KIT. 240 self-stick Title Labels, 72 self-stick Tape Ends Tabs, 48 self-stick Numbered Tape Index Spots, 30 self-stick Tape Box Ends, (all in 6 colors), bound color-indexed Log Book and Simulated Feather Writing Pens. For cataloging tape library. **No. TK-1 List**.....**$8.30**

No. TT-245 COLOR-CODE TAPE END TABS. Reinforced tape ends, prevents tape unwinding, facilitates threading. Pkg. of 72 in 6 colors. **List**.....**$1.15**

No. TT-246 COLOR-CODED INDEX AND CUEING SPOTS FOR TAPES. Numbered 1 to 8. Index selections throughout reel. Pkg. of 48. 6 colors. **List**.....**$1.65**

No. TL-5 COLOR-CODE TAPE BOX ENDS. 30 self-stick, textured book binding strips in 6 colors. Reinforces and hinges lids. (Not illustrated.) **List**.....**$2.50**

No. TT-16 COLOR-CODE LEADER TAPES. Set of five 2½″ reels, 100 ft. each Red, Blue, Green, Yellow and White Leader Tapes. Reinforces tape ends. Ideal for indexing between recorded sections on reels. (Not illustrated.) **List**.....**$4.15**

LEADER TAPES IN CLEAR, WHITE, AND COLORS. 100 ft. x ¼″ wide on 2½″ reels. **No. TT-100C** Clear; **No. TT-100W** White; **No. TT-100G** Green; **No. TT-100R** Red. (Not illustrated.) **List each**.....**$1.25**

No. TT-101 ECONOMY PROFESSIONAL SIZE WHITE LEADER TAPE. 1200 ft. 1.5 mil, on 7″ reel. White coloration is fully impregnated in tape. No flaking. (Not illustrated.) **List**.....**$4.50**

No. TL-240 COLOR-CODE TITLE LABELS. Pkg. of 240. ½″ x 2″ self-stick. Assorted colors. **List**.....**$1.75**

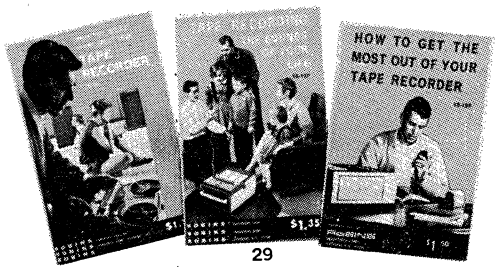
26. No. TL-180 WHITE TITLE LABELS. ½″ x 2″, self-stick. Pkg. 180. **List**.....**$1.39**

No. TB-15 CARDBOARD MAILERS. Pkg. of 15, for 3¼″ tapes. **List**.....**$1.25**

27. No. RMC-6 REUSABLE, IMPACT RESISTANT PLASTIC TAPE MAILING CANISTERS. Pkg. of 6. For 3¼″ tapes. Includes 2-sided address cards. **List**.....**$1.65. No. TMC-30** Pkg. 30, 2-sided address cards for No. RMC-6 Canisters. **List**.....**$1.25**

28. No. TC-3 CASSETTE PERMANENT STORAGE FILING CANISTERS, Impact resistant plastic. Built-in stops prevent tape from unwinding and becoming slack. Clear hinged cover provides instant identification. Pkg. of 3. **List**.....**$1.65**

No. TCB-18 CARDBOARD CASSETTE MAILERS. Pkg. of 18. (Not illustrated.) **List**.....**$1.65**



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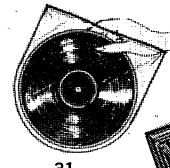

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29. INFORMATIVE BOOKS FOR RECORDISTS: No. TE-24 "Tape Editing and Splicing Guide", **List**.....**$.50. No. TE-48** "Television Tape Recording", **List**.....**$1.00. No. TE-96** "What You Should Know About Your Tape Recorder", **List**.....**$1.25. No. TE-127** "Tape Recording The Sounds Of Your Life", **List**.....**$1.59. No. TE-129** "How To Get The Most Out Of Your Recorder", **List**.....**$1.59.**

COMPLETE AUDIO/VISUAL TAPE ACCESSORY KITS FOR LANGUAGE LABS, AUDIO/VISUAL DEPTS., BROADCAST AND RECORDING STUDIOS. No. TK-12 KIT. Contains: No. TM-99 UL listed Bulk Tape Eraser, No. TS-8D Deluxe Tape Splicer, 6 rolls of ½″ x 100″ Splicing Tape, No. TK-6 Head and Guide Cleaner and Lubricant, Tape Strobe and Light Kit, No. TD-6 UL listed Head Demagnetizer, Tape Threader, Tape Jockey Cloth, 180 Title Labels, 75 Tape Clips, and 150 cleaning "Swabbies". **List**.....**$83.50**

No. TK-11 KIT. Contains: No. TM-77 Bulk Tape Eraser, No. TS-7S Tape Splicer, ⅜″ x 275″ Splicing Tape, Head and Guide Cleaner and Lubricant, Tape Strobe and Light Kit, No. TD-3 Head Demagnetizer, Tape Threader, Tape Jockey Cloth, 180 Title Labels, and 75 Tape Clips. **List**.....**$50.00**

RoBINS® PHONO AND RECORD ACCESSORIES

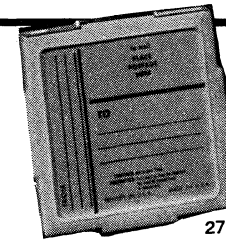
No. PK-20 COLOR-CODE RECORD LOG KIT. Catalog your record collection. 120 page Log Book, 80 self-stick Identification Labels for LP and 45 rpm records, 240 Album and Record Index Spots, (all in 5 colors), and Simulated Feather Writing Pen. **List**.....**$4.15**

No. PL-80 COLOR-CODE OWNER IDENTIFICATION LABELS FOR LP AND 45 RPM RECORDS. Package of 80. Self-Stick. Imprinted "This Record is the Property Of —" Curved to fit label area of records. In 5 colors. **List**.....**$1.30**

No. PL-5 COLOR-CODE ALBUM AND RECORD INDEX SPOTS. Package of 240, Self-Stick. 2 sets numbered 1 to 24, assorted in 5 colors. **List**.....**$1.15**

No. PT-5 COLOR-CODE ALBUM REINFORCEMENT TAPE. Repair, reinforce, and Color-Code Albums. In 5 colors. Enough for 24 albums. **List**.....**$1.65**

31. No. PJ-18 RECORD COVERS. Round bottom, plastic. Package of 18. **List**.....**$1.15**



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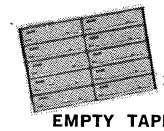

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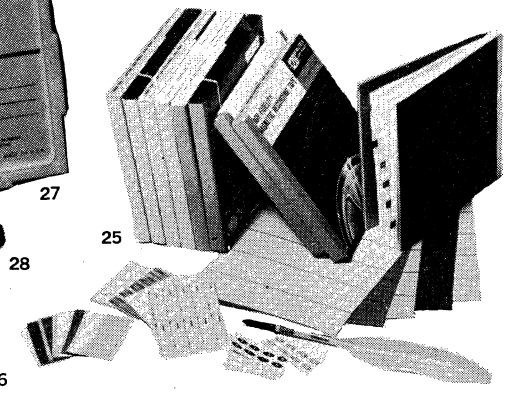

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EMPTY TAPE REELS FOR EVERY RECORDING NEED. No. TR-36-6 Pkg. of 6 - 3″ reels, 2 each: Red, Yellow, Blue. (Not illustrated. **List**.....**$1.30**

5″ COLOR-CODED REELS

Cat. No.	Color	Pkg. Qty.	List
TR51-2B	Blue	2	$1.30
TR51-2G	Green	2	1.30
TR51-2R	Red	2	1.30
TR51-2Y	Yellow	2	1.30

7″ COLOR-CODED REELS

Cat. No.	Color	Pkg. Qty.	List
TR71-2B	Blue	2	$1.65
TR71-2G	Green	2	1.65
TR71-2R	Red	2	1.65
TR71-2Y	Yellow	2	1.65

REEL MULTIPAKS

TR20-6	2″	6	$1.15
TR25-6	2½″	6	1.15
TR30-6	3″	6	1.15
TR32-4	3¼″	4	1.15
TR40-4	4″	4	1.30
TR50-2	5″	2	1.00
TR70-2	7″	2	1.25
TR74-2	7″ Low Torque	2	2.15
TR53-2	5″ Low Torque	2	1.75

REELS IN BOXES

TRB-2	2″	1	$ .42
TRB-2.5	2½″	1	.42
TRB-3	3″	1	.42
TRB-3.2	3¼″	1	.45
TR-50	5″	1	.65
TR-70	7″	1	.75
TRV-75	7″ VTR Reel for ½″ wide tape	1	2.50

EMPTY BOXES FOR TAPE

TB-5	5″	1	$ .39
TB-7	7″	1	.39

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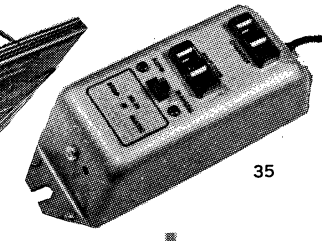

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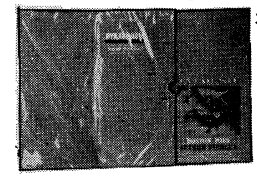

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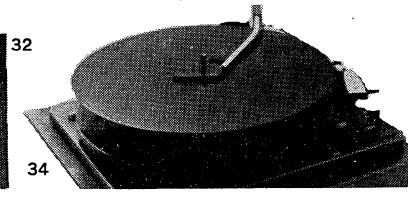

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32. No. PJ-25 HEAVY DUTY ALBUM COVERS. Window-clear plastic. Package of 12. Has convenient thumb notches for easy insertion and removal of records. **List**.....**$1.65**

33. No. PR-1 RECORD BROWSER. Compact, sturdy, metal brass plated rack. Fast, easy selection of records. For quantity of 12″ records. **List**.....**$2.65**

34. No. PC-6 AUTOMATIC END RECORD AND RECORD PROTECTOR. Covers records stacked on automatic changer. Drops as last records to continue protection from dust and grime. Sign off tells you when last record has played. Complete with jacket. **List**.....**$3.30**

35. No. PS-3 AUTOMATIC SOLID-STATE HI-FI/STEREO SHUT-OFF. For domestic and imported equipment. Shuts off amplifier after last record has played. Prevents equipment "burn-up". Amplifier and phono plug in separately. Switch for manual operation. 6 ft. line cord. 110 V. A.C. Metal housing for wall or cabinet mount. Size: 6½″ x 2¼″ x 1¾″ high. **List**.....**$11.50**

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PHONO AND RECORD ACCESSORIES RoBINS®

ROBINS ELECTRONICS CORP.

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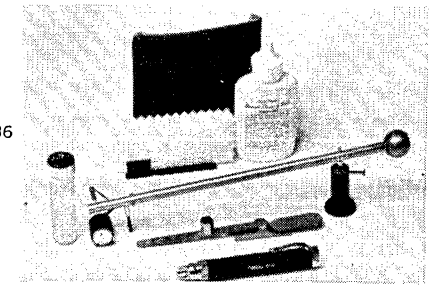
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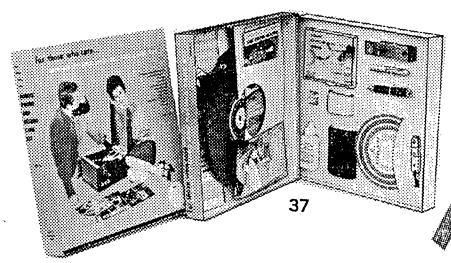
36. No. PK-11 PROFESSIONAL DELUXE RECORD CARE KIT. Contains: No. PB-10 Professional Record Sweep, Anti-Static Cleaner and Lubricant, Stylus Inspection Microscope, No. PSG-3 Stylus Pressure Gauge, and "Rob-o-Stat" Record Cleaning Kit. **List....$11.65**

No. PK-3 RECORD CARE KIT. Contains: No. PSG-3 Stylus Pressure Gauge, Adjustable Stylus Brush, Combination Record Brush and Tone-Arm Lift, Turntable Level, Anti-Static Record Cleaning Cloth, and 18 Protective Round Bottom Plastic Covers. (Not illustrated.) **List $7.15**

37. No. PK-10 DELUXE PHONO AND RECORD CARE KIT. 10" Foam Phono Cushion, Phono Strobe and Light Kit, 18 Plastic Record Covers, "Rob-O-Stat" Record Cleaning Kit, Anti-Static Record Cleaner and Lubricant, Stylus Brush, Stylus Pressure Gauge, Stylus Microscope, Disk-Whisk Kit, Round Turntable Level, 144-Friction Spots for records and 12 "Platter-Pusses". **List.....$18.50**

No. PK-6 "ROB-O-STAT" RECORD CLEANING KIT. Super-soft velvet and foam applicator mitt, 1½ oz. Anti-Static Record Cleaner and Lubricant, and polyfoam pad to clean velvet side of mitt. (Not illustrated.) **List $2.30**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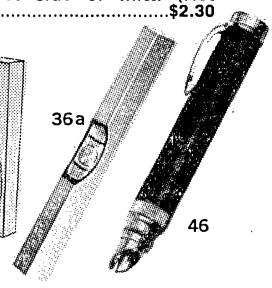
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No. PK-15 RECORD CARE KIT. 18 Round Bottom Plastic Record Covers and Combination Record Brush and Tone-Arm Lift. (Not illustrated.) **List $2.15**

No. PK-16 PHONO STYLUS CARE KIT. Contains: No. PSG-3 Stylus Pressure Gauge, Stylus Microscope, Adjustable Stylus and all-purpose "Handy Brush" for safe dusting of stylus, records, and equipment. (Not illustrated.) **List $5.80**

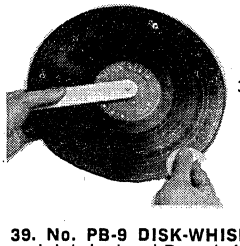
No. PK-17 STYLUS AND RECORD CARE KIT. Adjustable Stylus Brush, No. PSG-3 Stylus Pressure Gauge, and Record Cleaning Cloth. (Not illustrated.) **List.....$2.99**

No. PK-19 RECORD CARE KIT. 18 Round Bottom Covers and Anti-Static Record Cleaning Cloth. (Not illustrated.) **List.....$1.75**

No. PK-14 LOW COST STYLUS AND RECORD CARE KIT. Adjustable Stylus Brush and 18 Round Bottom Record Covers. (Not illustrated.) **List $2.30**

30. No. PK-7 DISK-WHISK KIT. Clips to tone-arm. Light weight floating nylon brush and mohair cylinder sweeps particles from record grooves and deposits Anti-Static Cleaner and Lubricant. Includes Anti-Static fluid. **List.....$3.30**

No. PK-8 RENEWAL KIT FOR No. PK-7. Contains bottle of Anti-Static fluid and two replacement mohair cylinders. **List.....$2.15**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39. No. PB-9 DISK-WHISK ANTI-STATIC RECORD CLEANERS. Cleans and lubricates LP and 45 rpm records on both sides in one operation by rotating record. Deposits Anti-Static Silicone. Record handling disc and 45 rpm record adaptor included. **List.....$1.65**

40. No. PX-8 ANTI-STATIC RECORD KLEEN-SPRAY. Silicone formula, 8 oz. Lubricant and Cleaner Aerosol spray, prevents dust accumulation and eliminates annoying pops and clicks. Increases record life. **List.....$1.80**

41. No. PK-12 PHONO CARE KIT. 2 oz. bottles of Phono Drive Oil and Non-Slip for Phono Drives. **List.....$2.00**

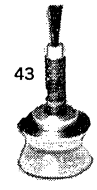
No. PRM-12 "PLATTER-PUSSES". 2½" dia. soft felt flocked leatherette disks folded for convenient, safe handling of records. Package of 12. **List.....$1.15**

No. PK-4 PHONO LEVELING KIT. 4 adjustable rubber feet to mount under turntable base. Round level mounts to phono deck. **List....$4.50**

42. No. PB-10 PROFESSIONAL RECORD SWEEP. Sweeps particles from delicate sound grooves. Deposits Anti-Static Cleaner and Lubricant. Mounts to phono by suction cup. Anti-Static fluid included. **List.....$4.95**

No. PB-2 COMBINATION TONE-ARM LIST AND RECORD BRUSH. Clips to tone-arm. Provides convenient finger lift. Sweeps dust from record grooves. (Not illustrated.) **List.....$1.15**

No. PB-75 CLIP-ON RECORD BRUSH. Clips to tone-arm. (Not illustrated.) **List .....$ .80**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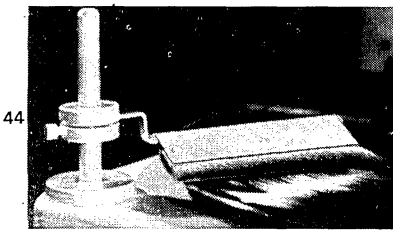
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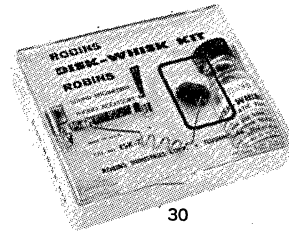
43. No. PB-3 ADJUSTABLE STYLUS BRUSH. For all U. S. and imported phonos. Adjusts ¾" to 2¼" height. Removes dust blob accumulation on stylus when tone-arm is cycled. Pressure-sensitive base mounts to phono deck. **List.....$1.30**

44. No. PB-88 CLEAN-SWEEP FOR PHONOS. Large soft hair brush on aluminum support, sweeps entire tracking surface of records with each revolution. Removes dust and particles. Pressure sensitive base for easy mount to phono deck. **List.....$7.15**

45. No. PSG-3 STYLUS PRESSURE GAUGE. Sturdy, accurate gauge with counter balance weight. Measures pressure to ½ gram. **List $1.65**

No. PSG-2 STYLUS PRESSURE GAUGE. Sturdy, balanced gauge measures stylus pressure from ½ gram to 8 grams. (Not illustrated.) **List $1.30**

TURNTABLE LEVELS. Assures correct tracking, minimizes stylus and record wear. **No. PL-2 ROUND TURNTABLE LEVEL.** Self-stick backing for mount to deck of phono. (Not illustrated.) **List.....$1.50.** Illustration 36a— **No. PL-1 LEVEL.** Gold anodized aluminum case. **List $3.15**



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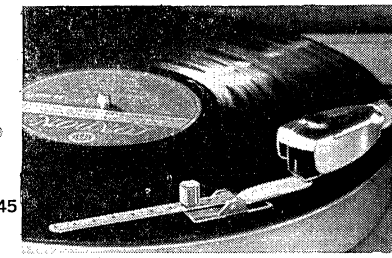
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46. No. PM-1 STYLUS INSPECTION MICROSCOPE. Precision ground lenses. 50X magnification, knurled focusing adjustment, convenient slot holds needle for inspection, and pocket clip. Size: 3¾" x ½" dia. Inspect stylus to detect signs of wear, chips, etc. Imported. **List $3.15**

METAL PHONO STROBE DISCS. No. PSD-4 4-SPEED METAL 5" DIA. DISK. Checks 16⅔, 33⅓, 45, and 78 rpm speeds. **List.....$1.75. No. PSD-3 3-SPEED 3¼" DIA. DISK.** Checks 33⅓, 45, and 78 rpm speed. (Not illustrated.) **List.....$1.10.**

No. PK-5 PHONO STROBE AND LIGHT KIT. Checks speed accuracy of phono. 110-120 V. 50-60 Hz. A.C. (Not illustrated.) **List.....$2.50**

CHANGER AND TURNTABLE COVERS. Heavy gauge plastic covers fit most models. **CHANGE COVERS: No. PJ-1** Size: 13" x 13½" x 8". **List.....$2.30. No. PJ-2** Size: 12½" x 15" x 8". **List.....$2.30. No. PJ-5** Size: 17" x 15" x 8¾". **List.....$2.80. TURNTABLE COVERS: No. PJ-3** Size: 22" x 16½" x 9". **List.....$2.80. No. PJ-4** Size: 17¼" x 17½" x 9". **List.....$2.80.** (Not illustrated.)

COMPONENT SLIDES. Ball bearing action for smooth sliding. Heavy duty. **No. MS-13 ALUMINUM SLIDES.** Supports up to 30 lbs. Length is 13". Travel length is 14". Pair — **List.....$5.50. HEAVY GAUGE STEEL SLIDES:** Supports up to 75 lbs. **No. MS-15** Length is 13". Travel length 9". Extends to 21". Pair — **List.....$3.80. No. MS-17** Length is 13". Travel length 11". Extends to 22½. Pair — **List....$3.80**

No. PG-9 ACOUSTIC FIBERGLASS INSULATION. Line speaker cabinets, tape decks, phonos, etc. Improves sound fidelity. Damps "boom" and distortion causing standing waves inside speaker enclosures. 36" x 36" x 1" thick. (Not illustrated.) **List.....$2.50**

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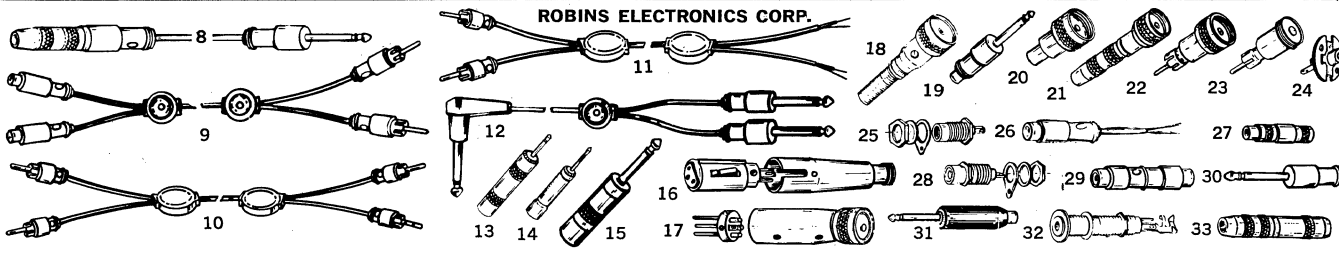
ROBINS® PATCH CORDS AND ADAPTORS



STEREO CABLE ASSEMBLIES

8. No. SJT-300. Phone Plug to Jack. 3-Cond. 25 ft. Shielded. Cable. **List** **$10.55**

9. No. SMF-36. 2 Phono Plugs to 2 Phono Jacks. 36″ Shielded. Cable. **List** **$3.30**

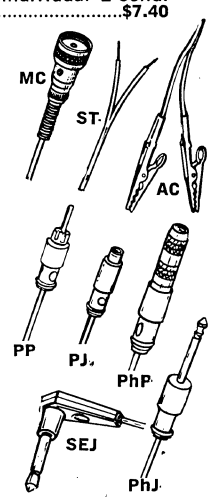
10. No. SMM-36 36″ Cable length. **List**.....**$3.45. No. SMM-72** 72″ Cable length. **List**.....**$4.05. No. SMM-120** 120″ Cable length. **List**.....**$4.85.** 2 Phono Plugs at each end.

11. No. SMS-36 36″ Cable length. **List**.....**$3.10. No. SMS-72** 72″ Cable length. **List**.....**$3.45. No. SMS-120** 120″ Cable length. **List**.....**$4.05.** 2 Phono Plugs to Stripped and Tinned-Ends.

12. No. YXTT-144 Adaptor Cable, 2-Cond., 11 ft., 3-Cond. Right Angle Phone Plug to "Y" Junction. 2 Single Cond. 12″ Cables from "Y" Junction to 2-Cond. Phone Plugs. Use to interconnect components where a 3-Cond. output is to be connected to 2 individual 2-Cond. inputs. **List** **$7.40**

MOLDED CABLE ASSEMBLIES

Cat. No.	Adaptor at One End Fig.	Adaptor at Other End Fig.	Cable Length in Inches	List
BS-120	MC	ST	120″	**$2.50**
FF-72	PJ	PJ	120″	**2.15**
MC-120	PP	AC	120″	**2.45**
MF-18	PP	PJ	18″	**1.35**
MF-36	PP	PJ	36″	**1.60**
MF-72	PP	PJ	72″	**1.95**
MF-120	PP	PJ	120″	**2.35**
MJ-72	PP	PhJ	72″	**3.15**
MM-18	PP	PP	18″	**1.10**
MM-36	PP	PP	36″	**1.30**
MM-72	PP	PP	72″	**1.65**
MM-120	PP	PP	120″	**2.15**
MS-18	PP	ST	18″	**.85**
MS-36	PP	ST	36″	**1.10**
MS-72	PP	ST	72″	**1.50**
MS-120	PP	ST	120″	**1.90**
MT-72	PP	PJ	72″	**2.40**
MT-120	PP	PJ	120″	**2.95**
TC-72	PhP	AC	72″	**2.10**
TC-120	PhP	AC	120″	**2.65**
TF-72	PhP	PJ	72″	**2.40**
TJ-120	PhP	PhJ	120″	**3.95**
TS-72	PhP	ST	72″	**1.95**
TS-120	PhP	ST	120″	**2.50**
TT-72	PhP	PhP	72″	**2.80**
TT-120	PhP	PhP	120″	**3.80**
XJ-180	PP	SEJ	180″	**6.00**
XM-120	PhP	PP	120″	**4.35**



MC—Microphone Connector. **ST**—Stripped and Tinned Ends. **AC**—Alligator Clips. **PP**—Phono Plug. **PJ**—Phono Jack. **PhP**—Phone Plug. **PhJ**—Phone Jack. **SEJ**—Short Extension Jack.

ADAPTORS

13. No. AA-66 Adapts Standard Phono Plug to "Tini-Jax" Phone Jack. **List** **$2.10**

14. No. AA-68 Phono Jack Input to Micro Plug (.097 dia.) Output. **List** **$1.85**

15. No. AA-70 2-Cond. "Tini-Jax" Input to standard Phone Plug Output. **List** **$1.95**

16. No. AC-1 2-Cond. Input Connector **(No. D-2),** Output Connector, with unsoldered internal wire permitting connection to terminal. **List** **$3.45**

17. No. AC-2 Female Microphone Connector to Input Connector. **List** **$3.45**

18. No. B-1 Microphone Connector Female. **List**..... **$ .90**

19. No. BB-1 Microphone Connect. Double Female, connects 2 cables with male connectors. **List**..... **$1.70**

20. No. BF-1 Phono Jack input to Female Microphone Connect. Output. O.D. ½″. **List**..... **$1.55**

21. No. BJ-1 2-Cond. Phone Jack input to Female Microphone Output. Removeable Coupler Ring converts connector to male type. Body O.D. ½″. **List**..... **$2.20**

22. No. BP-1 Phono Plug to Female Microphone Connector. **List**..**$1.40**

23. No. DP-1 Phono Plug to Male Microphone Connector. **List**....**$1.30**

24. No. F-1 Phono Jack, 2-Conductor. Package of 5. **List**..... **$ .85**

25. No. F-2 Phono Jack for back of panel mount. 2-Cond. Package of 2. **List**..... **$1.05**

26. No. F-3 2-Cond. long handle, Phono Jack to 3″ Shielded Cable. Converts screw or solder terminals to standard Phono Jack. Mates with **No. M-1** or **No. M-2** Phono Plug. Package of 2. **List**..... **$2.00**

27. No. F-4 Phono Extension Jack, removable handle, Cable Clamp. Package of 2. **List**..... **List $1.60**

28. No. F-5 RF Phono Jack, Nylon Insulated. 2-Cond. Front panel mount. Package of 2. **List**..... **$1.35**

29. No. FF-1 Phono Plug to Phono Plug, Shielded. **List**..... **$1.20**

30. No. FT-1 Phone Plug Output - Phono Jack Input. Shielded. **List** **$1.50**

31. No. FTR-1 Phono Adapter Female Phono Jack end of handle. Internal resistor circuit for connection between crystal phono pick-up, radio or TV set and input of tape recorder. Use as adapter with magnetic phono by opening plug and twisting leads of resistor together. **List**..... **$2.15**

32. No. J-1 Phone Jack w/long bushing. Mounts in panels to 1¼″ thick. 2-Cond. Jack mates with "Littel Plugs." Ideal for microphone connection. **List**..... **$1.75**

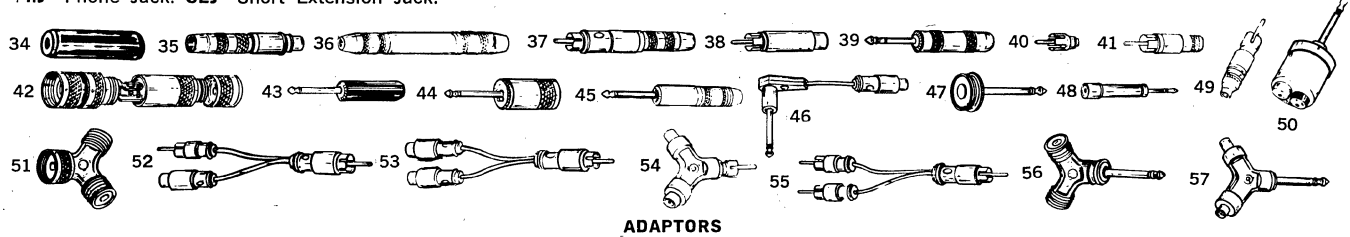
33. No. J-2 ¼″ 2-Cond. Extension Phone Jack w/Solder Terminals. **List** **$2.15**

32. No. J-3 Phone Jack, same as No. J-1, except 3-Cond. **List**....**$2.00**

34. No. J-4 Extension Jax, bakelite handle, 2-Cond. Screw terminals, Clamp. **List** **$1.47**

34. No. J-5 Extension Jax, bakelite handle, 3-Cond. Screw terminals, Clamp. **List Price** **$1.95**

35. No. JF-1 2-Cond. Phone jack input to Phono Jack Output, Body O.D. ½″. **List** **$2.05**



ADAPTORS

36. No. JJ-1 Coupler, 2-Cond. Phone Jack each end. **List**..... **$2.90**

No. JJ-3 same as JJ-1, 3-Cond. **List** **$3.45**

37. No. JM-1 2-Cond. Phone Jack Input to Phono Plug Output. **List** **$2.05**

38. No. JM-2 Compact Adaptor. Phono Jack Input, Phono Plug Output, connects Ceramic Phono Cartridge to amplifier which was designed for magnetic cartridge. **List**..... **$3.65**

39. No. JR-1 Standard 2-Cond. Phone Plug to 2-Cond. Short Extension Jack. **List** **$2.55**

40. No. M-1 Phono Plug. Solder terminals. Package of 6. **List**....**$ .65**

41. No. RF-1 RF Plug, 2-Cond. long handle, cable clamp, Nylon insulated. **List** ..... **$ .90**

42. No. SC-1 Microphone Connection w/2 Screw Terminals. Single Contact, Female. 2-piece handle w/built-in cable clamp. Connection cable, stripped ends. **List**..... **$3.05**

43. No. T-1 Phone Plug, 2-Cond. Solder terminals. **List**..... **$ .80**

44. No. T-1S Silent Phone Plug, 2-Cond. 1″ length. Shielded handle. Circuit device, when plug is removed, shorts input of amplifier, prevents squeal. Ideal for use with musical instruments. **List**....**$2.65**

45. No. T-3 ¼″ Phone Plug. 3-Cond. Solder terminals. Shielded metal handle. **List** **$2.20**

46. No. TAF-1 Phone Plug. Right Angle, 2-Cond. w/long handle molded to 2″ Shielded Cable. Adapts Phone Jack to Phono Plugs. **List** **$2.10**

47. No. TD-1 Microphone input, male to Phone Plug Output. **List** **$1.40**

48. No. TJF-1 2-Cond. "Tini-Plug" (7/16″) Output to Phono Jack Input. **List** **$1.55**

49. No. TJM-1 2-Cond. "Tini-Jack" Input to Phone Plug Output. O.D. 13/32″. **List** **$1.75**

50. No. TJT-1 Tip Jack Inputs to Phone Plug Output. **List**..... **$3.05**

"Y" ADAPTORS. Convert Stereo Players to Mono. Use for Tap-in Meter Monitor connection and other applications. Requires on some tape recorders.

51. No. YBDD-1 Connects 2 cables (w/standard microphone connections) in parallel to one single connector. Light metal. **List**....**$2.10**

52. No. YFMM-1 Phono Plug to One Phono Plug and one Phono Jack, 4″ Cable. **List** **$2.50**

53. No. YMFF-1 Phono Plug connection in parallel to Phono Jacks. 4″ Cable. **List** **$2.50**

54. No. YMFF-2 Two Phono Jacks connections in parallel to standard Phono Plug. **List** **$2.15**

55. No. YMMM-1 One Phono Plug connection in parallel to 2 Phono Plugs. 4″ Cable. **List** **$2.60**

56. No. YTDD-1 Two male Microphone connections. Connected in parallel to standard 2-Cond. Phone Plug. Completely shielded. **List** **$2.40**

57. No. YTFF-1 Two Phono Jacks connections in parallel to 2-Cond. Phone Plug. **List** **$2.40**

FM INDOOR ANTENNA — Folded dipole. Eliminates need for outdoor antenna in most locations. Improves FM reception over "built-in" set antennas. Easily concealed under rug or behind the set. **No. MA-1. List** **$2.50**

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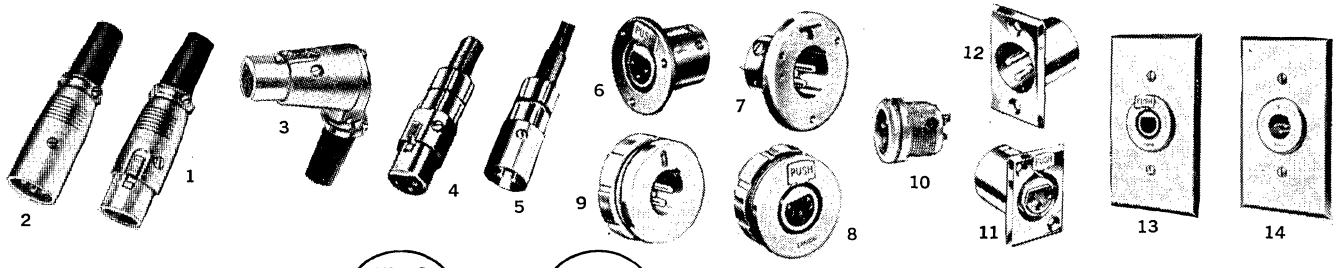
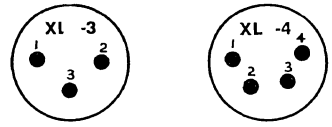
XL AND XLP AUDIO CONNECTORS RoBINS®



XLP and XL Audio Connectors meet requirements for low voltage electrical and electronic applications up to 15 amps, 200 V. A.C. Latch-Lock feature assures secure, rapid locking of mated connectors. Plugs cannot be accidently disengaged.



	Contacts:	3-15 amp	4-10 amp
	B & S Stranded Wire:	No. 14	No. 16
	Voltage:	200 V.A.C.	200 V.A.C.

XLP PLUGS feature Neoprene strain relief and secure cable clamp. Zinc alloy shell. Satin nickel finish. Phenolic insulator. Latch-Lock.

XLP STRAIGHT CORD PLUGS.

Illustration 1 Female			Illustrated 2 Male		
XLP-3-11	3-Cond.	List....$2.50	XLP-2-13	3-Cond.	List....$2.40
XLP-4-11	4-Cond.	List.... 3.40	XLP-4-12	4-Cond.	List.... 3.20

XLP RIGHT ANGLE 90° CORD PLUGS. Illustration 3 Female

XLP-3-15	3-Cond.	List....$6.50	XLP-4-15	4-Cond.	List....$7.25

XL STRAIGHT CORD PLUGS. Spring, strain relief. Zinc alloy shell. Satin nickel finish. Phenolic insulator. Latch-Lock.

Illustration 4 Female			Illustration 5 Male		
XL-3-11	3-Cond.	List....$2.30	XL-3-12	3-Cond.	List....$2.20
XL-4-11	4-Cond.	List.... 3.10	XL-4-12	4-Cond.	List.... 2.90

XL RECEPTACLE, WALL AND PANEL MOUNT. With mounting holes.

Illustration 6 Female			Illustrated—7 Male		
XL-3-13	3-Cond.	List....$2.30	XL-3-14	3-Cond.	List....$1.80
XL-4-13	4-Cond.	List.... 3.10	XL-4-14	4-Cond.	List.... 2.50

XL RECEPTACLE, PANEL MOUNT. Mounting nut supplied, accommodates panels up to 5/16" thick.

Illustration 8 Female			Illustration 9 Female		
XL-3-13N	3-Cond.	List....$2.50	XL-3-14N	3-Cond.	List....$2.50
			XL-4-14N	4-Cond.	List.... 3.15

XL "COMPACT" PANEL ADAPTOR RECEPTACLE. Threaded. Supplied with hex mounting nut for mount in panels to 1/2" thick. **Illustration 10 Male.**

XL-3-52	3-Cond.	List....$2.25	XL-4-52	4-Cond.	List....$2.90

XL WALL RECEPTACLE. Compact rectangular flange saves mounting space.

Illustration 11 Female			Illustration 12 Male		
XL-3-31	3-Cond.	List....$2.50	XL-3-32	3-Cond.	List....$1.90
XL-4-31	4-Cond.	List.... 3.40	XL-4-32	4-Cond.	List.... 2.50

XL STAINLESS STEEL WALL PLATE MOUNT RECEPTACLE. Single mount. Mounting holes provided. Fits standard outlet boxes.

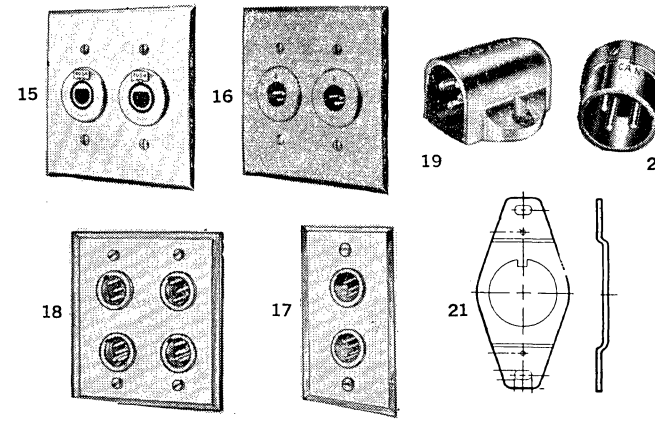
Illustrated 13 Female			Illustration 14 Male		
XL-3-35	3-Cond.	List....$5.50	XL-3-36	3-Cond.	List....$5.50
			XL-4-36	4-Cond.	List.... 7.00

XL TWO GANG STAINLESS STEEL WALL PLATE MOUNTING. Mounting holes provided. Fits standard outlet boxes.

Illustration 15 Female			Illustration 16 Male		
XL-3-35-2G	3-Cond.	List..$11.00	XL-3-36-2G	3-Cond.	List..$11.00
			XL-4-36-2G	4-Cond.	List.. 14.05

XL COMBINATION 3- AND 4-CONDUCTOR WALL PLATE ASSEMBLY RECEPTACLE. Mounting holes provided. Facilitates operation of 3-Cond. line and 4-Cond. lines. Circuits using less than 3 and 4 conductors can be utilized. Prevents confusion and cross-circuiting, as both outlets are not interchangeable. Fits standard wall boxes.
Illustration 17—XL-34-2G Male 3- and 4-Conductor **List**.....**$8.00**

XL FOUR GANG COMBINATION 3- AND 4-CONDUCTOR WALL PLATE ASSEMBLY RECEPTACLE. Mounting hole provided. Facilities operation of 3-Cond. and 4-Cond. lines. Can be used for 2-Cond. lines. Prevents cross-circuiting. Fits standard wall boxes.
Illustration 18 —XL-34-4G Male 3- and 4-Conductor. **List**.....**$15.00**



XL MICROPHONE OR 90° MOUNTING RECEPTACLE. Two mounting holes provided. Removable insert permits soldering, inspection, etc.
Illustration 19 Male.

XL-3-42	3-Cond.	List....$2.40	XL-4-42	4-Cond.	List....$3.05

XL ADAPTOR RECEPTACLE. Mounts directly in or on to microphone and other units or surfaces where they can be adequately supported. Threaded to mate into unit of equipment.
Illustration 20 -XL-3-50T Male 3-Conductor. **List**.....**$3.05**

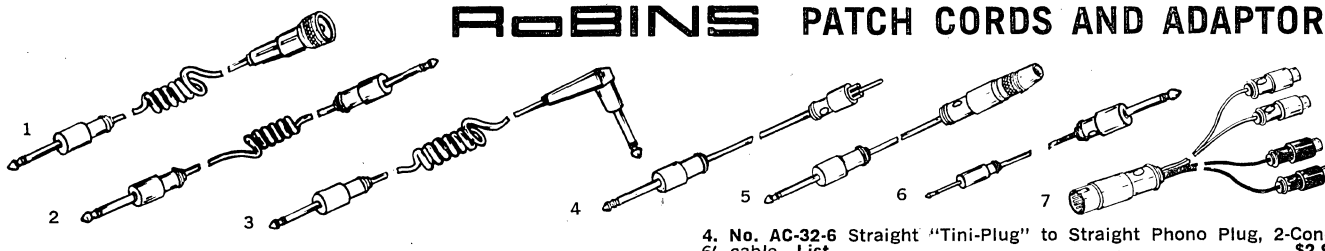
XL MOUNTING BRACKET. XL-( )-13N and **XL-( )-14N** Receptacles can be installed in the floor or at other convenient locations through use of this bracket for mounting receptacles in a Russel and Stoll floor Box 2503 and other standard boxes.
Illustration 21 **—XL-MB-1. List**.....**$1.10**

XLP and **XL** Connectors are interchangeable with and Mate with Cannon **XLR** Connectors. Manufactured by Cannon Electric (Australia) Pty. Ltd.

"CANNON"® is a trade mark registered in the U. S. Patent Office and in other countries by Cannon Electric Co.

O.E.M. REQUIREMENTS CAN BE SUPPLIED IN BULK AT COMPETITIVE QUANTITY PRICES. SOCKET AND PIN INSERTS AVAILABLE ON SPECIAL ORDER. ROBINS ELECTRONICS CORP.

RoBINS PATCH CORDS AND ADAPTORS



1. No. BCT-144 Shielded. Coiled-Cord extends to 12 ft. length, retracts to 26" length. Straight 2-Cond. Phone Plug to (B-1) Female Mike Connector. **List**.....**$8.40**

2. No. TCT-144 Shielded. Coiled-Cord extends to 12 ft., retracts to 26" length. Straight 2-Cond. Phone Plug at both ends. **List**.....**$8.25**

3. No. XCT-240 Shielded. Coiled-Cord extends to 20 ft. Straight 2-Cond. Phone Plug to Right Angle Phone Plug. **List**.....**$11.60**

4. No. AC-32-6 Straight "Tini-Plug" to Straight Phono Plug, 2-Cond. 6' cable. **List**.....**$2.90**

5. No. AC-34-6 Straight "Tini-Plug" to "Tini-Extension Jax", 2-Cond. 6' cable. **List**.....**$3.15**

6. No. AC-36-6 Straight "Tini-Plug" to Straight Phone Plug. 2-Cond. 6' cable. **List**.....**$3.00**

7. No. AS-8 Stereo Adaptor Cable. 5-pin European type Plug to two 1 ft. lengths. Shielded Cable having 4 color-coded Phono Jacks. Converts imported equipment to use American made Accessories. **List** **$6.60**

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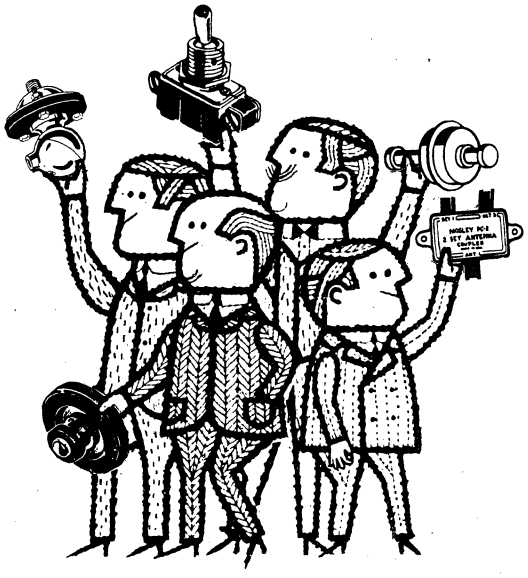

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SHURE FAMOUS UNIDYNE MICROPHONES

UNIDYNE IV Microphones

MODELS 548 • 548S • 549

Model 548 Model 548S Model 549

The premier member of the world-famed Unidyne family of microphones. An ultra high quality, super-rugged microphone with an unusually effective cardioid pickup pattern. Unusually smooth, wide-range response for voice and music. Has all the superb feedback and "boom" suppressing characteristics of the Unidyne III (below), combined with exceptionally rugged construction. Easily serviced in the field. Specially cushioned, reinforced cartridge. Cannon type connectors.

Model 548 Unidyne IV: For stand or hand usage. Includes A25B swivel adapter. **List Price: $100.00**

Model 548S Unidyne IV: Mounted on a lifetime swivel that also contains On-Off switch. **List Price: $105.00**

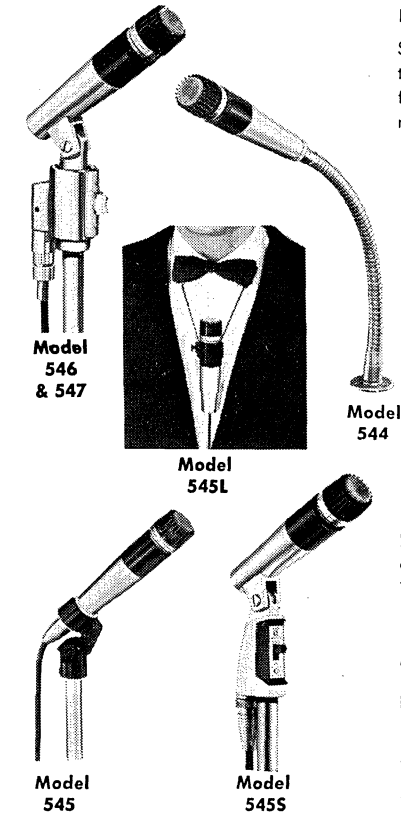
Model 549 Unidyne IV: Professional, stage version of Unidyne IV. Special vibration-isolation shock-mount to insulate against vibration and mechanical shocks. Special "storage" packaging . . . ideal for performers who carry their own unit to clubs and auditoriums. Less cable. Combination impedance selection-on-off switch. **List Price: $150.00**

SPECIFICATIONS

Frequency Response: 40 to 15,000 Hz.
Impedance and Output Levels: Models 548, 548S Dual. Low −57 db (0 db = 1 milliwatt per 10 microbars); .131 millivolts/microbar. High −55 db (0 db = 1 volt per microbar); 1.76 millivolts/microbar.
Model 549—dual (50 ohms) −56 db (0 db = 1 milliwatt per 10 microbars): .067 millivolts/microbar. M (250 ohms) −56 db (0 db = 1 milliwatt per 10 microbars); 149 millivolts/microbar.
Cable: Models 548, 548S: 15-foot, two conductor shielded with Cannon XLR-3-11C Connector on microphone end. Model 549: Less cable, but Cannon type XLR-3-11C cable connector included.

UNIDYNE III Microphones

MODELS 545 • 545S • 545L • 544 • 546 • 547



Model 546 & 547 Model 544 Model 545L Model 545 Model 545S

Recommended for use in any location where feedback prevents good sound reproduction.

Small and strikingly handsome, the acoustical design of the Unidyne III Microphones approaches the theoretical ideal of the uniform cardioid pickup pattern. Reproduces the human voice with remarkable fidelity. A favorite choice for singers and entertainers. Low frequency characteristics eliminate boominess, making them especially good for pickup of drums and bass instruments.

Model 545 Unidyne III: For hand or stand usage. Includes an A25B Swivel adapter. **List Price: $85.00**

Model 545S Unidyne III: Mounted on a lifetime swivel that also contains the On-Off switch. **List Price: $89.95**

Model 545L Unidyne III: Designed for lavalier use. Lavalier cord included. Can also be mounted on a flexible gooseneck. **List Price: $70.00**

Model 544 Unidyne III: The basic microphone for "gooseneck" mounting. **List Price: $80.00.** To obtain microphones complete with "goosenecks," order Models 544-G6 **($83.00)**, or 544-G12 **($83.75)**, or 544-G18 **($85.00),** for 6-inch, 12-inch, or 18-inch goosenecks.

Model 546 Unidyne III: Features a special live-rubber, vibration-isolating shock mount. Recommended for high quality public address systems and tape recording—especially where floor or stage is "shaky." **List Price: $135.00**

Model 547 Unidyne III: Stage version of Model 546. Includes storage case. Less cable. **List Price $135.00**

SPECIFICATIONS

Frequency Response: All models except 546 & 547 — 50 to 15,000 Hz. Model 546, 547 — 40 to 15,000 Hz.

Impedance and Output Level:

Models 545, 545S, 544: Dual. Model 545L: Low. Low −57db (0 db = 1 milliwatt per 10 microbars); .141 millivolts/microbar. High −55 db (0 db = 1 volt per microbar); 1.760 millivolts/microbar.

Model 546, 547 — Dual: L (50 ohms) −56 db (0 db = 1 milliwatt per 10 microbars); .067 millivolts/microbar. M (250 ohms) −56 db (0 db = 1 milliwatt per 10 microbars); .149 millivolts/microbar.

Cable:

Model 545, 545S: 15-foot, 3-conductor shielded with an Amphenol MC4M Type Plug connector. Model 545L: Attached 20-foot, 2-conductor shielded.

Model 544: Attached 7-foot, 3-conductor shielded. Model 546: 20-foot, 2 conductor shielded with a cannon XL-3-11 Type Connector.

Model 547: Less cable but Cannon type XLR-3-11C cable connector included.

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SHURE UNISPHERE & UNIDYNE "B" MICROPHONES

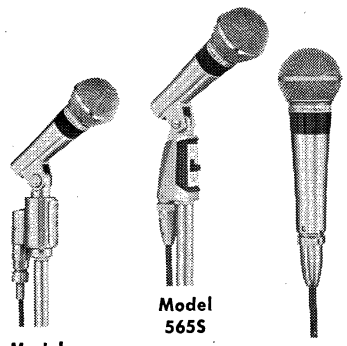
UNISPHERE I Microphones MODELS 565 • 565S • 566

Now! You can get all the superb feedback-control and uniform cardioid pickup pattern features that have made the Unidyne family of microphones world-renowned for solving difficult public-address problems—with the added problem-solving ability achieved through special filter assemblies that effectively control explosive breath sounds ("POP") and minimize wind noise in outdoor locations (eliminating the need for windscreens). The Unisphere I provides excellent reproduction of voice and music—can be effectively used outdoors and indoors.

Model 565 Unisphere I: For stand or hand usage. Includes an A25B swivel adapter. **List Price: $95.00**

Model 565S Unisphere I: On-Off switch included as part of the swivel connector assembly. **List Price: $100.00**

Model 566 Unisphere I: Features a built-in vibration-isolation shock mount. **List Price: $140.00**



Model 566 Model 565S Model 565

SPECIFICATIONS

Frequency Response: 50 to 15,000 Hz. (Model 546 is 40 to 15,000 Hz.)

Impedance and Output Level:

Models 565 and 565S: Dual: Low —57 db (0 db = 1 milliwatt per 10 microbars); .141 millivolts/microbar. High —54.5 db (0 db = 1 volt per microbar); 1.88 millivolts/microbar.

Model 566 Dual: Low (30 to 50 ohms) —55 db (0 db = 1 milliwatt per 10 microbars); .075 millivolts/microbar. Medium (250 ohms) —55 db. (0 db = 1 milliwatt per 10 microbars); .158 millivolts/microbars.

Cable:

Model 565 and 565S: 15-foot, three-conductor shielded with Amphenol MC4M Type Connector. Model 566: 18-foot, two-conductor shielded with Cannon XL-3-11 Type Connector.

UNISPHERE A Microphones
MODELS 585SA • 585SB • 585SAV • 585SBV

The Unisphere A Series of Microphones are economical undirectional dynamic microphones featuring special filters that provide protection from wind and "pop" (explosive breath sounds). They also eliminate annoying loudspeaker "squeal" caused by feedback. These models are particularly suitable for use in locations where omnidirectional microphones may not operate properly because of poor acoustics or where wind creates a problem. The Model 585 Series comes complete with shock-mounted cartridge, On-Off switch, detachable cable, and a Model A25B swivel adapter.

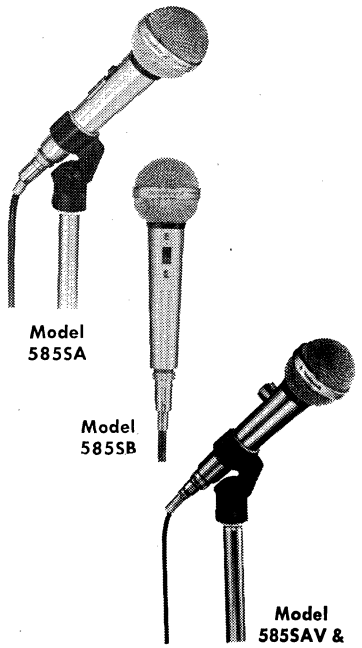
The Model 585SAV and 585SBV are two of the most ingenious microphones ever designed because the volume control on the microphone case enables the user to change the loudness of the P.A. system at the microphone location. Ideal for applications where the amplifier controls are inaccessible or where the speaker or singer wants to control his own volume for dramatic effects.

Model 585SA Unisphere A: High impedance. **List Price: $65.00**

Model 585SB Unisphere A: Low impedance. **List Price: $58.00**

Model 585SAV Unisphere A: With adjustable volume control; High impedance. **List Price: $72.50**

Model 585SBV Unisphere A: With adjustable volume control; Low impedance. **List Price: $72.50**



Model 585SA Model 585SB Model 585SAV & 585SBV

SPECIFICATIONS

Frequency Response: 50 to 13,000 Hz.

Impedance and Output Level:

Models 585SA and 585SAV: High —56.5 db (0 db = 1 volt per microbar); 1.48 millivolts/microbar. Model 585SB and 585SBV: Low —56.5 db (0 db = 1 milliwatt per 10 microbars); .105 millivolts/microbar.

Cable:

Models 585SA and 585SAV: 15-foot, one-conductor, shielded with an Amphenol MC1F Type Connector.

Models 585SB and 585SBV: 15-foot, two-conductor shielded with an Amphenol MC2M type Connector.

UNIDYNE B Microphones MODELS 515SA • 515SB

Lowest cost Unidyne, ever. Has the feedback suppression and uniform, symmetrical pick-up pattern features that have made Unidynes world famous. An excellent choice where budget is the prime consideration. Can be used on stand, or in hand. Built-in On-Off switch. Includes A25B swivel adapter.

Model 515SA Unidyne B: High Impedance. **List Price: $40.00**

Model 515SB Unidyne B: Low Impedance. **List Price: $35.00**

Model 515SA Model 515SB

SPECIFICATIONS

Frequency Response: 80 to 13,000 Hz.

Impedance and Output Level: Model 515SA: High —58 db (0 db = 1 volt per microbar); 1.25 millivolts/microbar. Model 515SB: Low (25 to 200 ohm) —59 db (0 db = 1 milliwatt per 10 microbars); .089 millivolts/microbar.

Cable: Model 515SA: Non-detachable 15-foot, one-conductor shielded. Model 515SB: Non-detachable 15-foot, two conductor shield.

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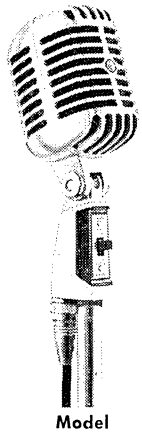
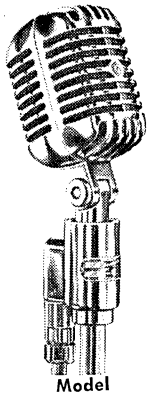
SHURE FAMOUS UNIDYNE MICROPHONES

UNIDYNE II Series

MODELS 55S • 55SW • 556S



Model 55SW



Model 556S

Famed Throughout the World for Ruggedness and Reliability.

The Unidynes are the largest selling microphones throughout the world—used consistently by famed celebrities for those important events where the faithfulness of sound reproduction is critical. Model 55S Unidyne II is highly recommended for fine quality public-address, theater-stage sound systems, recording and remote broadcasting, and low-gain tape recording.

Model 556S Unidyne II is specially constructed and tested to meet the requirements of the broadcast and television studio, and is held within close tolerances in frequency response and directivity. The Model 556S is provided with vibration-isolation unit of live rubber construction in the stand connector. Includes multi-impedance switch for high, medium or low impedance.

Model 55S Unidyne II: Without On-Off Switch. **List Price: $83.00**

Model 55SW Unidyne II: With On-Off Switch. **List Price: $85.00**

Model 556S Unidyne II: Features a special live-rubber, vibration-isolating shock mount. **List Price: $135.00**

SPECIFICATIONS

Frequency Response: Models 55S and 55SW—50 to 15,000 Hz.
Model 556S—40 to 15,000 Hz.

Impedance and Output Level:

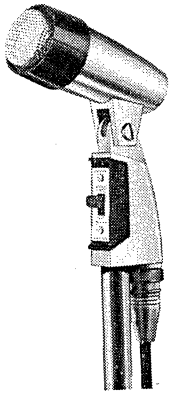
Models 55S and 55SW: Low (30 to 50 ohms) —55.5 db (0 db = 1 milliwatt per 10 microbars); .071 millivolts/microbar. Medium (150 to 250 ohms) —56.5 db (0 db = 1 milliwatt per 10 microbars); .141 millivolts/microbar. High —55.5 db (0 db = 1 volt per microbar); 1.68 millivolts/microbar.
Model 556S: Low (30 to 50 ohms) —56.5 db (0 db = 1 milliwatt per 10 microbars); .067 millivolts microbar. Medium (150 to 250 ohms) —57.5 db (0 db = 1 milliwatt per 10 microbars); .130 millivolts/microbar. High —56 db (0 db = 1 volt per microbar); 1.58 millivolts/microbar.

Cable:

Models 55S and 55SW: 15-foot, 2-conductor shielded with an Amphenol MC3M Type Connector.

Model 556S: 20-foot, 2-conductor shielded with a Cannon XL-3-11 Type Connector.

SHURE OMNIDIRECTIONAL MICROPHONES



SONODYNE II

MODEL 540S. A compact, modernistic microphone with high output dynamic element at moderate cost. The "Sonodyne II" features adjustable frequency response which allows the user to tailor the microphone to the application—One of the most versatile microphones on the market! High output Dynamic element Omni-Directional pick-up pattern. Frequency response: 50 to 13,000 Hz with provisions for alternate response for voice intelligibility in paging and communications systems. Reliable on-off switch. Model 540 also available without switch. Improved positive action lifetime swivel permits tilting head 150°. 15 ft. 2-conductor shielded cable, equivalent to Amphenol MC3M connector.

IMPEDANCE TABLE	OUTPUT LEVEL
L—50-250 Ohm	—56 db (0 db = 1 Milliwatt per microbar); .149 millivolts/microbar
H—High	—53.5 db (0 db = 1 volt per microbar); 1.76 millivolts/microbar

LIST PRICE		
	Model 540S (with switch)	$49.95
	Model 540 (without switch)	$47.95

MODELS 533SA • 533SB • 533SAV Spher-O-Dyne

Model 533SAV

Model 533SB

Unusual quality for such a moderate cost. Built-in wind, breath, and pop filters make it ideal for close-to-the-mouth applications, minimizing annoying, explosive breath sounds. Excellent reproduction of voice and music. Well-balanced "hand-ability". Response is uniform from 40 to 11,000 Hz. Built-in "On-Off" Switch, as well as an adjustable swivel adapter for stand use.

Model 533SAV has a volume control on the microphone case that enables the user to change the loudness of the P.A. system at the microphone location, ideal where amplifier controls are inaccessible, or where the speaker or singer wants to control his own volume for dramatic effects.

Model 533SA Spher-O-Dyne: High Impedance. **List Price: $50.00**

Model 533SB Spher-O-Dyne: Low Impedance. **List Price: $47.50**

Model 533SAV Spher-O-Dyne: With adjustable volume control, High Impedance. **List Price: $57.50**

SPECIFICATIONS

Frequency Response: 40 to 11,000 Hz.

Impedance and Output Level:

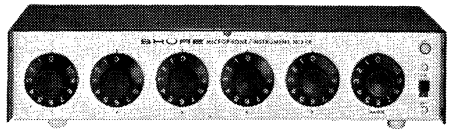
Models 533SA and 533SAV: High Impedance — 55.0 db (0 db = 1 volt per microbar) 1.76 millivolts/microbar.
Model 583SB: Low Impedance — 55.5 db (0 db = 1 milliwatt per 10 microbars) .149 millivolts/microbar.

Cable:

Models 533SA and 533SAV — 15-foot one-conductor shielded.
Model 533SB — 15-foot two-conductor shielded.

SHURE MICROPHONE MIXERS

SHURE M68 AND M68FC MICROPHONE MIXER (TRANSISTORIZED—PORTABLE)



PRACTICAL—The Shure M68 Mixer is a practical, efficient and economical way of increasing the efficiency, usefulness and flexibility of public-address and paging systems, or tape recorders, by making it possible to use more than one microphone or other sound source. You can strategically place microphones so that everybody who should be heard will have a microphone close at hand. It is particularly useful where additional microphones are needed for panels or for audience Question-and-Answer sessions.

UNIQUE—This new mixer is unique in that it satisfies the needs of most public-address systems and serious tape recording enthusiasts, while being light enough to be portable, simple to operate and modest in cost. It is the **only** mixer which strikes a happy medium between the expensive heavy and complex permanent-installation type mixer and the extremely low-cost units of limited usefulness.

With the M68, each microphone (or other sound source) can be cut in or out of the system (and independently balanced for volume) with no loss in microphone output level. In addition to independent volume controls, a master volume control simultaneously controls the gain of all inputs. The M68 can, therefore, be used as a conveniently "at-hand" P.A. system volume control in situations where the regular amplifier is located some distance away.

VERSATILE—You can use high or low impedance microphones, in any mix, with any type amplifier without need for expensive line transformers.

You can tape record from multiple sound sources or record sound-on-sound with two recorders.

Frequency response is 30-20,000 Hz (cps). Underwriters Laboratory listed for use in commercial applications. Easily portable . . . 2⅝" x 11¹⁵⁄₁₆" x 5³⁄₁₆", weighs only 4 lbs. 105-125 V. A.C. 50/60 cps.

Model M68 Mixer. Input connections are MALE Cannon XLR-3-14 type. (Uses XLR-3-11C type Mate.) **List Price: $125.00**

Model M68FC Mixer. Input connections are FEMALE Cannon XLR-3-13 type. (Uses XLR-3-12C type Mate.) **List Price: $135.00**

MICROPHONE MIXER ACCESSORIES

ATTACHE-TYPE CARRYING CASE — Makes M68 mixer, microphones and cables conveniently portable. **List Price: $37.50**

A68B BATTERY POWER SUPPLY — Eliminates need for 115 V. A.C. hookup. **List Price: $10.00**

A68L LOCKING PANEL — Prevents tampering with the controls. **List Price: $8.00**

A68C OUTPUT CABLE KIT to connect mixer to any amplifier. **List Price: $25.00**

A68S STACKING KIT to connect 2 or more M68's together for use with more than four microphones. **List Price: $5.00**

A68SC INTERCONNECTING CABLE ONLY. List Price: $1.25

A68R RACK PANEL KIT to mount mixer in a standard rack panel. **List Price: $12.50**

SHURE PROFESSIONAL NOISE CANCELLING MICROPHONES

MODEL 488 "SONOBAR" . . . A MAJOR BREAKTHROUGH IN MICROPHONE DESIGN

Stated by users to outperform and obsolete all others . . . its quality confirmed by extensive laboratory and field comparison tests! Provides highly intelligible speech communication where high volume background noise is found, such as airplanes, helicopters, motorcycles, trucks, fire engines, power boats, sporting events, drop forges, press-rooms, factories, canneries, mills, printing plants, etc. Incorporates the patented Shure Controlled Reluctance cartridge into a distance-discriminating microphone that effectively cancels background noise . . . gets the message through *EVEN WHEN THE SPEAKER CAN'T HEAR HIMSELF!* Correct placement for close-talk assured by convenient lipguard. Rugged, impact-resistant "Armo-Dur" case. Four versions available: 488A—high impedance; 488B—low impedance; and 488C and 488T—transistorized for direct replacement of carbon microphones (488T FAA Certified for Aircraft applications). All models equipped with coiled-cord and "million-cycle" push-to-talk, blade-type switches. With mounting bracket.

SPECIFICATIONS

Model	488A High Impedance	488B Low Impedance	488C Transistorized	488T Transistorized Aircraft
Frequency Response	(SPECIALLY TAILORED FOR BEST INTELLIGIBILITY) 200 to 4,000 Hz.			
Output Level (0 db = 1 volt per 100 microbar field)	.141 volts (—17 db)	.014 volts (—37 db)	0.45 volts (—7 db) using 6 volts d.c. and 500 ohm load	0.71 volts (—3 db) using 12 volts and 500 ohm load
Impedance	High: Recommended Load 100,000 ohms or more	150-250 ohms	Recommended Load 100 to 500 ohms	Recommended AC Load 100 to 800 ohms
Cable, 5½' extended	Three-conductor (One-conductor shielded) cadmium copper coiled cord	Four-conductor (Two-conductor shielded) cadmium copper coiled cord	Four-conductor cadmium copper coiled cord	Three-conductor tinsel coiled cord with PJ 068 — plug attached
Switch Mic Circuit Relay Circuit	Normally closed* Normally open	Normally open** Normally open	Normally open Normally open	Normally open Normally open
Dimensions and Weight	3¾" HIGH x 2⅝" WIDE x 2½" DEEP; ¾ LB.			
List Price	$57.50	$57.50	$62.50	$72.50

*Provision for simple change to normally open
**Provision for simple change to normally closed

Trade Discount Applies To List Prices Only
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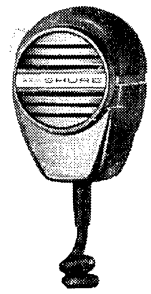
SHURE NEW! COMPACT COMMUNICATIONS MICROPHONES

RANGER II
WITH HIGH-IMPACT ARMO-DUR CASE



Only about half the size and weight of conventional mobile communications microphones, yet performs as well as or better than the "big boys." Only 6¾ oz., less cable . . . 2 1/16" wide, 2⅛" deep, 2⅞" high. Ideal for miniaturized or portable communications. Neoprene-jacketed coil cord. Revolutionary molded-rubber Flex-Relief cable connection. Positive action single throw, double pole million-cycle switch. Controlled Magnetic cartridge. Frequency response from 400 to 4000 Hz, especially tailored for voice communication use. Model 414A is high impedance, 414E is low impedance and 414C is transistorized.

MODEL	OUTPUT LEVEL	IMPEDANCE	CABLE TYPE	SWITCH MIC. CIRC.	RELAY CIRC.	LIST PRICE
414A	—14.5 db (0 db = 1 volt per 100 microbars)	High—100,000 Ohms or more	3-cond., one shielded	Closed	Open	$33.00
414B	—52.5 db (0 db = 1 milliwatt with 10 microbars)	150-250 Ohms	4-cond., two shielded	Open	Open	$33.00
414C		100—1,000 Ohms	4-cond., coil cord	Open	Open	$48.50

RANGER II NOISE CANCELLING
FOR HIGH SPEECH INTELLIGIBILITY

Gets the message through even when the ambient noise is so loud the operator can't hear himself! Significantly superior speech intelligibility to any other brand of so-called "noise cancelling" microphone. Specially tailored response for highest intelligibility—200 to 4000 Hz. Same size, cable, cable relief, switch and case as Ranger II (at left) . . . only 7 oz., less cable.

MODEL	OUTPUT LEVEL	IMPEDANCE	CABLE TYPE	SWITCH MIC. CIRC.	RELAY CIRC.	LIST PRICE
419A	.12 volt (—18.5 db) (0 db = 1 volt per 100 microbars)	High—100,000 Ohms or more	3-cond., one shielded	Closed	Open	$62.50
419B	.014 volt (—37 db) (0 db = 1 volt per 100 microbars)	150-200 Ohms	4-cond., two shielded	Open	Open	$62.50

SHURE DISPATCHING . . GENERAL PURPOSE MICROPHONES

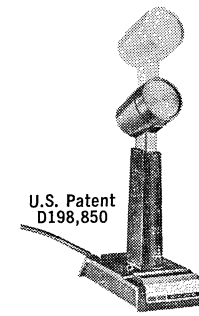
MODEL 450 "DISPATCHER" MICROPHONE*

Made of Rugged "ARMO-DUR"—Won't Crack—Peel—Rust—Dent.

New modern design fits every decor for paging use. Integrated case design, made of gray "Armo-Dur", features telescoping height adjustment for maximum convenience. Rugged Controlled Magnetic element with impedance switch for low or high impedance. Push-to-talk switch bar with optional features provide every desired switching option.

SPECIFICATIONS—ELEMENT TYPE: Controlled Magnetic. FREQUENCY RESPONSE: 100 to 10,000 Hz. CASE: Two-tone Gray "Armo-Dur." CABLE: 7 ft., four-conductor (two-conductor shielded). SWITCH: Push-to-talk switch button with optional locking feature to operate independent microphone and relay circuits. Relay portion of switch is normally open. Microphone portion of switch is normally open or normally closed as required. DIMENSIONS: 4" wide, 5 1/16" deep, 10 5/16" high (adjustable). NET WEIGHT: 1½ lbs.

MODEL	IMPEDANCE	OUTPUT LEVEL	LIST PRICE
450	High	High —54 db (0 db = 1 volt per microbar); 2.00 millivolts/microbar	$49.50
	50-250	Low —53 db (0 db = 1 milliwatt per 10 microbars); .225 millivolts/microbar	



ADJUSTABLE HEIGHT

U.S. Patent D198,850

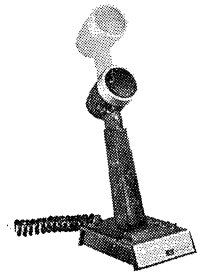
ACCESSORIES

CABLE TYPE TRANSFORMER

Model A95A is a high-quality, cable-type transformer which makes it possible to connect a low impedance microphone (35-50 ohm and 150-250 ohm) to a high impedance amplifier. It is housed in a compact, sturdy and magnetically-shielded case, 2½" long x ¾" diameter. Use of this transformer solves the problem of excessive high frequency loss and objectionable hum when long lengths of microphone cable are necessary. Model A95A may also be used in specialized applications requiring high impedance to low impedance circuit connections. Attractive gray and black case furnished with Cannon XL-3-11 input and Amphenol MC1F output plugs installed. Frequency response: 20 to 20,000 Hz, plus or minus 1 db.

List Price: $17.50

AMATEUR RADIO AND CB



MODEL 444T

Transistorized with Variable Output Level

For AM, FM, or single sideband units. Features built-in two-transistor preamplifier with volume control to give variable high output. Self-contained battery operates up to 300 hours before replacement. Enables you to maintain maximum modulation. Adjustable height design "Armo-Dur" case.

SPECIFICATIONS

FREQUENCY RESPONSE: 200 to 6,000 Hz. OUTPUT LEVEL: Adjustable from 2 mv to 45 mv for 1 microbar input. IMPEDANCE: Less than 1,000 ohms. BATTERY TYPE: Burgess 2U6 or equivalent included. CABLE: Four-conductor, plastic jacketed non-shielded coiled cord, 5-feet extended. SWITCH: Press-to-Talk switch. Locking or non-locking operation—to operate microphone circuit or external control circuit. Close circuit to talk and/or open circuit to talk. Relay or switching circuits can be selected by simply cutting designated wire on switch assembly. DIMENSIONS AND WEIGHT: 10⅜" high (adjustable), 4" wide, 5¾" deep, 1½ lbs. LIST PRICE: $49.50.

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TRIMM INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

HEADSETS: GENERAL PURPOSE, COMMERCIAL, MILITARY, AMATEUR, EDUCATIONAL, STEREO

Since 1922 TRIMM has manufactured a complete line of the finest electro-acoustic equipment and components. Engineered to fill the broadest applications; from the experimental crystal set to rugged field use, from industrial test equipment to home high-fidelity and stereo — these headsets are quality constructed and value priced.

ACME 24, 25, 27

A superior low-cost headset most suitable for Geiger counters, crystal sets, toys and radio systems. Black bakelite shell and cap. No. 24 has a black vinyl covered double headband and cotton tinsel conductor "Y" cord with pin tips. No. 25 headband is black enameled. No. 27 has a black enameled single headband and plastic covered stranded wire cord with pin tips.

REX 30, 32

Lowest cost BIPOLAR type headset. Increased sensitivity. A 6 oz. lightweight for code training and institutional radio systems. Black bakelite shell and cap. Black vinyl covered headband. No. 32 has a single headband and plastic covered stranded wire with pin tips.

DEPENDABLE 70, 71, 72

Combines the best qualities of Acme and Rex; simple, rugged, sensitive and low cost. Ideal for electronic organs, code training and language labs. Black bakelite shell and cap, black vinyl covered headband, mercerized cotton tinsel "Y" cord and pin tips. No. 70 has double headband; No. 71 has plastic covered stranded wire cord; and No. 72 has single headband and single cord with pin tips.

• STEREO

All models available for stereo use, ranging from the least expensive Acme to the top quality, extended range "L" headset. Stereo types have two different plug terminations. Those with "-14" in code number have single 3-circuit plug such as No. 513 or No. 516; and those with "-15" in code number have 2-circuit plugs, one red, other black.

ACME

				With 511 plug	
24-03	$3.95	**25-2K**	$3.65	**24-9-03**	$5.15
25-03	3.50	**24-4K**	4.45	**24-9-2K**	5.20
27-03*	2.10	**25-4K**	4.00	**25-9-2K**	4.75
24-15	4.00	**27-1K***	2.25	**27-9-03**	3.20
24-2K	4.10	**27-2K***	2.45		

• STEREO

24-14-03	$6.50	**24-15-03**	$7.60

REX

				With 511 plug	
30-03	$4.70	**30-3K**	$5.20	**30-9-03**	$5.80
30-06	4.70	**32-03***	2.65	**30-9-06**	5.80
30-2K	4.90	**32-1K***	2.75	**30-9-2K**	6.00
				32-9-03*	3.75

DEPENDABLE

				With 511 plug	
70-03	$5.35	**70-3K**	$5.85		
70-06	5.35	**70-4K**	6.15		
70-15	5.50	**72-03***	3.60	**70-9-03**	$6.45
70-2K	5.55	**72-1K***	3.70	**70-9-2K**	6.65
71-2K	6.55	**72-2K***	3.85	**70-9-4K**	7.25

• STEREO

70-14-03	$7.55	**70-14-2K**	$8.35
70-15-03	8.75	**70-15-2K**	9.55

Headsets are listed by their model number and by their impedance or D.C. resistance; 3.2 ohms (03); 8 ohms (08); 600 ohms (06); 1500 ohms (15); 2000 ohms D.C. (2K); 2000 ohms (2M); 3000 ohms D.C. (3K); 4000 ohms D.C. (4K); 5000 ohms (5M); 12000 ohms (12M); 17000 ohms (17M); and 24000 ohms (24M). Single earphones (*). List prices included are for single purchases at retail. Consult your distributor for quantity discounts.

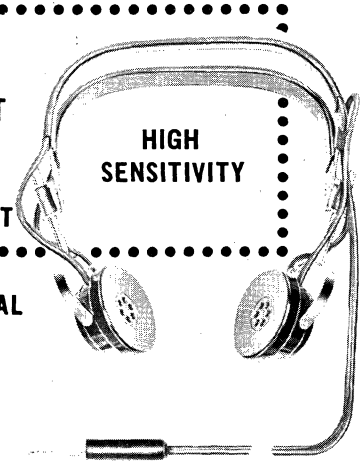
'L' HEADSET

IDEAL STEREO INSTRUMENT

HIGH SENSITIVITY

EXCEPTIONAL RESPONSE

No. 50, 56



Highest quality headset of conventional construction. Individually tuned acoustic cavities assures faithful sound reproduction. Top performance under all environmental conditions. Black bakelite shell and cap. No. 50 has black rubber covered double headband and waterproof nylon tinsel conductor, "Y" cord and No. 501 plug. No. 56 has a vinyl covered double headband with over-the-head molded neoprene cord and No. 501 plug.

STANDARD "L"

50-08	$23.00	**56-2M**	$27.65
56-08	27.65	**50-5M**	23.00
50-06	23.00	**56-5M**	27.65
56-06	27.65	**50-12M**	24.00
50-2M	23.00	**56-12M**	28.65

STEREO "L"

50-14-08	27.00	**56-14-16**	31.65
56-14-08	31.65	**50-14-6M**	28.00
50-14-16	27.00	**56-14-6M**	32.65
50-15-08	28.00	**56-15-16**	32.65
56-15-08	32.65	**50-15-6M**	29.00
50-15-16	28.00	**56-15-6M**	33.65

REPLACEMENT PARTS

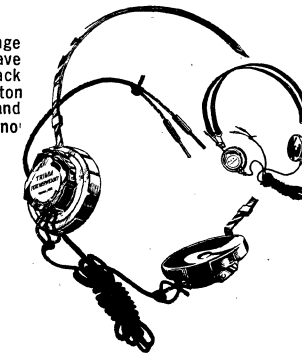
For a nominal charge all TRIMM manufactured products can be restored to top working condition at the factory. Nearly any part that is required for manufacture is also available as a replacement part. In addition, worn or broken headset cords for almost any make can be made to order.

FEATHERWEIGHT 5 OZ.!

WORLD FAMOUS-PROVEN IN USE

100, 101, 102, 104, 106, 107

Highly recommended for amateur radio use, language training and electronic testing. Nos. 100 and 106 have a fully adjustable nickel plated single headband. Black bakelite shell and cap. Waterproof mercerized cotton tinsel conductor "Y" cord with pin tips. Nos. 104 and 107 have black vinyl covered double headband at no increase in price.

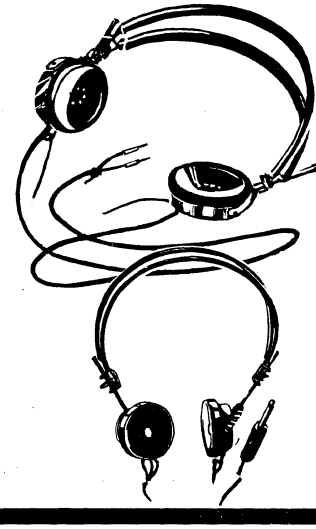


$12.00 List With Pin Tips		$14.00 List With 501 Plug	
100-03	**100-2K**	**100-9-03**	**100-9-4K**
104-03	**104-2K**	**104-9-03**	**104-9-4K**
100-06	**100-4K**	**100-9-06**	**106-9**
104-06	**104-4K**	**104-9-06**	**107-9**
100-15	**106**	**100-9-2K**	
104-15	**107**	**104-9-2K**	

With Pin Tips List $12.50		With 501 Plug List $14.50	
101-03	**102-03**	**101-9-03**	**102-9-03**
101-06	**102-06**	**101-9-06**	**102-9-06**
101-2K	**102-2K**	**101-9-2K**	**102-9-2K**

• STEREO

104-14-03	$15.00	**104-15-08**	$16.00
104-15-03	16.00	**104-14-2K**	15.00
104-14-08	15.00	**104-15-2K**	16.00



ARMY — NAVY 28, 29

Built for severe use. Satin chrome brass shell, black bakelite cap. Black rubber covered double headband with thumbscrew lock for yoke adjustment. Waterproof nylon tinsel conductor "Y" cord, pin tips or plug.

With Pin Tips		With 501 Plug	
28 (W) 600 ohm	$20.00	**28-9** (W) 600 ohm	$21.65
29 (K) 20M ohm	20.00	**29-9** (K) 20M ohm	21.65

COMMERCIAL 155, 156, 157, 158, AND 159

Very rugged TRIMM headset — yet very lightweight. Developed for marine and aircraft radio use. All types have black bakelite shell and cap; waterproof, tinsel conductor cord. No. 156 (600 ohm) and No. 157 (17M ohm) have rubber covered double headband with a "Y" cord and 501 plug. No. 158 (600 ohm) and No. 159 (17M ohm) same with pin tips on end of cord. No. 155 especially suited for educational use, has black vinyl covered headband, somewhat smaller than normal adult size and suitable for children. Complete with 501 plug.

155-03	$13.50	**156**	$15.75
155-06	13.50	**157**	15.75
155-2K	13.50	**158**	14.00
		159	14.00

Trade Discount Applies To List Prices Only

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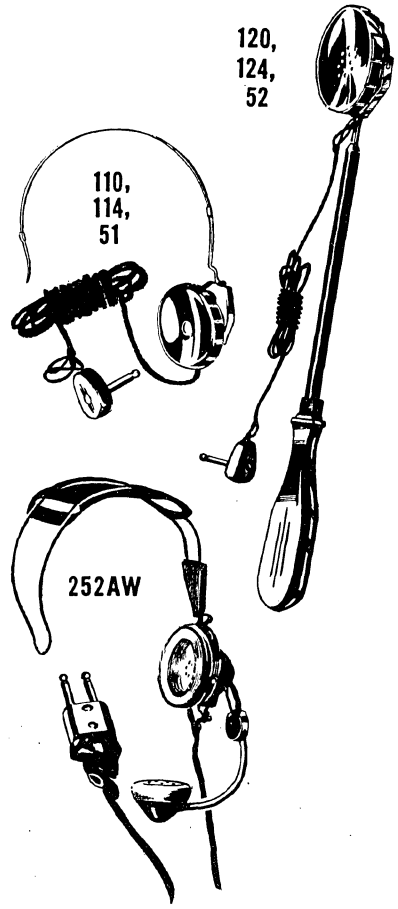
TRIMM INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

HEADSETS: GROUP AND INDIVIDUAL LISTENING, AUDIO KITS, STEREO



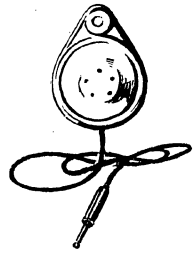
Telephone Operators Headset

A high quality transmitter/receiver unit commonly used in switchboard applications. Lightweight construction and complete adjustability assures wearing comfort and proper transmitter positioning.

RECEIVER	275 ohm impedance at 1000 cps.
TRANSMITTER	25 ohm impedance, carbon type. Frequency range—300 to 5000 cps.
PLUG	Standard twin 2 circuit plug, TRIMM No. 505

252AW List $77.75

"85" PILLOW PHONE



Sealed, waterproof ultra-thin disk for very local listening applications. Highly sensitive magnetic unit only 2" in diameter, 7/16" thick. Stainless steel face, pearl gray plastic shell. Replaceable vinyl tinsel cord with plug. Gray neoprene snap-on hanger ring, as shown: $0.50

With 514 plug		With 536 plug	
85-03 3.2 ohm	$11.30	**86-03** 3.2 ohm	$11.30
85-2M 2M ohm	11.30	**86-2M** 2M ohm	11.30

GROUP HEARING AID COMPONENTS—SINGLE EARPHONES

For installations where the listening requirements of many individuals must be served two basic types of earphones are used: the headband model for theatres and auditoriums and the hand held lorgnette for churches and mortuaries. Both Featherweight and "L" models are used. All have a 6 ft. waterproof mercerized cotton tinsel conductor cord. Standard impedances: 3.2, 8, 300, 1K and 2K ohms.

"L" Model (With 512 flat plug)

Headband		Lorgnette	
51-08	$12.00	**52-08**	$14.00
51-3	12.00	**52-3**	14.00
51-1K	12.50	**52-1K**	14.50

FEATHERWEIGHT (With pin tips)

Headband		Lorgnette	
110-03	$7.50	**120-03**	$10.50
110-3	7.50	**120-3**	10.50
110-1K	7.50	**120-1K**	10.50
110-2K	7.50	**120-2K**	10.50

FEATHERWEIGHT (With 512 flat plug)

114-03	$9.00	**124-03**	$12.00
114-3	9.00	**124-3**	12.00
114-1K	9.00	**124-1K**	12.00
114-2K	9.00	**124-2K**	12.00

VOLUME CONTROL AND OUTLET BOXES

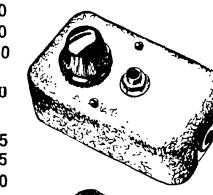
Formed metal boxes measuring 3¾" x 2⅛" x 1¼". All edges and corners are rounded. Available in Brown or Gray Hammertone and in Gloss Ivory.

Single Control — Single Jack Outlet Boxes

Resistance	Brown	Ivory	Gray	
1K	**460-1K**	**461-1K**	**462-1K**	$6.00
10K	**460-10K**	**461-10K**	**462-10K**	6.00
25K, 50K, 100K, 500K	Any of the above three types, these ohmages			$6.50
				6.50

Dual Control — Dual Jack Outlet Boxes

1K	**467-1K**	**469-1K**	$9.75
10K	**467-10K**	**469-10K**	9.75
25K	**467-25K**	**469-25K**	11.00



Dual Jacks — No Control

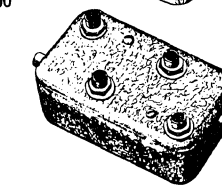
477	Brown	$4.00
478	Ivory	4.00

(With load resistor)

480	Brown	$5.00
481	Ivory	5.00
482	Gray	5.00

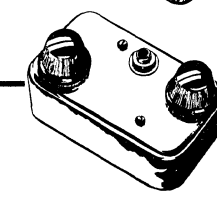
Single Jacks — No Control

484	Brown	$3.50
485	Ivory	3.50
486	Gray	3.50



Audio Junction Box — Four Jacks

490	Brown	$5.50
492	Gray	5.50



Headset Kits For TV and Radio

Provides a simple means of attaching headsets or extension speakers to TV or radio sets. Has remote on-off switch for loudspeaker, a volume control for the headset and two jacks for multiple listening. Complete kit includes headset or single earphone with plug, control box and 15 ft. of connecting cord.

Kit		
632	(Double ACME Headset)	$12.65
632-1	(Single ACME Headset)	10.70
632-2	(Two double ACME Headsets)	17.80
633	(Double DEPENDABLE Headset)	13.95
634	(Double FEATHERWEIGHT Headset)	21.50
635	(Single FEATHERWEIGHT Headset)	16.10
637	(Single PILLOW-PHONE)	18.80
631	(Control Box Only)	7.50
631-1	Control Box Only but with miniature jack	7.50
631-2	Control Box Only but with sub-miniature jack	7.50

STEREO CONTROL BOX

Designed for stereo headsets with No. 513/516 three circuit plugs. Has two volume controls of suitable value for independent volume adjustment of both channels.

464-1C Brown Hammertone $10.00

EAR CUSHIONS

For comfort, cleanliness and noise control. Formed of sponge rubber, solid rubber, sponge and solid rubber, or chamois. Prices, per pair, range from $1.60 to $16.95 list.

654	Sponge rubber, Military type MC-162. Fits all TRIMM headsets but Dependable and Army-Navy.	$1.60
660	Sponge rubber. Fits Dependable and Army-Navy.	$2.50

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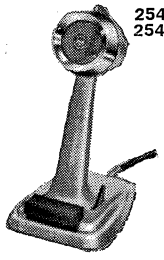
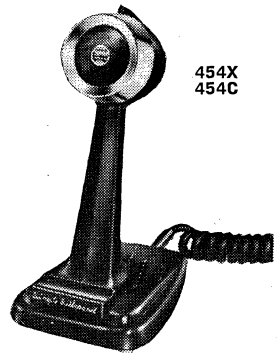
MICROPHONES BY TURNER

SUBSIDIARY OF CONRAC CORPORATION



254X
254C



454X
454C

COMMUNICATIONS AND CITIZENS BAND MICROPHONES BASE STATION

MODEL 254X — It features push-to-talk front touch bar and locking on-off lever switch. May be wired for relay operation or electronic switching. Deluxe light grey hammertone finish. Output level: −48 db for more clear signal strength. Response: 100-8000 cps. 7′ three-conductor (shielded) cable. Size is 7¾″ in height x 5½″ in depth. Net price.....**$17.40**

MODEL 254C — Same as 254X except with famous 21C ceramic interior. Output level: −54 db. Net price.....**$17.40**

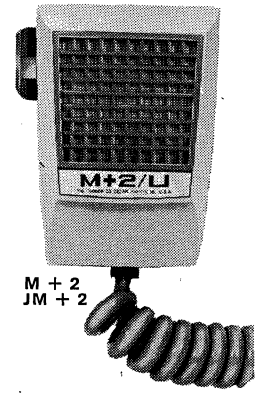
MODEL 454X — Designed for the voice range, it's extra hot. Output level: −48 db. Response: 300-3000 cps. Attractive telephone black finish. Your choice of VOX or PTT switch operation. Comes complete with 3-conductor (one shielded) coiled cord. Net price.....**$19.20**

MODEL 454C — Same as Model 454X except has ceramic interior. Output level: −52 db. Net price.....**$19.20**

MODEL +2

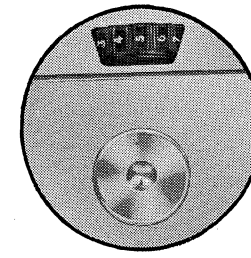
Revolutionary new microphone which allows manual control of output volume by a twist of a dial. Two transistor pre-amp built into the microphone for up to **50 times** the output level of conventional ceramic base station microphones. World's best and most popular base station microphone. Exclusive touch-to-talk or lock on-off switching with a frequency response of 300-3,500 cps. Self contained 9 volt battery included. Net price..**$33.00**

+ 2



M + 2
JM + 2

REAR VIEW



VOLUME CONTROL

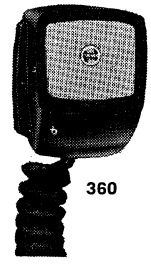
MODEL M +2/U

Mobile companion to the +2 Model. 10 position output level control. Two transistor built-in pre-amp. Wired for relay switching. Net price.....**$23.70**

MODEL JM +2/U

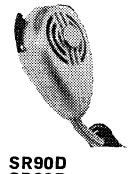
Same as M +2 except wired for sets that use electronic switching. Net Price....**$23.70**

350C
+350C



360

355C



SR90D
SR90R

MOBILE

Model 360 is a small mobile type communications microphone, ceramic type designed to reduce size and weight to a minimum. Looks very good with the new small solid state sets. Also recommended for use with portable P.A. applications. Rugged cycolac case and heavy duty coiled cord. Response is 300-3000 cps; output level −54 db. Wired for relay switching. **Model J-360** is the same as Model 360 except wired for sets that use electronic switching.

MODEL 360, Net.....**$9.00**
MODEL J-360, Net.....**$9.00**

MODEL 360Lo — A new low impedance ceramic mike for the new solid state transistorized sets like III, 323 etc.....**$9.90**

MODEL 350C — Most used as original equipment. This low-cost ceramic microphone with on-off switch is familiar to most mobile radio operators. More 350C microphones are used as original equipment on citizens band and marine transceivers than any other microphone. Extra-tough cycolac case. Rugged ceramic interior allows you to use the 350C in any climate. Complete with hanger button and standard dash bracket for easy mounting. Ideal for citizens band, amateur use, mobile rigs and paging. Wired for relay operation. Response: 80-7000 cps. Output level: −54 db. Net price.....**$9.00**

Model +350 — Is a transistorized dynamic mobile microphone in a dark gray 350 style case. It's an ideal replacement microphone for many sets using carbon microphones and will improve the intelligibility of your signal and provide consistent modulation. Silicon transistors are used for maximum dependability. Complete instructions are included. Response: 300-500 cps; Output level: −40 db at 12 v dc using 600 ohm load; Coiled cord: 3 conductor (1 shielded), Model +350. Net price.....**$20.58**

MODEL 355C — Inexpensive mobile microphone with grip-to-talk switch. More comfortable to hold — more comfortable to use. The 355C features an output level of −50 db. It's extra hot for a high gain signal. Response: 80-7000 cps. Net price.....**$9.00**

MODEL SR90D — The Model SR90D (pressure operated dynamic) features a slender die cast zinc alloy case with the Turner exclusive front hanger button. (Satin chrome finish.) Dynamic models are available in two impedances, hi or 200 ohms. Relay switching is standard. Three-conductor (one shielded) 11″ retracted, 5′ extended coiled cord on hi impedance models and 4-conductor (two shielded) on 200 ohm units. Output level: −52 db. at hi impedance. Response: 200-10,000 cps. Net price.....**$25.50**

MODEL SR90R — Is equipped with a high quality telephone type carbon interior to give you maximum voltage output and high intelligibility as well. Same general appearance and features as Model SR90D. Output level: −40 db. Response: 200-4000 cps. Choose the Model SR90R wherever maximum output with a minimum of distortion is specified . . . taxicabs, police, etc. Net price.....**$19.20**

CUSTOM INTERIORS

Turner has complete facilities for designing and manufacturing all kinds of special application microphone interiors, soft speakers for dictating machines, anything you need. Write for full information on this service.

Net

© U.C.P., Inc.

MICROPHONES BY TURNER

SUBSIDIARY OF CONRAC CORPORATION

CARDIOID MICROPHONES

MODEL 500 — An outstanding cardioid dynamic microphone featuring combination Hi or 50/250 ohms impedance, satin chrome finish with 20 ft. cable. Model 500 units are interchangeable in any system, with no testing for possible variations in frequency response or front-to-back ratio necessary. The 500 is a highly sensitive unit, with smooth, uniform response from 40 to 15,000 cps. and excellent front-to-back ratio of 20-25 db.

Model 500	Net price	**$54.00**
Model S-500 (with off-on switch)	Net price	**$56.40**
Model 500G	Net price	**$63.00**
Model S-500G	Net price	**$66.00**

MODEL 505 — Similar to Model 500, but with the acoustical advantages of a bass response control. In the "normal" position, response is 40-15,000 cps.; in the "less bass" position, 100-15,000 cps. Specifically recommended for auditorium work and recording. Net price..... **$66.00**

MODEL 600 — The econoline model which sets new quality standards for popularly priced cardioid units. Easy to hold or use, either by hand or with stand, and made from 100% American-made parts. 6" in length, with on-off switch, 12 ft. cable, and 50-15,000 frequency response. (For low impedance specify Model 602.)

Model 600 Net price..... **$35.70**

Model 700 — The style and sound standard, professionally reengineered at no increase in price! A four-pin female connector has been added to the tail of the microphone, thus a removable cable. Now in the top quality class. Hi-low impedance combination, unidirectional cardioid dynamic, pop-blast filter, quality "dynaflex" interior, 70-15,000 high impedance response, output level −55 db, typically 20 to 25 db discrimination over the entire frequency range, built-in broadcast wind screen, satin chrome finish, on-off switch, 20-foot cable.

Model 701 — Is high impedance only with a high quality P.A. or recording interior, on-off switch and removable cable. The response is 100-13,000 cps with output level of −56 db. Complete with built-in pop-blast filter. Ask for the 700 model which fits your needs best. They're rugged and dependable. You'll be proud to ow none.

Model 700 Net..... **$55.20**

Model 701 Net..... **$37.20**

MODEL 777 — Quality cardioid performance with maximum noise rejection. Rolled-off bass response permits very close-to-mouth use, and new rotary on-off switch can be clearly seen even in dim light. Rugged all metal die cast case, satin chrome plated, allows hand or stand use night after night, and full fidelity assures faithful voice or music reproduction. Low impedance only. Net price..... **$66.00**

MODEL 510 — Broadcast cardioid dynamic with 40-15,000 cps. frequency response. Combination 50 or 200 ohms impedance selected at the free end of the cable. Professional broadcast blue finish. 20 ft. cable supplied. Connector is cannon XLR-4-11C. Cardioid discrimination is typically 25 db over the entire range. Furnished complete with stand adapter and matching shock-mounted desk stand. Net price..... **$90.00**

GENERAL PURPOSE AND PUBLIC ADDRESS MICROPHONES

MODEL 33D — Dynamic type. Excellent for paging, communications, announcing, P.A. use, ham radio. Satin chrome finish, 90 degree swivel coupler, supplied with 20' cable. Response: 100-9000 cps. Output level: −54 db. Impedance: 200 ohms or high. Net price..... **$27.00**

Model 2800 — Hi impedance dynamic tape recorder mike with desk stand/Lavalier 12 foot cable with plug. 40-15,000, high impedance response, output level: −63 db. Modern styling for console, desk and cassette recorders. Net price..... **$11.76**

Model 35 — One of the smallest Hi quality lavalier microphones in the public address field. Only ¾" dia x 3" in length. Combination Hi-Low Impedance. 25 foot cable. 70-10,000 Hz response, output level of −63 db. works with any amplifier. Beautiful champagne finish. Net price..... **$39.00**

Model 35A — Broadcast Lavalier. Only 2½" in length. 150 ohm only. 25 foot cable. 60-12,000 Hz response. Net price..... **$45.00**

MODEL +50 — Designed for paging applications where long lines between microphone and amplifier are necessary. Remote volume control on the microphone permits instant level adjustment. Dual output impedance. Your choice of 150 or 600 ohms. Die cast satin chrome case contains two stage silicon transistor amplifier and relay switch to control mute on background music amplifiers. Frequency response of 60-10,000 cps., with distortion of less than 1%. Self-contained 9 volt battery. Net price..... **$45.00**

MODEL P9D — This handy dynamic hand-held or stand microphone is well suited for paging, P.A., amateur and mobile use. Extremely rugged, heavy case. Push-to-talk switch. High or 200 ohms (specify when ordering). 7' cable supplied. Amphenol MC1M (MC2M on 200 ohms) connector in microphone. Output level: −52 db. Dimensions: 2½" x 5" in length x 1¾" in depth. Shipping weight: 2 lbs. Net price..... **$29.40**

MODEL 250 — A dynamic microphone ideal for dispatch, paging, P.A., control tower and amateur use. Wired to operate both relay and mike circuits at a touch. Features on-off push-to-talk and lock switch. Also features Turner's "lift-switch." Response from 60 to 10,000 cps. Output level: −52 db. Complete with single unit satin chrome case and 20 ft. three-conductor (one shielded) cable. Net price..... **$36.00**

MODEL 251 — The Model 251 is the industrial and commercial sound contractors' favorite in the 250 family. Rugged-one piece die-cast case (no other accessories needed), gleaming satin chrome finish — three-way switching and 150 ohm impedance all add up to the paging microphone of the commercial sound industry. Why fuss with grip-to-talk devices when it's so easy to touch the 251's front bar or just simply pick it up? Convenient lock on-off switch, too. Airports, clubs, high schools, reception desks, dining rooms, are all favorite installations of 251 convenience. Comes wired for relay operation, too, with 20' four-conductor (two shielded) cable. Response: 70-10,000 cps. Output level: −52 db. Size is 7¾" high x 5½" in depth. Shipping weight: 4 lbs. Net Price **$36.00**

MODEL 304C — Provides four-in-one versatility to perform as a P.A. or home recording microphone. Accessories include desk stand, lavalier clip and string, and stand adapter. Response: 60-10,000 cps. Output level: −60 db. Net Price **$9.90**

MODEL SR-585D — Dynamic microphone with push-to-talk switch. Designed for fixed mounted applications, this microphone is ideal for grocery call stations, switchboards, paging, dispatching, etc. The switch is line-shorting and is designed to actuate a relay. The switch is a six-terminal slide switch which allows the user to wire anything from DPDT to SPST. The microphone is in a die cast satin chrome housing on a 16" flexarm with a 3 hole mounting flange attached. Impedance is 150 ohms. The cable extends 4' from the base of the mounting flange and is 4-conductor (two shielded). Response from 70 to 12,000 cps. Output level: −58 db. Overall length: 22". Shipping weight: 3 lbs. Net Price **$26.10**

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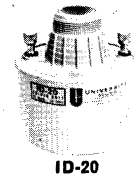
Drivers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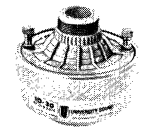
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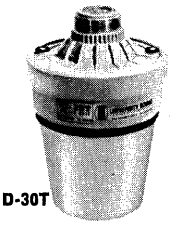
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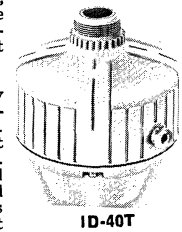
ID-40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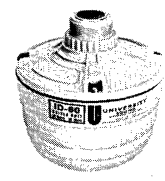
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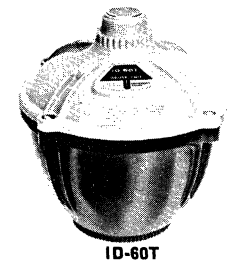
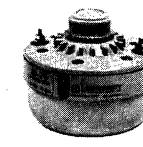

ID-60T


ID-75

MODEL ID-20 (20 watts) For speech and music systems requiring moderate sound power. Designed to deliver maximum output, the ID-20 is highly efficient, produces a clear, penetrating and distortion-free sound.

MODEL ID-30/ID-30T (30 watts) Exceptional for installations requiring single medium power units or multiple driver/horn combinations. These high quality drivers produce musical balance and speech penetration with a performance superior to higher cost competitive models. Tropicalized voice coil, completely weatherproof. Model ID-30T has a built-in line matching transformer tapped for impedances of 167/335/-500/1000/2000/4000 ohms and 25 and 70 volt power taps at 30/20/10/5/2.5 watts.

MODEL ID-40/ID-40T (40 watts) Extended range, high quality and excellent efficiency produce an essentially uniform response and natural quality of speech and music reproduction. Moderately high power for penetrating through high ambient noise levels. Tropicalized voice coil and fully weatherproofed. Model ID-40T has a built-in line matching transformer tapped for impedances of 45/122/250/500/1000/2000 ohms and 25 and 70 volt power taps at 40/20/10/5/2.5 watts. ID-40T housing is rugged, die-cast aluminum with dural gland nut water tight cable entrance.

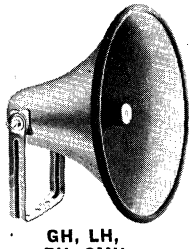
MODEL ID-60/ID-60T (60 watts) A premium high power compression driver. Wide range response, high efficiency and high quality construction for natural speech and music reproduction with maximum penetration in high noise areas. Rugged, weatherproof housing for trouble-free performance in any environmental application. Model ID-60T has high impact cycolac outer case and built-in line matching transformer tapped for impedances of 16/80/165/500/1000/2000 ohms and 25 and 70 volt power taps at 60/30/20/10/5/2.5 watts.

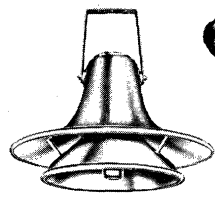
MODEL ID-75 (75 watts) New, higher power in a compact case. Ideal for both Public Address and electronic siren applications. Peak efficiency, super power for effective penetration into exceptionally high noise areas.

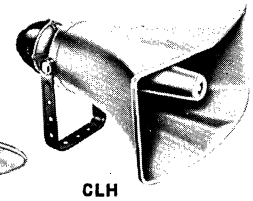
DRIVER MODEL	FREQUENCY RESPONSE	POWER RATING	VOICE COIL IMPEDANCE	DIMENSIONS (Overall)	SHIP. WT.	NET PRICE
ID-20	120-6500 Hz	20 watts	16 ohms	3½" dia. 3¾" d.	2½ lbs.	16.50
ID-30	85-7500 Hz	30 watts	16 ohms	4⅛" dia. 3¾" d.	3 lbs.	19.50
ID-30T	85-7500 Hz	30 watts	variable*	4⅛" dia. 6" d.	4 lbs.	28.87
ID-40	80-12000 Hz	40 watts	16 ohms	4½" dia. 4⅞" d.	4¼ lbs.	24.90
ID-40T	80-12000 Hz	40 watts	variable*	5" dia. 6¼" d.	5¼ lbs.	33.60
ID-60	70-12000 Hz	60 watts	16 ohms	4-11/16" dia. 5" d.	5¾ lbs.	34.50
ID-60T	70-12000 Hz	60 watts	variable*	6¾" dia. 6¾" d.	6¾ lbs.	42.54
ID-75*	150-7000 Hz	75 watts	16 ohms	4¼" dia. 3¾" d.	5 lbs.	35.40

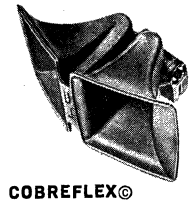
*Also available in 8 ohms order as model ID-75-8.

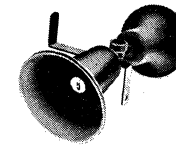
Trumpets


GH, LH, PH, SMH


RLH, RPH, RSH


CLH


COBREFLEX©


2 WP

SH

DIRECTIONAL MODELS GH, LH, PH, SMH For maximum noise penetration and distance of projected sound. Reflex design for highest conversion efficiency. Fully weatherproof, baked finish.

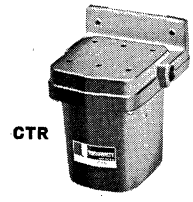
RADIAL MODELS RLH, RPH, RSH For uniform 360° overhead dispersion in high ceiling installations. Rugged construction, baked finish.

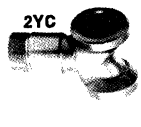
WIDE ANGLE COBREFLEX Patented twin folded exponential horns with two air columns in a single assembly. High efficiency and smooth radiation pattern. Can be used in cluster arrays. Rugged, fully weatherproof.

WIDE ANGLE MODEL CLH Patented design and construction. Wide angle bell and long air column for maximum low frequency response. Omnidirectional bracket for vertical and horizontal rotation to eliminate feedback and overshoot "dead spots". Can be used in cluster arrays. Rugged fiberglass horn.

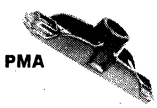
HORN MODEL	LOW FREQUENCY CUT-OFF	SOUND DISTRIBUTION	AIR COLUMN LENGTH	DIMENSIONS (Overall) LENGTH	DIMENSIONS (Overall) BELL	SHIP. WT.	Net Price
GH	85 Hz	65°	6½ ft.	28"	31"	22 lbs.	55.77
LH	120 Hz	75°	4½ ft.	19"	25¾"	16½ lbs.	35.88
PH	150 Hz	85°	3½ ft.	15¾"	20⅜"	11¾ lbs.	26.14
SMH	200 Hz	95°	2½ ft.	12"	16¼"	8¼ lbs.	21.60
RLH	120 Hz	360°	5 ft.	18½"	28⅛"	25 lbs.	48.60
RPH	140 Hz	360°	4 ft.	13¾"	25⅛"	19 lbs.	37.26
RSH	180 Hz	360°	3 ft.	11"	19"	13 lbs.	34.98
COBREFLEX	200 Hz	120°x60°	2½ ft.	10¼"	18½"x9¼"	10¼ lbs.	27.60
CLH	120 Hz	120°x60°	4½ ft.	20"	21½"x11½"	13¼ lbs.	33.00
SH	350 Hz	100°	1½ ft.	7"	8¾"	2¾ lbs.	21.60
2WP	350 Hz	120° each horn	1½ ft.	20½"	8½"	4½ lbs.	21.60

Accessories


CTR


2YC

WEA


PMA

RTA

5433

PMA ADAPTER Fits standard ½' dia. threaded pipe to any University "U" mounting bracket—for special applications requiring pipe mounting. Net $2.97

RTA ADAPTER Fits University trumpets to Western Electric and RCA drivers having 1 7/16—16 threads. Shpg. wt., ½ lb. Net $2.40

WEA ADAPTER Fits University drivers to Western Electric and RCA trumpets having 1 7/16—16 threads, Shpg. wt., ½ lb. Net $1.89

MODEL 5433 TRANSFORMER 30 watt capacity. Use with ID-20, ID-30 or to feed a number of smaller paging speakers. Primary impedance: 45/165/200/250/500/1000/2000 ohms. Secondary impedance: 4/8/16 ohms. 70 v. line power taps: 30/25/20/10/5/2.5 watts. Dimensions: 1 15/16" x 2 5/16" x 1¾". Mtg. hole centers: 2⅜". Shpg wt., 1 lb. Net $5.46

MODEL CTR TRANSFORMER/JUNCTION HOUSING Die cast aluminum. Weatherproof. Houses models 5433, 5434, or other transformers up to 2⅜" x 2⅞" x 2⅞". Adjustable slotted adapter mounts transformer with centers 1½" to 2⅞". Junction box for speaker lines. Bar strap for mounting to "U" brackets. Screws to wall. Also holds University paging speakers. Shpg. wt., 1½ lbs. Net $6.27

2YC CONNECTOR Allows use of two driver units on a single radial, directional, or wide-angle trumpet. Shpg. wt., 1 lb. Net $8.97

Net

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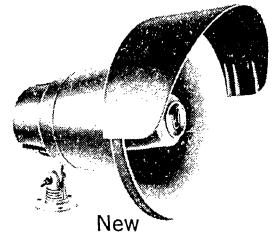
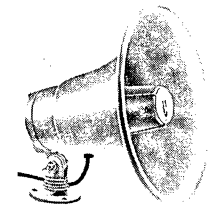
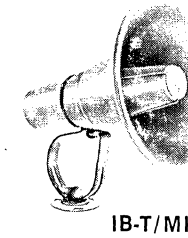
Paging/Talk-Back Speakers

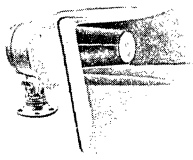
DLC

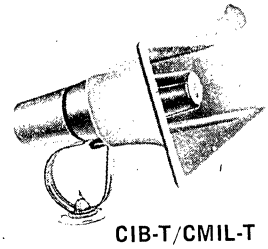
DLCT

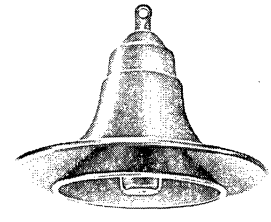

New
UH/UHT

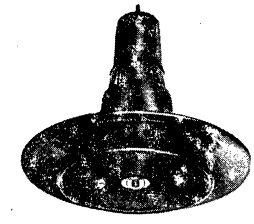

IB-A/MIL-A


IB-T/MIL-T


CIB-A/ CMIL-A


CIB-T/CMIL-T


IBR-A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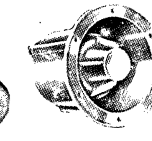
MIS

MODEL	FREQUENCY RESPONSE	POWER RATING (1)	IMPEDANCE (VOICE COIL)	DISPERSION	SOUND PRESSURE LEVEL (6)	SENSITIVITY AS MICRO (7)	DIMENSIONS (8)	SHIPPING WEIGHT	NET PRICE
DLC-8	400-10,000 Hz	7½ w.	8 ohms	120°	104 dB	-30 DBM	5⅞" dia. x 4" d. (A)	1¾ lbs.	10.77
DLC-45			45 ohms						10.77
DLC-T			8 ohms (2)				5⅞" dia. x 6⅛" d (A)	2⅔ lbs.	15.14
UH-8	220-16,000 Hz	32 w.	8 ohms	120° (9)	126 dB	-26 DBM	10½" dia. x 10⅞" d. (P) (10)	5 lbs.	23.50
UH-45			45 ohms					5 lbs.	23.97
UHT			8 ohms (3)					5¾ lbs.	33.90
IB-A4	250-13,000 Hz	30 w.	4 ohms	105°	126 dB	-20 DBM	10¼" dia. x 9" d. (A)	4½ lbs.	25.29
IB-A8			8 ohms						22.95
IB-A45			45 ohms						25.29
IB-T			8 ohms (4)				10¼" dia. x 11 7/16" d. (A)	5¼ lbs.	29.85
CIB-A4	250-13,000 Hz	30 w.	4 ohms	120°x60°	126 dB	-22 DBM	14" w. x 7⅜" h. x 12" d. (A)	6 lbs.	30.36
CIB-A8			8 ohms						27.60
CIB-A45			45 ohms						30.36
CIB-T			8 ohms (4)				14" w. x 7⅜" h. x 14½" d. (P)	6¾ lbs.	33.60
MIL-A4	350-13,000 Hz	10 w.	4 ohms	120°	119 dB	-23 DBM	7 13/16" dia. x 6⅞ d. (A)	3¼ lbs.	20.64
MIL-A8			8 ohms						18.75
MIL-A45			45 ohms						20.64
MIL-T			8 ohms (5)				7 13/16" dia. x 9 13/16" d. (A)	4 lbs.	27.95
CMIL-A4	350-13,000 Hz	10 w.	4 ohms	120°x60°	119 dB	-26 DBM	9½" w. x 6¼" h. x 8½" d. (P)	4 lbs.	23.41
CMIL-A8			8 ohms						21.26
CMIL-A45			45 ohms						23.41
CMIL-T			8 ohms (5)				9½" w. x 6¼" h. x 10 7/16" d. (P)	4¾ lbs.	29.70
IBR-A4	300-10,000 Hz	30 w.	4 ohms	360°	120 dB	-28 DBM	13" dia. x 10¼" d. (A)	5½ lbs.	34.32
IBR-A8			8 ohms						31.20
IBR-A45			45 ohms						34.32
IBR-T			8 ohms (4)				13" dia. x 12 11/16" d. (A)	6¼ lbs.	39.44
MIS-4	50-13,000 Hz	7½ w.	4 ohms	150°	117 dB	-22 DBM	5½" o.d., 4 7/16" d. (P) 6 Holds on 4⅞" mtg. dia.	2½ lbs.	22.77
MIS-8			8 ohms						20.70
MIS-45			45 ohms						22.77

1) Capacity in watts IPM (Music Power).

2) Voice coil impedance 8 ohms. Integral transformer terminals are labeled in wattage consumed and impedance on 70.7 and 25 volt constant voltage lines. Taps: 7.5/5/2.5/1.25/.65 watts.

3) Voice coil impedance 8 ohms. Integral switch selected transformer is labeled in wattage consumed and impedance on 70.7 and 25 V. "constant voltage" lines. Wattage taps: 32/15/10/5/-1.25 W. Transformer Impedances (70.7 V.): 161/335/500/1000/2000/-4000 ohms.

4) Voice coil impedance 8 hms. Integral transformer terminals are labeled in wattage consumed and impedance on 70.7 and 25 v. "constant voltage" lines. Wattage Taps: 30/15/10/5/2.5/1.25 w. Transformer Impedances: 167/335/500/1000/2000/4000 ohms.

5) Voice Coil impedance 8 ohms. Integral transformer terminals are labeled in wattage consumed and impedance on 70.7 and 25 v. "constant voltage" lines. Wattage Taps: 10/7.5/5/2.5/1.25/.65 Transformer Impedances: 500/667/1000/2000/4000/8000 ohms.

6) SPL reading taken 4 ft. on axis with "Full-Range" power input. Reduce by 6 dB each time distance is doubled. Reduce by 3 dB if power input is halved; increase by 3dB when power input is doubled.

7) DBM re 10 dynes/cm^2.

8) An (A) after a dimension indicates a horn of spun aluminum with baked-on acrylic paint. A (P) after a dimension indicates a horn of color-impregnated high-impact plastic.

9) Dispersion in all planes without unique Sound Deflector. With Adjustable Deflector, dispersion may be adjusted to suit environment.

10) Dimensions are without Sound Deflector. With Deflector, add ¼" to diameter and 4-1/16" to length.

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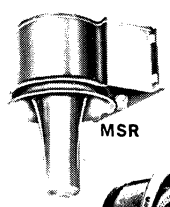
Special Purpose Loudspeakers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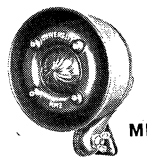
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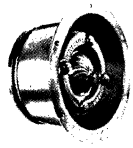
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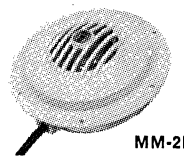
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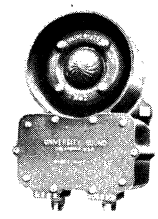
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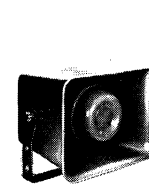
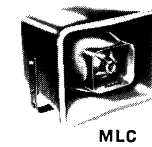
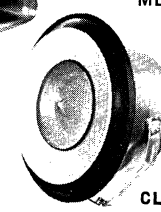
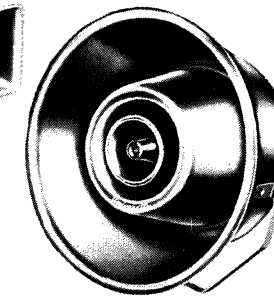

New ELC


MLC


CLC


WLC

	Frequency Response	Power Rating (1)	Impedance (2)	Dispersion	Sound Pressure Level (3)	Dimensions	Shipping Weight	Net Price
ES-75	400-7,000 Hz	75 watts	16 ohms	90°	126 dB	9½" h. x 8¾" w. x 10" l.	9 lb.	58.70
MSR	250-10,000 Hz	25 watts	16 ohms	360°	114 dB	10¾" h. x 6 7/16" w. x 8¼" d.	10¼ lb.	59.07
MSR-T			16 ohms (4)				11¼ lb.	67.81
MM-2	350-10,000 Hz	25 watts	16 ohms	150°	117 dB	6" dia. x 5" d.	5¼ lb.	37.29
MM-2F						7¼" dia. x 3¾" d.		38.48
MM-2TC	350-10,000 Hz	25 watts	16 ohms	120°	117 dB	10" h. x 6 7/16" w. x 4 7/16" d.	8¾ lb.	56.38
MM-2TC-T			16 ohms (4)				9¾ lbs.	64.26
MM-2PPS	100-10,000 Hz	25 watts	16 ohms			7 3/16" dia. x 3⅝" d.	5¼ lb.	46.50
MLC	150-15,000 Hz	15 watts	8 ohms	120°	117 dB	12¾" x 9⅛" x 10⅝"	10 lb.	39.95
CLC	55-14,000 Hz	30 watts	8 ohms	120°	118 dB	22¾" dia. x 12¾" d.	23 lb.	65.67
WLC	50-15,000 Hz	50 watts	8 ohms	90°	120 dB	33½" dia. x 20" d.	68 lb.	185.80
ELC	150-11,500 Hz	15 watts	8 ohms	120°	114 dB	12¾" x 9⅛" x 10⅝"	9 lb.	32.95

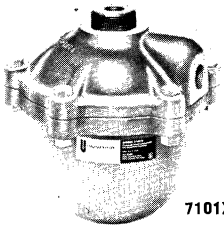
1) Capacity in watts IPM (Music Power).

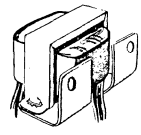
2) Voice coil impedance.

3) SPL reading taken 4 ft. on axis with "Full-Range" power input. Reduce by 6 dB each time distance is doubled. Reduce by 3dB if power input is halved; increase by 3dB when power input is doubled.

4) Matching transformer primary impedances: 45/165/200/250/500/1000/2000 ohms.

EXPLOSION PROOF DRIVERS


7101X


5436B

7101X, 7102X, 7105X are UL approved explosion-proof drivers, for use in 100%-safe systems where flammable liquids, gases, dust, etc., are present. The 7105X is approved for use in hydrogen-air atmospheres. In compliance with Government safety regulations, these units have provisions for mounting a line-matching transformer (optional*). 7101X is approved for Class I, Groups C & D. 7102X is approved for the same, plus Class II, Groups E, F & G. 7105X is approved for Class I, Groups B, C & D and Class II, Groups E, F & G. All units have 16 ohm voice coils. Frequency response is to 12,000 Hz and power capacity is 65 watts. Dimensions are 7⅞" in dia., 7⅜" long. Shipping weight is 14 lb.
These UNIVERSITY explosion-proof drivers may be used with any UNIVERSITY trumpet, but are most often used and recommended for use with the UNIVERSITY SOUND Models PH, SMH and Cobreflex.
* University Model 5436B 65 watt transformer kit is complete with transformer, mounting bracket and hardware for installation inside the explosion-proof driver housing. Prices:

Model 7101X $77.26; Model 7102X $84.15; Model 7105X $130.80; Model 5436 B $15.42.

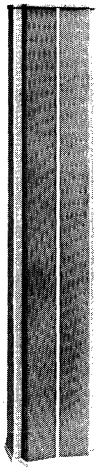
Slim profile 3-way high fidelity speaker

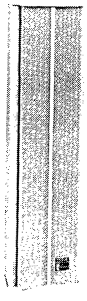
8M2C

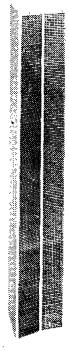
8M2CT

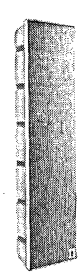
MODEL 8M2C 3-WAY SPEAKER A slim profile multi-speaker for public address and commercial sound applications. High quality, high efficiency performance for background music. Response to 50-20,000 Hz. Handles 15 watts of IPM. Model 8M2CT has built-in line matching transformer for 25 and 70 volt lines, tapped for 15/10/5/2.5/-1.25/.65 watts. Only 3" deep. Net $12.60
MODEL 8M2CT Same as 8M2C with transformer Net $14.97

UNILINE(TM) SOUND COLUMNS


CSO-6


CSO-4


CS-3


CS-2

Model	CS-2	CS-3	CSO-4	CSO-6
Speakers	6 wide-range 5"	6-4"x6" Plus 2 Tweeters	2-8" plus 2-8" Dual Cone	4-8" plus 2-8" Dual Cone
Frequency Range	175-12,000 Hz	150-10,000 Hz	70-17,000 Hz	65-14,000 Hz
Power Capacity	30 watts IPM**	25 watts IPM	75 watts IMP	120 watts IPM
Impedance	8 ohms	16 ohms	8 ohms	16 ohms
S.P.L.*	102dB	107dB	114dB	117dB
Dispersion Vertical	25°	20°	18°	16°
Dispersion Horizontal	165°	120°	120°	120°
Dimensions	31"x5"x5½"	7½"x8¾"x47⅞"	11⅞"x7¾"x41⅜"	11⅞"x7¾"x60¼"
Shipping Weight	14 lb.	33 lb.	40 lb.	63 lb.
Net Price	59.70	95.08	149.40	207.00

*10 ft. on axis, re .0002 dynes/cm², at rated power

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UNIVERSITY® SOUND
A DIVISION OF LTV LING ALTEC, INC

High Fidelity Component Speakers

SERIES 200 Wide-Range High Compliance Models

Model	Frequency Response (Hz)	Power Capacity (Watts IPM**)	Imp. (Ohms)*	Dimensions (Dia.-Depth)	Shipping Wt. (Pounds)	Net Price
315-C	25-20,000	50	8-16	15¼"x12"	34½	$179.50
312	28-40,000	35	8-16	13"x6⅝"	10¼	$ 84.50
8201	28-18,500	35	8-16	13"x6⅝"	10¼	69.50
Diff-12	25-15,000	35	8-16	13"x6⅝"	9	42.50
308	30-17,000	35	8-16	9⅜"x6⅛"	7½	47.50
Diff-8	30-15,000	35	8-16	9⅜"x4 5/16"	5	32.50
1212	35-30,000	30	8	13"x8 5/16"	10	59.95
M-15T	30-20,000	35	8	15½"x7"	17	69.95
M-12T	35-40,000	30	8-16	12 15/16"x3⅞"	9	39.50
M-12D	35-15,000	30	8-16	12 15/16"x3⅝"	7½	27.95
M-12	35-12,000	30	8-16	12 15/16"x3⅝"	7½	21.50
M-8D	50-15,000	30	8-16	8¼"x2½"	5½	22.80
M-8	50-12,000	30	8-16	8¼"x2½"	5½	17.00
MS	3000-40,000	30	8-16	3⅛"x3-1/16"	1½	18.75

*May be used with amplifiers with output impedance of 8 or 16 ohms.

**Integrated Program Material.

WOOFERS, MID-RANGE and TWEETERS

Dual Voice Coil Woofers — High Compliance Models

Model	Frequency Response (Hz)	Power Capacity (Watts IPM)*	Impedance (Ohms)**	Dimensions (Dia.-Depth)	Shipping Wt. (Pounds)	Net Price
C-15HC	15-800	60	4-20**	15"x8⅛"	24¾	$95.00
C-12HC	20-3,000	50	4-20**	13"x6⅞"	13¾	54.00
High Efficiency Models						
C-15W	25-1,500	50	4-20**	15⅜"x10½"	27	99.50
C-12SW†	30-6,000	30	8-16	13"x6¾"	8¾	43.20

*Integrated Program Material

**Impedance Range Depending on Strapping of Voice Coils.

†Equipped with Built-in Crossover Network for 5,000, 2500, and 700 Hz Crossover

Mid-Range Speakers, Horns and Drivers

C-8M Cone Speaker	500-5,000	50	8	8¼" Dia. x 4" Depth	3	$ 18.20
Cobreflex Horn	200 Hz cutoff			10¼" L. x 18½" W. x 9¼" D.	10¼	27.60
H-600 Horn	600 Hz cutoff			7¾ L. x 8¾" W. x 4¾" D.	1¾	23.80
T-30 Driver*	350-18,000	50	8	3½" Dia. x 3¾" Depth	2¼	33.40
T-50 Driver*	350-20,000	50	8	4¼" Dia. x 4⅛" Depth	5¼	53.20

*For use with Cobreflex and H-600 horns.

Tweeters

Model	Frequency Response (Hz)	Power Capacity (Watts IPM)*	Impedance (Ohms)**	Dimensions (Dia.-Depth)	Shipping Wt. (Pounds)	Net Price
T-202 Sphericon	3,000-40,000	30	4-16	4⅝" Dia. x 4" D.	2½	$ 27.00
T-203E & W††	3,000-40,000	30	4-16	6¾" L. x 5¼" W. x 2¾" D.	2¾	27.00
HF-206	3,500-22,000	50	8	6" L. x 3⅜" W. x 6⅝" D.	3½	39.50
4401	2,000-15,000	50	8	6" L. x 2¾" W. x 6⅜" D.	2¼	22.50
UXT-5	4,500-17,500	50	8	4¼" L. x 2½" W. x 4" D.	2¼	29.50

††Models T-203 E & W equipped with case for use outside of enclosure; available in ebony and walnut. Both equipped with built-in crossover network and brilliance control. For use with amplifiers having 4-8-16 ohm outputs.

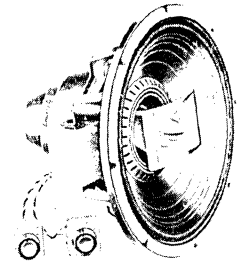
Crossover Network and Attenuaters

Model	Crossover Frequencies (Hz)	Impedance (Ohms)	Dimensions (L.xW.xD.)	Shipping Wt. (Pounds)	Net Price
N-1*	1250, 2500, 5000, 10000	4-8-16	3⅝"x3¼"x3"	2	$ 15.00
N-2A	350, 700	4-8-16	3⅝"x3¼"x3"	2½	20.40
N-2B	1250, 2500, 5000	4-8-16	3⅝"x3¼"x3"	2½	15.00
N-3*	350, 700, 5000	8	7"x5"x3"	5¼	34.60
AP-8	L pad for presence and brilliance controls.				4.20

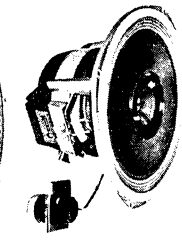
*Model N-1 equipped with built-in brilliance control. N-3 equipped with built-in brilliance and presence controls.

Wide-Range High Compliance Models

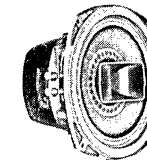
University Series 200 component speakers represent the ultimate in quality. Their high power-handling capacity and rugged die-cast baskets and molded seamless cones assures long-life adherance to original performance standards. These speakers are designed for use in any pre-finished or custom built enclosure. Where baffle mounting space is at a premium and high quality music reproduction is desired, Series 200 University component speakers are the logical choice for the discriminating music lover or audiophile.



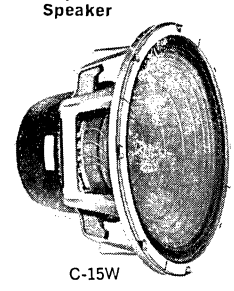
MODEL 315-C
Super 15" 3-Way Diffaxial Speaker



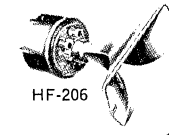
MODEL 312
12" 3-Way Diffaxial Speaker



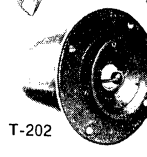
MODEL 308
8" 3-Way Diffaxial Speaker



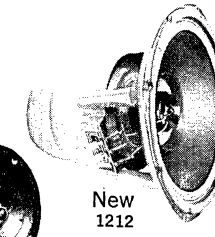
C-15W



HF-206



T-202

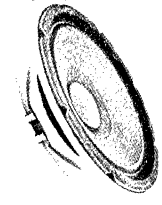


New 1212

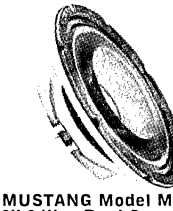
University MUSTANG Series
Thin-Line High Fidelity Component Speakers

These speakers utilize the latest engineering developments. The Mustangs use strong die-cast baskets and molded seamless cones to assure long life and adherence to original performance. Mustangs are ideal for in-wall mounting for background music systems and home high fidelity installations. For quality sound at an economical price where space is at a premium, choose a Mustang.

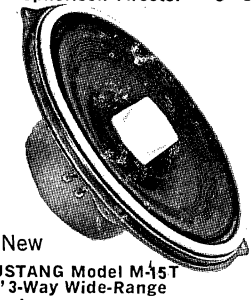
MUSTANG MS
Sphericon Tweeter



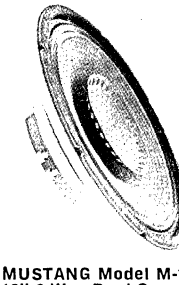
MUSTANG Model M-8
8" Speaker



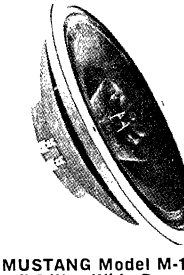
MUSTANG Model M-8D
8" 2-Way Dual-Cone Speaker



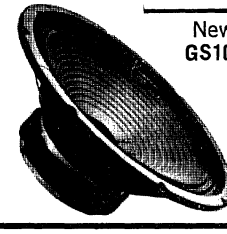
New
MUSTANG Model M-15T
15" 3-Way Wide-Range Speaker



MUSTANG Model M-12D
12" 2-Way Dual-Cone Speaker



MUSTANG Model M-12T
12" 3-Way Wide-Range Speaker



New
GS100

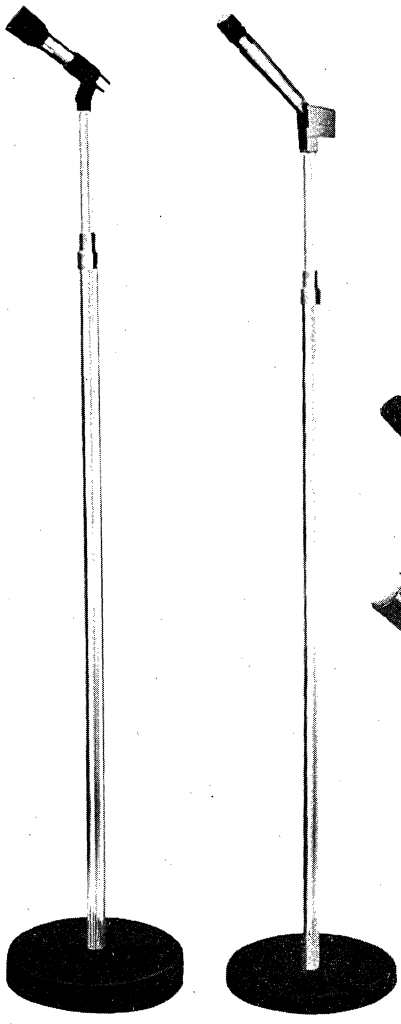
The exciting GS-100 is the world's first 100 Watt RMS power handling capacity musical instrument speaker. Utilizing a massive 8½ pound magnet structure, plus special construction materials and techniques, the 12" eight ohm GS-100 is capable of handling all of the power that today's instrumentalists are capable of putting out. Mounting from the front or rear of the baffle, the GS-100 is a direct replacement for any Standard 12" speaker.

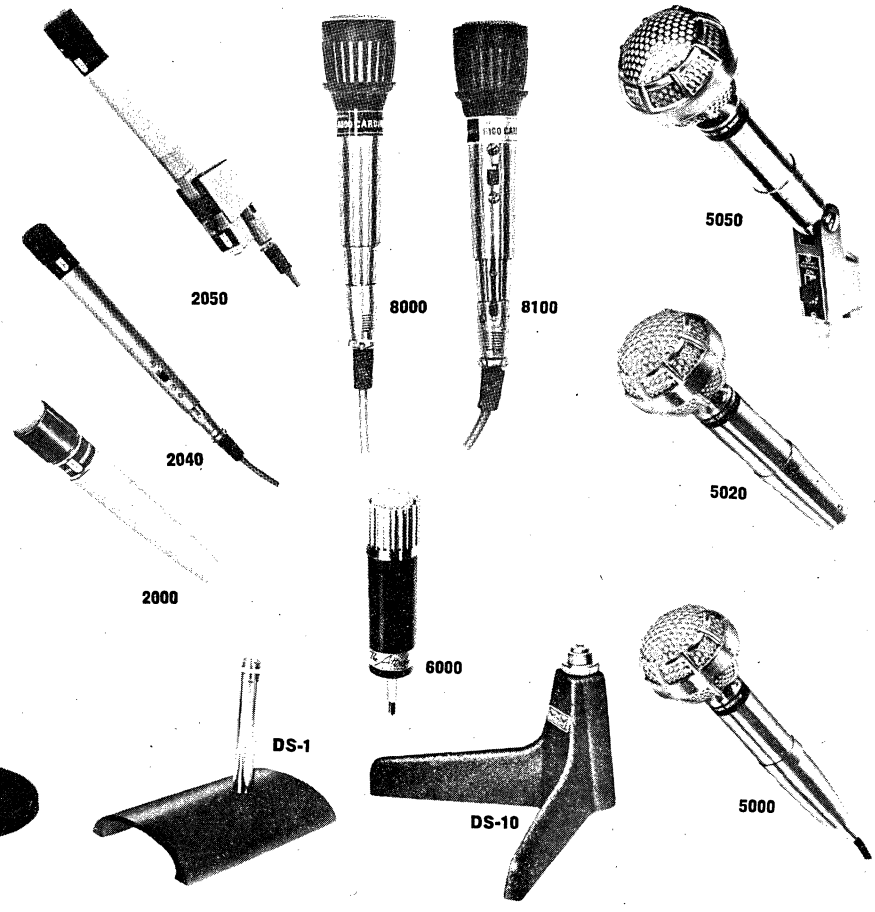
UNIVERSITY® SOUND
A DIVISION OF LTV LING ALTEC, INC.

Dynamic Microphones

Broadcasting, Recording, Home Entertainment and General Purpose Applications

UNIVERSITY'S new series of dynamic microphones embraces every possible need in *the audio field. Widely acclaimed in the industry, each* UNIVERSITY *microphone is designed and engineered to maintain the same exacting quality standards for which* UNIVERSITY *is famous the world over. Each and every* UNIVERSITY *microphone, from the economically priced Model 2000 to the top of the line 5000 Series, is covered by* UNIVERSITY'S *exclusive warranty to assure reliable trouble free operation for many years. To own the finest—choose* UNIVERSITY*!*





NEW Model 5000 Shock-Mounted Super-Cardioid Dynamic New spherical shaped 5000 Series has a wide-angle pickup pattern with a precise taper characteristic that rejects all unwanted sound at the rear hemisphere of the unit. Rugged die-cast housing. For all applications — soundcasting, broadcasting, recording. 200 and 20,000 ohms. Response from 25 to 18,000 Hz. Output at 200 ohms -54 dB/1 mw/10 microbar; at 20,000 ohms 13 mv/10 microbar. 2 3/16" max. diameter. 9⅝" max. length. 15' wired-in 2 cond. shielded cable and SA-10 Stand Adapter supplied. Net $51.60

Model 5020 Same as 5000 with detachable 15' cable and Amphenol Connector. Net $56.95

Model 5050 Same as 5000 with swivel stand adapter and 15' detachable cable. Net $59.95

Model 6000 Attache' Cardioid Lavalier The 6000 is the world's smallest cardioid microphone. Its wide-range cardioid pickup pattern and inconspicuous appearance make it ideal for churches, night club, studio and remote broadcasting applications. It can be used as a lavalier, hand-held, mounted on a desk or floor stand, a boom or gooseneck fixture. Response is 50-15,000 Hz. Low impedance 50-500 ohms. Output at 150 ohms is -57 dB/1 mw/10 microbar. 1 1/6" diameter, 3 11/16" long. Supplied with lavalier neck cord, cable. Net Price $39.75

Model 8000 Shock Mounted Cardioid Dynamic Highly directional wide angle pick-up pattern. Shock mounted for on-the-move applications. Ideal for church sound systems, industrial and commercial p.a. systems, and home tape recording. Response is 70-15,000 Hz. Impedance 250 and 20,000 ohms. Output at 250 ohms is -60 dB/1 mw/10 microbar; at 20,000 ohms is 8.5 mv/10 microbar. 1¾" diameter, 6⅜" long. Equipped with 15', 3 cond. shielded cable and Cannon XLR-4-11-C connector. Supplied with stand adaptor. Net $34.95

Model 8100 Same as Model 8000 with switch. Net $37.95

Model 2000 Omni-directional Dynamic For general soundcasting and recording applications. Omni-directional pick-up pattern is ideal for groups and audience participation programs. Response is 50-14,000 Hz. Impedance 50 and 20,000 ohms. Output at 50 ohms is -50 dB/1 mw/10 microbar; at 20,000 ohms is 28 mv/10 microbar. 15' 3 cond. shielded cable is wired-in. 1 5/32" dia., 6" long. With SA-10 Stand Adaptor. Net $26.85

Model 2040 Same as Model 2000 with switch and detachable 15' cable. Cannon Connector. Net $30.60

Model 2050 Same as Model 2000 with switch and swivel stand adaptor, 15' detachable cable and Cannon Connector. Net $33.45

MICROPHONE STANDS

Model DS-10 Desk Stand Heavy base sculptured stand may be used with any microphone. Standard ⅞-27 NPSM thread. 4½" high x 7⅞" wide x 4⅝" deep. Black wrinkle finish. Net $7.65

Model SA-10 Slide-on Stand Adaptor. Net $2.85

Model DS-1 Desk Stand Contemporary design, slim profile desk stand with extruded aluminum base in black oxide finish. Perfectly balanced, will hold large microphones. Standard ⅝-27 thread. 6"x4"x3¾". Knurled locking washer. Net $2.85

Model FS-7 Floor Stand A new concept in microphone stands. New fluted tubes are easy to adjust. Doesn't show hand marks, won't slip. Velvet action movement of upper tube, no twisting or turning. Positive lock clutch, jam-free one hand operation. Non-reflecting finish. Adjustable from 34" to 63". Black wrinkle base weighs 7 pounds and is 10" diameter. Natural satin fluted aluminum. Net $10.77

Model FS-7B Blue Anodized. Net $11.37

Model FS-7G Gold Anodized. Net $11.37

Model FS-10 Floor Stand Same as Model FS-7 except for 10 pound, 12" diameter base. Natural Fluted aluminum. Net $11.97

Model FS-10B Blue Anodized. Net $12.57

Model FS-10G Gold Anodized. Net $12.57

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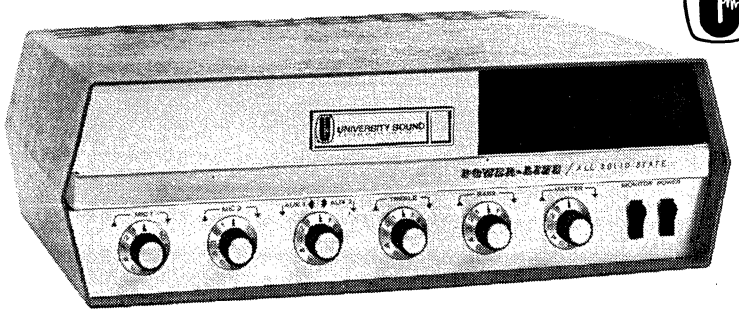
UNIVERSITY® SOUND

A DIVISION OF LTV LING ALTEC, INC.



introduces . . .
A great new breakthrough in solid state technology.

the UNIVERSITY POWER-LINE WIDE RANGE HIGH EFFICIENCY AMPLIFIERS (Pat. Pending)

Now, for the first time, a line of power amplifiers so advanced in engineering and efficiency, taking full advantage of the latest state-of-the-art technology that a whole new concept in Public Address performance and installation is now possible. Laboratory and field tested, this new concept involves amplifiers so radical in advanced circuitry as to set totally new standards of performance. A design with such stability and regulation that costly power output as well as line transformers can be eliminated. Sixteen amplifiers, in the 4 most popular public address power ratings, make up this dramatically new and exciting line. Eight of the models are available, at substantial savings, to take advantage of University's New Transformerless Concept. For installations that require the use of output and line transformers, eight models are available. For a complete new brochure of information concerning University's New Transformerless Concept, write Box RM, University Sound, 9500 West Reno, Oklahoma City, Oklahoma 73126.

SPECIAL FEATURES

● Full Power Rated ● Highest Efficiency Circuitry ● High Fidelity Response and Low Distortion ● Automatic Speaker Protection Circuits ● No Circuit Breakers Necessary ● Automatic Instantaneous Electronic Output Transistor Protection Circuit ● Automatic Computer Type Sensing Circuits ● Automatic Thermal Protection ● Direct Coupled Throughout (Maximum Signal Efficiency Possible) ● All Silicon Semi-Conductors ● Massive Heat Sinks with High Circuit Efficiency - Units Always Run Cool ● Complete Short Circuit Protection Without Relays ● Multiple Inputs - Both Low and High Impedance ● Accessory Plug-In Multiple Mike Inputs ● Dual Channel Remote Controls ● Dual Tone Controls ● Master Gain Controls ● Guitar and Music Inputs ● Built-in Monitor Speakers with Switches (Deluxe Models) ● Convenient Retractable Carry Handles (Deluxe Models) ● AC Cord Storage Holders (Deluxe Models) ● Beautiful Styling

SPECIFICATIONS COMMON TO ALL MODELS

FREQUENCY RESPONSE	50-15kHz, +0, —3dB
SENSITIVITY	Mic (lo Z): 0.25 mv, Mic (hi Z): 4.0 mv, Aux: 250 mv, Bridging: 1 V
SIGNAL TO NOISE RATIO	Power Amplifier: —80 dB Aux: —70 dB, Mic: —60 dB
OUTPUTS: XFMR Models	25V & isolated 70.7V line 4, 8, & 16 ohms on 2 quick disconnect octal sockets Tape and Bridging outputs
TONE CONTROLS (feedback type)	Bass: ±10 dB at 100 Hz Treble: ±10 dB at 10kHz
DIMENSIONS	5" high x 15½" wide x 10½" deep
CONTROLS	Bass Control, Treble Control, Master Gain, Power Switch, *Monitor Speaker Switch 1 Gain Control (fader) for Aux. 1 & Aux. 2

POWER INPUT	95-130V AC 60 Hz
SPECIAL FEATURES	Hi or lo Z mic input selection by means of slide switch Switched AC outlet Spkr. protection circuit (Output current limited to rated power to prevent overdriving the speakers.) Fused AC line Power consumption less than 5W when idling, resulting in low operating temperatures & long component life. *AC Cord Storage Holder *Convenient Retractable Carry Handle *Built-In Monitor Speaker

INDIVIDUAL MODEL SPECIFICATIONS AND FEATURES

MODELS	**UPL20** (XFMR-less) List **$139.95** **UPL20T** (with/XFMR) List **159.50** **UPL20D** (Dlx. XFMR-less) List **199.50** **UPL20DT** (Dlx. w/XFMR) List **245.00**	**UPL35** (XFMR-less) List **$153.95** **UPL35T** (with/XFMR) List **174.95** **UPL35D** (Dlx. XFMR-less) List **215.00** **UPL35DT** (Dlx. w/XFMR) List **265.00**	**UPL60** (XFMR-less) List **$147.95** **UPL60T** (with/XFMR) List **167.50** **UPL60D** (Dlx. XFMR-less) List **207.50** **UPL60DT** (Dlx. w/XFMR) List **253.00**	**UPL100** (XFMR-less) List **$161.95** **UPL100T** (with/XFMR) List **182.95** **UPL100D** (Dlx. XFMR-less) List **223.00** **UPL100DT** (Dlx. w/XFMR) List **273.00**
POWER OUTPUT, 50-15kHz	20W at less than 5% THD	35W at less than 5% THD	60w at less than 5% THD	100W at less than 5% THD
PEAK POWER, 50-15kHz	40w.	70w.	120w.	200w.
INPUTS (IMPEDANCE) All mike inputs specially suitable for guitar and music inputs.	1 Mic (hi or lo Z unbalanced) hi Z: 47k ohms, lo Z: 150 ohms Aux (2 inputs on fader) 300k ohms Bridging hi Z (1 meg.)	2 Mic (hi or lo Z unbalanced) hi Z: 47k ohms, lo Z: 150 ohms Aux (2 inputs on fader) 300k ohms Bridging hi Z (1 meg.)	2 Mic (hi or lo Z unbalanced) hi Z: 47k ohms, lo Z: 150 ohms Aux (2 input on fader) 300k ohms Bridging hi Z (1 meg.)	2 Mic (hi or lo Z unbalanced) hi Z: 47k ohms, lo Z: 150 ohms Aux (2 input on fader) 300k ohms Bridging hi Z (1 meg.)
CONTROLS	1 Mic	2 Indiv. Mic. 2 more mics available on optional pre-amp	2 Indiv. Mic. 2 more mics available on optional pre-amp	2 Indiv. Mic. 2 more mics available on optional pre-amp
OUTPUTS: XFMR/Less Models	16 ohms w/screw terminals	8 ohms w/screw terminals	4 ohms w/screw terminals	8 ohms w/screw terminals
SEMI-CONDUCTORS	17 All-silicon	20 All-silicon	26 All Silicon	26 All Silicon
SPECIAL FEATURES Due to the unusual capabilities of University Power-Line amplifiers, many features listed herein have never been possible or available before. The circuitry is so advanced that patents have been applied for.	Instantaneous electronic output transistor/short circuit protection	Instantaneous electronic output transistor protection Short circuit protection (If output is shorted, amplifier shuts off for 3 sec. Computer logic circuit then measures load impedance. If output still shorted, amp remains off. If back to normal, amp turns back on.) Optional 2 mic pre-amp. Optional remote control Optional precedence control	Instantaneous electronic output transistor protection Short circuit protection (If output is shorted, amplifier shuts off for 3 sec. Computer logic circuit then measures load impedance. If output still shorted, amp remains off. If back to normal, amp turns back on.) Optional 2 mic pre-amp. Optional remote control Optional precedence control	Instantaneous electronic output transistor protection Thermal protection (If temp. rises above 185° F, amplifier shuts off until temp. drops.) Short circuit protection (If output is shorted, amplifier shuts off for 3 sec. Computer logic circuit then measures load impedance. If output still shorted, amp remains off. If back to normal, amp turns back on.) Optional 2 mic pre-amp. Optional remote control Optional precedence control
POWER GAIN/PHONO GAIN	106.8dB/79.1dB	109.3dB/82.2dB	111.6dB/84.5dB	113.8dB/86.5dB

*Deluxe Models: UPL20D, UPL20DT, UPL35D, UPL35DT, UPL60D, UPL60DT, UPL100D and UPL100DT feature built-in monitor speakers, monitor speaker switch, AC cord storage holder and convenient retractable carry handle.
Three wire AC power cord available on all models, on request, at slight additional cost.
All prices and specifications subject to change without notice.
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY.

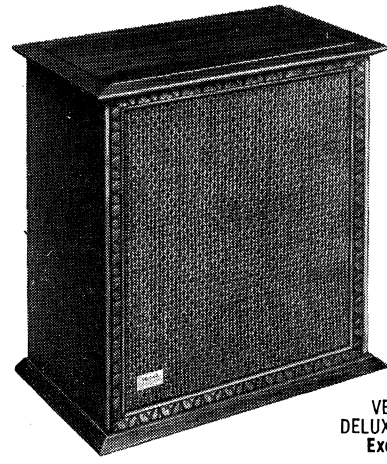
Wharfedale ACHROMATIC SPEAKER SYSTEMS

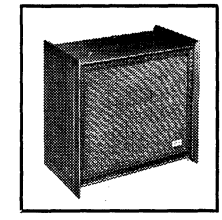
ACHROMATIC **W90D**

DELUXE SIX-SPEAKER, FOUR-WAY
CONSOLETTE SPEAKER SYSTEM
Exclusive Sand-filled Enclosure

The truly remarkable sound of the W90D is due both to the particularly high quality of its components and to the design used in putting them to best use. The fine furniture quality of the W90D cabinet will enhance any room setting. The front grille assembly is removable for facilitating decorative changes, if desired.

• Speakers: Woofer — One 12½" with 75 sq. in. Polystyrene piston radiator; One 12½" with conical cone; Midrange: two 5" acoustically isolated; Treble: Two Super 3" omnidirectional, mylar dome • Controls: treble, continuously variable; midrange, continuously variable • Minimum Power Required: 10 watts (per channel) IHF • System impedance: 4 to 8 ohms. Dimensions: 23¾" x 30" x 13½" (includes table top) Ship. Wt.: 100 lbs. • Finish: Oiled Walnut, Price: $317.60.



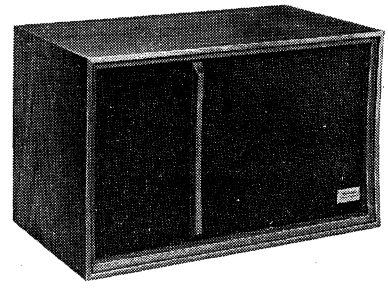


ACHROMATIC **W70D**

VERSATILE HI AND LOW BOY
DELUXE FOUR-WAY SPEAKER SYSTEM
Exclusive Sand-Filled Enclosure

The W70D incorporates the finest components available for multiple speaker systems. The versatile design permits use either as a "high boy" when placed on end, or as a "low boy" when placed on its side. The front grille is removable for decorative changes; nameplate is rotatable to accommodate different positions.

• Speakers: Woofer: 12½" extra heavy duty; Midrange: 8" upper bass/lower midrange: 5" upper midrange; Treble: Super 3" omnidirecitonal mylar dome tweeter • Controls: Individual continuously variable treble and midrange • Minimum Power Required: 10 watts (per channel) IHF • System Impedance: 4 to 8 ohms • Dimensions: 24" x 22¾" x 13⅝" (includes table top); Ship. Wt.: 73 lbs. • Finish: Oiled Walnut, Price $199.95.

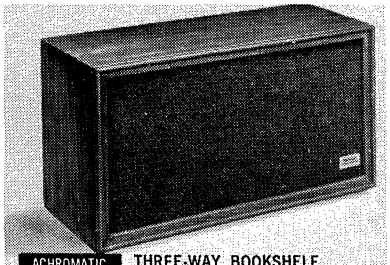


ACHROMATIC **W60D**

BOOKSHELF AND FLOOR-STANDING
THREE-WAY SPEAKER SYSTEM
Exclusive Sand-filled Enclosure

This latest version of the very popular W60 enjoys important benefits derived from its 3-way configuration and newly upgraded components. Removable grille.

• Speakers: Woofer: 12½" heavy duty woofer with 9½ lbs. magnet assembly; Midrange: 5" acoustically isolated; Treble: Super 3" omnidirectional mylar dome tweeter • Controls: individual continuously variable treble and midrange • Min. Power Required: 8 watts (per channel) IHF • System impedance: 4 to 8 ohms. Dimensions: 14¼" x 24" x 13" deep. Ship. Wt. 56 lbs. • Finish: Oiled Walnut, Price $147.00.

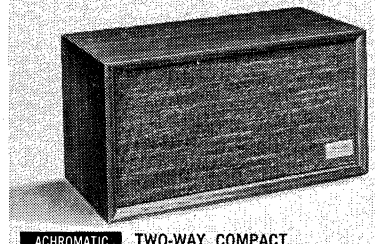


ACHROMATIC **W40D**

THREE-WAY BOOKSHELF
SPEAKER SYSTEM
WITH ACOUSTIC SUSPENSION

The new W40D is a full three-way multiple speaker system yielding a carefully tailored, ultra-linear frequency response with minimum distortion. Using the acoustic suspension principle, the handsomely appointed cabinet is airtight and sturdily constructed. The front grille assembly is removable to facilitate decor changes, and the nameplate is rotatable to accommodate the speaker in either a vertical or horizontal position.

• Speakers: Woofer: Heavy duty 10"; Midrange: 5" acoustically isolated; Treble: Super 3" omnidirectional mylar dome tweeter • Control: Individual continuously variable treble and midrange • Min. Power Required: 8 watts (per channel) IHF • System Impedance: 4 to 8 ohms • Dimensions: 12½" x 23½" x 10⅛" deep • Ship. Wt. 37 lbs. Finish: Oiled Walnut, Price $105.85.

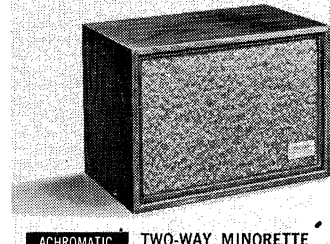


ACHROMATIC **W30D**

TWO-WAY COMPACT
SPEAKER SYSTEM
WITH ACOUSTIC SUSPENSION

The new Model W30D solves the problems encountered by modern speaker systems intended for us with either tube or transistor amplifiers and receivers. It is suitable for use with any amplifier having an output of 4 to 8 ohms. The cabinet uses the acoustic suspension principle, with heavy, airtight construction for maximum performance. The grille assembly is removable to facliitate changes in cloth; nameplate is rotatable either vertically or horizontally.

• Speakers: Woofer; Heavy duty, long-throw 8" treble; 3" omnidirectional mylar dome tweeter • Control: Continuously variable treble • Minimum Power Required: 10 watts (per channel) IHF • System Impedance 4 to 8 ohms • Dimensions: 10" x 19" x 9¼" deep • Ship. Wt.: 20 lbs. Finish: Scuff resistant Oiled Walnut Vinyl • Price: $64.65.

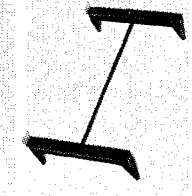


ACHROMATIC **W20D**

TWO-WAY MINORETTE
SPEAKER SYSTEM
WITH ACOUSTIC SUSPENSION

Enthusiastically acclaimed in trade magazine test reports, the W20D Minorette sets its sights on sound above all . . . with dimensions and cost a secondary consideration. It features a sturdily constructed, handsomely appointed cabinet (acoustic suspension principle) with easily removed front grille. Small overall dimensions make it suitable for either stand-up or horizontal positioning with the position of the nameplate changeable, too. Ideal also for placement inside the speaker compartment of stereo "consoles."

• Speakers: Woofer: high-compliance 8"; Treble: 3" omnidirectional mylar dome tweeter • Control: continuously variable treble • Minimum Power Required: 10 watts (per channel) IHF • System Impedance: 4 to 8 ohms • Dimensions 9¾" x 14" x 8½" deep. Ship. Wt.: 14 lbs. Finish: Scuff resistant, Oiled Walnut Vinyl, Price: $52.95.



MODEL B67
UNIVERSAL
MOUNTING BASE

Optional for the W60D and W90D Speaker Systems: Ship. Wt.: 2 lbs. Oiled Walnut, $10.50

WHARFEDALE, Div. British Industries Corp.

PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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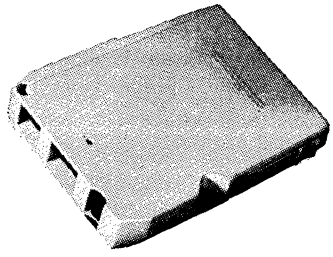
Audiopak®
Cartridges & Cassettes



Description	Suggested Resale	Carton Contains
A-4A 4-track blank cartridge	**$2.65**	10 & 30 pack
A-8A 8-track blank cartridge	**2.20**	10 & 30 pack
AC-60 60 min. cassette	**2.65**	15 & 30 pack

Note: Prices on 90 & 120 minute cassettes not available at press time. Write for prices.

audiodiscs®

Today's Audiodisc — in keeping with high professional standards of the modern recording engineer — is the finest ever, produced by the most advanced facilities and techniques.

Audiodiscs provide a complete line of recording blanks, that feature: Consistent, Uniform Thickness; Superior Tracking Qualities; Extended Stylus Life; Brilliant H.F. Response; Freedom from Background Noise; Positive Thread Throw; No "Groove Tearing"; Unblemished Surface; No Advance Ball Score; Micro-Mirror Surface.

DESCRIPTION	Size Inches	Suggested Resale	Carton Contains
MASTER **FOR MASTER RECORDINGS:** The overwhelming choice of the recording engineer where pressings are to be made by the electroplating process. Aluminum base. Available in single face with center hole only.	10	$2.78	25
	12	3.16	25
	13¼	4.68	25
	14	5.00	25
RED LABEL **FOR PROESSIONAL USE:** Standard throughout the recording industry, Red Label Audiodiscs exceed the most exacting demands for optimum quality and dependability. Aluminum base. All double faced. Imprinted (except on 7").	7*	$1.46	25
	8	1.08	25
	10	1.39	25
	12	2.97	25
YELLOW LABEL **FOR GENERAL USE:** A popular choice for all general purpose recording which requires high, uniform quality. Aluminum base. Double sided. Imprinted or yellow paper labels available upon request.	7*	$1.33	25
	8	1.00	25
	10	1.20	25
	10**	1.90	25
	12	2.53	25
BLUE LABEL **FOR AMATEUR USE:** Ideal for schools, home, amateur and demonstration work. Same high quality for the very best in recording, but on a thinner aluminum base. Double sided. Blue paper labels available upon request.	6½	$ .51	50
	8	.76	50
	10	1.01	50

***Standard 45 rpm disc with 1½" diameter center hole. Also available with conventional center hole. To specify, indicate "Small Center Hole" on orders.**

All Prices and Items Subject to Change Without Notice.

****Supplied with extra heavy base.**

audiopoints®

Audiopoints meet the exacting requirements of the recording engineer for standard or microgroove recording.

RECORDING AUDIOPOINTS

SAPPHIRE No. 14 — long recognized as the finest recording stylus made. Short or long dural shank, 87° included angle.
Suggested Resale $5.34

SAPPHIRE No. 20 — especially designed for professional microgroove recording. Short or long dural shank. **Suggested Resale $5.34**

STELLITE No. 34 — a favorite with many professional and non-professional users. Short or long shank. 87° included angle.
Suggested Resale $1.74

Shipments: Freight will be paid anywhere in the U.S.A. on shipments of 100 lbs. or more. All other shipments are F.O.B. Stamford, Conn. or N.Y.C.

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THE COMPLETE LINE OF PROFESSIONAL QUALITY audiotape TRADE MARK

Description	Type No.	Length	Reel†	Suggested Resale
STANDARD RECORDING on 1½-mil Acetate Meets the most exacting requirements of the professional, educational and home recordist at minimum cost. Known the world over for its matchless performance and consistent uniform quality. **Formula 10, in the red box.**	151	150 ft.	3″ Plastic Reel	$0.42
	151MB	150 ft.	3″ Plastic Reel in Mailing Box	0.42
	351	300 ft.	4″ Plastic Reel	0.81
	651	600 ft.	5″ Plastic "C-Slot" Reel	1.35
	851	850 ft.	5¾″ Plastic Reel	1.77
	1251	1200 ft.	7″ Plastic "C-Slot" Reel	2.10
	2551H	2500 ft.	NARTB Hub	4.71
	2551R	2500 ft.	10½″ Aluminum Reel	6.48
	‡2551FS	2500 ft.	10½″ Fiberglass Reel	6.48
	5051H	5000 ft.	NARTB Hub	8.64
	5051R	5000 ft.	14″ Aluminum Reel	12.81
audiotape LONGER RECORDING on 1 mil Mylar* **50% more recording time** per reel. The strong, super-durable polyester film base assures trouble-free operation even under severe conditions of heat and humidity. **Formula 10, in the orange box.**	261	225 ft.	3″ Plastic in Self-Mailer Pkg.	0.60
	961	900 ft.	5″ Plastic "C-Slot" Reel	2.16
	1261	1200 ft.	5¾″ Plastic Reel	2.49
	1861	1800 ft.	7″ Plastic "C-Slot" Reel	3.72
	2461	2400 ft.	8¼″ Plastic Reel	5.65
	3661H	3600 ft.	NARTB Hub	6.84
	3661R	3600 ft.	10½″ Aluminum Reel	8.61
	‡3661FS	3600 ft.	10½″ Fiberglass Reel	8.61
	7261H	7200 ft.	NARTB Hub	14.40
	7261R	7200 ft.	14″ Aluminum Reel	18.00
audiotape LONGER RECORDING on 1 mil Acetate **50%** more recording and playback time on low-cost 1-mil cellulose acetate base, affording maximum economy for applications where high strength is not required. **Formula 10, in the blue box.**	941	900 ft.	5″ Plastic "C-Slot" Reel	2.10
	1241	1200 ft.	5¾″ Plastic Reel	2.25
	1841	1800 ft.	7″ Plastic "C-Slot" Reel	3.30
	3641H	3600 ft.	NARTB Hub	5.91
	3641R	3600 ft.	10½″ Aluminum Reel	7.68
	‡3641FS	3600 ft.	10½″ Fiberglass Reel	7.68
	7241H	7200 ft.	NARTB Hub	11.04
	7241R	7200 ft.	14″ Aluminum Reel	15.21
audiotape DOUBLE RECORDING on ½ mil Mylar* **Twice as much** recording time per reel as standard plastic-base tape. Suitable for extended-play applications where tape tension is not excessive. **Formula 10, in the tan box.**	331	300 ft.	3″ Plastic Reel	0.82
	1231	1200 ft.	5″ Plastic "C-Slot" Reel	2.10
	1831	1800 ft.	5¾″ Plastic Reel	3.00
	2431	2400 ft.	7″ Plastic "C-Slot" Reel	3.90
audiotape DOUBLE RECORDING on "Tempered" Mylar* **Twice as much** recording time per reel as standard plastic-base tape, and is twice as strong as other double-length tapes. Will not stretch or break on any tape recorder — will not dry out or embrittle with age. **Formula 10, in the maroon box.**	331T	300 ft.	3″ Plastic in Self-Mailer Pkg.	0.96
	1231T	1200 ft.	5″ Plastic "C-Slot" Reel	3.27
	1831T	1800 ft.	5¾″ Plastic Reel	4.05
	2431T	2400 ft.	7″ Plastic "C-Slot" Reel	5.70
	4831T-R	4800 ft.	10½″ Aluminum Reel	13.20
	‡4831T-FS	4800 ft.	10½″ Fiberglass Reel	13.20
audiotape STANDARD RECORDING on 1½ mil Mylar* A premium-quality professional tape that provides the utmost in mechanical strength and immunity to temperature and humidity. Will not dry out or embrittle with age. **Formula 10, in the green box.**	671	600 ft.	5″ Plastic "C-Slot" Reel	1.59
	1271	1200 ft.	7″ Plastic "C-Slot" Reel	2.55
	2571H	2500 ft.	NARTB Hub	4.98
	2571R	2500 ft.	10½″ Aluminum Reel	6.72
	‡2571FS	2500 ft.	10½″ Fiberglass Reel	6.72
	5071H	5000 ft.	NARTB Hub	9.99
	5071R	5000 ft.	14″ Aluminum Reel	14.70
audiotape MASTER RECORDING on 1½ mil Acetate The finest, professional-quality recording tape. Base material 1½-mil acetate. Maximum fidelity, uniformity, frequency response and freedom from noise and distortion. . . . **Plus low print-through. Formula 14, in red and gold box.**	651-M	600 ft.	5″ Plastic "C-Slot" Reel	1.65
	1251-M	1200 ft.	7″ Plastic "C-Slot" Reel	2.58
	2551H-M	2500 ft.	NARTB Hub	5.55
	2551R-M	2500 ft.	10½″ Aluminum Reel	7.32
	‡2551FS-M	2500 ft.	10½″ Fiberglass Reel	7.32
	5051H-M	5000 ft.	NARTB Hub	10.17
	5051R-M	5000 ft.	14″ Aluminum Reel	14.34
audiotape MASTER RECORDING on 1½ mil Mylar* Super-durable tape that meets highest standards of performance. Withstands extreme temperature and is virtually immune to humidity. . . . **Plus low print-through. Formula 14, in the green and gold box.**	671-M	600 ft.	5″ Plastic "C-Slot" Reel	1.92
	1271-M	1200 ft.	7″ Plastic "C-Slot" Reel	3.06
	2571H-M	2500 ft.	NARTB Hub	6.60
	2571R-M	2500 ft.	10½″ Aluminum Reel	8.10
	‡2571FS-M	2500 ft.	10½″ Fiberglass Reel	8.10

†COLORED PLASTIC REELS. Audiotape on 5″ and 7″ reels can be supplied on colored reels at no increase in price. To designate color (Red, Yellow, Green or Blue) add "RR" and "YR", and "GR" or "BR" to Type No. E.g. — Type 1251YR covers 1200 feet of plastic-base tape on Yellow Reel.

‡"FS" in Type No. indicates Fiberglass reel with solid hub and 5/16″ center hole.

*"Mylar" is the registered DuPont trade mark for its polyester film.

Net

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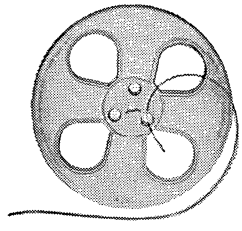
Description	Type No.	Length	Reel	Suggested Resale
audiotape **TRIPLE RECORDING on "Tempered" Mylar***	633T	600′	3¼″ Plastic in Self-Mailer Pkg.	$1.77
Three times as much recording time per reel as standard-plastic-base tape, plus the same extra strength as other "Tempered" Mylar Audiotapes. **Formula 11, in the olive box.**	1833T	1800′	5″ Plastic "C-Slot" Reel	4.17
	3633T	3600′	7″ Plastic "C-Slot" Reel	7.17
audiotape **LOW NOISE on 1½ mil Acetate**	1257	1200′	7″ Plastic "C-Slot" Reel	$2.58
An excellent Low Noise tape providing high signal to noise ratio and drastically lowered hiss level without sacrificing other properties needed for critical professioanl recording. **On 1½-mil Plastic Base, Formula 15 in the Red Box.**	2557H	2500′	NARTB Hub	5.55
	2557R	2500′	10½″ Aluminum Reel	7.32
LOW NOISE on 1½ mil Mylar*	1277	1200′	7″ Plastic "C-Slot" Reel	$3.06
Maintains a high signal to noise ratio with immunity to temperature and humidity without sacrificing other properties. **Formula 15, in the green box.**	2577H	2500′	NARTB Hub	6.60
	2577R	2500′	10½″ Aluminum Reel	8.10
LOW NOISE on 1 mil Mylar*	1867	1800′	7″ Plastic "C-Slot" Reel	$4.41
50% more recoding time per reel; provides a strong durable base assuring trouble free operation. **Formula 15, in the orange box.**	3667H	3600′	NARTB Hub	8.52
	3667R	3600′	10½″ Aluminum Reel	10.29
FORMULA 17 — LUBRICATED				
LUBRCIATED TAPE on 1-mil polyester film Designed for use in Audiopak and other continuous loop cartridges. Offers high frequency response. Edges resist nicking Unaffected by humidity and temperature changes. **Formula 17, in the orange box.**	1761-LUBE	1700′	7″ Plastic "C-Slot" Reel	$3.52

OTHER AUDIOTAPE ITEMS

Item		Type No.	Reel	Sug. Resale
EMPTY AUDIOTAPE REELS IN INDIVIDUAL BOXES All Audiotape reels, the complete range of sizes and types, are available, individually packaged in standard Audio boxes. Five and seven-inch reels feature the popular C-slot design for fast, easy threading. In addition to the standard clear plastic, C-Slot reels are available in four attractive jeweltone colors, at no extra cost.	Standard Reels	3PMB	3″ Plastic Reel in Mailing Box	$0.15
		3.25PNB	3¼″ Plastic Reel in Mailing Box	0.24
		4PB	4″ Plastic Reel in Box	0.33
		5PB	5″ Plastic C-Slot Reel in Box	0.39
		7PB	7″ Plastic C-Slot Reel in Box	0.45
		10RB	10½″ Aluminum Reel in Box	2.70
		10FS	10½″ Fiberglass Reel in Box	2.70
		10H	NARTB Metal Hub	0.45
		10S	Pr. 10½″ Alum. Flanges (NAB) w. screws	2.28
		14RB	14″ Aluminum Reel in Box	5.22
	Colored Plastic Reels	5PBR	Red — 5″ Plastic C-Slot Reel in Box	0.39
		5PBY	Yellow — 5″ Plastic C-Slot Reel in Box	0.39
		5PBG	Green — 5″ Plastic C-Slot Reel in Box	0.39
		5PBB	Blue — 5″ Plastic C-Slot Reel in Box	0.39
		7PBR	Red — 7″ Plastic C-Slot Reel in Box	0.45
		7PBY	Yellow — 7″ Plastic C-Slot Reel in Box	0.45
		7PBG	Green — 7″ Plastic C-Slot Reel in Box	0.45
		7PBB	Blue — 7″ Plastic C-Slot Reel in Box	0.45

* "Mylar" is the registered DuPont trade mark for its polyester film.

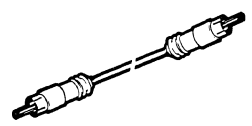
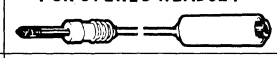
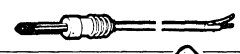
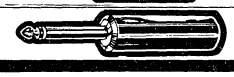
Audiotape Accessories

Items	Type No.	Suggested Resale
EMPTY AUDIOTAPE BOXES Standard, durably-constructed, Audiotape boxes are available in all the popular sizes for filing and storing tapes.	3MB	$0.09
	3.25B	0.09
	4B	0.12
	5B	0.12
	7B	0.12
	10B	0.45
	14B	0.60
AUDIOTAPE CORRUGATED MAILING BOXES Strong, re-usable containers	5M	0.09
	7M	0.12
	10M	0.18
AUDIO SELF-TIMING LEADER TAPE A strong, durable leader tape of white Mylar* material with spaced markings to permit accurate timing of leader intervals.	3L	0.54
AUDIO SPLICING TAPE Unusually durable pressure-sensitive tape that provides a solid, noise-free splice. White thermosetting adhesive holds firmly and instantly, will not ooze to cause sticky splices. On superior-strength Mylar.*	ST-0.25-66	0.35
	ST-0.50-100	0.39
	ST-0.50-66	1.05
	ST-0.75-66	1.50

Items	Type No.	Suggested Resale
AUDIO HEAD CLEANER Especially formulated for use on magnetic recording heads. Contains silicone solvent for sharper sound.	2HC	$0.60
AUDIO ADHESIVE REEL LABELS Provide positive identification of your tapes, right on the reel. Simply press to apply, pull to remove.	30AL	0.12
AUDIO HEAD DEMAGNETIZER Removes all permanent magnetism from recording and reproducing heads in a matter of seconds.	400	6.00
AUDIO HEAD ALIGNING TAPE Pre-recorded at 2,000, 10,000 and 15,000 cps (15″/sec) with precisely correct head alignment. Individually boxed, with instructions. Base material, 1½-mil Mylar.*	200	6.00
"HOW TO MAKE GOOD TAPE RECORDINGS" — NEW STEREO EDITION Complete handbook of tape recording. Over 160 pages of interesting information of practical value to every recordist. Liberally illustrated.	15P	0.90

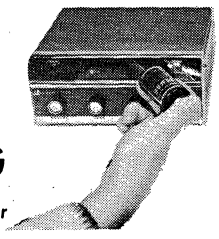
audiotex

HI FI & STEREO ACCESSORIES FOR TAPE RECORDERS & PHONOGRAPHS, HOME & AUTO

	PART NO.	ILLUSTRATION	DESCRIPTION	LENGTH	LIST
CONNECTING CABLES *AMERICAN MADE* STANDARD AUDIO CABLES FOR HI-FI – STEREO • *The Complete Line of Cables* • *Durable Molded Assemblies* • *Heavy-Duty, Low Resistance Wire* • *Attractively Packaged*	30-400-S		Shielded Cable, Phono Pin Plugs on both ends.	18" Cable	1.30
	30-402-S		Shielded Cable, Phono Pin Plugs on both ends.	36" Cable	1.42
	30-404-S		Shielded Cable, Phono Pin Plugs on both ends.	72" Cable	1.73
	30-406-S		Shielded Cable; Phono Pin Plugs on both ends.	12' Cable	2.28
	30-449-S	FOR STEREO HEADSET 	Molded On Three Conductor Phone Plug on one end of two conductor shielded cable, other end Molded On Three Conductor Phone Jack.	12' Cable	6.66
	30-450-S		Shielded Cable, Phone Plug on one end, other end stripped and tinned.	72" Cable	2.05
	30-451-S		Molded Shielded Cable with right angle Phone Plug on one end, other end stripped and tinned.	12' Cable	2.55
PLUGS, JACKS AND ADAPTORS	30-534		Combination clamp-type Phone Plug (solder connection) with removable shielded handle. Much easier to attach than the standard phono plug, and provides "finished appearance". Pkg. of 2.	2	1.17
	30-472		Adapter, Phono Pin Plug to Standard Phone Plug.	1	1.95
	30-484		Standard Phone Plug, 2 conductor. Black Plastic Handle	1	1.00

NEW *Tape Cartridge Player*

HEAD-DEMAG



(Extra Long Tip for Auto and Home 4 and 8 Track Players)

Demagnetizes player heads quickly and easily. Extra long tip will reach into tape cartridge players easily for demagnetizing tape player head, thus preserving full frequency response. Demagnetizer tip is coated with soft plastic to prevent damaging player head. Complete with momentary push-button switch and 6' cord. Nothing to wear out; will last a lifetime.

(Std. Ctn. 12 cards)

NO.30-112-2 . . . . . List 12.95

HEAD LUBRICANT HEAD CLEANER

(The Perfect Treatment for Maximum Efficiency)

Use Audiotex safe, efficient head cleaner to remove dirt and grease. Audiotex Recorder Head lubricant with silicone may be applied liberally to recorder head, leaves a light protective film to reduce friction. Cuts wow, flutter and tape squeals.

(Std. Ctn. 12 cards)

No. 30-124-1 Cleaner . . . . . List 1.00
No. 30-124-2 Lubricant . . . . . List 1.00
No. 30-124-3 Cleaner and Lubricant. . . .List 1.95

DELUXE TAPE SPLICER

WITH BUILT-IN SPLICING TAPE DISPENSER

(Cuts and Splices Tape Automatically)

The New Deluxe Audiotex Tape Splicer handles all sizes of splicing tape. Unique splicing tape dispenser simplifies operation. For professionally repairing and editing, splicer cuts recording tape diagonally and trims splicing tape with indented cut to eliminate the danger of adhesive coming in contact with the recorder heads.

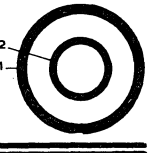
No. 30-106 . . . . . List 8.95

Walsco ELECTRONICS

Walsco PHONO DRIVES

Part No.	I.D.	Inside Circum.		Used On	Net
1420-01	2-3/32	6-9/16	3/16	Wollensak T1600	.40
1428-02	29/32	2-27/32	1/8	Wollensak T1600	.37

High-Quality, Abrasion-resistant Neoprene **RUBBER TIRES**



FABRIC DRIVE BELTS

Part No.	I.D.	Inside Circum.	Width	Thickness	Used On	Net
1409-02	5-13/32	17	5/16	1/64	Pentron, Crescent Recorders	4.02
1409-03	3-29/32	12-1/4	5/16	1/64	Pentron, Crescent Recorders	3.12
1409-04	4-1/32	12-5/8	5/16	1/64	VM 700, 701, 710, 711, 714	3.12
1409-05	5-13/32	17	3/16	1/64	Webcor Recorders	3.12
1409-06	3-5/16	10-3/8	7/32	1/64	Telectro 880	2.08
1409-07	5-1/8	16-3/32	7/32	1/64	Telectro 880	2.08
1409-08	2-13/32	7-9/16	7/32	1/64	Telectro MR111, 556, 1960	2.00
1409-09	3-1/4	10-3/16	7/32	1/64	Telectro MR111, 556, 1960,	2.08
1409-10	3	9-13/32	7/32	1/64	Telectro and Knight	2.00
1409-11	3-19/32	11-5/16	7/32	1/64	Telectro and Knight	2.08
1409-12	2-1/2	7-13/16	7/32	1/64	Telectro	1.83
1409-13	4-31/32	15-11/16	5/32	1/64	Webcor	2.42
1499-16	3-5/16	10-3/8	3/16	1/64	Webcor	3.00

IDLER WHEEL – 2" O.D.
For use on G.E. model EA80X61. Shaft dia. .1253".
No. 1499-35. . . . . Net 2.50

PRESSURE ROLLER 3/4" O.D.
For use with VM Model 700, 701, 710, 711, 714 tape recorders.
No. 1458. . . . . Net 1.75

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

Net

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BURGESS MAGNETIC RECORDING TAPE

by the makers of BURGESS BATTERIES

40 years of successful developments in acoustics, coatings and coating processes, and solid state physics have enabled Burgess engineers to produce a superlative magnetic tape characterized by these quality features . . .

- **SUPERB FREQUENCY RESPONSES**
- **LOW NOISE LEVEL • HIGH SENSITIVITY**
- **UNIFORM, TROUBLE-FREE PERFORMANCES ASSURED BY BURGESS QUALITY CONTROL**

BURGESS NUMBER	TAPE LENGTH	REEL SIZE	†SUGG. DEALER PRICE	SUGG. LIST PRICE	DESCRIPTION
					SERIES NO. 111 **1.5 mil ¼"** **ALL-PURPOSE PLASTIC**
111-1.5	150′	3″	$ .42	$ .70	1.5 mil cellulose acetate for all general recording needs. Recognized throughout the recording industry as perfect for flawless recordings at minimum cost. The popular standard series tape.
111-2.5	250′	3¼″	.75	1.25	
111-3	300′	4″	.81	1.35	
**111-6	600′	5″	1.35	2.25	
111-8.5	850′	5¾″	1.71	2.85	
**111-12	1200′	7″	2.10	3.50	
111-24R	2400′	10½″ M	6.54	10.90	
111-24H	2400′	10½″	5.10	8.50	
111-50HPB	5000′	14″	8.91	14.85	
					SERIES NO. 190 **1.0 mil ¼"** **EXTRA-PLAY PLASTIC**
190-2.25	225′	3″	.54	.90	1.0 mil cellulose acetate for maximum economy. Superb reproduction with full frequency response and 50% more recording time.
190-9	900′	5″	2.10	3.50	
190-12	1200′	5¾″	2.55	4.25	
190-15	1500′	7″	2.70	4.50	
190-18	1800′	7″	3.30	5.50	
190-36R	3600′	10½″ M	7.71	12.85	
190-36H	3600′	10½″	6.00	10.00	
					SERIES NO. 102 **1.5 mil ¼"** **ALL-PURPOSE MYLAR*** 1.5 mil mylar* for super toughness, flawless performance under all conditions. Immune to heat or humidity, will not dry out or become brittle.
**102-6	600′	5″	1.59	2.65	
102-8.5	850′	5¾″	2.55	4.25	
**102-12	1200′	7″	2.55	4.25	
102-24R	2400′	10½″ M	6.72	11.20	
102-24H	2400′	10½″	5.28	8.80	
102-24RPS	2400′	10½″	6.73	11.20	
102-25HPB	2500′	10½″	4.98	8.30	
102-48R	4800′	14″	14.70	24.50	
102-48H	4800′	14″	11.10	18.50	
					SERIES NO. 175M **1.5 mil ¼"** **ALL-PURPOSE MYLAR*** More tear resistant than acetate. For heavy duty recording applications.
175-6M	600′	5″	1.44	2.40	
175-12M	1200′	7″	2.25	3.75	

† Price each in quantities of 12 or more reels.
Letter "R" designates tape on NAB Reel with 3" center hole, letter "H" designates tape on metal hub.

BURGESS NUMBER	TAPE LENGTH	REEL SIZE	†SUGG. DEALER PRICE	SUGG. LIST PRICE	DESCRIPTION
					SERIES NO. 150 **1.0 mil ¼"** **EXTRA-PLAY POLYESTER MYLAR*** 1.0 mil polyester mylar* for trouble-free operation in all weather. Performs brilliantly, unaffected by heat or humidity. 50% more recording time per reel.
150-2.25	225′	3″	$ .60	$1.00	
150-3.75	375′	3¼″	1.05	1.75	
150-9	900′	5″	2.16	3.60	
150-12	1200′	5¾″	2.79	4.65	
150-15	1500′	7″	3.10	5.15	
150-18	1800′	7″	3.72	6.20	
150-36R	3600′	10½″ M	8.64	14.40	
150-36H	3600′	10½″	7.20	12.00	
150-36RPS	3600′	10½″	8.64	14.40	
					SERIES NO. 200 & 290 **.5 mil ¼"** **DOUBLE LENGTH TENSILIZED POLYESTER MYLAR*** .5 mil double length tensilized polyester mylar* gives double the recording time of conventional tape. Twice the strength of conventional thin tape. Ideal for use under adverse conditions. Won't stretch or become brittle.
200-3	300′	3″	.96	1.60	
200-6	600′	4″	1.83	3.05	
200-12	1200′	5″	3.27	5.45	
200-17	1700′	5¾″	4.24	7.05	
200-24	2400′	7″	5.70	9.50	
200-48R	4800′	10½″	13.20	22.00	
200-48H	4800′	10½″	11.70	19.50	
200-48RPS	4800′	10½″	13.20	22.00	
290-6	600′	3¼″	1.50	2.50	
290-18	1800′	5″	4.17	6.95	
290-36	3600′	7″	7.17	11.95	
					SERIES NO. 131 **1.5 mil ¼"** **LOW PRINT THROUGH PROFESSIONAL QUALITY PLASTIC** 1.5 mil cellulose acetate. Provides absolute minimum layer-to-layer signal transfer.
131-12	1200′	7″	2.64	4.40	
131-24R	2400′	10½″	7.44	12.40	
131-24H	2400′	10½″	6.00	10.00	
131-48R	4800′	14″	15.60	26.00	
131-48H	4800′	14″	12.00	20.00	
					SERIES NO. 138 **1.5 mil ¼"** **LOW PRINT THROUGH PROFESSIONAL QUALITY ALL-PURPOSE MYLAR*** 1.5 mil mylar* insures good strength and storage characteristics. Provides absolute minimum layer-to-layer signal transfer.
138-12	1200′	7″	3.06	5.10	
138-24R	2400′	10½″	8.10	13.50	
138-24H	2400′	10½″	6.66	11.10	

"HPB" designates tape on plastic hub, bulk packaged. "RPS" designates plastic reel with 5/16" EIA center hole.

ACCESSORIES

BURGESS NUMBER	SIZE	†SUGG. DEALER PRICE	SUGG. LIST PRICE	DESCRIPTION
LT-15 White	150′L ¼″W (White tape)	$ .75	$1.25	Mylar* Leader Tape
LT-15 Red	150′L ¼″W (Red tape)	.75	1.25	
LT-15 Blue	150′L ¼″W (Blue tape)	.75	1.25	
LT-15 Green	150′L ¼″W (Green tape)	.75	1.25	
LT-15 Yellow	150′L ¼″W (Yellow Tape)	.75	1.25	
LT-15M	150′L ¼″W	.95	1.60	Metalized Mylar* Leader Tape
ST-5	150″L ½″W	.74	.98	Splicing Tape
RB-3	Clear Plastic 3″ Reel	.18	.30	Empty Reel, Boxed
RB-3¼	Clear Plastic 3¼″ Reel	.27	.45	Empty Reel, Boxed
RB-4	Clear Plastic 4″ Reel	.38	.65	Empty Reel, Boxed
**RB-5	Clear Plastic 5″ Reel	.42	.70	Empty Reel, Boxed
RB-5¾	Clear Plastic 5¾″ Reel	.53	.90	Empty Reel, Boxed
**RB-7	Clear Plastic 7″ Reel	.53	.90	Empty Reel, Boxed

BURGESS NUMBER	SIZE	†SUGG. DEALER PRICE	SUGG. LIST PRICE	DESCRIPTION
B-3	For 3″ Reel	$ .18	$ .30	Empty Box
B-3¼	For 3¼″ Reel	.18	.30	Empty Box
B-4	For 4″ Reel	.32	.53	Empty Box
B-5	For 5″ Reel	.32	.53	Empty Box
B-5¾	For 5¾″ Reel	.32	.53	Empty Box
B-7	For 7″ Reel	.32	.53	Empty Box
MB-4	For 4″ Reel & Box	.16	.27	Corrugated Mailing Carton
MB-5	For 5″ Reel & Box	.23	.38	Corrugated Mailing Carton
MB-7	For 7″ Reel & Box	.27	.45	Corrugated Mailing Carton

† Price each in quantities of 12 or more accessories.
** Also available in colored reels Red, Blue, Green, Yellow or Violet.
* Trade Mark of DuPont

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Garrard®

WORLD'S FINEST
AUTOMATIC TRANSCRIPTION TURNTABLES

5 SYNCHRO-LAB™ MODELS THAT GUARANTEE ABSOLUTELY CONSTANT SPEED

Garrard's revolutionary SYNCHRO-LAB™ motor starts instantly at precise speed and maintains that speed regardless of voltage fluctuations. It powers all five Synchro-Lab Series turntables and incorporates the best features of both induction and synchronous motors. Instant start . . . constant speed.

SL 95 **3-speed Automatic Transcription Turntable, $129.50.** For the finest music systems and most discriminating listeners. Features include:

• NEW advanced, one-piece, ultra low-mass tonearm with Afrormosia wood for low resonance • NEW anti-skating control calibrated in ½ grams and infinitely variable • NEW stylus force adjustment dial with detent stops of ¼ grams • NEW combined manual-cueing-pause control: single lever starts turntable, activates cueing, lifts and lowers arm gently to record • NEW Auto-Rise Safety platform for automatic play — disappears into unit for single play • NEW interchangeable cartridge clip — no need for plug-in shells • NEW versatile automatic lever controls all automatic and manual functions • NEW combined speed and record size selector • NEW full 12" turntable, kinetically matched to synchronous motor • NEW single play spindle rotates with record.

SL 75 **3-speed Automatic Transcription Turntable, $109.50.** A brilliant combination of revolutionary new features, with new Synchro-Lab motor.

• NEW low mass, one-piece tonearm of twin-braced aluminum for extra rigidity and freedom from resonance • NEW interchangeable cartridge clip — no need for plug-in shells • NEW patented, adjustable anti-skating control, infinitely variable • NEW adjustable counterweight, suspended in resonance-absorbing plastic • NEW stylus pressure adjustment assembly with "optical" knob • NEW Auto-Rise Safety platform for automatic play; disappears into unit when not in use • NEW one-lever manual and cueing control starts turntable, activates cueing, lifts and lowers arm gently to record • NEW full 12" aluminum turntable • NEW combined speed and record size selector • NEW single play spindle rotates with record.

SL 65 **4-speed Automatic Turntable, $79.50.** With the brilliant new SYNCHRO-LAB motor and a host of advanced features:

• Tubular, dynamically balanced tonearm • Resiliently mounted counterbalance weight • Automatic anti-skate assembly • Stylus pressure adjustment assembly with knurled "optical" type knob • Cueing and pause control • Lightweight, cutaway shell with new cueing pointer • Super-sensitive Du Pont Delrin® trip • Cast, balanced, oversized turntable • Interchangeable spindles; automatic intermix operation when desired.

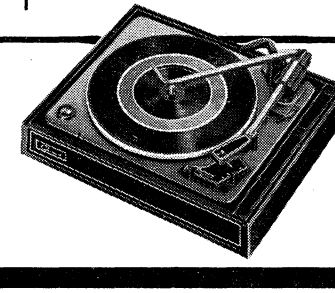
New, Module SLx2

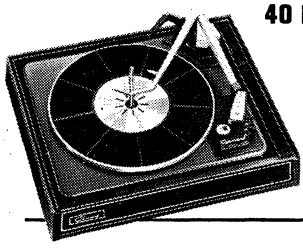
3-speed Automatic Turntable Complete With Handsome, Matching Base Coordinated Dust Cover and High Performance Magnetic Cartridge, $69.50. With Synchro-Lab motor for an outstanding automatic record playing unit to compliment the finest stereo components.

Features include: • Oversize balanced turntable with distinctive aluminum trim ring and safety groove mat • Ultra low mass, dynamically balanced tubular aluminum arm • Adjustable counterbalance • Built-in adjustable stylus pressure adjustment knob, calibrated from 0 to 5 grams • Single-lever cueing and pause control for both automatic and manual functions • Unique, swing-away overarm for single-record play • Synchro-Lab motor guarantees absolutely constant synchronous speed for perfect record reproduction.

SL 55 **4-speed Automatic Turntable, $59.50.** With the Synchro-Lab motor. Unmatchable value in a synchronous-speed automatic turntable. Features include:

• Lightweight tubular tonearm with resiliently mounted counterbalance weight • Stylus pressure adjustment with gram markings • Manual cueing and pause control • Lightweight plug-in shell with cueing pointer • Oversized turntable with distinctive trim ring • Two spindles; automatic intermix operation when desired.





40 MK II **4-speed Automatic Turntable, $44.50.** The Model 40 Mk II is undoubtedly the most widely-featured automatic in preselected music systems throughout the country. Its features include:

• Cast aluminum, counterbalanced tonearm • Simple, accessible stylus pressure adjustment • Lightweight cutaway shell with extended finger lift • Intermix automatic operation • Super-sensitive Du Pont Delrin® trip • 4-pole shaded "induction surge" motor • Oversized turntable • Two spindles: short for manual; center drop for automatic play when desired • Ultra-compact size fits easily into any record changer space.

Model 30 **4-speed Automatic Turntable, $39.50.** This excellent new model comes complete with a ceramic diamond stylus cartridge, as well as the finest quality and superior features:

• Simple accessible stylus pressure adjustment • NEW one-piece cast aluminum tonearm • Super-sensitive Du Pont Delrin® trip • Garrard-built motor • Intermix automatic operation • Ultra compact size • NEW oversized, weighted turntable • Two spindles: short for manual; center drop for automatic play when desired.

SP 20 **4-speed Manual Record Playing Unit, $37.50.** An efficient, low-priced compact manual player, ideal for basic stereo music systems and quality audio visual applications.

• Semi-counterbalanced arm with adjustable stylus pressure • Interchangeable plug-in head • Garrard-built motor • Full size turntable • Du Pont Delrin® trip • Compact size.

Accessories: Coordinated bases including the new Power-Matic series; dust covers, mounting boards, automatic "45" spindles.

BIC ENDORSED QUALITY

GARRARD, Div. British Industries Corp.

PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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IRISH MAGNETIC TAPE *Div. of MORHAN NATIONAL SALES*

Semi-Professional Recording Tape

Here is famous brand name quality at a popular price and guaranteed to outperform all other tapes in its price field. Quality performance at low cost, includes 30″ color coded leader and trailer plus metal reversing strips at no additional cost.

	Number	Length (Ft.)	Reel Inches	Sugg'd. List Price
		190 SERIES		
Acetate	195-111111	150	3	$ .65
	195-121111	300	4	1.55
	195-131111	600	5	1.75
	195-141211	850	5¾	2.50
	195-151111	1200	7	2.95
	196-111111	225	3	.80
	196-121111	450	4	2.10
	196-131111	900	5	2.50
	196-141211	1150	5¾	3.75
	196-151111	1800	7	4.25
Polyester	197-111111	225	3	.95
	197-121111	450	4	2.55
	197-131111	900	5	2.85
	197-141211	1150	5¾	3.50
	197-151111	1800	7	4.95
	198-111111	300	3	1.40
	198-121111	600	4	3.75
	198-131111	1200	5	4.50
	198-141211	1650	5¾	6.80
	198-151111	2400	7	7.95

Professional Recording Tape

Professional sound fidelity with more advances in magnetic recording than any other tape at standard prices. Specifically designed for perfect response and long term use. Meets and exceeds recommended professional standards. 30″ color coded leader and trailer plus metal reversing strip supplied with each reel.

		200 SERIES		
Acetate	211-111111	150	3	.70
	211-131111	600	5	2.25
	211-141211	850	5¾	2.80
	211-151111	1200	7	3.50
	211-172111	2400	Nab Hub	8.00
	211-172111	2400	10½ Alum	11.50
	211-174111	2400	10½ Fib. Gl.	10.20
	211-193111	4800	14″ Alum.	21.30
	221-111111	225	3	.90
	221-131111	900	5	3.25
	221-141211	1150	5¾	4.00
	221-151111	1800	7	5.25
	221-172111	3600	Nab Hub	9.50
	221-173111	3600	10½ Alum.	12.50
	221-174111	3600	10½ Fib. Gl.	11.00
	221-193111	7200	14″ Alum.	24.00
Polyester	231-131111	600	5	2.65
	231-151111	1200	7	4.25
	241-111111	225	3	1.00
	241-131111	900	5	3.40
	241-141211	1150	5¾	4.50
	241-151111	1800	7	5.80
	241-172111	3600	Nab Hub	12.00
	241-173111	3600	10½ Alum.	13.75
	241-174111	3600	10½ Fib. Gl.	13.25
	241-192111	7200	Nab Hub	23.00
	241-193111	7200	14″ Alum.	28.00

	Number	Length (Ft.)	Reel Inches	Sugg'd. List Price
		200 SERIES (Continued)		
Polyester	251-111111	300	3	$1.60
	251-131111	1200	5	5.45
	251-141211	1650	5¾	6.80
	251-151111	2400	7	9.50
	251-172111	4800	Hub	19.00
	251-173111	4800	10½ Alum.	22.00
	251-174111	4800	10½ Fib. Gl.	20.50

Triple Play Tape

		261 SERIES		
	261-131111	1800	5	6.95
	261-151111	3600	7	11.95
		CASSETTES		
	261-C60	60 minutes		2.50
	261-C90	90 minutes		3.75
		270 SERIES		
		Low Noise & Mastering Tape		
Acetate	271-151111	1200	7	4.40
	271-171111	2400	10½ Fib. Gl.	12.50
	271-174111	2400	10½ Fib. Gl.	12.50
	271-273111	2400 x ½	10½ Mtl. Nab	26.00
Polyester	273-151111	1200	7	5.50
	273-171111	2400	10½ Fib. Gl.	15.00
	273-174111	2400	10½ Fib. Gl.	15.00
	273-273111	2400 x ½	10½ Mtl. Nab	37.00
Polyester	274-151111	1800	7	7.35
	274-171111	3600	10½ Fib. Gl.	17.50
	274-174111	3600	10½ Fib. Gl.	17.50
	274-273111	3600 x ½	10½ Mtl. Nab	40.00

Other reel types and sizes available. Write for quotations.

TAPE-A-LETTER in plastic self mailer

(Professional Grade Tape)

4275	275	3	$1.25
4225M	225	3	1.50

NOTE: New metal reversing strips plus 30″ leader and 30″ trailer for both 190 & 200 Series standard on 3″, 5″, 5¾″, 7″ reels. Individual "signature binding" supplied free with 5″, 5¾″, 7″ reels for both 190 & 200 Series, 10½″ Fiber Glass reels available with NAB or 5/16″ center.

LUBRICATED TAPES 1 Mil Polyester

9141002	1800′	7″ Reel
9141004	3600′	Plastic Hub
9141005	7200′	Plastic Hub

Also available: ¾ mil lube tape and complete line of tapes for O.E.M. and video applications. Prices on request.

Full line of tape accessories also available.

½″ VIDEO TAPES

for Helical Scan Recorders

182-60	2400 ft. (60 min.)	7″ reel	39.95
182-45	1800 ft. (45 min.)	7	29.50
182-30	1200 ft. (30 min.)	7	21.95
182-15	600 ft. (15 min.)	7	11.50

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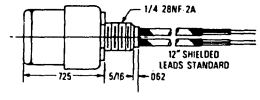
Nortronics COMPANY, INC.

MAGNETIC TAPE HEADS AND QUIK-KITS

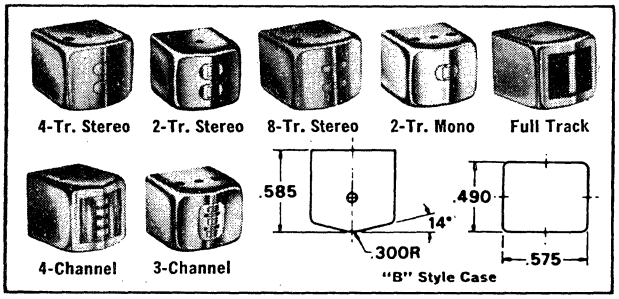
Designed and manufactured to highest standards of excellence, Nortronics tape heads are used as "original" equipment by more than 80% of the nation's tape recorder manufacturers. Nortronics now offers a complete line of heads, available in a wide selection of track styles, functions and sizes in PROFESSIONAL, PREMIUM or STANDARD versions.

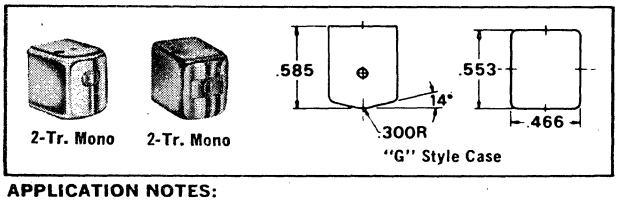
ABOUT THIS LISTING—The magnetic heads, hardware and accessories listed on these four pages is only a partial listing of the complete Nortronics line. **For information on more than 1800 replacements and more than 1800 possible conversions, see your Nortronics Distributor.** His comprehensive listings contain cross-reference data by: 1.) Manufacturer's Name and Model 2.) Recorder Manufacturer's Head Part Number and 3.) Head Manufacturer's Part Number.

REAR MOUNT HEADS—All heads listed below are No-Mount styles. Rear-Mount styles are also available, except on "Combos," and 3100 and 5800 Series, and may be ordered by simply adding 50 to last two digits of No-Mount model number. (i.e.: 1203 No-Mount becomes 1253 to indicate same head with Rear-Mount.) For Rear-Mount prices, see footnote under charts.



■ Record/Play and Record-Only Heads



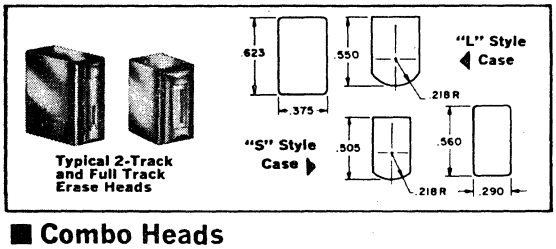


Head Description	Nortronics Model No. No Mount	Nortronics Model No. Case Style	Head Function	Application (See Notes)	1 KHz Inductance MHY	1 KHz Impedance OHMS	DC Resistance OHMS	Net Each† (No Mount)
Standard 4-Track Stereo Hyperbolic Metal Face Laminated Cores	1000	B	Record/Play	1	800	5000	700	$21.00
	1001	B	Record/Play	2	400	2500	390	21.00
	1002	B	Record/Play	3	100	650	90	21.00
	1009	B	Record/Play	5	500	3300	700	21.00
Premium 4-Track Stereo Hyperbolic Metal Face Laminated Cores	1200	B	Record/Play	1	800	5000	700	$28.20
	1201	B	Record/Play	2	400	2500	390	28.20
	1202	B	Record/Play	3	100	650	90	28.20
	1203	B	Record Only	5	50	400	90	28.20
Standard 2-Track Stereo Hyperbolic Metal Face Laminated Cores	1800	B	Record/Play	1	800	5000	720	$23.30
	1801	B	Record/Play	2	400	2500	410	23.30
	1802	B	Record/Play	3	100	650	130	23.30
Premium 2-Track Stereo Hyperbolic Metal Face Laminated Cores	2000	B	Record/Play	1	800	5000	720	$30.30
	2001	B	Record/Play	2	400	2500	410	30.30
	2002	B	Record/Play	3	100	650	130	30.30
	2003	B	Record Only	5	50	320	130	30.30
Premium 2-Track Mono Hyperbolic Metal Face Laminated Cores Track .040 Off Center	2600	B	Record/Play	1	800	5000	400	$15.90
	2601	B	Record/Play	2	400	2500	165	15.90
	2602	B	Record/Play	3	100	650	70	15.90
Standard 2-Track Mono Hyperbolic Metal Face Laminated Cores	3000	G	Record/Play	1	800	5000	400	$ 8.40
	3001	G	Record/Play	2	400	2500	165	8.40
	3002	G	Record/Play	3	100	650	70	8.40
2-Track Mono (Center Tr.) Cylindrical Metal Face Solid Cores	3100	G	Record/Play	1	1000	6300	625	$ 8.40
	3101	G	Record/Play	2	400	2500	350	8.40
Premium 2-Track Mono Hyperbolic Metal Face Laminated Cores	3200	G	Record/Play	1	800	5000	400	$15.90
	3201	G	Record/Play	2	400	2500	165	15.90
	3202	G	Record/Play	3	100	650	70	15.90
Premium Full-Track Hyperbolic Face Laminated Cores	4100	B	Record/Play	2	250	1500	200	$34.70
	4101	B	Record Only	5	55	330	125	34.70
Premium 4-Channel Hyperbolic Metal Face Laminated Cores	5601	B	Record Only	5	50	320	150	$99.00
	5602	B	Record/Play	3	90	600	100	99.00
	5603	B	Record/Play	2	370	2200	690	99.00
Premium 3-Channel Hyperbolic Metal Face Laminated Cores	5701	B	Record/Play	2	340	2000	800	$99.00
	5702	B	Record/Play	3	100	650	260	99.00
	5703	B	Record Only	5	50	400	260	99.00
Premium 8-Track Stereo Hyperbolic Metal Face Laminated Cores	5800	B	Record/Play	2	400	2500	700	$15.00
	5810	B	Record Only	4	10	75	42	21.00
	5813	B	Record Only	5	50	400	220	21.00
Premium 8-Track 4-Channel for high speed duplicating or instrumentation	5832	B	Record/Play	2	200	1400	500	$81.00
	5833	B	Record/Play	3	100	700	250	81.00
	5834	B	Record Only	5, 6	50	400	250	81.00
	5835	B	Dup. Record	4, 6	10	80	60	81.00
	5836	B	Dup. Record	4, 6	2	20	16	81.00

†Note: For Rear Mount add $1.50, except on 5650 and 5750 series add $6.00.

APPLICATION NOTES:
1. High-impedance general-purpose record/play or playback-only head for vacuum-tube circuits. **2.** Medium-impedance record/play head for vacuum-tube or transistor circuits. **3.** Low-impedance record/play for transistor circuits. **4.** Special low-impedance record-only for vacuum-tube or transistor circuits in duplicators and professional recorders. **5.** Low-impedance record-only for vacuum-tube or transistor circuits. **6.** For bias frequencies up to 750 KHz.

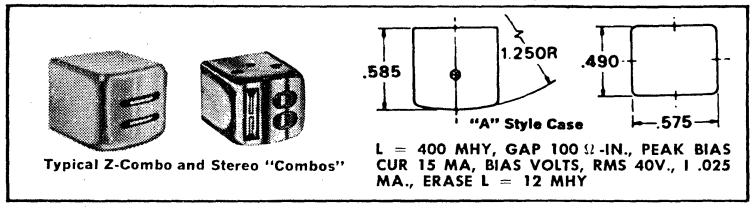
■ Erase Heads



Head Description	Nortronics No Mount Model Nos. Standard "S" Case	Large "L" Case	Imped.	1 KHz Induct. MHY	60 KHz Imped. OHMS	Operating Erase Current* MA	DC Resis. OHMS	60 KHz Operating Voltage VOLTS	Net Each†
4-Track Stereo Erase Full Metal Face	1400	1400L	Hi	80	30,000	3—5	270	90—150	$12.00
	1401	1401L	Med	10	2,800	10—15	40	28—42	12.00
	1402	—	Lo	0.13	40	80—140	2	3—6	12.00
2-Track Stereo Erase Full Metal Face	2200	2200L	Hi	80	25,000	4.5—7.0	205	100—150	$12.00
	2201	2201L	Med	8	2,000	16—24	35	32—48	12.00
2-Track Mono Erase Full Metal Face	3600	3600L	Hi	80	25,000	4.5—7.0	205	100—150	$ 8.00
	3601	3601L	Med	8	2,000	16—24	35	32—48	8.00
Full-Track Mono Erase Full Metal Face	4400	4400L	Hi	40	12,000	10—15	88	100—150	$14.00
	4401	4401L	Med	3.6	1,000	32—48	25	32—48	14.00

*For 60 db erasure of saturated tape. Voltages shown are RMS.
†For Rear Mount, add $1.50.

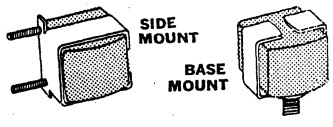
■ Combo Heads

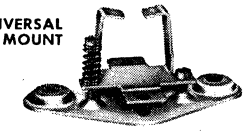


Head Description	Nortronics No Mount Model No.	Head Function	Equivalent Head Specification Reference	Net Each
4-Track Stereo "Combo" Metal Face	6000	Record/Play, Erase	1201, 1400	$33.00
	6001	Record/Play, Erase	1203, 1400	33.00
	6002	Record/Play, Erase	1201, 1401	33.00
	6003	Record/Play, Erase	1000, 1402	33.00
	6009	Record/Play, Erase	1009, 1401	33.00
4-Track Stereo Z-Combo	6800	Record/Play, Erase		$23.70
2-Track Stereo "Combo" Metal Face	6100	Record/Play, Erase	2001, 2201	$36.00
2-Track Mono "Combo" Metal Face, Center Track	6125	Record/Play, Erase	3000, 3600	$21.00

■ Quik-Kit Mounting Hardware

Nortronics Quik-Kits consist of packaged hardware and complete instructions for installation of a Nortronics tape head on a recorder. Most Quik-Kits are universal in design to fit most recorders—special Quik-Kits are for use on recorders requiring a mount unique to that machine type only.





Quik-Kit	Description	Net
QK-18	Erase—Side Mount, "S" Cases	$1.00
QK-19	Erase—Base Mount, "S" Cases	1.00
QK-20	R/P—Side Mount, "G" Cases	1.00
QK-21	R/P—Base Mount, "G" Cases	1.00
QK-35	Spec. Base Mt., "A"; "B" Cases	2.00
QK-38	Side Mount, "A"; "B" Cases	1.00
QK-66	Base Mount, "A"; "B" Cases	1.00
QK-76	Ampex Mounting Block	12.00
QK-74	Adjustable Head Mt. "B" Case	2.25
QK-77	Adjustable Head Mt. "G" Case	2.25
QK-78	Adjustable Head Mt. "S" Case	2.25

Quik-Kit	Description	Net
QK-100	Pentron R/P Mount	$ 2.00
QK-102	Sony R/P Mount	1.75
QK-114	2—"B" Head Stereo Cart. Mt.	13.60
QK-115	2—"G" Head Mono Cart. Mt.	13.60
QK-117	2—1 "B" Stereo, 1 "G" Mono Cart. Mt.	13.60
QK-119	Sony R/P Strap Mount	1.00
QK-300	Pentron Erase Mount	2.25
QK-305	Sony Erase Mount	3.00
	L-Bracket Side Mts.	.50
	L-Bracket Side Mts.—R. Bend	.70
	L-Bracket Side Mts—L. Bend	.70

YOUR BEST AND MOST COMPLETE SOURCE FOR MAGNETIC TAPE HEADS

Net
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Nortronics COMPANY, INC.

DIRECT REPLACEMENT HEADS FOR: POPULAR TAPE RECORDERS

■ Listing by Manufacturer and Model Number

Manufacturer and Model Numbers	Function	Nortronics Head + Q-Kit	Net,† Less Quik-Kit
BELL SOUND (some prefixed T, BT, RT, TRW-S, RP, TR)			
171, 200, 201, 202, 203, 205-OB, 206, 207-S, 208, 210	RP	3000 + 20	$ 8.40
201, 202, 205-1B, 206, 212, 216	RP	1800 + 38	23.30
All above except 203, 205-OB, 207-S, 208	E	3601 + 18	8.00
203, 207-S, 208, 211, 213, 218, 223, 228, 233, 238, 238-A	RP	1800 + 38	23.30
All above except 211, 233, 238, 238-A	E	2201 + 18	12.00
401, 402, 403, 404, 405, 406	RP	1002 + 38	21.00
223, 228, 233, 238, 238-A, 337, 347, 401, 402, 403, 221,404, 405, 406, 601, 603	RP	1009 + 38	21.00
All above except 221, 223, 228	E	1401 + 18	12.00
221	P	1801 + 38	23.30
360, 367 deck with 360 amp	RPE	6002 + 38	33.00
Use with above	P	1000 + 38	21.00
65B, 75, 76, 88, 204, 205-OB, 2260, 2261	RPE	RPE-23 + none	15.60
PANASONIC			
101S, 102S, 152S	RP	3101 + 21	8.40
101S, 102S, 152S	E	3600 + 18	8.00
115, 500, 555	RP	3101 + None	8.40
700	RP	2600 + 66	15.90
705	RP	3100 + 21	8.40
All above	E	3600 + 19	8.00
755, 755S	RP	1008 + 66	21.00
755, 755S	E	1401 + 19	12.00
PENTRON			
HF-400, HT-225, P-4, PB-1, PBA-2, PMC, PMD-1, 9T-3C, 9T-3M, T-90, TM-56, TR-4, PT-1, TM-1, NL-1, CT-1, RWN, PT-72, PT-74, PT-W3, NL-2, NL-3, TR-10	R/P	3000 + 100	$ 8.40
All above models except PBA-2 and PB-1	E	3600 + 300	8.00
NL-4, GR-1500	R/P	1009 + 38	21.00
	E	1401 + 18	12.00
GR15A/B/S, AR-62, XP60	R/P	3000 + 20	8.40
	E	3601 + 18	8.00
XP-60S	R/P	1000 + 38	21.00
	E	3601 + 18	8.00
AR62S	Play	1009 + 38	21.00
	E	3601 + 18	8.00
PR-65	R/P/E	6002 + None	33.00
ST-3	R/P	1800 + 38	23.30
	E	3600 + 18	8.00
NL-1S, NL-2S, NL-3S, PT-1S, PT-72S, PT-74S, PT-745, PT-W3S, TM-4	R/P	1800 + 100	23.30
	E	3600 + 300	8.00
REVERE, WOLLENSAK, 3-M			
10, 11, 15-27, 200, 202, 700, 700D, 750, 752, 762, 800, 800D, 826, 850, 852, 900, 905, 925, 926, 1000, 1005, 1025, 1026, 1100, 1105, 1125, 1126, 1200, 1205, 1225, 1226, 1400 (B, C, D, E), 1405, 1425, 1426, 1500, 1520, 1570, 1600, 1700, 1800, 2000, 2005, 2025, 7805, 70000 series	RPE	[2]RPE-20 or [1]RPE-23	$18.60 15.60
100, 300, 301, older 2TR mono	RPE	RPE-23	15.60
500, 600	RPE	RPE-24	15.60
204, 1120, 1515, 1515-2	RPE	RPE-50	32.50
1500 (SS, AV, D)	RPE	RPE-21	22.80
11-4, 204-4, 1440 (B, C, D, E), 1515-4, 1616-4, 1818	RP	7601	28.50
All above	E	7720	11.00
524, 540, 7500, 7540	RPE	6125	21.00
1280, 1281	RPE	6002	33.00
1580, 1780 (B, C, D, E), 1980 (B, C, D, E), 1981 (B, C, D, E), 2200, 2205, 2225	RP	7601	28.50
All above except 2200 series	E	E-59	17.75
2200 series only	E	E-52	16.25
5200, 5250, 5280, 5300	RPE	6005	33.00
SONY (some prefixed TC, SSA)			
262 (D, SL), 464 (CS, D, SL)	RP	1000 + 102	21.00
300, 500, 501, 521	RP	1000 + 119	21.00
200, 250, 260, 350	RP	1007 + 102	21.00
263, 263E, 350, 600, 777S-4	R	1210 + 102	28.20
260, 200, 250, 250, 300, 500, 521	E	1401 + 306	12.00
262 (CS, D, SL), 464 (CS, D, SL), 777, 300, 500, 501, 521	E	1402 + 305	12.00
263, 263E, 600, 350	E	1402 + 306	12.00
101	RP	2601 + 102	15.90
101	E	3602 + 18	8.00
102	E	3600 + 19	8.00
123	RP	3002 + None	8.40
135, 111	RP	3000 + None	8.40
905A, 801A, 102 Cement to mount	RP	3001 + None	8.40
900	RP	3002 + 21	8.40
777S-4, 600	P	1002 + 102	28.20
VM			
710 (A), 711 (A), 714, 730, 750 (A), 1000	RP	3101 + 20	8.40
700, 701	RP	3000 + 20	8.40
All above except 700	E	3601 + 18	8.00
700	E	3600 + 18	8.00
710Q, 720, 722, 735 (add a track), 740 (1), 741, 755, 1001-(1, 2), 1002-(1, 2)	RP	1009 + 38	21.00
714, 720, 722, 755, 750A, 1000	P	1801 + 38	23.30
1001-(1, 2), 1002-(1, 2)	P	1800 + 38	23.30
710Q, 720, 722, 755, 1001-(1, 2), 1002-(1, 2)	E	1401 + 18	12.00
740, 740-1, 741	RPE	6002 + 38	33.00
754, 744, R-800, 1482-1	RPE	6005 + 38	33.00
726, 733-1, 735, 738-1, 739-1, 1471-1, 1481-1	RPE	6009 + 38	33.00
725-1	RPE	6127 + 38	21.00
WEBCOR (some prefixed CP, EP, LT, PB, TP)			
2001-(1, 1A, 1B, 1C), 2002, 2009, 2206-1 2800 & 2900 series	RP	7403 + None	10.50
2200 (-1), 2202 (-1), 2300 (-1), 2302 (-1)	RP	7404 + None	10.50
2303 (-1), 2400-1, 2402 (-1), 2500 (-1, 10), 2502 (1, 10), 5400	RP	1000 + None	21.00
2008, 2208, 2323 (-1, 1A)	E	7500 + None	8.00
For all models above			
2007, 2107 (-1), 2150, 2007 (-1), 2208-1, 2250 (-1), 2328 (-1), 2356 (-1, 1A, 1B), 2357 (-1), 2360 (-1), 2366-1B, 2391, 3392, 3393, 4007-1, MUSIC MAN	RP	1000 + None	21.00
2101-1, 2205, 2205-1	RP	7400 + None	10.50
For all models above	E	1402 + 18	12.00
2520-1, 2522-1, 2456 (-1), 2457 (-1), REGENT 2403 (-1), 2503-1, VISCOUNT	RPE	6003 + None	33.00
	RPE	6025 + None	33.00
For all models utilizing replaceable pole piece	RP	7400 + None	6.00

†For prices of Quik-Kits, see listing on Page 1 of this section.

1. Replaces Shure Head 2. Replaces Nortronics Head 3. Mount inside original head case

■ **Conversion Kits** for Revere and Wollensak Request Form Nos. 7153 & 7017.

■ Listing by Head Manufacturer

ROBINS (MICH. MAG.) Part Numbers	Nortronics Head + Q-Kit	Net,† Less Quik-Kit
08Q8, 5P17, 5Q08, 5Q8, 5Q17 (105, 300), 5QT17-(105, 300)	1009 + 38	$21.00
09QT17, 7B17	1008 + 38	21.00
2L35, 2M40G, 3L20-101, 3L20S, 3M20A, 2120, 4N300	3001 + 20	8.40
2FM20-500, 3FM20-502, 2MV17-301, 7HV17-102, 7HV40-101, 10NV17	6127 + 38	21.00
3A20-101, 3F20-101, 3F20L	1851 + —	24.80
3F20-(105, 106)	1801 + 66	23.30
3FM20-(104, 107, 108, 320), 10FM20	3051 + —	17.40
5AV17, 6AV17 (200, 203)	6009 + 38	33.00
5B20LS, 10B20LS, 2835741, 5FM20	1800 + 38	23.30
5L20, 5L20U, 7H17, 7H40, 7L17-(105, 108), 7L17U, 9L20S, 10H25, 10L17-104, 10L17B, 10L17S, 10L20S, 10L70, 10M20A, 10M70A	3000 + 20	8.40
5S1-103, 7EM12A, 551-115 5S1-321	3601 + 18	8.00
5SS1	2201 + 18	12.00
5TRB, HRE-1	RPE-23 + —	15.60
5AV17, 6AV17-200, 4NV2Q10B-1	6009 + 38	33.00
8BE30, 9EQ3-300, 9QE3, 9QTE3, 12EQ-200, 18HE6-201	1401 + 18	12.00
40EM12A, 50HE6-201	3600 + 18	8.00
40EQ3-101	1400 + 18	12.00
4NE-100, 300, 4NH2L (S-O, X-O)	5800 + —	15.00

†For prices of Quik-Kits, see listing on Page 1 of this section.

NOTE: All heads with a 100 Series dash number are interchangeable with heads with a 300 Series dash number. For example: 3L20-101 and 3L20-301 are interchangeable.

SHURE Part Numbers	Nortronics Head + Q-Kit	Net†, Less Quik-Kit
815, TR5B, TR5B-J, TR5D, TR6H, TR5N	RPE-23 + —	$15.60
815H, 816, TR5C, TR5K, TR5L, TR5Z-2, TR5Z-J	RPE-24 + —	15.60
817, TR16A, TR21A, TR21C	3101 + 20	8.40
TE2, TE2-J, TE11C, TE11C-J	3601 + 18	8.00
TE30	3600 + 19	8.00
TE35	3650 + —	9.50
TK418	RPE-20 + —	15.60
TR16, TR16J, TR21B, TR21C-J, TR26	3100 + 20	8.40
TR30	2601 + 66	15.90
TR40, TR40-J	2001 + 66	30.30
TR54, TR54-J	7601 + —	28.50

†For prices of Quik-Kits, see listing on Page 1 of this section.

■ Automobile Stereo Tape Players

NORTRONICS #5800 replacement tape head is a direct replacement for 90% of all 8-track automobile stereo tape players, include: Buick, Chevrolet, Chrysler, Delco, Ford, Lincoln, Motorola, Muntz, Orrtronics Ranger, and many others. Nortronics #5800 Replacement tape head..... Net **$15.00**

■ Film-Striping, Magnetic Drums and Discs

NORTRONICS #4950 Record/Playback head is miniature in size but big in performance. Measuring only .3125" x .3125" x .375", it incorporates the high performance features of the standard size Nortronics head. Rear mount only Net **$14.00**

NORTRONICS #5350 Erase head to complement the #4950 R/P head. Size and mounting is the same Net **$12.00**

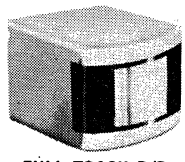
Specifications	Inductance 1 KHz	Resistance DC	Track Width
#4950	40 mHy	125 ohms	0.024 in.
#5350	5 mHy	38 ohms	0.042 in.

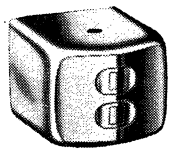
YOUR BEST AND MOST COMPLETE SOURCE FOR MAGNETIC TAPE HEADS

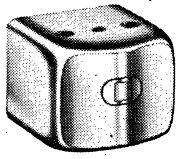
Nortronics COMPANY, INC.

DIRECT REPLACEMENT HEADS FOR: PROFESSIONAL MACHINES

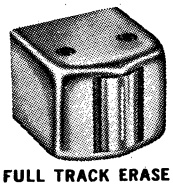
■ Replacement Head Listing for Professional Machines

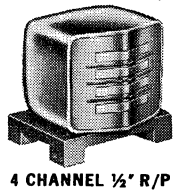

FULL TRACK R/P

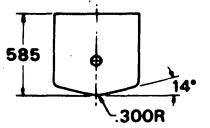

2-TRACK STEREO R/P

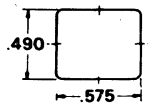

2-TRACK MONO R/P

4-TRACK STEREO R/P

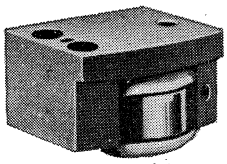

FULL TRACK ERASE


4 CHANNEL ½" R/P





■ Head Mounting Brackets for Professional Machines


QK-76 with Nortronics Head

QK-76 contains all hardware and illustrated instructions necessary to adapt a Nortronics head to the shield cup of an Ampex head nest. Includes: precision cast aluminum block; spacers; screws; connector plug—all other parts necessary are utilized from the original Ampex equipment...Net Each **$12.00**

QK-35 is a special base-mount bracket kit for adapting Nortronics no-mount heads for replacement of Brush heads, or in any application requiring a large base-mounting stud. (Stud is ¼"—28 x ⅝").....Net Each **$2.00**

■ Tape Recording Accessories

TAPE GUIDES

TG-7, Tape Guide Post. Vertically adjustable with tapped mounting hole in base. Chrome-Plated brass for long life.....Net each **$1.00**

TG-8, Tape Guide Plate. For Side-Mount heads and L-5, L-6 or L-7 bracket; gives additional guiding.....Net each **$ .50**

CONTACTOR HEAD

Used with metal foil cueing (has 2 contactor shoes) CH3N/B—includes base mount..... **$8.00**

CH3R—rear-mount style..... **$9.50**

ALIGNMENT TAPE

AT-100 Azimuth and Amplifier Alignment Tape. A 7.5 IPS full track, direct oscillator master recording of frequencies from 40 to 10,000 Hertz for checking azimuth and NAB equalization. 1000 Hertz zero reference level tone included. Instructions are included.....Net each **$4.95**

CONNECTOR ASSEMBLIES

CC-70—18" plug and shielded insulated cable assembly for Nortronics heads (Except Mono Combo).....Net each **$2.00**

CC-77—18" plug and shielded insulated cable assembly for Nortronics Mono Combo heads.....Net each **$2.00**

Manufacturer and Model Numbers	Original Function	Nortronics Head + Quik-Kit	Net,† Less Quik-Kit
AMPEX 300, 350, 351, 354, 400, 450 series PR-10, 600, 900, 1200, AG350, AG355 NOTE: On PR-10 600, 900 & 1200 series use QK-66 instead of QK-76 NOTE: QK-66 and/or QK-76 required only for initial replacement using Nortronics head. *351, 354, 400, 450 350 Full Track	Record Full Track* Play Full Track* Erase Full Track (1)* Erase Full Track (2)*	8001 + 76 8000 + 76 8109 + 76 8106 + 76	$36.00 36.00 30.00 30.00
	Record 2-Track Stereo Play 2-Track Stereo Erase 2-Track Stereo (1) Erase 2-Track Stereo (2)	8201 + 76 8200 + 76 8309 + 76 8304 + 76	32.00 32.00 26.00 26.00
	Record 2-Track Mono Play 2-Track Mono Erase 2-Track Mono (1) Erase 2-Track Mono (2)	8401 + 76 8400 + 76 8509 + 76 8504 + 76	22.00 22.00 18.00 18.00
	Record 4-Track Stereo Play 4-Track Stereo Erase 4-Track Stereo	8604 + 76 8600 + 76 8701 + 76	30.00 30.00 26.00
	Record Full Track Play Full Track Erase Full Track	9103 + 76 9102 + 76 9125 + 76	42.00 42.00 42.00
(1) For all but 300, AG350 & AG355 (2) For 300 only NOTE: AG350 & AG355—Write for recommended Erase head listing.			
CROWN 701, 801, BX801, 1001, 1401	Play only or Record/Play, Full Track Record, Full Track Erase, Full Track	8006 + 35 8001 + 35 8102 + 35	36.00 36.00 30.00
712, 822, BX822, 1022, 1422/8	Play only or Record/Play Stereo, 2-Track Record Stereo, 2-Track Erase Stereo, 2-Track	8209 + 35 8201 + 35 8304 + 38	32.00 32.00 26.00
702, 802, BX802, 1002, 1402/8	Play only or Record/Play Mono, 2-Track Record Mono, 2-Track Erase Mono, 2-Track	8403 + 35 8404 + 35 8504 + 38	22.00 22.00 18.00
A51, A314	Play only Mono, 2-Track	8406 + 66	22.00
A54, A324, SP324	Play only Stereo, 4-Track	8601 + 66	30.00
714C, 824, BX824, BX1024, 1424	Play only or Record/Play Stereo, 4-Track Record Stereo, 4-Track Erase Stereo, 4-Track	8608 + 66 8603 + 66 8701 + 38	30.00 30.00 26.00
MAGNECORD 1021 *No QK required	Record, Full Track Play Mono, 2-Track (Optional) Erase, Full Track Play, Full Track	8005 * 8408 * 8102 * 8006 *	40.00 22.00 30.00 36.00
1022 *No QK required	Record Stereo, 2-Track Play Stereo, 2-Track Erase Stereo, 2-Track	8203 * 8202 * 8302 *	35.00 35.00 26.00
1020, 1024 *No QK required	Record Stereo, 4-Track Play Stereo, 4-Track Erase Stereo, 4-Track	8602 * 8607 * 8702 *	30.00 30.00 26.00
P60, P75, M90 M80	Record, Full Track Play, Full Track Erase, Full Track	8001 + 35 8000 + 35 8105 + 35	36.00 36.00 30.00
R.C.A. RT21 *No QK required	Full Record Full Play Full Erase	8002 * 8003 * 8110 *	68.00 54.00 68.00
	2-Track Stereo Record 2-Track Stereo Play 2-Track Stereo Erase	8206 * 8205 * 8307 *	42.00 54.00 48.00
270-2 **SCULLY** 270-4	2-Track Stereo Play 4-Track Stereo Play	9200 + None 8620 + None	97.00 82.00
280 (¼")	Full Record Full Play Full Erase 2-Track Stereo Record 2-Track Stereo Play 2-Track Stereo Erase	9101 + None 9100 + None 9130 + None 9201 + None 9200 + None 9221 + None	66.00 66.00 66.00 97.00 97.00 97.00
280 (½", 3-channel) 280 (½", 3-channel) 280 (½", 3-channel)	Record Play Erase	9361 + None 9360 + None 9370 + None	164.00 164.00 164.00
282-4 (½", 4-channel) 282-4 (½", 4-channel) 282-4 (½", 4-channel)	Record Play Erase	9461 + None 9460 + None 9470 + None	224.00 224.00 224.00
Note: All Scully replacements include mount.			

†IMPORTANT—For prices of Quik-Kits, see listing on Page 1 of this section.

BIAS OSCILLATOR TRANSFORMERS

T70-T2—For Transistor circuits; with plug in terminals for p.c. board mounting. Supplies 40-120 V. at 60-110 KHz. With instructions. Net each **$4.53**

T70-T6—Similar to T70-T2. Supplies 70 V. at 250-500 KHz for duplicators.....Net each **$9.00**

T60-T2—For transistor circuits. Features Ferrox-cube E-cores for high Q, maximum efficiency and distortion-free waveform. Supplies 40-120 volts at 60-100 KHz. With instructions.....Net each **$4.50**

T60-F—For vacuum tube circuits, push-pull erase and bias power at operating frequencies from 70-100 KHz; output 150 volts rms tapped at 60 volts for high and medium impedance erase heads. With instructions.....Net each **$4.50**

YOUR BEST AND MOST COMPLETE SOURCE FOR MAGNETIC TAPE HEADS

Net

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Nortronics COMPANY, INC.

DIRECT REPLACEMENT HEADS FOR: BROADCAST CARTRIDGE MACHINES

■ No-Mount Head Bracket Assembly for Cartridge Machines

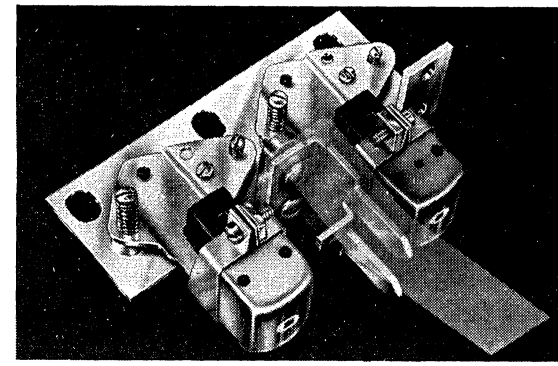
Furnished with cartridge hold-down spring and cartridge guide rail. Completely assembled and semi-aligned.

QK-114 installs two no-mount dual channel heads for mono, or two no-mount three channel heads for stereo. Left head for recording; right head for playback. Requires heads similar to 2000 Series. Net each **$13.60**

QK-115 installs two no-mount mono 2-track heads (see monitor conversion information). Requires heads similar to 3000 Series. Net each **$13.60**

QK-117 installs one no-mount mono head and one no-mount dual channel head, and provides the advantages of monitoring program material during recording (see monitor coversion information). Requires one head similar to 2000 Series, and one head similar to 3000 Series. Net each **$13.60**

NAB Conversion to Monitor—As all professional users of tape equipment know, superior results can be achieved by using a special record-only head plus a separate playback head. Professionals also appreciate the ability to be able to monitor a tape as it is being recorded. Nortronics offers a conversion to monitor operation to update cartridge machines as shown in the shaded (NAB Conversion) columns on the chart below.



■ Replacement Head Listing for Cartridge Machines—By Manufacturer and Model Number

NAME OF MFG.	MANUFACTURER'S MODEL NO.	NO-MOUNT HEADS					REAR-MOUNT HEADS				
		MFG. HEAD NO.	REPLACEMENT FUNCTION	REPLACEMENT NORTRONICS HEAD + QUIK KIT	NAB CONVERSION FUNCTION	NAB CONVERSION NORTRONICS HEAD + QUIK KIT	MFG. HEAD NO.	REPLACEMENT FUNCTION	REPLACEMENT NORT. HEAD	NAB CONVERSION FUNCTION	NAB CONVERSION NORT. HEAD
ATC	CP11, CP12, CP13 MONO		Rec.—Prog. & Cue Play—Prog. & Cue	2003 / 2007 +114	Unit is NAB Std.		20-1014 20-1011	Rec.—Prog. & Cue Play—Prog. & Cue	2053 2057	Unit is NAB Std.	
	CP21, CP22, CP23 STEREO (3-Channel)		Rec.—Prog. & Cue Play—Prog. & Cue	5703 / 5707 +114	Unit is NAB Std.		20-1016 20-1015	Rec.—Prog. & Cue Play—Prog. & Cue	5753 5757	Unit is NAB Std.	
	P150, P190, PB150, PB190 PC150, PC190		Rec./Play—Prog. Rec./Play—Cue Requires circuit modification, see Nortronics Form No. 7213.	3201 / 3200 +115	Rec.—Prog. Play—Prog. R/P—Cue See Note*	3205 / 2000 +117	20-1001	Rec./Play—Prog. Rec./Play—Cue Requires circuit modification, see Nortronics Form No. 7213.	3251 3250	Rec.—Prog., Play—Prog., R/P Cue See Note*	3255 2050
COLLINS	P150, P190, PB150, PB190		Rec./Play—Prog. Rec./Play—Cue Requires circuit modification, see Nortronics Form No. 7213.	3201 / 3200 +115	Rec.—Prog. Play—Prog. R/P—Cue See Note*	3205 / 2000 +117		Rec./Play—Prog. Rec./Play—Cue Requires circuit modification, see Nortronics Form No. 7213.	3251 3250	Rec.—Prog. Play—Prog., R/P Cue See Note*	3255 2050
	642A-1, 642A-2		Rec./Play—Prog. Rec./Play—Cue A portion of the vertical rear flange must be cut out of the deck to mount QK-115 or QK-114	3201 / 3200 +115	Rec.—Prog. & Cue Play—Prog. & Cue	2005 / 2000 +114		Rec./Play—prog. Rec./Play—Cue It may be necessary to remount tape guide adjacent to Right head.	3251 3250	Rec.—Prog. & Cue Play—Prog. & Cue	2055 2050
GATES Study actual head configuration on your deck, since model numbers were unchanged when Gates converted from Rear-Mount to No-Mount heads.	M5944		Rec./Play—Prog. Rec./Play—Cue	3201 / 3200 +115	Rec.—Prog. Play—Prog., R/P Cue	3205 / 2000 +117		Rec./Play—Prog. Rec./Play—Cue	3251 3250	Rec.—Prog. Play—Prog. R/P Cue	3255* 2050
	M5735 (SPOT TAPE)		Rec./Play Erase	2601 +35 8501 +35		none none		SEE LEFT SEE LEFT	none none		none none
	M6211 SERIES (Play Only)	730-0343 730-0423 730-0729	Play—Prog. & Cue Play—Prog. & Cue Play—Prog. & Cue	2002 +114 2002 + —	Unit is NAB Std.		730-0343 730-0423	Play—Prog. & Cue Play—Prog. & Cue	2052	Unit is NAB Std.	
	M6212 SERIES (3-Channel) (Play Only)	730-0731	Play—Prog. & Cue	5701 +114	Unit is NAB Std.		730-0727	Play—Prog. & Cue	5751	Unit is NAB Std.	
	M6213C	730-0343 730-0423 730-0729 730-0729 Used with QK-114 to replace Gates Rear-Mount 730-0343 and 730-0423 heads. Direct replacement for Gates No-Mount 730-0729 heads.	Rec.—Prog. & Cue Play—Prog. & Cue Rec.—Prog. & Cue Play—Prog. & Cue	2002 / 2002 +114 2002 / 2002 + —	Unit is NAB Std.		730-0343 730-0423 Direct replacement for Gates Rear-Mount 730-0343 and 730-0423 heads.	Rec.—Prog. & Cue Play—Prog. & Cue	2052 2052	Unit is NAB Std.	
	M6214C (3-Channel)	730-0730 730-0731 Must be used if the original head was cylindrical or was a Nortronics No-Mount head.	Rec.—Prog. & Cue Play—Prog. & Cue	5703 / 5701 +114	Unit is NAB Std.		730—0727 Can be used if original head was a Nortronics Rear-Mount head.	Rec.—Prog. & Cue Play—Prog. & Cue	5753 5751	Unit is NAB Std.	
KRS	REAR MOUNT HEADS MUST BE USED.		Check original Nortronics' OEM head numbers and replace from this listing.	none		none	SLAH4L SLAH5L TLAH4L TLAH5L P-B2H4R P-B2H7K	Rec./Play—Mono Rec./Play—Mono Rec./Play—Stereo Rec./Play—Stereo Rec. Only—Stereo Plbck. only—Stereo	3251 3252 2051 2052 2053 2051		none none none none none none
MACARTA (Moulic Specialties)	105 108 PLAYBACK 2405 2408 CAROUSELS	P-G1H7K P-G1H7K	Play—Prog. Play—Cue	3201 / 3201 +115		none	P-G1H7K-R P-G1H7K-R	Play—Prog. Play—Cue	3251 3251		none
	208 STEREO PLAYBACK (4-Track)	P-B2Q7K P-B2Q7K	Play—Prog. Play—Cue	1201 / 1201 +114	Unit is NAB Std.				none		none
	248 CAROUSEL (Transistor) 500 PLAYBACK (Transistor)	P-B2H2K P-B2H2K	Play—Prog. & Cue Play—Prog. & Cue	2000 / 2000 +114	Unit is NAB Std.				none		none
	560 RECORDER			none	Rec.—Prog. & Cue Play—Prog. & Cue	2005 / 2000 +114			none	Rec.—Prog. & Cue Play—Prog. & Cue	2055 2050
	570 - 590 REC. PLAYBACK (Transistorized)	P-B2H4R P-B2H2K	Rec.—Prog. & Cue Play—Prog. & Cue	2003 / 2000 +114	Unit is NAB Std.						none
RCA	RT 7A Cue head is on left. Program head is next to capstan.		Rec./Play—Prog. Rec./Play—Cue	3201 / 3201 +115	Rec.—Prog. & Cue Play—Prog. & Cue	2005 / 2001 +114	223320 223320	Rec./Play—Prog. Rec./Play—Cue	3251 3251	Rec.—Prog. & Cue Play—Prog. & Cue	2055 2051
	RT 7B, RT 7C Cue head is on left. Program head is next to capstan		Rec./Play—Prog. Rec./Play—Cue	3202 / 3201 +115	Rec.—Prog. & Cue Play—Prog. & Cue Head No. 2047 is a special Dual Channel head with 100 MHY top program channel and 400 MHY bottom cue channel.	2047** / 2047 +114	226517 223320	Rec./Play—Prog. Rec./Play—Cue	3252 3251	Rec.—Prog. & Cue Play—Prog. & Cue Head No. 2097 is a special Dual Channel head with 100 MHY top program channel and 400 MHY bottom cue channel.	2097** 2097
	RT 17 MONO Quik Kit conversion to No Mount heads is not recommended.			none		none		Rec.—Prog. & Cue Play—Prog. & Cue	2052 2052	Unit is NAB Std.	
	RT 37 STEREO (3-Channel) Quik Kit conversion to No Mount heads is not recommended.			none		none	626-143 626-143	Rec.—Prog. & Cue Play—Prog. & Cue	5752 5752	Unit is NAB Std.	
SPARTA	CD 15-2	P-A1HC47K	R/P/E(Combo Hd.)	6127 + —		none			none		none
	PB211 (Play Only)	P-B2H7K	Play—Prog. & Cue	2001 + —	Unit is NAB Std.				none		none
	200P, 200RP, 300P		Rec./Play—Prog. Rec./Play—Cue	3201 / 3200 +115	Rec.—Prog. & Cue Play—Prog. & Cue	2005 / 2000 +114		Rec./Play—Prog. Rec./Play—Cue	3251 3250	Rec.—Prog. & Cue Play—Prog. & Cue	2055 2050
	300B, 400RP, 800RP	P-B2H4R P-B2H7K	Rec.—Prog. & Cue Play—Prog. & Cue	2003 / 2001 +114	Unit is NAB Std.				none		none
	400P, 800P		Play—Prog. & Cue	2001 +114	Unit is NAB Std.				none		none
	600P, 600RP	P-B3Q7K P-B3Q7K	Rec.—Prog. & Cue Play—Prog. & Cue	5701 / 5701 +114	Unit is NAB Std.				none		none
TAPECASTER	600P 600RP, 600CP, 600C RP		Rec./Play—Prog. Rec./Play—Cue	3201 / 3200 +115	Rec.—Prog. & Cue Play—Prog. & Cue	2001 / 2000 +114	P-G1H7K-R G1H2K-R	Rec./Play—Prog. Rec./Play—Cue	3251 3250	Rec.—Prog. & Cue Play—Prog. & Cue	2051 2050
	700P, 700RP		Rec.—Prog. & Cue Play—Prog. & Cue	2001 / 2001 +114				Rec.—Prog. & Cue Play—Prog. & Cue	2051 2051		
	STEREO—700P, 700RP		R/P—Prog. & Cue	5701 +114		none	P-B3Q7K-R	R/P—Prog. & Cue	5751		none

*Complete NAB Coversion not possible. Converts program channel only, to monitor. No circuit changes required.

**Write for circuit modification details.

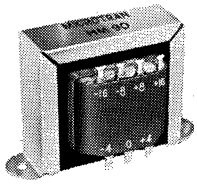
YOUR BEST AND MOST COMPLETE SOURCE FOR MAGNETIC TAPE HEADS

MICROTRAN

PRECISION **HI-FI** ACCESSORIES

Mixing Transformer - Stereo - Mono

Combines stereo channels into balanced mono output

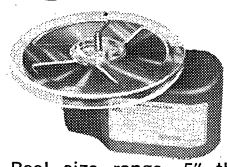


Model HM-90

- Add third speaker to fill "hole in the middle."
- Add mono extension speakers.
- Add and match any combination of mono and extension speakers.
- Assures exact impedance matching
- Simple hookup: connections made to numbered terminals.

- Power: 30 watts.
- Peak Power: 100 watts.
- Frequency Response (Power) 40 to 20,000 Hz.
- Impedance matching Range: ±4 thru ±16Ω.
- Finish: Vacuum Varnish impregnation.
- Size: 3¾"x2½"x2⅝" hi: 3⅛" mtg. ctrs.
- Weight: 2 lbs.
- **Model HM-90 User Net**

Magnetic Tape Eraser – Model HD-11M



A heavy duty bulk tape demagnetizer. Develops high intensity field. Noise level reduced below level of standard erase heads. Restores up to ½" tape to like-new condition or better. Spindle mounting of reel prevents missed spots.

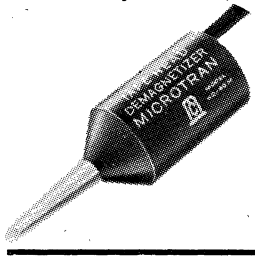
- Reel size range: 5" through 10½" (spindle removable for other sizes).
- Rating: 117 Volts AC, 5 Amps.
- Finish: Cast Epoxy
- Size: 7"Lx3½"Wx3¼"H
- Weight: 9 lbs.
- HD-11M User Net: **$23.50**
- Universal Use: May be used for Demagnetizing Record Playback-Erase Heads, and other metal objects.
- Accessory: Adapter Hub for use with N.A.B. 10½" reels. (Model HD-11AD—User Net **$2.30**)

A Must for Stereo Recording.
(Most stereo recorders do not provide complete erasure facilities)

Tape Head Demagnetizer – Model HD-40M

For Tape Recording Heads

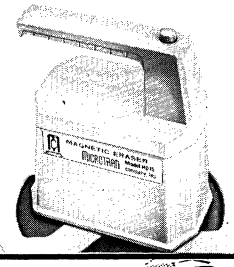
Reduce hum, noise and distortion caused by magnetized heads. Removes any residual permanent magnetism from the heads.



- Safeguards valuable tape libraries.
- Insures high frequency response.
- Special finish on pole piece prevents damaging recording head.
- Extended tapered pole piece for easy access.
- Ratings: 117 Volts AC, 1 Amp.
- Finish: High Impact molded epoxy
- Size: 4"Lx1¼" Diameter
- Weight: 7 ozs.
- **Model HD-40M User Net: $6.15**

Magnetic Tape Eraser – Model HD-15

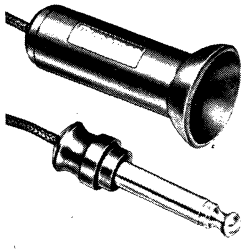
A compact tape demagnetizer that erases signals and noise instantly without rewinding. Removes background noise below level of new tape or sound film.



- Universal unit for any reel size.
- Demagnetizes guide posts, tools, watches, other metal objects, etc.
- Lightweight—hand held—easy to use.
- Tape Width Range: ¼" and ½".
- Sound Film Range: 8, 16, and 35mm.
- Rating: 117 Volts 50/60 cycle, 4 amps.
- Finish: High impact plastic case.
- Size: 4⅜"Lx2½"Wx4⅜"H
- Line Cord: 8' with molded plug.
- Weight: 2½ lbs.
- **Model HD-15 User Net: $11.95**

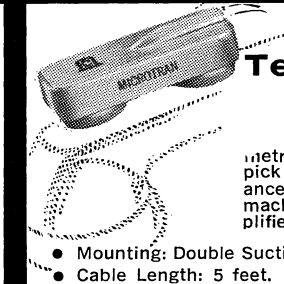
Telephone Pick-up Coil– Model HP-61

For transcribing telephone conversations with tape recorder or dictation machine or making messages audible on amplifier. May also be used as probe for locating sources of hum.



- Equalized Level: Local and distant conversations recorded with more constant signal level than base mounted units.
- Suction Cup: Mounting on telephone receiver.
- Universal Model: One unit suitable for all types of telephones.
- Plug-In Use: Supplied with 68" shielded cable, terminated with standard phone plug for mike input of recorder or amplifier.
- Finish: Optical Black.
- Size: Only ⅝" diameter x 2" long.
- Weight: 1½ ounces.
- **Model HP-61 User Net: $6.15**

Hum-Bucking Telephone Pick-up Coil Model HP-70



transcribing telephone conversations. Symmetrical pick-up coils eliminate high stray hum-pick up caused by fluorescent lights and appliances. For use with tape recorders or dictation machines or making messages audible on amplifier.

- Mounting: Double Suction cup.
- Cable Length: 5 feet.
- Termination: Tinned Leads.
- Shipping Weight: 2 ozs.
- Case: Hi impact plastic.
- Finish: Grey
- Size: 2½"Lx⅞"Wx⅝"H
- **Model HP-70: User Net: $6.95**

As above with Molded Phone Plug Termination.
Model HP-71 User Net: $7.50

In-Line Microphone Transformer Model M8027

Matches low-impedance mike to high impedance amplifier input. Minimizes loss on long cable runs. Mu metal and electrostatic shield suppresses hum. Simple in-line installation on microphone cable.

- Impedance Ratio: 1:400
- Pri. Imp.: 150 through 250 ohms.
- Sec. Imp.: 40,000 ohms nominal.
- Freq. Resp.: 50-20,000 cps ±2db.
- Cable: 20" shielded cable.
- Cable Termination: Tinned Leads.
- Color: Grey.
- Case: Hi impact plastic.
- Size: 2¾"Lx1⅜"Wx⅞"D
- Weight: 2 ozs.
- **Model M8027 User Net $9.00**

Low Level Input Transformers

Broadcast fidelity — microphone transformers — 65 db mu-metal shielding

Fig. A—
Size: 2⅛Hx1⅛D

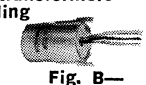


Fig. B—
Size: 1$^{13}/_{32}$Hx1⅛D—M.C.—1$^{13}/_{32}$

Part Number	Pri. Imp.	Sec. Imp.	Freq. Resp. ±2 db	Figure	User Net
M8030*	200/50 C.T.	50,000	20-20,000	A	$13.50
M8031	600 C.T./150	50,000	30-20,000	A	13.35
M8032†	250 C.T.	50,000	20-20,000	A	13.05
M8033†	50 C.T.	50,000	20-20,000	A	13.05
M1-S	50/250 C.T./ 600 C.T.	50,000	20-20,000	B	10.95

M8030-1 have 8 pins. M8032-3 have 9 pins.
*M8030 is designed as a replacement for Ampex No. 1733-1.
†M8032 and M8033 mates with sockets on many RCA amplifiers.

MICROTRAN

Write for CATALOG showing complete specifications

Net

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AKRO-MILS

A-M CABINETS
QUALITY BUILT

PARTS STORAGE CABINETS

YOUR ANSWER TO EFFICIENT STORAGE

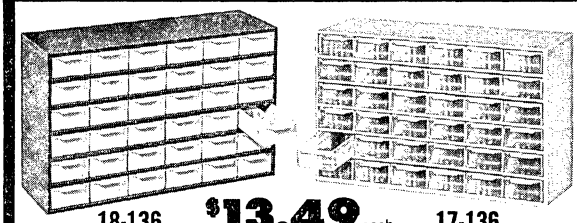
FIND THINGS FAST

36 DRAWER CABINET
COMPACT DRAWERS

17-7/8" w. x 6" d. x 11-1/8" h.
Complete with 36 drawers size 2-3/4" w. x 5-7/8" d. x 1-3/8" h ., each drawer capacity 23 cubic inches. Complete with 3 full-width and 1 lengthwise dividers with each 4 drawers, plus index labels. Shipping wt. 13 lbs.

Model 17-136 with transparent drawers
Model 18-136 Heavy Duty gray drawers

HEAVY DUTY DRAWERS | TRANSPARENT DRAWERS



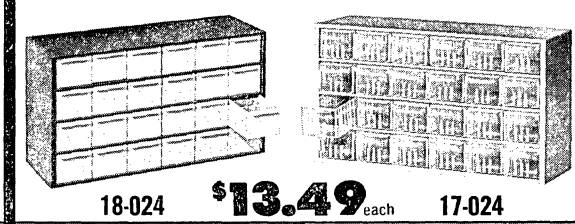
18-136 **$13.49** each 17-136

24 DRAWER CABINET
DEEP-COMPACT DRAWERS

17-7/8" w. x 6" d. x 9-7/8" h.
Complete with 24 drawers size 2-3/4" w. x 5-3/4" d. x 2" h., each drawer capacity 31 cubic inches. Complete with one full-width divider per drawer plus index labels. Shipping wt. 11 lbs.

Model 17-024 with transparent drawers
Model 18-024 Heavy Duty gray drawers

HEAVY DUTY DRAWERS | TRANSPARENT DRAWERS



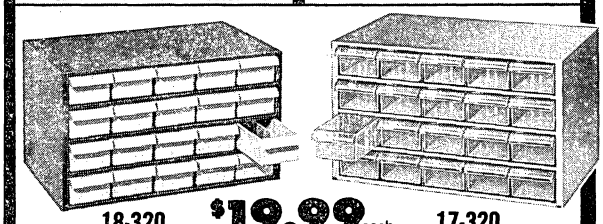
18-024 **$13.49** each 17-024

20 DRAWER CABINET
LONG DRAWERS

17-7/8" w. x 11" d. x 11" h.
Complete with 20 drawers size 3-1/8" w. x 11" d. x 2-1/8" h., each drawer capacity 66 cubic inches. Complete with 1 full-width divider per drawer, and 1 lengthwise and 6 half-width dividers per cabinet, plus index labels. Shipping wt. 18 lbs.

Model 17-320 with transparent drawers
Model 18-320 Heavy Duty gray drawers

HEAVY DUTY DRAWERS | TRANSPARENT DRAWERS



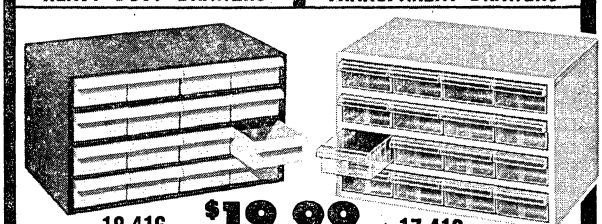
18-320 **$19.99** each 17-320

16 DRAWER CABINET
LONG-WIDE DRAWERS

17-7/8" w. x 11" d. x 11" h.
Complete with 16 drawers size 4" w. x 11" d. x2-1/8" h., each drawer capacity 88 cubic inches. Complete with 1 full-width divider per drawer, and 6 half -width and 1 lengthwise dividers per cabinet, plus index labels. Shipping wt. 18 lbs.

Model 17-416 with transparent drawers
Model 18-416 Heavy Duty gray drawers

HEAVY DUTY DRAWERS | TRANSPARENT DRAWERS



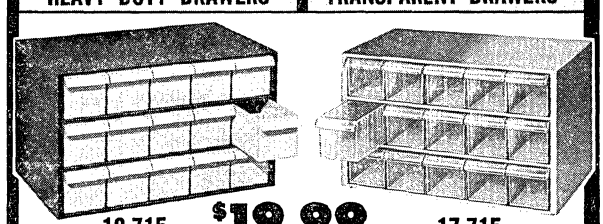
18-416 **$19.99** each 17-416

15 DRAWER CABINET
LONG-DEEP DRAWERS

17-7/8" w. x 11" d. x 11" h.
Complete with 15 drawers size 3-1/8" w. x 11" d. x 3-1/32" h., each drawer capacity 104 cubic inches. Complete with 1 full-width divider per drawer, and 1 lengthwise and 6 half-width dividers per cabinet, plus index labels. Shipping wt. 18 lbs.

Model 17-715 with transparent drawers
Model 18-715 Heavy Duty gray drawers

HEAVY DUTY DRAWERS | TRANSPARENT DRAWERS



18-715 **$19.99** each 17-715

9 DRAWER CABINET
JUMBO DRAWERS

17-7/8" w. x 11" d. x 11" h.
Complete with 9 drawers size 5-1/4" w. x 11" d. x 3-1/32" h., each drawer capacity 175 cubic inches. Complete with 1 full-width divider per drawer, and one lengthwise and 6 half-width dividers per cabinet plus index labels. Shipping wt. 18 lbs.

Model 17-909 with transparent drawers
Model 18-909 Heavy Duty gray drawers

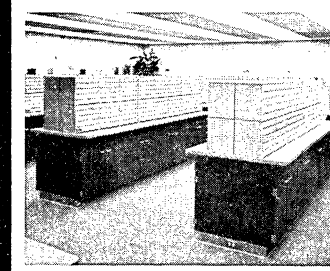
HEAVY DUTY DRAWERS | TRANSPARENT DRAWERS

18-909 **$19.99** each 17-909

Systemized Expandable

Add and stack securely no bolting or shelving required

Start with one, or combine models to create a miniature warehouse.

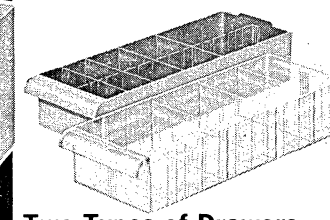


CABINET FEATURES:

One over-all width of 17⅞ inch rigidly welded steel frame for 6 models with varied drawers. Baked on enamel finish.

Expandable — cabinets can be stacked, hung on walls or placed on shelving or any flat surface.
QUALITY BUILT TO LAST

DRAWERS HAVE ALL THESE FEATURES:



Two Types of Drawers Heavy Duty or Transparent

Six Sizes of Each Type

Rust and corrosion proof

Open and close smoothly . . .

Safety feature: no cuts or scratches from sharp metal

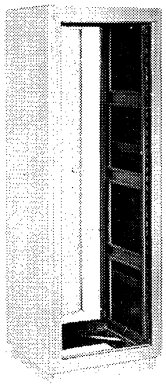
Non-toxic; nonconductive

60% lighter than steel, yet drawers cannot twist or spring out of shape; non-bend and non-warp

LOCK-TIGHT DIVIDERS dovetailed to prevent drawers from spreading . . . move easily to new positions if desired.

ADJUSTABLE COMPARTMENT SIZES
NO SPREAD SIDES
NO CREEPAGE OF PARTS

Series "60" Cabinet Racks



Scientifically designed to meet all requirements for human needs as well as component physical specifications; the most practical cabinet rack developed for either a single piece of equipment or a large instrumentation system. Very economical to the user, units are shipped fully assembled and ready for immediate use.

Basic frame welded in a solid unit composed of 14-gauge cold-rolled steel channels. Sides have "U" braces with perforated channels for fastening vertical adjustable mounting rails. Rails also support other types of equipment such as brackets, shelves, slides, etc. Eliminates need of drilling holes in the rack. Sides and rear door made of 16 gauge steel. Door may be mounted to open left or right. Vertical channel, 6" wide, welded to door to prevent vibration or whip. Two pairs of panel mounting rails are supplied; fully adjustable. Panels may be mounted in front and rear at the same time. Front rails drilled and tapped 10-32 W.E. spacing. Rear rails are drilled according to universal spacing.

All Series Sixty enclosures may be quickly combined with each other to create units of any desired width as shown in the Add-A-Rack series. In addition, such accessories as desk tops, turrets, drawers, slides, sloping panel supports and front door are easily installed.

Standard finishes are smooth baked enamel over a primer. For two-tone gray, specify by adding suffix **SG.** For two-tone blue, add suffix **SB** to order number. Standard Bud relay rack panels are available for the Series Sixty racks in light gray and light blue; when ordering, add suffix **SG** for gray; **SB** for blue.

UPRIGHT CABINET RACKS

Completely assembled with sides, rear door and top. Standard units have plain sides and door; solid top. For greater ventilation, order units with louvered sides and/or rear door; both, with solid top. Width, 24 1/16", all units. Inside depth 20¼" clear on units with 22" outside depth; 23¾", all others. Top opening 18½" w. x 17" d. on units with 22" outside depth; 18½" w. x 20½" d., all others. **Specify Color When Ordering:** Add suffix **SG** to number for gray; suffix **SB**, for blue.

Series shown below includes welded framework, plain sides, plain rear door and solid top

For 24" Panel Space					Common Dimensions for Both 24" & 19" Panel Space			For 19" Panel Space					
Bud No. 60	Top Opening	Net Each Lots of 1-3	4-6	7-9	Height	Outside Depth	Panel Space	Bud No. 60	Top Opening	Net Each in Lots of 1-3	4-6	7-9	Wgt. Lbs.
2315	23½"x17"	$140.30	$126.30	$112.25	29⅝"	22"	21"	2300	18½"x17"	$117.00	$105.30	$ 93.60	118
2316	23½"x17"	173.70	156.35	138.95	40⅛"	22"	31½"	2301	18½"x17"	134.70	130.20	115.80	156
2317	23½"x17"	193.00	173.70	154.40	50⅝"	22"	42"	2302	18½"x17"	160.70	134.70	128.60	173
2318	23½"x17"	213.75	192.40	171.00	61¼"	22"	52½"	2303	18½"x17"	178.50	160.70	142.80	197
2319	23½"x17"	238.00	214.20	190.40	69⅞"	22"	61¼"	2304	18½"x17"	198.40	178.60	157.70	220
2320	23½"x17"	265.00	238.50	212.00	78⅝"	22"	70"	2305	18½"x17"	220.40	198.40	176.40	235
2321	23½"x17"	289.00	260.10	231.20	87⅜"	22"	78¾"	2306	18½"x17"	240.60	216.60	192.50	265
2322	23½"x20½"	165.35	148.80	132.30	29⅝"	25½"	21"	2307	18½"x20½"	138.10	124.30	110.50	156
2323	23½"x20½"	192.00	172.80	153.60	40⅛"	25½"	31½"	2308	18½"x20½"	160.50	144.40	128.40	176
2324	23½"x20½"	214.00	192.60	171.20	50⅝"	25½"	42"	2309	18½"x20½"	178.30	160.40	142.60	185
2325	23½"x20½"	237.00	213.30	189.60	61¼"	25½"	52½"	2310	18½"x20½"	197.90	178.10	158.30	211
2326	23½"x20½"	264.00	237.60	211.20	69⅞"	25½"	61¼"	2311	18½"x20½"	219.90	197.90	176.00	240
2327	23½"x20½"	293.00	263.70	234.40	78⅝"	25½"	70"	2312	18½"x20½"	244.40	220.00	195.50	256
2328	23½"x20½"	320.50	288.45	256.40	87⅜"	25½"	78¾"	2313	18½"x20½"	266.70	240.00	213.40	267

Series shown below includes welded framework, louvered sides, plain rear door and solid top.

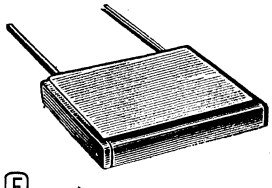
2615	23½"x17"	$143.00	$128.70	$114.40	29⅝"	22"	21"	2600	18½"x17"	$119.00	$107.10	$ 95.20	118
2616	23½"x17"	179.00	161.10	143.20	40⅛"	22"	31½"	2601	18½"x17"	148.80	133.90	119.00	156
2617	23½"x17"	199.50	179.55	159.60	50⅝"	22"	42"	2602	18½"x17"	166.30	149.70	133.10	173
2618	23½"x17"	229.00	206.10	183.20	61¼"	22"	52½"	2603	18½"x17"	190.20	171.20	152.20	197
2619	23½"x17"	249.00	224.10	199.20	69⅞"	22"	61¼"	2604	18½"x17"	207.00	186.30	165.80	220
2620	23½"x17"	275.50	247.95	220.40	78⅝"	22"	70"	2605	18½"x17"	230.00	207.00	184.00	235
2621	23½"x17"	299.75	269.80	239.80	87⅜"	22"	78¾"	2606	18½"x17"	249.90	224.90	199.90	265
2622	23½"x20½"	169.00	152.10	135.20	29⅝"	25½"	21"	2607	18½"x20½"	147.70	126.60	112.60	156
2623	23½"x20½"	203.75	183.40	163.00	40⅛"	25½"	31½"	2608	18½"x20½"	169.90	152.90	135.90	176
2624	23½"x20½"	227.00	204.30	181.60	50⅝"	25½"	42"	2609	18½"x20½"	189.20	170.20	151.30	185
2625	23½"x20½"	259.00	233.10	207.20	61¼"	25½"	52½"	2610	18½"x20½"	216.50	194.70	173.20	211
2626	23½"x20½"	272.00	244.80	217.60	69⅞"	25½"	61¼"	2611	18½"x20½"	233.70	210.30	187.00	240
2627	23½"x20½"	311.50	280.35	249.20	78⅝"	25½"	70"	2612	18½"x20½"	259.50	233.60	207.60	256
2628	23½"x20½"	340.00	306.00	272.00	87⅜"	25½"	78¾"	2613	18½"x20½"	283.00	254.70	226.40	267

Series shown below includes welded framework, louvered sides, louvered rear door and solid top.

2715	23½"x17"	$148.00	$133.20	$118.40	29⅝"	22"	21"	2700	18½"x17"	$121.50	$109.30	$ 97.20	118
2716	23½"x17"	184.00	165.60	147.00	40⅛"	22"	31½"	2701	18½"x17"	151.00	135.90	120.80	156
2717	23½"x17"	204.50	184.00	163.60	50⅝"	22"	42"	2702	18½"x17"	169.00	152.20	135.30	173
2718	23½"x17"	234.00	210.60	187.00	61¼"	22"	52½"	2703	18½"x17"	193.20	175.90	154.60	197
2719	23½"x17"	254.00	228.60	203.00	69⅞"	22"	61¼"	2704	18½"x17"	210.30	189.30	168.30	220
2720	23½"x17"	280.50	252.50	224.40	78⅝"	22"	70"	2705	18½"x17"	233.60	210.30	186.90	235
2721	23½"x17"	305.00	274.50	244.00	87⅜"	22"	78¾"	2706	18½"x17"	253.80	228.40	203.00	265
2722	23½"x20½"	174.00	156.60	139.00	29⅝"	25½"	21"	2707	18½"x20½"	143.90	128.90	114.60	156
2723	23½"x20½"	209.00	188.00	167.00	40⅛",	25½"	31½"	2708	18½"x20½"	172.90	155.60	138.30	176
2724	23½"x20½"	232.00	208.80	185.60	50⅝"	25½"	42"	2709	18½"x20½"	192.60	173.40	154.10	185
2725	23½"x20½"	265.00	238.50	212.00	61⅛"	25½"	52½"	2710	18½"x20½"	214.20	192.80	171.30	211
2726	23½"x20½"	277.00	249.30	221.60	69⅞"	25½"	61¼"	2711	18½"x20½"	238.00	214.20	190.40	240
2727	23½"x20½"	316.50	284.85	253.00	75⅝"	25½"	70"	2712	18½"x20½"	264.40	237.90	211.50	256
2728	23½"x20½"	345.00	310.50	276.00	87⅜"	25½"	78¾"	2713	18½"x20½"	283.00	254.70	226.40	267

Series shown below includes welded framework, plain sides, louvered rear door and solid top.

2815	23½"x17"	$142.00	$127.80	$113.60	29⅝"	22"	21"	2800	18½"x17"	$115.30	$103.80	$ 92.30	118
2816	23½"x17"	177.00	159.30	141.60	40⅛"	22"	31½"	2801	18½"x17"	142.80	128.50	114.20	156
2817	23½"x17"	195.50	175.95	156.40	50⅝"	22"	42"	2802	18½"x17"	158.70	142.80	126.90	173
2818	23½"x17"	222.00	199.80	177.60	61⅛"	22"	52½"	2803	18½"x17"	180.30	162.30	144.20	197
2819	23½"x17"	245.50	220.95	196.40	69⅞"	22"	61¼"	2804	18½"x17"	195.60	176.00	156.40	220
2820	23½"x17"	270.00	243.00	216.00	78⅝"	22"	70"	2805	18½"x17"	217.20	195.50	173.70	235
2821	23½"x17"	296.50	266.85	237.20	87⅜"	22"	78¾"	2806	18½"x17"	237.40	213.70	189.90	265
2822	23½"x20½"	167.00	150.30	133.60	29⅝"	25½"	21"	2807	18½"x20½"	135.70	122.10	108.60	156
2823	23½"x20½"	199.00	179.00	159.00	40⅛"	25½"	31½"	2808	18½"x20½"	163.60	147.20	130.90	176
2824	23½"x20½"	220.50	198.45	176.40	50⅝"	25½"	42"	2809	18½"x20½"	181.90	163.70	145.50	185
2825	23½"x20½"	248.00	223.00	198.40	61⅛"	25½"	52½"	2810	18½"x20½"	201.90	181.70	161.50	211
2826	23½"x20½"	268.00	241.00	214.40	69⅞"	25½"	61¼"	2811	18½"x20½"	224.40	201.90	179.50	240
2827	23½"x20½"	302.00	271.80	241.60	78⅝"	25½"	70"	2812	18½"x20½"	249.30	224.40	119.05	256
2828	23½"x20½"	329.00	296.10	263.20	87⅜"	25½"	78¾"	2813	18½"x20½"	272.10	244.90	217.70	267



Ⓕ **Desk Top**

SERIES SIXTY DESK TOP (FIG. F)

May be used in connection with any Series Sixty enclosure. Furnished completely assembled with wood-grained Formica surface. Fastens to panel mounting rails by two pre-drilled channels. Will support in excess of 200 lbs. Surface 24 1/16" wide, 19½" deep, 3 1/16" high. Available in two colors. **Specify Color:** Add suffix **SG** for gray; **SB** for blue.

Bud No.	Fits Series Sixty	Support Channel	Wt., Lbs.	Ea., 1-3	Ea., 4-6	Ea., 7-9
60-2360	With 22" depth	21 9/16" long	22	$38.30	$34.50	$30.70
60-2362	With 25½" depth	24¾" long	23	37.20	33.50	29.80

Net

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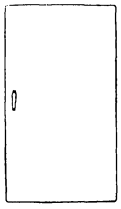
Series "60" Cabinet Racks

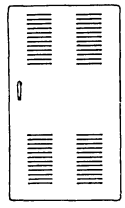
ACCESSORIES LIST FOR UPRIGHT CABINET RACKS

DOORS

Doors are interchangeable; may be used for front or rear of rack; mount to open either left or right. Doors for racks with 24" panel space are 23 15/16" wide and for 19" panel space 18 15/16" wide.



Plain Door



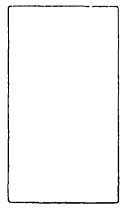
Louvered Door

For 24" Panel Space

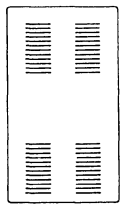
Bud No. 60	Plain Type Net 1-3	Net 4-6	Net 7-9	Bud No. 60	Louvered Type Net 1-3	Net 4-6	Net 7-9	Wgt. Lbs.	Height	Fits Rack with Panel Space
2390	$24.00	$21.60	$19.20	4540	$24.00	$21.60	$19.20		21 7/16"	21"
2391	30.00	27.00	24.00	4541	30.00	27.00	24.00		31 15/16"	31½"
2392	33.50	30.15	26.80	4542	33.50	30.15	26.80		42 7/16"	42"
2393	38.00	34.20	30.40	4543	38.00	34.20	30.40		52 15/16"	52½"
2394	42.00	37.80	33.60	4544	42.00	37.80	33.60		61 11/16"	61¼"
2395	46.00	41.40	36.80	4545	46.00	41.40	36.80		70 7/16"	70"
2396	50.00	45.00	40.00	4546	50.00	45.00	40.00		79 3/16"	78¾"
For 19" Panel Space										
2340	$17.00	$15.30	$13.60	2540	$19.50	$17.50	$15.60	8	21 7/16"	21"
2341	21.00	18.90	16.80	2541	24.20	21.80	19.40	11½	31 15/16"	31½"
2342	23.30	21.00	18.60	2542	26.80	24.10	21.50	15½	42 7/16"	42"
2343	25.90	23.30	20.70	2543	29.70	26.80	25.80	19	52 15/16"	52½"
2344	28.70	25.80	22.90	2544	33.10	29.80	26.50	22¼	61 11/16"	61¼"
2345	33.60	30.20	26.90	2545	36.70	33.00	29.40	25½	70 7/16"	70"
2346	34.80	31.30	27.80	2546	40.20	36.10	32.10	29	79 3/16"	78¾"

ACCESSORY SIDES

Fit Upright Racks with either 24" or 19" Panel Space



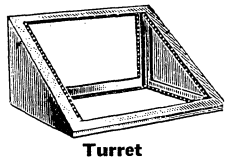
Plain Side



Louvered Side

Bud No. 60	Plain Net per Pair in Lots of 1-3	4-6	7-9	Bud No. 60	Louvered Net per Pair in Lots of 1-3	4-6	7-9	Height	Width	Fits Upright Rack with Panel Space	Wgt. Lbs.
2560	$25.30	$22.80	$20.25	2580	$29.90	$26.90	$23.90	26 55/64"	22"	21"	12½
2561	33.50	30.10	26.80	2581	39.50	35.50	31.60	37 23/64"	22"	31½"	17½
2562	39.00	35.10	31.20	2582	47.00	42.30	37.60	47 55/64"	22"	42"	21
2563	44.90	40.40	35.95	2583	55.30	49.70	44.20	58 23/64"	22"	52½"	26¼
2564	49.60	44.60	39.70	2584	61.00	54.90	48.80	67 7/64"	22"	61¼"	30
2565	54.60	49.20	43.70	2585	67.60	60.90	54.10	75 55/64"	22"	70"	34
2566	62.70	56.40	50.10	2586	71.30	64.10	57.00	84 39/64"	22"	78¾"	38
2567	31.90	28.70	25.55	2587	35.10	31.60	28.10	26 55/64"	25½"	21"	14½
2568	41.80	37.70	33.50	2588	45.90	41.30	36.70	37 23/64"	25½"	31½"	20
2569	48.20	43.40	38.55	2589	53.40	48.10	42.70	47 55/64"	25½"	42"	24
2570	56.00	50.40	44.80	2590	62.10	55.90	49.70	58 23/64"	25½"	52½"	29½
2571	61.30	55.20	49.05	2591	67.90	61.10	54.30	67 7/64"	25½"	61¼"	34½
2572	68.40	61.60	54.70	2592	74.80	67.30	59.90	75 55/64"	25½"	70"	39
2573	72.10	64.90	57.60	2593	78.90	71.00	63.10	84 39/64"	25½"	78¾"	43½

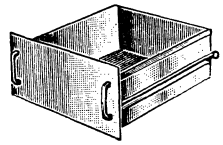
PERFORATED TOP



Turret

Bud No. 60	For 24" Panel Space Fits Inclined Panel Rack with Top Opening	Net each in lots of 1-3	4-6	7-9	Bud No. 60	For 19" Panel Space Fits Inclined Paned Rack with Top Opening	Net each in lots of 1-3	4-6	7-9	Wgt. Lbs.
2382	11¾"x23½"	$7.50	$6.75	$6.00	2372	11¾"x18½"	$5.30	$4.80	$4.30	4
2383	10"x23½"	6.70	6.05	5.35	2373	10"x18½"	5.10	4.60	4.10	3
2384	9⅜"x23½"	6.70	6.05	5.35	2374	9⅜"x18½"	5.10	4.60	4.10	3

SERIES SIXTY TURRETS



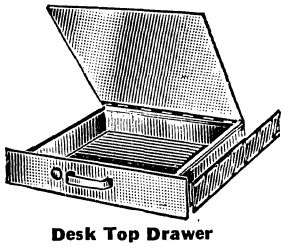
Drawer

Made of 16 gauge steel; designed so that any one of three sides may be attached to a 19" Series 60 upright rack or any horizontal surface. Accommodate standard 19" panels. All mounting rails have universal spacing. Sides easily removed when a series of interconnecting turrets are desired. **Specify Color When Ordering:** Add suffix **SG** for dark gray; **SB** for dark blue. For panels, order standard Bud panels with suffix **SG** for light gray; **SB** for light blue.

Bud No.	Width	Depth	Height	Panel Space Sloping	Bottom	Rear	Wt., Lbs.	6 Net Each, Lots of 1-3	4-6	7-9
60-2364	22 1/16"	17⅞"	12 5/16"	17½"	14"	8¾"	17	$35.50	$31.90	$28.40
60-2365	22 1/16"	14⅜"	10 3/16"	12¼"	10½"	7"	14	29.60	26.70	23.70
60-2366	22 1/16"	20 13/16"	14⅜"	21"	17½"	10½"	20	37.40	37.40	33.60

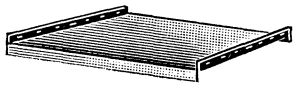
Sliding Desk Top

SERIES SIXTY DRAWER, DESK TOP AND SHELF ACCESSORIES



Desk Top Drawer

No. 60-2368 Drawer: Fits into any 19" Series 60 cabinet rack. Slides easily on nylon rollers. Will support heavy loads. Extends to full depth; stops prevent drawer from falling out. Slides easily attach to panel supporting rails. Silver anodized handles. Shipped completely assembled. **No. 60-2361 Sliding Desk Top:** Fits all 19" Series 60 racks. Has smooth Formica* surface for writing, servicing or inspection. Fits flush with front of unit. Usable area when fully extended, 11" x 16⅞". Occupies only 1¾" of panel height. Will support 75 lbs. Ball-bearing slide mechanism mounts directly in 19" Series 60 racks; brackets included to fit other Bud cabinets and consoles. **No. 60-2363 Desk Top Drawer:** Fits 19" Series 60 racks. Has Formica surface. Fits flush with front of unit. Hinged desk top on drawer holds small tools or parts. Special front-panel latch both locks and releases drawer or top as desired. Mounts to cabinet U-braces; slides travel on nylon rollers. Hardware supplied. **No. 60-2380 and 60-2381 Shelves:** Ideal for support of chassis, power supplies or other equipment; also may be used as base plate for bottom support. Of one-piece 16 gauge steel with flanged front and rear for extra strength and rigidity. Easily bolt to cabinet U-braces. Will support 200 lbs. Hardware supplied.



Shelf

Bud No.	Size, Inches	Wt., Lbs.	For 19" Racks Net Each, Lots of 1-3	4-6	7-9
60-2368†	16⅝ x 6¾ x 19¼ inside	28	$32.40	$29.20	$25.90
60-2361‡	16⅞ x 15⅛ x 1¾ with std. 19" panel	8	20.00	18.00	16.00
60-2363†	16⅝ x 3¼ x 15 inside; 19 x 3½ front panel	19	55.70	50.10	44.60
60-2380†	17 31/32 w. x 19 9/32 d.	7½	6.90	6.50	5.50
60-2381†	17 31/32 w. x 22¾ d.	8¾	7.20	6.50	5.70

*Synthane Corp. trademark. †Add suffix **SB** for smooth blue; **SG,** smooth gray. ‡Add suffix **B** for black wrinkle; **G,** gray wrinkle; **HG,** gray hammertone; **SB,** smooth blue; **SG,** smooth gray.

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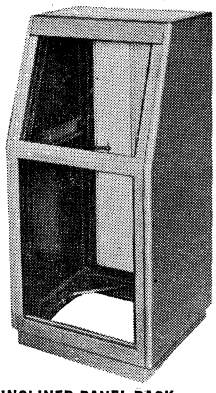
Series "60" Cabinet Racks

INCLINED PANEL CABINET RACKS

Completely assembled with Sides, Rear door and Solid Top. Racks for 24" Panels are 29 1/16" wide and Racks for 19" Panels are 24 1/16" wide. Both types are 50 5/8" high, have an outside Depth of 22" and a clear Inside Depth of 20 1/4".



INCLINED PANEL RACK

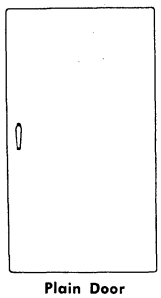
Series shown below includes Welded Framework, Plain Sides, Plain Rear Door and Solid Top.

For 24" Panel Space					Common Dims. for Both 24" and 19" Panel Space		For 19" Panel Space				
Bud No. 60-	Top Opening	Net each in lots of 1-3	4-6	7-9	Inclined Panel Sp.	Vertical Panel Sp.	Bud No. 60-	Top Opening	Net each in lots of 1-3	4-6	7-9
2337	11 3/4"x23 1/2"	$220.50	$198.45	$176.40	10 1/2"	29 3/4"	2330	11 3/4"x18 1/2"	$175.40	$157.80	$140.30
2338	10"x23 1/2"	234.00	270.60	187.20	15 3/4"	24 1/2"	2331	10"x18 1/2"	185.90	167.30	148.70
2339	9 3/8"x23 1/2"	234.00	210.60	187.20	17 1/2"	22 3/4"	2332	9 3/8"x18 1/2"	185.90	167.30	148.70
Series shown below includes Welded Framework, Louvred Sides, Plain Rear Door and Solid Top.											
2637	11 3/4"x23 1/2"	$232.00	$208.80	$185.60	10 1/2"	29 3/4"	2630	11 3/4"x18 1/2"	$185.20	$166.70	$148.20
2638	10"x23 1/2"	245.50	220.95	196.40	15 3/4"	24 1/2"	2631	10"x18 1/2"	195.80	176.20	156.60
2639	9 3/8"x23 1/2"	245.50	220.95	196.40	17 1/2"	22 3/4"	2632	9 3/8"x18 1/2"	195.80	176.20	156.60
Series shown below includes Welded Framework, Louvred Sides, Louvred Rear Doors and Solid Top.											
2737	11 3/4"x23 1/2"	$237.00	$213.30	$189.60	10 1/2"	29 3/4"	2730	11 3/4"x18 1/2"	$188.40	$169.50	$150.70
2738	10"x23 1/2"	250.50	225.45	220.40	15 3/4"	24 1/2"	2731	10"x18 1/2"	199.50	179.50	159.60
2739	9 3/8"x23 1/2"	250.50	225.45	200.40	17 1/2"	22 3/4"	2732	9 3/8"x18 1/2"	199.50	179.50	159.60
Series shown below includes Welded Framework, Plain Sides, Louvred Rear Door and Solid Top.											
2837	11 3/4"x23 1/2"	$225.90	$202.95	$180.40	10 1/2"	29 3/4"	2830	11 3/4"x18 1/2"	$179.10	$161.10	$143.20
2838	10"x23 1/2"	239.00	215.10	191.20	15 3/4"	24 1/2"	2831	10"x18 1/2"	189.60	170.60	151.70
2839	9 3/8"x23 1/2"	239.00	215.10	191.20	17 1/2"	22 3/4"	2832	9 3/8"x18 1/2"	189.60	170.60	151.70

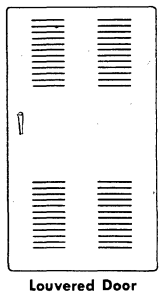
ACCESSORIES LIST FOR INCLINED PANEL RELAY RACKS

FRONT DOORS

Front doors for Racks with 24" Panel Space are 23 15/16" wide and for Racks with 19" Panel Space are 18 15/16" wide



Plain Door



Louvered Door

For 24" Panel Space									
Plain				Louvred					
Bud No. 60-	Net Each in Lots of 1-3	4-6	7-9	Bud No. 60-	Net Each in Lots of 1-3	4-6	7-9	Wgt. Lbs.	Fits Inclined Panel Rack with Top Opening
2353	$27.00	$24.30	$21.60	2553	$32.00	$28.80	$25.60		11 3/4"x23 1/2"
2354	25.00	22.50	20.00	2554	28.50	25.65	22.80		10"x23 1/2"
2355	24.25	21.85	19.40	2555	27.50	24.75	22.00		9 3/8"x23 1/2"
For 19" Panel Space									
2350	$21.10	$19.00	$16.90	2556	$24.30	$21.90	$19.40	11	11 3/4"x18 1/2"
2351	19.70	17.70	15.70	2551	22.70	20.40	18.20	9 1/2	10"x18 1/2"
2352	19.10	17.20	15.30	2552	22.00	19.80	17.60	9	9 3/8"x18 1/2"

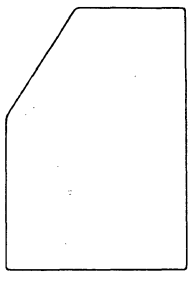
REAR DOOR

Rear Doors for Racks with 24" Panel Space are 23 15/16" wide and for Racks with 19" panel space are 18 15/16" wide. One size fits all models regardless of height.

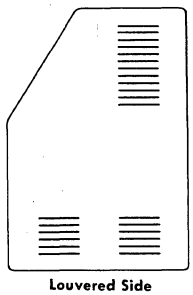
For 24" Panel Space								
Plain				Louvered				
Bud No. 60	Net Each in Lots of 1-3	4-6	7-9	Bud No. 60	Net Each in Lots of 1-3	4-6	7-9	Wgt. Lbs.
2392	$35.00	$31.50	$28.00	4542	$33.50	$30.15	$26.80	
For 19" Panel Space								
2342	$23.30	$21.00	$18.60	2552	$22.00	$19.80	$17.60	15 1/2

SIDES

Fits all Inclined Panel Racks regardless of width



Plain Side



Louvered Side

Plain Type				Louvered Type				
	Net Per Pair in Lots of 1-3	4-6	7-9		Net Per Pair in Lots of 1-3	4-6	7-9	Wgt. Lbs.
2574	$40.40	$36.35	$32.30	2594	$44.70	$40.20	$35.80	11
2575	41.50	37.35	33.20	2595	46.00	41.40	36.80	9 1/2
2576	42.10	37.90	33.70	2596	46.00	41.40	36.80	9

Specify "L" for left side or "R" for right side, determined when facing front of rack.

PERFORATED TOP

Top with 17" depth fits upright rack with overall depth of 22" and 20 1/2" deep top fits rack with 25 1/2" depth.

For 24" Panel Space					For 19" Panel Space					
Bud No. 60	Width	Net Each in Lots of 1-3	4-6	7-9	Bud No. 60	Width	Net Each in Lots of 1-3	4-6	7-9	Wgt. Lbs.
2376	26 15/16"	$ 9.00	$8.10	$7.20	2370	21 15/16"	$6.80	$6.20	$5.50	6
2377	26 15/16"	10.00	9.00	8.00	2371	21 15/16"	7.20	6.50	5.70	7

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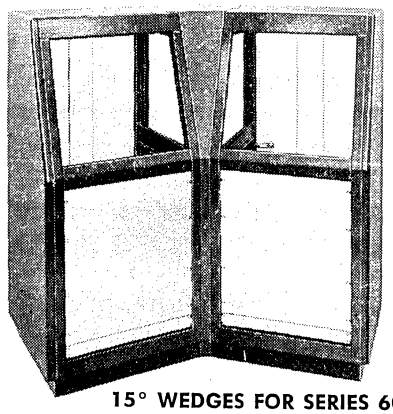
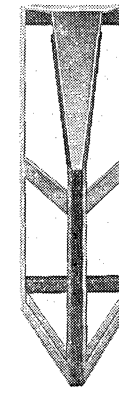
Series "60" Cabinet Racks



SERIES SIXTY WEDGES



With Bud Series Sixty Wedges and Standard Series Sixty Cabinet Racks, it is possible to build custom enclosure systems efficiently and economically. A small or large configuration can quickly and easily be assembled to conform to your needs or space requirements.

There is a standard Wedge Unit that is compatible in style and size with every Series Sixty Rack. They are quickly attached to the adjacent framework by means of simple fasteners.

Features include all welded 16 gauge steel frame with removable rear panel for easy access. Choice of 15° or 45° wedges. Components may be attached to side braces, or uprights. Available with dark gray frame and light gray panel or dark blue frame with light blue panel.

15° WEDGES FOR SERIES 60 UPRIGHT RACKS

Catalog No.	For Use Where Panel Space Is	For Use Where Depth Is	Width of Wedge Section	Net Each in Lots of 1-3	4-6	7-9
60-8300	21″	22″	7 3/16″	$ 75.00	$ 67.50	$ 60.00
60-8301	31 1/2″	22″	7 3/16″	88.50	79.65	70.80
60-8302	42″	22″	7 3/16″	97.00	87.30	77.60
60-8303	52 1/2″	22″	7 3/16″	107.00	96.30	85.60
60-8304	61 1/4″	22″	7 3/16″	120.00	108.00	96.00
60-8305	70″	22″	7 3/16″	132.00	118.80	105.60
60-8306	78 3/4″	22″	7 3/16″	144.00	129.60	115.20
60-8307	21″	25 1/2″	8 3/32″	85.00	76.50	68.00
60-8308	31 1/2″	25 1/2″	8 3/32″	98.50	88.65	78.80
60-8309	42″	25 1/2″	8 3/32″	110.00	99.00	88.00
60-8310	52 1/2″	25 1/2″	8 3/32″	120.00	108.00	96.00
60-8311	61 1/4″	25 1/2″	8 3/32″	134.00	120.60	107.20
60-8312	70″	25 1/2″	8 3/32″	150.50	135.45	120.40
60-8313	78 3/4″	25 1/2″	8 3/32″	167.00	150.30	133.60

45° WEDGES FOR SERIES 60 UPRIGHT RACKS

Catalog No.	For Use Where Panel Space Is	For Use Where Depth Is	Width of Wedge Section	Net Each in Lots of 1-3	4-6	7-9
60-8400	21″	22″	18 3/32″	$ 82.00	$ 73.80	$ 65.60
60-8401	31 1/2″	22″	18 3/32″	95.00	85.50	76.00
60-8402	42″	22″	18 3/32″	103.50	93.15	82.80
60-8403	52 1/2″	22″	18 3/32″	112.00	100.80	89.60
60-8404	61 1/4″	22″	18 3/32″	127.00	114.30	101.60
60-8405	70″	22″	18 3/32″	139.00	125.00	111.20
60-8406	78 3/4″	22″	18 3/32″	150.50	135.45	120.40
60-8407	21″	25 1/2″	20 61/64″	90.00	81.00	72.00
60-8408	31 1/2″	25 1/2″	20 61/64″	105.00	94.50	84.00
60-8409	42″	25 1/2″	20 61/64″	117.00	105.30	93.60
60-8410	52 1/2″	25 1/2″	20 61/64″	127.00	114.30	101.60
60-8411	61 1/4″	25 1/2″	20 61/64″	140.50	126.45	112.40
60-8412	70″	25 1/2″	20 61/64″	157.00	141.30	125.60
60-8413	78 3/4″	25 1/2″	20 61/64″	174.00	156.60	139.20

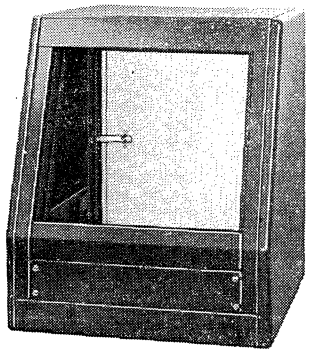
15° WEDGES FOR SERIES 60 INCLINED PANEL RACKS

Catalog No.	For Use Where Vertical Panel Space Is	Width of Wedge Section	Net Each in Lots of 1-3	4-6	7-9
60-8330	29 3/4″	7 3/16″	$115.00	$103.50	$92.00
60-8331	24 1/2″	7 3/16″	122.00	109.80	97.60
60-8332	22 3/4″	7 3/16″	122.00	109.80	97.60

45° WEDGES FOR SERIES 60 INCLINED PANEL RACKS

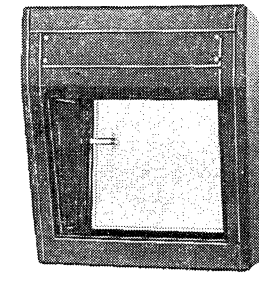
Catalog No.	For Use Where Vertical Panel Space Is	Width of Wedge Section	Net Each in Lots of 1-3	4-6	7-9
60-8430	29 3/4″	18 3/32″	$120.50	$108.45	$ 96.40
60-8431	24 1/2″	18 3/32″	129.00	116.10	103.20
60-8432	22 3/4″	18 3/32″	129.00	116.10	103.20

SERIES SIXTY CONVERTIBLE



Provides the right angle for viewing comfort. Placed on a table or bench or perched on top of a Series Sixty Inclined Panel Rack, the new convertible affords the viewer optimum viewing angles. Built with the same careful attention to details as other Series Sixty cabinets, the Convertible is an exceptionally rugged enclosure for delicate instruments and systems.

Has all welded, 14 gauge steel frame with removable sides, top, bottom, rear and front panel. Adjustable front and rear mounting rails are drilled and tapped 10-32 with W.E. spacing. "U" shaped channel braces with 9/32″ perforations supply extra rigidity. Accepts 19″ panels. Available with dark gray body and light gray door or dark blue body and light blue door.



Series shown below includes welded framework, plain sides, plain rear door and solid top.

Catalog Number	Height (H)	Width	Outside Depth	Clear Inside Depth	Inclined (IP) Panel Space	Vertical Panel Space	Top Opening	Net Each in Lots of 1-3	4-6	7-9
60-4600	22 11/16″	24 1/16″	22″	20 1/4″	10 1/2″	3 1/2″	11 3/4″ x 18 1/2″	$167.00	$150.30	$133.60
60-4601	27 5/8″	24 1/16″	22″	20 1/4″	15 3/4″	3 1/2″	10″ x 18 1/2″	169.00	152.10	135.20
60-4602	29 3/8″	24 1/16″	22″	20 1/4″	17 1/2″	3 1/2″	9 3/8″ x 18 1/2″	171.00	153.90	136.80

Series shown below includes welded framework, louvered sides, plain rear door and solid top.

60-4700	22 11/16″	24 1/16″	22″	20 1/4″	10 1/2″	3 1/2″	11 3/4″ x 18 1/2″	$174.00	$156.60	$139.20
60-4701	27 5/8″	24 1/16″	22″	20 1/4″	15 3/4″	3 1/2″	10″ x 18 1/2″	177.00	159.30	141.60
60-4702	29 3/8″	24 1/16″	22″	20 1/4″	17 1/2″	3 1/2″	9 3/8″ x 18 1/2″	179.00	161.10	143.20

Series shown below includes welded framework, plain sides, louvered rear door and solid top.

60-4800	22 11/16″	24 1/16″	22″	20 1/4″	10 1/2″	3 1/2″	11 3/4″ x 18 1/2″	$171.00	$153.90	$136.80
60-4801	27 5/8″	24 1/16″	22″	20 1/4″	15 3/4″	3 1/2″	10″ x 18 1/2″	173.00	155.70	138.40
60-4802	29 3/8″	24 1/16″	22″	20 1/4″	17 1/2″	3 1/2″	9 3/8″ x 18 1/2″	175.00	157.50	140.00

Series shown below includes welded framework, louvered sides, louvered rear door and solid top.

60-4900	22 11/16″	24 1/16″	22″	20 1/4″	10 1/2″	3 1/2″	11 3/4″ x 18 1/2″	$175.50	$157.95	$140.40
60-4901	27 5/8″	24 1/16″	22″	20 1/4″	15 3/4″	3 1/2″	10″ x 18 1/2″	177.75	160.00	142.20
60-4902	29 3/8″	24 1/16″	22″	20 1/4″	17 1/2″	3 1/2″	9 3/8″ x 18 1/2″	179.75	161.80	143.80

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Add-a-Rack and Cabinets

SERIES SIXTY ADD-A-RACKS

Each assembly consists of frame, top, bottom, rear door and cowlings; used as an add-on unit to join any of the Series 60 enclosures into a bank of two or more. One standard rack plus several Add-a-Racks make any desired number of racks combined for optimum width. Colors are same as Racks.

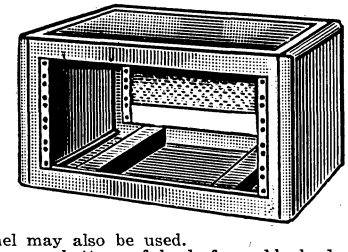
For 24″ Panel Space

Plain Sides					Louvered Sides					
Bud No. 60	For Add-onto Rack No. 60	Net Each in Lots of 1-3	4-6	7-9	Bud No. 60	For Add-onto Rack No. 60	Net Each in Lots of 1-3	4-6	7-9	Wgt. Lbs.
2515	2300, 2600	$118.50	$106.65	$ 94.80	2915	2715, 2815	$121.50	$109.35	$ 97.20	
2516	2301, 2601	139.50	125.55	111.60	2916	2716, 2816	143.00	128.70	114.40	
2517	2302, 2602	152.00	136.80	121.60	2917	2717, 2817	157.00	141.30	125.60	
2518	2303, 2603	166.00	149.40	132.80	2918	2718, 2818	171.00	153.90	136.80	
2519	2304, 2604	186.00	167.40	148.80	2919	2719, 2819	191.00	171.90	152.80	
2520	2305, 2605	207.00	186.30	165.60	2920	2720, 2820	213.00	191.70	170.40	
2521	2306, 2606	222.00	199.80	177.60	2921	2721, 2821	229.00	206.10	183.20	
2522	2307, 2607	133.00	119.70	106.40	2922	2722, 2822	134.50	121.05	107.60	
2523	2308, 2608	155.50	139.95	124.40	2923	2723, 2823	158.00	142.20	126.40	
2524	2309, 2609	170.50	153.45	136.40	2924	2724, 2824	174.50	157.05	139.60	
2525	2310, 2610	185.50	166.95	148.40	2925	2725, 2825	190.50	171.45	152.40	
2526	2311, 2611	207.00	186.30	165.60	2926	2726, 2826	213.00	191.70	170.40	
2527	2312, 2612	231.00	207.90	184.80	2927	2727, 2827	237.00	213.30	189.60	
2528	2313, 2613	256.00	230.85	205.20	2928	2728, 2828	262.00	235.80	209.60	
2537	2330, 2630	177.00	159.30	141.60	2937	2737, 2837	179.00	161.10	143.20	
2538	2331, 2631	189.00	170.10	151.20	2938	2738, 2838	194.00	174.60	155.20	
2539	2332, 2632	189.00	170.10	151.20	2939	2739, 2839	194.00	174.60	155.20	

For 19″ Panel

Plain Sides					Louvered Sides					
2500	2300, 2600	$ 95.00	$ 85.50	$ 76.00	2900	2700, 2800	$ 93.90	$ 84.50	$ 75.20	92
2501	2301, 2601	111.30	100.20	89.00	2901	2701, 2801	114.50	103.00	91.60	113
2502	2302, 2602	121.90	109.70	97.60	2902	2702, 2802	125.40	112.90	100.30	115
2503	2303, 2603	133.20	119.90	106.50	2903	2703, 2803	137.00	123.30	109.60	145
2504	2304, 2604	148.80	133.90	119.00	2904	2704, 2804	153.00	137.70	122.40	148
2505	2305, 2605	165.70	149.20	132.60	2905	2705, 2805	170.50	153.50	136.40	152
2506	2306, 2606	178.00	160.20	142.40	2906	2706, 2806	183.00	164.70	146.40	158
2507	2307, 2607	106.30	95.70	85.00	2907	2707, 2807	107.40	96.65	85.90	120
2508	2308, 2608	124.60	112.10	99.70	2908	2708, 2808	126.20	113.60	100.95	132
2509	2309, 2609	136.00	122.40	108.80	2909	2709, 2809	139.60	125.70	111.70	138
2510	2310, 2610	148.50	133.60	118.80	2910	2710, 2810	152.20	137.00	121.80	142
2511	2311, 2611	166.00	149.40	132.80	2911	2711, 2811	170.10	153.10	136.10	164
2512	2312, 2612	184.90	166.40	147.90	2912	2712, 2812	189.70	170.70	151.70	168
2513	2313, 2613	204.60	184.10	163.70	2913	2713, 2813	209.80	188.80	167.80	172
2530	2330, 2630	141.60	127.50	113.30	2930	2730, 2830	143.00	128.70	114.40	119
2531	2331, 2631	151.10	135.90	120.80	2931	2731, 2831	154.40	139.05	123.60	119
2532	2332, 2632	151.10	135.90	120.80	2932	2732, 2832	154.40	139.00	123.60	125

PRESTIGE BALL CORNERED VERSA-CABINETS



A standard Prestige Versa-Cabinet consists of the framework, two ball cornered sides, perforated metal back, solid bottom plate and two supporting channels.

The front, back, top, and bottom may be quickly removed for access to interior for easy servicing.

Standard 19″ panels may be attached to the top, bottom, front or back of cabinet to provide complete closure. Perforated top panel may also be used.

An opening is provided across bottom of back for cable leads, controls or knobs. Size of opening is 1¾″ x 19″. Bud Steel Panel PS 1250 or Aluminum Panel PA-1101 may be used to close opening if desired. Perforated back may be removed and a standard steel or aluminum panel may be used to close back opening entirely.

Sides are attached by means of holding flanges on the bottom of the frame and nut at top. Handles may be fastened to sides.

Cabinets may be fastened side-to-side in batteries of two or more or may be stacked one on another. Four rubber feet are regularly supplied.

Top may be closed by using PS-1256HG or PA-1107HG solid panels or by using PS-616HG or PS-815HG door panels or by PC-1710 perforated steel top panel.

Clear inside width—22¼″. Overall width—23$\frac{3}{16}$″.
Clear inside depth—15″. Overall depth—15$\frac{25}{32}$″.
Weight 28 to 35 lbs.

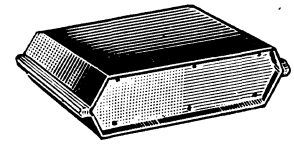
Finished in gray hammertone.

Bud No.	Height, Overall	Panel Space	Rear Panel	Net Each, Lots of 1-14	15-24	25-34
PC-1700	8¾″	5¼″	3½″	$33.10	$29.80	$26.50
PC-1701	10½″	7″	5¼″	35.10	31.60	28.10
PC-1702	12¼″	8¾″	7″	36.00	32.40	28.80
PC-1703	14″	10½″	8¾″	40.70	36.60	32.50
PC-1704	15¾″	12¼″	10½″	42.80	38.60	34.30

PERFORATED STEEL TOP PLATE

Bud No.	Size, In.	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
PC-1710	12¼ x 19	2½	$3.50	$3.20	$2.80

GRAND PRIX CABINETS



A concept in styling not elsewhere available in standard electronic cabinetry. Practical for audio equipment, also for medical and other electronic equipment and controls.

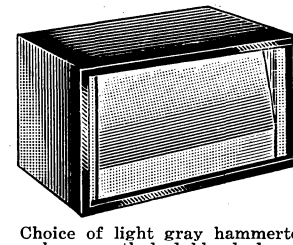
Engineered to make installation and servicing of contents easy. The upper and lower segments are held together by sturdy brushed aluminum extrusions.

Body and front and rear panels made of 20 gauge steel. Four rubber feet are furnished.

Choice of light gray hammertone body with matching panels or smooth dark gray body with smooth light gray panels. Please specify (HG) or (SG) when ordering.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
MD-1	4$\frac{3}{16}$ x 19⅛ x 10½	7¼	$15.20	$13.70	$12.20
MD-2	7$\frac{3}{16}$ x 19⅛ x 10½	7¾	15.90	14.40	12.80
MD-3	4$\frac{3}{16}$ x 12⅛ x 8¾	7	12.30	11.00	9.80

FUTURA CABINETS



Front panels are held in place by body flanges eliminating the use of panel mounting screws.

Top and sides are formed of one piece of steel to which is fastened the base. Thus, the two parts may be quickly disassembled to expose the entire contents. Body and rear panel are of 20 gauge steel while front panels are 18 gauge. Four rubber feet attached to base. Chassis may be affixed to base, front or rear panels.

Choice of light gray hammertone body with smooth light gray panel or smooth dark blue body with smooth light blue panel. Please specify (HG) or (SB) when ordering.

Bud No.	Overall Size, In. W. x H. x D.	Uses Bud Chassis No.	Net Each, Lots of 1-24	25-49	50-99
MD-1960	13 x 7 x 8	CB-40	$ 8.40	$ 7.50	$6.70
MD-1961	14 x 8 x 9	CB-997	8.90	8.00	7.10
MD-1962	16 x 8 x 9	CB-998	9.30	8.30	7.40
MD-1963	13 x 7 x 8	CB-40	9.80	8.80	7.80
MD-1964	14 x 8 x 9	CB-997	10.50	9.40	8.40
MD-1965	16 x 8 x 9	CB-998	11.10	10.00	8.90

Net

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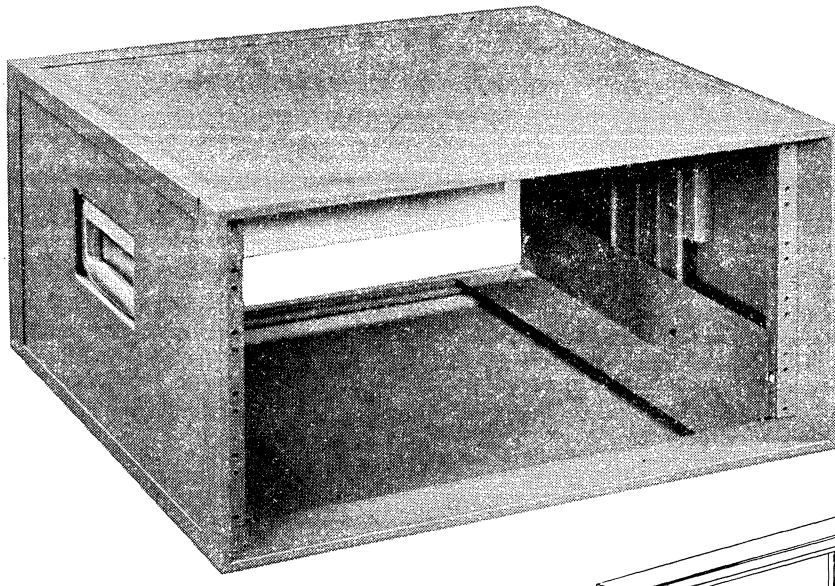
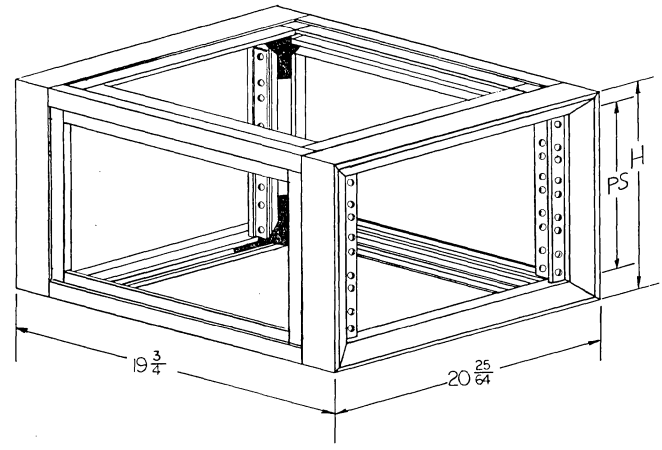
Classic Cabinets



The ultimate in fine cabinetry. Designed and fabricated for sophisticated instrumentation and systems.



Bud No.	Height In.	Panel Space In.	Wgt. Lbs.	Net each in lots of 1-4	5-9	10-14
AGC-266	4 57/64	3½	17	$ 90.10	$ 81.10	$ 72.10
AGC-267	6 41/64	5¼	19	92.40	83.20	73.90
AGC-268	8 25/64	7	20	97.40	87.70	78.00
AGC-269	10 9/64	8¾	22	99.80	89.80	79.80
AGC-270	11 57/64	10½	23	103.10	92.80	82.50
AGC-271	13 41/64	12¼	25	107.30	96.60	85.80
AGC-272	15 25/64	14	26	110.60	99.50	88.40
AGC-273	17 9/64	15¾	28	114.70	103.30	91.80
AGC-274	18 57/64	17½	29	118.10	106.30	94.50
AGC-275	20 41/64	19¼	31	120.70	108.70	96.60
AGC-276	22 25/64	21	32	124.70	112.20	99.70
AGC-277	24 9/64	23¾	34	128.00	115.20	102.40
AGC-278	25 57/64	24½	35	131.60	118.40	105.30
AGC-279	27 41/64	26¼	37	134.90	121.40	107.90
AGC-280	29 25/64	28	38	137.80	124.00	110.20

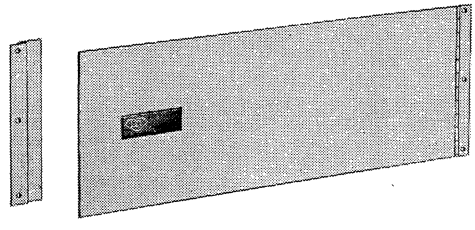
FEATURES

- .050 patterned aluminum panels on 4 sides
- 6063-T5 aluminum extrusions comprise frame
- 16 gauge steel vertically adjustable chassis supports
- Front and rear mounting rails tapped 10-32 W.E. spacing
- Accepts standard 19″ panels
- Furnished completely assembled including two heavy duty anodized aluminum handles, four rubber feet and two chassis supports
- Front and back of cabinet are identical
- Clear inside depth, panel to panel—17″
- Finish is vinyl texture. Choice of charcoal gray (CG) or sand (S).

Truly functional beauty establishes the Classic Cabinet as a new concept in enclosures. It artfully blends inspired styling with practical efficiency. From the patterned aluminum panels to the smooth extruded aluminum structure, every detail of construction has been combined to establish an air of elegance and substance. The quality is unmistakable.

Classic Doors

Intended for use on Classic Cabinets but will fit any rack or cabinet with 19″ panel space by attaching to panel mounting rails. Made of ⅛″ 5005-H36 aluminum alloy. Stop fits on one panel mounting rail, hinged door attaches to other mounting rail. If an opening is required above and/or below door, select a door whose height is smaller than the opening it is intended to cover. Equipped with plated, flush type latch.



Bud No.	Height	Width	Wgt. Lbs.	Net each in lots of 1-4	5-9	10-14
AGD-366	3½	19	½	$ 6.80	$ 6.10	$ 5.40
AGD-367	5¼	19	¾	8.30	7.40	6.60
AGD-368	7	19	2	9.60	8.60	7.70
AGD-369	8¾	19	2¾	10.60	9.50	8.50
AGD-370	10½	19	3	11.60	10.40	9.30
AGD-371	12¼	19	3¼	12.40	11.20	10.00
AGD-372	14	19	3½	12.70	11.40	10.20
AGD-373	15¾	19	4	14.40	12.40	11.50
AGD-374	17½	19	4½	15.50	14.00	12.40
AGD-375	19¼	19	5¼	16.60	15.00	13.30
AGD-376	21	19	6¼	17.70	15.90	14.20
AGD-377	22¾	19	6½	18.50	16.70	14.80
AGD-378	24½	19	7	19.40	17.40	15.50
AGD-379	26¼	19	7½	20.50	18.50	16.40
AGD-380	28	19	8	22.00	19.80	17.60

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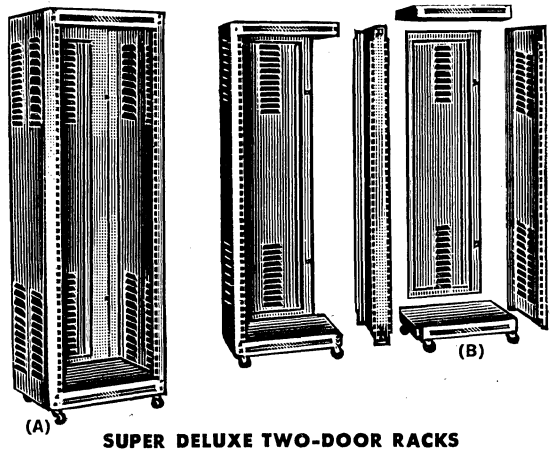
Cabinet Racks, Accessories

DELUXE RELAY RACKS WITH ADD-A-RACK



(A) Deluxe Relay Racks — High quality relay racks made of 16-gauge steel with 7/64" panel supports. Panel mounting supports are recessed so that no panel edges will be exposed. Both back and sides are fully louvered for best ventilation. Snap catches are positioned on the door. Rounded corners and red-lined chrome trim give streamlined appearance. Base constructed with four special supports so that casters may be applied directly to base for mobility. All standard panels fit these racks: 22" wide for 19" panels; 27" wide for 24" panels.

Super Deluxe Series Relay Racks are equipped with adjustable panel mounting supports permitting forward and backward adjustment of panels for more efficient use of space. Adjustable points are at 1" intervals for 9" to 15" clearance behind panels. Super Deluxe Racks are fitted with both front and rear doors, the rear to cover any equipment behind the panel while making it easily accessible. The front door, not louvered, conceals controls on the front panel.

(B) Add-A-Rack Series — Where relay racks are to be joined in series. Provides additional strength and improved appearance. Includes door, top, bottom and coupling unit, all that is needed to make a double relay rack out of a single Deluxe series.

All Racks Listed are shipped knocked-down with all necessary hardware and assembly instructions. Casters optional. When ordering specify finish. Add suffix **"HG"** for gray hammertone; suffix **"G"** for gray wrinkle; and suffix **"B"** for black wrinkle.

SUPER DELUXE TWO-DOOR RACKS

WITH 19" WIDE PANEL SPACE

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
CR-2174	42 1/16"	36 3/4"	102	$ 75.10	$ 67.60	$60.10
CR-2171	47 5/16"	42"	104	81.10	73.00	64.90
CR-2172	66 9/16"	61 1/4"	138	104.60	94.10	83.70
CR-2175	75 5/16"	70"	150	112.50	101.30	90.00
CR-2173	82 5/16"	77"	163	125.60	113.00	100.50
WITH 24" WIDE PANEL SPACE						
CR-2494	42 1/16"	36 3/4"	119	$ 96.80	$ 87.10	$77.45
CR-2491	47 5/16"	42"	122	108.70	97.80	87.00
CR-2492	66 9/16"	61 1/4"	160	141.60	127.50	113.30
CR-2495	75 5/16"	70"	175	150.80	135.70	120.60
CR-2493	82 5/16"	77"	190	169.50	152.60	135.60

ADD-A-RACK ASSEMBLIES

Includes door, top, bottom and coupling unit for add-on use with racks indicated.

Bud No.	For Use With Rack No.	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
AR-1778	CR-1774	70	$ 56.50	$ 50.90	$ 45.20
AR-1775	CR-1771	74	60.10	54.00	48.00
AR-1776	CR-1772	100	74.60	67.20	59.70
AR-1779	CR-1780	107	78.90	71.00	63.20
AR-1777	CR-1773	113	91.80	82.60	73.40
AR-4274	CR-2474	82	58.30	52.50	46.65
AR-4271	CR-2471	87	65.80	59.20	52.65
AR-4272	CR-2472	117	82.50	74.25	66.00
AR-4275	CR-2475	125	84.00	75.60	67.20
AR-4273	CR-2473	132	98.90	89.00	79.10
AR-2278*	CR-2074	102	64.00	57.60	51.20
AR-2275*	CR-2071	86	72.30	65.10	57.80
AR-2276*	CR-2072	110	90.50	81.50	72.40
AR-2279	CR-2075	120	92.30	83.05	73.85
AR-2277*	CR-2073	130	110.20	99.20	88.20
AR-3278	CR-2484	100	82.70	74.45	66.15
AR-3275	CR-2481	119	92.40	83.20	73.90
AR-3276	CR-2482	129	115.80	104.20	92.70
AR-3279	CR-2485	140	117.70	105.95	94.15
AR-3277	CR-2483	152	139.30	125.40	114.40

*Gray hammertone standard; for black or gray wrinkle add 10% to price.

"TEM-STAT" TEMPERATURE CONTROLS

Prevents costly damage to electronic components in enclosed cabinets, boxes, etc. Bimetal sensing element responds quickly to gradual or sudden temperature changes and actuates whatever warning device you use: Activates a light, bell, blower or other device; or, shuts off current. Activates snap-action, heavy-duty, normally open switch contacts. High electrical ratings up to 300° F; fully adjustable temperature ranges. Screw terminals for easy attachment. U/L Listed. Small size. 2 15/16" lg. x 1" w. x 1 7/32" d., suitable for limited space applications. **U/L Rating:** 8 amps, full load.

Bud Model TS-15—For 80°–170° F range. Net Each.... **$5.30**
Bud Model TS-16—For 150°–240° F range. Net Each... **$5.30**

CASTERS

Bud No.	Height	Weight (Set of 4)	Net Each, Lots of 1-49	50-99	100-149
RC-7756	2 5/8"	1 3/4 lbs.	$1.10	$1.00	.90
RC-7757	2"	1 lb.	.60	.55	.48
RC-7758	3 1/4"	6 lbs.	2.70	2.40	2.20

DELUXE RELAY RACKS

17 1/8" Overall Depth

WITH 19" WIDE PANEL SPACE

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
CR-1774	42 1/16"	36 3/4"	82	$57.50	$51.80	$46.00
CR-1771	47 5/16"	42"	92	65.10	58.60	52.10
CR-1772	66 9/16"	61 1/4"	115	81.50	73.30	65.20
CR-1780	75 5/16"	70"	125	83.60	75.20	67.90
CR-1773	82 5/16"	77"	135	93.80	84.40	75.00
WITH 24" WIDE PANEL SPACE						
CR-2474	42 1/16"	36 3/4"	96	$ 67.40	$ 60.60	$53.90
CR-2471	47 5/16"	42"	108	76.00	68.40	60.80
CR-2472	66 9/16"	61 1/4"	135	96.30	86.70	77.00
CR-2475	75 5/16"	70"	146	97.00	87.30	77.60
CR-2473	82 5/16"	77"	158	114.00	102.60	91.20

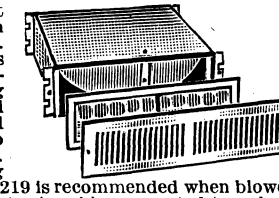
EXTRA DEEP DELUXE RACKS

Same as above, except 22 1/8" deep instead of 17 1/8" deep. Gray hammertone finish standard; for black or gray wrinkle add 10% to price.

WITH 19" WIDE PANEL SPACE

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
CR-2074	42 1/16"	36 3/4"	98	$ 70.40	$ 63.40	$56.30
CR-2071	47 5/16"	42"	102	79.60	71.60	63.70
CR-2072	66 9/16"	61 1/4"	137	99.70	89.70	79.80
CR-2075	75 5/16"	70"	148	101.60	91.50	81.30
CR-2073	82 5/16"	77"	159	118.40	106.60	94.70
WITH 24" WIDE PANEL SPACE						
CR-2484	42 1/16"	36 3/4"	115	$ 94.70	$ 85.20	$75.80
CR-2481	47 5/16"	42"	119	106.30	95.70	85.00
CR-2482	66 9/16"	61 1/4"	160	133.30	119.90	106.60
CR-2485	75 5/16"	70"	173	135.60	122.00	108.50
CR-2483	82 5/16"	77"	186	159.00	143.10	127.20

TRANS-AIRE BLOWER



Ideal for use where excessive heat is generated by equipment in an enclosed rack, cabinet or console. Brings in fresh air or exhausts heated air, enabling use as an exhaust or intake blower, depending upon mounting position. Unit will operate in any position—vertical or horizontal. May be mounted to rails of standard cabinet or rack. Use of Bud Chassis Supporting Angles SA-1349, SA-1350 or CE-2219 is recommended when blower is mounted in rack or cabinet. Motor is rubber mounted to reduce vibration. Operating noise factor reduced to minimum. Thermal overload protection to prevent overheating. Automatic reset. Oil impregnated, fiberglas disposable filter can be changed without removing unit from cabinet. Three sizes provide air displacement from 100 c.f.m. to 750 c.f.m. at 0° static pressure. Complete with filter, chrome-plated grille and 18" three-wire cord. All dimensional and technical data in table below **Weight:** B-23 17 1/4 lbs., B-25 33 lbs., B-27 35 1/4 lbs.; replacement filter 1 lb.

BLOWERS

Bud No.	Panel Space	Depth	Air c.f.m. High	Low	Mot. hp	Net Each, Lots of 1-9	10-14	15 Up
B23	3 1/2"x19"	12"	200	100	1/20	$67.40	$60.70	$53.90
B25	5 1/4"x19"	14 1/2"	500	250	1/6	77.10	69.40	61.70
B27	7" x19"	14 1/2"	750	350	1/4	86.60	78.00	69.30

FILTERS FOR ABOVE BLOWERS

Bud No.	Unit	Net Each, Lots of 1-24	25-49	50-99
BF-24	Filter for use with B-23	$1.50	$1.40	$1.20
BF-26	Filter for use with B-25	1.70	1.50	1.30
BF-28	Filter for use with B-27	1.80	1.65	1.45

Net
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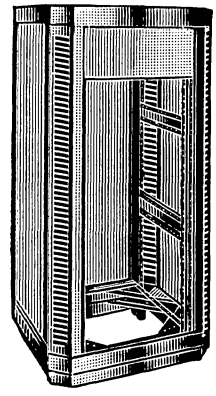
Racks, Cabinets, Accessories

•NEW ZEPHYR 8 CABINET RACKS



Combine striking appearance with increased utility, extra ventilation, and unusually sturdy construction. Units are completely assembled with all-welded 14 gauge steel frames. Sides and reinforced rear door are of 16 gauge steel. Sides of frame are reinforced by channel braces to which panel mounting rails are attached; front and rear mounting rails are adjustable. Sides may by removed from outside of rack for easy access to interior. The octagonal shape and louvres placed in the four narrow sides permit exceptional ventilating capability. If corner placement is desired or combinations of racks are placed together, this shape allows for a "center ventilated system." Also, the outer shape surrounding the inner structural frame provides extra space for longitudinal or vertical placement of plenums, cable-track, buss ducts, etc. Casters may be attached to the base or removable sub-base. Front doors, available as optional accessories, are equipped with a flush-type latch. Available in two-tone gray finish only.

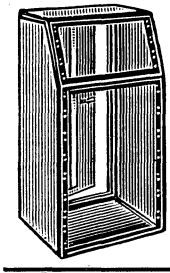
Bud No.	Overall Size, Inches W. x D. x H.	Vertical Panel Space, Inches	Weight, Lbs.
MD-1990	27 23/32 x 24 x 50 1/8	19 x 42	160
MD-1991	27 23/32 x 24 x 60 5/8	19 x 52 1/2	190
MD-1992	27 23/32 x 24 x 69 3/8	19 x 61 1/4	215
MD-1993	27 23/32 x 24 x 78 1/8	19 x 70	240
MD-1994	27 23/32 x 24 x 85 1/8	19 x 77	260

Bud No.	Net Each, Lots of 1-3	4-6	7-9
MD-1990	$203.90	$183.50	$163.10
MD-1991	227.00	204.30	181.60
MD-1992	252.40	227.20	201.90
MD-1993	281.10	253.00	224.80
MD-1994	306.40	275.80	245.20

ACCESSORY FRONT DOORS

Bud No.	Fits Bud No.	Weight, Lbs.	Net Each, Lots of 1-3	4-6	7-9
MD-1995	MD-1990	19	$23.70	$21.30	$19.00
MD-1996	MD-1991	25	26.30	23.70	21.00
MD-1997	MD-1992	30	29.20	26.30	23.40
MD-1998	MD-1993	35	32.60	29.30	26.10
MD-1999	MD-1994	39	35.50	32.00	28.40

IMPERIAL INCLINED PANEL CONSOLE

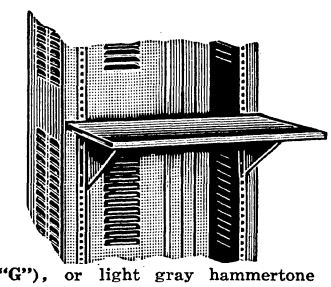


Smart looking all-aluminum console built for strength while keeping weight factor in mind. Assembly includes framework, top, bottom, two sides, and reinforced door with concealed hinges and flush mounted latch. Joints are ball-cornered aluminum castings. Inclined panel set at 22½° angle. Cast brass, heavy duty hinges designed to enable components, blowers, etc., to be mounted on rear door. Framework for top, inclined panel area and front are extrusions, drilled and tapped to accept standard rack panels. Casters may be attached. Standard Bud aluminum panels may be used to enclose the front and inclined panel spaces. Sides, top, door are gray hammertone. Frame and bottom are smooth black.

Bud No.	Overall Size, Inches W. x D. x H.	Vertical Panel Size, Inches	Weight, Lbs.
BI-1828	20 15/16 x 18 5/8 x 40 11/16	19 1/16 x 28 1/16	41
BI-2228	20 15/16 x 22 1/8 x 40 11/16	19 1/16 x 28 1/16	47
BI-2419	20 15/16 x 19 17/32 x 43 21/32	19 1/16 x 24 9/16	43
BI-2421	20 15/16 x 21 9/32 x 43 21/32	19 1/16 x 24 9/16	46

Bud No.	Net Each, Lots of 1-9	10-14	15-19
BI-1828	$201.30	$181.20	$161.10
BI-2228	200.70	180.70	160.60
BI-2419	235.10	211.50	188.00
BI-2421	247.40	222.60	197.90

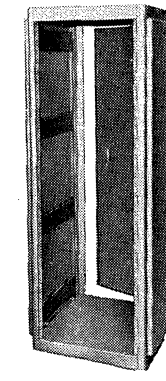
SHELF ASSEMBLY



Useful as a desk, work space, etc. Can't fall off or tilt; will support any reasonable weight. Shelf portion supported by two brackets, punched to fit standard panel mounting strips. No panel support needed. Sides welded to bottom of shelf; mounting brackets slip into sides and fasten with two screws. 16 gauge steel; ½" flange on all four sides; overall height, 7⅛". Brackets are 7" high. Specify black wrinkle (suffix "B"), gray wrinkle (suffix "G"), or light gray hammertone (suffix "HG") finish.

Bud No.	Size, Inches D. x W.	Weight, Lbs.	Net Each, Lots of 1-14	15-24	25-34
SA-1719	16 x 22	14	$12.10	$10.90	$9.70
SA-1720	20 x 22	15	12.30	11.10	9.80

PRESTIGE BALL CORNER RACKS



Attractive, practical housing for permanent or mobile instrumentation. Consists of framework, top, bottom, two ball cornered sides, and a ball corner door. Sides attach to frame by means of a tongue-and-slot arrangement and two screws. Sides easily removable. Drilled and tapped adjustable panel mounting rails on all four vertical members of frame. Doors mount from either left or right. Base takes side panels on any of the four sides. Door and side clearance permits covering of equipment without damage to knobs or controls. Provision made for recessed casters. Extra doors available. Knockout holes for attaching two or more units together. Bottom will support 500 lbs. Panel rails 200 lbs. suspended vertically between rails. Units take Bud SD-1717 sliding drawer assembly or CD-2210 console drawer. Shipped knocked-down, with necessary hardware. **Gray hammertone finish only.**

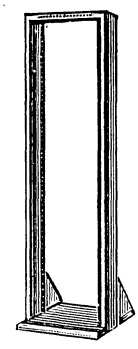
Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
CR-2280	66 9/16"	61¼"	179	$137.00	$123.30	$109.60
CR-2281	71 13/16"	66½"	186	140.40	126.40	112.40
CR-2282	82 5/16"	77"	213	157.80	142.00	126.30
DR-2290	Door for CR-2280		28	15.80	14.20	12.60
DR-2291	Door for CR-2281		33	18.60	16.70	14.80
DR-2292	Door for CR-2282		39	20.70	18.70	16.60

PRESTIGE ADD-A-RACKS

Where relay racks are to be joined in series this assembly is lower in cost yet provides additional strength and improved appearance. Consists of top, bottom, rear door and framework. 16 gauge steel. Extra ball corner doors will fit adjustable panel mounting rails which are recessed. Gray hammertone.

Bud No.	Used to Add-A-Rack to	Net Each, Lots of 1-9	10-14	15-19
AR-2284	CR-2280	$103.60	$ 93.30	$ 82.90
AR-2286	CR-2281	112.00	100.80	89.60
AR-2287	CR-2282	125.80	113.20	100.60

DELUXE TELEPHONE-TYPE RELAY RACKS



Sturdy rack with extra strength and capacity. U-member is welded with ventilation at top. Panel-mounting rails, front and rear, tapped 10-32 with W.E. spacing. Made of 12 ga. steel. Chassis-type base drilled for RC-7756 casters. Brackets hold uprights to base; holes on both sides for bolting racks together. Add suffix HG for gray hammertone; B for black wrinkle; or G for gray wrinkle. Nos. RR-1367-RR-1369 have 20⅞" base width and take 19" panels. Nos. RR-2467-RR-2469 have 25⅞" base width and take 24" panels.

Bud No.	Height, Overall	Panel Space	Net Each, Lots of 1-9	10-14	15-19
RR-1367	64 5/8"	61¼"	$47.80	$43.00	$38.20
RR-1368	73 3/8"	70"	51.40	46.30	41.10
RR-1369	80 3/8"	77"	57.20	51.50	45.80
RR-2467	64 5/8"	61¼"	55.20	49.70	44.20
RR-2468	73 3/8"	70"	56.50	50.90	45.20
RR-2469	80 3/8"	77"	66.90	60.20	53.50

TELEPHONE-TYPE RELAY RACKS

Standard Models: 3" channels and crossbars of 7/64" steel. Base is chassis type with side angles. Base drilled for RC-7756 casters. Black wrinkle (suffix "B") or gray hammertone (suffix "HG").

Heavy Duty Models RR-1265 and RR-1465: Two 3½" x 5" x ¼", 20⅜" long angles form base. Steel channels are 3" x 1⅜", 72¼" long. Cross bars are ⅛" x 2-3/32" angles. Panel holes tapped 12-24 with W.E. space. Black wrinkle finish only. Usually bolted to floor.

FOR 19" WIDE PANELS

Bud No.	Height, Overall	Panel Space	Net Each, Lots of 1-9	10-14	15-19
RR-1263	35 39/64"	31½"	$25.40	$22.80	$20.30
RR-1363	40 55/64"	36¾"	24.50	22.00	19.60
RR-1264	70 39/64"	66½"	29.00	26.10	23.20
RR-1364	75 55/64"	71¾"	30.50	27.40	24.40
RR-1366	81 7/64"	77"	33.40	30.10	26.70
RR-1265	72¼"	66½"	67.00	60.30	53.60

FOR 24" WIDE PANELS

RR-1463	35 39/64"	31½"	$31.20	$28.10	$25.00
RR-2463	40 55/64"	36¾"	33.90	30.50	27.10
RR-1464	70 39/64"	66½"	35.80	32.20	28.60
RR-2464	75 55/64"	71¾"	35.70	32.20	28.60
RR-2466	81 7/64"	77"	45.60	41.10	36.50
RR-1465	72¼"	66½"	79.30	71.30	63.40

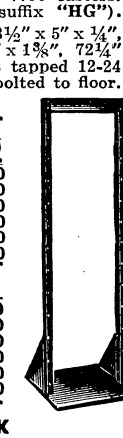


TABLE-MOUNT TELEPHONE RACK

Sturdy rack with chassis type base mounts heavy components on table where enclosures are not required. Panel mount rails recessed for flush mount of 19" panels. Shipped knocked down. Specify black wrinkle (suffix "B") or gray hammertone ("HG").

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
RR-1248	24"	21"	15	$11.60	$10.50	$ 9.30
RR-1249	31"	28"	18	13.70	12.30	11.00

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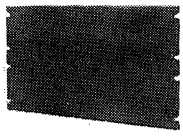
Relay Racks and Panels

STANDARD RELAY RACK PANELS



Choice of ⅛" steel or ⅛" and 3/16" aluminum panels in both 19" and 24" widths. Specify color when ordering, use suffix **B** for black wrinkle; **G** for gray wrinkle; **HG** for gray hammertone; **SB** for smooth blue; **SG** for smooth gray. Aluminum panels 5005 H-36 or 2024 T-3 alloy.

19" WIDE PANELS

Ht., In.	⅛" STEEL Bud No. PS-	Net Each, Lots of 1-49	50-99	100-149	⅛" ALUMINUM Bud No. PA-	Net Each, Lots of 1-49	50-99	100-149
1¾	1250	$1.50	$1.00	$ .90	1101	$1.40	$1.20	$1.10
3½	1251	1.30	1.10	1.05	1102	1.90	1.70	1.50
5¼	1252	1.80	1.60	1.40	1103	2.40	2.20	2.00
7	1253	1.90	1.70	1.50	1104	3.10	2.80	2.50
8¾	1254	2.40	2.20	1.90	1105	3.60	3.30	2.90
10½	1255	2.80	2.60	2.30	1106	4.60	4.10	3.70
12¼	1256	3.30	2.90	2.60	1107	5.30	4.80	4.30
14	1257	3.60	3.30	2.90	1108	6.10	5.50	4.90
15¾	1258	4.00	3.60	3.20	1109	6.80	6.10	5.40
17½	1259	4.40	4.00	3.50	1110	7.40	6.70	5.90
19¼	1260	4.80	4.40	3.90	1111	8.10	7.30	6.50
21	1261	5.50	5.00	4.40	1112	9.00	8.10	7.20

24" WIDE PANELS

1¾	3420	$1.60	$1.40	$1.30	2401	$ 2.00	$1.80	$1.60
3½	3421	1.80	1.60	1.40	2402	2.60	2.40	2.10
5¼	3422	2.20	2.00	1.80	2403	3.50	3.20	2.80
7	3423	2.50	2.30	2.00	2404	4.10	3.70	3.30
8¾	3424	3.10	2.80	2.50	2405	5.20	4.70	4.10
10½	3425	3.50	3.20	2.80	2406	6.30	5.70	5.10
12¼	3426	4.40	4.00	3.50	2407	7.10	6.40	5.70
14	3427	5.20	4.70	4.10	2408	8.60	7.70	6.90
15¾	3428	5.80	5.20	4.60	2409	9.20	8.30	7.30
17½	3429	6.30	5.70	5.10	2410	9.70	8.70	7.70
19¼	3430	7.10	6.40	5.70	2411	10.60	9.50	8.50
21	3431	7.80	7.00	6.20	2412	11.70	10.50	9.40

3/16" 5005 H-36 ALUMINUM PANELS

Ht., In.	Standard 19" Wide Panels Bud No. PA-	Net Each, Lots of 1-49	50-99	100-149	Standard 24" Wide Panels Bud No. PA-	Net Each, Lots of 1-49	50-99	100-149
1¾	3101	$ 2.00	$ 1.80	$ 1.60	2431	$ 3.50	$ 3.10	$ 2.80
3½	3102	2.90	2.60	2.30	2432	4.50	4.10	3.60
5¼	3103	3.80	3.40	3.00	2433	6.30	5.60	5.00
7	3104	4.80	4.30	3.80	2434	7.30	6.50	5.80
8¾	3105	5.60	5.00	4.50	2435	8.50	7.70	6.80
10½	3106	7.00	6.30	5.60	2436	10.80	9.70	8.60
12¼	3107	8.10	7.30	6.50	2437	12.20	11.00	9.80
14	3108	9.00	8.10	7.20	2438	14.40	12.90	11.50
15¾	3109	10.50	9.40	8.40	2439	16.00	14.40	12.80
17½	3110	11.60	10.40	9.20	2440	17.50	15.80	14.00
19¼	3111	12.60	11.30	10.00	2441	19.30	17.40	15.40
21	3112	13.80	12.40	11.00	2442	21.20	19.10	17.00

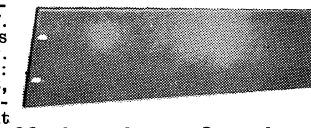
1/8" HARD ALUMINUM PANELS

Ht., In.	19" Wide Panels Bud PA-	Net Each, Lots of 1-49	50-99	100-149	24" Wide Panels Bud PA-	Net Each, Lots of 1-49	50-99	100-149
1¾	1131	$ 1.70	$1.50	$1.40	4221	$ 2.40	$ 2.15	$ 1.90
3½	1132	2.10	1.90	1.70	4222	3.10	2.80	2.50
5¼	1133	2.90	2.60	2.30	4223	4.00	3.60	3.20
7	1134	3.70	3.30	2.90	4224	5.20	4.70	4.10
8¾	1135	4.10	3.70	3.30	4225	6.00	5.40	4.80
10½	1136	5.30	4.70	4.20	4226	7.40	6.65	5.90
12¼	1137	6.00	5.40	4.80	4227	8.50	7.70	6.80
14	1138	7.00	6.30	5.60	4228	9.80	8.80	7.80
15¾	1139	7.60	6.80	6.10	4229	10.70	9.65	8.55
17½	1140	8.20	7.40	6.50	4230	11.60	10.45	9.30
19¼	1141	8.90	8.00	7.10	4231	12.50	11.25	10.00
21	1142	10.10	9.10	8.10	4232	14.40	13.00	11.50

3/16" HARD ALUMINUM PANELS

1¾	3121	$ 2.90	$ 2.60	$ 2.30	4280	$ 4.60	$ 4.15	$ 3.70
3½	3122	3.50	3.10	2.80	4281	5.60	5.05	4.50
5¼	3123	4.80	4.30	3.80	4282	7.20	6.50	5.75
7	3124	6.00	5.40	4.80	4283	9.20	8.30	7.35
8¾	3125	7.10	6.40	5.70	4284	10.80	9.70	8.65
10½	3126	8.70	7.80	6.90	4285	13.30	12.00	10.65
12¼	3127	10.20	9.20	8.20	4286	15.50	13.95	12.40
14	3128	11.80	10.60	9.40	4287	18.00	16.20	14.40
15¾	3129	12.60	11.35	10.10	4288	19.40	17.45	15.50
17½	3130	13.90	12.60	11.20	4289	21.20	19.10	16.95
19¼	3131	14.70	13.25	11.75	4290	22.80	20.50	18.25
21	3132	17.00	15.30	13.60	4291	26.20	23.60	20.95

FLANGED PANELS 19" WIDE



Made of 16 gauge steel with a ½" flange all around. Elongated hole is .250" x .500". Spacing of holes is same as standard panel notching. Specify color when ordering: add suffix **G**, gray wrinkle; **B**, black wrinkle; **H**, gray hammertone; **SG**, smooth light gray; **SB**, smooth light blue; **CG**, charcoal gray; **S**, sand.

Bud No.	Height Inches	Weight Lbs.	Net Each, Lots of 1-49	50-99	100-149
FPS-1230	1¾	1	$1.40	$1.20	$1.10
FPS-1231	3½	1½	1.40	1.20	1.10
FPS-1232	5¼	2	1.60	1.40	1.30
FPS-1233	7	2¾	1.80	1.60	1.40
FPS-1234	8¾	3¼	2.20	2.00	1.80
FPS-1235	10½	4	2.70	2.40	2.20
FPS-1236	12¼	4½	3.20	2.90	2.60
FPS-1237	14	5	3.50	3.20	2.80
FPS-1238	15¾	5¾	4.00	3.60	3.20
FPS-1239	17½	6¼	4.40	4.00	3.50
FPS-1240	19¼	6¾	4.80	4.40	3.90
FPS-1241	21	7½	5.30	4.70	4.20

SURFACE SHIELD PANELS

Bright aluminum alloy 5005 H-36 panels have blemish-free mill finish. Covered on both sides with sturdy, pressure-sensitive, white paper; protects against damage and useful for marking for drilling, positioning, etc. Standard notched sizes.

STANDARD 19" WIDE PANELS

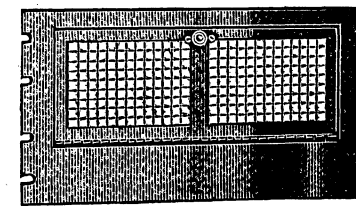
Ht., In.	⅛" ALUMINUM Bud SFA-	Net Each, Lots of 1-49	50-99	100-149	3/16" ALUMINUM Bud SFA-	Net Each, Lots of 1-49	50-99	100-149
1¾	1831	$1.20	$1.10	$ .95	3161	$ 2.10	$ 1.90	$ 1.70
3½	1832	1.80	1.70	1.50	3162	3.00	2.70	2.40
5¼	1833	2.40	2.20	1.90	3163	3.90	3.50	3.10
7	1834	2.90	2.60	2.30	3164	4.80	4.40	3.90
8¾	1835	3.50	3.20	2.80	3165	5.80	5.20	4.60
10½	1836	4.50	4.10	3.60	3166	6.70	6.00	5.30
12¼	1837	5.10	4.60	4.10	3167	8.40	7.60	6.70
14	1838	5.80	5.30	4.70	3168	9.60	8.70	7.70
15¾	1839	6.60	5.90	5.30	3169	10.80	9.70	8.60
17½	1840	7.30	6.50	5.80	3170	11.90	10.70	9.50
19¼	1841	8.00	7.20	6.40	3171	13.00	11.70	10.40
21	1842	8.80	7.90	7.00	3172	14.20	12.80	11.40

STANDARD 24" WIDE PANELS

1¾	2451	$ 2.20	$ 2.00	$ 1.80	3401	$ 4.10	$ 3.70	$ 3.30
3½	2452	3.00	2.70	2.40	3402	5.50	5.00	4.40
5¼	2453	3.80	3.40	3.00	3403	7.40	6.70	5.90
7	2454	4.90	4.40	3.90	3404	9.10	8.20	7.30
8¾	2455	5.80	5.20	4.60	3405	10.90	9.80	8.70
10½	2456	7.30	6.50	5.80	3406	13.70	12.30	11.00
12¼	2457	8.20	7.40	6.50	3407	15.80	14.20	12.60
14	2458	9.50	8.60	7.60	3408	18.20	16.40	14.60
15¾	2459	10.80	9.70	8.60	3409	20.30	18.30	16.30
17½	2460	11.70	10.60	9.40	3410	22.50	20.20	18.00
19¼	2461	12.90	11.60	10.40	3411	24.50	22.10	19.60
21	2462	14.10	12.70	11.30	3412	26.60	24.00	21.30

VENTILATED DOOR RACK PANELS

Perforated area in door provides adequate ventilation. Features a plunger type latch for positive locking and easy opening. Distance from hinged side of opening to bottom, 3½"; from lock side of opening to top, 1". Available in black or gray wrinkle finish or gray hammertone finish (specify when ordering). ⅛" steel, 19" long.



Bud No.	Height Overall	Door Size, Inches	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
PS-814	10½"	15⅜ x 6	6	$10.10	$9.10	$8.10
PS-815	12¼"	15⅜ x 7½	7	10.80	9.70	8.60

NON-VENTILATED METAL DOOR PANELS

PS-615	10½"	15⅜ x 6	7¼	$ 8.20	$7.40	$6.50
PS-616	12¼"	15⅜ x 7½	8¼	10.20	9.20	8.10

VENTILATING GRILLE PANELS

Substitute for solid panels for extra ventilation. Made of ⅛" steel with die-cut grille 13 13/32" wide. Standard notching. 19" wide sizes. Specify black wrinkle (suffix **B**), gray wrinkle (suffix **G**), or gray hammertone (suffix **HG**).

Bud No.	Height, Overall	Grille Height	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
PS-808	5¼"	3⅜"	2½	$4.00	$3.60	$3.20
PS-809	7"	4⅞"	3½	4.40	4.00	3.50
PS-810	8¾"	3⅜"*	5	5.30	4.70	4.20
PS-811	10½"	5⅞"*	5¾	5.50	5.00	4.40
PS-812	12¼"	7⅜"*	6¼	6.00	5.40	4.80

* Allows 3½" space for chassis mounting.

Net

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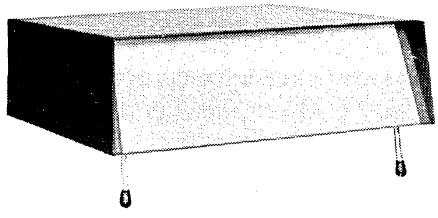
Cabinets and Accessories

TILT-A-VIEW CABINETS

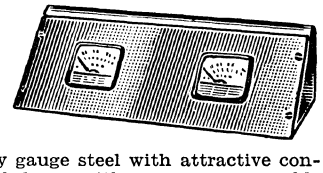


Affords selective vision to viewer who may be observing the action of meters or the position of dials and recorders. Employment of the detachable legs changes the position to any desired angle. Two piece construction permits immediate clear access to interior for installation and servicing.

Fabricated of 18 gauge steel. Lower segment slides into channels and flanges formed in top. Bottom is fastened by screws to the flanges on the lower edge of top. Hooded top shields sloping front panel from overhead glare. No screws appear in front or rear panels. Two 2" high plated legs with rubber feet. Legs screw into base on bottom section. Four rubber feet attached to bottom section. Vinyl texture finish. Charcoal gray body and light sand panels.

Catalog No.	Sizes, Inches H x W x D	Wgt. Lbs.	1-14	14-24	25-34
TV-2155	4½ x 15 x 10	8½	$ 7.50	$ 6.80	$ 6.00
TV-2156	6½ x 16 x 12	13	8.90	8.00	7.10
TV-2157	8½ x 17 x 14	17	12.80	11.50	10.20

DUAL-VIEW PANEL SUPPORT



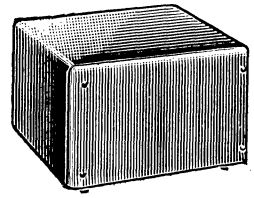
Designed for installation on a rack where an oblique view of instrument panel is desired. Engineered so that the entire assembly occupies no more space than size of supported panel. Panel support cover can be removed for easy servicing or installation of instruments. Made of heavy gauge steel with attractive contoured edges. Comes knocked-down with necessary assembly hardware, but without panels. Bud panels to fit these supports are PS-1253 (steel), and PA-1104 (aluminum) for Model IP-1120; PS-1255 (steel), and PA-1106 (aluminum) for IP-1121. Furnished in black wrinkle (add suffix **"B"**), gray hammertone (add suffix **"HG"**), gray wrinkle (add suffix **"G"**), smooth gray (suffix **"SG"**), or smooth blue (suffix **"SB"**).

Bud No. IP-1120 — Requires 19" x 7" panel space. Wt., 3½ lbs.
Net Each, Lots of 1-24 ..... **$5.10**
Lots of 25-49, Each..... **$4.60** Lots of 50-99, Each..... **$4.10**

Bud No. IP-1121 — Requires 19" x 10½" panel space. Wt., 6¾ lbs.
Net Each, Lots of 1-24 ..... **$7.20**
Lots of 25-49, Each..... **$6.50** Lots of 50-99, Each..... **$5.70**

• New product.

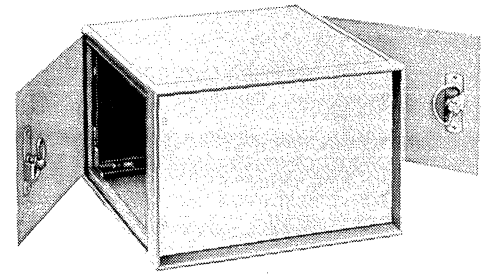
CONTOUR UTILITY CABINETS



Attractively designed utility housing with rounded contour corners. Flanged panels also have rounded corners to preserve the symmetry of design. Constructed of 20 gauge steel. Both front and rear panels are removable; the front panel is solid while the rear panel is louvered for proper ventilation. Four rubber feet, attached to base, prevent scratching surface the unit is placed on. Body is smooth, dark gray enamel; panel is smooth light gray enamel.

Bud No.	Overall Size, Inches H.	D.	W.	Net Each, Lots of 1-24	25-49	50 & Over
CU-463	4 7/32	6 7/32	3¾	$5.60	$4.90	$4.50
CU-465	4 7/32	6 7/32	5¾	6.40	5.90	5.10
CU-585	5 7/32	8 7/32	5¾	8.30	7.40	6.60
CU-587	5 7/32	8 7/32	7¾	9.10	8.20	7.30
				Lots of 1-49	50-99	100-149
CU-7125	7 7/32	12 7/32	5¾	8.30	7.40	6.60
CU-7127	7 7/32	12 7/32	7¾	8.80	7.90	7.00

TUDOR CABINETS

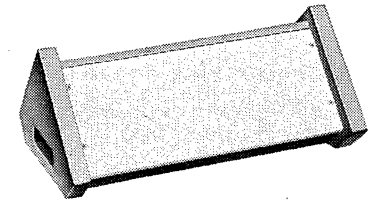


A top quality cabinet to compliment sophisticated equipment. Unique construction features and clean lines add to value and beauty.

Framework of Slimline Bud 901 aluminum extrusions and corner connectors. Side panels, top and bottom, are .030 aluminum; front panel is .090 aluminum; doors are 16 gauge steel. Recessing front panel affords protection to projecting knobs, dials, switches, etc. Cam action self adjusting spring latch holds doors securely against frame. Piano type hinge on doors. Four rubber feet furnished. Vinyl texture scratch resistant finish body and panel. Choice of charcoal gray (CG) or Sand (S). Specify when ordering.

Catalog No.	Size, In. HxWxD	Chassis No. Fits	Wt.	1-9	10-14	15-19
S-609	6x9½x8	AC-1413	4 lb. 4 oz.	$49.80	$44.90	$39.90
S-612	8x12x10	AC-1418	7 lb.	54.90	49.40	43.90
S-614	10x14x12	AC-413	9 lb. 8 oz.	59.40	53.40	47.50

MARK-T CABINETS

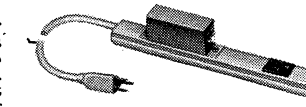


Designed particularly for a housing for controls, dials, meters, switches, lights, etc. Rear door swings open all the way for quick access to contents. Comfortable angle for easy viewing.

All welded construction. 16 gauge steel. Removable front panel held by decorative screws. Cam action self adjusting spring latch holds door securely against frame. Piano-type hinge on door. Recessed, safety shielded carrying handles. Four rubber feet included. Charcoal grey, vinyl texture, scratch resistant finish body. Light gray enamel panel and door.

Catalog No.	Width	Panel or Door Area	Wgt. Lbs.	1-14	15-24	25-34
MT-214	16"	5¾" x 14"	9	$28.10	$25.30	$22.50
MT-219	21"	5¾" x 19"	12	30.80	27.70	24.60
MT-224	26"	5¾" x 24"	14½	36.30	32.70	29.10

POWER OUTLET STRIPS



For more convenient, safer wiring in cabinets and racks or wherever multiple 110-125 volt outlets are required. Each strip is a complete unit ready for use; no field wiring is required. Strip is installed by snapping into mounting clips at convenient locations. When used in cabinets, racks or consoles there is no danger of accidental contact between power cord and contents.

Wire capacity is No. 12AWG Solid TW conductor. Cross section of steel race way is ¾" x 1 9/32" and recpetacles are spaced on 6" centers except POS-4. Double wipe contact receptacle terminals and grounding terminal are 15 amp, 125 volt. Each length of strip includes a 15 amp overload breaker with push-button reset and 6" rubber covered cord and grounding plug. Two sheet metal spring clips furnished with each section. All components are UL approved. Finished in light gray enamel.

Catalog No.	No. of Outlets	Length	Wgt. Lbs.	1-5	6-11	12-17
POS-4	4	17½"	1¾	$21.70	$19.50	$17.30
POS-7	7	48"	3¾	22.70	20.50	18.20
POS-9	9	60"	4¼	25.00	22.50	20.00
POS-11	11	72"	5	27.30	24.60	21.80

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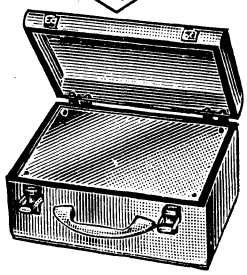
Net

Cases, Racks, Chassis

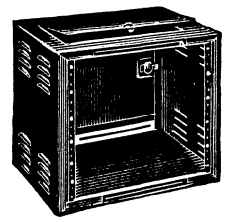
TRANSICASE PORTABLE INSTRUMENT CASES



Handsome, portable instrument case with unlimited applications. Contour design fabricated of .040" aluminum with flush-fitting aluminum panel. Foam-rubber lined lid protects instruments in case; mounted on two slide-off, bright nickel-plated hinges with toggle catches. Rubber feet at both base and back; metal plugs supplied to fill holes if rubber feet are not used. Bright nickel-plated handle. **Specify Color:** Add suffix **SB** for smooth blue; **SG**, for smooth gray enamel.

Bud No.	Inside Panel Size, Inches	Clear Internal Space Below Panel	Clear Internal Space Above Panel	Internal Aperture	Overall Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
TC-300	8 15/16 x 5 15/16	4 13/32"	1 15/32"	8" x 5 31/32"	10 1/16 x 7 x 6	3¾	$26.50	$23.80	$21.20
TC-301	10¾ x 7¼	4 13/32"	1 15/32"	9 7/16" x 7 9/32"	11½ x 8¼ x 6	4½	27.10	24.40	21.70
TC-302	11⅞ x 7 15/16	5 29/32"	1 15/32"	10 15/16" x 7 31/32"	13 x 9 x 7½	6	27.60	24.90	22.10
TC-303	15⅜ x 7 15/16	5 29/32"	1 15/32"	14 7/16" x 7 31/32"	16½ x 9 x 7½	8	28.10	25.30	22.50
TC-304	19 x 7	7 11/32"	1 15/32"	18 1/16" x 7 1/32"	20⅛ x 8 x 9	10	29.70	26.80	23.80

DELUXE CABINET RACKS



Rounded corners, red-lined chrome trim. There is a recessed, hinged door on the top with a snap catch. These racks are made of heavy gauge steel and are of sturdy construction. The five large sizes have a hinged rear door, while the small sizes have a welded panel in the rear. Adequate ventilation is assured by means of louvered sides and a 2½ inch opening in the bottom of the back extends the entire width. "NO-SCRATCH" EXTENDED METAL FEET ARE EMBOSSED ON THE BOTTOM. In black wrinkle (add suffix **"B"** to number when ordering), gray wrinkle (suffix **"G"**), and hammertone gray (suffix **"HG"**). **Size:** 14¾" x 22" w. Fits 19" panels. **Full size aluminum Relay Rack Panel supplied at no extra cost.**

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
CR-1726	8 25/32"	7"	24	$18.80	$16.90	$15.00
CR-1741	10 9/16"	8¾"	28	20.10	18.10	16.10
CR-1740	12 5/16"	10½"	31	23.50	21.60	18.80
CR-1742	14 1/16"	12¼"	32	24.10	21.70	19.30
CR-1739	15 13/16"	14"	35	32.70	29.50	26.20
CR-1743*	19 5/16"	17½"	40	32.10	28.90	25.70
CR-1727*	22 13/16"	21"	43	34.40	31.00	27.50
CR-1744*	28 1/16"	26¼"	51	37.00	33.30	29.60
CR-1728*	33 5/16"	31½"	58	39.30	35.40	31.50
CR-1745*	36 15/16"	35"	63	41.30	37.20	33.10

*These sizes have both top and rear doors.

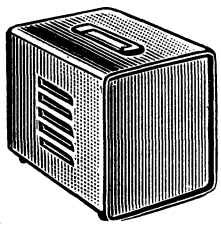
HEAVY DUTY CABINET RACKS

Similar to our Deluxe Cabinet Rack except with greater depth and extra strength. These racks are shipped knocked down with all necessary assembly hardware. Panel mounting rails are an integral part of the sides. Removable rear door. Louvered sides and 2½" x 17⅞" opening in bottom or back assure adequate ventilation. Made of 16 gauge steel. Where it is advantageous to have a bank of these cabinet racks, an Add-a-Cab feature is provided. The method of assembly is the same as our Add-a-Rack series. Specify gray hammertone (**HG**), black wrinkle (**B**), or gray wrinkle (**G**). Size 17⅞" dia x 22" w.

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
CR-1736	24½"	19¼"	50	$31.30	$28.20	$25.10
CR-1737	31½"	26¼"	57	33.70	30.30	26.90
CR-1738	40¼"	35"	70	40.10	36.10	32.10
ACR-1936	Add-A-Cab for CR-1736		42	31.10	28.00	24.90
ACR-1937	Add-A-Cab for CR-1737		52	32.10	28.90	25.70
ACR-1938	Add-A-Cab for CR-1738		57	39.50	35.50	31.60

PORTACAB INSTRUMENT CABINETS

PORTACABS



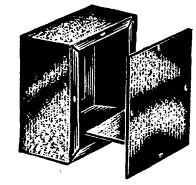
These attractive and versatile cabinets are desirable as housings for instrumentation requiring highly stylized appearance. The body is of one piece .050 aluminum with contoured corners. Panel is .062 aluminum.

Flexible recessed handle permits easy portability as well as vertical stacking. Well louvered for adequate ventilation. Since louveres point inward, side-to-side placement of cabinets is possible without space loss. Welded back has opening.

Front panel mounting flanges ½" wide. Aluminum front panel is recessed ½". The perimeter of the panel follows the contour of the body. Four detachable rubber feet furnished. Gray hammertone finish only.

Bud No.	Size, Inches W. x D. x H.	Wt., Lbs.	Bud Chassis	Net Each, Lots of 1-24	25-49	50-99
WA-1540	6⅛ x 8 x 8	2½	AC-402	$10.70	$ 9.60	$ 8.60
WA-1541	8⅛ x 12 x 9	3	AC-407	14.00	12.60	11.20
WA-1542	10⅛ x 8 x 8	3½	AC-406	12.50	11.20	10.00
WA-1543	11⅛ x 18 x 11	6½	AC-416	17.40	15.60	13.90
WA-1544	14⅛ x 18 x 12	7¾	AC-420	20.00	18.00	16.00

MINIATURE UTILITY CABINETS

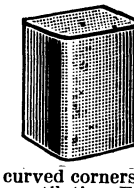


Ideal housing for construction of electronic devices using miniature tubes and transistorized circuitry. Front panel has a built-on chassis. Both front and rear panels are removable; fastened by self-tapping screws. Black wrinkle enamel finish.

Bud No.	Size, In. H. x W. x D.	Chassis W. x D., In.	Net Each, Lots of 1-49	50-99	100-149
C-1793	4 x 4 x 2	3⅛ x 1⅞*	$1.60	$1.40	$1.30
C-1794	4 x 5 x 3	4⅛ x 2⅞*	1.90	1.70	1.50
C-1795	5 x 4 x 3	3⅞ x 2⅞†	2.00	1.80	1.60
C-1796	6 x 5 x 4	4⅛ x 3⅞‡	2.10	1.90	1.70
C-1797	5 x 6 x 4	5⅛ x 3⅞†	2.40	2.10	1.90
C-1798	6 x 6 x 6	4⅞ x 5⅞‡	2.90	2.60	2.30

*1" high. †1¼" high. ‡1¾" high.

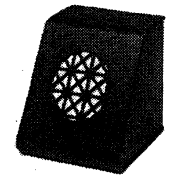
STREAMLINED MULTI-PURPOSE CABINETS



Attractive cabinet with curved corners; uses chassis No. CB-1625. Back is entirely open for ventilation. Finished in light gray wrinkle only.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
C-1787	4½ x 5½ x 3½	1	$2.20	$2.00	$1.70
C-1788	6½ x 5½ x 3½	1½	2.20	2.00	1.70

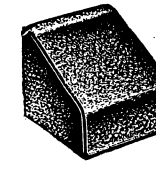
MINIATURE SPEAKER CASES



Safe, convenient steel housing for 2" and 3" speakers. Black wrinkle finish only.

Bud No.	For Size Speaker	Net Each, Lots of 1-24	25-49	50-99
CS-1685	2"	$1.90	$1.70	$1.55
CS-1686	3"	1.90	1.70	1.55

UNIVERSAL SLOPING PANEL CABINETS



Fully enclosed and shielded housing with one-piece detachable back and sides fastened to body with four self-tapping screws. Components may be mounted on back, bottom, sides or front. Will accommodate Bud Miniature Aluminum Chassis. **Size:** 4" d. x 4¼" h. Gray hammertone finish only.

ALUMINUM MODELS

Aluminum alloy 5005 H-14.

Bud No.	Uses Chassis	Width	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
AC-1610	CB-1617	4"	½	$2.30	$2.00	$1.80
AC-1611	CB-1618	5"	½	2.20	2.00	1.80
AC-1612	CB-1619	6"	¾	2.40	2.10	1.90
AC-1613	CB-1620	7"	¾	2.60	2.40	2.10

STEEL MODELS

C-1606	CB-1617	4"	¾	$1.80	$1.60	$1.40
C-1607	CB-1618	5"	¾	1.90	1.70	1.50
C-1608	CB-1619	6"	1⅛	2.00	1.80	1.60
C-1609	CB-1620	7"	1⅛	2.40	2.10	1.90

Net

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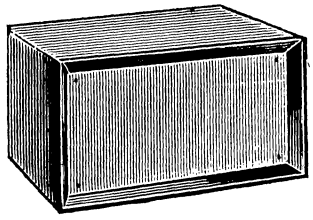
Cabinets, Foundations

SHADOW CABINETS



An extremely versatile housing since both front and rear panels as well as the bottom may be removed for installation or servicing purposes. Unusually attractive appearance is created by recessing the front panel one inch as well as by beveling the front edges of the body.

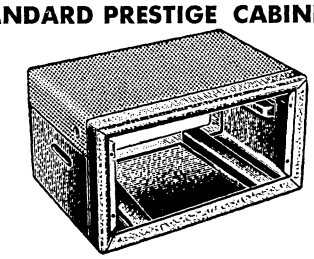
The recessed front panel prevents accidental movement of controls, knobs, and switches attached to it.

The two piece body of the shadow cabinet is made of 18 gauge steel and the panels of 16 gauge steel. Finish is light gray hammertone.

Four rubber feet attached to the bottom of the cabinet eliminate marring of the surface on which it may be placed.

Bud No.	Overall Size, In. W. x H. x D.	Uses Bud Chassis No.	Net Each, Lots of 1-24	25-49	50-99
SB-2140	14¼ x 8 x 10	AC-424, CB-704	$8.10	$7.30	$6.50
SB-2141	13¼ x 7½ x 9	AC-407, CB-1193	6.40	5.80	5.10
SB-2142	17 x 9½ x 11	AC-411, CB-666	10.90	9.80	8.70
SB-2143	15½ x 6 x 9	AC-409, CB-1194	6.20	5.60	4.90

STANDARD PRESTIGE CABINETS



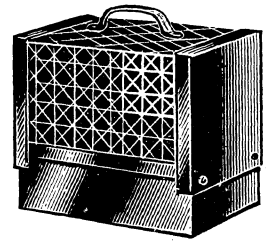
Has two supporting rails, laterally movable to fit any chassis width, and shielded handle slots. Finger holes in cover for easy lifting. Of 16 gauge steel. Takes 19″ panels. With embossed feet. **Size:** 21⅝″ w. x 14¾″ d. overall. Gray hammertone finish.

Bud No.	Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
C-1440	9 9/16″	7″	26	$34.70	$31.20	$27.70
C-1441	11 5/16″	8¾″	27	36.60	32.90	29.30
C-1442	13 1/16″	10½″	29	38.10	34.30	30.50
C-1550*	9 9/16″	7″	26	37.50	33.80	30.00
C-1551*	11 5/16″	8¾″	27	39.10	35.20	31.30
C-1552*	13 1/16″	10½″	29	41.20	37.00	33.00

*With perforated cover; others solid.

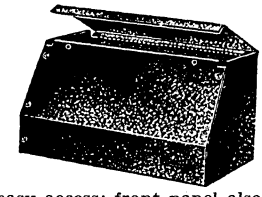
MINIATURE AMPLIFIER FOUNDATION

With the increased use of miniature tubes, smaller cabinets can be used when designing a compact amplifier. This amplifier foundation was designed expressly for this purpose. The chassis is 5″ x 7″ x 2″. Height, 6″. The cover is made of perforated metal. A streamlined handle makes this cabinet portable. Black wrinkle only. 1½ lbs.



Bud No.	Net Each, Lots of 1-24	25-49	50-99
CA-1754	$4.90	$4.40	$3.90

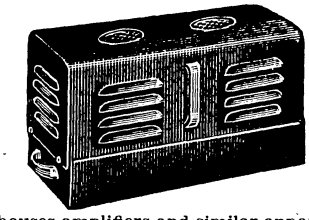
SLOPING PANEL CABINETS



Hinged top for easy access; front panel also removable. Specify black wrinkle (suffix **"B"**) or gray hammertone (suffix **"HG"**).

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
C-1584	6½ x 7 1/16 x 7 5/16	2½	$4.00	$3.60	$3.20
C-1587	8 x 8 1/16 x 8	2¾	5.30	4.80	4.30
C-1585	6½ x 9 1/16 x 7 5/16	3	4.40	4.00	3.50
C-1588	8 x 10 1/16 x 8	3¼	5.90	5.30	4.70
C-1586	6½ x 11 1/16 x 7 5/16	3½	5.10	4.60	4.10
C-1894	8 x 14 1/16 x 8	4	6.30	5.60	5.00
C-1892	8 x 13 1/16 x 8½	5¼	7.00	6.30	5.60
C-1896	9 x 18 1/16 x 8⅛	7	8.90	8.00	7.10
C-1893	10 x 18 1/16 x 10½	8½	9.20	8.30	7.30

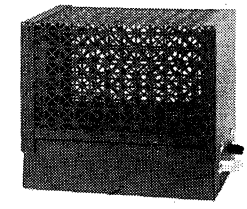
STREAMLINED FOUNDATIONS



Attractive unit houses amplifiers and similar apparatus. Standard chassis with removable top cover with chrome trim. Sides and ends louvered. Handles attached to chassis. Overall height, 9″; chassis 2 5/16″ high. Specify black wrinkle (suffix **"B"**), or gray wrinkle (suffix **"G"**).

Bud No.	Size, In. W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CA-1750	10 1/16 x 5	4¾	$ 8.30	$ 7.40	$6.60
CA-1751	12 1/16 x 7	5	9.80	8.80	7.80
CA-1752	17 1/16 x 7	8	10.50	9.40	8.40
CA-1753	17 1/16 x 10	9	11.30	10.20	9.00

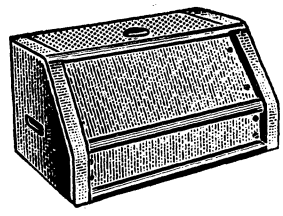
STANDARD FOUNDATIONS



Standard chassis with perforated cover for maximum ventilation. Handles are attached to chassis. Chassis 2½″ h., except CA-1128, 3″ h. Overall height, 8 5/16″, except CA-1128, 8 13/16″. Black wrinkle finish only.

Bud No.	Size, Inches W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CA-699	9⅜ x 5⅛	3	$6.90	$6.20	$5.50
CA-1125	13⅝ x 5⅛	4¾	7.20	6.50	5.70
CA-1126	17⅛ x 7⅛	6	8.10	7.30	6.50
CA-1128	12⅛ x 10⅛	7	8.40	7.50	6.70

PRESTIGE SLOPING PANEL CABINETS



Ventilated top opens completely. Removable panel trim bar permits installation or removal of panels with chassis attached. Top panel is swept back for easy viewing. Takes standard 19″ panels. Shielded lifting handles. Rear opening 2½″ x 18″ for controls, etc.; panel recess 1¼″; bottom panel 3½″ high. **Size:** 22″ w. x 9″ top depth. Gray hammertone finish only. Weight, 26, 28 and 31 lbs.

Bud No.	Size, In. H. x D.	Slope Height	Net Each, Lots of 1-14	15-24	25-34
C-1555	11⅞ x 14⅜	7″	$41.70	$37.50	$33.30
C-1556	13¼ x 15⅛	8¾″	44.90	44.40	35.90
C-1557	14¾ x 16⅛	10½″	48.10	43.30	38.50

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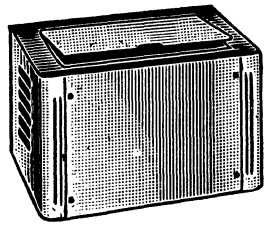
Net

Cabinets and Cases

STREAMLINED CABINETS

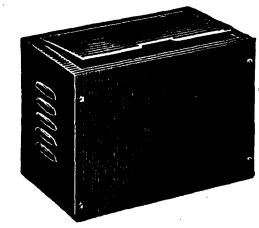


Ideal for housing devices not requiring excessive depth. Recessed, hinged cover with convenient finger lift for access. Panels fit flush with embossed, rounded corner fronts. Recommended for use with Bud Open End Chassis. Back opening 3½" h. provides for cables or rear controls; louvered sides provide ample ventilation. **Size:** 8¼" d. x 8" h., overall. Specify black wrinkle (suffix **"B"**), gray wrinkle (suffix **"G"**) or gray hammertone (suffix **"HG"**) finish.

Bud No.	Width, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CD-1480	10½"	8" x 8"	5¾	$ 6.90	$ 6.20	$ 5.50
CD-1481	12½"	8" x 10"	6	7.00	6.30	5.60
CD-1482	14½"	8" x 12"	6½	7.40	6.70	5.90
CD-1483	16½"	8" x 14"	7	7.90	7.10	6.30
CD-1484	18½"	8" x 16"	7¾	8.60	7.70	6.90
CD-1485*	20⅝"	12" x 18"	15	17.50	15.70	14.00

*Depth is 12"; has ½" vertical chrome strip at corners.

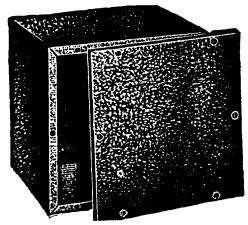
INSTRUMENT AND RECEIVER CABINETS



Economy version of the Streamlined Cabinet series. Recessed, hinged cover provides access to contents. Front panel is attached with self-tapping screws. Louvers provide ample ventilation. Bud Open End Chassis are suited for use with these units. Black wrinkle finish only.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
C-973	7 x 8 x 8	5	$ 5.20	$ 4.70	$4.10
C-993	7 x 10 x 8	5½	5.90	5.30	4.70
C-994	7 x 12 x 8	5¾	6.20	5.60	4.90
C-995	7 x 14 x 8	6	6.50	5.90	5.20
C-1190	8 x 16 x 8	7	9.30	8.30	7.40
C-975	9 x 15 x 11	8	11.20	10.10	9.00
C-999	12 x 18 x 12	15	12.20	11.00	9.80

METAL UTILITY CABINETS



Highly useful housing for all types of electronic equipment such as mixers, monitors, frequency meters, etc. Both front and back panels are removable for easy accessibility.

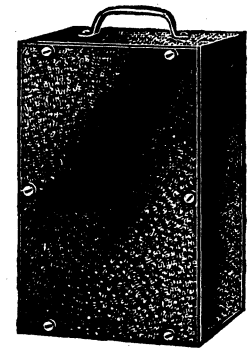
STEEL CABINETS

Specify black wrinkle (suffix **"B"**) or gray hammertone (suffix **"HG"**) finish.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
CU-883	2 x 4 x 4	¾	$1.40	$1.20	$1.10
CU-728	3 x 5 x 4	⅞	1.50	1.40	1.20
CU-729	4 x 5 x 6	1¼	1.70	1.50	1.35
CU-1098	6 x 6 x 6	2½	2.60	2.40	2.10
CU-1099	5 x 6 x 9	3	2.90	2.60	2.30
CU-879	7 x 8 x 10	5	4.10	3.70	3.30
CU-1124	6 x 7 x 12	4	4.00	3.60	3.20
CU-880	8 x 10 x 10	5½	4.90	4.40	3.90
CU-881	8 x 11 x 12	6	5.40	4.90	4.30
CU-882	7 x 9 x 15	7½	5.50	5.00	4.40
NATURAL FINISH ALUMINUM CABINETS*					
AU-1083	2 x 4 x 4	¼	$1.60	$1.40	$1.30
AU-1028	3 x 5 x 4	¼	1.70	1.50	1.40
AU-1029	4 x 5 x 6	½	1.90	1.70	1.50
AU-1039	6 x 6 x 6	¾	2.70	2.40	2.20
AU-1040	5 x 6 x 9	1	3.10	2.80	2.50
GRAY HAMMERTONE ALUMINUM CABINETS*					
AU-1083HG	2 x 4 x 4	¼	$1.90	$1.70	$1.50
AU-1028HG	3 x 5 x 4	¼	2.10	1.90	1.70
AU-1029HG	4 x 5 x 6	½	2.20	2.00	1.80
AU-1039HG	6 x 6 x 6	¾	3.00	2.70	2.40
AU-1040HG	5 x 6 x 9	1	3.70	3.30	3.00

*Aluminum alloy 5005 H-14.

CARRYING CASES



A versatile cabinet that accepts a variety of equipment. Removable front and back panels; handle may be attached to top. Available in sturdy steel or lightweight aluminum to suit your requirements.

STEEL CASES

Specify black wrinkle (suffix **"B"**) or gray hammertone (suffix **"HG"**) finish when ordering.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CC-1095	5 x 6 x 9	3¼	$3.70	$3.30	$3.00
CC-1091	5 x 9 x 6	3¼	3.70	3.30	3.00
CC-1096	6 x 7 x 12	4	5.20	4.70	4.10
CC-1092	6 x 12 x 7	4	5.20	4.70	4.10
CC-1097	7 x 7¾ x 15	5	5.80	5.20	4.60
CC-1100	8 x 10 x 10	5	5.90	5.30	4.70
CC-1093	7 x 15 x 9	5	7.20	6.50	5.70

NATURAL FINISH ALUMINUM CASES*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
ACC-2095	5 x 6 x 9	1⅓	$3.80	$3.40	$3.00
ACC-2091	5 x 9 x 6	1⅓	3.80	3.40	3.00
ACC-2096	6 x 7 x 12	1⅓	5.80	5.20	4.60
ACC-2092	6 x 12 x 7	1⅓	5.80	5.20	4.60

GRAY HAMMERTONE ALUMINUM CASES*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
ACC-2095HG	5 x 6 x 9	1⅓	$4.30	$3.90	$3.50
ACC-2091HG	5 x 9 x 6	1⅓	4.30	3.90	3.50
ACC-2096HG	6 x 7 x 12	1⅓	6.60	5.90	5.30
ACC-2092HG	6 x 12 x 7	1⅓	6.60	5.90	5.30

*Aluminum alloy 5005 H-14.

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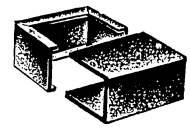
Boxes, Baffles, Cases

MINIBOXES, HANDY BOXES



Design of this box permits installation of more components than would be possible in the conventionally designed boxes the same size. Two-piece construction. **Either snap-lock or screw type.** The flange type construction assures adequate shielding. Made from heavy .040 ga. aluminum. Available in natural aluminum finish and gray hammertone finish.

GRAY HAMMERTONE MINIBOXES

Bud No.	Size, Inches L. x H. x W.	Wt. Lbs.	Net Each, Lots of 1-49	50-99	100-149
CU-2100A	2¾ x 2⅛ x 1⅝	¼	$ .90	$ .80	$ .70
CU-2101A	3¼ x 2⅛ x 1⅝	¼	.90	.80	.70
CU-2102A	4 x 2⅛ x 1⅝	¼	.90	.80	.75
CU-2103A	4 x 2¼ x 2¼	¼	1.00	.90	.80
CU-2104A	5 x 2¼ x 2¼	¼	1.10	1.00	.90
CU-2105A	5 x 4 x 3	½	1.40	1.30	1.10
CU-2106A	5¼ x 3 x 2⅛	¼	1.20	1.10	.95
CU-2107A	6 x 5 x 4	¾	1.80	1.60	1.40
CU-2108A*	7 x 5 x 3	¾	2.00	1.80	1.60
CU-2109A*	8 x 6 x 3½	1	2.60	2.40	2.10
CU-2110A*	10 x 6 x 3½	1¼	2.90	2.60	2.30
CU-2111A*	12 x 7 x 4	1¾	3.90	3.50	3.10
CU-2112A*	17 x 5 x 4	2¼	3.90	3.50	3.10
CU-2113A*	10 x 2 x 1⅝	½	1.50	1.40	1.20
CU-2114A*	12 x 2½ x 2¼	¾	2.00	1.80	1.60
CU-2115A	4 x 2 x 2¾	¼	1.00	.90	.80
CU-2116A	4¼ x 2¼ x 1½	¼	1.00	.90	.80
CU-2117A	3¼ x 2⅛ x 1⅛	¼	.90	.80	.70

*.050″ aluminum.

NATURAL FINISH MINIBOXES

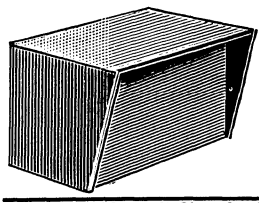
CU-3000A	2¾ x 2⅛ x 1⅝	¼	$ .70	$ .60	$ .55
CU-3001A	3¼ x 2⅛ x 1⅝	¼	.70	.60	.55
CU-3002A	4 x 2⅛ x 1⅝	¼	.80	.70	.65
CU-3003A	4 x 2¼ x 2¼	¼	1.00	.90	.80
CU-3004A	5 x 2¼ x 2¼	¼	1.00	.90	.80
CU-3005A	5 x 4 x 3	½	1.00	.90	.80
CU-3006A	5¼ x 3 x 2⅛	¼	1.00	.90	.80
CU-3007A	6 x 5 x 4	¾	1.40	1.20	1.10
CU-3008A	7 x 5 x 3	¾	1.70	1.50	1.35
CU-3009A	8 x 6 x 3½	1	2.20	2.00	1.80
CU-3010A	10 x 6 x 3½	1¼	2.40	2.10	1.90
CU-3011A	12 x 7 x 4	1¾	3.30	3.00	2.60
CU-3012A	17 x 5 x 4	2¼	3.30	3.00	2.60
CU-3013A	10 x 2 x 1⅝	½	1.30	1.10	1.05
CU-3014A	12 x 2½ x 2¼	¾	1.60	1.40	1.30
CU-3015A	4 x 2 x 2¾	¼	.90	.80	.70
CU-3016A	4¼ x 2¼ x 1½	¼	.90	.80	.70
CU-3017A	3¼ x 2⅛ x 1⅛	¼	.80	.70	.65

HANDY BOXES

Similar to Miniboxes in design and construction, except made of 22 gauge steel. Black wrinkle finish only. Screw type only.

HB-1621	4¼ x 2¼ x 1½	½	$1.50	$1.30	$1.20
HB-1622	4 x 2 x 2¾	½	1.50	1.30	1.20

COWL-TYPE MINIBOXES

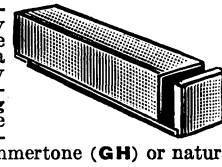


The cowl-type Minibox has a projecting cover to reduce glare on the panel from overhead lighting. It also provides protection for controls and dials. Cover has two box braces to which bottom is attached with sheet metal screws. When assembled, this type of construction results in a sturdy, rigid housing. Constructed of .040″ aluminum and available in natural or light hammertone gray finish.

Bud No.	Overall Size, Inches H.	W.	D.	Net Each, Lots of 1-49	50-99	100 & Over
SC-2130*	6	10	7	$6.70	$6.00	$5.00
SC-2131*	7	12	8	7.30	6.50	5.80
SC-2132*	3	8	5	3.90	3.50	3.10
SC-2133*	5	5	5	4.00	3.60	3.20
SC-3030†	6	10	7	4.80	4.40	3.90
SC-3031†	7	12	8	5.30	4.70	4.20
SC-3032†	3	8	5	2.70	2.40	2.20
SC-3033†	5	5	5	2.90	2.60	2.30

*Painted light gray hammertone. †Natural aluminum finish.

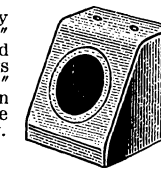
MINISLIDES



Ideal for housing components or assemblies where easy access to internally mounted parts is important. Can be mounted in a number of positions in a rack or cabinet. Accessibility achieved by removing sliding cover. Design of Minislide Box provides adequate shielding and protection from dust. Sturdily made of .050 aluminum. 4 self-tapping fastening screws included. Choice of gray hammertone (**GH**) or natural aluminum (**NA**).

Bud No.	Finish	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1-49	50-99	100-149
MS-2150	(GH)	3⅛ x 13 x 2⅝	1	$4.20	$3.80	$3.40
MS-2151	(GH)	5⅛ x 13 x 2⅝	1½	4.80	4.40	3.90
MS-2152	(GH)	3⅛ x 17 x 2⅝	1¼	4.70	4.20	3.70
MS-3050	(NA)	3⅛ x 13 x 2⅝	1	3.20	2.90	2.60
MS-3051	(NA)	5⅛ x 13 x 2⅝	1½	3.90	3.50	3.10
MS-3052	(NA)	3⅛ x 17 x 2⅝	1¼	3.70	3.30	3.00

UNIVERSAL METER CASES



Center hole punched for 2″ meters, plus easily removed knock-out ring to provide fit for 3″ meters. Single piece detachable back and sides fastened to case with self-tapping screws for easy installation and servicing. Two ⅜″ knock-out holes in top provide for installation of feed-through insulators, switches, volume controls, etc. Gray hammertone finish only. **Size:** 4¼″ h. x 4″ w. x 4″ d.

Bud No.	Construction	Weight, Lbs.	Net Each, Lots of 1-49	50-99	100-149
CM-1935	Steel	1	$1.50	$1.40	$1.20
CMA-1936	Aluminum	¾	1.80	1.60	1.40

WIDE UNIVERSAL METER CASE

Same as above, except extra wide to permit installation of small components along with a meter or accommodate a 4″ meter. Made of 5005 H-14 aluminum. **Size:** 4¼″ h. x 6″ w. x 4″ d.

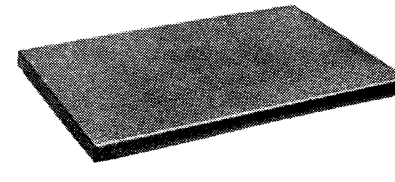
CMA-1930	Aluminum	¾	$3.00	$2.70	$2.40

HEAT RADIATING PLATE AND GRID TUBE CONNECTORS

Fit all sizes of industrial and transmitting vacuum tubes. Dual purpose design permits use in making connections to plate or grid terminals, plus provide large heat radiating surface for heat dissipation from glass seal and tube element. Eight sizes fit all grid and plate leads; provide sufficient heat radiation for any tube in 50-2000 watt range. Machined from special aluminum rods. Edges rounded to minimize corona.

Bud No. TC-	Lead Hole	For Tube Types	Size L. x O.D.	Net 1-24
488	.052″	3C24, 24, 24G, 25T, 27	.900″ x .615″	$1.00
487	.062″	UH50, HK24, 304B, 829B, 832A, 834	.900″ x .615″	1.00
489	.072″	35T, 35GB, 75TH, HK-257B, HK254, 484, 8001, 4E27	.900″ x .615″	1.00
1924	.125″	HK57, 152TH	1.0″ x .738″	1.10
1920	.375″	4-125A, 150TH, 2-150D, 240R, 250TH, 250TL, 420A, 802, 803, 804, 807, 808 grid, 814, 815, 828, 2E24, 2E26, 3E22, 4-65A, 4-250A, 816, 6146, 1625, 4D32, 807W, 1B3GT, 6BG6G, 6CD6G	1.0″ x .738″	1.00
1925	.125″	304TH, 304TL	1.0″ x .924″	1.20
1921	.570″	ZB60, HF60, HF100, 111H, 211H, 230H, HF175, HF300 grid, 100R, HK375C, 450TH, 454, 750TH, 805, 806, 808, 809, 810, 811, 812, 813, 828, 833, 866, 854, 1500T, 2000T, 1054, 5331, 5332, 8000, 8003, 2005	1.0″ x .924″	1.20
1926	.810″	WL468, WL463, WL460, HF200, HF201, MF300	1.0″ x 1.115″	1.50

RACK SHELVES

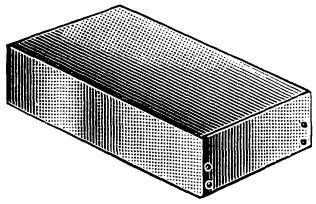


Sturdily constructed of heavy-gauge steel. Have 1″ flange to add rigidity and strength. Rest on chassis supporting angles. Available in black enamel finish only.

Bud No.	Size, Inches W. x D.	Weight, Lbs.	Net Each, Lots of 1-24	25-49	50-99
CB-1976	19 x 15	6½	$4.10	$3.70	$3.30
CB-1977	19 x 12	5½	3.30	2.90	2.60

Chassis and Accessories

ALUMINUM CHASSIS BASES



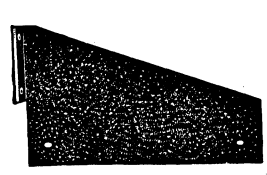
Each chassis is made from a single sheet of aluminum. All bases are welded on the latest type of welders by experienced operators. All corners are reinforced. Natural finish aluminum alloy 5005 H14. All four sides are folded at bottom for extra strength and rigidity. Now 63 sizes.

Bud No.	Width, In.	Lgth., In.	Ht., In.	Gauge	Net Each, Lots of 1-24	25-49	50-99
AC-1401*	2½	4½	1	18	$1.20	$1.10	$ .95
AC-1402*	3½	4½	1	18	1.20	1.10	.95
AC-1403*	3½	5½	1	18	1.20	1.10	.95
AC-1404*	4	5	2	18	1.40	1.30	1.10
AC-1405*	4	6	1½	18	1.40	1.30	1.10
AC-430	4	6	3	18	1.60	1.40	1.30
AC-431	4	6	2	18	1.40	1.30	1.10
AC-1406*	4	8	2	18	1.70	1.50	1.35
AC-432	4	17	3	16	2.90	2.60	2.30
AC-1407*	4½	8	1½	18	1.40	1.30	1.10
AC-402	5	7	2	18	1.50	1.40	1.20
AC-429	5	7	3	18	1.80	1.60	1.40
AC-1408*	5	9	1½	18	1.40	1.30	1.10
AC-1409*	5	9½	1½	18	1.50	1.40	1.20
AC-403	5	9½	2	18	1.70	1.50	1.35
AC-401	5	9½	2½	18	1.90	1.70	1.50
AC-421	5	9½	3	18	2.00	1.80	1.60
AC-404	5	10	3	18	2.00	1.80	1.60
AC-422	5	13	3	18	2.40	2.10	1.90
AC-1410*	5	13½	2½	18	1.90	1.70	1.50
AC-1411*	5½	5½	1	18	1.40	1.30	1.10
AC-1412*	5½	9½	1½	18	1.50	1.40	1.20
AC-1413*	6	8	2	18	1.70	1.50	1.35
AC-1414*	6	14	3	16	3.00	2.70	2.40
AC-433	6	17	3	16	3.40	3.00	2.70
AC-405	7	7	2	18	1.70	1.50	1.35
AC-406	7	9	2	18	1.80	1.60	1.40
AC-407	7	11	2	18	2.00	1.80	1.60
AC-408	7	12	3	18	2.40	2.20	2.00
AC-409	7	13	2	18	2.10	1.90	1.70
AC-1415*	7	15	2	16	2.70	2.40	2.20
AC-411	7	15	3	16	3.40	3.00	2.70
AC-1416*	7	17	2	16	3.10	2.80	2.50
AC-1417*	7	17	2½	16	3.20	2.90	2.60
AC-423	7	17	3	16	3.40	3.00	2.70
AC-1418*	8	10	2½	18	2.50	2.30	2.00
AC-1419*	8	12	2½	16	3.00	2.70	2.40
AC-424	8	12	3	16	3.00	2.70	2.40
AC-425	8	17	2	16	3.10	2.80	2.50
AC-412	8	17	3	16	3.50	3.10	2.80
AC-1420*	8½	15	3	16	3.30	2.90	2.60
AC-1421*	9	15	3	16	3.70	3.30	3.00
AC-413	10	12	3	16	3.40	3.00	2.70
AC-414	10	14	3	16	3.50	3.10	2.80
AC-415	10	17	2	16	3.40	3.00	2.70
AC-416	10	17	3	16	3.90	3.50	3.10
AC-427	10	17	4	14	5.60	5.00	4.50
AC-1422*	10	17	5	16	8.00	7.20	6.40
AC-1423*	10	23	3	14	5.80	5.20	4.60
AC-426	11	17	2	14	8.90	8.00	7.10
AC-417	11	17	3	14	4.90	4.40	3.90
AC-1424*	12	12	3	16	3.50	3.20	2.80
AC-1425*	12	17	2	16	4.50	4.10	3.60
AC-418	12	17	3	14	5.00	4.50	4.00
AC-419	13	17	2	14	4.40	4.00	3.50
AC-420	13	17	3	14	5.30	4.70	4.20
AC-428	13	17	4	14	6.50	5.90	5.20
AC-1426*	13	17	5	14	8.90	8.00	7.10
AC-1427*	14	17	3	14	6.30	5.60	5.00
AC-1428*	15	17	4	14	8.90	8.00	7.10
AC-1429*	15	17	6	14	12.10	10.90	9.60
AC-1430*	17	17	3	14	7.40	6.70	5.90
AC-1431*	17	17	4	14	10.50	9.40	8.40

*Denotes new size

CHASSIS MOUNTING BRACKETS

Mounts chassis to panels, essential when panel supports entire chassis weight. Heavy gauge steel 6½" high, cut away at bottom to mount flush to panel. Black enamel finish.



Bud No.	Depth, In.	Net Per Pair, Lots of 1-49	50-99	100-149
MB-458	8	$1.50	$1.40	$1.20
MB-448	10	1.50	1.40	1.20
MB-459	11	1.70	1.50	1.30
MB-449	12	1.90	1.70	1.50
MB-460	13	1.90	1.70	1.50
MB-450*	10	2.20	2.00	1.80
MB-451*	13	2.40	2.10	1.90

*8½" high for chassis height of 4".

TRIANGULAR MOUNTING BRACKETS

Ideal for rigid support of shelves to take heavy loads. Heavy gauge steel with ¾" flange. Black enamel finish only.

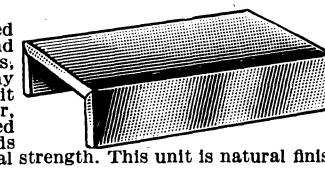
Bud No.	Height, In.	Depth, In.	Wt., Lbs.	Net Per Pair, Lots of 1-49	50-99	100-149
MB-1266	5	5	1	$1.20	$1.10	$ .95
MB-1267	7	7	1	1.40	1.20	1.10
MB-1268	9	9	1½	1.70	1.50	1.35

ALUMINUM BOTTOM PLATES

42 sizes to fit all Bud chassis. Made of 5005 H14 aluminum alloy. Natural finish. Plates have four embossed feet to prevent damage to surface on which they rest. Fit snuggly on bottom of chassis.

Bud No.	Fits Chassis Width In.	Length In.	1-49	50-99	100-149
BPA-1501*	2½	4½	$ .60	$ .55	$ .50
BPA-1502*	3½	4½	.70	.65	.55
BPA-1503*	3½	5½	.70	.65	.55
BPA-1504*	4	5	.70	.65	.55
BPA-1505*	4	6	.80	.70	.65
BPA-1506*	4	8	.90	.80	.70
BPA-1532*	4	17	.90	.80	.75
BPA-1507*	4½	8	1.00	.90	.80
BPA-1589	5	7	.90	.80	.70
BPA-1508*	5	9	.90	.80	.70
BPA-1590	5	9½	.90	.80	.70
BPA-1591	5	10	.90	.80	.70
BPA-1509*	5	13	1.30	1.10	1.05
BPA-1510*	5	13½	1.30	1.20	1.10
BPA-1511*	5½	5½	.90	.80	.70
BPA-1512*	5½	9½	.90	.80	.75
BPA-1513*	6	8	1.00	.90	.80
BPA-1514*	6	14	1.30	1.10	1.05
BPA-1515*	6	17	1.60	1.40	1.30
BPA-1592	7	7	.90	.80	.70
BPA-1593	7	9	.90	.80	.70
BPA-1594	7	11	1.00	.90	.80
BPA-1595	7	12	1.10	1.00	.90
BPA-1596	7	13	1.30	1.15	1.05
BPA-1516*	7	15	1.40	1.30	1.15
BPA-1517*	7	17	1.40	1.30	1.15
BPA-1518*	8	10	1.40	1.20	1.10
BPA-1519*	8	12	1.70	1.50	1.35
BPA-1520*	8	17	1.70	1.50	1.35
BPA-1521*	8½	15	1.90	1.70	1.50
BPA-1522*	9	15	2.00	1.80	1.60
BPA-1523*	10	12	1.70	1.50	1.35
BPA-1524*	10	14	1.70	1.50	1.35
BPA-1597	10	17	1.70	1.50	1.35
BPA-1525*	10	23	1.90	1.70	1.50
BPA-1526*	11	17	2.40	2.10	1.90
BPA-1527*	12	12	1.90	1.70	1.50
BPA-1528*	12	17	2.20	2.00	1.80
BPA-1598	13	17	2.40	2.10	1.90
BPA-1529*	14	17	2.40	2.20	2.00
BPA-1530*	15	17	3.20	2.90	2.60
BPA-1531*	17	17	3.20	2.90	2.60

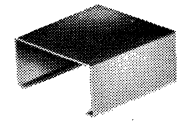
OPEN-END CHASSIS



Primarily intended to be used with the various sizes and styles of Bud metal cabinets, these chassis are ideal for any type of small built-up unit such as a record amplifier, code oscillator, etc. U-shaped construction is used with ends folded over ⅜" for additional strength. This unit is natural finish aluminum alloy 5005 H-14.

Bud No.	Size, Inches D. x W. x H.	Fits Cabinet Number	Net Each, Lots of 1-24	25-49	50-99
CB-38	7 x 6 x 2	C-1584	$1.20	$1.10	$ .90
CB-30	5 x 7 x 1½	.....	1.20	1.10	.90
CB-41	7 x 7 x 1½	C-973	1.40	1.30	1.10
CB-39	7 x 8 x 2	C-1585	1.40	1.30	1.10
CB-996	5½ x 9 x 1½	C-993	1.40	1.20	1.10
CB-976	7½ x 9 x 1½	C-999, CD-1481	1.70	1.50	1.40
CB-40	7 x 10 x 2	C-1586	1.60	1.40	1.30
CB-997	7 x 11 x 1½	C-994, CD-1482	1.60	1.40	1.30
CB-998	7 x 13 x 1½	C-995, CD-1483	1.90	1.70	1.55

MINIATURE ALUMINUM CHASSIS



Small versions of above with ¼" flange on bottom for bottom plate or fastening. Ideal for limited space uses. Natural finish.

CB-1623	2⅜ x 2¾ x 1¼	.....	$.40	$.35	$.32
CB-1624	1¾ x 3⅛ x 1	CU-883	.50	.45	.40
CB-1625	3¼ x 4½ x 2	C-1788	.60	.55	.50
CB-1626	2¾ x 4⅛ x 1	CU-728	.60	.55	.50
CB-1627	3¾ x 4⅛ x 1½	CU-729	.60	.55	.50
CB-1628	3 x 6⅛ x 1¼	C-1788	.70	.65	.55
CB-1629	5¾ x 4⅛ x 1½	CU-1098	.70	.65	.55
CB-1617	4 x 3⅛ x 1	C-1606, C-1610	.50	.45	.40
CB-1618	4 x 4⅛ x 1	C-1607, C-1611	.60	.55	.50
CB-1619	4 x 5⅛ x 1	C-1608, C-1612	.70	.65	.55
CB-1620	4 x 6⅛ x 1	C-1609, C-1613	.70	.65	.55

Net

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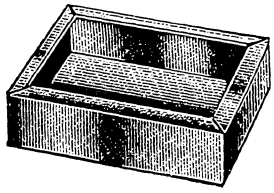
Chassis and Accessories

STEEL CHASSIS BASES



Chassis are fabricated from a single sheet of steel. 20 gauge is used unless otherwise indicated. All four sides are folded at bottom for additional rigidity and strength. Available in zinc plate or black wrinkle finish.

Size, Inches D. x W. x H.	Zinc Plated Finish Bud CB-	Net Each, Lots of 1-24	25-49	50-99	Black Wrinkle Finish Bud CB-	Net Each, Lots of 1-24	25-49	50-99
5½ x 5½ x 1	101*	$1.70	$1.50	$1.30	.....	.....	.....	.....
5 x 7 x 2	629*	1.60	1.40	1.30	628*	$1.40	$1.20	$1.10
4½ x 8 x 1½	102*	1.90	1.70	1.50	.....	.....	.....	.....
5 x 9 x 1½	103*	1.70	1.50	1.30	.....	.....	.....	.....
5 x 9½ x 2½	645*	2.10	1.90	1.70	644*	1.70	1.50	1.40
5 x 9½ x 1½	776*	2.10	1.90	1.70	788*	1.50	1.40	1.20
5 x 10 x 3	605*	2.30	2.00	1.80	604*	1.70	1.50	1.35
5 x 13 x 3	105	2.70	2.40	2.20	.....	.....	.....	.....
6 x 8 x 2	104	1.90	1.70	1.50	.....	.....	.....	.....
6 x 14 x 3	756	2.50	2.30	2.00	755	2.20	2.00	1.80
7 x 7 x 2	1191	1.90	1.70	1.50	789	1.60	1.40	1.30
7 x 9 x 2	1192	1.90	1.70	1.50	790	1.70	1.50	1.40
7 x 11 x 2	1193	2.20	2.00	1.80	791	1.80	1.60	1.40
7 x 12 x 3	793	2.60	2.40	2.10	792	1.90	1.70	1.50
7 x 13 x 2	1194	2.40	2.10	1.90	646	1.90	1.70	1.50
5 x 13½ x 2½	1198	2.70	2.40	2.20	647	2.20	2.00	1.80
7 x 15 x 3	1189	3.00	2.70	2.40	649	2.40	2.20	2.00
8½ x 15 x 3	666	3.40	3.00	2.70	665	2.70	2.40	2.20
4 x 17 x 3	1066	2.60	2.40	2.10	1068	2.20	2.00	1.80
7 x 17 x 2½	1199	2.90	2.60	2.30	648	2.40	2.20	2.00
7 x 17 x 3	758	3.20	2.90	2.60	757	2.70	2.40	2.20
8 x 10 x 2½	702	2.40	2.20	2.00	701	2.10	1.90	1.70
8 x 12 x 2½	704	2.70	2.40	2.20	703	2.20	2.00	1.80
8 x 12 x 3	760	2.90	2.60	2.30	759	2.30	2.00	1.80
8 x 17 x 2	774	2.90	2.60	2.30	650	2.10	1.90	1.70
8 x 17 x 3	775	3.20	2.90	2.60	651†	2.50	2.30	2.00
10 x 12 x 3	1195	3.00	2.70	2.40	652	2.40	2.10	1.90
12 x 12 x 3	106	3.90	3.50	3.10	.....	.....	.....	.....
10 x 14 x 3	779	3.00	2.70	2.40	653	2.50	2.30	2.00
10 x 17 x 2	769	3.00	2.70	2.40	654†	2.40	2.20	2.00
10 x 17 x 3	637	3.50	3.10	2.80	636†	2.40	2.20	2.00
10 x 17 x 3	1196‡	3.70	3.30	3.00	655†‡	3.10	2.80	2.50
10 x 23 x 3	1197‡	4.20	3.80	3.40	656‡	3.60	3.30	2.90
11 x 17 x 2	770‡	3.50	3.10	2.80	657†‡	2.90	2.60	2.30
11 x 17 x 3	771‡	4.30	3.90	3.50	658†‡	3.40	3.00	2.70
12 x 17 x 2	661‡	3.80	3.40	3.00	663†‡	3.20	2.90	2.60
12 x 17 x 3	662‡	4.50	4.10	3.60	664†‡	3.50	3.20	2.80
13 x 17 x 2	772‡	4.60	4.10	3.70	659†‡	3.50	3.20	2.80
13 x 17 x 3	773‡	5.00	4.50	4.00	660†‡	4.20	3.80	3.40
10 x 17 x 4	641‡	4.40	4.00	3.50	640†‡	3.90	3.50	3.10
13 x 17 x 4	643‡	5.80	5.20	4.60	642†‡	4.80	4.40	3.90
10 x 17 x 5	624‡	6.60	5.90	5.30	623‡	5.60	5.00	4.50
13 x 17 x 5	626‡	7.30	6.50	5.80	625‡	6.10	5.50	4.90

*22 gauge. †Punched to accommodate chassis mounting brackets. ‡18 gauge.

STEEL CHASSIS BOTTOM PLATES

Protect wiring and keep out dust from chassis bottom. Four embossed feet. Two finishes to match chassis finish.

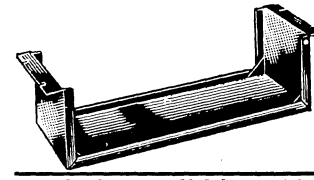
Fits Chassis Size, In. W. x L.	Zinc Plated Finish Bud BP-	Net Each, Lots of 1-49	50-99	100-149	Black Wrinkle Finish Bud BP-	Net Each, Lots of 1-49	50-99	100-149
5 x 7	706	$ .80	$ .70	$ .65	705	$ .70	$ .60	$ .55
5 x 9½	667	.90	.80	.70	680	.80	.70	.65
5 x 10	538	.90	.85	.75	536	.90	.80	.70
7 x 7	668	1.10	1.00	.90	681	1.20	1.10	.95
7 x 9	669	1.10	1.00	.90	682	1.10	1.00	.90
7 x 11	670	1.20	1.10	.95	683	1.10	1.00	.85
7 x 12	539	1.40	1.30	1.10	537	1.30	1.10	1.05
7 x 13	671	1.40	1.20	1.10	684	.90	.80	.70
5 x 13½	672	1.10	1.00	.90	685	1.00	.90	.80
4 x 17	1067	1.40	1.20	1.10	1069	1.10	1.00	.90
7 x 17	673	1.50	1.40	1.20	686	1.00	.90	.80
8 x 10	708	1.20	1.10	.95	707	1.00	.90	.80
8 x 12	710	1.40	1.30	1.10	709	1.20	1.10	.95
8 x 17	674	1.70	1.50	1.40	687	1.10	1.00	.90
10 x 12	675	1.80	1.60	1.40	688	1.10	1.00	.90
10 x 14	514				517	1.55	1.40	1.25
10 x 17	676	1.80	1.60	1.40	689	1.40	1.30	1.10
11 x 17	677	1.80	1.60	1.40	690	1.40	1.30	1.10
12 x 17	678	2.10	1.90	1.70	691	1.60	1.40	1.30
13 x 17	679	2.40	2.20	2.00	692	1.70	1.50	1.40

HEAVY DUTY CHASSIS

Complete with 20 ga. bottom plate for uses requiring extra strength to hold heavy weights. Made of 16 ga. steel; 17" wide.

Size, In. D. x H.	Zinc Plated Finish Bud CB-	Net Each, Lots of 1-24	25-49	50-99	Black Wrinkle Finish Bud CB-	Net Each, Lots of 1-24	25-49	50-99
8 x 3	1765	$5.25	$4.75	$4.20	1758	$4.70	$4.25	$3.75
11 x 3	1767	5.30	4.75	4.25	1760	4.75	4.30	3.80
13 x 2	1768	5.85	5.25	4.70	1761	5.30	4.75	4.25
13 x 3	1769	5.95	5.35	4.75	1762	5.40	4.85	4.30
13 x 4	1770	6.50	5.90	5.20	1763	5.80	5.20	4.65

PANEL CHASSIS



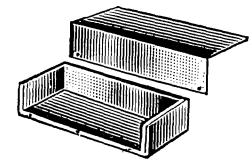
Panel mounting chassis for vertical installation where depth is limited or front service is desired. Made of .062" aluminum alloy 5005 H-14 in natural finish. Front flange has standard notching. Fits standard 19" panel space.

Bud No.	Height, Inches	Weight, Lbs.	Net Each, Lots of 1-24	25-49	50-99
CB-1370	1¾	¾	$2.90	$2.60	$2.30
CB-1371	3½	1¼	3.20	2.90	2.60
CB-1372	5¼	1½	3.60	3.20	2.90
CB-1373	7	2	4.10	3.70	3.30
CB-1374	8¾	2¼	4.80	4.40	3.90
CB-1375	10½	2¾	5.70	5.10	4.50
CB-1376	12¼	3	6.30	5.60	5.00
CB-1377	14	3¼	6.80	6.20	5.50

CHASSIS SUPPORTING ANGLES

Distribute weight to sides of the rack to relieve the panel. Angles are 3" x 1⅜" x 7/64" steel. Black enamel finish. **No. CE-2219** designed for attachment to rails of Console Pedestal or Prestige Relay Racks. Slotted for infinite vertical adjustment; extend to full cabinet depth; 21" x 3" x 2¾"

Bud No.	Length, Inches	Weight, Lbs.	Net Per Pair, Lots of 1-24	25-49	50-99
SA-1349	14½	4	$2.70	$2.40	$2.20
SA-1350	12	3	2.70	2.40	2.20
CE-2219	21	7½	3.40	3.00	2.70



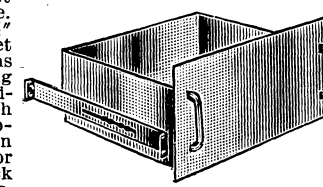
CONVERTA-BOXES

Versatile enclosure combines welded base and two-sided cover. Components or controls are easily mounted to any surface of the unit. All contents easily accessible. Cover and base are fastened by self-tapping screws. Rigid 20 ga. cadmium-plated steel.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1-24	25-49	50-99
CU-341	1½ x 4 x 3	½	$2.30	$2.10	$1.90
CU-452	2 x 5 x 4	1	2.20	2.00	1.80
CU-482	2 x 8 x 4	1¼	2.40	2.10	1.90
CU-592	2½ x 9½ x 5	1¾	2.50	2.30	2.00
CU-622	2½ x 12 x 6	2¾	2.80	2.50	2.20
CU-712	2½ x 15 x 7	3½	3.70	3.30	3.00

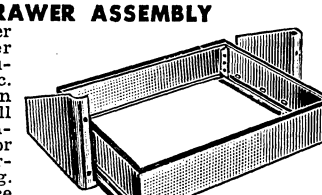
DRAWER WITH ADJUSTABLE SLIDES

Fits any cabinet or cabinet rack with 19" panel space. Slide bracket adjustable 16⅝" to 22⅜" to fit any cabinet with depth 17" to 23". Fastens by bracket to panel mounting rail in front and rear of cabinet. Nylon rollers for smooth movement. Hardware supplied. Specify color when ordering: Add suffix **HG** for gray hammertone; **B** for black wrinkle; or **G** for gray wrinkle.



Bud No.	Inside Size, Inches	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
D-1721	16⅜ x 6⅜ x 16¼	19½	$45.50	$41.00	$36.40

SLIDING DRAWER ASSEMBLY



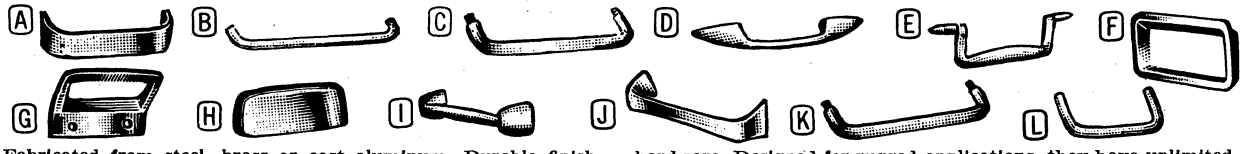
Ideal for use as a record player mounting base, typewriter base, apparatus and instrument base, writing desk, etc. Installs quickly and simply in any standard rack. Can't fall out or tilt. Provides a completely safe mounting base for anything put on it. Ball bearing suspension for easy sliding. Chassis formed from one-piece 14 gauge aluminum; electro-welded. Support brackets formed from one-piece ⅛" steel. Slide rail fastens securely to chassis, slides in and out easily on channeled ball bearings. Stop screw on slide rail prevents drawer from falling out of channel. Support brackets and channel finished in grey enamel; chassis, slide and plate finished in light gray hammertone. Will support up to 50 lbs. Chassis Size: 16¾" x 14" x 3", with ½" flange top and bottom. *Fastens to top or bottom.

Bud No.	Description	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
SD-1717	Sliding drawer	5	$13.40	$12.00	$10.70
TP-1718	Drawer plate*	1½	3.30	3.00	2.60

537X-65A

Cabinet Hardware

BUD HANDLES



Fabricated from steel, brass or cast aluminum. Durable finish provides long wear and attractive appearance. Skin packed in pairs or bulk packed (priced singly) with all necessary mounting hardware. Designed for rugged applications, they have unlimited use in electronic, electrical and other fields.

Bud No.	Fig.	Description	Net Per Pair, Lots of 1-49	50-99	100-149	Bulk Pack*: Net Each, Lots of 1-99	100-199	200-499
H-9100	A	1" x ¼" chrome-plated solid brass; 4" x ½" mtg. cntrs.; 1" hand clearance; four ½" x 6-32 threaded screws	$6.10	$5.50	$4.90	$2.70	$2.40	$2.10
H-9101	A	Same, but 8" x ½" mtg. centers	9.40	8.50	7.50	4.30	3.90	3.50
H-9102	A	⅝" x ¼" chrome-plated solid brass; 4" mtg. centers; 1" hand clearance; two ½" x 6-32 threaded screws	4.80	4.40	3.90	2.30	2.10	1.90
H-9103	A	Same, but has 6" mounting centers	5.60	5.00	4.50	2.70	2.40	2.10
H-9110	B	⅜" steel rod angular formed, chrome-plated; 6" mtg. ctrs.; 1¼" hand clearance; two ½" x 10-32 screws	4.30	3.90	3.50	1.70	1.55	1.35
H-9111	B	⅜" steel rod, chrome plated, 4" mtg. ctrs.; 1" hand clearance; two ½" x 10-32 threaded screws	2.30	2.10	1.90	1.10	1.00	.90
H-9112	B	6" mtg. center version of H-9111	2.70	2.40	2.20	1.20	1.10	.90
H-9113	B	8" mtg. center version of H-9111	3.00	2.70	2.40	1.30	1.20	1.05
H-9114	B	½" steel rod, chrome-plated; 8" mtg. centers; 1½" hand clearance; two ½" x ¼-28 thd. screws	4.80	4.40	3.90	1.90	1.70	1.50
H-9115	C	⅜" steel rod, chrome-plated; 4" mtg. ctrs.; 15/16" hand clearance; two ¼-28 thd. nuts	3.70	3.30	2.90	1.50	1.40	1.20
H-9116	C	Same, but has 6" mtg. centers	4.10	3.70	3.30	1.70	1.55	1.35
H-9120	D	Silver-anodized die-cast aluminum; 4⅜" inside, 5⅜" outside mtg. centers; 1" hand clearance; four ½" x 6-32 threaded screws	5.40	4.90	4.30	2.50	2.30	2.00
H-9121	D	Same, except chrome plated alloy	6.80	6.10	5.40	3.20	2.90	2.60
H-9123	D	Similar to H-9120 but 4½" mtg. centers; 1" hand clearance; two ½" x 10-32 thd. screws	3.50	3.20	2.80	1.60	1.40	1.30
H-9122	E	Silver-anodized die-cast aluminum; hinged on ¼" steel pins with 2 hinge blocks; 6½" inside, 7¼" outside mtg. centers; 1½" hand clearance; four ⅜" x 10-32 threaded screws	9.20	8.30	7.30	4.30	3.90	3.50
H-9130	F	Silver-anodized die-cast aluminum; 3" mtg. centers; two ⅜" x 10-32 thd. screws; size 4 15/16" x 3"	7.50	6.80	6.00	3.60	3.30	2.90
H-9131	G	Silver-anodized die-cast aluminum; size, 4" x 2⅞"; 2¼" mtg. centers; two ¾" x ¼-28 thd. raised, counter-sunk screws and nuts	5.60	5.00	4.50	2.60	2.40	2.10
H-9140	H	Silver-anodized die-cast aluminum; 3½" mtg. centers; ¾" hand clearance; two ½" x 10-32 threaded screws	3.40	3.00	2.70	1.50	1.40	1.20
H-9150	I	Silver-anodized die-cast aluminum; 4" x ⅝" mtg. centers; 1¼" hand clearance; four ½" x 10-32 threaded screws	4.50	4.00	3.60	2.10	1.90	1.70
H-9151	J	Silver-anodized die-cast aluminum; 5 5/16" x ⅝" mtg. centers; 1⅜" hand clearance; four ½" x 10-32 threaded screws	7.30	6.50	5.80	3.40	3.00	2.70
H-9152	J	Similar to above except 3⅞" mtg. centers; 1⅛" hand clearance; two ½" x 10-32 threaded screws	5.90	5.30	4.70	2.70	2.40	2.20
H-9160	K	Chrome-plated ⅜" steel rod; 3½" mtg. centers; 1 11/16" hand clearance; two ¼"-28 hex nuts	4.00	3.60	3.20	1.70	1.50	1.30
H-9161	K	Same, but with 5¼" mounting centers	4.50	4.10	3.60	1.70	1.55	1.35
H-9162	K	Same, but with 7" mounting centers	4.70	4.20	3.70	1.90	1.70	1.50
H-9163	K	Same, but with 8¾" mounting centers	4.80	4.40	3.90	1.90	1.70	1.50
H-9164	K	Same, but with 10½" mounting centers	5.40	4.90	4.30	2.00	1.80	1.60
H-9165	K	Same, but with 12¼" mounting centers	5.90	5.30	4.70	2.20	2.00	1.80
H-9166	L	Chrome-plated ¼" brass rod; 1 29/32" mtg. centers; 1" hand clearance; two ½" x 6-32 thd. screws	1.90	1.70	1.50	.90	.80	.70
H-9168	L	Same, but 3" mtg. centers; two ¼" x 6-32 thd. screws	2.00	1.80	1.60	.90	.80	.70

*Number shown is for skin packed pairs. For bulk packed handles (priced singly), add suffix **B** to number (example: H-9100**B**).

SPEAKER ENCLOSURE HANDLES

Attach to any small housing or speaker enclosure to achieve portability. Made of aluminum tubing with etched finish.

Bud No.	Length, Inches	Mtg. Ctrs., Inches	Net Each, Lots of 1-49	50-99	100-149
UH-70A	5⅜	4⅝	$.50	$.45	$.43
UH-71A	3¾	3¼	.40	.36	.32

DOOR HANDLES, CATCH SETS

No. 9347: Fits flush with cabinet door; exposed parts chrome plated. **Nos. 9196 and 9223:** Lever-type handles are chrome plated with steel spindle and cam; fit Super Deluxe racks.

Bud No.	Description	Net Each, Lots of 1-49	50-99	100-149
H-9196	Non-locking handle	$3.40	$3.00	$2.70
HL-9223	9196 with lock and key	6.30	5.60	5.00
H-9347	Flush-mount catch set	1.30	1.20	1.05

RUBBER FEET

No. F-7264A: Has recessed head with mounting stud; rubber portion 15/16" x 11/32" thick. **No. F-8038:** May be applied to any surface when glue coating is moistened with benzol base solution; ¾" dia. x ⅛" thick. **No. F-9653:** Press-fit type for 7/16" hole.

Bud No.	Description	Net per 100, Lots of 1-49	50-99	100-149
F-7264A	High grade black rubber	$10.00	$9.00	$8.00
F-8038**	Sponge rubber pad	2.40	2.16	1.92
F-9653	Top grade gray rubber	4.75	4.25	3.78

** Lots of 1-99, 100-199, 200-299

MOUNTING BRACKETS

Permit mounting of midget condensers, controls and other components in any position. Made of ¾" wide, cadmium plated steel. Right-angle design with short side have two mounting holes; long side with ⅜" slot. No. AB-549 has additional ½" dia. hole centered on ⅜" slot.

Bud No.	Size	Wt. Per 100, Lbs.	Net Each, Lots of 1-99	100-199	200-299
AB-549	1⅜" x 2"	2¼	$11.20C	$10.10C	$8.95C
AB-550	1⅜" x 2"	2	11.20C	10.10C	8.95C

ANGLES AND BRACKETS

Similar to above; made of ⅜" wide, nickel-plated brass. Right-angle design; Type 1 has single hole at end of each angle; Type 2 has two holes on long side; single hole on short side.

Bud No.	Size, Inches	Type	Wt. Per 100, Lbs.	Net Per 100, Lots of 1-99	100-199	200-299
AB-444	½ x ½	1	½	$ 5.20	$ 4.70	$ 4.15
AB-445	¾ x ¾	1	1¼	5.85	5.25	4.70
AB-446	1 x 1	1	2	7.50	6.75	6.00
AB-447	1½ x 1½	1	2½	10.00	9.00	8.00
AB-631	1 x ½	1	1¼	6.35	5.70	5.10
AB-632	1½ x ⅝	1	1½	7.85	7.05	6.30
AB-633	2 x ⅝	2	1¾	10.35	9.30	8.30
AB-634	3 x ¾	2	2½	12.70	11.40	10.15
AB-635	4 x ¾	2	3¾	15.90	14.30	12.70

DIAL LOCK

Dual purpose design functions as both dial lock and position indicator. Completely eliminates problems of dial slippage and accidental movement. Nickel-plated brass construction.

Bud No. DL-1947 Dial Lock—Net Each

1-99	100-199	200-299
.30	.27	.24

Net

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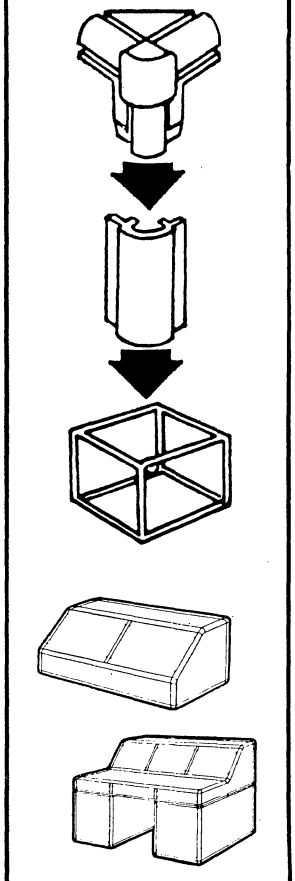
Imlok "Prototyper" Cabinets



Typical Structures

System of metal cabinet construction, ideal for research and prototype work, permits quick assembly of cases, cabinets and racks using the simplest of tools. Complex structures may be built to your design using a variety of corner castings and extrusions held rigidly with friction clips or screws. Panels may be cut to size from sheet aluminum or steel, fitted grooves or screw fastened. No grinding or welding needed.

EXTERNAL CORNER CONNECTORS

Bud No.	Description	Net Each, Lots of 1-14	15-24	25-34
BI-1001	90° basic corner connector for rectangular cabinets. Use with BI-2004, BI-2014, BI-2024, BI-2034, BI-2044, BI-2054 or BI-2064 extrusions.	$ .90	$ .80	$ .70
BI-1016	67½° corner connector holds vertical wall and horizontal wall to a third rising at 67½° to the horizontal. One leg fits BI-2041 extrusion; other two fit any 90° external extrusion.	2.00	1.80	1.60
BI-1024	60° corner connector similar to BI-1016. One leg fits BI-2081; other legs fit any 90° external extrusion.	2.00	1.80	1.60
BI-1002	45° corner connector similar to BI-1016. One leg fits BI-2005, BI-2015, or BI-2025; other two legs fit any 90° external extrusion.	1.30	1.20	1.10
BI-1020	30° corner connector similar to BI-1016. One leg fits BI-2061; other two legs fit any 90° external extrusion.	2.00	1.80	1.60
BI-1012	22½° corner connector similar to BI-1016. One leg fits BI-2021; other two legs fit any 90° external extrusion.	2.00	1.80	1.60

EXTERNAL STANDARD EXTRUSIONS

Bud No.	Description	Net Each, Lots of 1-9	10-14	15-19
BI-2004	12 ft. long, 90° external extrusion most used; has panel retaining groove on each flange for 0.050″ panels. Ideal for small to medium sized structures with unbraced spaces up to 2 ft. long.	$ 9.40	$ 8.40	$ 7.50
BI-2004-3	3 ft. length BI-2004	2.90	2.60	2.30
BI-2004-6	6 ft. length BI-2004	5.50	4.90	4.40
BI-2004-9	9 ft. length BI-2004	7.70	7.00	6.20
BI-2064	12 ft. long, 90° extrusion with panel retaining flange to take 20 gauge panels.	9.80	8.80	7.80
BI-2064-3	3 ft. length BI-2064	3.00	2.70	2.40
BI-2064-6	6 ft. length BI-2064	5.60	5.10	4.50
BI-2064-9	9 ft. length BI-2064	8.00	7.20	6.40
BI-2041	12 ft. long, 67½° extrusion; companion to BI-1016 for unbraced spans up to 3 ft. long.	11.40	10.30	9.10
BI-2041-3	3 ft. length BI-2041	3.40	3.10	2.70
BI-2041-6	6 ft. length BI-2041	6.50	5.90	5.20
BI-2041-9	9 ft. length BI-2041	9.20	8.30	7.40
BI-2081	12 ft. long, 60° extrusion; companion to BI-1024 connector. For unbraced spans up to 3 ft. long.	11.40	10.25	9.10
BI-2081-3	3 ft. length BI-2081	3.30	3.00	2.70
BI-2081-6	6 ft. length BI-2081	6.50	5.90	5.20
BI-2081-9	9 ft. length BI-2081	9.40	8.45	7.50
BI-2005	12 ft. long, 45° extrusion used with BI-1002 connector; for spans up to 2 ft. long.	8.20	7.40	6.50
BI-2005-3	3 ft. length BI-2005	2.50	2.30	2.00
BI-2005-6	6 ft. length BI-2005	4.70	4.30	3.80
BI-2005-9	9 ft. length BI-2005	6.70	6.05	5.35
BI-2061	12 ft. long, 30° extrusion used with BI-1020 connector.	11.40	10.30	9.10
BI-2061-3	3 ft. length BI-2061	3.40	3.10	2.60
BI-2061-6	6 ft. length BI-2061	6.50	5.90	5.20
BI-2061-9	9 ft. length BI-2061	9.25	8.35	7.40
BI-2021	12 ft. long, 22½° extrusion used with BI-1012 connector.	11.90	10.70	9.50
BI-2021-3	3 ft. length BI-2021	3.60	3.20	2.80
BI-2021-6	6 ft. length BI-2021	6.80	6.10	5.40
BI-2021-9	9 ft. length BI-2021	9.60	8.70	7.70
BI-2014	12 ft. long, 90° strengthened extrusion similar to BI-2004 but stronger for use in unbraced spans up to 3 ft. long.	10.50	9.50	8.40
BI-2014-3	3 ft. length BI-2014	3.20	2.90	2.50
BI-2014-6	6 ft. length BI-2014	6.10	5.50	4.90
BI-2014-9	9 ft. length BI-2014	8.60	7.80	6.90
BI-2015	12 ft. long, 45° external strengthened extrusion used in place of BI-2005 in unbraced spans up to 3 ft. long.	9.30	8.40	7.45
BI-2015-3	3 ft. length BI-2015	2.80	2.50	2.20
BI-2015-6	6 ft. length BI-2015	5.30	4.80	4.30
BI-2015-9	9 ft. length BI-2015	7.60	6.85	6.10
BI-2054	12 ft. long, 90° strengthened extrusion with two 11/16″ extended flanges to take standard ⅛″; retaining groove at root of flanges.	13.10	11.80	10.50
BI-2054-3	3 ft. length BI-2054	4.00	3.60	3.20
BI-2054-6	6 ft. length BI-2054	7.50	6.80	6.00
BI-2054-9	9 ft. length BI-2054	10.80	9.70	8.60
BI-2024	12 ft. long, 90° strengthened extrusion with one flange extended 5/16″ to fit ⅛″ panel; other has normal panel-retaining groove.	10.70	9.60	8.50
BI-2024-3	3 ft. length BI-2024	3.30	2.90	2.60
BI-2024-6	6 ft. length BI-2024	6.20	5.50	4.90
BI-2024-9	9 ft. length BI-2024	8.70	7.80	7.00
BI-2025	12 ft. long, 45° strengthened extrusion with one 5/16″ extended flange for ⅛″ panel and one normal panel-retaining groove flange.	10.20	9.20	8.20
BI-2025-3	3 ft. length BI-2025	3.00	2.70	2.40
BI-2025-6	6 ft. length BI-2025	5.90	5.30	4.70
BI-2025-9	9 ft. length BI-2025	8.40	7.55	6.75
BI-2034	12 ft. long, 90° heavy-duty extrusion takes loadings for spans over 3 ft. long. Additional returns reinforce strength. Flanges are both 5/16″ deep.	18.90	17.00	15.10
BI-2034-3	3 ft. length BI-2034	5.60	5.10	4.50
BI-2034-6	6 ft. length BI-2034	10.80	9.70	8.60
BI-2034-9	9 ft. length BI-2034	15.40	13.80	12.30
BI-2044	12 ft. long, 90° reinforcing angle screws to return flanges of BI-2034 for extra rigid, boxed in section. Use with heavy-duty BI-1011 spacer bar and BI-2018 and BI-2028 extrusions to build almost any size structure.	7.10	6.30	5.60
BI-2044-3	3 ft. length BI-2044	2.10	1.90	1.70
BI-2044-6	6 ft. length BI-2044	4.10	3.60	3.20
BI-2044-9	9 ft. length BI-2044	5.80	5.20	4.60

SPECIAL CONNECTORS, ACCESSORIES

No. BI-1003—T-junction connector permits making "T" with 2 lengths of extrusions; also used for picture frame effect. Fits 90° external extrusions.

No. BI-1005—90° table-top or foot connector used in place of radiused corner; has well to hold glass or wood table-top. Used also as foot or as wall mount. One leg fits 90° external extrusion; other two fit BI-2009.

No. BI-1008—Stacking plate for use with BI-1005 to permit stacking.

No. BI-1009—90° spacer bar cruciform connector.

No. BI-4001—Package of 50 friction clips; for assembly without use of screws.

No. BI-4302—Concealed brass hinge fits 90° extrusions; 3 mounting holes take 6-32 or 10-32 screws.

No. BI-4601—Chrome plated ventilation ring for dress-up. Used in addition to slots and louvers. Clips (supplied) into 2 5/16″ hole. Has stainless steel gauze.

Bud No.	Net Each, Lots of 1-14	15-24	25-34
BI-1003	$1.30	$1.20	$1.10
BI-1005	1.70	1.60	1.40
BI-1008	.90	.80	.70
BI-1009	2.40	2.20	2.00
BI-4302	2.60	2.40	2.10
BI-4601	4.00	3.60	3.20

Imlok "Prototyper" Cabinets

INTERNAL EXTRUSIONS

Bud No.	Description	Net Each, Lots of 1-9	10-14	15-34
BI-2032	12 ft. long, 90° internal extrusion to fit BI-1028; has two panel retaining grooves; for unbraced spans up to 3 ft. long.	$14.10	$12.70	$11.30
BI-2032-3	3 ft. length BI-2032	4.30	3.80	3.40
BI-2032-6	6 ft. length BI-2032	8.00	7.20	6.40
BI-2032-9	9 ft. length BI-2032	11.50	10.30	9.20
BI-2051	12 ft. long, 67½° internal extrusion to fit BI-1017 connector. For use in unbraced spans up to 3 ft.	13.50	12.20	10.80
BI-2051-3	3 ft. length BI-2051	4.10	3.60	3.20
BI-2051-6	6 ft. length BI-2051	7.85	7.05	6.30
BI-2051-9	9 ft. length BI-2051	11.00	9.90	8.80
BI-2091	12 ft. long, 60° internal extrusion; fits BI-1025 connector.	14.00	12.60	11.20
BI-2091-3	3 ft. length BI-2091	4.20	3.80	3.40
BI-2091-6	6 ft. length BI-2091	8.05	7.25	6.45
BI-2091-9	9 ft. length BI-2091	11.50	10.35	9.20
BI-2006	12 ft. long, 45° internal extrusion has two ⅝" flanges, one with panel-retaining groove. For flat-topped, sloping front cabinets.	12.00	10.80	9.60
BI-2006-3	3 ft. length BI-2006	3.60	3.30	2.90
BI-2006-6	6 ft. length BI-2006	6.90	6.20	5.50
BI-2006-9	9 ft. length BI-2006	9.90	8.90	7.90
BI-2071	12 ft. long, 30° internal extrusion; fits BI-1021 connector.	14.20	12.80	11.30
BI-2071-3	3 ft. length BI-2071	4.20	3.80	3.40
BI-2071-6	6 ft. length BI-2071	8.00	7.20	6.40
BI-2071-9	9 ft. length BI-2071	11.40	10.25	9.10
BI-2031	12 ft. long, 22½° internal extrusion; fits BI-1013 connector.	14.00	12.60	11.20
BI-2031-3	3 ft. length BI-2031	4.20	3.80	3.40
BI-2031-6	6 ft. length BI-2031	8.00	7.20	6.40
BI-2031-9	9 ft. length BI-2031	11.50	10.35	9.20

SPACER BAR AND TABLE-TOP EXTRUSIONS

BI-2008	12 ft. long, spacer bar extrusion used to subdivide panels or act as cross-bracing members.	$12.80	$11.50	$10.30
BI-2008-3	3 ft. length BI-2008	3.80	3.40	3.10
BI-2008-6	6 ft. length BI-2008	7.30	6.50	5.80
BI-2008-9	9 ft. length BI-2008	10.50	9.40	8.40
BI-2009	12 ft. long, table-top extrusion for use at base of cabinet, as vertical member where double radius between cabinets is undesirable. Has flange with normal retaining groove; other is 1" deep to support table or bench top.	10.50	9.50	8.40
BI-2009-3	3 ft. length BI-2009	3.20	2.90	2.50
BI-2009-6	6 ft. length BI-2009	6.10	5.50	4.90
BI-2009-9	9 ft. length BI-2009	8.60	7.80	6.90

EXTERNAL SPACER BAR CONNECTORS

Bud No.	Description	Net Each, Lots of 1-14	15-24	25-34
BI-1011	This connector specially designed for use with 90° external heavy duty extrusion BI-2034. One leg fits this extrusion as well as all other 90° external extrusions. The other two legs fit BI-2008.	$2.00	$1.80	$1.60
BI-1018	67½° external spacer bar connector; brace or sub-divide walls where BI-1016 is used at corners. One leg fits BI-2041; other two fit any spacer bar extrusion.	2.00	1.80	1.60
BI-1026	60° version of BI-1018. One leg fits BI-2081; other two fit any spacer bar extrusion.	2.00	1.80	1.60
BI-1007	45° version of BI-1018. One leg fits BI-2005, BI-2015 or BI-2025; other two fit any spacer bar extrusion.	2.40	2.20	1.90
BI-1022	30° version of BI-1018. One leg fits BI-2061 extrusion; other two fit any spacer bar extrusion.	2.00	1.80	1.60
BI-1014	22½° version of BI-1018. One leg fits BI-2021; other two fit any spacer bar extrusion.	2.00	1.80	1.60

INTERNAL CORNER CONNECTORS

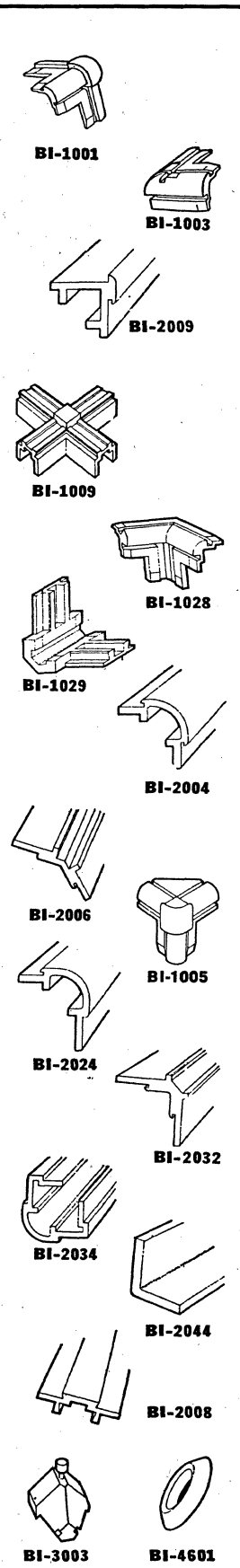
BI-1028	90° internal connector gives an included angle of 90° for L-shaped structures. One leg fits BI-2032 extrusion; other two fit any 90° external extrusion, (BI-2004, BI-2014, BI-2024, BI-2034, BI-2054).	$2.00	$1.80	$1.60
BI-1017	67½° internal connector used where two walls are to meet to include a 67½° angle. One leg fits BI-2051 extrusion; other two fit any 90° external extrusion.	2.00	1.80	1.60
BI-1025	60° version of BI-1017. One leg fits BI-2091; other two fit any 90° external extrusion.	2.00	1.80	1.60
BI-1006	45° version of BI-1017. One leg fits BI-2006; other two fit any 90° external extrusion. Helps make flat top, sloping front structure.	2.40	2.20	1.90
BI-1021	30° version of BI-1017. One leg fits BI-2071; other two fit any 90° external extrusion.	2.00	1.80	1.60
BI-1013	22½° version of BI-1017. One leg fits BI-2031; other two fit any 90° external extrusion.	2.00	1.80	1.60

INTERNAL SPACER BAR CONNECTORS

BI-1029	90° internal spacer connector permits bracing or sub-division of spans of BI-2032. One leg fits BI-2032 internal extrusion; other two fit BI-2008 spacer bar extrusion.	2.00	1.80	1.60
BI-1019	67½° internal spacer bar connector is companion to BI-1017 for sub-dividing or cross-bracing. One leg fits BI-2051; other two fit any spacer bar extrusion.	2.00	1.80	1.60
BI-1027	60° version of BI-1019 above; companion for BI-1025. One leg fits BI-2091; other two fit any spacer bar extrusion.	2.30	2.10	1.85
BI-1010	45° version of BI-1019; companion for BI-1006. One leg fits BI-2006; other two fit any spacer bar extrusion.	2.00	1.80	1.60
BI-1023	30° version of BI-1019; companion to BI-1021. One leg fits BI-2071; other two fit any spacer bar extrusion.	1.70	1.55	1.35
BI-1015	22½° version of BI-1019; companion to BI-1013. One leg fits BI-2031; other two fit any spacer bar extrusion.	2.00	1.80	1.60

CUTTING JIGS

Bud No.	Description	Net Each, Lots of 1-14	15-24	25-34
BI-3003	90° cutting jig permits easy mitering of any 90° external extrusion. Makes assembly quick, easy.	$15.20	$13.60	$12.10
BI-3002	45° cutting jig for mitering any 45° external extrusion.	20.30	18.20	16.20



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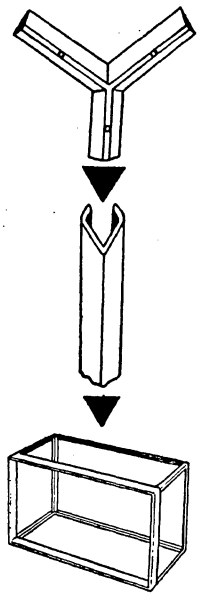
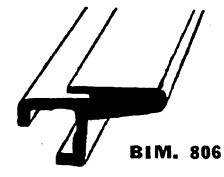
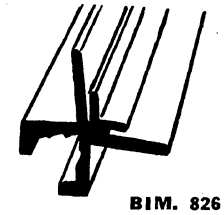
Slimline 901 Imlok®



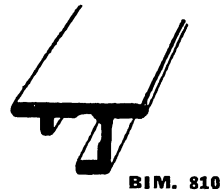
BIM. 801



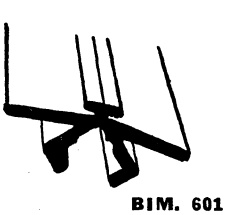
BIM. 806



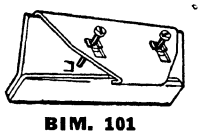
BIM. 826



BIM. 810



BIM. 601



BIM. 101

Bud Slimline 901 Imlok is based upon the same, proven principles as the Standard Imlok system. The basic difference is lighter weight and narrower appearance of the extrusions; corner connectors are smaller in size and are not visible in the completed housing. Connectors are 380 aluminum die castings; extrusions are 6063 aluminum. A really attractive small rectangular case, large elegant console or multiangular structure can be made with Slimline 901 Imlok. Whether for a production run or a single prototype, we can supply the material or make a complete enclosure.

EXTRUSIONS (9-FT. LENGTH ONLY)

Bud No.	Description	Net Each, Lots of 1-9	10-14	15-19
BIM. 801	90° external extrusion suitable for lightweight frameworks; when enclosed with panels it is not visible from the outside.	$ 6.10	$ 5.50	$ 4.90
BIM. 802	90° external extrusion has retaining groove for 20-gauge panels.	5.50	4.90	4.40
BIM. 803	90° external extrusion; heavier extrusion with retaining grooves for 20-gauge panels.	7.60	6.80	6.10
BIM. 806	90° bezel extrusion; bezel frame for recessed panels; one side has panel retaining groove.	7.70	6.90	6.10
BIM. 807	90° bezel extrusion similar to BIM. 806, but heavier; thicker internal flange permits mounting of rack type panels.	10.20	9.20	8.20
BIM. 821	90° bezel extrusion similar to BIM. 806, but has much deeper recess that provides picture frame effect for the panel.	13.60	12.20	10.90
BIM. 826	90° internal extrusion used for all internal 90° applications; retaining grooves for 20-gauge panels.	17.20	15.50	13.70
BIM. 810	Spacer bar extrusion matches BIM. 801 for dividing and reinforcing panel areas.	6.80	6.10	5.50
BIM. 811	Spacer bar extrusion; visible face similar to BIM. 802; used with all extrusions except BIM. 801.	6.60	5.90	5.30
BIM. 812	Spacer bar extrusion similar to BIM. 811, but with wider visible area to match BIM. 803.	9.10	8.20	7.30
BIM. 601	15° external extrusion used for all 15° external corner applications; fits one leg of BIM. 915 and BIM. 91 connectors; used with BIM. 802, BIM. 803, BIM. 806, BIM. 807, BIM. 821 and BIM. 845 extrusions.	13.00	11.70	10.40
BIM. 611	15° internal extrusion used for all 15° internal corner applications; fits one leg of BIM. 951 connector; used with BIM. 802, BIM. 803, BIM. 806, BIM. 807 and BIM. 821 extrusions.	13.20	11.90	10.60
BIM. 641	45° external extrusion used for all 45° external corner applications; fits one leg of BIM. 945 and BIM. 94 connectors; used with same extrusions as BIM. 601.	12.90	11.60	10.30
BIM. 651	45° internal extrusion used for all 45° internal corner applications; fits one leg of BIM. 954; used with same extrusions as BIM. 611.	12.90	11.60	10.30
BIM. 681	75° external extrusion used for all 75° external corner applications with BIM. 975 or BIM. 97 connectors; used with same extrusions as BIM. 601.	14.40	12.90	11.50
BIM. 682	75° acute external extrusion.	14.40	12.90	11.50
BIM. 691	75° internal extrusion used for all 75° internal corner applications with BIM. 957 connector; used with same extrusions as BIM. 611.	12.90	11.60	10.30
BIM. 845	90° deep recess extrusion has 5/8" deep recess on one side and is similar to BIM. 803 on other; used with appropriate corner connectors.	12.90	11.60	10.30
BIM. 847	Deep recess conversion extrusion used where BIM. 845 is not suitable; used with extrusions BIM. 802, BIM. 803, BIM. 812, BIM. 826, BIM. 651, BIM. 691 and one side only on BIM. 806, BIM. 807, BIM. 811 and BIM. 821.	10.40	9.30	8.30
BIM. 610	Deep recess conversion extrusion similar to BIM. 847; used with BIM. 601 and BIM. 611 extrusions.	10.40	9.40	8.30
BIM. 690	Deep recess conversion extrusion similar to BIM. 847 and BIM. 610; used with extrusions BIM. 641, BIM. 681 and BIM. 682.	10.40	9.40	8.30
BIM. 846	Deep recess spacer bar extrusion matches deep recess on deep-recess conversion extrusions; inner flanges accept standard captive nuts suitable for 14-gauge material.	18.30	16.40	14.60
BIM. 834	90° glazing extrusion has retaining groove on both sides to accept 1/4" panels.	15.20	13.70	12.20
BIM. 835	90° glazing extrusion similar to BIM. 834, but will accept 1/8" panels.	14.30	12.90	11.50
BIM. 836	90° sliding door extrusion has twin channels on one side to accept 1/4" sliding doors; retaining groove on other side for 1/4" fixed panel.	21.10	19.00	16.90
BIM. 837	90° sliding door extrusion same as BIM. 836, except will accommodate 1/8" doors and 1/8" panel.	19.30	17.40	15.40
BIM. 822	1/4" sliding door conversion extrusion; used where 1/4" sliding doors are required without a side panel. May be added to either side of BIM. 802, BIM. 803, BIM. 812, BIM. 826, BIM. 651, and BIM. 691 extrusions; or, to one side only of BIM. 806, BIM. 807, BIM. 811, BIM. 821 and BIM. 845 extrusions.	9.40	8.50	7.50
BIM. 823	1/8" sliding door conversion extrusion similar to BIM. 822, except will accommodate 1/8" sliding doors; may be added to same extrusions as BIM. 822.	9.00	8.10	7.20
BIM. 832	Closure section may be added to inside of frameworks using 90° connectors to completely conceal them.	3.80	3.40	3.00
BIM. 818	90° door frame extrusion used for making double skinned doors.	7.90	7.10	6.30
BIM. 829	90° mounting flange extrusion; used in conjunction with frameworks made of BIM. 801 extrusion to provide a flange suitable for rack mounting.	7.80	7.00	6.20
BIM. 107	Panel mounting conversion extrusion; normally fitted to two vertical members to provide mountings for rack type panels.	11.45	10.30	9.20

MITERING JIGS

Bud No.	Description	Net Each, Lots of 1-9	10-14	15-19
BIM. 101	90° mitering jig; external, double miter	$ 9.40	$ 8.40	$ 7.50
BIM. 115	90° mitering jig; external, single miter	9.10	8.20	7.30
BIM. 116	90° mitering jig; internal, single miter	9.10	8.20	7.30
BIM. 117	15° mitering jig; external, single miter	9.10	8.20	7.30
BIM. 118	15° mitering jig; internal, single miter	9.10	8.20	7.30
BIM. 121	45° mitering jig; external, single miter	9.10	8.20	7.30
BIM. 122	45° mitering jig; internal, single miter	9.10	8.20	7.30
BIM. 125	75° mitering jig; external, single miter	6.70	6.00	5.30
BIM. 126	75° mitering jig; internal, single miter	9.10	8.20	7.30
BIM. 127	Acute 75° mitering jig; external, single miter	9.10	8.20	7.30
BIM. 129	Notch jig	36.20	32.60	29.00

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Slimline 901 Imlok®

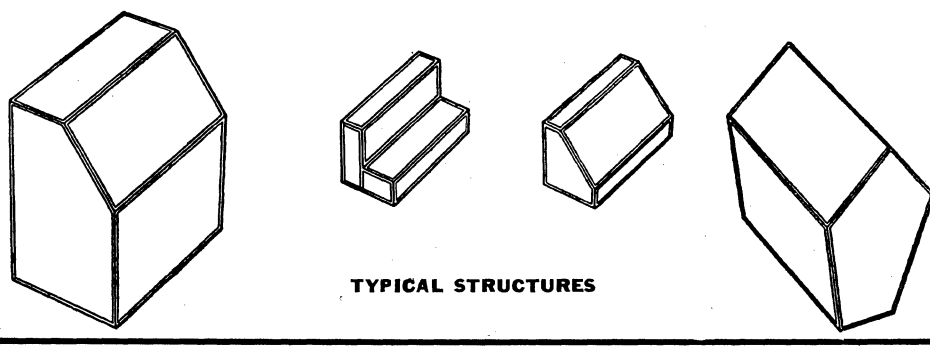
CONNECTORS

Bud No.	Description	Net Each, Lots of 1-14	15-24	25-34
BIM. 902	90° external standard connector used for normal 90° external corners and for joining spacer bars to the various 90° external and bezel extrusions.	$1.20	$1.10	$1.00
BIM. 901	90° external corner connector; a lighter duty model than BIM. 902; used with extrusions BIM. 801, BIM. 834, BIM. 835, BIM. 836 and BIM. 837; if one leg is removed use BIM. 818.	1.00	.90	.80
BIM. 90	90° external slotted connector replaces BIM. 902 if an unobstructed aperature is required on framework involving extrusions BIM. 802, BIM. 806, BIM. 810, BIM. 811 and BIM. 821.	2.10	1.90	1.70
BIM. 909	90° internal connector; extrusion BIM. 826 is fitted to one leg and the other two legs accept extrusions BIM. 802, BIM. 803, BIM. 806, BIM. 807 and BIM. 821.	1.80	1.60	1.50
BIM. 090	90° internal spacer bar connector enables spacer bars BIM. 810, BIM. 811 or BIM. 812 to be fitted to extrusion BIM. 826.	2.10	1.90	1.70
BIM. 990	90° cruciform connector; used to join spacer bars BIM. 810, BIM. 811, or BIM. 812 where they cross to divide large panel areas.	2.10	1.90	1.70
BIM. 915	15° external corner connector; used for 15° external corners when two 90° frame extrusions are BIM. 803 or BIM. 845; extrusion BIM. 601 is always fitted to third leg.	1.70	1.60	1.40
BIM. 91	15° external slotted connector replaces BIM. 915 when 90° extrusions are BIM. 802, BIM. 806, BIM. 807 or BIM. 821; also used for joining spacer bars to BIM. 601.	2.10	1.90	1.70
BIM. 951	15° internal corner connector for all 15° internal corner applications; extrusion BIM. 611 is fitted to one leg; the other two will accept BIM. 802, BIM. 803, BIM. 806, BIM. 807 or BIM. 821.	1.70	1.60	1.40
BIM. 015	15° internal spacer bar connector permits spacer bars BIM. 810, BIM. 811 or BIM. 812 to be fitted to 15° internal extrusion BIM. 611.	2.10	1.90	1.70
BIM. 945	45° external corner connector; used for 45° external corners when extrusion is either BIM. 803 or BIM. 845; must be used with extrusion BIM. 641.	1.70	1.60	1.40
BIM. 94	45° external slotted connector replaces BIM. 945 when extrusions are either BIM. 802, BIM. 806, BIM. 807 or BIM. 821; also used for joining spacer bars to extrusion BIM. 641.	2.10	1.90	1.70
BIM. 954	45° internal corner connector; used for all 45° internal corners with extrusion BIM. 651; two legs accept 90° extrusions.	2.10	1.90	1.70
BIM. 045	45° internal spacer bar connector; used in fitting spacer bars to extrusion BIM. 651.	2.10	1.90	1.70
BIM. 975	75° external corner connector; used for 75° external corners with either 90° extrusion BIM. 803 or BIM. 845; BIM. 681 is always the third extrusion.	2.10	1.90	1.70
BIM. 97	75° external slotted connector; used to replace BIM. 975 when 90° extrusions are BIM. 802, BIM. 806, BIM. 807 or BIM. 821; connects spacer bars to extrusion BIM. 681.	1.70	1.60	1.40
BIM. 957	75° internal corner connector; used for all 75° internal corners with extrusion BIM. 691 fitted to one leg; use BIM. 802, BIM. 803, BIM. 806, BIM. 807 or BIM. 821 on other two legs.	2.10	1.90	1.70
BIM. 075	75° internal spacer bar connector enables spacer bars to be fitted to extrusion BIM. 691.	1.80	1.60	1.50
BIM. 750	75° acute external corner connector; used with extrusions BIM. 803 or BIM. 845; always used with extrusion BIM. 682.	2.10	1.90	1.70
BIM. 75	75° acute external slotted connector replaces BIM. 750 when extrusions BIM. 802, BIM. 806, BIM. 807 or BIM. 821 are used; also joins spacer bars to extrusion BIM. 682.	2.10	1.90	1.70

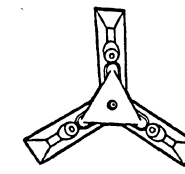
ACCESSORIES

Bud No.	Description	Net Each, Lots of 1-14	15-24	25-34
BIM. 103	Tapped block 6-32 threaded for mounting panels with extrusions BIM. 801 and BIM. 810.	$ .90	$ .80	$ .70
BIM. 104	Tapped block 10-32 threaded for mounting panels with extrusions BIM. 801 and BIM. 810.	.90	.80	.70
BIM. 106	Adjustable mounting bracket may be positioned as required to allow standard rack panel mountings on extrusions BIM. 801, BIM. 802, BIM. 803, BIM. 806, BIM. 807, BIM. 810, BIM. 811, BIM. 812, BIM. 821 and BIM. 845.	.40	.38	.35
BIM. 108	90° external corner gusset may be fitted to connectors BIM. 90 and BIM. 901.	.30	.28	.25
BIM. 109L	Lift-off butt hinge, left hand; chrome plated.	1.50	1.40	1.20
BIM. 109R	Lift-off butt hinge, right hand; chrome plated.	1.50	1.40	1.20
BIM. 134	45° corner gusset with 3 drilled holes (one .44″, two .22″) plus 4 holes tapped 12-24. For 90° corners only.	1.20	1.10	1.00
BIM. 135	45° corner gusset with 3 drilled holes (one .44″, two .22″).	1.10	1.00	.90
BIM. 136	23°–67° corner gusset drilled and tapped for use in any 90° corner; may be fitted after framework is completed.	1.10	1.00	.95

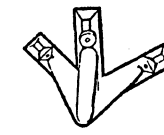
Bud No.	Description	Net Each, Lots of 1-9	10-14	15-19
BIM. 110	Open hinge, cadmium plated steel, undrilled, 4-ft. length for use with deep recess extrusions.	$ 4.70	$4.20	$3.80
BIM. 130	Pivot hinge block and collar designed for use with either flush fitting or recessed doors; chrome plated.	1.90	1.70	1.50
BIM. 137	Bracing extrusion for internal bracing at any desired angle; particularly useful for strengthening non-90° corners.	10.10	9.10	8.10



TYPICAL STRUCTURES



BIM. 902



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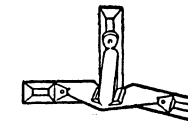
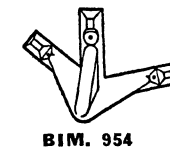
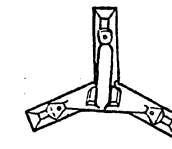


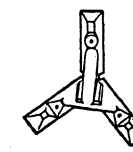
BIM. 915



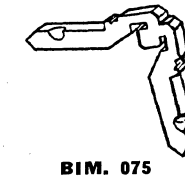
BIM. 954



BIM. 975



BIM. 750



BIM. 075

Net

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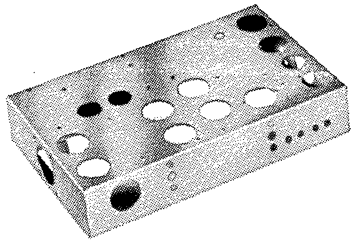
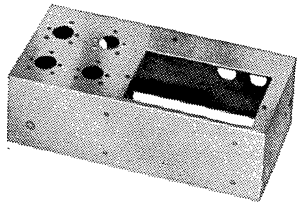
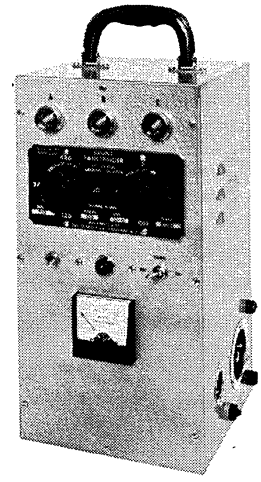
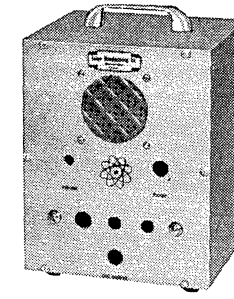
Modified Standard Products

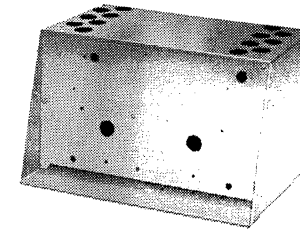
Often a modification of a standard BUD product will create a "made to order" housing with a resulting savings in time and cost. This is when a special is not a special. Illustrated below are enclosures which are adaptations from standard BUD products. Tell us your requirements we will suggest the most economical enclosure for you — modified standard or a special fabrication.

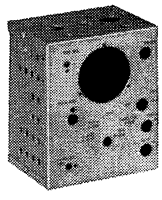


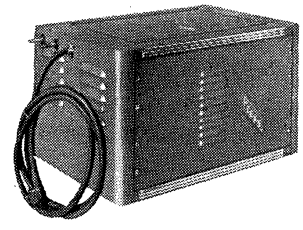


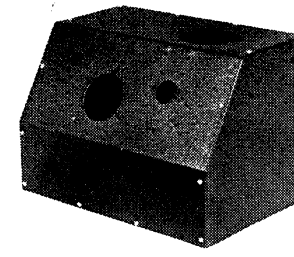


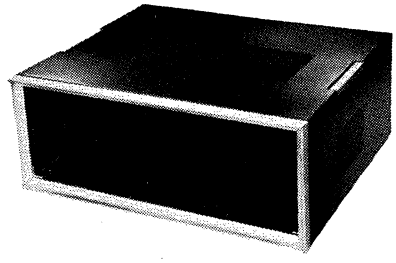


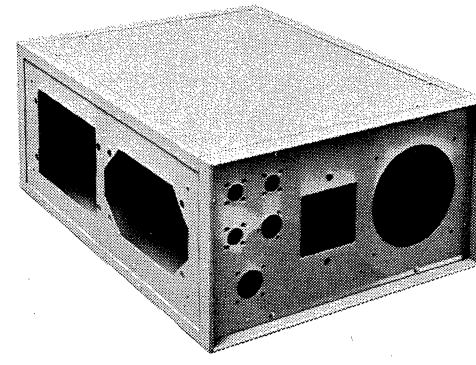












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Specially Fabricated Products

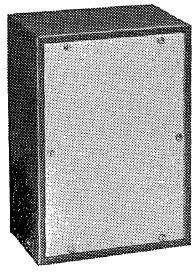
Consult your local Authorized Bud Distributor about your special enclosure problems. In reality, he is an extension of the factory's engineering department and can recommend the proper design and size for your equipment. His advice will save you time and money.

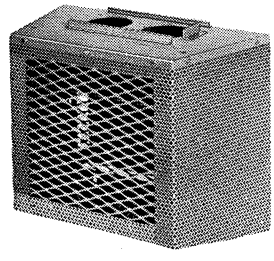
These are the services we perform:

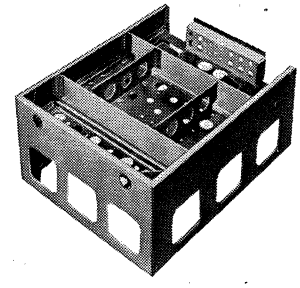
1. Modification of our standard products.
2. Specially punched panels, chassis and boxes.
3. Standard construction employing steel or aluminum.
4. Special construction employing the Imlok system of aluminum extrusions, castings and sheets.
5. Original designs based upon your circuitry requirements.

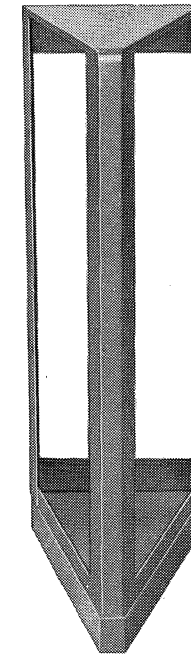
Bud can supply you with a pilot model or a production run. Our more than 35 years of experience in the electronic industry assures you that we can readily understand your problems and solve them economically. 112,000 sq. ft. of completely integrated plant facilities — from engineering, tooling and fabrication to painting, assembly and packaging insure quick delivery. Almost every type of industry, branches of the armed forces, the Space Agency and the Nuclear Energy Commission use Bud products.

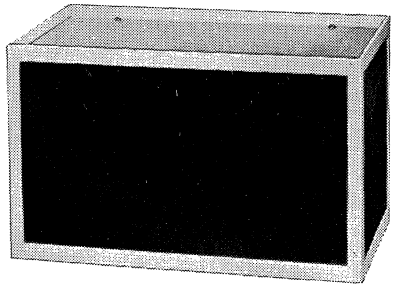
Whenever a special sheet metal enclosure is required, call in your local Authorized Bud Distributor. He is anxious to cooperate with you.

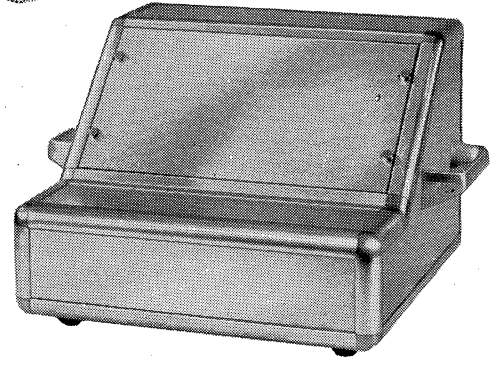


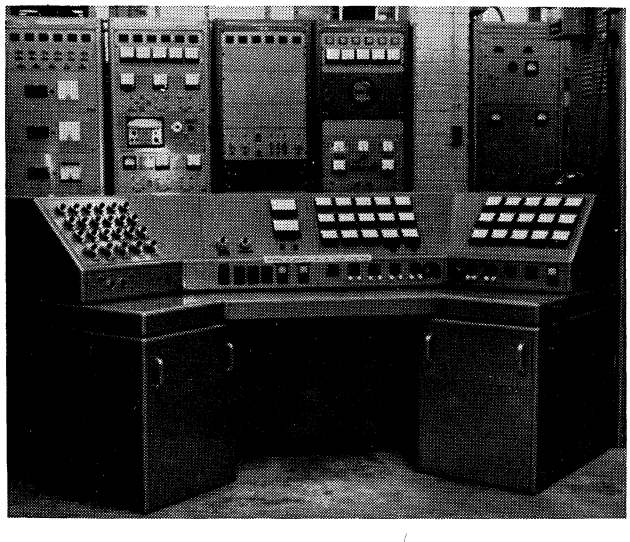


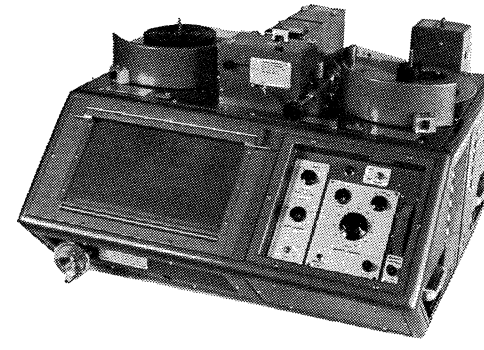












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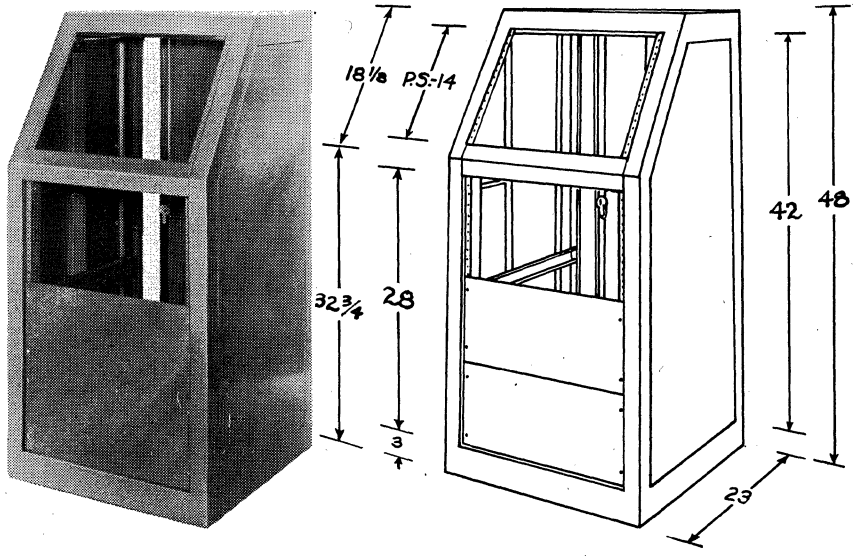
ds DESIGNER SERIES

CALIFORNIA CHASSIS CO.

SLOPE-FRONT, ALL STEEL WELDED CABINET (AWCM)

The California Chassis AWCM-42 Slope-Front Cabinet offers the ultimate in clean, functional lines and versatility in construction. It is available as a finished "package" or with separate components to satisfy your specific requirements ■ The basic all-steel welded rack is open on all sides to simplify installation and permit adequate service access ■ Doors have chrome key locking handles and special spring-loaded hinge pins for rapid removal ■ Side panels are removable without use of tools ■ Panel slope is 34° and provides a full 14 x 19⅛ inch area for meters, dials and controls ■ Holes are provided in bottom for floor mounting ■ Panel mounting angles are drilled and tapped 10-32 with universal spacing to accept all standard panels ■ The AWCM-42 is attractively finished with our special low-maintenance, scratch resistant silver-grey hammertone formula. Other finishes optional. **The AWCM-42 is shipped complete with two side panels and locking rear door.**

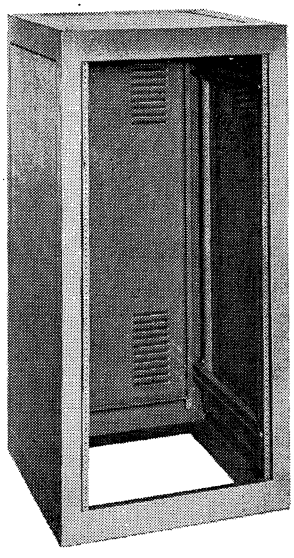
	Width	Height	Depth
AWCM-42	23 in.	48 in.	23 in.
Slope panel opening	19⅛ in.	14 in.	—
Front panel opening	19⅛ in.	28 in.	—
Rear Door opening	19⅛ in.	42 in.	—
Front panel slope: 34°			

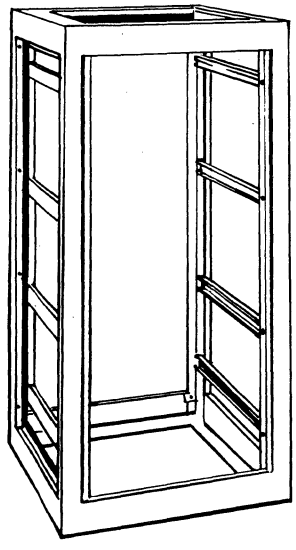


ds DESIGNER SERIES

ALL STEEL WELDED CABINET

This flexible series is available as a complete package or as separate components to satisfy individual requirements — designated as follows: Solid top (AWC); or open top (AWCO) in styles as shown below. Doors and sides are interchangeable. Doors have chrome handles — spring-loaded hinge pins provide rapid removal and servicing without use of tools. Panel mounting angles are tapped 10-32 with universal spacing for all standard panels. Louvers available on sides and doors. Standard finish — gray hammertone; other finishes optional.





No.	Description	Price
AWC-42	—Assembly consisting of 42 inch panel space frame, with solid top, two sides, one door, one pair panel mounting angles and all necessary hardware	$127.95
AWCO-42	(REMOVABLE TOP)	134.77
AWC-61	—Same as above except 61¼ inch panel space frame	156.50
AWCO-61	(REMOVABLE TOP)	163.32
AWC-70	—Same as above except 70 inch panel space frame	169.92
AWCO-70	(REMOVABLE TOP)	176.74
AWC-77	—Same as above except 77 inch panel space frame	196.53
AWCO-77	(REMOVABLE TOP)	203.35
AWCF-42	—Basic frame only—42 inch panel space—solid top	61.83
AWCOF-42	—Basic frame only—open top	64.33
AWCF-61	—Basic frame only—61¼ inch panel space—solid top	77.18
AWCOF-61	—Basic frame only—open top	79.68
AWCF-70	—Basic frame only—70 inch panel space—solid top	82.29
AWCOF-70	—Basic frame only—open top	84.79
AWCF-77	—Basic frame only—77 inch panel space—solid top	97.66
AWCOF-77	—Basic frame only—open top	100.16

No.	Description	Price
AWCS-42	—Side panel—42″ high each	$15.10
AWCS-61	—Side panel—61¼″ high each	18.17
AWCS-70	—Side panel—70″ high each	20.22
AWCS-77	—Side panel—77″ high each	23.29
AWCD-42	—Door—42″ high	18.38
AWCD-61	—Door—61¼″ high	21.45
AWCD-70	—Door—70″ high	24.52
AWCD-77	—Door—77″ high	27.59
AWCT-42	—Top	7.22
AWCT-61	—Top	7.22
AWCT-70	—Top	7.22
AWCT-77	—Top	7.22
AWCP-42	—Panel mounting angles—42 long pair	10.24
AWCP-61	—Panel mounting angles—61¼ long pair	14.43
AWCP-70	—Panel mounting angles—70 long pair	15.46
AWCP-77	—Panel mounting angles—77 long pair	17.51
AWCZ-42	—Vertical supports for chassis brackets set of four	14.64
AWCZ-61	—Vertical supports for chassis brackets set of four	16.64
AWCZ-70	—Vertical supports for chassis brackets set of four	17.71
AWCZ-77	—Vertical supports for chassis brackets set of four	19.87

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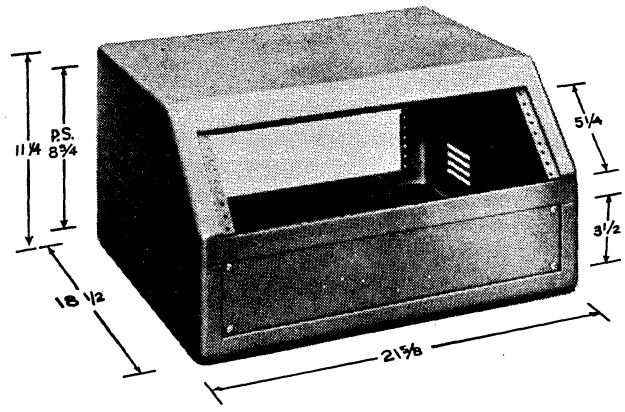
ds DESIGNER SERIES

CALIFORNIA CHASSIS CO.

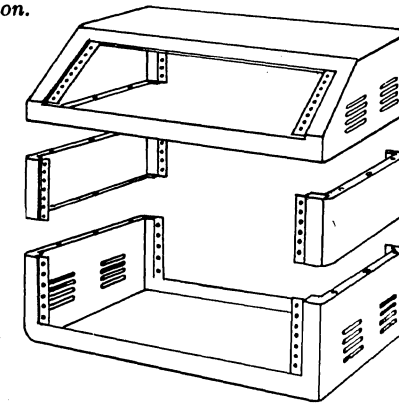
SLOPE-FRONT EXPANDABLE CABINET (MPXM)



	Width	Height	Depth
MPXM Cabinet without inserts	21⅝ in.	11¼ in.	18½ in.
Slope panel opening	19⅛ in.	5¼ in.	—
Front panel opening	19⅛ in.	3½ in.	—
Back panel opening	19⅛ in.	8¾ in.	—
Inserts (in increments of 1¾ to 28 inches.)	—	1¾ to 28 in.	18½ in. (side)

Recommended total panel height with inserts: 35 inches.

This cabinet accepts standard relay rack panels and is drilled and tapped for universal panel mountings. 16-Gauge cold rolled steel construction.



This latest addition to the popular California Chassis "Designer's Series" enclosures provide a functional 45° sloping front for convenience and easy viewing of meters, dials, control knobs and switches. The new slope front, combined with expandable inserts to meet the need of added circuitry and component requirements, enhances the functional design features of this attractive and rugged cabinet ■ Inserts are available to accommodate standard panel chassis sizes ■ Finished in silver-grey hammertone.

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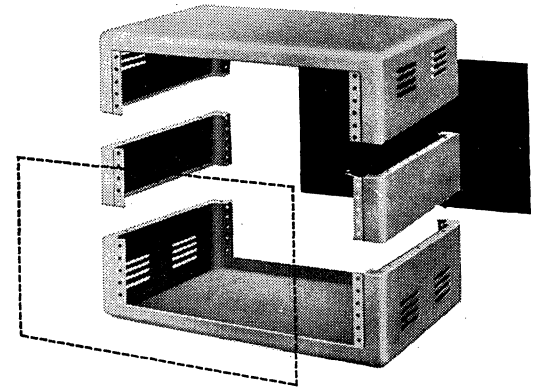
ds DESIGNER SERIES

MULTI-PURPOSE EXPANDABLE CABINET

The MPX enclosure combines clean design and attractive finish with utility, strength and versatility. Inserts permit vertical expansion of cabinet. Standard finish — gray hammertone; other finishes optional.



MPX CABINET — Consists of top, bottom, rear panel 5¼" high and assembly hardware. Basic cabinet provides 7" of panel space front and back.....$30.45

MPXF-10 1¾" FILLER — each filler group listed consists of two sides, rear panel same height as sides and hardware..... 9.45

MPXF-11	3½"	FILLER.....	$10.60	MPXF-18	15¾"	FILLER.....	$17.77
MPXF-12	5¼"	FILLER.....	11.70	MPXF-19	17½"	FILLER.....	18.95
MPXF-13	7"	FILLER.....	12.80	MPXF-20	19¼"	FILLER.....	19.97
MPXF-14	8¾"	FILLER.....	13.93	MPXF-21	21"	FILLER.....	21.10
MPXF-15	10½"	FILLER.....	15.05	MPXF-22	24½"	FILLER.....	22.33
MPXF-16	12¼"	FILLER.....	16.18	MPXF-23	26¼"	FILLER.....	23.51
MPXF-17	14"	FILLER.....	17.36	MPXF-24	28"	FILLER.....	24.68

MPX Cabinet without inserts	Width 21⅝ in.	Height 9½ in.	Depth 18½ in.
Font panel opening	19⅛ in.	7 in.	——
Back panel opening	19⅛ in.	7 in.	——
Inserts (in increments of 1¾ to 26¼ in.)	——	1¾ to 26¼ in.	18½ in. (side)

Recommended total panel height with inserts: 35 inches. This cabinet accepts standard relay rack panels and is drilled for universal panel mountings. 16 gauge cold rolled steel construction.

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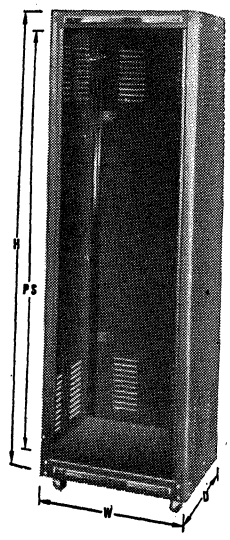
CABINET RACKS

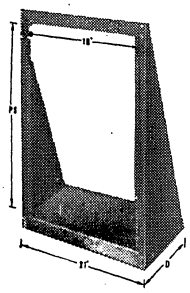
These racks are made entirely of 16 gauge steel except for the heavy steel panel supports. They have universal spacing, the holes being tapped for 10/32″ screws. Panels fit into a recess so that the edges do not show. Mounting plate on bottom of rack permits casters to be fastened directly to base for easy mobility. Casters are not included in price of rack but may be ordered separately. No. TC-10.

All standard 19″ panels RETMA, Western Electric or Amateur will fit these racks. Double rows of louvres side and rear give ample ventilation.

Gray hammertone finish.



NO. CAT.	PANEL SPACE	HEIGHT	WIDTH	DEPTH	INSIDE DEPTH CLEAR.	SHIP. WT. LBS.	NET PRICE
CR-36	36¾	42	22	17	15½	90	53.23
CR-42	42	47¼	22	17	15½	96	59.99
CR-61	61¼	66½	22	17	15½	120	75.74
CR-77	77	82¼	22	17	15½	145	90.08
CRD-36	36¾	42	22	24	22½	99	68.44
CRD-42	42	47¼	22	24	22½	105	81.04
CRD-61	61¼	66½	22	24	22½	133	97.05
CRD-77	77	82¼	22	24	22½	160	116.66



DOR SERIES

This open rack is made of 16 gauge steel. It is useful where the larger, heavier floor model is not necessary.

Mounting holes are on universal centers tapped 10/32″ Gray hammertone finish.

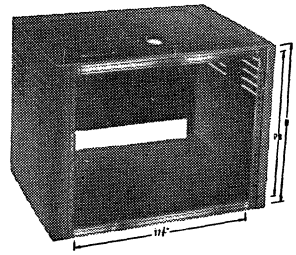
Cat. No.	Panel Space	Overall Height	Width	Depth	Ship. Wt.	Net Price
DOR-21	21 x 19	25	21	12	18	9.89
DOR-28	28 x 19	32	21	12	19	12.21

DESK CABINET RACKS

This solid welded, rounded front, deluxe desk cabinet has a professional look as well as being a sturdy utility unit. Embossed feet are on all sizes to reduce marring.

Cabinets have universal punching, accommodating W. E.; RETMA; or Amateur notched panels. Unit is made from 16 ga. steel, having a 2″ opening on bottom rear for ventilation in addition to side louvers.

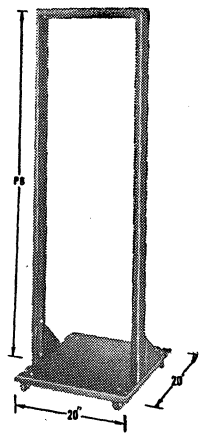
The five smaller models have solid welded backs. The five larger models have a removable hinged rear door.
All models clear 14½″ inside depth — Outside width is 21½″. Gray hammertone.



CATALOG NO.	PANEL SPACE	HEIGHT	SHPG. WT.	NET PRICE
DCR-7	7	8 15/16	25	18.43
DCR-8	8¾	10 11/16	27	18.81
DCR-10	10½	12 7/16	29	21.50
DCR-12	12¼	14 3/16	31	22.59
DCR-14	14	15 15/16	33	24.62
DCR-17	17½	19 7/16	37	29.46
DCR-21	21	22 15/16	39	31.53
DCR-26	26¼	28 9/16	47	33.78
DCR-31	31½	33 7/16	51	35.88
DCR-35	35	36 15/16	58	37.87

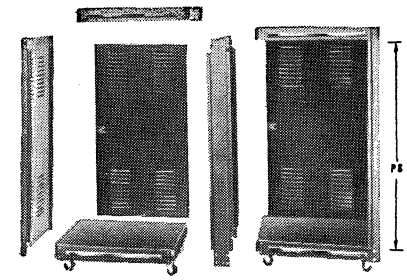
OR SERIES

These open racks are constructed so the uppermost panel mounts at the top of the ⅛″ steel upright. There is no loss of space at the top. Rack uprights are punched with universal spacing and tapped 10/32″. Two brackets of ⅛″ steel bind the uprights and a chassis like base into one solid unit. Gray hammertone.



CATALOG NO.	PANEL SPACE	OVERALL HEIGHT	SHPG. WT.	NET PRICE
OR-31	31½	32¾	27	$23.30
OR-36	36¾	38	28	23.52
OR-42	42	43¼	30	25.21
OR-61	61¼	62½	37	26.05
OR-66	66½	67¾	39	26.58
OR-71	71¾	73	41	27.52
OR-77	77	78¼	42	32.02

MULTI RACK SERIES



With this unit and a standard rack of the same size one can make a multiple rack or a series of connected racks. Each unit consists of a door, top, bottom, and a multi-rack connecting unit. This must have the same panel space as the unit it is to be used with. All hardware except casters is furnished. Colors to match mating units.

CATALOG NO.	PANEL SPACE	FITS RACK	SHPG. WT.	NET PRICE
MR-36	36¾	CR-36	75	$53.23
MR-42	42	CR-42	80	59.99
MR-61	61¼	CR-61	100	75.74
MR-77	77	CR-77	118	90.08
MRD-36	36¾	CRD-36	80	68.44
MRD-42	42	CRD-42	85	81.04
MRD-61	61¼	CRD-61	108	97.05
MRD-77	77	CRD-77	128	116.66

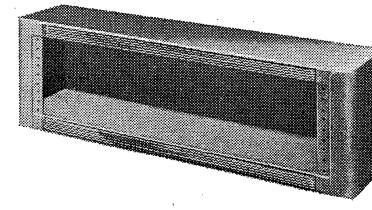
FRONT DOOR KIT

To convert CR, CRD, MR, MRD racks to Front Door type, formed of 16 gauge steel 1¾* deep to clear handles, knobs, etc. All corners seam welded and ground smooth. Supplied with locking handle with same keying as back door and all necessary hardware to mount on rack front. Finish grey hammertone.

Cat. No.	Price	Cat. No.	Price
FD-36	$22.08	FD-61	$32.66
FD-42	26.70	FD-77	39.54

MINIATURE CABINET RACKS

The MCR combines stylized function and compactness for desktop use. Available in three sizes. Accepts standard relay rack panels and "PC" chassis units. Attractive grey hammertone with chrome trim.

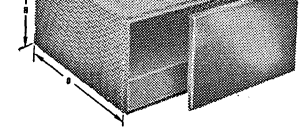


MCR-12 CABINET — Panel space 19″ x 5¼″ $14.61
MCR-13 CABINET — Panel space 19″ x 7″ 14.92
MCR-14 CABINET — Panel space 19″ x 8¾″ 15.22

All above items available in gray hammertone finish. Other finishes available on special order. Contact factory for special finish prices.

All MCR units have embossed feet to protect desk tops.

TYPE	WIDTH	PANEL SPACE	DEPTH	HEIGHT	WT.
MCR-12	21⅝	19 x 5¼	6 5/16	7⅛	11½ lb.
MCR-13	21⅝	19 x 7	6 5/16	8⅞	12½ lb.
MCR-14	21⅝	19 x 8¾	6 5/16	10⅝	13½ lb.



LOW TEMPERATURE CABINETS

This cabinet made of perforated metal with 3/32 holes on 5/32 centers, solves most thermal problems. It is a real space saver, the chassis being almost the size of the cabinet.

Chassis is .063 aluminum and bolts to the rear panel which is welded to the perforated screen. Rear steel panel has rectangular hole in it to allow access to connectors in chassis. Front panel has no screws but is held on by control knobs mounted in chassis. Gray hammertone.

Chassis and front are one piece when unit is complete and can be easily removed yet cabinet chassis and front panel are solidly held together.

Catalog Number	Cabinet Size H W D	Front Panel	Chassis Size	Hole in Rear Panel	Net Price
LTC-463	4½ x 7 3/16 x 9 3/16	4½x 7¼	6 5/16x 8 5/16x1½	⅞x 4	10.24
LTC-464	4½ x 9 3/16 x 7 3/16	4½x 9 3/16	8 5/16x 6 5/16x1½	⅞x 5	10.24
LTC-469	5 1/16x 8¾ x11 3/16	5⅝x 8¾	8 7/16 x10 15/16x2	1½x 5	11.92
LTC-470	5 1/16x11 3/16 x 8 1/16	5⅝x11 3/16	10 13/16x 8 7/16 x2	1½x 6	11.92
LTC-472	9½ x16¼ x11 3/16	9½x16¼	11 x16 x3	2 x 8	19.04
LTC-474	12 x17¼ x12 3/16	12 x17¼	12 x17 x4	2½x12	22.21

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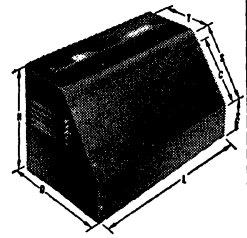
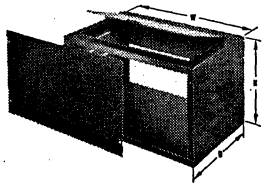
SLOPING FRONT CABINETS

These deluxe all purpose steel cabinets are designed for wide use in the electronic field. Front and top corners are rounded, sides have stainless steel ventilators. Embossed feet to prevent scratching. Gray wrinkle or gray hammertone, please specify.



Catalog No.	D	H	L	T	X	S	Use This Chassis C	Net Price
SFC-42	8	8	8	4¼	2¾	6	5¼ C-104	5.32
SFC-44	8	8	10	4¼	2¾	6	5¼ C-105	7.47
SFC-46	8	8	14	4¼	2¾	6	5¼ C-114	9.00
SFC-48	12	12	18	6	3⅛	10⅜	9½ C-110	12.06

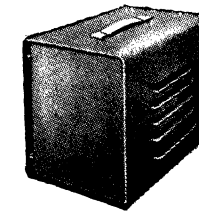
INSTRUMENT CABINETS — This cabinet has a hinged access door on top and removable front cover. The elimination of the rounded corner gives more inside room. The rear has a 3½" opening for ventilation plus louvers at each end. The open end chassis, E.C. series, is usually used with these cabinets. Gray Hammertone finish standard.



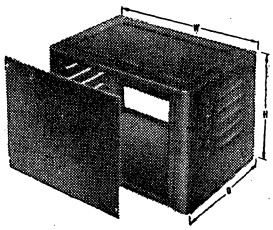
Cat. No.	H	W	D	Ship. Wt.	Net Price
HTC-342	7	8	8	5	4.25
HTC-343	7	10	8	5½	5.49
HTC-344	7	12	8	5¾	5.79
HTC-345	7	14	8	6	6.20
HTC-346	8	16	8	7	8.55
HTC-347	9	15	11	8	8.74
HTC-348	12	18	12	14½	12.61

LITE LINE SERIES

These all aluminum portable cabinets are found to be highly versatile for instrumentation housings. The "Lite Line" units are attractive and compact yet give proper ventilation with light weight. Panel is recessed ⅜". Finish: Gray hammertone.

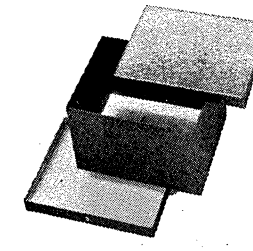


Catalog No.	Cabinet Size H	W	D	Wt.	Rear Opening ½ inch from base of cabinet
LLS-582	8	6⅛	8	2	2 x 4½
LLS-584	8	10⅛	8	2½	2 x 8½
LLS-586	9	8⅛	12	3½	2 x 6½



AMPLIFIER FOUNDATIONS

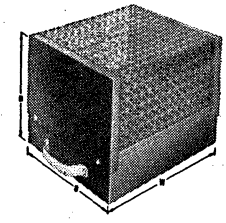
These consist of a chassis and perforated metal cover. They have ample ventilation. Handles are included in each package. Gray hammertone finish.



Catalog No.	Height	Width	Depth	Chassis Height	Shpg. Wt.	Net Price
AF-240*	8	7⅜	5⅛	2	2	4.60
AF-241	8 5/16	9⅝	5⅛	2½	2	5.75
AF-242	8 5/16	13⅝	5⅛	2½	4⅜	6.59
AF-243	8 5/16	17⅛	7⅛	2½	6	7.47
AF-244	8 13/16	17⅛	10⅛	3	8	10.25
AF-245	8 13/16	12⅛	10⅛	3	7	7.75

STREAMLINED INSTRUMENT CABINET

Gray Hammertone finish.



Catalog No.	Panel Space	Height	Width	Depth	Wt.	Net Price
SC-31	8x 8	8	10½	8¼	5¾	4.48
SC-32	8x10	8	12½	8¼	6	5.55
SC-33	8x12	8	14½	8¼	6½	6.02
SC-34	8x14	8	16½	8¼	7	6.32
SC-35	8x16	8	18½	8¼	7¾	6.93
SC-36	12x18	12	20½	12	15	12.46

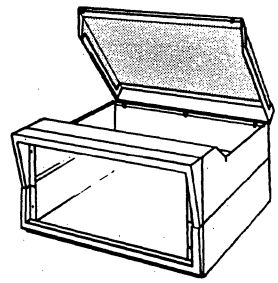
FF UTILITY CABINETS

Flange-free construction is the keynote of this series — allowing complete use of the internal cabinet surfaces. Unit consists of a basic shell, two cap-type covers and assembly screws. Fabricated in .040 aluminum and stocked in unpainted etched finish or gray hammertone baked enamel. Use suffix "UA" for unpainted or "GH" for gray hammertone.

CATALOG NO.	WEIGHT LBS.	DEPTH	WIDTH	LENGTH
F.F. CAB-1	⅜	2	4	4
F.F. CAB-2	½	3	5	4
F.F. CAB-3	¾	4	5	6
F.F. CAB-4	1	6	6	6
F.F. CAB-5	1¼	5	6	9

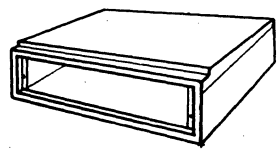
"SWING-TOP CABINET MODULE"

Developed for the discriminating user in response to a demand for servicing facility coupled with modern design and flexibility. Basic cabinet is 18" deep and accepts 19" wide panels in the shadow boxed front. The swing top offers convenient service access to installed equipment. Unit may be expanded vertically by addition of special center sections — available from the factory to meet your requirements. Standard units stocked in gray hammertone, other finishes available.



ST-14 Double Section
8¾" Panel Space.....$35.74

ST-12 Single Section
5¼" Panel Space.....$30.29



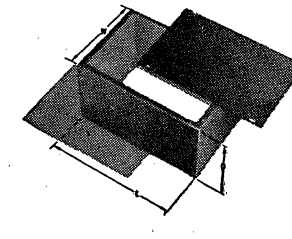
PM-11

PM-11 POWER ENCLOSURE

The base section of the Swing-Top Module is available as a separate item and is most often used as a power supply enclosure. It offers a 3½" x 19" front panel area coupled with 18 inches of depth. The removable cover section serves as either top or bottom at users discretion. Panel space maye be increasd vertically by addition of special center sections, please contact factory with your requirements. Stocked in gray hammertone, custom finishes. available $25.16

METAL UTILITY CABINETS

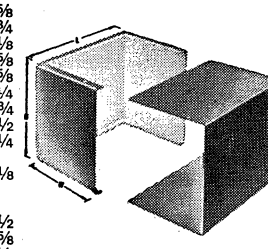
Catalog No.	Wt. Stl.	D	W	L	Wt. Alm.	Painted Alum.
CAB-1	¾	2"	4"	4"	⅜	1.72
CAB-2	1	3"	5"	4"	½	.192
CAB-3	1½	4"	5"	6"	¾	2.20
CAB-4	2½	6"	6"	6"	1	2.63
CAB-5	3¼	5"	6"	9"	1¼	3.56
CAB-6	4¾	7"	8"	10"	2	5.22
CAB-7	5	6"	7"	12"	2	5.05
CAB-8	6	8"	10"	10"	2½	7.32
CAB-9	7	8"	11"	12"	2¾	8.79
CAB-10	7	7"	9"	15"	2¾	8.96



Considered the "work horse" in the small cabinet field. This series is one of the most widely used. Supplied with two removable covers for easy access to cabinet interior. Available in both aluminum use suffix "A" and steel use suffix "S", complete with mounting hardware. Finished in gray hammertone. Aluminum units also available in unfinished etched condition — use suffix "UA".

MINIATURE CABINETS

Aluminum Gray Hammertone Cat. No.	Net Price	Etched Aluminum Cat. No.	Net Price	L	H	W
M-51	.85	M-81	.63	2¾	x2⅛	x1⅝
M-52	1.14	M-82	1.03	2¾	x2⅛	x2¾
M-53	.91	M-83	.63	3¼	x2⅛	x1⅛
M-54	1.07	M-84	.68	3¼	x2⅛	x1⅝
M-55	.95	M-85	.67	4	x2⅛	x1⅝
M-56	1.03	M-86	.85	4	x2¼	x2¼
M-57	1.19	M-87	.85	4	x2	x2¾
M-58	1.20	M-88	.90	4¼	x2¼	x1½
M-59	1.24	M-89	.93	5	x2¼	x2¼
M-60	1.45	M-90	1.38	5	x4	x3
M-61	1.42	M-91	1.29	5¼	x3	x2⅛
M-62	1.90	M-92	1.31	6	x5	x4
M-63	1.94	M-93	1.65	7	x5	x3
M-64	2.34	M-94	2.07	8	x6	x3½
M-65	1.57	M-95	1.38	10	x2	x1⅝
M-66	3.75	M-96	3.31	10	x6	x3½
M-67	2.09	M-97	1.57	12	x2½	x2¼
M-68	3.65	M-98	2.96	12	x7	x4
M-69	4.18	M-99	3.48	17	x5	x4



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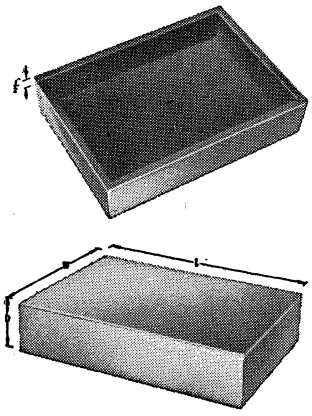
CALIFORNIA CHASSIS CO.



STANDARD ALUMINUM CHASSIS—All chassis are stamped and formed from one piece of material. All four corners welded and sides flanged to accommodate bottom plates.

Aluminum	W	L	D	Gauge	App. Wt.	Net Price
A-134	2½	4½	1	18	¼	1.15
A-135	3½	4½	1	18	¼	1.25
A-136	3½	5½	1	18	¼	1.25
A-137	4	6	1½	18	¼	1.38
A-155	4	6	2	18	¼	1.39
A-149	4	6	3	18	¼	1.57
A-138	4	5	2	18	⅜	1.42
A-121	5½	5½	1	18	¼	1.40
A-101	5	7	2	18	⅜	1.25
A-150	5	7	3	18	⅜	1.66
A-147	4	8	2	18	⅜	1.67
A-119	4½	8	1½	18	⅜	1.35
A-122	5	9	1½	18	⅜	1.43
A-102	5	9½	2½	18	⅜	1.92
A-120	6	8	2	18	¾	1.72
A-103	5	10	3	18	½	1.87
A-104	7	7	2	18	½	1.57
A-105	7	9	2	18	¾	1.67
A-113	7	11	2	18	¾	1.82
A-106	8	10	2½	18	1	2.43
A-151	6	14	3	18	1	2.82
A-114	7	13	2	18	¾	1.92
A-139	5	13	3	18	¾	2.09
A-107	8	12	2½	18	1	2.84
A-117	7	12	3	18	1	2.36
A-124	8	12	3	18	1	2.61
A-108	10	12	3	18	1¼	3.01
A-129	12	12	3	18	1½	3.36
A-115	10	14	3	18	1¼	3.16
A-130	7	15	3	18	1¼	2.97
A-125	9	15	3	18	1½	3.54
A-118	4	17	3	18	1	2.69
A-145	6	17	3	18	1¼	2.94
A-144	7	17	2	18	1	2.88
A-152	7	17	3	18	1½	3.16
A-109	8	17	2	18	1½	2.97
A-116	8	17	3	16	1½	3.46
A-140	10	17	2	16	2¼	3.46
A-110	10	17	3	16	2½	3.90
A-153	10	17	4	16	3	5.14
A-141	10	17	5	14	3¼	8.01
A-146	11	17	2	16	1½	3.80
A-128	11	17	3	14	2½	4.78
A-127	12	17	2	14	2¼	4.32
A-123	12	17	3	14	2½	5.03
A-126	13	17	2	14	2½	4.51
A-111	13	17	3	14	2¾	4.97
A-112	13	17	4	14	3¼	6.66
A-142	13	17	5	14	3½	8.70
A-156	15	17	3	14	3½	6.28
A-133	14	17	3	14	3¼	6.09
A-131	15	17	4	14	3¾	8.62
A-148	15	17	6	14	4	11.67
A-132	10	23	3	16	2½	5.40
A-154	17	17	3	16	2½	6.89
A-143	17	17	4	14	4¼	10.24

ENTIRE LINE OF CHASSIS DUPLICATED IN STEEL. USE PREFIX "C" INSTEAD OF "A" FOR ZINC STEEL CHASSIS

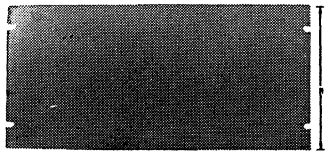
All aluminum chassis are etched finish. 1" and 1½" chassis are flanged on long side only and contain no mounting holes.

CHASSIS BOTTOM PLATES

CATALOG NO.	SIZE	ALUM. WEIGHT	STEEL WEIGHT	Net Price
BP-134	2½x 4½	1 oz.	2 oz.	.60
BP-135	3½x 4½	2 oz.	¼ lb.	.65
BP-136	3½x 5½	2 oz.	¼ lb.	.70
BP-137	4 x 6	2 oz.	¼ lb.	.73
BP-138	4 x 5	2 oz.	¼ lb.	.68
BP-147	4 x 8	¼ lb.	½ lb.	.87
BP-121	5½x 5½	2 oz.	½ lb.	.79
BP-101	5 x 7	2 oz.	¼ lb.	.79
BP-119	4½x 8	¼ lb.	½ lb.	.91
BP-122	5 x 9	¼ lb.	½ lb.	.95
BP-102	5 x 9½	¼ lb.	½ lb.	.93
BP-120	6 x 8	¼ lb.	½ lb.	.95
BP-151	6 x14	½ lb.	1¼ lb.	1.19
BP-103	5 x10	¼ lb.	½ lb.	.96
BP-104	7 x 7	¼ lb.	½ lb.	1.02

CATALOG NO.	SIZE	ALUM. WEIGHT	STEEL WEIGHT	Steel Net Price
BP-105	7 x 9	¼ lb.	¾ lb.	1.03
BP-113	7 x11	½ lb.	1 lb.	1.22
BP-106	8 x10	¼ lb.	¾ lb.	1.20
BP-139	5 x13	¼ lb.	½ lb.	1.19
BP-114	7 x13	½ lb.	1 lb.	1.38
BP-107	8 x12	¾ lb.	1¼ lb.	1.54
BP-117	7 x12	½ lb.	1 lb.	1.25
BP-108	10 x12	¾ lb.	1½ lb.	1.60
BP-129	12 x12	¾ lb.	1½ lb.	1.74
BP-115	10 x14	¾ lb.	2 lb.	1.67
BP-130	7 x15	½ lb.	1 lb.	1.47
BP-125	9 x15	¾ lb.	1½ lb.	1.92
BP-118	4 x17	½ lb.	1 lb.	1.19
BP-145	6 x17	½ lb.	1 lb.	1.45
BP-144	7 x17	½ lb.	1 lb.	1.40
BP-109	8 x17	½ lb.	1¾ lb.	1.57
BP-110	10 x17	¾ lb.	2½ lb.	1.64
BP-128	11 x17	1 lb.	2 lb.	1.72
BP-123	12 x17	1¼ l.b	3 lb.	2.09
BP-111	13 x17	1½ lb.	3¼ lb.	2.30
BP-133	14 x17	1½ lb.	3½ lb.	2.49
BP-131	15 x17	1½ lb.	3½ lb.	2.53
BP-143	17 x17	2 lb.	5 lb.	3.07
BP-132	10 x23	1½ lb.	3¼ lb.	2.30

Steel bottom plates supplied in zinc plate aluminum is caustic etched. Actual size of BP is ⅛" under chassis size which is shown. This allows 1/16" of set back when attached to bottom of chassis.



RELAY RACK PANELS

Regular panels are made from ⅛ aluminum or steel material. Aluminum is 3003 H 14. Notching is Western Electric (WE). Finish gray hammertone, or unpainted. 24" wide panels are available on special order in both aluminum and steel.

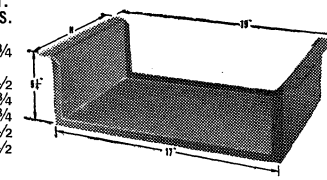
Notching Western Electric	Height	Width	Wt. Alum.	Wt. Steel	Net Price
PW-10	1¾	19	½	1¼	1.22
PW-11	3½	19	¾	2¼	1.84
PW-12	5¼	19	1¼	4	2.32
PW-13	7	19	1½	4¾	3.16
PW-14	8¾	19	2	6	4.01
PW-15	10½	19	2½	6¾	4.85
PW-16	12¼	19	3	8¾	5.12
PW-17	14	19	3½	9¾	5.78
PW-18	15¾	19	4	10¾	6.61
PW-19	17½	19	4½	12	7.48
PW-20	19¼	19	5	13	8.35
PW-21	21	19	5½	15¾	8.96
PW-22	24½	19	6	18½	10.55
PW-23	26¼	19	7	20¼	11.57

HARD ALUMINUM PANELS

Cat. No.	Height	Width	Wt.	Net Price
PWHA-10	1¾	19	½	1.67
PWHA-11	3½	19	¾	2.27
PWHA-12	5¼	19	1¼	2.87
PWHA-13	7	19	1½	3.57
PWHA-14	8¾	19	2½	4.18
PWHA-15	10½	19	2½	5.05
PWHA-16	12¼	19	3	5.92
PWHA-17	14	19	3½	6.78
PWHA-18	15¾	19	4	7.39
PWHA-19	17½	19	4½	8.01
PWHA-20	19¼	19	5	8.62
PWHA-21	21	19	5½	9.83
PWHA-22	24½	19	6	11.96
PWHA-23	26¼	19	7	12.18

PWHA series supplied in both ⅛ and 3/16 thickness in the 2024T3 alloy which is considered most suitable for drilling, machining or engraving. Panels are stocked in unpainted or gray hammertone. Other finishes available on request. All panels available in 24" width, on special order.

PANEL CHASSIS

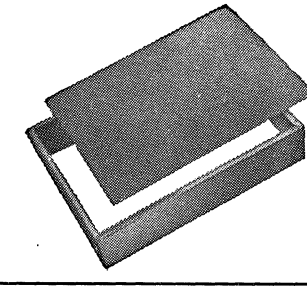


CAT. NO. STEEL	ALUM.	HEIGHT	WT. LBS.
PC-110	PCA-110	1¾	2
PC-111	PCA-111	3½	2¾
PC-112	PCA-112	5¼	4
PC-113	PCA-113	7	4½
PC-114	PCA-114	8¾	5¾
PC-115	PCA-115	10½	6¾
PC-116	PCA-116	12¼	7½
PC-117	PCA-117	14	8½

Larger Sizes on Request

These are constructed so the sharp rib corner is cut to a 45° angle protecting the user's wrist. Side flange is 3/16" O.D. Height is 1/32 under size to permit proper mounting in rack.
PC Series is 16 GA—Zinc Plated Steel
PCA Series is 14 GA—Etched Aluminum

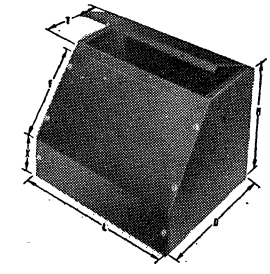
REMOVABLE TOP CHASSIS



Cat. No.	Weight	Dimensions	Net Price
RT-1	5¼#	10x17x3	3.64
RT-2	7	13x17x3	4.53
RT-3	6½	10x17x4	4.03
RT-4	9	13x17x4	5.02

Experimenters and the radio amateur when designing, will find it economical to use this type chassis, as the tops and bottoms may be easily replaced or discarded. Steel-Electro Zinc Only.

HINGED TOP SLOPING CABINET



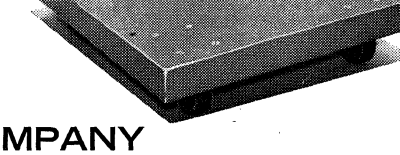
This 20 gauge steel cabinet provides for a complete opening of top and front. Chassis may be attached to the face as there is no inside flange on the front. Bottom has embossed feet. Rear has opening for connectors. Gray hammertone finish.

Catalog No.	H	L	D	X	F	T	WT.	Use Chassis Size	Net Price
HC-250	6½	7 1/16	7 5/16	2 3/16	4 7/8	4¼	2½	7x 6x2	3.78
HC-251	8	8 1/16	8	2 3/16	6 5/8	3 7/8	2¾	7x 7x2	4.56
HC-252	6½	9 1/16	7 5/16	2 3/16	4 7/8	4¼	3	7x 8x2	4.30
HC-253	8	10 1/16	8	2 3/16	6 5/8	3 7/8	3	7x 9x2	5.07
HC-254	6½	11 1/16	7 5/16	2 3/16	4 7/8	4¼	3½	7x10x2	4.75
HC-255	8	14 1/16	8	2 3/16	6 5/8	3 7/8	4	7x13x2	5.49
HC-256	8	13 1/16	8½	2 5/8	5 7/8	4¾	5¼	8x12x2½	5.72
HC-257	9	18 1/16	8 1/8	3 5/8	6	4¼	7	7x17x3	7.86
HC-258	10	18 1/16	10½	3 5/8	7¼	5 7/8	8½	10x17x3	8.01

HEAVY DUTY ROLLER TRUCK

Formed of 12 gauge steel with seam welded corners. Supplied with heavy duty four inch swivel casters, mounting hardware, and drilled to fit the base of the "AWC" unit, offering ample stability to assemblies with a high center of gravity. Stocked in gray hammertone finish.

Cat. No. HDT **Price: $51.34**



CALIFORNIA CHASSIS COMPANY

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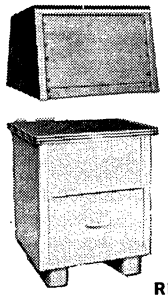
METAL WORKS INCORPORATED
STANDARD & CUSTOM DESIGNS

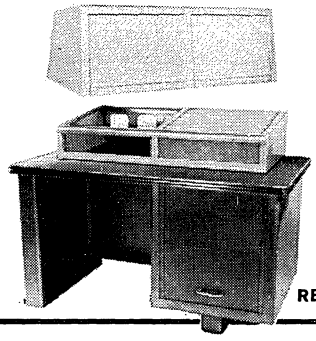
CONSOLES FOR INDUSTRY . . . SCHOOLS . . . AIRPORTS . . . BROADCASTING RECORDING . . . TESTING APPARATUS . . . FOR 19" RACK PANELS



RB-100

RB-100 SINGLE PEDESTAL UNIT

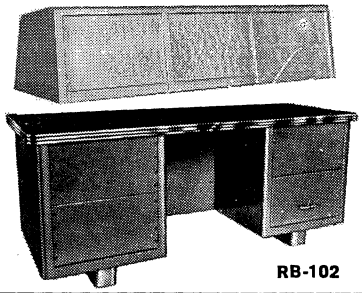
This unit is equipped with a sliding drawer (PD-1050-16) built into the cabinet. A blank panel (PM-1610) is provided above or below the drawer for equipment.



RB-101

RB-101 DOUBLE PEDESTAL UNIT

This unit is equipped with a sliding drawer (PD-1050-16) built in the upper or lower section of the cabinet. A blank panel (PM-1610) is provided in the remaining space.

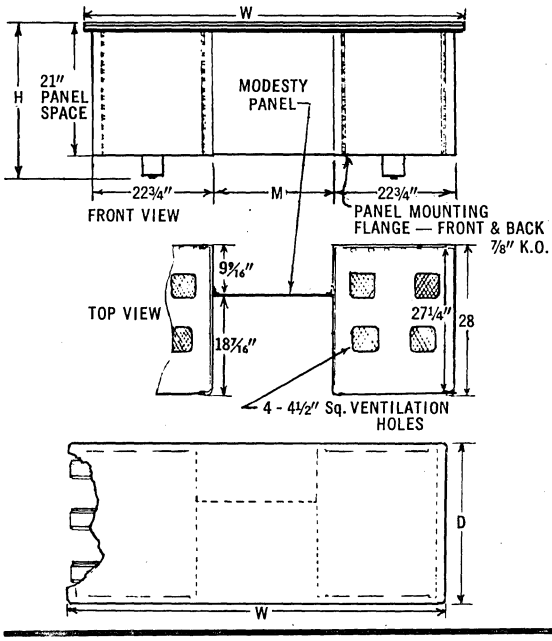


RB-102

RB-102 TRIPLE PEDESTAL UNIT

A sliding drawer (PD-1050-16) is provided in this unit. Three blank 10½" (PM-1610) panels are provided in the remaining space.

ARCHITECTS AND ENGINEERS SPECIFICATIONS



MATERIAL: 18 ga. CRS

CONSTRUCTION:

1. Spot weld throughout. 2. Tops are spot welded and fastened **with** sheet metal screws. 3. Corners, brazed for added strength and finish appearance. 4. Modesty panels in the two larger models are removable via sheet metal screws. 5. Each pedestal has 21" panel space both front and rear recessed 7/16". Rear panel furnished with (4) 4½" screened ventilating holes same as bottom of each pedestal. 6. Panel mounting holes are punched on standard oval head screws, Tinnerman clips and finish washers furnished. 7. Six ⅞" wire knockouts are provided toward rear of bottom of each pedestal. These knockouts accommodate ½" conduit or pipe. 8. Top is covered with gray matching linoleum and trimmed with a special aluminum trim. Trim provides 2 spaces for plastic feature strips. 9. Special trim may be ordered to cover panel and drawer mounting screws. 10. Formica tops available at additional cost.

FINISH: Iron phosphate dipped and finished with MWI Standard Bake On Enamel Colors. Other colors available on special order.

Model No.	H	D	W	M	Inside Pedestal Depth	Ship. Wt.
RB-100	29"	30"	26"		27¼"	125
RB-101	29"	30"	53"	23¼"	27¼"	190
RB-102	29"	30"	70"	21½"	27¼"	250

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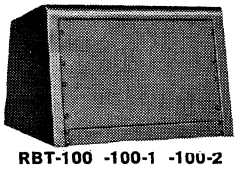
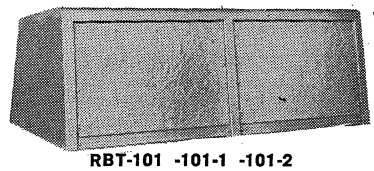
METAL WORKS INCORPORATED
STANDARD & CUSTOM DESIGNS

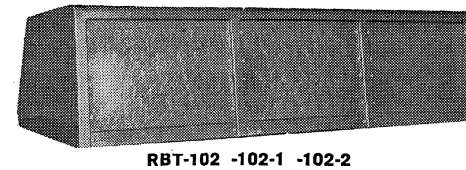
TURRETS FOR USE WITH "RB" SERIES — 19" PANELS



RBT-100 -100-1 -100-2



RBT-101 -101-1 -101-2



RBT-102 -102-1 -102-2

Turret console combinations are attractive instruments that accentuate any control room, office, etc., with their modern design.

Turrets featured in three different series and three sizes within each series offer a multiple of combinations that can be used in conjunction with our RB series of consoles. These combinations are readily adaptable to specialized applications in control equipment, testing facilities, sound systems, control units in language laboratories and many other applications in industry and entertainment services.

The standard turret which has 12¼" panel space is especially designed for use on the consoles (RB-100, RB-101, RB-102) and on equipment tables (RB-80-1, RB-80-3, RB-90-1, RB-90-3), although it has a wide variety of other uses.

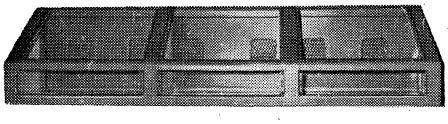
Panels included with turrets.

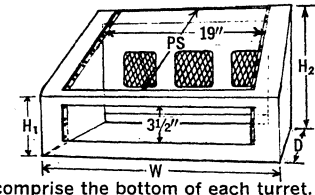
MATERIAL: 18 ga. CRS. **CONSTRUCTION:** 1. Spot weld throughout. 2. Corners brazed for added strength and finish appearance. 3. Removable rear panel for easy access to cabinet components. 4. Five ⅞" knockouts provided in rear of each panel space. These knockouts accommodate ½" conduit or pipe. 5. Two 6⅛" channel irons formed from 18 ga. CRS comprise the bottom of each turret. This type construction adds **rigidity.** 6. Front panel space has 10° slope. Rear of turrets has 10° slope. 7. Panel mounting holes are punched on standard Western Electric spacing. 8. 10-32 oval head screws, Tinnerman clips and finishing washers are furnished. 9. Panel spacing is recessed 5/16". FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

For front height add 2" to H dimension.

Model No.	W	H	WT	WB	PS	No. of Units	Shipping Weight
RBT-100	21¾	15¾	13½	18	12¼	1	40 lbs.
RBT-101	42	15¾	13½	18	12¼	2	65 lbs.
RBT-102	62¼	15¾	13½	18	12¼	3	110 lbs.
RBT-100-1	21¾	17⅝	12¾	18	14	1	50 lbs.
RBT-101-1	42	17⅝	12¾	18	14	2	80 lbs.
RBT-102-1	62¼	17⅝	12¾	18	14	3	130 lbs.
RBT-100-2	21¾	14	11⅝	15⅞	10½	1	35 lbs.
RBT-101-2	42	14	11⅝	15⅞	10½	2	60 lbs.
RBT-102-2	62¼	14	11⅝	15⅞	10½	3	105 lbs.

INSTRUCTORS TURRETS FOR USE WITH "RB" SERIES — 19" PANELS





The T-103-1, 103-2, 103-3 series of turrets are especially designed for the language lab control unit ensemble. The low slope affords easy vision of the classroom as well as the equipment installed therein. These turrets are the result of considerable study in the field of audio education and are designed with the instructor, as well as maintenance personnel, in mind. Other applications of this turret are feasible where low slope aids vision of dials, meters and switch panel from a standing position. Takes panels:—ARP-123; RP-123; PM-163 or PA-163—lower space. Upper space:—ARP-1217; RP-1217; PM-1617 or PA-1617. Panels not furnished—order separately.

*SPECIFICATIONS

MATERIAL: 18 ga. CRS. **CONSTRUCTION:** 1. Spot weld throughout. 2. Corners brazed for added strength and finished appearance. 3. Removable rear panel for easy access to cabinet components. 4. Five ⅞" knockouts provided in rear of each panel space. These knockouts accommodate ½" conduit or pipe. 5. Two 6⅛" channel irons formed from 18 ga. CRS comprise the bottom of each turret. This construction adds **rigidity.** 6. Front panel, 3½" x 19", is made especially for our SP-1635 switch panel. 7. 17½" panel space in all bays provides ample space for most installations. 8. Panel mounting holes are punched on standard spacing. 9. 10-32 oval head screws, Tinnerman clips and finishing washers are furnished. 10. Panel spacing is recessed 5/16" to flush mount panel. FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

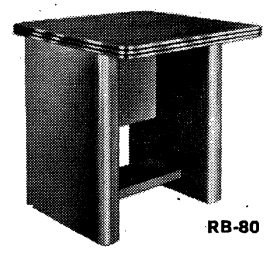
Model No.	W	H1	H2	D	PS	Shipping Weight
T-103-1	22	6⅜	10	20½	17½	40 lbs.
T-103-2	42¾	6⅜	10	20½	17½	65 lbs.
T-103-3	63⅜	6⅜	10	20½	17½	95 lbs.

EQUIPMENT TABLES FOR SMALL OR LARGE DESK EQUIPMENT

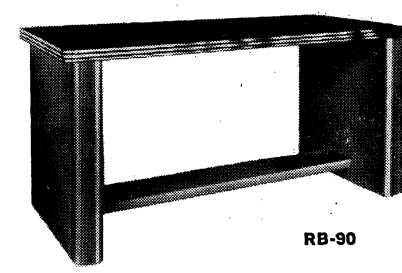
Equipment tables are exclusively in the line. They are very handy when small equipment is being used. Models 80-1 — 80-3 have an overhanging top and plenty of knee room and are used for the smaller equipment. Models 90-1 — 90-3 are for larger table mounting equipment and have larger tops for more working area. Top is attractive linoleum with bright metal trim. Finish is modern silver gray hammertone.

Formica top can be supplied at additional cost.

Model No.	Width-in.	Height-in.	Depth-in.	Ship. Wt. Lbs.
RB-80-1	26	29	26	75
RB-80-2	36	29	26	95
RB-80-3	46½	29	26	120
RB-90-1	53	29	30	120
RB-90-2	60	29	30	130
RB-90-3	70	29	30	150



RB-80



RB-90

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METAL WORKS INCORPORATED
STANDARD & CUSTOM DESIGNS

CONSOLES & TURRETS

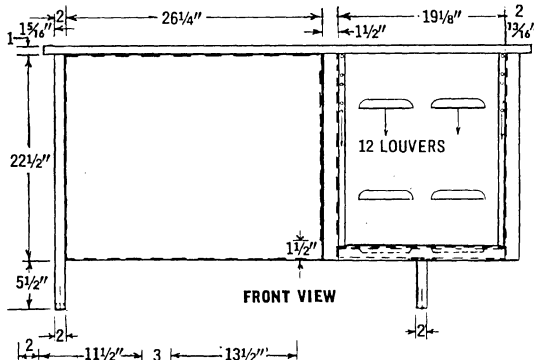
CONSOLES ERB

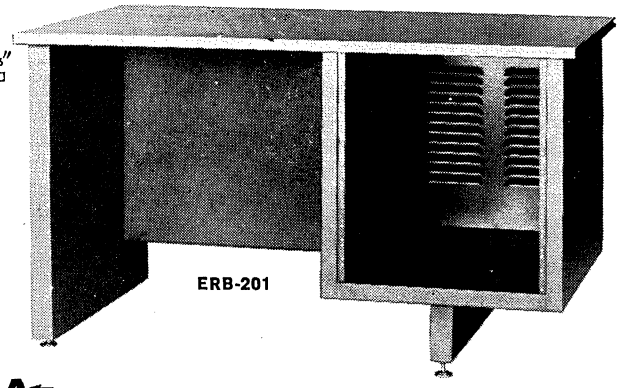
These units offer 21″ of panel space in front and rear of each pedestal. The rear panel is removable and ventilated by two rows of six inch louvers. Both front and rear panel space is punched for Tinnerman speed clips.

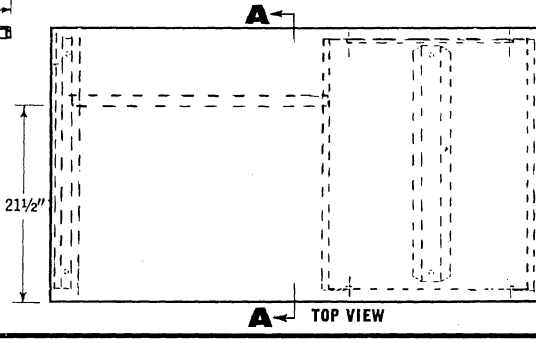
No drawers or front panels are furnished with the consoles. These can be ordered as separate items. See pages 175 and 177. Standard grey linoleum top and stainless steel trim is furnished. Beige linoleum is also available where desired. Standard finish is #4719 Gray Hammerex.

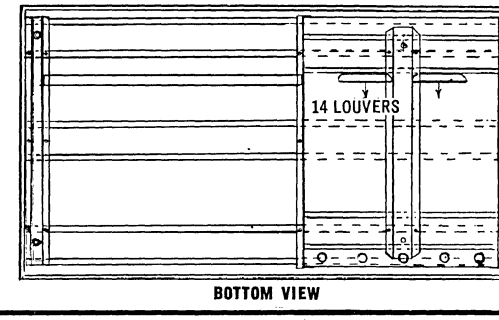
This line of consoles and turrets is offered as another of our Economy line of equipment, for budgets that are limited. Readily adaptable to specialized applications in control equipment test facilities, sound systems, master control units in language labs.

Each can be specialized to customer requirements such as the addition of holes, D & T panel holes, paint finish, formica top, etc. on quote requests.



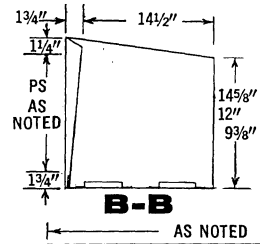


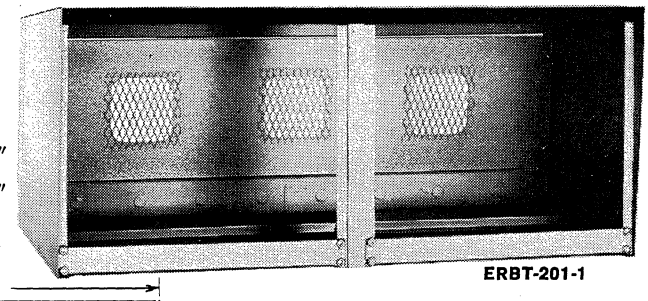


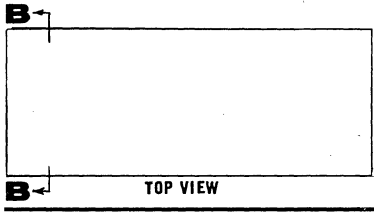


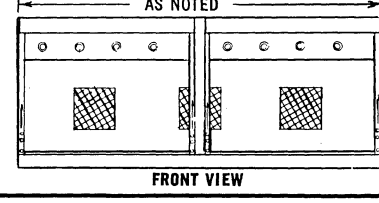
TURRETS ERBT

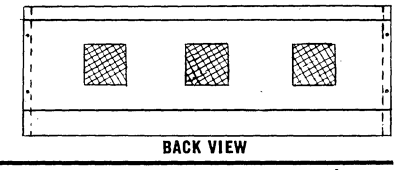
Turrets are offered in three panel heights — 10½″, 12¼″, 14″ — in single, double or triple bay to be used with our ERB consoles. Panel space with shadow effect is punched for Tinnerman speed clips on Western Electric spacing (½″-1¼″). No front panels are furnished. Finished in #4719 Gray Hammerex.











MATERIAL: 20 gauge CRS

CONSTRUCTION:

1. Consoles and turrets shall be welded throughout.
2. Consoles shall have four ⅜ x 16 swivel leg levelers. Turrets shall have ⅛″ thick cork bumpers.
3. Console pedestal shall have 21″ of panel space front and rear, recessed 5/16″ and punched for 10-32 Tinnerman clips on W.E. spacing.
4. Turret panel space punched for 10-32 Tinnerman speed clips shall be recessed 1¾″ at the top to flush mounting at bottom to facilitate a shadow effect. Shall be furnished in either of three vertical heights of 10½″, 12¼″ or 14″ and in single, double or triple bay.
5. Consoles shall have ⅞″ K.O. for ½″ conduit provided in bottom of each pedestal and turrets in rear of each bay immediately below removable rear panel.
6. Console tops shall be covered with #426 Gray desk top linoleum. Beige linoleum may be substituted.
7. Consoles and turrets shall be iron phosphate dipped and finished in #4719 Gray Hammerex bake-on enamel. Other colors available.

CONSOLES

Model No.	Height Less Levelers	Depth	Width	Modesty Panel Width	Inside Pedestal Depth	Ship. Wt.
ERB-200	29″	30″	26″	—	27¼″	100
ERB-201	29″	30″	53″	26¼″	27¼″	150
ERB-202	29″	30″	70″	26⅛″	27¼″	200

TURRETS

Model No.	W	H Front	D	PS	No. Bays	Ship. Wt.
ERBT-200	19½″	15¾″	16¼″	12¼″	1	25
ERBT-201	39¾″	15¾″	16¼″	12¼″	2	41
ERBT-202	59½″	15¾″	16¼″	12¼″	3	69
ERBT-200-1	19½″	17½″	16¼″	14″	1	31
ERBT-201-1	39¾″	17½″	16¼″	14″	2	50
ERBT-202-1	59½″	17½″	16¼″	14″	3	82
ERBT-200-2	19½″	14″	16¼″	10½″	1	22
ERBT-201-2	39¾″	14″	16¼″	10½″	2	38
ERBT-202-2	59½″	14″	16¼″	10½″	3	66

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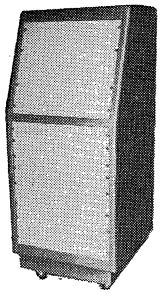
METAL WORKS INCORPORATED
STANDARD & CUSTOM DESIGNS

CABINET CONSOLES

CR-1001 — SLOPE FRONT CONSOLE/RACK



Fixed Table Writing or Instrument Surface Available. Mounted to cabinet on support channels. Or a Sliding Writing Work Surface shelf is available.

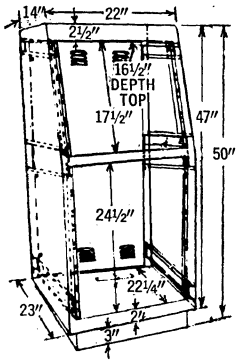
17″ television screen for testing equipment.

Lower panel area has sufficient space for control equipment.

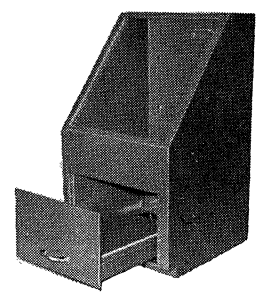
Furnished without panels.

SPECIFICATIONS

MATERIAL: 16 ga. CRS except panel mounting angles and these are made of 11 ga. CRS. CONSTRUCTION: 1. Spot welded and brazed throughout. 2. Upper and lower panel mounting angles drilled and tapped to 10-32 thread and recessed 5/16″. 3. Ball corner brazed for added strength and finish appearance. 4. Rear panel removable, attached with Tinnerman clips and screws. 5. 1¾″ x 6″ rectangle slot punched out of bottom and 1½″ dia. hole in rear bottom for wiring inlet. 6. All reinforced channel iron on sides (3 ea. side) formed from 18 ga. CRS. 7. Channel support panel mounting angles and are fastened with ¼ x 20 binding head screws. 8. Upper panel space is on a 20° slope. 9. Two sets of four louvers each provided in top and bottom of rear panel. 10. Sides, front and back, and top, are formed with ⅝″ radius. 11. Sides and top have a ¼″ flange turned in for added strength and smooth corners. 12. Four gussets — one on each corner, drilled for mounting 2½″ rubber casters. 13. Casters are guaranteed to hold up 100 lbs. of weight each; total load capacity per console is 400 lbs. Heavy duty casters available at extra cost. 14. Cabinet weight — 105 lbs. 15. Shipping weight — 140 lbs. Shipped assembled. FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.



CR-1005 — LOW SLOPE FRONT CONSOLE/RACK



This console rack fits in well where height might be a problem yet offers a sufficient amount of panel space for most applications.

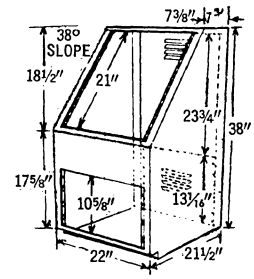
The base area contains a space for mounting a record player or an automatic turntable drawer. The control panel area has a 38° slope.

Rear of console rack has a removable louvered panel for easy servicing of the unit.

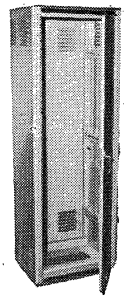
Furnished without drawer.

SPECIFICATIONS

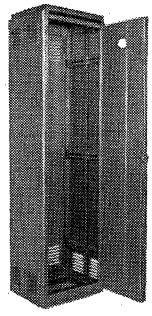
MATERIAL: 16 ga. CRS. CONSTRUCTION. 1. Spot welded and brazed throughout. 2. Upper and lower panel mounting holes are punched to standard 1¼″ x ½″ spacing and recessed 5/16″. 3. 10-32 Tinnerman clips, 10-32 oval head screws and finishing washers furnished. 4. Rear panel removable; attached with sheet metal screws. 5. Upper panel space has a 38° slope. 6. All corners are square — not rounded. 7. Cabinet strength is accomplished via formed parts eliminating channels for supporting members. 8. Louvers in fixed lower rear panel are reversed and faced up to help dissipate heat. 9. Shipping weight — 110 lbs. FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.



TRANSMITTER RACKS



STR Standard



DTR Deluxe

Transmitter racks are made to accommodate 19″, 24″ and 30″ rack panels. All models are furnished with front and rear doors.

Rear door opening provides easy access for equipment maintenance and installation. Front door furnishes full covering for dials, knobs, etc., mounted on panels. Front door is provided with a locking handle and rear door with a flush mounted lock and handle. This gives added protection where it is necessary to lock all components.

Slotted channels (3 per side) permit panel mounting angles to be recessed to full cabinet depth by simply tightening screws that hold each angle in place. Stainless steel panel mounting trim available. Order separately.

STANDARD

Size	Model No.	Width-in.	Height-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
For 19″ Panels	STR-3675	23	42	18½	36¾	130
	STR-4200	23	47¼	18½	42	140
	STR-6125	23	66½	18½	61¼	150
	STR-7000	23	75¼	18½	70	155
	STR-7700	23	82¼	18½	77	160
For 24″ Panels	STR-7024	27⅞	75¼	24	70	230
	STR-7724	27⅞	82¼	24	77	245
For 30″ Panels	STR-7030	33⅞	75¼	24	70	250
	STR-7730	33⅞	82¼	24	77	265

DELUXE

Size	Model No.	Width-in.	Height-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
For 19″ Panels	DTR-3675	23	43⅞	18½	36¾	135
	DTR-4200	23	49⅛	18½	42	145
	DTR-6125	23	68⅜	18½	61¼	155
	DTR-7000	23	77⅛	18½	70	160
	DTR-7700	23	84⅛	18½	77	160
For 24″ Panels	DTR-7024	27⅞	77⅛	24	70	235
	DTR-7724	27⅞	84⅛	24	77	250
For 30″ Panels	DTR-7030	33⅞	77⅛	24	70	255
	DTR-7730	33⅞	84⅛	24	77	270

SPECIFICATIONS

MATERIAL: 16 ga. CRS. Panel mounting angles 16 ga. CRS. Punch for Tinnerman Clips.

CONSTRUCTION:

1. Louvers are provided in sides and rear door — four sets of six louvers each.
2. Assembled with ¼-20 bolts and nuts.
3. Rear doors swing on rigid slip joint hinges. Front doors mounted on continuous hinges.
4. All models furnished with stainless steel feature strip (colored) trim.
5. Shipped knocked down unless otherwise requested.

FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

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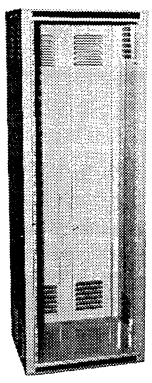
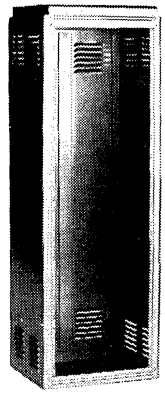
STANDARD & CUSTOM DESIGNS

CABINET RELAY RACKS FOR STANDARD 19" RACK PANELS



SCR standard



DCR deluxe

Cabinet Relay Racks are rigidly constructed of 16 ga. steel. These racks are completely bolted together.

Panel mounting space is recessed 5/16" to give a more modernistic and pleasing appearance. The rear doors swing on rigid slip joint hinges which permit it to be easily removed. The standard type rack has square front vertical corners. The rounded type rack has rounded front vertical corners. The deluxe type rack has a dome top with rounded front vertical corners.

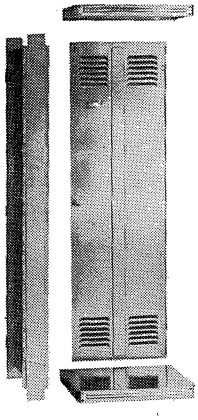
Front door with 1¼" depth furnished on request.

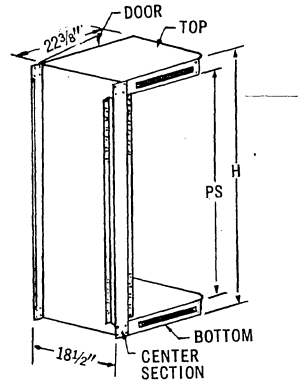
Corner trim or stainless steel mounting trim available. Order either separately.

	Model No.	Height-in.	Width-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
Standard	SCR-3675	41⅛	22⅜	18½	36¾	100
	SCR-4200	46⅜	22⅜	18½	42	110
	SCR-6125	65⅝	22⅜	18½	61¼	130
	SCR-7000	74⅜	22⅜	18½	70	140
	SCR-7700	81⅜	22⅜	18½	77	150
Round Corner	RCR-3675	41⅛	22⅜	18½	36¾	100
	RCR-4200	46⅜	22⅜	18½	42	110
	RCR-6125	65⅝	22⅜	18½	61¼	130
	RCR-7000	74⅜	22⅜	18½	70	140
	RCR-7700	81⅜	22⅜	18½	77	150
DeLuxe	DCR-3675	43	22⅜	18½	36¾	105
	DCR-4200	48¼	22⅜	18½	42	115
	DCR-6125	67½	22⅜	18½	61¼	135
	DCR-7000	76¼	22⅜	18½	70	145
	DCR-7700	83¼	22⅜	18½	77	155

MATERIAL: 16 ga. CRS.
CONSTRUCTION:
1. Panel mounting angles are punched to standard 1¼" x ½" spacings and are formed as part of the cabinet side.
2. Panel mounting offset is 5/16" deep (See Inset).
3. 10-32 Tinnerman clips, oval head screws and finishing washers furnished for panel space.
4. Louvers are provided in sides and rear door—Four sets of six louvers each.
5. Assembled with ¼-20 pan head bolts and nuts.
6. Rear doors swing on rigid slip joint hinges permitting easy removal.
7. All models furnished with stainless steel feature strip (colored) trim, top and bottom.
8. All models shipped knocked down unless assembled is requested.

FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.





MSCR MRCR MDCR

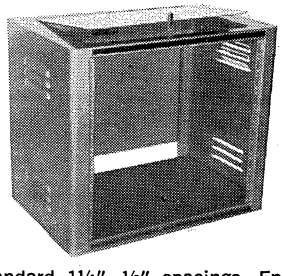
For use where our standard SCR-RCR-DCR cabinets are to be installed in series. Panel spacing for matching units in an installation must be the same.

Where series installation is required, an SCR or RCR or DCR must be used as the basic unit. The multi-rack unit consists of a TOP-BOTTOM-CENTER SECTION and REAR DOOR.

Priced to save you money. Stainless steel panel trim is also available; order separately. Front doors of 1¼" depth furnished at extra cost. Order separately.

MATERIAL: 16 ga. CRS
CONSTRUCTION:
1. Panel mounting holes are punched and formed as part of the center section and recessed 5/16".
2. 10-32 Tinnerman clips, oval head screws and finishing washers furnished for panel space.
3. Assembled w/¼20 pan head screws and nuts.
4. Rear door swings on slip joint hinges permitting easy removal.
5. Top and bottom furnished with a SS trim strip.
6. Furnished knocked down only.
7. FINISH: **GRAY HAMMER** — Other colors available on request.

DELUXE DESK CABINET RACKS FOR STANDARD 19" RACK PANELS — 15" DEEP



Hinged Door Back Type

DC SERIES. These cabinets are completely welded together to save on assembly time and costs. Panel mounting angles are punched to standard 1¼" - ½" spacings. Enough 10-32 speed clips and machine screws are furnished to mount several rack panels. To give a more pleasing appearance, the mounting angles are constructed to permit recessing of rack panels. All models have a recessed door on top for easy access to equipment. The six largest sizes have a door in back which permits access from the back. All models have a bright chrome strip on top and bottom of front. Phono drawer PD-1050-14 can be mounted in these cabinets except DC-875.

ARCHITECTS AND ENGINEERS SPECIFICATIONS — MATERIAL: 16 ga. CRS. CONSTRUCTION: 1. Completely welded together for rigidity. 2. Rounded front corners. 3. Panels fastened with Tinnerman clips. 4. 10-24 screws, Tinnerman clips and finish washers furnished. 5. 5/16" recessed panel mounting flanges. FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

Model No.	Width-in.	Height-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
DC- 875*	22¾	10⅞	15	8¾	26
DC-1050*	22¾	12⅝	15	10½	28
DC-1225*	22¾	14⅜	15	12¼	30
DC-1400*	22¾	16⅛	15	14	35
DC-1750	22¾	19⅝	15	17½	38
DC-2100	22¾	23⅛	15	21	42
DC-2450	22¾	26⅝	15	24½	46
DC-2625	22¾	28⅜	15	26¼	48
DC-3150	22¾	33⅝	15	31½	52
DC-3500	22¾	37⅛	15	35	56

(*) Solid back type.

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STANDARD & CUSTOM DESIGNS

AMPLIFIER CABINETS RACKS AND CONSOLES

For Recessed Application—TB Series
The recessed type amplifier enclosure has a grille cover. The door is equipped with a lock and piano hinge. The grille has an opening in the top part to permit hot air to escape. The back enclosure is designed to reflect the hot air toward the front of the cabinet so that it may escape. Adequate knockouts are placed in back for all wiring purposes. All TB's are furnished complete with TBG-1000 grille.

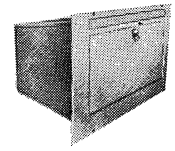
Surface Mounted—STB Series
Same size and panel space as TB listed above. Made for those applications where surface mounting is required. STB Panel Mtg. Angles furnished on request.

Heavy Duty—HTB Series
This cabinet offers adequate panel mounting space for most applications where the above listed TB's are too small. The rack portion of the cabinet is completely removable and mounted on 4 nylon ball bearing slides. The rack will support a maximum of 200 lbs. of weight. Maintenance convenience is offered in that the rack can be pulled forward to afford easy access to all components. Sturdy construction features of this cabinet are incorporated to give you quality in an economical unit. Doors are furnished with locking handles.

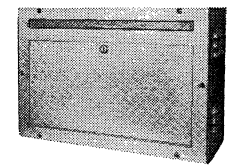
TB and STB
MATERIAL: 16 ga. CRS body
11 ga. CRS grille
CONSTRUCTION:
1. All spot weld and braze construction.
2. Panel mounting angles are supported in slotted bracket, adjustable 9½" front to rear, affording ample clearance for dials, tuning knobs, switches, etc., on TB only.
3. 10½" of maximum panel space.
4. Panel mounting angles are punched for use with Tinnerman clips.
FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

HTB
MATERIAL: 16 ga. CRS cabinet
⅛" thick angle iron with 11 ga. bracing on rack.
CONSTRUCTION:
1. Spot weld and electric arc construction on cabinet. Electric arc weld on removable rack.
2. Panel mounting angles drilled and tapped for 10-32 thread.
3. Nylon ball bearing slides used on rack.
4. Complete panel mounting rack is removable.
5. Front door made to provide adequate clearance space for dials, knobs, etc.
FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

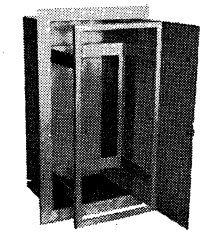
TB Series



STB Series



HTB Series



Model No.	Model	Height	Width	Depth	Ship. Wt.
TBG-1000	Grille	16"	23"		13 lbs.
TB -1200	Encl.	13"	20"	12"	35 lbs.
TB -1500	Encl.	13"	20"	15"	38 lbs.
TB -1800	Encl.	13"	20"	18"	41 lbs.

Model No.	Inside			Outside		
	H	W	D	H	W	D
STB-1200	14"	21"	11 15/16"	16"	23"	12"
STB-1500	14"	21"	14 15/16"	16"	23"	15"
STB-1800	14"	21"	17 15/16"	16"	23"	18"

Model No.	Height	Cabinet Only Width	Depth	Height	Removable Rack Width	Removable Rack Depth	P.S.	Ship. Wt.
HTB-1575	19"	21 9/16"	18"	18 3/8"	20 5/16"	16"	15 3/4"	85
HTB-2800	31 1/4"	21 9/16"	18"	30 5/8"	20 5/16"	16"	28"	125
HTB-4200	45 1/4"	21 9/16"	18"	44 5/8"	20 5/16"	16"	42"	175
HTB-6125	64 1/2"	21 9/16"	18"	63 7/8"	20 5/16"	16"	61 1/4"	225

Door frame is 27 1/4" wide or 2 27/32" wider each side than cabinet width. Add 6" to cabinet height for overall height of door frame.

RVTB Series

This series of cabinets is a compliment to Metal Works' TB—STB & HTB series. For serviceability of equipment The RVTB offers a swing out panel rack. The panel rack can also be recessed if necessary for knob, handle, etc., clearance.

A fully recessed cabinet which accepts standard 19" rack panels drilled and tapped 10-32 on WE spacing. The panel rack can be reversed to swing out from either side. A 4 3/4" wide full length ventilating partition is provided in the panel rack for maximum heat dissipation. Double cabinet doors are reinforced, double louvered (inside and outside). Doors lay flat against 2¼" door trim and are installed with full length piano hinges. Doors recess into trim or frame with no protruding handles or knobs and are locked in closed position with a two point (rods) flush lock.

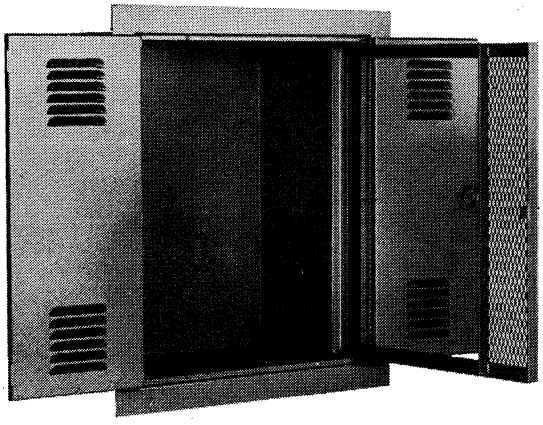
Entire cabinet is made of steel and is finished in #4719 Gray Hammer-X. Other colors available on request.

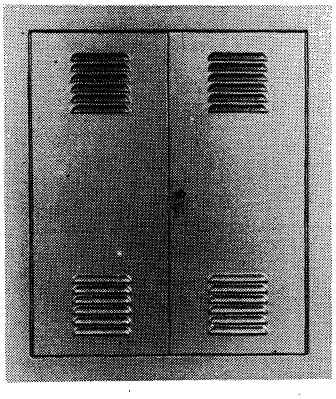
MATERIAL: Back Can—16 ga. CRS
Panel Rack—1¼"x1¼" Structured steel angles
Ventilated Opening—16-18 ga. Flat expanded CRS
Door Frame—11 ga. HRPO

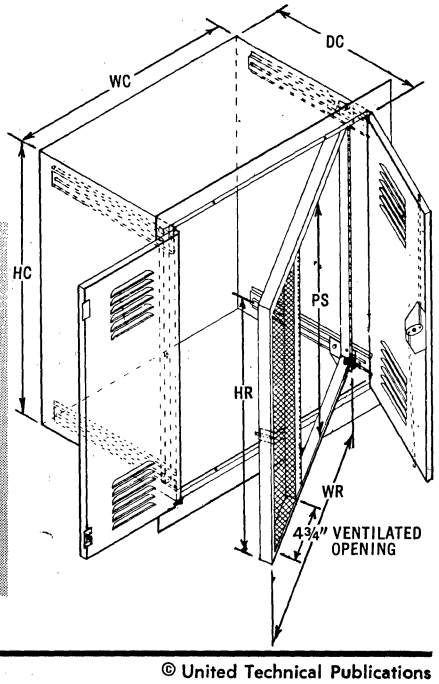
CONSTRUCTION:
1. Entire cabinet made of steel as specified above.
2. Constructed for full recess wall mounting installation.
3. Rack panel frame drilled and tapped 10-24 on WE spacing, and made of structured steel angle.
4. Rack panel frame provided so that it can swing from either right or left side.
5. Five ⅞" KO provided in top and bottom for ½" conduit.
6. Cabinet provided with reinforced double steel two point flush lock doors. Rack panel frame provided with camloc stud on side opposite hinged side so it can be locked in place.

FINISH: Iron phosphate dipped and finished in Silver Gray **Hammer-X** paint #4719.

Model No.	Cabinet H/C	Cabinet W/C	Cabinet D/C	Rack H/R	Rack W/R	Rack PS	Vent Size	Ship Wt.
RVTB 2100	25 5/8	28	18½	23 3/16	26 5/16	21	4¾"x21"	121
RVTB 2625	30 7/8	28	18½	28 13/16	26 5/16	26¼	4¾"x26¼"	148
RVTB 3675	41 3/8	28	18½	39 5/16	26 5/16	36¾	4¾"x36¾"	198
RVTB 5250	57 1/8	28	18½	55 1/16	26 5/16	52½	4¾"x52½"	275







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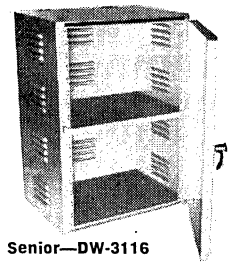
METAL WORKS INCORPORATED
STANDARD & CUSTOM DESIGNS

DELUXE WALL MOUNTING AMPLIFIER CABINET SENIOR MODEL . . . JUNIOR MODEL



Senior—DW-3116

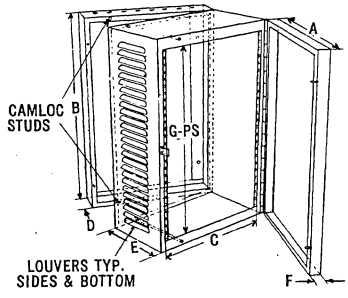
Here is a sturdy cabinet designed for housing the new style amplifiers. Completely welded construction with facilities for wall mounting. DW3116 comes complete with cabinet shelf and door with locking handle. Tamper proof inside hinges. Deep enough for the new larger amplifiers and wide enough for amplifiers using plugs on the side. Plenty of ventilation from louvers on sides and back. No shelf in DW-1616

MATERIAL: 16 ga. CRS
CONSTRUCTION:
1. Completely welded together for rigidity.
2. Panels fastened with Tinnerman clips.
3. 10-24 screws, Tinnerman clips and finish washers furnished.

Model No.	Height	Depth	Width	PS	Ship. Wt.
Senior DW-3116	31″	16″	21″	28″	75 lbs.
Junior DW-1616	16⅛″	16″	21″	14″	50 lbs.

FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

SECTIONAL WALL MOUNTING CABINET 193 SERIES

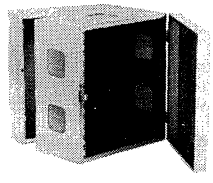


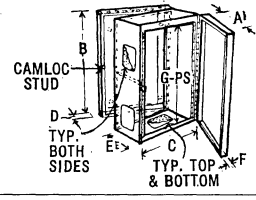
This series of cabinets is designed for maximum installation convenience. Swing out feature of cabinets permit less handling of components on the job or in the shop. Dowel pins and heavy hinge assure you of durability and a greater amount of weight acceptance of components. Camloc studs interlock two sections with a flush lock mounted on front door in sizes A & B and a locking handle in sizes C & D to complete a totally enclosed locking unit. The cabinets are available in four vertical panel sizes. If a phono drawer is required, order PD-1050-14. If a shelf is needed order CS-1207. Additional bracing is provided for rack mounting weight in excess of 250 lbs. Indicate this by prefix WT i.e. (WT 193) and letter size of cabinet. See specifications below.

ARCHITECTS AND ENGINEERS SPECIFICATIONS
MATERIAL: 16 ga. CRS, 11 ga. reinforced angle for wall mounting. CONSTRUCTION: 1. Each section shall be spot welded and brazed at corners for sturdiness. 2. Panel mounting holes shall be tapped for 10-32 threads. 3. Bottom and sides of middle section shall be louvered for maximum heat dissipation. 4. Dowel pins shall be provided to prevent sagging. 5. Each section shall be hinged with a heavy continuous steel hinge. 6. Extra bracing shall be provided when weight of components exceeds 250 lbs. 7. All louvers shall be 6″ in length. FINISH: Iron phosphate dipped and finished with Silver Gray Hammertone Bake On Enamel. Other colors available.

Model No.	Dimensions								Ship. Weight
	A	B	C	D	E	F	G-ps	D-E-F	
193A	20⅝	18 13/16	19⅛	4½	11	1¾	15¾	17¼	50#
193B	20⅝	31	19⅛	4½	11	1¾	28	17¼	75#
193C	20⅝	45	19⅛	4½	11	1¾	42	17¼	125#
193D	20⅝	64 5/16	19⅛	4½	11	1¾	61¼	17¼	175#

SECTIONAL WALL MOUNTING CABINET EC SERIES





This is the **ECONOMY** version of our 193 series Cabinets made for loads not exceeding 50-75 lbs. (depending on location in panel mtg.) where weight of components can be limited.
Sections are hinged on the right side via slip joint hinges. Panel mounting holes are punched on W.E. spacing for Tinnermann clips. The panel holes are recessed only the thickness of 16 ga. CRS or about .059″, which is the thickness of material on the cabinet's back can.
Front door is 2″ deep for knob clearance and is locked with a FLUSH keyed lock. Center section is locked to back can via a camloc. Entire unit is locked with one FLUSH lock. If a phono drawer is required, order our PD 1050-14.
Ventilation is provided by 4½″ K.O. and cover w/perforated metal. K.O. for wiring is provided in back can at top and bottom.

Material: 16 ga. CRS
Construction:
1. All sections spot weld assembled.
2. Panel mounting holes punched for Tinnermann clips.
3. Center section 4½″ K.O. covered on inside by perforated metal for maximum heat dissipation.
4. Entire cabinet locks with one FLUSH lock.
5. Center section locks via a camloc stud to back section.
6. All hinges are a slip joint type.
7. Center section reinforced with corner gussets.
8. Standard finish #4719 **Gray Hammer-X.**

FINISH: Iron phosphate dipped and finished with #4719 Silver **Gray Hammer-X.** Other colors available.

Model No.	Dimensions								Ship. Weight
	A	B	C	D	E	F	G-ps	D-E-F	
EC-1750	20⅝	19⅛	19 1/16	4½	11	2	17½	17½	43
EC-2100	20⅝	22⅝	19 1/16	4½	11	2	21	17½	52
EC-2625	20⅝	27⅞	19 1/16	4½	11	2	26¼	17½	65

PANEL MOUNTING PHONO & STORAGE DRAWERS FOR 19″ RACKS

325 SLIDE
With Ball Bearing Drawer Slides

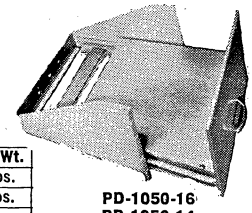
All drawers illustrated are made of 16 ga. steel. Phono drawer chassis has a ¾″ flange to accommodate a plywood or masonite base for a record changer. Base is included with drawer.

Model No.	PS	Chassis Size	Ship. Wt.
PD-1050-14-E	10½″	15 13/16″W x 14″D x 3¼″H	16 lbs.
PD-1050-16-E	10½″	15 13/16″W x 16″D x 3¼″H	18 lbs.
PD-1050-14	10½″	16⅜″ W x 14″D x 3¼″H	16 lbs.
PD-1050-16	10½″	16⅜″ W x 16″D x 3¼″H	18 lbs.

Storage Drawers

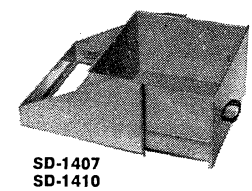
Model No.	PS	Storage Area	Ship. Wt.
SD-1407	7″	16⅜″ W x 14″L x 6¼″D	16 lbs.
SD-1410	10½″	16⅜″ W x 14″L x 9¾″D	18 lbs.
SD-1607	7″	16⅜″ W x 14″L x 6¼″D	20 lbs.
SD-1610	10½″	16⅜″ W x 14″L x 9¾″D	22 lbs.
DSD-1207	7″	15 13/16″W x 16″L x 6¼″D	20 lbs.
DSD-1210	10½″	15 13/16″W x 16″L x 9¾″D	22 lbs.

Finished in Silver Gray Hammertone with an attractive chrome drawer pull.



PD-1050-16
PD-1050-14

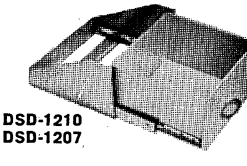
PD-1050-16 or 14 Phono Drawer. The phono drawer is obtainable in two sizes, 14¾″ o/a depth and 16¾″ o/a depth. The 14¾″ o/a depth will fit all cabinets while the 16¾″ o/a depth can be used in all cabinets except DC & 193 cabinets. Mounted on slides with nylon rim ball bearing rollers, this drawer pushes in and out with ease. Extends a full 12″ from front of cabinet. If full extension slide is desired add suffix "E" to these part numbers. Weight load—75 lbs.



SD-1407
SD-1410

SD-1407 or SD-1410 — 14¾″ o/a depth in 7″ or 10½″ height
SD-1607 or SD-1610 — 16¾″ o/a depth in 7″ or 10½″ height
Standard Storage Drawers come in 4 sizes to accommodate extra tape reels, tools, and what have you. Same slides as illustrated in our PD-1050 shown above. Use SD-1410 or 1407 in any cabinets. Use SD-1610 or 1607 in all cabinets except DC & 193 cabinets.

335 SLIDE



DSD-1210
DSD-1207

DSD-1210 or 1207 Deluxe Storage Drawer. The ultimate in storage drawer capacity and convenience. These drawers feature a full extension slide permitting the drawer to be pulled out 15″ from cabinet. Smooth operation is provided by ball bearing rollers. Instant drawer removal and positive stopping, positive closing are additional features offered. Weight load—150 lbs.

SERIES 4051 A&B — Phono cabinet swing down for recess wall mounting.
SERIES 4048 A&B — Phono cabinet swing down for rack mounting.

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MWI

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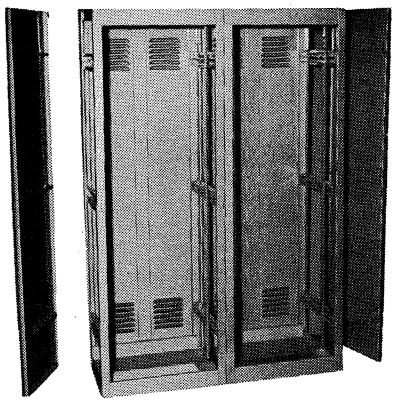
STANDARD & CUSTOM DESIGNS

DUPLI-RACK MODEL DR

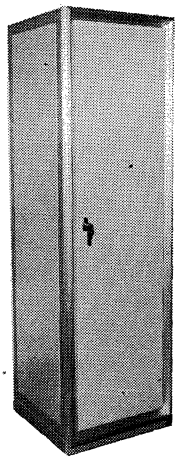


Dupli-rack features a maximum of cabinet space in a minimum of floor space at a savings in cost. To increase the size of an installation, simply remove the detachable side panels, bolt the units together through holes provided, forming a sturdy unit, and slip the detachable side panels on each side. This becomes an attractive installation where the addition of units will always remain the same in color tone and freshness of appearance. Each unit is of weld construction, forming a sturdy and rigid piece of equipment. Basic unit consists of frame and rear door.

SPECIFICATIONS MATERIAL: 16 ga. CRS. Panel mounting angles 11 ga. CRS. CONSTRUCTION: (1) Braze and spotweld assembly. (2) Detachable side panels are formed and supported and fastened by brackets. (3) Louvers provided in rear door. (4) Panel mounting angles drilled and tapped to 10-32 thread on standard 1¼" x ½" spacing. (5) Locking handle furnished on front door with flush mounted lock and separate handle on rear door.

Rack with Rear Door				Detachable Side Panels		Front Door	
Model No.	Overall Ht.	Panel Space	Ship. Wt. Lbs.	Model No.	Ship Wt. Lbs. (Per Pair)	Model No.	Ship. Wt. Lbs.
DR-3675	42⅞"	36¾"	100	DSP-36	20	FDR-36	10
DR-4200	48⅛"	42"	104	DSP-42	24	FDR-42	12
DR-6125	67⅜"	61¼"	120	DSP-61	32	FDR-61	18
DR-7000	76⅛"	70"	129	DSP-70	36	FDR-70	20
DR-7700	83⅛"	77"	133	DSP-77	40	FDR-77	22

HEAVY DUTY RACK MODEL DR-HD



Complimenting units to our Dupli Rack (DR) Series where component weight requires extra structural rigidity. No bolts or screws are visible from the outside.

The basic unit is of heli-arc weld construction and made from heavy 11 gauge (.119) steel to support weight of 1000# or more. Each unit can be bolted to an adjoining unit by removing the detchable side panels, bolting through holes provided, and then replacing the side panels on each end unit.

Supplied as part of the basic unit are a pair of 11 gauge drilled and tapped (10-32) panel angles (HD) plus two pair of support angles (SA-HD) drilled and tapped on same Western Elec.* spacing as panel angles and a 16 gauge CRS reinforced louvered rear door. Support angles are mounted to rear of panel angles to support heavy equipment and/or shelves (CS-HD 1922) made specifically for these cabinets. Shelves are accessory equipment. Detachable side panels (DSP-HD) fit between front and rear corner posts and are mounted with machine screws.

Front doors are box type reinforced with an internal channel and without louvers. Doors swing open on hidden hinges within an attractive anodized aluminum extrusion around entire cabinet front to give a distinct shadow effect.

Finish is MWI Standard Baked On Enamel Colors. Other colors available on special order.

MATERIAL:
11 gauge steel top — bottom — corner posts — panel angles — rear support angles — panel support channels — and caster base.
16 gauge steel sides — doors.
Trim — .090 thick clear anodized aluminum extrusion.

Model No.	Width	Height	Depth	Panel Space	Ship. Wt.	For Cabinet Number
DUPLI RACK — HEAVY DUTY						
DR-HD 3675	23⅝"	*44⅜"	24"	36¾"	210#	
DR-HD 4200	23⅝"	*49⅝"	24"	42"	225#	
DR-HD 6125	23⅝"	*68⅞"	24"	61¼"	275#	
DR-HD 7000	23⅝"	*77⅝"	24"	70"	300#	
DR-HD 7700	23⅝"	*84⅝"	24"	77"	320#	
FDR-HD FRONT DOORS						
FDR-HD 36	19½"	37"	1¼"	—	17½#	DR-HD 3675
FDR-HD 42	19½"	42¼"	1¼"	—	20¾#	DR-HD 4200
FDR-HD 61	19½"	61½"	1¼"	—	28½#	DR-HD 6125
FDR-HD 70	19½"	70¼"	1¼"	—	32¾#	DR-HD 7000
FDR-HD 77	19½"	77¼"	1¼"	—	35¾#	DR-HD 7700
DSP-HD DETACHABLE SIDE PANEL						
DSP-HD 36	19⅜"	36⅞"	11/16"	—	36# pr.	DR-HD 3675
DSP-HD 42	19⅜"	42⅛"	11/16"	—	40# pr.	DR-HD 4200
DSP-HD 61	19⅜"	61⅜"	11/16"	—	56# pr.	DR-HD 6125
DSP-HD 70	19⅜"	70⅛"	11/16"	—	62¾# pr.	DR-HD 7000
DSP-HD 77	19⅜"	77⅛"	11/16"	—	68¼# pr.	DR-HD 7700

* Without casters. With casters add 3 13/16".
NOTE: Width and depth may be specified other than noted above for customer's needs.

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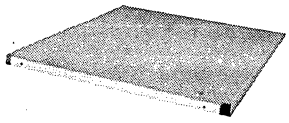
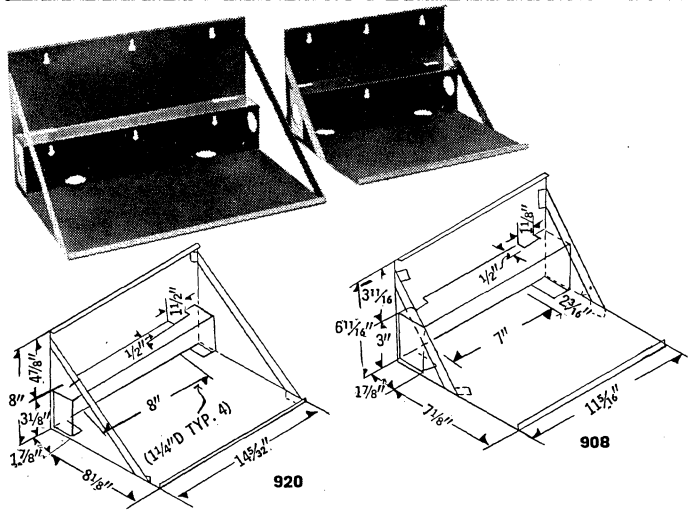
CABINET RACK SHELF FOR CABINET RACKS, DESK RACKS AND CONSOLES



Constructed of one piece of No. 16 gauge sheet steel. Formed 1" high. Shelf has holes in side and front and back for mounting to cabinet or rack.

Model No.	For:	Width-in.	Depth.-in.	Ship. Wt. Lbs.
CS-1201	RB Models	22⅝	26 15/16	14
CS-1202	DC Models	22⅝	11 19/32	9
CS-1203	SCR Models	22⅛	14 7/16	10
CS-1204	RCR and DCR Models	22⅛	14 7/16	10
CS-1205	HTB Models	20 1/16	14 7/16	10
CS-1206	DR Models	18⅞	14 7/16	10
CS-1207	193 Models	20⅝	10⅝	7
CS-1208	STR Models	19	14 7/16	9

AMPLIFIER SHELF MODEL #920 - 908 - 1220



These wall shelves are ideal for mounting amplifiers, radios, or television receivers in off-the-floor locations in stores, offices, and factories.

The shelf units are shipped two to a carton, and are ready to mount on the wall when removed from their cartons. Sizes can be modified if necessary, at small additional cost.

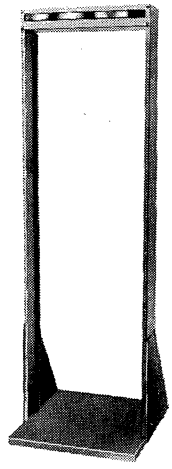
Also available — Model 1220, 12" D x 12" H x 20" W and reversible.

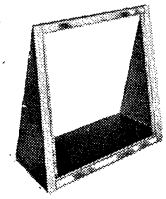
MATERIAL: 16 ga. CRS

CONSTRUCTION:

1. Formed to give maximum strength and rigidity.
2. Has two braces spot welded in such a manner and position to give added strength for greater load carrying capacity.
3. Keyhole slots provided to facilitate mounting on wall.
4. A bracket provided, mounted to rear of horizontal leg of shelf to provide clearance for plugs, jacks, etc.
5. FINISH: Iron Phosphate, dipped and finished in #920 Dark Grey Metallic Baked On Enamel.

RELAY RACKS CHANNEL AND TABLE TYPE





TR DESK TYPE

These Table Racks are constructed of heavy No. 16 gauge steel and are completely welded together for strength. Mounting holes are drilled to standard 1¼"—½" spacings. All panel mounting hardware is supplied. Each rack is finished in silver gray hammertone and is trimmed with bright chrome molding.

RR CHANNEL TYPE

Channel Relay Racks are constructed of No. 11 ga. steel. The vertical channels are drilled and tapped on 1¼"—½" spacing and for No. 10-32 machine screws. Racks are shipped knocked down or assembled. Hardware included. Each rack is finished in silver gray hammertone unless otherwise specified.

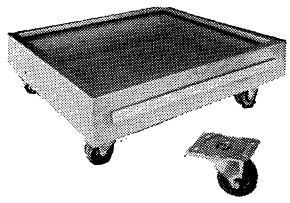
All welded construction. E.I.A. panel hole spacing.

Series: 4057 — 19" Panel Width
Series: 4059 — 23" Panel Width

Model No.	Width-in.	Height-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
TR-121	22	24	12	21	17
TR-128	22	31	12	28	20

Model No.	Width-in.	Height-in.	Depth-in.	Panel Space-in.	Ship. Wt. Lbs.
RR-156	19 1/16	61 3/16	20	56	70
RR-163	19 1/16	68 3/16	20	63	80
RR-170	19 1/16	75 3/16	20	70	90
RR-177	19 1/16	82 3/16	20	77	100
RR-184	19 1/16	89 3/16	20	84	110

ROLLER TRUCKS FOR CABINET AND TRANSMITTER RACKS



Made entirely from No. 16 gauge steel with reinforced corners for the 2½" dia. rollers. Trucks are completely assembled. They are finished in gray hammertone.

Casters — 2½" dia. ball bearing type. 400 lb. cap. Shipping wt. 2¼ lbs.

Model No.	For:	Inside Dimensions Width-in.	Inside Dimensions Depth-in.	Shipping Wt. Lbs.
RT-500	"DC" Models	23	15¼	19
RT-501	"RR" Models	20½	19½	20
RT-502	"SCR", "RCR", "DCR" (19" Panels)	23	19	21
RT-503	"STR", "DTR"	23½	19	24
RT-504	"DTR" and "STR" (24" Panels)	29	25	28
RT-505	"DTR" and "STR" (30" Panels)	35	25	30
RT-506	"DR" Models	24¼	19	25

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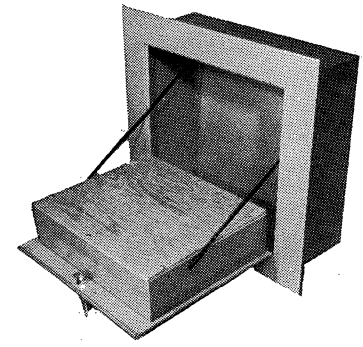
METAL WORKS INCORPORATED
STANDARD & CUSTOM DESIGNS

RECESSED WALL RECORD PLAYER CABINET

PDW-400 and PDW-800



These cabinets provided in two depths offer another way of wall mounting record players. Door frames are mounted to backcan by hidden weld studs. Therefore, no screws are visible.

Chassis to mount record player is furnished with a ¼" thick motorboard and is welded to back side of door.

Hinged door in open position is held in horizontal position by a chain attached to each side of chassis and backcan. Cabinet is furnished with a flush lock and pull.

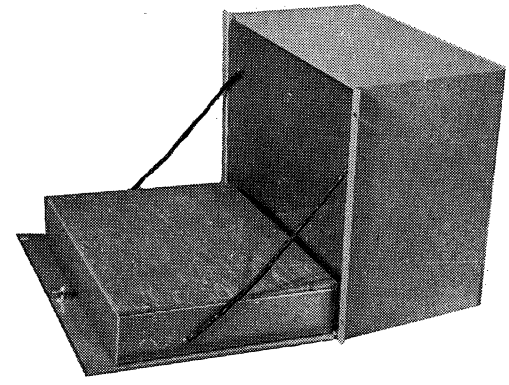
Finished in any of MWI standard colors. Other colors at extra charge.

Model — PDW-400 and PDW-800 • Material — 16 Ga. CRS

SPECIFICATIONS: Construction — 1. All spotweld assembled. 2. Formed front door frame and door. Formed flnages 5/16" deep over outside. 3. A 7/8" K.O. for ½" conduit is provided in backcan, located 3" from rear of backcan and centered in width dimension. 4. Backcan size 18½" H x 20¼" W. 5. Motorboard 16" W x 14" D fastened to chassis with six (6) 10/32 Truss Hd MS and tinnerman clips.

RACK MOUNT RECORD PLAYER CABINET

PDR-400 and PDR-1050



This model cabinet offers the same general features as our PDW series except that it is made to mount in 19" Panel Space cabinets.
The backcan is not closed in rear, therefore, the depth from motorboard in closed position is limited only by the depth of the cabinet in which it is mounted. Made in two backcan depth sizes — 4" and 10½", with chassis heights of 2" and 3" respectively.

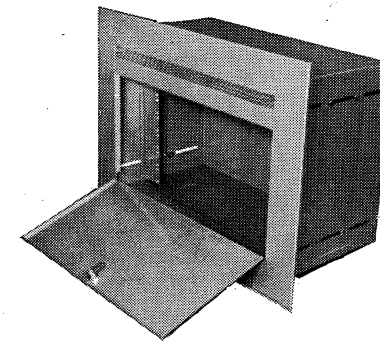
Hinged door in open positions is held in horizontal position by a chain attached to each side of chassis and each side of backcan. Cabinet is furnished with flush lock, pull and motorboard. Chassis is welded to inside of door.

Model — PDR-400 and PDR-1050 • Material — 16 Ga. CRS

SPECIFICATIONS: Construction: 1. All spotweld assembled. 2. Formed front door frame and door. Formed flanges 5/16" deep over outside. 3. A 7/8" K.O. for ½" conduit is provided in backcan, located 3" from rear of backcan and centered in width dimension. 4. Backcan size 15¾" x 17½". 5. Motorboard 16" W x 14" D fastened to chassis with six (6) 10/32 Truss Hd MS and tinnerman clips.

WALL MOUNTED TELESCOPING AMPLIFIER CABINET

TB-47 and TB-815



The wall mounted telescoping cabinet is made from 16 Ga. Cold Rolled Steel — with one pair of mounting angles. Cabinet comes finished in any one of MWI Standard colors. Two sizes are available.

TB-47 Adjustable in depth from 4" to 7"
TB-815 Adjustable in depth from 4" to 15"

Each for 19" panel mounting — Height of panel space is 14". Locking front door set in wall flushing panel 26" wide by 19" high.

Model — TB-47 and TB-815 • Material — 16 Ga. CRS

SPECIFICATIONS: Construction — 1. All spotwelded assembled. 2. Backcan is expandable from 4" to 7" in TB-47 and 8" to 15" in TB-815. 3. Panel angles 14" in height are moveable in backcan slots. 4. Panel angles are punched on WE spacing for use with 10/32 tinnerman clips. 5. Formed front door frame and door opening 10¼" x 20". Maximum inside panel height 14". 6. Front door frame attached by 8/32 weld studs to backcan. No screws visible from front and tamper proof when locked. 7. Front door frame has a 1" x 20" vented opening above door for heat dissipation.

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METAL WORKS INCORPORATED
STANDARD & CUSTOM DESIGNS

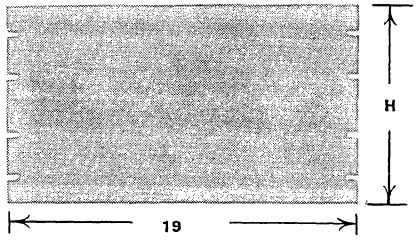
19″ RACK PANELS

24″ - 30″ ALSO AVAILABLE IN ALL STYLES OF PANELS

Steel panels finished in Silver Gray Hammertone unless otherwise specified.

1/8″ Aluminum and Steel Blank Panels

Aluminum Furnished Unpainted — Painted on Request, So States on Order.

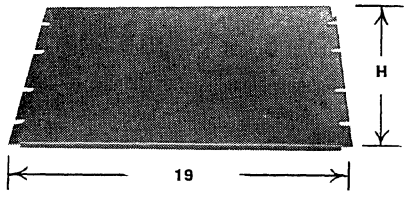


Aluminum		Steel		
Model No..	Ship. Wt. Lbs.	Model No..	Ship. Wt. Lbs.	Height-in.
ARP- 121	.4	RP- 121	2	1¾
ARP- 123	.8	RP- 123	5	3½
ARP- 125	1.2	RP- 125	7	5¼
ARP- 127	1.6	RP- 127	8	7
ARP- 128	2.0	RP- 128	9	8¾
ARP-1210	2.5	RP-1210	10	10½
ARP-1212	2.8	RP-1212	12	12¼
ARP-1214	3.3	RP-1214	13	14
ARP-1215	3.6	RP-1215	14	15¾
ARP-1217	4.1	RP-1217	15	17½
ARP-1219	4.5	RP-1219	16	19¼
ARP-1221	4.9	RP-1221	16	21

Panels formed with ½″ all round available.

Formed 1/16″ Thick Aluminum and Steel Blank Panels

Aluminum Furnished Unpainted — Painted on Request, So States on Order.

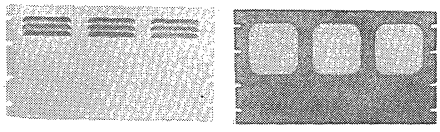


Aluminum		Steel		
Model No.	Ship. Wt. Lbs.	Model No.	Ship. Wt. Lbs.	Height-in.
PA- 161	½	PM- 161	1	1¾
PA- 163	1	PM- 163	2½	3½
PA- 165	1¼	PM- 165	3½	5¼
PA- 167	1½	PM- 167	4	7
PA- 168	1½	PM- 168	4½	8¾
PA-1610	1¾	PM-1610	5	10½
PA-1612	2	PM-1612	6	12¼
PA-1614	2¼	PM-1614	6½	14
PA-1615	2½	PM-1615	7	15¾
PA-1617	2½	PM-1617	7½	17½
PA-1619	2¾	PM-1619	8	19¼
PA-1621	3	PM-1621	8	21

Panels formed with ½″ all round available. **NEW SERIES PMF**

Formed 1/16″ Thick Steel Ventilated Panels

Louvre Type

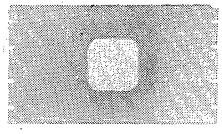


Grille Type		
Model No.	Height-in.	Shp. Wt. Lbs.
VP- 205	5¼ panel	3½
VP- 207	7 panel	4
VP- 208	8¾ panel	4½
VP-2010	10½ panel	5
VP-2012	12¼ panel	6

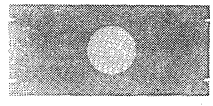
Louvre Type		
Model No.	Height-in.	Shp. Wt. Lbs.
LP- 105	5¼ panel	3½
LP- 107	7 panel	4
LP- 108	8¾ panel	4½
LP-1010	10½ panel	5
LP-1012	12¼ panel	6

Formed 1/16″ Thick Speaker Rack Panels 5¼″ High

Square Hole SRP-1

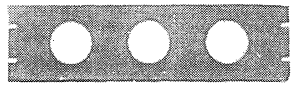


Round Hole SRP



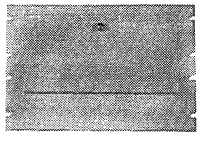
Model No. Round Hole	Speaker	Height-in.	Model No. Square Hole	Ship. Wt. Lbs.
SRP- 68	6″	8¾″ panel	SRP 68-1	4½
SRP- 810	8″	10½″ panel	SRP 810-1	5
SRP-1012	10″	12¼″ panel	SRP1012-1	6
SRP-1214	12″	14″ panel	SRP1214-1	6½

Formed 1/16″ Thick Steel Meter Panels

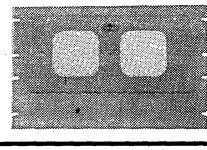


Model No.	Size and Style	Ship. Wt. Lbs.
MP-23	For 2″ meter with 3 holes	3½
MP-25	For 2″ meter with 5 holes	3½
MP-33	For 3″ meter with 3 holes	3½
MP-35	For 3″ meter with 5 holes	3½

Standard Type



Grille Type



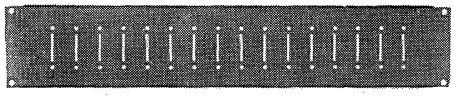
1/8″ Thick Steel Door Panels

Panels have flush doors, with piano hinge and are equipped with spring catch and chrome knob — All doors are located 1″ from top, to allow space for chassis at bottom.

Standard Door Panel	Height-in.	Ship. Wt. Lbs.	Grille Panel	Door Opening
DP- 875	8¾″ Panel	5	GDP- 875	4½″ x 15⅜″
DP-1050	10½″ Panel	5½	GDP-1050	6″ x 15⅜″
DP-1225	12¼″ Panel	6	GDP-1225	7½″ x 15⅜″

Switch Panels

Furnished with 16 slots 1″ apart unless otherwise specified.

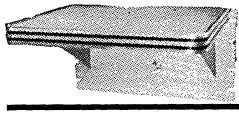


Model No.	Height-in.	Ship. Wt. Lbs.
SP-1635	3½	2

Slots 3/16″ W x 1⅛″ L — Screw Holes 15/8″ Centers

ALL ABOVE PANELS ARE AVAILABLE 30″ AND 24″ WIDE

Desk Panel to fit 19″ Racks



The Desk Panel is constructed of No. 16 gauge steel and is entirely spotwelded together for strength. The front corners of the top are rounded to give a pleasing appearance. This model is finished in the standard silver gray hammertone lacquer.

Catalog No.	Panel Size-in.	Top Size-in.	Ship. Wt.
DT-1050	19″ x 10½″	17¾″ Wide x 16″ Deep	15 Lbs.

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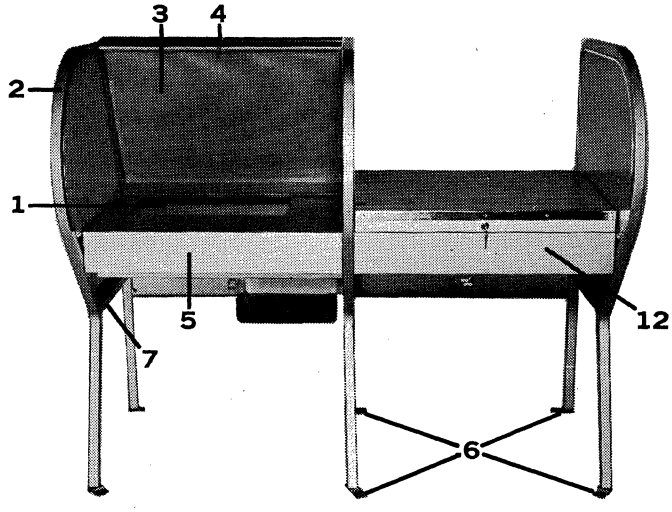
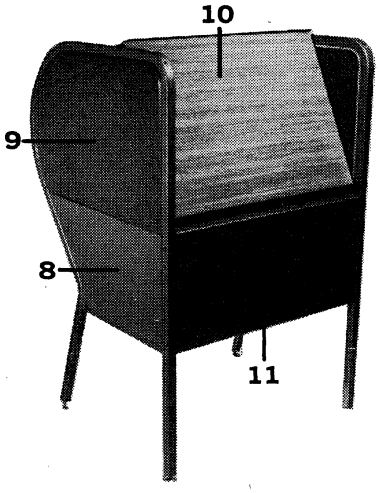
METAL WORKS INCORPORATED
STANDARD & CUSTOM DESIGNS

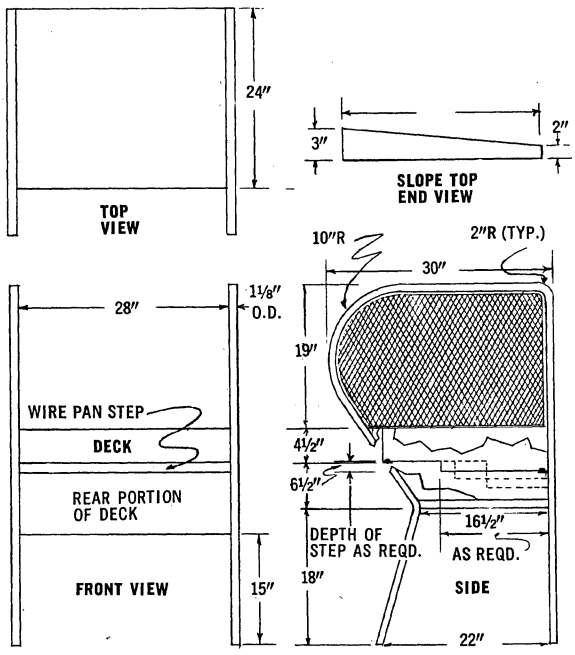
SERIES 500 STUDENT BOOTHS

METAL WORKS new design in Student Booths brings you "tomorrow's booth" today! Featured below is the 500 Series. These booths are designed to minimize noise entering the booth and prevent the students' response from adding to the general noise level. Designed to meet today's needs in an ever expanding educational program, they can be added to as funds permit, or as the language program expands, by simply bolting on additional units, consisting of only 1 leg and deck. They are adaptable to flush mount any tape recorder. No part of the booths protrude into the aisle leaving all aisle space clear for passage.





1. Tape recorder position hole cut to any size and positioned to customer requirements. Amplifier position hole furnished, if required, when tape recorders are not used.
2. Square steel tubing, modernistically designed, giving a better appearance, stronger, and a lifetime of use.
3. Acoustical treatment of slope top tilted forward (see back view) gives student maximum isolation.
4. Flush mounted lock in slope top offers protection for electronic equipment when not in use (see closed view).
5. & 11. Front and back view of deck. Rear view illustrates modesty panel conformation.
6. Leg levelers included with all legs or sides. Excellent feature for that uneven floor. Hold down tabs also furnished.
7. Cross brace welded to each leg assures maximum strength and rigidness.
8. Modesty panel (Part No. M-102) used on row ends only. This panel also serves to close the wire pan at the end of each row of booths.
9. Perforated metal covering for acoustical material. Perforated metal is used exclusively on these all new booths.
10. Formica covering on slope top (Part No. F-103). This is finished off with aluminum trim at front.
12. This view shows an add-on booth equipped with a formica covered slope top in the closed position. Note the slight slope (3°) to the front.



SPECIFICATIONS

MATERIAL:
Deck — 16 Ga. CRS.
Legs — 1⅛″ 18 Ga. Steel Tubing Frame with Perforated Metal supporting acoustical material.
Wiring Pan — 18 Ga. CRS.

CONSTRUCTION:
1. Wiring pan is fastened by sheet metal screws for more assembly convenience.
2. All booths are bolted together permitting addition of 1 leg or side, and tape deck, at any future date.
3. Corners of slope top brazed for strength and appearance.
4. Spot welded gussets and supports in deck and slope top.
5. Deck formed to serve as 14″ modesty panel in rear.
6. Tape recorder or amplifier flush mounting holes in deck furnished at no additional charge.
7. Deck and wiring pan totally enclose all wiring within the booth row.
8. Legs on E-500 series of booths are of one piece formed construction with supporting brace.

FINISH:
Satin Beige Bake On Enamel is standard. Other colors can be supplied by submitting sample to match.

PARTS LIST

Model No.	Description
EB-500-11	End Booth, consisting of 2 legs, deck painted and channels for glass
AB-555-11	Add On Booth, 1 leg, deck painted and channels for glass
EB-500-22	End Booth, consisting of 2 legs, deck with formica, and channels for glass
AB-555-22	Add On Booth, 1 leg, deck with formica and channels for glass
EB-500-33	End Booth, consisting of 2 legs, deck painted, slope top painted, with lock
AB-555-33	Add On Booth, 1 leg, deck painted, slop top painted, with lock
EB-500-44	End Booth, consisting of 2 legs, deck painted, with turret for recorder
AB-555-44	Add On Booth, 1 leg, deck painted, with turret for recorder
OPTIONAL EQUIPMENT	
B-110	Book Storage Rack
F-103	Formica on slope top (in place of painted slope top)
FD-109	Formica on deck (in place of painted deck)
M-102	Modesty Panel (for desk side)
P-105	Acoustical Panel (in place of glass channels)

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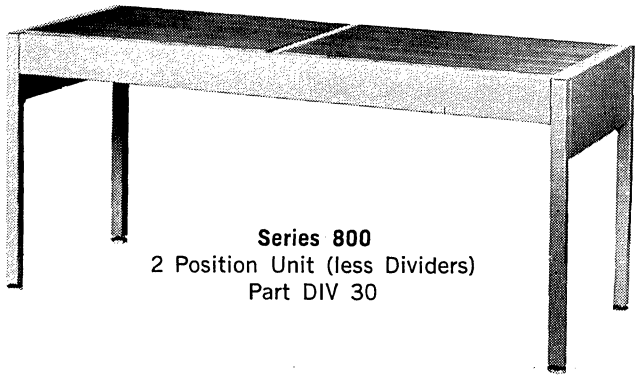
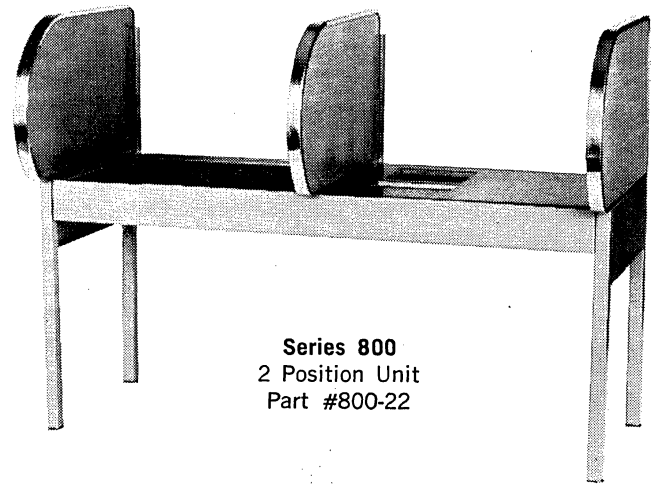
METAL WORKS INCORPORATED
STANDARD & CUSTOM DESIGNS

SERIES 800 LANGUAGE LABORATORY FURNITURE



Series 800
2 Position Unit (less Dividers)
Part DIV 30



Series 800
2 Position Unit
Part #800-22

Student listen/respond tables in two and three position units as required for classroom or indicated on drawings.

• FUNCTION

Booths shall be of such design that they shall serve the dual purpose of a laboratory listen/respond position and a school desk. By elimination of dividers (Part #DIV-30) booths shall be converted to regular tables.

A hole only, in the recorder board, shall be furnished when listen/respond equipment is to be surface mounted.

When conversion units are required for listen/respond a METAL WELL with a hinged cover shall be furnished, as optional equipment. The conversion shall be instantaneous and performed by a single motion of unlocking the hinged cover which conceals a recessed control area. The cover in its lowered position shall completely cover all listen/respond equipment including microphone-earphone combinations, offering full protection to it and at the same time giving the student a clear and uncluttered work area.

All equipment and wiring shall be completely enclosed, including the bottom, to protect equipment and student.

• MATERIAL

Front and rear rails: 16 ga. CRS
Legs: 1½" sq. 12 ga. steel tubing
Divider: Aluminum channel with steel perforated metal sides
End modesty panels: 16 ga. CRS
Wiring Pan: 20 ga. CRS
Recorder Board: Particle board laminated with walnut grain formica

• CONSTRUCTION

Front and rear rails shall be formed steel channel and fastened by machine screws threaded into tapped holes in legs.

Separators shall be a welded formed steel channel and fastened by machine screws to mating holes in front and rear rails.

Divider shall be satin finish aluminum channeling and perforated steel sides with acoustical material for sound deadening. purposes and fastened to separators by two nuts that fit studs which are preassembled in dividers.

End modesty panels (row end enclosures) shall be steel and fastened through mating holes to legs with machine screws.

Recorder boards shall be ⅝" thick particle board with walnut grained formica laminated thereto and placed in recess portion of front and rear rails to form a smooth continuous writing surface front to rear.

Acoustical front panel shall be formed sheet steel and perforated steel with a laminated layer of acoustical material for sound deadening purposes.

Channels for glass and acoustical front panels shall be an aluminum extrusion with a satin finish and 15" in length.

NOTE: Glass is **not** furnished by Metal Works, Inc. Should be ¼" thick by 29" long and whatever width is desired to fit 15" long channels.

Rail depth must be a minimum of 4½" from deck surface on student side and 6½" on instructors side.

An under-booth wiring protector panel shall be provided to prevent access to equipment or wiring, except by qualified service or installing personnel.

Desirable dimension shall be as follows:
Desk Height: 28"; Overall Height: Not less than 46".
Overall Work Surface: (Each position) 22¼" x 29⅜".

Furniture shall be of an institutional type construction. All surfaces shall be of material not to tarnish or rub off on clothing.

INSTALLATION: Anchorage to floors shall be with screws or bolts as required by floor material. Rails, separators and end modesty panels fastened to threaded holes in legs with ¼-20 machine screws.

• FINISH

SERIES 800 booths or tables shall be finished in Standard Satin Beige. Other colors available at extra cost. Formica covering recorder boards shall be walnut grain. Other colors and designs of formica available at extra cost.

PARTS

MODEL NO.	NO. OF POSITIONS	DESCRIPTION
800-22	2	One row of 2 positions
800-33	3	One row of 3 positions
800-44	4	One row of 4 positions
800-55	5	One row of 5 positions
800-66	6	One row of 6 positions
800-77	7	One row of 7 positions
800-88	8	One row of 8 positions
800-99	9	One row of 9 positions

Above includes modesty panels at each row end and holes in recorder board if needed.

ACCESSORIES

	PCS. PER POSITIONS	
GLC-10	2	Glass channel per position
AFP-20	1	Acoustical front panel with channel
DIV-30	—	Dividers
BSR-40	1	Book storage rack
LRW-50	1	Listen respond well

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LMB® Box Chassis

The Engineered Precision Line with Interlocking and Flangelocking Construction

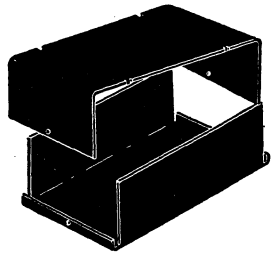
Here is the answer to box chassis needs, for the laboratory, manufacturer, experimenter, or builder. The following LMB® Boxes are available from stock in either interlocking (screw fastened) or snap latch. All screw fastenings are drilled and tapped. Self tapping screws are not used. Available colors include natural aluminum, gray or brown hammertone, and black crackle. When ordering specify style and color.

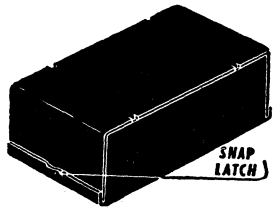
Aluminum used in all LMB® products is aircraft quality specifications type 3003-H 14.

All prices quoted are dealer net. Manufacturers Special Discounts on Application.

WRITE FOR COMPLETE CATALOGUE

Interlocking

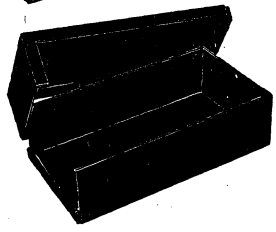




INTERLOCKING (SCREW-FASTENED OR SNAP LATCH)

Model	Size	Price	Model	Size	Price
M00	2¼" x 1½" x 1⅜"	.57	850	8½" x 2⅛" x 1⅝"	1.35
00Z	2⁵⁄₁₆" x 2⅛" x 1¾"	.64	138	6¼" x 3½" x 2⅛"	1.32
000	3¼" x 2⅛" x 1⅝"	.68	139	5½" x 3" x 1¼"	1.01
00	4" x 2⅛" x 1⅝"	.71	140PL	3" x 4" x 5"	1.29
100	2¾" x 2⅛" x 2⅝"	.89	140	3" x 4" x 5"	1.61
101	4¼" x 2¼" x 1¼"	.87	141PL	6" x 4" x 3"	1.44
102	4" x 2" x 2¾"	1.02	141	6" x 4" x 3"	1.72
103	2¾" x 2⅛" x 2⅛"	.85	142PL	6" x 4" x 5"	1.68
107	4" x 2¼" x 2¼"	.96	142	6" x 4" x 5"	2.11
108	5" x 2¼" x 2¼"	1.03	143	4" x 4" x 2"	1.33
135	3¾" x 3" x 2⅛"	.97	144	10" x 4" x 2½"	2.19
136	5¼" x 3" x 2⅛"	1.08	145	7" x 5" x 3"	2.11
650	6½" x 2⅛" x 1⅝"	1.05	146	8" x 6" x 4½"	2.99
137	8" x 3" x 2¾"	1.61	15	12" x 2" x 1¾"	1.61

Flangelocking



SIDELOCK and ENDLOCK CONSTRUCTION

LMB® aluminum Box chassis with sidelock and endlock construction are dust proof, semi-water, and rain proof. Sturdy construction and 100% shielded. The following models are available in plain aluminum, or finished in black, gray, or brown. Endlock or sidelock construction:

Model	Size	Price	Model	Size	Price
221	2¾" x 3⅛" x 1⅝"	1.13	654	6" x 5" x 4"	2.51
321	3¼" x 2⅛" x 1⅝"	1.13	666	6" x 6" x 6"	3.39
421	4" x 2⅛" x 1⅝"	1.13	686	6" x 8" x 6"	4.27
422	4" x 2¼" x 2¼"	1.29	695	6" x 9" x 5"	3.84
424	4" x 2" x 4"	1.98	753	7" x 5" x 3"	2.60
435	4" x 3" x 5"	2.19	754	7" x 5" x 4"	2.76
444	4" x 4" x 4"	1.89	863	8" x 6" x 3½"	2.86
531	5¼" x 3" x 1½"	1.29	865	8" x 6" x 5"	3.57
532	5¼" x 3" x 2⅛"	1.47	1063	10" x 6" x 3½"	3.57
534	5⅝" x 3" x 4"	2.06	1085	10" x 8" x 5"	4.42
543	5" x 4" x 3"	1.87	1221	12" x 2" x 1¾"	1.87
546	5" x 4" x 6"	2.74	1274	12" x 7" x 4"	4.65
645	6" x 4" x 5"	2.60	1754	17" x 5" x 4"	5.27

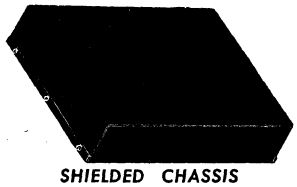
Endlock

SLIDE COVER

SLIDE COVER (or dust cover) BOXES

Designed by BROADCAST ENGINEERS

No.	L	W	H	Ea.	No.	L	W	H	Ea.
16—Natural Aluminum	13"	3⅛"	2⅝"	$1.85	18—Natural Aluminum	13"	5¼"	2⅝"	3.50
16—Gray, Black, Brown	13"	3⅛"	2⅝"	2.52	18—Gray, Black, Brown	13"	5¼"	2⅝"	4.30
17—Natural Aluminum	13"	4⅛"	2⅝"	3.18	19—Natural Aluminum	17"	3⅛"	2⅝"	3.35
17—Gray, Black, Brown	13"	4⅛"	2⅝"	3.95	19—Gray, Black, Brown	17"	3⅛"	2⅝"	4.15



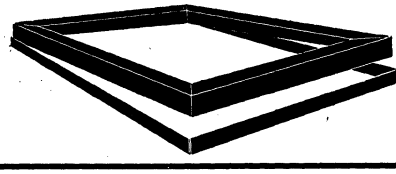
SHIELDED CHASSIS

SHIELDED CHASSIS

	L	W	H	Ea		L	W	H	Ea.
No. 20 Plain	7½"	7"	2"	$1.67	No. 21 Anodized	13"	10"	3"	$5.81
No. 20 Anodized	7½"	7"	2"	2.06	No. 22 Plain	17"	10"	3"	5.13
No. 21 Plain	13"	10"	3"	4.34	No. 22 Anodized	17"	10"	3"	6.67

PRINTED CIRCUIT CHASSIS

Printed circuit chassis are made with a shallow base with a cap cover on the bottom so that it can be removed to work on the assembly without removing the printed circuit from the chassis. All printed circuit chassis are of plain aluminum.



STANDARD SIZES

Model No.	L	W	D	Mounting Lip	Price
PC 325	3	x 2	x ½	3⁄16"	ea. .70
PC 635	6	x 3	x ½	3⁄16"	ea. .80
PC 645	6	x 4	x ½	⅛"	ea. .91
PC 855	8	x 5	x ½	⅛"	ea. 1.04
PC 10875	10	x 8	x ¾	½"	ea. 1.52
PC 12975	12	x 9	x ¾	5⁄8"	ea. 1.76

Model No.	Size	Mounting Lip	Model No.	Size	Mounting Lip
D 7131	7 x 13 x 1	½"	D 541	5 x 4 x 1	½"
for use in building with the Danco model No. 14 printed amplifier circuit ea. 1.17			for use in building with the Danco model No. 21, 31, 41 printed preamplifier circuit ea. $ .63		

WRITE FOR COMPLETE CATALOG PRICES SUBJECT TO CHANGE

LMB®

Net

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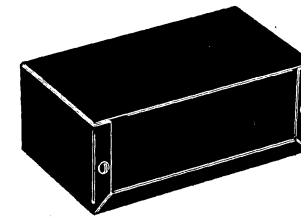
L M B® Box Chassis (Continued)

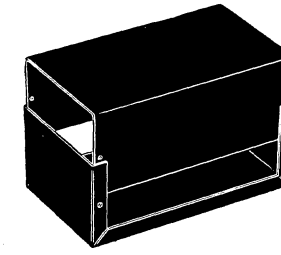
		DEALER NET Plain	Gray, Black, Brown
T-F 770	2¾x2⅛x1⅝	$ .62	$ .81
T-F 771	2¾x2⅛x2¾	.68	.95
T-F 772	3¼x2⅛x1⅛	.62	.84
T-F 773	3½x2⅛x1⅝	.62	.84
T-F 774	4 x2⅛x1⅝	.62	.95
T-F 775	4 x2¼x2¼	.75	.97
T-F 776	4 x2 x2¾	.75	1.00
T-F 777	4¼x2¼x1½	.72	1.00
T-F 778	5 x2¼x2¼	.78	1.03
T-F 779	5 x4 x3	.94	1.32
T-F 780	5¼x3 x2⅛	.82	$1.12
T-F 781	6 x5 x4	1.47	1.83
T-F 782	7 x5 x3	1.40	1.86
T-F 783	8 x6 x3½	1.72	2.25
T-F 784	10 x6 x3½	2.02	2.54
T-F 785	10 x2 x1⅝	1.15	1.57
T-F 786	12 x2½x2¼	1.37	1.67
T-F 787	12 x7 x4	2.71	3.43
T-F 788	17 x5 x4	2.92	3.44

TITE-FIT BOX CHASSIS



		PRICES Plain	Gray, Black, Brown
J-870	2¾x2⅛x1⅝	.62	$ .81
J-871	2¾x2⅛x2¾	.68	.95
J-872	3¼x2⅛x1⅛	.62	.84
J-873	3½x2⅛x1⅝	.62	.84
J-874	4 x2⅛x1⅝	.62	.95
J-875	4 x2¼x2¼	.75	.97
J-876	4 x2 x2¾	.75	1.00
J-877	4¼x2¼x1½	.72	1.00
J-878	5 x2¼x2¼	.78	1.03
J-879	5 x4 x3	.94	1.32
J-880	5¼x3 x2⅛	$ .82	$1.12
J-881	6 x5 x4	1.47	1.83
J-882	7 x5 x3	1.40	1.86
J-883	8 x6 x3½	1.72	2.25
J-884	10 x6 x3½	2.02	2.54
J-885	10 x2 x1⅝	1.15	1.57
J-886	12 x2½x2¼	1.37	1.67
J-887	12 x7 x4	2.71	3.43
J-888	17 x5 x4	2.92	3.44

JIFFY BOX CHASSIS



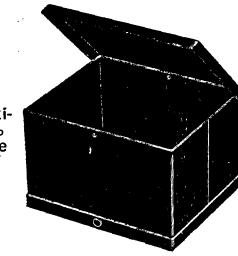
NO SCREWS

Just push together to close and the Catches snap into place—just a slight pressure of the fingers to open

		ALUM. GAUGE	PRICES Plain	Gray, Black, or Brown
U-C 970	4x 4x2	.040	$1.57	$1.82
U-C 971	5x 4x3	.040	1.69	1.98
U-C 972	6x 5x4	.040	2.18	2.52
U-C 973	6x 6x6	.040	2.55	3.02
U-C 974	7x 5x3	.040	2.98	3.48
U-C 975	9x 6x5	.051	3.38	3.89
U-C 976	10x 8x7	.051	$4.63	$5.35
U-C 977	12x 7x6	.051	4.46	5.30
U-C 978	10x10x8	.051	5.90	6.85
U-C 979	12x11x8	.051	7.06	8.02
U-C 980	15x 9x7	.051	7.15	8.11

UTILITY BOXES

Give approximately 25% more usable space for building.



LMB Miniature Boxes are made in the following sizes and are carried in stock in the warehouse for prompt shipment.

ANY QUANTITY

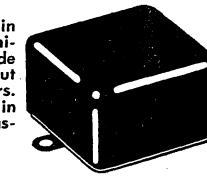
	L	W	D	each	LIDS
M-01	1⅛"	x 1"	x 15/16"	$.42	$.12
M-10	1¾"	x 1¼"	x ⅞"	.42	.12
M-11	2"	x 1¼"	x ¾"	.42	.12
M-12	2"	x 1¼"	x 1"	.42	.12
M-15	2"	x 1¾"	x ½"	$.42	$.12
M-16	2"	x 1¾"	x ¾"	.42	.12
M-17	2"	x 1¾"	x 1"	.42	.12
M-018	2"	x 2"	x 1¼"	.42	.12

Following three numbers on special order only and in quantities of 500 each minimum.

	L	W	D	each	LIDS
M-06	1½"	x 1⅛"	x ¾"	$.48	$.16
M-21	2½"	x 2"	x 1¼"	.52	.18
M-23	3⅞"	x 2⅜"	x ⅞"	$1.10	$.36

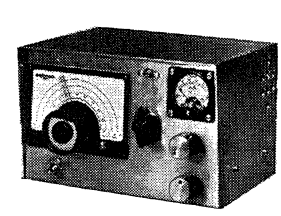
MINIATURE BOX CHASSIS

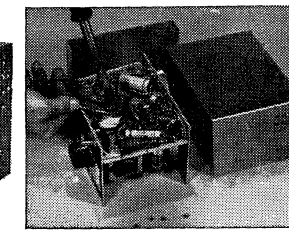
Precision made in steel only, cadmium plated. Made with or without mounting ears. Covers solder in when used in assembly.



UTILITY ENCLOSURES

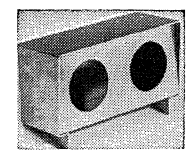
No.	L	W	H		Plain	Gray
W-1A	7"	x 5"	x 4½"	with built in chassis	$3.97	$4.84
W-1B	10"	x 4"	x 3½"	with built in chassis	3.97	4.84
W-1C	8½"	x 6⅛"	x 5"	with built in chassis	4.43	5.33
W-1D	18"	x 9"	x 11"	will accommodate an 11" x 17" 2", 3" or 4" chassis	9.75	13.13

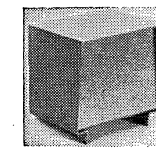




"AL-CAB" CABINETS for meter cases or any application where outstanding appearance is needed

No.	L	W	H		Plain	Gray
W-2AP	3½"	x 4"	x 3"	with holes	$1.88	$2.18
W-2A	3½"	x 4"	x 3½"	without holes	1.98	2.28
W-2B	3"	x 7"	x 3½"	with and without holes	2.25	2.67
W-2C	3⅜"	x 7"	x 3½"	without holes	2.93	3.36
W-2E	4½"	x 4½"	x 3½"	without holes	2.30	2.60

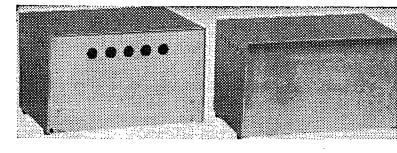




Holes in W-2AP, 2B are 2¼", 2 13/16". For 4" Meter holes and knockout, add 10% to above prices.

W.M. "AL-CAB" Deluxe Series All with Built-in Chassis

No.	L	W	H	Plain	Gray
W-2F	7½"	x 5"	x 4½"	$4.40	$5.18
W-2G	13"	x 10"	x 5¾"	9.36	11.06
W-2H	7"	x 11"	x 6¼"	7.38	8.63
W-2J	8"	x 11½"	x 7½"	8.10	9.35



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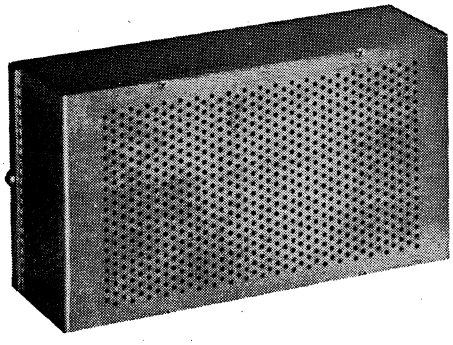
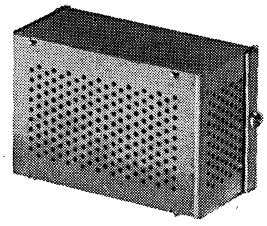


LMB® PERFORATED BOX CHASSIS



LMB® Perforated Boxes are adaptable wherever heat dissipation is required as they are spaced in perforations that are set by laboratory research to give utmost heat dissipation and also give utmost shielding. They are die perforated on three sides and top of the box.

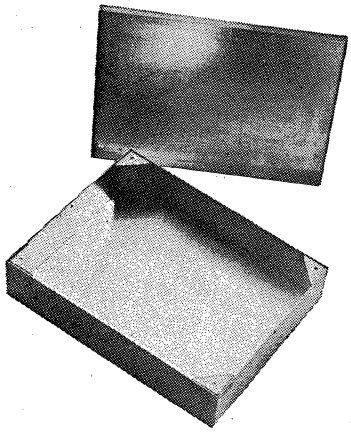
NO.	FINISH	SIZE	NET EA.
00Z	Plain or Gray	2 5/16 x 2 1/8 x 1 3/4	$ .83
000	" "	3 1/4 x 2 1/8 x 1 5/8	.95
00	" "	4 x 2 1/8 x 1 5/8	1.02
100	" "	2 3/4 x 2 1/8 x 2 5/8	1.20
101	" "	4 1/4 x 2 1/4 x 1 1/4	1.12
102	" "	4 x 2 x 2 3/4	1.41
107	" "	4 x 2 1/4 x 2 1/4	1.09
108	" "	5 x 2 1/4 x 2 1/4	1.50
135	" "	3 3/4 x 3 x 2 1/8	1.36
136	" "	5 1/4 x 3 x 2 1/8	1.50
137	" "	8 x 3 x 2 3/4	2.14
138	Plain or Gray	6 1/4 x 3 1/2 x 2 1/8	$1.82
139	" "	5 1/2 x 3 x 1 1/4	1.36
140	" "	3 x 4 x 5	1.75
141	" "	6 x 4 x 3	1.88
142	" "	6 x 4 x 5	2.18
143	" "	4 x 4 x 2	1.40
144	" "	10 x 4 x 2 1/2	2.19
650	" "	6 1/2 x 2 1/8 x 1 5/8	1.41
850	" "	8 1/2 x 2 1/8 x 1 5/8	1.59
15	" "	12 x 2 x 1 3/4	1.79

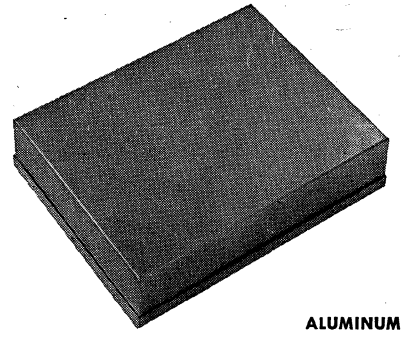
L M B® PRESENTS SOMETHING NEW IN CHASSIS —

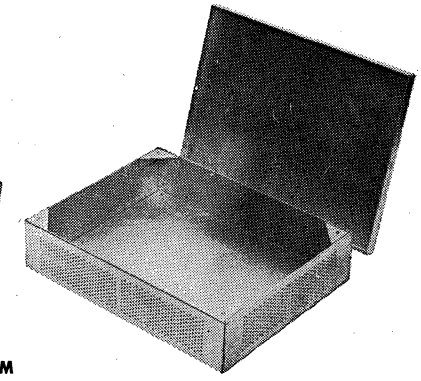
THE CHASSIS WITH THE CAP COVERS AS ORIGINATED BY LMB®

Built with the new original LMB® popular cap cover construction. This construction enables the builder to use either the top or the bottom of the chassis for construction. The Chassis can also be mounted on its side and construction can be on both top and bottom at the same time. Sturdily built from Aircraft quality aluminum, Type 3003, H-14, the same material as is used in the construction of all LMB® precision box chassis. Special technique in welding the corners makes for a stronger chassis than the orthodox type. Cap construction allows for using all the space inside the chassis without being hindered by the mounting flange, which takes from 10% to 20% of the mounting space out of the average chassis.

The P Series are perforated on all four sides and are ideal where heat dissipation is a factor. LMB® chassis — the better chassis, with the year's ahead advanced construction for your better project application. An advanced quality product competitively priced.







ALUMINUM

WITHOUT COVER			
NO.	SIZE L W H	GAUGE	NET
553	5x 5x3	18	$1.35
572	5x 7x2	18	1.17
573	5x 7x3	18	1.42
5952	5x9 1/2x2	18	1.25
5103	5x10x3	18	1.65
5133	5x13x3	18	1.85
642	6x 4x2	18	1.48
643	6x 4x3	18	1.55
6173	6x17x3	18	2.67
772	7x 7x2	18	1.35
792	7x 9x2	18	1.46
7103	7x10x3	18	1.53
7112	7x11x2	18	1.58
7123	7x12x3	18	2.03
7153	7x15x3	18	2.67
7173	7x17x3	18	2.75
8103	8x10x3	18	2.65
8123	8x12x3	18	2.42
8172	8x17x2	18	2.52
8173	8x17x3	16	2.95
10123	10x12x3	18	2.70
10143	10x14x3	18	2.95
10172	10x17x2	16	2.85
10173	10x17x3	16	3.40
10174	10x17x4	16	4.85
11173	11x17x3	14	4.20
12172	12x17x2	14	4.50
12173	12x17x3	14	4.60
13172	13x17x2	14	4.50
13173	13x17x3	14	4.80
13174	13x17x4	14	5.95

WITH CAP COVER		
NO.	L W H	NET
553C	5x 5x3	$1.95
572C	5x 7x2	1.75
573C	5x 7x3	1.95
5952C	5x9 1/2x2	1.85
5103C	5x10x3	2.25
5133C	5x13x3	2.50
642C	6x 4x2	1.85
643C	6x 4x3	2.45
6173C	6x17x3	3.40
772C	7x 7x2	1.90
792C	7x 9x2	1.95
7103C	7x10x3	2.50
7112C	7x11x2	2.30
7123C	7x12x3	2.75
7153C	7x15x3	3.60
7173C	7x17x3	3.70
8103C	8x10x3	3.60
8123C	8x12x3	3.23
8172C	8x17x2	3.50
8173C	8x17x3	4.50
10123C	10x12x3	3.60
10143C	10x14x3	4.30
10172C	10x17x2	4.37
10173C	10x17x3	5.18
10174C	10x17x4	6.37
11173C	11x17x3	6.60
12172C	11x17x2	6.60
12173C	12x17x3	6.90
13172C	13x17x2	6.60
13173C	13x17x3	6.90
13174C	13x17x4	7.95

PERFORATED		
NO.	L W H	NET
553P	5x 5x3	$2.30
572P	5x 7x2	2.05
573P	5x 7x3	2.25
5952P	5x9 1/2x2	2.15
5103P	5x10x3	2.55
5133P	5x13x3	2.80
642P	6x 4x2	2.20
643P	6x 4x3	2.45
6173P	6x17x3	3.70
772P	7x 7x2	2.20
792P	7x 9x2	2.25
7103P	7x10x3	2.80
7112P	7x11x2	2.60
7123P	7x12x3	3.05
7153P	7x15x3	3.90
7173P	7x17x3	4.00
8103P	8x10x3	3.90
8123P	8x12x3	3.53
8172P	8x17x2	3.80
8173P	8x17x3	4.80
10123P	10x12x3	4.30
10143P	10x14x3	4.70
10172P	10x17x2	4.77
10173P	10x17x3	5.98
10174P	10x17x4	7.17
11173P	11x17x3	7.10
12172P	12x17x2	7.20
12173P	12x17x3	7.50
13172P	13x17x2	7.30
13173P	13x17x3	7.50
13174P	13x17x4	8.55

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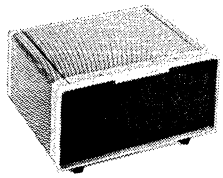
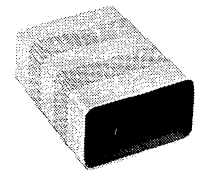
Original designs in cabinets for the electronic industry, for quality products. Use an original by LMB® to dress up your product.



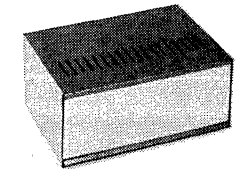
Perforated, removable top, 3 tone, body gray, trim ivory, recessed front panel blue gray.

	Net Ea. Plain	Net Ea. Gray
CO-1 14½"x13"x6½"	$17.95	$19.95
Chassis for CO-1 11"x13"x2" or 1½"		2.75
CO-2 12"x10"x6½"	15.75	17.95
Chassis for CO-2 11"x8"x2" or 1½"		2.65



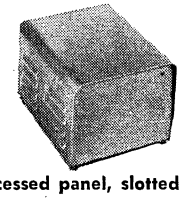
Perforated 3 sides, built in chassis, recessed front panel. Color, body gray, panel dark gray.

	Net Ea. Plain	Net Ea. Gray
CO-3 7¼"x5½"x3⅛"	$4.48	$5.40
CO-4 8"x10"x5"	6.95	8.55



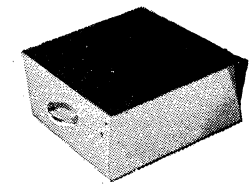
Slotted ventilation, front panel recessed. Colors — Gray, Bronze Hammertone, Black Crackle, Plain — with chassis.

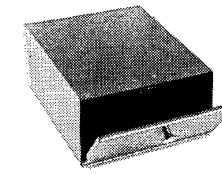
	Net Ea. Plain	Net Ea. Colors
CB-1 8"x10"x4½"	$4.47	$5.35
CB-2 6"x8"x4½"	4.87	4.97



Aluminum with chassis contoured, hooded front recessed panel, slotted ventilation on bottom. louvers on side. Colors — Gold, Gray, Bronze Hammertone, Black Crackle, Plain — with chassis.

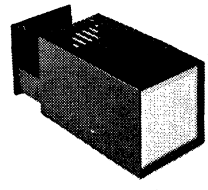
	Net Ea. Plain	Net Ea. Colors
B-1 10"x8"x6"	$11.15	$12.83
B-2 9"x6"x5"	10.02	11.48





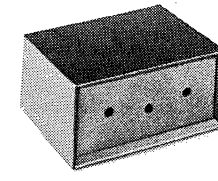
Hooded front, hinged door in rear, front panel removable by removing three screws. Chrome carrying handle. Colors blue, gray, bronze hammertone, black crackle, plain. Steel or aluminum.

	Net Ea. Plain	Net Ea. Colors
HA-1 (ALUM.) 11½"x10½"x5"	$8.85	$ 9.75



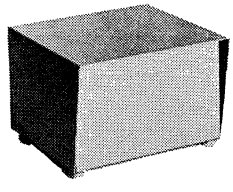
Slot ventilated, ventilation from underneath and sides, built in chassis, recessed panel. Chassis attached to back plate and is removable. Colors — Gray, Bronze Hammertone, Black Crackle, Plain.

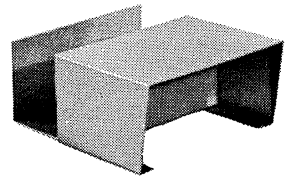
	Net Ea. Plain	Net Ea. Colors
SQ-1 8½"x4½"x4½"	$4.65	$5.35



Double cabinet, inside cabinet fully shielded. Double recessed panel. Colors, Gray, Bronze Hammertone, Black crackle, Plain.

	Net Ea. Plain	Net Ea. Colors
CM-1 6"x8"x3⅞"	$4.50	$5.72





NEW SERIES. Original Construction. Cover slides off at bottom by removing 4 screws. Made of .040 aluminum. Finish: Plain or gray aluminum. Sensibly priced.

No.	D		W		H	Plain	Gray
275	2¾"	x	3"	x	4"	$1.58	$1.65
2754	2¾"	x	2¾"	x	4"	1.64	1.76
342	3"	x	4¼"	x	2⅜"	1.59	1.79
442	4"	x	4½"	x	2⅝"	1.71	1.95
444	4"	x	4"	x	4"	1.79	2.03
453	4"	x	5"	x	3"	1.85	2.06
463	4"	x	6"	x	3"	1.88	2.25
555	5"	x	5"	x	5"	2.40	2.75
564	5"	x	6"	x	4"	2.22	2.60
685	6"	x	8"	x	5"	3.33	3.75

STANDARD RELAY RACK PANELS

⅛" Aluminum material. Aluminum 1100 H 14. Notching is Western Electric. Finish — BLACK WRINKLE, GRAY WRINKLE OR HAMMERTONE. ALL PANELS 19" WIDE

No.	Height	Width	Net Price
#175	1¾"	x 19"	$1.09
#350	3½"	x 19"	1.42
#525	5¼"	x 19"	1.92
#7	7"	x 19"	2.42
#875	8¾"	x 19"	2.84
#1050	10½"	x 19"	3.59
#1225	12¼"	x 19"	4.09
#14	14"	x 19"	$4.76
#1575	15¾"	x 19"	5.34
#1750	17½"	x 19"	5.85
#1925	19¼"	x 19"	6.43
#21	21"	x 19"	7.01
#2425	24¼"	x 19"	9.00
#2625	26¼"	x 19"	10.50

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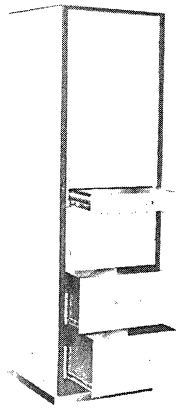
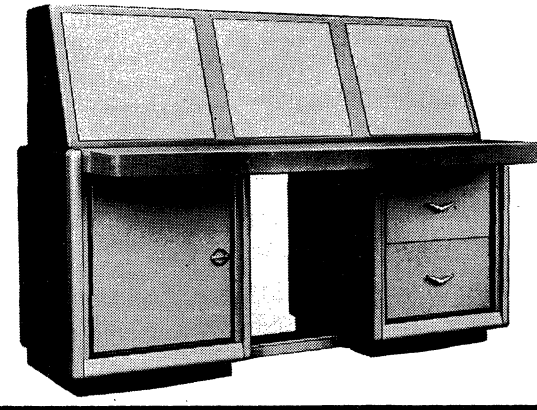
Par-Metal PRESENTS

PAR-EXCELLENT EQUIPMENT



INCLUDING OUR NEW CONTEMPO-RAMA OF MODERN DESIGNED — CONTEMPO-RACKS, CONTEMPO-CONSOLES, ACCESSORIES and HARDWARE.



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MODULAR CABINET RACKS

Par-Metal

CONSTRUCTION DETAILS OF ASSEMBLED FULLY WELDED RACKS

To create a clear understanding of typical PAR-METAL PRODUCTS rack construction, the cut-away illustration below of a Series PL/FL cabinet details the features. From this simplified drawing and the enlargement of critical support areas, the quality of construction is evident. These versatile racks are planned to accept accessories that complement the widest variety of your electronic equipment.

EACH PAR-METAL MODULAR RACK FRAME is welded into a completely assembled unit. Doors, Top Panels, Panel Mounting Angles and ALL necessary trims and mouldings are included. When set in rows of any quantity, necessary joining trims are also included. Details and dimensions are on Par-Metal Pages 6 thru 12. Full check lists of optional accessories on Par-Metal Pages 9, 10 and 12.

REMOVABLE TOP PANELS: Blank formed steel panels are standard. For louvered, fan opening or ventilating top panels, see Par-Metal Page 23.

DETACHABLE SIDE PANELS: (Not used on Models PX/FX)

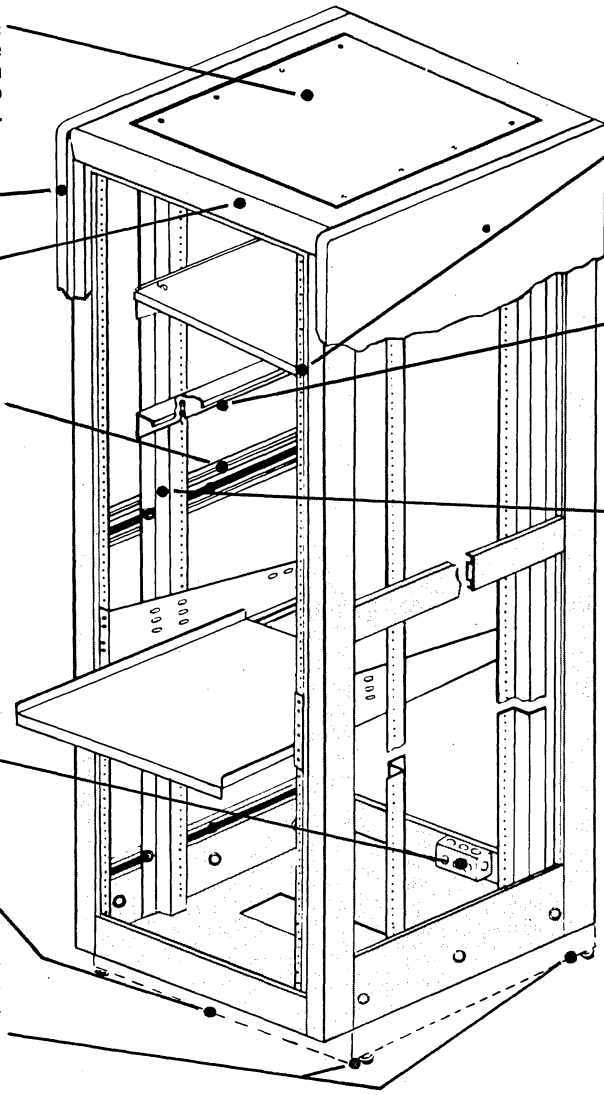
FRONT MOULDINGS: (Not used on Models PC/FC)

BOLT RETAINER RAILS: These tracks permit you to locate and lock both Panel Mounting Angles and Vertical Side Supports at your choice of forward or back position. Mounting bolts, hex nuts and lock washers are supplied.

ELECTRICAL OUTLETS: A duplex outlet and utility box are installed under the rear door. Knockout holes for cable connections generously provided.

RECESSED BASES: Available for all racks as an optional accessory.

FLOOR LEVELERS: Four are supplied for each rack. Predrilled holes for floor levelers may also be used to bolt rack bottom to base or roller truck.



PANEL MOUNTING ANGLES: Made from 1½" x 1½" x 3/16" structural steel angle iron. Completely adjustable back to front. Tapped 12/24 (10/32 optional) to meet standard EIA* and WE* hole spacing specifications. For Contempo Panel Mounting Angles, see Par-Metal Page 14.

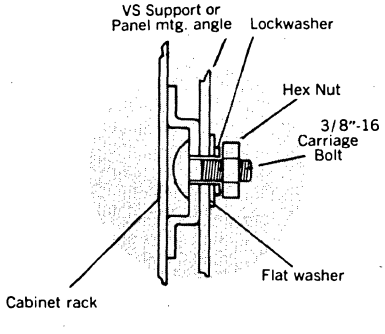
SIDE MOUNTING BRACKETS: May be used separately or with shelves, as shown. Slots allow for vertical adjustment. Zinc plated.

VERTICAL SIDE SUPPORTS: For attaching Side Mounting Brackets, Equipment Shelves, Slides, Extension Tables, etc. Made from #12 Gauge (.104") steel tapped 10/32 on standard EIA* and WE* hole spacing specifications. Mounting bolts, hex nuts and lock washers are provided.

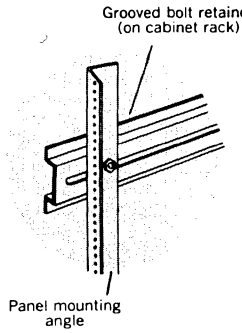
DOORS: (Not illustrated) Cut from a single sheet of 1/16" cold rolled steel and "dutch formed" on all sides to provide smooth, double thick edges. Available solid or with various modifications. (See Par-Metal Page 23). Lock handles are furnished on racks with front and rear doors. Racks with rear doors only have non-lock handles but lock handles are available. Contempto doors are "fan shaped."

*Alternate hole spacings of 5/8"-5/8"-½" center to center.

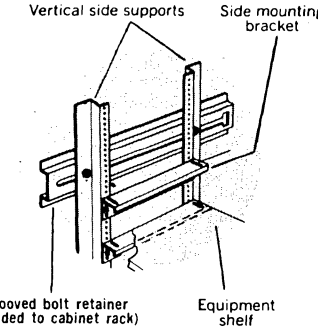
BOLT RETAINER RAILS



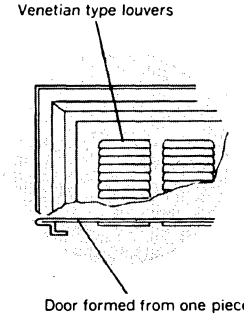
PANEL MOUNTING ANGLES



VERTICAL SIDE SUPPORTS



DOORS



PAR-METAL PRODUCTS • ENGINEERING ASSISTANCE AVAILABLE

Par-Metal MODULAR CABINET RACKS

GENERAL DESCRIPTION

MODULAR CABINET RACKS are made in four (4) styles:

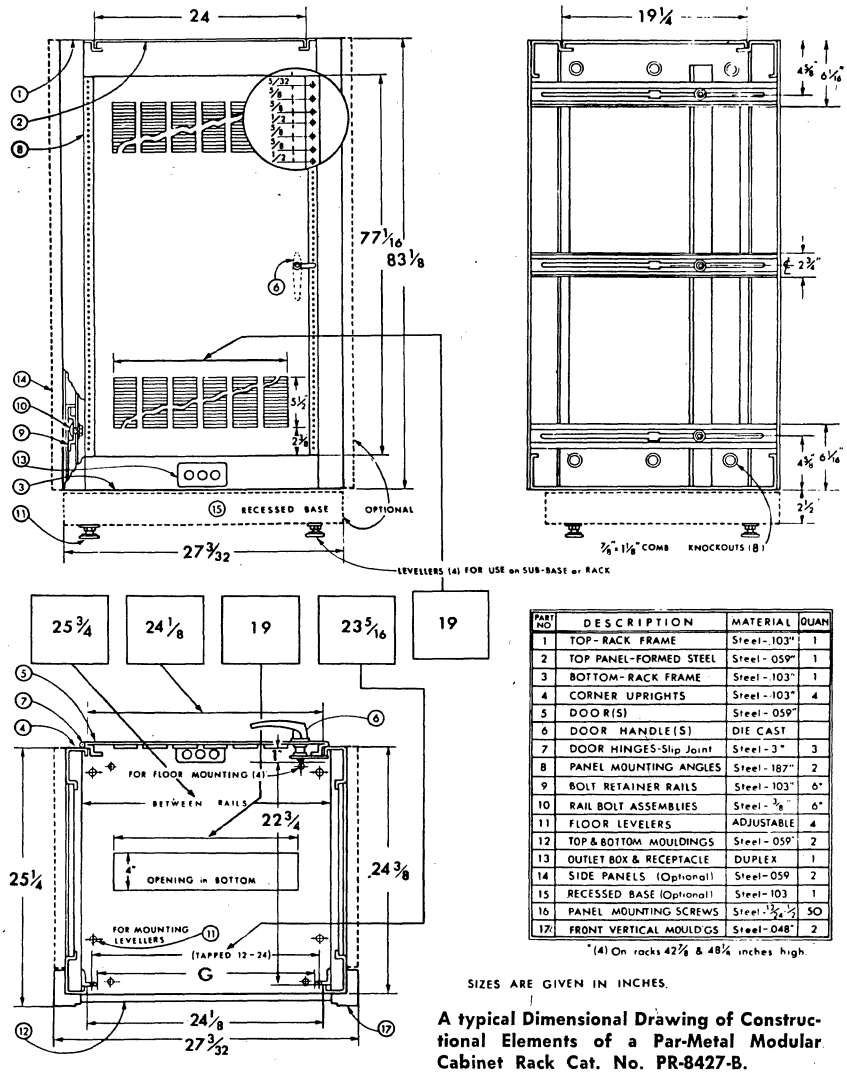
1. Racks built to accommodate removable Ball Cornered Side Panels (Series **PL** with Rear Door Only and Series **FL** with Front and Rear Doors). See Par-Metal Page 6.

2. Racks built for removable Square Cornered or Flush Mounted Side Panels (Series **PR** with Rear Door Only and Series **FR** with Front and Rear Doors). See Par-Metal Page 7.

3. Racks with Solid Side Walls (Series **PX** with Rear Door Only and Series **FX** with Front and Rear Doors). See Par-Metal Page 8.

4. **Contempo-Racks** in Modern design with **"Pan-Shaped"** Removable Side Panels. Series PC with "Dutch Formed" Rear Door only and with Flush-mounted Handle. Series **FC** with "Pan Shaped" Front Door added and with Flush mounted lock handles on both doors. **Page 12.**

Each of these four (4) Series of Modular Cabinet Racks are made in about 50 different standard sizes and a wide variety of finishes. Special work must be quoted.



PART NO.	DESCRIPTION	MATERIAL	QUAN.
1	TOP-RACK FRAME	Steel-.103"	1
2	TOP PANEL-FORMED STEEL	Steel-.059"	1
3	BOTTOM-RACK FRAME	Steel-.103"	1
4	CORNER UPRIGHTS	Steel-.103"	4
5	DOOR(S)	Steel-.059"	
6	DOOR HANDLE(S)	DIE CAST	
7	DOOR HINGES-Slip Joint	Steel-3"	3
8	PANEL MOUNTING ANGLES	Steel-.187"	2
9	BOLT RETAINER RAILS	Steel-.103"	6*
10	RAIL BOLT ASSEMBLIES	Steel-⅜"	6*
11	FLOOR LEVELERS	ADJUSTABLE	4
12	TOP & BOTTOM MOULDINGS	Steel-.059"	2
13	OUTLET BOX & RECEPTACLE	DUPLEX	1
14	SIDE PANELS (Optional)	Steel-059	2
15	RECESSED BASE (Optional)	Steel-.103	1
16	PANEL MOUNTING SCREWS	Steel-¾ x ½	50
17	FRONT VERTICAL MOULDGS	Steel-.048"	2

*(4) On racks 42⅞ & 48¼ inches high.

SIZES ARE GIVEN IN INCHES.

A typical Dimensional Drawing of Constructional Elements of a Par-Metal Modular Cabinet Rack Cat. No. PR-8427-B.

RACK FRAMES are #12 Gauge Steel (.104") and are fully welded, and have modern, functional design.

PANEL MOUNTING ANGLES of 3/16" structural steel are included. Hole spacing will match **either WE** or **EIA** specifications. Holes are tapped for 12/24 screws. 10/32 tapped holes are optional at no extra cost. Contempo-Panel Mounting Angles are tapped 10-32 only. Angles are secured to rails with ⅜" diameter steel bolts to provide maximum forward and back adjustment, for optional front to rear positioning.

DOORS: Except for Contempo Front Door (Series FC, see #4 above), all doors are "Dutch Formed" (one piece out of #16 gauge steel (.059"). On Racks with front doors, a solid door is standard. Louvered Rear Door is standard on all racks. However other door modifications are optional at no charge (see Part-Metal Page 23). To save aisle space, racks 30" wide or more have double doors with three-point latches.

HINGES for ALL doors are of the slip-joint type for simple removal.

DOOR HANDLES are die cast, chrome plated and are non-locking. Lock handles are on both doors on Racks with "F" prefix.

REMOVABLE TOP PANELS are standard. For ventilating modifications see Par-Metal Page 23.

RECESSED RACK BASES are listed on Par-Metal Pages 6-8, 11. Do not use rack base with roller trucks.

HARDWARE is provided as needed at no charge. This includes bolts, washers, nuts, panel mounting screws and a grounding duplex electric outlet (below rear door).

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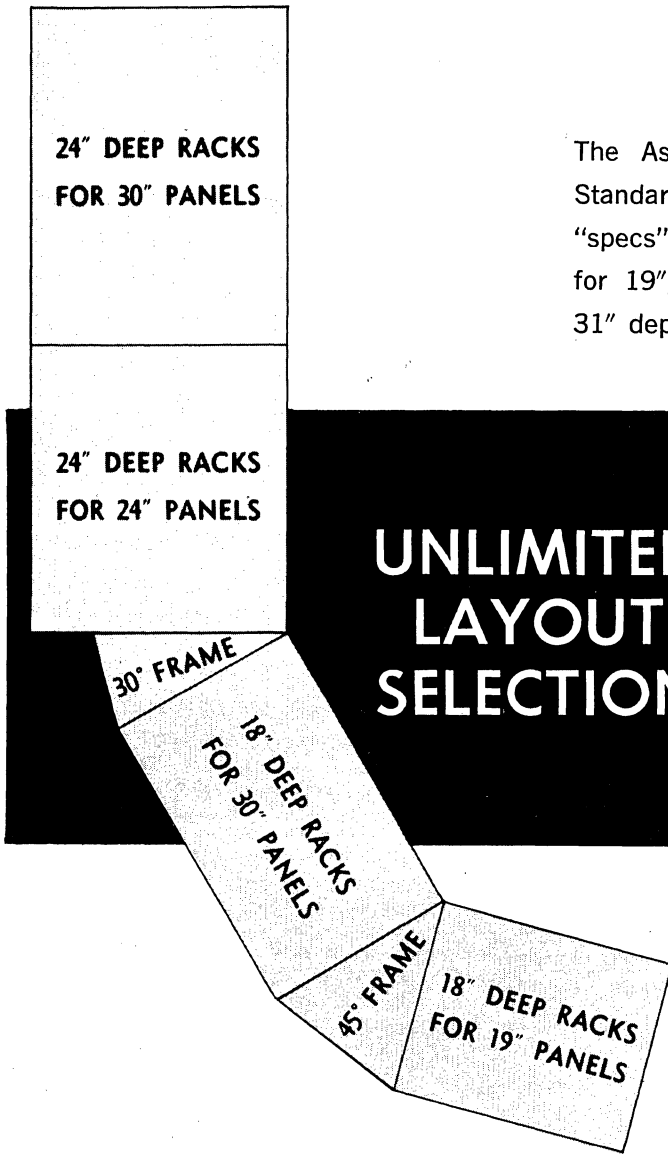
MODULAR CABINET RACKS

Par-Metal



SEMI-CUSTOM DESIGNS

The Assembly illustrated is a typical combination of Standard Par-Metal Cabinet Racks. Any grouping to fit your "specs" is available. Standard Par-Metal Racks are made for 19", 24" and 30" panels and in 18", 24", 26" and 31" depths.

UNLIMITED LAYOUT SELECTION

For Racks With
ANY HEIGHT
ANY WIDTH
ANY DEPTH
ANY CONFIGURATION
ANY QUANTITY
ANY FINISH

Let our Engineering Dept. Assist You!

Naturally, No Cost to you is Involved and No Obligation is Intended!

ORDERING INSTRUCTIONS!

1. **ORDER RACKS BY CATALOG NUMBER!**
2. **SEE ACCESSORY CHECK LISTS** (Par-Metal Pages 9, 10, 11, 12). Order accessories (Side Panels, Roller Trucks, Rack Bases, Slides, Drawers, Panels, etc.) at same time as racks to get best Industrial Discounts and guarantee perfect MATCHING FINISH. **ORDER BY CATALOG NUMBERS.**
3. Advise us of the number of racks to be set in each row so that the proper trims can be included at NO COST to you.
4. **YOU MUST SPECIFY FINISH!** Choose ANY of these:

Light Grey Hammertone Enamel..Mark Order **LH**
Dark Grey Hammertone Enamel..Mark Order **DH**
Light/Dark Grey Hammertone Enamel
(Dark Cabinet with Dark Trim)
(Light Doors and Side Panels)..Mark Order **LD**
Dark Grey Metallic Enamel.....Mark Order **GM**
Blue Grey Wrinkle Enamel.....Mark Order **BG**
Black Wrinkle Enamel .....Mark Order **BW**
Primer Coat Only.....Mark Order **PC**

* On PC and FC Cabinets, Standard Finish (**CVG**) is a combination of Dawn Gray Vinyl Doors and Side Panels and Charcoal Gray Cabinet and Base. It will be furnished whenever finish is not specified.

SPECIAL ENAMEL, LACQUER, VINYL OR OTHER FINISHES AVAILABLE.

ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG

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Par-Metal RACK CATALOG NUMBER IDENTITY CHARTS

MODELS - PL/FL - PR/FR - PX/FX RACKS

P—HERE MEANS Racks with Rear Door ONLY.

F—HERE MEANS Racks with Both Front and Rear Doors and Lock Handles

L—HERE MEANS Racks for OPTIONAL Detachable, Ball Cornered Side Panels

R—HERE MEANS Racks for OPTIONAL Detachable, Flush Mounted Side Panels

X—HERE MEANS Racks with Welded-on Solid Side Walls

37—HERE MEANS 42⅞" High Racks with 36¾" Panel Height

48—HERE MEANS 48⅛" High Racks with 42" Panel Height

58—HERE MEANS 58⅝" High Racks with 52½" Panel Height

67—HERE MEANS 67⅜" High Racks with 61¼" Panel Height

77—HERE MEANS 76⅛" High Racks with 70" Panel Height

84—HERE MEANS 83⅛" High Racks with 77" Panel Height

90—HERE MEANS 90⅛" High Racks with 84" Panel Height

18—HERE IDENTIFIES 18" Deep and 22" Wide Rack for 19" Panels

24—HERE IDENTIFIES 24" Deep and 22" Wide Rack for 19" Panels

27—HERE IDENTIFIES 24" Deep and 27" Wide Rack for 24" Panels

33—HERE IDENTIFIES 24" Deep and 33" Wide Rack for 30" Panels & Double Doors

P	L	48	18	B	L H

PLACE FINISHING CODE LETTERS HERE.....
See Par-Metal Page 4

Typical Catalog Number

CONTEMPO-RACKS: MODELS PC/FC

P—HERE MEANS Racks with Rear Door ONLY.

F—HERE MEANS Racks with Both Front and Rear Doors and Lock Handles

C—HERE MEANS CONTEMPO RACKS

42—HERE MEANS 46 1/16" High Racks with 42" Panel Height

52—HERE MEANS 56 1/16" High Racks with 52½" Panel Height

61—HERE MEANS 65 1/16" High Racks with 61¼" Panel Height

70—HERE MEANS 74 1/16" High Racks with 70" Panel Height

77—HERE MEANS 81 1/16" High Racks with 77" Panel Height

84—HERE MEANS 88 1/16" High Racks with 84" Panel Height

1—HERE IDENTIFIES 19" Panel Width

2—HERE IDENTIFIES 24" Panel Width

3—HERE IDENTIFIES 30" Panel Width

2—HERE SHOWS 26" Rack Depth

3—HERE SHOWS 31" Rack Depth

P	C	77	2	3	CVG

PLACE FINISHING CODE LETTERS HERE.....
See Par-Metal Page 4

Typical Catalog Number

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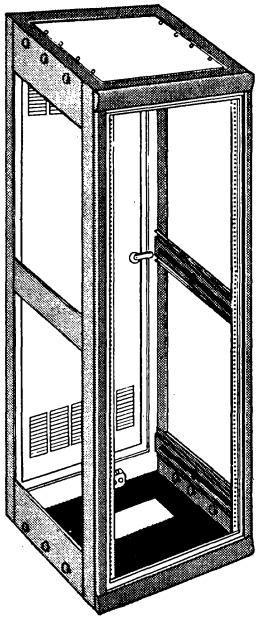
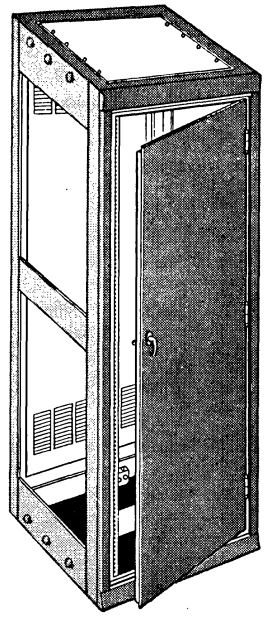
MODULAR CABINET RACKS

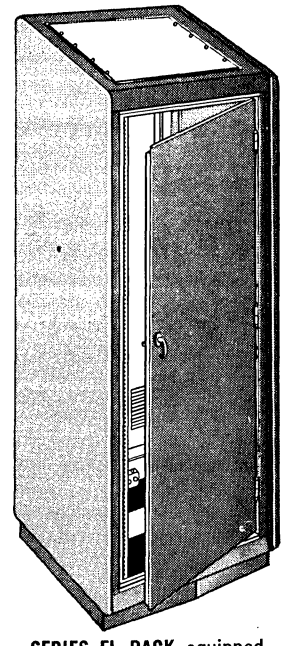
Par-Metal



SERIES PL RACKS
With Rear Door Only



SERIES FL RACKS
With Front and Rear Doors

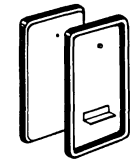


SERIES FL RACK equipped with ball cornered side panels and recessed base attached.

MAJOR ACCESSORIES for Use with Series "PL" and "FL" Racks

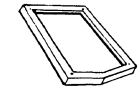
(For full accessory check list, please turn to Par-Metal Pages 9 and 10).

BALL CORNERED SIDE PANELS: Side panels constructed from #16 gauge steel, formed edges, welded at all 4 corners. Supplied with coinciding brackets at bottom for easy alignment with rack sides. Top secured with cowl fastener, readily removable. 1-1/4" thick in finishes to match racks.



Cat. No.	To Fit PL or FL Rack Nos.	Net Price (Per Pair)
RL-418-B	4818	$42.00
RL-518-B	5818	46.40
RL-618-B	6718	51.35
RL-718-B	7718	54.80
RL-818-B	8418	58.60
RL-424-B	4824, 4827, 4833	49.55
RL-524-B	5824, 5827, 5833	53.55
RL-624-B	6724, 6727, 6733	58.60
RL-724-B	7724, 7727, 7733	62.40
RL-824-B	8424, 8427, 8433	65.75
RL-924-B	9024, 9027, 9033	69.40

RECESSED RACK BASES: Heavy duty bases made from #12 gauge (7/64") steel, rigidly formed and welded. Tapped holes on top match holes in bottom of racks; 4 adjustable floor levelers mounted on bottom. Not required with roller trucks. Bases 2-1/2" high.



Cat. No.	To Fit All Racks	Net Price
RB-2217	22" wide, 18" deep	$16.50
RB-2223	22" wide, 24" deep	17.00
RB-2723	27" wide, 24" deep	18.50
RB-3323	33" wide, 24" deep	20.00

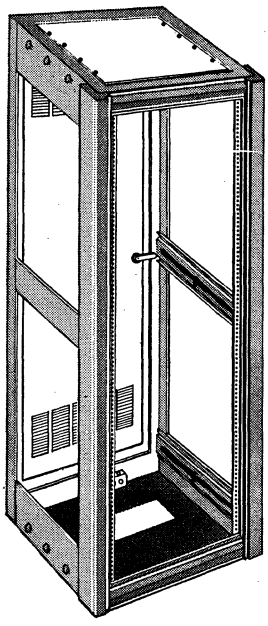
RACKS FOR BALL CORNERED SIDE PANELS (SERIES PL and FL)

PL SERIES REAR DOOR ONLY		FL SERIES FRONT & REAR DOORS		RACK DIMENSIONS						
				OVERALL SIZE			PANEL SPACE	*CLEAR INSIDE DEPTH	**CLEAR INSIDE WIDTH (FRONT)	REMOVABLE TOP PANEL
Cat. No.	Net Price	Cat. No.	Net Price	Height	††Width	††Depth	Height x Width			Width / Depth
FOR 19" WIDE PANELS AND 18⅜" DEEP RACKS										
PL-4818-B	$ 96.90	FL-4818-B	$114.70	48⅛"			42" x 19"			
PL-5818-B	110.00	FL-5818-B	124.90	58⅝"			52½" x 19"			
PL-6718-B	114.30	FL-6718-B	134.45	67⅜"	22⅛"	18⅜"	61¼" x 19"	16¾"	17¾"	19" / 12¼"
PL-7718-B	126.60	FL-7718-B	152.50	76⅛"			70" x 19"			
PL-8418-B	135.00	FL-8418-B	164.85	83⅛"			77" x 19"			
FOR 19" WIDE PANELS AND 24⅜" DEEP RACKS										
PL-4824-B	116.05	FL-4824-B	137.30	48⅛"			42" x 19"			
PL-5824-B	123.90	FL-5824-B	147.50	58⅝"			52½" x 19"			
PL-6724-B	133.10	FL-6724-B	156.45	67⅜"	22⅛"	24⅜"	61¼" x 19"	22¾"	17¾"	19" / 19¼"
PL-7724-B	150.45	FL-7724-B	175.10	76⅛"			70" x 19"			
PL-8424-B	160.45	FL-8424-B	190.30	83⅛"			77" x 19"			
PL-9024-B	188.30	FL-9024-B	204.75	90⅛"			84" x 19"			
FOR 24" WIDE PANELS AND 24⅜" DEEP RACKS										
PL-4827-B	146.75	FL-4827-B	168.00	48⅛"			42" x 24"			
PL-5827-B	156.50	FL-5827-B	180.60	58⅝"			52½" x 24"			
PL-6727-B	166.70	FL-6727-B	197.40	67⅜"	27⅛"	24⅜"	61¼" x 24"	22¾"	22¾"	24" / 19¼"
PL-7727-B	179.00	FL-7727-B	208.95	76⅛"			70" x 24"			
PL-8427-B	197.15	FL-8427-B	234.15	83⅛"			77" x 24"			
PL-9027-B	215.25	FL-9027-B	257.25	90⅛"			84" x 24"			
†FOR 30" WIDE PANELS AND 24⅜" DEEP RACKS										
†PL-4833-B	168.00	†FL-4833-B	194.25	48⅛"			42" x 30"			
†PL-5833-B	183.80	†FL-5833-B	220.50	58⅝"			52½" x 30"			
†PL-6733-B	199.00	†FL-6733-B	243.10	67⅜"	33⅛"	24⅜"	61¼" x 30"	22¾"	28¾"	30" / 19¼"
†PL-7733-B	215.80	†FL-7733-B	265.40	76⅛"			10" x 30"			
†PL-8433-B	235.50	†FL-8433-B	287.70	83⅛"			77" x 30"			
†PL-9033-B	255.15	†FL-9033-B	307.65	90⅛"			84" x 30"			

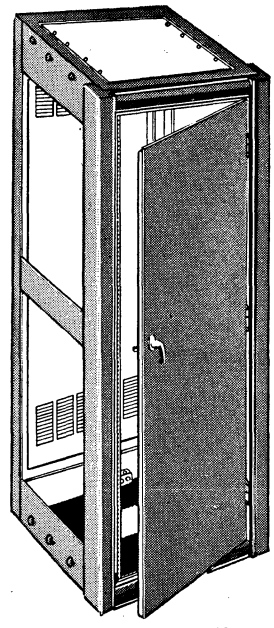
*ALLOW FOR LATCH HANDLE
† Racks for 30" wide Panels have TWO FRENCH DOORS—to save aisle space.
**FOR CLEAR INSIDE WIDTH AT REAR, ADD 1⅜" †† For Racks with SIDE PANELS attached, add 2½" to width and ⅞" to depth.

PAR-METAL PRODUCTS • ENGINEERING ASSISTANCE AVAILABLE

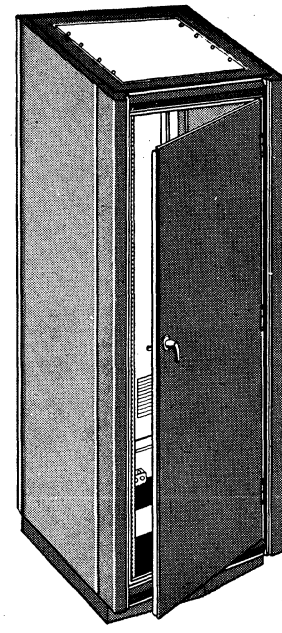
Par-Metal MODULAR CABINET RACKS



SERIES PR RACKS
With Rear Doors Only



SERIES FR RACKS
With Front and Rear Doors



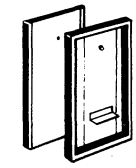
SERIES FR RACK
equipped with flush side panels and recessed base.

(For full accessory check list, please turn to Par-Metal Pages 9 and 10).

MAJOR ACCESSORIES for Use with Series "PR" and "FR" Racks

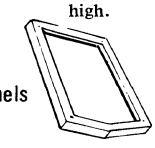
FLUSH MOUNTED SIDE PANELS

Sturdily constructed from #16 gauge steel, formed edges, welded at all 4 corners. Vertical edges trimmed with recesssed stainless steel mouldings. Coinciding brackets at bottom allow for easy alignment with rack sides. Readily removable, 3/4" thick panels, finishes to match racks.



Cat. No.	To Fit PR, FR Racks	Net Price (Per Pair)
RS-418-B	4818	$40.35
RS-518-B	5818	44.10
RS-618-B	6718	48.30
RS-718-B	7718	54.20
RS-818-B	8418	60.70
RS-424-B	4824, 4827, 4833	45.70
RS-524-B	5824, 5827, 5833	52.85
RS-624-B	6724, 6727, 6733	57.15
RS-724-B	7724, 7727, 7733	60.00
RS-824-B	8424, 8427, 8433	62.50
RS-924-B	9024, 9027, 9033	68.60

RECESSED RACK BASES: Heavy duty bases made from #12 gauge (7/64") steel, rigidly formed and welded. Tapped holes on top match holes in bottom of racks; 4 adjustable floor levelers mounted on bottom. Not required with roller trucks. Bases 2-1/2" high.



Cat. No.	To Fit All Racks	Net Price
RB-2217	22" wide, 18" deep	$16.50
RB-2223	22" wide, 24" deep	17.00
RB-2723	27" wide, 24" deep	18.50
RB-3323	33" wide, 24" deep	20.00

RACKS FOR FLUSH MOUNTED SIDE PANELS (SERIES PR and FR)

PR SERIES REAR DOOR ONLY		FR SERIES FRONT & REAR DOORS		RACK DIMENSIONS						
				OVERALL SIZE			PANEL SPACE	*CLEAR INSIDE DEPTH	**CLEAR INSIDE WIDTH (FRONT)	REMOVABLE TOP PANEL
Cat. No.	Net Price	Cat. No.	Net Price	Height	††Width	††Depth	Height x Width			Width	Depth
FOR 19" WIDE PANELS AND 18⅜" DEEP RACKS											
PR-4818-B	$ 96.90	FR-4818-B	$114.70	48⅛"			42" x 19"				
PR-5818-B	110.00	FR-5818-B	124.90	58⅝"			52½" x 19"				
PR-6718-B	114.30	FR-6718-B	134.45	67⅜"	22⅛"	18⅜"	61¼" x 19"	16¾"	17¾"	19"	12¼"
PR-7718-B	126.60	PR-7718-B	152.50	76⅛"			70" x 19"				
PR-8418-B	135.00	PR-8418-B	164.85	83⅛"			77" x 19"				
FOR 19" WIDE PANELS AND 24⅜" DEEP RACKS											
PR-4824-B	116.05	FR-4824-B	137.30	48⅛"			42" x 19"				
PR-5824-B	123.90	FR-5824-B	147.50	58⅝"			52½" x 19"				
PR-6724-B	133.10	FR-6724-B	156.45	67⅜"	22⅛"	24⅜"	61¼" x 19"	22¾"	17¾"	19"	19¼"
PR-7724-B	150.45	FR-7724-B	175.10	76⅛"			70" x 19"				
PR-8424-B	160.45	FR-8424-B	190.30	83⅛"			77" x 19"				
PR-9024-B	188.30	FR-9024-B	204.75	90⅛"			84" x 19"				
FOR 24" WIDE PANELS AND 24⅜" DEEP RACKS											
PR-4827-B	146.75	FR-4827-B	168.00	48⅛"			42" x 24"				
PR-5827-B	156.50	FR-5827-B	180.60	58⅝"			52½" x 24"				
PR-6727-B	166.70	FR-6727-B	197.40	67⅜"	27⅛"	24⅜"	61¼" x 24"	22¾"	22¾"	24"	19¼"
PR-7727-B	179.00	FR-7727-B	208.95	76⅛"			70" x 24"				
PR-8427-B	197.15	FR-8427-B	234.15	83⅛"			77" x 24"				
PR-9027-B	215.25	FR-9027-B	257.25	90⅛"			84" x 24"				
†FOR 30" WIDE PANELS AND 24⅜" DEEP RACKS											
†PR-4833-B	168.00	†FR-4833-B	194.25	48⅛"			42" x 30"				
†PR-5833-B	183.80	†FR-5833-B	220.50	58⅝"			52½" x 30"				
†PR-6733-B	199.00	†FR-6733-B	243.10	67⅜"	33⅛"	24⅜"	61¼" x 30"	22¾"	28¾"	30"	19¼"
†PR-7733-B	215.80	†FR-7733-B	265.40	76⅛"			10" x 30"				
†PR-8433-B	235.50	†FR-8433-B	287.70	83⅛"			77" x 30"				
†PR-9033-B	255.15	†FR-9033-B	307.65	90⅛"			84" x 30"				

*ALLOW FOR LATCH HANDLE
† Racks for 30" wide Panels have TWO FRENCH DOORS—to save aisle space.
**FOR CLEAR INSIDE WIDTH AT REAR, ADD 1⅜" †† For Racks with SIDE PANELS attached, add 2½" to width and ⅞" to depth.

ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG

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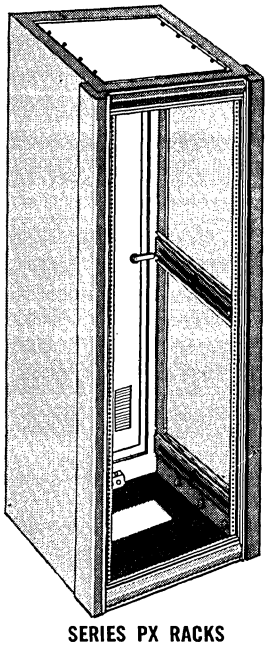
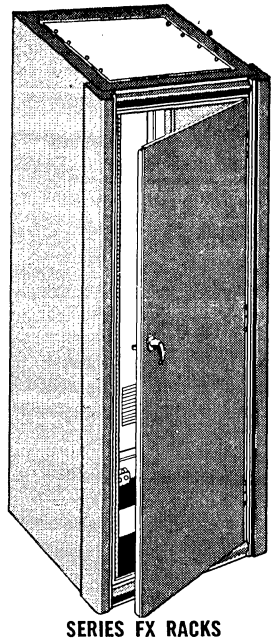
MODULAR CABINET RACKS

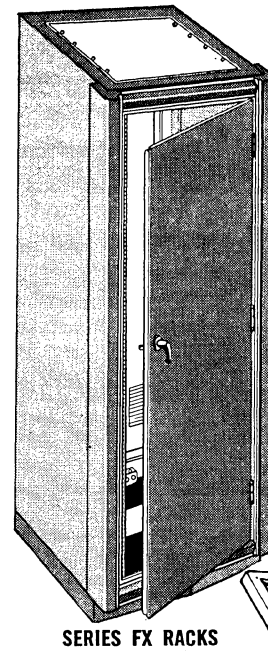
Par-Metal



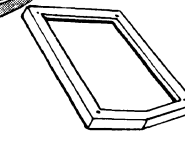
SERIES PX RACKS
With Rear Door Only



SERIES FX RACKS
With Front and Rear Doors

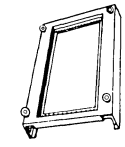


SERIES FX RACKS
equipped with
recessed base



MAJOR ACCESSORIES for Use with Series "PX" and "FX" Racks

(For full accessory check list, please turn to Par-Metal Pages 9 and 10).



LIFT BOLT ASSEMBLY

Can be supplied on **any** of the above racks **with** Solid Side Walls as well as **those with** detachable sides (listed on Par-Metal Pages 6 and 7). Eyebolts have 1/2" diam., threaded stud; eye opening 1-3/16" diam. Top of rack reinforced. Specify **"with IB Assembly"** when ordering.

PRICES ON REQUEST.

RECESSED RACK BASES: Heavy duty bases made from #12 gauge (7/64") steel, rigidly formed and welded. Tapped holes on top match holes in bottom of racks; 4 adjustable floor levelers mounted on bottom. Not required with roller trucks. Bases 2-1/2" high.

Cat. No.	To Fit All Racks	Net Price
RB-2217	22" wide, 18" deep	$16.50
RB-2223	22" wide, 24" deep	17.00
RB-2723	27" wide, 24" deep	18.50
RB-3323	33" wide, 24" deep	20.00

RACKS WITH SOLID WELDED-ON SIDE WALLS (SERIES PX and FX)

PX SERIES REAR DOOR ONLY		FX SERIES FRONT & REAR DOORS		RACK DIMENSIONS						
				OVERALL SIZE			PANEL SPACE	*CLEAR INSIDE DEPTH	**CLEAR INSIDE WIDTH (FRONT)	REMOVABLE TOP PANEL
Cat. No.	Net Price	Cat. No.	Net Price	Height	††Width	††Depth	Height x Width			Width / Depth
FOR 19" WIDE PANELS AND 18¼" DEEP RACKS										
PX-3718-B	$ 85.70	FX-3718-B	$100.10	42⅞"			36¾" x 19"			
PX-4818-B	90.00	FX-4818-B	108.55	48⅛"			42" x 19"			
PX-5818-B	102.55	FX-5818-B	125.30	58⅝"			52½" x 19"			
PX-6718-B	107.45	FX-6718-B	128.10	67⅜"	22"	18¼"	61¼" x 19"	16¾"	17¾"	19" / 12¼"
PX-7718-B	119.30	FX-7718-B	140.15	76⅛"			70" x 19"			
PX-8418-B	130.25	FX-8418-B	153.10	83⅛"			77" x 19"			
FOR 19" WIDE PANELS AND 24¼" DEEP RACKS										
PX-4824-B	104.20	FX-4824-B	123.90	48⅛"			42" x 19"			
PX-5824-B	110.25	FX-5824-B	134.95	58⅝"			52½" x 19"			
PX-6724-B	127.50	FX-6724-B	152.35	67⅜"			61¼" x 19"			
PX-7724-B	141.10	FX-7724-B	166.10	76⅛"	22"	24¼"	70" x 19"	22¾"	17¾"	19" / 19¼"
PX-8424-B	152.65	FX-8424-B	180.75	83⅛"			77" x 19"			
PX-9024-B	171.65	FX-9024-B	201.60	90⅛"			84" x 19"			
FOR 24" WIDE PANELS AND 24¼" DEEP RACKS										
PX-4827-B	132.50	FX-4827-B	163.65	48⅛"			42" x 24"			
PX-5827-B	143.60	FX-5827-B	170.40	58⅝"			52½" x 24"			
PX-6727-B	151.00	FX-6727-B	191.95	67⅜"			61¼" x 24"			
PX-7727-B	167.00	FX-7727-B	193.00	76⅛"	27"	24¼"	70" x 24"	22¾"	22¾"	24" / 19¼"
PX-8427-B	180.95	FX-8427-B	210.55	83⅛"			77" x 24"			
PX-9027-B	199.50	FX-9027-B	228.65	90⅛"			84" x 24"			
†FOR 30" WIDE PANELS AND 24¼" DEEP RACKS										
†PX-4833-B	154.90	†FX-4833-B	188.60	48⅛"			42" x 30"			
†PX-5833-B	168.00	†FX-5833-B	207.40	58⅝"			52½" x 30"			
†PX-6733-B	181.85	†FX-6733-B	225.95	67⅜"			61¼" x 30"			
†PX-7733-B	198.50	†FX-7733-B	248.00	76⅛"	33"	24"	10" x 30"	22¾"	28¾"	30" / 19¼"
†PX-8433-B	217.80	†FX-8433-B	270.05	83⅛"			77" x 30"			
†PX-9033-B	236.30	†FX-9033-B	288.75	90⅛"			84" x 30"			

*ALLOW FOR LATCH HANDLE

†Racks for 30" wide Panels have TWO FRENCH DOORS—to save aisle space.

**FOR CLEAR INSIDE WIDTH AT REAR, ADD 1⅜"

††For Racks with Vertical Corner Trims, add 1½" to width and ⅞" to depth.

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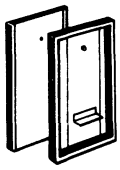
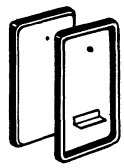
Par-Metal MODULAR CABINET RACK ACCESSORY CHECK LIST

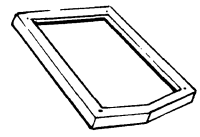
For CONTEMPO-RACK Accessory Check List, please turn to Par-Metal Page 12.



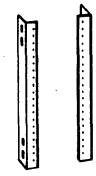
DETACHABLE SIDE PANELS (RS Type)



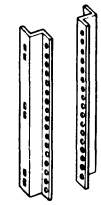
DETACHABLE SIDE PANELS (RL Type)



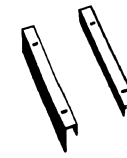
RECESSED RACK BASE



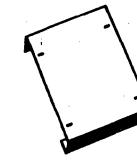
PANEL MOUNTING ANGLES



VERTICAL SIDE SUPPORTS



MOUNTING BRACKETS



EQUIPMENT SHELF

RACK *Catalog Number	DETACHABLE SIDE PANELS Par-Metal Page Nos. 6 and 7	RECESSED RACK BASES Par-Metal Page Nos. 6 - 8	PANEL MOUNTING ANGLES Par-Metal Page 14	VERTICAL SIDE SUPPORTS Par-Metal Page 14	MOUNTING BRACKETS Par-Metal Page 14	EQUIPMENT SHELVES Par-Metal Page 14	EXTERIOR TABLE Par-Metal Page 13
FOR 19" WIDE PANELS AND 18⅜" OR 18¼" DEEP RACKS							
*-3718-B			PA-36	VS-36			
*-4818-B	**—418-B		PA-42	VS-42			
*-5818-B	**—518-B	RB-2217	PA-52	VS-52	BR-118	SS-1918	RX-119
*-6718-B	**—618-B		PA-61	VS-61			
*-7718-B	**—718-B		PA-70	VS-70			
*-8418-B	**—818-B		PA-77	VS-77			
FOR 19" WIDE PANELS AND 24⅜" OR 24¼" DEEP RACKS							
*-4824-B	**—424-B		PA-42	VS-42			
*-5824-B	**—524-B		PA-52	VS-52			
*-6724-B	**—624-B	RB-2223	PA-61	VS-61	BR-124	SS-1924	RX-119
*-7724-B	**—724-B		PA-70	VS-70			
*-8424-B	**—824-B		PA-77	VS-77			
*-9024-B	**—924-B		PA-84	VS-84			
FOR 24" WIDE PANELS AND 24⅜" OR 24¼" DEEP RACKS							
*-4827-B	**—424-B		PA-42	VS-42			
*-5827-B	**—524-B		PA-52	VS-52			
*-6727-B	**—624-B	RB-2723	PA-61	VS-61	BR-124	SS-2724	RX-124
*-7727-B	**—724-B		PA-70	VS-70			
*-8427-B	**—824-B		PA-77	VS-77			
*-9027-B	**—924-B		PA-84	VS-84			
FOR 30" WIDE PANELS AND 24⅜" OR 24¼" DEEP RACKS							
*-4833-B	**—424-B		PA-42	VS-42			
*-5833-B	**—524-B		PA-52	VS-52			
*-6733-B	**—624-B	RB-3323	PA-61	VS-61	BR-124	SS-3324	RX-130
*-7733-B	**—724-B		PA-70	VS-70			
*-8433-B	**—824-B		PA-77	VS-77			
*-9033-B	**—924-B		PA-84	VS-84			

*For Prefix letters see chart on Par-Metal Page 5

DETACHABLE SIDE PANELS used with **Flush Mounted Side Panels use PREFIX LETTERS **"RS"**.

DETACHABLE SIDE PANELS used with **Ball Cornered Side Panels use PREFIX LETTERS **"RL"**.

KNOCKDOWN CABINET RELAY RACKS — FOR 19" WIDE PANELS AND 18" DEEP RACKS					Par-Metal Pages 19, 20
ER-213-A					ER-2212
ER-215-A					ER-2212
FD-215-A					R-2225
ER-217-A					ER-2212
FD-217-A					R-2225
ER-223-A		PA-23			ER-2212
FD-223-A			VS-23	■BR-118	■SS-1918
ER-225-A					ER-2212
FD-225-A		PA-25	VS-25	■BR-118	■SS-1918
ER-227-A					ER-2212
FD-227-A		PA-27	VS-27	■BR-118	■SS-1918

■ For use with VS Supports. Without VS Supports, use Shelf R-2225 only.

The accessory charts shown on these 2 pages give you a complete listing of standard accessories which may be used with Par-Metal **Modular Cabinet Racks** listed on Par-Metal Pages 6, 7, 8. **Relay Racks** (see Par-Metal Pages 19-20) and **Open Channel Type Racks** (see Par-Metal Page 18).

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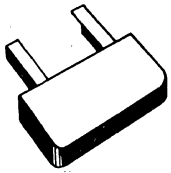
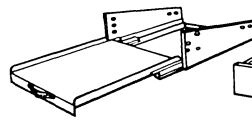
MODULAR CABINET RACK ACCESSORY CHECK LIST

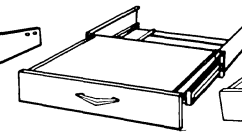
Par-Metal

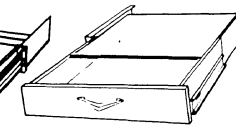
For CONTEMPO-RACK Accessory Check List, please turn to Par-Metal Page 12.

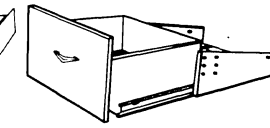

EXTERIOR DESK TABLE

SINGLE ROLLER TRUCK


BASIC SLIDE ASSEMBLY


DESK SHELF ASSEMBLY


DESK DRAWER ASSEMBLY


STORAGE DRAWER ASSEMBLY

Rack *Catalog Number	ROLLER TRUCKS (See Par-Metal Pages 15 & 16) STANDARD Single Unit	HEAVY DUTY Single Unit	HEAVY DUTY Double Unit	HEAVY DUTY Triple Unit	SLIDE ASSEMBLIES (See Par-Metal Page 17) BASIC SLIDE	STORAGE DRAWER	DESK SHELF
FOR 19" WIDE PANELS AND 18⅜" OR 18¼" DEEP RACKS							
*-3718-B *-4818-B *-5818-B *-6718-B *-7718-B *-8418-B	RT-412	HD-412 or **HD-425	HD-412-2 or **HD-425-2	HD-412-3 or **HD-425-3	BS-1980†	DD-1980†	SD-1935† or SK-1970 or SK-2419†
FOR 19" WIDE PANELS AND 24⅜" OR 24¼" DEEP RACKS							
*-4824-B *-5824-B *-6724-B *-7724-B *-8424-B *-9024-B		HD-420 or **HD-426	HD-420-2 or **HD-426-2	HD-420-3 or **HD-426-3	BS-1940 or BS-2419†	DD-1980† or DD-1940 or DD-2419†	SD-1935† or SK-1970 or SK-2419†
FOR 24" WIDE PANELS AND 24⅜" OR 24¼" DEEP RACKS							
*-4827-B *-5827-B *-6727-B *-7727-B *-8427-B *-9027-B		HD-427 or **HD-432	HD-427-2 or **HD-432-2	HD-427-3 or **HD-432-3	BS-2424†	DD-2424† or SD-2435†	SK-2424† or SD-2435†
FOR 30" WIDE PANELS AND 24⅜" OR 24¼" DEEP RACKS							
*-4833-B *-5833-B *-6733-B *-7733-B *-8433-B *-9033-B		HD-434 or **HD-438	HD-434-2 or **HD-438-2	HD-434-3 or **HD-438-3			
KNOCKDOWN CABINET RELAY RACKS — FOR 19" WIDE PANELS AND 18" DEEP RACKS							
ER-213-A ER-215-A FD-215-A ER-217-A FD-217-A ER-223-A FD-223-A ER-225-A FD-225-A ER-227-A FD-227-A	RT-412	HD-412	HD-412-2	HD-412-3	BS-1980†	DD-1980†	SD-1935† or SK-1970† or SK-2419†
KNOCKDOWN CHANNEL RELAY RACKS — FOR 19" WIDE PANELS AND 21" DEEP RACKS							
RX-193 RX-195					BS-1980†	DD-1980†	SD-1935† SK-1970 SK-2419†
KNOCKDOWN CHANNEL RELAY RACKS — FOR 19" WIDE PANELS AND 26" DEEP RACKS							
RR-194 RR-196 RR-197					BS-1940, BS-2419†	DD-1980†, DD-1940 or DD-2419†	SD-1935 SK-1970 SK-2419†
KNOCKDOWN CHANNEL RELAY RACKS — FOR 24" WIDE PANELS AND 26" DEEP RACKS							
RR-1922 RR-1923 RR-1924					BS-2424†	DD-2424† or SD-2435†	SK-2424 or SD-2435†

*For prefix letters see chart on Par-Metal Page 5. **For use with Racks with Removable Side Panels.
†Indicates these slides are designed for heavy duty use.

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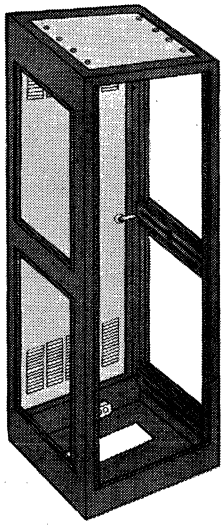
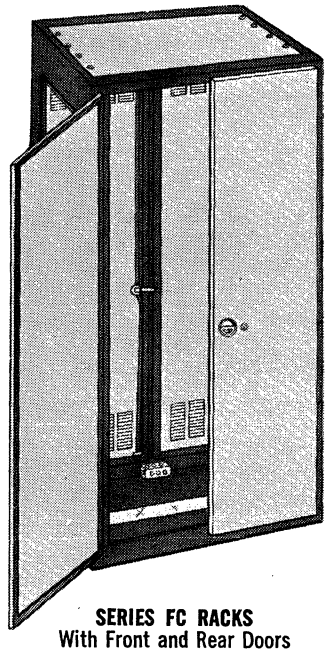
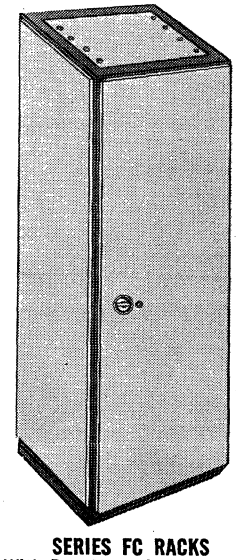
Par-Metal CONTEMPO-UNIT WELDED CABINET RACKS



SERIES PC RACKS
With Rear Door Only
(Rack Frame)



SERIES FC RACKS
With Front and Rear Doors
(Racks for 30″ Wide Panels Have Two French Doors to Save Aisle Space)

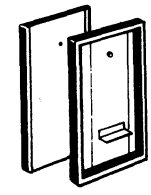


SERIES FC RACKS
With Pan Shaped Side Panels and Recessed Base Added

MAJOR ACCESSORIES for Use With CONTEMPO-RACKS Series "PC" and "FC"

(For full accessory check list, see facing page.)

PAN SHAPED SIDE PANELS: Side panels constructed from #16 gauge steel, formed edges, welded at all 4 corners. Supplied with coinciding brackets at bottom for easy alignment with rack sides. Top secured with cowl fastener, readily removable. ¾″ thick in finishes to match racks.



Cat. No.	To Fit Rack Nos.	Net Price (Per Pair)
CS-422	4212, 4222, 4232	$49.55
CS-522	5212, 5222, 5232	53.55
CS-612	6112, 6122, 6132	58.60
CS-702	7012, 7022, 7032	62.40
CS-772	7712, 7722, 7732	65.75
CS-842	8412, 8422, 8432	69.40
CS-423	4213, 4223, 4233	56.99
CS-523	5213, 5223, 5233	61.59
CS-613	6113, 6123, 6133	67.39
CS-703	7013, 7023, 7033	71.77
CS-773	7713, 7723, 7733	75.61
CS-843	8413, 8423, 8433	79.81

RECESSED RACK BASES: Heavy duty bases made from #12 gauge (7/64″) steel, rigidly formed and welded. Tapped holes on top match holes in bottom of racks; 4 adjustable floor levelers mounted on bottom. Not required with roller trucks. Bases 2½″ high.

Cat. No.	To Fit All Racks	Net Price
CB-1926	21″ wide, 26″ deep	$17.85
CB-1931	21″ wide, 31″ deep	20.52
CB-2426	26″ wide, 26″ deep	19.43
CB-2431	26″ wide, 31″ deep	22.34
CB-3026	32″ wide, 26″ deep	21.00
CB-3031	32″ wide, 31″ deep	24.15

CONTEMPO-RACKS FOR PAN SHAPED SIDE PANELS (SERIES PC and FC)

PC SERIES REAR DOOR ONLY		FC SERIES FRONT & REAR DOORS		RACK DIMENSIONS							
				OVERALL SIZE			PANEL SPACE	*CLEAR INSIDE DEPTH	**CLEAR INSIDE WIDTH (FRONT)	REMOVABLE TOP PANEL	
Cat. No.	Net Price	Cat. No.	Net Price	Height	■Width	■■Depth	Height x Width			Width	Depth
FOR 19″ WIDE PANELS AND 26″ DEEP RACKS											
PC-4212	$130.57	FC-4212	$152.00	46 1/16″			42″ x 19″				
PC-5212	139.40	FC-5212	163.31	56 9/16″			52½″ x 19″				
PC-6112	149.74	FC-6112	174.39	65 5/16″	21⅛″	26⅛″	61¼″ x 19″	25″	17¾″	19″	21″
PC-7012	169.27	FC-7012	194.27	74 1/16″			70″ x 19″				
PC-7712	180.51	FC-7712	210.51	81 1/16″			77″ x 19″				
PC-8412	211.84	FC-8412	243.27	88 1/16″			84″ x 19″				
FOR 19″ WIDE PANELS AND 31″ DEEP RACKS											
PC-4213	150.16	FC-4213	171.59	46 1/16″			42″ x 19″				
PC-5213	160.31	FC-5213	184.24	56 9/16″			52½″ x 19″				
PC-6113	172.20	FC-6113	196.84	65 5/16″	21⅛″	31⅛″	61¼″ x 19″	30″	17¾″	19″	24½″
PC-7013	194.66	FC-7013	219.66	74 1/16″			70″ x 19″				
PC-7713	207.59	FC-7713	237.59	81 1/16″			77″ x 19″				
PC-8413	243.61	FC-8413	275.04	88 1/16″			84″ x 19″				
FOR 24″ WIDE PANELS AND 26″ DEEP RACKS											
PC-4222	161.43	FC-4222	185.00	46 1/16″			42″ x 24″				
PC-5222	172.14	FC-5222	198.46	56 9/16″			52½″ x 24″				
PC-6122	183.37	FC-6122	210.47	65 5/16″	26⅛″	26⅛″	61¼″ x 24″	25″	22¾″	24″	21″
PC-7022	196.90	FC-7022	224.40	74 1/16″			70″ x 24″				
PC-7722	216.86	FC-7722	249.86	81 1/16″			77″ x 24″				
PC-8422	236.79	FC-8422	271.36	88 1/16″			84″ x 24″				
FOR 24″ WIDE PANELS AND 31″ DEEP RACKS											
PC-4223	185.64	FC-4223	209.21	46 1/16″			42″ x 24″				
PC-5223	197.97	FC-5223	224.29	56 9/16″			52½″ x 24″				
PC-6123	210.87	FC-6123	237.97	65 5/16″	26⅛″	31⅛″	61¼″ x 24″	30″	22¾″	24″	24½″
PC-7023	226.43	FC-7023	255.36	74 1/16″			70″ x 24″				
PC-7723	248.07	FC-7723	281.07	81 1/16″			77″ x 24″				
PC-8423	260.47	FC-8423	295.04	88 1/16″			84″ x 24″				
FOR 30″ WIDE PANELS AND 26″ DEEP RACKS											
†PC-4232	181.44	†FC-4232	210.00	46 1/16″			42″ x 30″				
†PC-5232	198.51	†FC-5232	238.51	56 9/16″			52½″ x 30″				
†PC-6132	214.91	†FC-6132	260.63	65 5/16″	32⅛″	26⅛″	61¼″ x 30″	25″	28¾″	30″	21″
†PC-7032	233.06	†FC-7032	284.49	74 1/16″			70″ x 30″				
†PC-7732	254.34	†FC-7732	310.05	81 1/16″			77″ x 30″				
†PC-8432	275.56	†FC-8432	332.70	88 1/16″			84″ x 30″				
FOR 30″ WIDE PANELS AND 31″ DEEP RACKS											
†PC-4233	208.66	†FC-4233	237.23	46 1/16″			42″ x 30″				
†PC-5233	228.29	†FC-5233	268.29	56 9/16″			52½″ x 30″				
†PC-6133	247.14	†FC-6133	292.86	65 5/16″	32⅛″	31⅛″	61¼″ x 30″	30″	28¾″	30″	24½″
†PC-7033	268.01	†FC-7033	319.44	74 1/16″			70″ x 30″				
†PC-7733	292.50	†FC-7733	348.21	81 1/16″			77″ x 30″				
†PC-8433	316.88	†FC-8433	374.03	88 1/16″			84″ x 30″				

*** ALLOW FOR LATCH HANDLE. ** FOR CLEAR INSIDE WIDTH AT REAR, ADD 1⅜″. † Racks for 30″ wide Panels have TWO FRENCH DOORS (with 3 point latching) to save aisle space. ■ADD ¾″ for each side panel used. ■■ADD ¾″ for front door. Handles are Flush Mounted.**

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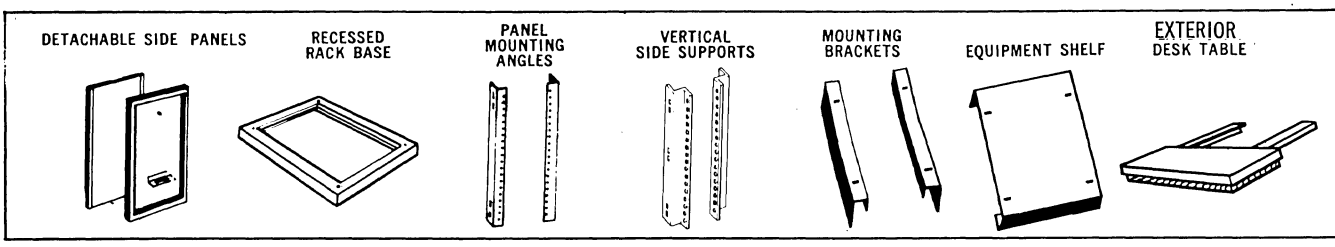
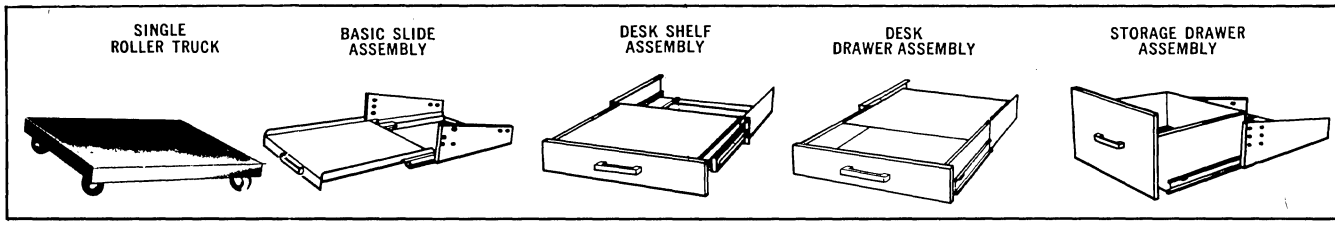
CONTEMPO-RACK ACCESSORY CHECK LIST

Par-Metal





This Accessory Check List is for CONTEMPO-RACKS ONLY.

For ALL other racks, please turn to Par-Metal Pages 9 and 10. Panels are listed on Par-Metal Pages 21 and 22.

For *Rack Cat. No.	Side Panels (Pair)	Recessed Rack Base	# Roller Trucks	Panel Angles (Pair)	Side Supports (Set/4)	# Exterior Desk Table (20" Deep)	Mounting Brackets (Pair)	Equipment Shelves	SLIDE ASSEMBLIES: Basic Slide	Desk Shelf	Desk/Drw. Comb.	Storage Drawer
SEE PAR METAL PAGE NUMBER												
	11	11	15 & 16	14	14	13	14	14	17	17	17	17
FOR 19" WIDE PANEL RACKS — 26" DEEP												
-4212 -5212 -6112 -7012 -7712 -8412	CS-422 CS-522 CS-612 CS-702 CS-772 CS-842	CB-1926	CR-192-1 or CRB-192-1	CPA-42 CPA-52 CPA-61 CPA-70 CPA-77 CPA-84	CVS-42 CVS-52 CVS-61 CVS-70 CVS-77 CVS-84	CRX-19-1	BR-126	SS-1926	BS-2419	SK-2419	SD-1935	DD-1940 or DD-2419
FOR 19" WIDE PANEL RACKS — 31" DEEP												
-4213 -5213 -6113 -7013 -7713 -8413	CS-423 CS-523 CS-613 CS-703 CS-773 CS-843	CB-1931	CR-193-1 or CRB-193-1	CPA-42 CPA-52 CPA-61 CPA-70 CPA-77 CPA-84	CVS-42 CVS-52 CVS-61 CVS-70 CVS-77 CVS-84	CRX-19-1	BR-131	SS-1931	BS-2419	SK-2419	SD-1935	DD-1940 or DD-2419
FOR 24" WIDE PANEL RACKS — 26" DEEP												
-4222 -5222 -6122 -7022 -7722 -8422	CS-422 CS-522 CS-612 CS-702 CS-772 CS-842	CB-2426	CR-242-1 or CRB-242-1	CPA-42 CPA-52 CPA-61 CPA-70 CPA-77 CPA-84	CVS-42 CVS-52 CVS-61 CVS-70 CVS-77 CVS-84	CRX-24-1	BR-126	SS-2426	BS-2424	SK-2424	SD-2435	DD-2424
FOR 24" WIDE PANEL RACKS — 31" DEEP												
-4223 -5223 -6123 -7023 -7723 -8423	CS-423 CS-523 CS-613 CS-703 CS-773 CS-843	CB-2431	CR-243-1 or CRB-243-1	CPA-42 CPA-52 CPA-61 CPA-70 CPA-77 CPA-84	CVS-42 CVS-52 CVS-61 CVS-70 CVS-77 CVS-84	CRX-24-1	BR-131	SS-2431	BS-2424	SK-2424	SD-2435	DD-2424
FOR 30" WIDE PANEL RACKS — 26" DEEP												
-4232 -5232 -6132 -7032 -7732 -8432	CS-422 CS-522 CS-612 CS-702 CS-772 CS-842	CB-3026	CR-302-1 or CRB-302-1	CPA-42 CPA-52 CPA-61 CPA-70 CPA-77 CPA-84	CVS-42 CVS-52 CVS-61 CVS-70 CVS-77 CVS-84	CRX-30-1	BR-126	SS-3026				
FOR 30" WIDE PANEL RACKS — 31" DEEP												
-4233 -5233 -6133 -7033 -7733 -8433	CS-423 CS-523 CS-613 CS-703 CS-773 CS-843	CB-3031	CR-303-1 or CRB-303-1	CPA-42 CPA-52 CPA-61 CPA-70 CPA-77 CPA-84	CVS-42 CVS-52 CVS-61 CVS-70 CVS-77 CVS-84	CRX-30-1	BR-131	SS-3031				

* Use Prefix Letters PC for Racks with Rear Door ONLY.
* Use Prefix Letters FC for Racks with Front & Rear Door.

For Double or Triple Units, change last Figure to 2 or 3.

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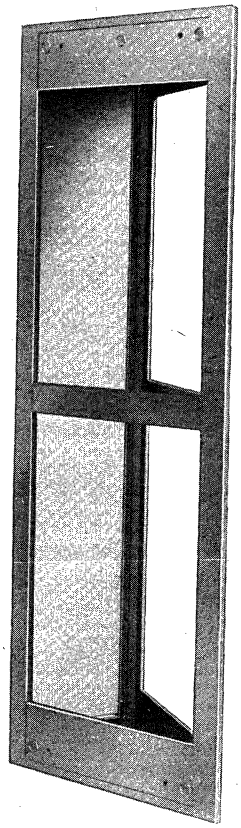
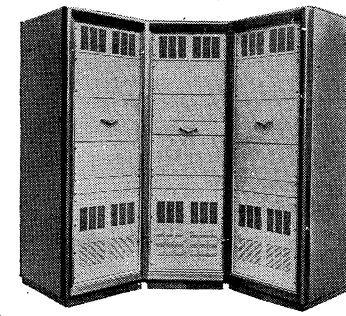
Par-Metal CABINET RACK ACCESSORIES



Cat. No. AF-6718-30
(with front vertical joining trim removed)



ANGULAR SECTION FRAMES (either 30° or 45°) are for use with Modular Cabinet Racks listed on Par-Metal Pages 6 through 11, and have the same sturdy welded frame. A removable formed steel panel is supplied at the rear. A similar panel is available for each side. Necessary joining trim is furnished.

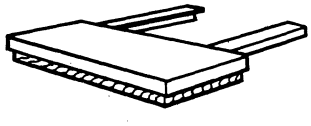
To match Racks: Finish must be specified, (see Par-Metal Page 4). To supply the correct trims (at no charge with order), Rack prefix letters must be identified (see Par-Metal Page 5). Angular Wedges are bolted to racks and need no other base.

DIMENSIONS FOR ALL ANGULAR WEDGES

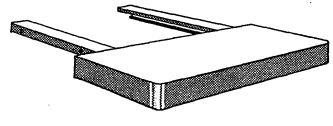
FOR 30° ANGLE FRAMES							FOR 45° ANGLE FRAMES			
Cat. No.	Rear Width	Rear Panel Width	Net Price	To Match Rack Height	Rack Depth	Panel Height	Cat. No.	Rear Width	Rear Panel Width	Net Price
WEDGES FOR PL/FL, PR/FR, PX/FX RACKS										
AF-4818-30	10″	7″	$ 98.70	48⅛″	18″	42″	AF-4818-45	15″	11⅞″	$103.55
AF-5818-30	10″	7″	105.00	58⅜″	18″	52½″	AF-5818-45	15″	11⅞″	109.75
AF-6718-30	10″	7″	110.25	67⅜″	18″	61¼″	AF-6718-45	15″	11⅞″	115.80
AF-7718-30	10″	7″	122.60	76⅛″	18″	70″	AF-7718-45	15″	11⅞″	128.75
AF-8418-30	10″	7″	134.95	83⅛″	18″	77″	AF-8418-45	15″	11⅞″	141.65
AF-4824-30	13¼″	10⅛″	120.20	48⅛″	24″	42″	AF-4824-45	19½″	16½″	126.00
AF-5824-30	13¼″	10⅛″	122.30	58⅜″	24″	52½″	AF-5824-45	19½″	16½″	132.30
AF-6724-30	13¼″	10⅛″	132.30	67⅜″	24″	61¼″	AF-6724-45	19½″	16½″	138.90
AF-7724-30	13¼″	10⅛″	144.60	76⅛″	24″	70″	AF-7724-45	19½″	16½″	151.85
AF-8424-30	13¼″	10⅛″	157.00	83⅛″	24″	77″	AF-8424-45	19½″	16½″	166.30
AF-9024-30	13¼″	10⅛″	167.60	90⅛″	24″	84″	AF-9024-45	19½″	16½″	180.60
WEDGES FOR CONTEMPO-RACKS										
CW-422-30	13½″	10⅜″	123.20	46 1/16″	26″	42″	CW-422-45	19⅞″	16¾″	129.35
CW-522-30	13½″	10⅜″	125.35	56 1/16″	26″	52½″	CW-522-45	19⅞″	16¾″	131.60
CW-612-30	13½″	10⅜″	135.60	65 1/16″	26″	61¼″	CW-612-45	19⅞″	16¾″	142.40
CW-702-30	13½″	10⅜″	148.20	74 1/16″	26″	70″	CW-702-45	19⅞″	16¾″	155.63
CW-772-30	13½″	10⅜″	160.90	81 1/16″	26″	77″	CW-772-45	19⅞″	16¾″	169.00
CW-842-30	13½″	10⅜″	171.80	88 1/16″	26″	84″	CW-842-45	19⅞″	16¾″	180.35
CW-423-30	16″	12⅞″	144.75	46 1/16″	31″	42″	CW-423-45	23¾″	20⅝″	152.00
CW-523-30	16″	12⅞″	147.30	56 1/16″	31″	52½″	CW-523-45	23¾″	20⅝″	154.65
CW-613-30	16″	12⅞″	159.35	65 1/16″	31″	61¼″	CW-613-45	23¾″	20⅝″	167.30
CW-703-30	16″	12⅞″	174.15	74 1/16″	31″	70″	CW-703-45	23¾″	20⅝″	182.85
CW-773-30	16″	12⅞″	189.10	81 1/16″	31″	77″	CW-773-45	23¾″	20⅝″	198.55
CW-843-30	16″	12⅞″	201.85	88 1/16″	31″	84″	CW-843-45	23¾″	20⅝″	211.90

EXTERIOR RACK TABLES

Table top is ¾″ plywood which is covered with formica across the full length of the top and on 3 sides. Sturdy battens underneath, plus 7/64″ steel girders bolted to internal steel side supports, reinforce the assembly mounting. Tables are adjustable to any height and use 3½″ of panel height. They can be custom built to your specifications.

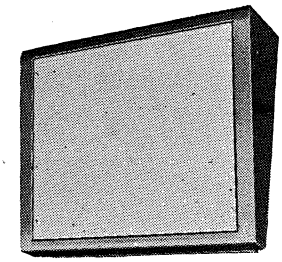


SIDE VIEW FOR CONTEMPO RACKS

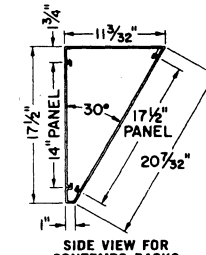


SIDE VIEW FOR OTHER RACKS

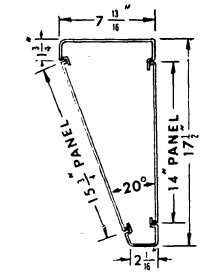
SINGLE UNIT			DOUBLE UNIT			TRIPLE UNIT		
Catalog Number	Table Width	Net Price	Catalog Number	Table Width	Net Price	Catalog Number	Table Width	Net Price
USE WITH RACKS FOR 19″ WIDE PANELS								
■RX-119	21¼″	$40.50	■RX-219	42⅛″	$83.50	■RX-319	64¼″	$112.50
°CRX-19-1	21⅛″	40.50	°CRX-19-2	42¼″	83.50	°CRX-19-3	63⅜″	112.50
USE WITH RACKS FOR 24″ WIDE PANELS								
■RX-124	26¼″	46.00	■RX-224	52⅛″	91.00	■RX-324	79¼″	130.00
°CRX-24-1	26⅛″	46.00	°CRX-24-2	52¼″	91.00	°CRX-24-3	78⅜″	130.00
USE WITH RACKS FOR 30″ WIDE PANELS								
■RX-130	32¼″	53.00	■RX-230	64⅛″	98.50	■RX-330	96″	140.75
°CRX-30-1	32⅛″	53.00	°CRX-30-2	64¼″	98.50	°CRX-30-3	96⅜″	140.75
PRICES FOR QUAD UNIT TABLES ON REQUEST								
■ For Use with PL/FL, PR/FR and PX/FX Racks. ° For Use with Contempo-Racks.								



SLOPING PANEL TURRETS for 19″ 24″ and 30″ wide panels. Turrets extend across full rack width and are fastened to panel mounting angles by means of adjustable brackets which are included. They may be used with the slope **up** or **down.** Complete with removable front panel. Matched to rack finishes. *Front width corresponds to rack dimensions. Overall height is 17½″.



SIDE VIEW FOR CONTEMPO RACKS



SIDE VIEW FOR OTHER RACKS

For Contempo-Racks		*Fits Racks with Panel Width	For PL/FL, PR/FR and PX/FR Racks	
Catalog Number	Net Price		Catalog Number	Net Price
CSP-19	$46.00	19″	SP-1719	$44.10
CSP-24	55.00	24″	SP-1724	52.50
CSP-30	71.00	30″	SP-1730	68.25

For information on **Hinged Doors,** Model DR, please turn to Par-Metal Page 29.

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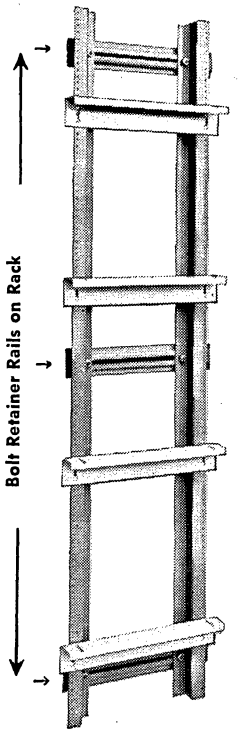
CABINET RACK ACCESSORIES

Par-Metal



VERTICAL SIDE SUPPORTS (Set of 4)

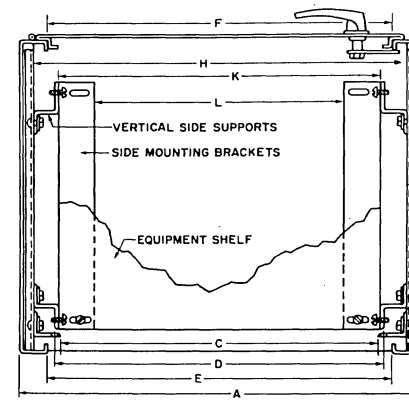
Vertical Side Supports mount brackets, shelves and sliding devices, and are attached to tracks for rapid adjustment from front to rear of cabinet.

Holes are tapped 10-32 the length of the support, with Standard EIA hole spacing, to provide selective height levels.

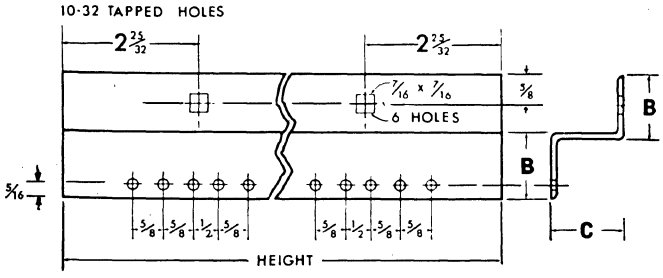
Construction: 7/64" steel. Supplied with 3/8" diameter bolts, lock washers and nuts for rack mounting. (For **PL/FL, PR/FR** and **PX/FX** Racks the **"B"** Dimension is 1 11/32" and **"C"** Dimension is 1½"). (For **Contempo-Racks** the **"B"** Dimension is 1 15/32" and **"C"** Dimension is 1"). See sketch below.

Finish: Baked Aluminum Enamel.

CONTEMPO RACKS				OTHER RACKS	
Catalog Number	Length of Side Support	Fit Cabinet Panel Height	Net Price (Set of 4)	Catalog Number	Length of Side Support
—	—	36¾"	$15.75	VS-36	40⅞"
CVS-42	45"	42"	17.35	VS-42	46⅛"
CVS-52	55½"	52½"	20.20	VS-52	56⅝"
CVS-61	64¼"	61¼"	22.85	VS-61	65⅜"
CVS-70	73"	70"	26.80	VS-70	74⅛"
CVS-77	80"	77"	29.75	VS-77	81⅛"
CVS-84	87"	84"	32.65	VS-84	88⅛"

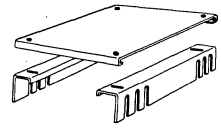


RACK ASSEMBLY DIMENSIONS		FOR 19" WIDE PANELS		FOR 24" WIDE PANELS		FOR 30" WIDE PANELS	
Dim.	Explanation	Contempo	Others	Contempo	Others	Contempo	Others
"A"	Width of rack	21⅛"	22"	26⅛"	27"	32⅛"	33"
"C"	Clearance between panel mounting strips	17¾"	17¾"	22¾"	22¾"	28¾"	28¾"
"D"	To centers of panel mounting holes	18 5/16"	18 5/16"	23 5/16"	23 5/16"	29 5/16"	29 5/16"
"E"	Panel space (plus clearance)	19⅛"	19⅛"	24⅛"	24⅛"	30⅛"	30⅛"
"F"	Clear inside width (rear)	19⅛"	19⅛"	24⅛"	24⅛"	30⅛"	30⅛"
"H"	Clearance between bolt retainer rails	19¾"	20¼"	24¾"	25¾"	30¾"	31¾"
"K"	Clearance between vertical side supports	17¾"	17¾"	22¾"	22¾"	28¾"	28¾"
"L"	Clearance between side mounting brackets	13¾"	13¾"	18¾"	18¾"	24¾"	24¾"



SIDE MOUNTING BRACKETS (Pairs)

EQUIPMENT SHELVES

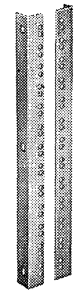


Brackets attach to Side Supports to mount shelves. Slots on the 2" vertical side provide height adjustment. Slots on the 1 13/16" horizontal side align with holes in shelves. Mounted shelf and brackets form complete assembly across rack. Shelf height — 7/8".

Construction: Brackets — 7/64" steel, zinc plated. Necessary hardware supplied. Shelf — 1/16" steel, zinc plated.

FOR SIDE MOUNTING BRACKETS (PAIRS)			TO FIT RACKS With		FOR EQUIPMENT SHELVES			
Cat. No.	Lgth.	Net Price (Per Pr.)	Panel Width	Rack Depth	Cat. No.	Lgth.	Width	Net Price
BR-118	14"	$3.30	19"	18"	SS-1918	14¼"	17⅝"	$3.70
BR-124	20"	4.45	19"	24"	SS-1924	20¼"	17⅝"	4.40
BR-126	24"	4.90	19"	26"	SS-1926	24¼"	17⅝"	4.90
BR-131	29"	5.50	19"	31"	SS-1931	29¼"	17⅝"	5.60
BR-124	20"	4.45	24"	24"	SS-2724	20¼"	22⅝"	5.20
BR-126	24"	4.90	24"	26"	SS-2426	24¼"	22⅝"	5.70
BR-131	29"	5.50	24"	31"	SS-2431	29¼"	22⅝"	6.50
BR-124	20"	4.45	30"	24"	SS-3324	20¼"	28⅝"	7.60
BR-126	24"	4.90	30"	26"	SS-3026	24¼"	28⅝"	8.50
BR-131	29"	5.50	30"	31"	SS-3031	29¼"	28⅝"	9.50

PANEL MOUNTING ANGLES (Pairs)



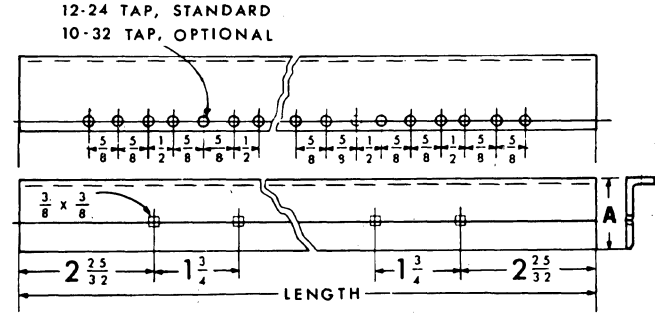
Cabinet Racks are delivered with two panel mounting angles. An additional pair may be required for special mounting. Angles are delivered with necessary bolts, nuts and lock washers for rack mounting with rapid front to back adjustment.

Construction: For **PL/FL, PR/FR,** and **PX/FX Racks,** Angle Iron is 1½" x 1½" x 3/16" steel. Holes tapped 12-24 (10-32 optional). Hole spacing meets EIA specifications. **"A"** Dimension is 1½". See sketch headed 12-24 Tap for reference.

For Contempo Racks, formed angles are 1½" x 1" x 3/16". **"A"** Dimension is 1½". See sketch below.

Finish: Angles finished to match racks.

CONTEMPO RACKS				FOR OTHER RACKS	
Catalog Number	Length of Panel Angle	Fit Cabinet Panel Height	Net Price Per Pair	Catalog Number	Length of Panel Angle
—	—	36¾"	$10.00	PA-36	40⅞"
CPA-42	45"	42"	12.10	PA-42	46⅛"
CPA-52	55½"	52½"	14.50	PA-52	56⅝"
CPA-61	64¼"	61¼"	16.70	PA-61	65⅜"
CPA-70	73"	70"	19.10	PA-70	74⅛"
CPA-77	80"	77"	20.40	PA-77	81⅛"
CPA-84	87"	84"	22.60	PA-84	88⅛"



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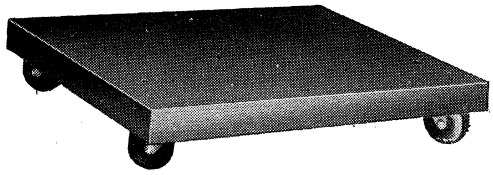
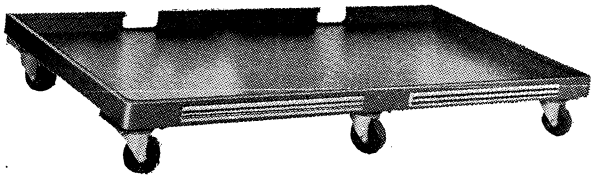
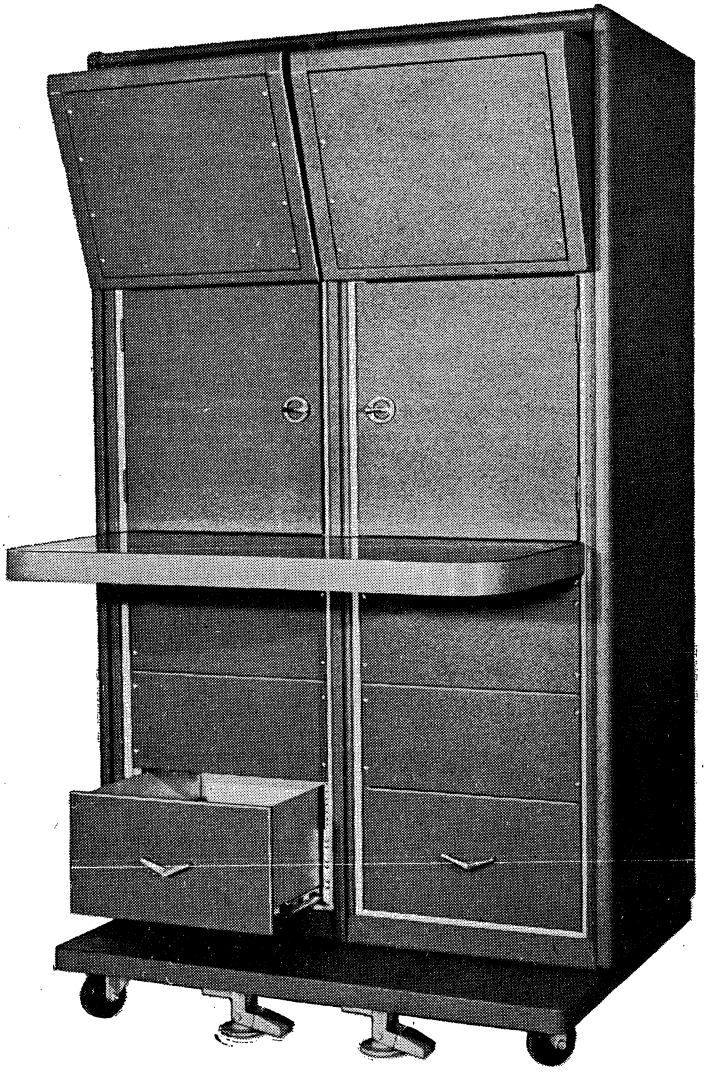
Par-Metal ROLLER TRUCKS



A Single Unit Contempo Roller Truck, Model No. CR-192-1.



A Double Professional Roller Truck, Model No. HD-426-2.



2 PL-6718-B Racks with 1 RX-219 Exterior Table and a double EB-502 Extended Base Roller Truck with 2 EBL-501 Floor Locks.

GENERAL DESCRIPTION

ROLLER TRUCKS are engineered to fit and complement **all** PAR-METAL cabinet racks. All Roller Trucks designated for PL/FL, PR/FR, PX/FX, ER/FD and DL racks are **Dish Shaped.** The inside dimensions are slightly larger than cabinet sizes, as a safety factor, and to provide better weight distribution. These models have rounded front corners and chrome plated moulding.

CONTEMPO-ROLLER TRUCKS (Models CR, CRB and CEB) are **Pan Shaped** — flat across the top with aprons which partially cover the casters. They are sized to match the rack they support. Mating holes allow rapid bolting to the rack. Roller Trucks are available for one, two, or three racks. Single rack trucks have four casters... double rack trucks, six casters... and triple rack trucks have eight casters.

Unless specified, **ALL** Roller Trucks except CONTEMPO, are finished in blue-gray wrinkle enamel. For PC/FC Racks, (Models CR, CRB and CEB) the **standard** finish is Dawn Gray Vinyl. When included in the order, Roller Trucks are matched to the Rack. For full finishing color guide, turn to PAR-METAL Page 4.

HEAVY DUTY TRUCKS: Construction: 1/16" welded steel plus 7/64" steel reinforcing braces. Casters: 3" diameter, swivel type, ball bearing, Rockite Composition. Non-marking wheels. Load Capacity 225 lbs. per wheel. Single Units have four casters, Double Units have six casters and Triple Units have eight.

BRAKE CASTERS: Toe-Touch Brake casters are optional; they replace the 2 Front corner casters of any Heavy Duty Roller Truck.

EXTENDED BASE ROLLER TRUCKS: Extended Base Roller Trucks offer extra depth in front and are strongly recommended when racks are equipped with slide, tables or drawers which may bear extra weight or pressure when extended. The added depth in front of the rack provids stability and safety. For easier movement of the racks 4" diameter wheel casters are supplied. Provision is made for adding Heavy Duty Floor Locks (optional). Construction: .104" welded steel — plus 7/64" steel reinforcing braces. Casters: 4" diameter, swivel type, ball bearing, hard Rockite non-marking wheel with grease fittings. Load Capacity 450 lbs. per wheel.

STANDARD TRUCKS Construction: 1/16" welded steel. Casters: 2" diameter, swivel-type, ball bearing, Rockite Composition wheels. Load capacity — 125 lbs. per wheel.

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ROLLER TRUCKS—EASY SELECTION CHART

Par-Metal

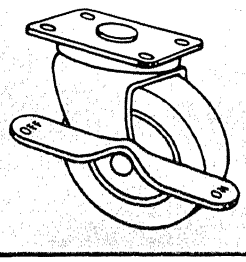
LISTING OF MODEL NUMBERS AND NET PRICES	Rack Panel Width	Rack Depth	†HEAVY DUTY ROLLER TRUCKS SINGLE UNIT Cat. No.	Net Price	DOUBLE UNIT Cat. No.	Net Price	TRIPLE UNIT Cat. No.	Net Price
FOR PL FL & PR/FR RACKS with Detachable Side Panels See Par-Metal Pages 6 & 7.	19″	18″	HD-425	$27.00	HD-425-2	$53.50	HD-425-3	$102.40
	19″	24″	HD-426	29.25	HD-426-2	59.50	HD-426-6	110.25
	24″	24″	HD-432	32.00	HD-432-2	65.30	HD-432-3	126.00
	30″	24″	HD-438	41.00	HD-438-2	81.90	HD-438-3	*
FOR PX/FX RACKS** with Welded-On Side Walls See Par-Metal Page 8.	19″	18″	HD-412	$25.00	HD-412-2	$46.20	HD-412-3	$ 89.25
	19″	24″	HD-420	26.50	HD-420-2	53.35	HD-420-3	102.40
	24″	24″	HD-427	30.00	HD-427-2	60.10	HD-427-3	117.60
	30″	24″	HD-434	39.00	HD-434-2	74.60	HD-434-3	*
FOR CONTEMPO RACKS MODELS PC/FC with Detachable Side Panels See Par-Metal Page 11.	19″	26″	CR-192-1	$30.35	CR-192-2	$60.70	CR-192-3	$90 .20
	19″	31″	CR-193-1	34.95	CR-193-2	69.80	CR-193-3	103.75
	24″	26″	CR-242-1	33.30	CR-242-2	66.00	CR-242-3	99.00
	24″	31″	CR-243-1	38.30	CR-243-2	76.00	CR-243-3	115.00
	30″	26″	CR-302-1	44.05	CR-302-2	87.40	CR-302-3	132.25
	30″	31″	CR-303-1	48.65	CR-303-2	97.20	CR-303-3	144.80

LISTING OF MODEL NUMBERS AND NET PRICES	Rack Panel Width	Rack Depth	‡EXTENDED BASE ROLLER TRUCKS SINGLE UNIT Cat. No.	Net Price	DOUBLE UNIT Cat. No.	Net Price	TRIPLE UNIT Cat. No.	Net Price
FOR PL/FL & PR/FR RACKS with Detachable Side Panels See Par-Metal Pages 6 & 7.	19″	18″	EB-501	$115.10	EB-502	$164.30	EB-503	$232.65
	19″	24″	EB-601	125.50	EB-602	177.00	EB-603	251.55
	24″	24″	EB-701	138.10	EB-702	220.85	EB-703	269.20
	30″	24″	EB-801	147.50	EB-802	238.35	EB-803	*
FOR PX/FX RACKS** with Welded-On Side Walls See Par-Metal Page 8.	19″	18″	EB-501	$115.10	EB-502	$164.30	EB-503	$232.65
	19″	24″	EB-601	125.50	EB-602	177.00	EB-603	251.55
	24″	24″	EB-701	138.10	EB-702	220.85	EB-703	269.20
	30″	24″	EB-801	147.50	EB-802	238.35	EB-803	*
FOR CONTEMPO RACKS MODELS PC/FC with Detachable Side Panels See Par-Metal Page 11.	19″	26″	CEB-192-1	$125.50	CEB-192-2	$177.00	CEB-192-3	$251.55
	19″	31″	CEB-193-1	137.50	CEB-193-2	194.00	CEB-193-3	281.50
	24″	26″	CEB-242-1	138.05	CEB-242-2	194.70	CEB-242-3	276.70
	24″	31″	CEB-243-1	151.85	CEB-243-2	214.15	CEB-243-3	304.35
	30″	26″	CEB-302-1	158.75	CEB-302-2	223.90	CEB-302-3	318.20
	30″	31″	CEB-303-1	178.60	CEB-303-2	251.90	CEB-303-3	358.00

*ON SPECIAL ORDER ONLY.

**STANDARD ROLLER TRUCKS (Cat. No. RT-412 at $14.25 Each) are limited for use with PX/FX Racks for 19″ panel space, 18″ deep and up to 67″ high, as well as with ER/FD Racks (See Par-Metal Page Numbers 27 and 28) and DL Cabinets ONLY (See Par-Metal Page 35).

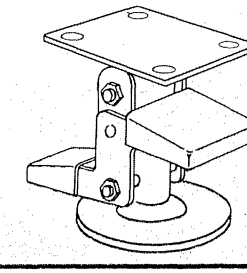
ALL ROLLER TRUCKS HAVE BALL BEARING SWIVEL CASTERS AND ROCKITE NON-MARKING COMPOSITION WHEELS.



BRAKE CASTER

†On **HEAVY DUTY** Roller Trucks ONLY, BRAKE CASTERS are available to replace the TWO Front Corner Casters at an additional cost of $8.50 per Roller Truck; Add Letter **"B"** to **Prefix** such as **CRB.**

‡Either ONE or MORE FLOOR LOCKS may be added to the **EXTENDED BASE** Roller Trucks at an additional cost of $17.85 each.



FLOOR LOCK — Model EBL-501

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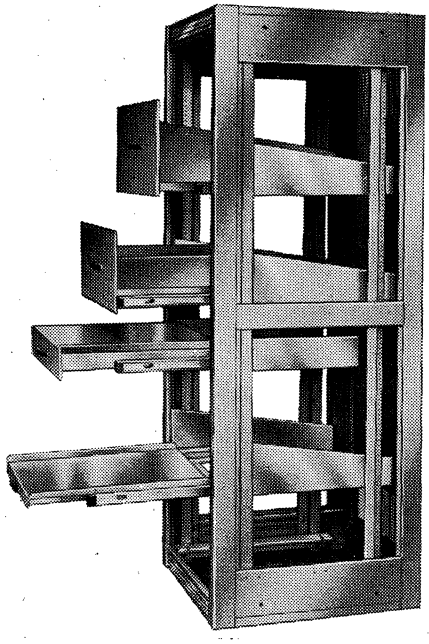
Par-Metal SLIDE ASSEMBLIES



SIMPLICITY: Just a cradle and a shelf, table or drawer are all that is required. No time consuming assembly of slides and no alignment problem.

EASE OF INSTALLATION: Cradle is mounted to panel angles of the rack with screws and drawer, table or shelf drops into place. This manner of installing the sliding unit permits fast removal for service of equipment.

MOUNTING METHODS: Brackets are attached to Panel Angles and may be attached to Vertical Side Supports for additional stability. Either method will provide rigid support. Both may be used simultaneously.

FULL EXTENSION of the equipment from the rack is engineered in. Thus, accessibility to top, sides, and back of most adjustments may be made without removal.

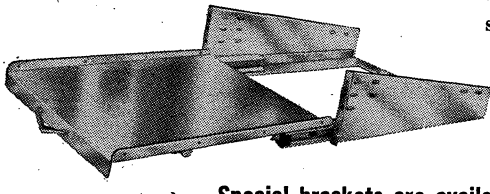
RUGGED CONSTRUCTION: Parts welded or fastened with stainless steel rivets and machine screws... supporting parts made from 12 gauge (.104") Prime Steel.

MINIMAL DEFLECTION is produced when the listed load capacities are measured with the slides fully extended.

HANDLES: A **"V"** Shaped Chrome Plated Pull Handle Model V-24 with necessary hardware is standard equipment on all Slide Assemblies. On **CONTEMPO** line **ONLY**, to substitute modern handle H-505 (at same cost) Suffix "H" MUST be added to model number on your original order.

BASIC SLIDE ASSEMBLIES: Consist of a readily removable shelf, a pair of slides, and a mounting cradle. Each part is ready for installation. All movable parts are mounted on ball bearing wheels. Mounting or removal of slide is extremely simple and does not require tools.

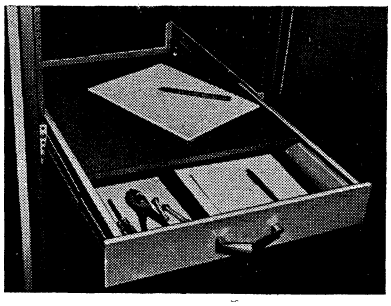
Installation may be made to rack (or console) panel mounting angles or to standard vertical side supports through holes pre-drilled in the side brackets. Four Sizes are listed for using either 19" or 24" wide panels. ALL parts are zinc plated.



*** All load capacities are conservatively rated to carry the full load with the sliding shelf completely extended.** All parts are zinc plated.

Catalog No.	Usable Space Width	Depth	Panel Width	Rack Depth	*Load Capacity	Net Price	Shipping Weight
BS-1980	17 1/8"	14"	19"	18" or 24"	50 lbs.	$20.75	24 lbs.
BS-1940	17 1/8"	20"	19"	24"	36 lbs.	26.45	32 lbs.
BS-2419	17 1/8"	20"	19"	24"	60 lbs.	33.70	32 lbs.
BS-2424	22 1/8"	20"	24"	24"	55 lbs.	36.30	35 lbs.

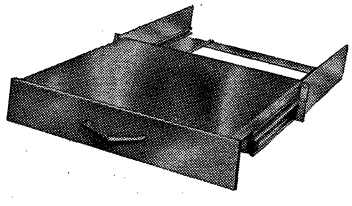
Special brackets are available for mounting rack panels, as listed on Par-Metal page 36.



NEW SLIDE TOP STORAGE DRAWER DESK SHELF ASSEMBLIES

NEW PAR-METAL DESIGN (Patent Pending) presents the **FIRST** combination of a slide-back Formica retractable writing table on a 2½" deep storage drawer. All units are 17" deep with 3½" of panel height and have a 50 lb. load capacity in fully extended position. Keep your tools and notes in the **MOST** convenient place. Your fingers can't get caught between desk and front panel. Drawer has finger touch disconnect feature. **IMPORTANT:** When ordering, please specify finish on front panels.

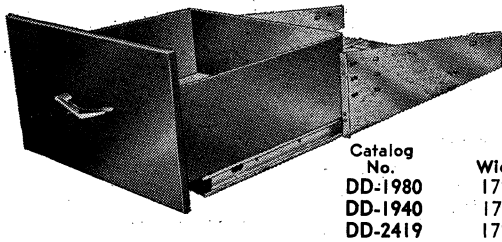
Cat. No.	Drawer Width	Panel Width	Net Price	Shpg. Wt.
SD-1935	16½"	19"	**$48.90**	32
SD-2435	21½"	24"	**57.00**	35



DESK SHELF ASSEMBLIES

Designed as a retractable writing desk or as a support for test equipment, etc. Front requires only 3½" of panel space, and is provided with a chrome plated drawer pull. FINISH: Writing surface is Gray Formica. Front panel matches Rack. **IMPORTANT:** When ordering, please specify finish on front panels.

Catalog No.	Shelf Size Width	Depth	Pulls Out	Panel Width	Rack Depth	*Load Capacity	Net Price	Shipping Weight
SK-1970	17"	17"	16 3/8"	19"	18" or 24"	36 lbs.	$37.85	32 lbs.
SK-2419	17"	17"	16 3/8"	19"	18" or 24"	60 lbs.	43.70	32 lbs.
SK-2424	22"	17"	16 3/8"	24"	24"	60 lbs.	50.90	35 lbs.



STORAGE DRAWER ASSEMBLIES

Drawers are mounted on racks or consoles and are available in **7"** or **10½"** panel heights; finished to match the equipment into which they are installed. Please mention **finish** in your order. Chrome plated door pull is furnished.

Catalog No.	Usable Space Width	Length	Depth	Panel Height	Panel Width	Rack Depth	*Load Capacity	Net Price	Shipping Weight
DD-1980	17"	14"	5"	7"	19"	18" or 24"	40 lbs.	$27.85	33 lbs.
DD-1940	17"	20"	5"	7"	19"	24"	25 lbs.	36.75	42 lbs.
DD-2419	17"	20"	8"	10½"	19"	24"	45 lbs.	44.15	50 lbs.
DD-2424	22"	20"	8"	10½"	24"	24"	45 lbs.	49.00	50 lbs.

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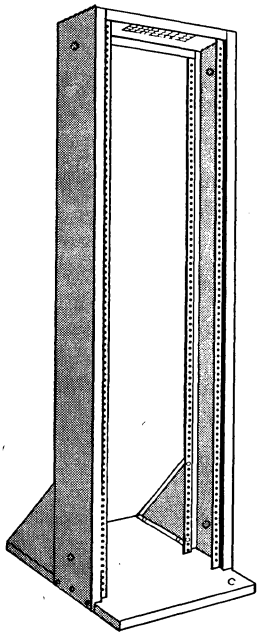
KNOCKDOWN CHANNEL RELAY RACKS

Par-Metal



No. RR-197

DELUXE RACKS
for 19" and 24" wide panels

Deluxe Channel Relay Racks are 7/64" steel.

Panel spaces are: 61-1/4", 70", and 77" high and either 19" or 24" wide.

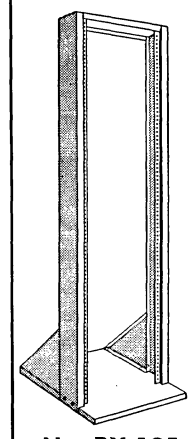
Upright channels are 8" deep with a formed recess for panels. This greatly increases rigidity of rack. Edges of panels are not exposed.

Rack is drilled and tapped 10-32 at both front and back on 5/8" - 5/8" - 1/2" centers permitting use of either panels or dish type chassis. Full panel space is available on both back and front.

When chassis are mounted at the back, the addition of standard or hinged panels make a rack enclosure with a depth of 6-7/8".

Top is provided with a grille for ventilation and is trimmed with a chrome moulding at front. Holes are located on sides for bolting racks in rows; no projecting screw heads. Top brace and vertical channel members are welded together. Base and rear braces are shipped knocked down, with all necessary bolts for simple assembly. Panel mounting screws supplied.

FINISH: Standard finish is black wrinkle enamel. Blue grey wrinkle or grey hammertone are available without charge if specified. **OTHER FINISHES ALSO AVAILABLE.**



No. RX-195

STANDARD RACKS
for 19" wide panels

are constructed from 7/64" steel, and are braced at back to withstand abuse. They have a formed recess for panels; edges of panels are not exposed.

Top brace and vertical channels are welded together. Base and rear braces are shipped knocked down, with necessary bolts for rapid assembly.

Panel mounting holes are drilled for standard rack panel spacing, tapped 10-32 at front only. Ample mounting screws supplied.

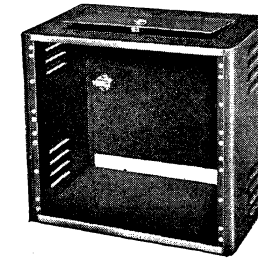
Upright channels are 3-3/16" deep with flanges. Clearance between uprights is 17-15/16". Base is 20-7/8" deep and 21-1/16" wide.

FINISH: Standard finish is black wrinkle. For blue grey wrinkle or grey hammertone enamel add 10%.

Cat. NO.	OVERALL HEIGHT	PANEL HEIGHT	SHIP WT. LBS.	NET PRICE
RX-193	39 7/16"	36 3/4"	45	$22.95
RX-195	74 7/16"	71 3/4"	55	30.40

Catalog Number	Overall Dimensions Height	Width	Depth	Panel Space	Clearance between Uprights	Shipping Weight	Net Price
RR-194	64-5/8"	21-1/16"	26"	61-1/4"x19"	17-15/16"	88 lbs.	$40.45
RR-196	73-3/8"	21-1/16"		70" x19"	17-15/16"	95 lbs.	43.05
RR-197	80-3/8"	21-1/16"		77" x19"	17-15/16"	102 lbs.	45.60
RR-1922	64-5/8"	26-1/16"		61-1/4"x24"	22-15/16"	100 lbs.	51.50
RR-1923	73-3/8"	26-1/16"		70" x24"	22-15/16"	105 lbs.	55.10
RR-1924	80-3/8"	26-1/16"		77" x24"	22-15/16"	112 lbs.	57.75

DESK PANEL CABINET RACKS For Standard 19" Rack Panels



No. DL-1713

Vertical front corners are rounded and top and bottom are trimmed with chrome mouldings. Panels fit into a recess, edges are not exposed. Panel mounting holes are drilled on universal centers. Holes are tapped 10-32.

Cabinet may be used with any chassis up to 13" x 17". Cabinets rigidly constructed of 1/16" cold rolled sheet steel, with all joints electrically welded. Louvers side and back. Piano type hinges on top doors, with chrome handles. A push-button spring catch with chrome handle on rear doors. Panel mounting screws are furnished.

FINISH: BLACK WRINKLE ENAMEL is standard. Blue grey wrinkle or light gray hammertone is also available without charge if specified.

PANELS: Rack panels to fit these racks are listed on **Par-Metal Pages 21 and 22.**

(With door in top only) (not illustrated)

Catalog No.	Cabinet Size	Available Panel Space	Shp.Wt. Lbs.	Net Price
DL-128	10½"x21½"x15" deep	8¾"x19"	28	$20.30
DL-1210	12¼"x21½"x15" deep	10½"x19"	29	22.65
DL-1225	14" x21½"x15" deep	12¼"x19"	30	23.20
DL-1413	15¾"x21½"x15" deep	14" x19"	32	26.25

RACK SHELF: Rack Shelf No. R-2128 listed on **Par-Metal Page 36** fits these racks.

(With door in top and on rear)

Catalog No.	Cabinet Size	Available Panel Space	Shp.Wt. Lbs.	Net Price
DL-1713	19¼"x21½"x15" deep	17½"x19"	38	$29.10
DL-2613	28" x21½"x15" deep	26¼"x19"	48	33.90
DL-3513	36¾"x21½"x15" deep	35" x19"	58	39.75

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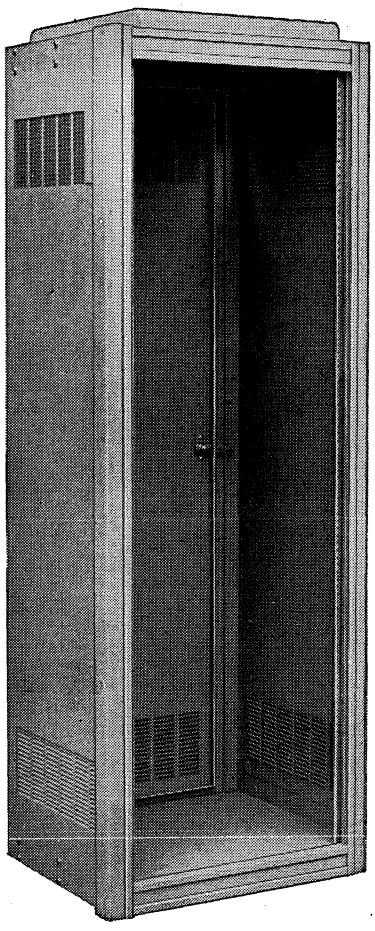
Par-Metal KNOCKDOWN CABINET RELAY RACKS

DELUXE CABINETS — FOR 19" WIDE PANELS



"ER" SERIES
WITH REAR DOOR ONLY

CABINET is 1/16" sheet steel. Sides are ventilated with "venetian" louvres. Vertical corner trims and formed mouldings are at top and bottom. Racks are shipped **"knocked down"** for easy assembly.

CORNER TRIMS: Front vertical corner and joining trims are engineered to permit rapid installation of sliding shelves, drawers, tables, etc.

PANEL MOUNTING: Angle irons are 7/64" thick steel, holes are drilled and tapped 10-32 on EIA hole spacing.

HARDWARE: Doors are the same as our modular racks. **"Series ER"** racks are equipped with automobile non-locking handles while **"Series FD"** racks have handles with key locks. Hinges are "slipjoint" type so doors may be easily removed.

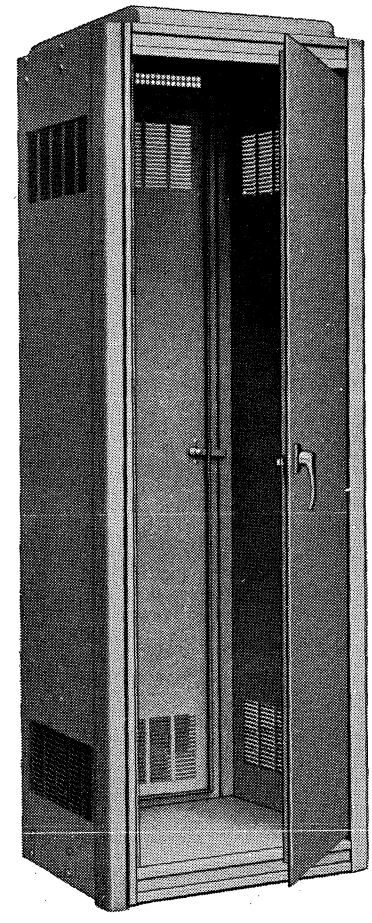
FINISH: Blue grey wrinkle finish is standard. Black wrinkle enamel or grey hammertone enamel are available without extra charge.

ROLLER TRUCK: Use either No. RT-412 or HD-412 for all racks listed on this page.

PANELS: Panels 19" wide to fit these racks are listed on **Par-Metal Pages 21 and 22.**

SHELVES: For Series ER Racks use shelf No. ER-2212 listed on **Par-Metal Page 36.**

SERIES "FD" RACKS have bolt retainer rails to adjust the front to back position of their panel mounting angles. Optional Vertical Side Supports with Brackets and shelves (listed on Par-Metal Page 14) fit in these racks.

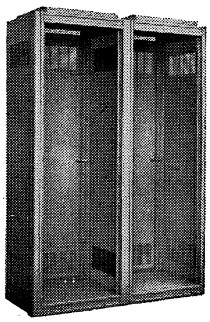


"FD" SERIES
WITH FRONT AND
REAR DOOR

SPECIFICATIONS

Catalog No.	Doors	Overall Dimensions	Panel Space	Clear Inside Width (Front)	Clear Inside Width (Rear)	Clear Inside Depth	Shipping Wt. Lbs.	Net Price
ER-223-A	Rear only	43¼x22x18"	36¾x19"	**17⅝"	19"	16¾"	90	$ 57.40
ER-225-A	Rear only	67¾x22x18"	61¼x19"	**17⅝"	19"	16¾"	120	70.80
ER-227-A	Rear only	83½x22x18"	77 x19"	**17⅝"	19"	16¾"	140	85.50
FD-223-A	Front & Rear	43¼x22x18"	36¾x19"	19⅛"	19"	*16"	110	73.60
FD-225-A	Front & Rear	67¾x22x18"	61¼x19"	19⅛"	19"	*16"	150	91.40
FD-227-A	Front & Rear	83½x22x18"	77 x19"	19⅛"	19"	*16"	175	114.35

*clearance between front and rear doors. **between panel mounting angles.



MULTI-RACK CABINET ASSEMBLIES

MULTI-RACK ASSEMBLIES: Both **"ER"** and **"FD"** racks may be set up in rows. The use of venetian louvers provides a flat surface on the sides; separate side plates with welded screw studs inserted at top and bottom simplify the assembly — no tools are needed. Vertical joining trims overlap the joint between racks (supplied at no cost if noted on original order).

PAR-METAL PRODUCTS • CONVENIENT FACTORY WAREHOUSE

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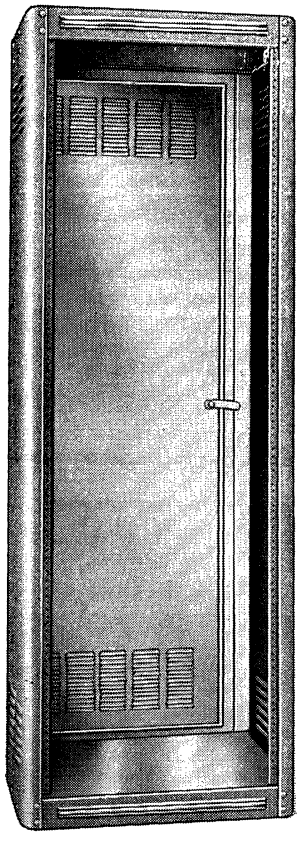
KNOCKDOWN CABINET RELAY RACKS

Par-Metal

ROUNDED CORNER CABINETS — FOR 19" WIDE PANELS



"ER" SERIES
WITH REAR DOOR ONLY

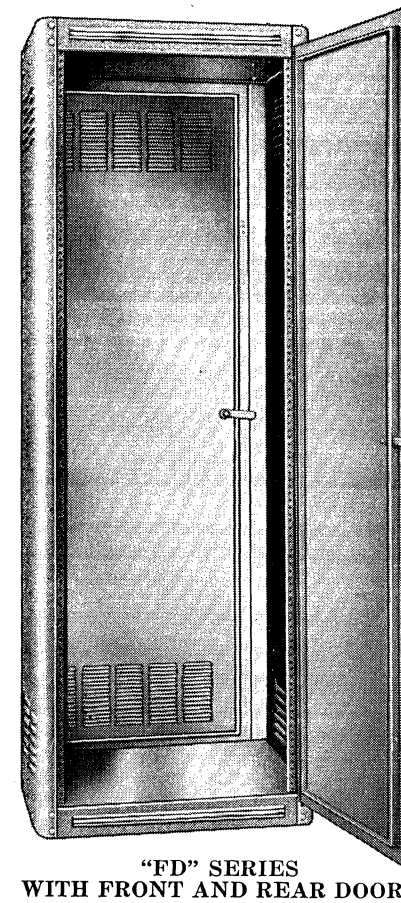
Modest pricing is maintained in **Par-Metal's Rounded Corner Cabinet Racks** at no loss in either functional design or rugged construction. Wide chrome mouldings trim the top and bottom of the recessed panel space.

Constructed of 1/16" cold-rolled steel. Racks are shipped "knocked-down" with necessary hardware for easy and time saving assembly. A generous supply of panel mounting screws are included.

PANEL MOUNTING: Angle irons are 7/64" steel, holes are drilled and tapped 10-32 on standard EIA hole spacing.

HARDWARE: Doors are the same as our Modular racks. **"SERIES ER"** racks are equipped with automobile non-locking handles. **"SERIES FD"** racks have handles with key locks. Hinges are "slip-joint" so doors may be easily removed.

FRONT DOOR RACKS: On Series **"FD"** racks, front panel mounting angles are recessed 2" to allow clearance for dials, etc. Clear inside depth behind panel is 15".



"FD" SERIES
WITH FRONT AND REAR DOOR

SPECIFICATIONS

Catalog No.	Doors	Overall Dimensions	Panel Space	Clear Inside Depth	Clear Inside Width (Rear)	Clear Inside Width (Front)	Shipping Wt. Lbs.	Net Price
ER-213-A	Rear only	42 x22x18"	36¾x19"	16¾"	19"	**17⅝"	85	**$42.00**
ER-215-A	Rear only	66½x22x18"	61¼x19"	16¾"	19"	**17⅝"	110	**60.40**
ER-217-A	Rear only	82¼x22x18"	77 x19"	16¾"	19"	**17⅝"	130	**73.00**
FD-215-A	Front & Rear	66½x22x18"	61¼x19"	*15"	19"	19⅛"	130	**81.30**
FD-217-A	Front & Rear	82¼x22x18"	77 x19"	*15"	19"	19⅛"	155	**98.00**

*clearance behind panel. **between panel mounting angles.

FINISH: Blue grey wrinkle finish is standard. Black wrinkle or grey hammertone enamel is available without extra charge.

PANELS: Panels 19" wide to fit these racks are listed on **Par-Metal Pages 21 and 22.**

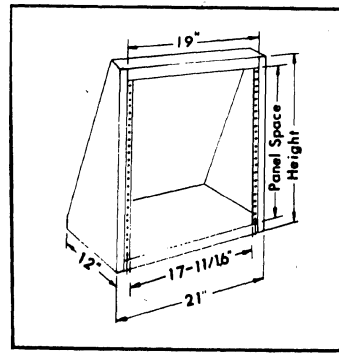
ROLLER TRUCK: No. RT-412 will fit these racks. **See Par-Metal Page 15.**

SHELVES: ER racks, use shelf #ER-2212. FD racks, use shelf #R-2225. **See Par-Metal Page 36.**

OPEN TABLE RACKS: Designed for table top use, and built on one piece chassis base. Uses standard EIA and WE hole spacings, tapped 10/32. Shipped "knocked down" with all necessary hardware included.

FINISH: Black wrinkle enamel.

Cat. No.	Overall Dimensions H	W	D	Panel Space H	W	Ship. Wt. Lbs.	Net Price
TR-2520	24"	21"	12"	21"	19"	17	**$9.75**
TR-3220	31"	21"	12"	28"	19"	20	**11.85**



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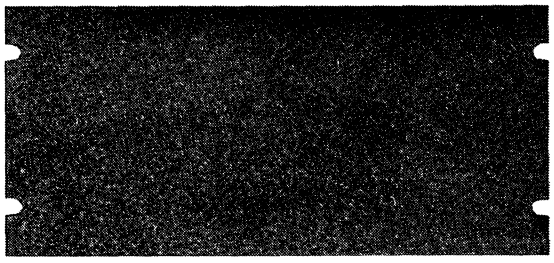
Par-Metal

BLANK, FLAT PANELS 19" - 24" - 30" WIDE

PAR-METAL PANELS are divided into three types, flat blank panels, formed blank panels and panels for special uses.

ALL PAR-METAL PANELS are cut to fit any Electronic Housing Equipment that also meets EIA hole specifications.



For Simplicity, finishes have been omitted from these charts. To ORDER, COLOR PREFIXES **MUST** be added to the Catalog Numbers.

FINISH	USE PREFIX	USE NET PRICE COLUMN
Black Wrinkle Enamel	P	A
Blue-Gray Wrinkle Enamel	G	A
Oil Finish (No Paint)	NP	A
Light Gray Hammertone	LH	B
Dark Gray Hammertone	DH	B
Combination Light/Dark Gray Hammertone	LD	B
Dark Gray Metallic Enamel	GM	B
Beige Enamel	MT	B
Light Gray Equipment Enamel	LEGE	B
Primer Coat Only	PC	B
Dawn Gray Vinyl	DG	C

STANDARD FLAT STEEL BLANK PANELS - #11 Gauge - 1/8" (.119") STEEL

PANEL HEIGHT	FOR 19" WIDE PANELS Cat. No.	NET PRICES A	B	C	FOR 24" WIDE PANELS Cat. No.	NET PRICES A	B	C	FOR 30" WIDE PANELS Cat. No.	NET PRICES A	B	C
1¾"	-6600	$ .89	$ .98	$1.02								
3½"	-6601	1.12	1.23	1.29	-6201	$1.45	$1.59	$1.67	-6301	$2.10	$2.31	$2.42
5¼"	-6602	1.42	1.56	1.63	-6202	1.86	2.05	2.14	-6302	2.55	2.81	2.93
7"	-6603	1.72	1.89	1.98	-6203	2.27	2.50	2.61	-6303	3.00	3.30	3.45
8¾"	-6604	2.10	2.31	2.42	-6204	2.90	3.19	3.34	-6304	3.60	3.96	4.14
10½"	-6605	2.31	2.54	2.66	-6205	3.30	3.63	3.80	-6305	3.99	4.39	4.59
12¼"	-6606	2.87	3.16	3.30	-6206	3.75	4.12	4.31	-6306	4.71	5.18	5.42
14"	-6607	3.18	3.50	3.66	-6207	4.35	4.78	5.00	-6307	5.37	5.91	6.18
15¾"	-6608	3.56	3.92	4.09	-6208	4.95	5.44	5.69	-6308	6.00	6.60	6.90
17½"	-6609	3.96	4.36	4.55	-6209	5.40	5.94	6.21	-6309	6.72	7.39	7.73
19¼"	-6610	4.60	5.06	5.29	-6210	6.09	6.70	7.00	-6310	7.44	8.18	8.56
21"	-6611	4.86	5.35	5.59	-6211	6.60	7.26	7.59	-6311	8.16	8.98	9.38

STANDARD ALUMINUM BLANK PANELS - 1/8" No. 3003—H 14

PANEL HEIGHT	FOR 19" WIDE PANELS Cat. No.	NET PRICES A	B	C	FOR 24" WIDE PANELS Cat. No.	NET PRICES A	B	C	FOR 30" WIDE PANELS Cat. No.	NET PRICES A	B	C
1¾"	-6675	$1.06	$1.16	$1.22	-6275	$1.80	$1.98	$2.07				
3½"	-6676	1.50	1.65	1.73	-6276	2.28	2.51	2.62	-6376	$2.73	$3.00	$3.14
5¼"	-6677	2.05	2.25	2.36	-6277	3.00	3.30	3.45	-6377	3.96	4.36	4.55
7"	-6678	2.60	2.86	2.99	-6278	3.81	4.19	4.38	-6378	5.19	5.71	5.97
8¾"	-6679	3.15	3.46	3.62	-6279	4.74	5.21	5.45	-6379	6.42	7.06	7.38
10½"	-6680	3.80	4.18	4.37	-6280	5.73	6.30	6.59	-6380	7.65	8.42	8.80
12¼"	-6681	4.25	4.67	4.89	-6281	6.66	7.33	7.66	-6381	8.88	9.77	10.21
14"	-6682	5.00	5.50	5.75	-6282	7.62	8.38	8.76	-6382	10.11	11.12	11.63
15¾"	-6683	5.65	6.22	6.50	-6283	8.58	9.44	9.87	-6383	11.34	12.47	13.04
17½"	-6684	6.15	6.76	7.07	-6284	9.54	10.49	10.97	-6384	12.57	13.83	14.46
19¼"	-6685	6.70	7.37	7.71	-6285	10.47	11.52	12.04	-6385	13.80	15.18	15.87
21"	-6686	7.30	8.03	8.40	-6286	11.40	12.54	13.11	-6386	15.00	16.50	17.25

STANDARD ALUMINUM BLANK PANELS 19" WIDE - 3/16" No. 3003—H 14

PANEL HEIGHT	Cat. No.	NET PRICES A	B	C	PANEL HEIGHT	Cat. No.	NET PRICES A	B	C
1¾"	-6675-3	$1.65	$1.75	$1.81	12¼"	-6681-3	$7.20	$7.62	$7.84
3½"	-6676-3	2.28	2.43	2.51	14"	-6682-3	8.22	8.72	8.97
5¼"	-6677-3	3.36	3.56	3.67	15¾"	-6683-3	9.30	9.86	10.15
7"	-6678-3	4.14	4.40	4.53	17½"	-6684-3	10.35	10.96	11.27
8¾"	-6679-3	5.16	5.47	5.63	19¼"	-6685-3	11.40	12.07	12.41
10½"	-6680-3	6.18	6.56	6.75	21"	-6686-3	12.60	13.33	13.70

COLOR FINISHES MUST BE SPECIFIED ON YOUR ORDER.

We will be pleased to estimate your requirements for any other sizes or finishes.

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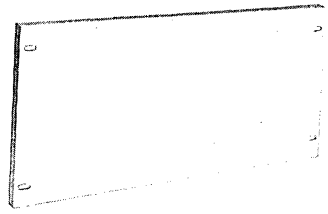
FORMED — VENTILATING AND HINGED PANELS

Par-Metal



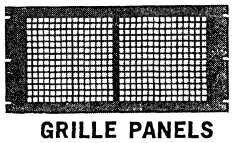
FORMED BLANK PANELS

FORMED EDGES, (turned back to create rigidity) give these #16 gauge (.059") cold rolled steel panels an overall thickness of 7/16". Formed Edge Panels present a fine finished appearance to ANY equipment. Standard sizes are charted here.

COLOR FINISHES MUST BE SPECIFIED ON YOUR ORDER.

FORMED BLANK PANELS — 1/16" STEEL — Overall Thickness 7/16"

PANEL HEIGHT	FOR 19" WIDE PANELS Cat. No.	NET PRICES A	B	C	FOR 24" WIDE PANELS Cat. No.	NET PRICES A	B	C
1¾"	-600	$1.29	$1.42	$1.48				
3½"	-601	1.38	1.52	1.59	-641	$1.95	$2.15	$2.25
5¼"	-602	1.56	1.72	1.79	-642	2.37	2.61	2.73
7"	-603	1.83	2.01	2.10	-643	2.85	3.14	3.28
8¾"	-604	2.19	2.39	2.52	-644	3.42	3.76	3.93
10½"	-605	2.46	2.71	2.83	-645	3.78	4.16	4.35
12¼"	-606	2.88	3.17	3.31	-646	4.14	4.55	4.76
14"	-607	3.24	3.56	3.73	-647	4.62	5.08	5.31
15¾"	-608	3.72	4.09	4.28	-648	5.22	5.74	6.00
17½"	-609	4.11	4.52	4.73	-649	5.82	6.40	6.69
19¼"	-610	4.53	4.98	5.21	-650	6.45	7.10	7.42
21"	-611	4.95	5.45	5.69	-651	7.02	7.72	8.07
22¾"	-612	5.90	5.90	6.20	-652	8.10	8.10	8.50
24½"	-613	6.35	6.35	6.67	-653	8.70	8.70	9.14
28"	-615	7.25	7.25	7.61	-655	9.90	9.90	10.40
35"	-619	9.90	9.90	10.40	-659	12.30	12.30	12.91
42"	-623	12.80	12.80	13.44	-668	14.70	14.70	15.44
52½"	-629	14.70	14.70	15.44	-669	17.10	17.10	17.96
61¼"	-634	16.20	16.20	17.01	-674	19.70	19.70	20.69
70"	-635	18.70	18.70	19.64	-675	22.80	22.80	23.94
77"	-637	21.30	21.30	22.37	-677	24.60	24.60	25.83
84"	-639	23.70	23.70	24.89	-679	26.70	26.70	28.04



GRILLE PANELS 19" WIDE — 1/8" STEEL

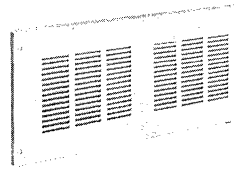
One piece construction. Square 3/8" Ventilation holes are punched through the Panel.

*Cat. No.	Panel Height	Grille Size Height	Width
-661	5¼"	3⅜"	14⅜"
-662	7"	4⅞"	14⅜"
-663	8¾"	6⅞"	14⅜"
-664	8¾"	†3⅞"	14⅜"
-665	10½"	8⅜"	14⅜"
-666	10½"	†5⅞"	14⅜"
-667	12¼"	†7⅜"	14⅜"

† Allows 3½" space at bottom for chassis mounting.

***ADD** Color Finish Prefix to Catalog No. **SEE** Detailed Chart at **top** of **facing page.**

*Cat. No.	NET PRICES A	B	C
-661	$3.09	$3.40	$3.55
-662	3.40	3 74	3.91
-663	4.06	4.47	4.67
-664	3.72	4.09	4.28
-665	4.50	4.95	5.18
-666	4.22	4.64	4.85
-667	4 57	5.03	5.26

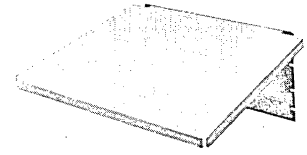


VENTILATED FORMED PANELS

19" Wide & 24" Wide
1/16" Steel

***ADD** Color Finish Prefix to Catalog No. **SEE** Detailed Chart at **top** of **facing page.**

*Cat. No.	Panel Height	NET PRICE A	B	C
FOR 19" WIDE PANELS				
-603-V	7"	$3.45	$3.80	$3.97
-604-V	8¾"	3.90	4.29	4.49
-605-V	10½"	4.29	4.72	4.93
-606-V	12¼"	4.86	5.35	5.59
-608-V	15¾"	5.70	6.27	6.56
-610-V	19¼"	7.00	7.70	8.05
-611-V	21"	7.56	8.32	8.69
FOR 24" WIDE PANELS				
-643-V	7"	5.10	5.61	5.87
-644-V	8¾"	5.97	6.57	6.87
-645-V	10½"	6.48	7.13	7.45
-646-V	12¼"	6.99	7.69	8.04
-648-V	15¾"	8.37	9.21	9.63
-650-V	19¼"	10.05	11.05	11.55
-651-V	21"	10.77	11.85	12.39



STANDARD DESK — TABLE PANELS

For 19" Wide Panel Racks

Desk/Tables have Rounded Front Corners, seamless construction and turned-in edge flanges for smoothness underneath. They are fastened to a 10½" x 19" x 1/8" steel panel. Available in 2 sizes.

CATALOG NUMBER	TABLE SIZE WIDTH	DEPTH
—2216	22"	16"
—2220	22"	20"

***ADD** Color Finish Prefix to Catalog No. Desk Panel **Finish** is **smooth** enamel for a superior writing surface.

Color Finish	*Use Prefix	NET PRICES *-2216	*-2220
Black Enamel	*BT	$17.10	$18.60
Blue Gray Enamel	*GT	17.10	18.60
Gray Hammertone	*HT	17.10	18.60
Primer Coat	*PCT	17.10	18.60
Dawn Gray Vinyl	*VT	18.81	20.46

SIDE HINGED BLANK PANELS

19" Wide — 1/8" Steel

Piano Hinged at one side and a quarter turn "Fingertip Knurled Head" closing fastener at the other.

***ADD** Color Finish Prefix to Catalog No. as follows.

*Use Prefix	Net Price Column
"HP" for Black Wrinkle	A
"GP" for Blue Gray Wrinkle	A
"HA" for Gray Hammertone	B
"PCP" for Primer Coat	B
"VP" for Dawn Gray Vinyl	C

*Cat. No	Panel Height	NET PRICES A	B	C
-350	3½"	$3.60	$3.96	$4.14
-525	5¼"	3.80	4.18	4.37
-700	7"	4.20	4.64	4.83
-875	8¾"	4.65	5 12	5.35
-1050	10½"	5.25	5.78	6.04
-1225	12¼"	5.55	6.11	6.38
-1400	14"	6.40	7.04	7.36
-1750	17½"	8.10	8.91	9.32
-2100	21"	9.40	10.34	10.81

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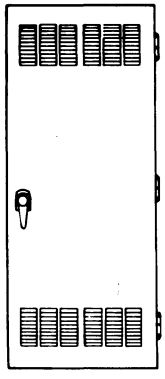
Par-Metal DOOR AND TOP PANEL MODIFICATIONS

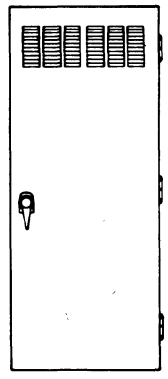
DOOR MODIFICATIONS
FRONT AND REAR DOORS FOR RACKS

Doors are mounted on slip-joint hinges for easy removal. On CONTEMPO-RACKS, front doors are PAN shaped, ¾" thick and have flush mounted door handles. Rear doors are "Dutch Formed."

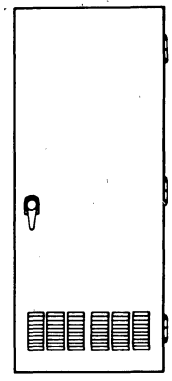
On other Racks all doors are "Dutch Formed." Right hand hinges are standard. Left Hand hinges are optional. Door modifications marked * are optional at NO additional cost. All others must be estimated. Doors are finished to match racks.



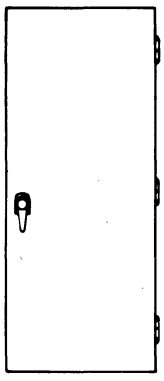
*MODIFICATION LS VENETIAN LOUVERS at TOP and BOTTOM . . . (Standard Rear Door)



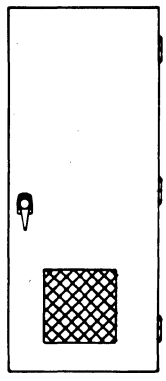
*MODIFICATION LT VENETIAN LOUVERS at TOP ONLY . . .



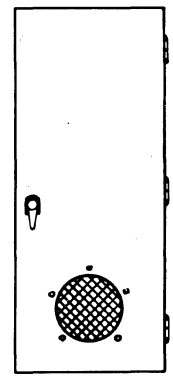
*MODIFICATION LB VENETIAN LOUVERS at BOTTOM ONLY . . .



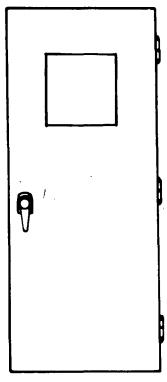
*MODIFICATION SS NO LOUVERS SOLID DOOR . . . (Standard Front Door.)



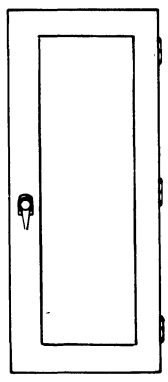
MODIFICATION FD 10" x 10" Opening for filter (Filter included).



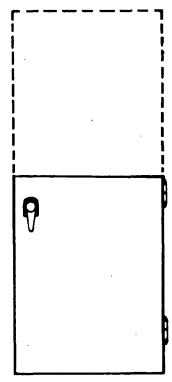
MODIFICATION FN ROUND OPENING for FAN with Mounting Holes. See Hardware Section Par-Metal Page 37.



MODIFICATION SW Square Opening for Window (Without Glass) Give Full Specifications . . .



MODIFICATION RW Rectangular Window Opening (Without Glass) Give Full Specifications...



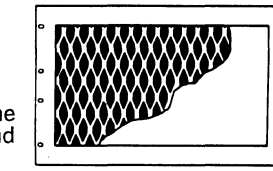
MODIFICATION HD HALF OR SHORT DOOR (On Estimate Only). Give Full Specifications...

TOP PANEL MODIFICATIONS
FOR PANEL RACKS

Blank, #16 gauge Removable Formed steel panels are standard in the top of all racks. For the cost of Ventilating or Fan, etc. modifications, see chart below. Please use identity prefix letters.

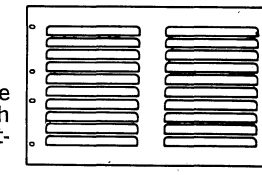
EXPANDED METAL MESH
Modification *TA*

Mesh is spot welded under the frame. .055" steel — Diamond shaped openings — 5/16" x 7/8".



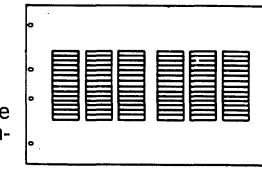
PRESSED LOUVERS
Modification *TB*

Hooded Openings are 7" wide and formed into the steel with the louvers opening to the outside.



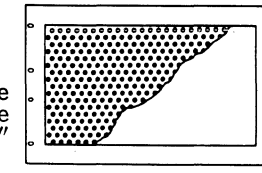
VENETIAN LOUVERS
Modification *TC*

Vent openings are formed into the steel top with the louvers opening to the inside.



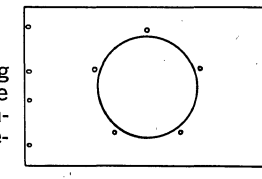
PERFORATED HOLES
Modification *TH*

Mesh is spot welded under the frame. .055" steel. The holes are staggered — 3/16" diameter on 5/16" centers.



FAN OPENING
Modification *TF*

Circular opening and mounting holes provided. When ordering: give complete dimensional specifications and mounting hole requirements, (see Par-Metal Page 37.)



STANDARD TOP PANEL SUPPLIED UNLESS OTHERWISE SPECIFIED

TOP MODIFICATIONS ••• DIMENSIONS AND COSTS							
TO FIT RACK SIZE		Modification TA & TH		Modification TB Louvers		Modification TC Louvers	
Panel Width	Panel Depth	Mesh Size	Net Price	# of Rows	Net Price	Sets	Net Price
19"	18"	16¾" x 10¼"	$3.50	2	$2.50	Single	$2.00
19"	24"	16¾" x 17¼"	4.00	2	3.00	Double	2.00
19"	26"	16¾" x 19¼"	4.25	2	3.25	Double	2.75
19"	31"	16¾" x 22½"	4.75	3	3.75	Double	2.75
24"	24"	21¾" x 17¼"	4.50	2	3.00	Double	2.50
24"	26"	21¾" x 19¼"	4.75	2	3.25	Double	2.75
24"	31"	21¾" x 22½"	5.25	2	4.25	Double	3.25
30"	24"	27¾" x 17¼"	5.25	3	4.00	Double	3.00
30"	26"	27¾" x 19¼"	5.50	3	4.25	Double	3.25
30"	31"	27¾" x 22½"	6.00	3	5.00	Double	4.00

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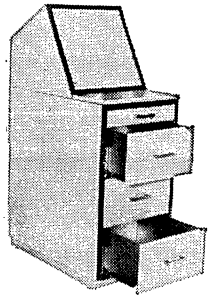
CONSOLE ASSEMBLIES

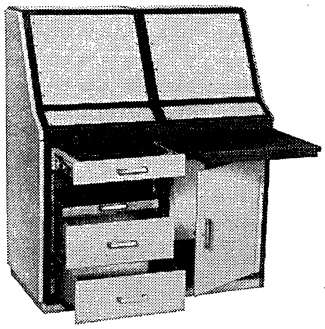
Par-Metal

SINGLE UNIT ASSEMBLY



CONTEMPO-PED: Stand-up Model #CPS-34 with Model #PT-19 Top Cabinet.

DOUBLE UNIT ASSEMBLY



WITH 2 CONTEMPO-PEDS, Model #CPD-24. 2 Top Cabinets Model #CF-19 and an Exterior Table Model #CCT-216.

GENERAL DESCRIPTION

Console Assemblies house Electronic Equipment at desk level. This combination of equipment enclosures with control cabinets, all 19" panel widths, supplies enough variety to satisfy most needs, often eliminating custom construction.

PAR-METAL'S 6 different pedestals in 2 depths and in both desk and stand-up heights, along with 14 different Desk Panel Cabinets — **PLUS** the industry's **ONLY** line of both Pedestal and Top Cabinet Angular Wedges, offers the widest choice of electronic housing assemblies. PAR-METAL'S Consoles are made in 2 basic design categories. **Professional Pedestals** (Traditional Design — use prefix PD) are desk height, 24¼" and 34¼" deep. Four Desk Top Cabinets in Single, Double, Triple or Quad lengths, complete these assemblies.

CONTEMPO-PEDS (Modern Design — use prefixes CPD or CPS) add a new dimension to the 24¼" and 34¾" deep desk height models. PAR-METAL proudly introduces to the trade, its **exclusive** line of CONTEMPO-PEDS in Stand-up Height, with Table Tops 40" from the floor. Ten new CONTEMPO Top Cabinets with matching pedestal and top cabinet Angular Wedges (at both 30° and 45° angles) give the engineer unlimited scope in designing a satisfactory configuration. Top Cabinets as well as pedestals are made with removable end panels. This permits ready addition (or removal) of a section when future use dictates.

Standard finish on the **CONTEMPO** line is a combination of Dawn Gray and Charcoal Gray Vinyl. Any color or combination of finishes in enamels, lacquers, suedes or acrylics is available.

To fit these Consoles, **PAR-METAL** manufactures complete accessories including Basic Slides, Drawers, Doors, Formica Table Tops, Side Panels, End Pedestals, Casters and Panels.

ORDERING INSTRUCTIONS and COLOR GUIDE!

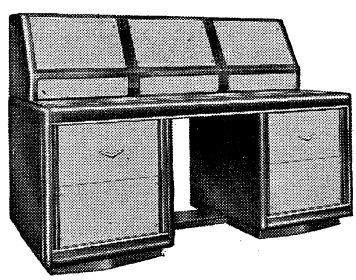
1. ORDER ALL CONSOLE PARTS and ACCESSORIES by CATALOG NUMBER! (Par-Metal Page Nos.) Pedestal Frames (Page 25), Desk Top Cabinets (Pages 29 & 33) Component Group Check Lists (Pages 27/28 & 31/32) Wedges (Page 34) Accessories (Pages 26 & 30).
2. Advise us of the configuration to be used so that proper hardware is included at NO COST to you.
3. Place accessories on Console order for best Industrial Discounts and guarantee of perfect matching finish.
4. **YOU MUST SPECIFY FINISH!** Select from this list.

Light Grey Hammertone Enamel .... Mark Order..LH	Dark Grey Metallic Enamel ..... Mark Order..GM
Dark Grey Hammertone Enamel .... Mark Order..DH	Blue Grey Wrinkle Enamel ..... Mark Order..BG
Light/Dark Grey Hammertone Enamel-Standard Finish	Black Wrinkle Enamel ..... Mark Order..BW
(Light Panels with Dark Pedestal Trim) Mark Order..LD	Primer Coat Only ..... Mark Order..PC

Standard Finish for **CONTEMPO** Line ONLY — Dawn/Charcoal Grey Vinyl ..... Mark Order..CVG

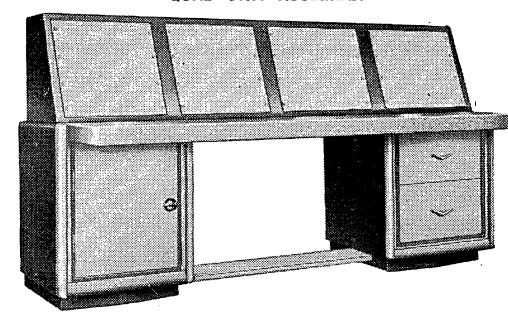
SPECIAL ENAMEL, LACQUER, VINYL OR OTHER FINISHES AVAILABLE.

TRIPLE UNIT ASSEMBLY



Triple Unit Assembly with two Pedestal Frames and Desk Control. See following pages for additional arrangements.

QUAD UNIT ASSEMBLY



Quad Unit Assembly with two Pedestal Frames, Extension Desk Table, High Slope Cabinet. See following pages for additional configurations.

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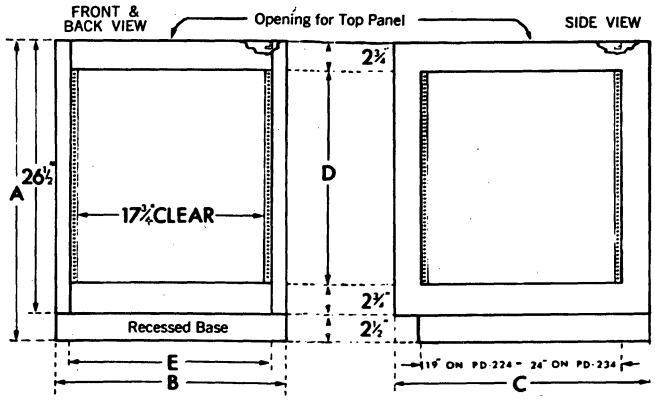
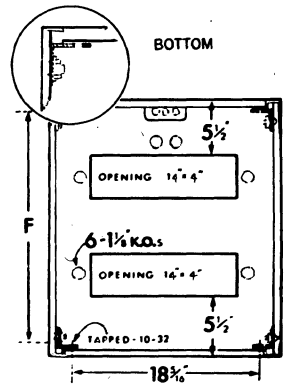
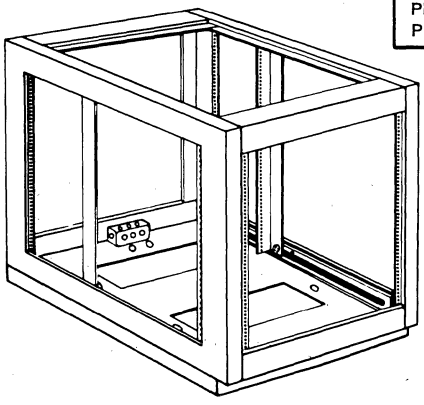
Par-Metal PROFESSIONAL PEDESTAL FRAMES





Catalog Number	Dimensions Hgt. A	Width B	Depth C	Panel Space Front & Back Hgt. D	Width E	Clear Inside Depth Front to Back F	Opening For Top Panel Width	Depth	Overall Dimensions with Side Panels and Front Mouldings Hgt.	Width	Depth	Shipping Wt. Lbs	Net Price
PD-224	29"	22"	24¼"	21"	19"	23⅛"	19"	19¼"	30"	24½"	25⅜"	80	$ 84.50
PD-234	29"	22"	34¼"	21"	19"	33⅛"	19"	28"	30"	24½"	35⅜"	90	101.50



PROFESSIONAL PEDESTAL

PEDESTAL FRAMES: The Pedestal Frame forms the base of all equipment to be mounted below desk table level. It is solidly welded for rigorous use. It mounts 19" wide panel equipment. A reinforced base and two pairs of Panel Mounting Angles are included. Angles are readily adjustable to any forward or back position. Each Frame has a fitted #12 gauge (.104") steel removable bottom plate, some with knockouts and access areas (see diagrams above). Holes for mounting casters (optional) are pre-drilled in this plate.
PAR-METAL makes 2 basic design models, **PROFESSIONAL** and **CONTEMPO. PROFESSIONAL** Pedestals, illustrated above, (Prefix — PD) are trimmed to match and complement our "PL" Cabinet Racks. #PD-224 Frames have 19" x 19¼" Top and Bottom openings. On #PD-234, this opening is 19" x 28". See Component Group Check List on PAR-METAL Pages 27/28 and Top Cabinets on facing page.

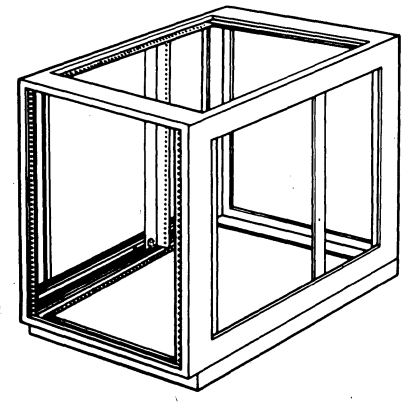
CONTEMPO-PEDS, illustrated below, (Prefixes CPD & CPS) are designed to mate with CONTEMPO-RACKS. See Component Group List on PAR-METAL Pages 31/32. CONTEMPO-Top Cabinets are on PAR-METAL Page 33. 30° & 45° Angular Wedges for these are shown on PAR-METAL Page 32. A 3½" x 19" panel, Model #6601-R with mounted Electric Dual Receptacle is available. **Casters:** 3" diameter Rockite composition non-marking ball bearing wheels — heavy duty. (Available at extra cost.)

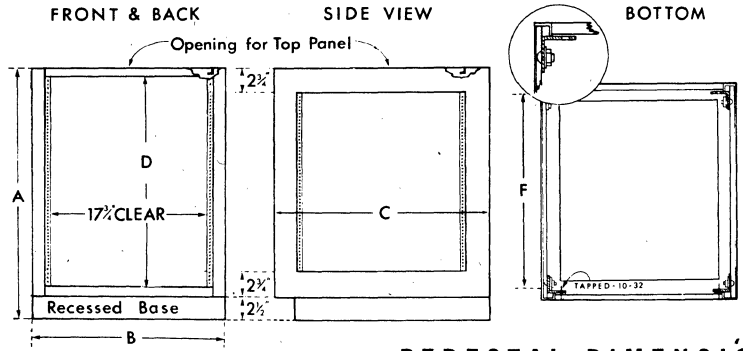
FINISHES: Unless specified, "PD" Peds are finished in a combination of Light and Dark Gray Hammertone Enamel (LD) while CONTEMPO-PEDS are finished in Dawn and Charcoal Gray Textured Vinyl. For your choice of others, please turn to PAR-METAL Page 24. To fit these frames Panel Angles and Vertical Side Supports for Professional and Contempo are shown in chart below.

EXTRA PANEL ANGLES & VERTICAL SIDE SUPPORTS

TO FIT PEDESTAL	PANEL ANGLES Catalog Number	PANEL ANGLES Net Price Per Pair	VERTICAL SIDE SUPPORTS Catalog Number	VERTICAL SIDE SUPPORTS Net Price Per Set of 4
PD-224/234	PA-21	$ 7.75	VS-21	$12.95
CPD-24/34	CPA-26	8.65	CVS-26	13.85
CPS-24/34	CPA-36	10.00	CVS-36	15.75

CONTEMPO-PEDS





PEDESTAL DIMENSIONS

CATALOG NUMBER	OVERALL DIMENSIONS Height A	*Width B	Depth C	#PANEL HEIGHT Front/Back D	Top E	SIDE OPENING Height	Width	CLEAR INSIDE Depth F	NET PRICE
CPD-24	29 1/16"	21⅛"	24¼"	24½"	19¼"	21"	19"	23¼"	$ 79.00
CPD-34	29 1/16"	21⅛"	34¾"	24½"	29¾"	21"	30"	33¾"	96.00
CPS-24	39 1/16"	21⅛"	24¼"	35"	19¼"	31½"	19"	23¼"	94.80
CPS-34	39 1/16"	21⅛"	34¾"	35"	29¾"	31½"	30"	33¾"	113.25

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DESK PANEL CABINETS
FOR PROFESSIONAL PEDESTAL FRAMES

Par-Metal

DESK PANEL CABINETS For 19" Wide Panels

"Top of the Desk" Panel Cabinets often house the meters, scopes, controls and switches, etc., necessary to operate the pedestal mounted equipment... thus completing the Console Assembly.

Construction: 1/8" cold rolled steel, fully welded. No fastening deveics are needed as cabinets are shipped completely assembled, ready for use.

Front: Steel formed blank panels are supplied. A 1/8" flat aluminum or steel panel may be substituted, without extra cost, if so ordered.

Rear: All cabinets except Series LS are equipped with removable louvered rear door. Doors are hinged at the bottom with full length piano hinges, and closed with a pushbutton spring catch. For multiple assemblies, each cabinet section has its own individual rear door. Formed 19" steel panels, either plain or louvered, may be substituted for these doors without additional cost.

Bottom: Removable blank formed steel panel is furnished.

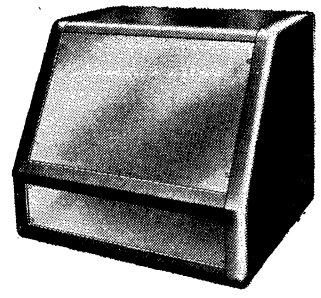
Finishes: Unless specified otherwise, Desk Panel Cabinets are finished in a combination of dark and light gray hammertone enamel (LD). For color samples and optional finishes, see **Par-Metal Page 24.**

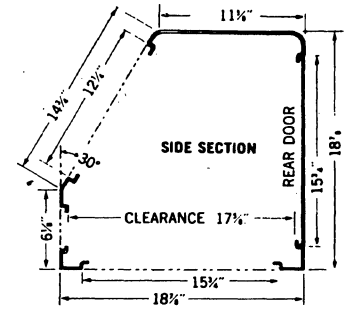
DUAL PANEL CONTROL CABINET

Front Panel Angle: 30°

Catalog No.	Description	H	W	D	Sh.Wt. Lbs.	Net Price
CX-101	Single Unit	18⅞"	22"	18⅞"	50	**$73.50**
CX-102	Double Unit	18⅞"	44"	18⅞"	85	**120.75**
CX-103	Triple Unit	18⅞"	66"	18⅞"	125	**175.00**
CX-104	Quad Unit	18⅞"	88"	18⅞"	175	**245.00**

Front Vertical Panel Height: 3½"

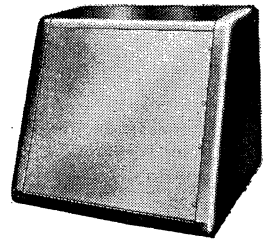


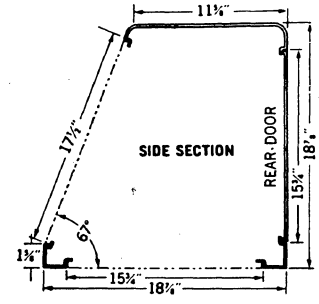


HIGH SLOPE PANEL CABINET

Front Panel Angle: 67°

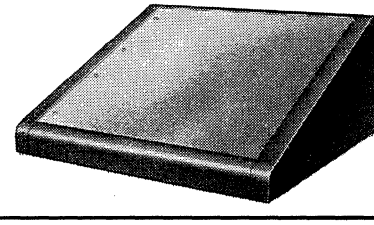
Catalog No.	Description	H	W	D	Sh.Wt. Lbs.	Net Price
HS-101	Single Unit	18⅞"	22"	18⅞"	45	**$69.80**
HS-102	Double Unit	18⅞"	44"	18⅞"	82	**115.50**
HS-103	Triple Unit	18⅞"	66"	18⅞"	120	**157.50**
HS-104	Quad Unit	18⅞"	88"	18⅞"	170	**199.50**

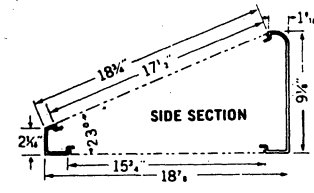




LOW SLOPE PANEL CABINETS Front Panel Angle: 23°

Catalog No.	Description	H	W	D	Sh.Wt. Lbs.	Net Price
LS-101	Single Unit	9⅛"	22"	18⅞"	34	**$50.00**
LS-102	Double Unit	9⅛"	44"	18⅞"	60	**96.00**
LS-103	Triple Unit	9⅛"	66"	18⅞"	80	**120.00**
LS-104	Quad Unit	9⅛"	88"	18⅞"	110	**140.00**

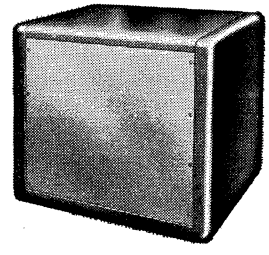


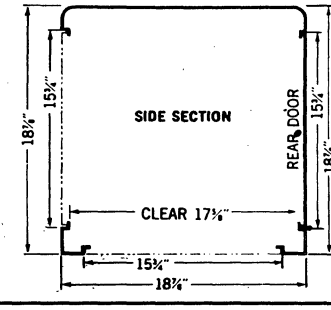


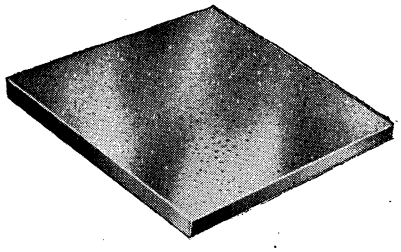
VERTICAL PANEL CABINETS

Front Panel Angle: 90°

Catalog No.	Description	H	W	D	Sh.Wt. Lbs.	Net Price
VF-101	Single Unit	18⅞"	22"	18⅞"	54	**$60.00**
VF-102	Double Unit	18⅞"	44"	18⅞"	84	**118.00**
VF-103	Triple Unit	18⅞"	66"	18⅞"	130	**175.00**
VF-104	Quad Unit	18⅞"	88"	18⅞"	180	**205.00**







FORMICA TOP TABLES. *Construction:* ¾" plywood with gray bonded Formica top. The absence of metal spacers between units provide a clear unobstructed writing surface. To identify required table top see pedestal check list on **Par -Metal Pages 27 and 28.**

	TO FIT ON PEDESTAL FRAME PD-224 (24¼" Deep)				TO FIT ON PEDESTAL FRAME PD-234 (34¼" Deep)			
	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price
SINGLE	WT-241	**$17.00**	NT-241	**$17.00**	WT-341	**$24.60**	HT-341	**$14.70**
DOUBLE	WT-242	**29.00**	NT-242	**29.00**	WT-342	**48.30**	HT-342	**23.00**
TRIPLE	WT-243	**45.00**	NT-243	**45.00**	WT-343	**64.00**	HT-343	**33.50**
QUAD	WT-244	**58.80**	NT-244	**58.80**	WT-344	**85.35**	HT-344	**45.00**

PAR-METAL PRODUCTS • ENGINEERING ASSISTANCE AVAILABLE

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Par-Metal COMPONENT GROUP CHECK LIST

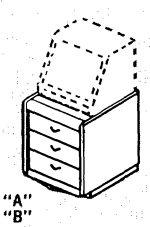
PROFESSIONAL CONSOLES

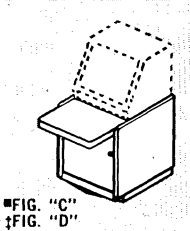
There are four models of Desk Panel Cabinets, designed to complement and fit on top of the Consoles detailed here. For simplicity, they are omitted from these check lists. Complete information on Desk Panel Cabinets will be found on Par-Metal Page 26.

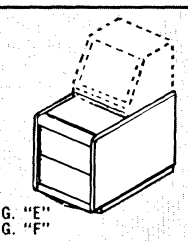
■When Desk Panel Cabinet is to be **added,** follow this Key letter horizontally on facing page. Cabinet details are on Par-Metal Page 26.

‡When Desk Panel Cabinets will **not** be used, follow this key letter horizontally on facing page.

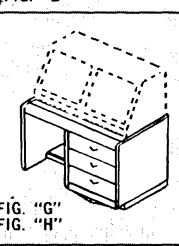
SINGLE UNIT ASSEMBLIES

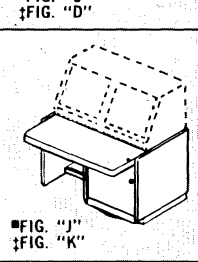

■FIG. "A"
‡FIG. "B"

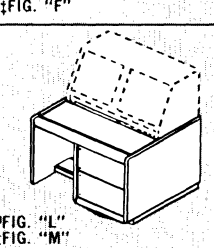

■FIG. "C"
‡FIG. "D"


■FIG. "E"
‡FIG. "F"

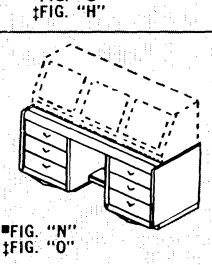
DOUBLE UNIT ASSEMBLIES

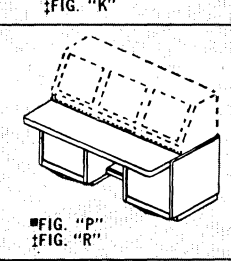

■FIG. "G"
‡FIG. "H"

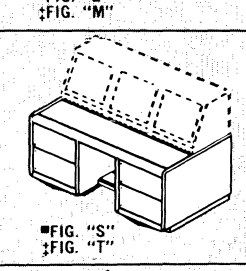

■FIG. "J"
‡FIG. "K"


■FIG. "L"
‡FIG. "M"

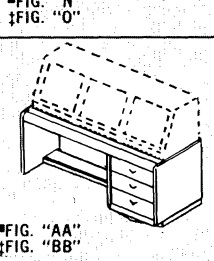
TRIPLE UNIT ASSEMBLIES

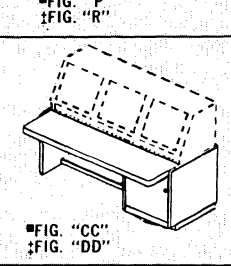

■FIG. "N"
‡FIG. "O"

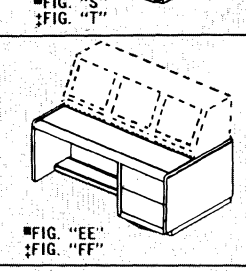

■FIG. "P"
‡FIG. "R"


■FIG. "S"
‡FIG. "T"

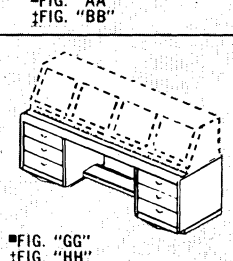
TRIPLE UNIT ASSEMBLIES

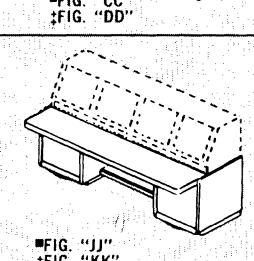

■FIG. "AA"
‡FIG. "BB"

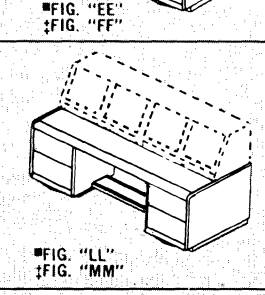

■FIG. "CC"
‡FIG. "DD"


■FIG. "EE"
‡FIG. "FF"

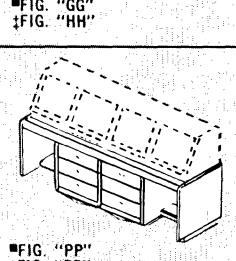
QUAD UNIT ASSEMBLIES

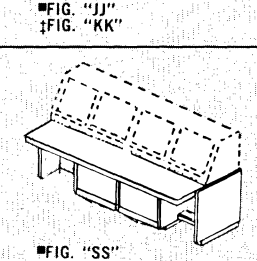

■FIG. "GG"
‡FIG. "HH"

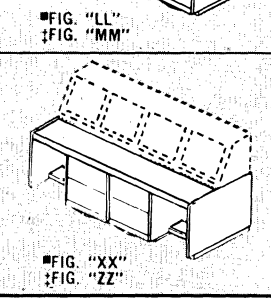

■FIG. "JJ"
‡FIG. "KK"


■FIG. "LL"
‡FIG. "MM"

QUAD UNIT ASSEMBLIES


■FIG. "PP"
‡FIG. "RR"


■FIG. "SS"
‡FIG. "TT"


■FIG. "XX"
‡FIG. "ZZ"

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COMPONENT GROUP CHECK LIST

Par-Metal

PROFESSIONAL CONSOLES

The group charts, shown on these two pages, provide a convenient check list to assist the engineer in preparing the Bill of Material necessary for his exact requirements. In addition to these component parts, he may select from the following optional accessories: 19″ wide panels; see Par-Metal Pages 21/22; Sliding drawers and shelves; see Par-Metal Page 17: Hinged doors; see Par-Metal Page 29.

ASSEMBLIES	FIGURE	PEDESTAL FRAME	EXTERIOR SIDE PANEL	INTERIOR SIDE PANEL	FORMICA TABLE TOP	END PEDESTAL	EXTERIOR DESK TABLE	CENTER DESK SECTION
		Par-Metal Page 25	Par-Metal Page 29	Par-Metal Page 29	Par-Metal Page 26	Par-Metal Page 29	Par-Metal Page 29	Par-Metal Page 29
	A	PD-224	EP-24(2)		*			
	B	PD-224	EP-24(2)		WT-241			
SINGLE	C	PD-224	EP-24(2)		*		CT-119	
UNIT	D	PD-224	EP-24(2)		NT-241		CT-119	
	E	PD-234	EP-34(2)		HT-341			
	F	PD-234	EP-34(2)		WT-341			
	G	PD-224	EP-24	KP-24	*	DU-24		
	H	PD-224	EP-24	KP-24	WT-242	DU-24		
DOUBLE	J	PD-224	EP-24	KP-24	*	DU-24	CT-219	
UNIT	K	PD-224	EP-24	KP-24	NT-242	DU-24	CT-219	
	L	PD-234	EP-34	KP-34	HT-342	DU-34		
	M	PD-234	EP-34	KP-34	WT-342	DU-34		
	N	PD-224(2)	EP-24(2)	KP-24(2)	*			CD-24
	O	PD-224(2)	EP-24(2)	KP-24(2)	WT-243			CD-24
TRIPLE	P	PD-224(2)	EP-24(2)	KP-24(2)	*		CT-319	CD-24
UNIT	R	PD-224(2)	EP-24(2)	KP-24(2)	NT-243		CT-319	CD-24
	S	PD-234(2)	EP-34(2)	KP-34(2)	HT-343			CD-34
	T	PD-234(2)	EP-34(2)	KP-34(2)	WT-343			CD-34
	AA	PD-224	EP-24	KP-24	*	DU-242		
	BB	PD-224	EP-24	KP-24	WT-243	DU-242		
TRIPLE	CC	PD-224	EP-24	KP-24	*	DU-242	CT-319	
UNIT	DD	PD-224	EP-24	KP-24	NT-243	DU-242	CT-319	
	EE	PD-234	EP-34	KP-34	HT-343	DU-342		
	FF	PD-234	EP-34	KP-34	WT-343	DU-342		
	GG	PD-224(2)	EP-24(2)	KP-24(2)	*			CD-242
	HH	PD-224(2)	EP-24(2)	KP-24(2)	WT-244			CD-242
QUAD	JJ	PD-224(2)	EP-24(2)	KP-24(2)	*		CT-419	CD-242
UNIT	KK	PD-224(2)	EP-24(2)	KP-24(2)	NT-244		CT-419	CD-242
	LL	PD-234(2)	EP-34(2)	KP-34(2)	HT-344			CD-342
	MM	PD-234(2)	EP-34(2)	KP-34(2)	WT-344			CD-342
	PP	PD-224(2)		KP-24(2)	*	DU-24(2)		
	RR	PD-224(2)		KP-24(2)	WT-244	DU-24(2)		
QUAD	SS	PD-224(2)		KP-24(2)	*	DU-24(2)	CT-419	
UNIT	TT	PD-224(2)		KP-24(2)	NT-244	DU-24(2)	CT-419	
	XX	PD-234(2)		KP-34(2)	HT-344	DU-34(2)		
	ZZ	PD-234(2)		KP-34(2)	WT-344	DU-34(2)		

QUANTITY IS ONE UNLESS OTHERWISE INDICATED. * NOT REQUIRED

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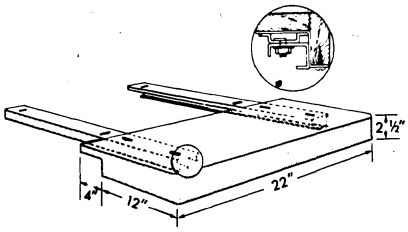
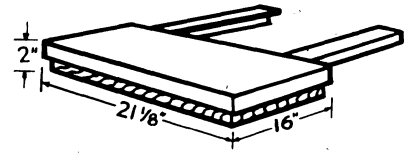
Par-Metal CONSOLE ACCESSORIES



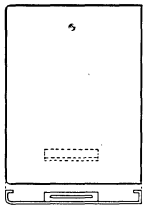
"PROFESSIONAL"

EXTERIOR DESK TABLES for CONSOLES listed on Par-Metal Pages 27/28 and 31/32 are made from ¾" plywood with gray Formica on top and aprons. This provides a smooth writing surface across entire top. Tables have 7/64" steel horizontal channel supports, but no metal parts are exposed. Request estimate for custom work.

"Professional" Consoles			Contempo-Consoles	
Catalog No.	Net Price		Catalog No.	Net Price
CT-119	$27.30	SINGLE	CCT-116	$ 29.35
CT-219	46.20	DOUBLE	CCT-216	58.65
CT-319	66.00	TRIPLE	CCT-316	84.00
CT-419	80.90	QUAD	CCT-416	109.35

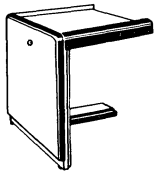


CONTEMPO



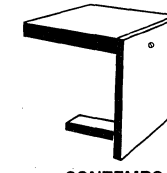
DETACHABLE SIDE PANELS for CONSOLES are shaped to match their pedestals. Made of #16 gauge steel with all formed edges; coinciding brackets with ¼ turn cowl fasteners assure fast and accurate mounting. **"Professional"** Side Panels are 1¼" thick, while **Contempo** Side Panels are ¾" thick. Finished same as Pedestals. **EP** models are for exterior use; **KP** models are for interior use. Model numbers indicate depth of console.

FOR 24" DEEP PEDESTALS			FOR 34" DEEP PEDESTALS		
Cat. No.	To Fit Pedestal	Net Price	Cat. No.	To Fit Pedestal	Net Price
EP-24	PD-224	$20.00	EP-34	PD-234	$25.00
EPD-24	CPD-24	17.50	EPD-34	CPD-34	22.50
EPS-24	CPS-24	21.00	EPS-34	CPS-34	26.55
KP-24	PD-224	17.50	KP-34	PD-234	20.00
KPD-24	CPD-24	17.50	KPD-34	CPD-34	20.00
KPS-24	CPS-24	21.00	KPS-34	CPS-34	23.60


"PROFESSIONAL"

END PEDESTALS for CONSOLES or kneehole spaces for use at ends of Console Assemblies are equipped with a foot rest as well as a vertical member, end panel and top section. They are made in single and double widths. (Formica table top is extra). Left side installation is standard; right side installation optional. See Check lists on Par-Metal Pages 27/28 and 31/32 for correct model numbers.

FOR 24" DEEP PEDESTALS			FOR 34" DEEP PEDESTALS		
Cat. No.	To Fit Pedestal	Net Price	Cat. No.	To Fit Pedestal	Net Price
DU-24	PD-224	$47.50	DU-34	PD-234	$59.00
DU-34	PD-224	62.00	DU-342	PD-234	77.00
DUD-24	CPD-24	45.00	DUD-34	CPD-34	56.50
DUS-24	CPS-24	54.00	DUS-34	CPS-34	66.70
DUD-242	CPD-24	58.75	DUD-342	CPD-34	74.00
DUS-242	CPS-24	70.50	DUS-342	CPS-34	89.00

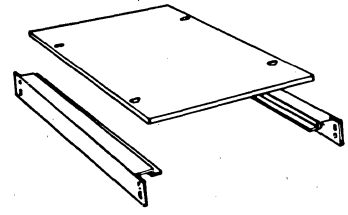

CONTEMPO

MOUNTING BRACKETS AND SHELVES

For "Professional" Pedestals Only

Brackets and Shelves for Contempo are on Par-Metal Page 14.

Brackets are mounted at desired height to side of pedestal, and slotted to match pedestal holes. Shelves are 17½" Wide and ⅝" High and drilled for assembly with brackets.

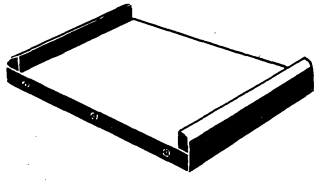


MOUNTING BRACKETS

Cat. No. (For Pair)	To Fit Pedestal	Overall Size	Ship. Wt. Lbs.	Net Price Per Pr.
CB-24	PD-224	2½x3x18¾"	10	$4.20
CB-34	PD-234	2½x3x28¾"	15	5.80

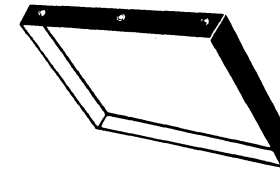
SHELVES

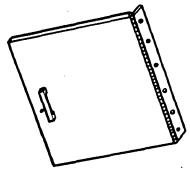
Cat. No.	To Fit Brackets	For Pedestal	Depth	Ship. Wt. Lbs.	Net Price Per Pr.
SS-24	CB-24	PD-234	22¾"	7	$4.85
SS-34	CB-34	PD-234	32¾"	10	6.75


"PROFESSIONAL"

CENTER DESK SECTIONS for CONSOLES are kneehole spaces in single or double widths, for use in center of console assembly include a Foot Rest and a Bridge Section Top Support for Multiple Units. (Formica table top is extra). See Check Lists on Par-Metal Pages 27/28 and 31/32 for correct model numbers.

FOR 24" DEEP PEDESTALS			FOR 34" DEEP PEDESTALS		
Cat. No.	To Fit Pedestal	Net Price	Cat. No.	To Fit Pedestal	Net Price
CD-24	PD-224	$17.65	CD-34	PD-234	$20.80
CD-242	PD-224	35.30	CD-342	PD-234	41.60
CCD-24	CPD/CPS-24	17.65	CCD-34	CPD/CPS-34	20.80
CCD-242	CPD/CPS-24	35.30	CCD-342	CPD/CPS-34	41.60


CONTEMPO



HINGED DOOR PANELS for CONSOLES are double wall construction. 7/16" thick, 19" wide, push button spring catch. FULL length Piano Hinge for strong left or right mounting. Finished on both sides to match console.

Cat. No.	Height	Net Price	Cat. No.	Height	Net Price
DR-7019	7"	$11.75	DR-2119	21"	$16.50
DR-1019	10½"	13.50	DR-2419	24½"	19.20
DR-1219	12¼"	14.00	DR-2619	26¼"	22.25
DR-1419	14"	14.53	DR-2819	28"	23.85
DR-1519	15¾"	15.20	DR-3119	31½"	24.70
DR-1719	17½"	15.75	DR-3519	35"	25.85
DR-1919	19¼"	16.20			

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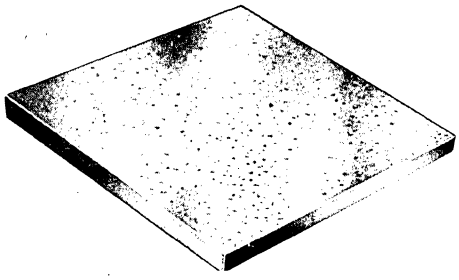
FORMICA TOP TABLES FOR CONTEMPO-PEDS

Par-Metal

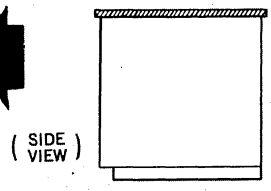


Construction: ¾" plywood with gray bonded Formica top. The absence of metal spacers between units provides a clear unobstructed writing surface. To identify required table top, see pedestal check list on Par-Metal pages 31 and 32.

FOR 24¼" DEEP CONTEMPO PEDESTALS

CATALOG NUMBER	UNIT SIZE	OVERALL SIZE Width x Depth	NET PRICE
WT-124	Single	23⅜" x 25"	$25.35
WT-224	Double	44½" x 25"	42.65
WT-324	Triple	65⅝" x 25"	64.00
WT-424	Quad	86¾" x 25"	85.35

FULL TABLE



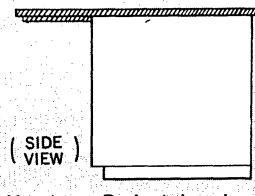
Required on Pedestals when No Top Cabinet is used.

FOR 34¾" DEEP CONTEMPO PEDESTALS

CATALOG NUMBER	UNIT SIZE	OVERALL SIZE Width x Depth	NET PRICE
WT-134	Single	23⅜" x 35½"	$29.40
WT-234	Double	44½" x 35½"	58.65
WT-334	Triple	65⅝" x 35½"	88.00
WT-434	Quad	86¾" x 35½"	117.35

CATALOG NUMBER	UNIT SIZE	OVERALL SIZE Width x Depth	NET PRICE
WTX-124	Single	21⅛" x 40⅝"	$46.65
WTX-224	Double	42¼" x 40⅝"	93.35
WTX-324	Triple	63⅜" x 40⅝"	140.00
WTX-424	Quad	84½" x 40⅝"	186.65

FULL TABLE WITH 16" EXTENSION

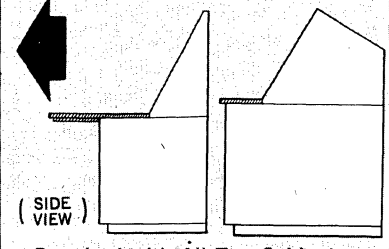


Used on Pedestals when No Top Cabinet is needed.

CATALOG NUMBER	UNIT SIZE	OVERALL SIZE Width x Depth	NET PRICE
HT-134	Single	21⅛" x 10⅞"	$15.40
HT-234	Double	42¼" x 10⅞"	42.65
HT-334	Triple	63⅜" x 10⅞"	64.00
HT-434	Quad	84½" x 10⅞"	86.35

CATALOG NUMBER	UNIT SIZE	OVERALL SIZE Width x Depth	NET PRICE
HTX-124	Single	21⅛" x 20¾"	$28.40
HTX-224	Double	42¼" x 20¾"	56.00
HTX-324	Triple	63⅜" x 20¾"	81.00
HTX-424	Quad	84½" x 20¾"	99.00

HALF TABLE

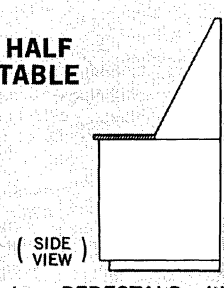


Required with All Top Cabinets except LS-24, on 34¾" DEEP PEDESTALS.

CATALOG NUMBER	UNIT SIZE	OVERALL SIZE Width x Depth	NET PRICE
LHT-134	Single	21⅛" x 20¾"	$14.70
LHT-234	Double	42¼" x 20¾"	25.35
LHT-334	Triple	63⅜" x 20¾"	32.00
LHT-434	Quad	84½" x 20¾"	42.65

CATALOG NUMBER	UNIT SIZE	OVERALL SIZE Width x Depth	NET PRICE
LHT-124	Single	21⅛" x 10¼"	$28.00
LHT-224	Double	42¼" x 10¼"	56.00
LHT-324	Triple	63⅜" x 10¼"	81.00
LHT-424	Quad	84½" x 10¼"	99.00

HALF TABLE



Used on PEDESTALS with Top Cabinet LS-24 **ONLY.**

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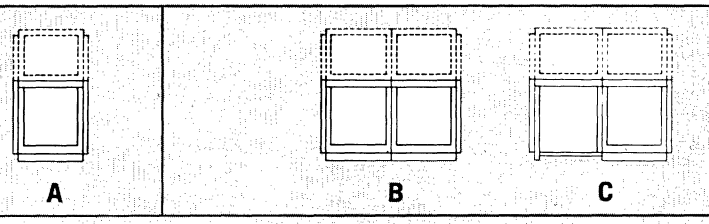
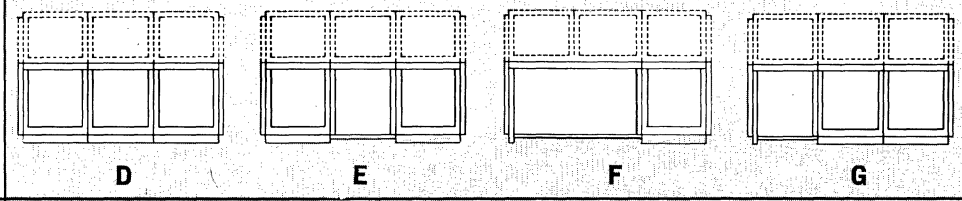
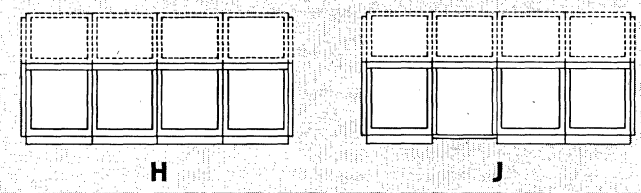
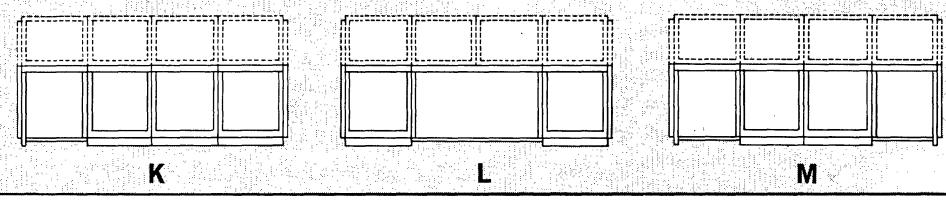
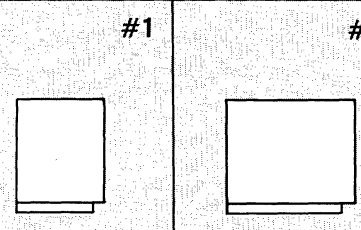
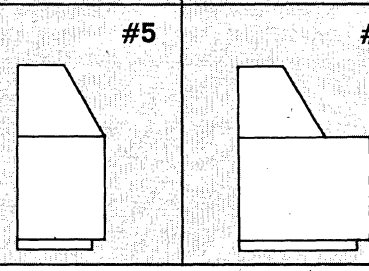
Par-Metal CONTEMPO-CONSOLES / PEDS

COMPONENT GROUP CHECK LIST

Select Desired Configuration from Drawings below — Follow up with Component Charts on Facing Page.

TOP CABINET, Model HS—19 is used to illustrate sketches. ANY TOP CABINET listed on Par-Metal Pages 33/34 may be substituted.

FRONT VIEW	(Either Desk or Standing Height)	USE KEY LETTERS
SINGLE AND DOUBLE UNIT ASSEMBLIES		
TRIPLE UNIT ASSEMBLIES		
QUAD UNIT ASSEMBLIES		
Any number of pedestals may be assembled into a single unit console . . .		

(SIDE VIEW) USE KEY NUMBERS	DESK HEIGHT		STANDING HEIGHT	
	24" DEEP	34" DEEP	24" DEEP	34" DEEP
When Pedestals are used with NO TOP CABINET.				
When Pedestals are used with TOP CABINETS (see Par-Metal Pages 33/34)				

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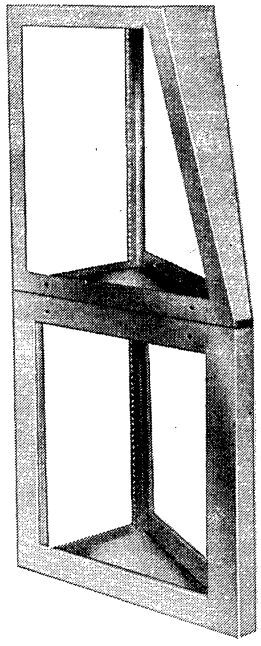
CONTEMPO-WEDGES

Par-Metal

TYPICAL WEDGE ASSEMBLY • INCLUDES PEDESTAL WEDGE PDW-34-30 WITH TOP CABINET WEDGE HS-219-30



SOMETHING NEW HAS BEEN ADDED!

To fit these Consoles, Par-Metal offers the industry's only line of Angular Wedges for Contempo-Pedestals and Top Cabinets, with fully welded construction. They fit the equipment.

WEDGES FOR PEDESTALS	FOR 30° ANGLE FRAMES				FOR 45° ANGLE FRAMES			
	24¼" DEEP		34¾" DEEP		24¼" DEEP		34¾" DEEP	
	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price
Desk Height	PDW-24-30	$ 86.90	PDW-34-30	$105.60	PDW-24-45	$ 90.90	PDW-34-45	$110.40
Stand. Hght.	PSW-24-30	104.30	PSW-34-30	124.50	PSW-24-45	109.00	PSW-34-45	130.25

WEDGES for Use with TOP CABINETS	FOR 24¼" DEEP PEDESTALS				FOR 34¾" DEEP PEDESTALS			
	30° WEDGES		45° WEDGES		30° WEDGES		45° WEDGES	
	Catalog Number	Net Price	Catalog Number	Net Price	Catalog Number	Net Price	Number Catalog	Price Net
LS-14	LS-224-30	$72.00	LS-214-45	$75.50	LS-314-30	$79.25	LS-314-45	$83.00
*LS24	LS-224-30	72.00	LS-224-45	75.50	LS-324-30	79.25	LS-324-45	83.00
CF-19	CF-219-30	122.00	CF-219-45	128.00	CF-319-30	134.25	CF-319-45	141.00
CX-19	CX-219-30	94.00	CX-219-45	98.75	CX-319-30	103.50	CX-319-45	108.75
HS-19	HS-219-30	98.75	HS-219-45	98.75	HS-319-30	103.50	HS-319-45	108.75
HS-25	HS-225-30	99.50	HS-225-45	104.50	HS-325-30	109.25	HS-325-45	115.00
HS-26	HS-226-30	109.00	HS-226-45	114.50	HS-326-30	120.00	HS-326-45	126.00
HS-28	HS-228-30	121.50	HS-228-45	127.50	HS-328-30	133.75	HS-328-45	140.25
PT-19	PT-219-30	95.00	PT-219-45	99.75	PT-319-30	104.50	PT-319-45	109.75
VF-19	VF-219-30	87.50	VF-219-45	92.00	VF-319-30	96.25	VF-319-45	101.25

*Formica Table Top Required — See Par-Metal Page 30.

DESK HEIGHT PEDESTALS — **CONTEMPO PEDESTALS** — *STAND UP HEIGHT PEDESTALS

Figure	Pedestal Frame Par-Metal Page 25	Exterior Side Panel Par-Metal Page 29	Interior Side Panel Par-Metal Page 29	Formica Table Top Par-Metal Page 30	End Pedestal Par-Metal Page 29	Center Desk Section Par-Metal Page 29		Figure	Pedestal Frame Par-Metal Page 25	Exterior Side Panel Par-Metal Page 29	Interior Side Panel Par-Metal Page 29	Formica Table Top Par-Metal Page 30	End Pedestal Par-Metal Page 29	Center Desk Section Par-Metal Page 29
A-1	CPD-24	EPD-24(2)		WT-124			SINGLE UNIT ASSEMBLY	A-5	CPS-24	EPS-24(2)		WT-124		
A-2	CPD-34	EPD-34(2)		WT-134				A-6	CPS-34	EPS-34(2)		WT-134		
A-3	CPD-24	EPD-24(2)		*HT-124				A-7	CPS-24	EPS-24(2)		*HT-124		
A-4	CPD-34	EPD-34(2)		HT/*LHT-134				A-8	CPS-24	EPS-24(2)		HT/*LHT-134		
B-1	CPD-24(2)	EPD-24(2)		WT-224			DOUBLE UNIT ASSEMBLY	B-5	CPS-24(2)	EPS-24(2)		WT-224		
B-2	CPD-34(2)	EPD-34(2)		WT-234				B-6	CPS-34(2)	EPS-34(2)		WT-234		
B-3	CPD-24(2)	EPD-24(2)		*HT-224				B-7	CPS-24(2)	EPS-24(2)		*HT-124		
B-4	CPD-34(2)	EPD-34(2)		HT/*LHT-234				B-8	CPS-34(2)	EPS-34(2)		HT/*LHT-234		
C-1	CPD-24	EPD-24	KPD-24	WT-224	DUD-24			C-5	CPS-24	EPS-24	KPS-24	WT-224	DUS-24	
C-2	CPD-34	EPD-34	KPD-34	WT-234	DUD-34			C-6	CPS-34	EPS-34	KPS-34	WT-234	DUS-34	
C-3	CPD-24	EPD-24	KPD-24	*HT-224	DUD-24			C-7	CPS-24	EPS-24	KPS-24	*HT-224	DUS-24	
C-4	CPD-34	EPD-34	KPD-34	HT/*LHT-234	DUD-34			C-8	CPS-34	EPS-34	KPS-34	HT/*LHT-234	DUS-34	
D-1	CPD-24(3)	EPD-24(2)		WT-324			TRIPLE UNIT ASSEMBLY	D-5	CPS-24(3)	EPS-24(2)		WT-324		
D-2	CPD-34(3)	EPD-34(2)		WT-334				D-6	CPS-34(3)	EPS-34(2)		WT-334		
D-3	CPD-24(3)	EPD-24(2)		*HT-324				D-7	CPS-24(3)	EPS-24(2)		*HT-324		
D-4	CPD-34(3)	EPD-34(2)		HT/*LHT-334				D-8	CPS-34(3)	EPS-34(2)		HT/*LHT-334		
E-1	CPD-24(2)	EPD-24(2)	KPD-24(2)	WT-324		CCD-24		E-5	CPS-24(2)	EPS-24(2)	KPS-24(2)	WT-324		CCD-24
E-2	CPD-34(2)	EPD-34(2)	KPD-34(2)	WT-334		CCD-34		E-6	CPS-34(2)	EPS-34(2)	KPS-34(2)	WT-334		CCD-34
E-3	CPD-24(2)	EPD-24(2)	KPD-24(2)	*HT-324		CCD-24		E-7	CPS-24(2)	EPS-24(2)	KPS-24(2)	*HT-324		CCD-24
E-4	CPD-34(2)	EPD-34(2)	KPD-34(2)	HT/*LHT-334		CCD-34		E-8	CPS-34(2)	EPS-34(2)	KPS-34(2)	HT/*LHT-334		CCD-34
F-1	CPD-24	EPD-24	KPD-24	WT-324	DUD-242			F-5	CPS-24	EPS-24	KPS-24	WT-324	DUS-242	
F-2	CPD-34	EPD-34	KPD-34	WT-334	DUD-342			F-6	CPS-34	EPS-34	KPS-34	WT-334	DUS-342	
F-3	CPD-24	EPD-24	KPD-24	*HT-324	DUD-242			F-7	CPS-24	EPS-24	KPS-24	*HT-324	DUS-242	
F-4	CPD-34	EPD-34	KPD-34	HT/*LHT-334	DUD-342			F-8	CPS-34	EPS-34	KPS-34	HT/*LHT-334	DUS-342	
G-1	CPD-24(2)	EPD-24	KPD-24	WT-324	DUD-24			G-5	CPS-24(2)	EPS-24	KPS-24	WT-324	DUS-24	
G-2	CPD-34(2)	EPD-34	KPD-34	WT-334	DUD-34			G-6	CPS-34(2)	EPS-34	KPS-34	WT-334	DUS-34	
G-3	CPD-24(2)	EPD-24	KPD-24	*HT-324	DUD-24			G-7	CPS-24(2)	EPS-24	KPS-24	*HT-324	DUS-24	
G-4	CPD-34(2)	EPD-34	KPD-34	HT/*LHT-334	DUD-34			G-8	CPS-34(2)	EPS-34	KPS-34	HT/*LHT-334	DUS-34	
H-1	CPD-24(4)	EPD-24(2)		WT-424			QUAD UNIT ASSEMBLY	H-5	CPS-24(4)	EPS-24(2)		WT-424		
H-2	CPD-34(4)	EPD-34(2)		WT-434				H-6	CPS-34(4)	EPS-34(2)		WT-434		
H-3	CPD-24(4)	EPD-24(2)		*HT-424				H-7	CPS-24(4)	EPS-24(2)		*HT-424		
H-4	CPD-34(4)	EPD-34(2)		HT/*LHT-434				H-8	CPS-34(4)	EPS-34(2)		HT/*LHT-434		
J-1	CPD-24(3)	EPD-24(2)	KPD-24(2)	WT-424		CCD-24		J-5	CPS-24(3)	EPS-24(2)	KPS-24(2)	WT-424		CCD-24
J-2	CPD-34(3)	EPD-34(2)	KPD-34(2)	WT-434		CCD-34		J-6	CPS-34(3)	EPS-34(2)	KPS-34(2)	WT-434		CCD-34
J-3	CPD-24(3)	EPD-24(2)	KPD-24(2)	*HT-424		CCD-24		J-7	CPS-24(3)	EPS-24(2)	KPS-24(2)	*HT-424		CCD-24
J-4	CPD-34(3)	EPD-34(2)	KPD-34(2)	HT/*LHT-434		CCD-34		J-8	CPS-34(3)	EPS-34(2)	KPS-34(2)	HT/*LHT-434		CCD-34
K-1	CPD-24(3)	EPD-24	KPD-24	WT-424	DUD-24			K-5	CPS-24(3)	EPS-24	KPS-24	WT-424	DUS-24	
K-2	CPD-34(3)	EPD-34	KPD-34	WT-434	DUD-34			K-6	CPS-34(3)	EPS-34	KPS-34	WT-434	DUS-34	
K-3	CPD-34(3)	EPD-24	KPD-24	*HT-424	DUD-24			K-7	CPS-24(3)	EPS-34	KPS-24	*HT-424	DUS-24	
K-4	CPD-34(3)	EPD-34	KPD-34	HT/*LHT-434	DUD-34			K-8	CPS-34(3)	EPS-34	KPS-34	HT/*LHT-434	DUS-34	
L-1	CPD-24(2)	EPD-24(2)	KPD-24(2)	WT-424		CCD-242		L-5	CPS-24(2)	EPS-24(2)	KPS-24(2)	WT-424		CCD-242
L-2	CPD-34(2)	EPD-34(2)	KPD-34(2)	WT-434		CCD-342		L-6	CPS-34(2)	EPS-34(2)	KPS-34(2)	WT-434		CCD-342
L-3	CPD-24(2)	EPD-24(2)	KPD-24(2)	*HT-424		CCD-242		L-7	CPS-24(2)	EPS-24(2)	KPS-24(2)	*HT-424		CCD-242
L-4	CPD-34(2)	EPD-34(2)	KPD-34(2)	HT/*LHT-424		CCD-342		L-8	CPS-34(2)	EPS-34(2)	KPS-34(2)	HT/*LHT-434		CCD-342
M-1	CPD-24(2)		KPD-24(2)	WT-424	DUD-24(2)			M-5	CPS-24(2)		KPS-24(2)	WT-424	DUS-24(2)	
M-2	CPD-34(2)		KPD-34(2)	WT-434	DUD-34(2)			M-6	CPS-34(2)		KPS-34(2)	WT-434	DUS-34(2)	
M-3	CPD-24(2)		KPD-24(2)	*HT-424	DUD-24(2)			M-7	CPS-24(2)		KPS-24(2)	*HT-424	DUS-24(2)	
M-4	CPD-34(2)		KPD-34(2)	HT/*LHT-434	DUD-34(2)			M-8	CPS-34(2)		KPS-34(2)	HT/*LHT-434	DUS-24(2)	

*USE WITH LS-24 TOP CABINET ONLY. FOR INFORMATION ON DESK PANEL CABINETS, PLEASE TURN TO PAR-METAL PAGES 33/34. INFORMATION ON EXTERIOR (EXTENSION) TABLES, IS LISTED ON PAR-METAL PAGE 29.

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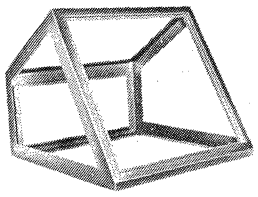
Par-Metal

CONTEMPO-RAMA OF DESK PANEL CABINETS
For 19" Wide Panels

10 NEW CONTEMPO MODELS • NEW FEATURES • NEW USES

The SAME FULLY WELDED Sturdy Construction!



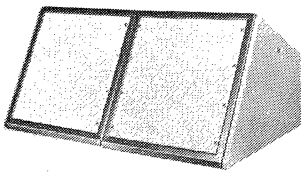
Desk Top Cabinet #PT-19 is shown without End Panels or Formed Panels. It is typical of ALL Models.

PAR-METAL's **CONTEMPO Top Cabinets** are made in single units with detachable End Panel, thus permitting the addition and/or removal of a unit at any time. Mating hardware is supplied. End Panels fit into brackets and lock in place with a ¼ turn cowl fastener, and are set-in ⅜" off the edges.

To meet the exacting demands of modern electronics, our engineers have designed many new models. Your choice of layout configuration is further extended by PAR-METAL's new and exclusive line of **ANGULAR WEDGES** for both CONTEMPO-PEDS and DESK TOP CABINETS. (Details are on PAR-METAL Page 32). They satisfy a long overdue need in the industry.

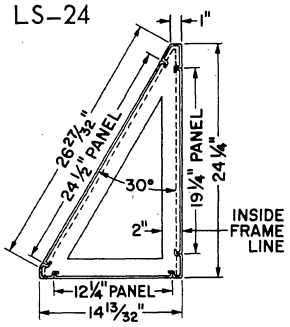
All models except LS-24 fit exactly and use no table tops on the 24¼" deep **CONTEMPO-PEDS.** For Model LS-24 and to use **any** model on a 34¾" deep pedestal, Formica Table Tops are listed on PAR-METAL Page 30. All CONTEMPO-PEDS may use exterior tables (see PAR-METAL Page 29). To decorate the CONTEMPO-LINE, we **add** a New Look! For the entire CONTEMPO-RAMA, **standard finish** is a combination of Dawn Gray and Charcoal Gray Textured Vinyl. Your choice of other available finishes are shown on PAR-METAL Page 24.

Construction: CONTEMPO Desk Top Cabinets are 21⅛" wide. A full complement of 19" wide blank formed panels are supplied. They are listed with each cabinet's description. A flat ⅛" **steel** or **aluminum** panel may be substituted for these formed panels without extra charge, if so ordered. A formed **Rear Drop Door** with full length continuous hinge (Model DRD) may be substituted for the rear panel at an extra cost of 5% of the top cabinet. Ventilating formed **Rear Drop Door** (Model VRD) may be substituted at an extra cost of 7½% of the top cabinet.



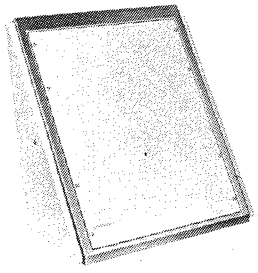
2 Peaked Desk Top Cabinets #PT-19 with one pair of PTP-19 End Panels and two 610 Front Panels.

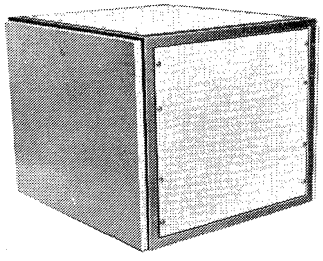
LS–24



Uses End Panel LSP–24

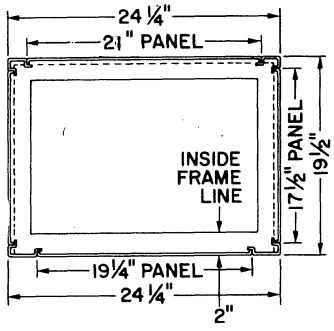
LS-24 LOW SLOPE (Flat)			
CABINET CATALOG NUMBER	NET PRICE	Uses END PANEL CATALOG NUMBER	NET PRICE (pair)
LS-24	$59.77	LSP-24	$18.50
3 PANELS FURNISHED: 606, 610 AND 613.			



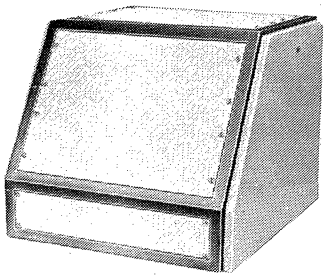


VF-19 VERTICAL FRONT			
CABINET CATALOG NUMBER	NET PRICE	Uses END PANEL CATALOG NUMBER	NET PRICE (pair)
VF-19	$72.80	VFP-19	$21.40
4 PANELS FURNISHED: (2) 609 and (2) 610.			

VF-19

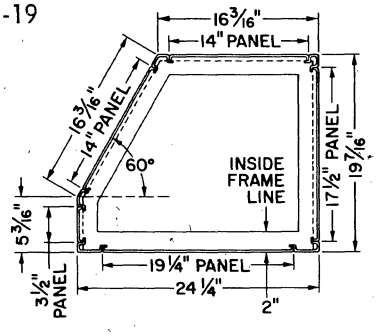


Uses End Panel VFP-19

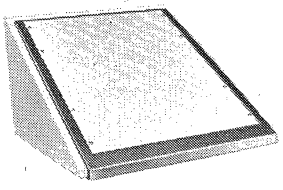


CX-19 DUAL FRONT			
CABINET CATALOG NUMBER	NET PRICE	Uses END PANEL CATALOG NUMBER	NET PRICE (pair)
CX-19	$78.10	CXP-19	$23.00
4 PANELS FURNISHED: (2) 607, 609 and 610.			

CX-19

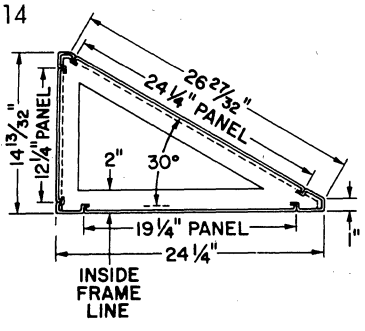


Uses End Panel CXP-19



LS-14 LOW SLOPE (Upright)			
CABINET CATALOG NUMBER	NET PRICE	Uses END PANEL CATALOG NUMBER	NET PRICE (pair)
LS-14	$59.77	LSP-14	$18.50
3 PANELS FURNISHED: 606, 610 and 613.			

LS-14



Uses End Panel LSP-14

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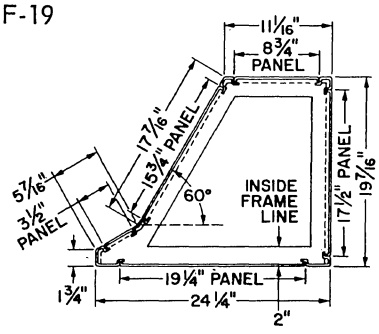
CONTEMPO-RAMA OF DESK PANEL CABINETS

For 19" Wide Panels

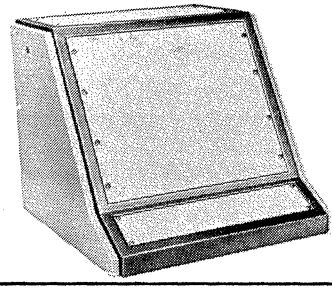
Par.Metal

CF-19

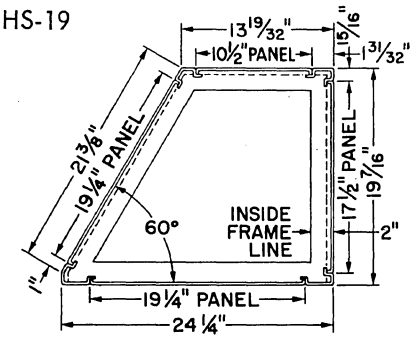


Uses End Panel CFP-19

CF-19 COMBINATION SLOPE			
CABINET CATALOG NUMBER	NET PRICE	Uses END PANEL CATALOG NUMBER	NET PRICE (pair)
CF-19	$97.53	CFP-19	$31.50
5 PANELS FURNISHED: 601, 604, 608, 609 and 610.			

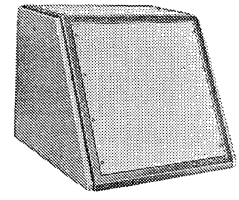


HS-19

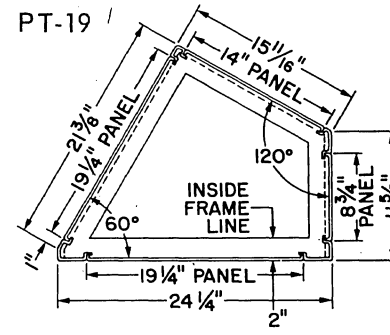


Uses End Panel HSP-19

HS-19 HIGH SLOPE			
CABINET CATALOG NUMBER	NET PRICE	Uses END PANEL CATALOG NUMBER	NET PRICE (pair)
HS-19	$73.92 •	HSP-19	$23.00
4 PANELS FURNISHED: 605, 609 and (2) 610.			

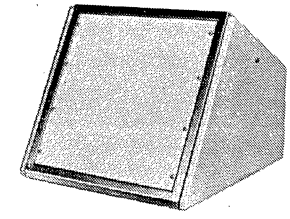


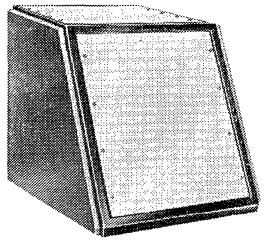
PT-19



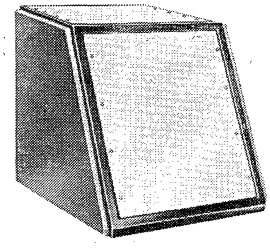
Uses End Panel PTP-19

PT-19 PEAKED TOP			
CABINET CATALOG NUMBER	NET PRICE	Uses END PANEL CATALOG NUMBER	NET PRICE (pair)
PT-19	$75.83	PTP-19	$23.00
4 PANELS FURNISHED: 604, 607 and (2) 610.			

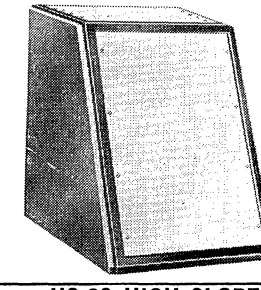




HS-25 HIGH SLOPE			
CABINET CATALOG NUMBER	NET PRICE	Uses END PANEL CATALOG NUMBER	NET PRICE (pair)
HS-25	$82.90	HSP-25	$25.40
4 PANELS FURNISHED: 608, 610 and (2) 612.			

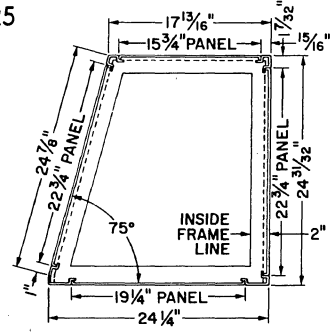


HS-26 HIGH SLOPE			
CABINET CATALOG NUMBER	NET PRICE	Uses END PANEL CATALOG NUMBER	NET PRICE (pair)
HS-26	$90.95	HSP-26	$26.75
4 PANELS FURNISHED: 607, 610 and (2) 613.			



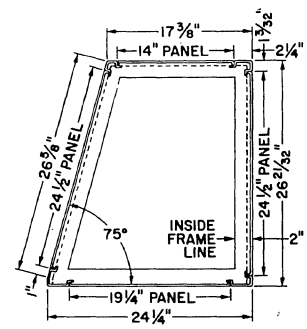
HS-28 HIGH SLOPE			
CABINET CATALOG NUMBER	NET PRICE	Uses END PANEL CATALOG NUMBER	NET PRICE (pair)
HS-28	$101.12	HSP-28	$29.50
4 PANELS FURNISHED: 607, 610 and (2) 614.			

HS-25



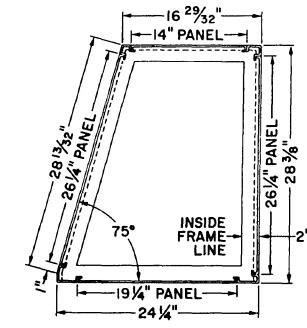
Uses End Panel HSP-25

HS-26



Uses End Panel HSP-26

HS-28

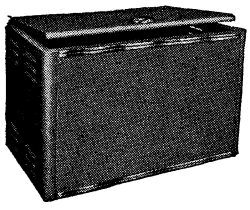


Uses End Panel HSP-28

PAR-METAL PRODUCTS • CONVENIENT FACTORY WAREHOUSE

Par-Metal DESK CABINETS - AMPLIFIER CHASSIS

DELUXE CABINETS



With formed door and modern handle, **hinged at back** for full access.

Chrome mouldings are mounted on front at top and bottom. Cabinet has ventilating louvres **on each side,** and full width opening at back for leads, etc.

Standard finish is blue grey wrinkle enamel. Prices do not include chassis which are listed on PAR METAL Page 36.

Catalog No.	Overall Dimensions	Panel Size	Uses Chassis	Shp. Wt. Lbs.	Net Price
CA-300	9x12⅛x 8"	7 15/32"x10 1/16"	7x 9x2"	6	$10.60
CA-301	9x16⅛x 8"	7 15/32"x14 1/16"	7x13x2"	7	11.70
CA-302	10x17⅛x11"	8 15/32"x15 1/16"	10x14x3"	8	14.85
CA-303	10x20⅛x 9"	8 15/32"x18 1/16"	8x17x3"	11	14.85
CA-304	13x20⅛x12"	11 15/32"x18 1/16"	10x17x3"	15	18.30

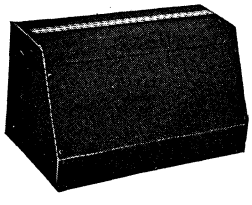
ROUNDED CORNER CABINETS

Similar in design to those listed above. **Flat doors,** hinged at back to permit full access. Vertical front corners are rounded; ventilating louvres are stamped in both sides, and full width opening is provided at back for leads.

Standard finish is blue grey wrinkle enamel. Prices do not include chassis, which are listed on PAR METAL Page 36.

Catalog No.	Overall Dimensions	Panel Size	Uses Chassis	Shp. Wt. Lbs.	Net Price
CA-200	8½x10⅛x 8"	7 15/32"x 8 1/16"	7x 7x2"	6	$ 6.00
CA-201	8½x12⅛x 8"	7 15/32"x10 1/16"	7x 9x2"	7	6.40
CA-202	8½x16⅛x 8"	7 15/32"x14 1/16"	7x13x2"	8	7.95
CA-203	9½x17⅛x11"	8 15/32"x15 1/16"	10x14x3"	11	10.55
CA-204	12½x20⅛x12"	11 15/32"x18 1/16"	10x17x3"	15	12.40

SLOPING FRONT CABINETS

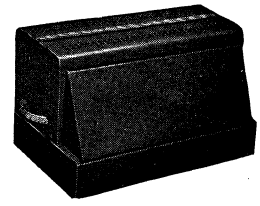


Also used as instrument cases or for use in studios, laboratories, etc.

- Top corner is rounded and trimmed with chrome moulding. Blue grey wrinkle finish.
- A chassis may be mounted to a front panel and removed as a unit.
- Rear of case is ventilated, with an opening for connections. Prices do not include chassis, which are listed on PAR METAL Page 36.

Catalog No.	Overall Dimensions	Uses Chassis	Shp. Wt. Lbs.	Net Price
SF-500	8x 8x 8"	7x 7x2"	6	$ 6.50
SF-501	8x10x 8"	7x 9x2"	7	7.20
SF-502	8x14x 8"	7x13x2"	8	7.80
SF-503	9x18x 8"	7x17x3"	10	9.75
SF-504	12x18x12"	10x17x3"	14	12.30

AMPLIFIER FOUNDATION CHASSIS WITH SLOPING FRONT

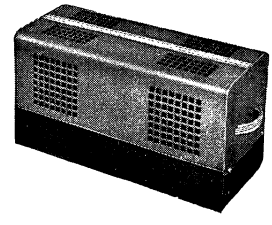


For mounting meters, switches, etc., panel is removable and protrudes 3" from face of the screen cover. All parts are finished in blue grey wrinkle.

Trimmed with a chrome moulding with handles at each end. **Chassis are supplied WITH bottom plates.**

Cat. No.	Chassis Size	Screen Cover	Shp. Wt. Lbs.	Net Price
F-10120	10x12x3"		11	$12.15
F-10170	10x17x3"	**6½" height**	13	14.70
F-13170	13x17x3"		15	15.90

ROUNDED CORNER DESIGN

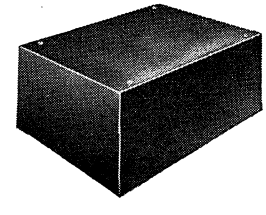


Streamlines the chassis screen covers. Ventilation is through rectangular openings. The moulding and handles are chrome plated with red striping.

Screen cover finish is blue grey wrinkle enamel to contrast with black chassis. Chassis are drilled for bottom plate. See PAR METAL Page 36.

Cat. No.	Chassis Size	Depth of Cover	Shp. Wt. Lbs.	Net Price
DF-510	5x10x3"		7	$ 6.75
DF-615	6x14x3"		8	7.50
DF-717	7x17x3"		9	8.70
DF-1012	10x12x3"	**6"**	9	8.90
DF-1017	10x17x3"		10	9.80
DF-1317	13x17x3"		12	10.50

STEEL UTILITY CASES



Removable flat tops and bottoms. 20 gauge sheet steel, with flanged edges and spot-welded corners. Finish is black wrinkle enamel.

Cat. No.	Overall Size	Shp. Wt. Lbs.	Net Price	Cat. No.	Overall Size	Shp. Wt. Lbs.	Net Price
MC-442	4x 4x 2"	1	$1.37	MC-666	6x 6x 6"	3	$2.57
MC-453	4x 5x 3"	2	1.65	MC-8101	8x10x10"	7	4.72
MC-596	5x 9x 6"	4	3.40	MC-8107	8x10x 7"	6	4.85
MC-654	6x 5x 4"	3	2.57	MC-1128	11x12x 8"	9	6.10

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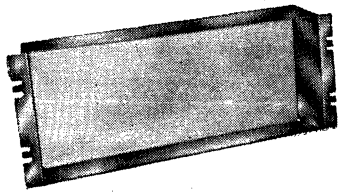
BLANK CHASSIS BASES

Par.Metal

VERTICAL RACK MOUNTING CHASSIS TO FIT 19" RACKS

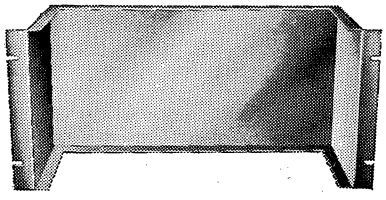


Either 1/16" **aluminum** with natural finish, or 1/16" **steel, zinc plated.** Overall length including mounting flanges is 18¾". Mounts under 19" wide formed panels listed on PAR METAL Page 22. 4 15/16" height is for use with 5¼" panels, 6 11/16" height is for use with 7" panels, etc.

Slots are provided in chassis side flanges to clear panel mounting screws. Chassis will fit on any 19" panel rack.

ALUMINUM Cat. No.	Net Price	Chassis Dimensions	STEEL Cat. No.	Net Price
AC-402	$3.98	4 15/16"x17"x3"	SC-402	$3.45
AC-403	4.54	6 11/16"x17"x3"	SC-403	3.60
AC-404	5.10	8 7/16"x17"x3"	SC-404	4.50
AC-405	5.64	10 3/16"x17"x3"	SC-405	4.80
AC-406	6.30	11 15/16"x17"x3"	SC-406	5.25

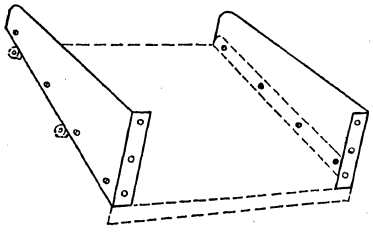
VERTICAL RACK MOUNTING CHASSIS TO FIT 19" RACKS



For installation in ALL cabinet racks. Material is 1/16" aluminum, with corners welded for rigidity. Natural finish on inside and outside.

All chassis are 5¼" deep; overall width is 19"; chassis width is 16⅞".

Catalog No.	Height	Shipping Wt. Lbs.	Net Price
AC-430	1¾"	2	$2.78
AC-431	3½"	3	3.45
AC-432	5¼"	3	3.90
AC-433	7"	4	4.58
AC-434	8¾"	5	4.95
AC-435	10½"	5	5.55
AC-436	12¼"	6	6.45
AC-437	14"	7	6.90



PANEL MOUNTING BRACKETS FOR BASIC SLIDE ASSEMBLIES

For attaching rack panels to sliding shelves of "BS" basic slide assemblies listed on Par-Metal page 17. Special short screws and nuts are supplied for mounting brackets. This assures free movement of shelf.

Brackets 1/16" steel, zinc plated, 6½" high at front, and 3½" at back. Front flange is 9/16" wide. Made in two lengths, for 14" and 20" deep shelf assemblies. Prices are for a pair of brackets, with mounting screws and nuts.

Cat. No.	Length	To Fit Assembly	Net Price
BR-14	14¼"	BS-1980	$2.70 pair
BR-20	20¼"	BS-1940, 2419, 2424	3.60 pair

SHELVES FOR CABINET RACKS

Fit into Relay racks. They mount inside the rack, with side bolts. All shelves are 1" high and finished in black enamel. Shipping weight of all shelves is 10 lbs.

Catalog No.	Will Fit Rack No.	Par-Metal Rack Page No.	Shelf Size	Net Price
ER-2212	ER-213, ER-215, ER-217-A	20	15"x21 15/16"	$4.20
ER-2212	ER-223, ER-225, ER-227-A	19	15"x21 15/16"	4.20
R-2225	FD-215, FD-217-A	20	12"x21 15/16"	3.75
R-2128	DL-1713, 2613, 3513	18	12"x21 3/16"	3.30

CHASSIS

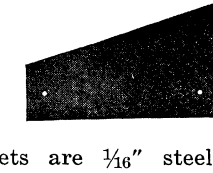
Each Chassis is formed from a single piece of cold rolled steel, with four solid sides and welded corners. Chassis 11" x 17" or over are #16 gauge (.059"). Smaller ones are #20 gauge (.036").

All bottom edges are reinforced by flanging and are drilled to mate with Bottom Plates. Bottom Plates have pressed bumpers at each corner. Each piece is heavily zinc plated.

Chassis Cat. No.	Size	Ship. Wt. Lbs.	Net Price	Mating Bottom Plate Cat. No.	Ship. Wt. Lbs.	Net Price
C-4508	5x10x3"	3	$2.25	CP-4508	1	$.75
	6x14"			CP-4509	2	1.15
	10x12"			CP-4525	2	1.35
C-4510	7x 7x2"	2	1.55	CP-4510	1	.90
C-4511	7x 9x2"	2	1.95	CP-4511	1	.95
C-4513	7x13x2"	3	2.20	CP-4513	2	1.15
C-4515	7x17x3"	4	2.55	CP-4515	2	1.30
C-4532	8x17x3"	5	3.15	CP-4531	2	1.20
C-4524	10x14x3"	5	3.10	CP-4524	2	1.20
C-4526	10x17x3"	7	2.90	CP-4528	2	1.45
C-4533*	11x17x2"	7	3.35	CP-4533	2	1.45
C-4534*	11x17x3"	9	4.65	CP-4533	2	1.45
C-4535*	13x17x2"	8	3.80	CP-4535	3	1.65
C-4536*	13x17x3"	9	4.15	CP-4535	3	1.65
C-4537*	13x17x4"	10	5.05	CP-4535	3	1.65
C-4540*	17x17x4"	13	5.40	CP-4540	4	1.90

*Made from 1/16" steel for heavy duty use.

CHASSIS MOUNTING BRACKETS



Brackets are 1/16" steel, for assembly with our standard or heavy duty chassis listed above. Panels must be at least 7" high.

FINISH: Black enamel only.

Cat. No.	Base Dimension	Ship. Wt. Lbs.	Net Price
SB- 78	For 8"	2	$1.35
SB-710	For 10"	2	1.55
SB-711	For 11"	2	1.65
SB-713	For 13"	3	1.85
SB-717	For 17"	4	2.31

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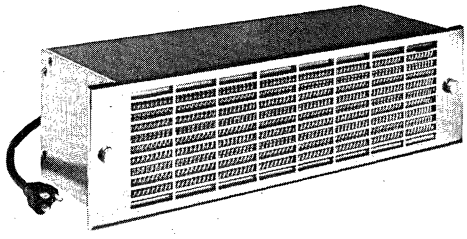
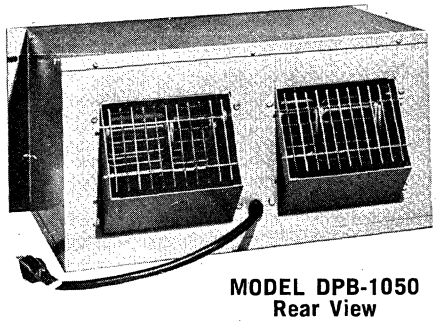
Par-Metal BLOWERS — FANS

PACKAGED TWIN BLOWERS FOR 19" WIDE PANEL SPACE



MODEL DPB-525
Front View



MODEL DPB-1050
Rear View

HIGH EFFICIENCY — SMALL SPACE

Packaged Electronic Cooling units have simple twin blowers powered by a permanently lubricated double-shielded ball-bearing motor, forced air cooled by a portion of the intake air.

Rotating components are suspended on six-way Neoprene shock mounts. AC hum is virtually impossible.

Grilles are engineered for low air resistance and are Chrome Plated cold-rolled steel. They are positioned by 2 captive screws. Wire exhaust guards are mounted on diagonal discharge ports. Each unit has a removable permanent washable aluminum mesh filter. Unit is panel mounted with EIA hole centering.

Adaptors available for mounting in 24" panel space.

CATALOG NUMBER	PANEL HEIGHT	cfm at "O" static pressure	DEPTH of ENCLOSURE	MOTOR 115V - 50/60 Cycles RPM	MOTOR 115V - 50/60 Cycles AMPS	NET PRICE
DPB-525	5¼"	150	7"	3000	1.5	$124.56
DPB-530	5¼"	300	7"	3200	1.0	131.76
DPB-700	7"	360	10"	1500	.8	148.92
DPB-730	7"	475	10"	3250	1.9	158.33
DPB-875	8¾"	525	11⅝"	1500	1.2	180.47
DPB-1050	10½"	820	13"	1500	2.2	220.33

"THIN" MODEL FANS

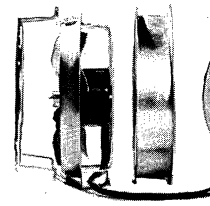
Engineered specially for electronic cabinet cooling, these highly compact fans ensure a quick and broad distribution of cooling air.

Fans are made in a whole range of sizes from 220 cfm to 750 cfm. Fans are accompanied by a full line of accessories including guards, grilles, mounting sleeves, filters and filter holders.

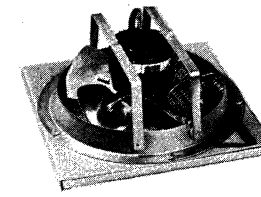
EXHAUST FANS blow air out of the cabinet and when mounted on the Top Panel for efficiency, filters are usually not used.

INTAKE FANS suck air into the cabinet. They are designed for greatest efficiency when door or base mounted.

PAR-METAL PERMANENT FILTERS are washable and are of the reusable impingement type and are ½" thick.



EXHAUST MODEL PE-300



INTAKE MODEL PI-300

MOTORS are 50/60 cycle, 115 volt, single phase AC with 18" lead. They are permanently oiled, ball bearing, shaded pole type with low rise. Noise and vibration are minimized by shock mounting Fan and Motor Assemblies. To provide fan cut-out and mounting holes (at slight additional cost) please specify Modification "TF".

Exhaust Fan Cat. No. / Intake Fan Cat. No.	PE-220 / PI-220	PE-300 / PI-300	PE-400 / PI-400	PE-550 / PI-550	PE-750 / PI-750
Net Prices	$42.18	$44.83	$52.04	$55.91	$59.79
CFM at "O" static pressure	220	300	400	550	750
Blade Diameter	6½"	6½"	8"	9"	10"
RPM	1550	3000	1460	1600	1560
Overall Diameter	8½"	8½"	10"	11½"	12½"
Overall Depth	3¼"	3⅜"	3⅛"	4⅜"	4⅜"
Hole Size Required	7⅜"	7⅜"	9"	10⅜"	11⅜"

ACCESSORY CHECK LIST FOR THIN MODEL FAN

For Exhaust Fans	PE-220		PE-300		PE-400		PE-550		PE-750	
Accessory	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price
Guards	GU-50	$2.77	GU-650	$2.77	GU-800	$2.77	GU-900	$3.33	GU-1000	$3.87
Mounting Sleeve	MS-650	3.33	MS-650	3.33	MS-800	3.33	MS-900	3.87	MS-1000	4.43
Grille	GR-650	2.22	GR-650	2.22	GR-800	2.22	GR-900	2.77	GR-1000	3.33
For Intake Fans	**PI-220**		**PI-300**		**PI-400**		**PI-550**		**PI-750**	
Aecessory	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price	Cat. No.	Net Price
Filters	FF-650	$2.77	FF-650	$2.77	FF-800	$2.77	FF-900	$3.33	FF-1000	$3.33
Filter Holders	FH-650	5.54	FH-650	5.54	FH-800	5.54	FH-900	6.09	FH-1000	7.20
Mounting Sleeve	MS-650	3.33	*		*		*		*	

* not needed

PAR-METAL PRODUCTS • CONVENIENT FACTORY WAREHOUSE

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SLIDES — CASTERS — HARDWARE

Par-Metal

SOLID BEARING SLIDES

SB-16-NT

ALL SLIDES LOCK OPEN with QUICK DISCONNECT FEATURE

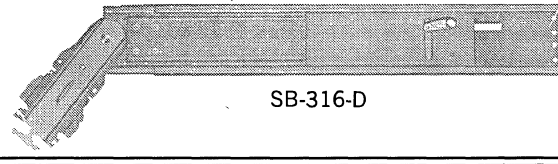
SOLID BEARING SURFACES with MOLYBDENUM DISULPHIDE COATING and EPOXY BASE (MIL-L-22273)

MOUNTING BRACKETS and HARDWARE INCLUDED

SB-316-NT

Catalog Number	Rack Depth	Slide Length	Travel Length	*Load Capacity	Net Price Per Pair
SB-16-NT	18″	16″	17½″	75 lbs.	$18.00
SB-22-NT	24″	22″	23½″	75 lbs.	19.75
SB-316-NT	18″	16″	19″	175 lbs.	37.00
SB-322-NT	24″	22″	25″	175 lbs.	38.50

The following Slides Pivot 90° and Lock in Pivot position



SB-316-D

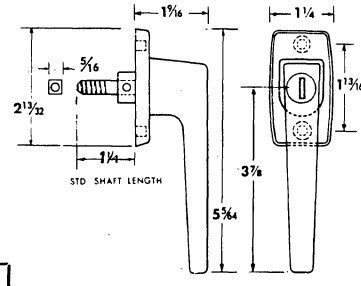
SB-316-D	18″	16″	18″	175 lbs.	55.00
SB-322-D	24″	22″	24″	175 lbs.	58.00

***Based on 18″ long and 17″ travel.**

HANDLES CABINET LOCKS

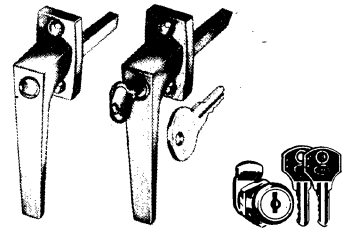
TRIPLE CHROME PLATED DIE CAST

With or without pin tumbler lock, the automobile quarter turn handle is mounted vertically.

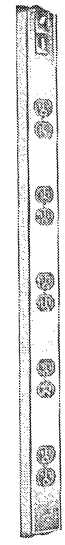


Catalog Number	Description	Net Price
FX-410	Locking (2-Keys)	$5.50 ea.
PX-411	Non-Locking	2.75 ea.
VM-5	Cabinet Lock	4.50 ea.

Sold singly
LOCKING MODELS
HAVE TWO KEYS



PX-411 FX-410 VM-5



DUAL RECEPTACLE

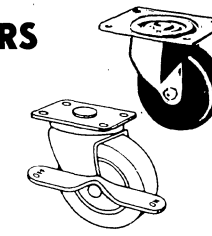
POWER PLUG-IN STRIPS

- Circuit Breaker with Reset Button included.
- Supplied with 3 wire, 6′ Neoprene Cord set with Moulded Plug. UL Approved.
- Completely Wired Soldered Connections. "U" Ground Outlets.
- Rated at 15 Amperes, 130 Volts, continuous duty.

MOUNTS TO RACK BOLT TRACKS

Catalog Number	Panel Height	Number of DUAL OUTLETS	Overall Length	Net Price
PS-36	36¾″	8	32¼″	$20.00
PS-42	42″	8	37½″	23.90
PS-52	52″	8	47″	25.75
PS-61	61¼″	8	56¾″	27.25
PS-70	70″	10	65½″	28.75
PS-77	77″	12	72½″	30.00
PS-84	84″	12	79½″	31.50

SWIVEL CASTERS



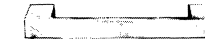
ROCKITE (Non-mark composition) wheels with BALL BEARING SWIVEL PLATE. Sold singly.

Catalog Number	Wheel Size	Overall Height	Capacity Per Wheel	Net Price
CS-2	2″ x 1″	2⅞″	125 lbs.	$1.00 ea.
CS-127-3	3″ x 1¼″	3 13/16″	225 lbs.	2.00 ea.
*CS-127-3B	3″ x 1¼″	3 13/16″	225 lbs.	6.90 ea.

* With touch toe brakes

PULL HANDLES — TRIPLE CHROME PLATED

V-24



H-505

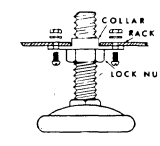
Catalog Number	Description	Centers	Net Price
H-505	Satin Finish Round Corners	4″	$1.10 each
V-24	"V" Shaped Polished Chrome	3-7/8″	.70 each

NICKEL PLATED SCREWS

TRUSS HEAD MACHINE SCREWS

Catalog Number	* Thread	Length	Price Per 100	Catalog Number	* Thread	Length	Price Per 100
SC-10-5	10-32	5/8″	$1.60	SC-12-5	12-24	5/8″	$1.80
SC-10-1	10-32	1″	1.60	SC-12-1	12-24	1″	1.80

FLOOR LEVELERS — ALL STEEL

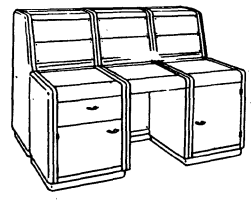
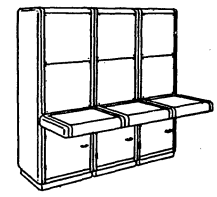
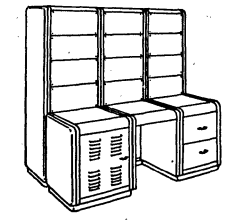
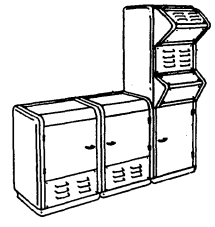
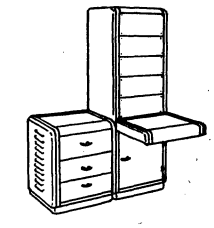
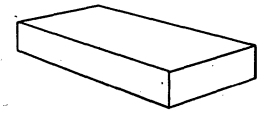
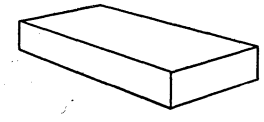
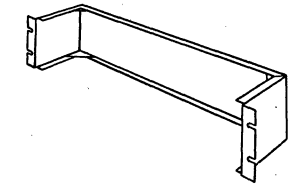
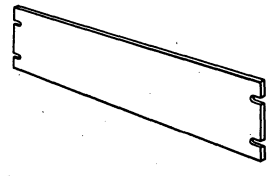
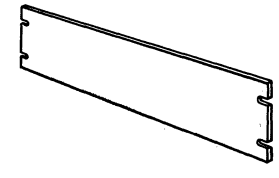
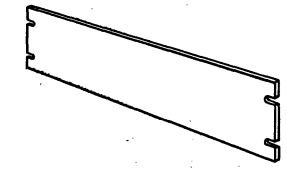
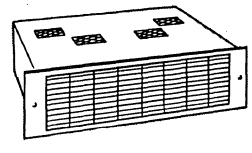
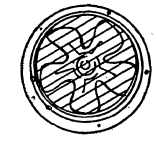
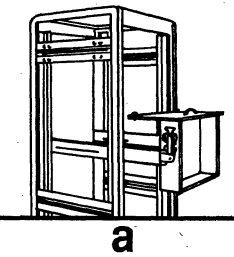


Catalog Number Net Price
LF-10 .40 each
1-1/4″ Easy Adjustment

ASK YOUR DISTRIBUTOR FOR PAR-METAL PRODUCTS CATALOG

WYCO METAL PRODUCTS

CABINET RACKS - RELAY RACKS CHASSIS - CASES - 19"/24" PANELS

Modular Electronic Cabinets →			
Modular Electronic Cabinets →			
Chassis →	Aluminum 	Steel 	Aluminum 
19″ and 24″ Wide Panels →	Aluminum 	Steel 	2024-T3 Aluminum 
Accessories →	Blowers 	Fans 	Slides 
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Wyco Metal Products

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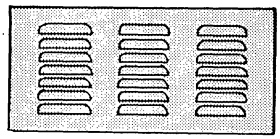
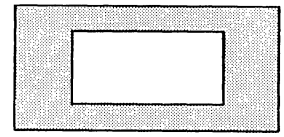
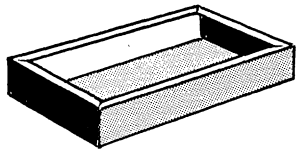


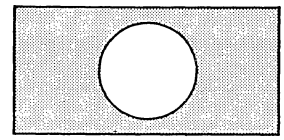
LOUVRES ON TOP (3 Rows—4" wide)
For FA, FS, PRXA, RMX, FDX



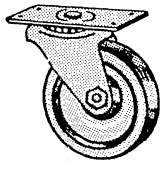
CUT-OUT ON TOP
For FA, FS, PRXA, RMX, FDX



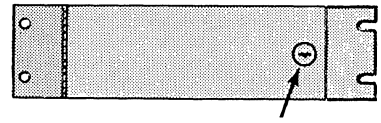
SOLID BOTTOM (NO CUT-OUT)
For FA, FS, PRXA, RMX, FDX



ROUND HOLE ON TOP
For FA, FS, PRXA, RMX, FDX

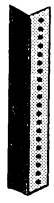


PROVISION FOR MOUNTING SPECIAL SIZE CASTERS

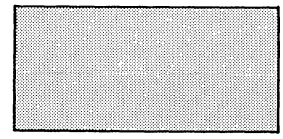


CYLINDER LOCK (HW-6) ON SHP PANELS

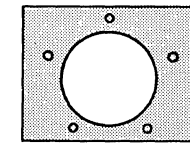
PREMIER
CUSTOMIZED MODIFICATIONS Available for all STANDARD UNITS
■
PREMIER
METAL PRODUCTS COMPANY
A Division of Sunshine Mining Co.



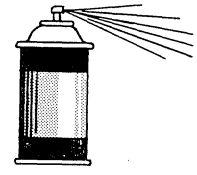
ADDITIONAL PANEL MOUNTING ANGLES



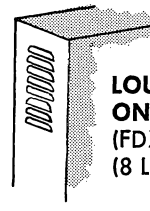
SOLID TOP PANELS on POR, MOR
SOLID REAR PANELS on POR, MOR, CSC, CMS



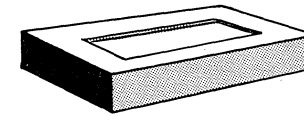
MOUNTING HOLES FOR FANS
For FA, FS, PRXA, RMX, FDX



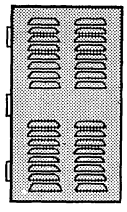
SPECIAL FINISHES



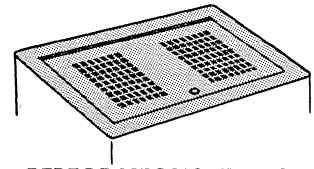
LOUVRES ON SIDES
(FDX, RMX only)
(8 Louvres — 6" wide)



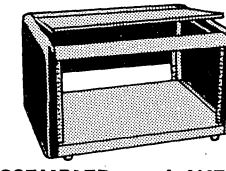
INVERTED BASES
For FA, FS, PRXA, RMX, FDX only



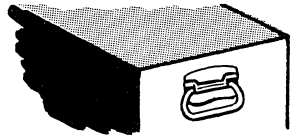
LOUVRES ON DOORS
(DF only)
8 Louvres — 6" wide



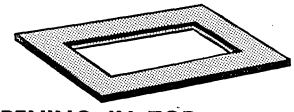
PERFORATIONS IN TOP OF DCR



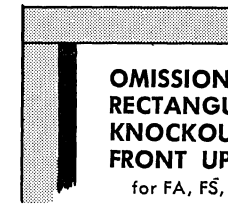
ASSEMBLED and WELDED POR CABINETS



DROP HANDLES (HW-5)
Welded on both sides of
POR, DCR, SDR, MDK only

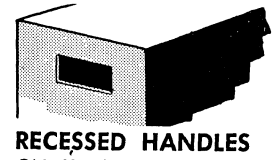


OPENING IN TOP
with ½" recess to accept Louvres (FPL) or Blank Formed Panels (FP)
for FA, FS, PRXA only

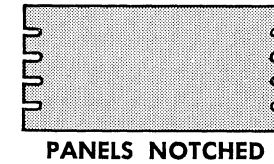


OMISSION OF RECTANGULAR KNOCKOUTS ON FRONT UPRIGHTS
for FA, FS, PRXA

LOCKING HANDLE
ON REAR DOOR of
R, FXR, DR, RMX, FDX
■
LOCKING HANDLE ON FD-300, 306 DOORS



RECESSED HANDLES
ON SIDES OF POR, DCR, CSC, MDK ONLY



PANELS NOTCHED TO EIA/MS 189

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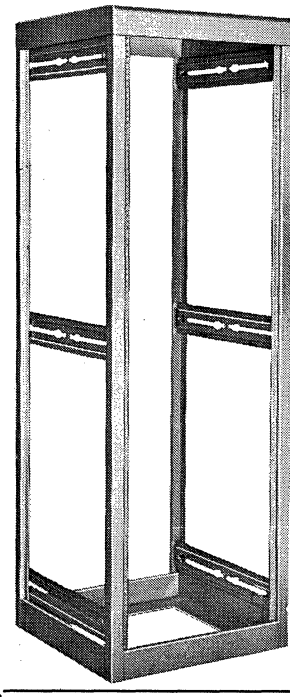
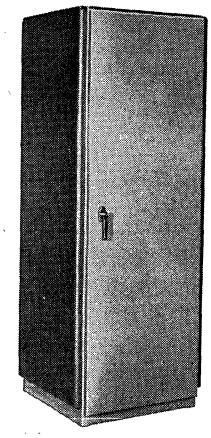
PREMIER MODULAR ROUNDED CORNER FRAMES

PREM-Ö-RAK® 22" and 25½" DEEP for 19" and 24" PANELS

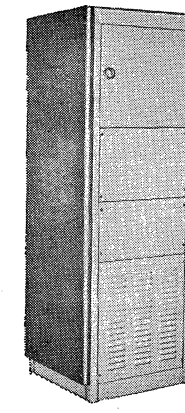
- **Designed for MULTIPLE INSTALLATIONS**
- **TOPS OF FRONT AND REAR ARE ROUNDED**



FA FRAME



Above unit consists of Frame FA Series), 2 End Panels (CEP Series) and Door (DF Series).



Above unit consists of Frame (FA Series), 2 End Panels (CEP Series), Flush Door (CD Series), Louvred Panel (FPL Series) and Formed Panels (FP Series)

- **Frames accommodate Ball Cornered End Panels (CEP Series)**
- Frame Made of No. 14 gauge steel.
- Supplied with two pair of No. 12 gauge steel Panel Mounting Angles. Both legs of the angle are tapped 10-32 on E.I.A. spacings (⅝-⅝-½) to accommodate Front Panels & Chassis Support Angles (CSA series) and Shelves (S series).
- Panel mounting angles are held in place at three points by ⅜" carriage bolts and are adjustable to any desired position by means of channel slides.
- Three combination 1⅜" and 1⅛" diameter knockouts furnished on both sides of top and bottom to provide access for cabling between racks.
- Frame completely welded throughout.
- Top of frame is solid. Round hole and 5 mounting holes on top of frame to accommodate Exhaust (EF Series) and Intake (IF Series) Fans, available at additional cost.
- Knockouts supplied on sides of uprights for use in ganging frames.
- A rectangular cutout is provided in bottom for leads, etc.
- Rectangular knockouts provided on front and rear of uprights of frame to accommodate hinge and handle brackets, so that door can be mounted either left or right hand. Doors can be mounted to front or rear of frame.
- Holes punched in bottom to accommodate CA-4 (2"), CA-5 (3"), CA-6 (double 2") and CA-7 (locking 3") casters.
- Finished in Gray Hammertone.

FRAMES — 22" WIDE

22" DEEP					25½" DEEP		
Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	Panel Space	Cat. No.	Shpg. Wt. Lbs.	Net Price
FA-42-22	50	$86.85	48⅝"	42 x 19"	FA-42-255	58	$91.25
FA-52-22	65	94.20	59⅛"	52½ x 19"	FA-52-255	75	98.85
FA-61-22	80	106.65	67⅞"	61¼ x 19"	FA-61--255	92	117.55
FA-70-22	100	125.25	76⅝"	70 x 19"	FA-70-255	115	137.60
FA-77-22	110	128.65	83⅝"	77 x 19"	FA-77-255	127	141.55

FRAMES — 27" WIDE

22" DEEP					25½" DEEP		
FA-2761-22	90	116.85	67⅞"	61¼ x 24"	FA-2761-255	98	127.55
FA-2770-22	110	137.60	76⅝"	70 x 24"	FA-2770-255	123	150.95
FA-2777-22	120	140.25	83⅝'	77 x 24"	FA-2777-255	135	153.60

ORDERING GUIDE

FRAME Cat. No.	Use END PANEL (Page 16) Cat. No.	Use DOOR (Page 18) Cat. No.	Use CHASSIS SUPPORT ANGLE (Page 22) Cat. No.	Use SHELF (Page 22) Cat. No.	Use CHASSIS SLIDES (Pages 27, 28) Length
FA-42-22	CEP-42-22	DF-42	CSA-22	S-22-22	20"
FA-52-22	CEP-52-22	DF-52	CSA-22	S-22-22	20"
FA-61-22	CEP-61-22	DF-61	CSA-22	S-22-22	20"
FA-70-22	CEP-70-22	DF-70	CSA-22	S-22-22	20"
FA-77-22	CEP-77-22	DF-77	CSA-22	S-22-22	20"
FA-42-255	CEP-42-255	DF-42	CSA-255	S-22-255	24"
FA-52-255	CEP-52-255	DF-52	CSA-255	S-22-255	24"
FA-61-255	CEP-61-255	DF-61	CSA-255	S-22-255	24"
FA-70-255	CEP-70-255	DF-70	CSA-255	S-27-255	24"
FA-77-255	CEP-77-255	DF-77	CSA-255	S-22-255	24"
FA-2761-22	CEP-61-22	DF-2761	CSA-22	S-27-22	20"
FA-2770-22	CEP-70-22	DF-2770	CSA-22	S-27-22	20"
FA-2777-22	CEP-77-22	DF-2777	CSA-22	S-27-22	20"
FA-2761-255	CEP-61-255	DF-2761	CSA-255	S-27-255	24"
FA-2770-255	CEP-70-255	DF-2770	CSA-255	S-27-255	24"
FA-2777-255	CEP-77-255	DF-2777	CSA-255	S-22-255	24"

FOR MODIFICATIONS
See Premier Page 2

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FOR ACCESSORIES
Premier Pages 16 thru 22

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FOR BLOWERS, FANS AND HARDWARE
Premier Pages 27 thru 32

PREMIER METAL PRODUCTS COMPANY
A Division of Sunshine Mining Company

PREMIER PAGE 3 **ALL PRICES 10% HIGHER WEST OF MISSISSIPPI**

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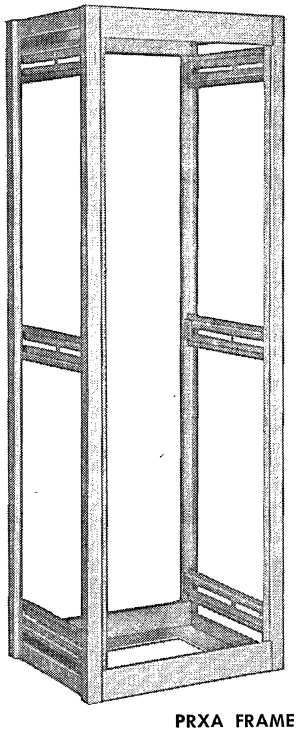
PREMIER MODULAR Square Cornered FRAMES

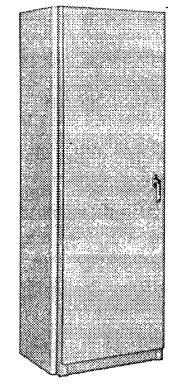
18" and 24" DEEP For 19", 24" and 30" PANELS



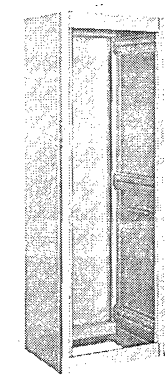
PRXA FRAME

- **DESIGNED FOR MULTIPLE INSTALLATIONS**
- **TOPS of FRONT and REAR are SQUARE**
- **FRAMES ACCOMMODATE FLUSH SIDE PANELS (FL Series) or ROUNDED SIDE PANELS (SP Series)**

- Frame made of No. 14 gauge steel.
- Supplied with two pair of No. 12 gauge steel Panel Mounting Angles. Both legs of the angle are tapped 10-32 on E.I.A. spacings (⅝-⅝-½) to accommodate Front Panels & Chassis Support Angles (CSA series) and Shelves (S series).
- Panel mounting angles are held in place at three points by ⅜" carriage bolts and are adjustable to any desired position by means of channel slides.
- Frame completely welded throughout.
- Top of frame is solid. Round hole and 5 mounting holes on top of frame to accommodate Exhaust (EF Series) and Intake (IF Series) Fans, available at additional cost.
- Knockouts supplied on sides of uprights for use in ganging frames.
- A rectangular cutout is provided in bottom for leads, etc.
- Rectangular knockouts provided on front and rear of uprights of frame to accommodate hinge and handle brackets, so that door can be mounted either left or right hand. Doors can be mounted to front or rear of frame.
- Holes punched in bottom to accommodate CA-4 (2"), CA-5 (3"), CA-6 (double 2") and CA-7 (locking 3") casters.
- Finished in Gray Hammertone.



Above unit consists of Frame (PRXA Series), Rounded Side Panels (SP Series) and Door (DF Series)



Above unit consists of Frame (PRXA Series), Flush Side Panels (FL Series) and Door (DF Series)

FRAMES

18" DEEP			22" WIDE		24" DEEP		
Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	Panel Space	Cat. No.	Shpg. Wt. Lbs.	Net Price
PRXA-36	40	$47.35	42⅞"	36¾ x 19"	PRXA-36-24	50	$69.60
PRXA-42	48	52.15	48⅛"	42 x 19"	PRXA-42-24	58	78.80
PRXA-52	60	64.10	58⅝"	52½ x 19"	PRXA-52-24	72	86.85
PRXA-61	70	79.80	67⅜"	61¼ x 19"	PRXA-61-24	85	110.75
PRXA-70	88	96.60	76⅛"	70 x 19"	PRXA-70-24	108	131.95
PRXA-77	100	98.60	83⅛"	77 x 19"	PRXA-77-24	120	140.25
18" DEEP			**27" WIDE**		**24" DEEP**		
PRXA-2761	100	89.75	67⅜"	61¼ x 24"	PRXA-2761-24	134	125.10
PRXA-2770	104	106.40	76⅛"	70 x 24"	PRXA-2770-24	140	138.75
PRXA-2777	116	111.50	83⅛"	77 x 24"	PRXA-2777-24	156	143.30
18" DEEP			**33" WIDE**		**24" DEEP**		
PRXA-3361	122	95.25	67⅜"	61¼ x 30"	PRXA-3361-24	162	132.25
PRXA-3370	126	121.50	76⅛"	77 x 30"	PRXA-3370-24	169	156.55
PRXA-3377	142	123.25	83⅛"	77 x 30"	PRXA-3377-24	190	159.75

ORDERING GUIDE

FRAME Cat. No.	FLUSH END PANEL* (Page 17) Cat. No.	ROUNDED END PANEL* (Page 17) Cat. No.	Use DOOR (Page 18) Cat. No.	Use CHASSIS SUPPORT ANGLE (Page 22)	Use SHELF (Page 22)	Use CHASSIS SLIDES (Pages 27, 28)
PRXA-36	FL-36	SP-36	DF-36	CSA-18	S-2218	16"
PRXA-42	FL-42	SP-42	DF-42	CSA-18	S-2218	16"
PRXA-52	FL-52	SP-52	DF-52	CSA-18	S-2218	16"
PRXA-61	FL-61	SP-61	DF-61	CSA-18	S-2218	16"
PRXA-70	FL-70	SP-70	DF-70	CSA-18	S-2218	16"
PRXA-77	FL-77	SP-77	DF-77	CSA-18	S-2218	16"
PRXA-42-24	FL-36-24	SP-36-24	DF-36	CSA-24	S-2224	22"
PRXA-36-24	FL-42-24	SP-42-24	DF-42	CSA-24	S-2224	22"
PRXA-52-24	FL-52-24	SP-52-24	DF-52	CSA-24	S-2224	22"
PRXA-61-24	FL-61-24	SP-61-24	DF-61	CSA-24	S-2224	22"
PRXA-70-24	FL-70-24	SP-70-24	DF-70	CSA-24	S-2224	22"
PRXA-77-24	FL-77-24	SP-77-24	DF-77	CSA-24	S-2224	22"
PRXA-2761	FL-61	SP-61	DF-2761	CSA-18	S-2718	16"
PRXA-2770	FL-70	SP-70	DF-2770	CSA-18	S-2718	16"
PRXA-2777	FL-77	SP-77	DF-2777	CSA-18	S-2718	16"
PRXA-2761-24	FL-61-24	SP-61-24	DF-2761	CSA-24	S-2724	22"
PRXA-2770-24	FL-70-24	SP-70-24	DF-2770	CSA-24	S-2724	22"
PRXA-2777-24	FL-77-24	SP-77-24	DF-2777	CSA-24	S-2724	22"
PRXA-3361	FL-61	SP-61	DF-3361	CSA-18	S-3318	16"
PRXA-3370	FL-70	SP-70	DF-3370	CSA-18	S-3318	16"
PRXA-3377	FL-77	SP-77	DF-3377	CSA-18	S-3318	16"
PRXA-3361-24	FL-61-24	SP-61-24	DF-3361	CSA-24	S-3324	22"
PRXA-3370-24	FL-70-24	SP-70-24	DF-3370	CSA-24	S-3324	22"
PRXA-3377-24	FL-77-24	SP-77-24	DF-3377	CSA-24	S-3324	22"

USE EITHER OR

FOR MODIFICATIONS
See Premier Page 2

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FOR ACCESSORIES
Premier Pages 16 thru 22

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FOR BLOWERS, FANS AND HARDWARE
Premier Pages 27 thru 32

* End Panels fit into recess on side of frame.

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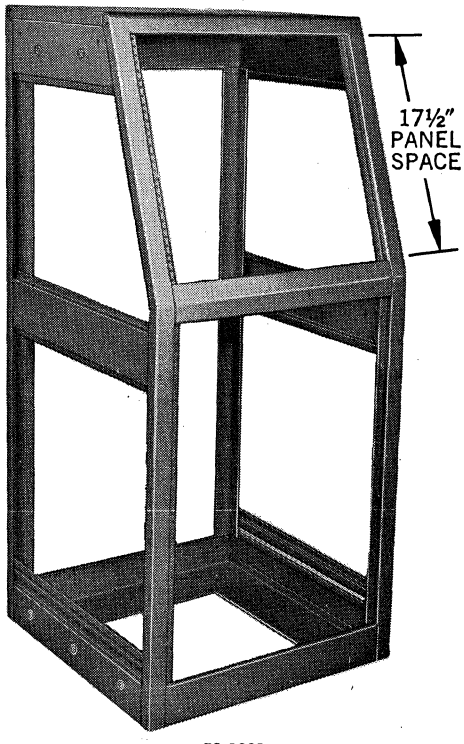
PREMIER MODULAR SLOPED FRONT FRAMES

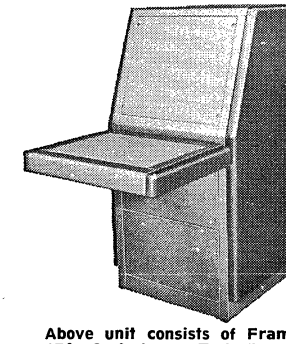
PREM-Ö-RAK®

10½" AND 17½" FOR 19" AND 24" PANELS

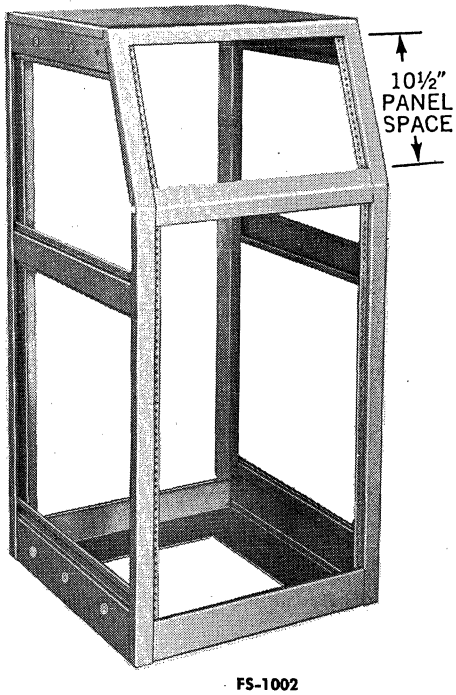


FS-1001

- TOPS OF FRONT AND REAR ARE ROUNDED
- Frames accommodate Ball Cornered End Panels (CEP Series)
- Designed for Multiple Installations
- Made of No. 14 Gauge (.0747) Steel
- Sloped Front Is 19° from Vertical
- Frame Completely Welded Throughout
- All Panel Mounting Angles are made of No. 12 Gauge Steel and Tapped on both legs 10/32 on E.I.A. Spacings (⅝-⅝-½). Front and Rear Vertical Angles Are Adjustable to Any Desired Position.
- Panels Fit into ½" Recess.
- Combination 1⅜" and 1⅛" Diameter Knockouts on Top and Bottom to Provide Access for Cabling Between Racks.
- Holes Punched in Bottom to Accommodate CA-4 (2"), CA-5 (3"), CA-6 (double 2") and CA-7 (locking 3") casters.
- A Rectangular Cutout Is Provided in Bottom for Leads, etc.
- Front Cross Piece Removable.
- Rectangular Knockouts On Rear Uprights to Accommodate Hinge and Handle Latch Brackets so that Door can be Mounted Either Left or Right.
- Finished in Gray Hammertone.



Above unit consists of Frame (FS Series), 2 End Panels (CEP-1201 Series), Writing Work Shelf (WW Series) and 2 End Panels (CEP Series) for shelf.



FS-1002

Cat. No.	Width	Hgt.	Depth	Sloped Front Panel Space	Front Vertical Space	Rear Vertical Space	Ship. Wt. Lbs.	Net Price
FS-1001	22"	50"	22"	17½ x 19"	26¼ x 19"	42 x 19"	66	$89.50
FS-1002	22"	47"	22"	10½ x 19"	29¾ x 19"	42 x 19"	64	86.85
FS-1003	27"	50"	22"	17½ x 24"	26¼ x 24"	42 x 24"	76	98.20
FS-1004	27"	47"	22"	10½ x 24"	29¾ x 24"	42 x 24"	74	96.20
FS-1001-255	22"	50"	25½"	17½ x 19"	26¼ x 19"	42 x 19"	75	92.35
FS-1002-255	22"	47"	25½"	10½ x 19"	29¾ x 19"	42 x 19"	73	90.15
FS-1003-255	27"	50"	25½"	17½ x 24"	26¼ x 24"	42 x 24"	85	102.40
FS-1004-255	27"	47"	25½"	10½ x 24"	29¾ x 24"	42 x 24"	83	100.20

ORDERING GUIDE

FRAME Cat. No.	USE END PANEL (Page 16) Cat. No.	USE REAR DOOR (Page 18) Cat. No.	USE SHELF (Page 22) Cat. No.	USE CHASSIS SUPPORT ANGLE (Page 22) Cat. No.	USE CHASSIS SLIDES (Pgs. 27, 28) Length
FS-1001	CEP-1201 (LH and/or RH)	DF-42	S-22-22	CSA-22	20"
FS-1002	CEP-1202 (LH and/or RH)	DF-42-1002	S-22-22	CSA-22	20"
FS-1003	CEP-1201 (LH and/or RH)	DF-2742	S-27-22	CSA-22	20"
FS-1004	CEP-1202 (LH and/or RH)	DF-2742-1002	S-27-22	CSA-22	20"
FS-1001-255	CEP-1201-255 (LH and/or RH)	DF-42	S-22-255	CSA-255	24"
FS-1002-255	CEP-1202-255 (LH and/or RH)	DF-42-1002	S-22-255	CSA-255	24"
FS-1003-255	CEP-1201-255 (LH and/or RH)	DF-2742	S-27-255	CSA-255	24"
FS-1004-255	CEP-1202-255 (LH and/or RH)	DF-2742-1002	S-27-255	CSA-255	24"

FOR MODIFICATIONS SEE PREMIER PAGE 2 • FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22
FOR BLOWERS, FANS, HARDWARE SEE PREMIER PAGES 27 THRU 32

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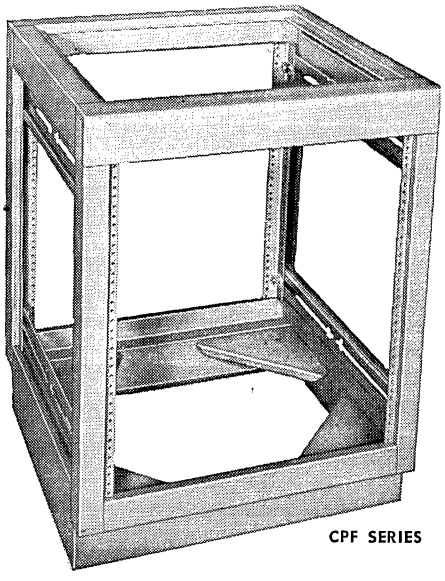
PREMIER MODULAR ROUNDED PEDESTAL FRAMES

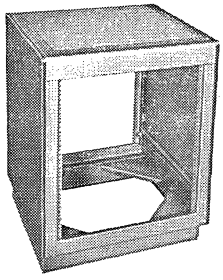
PREM-Ō-RAK®



CPF SERIES

- TOPS OF FRONT AND REAR ARE ROUNDED.
- Frames accommodate Ball Cornered End Panel (CEP Series).
- Units are designed for multiple installation.
- Supplied with two pair of No. 12 gauge steel Panel Mounting Angles. Both legs of the angle are tapped 10-32 on E.I.A. spacings (5/8-5/8-1/2) to accommodate Front Panels & Chassis Support Angles (CSA Series) and Shelves (S Series).
- Panels fit into 1/2" recess.
- Two rectangular knockouts supplied on one top cross member to accommodate channels of Writing Work Shelf.
- Brackets welded in base and punched to accommodate CA-5 (3") casters and supplied with adapter to accommodate CA-4 (2") casters.
- Frame made of No. 16 gauge steel;
- Finished in Gray Hammertone.

Cat. No.	Width	Depth	Height with Casters	Height without Casters	Front & Rear Panel Space	Top Panel Space	Shpg. Wt. Lbs.	Net Price
CPF-101	22"	22"	30"	29½"	21 x 19"	17½ x 19"	45	$62.10
CPF-102	22"	22"	37"	36½"	28 x 19"	17½ x 19"	48	71.45
CPF-103	27"	22"	30"	29½"	21 x 24"	17½ x 24"	50	68.80
CPF-104	27"	22"	37"	36½"	28 x 24"	17½ x 24"	53	80.15
CPF-101-34	22"	34¼"	30"	29½"	21 x 19"	29¾ x 19"	54	86.80
CPF-101-255	22"	25½"	30"	29½"	21 x 19"	21 x 19"	53	72.35
CPF-102-255	22"	25½"	37"	36½"	28 x 19"	21 x 19"	55	87.35
CPF-103-255	27"	25½"	30"	29½"	21 x 24"	21 x 24"	58	76.25
CPF-104-255	27"	25½"	37"	36½"	28 x 24"	21 x 24"	59	92.35
CPF-101-18	22"	18½"	30"	29½"	21 x 19"	14 x 19"	44	60.10
CPF-102-18	22"	18½"	37"	36½"	28 x 19"	14 x 19"	47	69.00
CPF-103-18	27"	18½"	30"	29½"	21 x 24"	14 x 24"	49	67.90
CPF-104-18	27"	18½"	37"	36½"	28 x 19"	14 x 24"	52	77.90



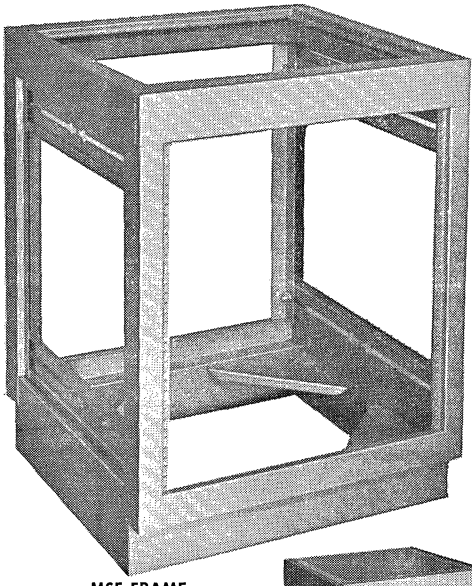
Frame shown with End Panel (CEP Series) and Top Panel (FP Series)

ORDERING GUIDE

FRAME Cat. No.	Use END PANEL (Page 17) Cat. No.	Use DOOR (Page 18) Cat. No.	Use SHELVES (Page 22) Cat. No.	Use CHASSIS SUPPORT ANGLES (Page 22) Cat. No.	Use CHASSIS-SLIDES (Pgs. 27, 28) Length
CPF-101	CEP-401	CD-21	S-22-22	CSA-22	20"
CPF-102	CEP-402	CD-28	S-22-22	CSA-22	20"
CPF-103	CEP-401	CD-2124	S-27-22	CSA-22	20"
CPF-104	CEP-402	CD-2824	S-27-22	CSA-22	20"
CPF-101-34	CEP-401-34	CD-21	—	—	—
CPF-101-255	CEP-401-255	CD-21	S-22-255	CSA-255	24"
CPF-102-255	CEP-402-255	CD-28	S-22-255	CSA-255	24"
CPF-103-255	CEP-401-255	CD-2124	S-27-255	CSA-255	24"
CPF-104-255	CEP-402-255	CD-2824	S-27-255	CSA-255	24"
CPF-101-18	CEP-401-18	CD-21	S-22-18	CSA-18	16"
CPF-102-18	CEP-402-18	CD-28	S-22-18	CSA-18	16"
CPF-103-18	CEP-401-18	CD-2124	S-27-18	CSA-18	16"
CPF-104-18	CEP-402-18	CD-2824	S-27-18	CSA-18	16"

PREMIER MODULAR SQUARE PEDESTAL FRAMES

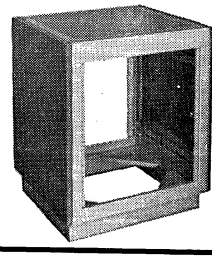
PREM-Ō-RAK®



MSF FRAME

- Tops of front and rear are square
- Supplied with two pair of No. 12 gauge steel Panel Mounting Angles. Both legs of the angle are tapped 10-32 on E.I.A. spacings (5/8-5/8-1/2) to accommodate Front Panels & Chassis Support Angles (CSA Series) and Shelves (S Series)
- Panels fits into 1/2" recess
- Finished in gray hammertone
- Frame accommodates square cornered end panels (MSP Series)
- Units designed for multiple installation
- Brackets welded in base and punched to accommodate CA-5 (3") casters and supplied with adapter to accommodate CA-4 (2") casters
- Frame made of No. 16 gauge steel

FRAME Cat. No.	Width	Depth	Height with Casters	Height without Casters	Front & Rear Panel Space	Top Panel Space	Shpg. Wt. Lbs.	Net Price
MSF-21-22	22"	22"	30"	29½"	21 x 19"	17½ x 19"	45	$63.45
MSF-28-22	22"	22"	37"	36½"	28 x 19"	17½ x 19"	50	73.50
MSF-21-255	22"	25½"	30"	29½"	21 x 19"	21 x 19"	50	66.80
MSF-28-255	22"	25½"	37"	36½"	28 x 19"	21 x 19"	55	76.80



Frame shown with End Panels (MSP Series) and Top Panels (FP Series)

ORDERING GUIDE

FRAME Cat. No.	Use END PANEL (Page 16) Cat. No.	Use DOOR (Page 18) Cat. No.	Use SHELF (Page 22) Cat. No.	Use CHASSIS SUPPORT ANGLE (Page 22) Cat. No.	Use SLIDE (Pgs. 27, 28) Length
MSF-21-22	MSP-21-22	CD-21	S-22-22	CSA-22	20"
MSF-28-22	MSP-28-22	CD-28	S-22-22	CSA-22	20"
MSF-21-255	MSP-21-255	CD-21	S-22-255	CSA-255	24"
MSF-28-255	MSP-28-255	CD-28	S-22-255	CSA-255	24"

FOR MODIFICATIONS SEE PREMIER PAGE 2
FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22
FOR BLOWERS, FANS and HARDWARE SEE PREMIER PAGES 27 THRU 32

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ALL PRICES 10% HIGHER WEST OF MISSISSIPPI **PREMIER PAGE 6**

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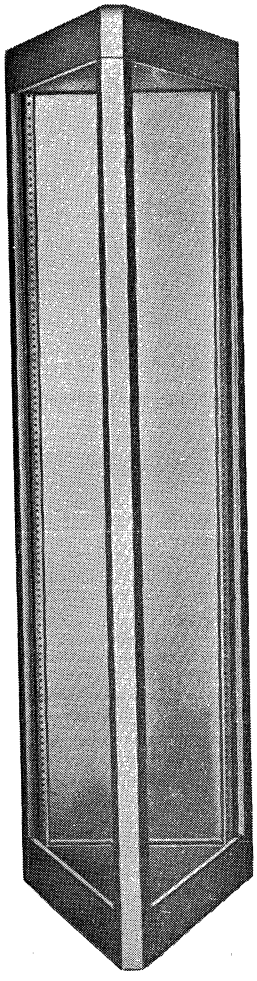
PREMIER MODULAR WEDGE FRAMES

PREM-Ō-RAK®

30° and 45°



- Constructed of 16 gauge steel
- Completely welded throughout
- Supplied with formed panel on rear
- End panels (CEP Series) can be mounted to the side of wedge frames if desired
- Finished in Gray Hammertone
- Designed for use in Semi-Circular Arrangements when bolted to Pedestal Frames (CPF Series) or Transmitter Rack Frames (FA Series)

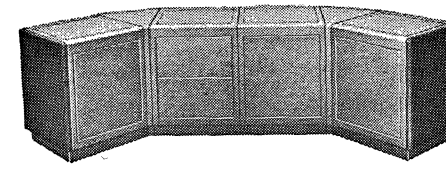
NOTE: One piece Formica Shelf available for semi-circular arrangements.

30 WEDGE RACK FRAMES

Cat. No.	Height	Width	For Use With	Net Price
WED-30-42-22	48⅝"	22"	FA-42-22	$136.05
WED-30-52-22	59⅛"	22"	FA-52-22	146.95
WED-30-61-22	67⅞"	22"	FA-61-22	154.25
WED-30-70-22	76⅝"	22"	FA-70-22	165.30
WED-30-77-22	83⅝"	22"	FA-77-22	172.55
WED-30-42-255	48⅝"	25½"	FA-42-255	163.10
WED-30-52-255	59⅛"	25½"	FA-52-255	172.85
WED-30-61-255	67⅞"	25½"	FA-61-255	176.30
WED-30-70-255	76⅝"	25½"	FA-70-255	190.95
WED-30-77-255	83⅝"	25½"	FA-77-255	198.35

45° WEDGE RACK FRAMES

Cat. No.	Height	Width	For Use With	Net Price
WED-45-42-22	48⅝"	22"	FA-42-22	$139.60
WED-45-52-22	59⅛"	22"	FA-52-22	150.60
WED-45-61-22	67⅞"	22"	FA-61-22	157.95
WED-45-70-22	76⅝"	22"	FA-70-22	168.95
WED-45-77-22	83⅝"	22"	FA-77-22	176.25
WED-45-42-255	48⅝"	25½"	FA-42-255	166.75
WED-45-52-255	59⅛"	25½"	FA-52-255	175.10
WED-45-61-255	67⅞"	25½"	FA-61-255	179.95
WED-45-70-255	76⅞"	25½"	FA-70-255	194.70
WED-45-77-255	83⅝"	25½"	FA-77-255	201.95



30° Wedge Pedestal Frames

Catalog No.	Height	Width	For Use With	Net Price
WED-30-101	29½"	22"	CPF-101 103	$113.85
WED-30-101-18	29½"	18½"	CPF-101-18, 103-18	111.30
WED-30-101-255	29½"	25½"	CPF-101-255, 103-255	116.85

45° Wedge Pedestal Frames

Catalog No.	Height	Width	For Use With	Net Price
WED-45-101	29½"	22"	CPF-101 103	$116.85
WED-45-101-18	29½"	18½"	CPF-101-18, 103-18	115.65
WED-45-101-255	29½"	25½"	CPF-101-255, 103-255	120.10

TYPICAL INSTALLATIONS OF THE PREM-Ō-RAK® MODULAR CONSOLE SYSTEM

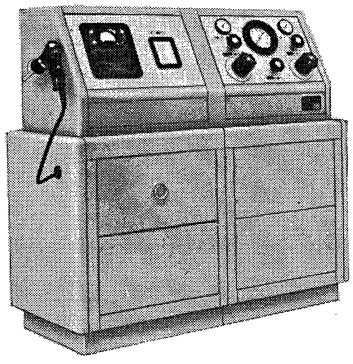


Photo Courtesy Aerojet General Corp.

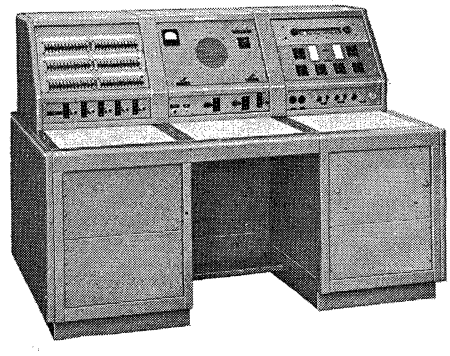
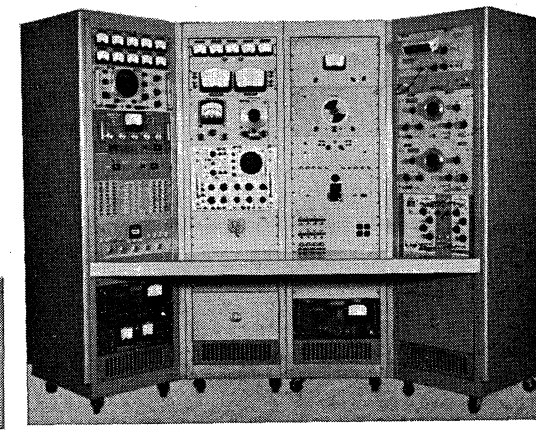


Photo Courtesy Commercial Radio-Sound Corp.



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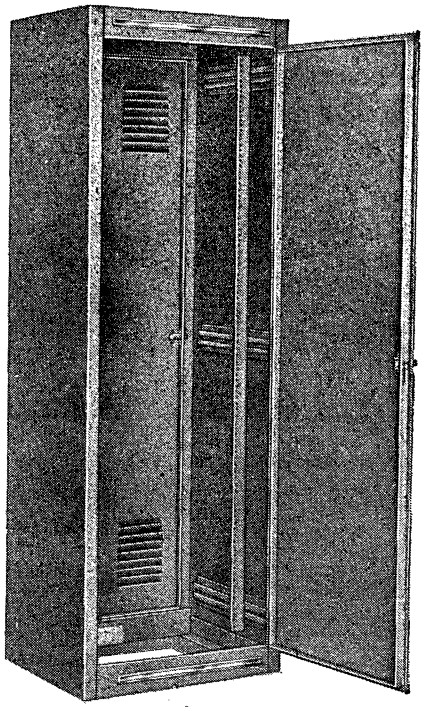
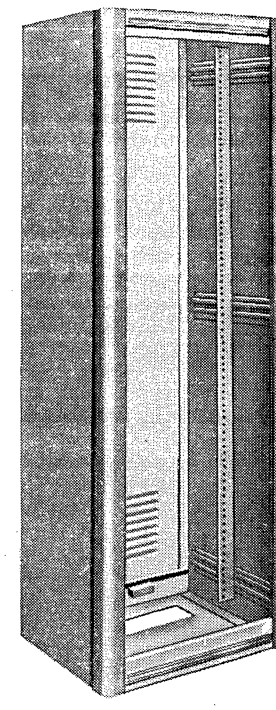
PREMIER HEAVY DUTY RACKS

FOR 19", 24" AND 30" RACK PANELS – 18" AND 24" DEEP



FDX SERIES

- Rigidly constructed of #16 gauge steel with a #12 gauge steel bottom and welded throughout.
- Supplied with two pair of #12 gauge steel Panel Mounting Angles. Both legs of the angle are tapped 10-32 on E.I.A. spacings (⅝-⅝-½) to accommodate Front Panels & Chassis Support Angles (CSA Series) and Shelves (S Series).
- Rear doors are hung on sturdy slip-jointed hinges and closed with a chrome handle. Locking handle with 2 keys available at additional cost.
- Round hole and 5 mounting holes on top of frame to accommodate Exhaust (EF Series) and Intake (IF Series) Fans available at additional cost.
- A rectangular cut-out is made in the bottom for leads, etc.
- RMX-7030 Rack supplied with double rear doors and with a 3-point locking device.
- FDX Series are furnished with locking handle and 2 keys on Front Door.
- ALL RACKS ARE SUPPLIED WITHOUT LOUVRES ON SIDES UNLESS SPECIFIED.
- Vertica rounded corner "J" type moldings are supplied with RMX series.
- When joining RMX racks for multiple installation, specify amount of center "U" type moldings (supplied at no additional cost). EXAMPLE: Three RMX-3619 requires two "J" and two "U" moldings.
- Tops and bottoms are trimmed with chrome molding.
- Panel mounting angles are held in place at three points by ⅜" carriage bolts and are adjustable to any desired position by means of channel slides.
- A heavy duty duplex "U" ground receptacle and outlet box are furnished in the rear under the door.
- Finished in Gray Hammertone.



RMX SERIES

FOR MODIFICATIONS
SEE PREMIER PAGE 2

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FOR ACCESSORIES
SEE PREMIER PAGES 16 THRU 22

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FOR BLOWERS, FANS AND HARDWARE
SEE PREMIER PAGES 27 THRU 32

18" DEEP RACKS					18" DEEP RACKS WITH FRONT AND REAR DOORS		
Cat. No.	Shpg. Wt. Lbs.	Net Price	H & W	Panel Space	Cat. No.	Shpg. Wt. Lbs.	Net Price
RMX-3619	100	$76.95	42⅞x22"	36¾x19"	FDX-3619	115	$113.95
RMX-4219	130	90.15	48⅛x22"	42 x19"	FDX-4219	120	120.20
RMX-6119	150	102.35	67⅜x22"	61¼x19"	FDX-6119	175	128.85
RMX-7618	170	117.80	76⅛x22"	70 x19"	FDX-7019	200	147.30
RMX-7719	190	127.95	83⅛x22"	77 x19"	FDX-7719	220	158.35

24" DEEP RACKS					24" DEEP RACKS WITH FRONT AND REAR DOORS		
Cat. No.	Shpg. Wt. Lbs.	Net Price	H & W	Panel Space	Cat. No.	Shpg. Wt. Lbs.	Net Price
RMX-3619-24	110	$93.50	42⅞x22"	36¾x19"	FDX-3619-24	125	$116.85
RMX-4219-24	130	103.55	48⅛x22"	42 x19"	FDX-4219-24	150	126.90
RMX-6119-24	175	136.25	67⅜x22"	61¼x19"	FDX-6119-24	200	169.40
RMX-7618-24	200	147.25	76⅛x22"	70 x19"	FDX-7019-24	255	176.90
RMX-7719-24	225	165.65	83⅛x22"	77 x19"	FDX-7719-24	270	202.45
RMX-2742	170	134.45	48⅛x27"	42 x24"	FDX-2742	180	161.40
RMX-2761	210	153.15	67⅜x27"	61¼x24"	FDX-2761	230	189.30
RMX-2770	240	165.40	76⅛x27"	70 x24"	FDX-2770	260	202.60
RMX-2777	270	185.70	83⅛x27"	77 x24"	FDX-2777	290	222.60
RMX-7030	240	213.50	76⅛x33"	70 x30"			

ORDERING GUIDE

Frame Cat. No.		Frame Cat. No.	Chassis Support Angle (Page 22) Cat. No.	Shelves (Page 22) Cat. No.	Use Chassis Slides (length) (Pages 27, 28)	Use Roller Truck (Page 21) Cat. No.
RMX-3619		FDX-3619	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-4219		FDX-4219	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-6119		FDX-6119	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-7618		FDX-7618	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-7719		FDX-7719	CSA-16	S-18-22	14"	RT-1101 or RT-1101-3*
RMX-3619-24		FDX-3619-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-4219-24		FDX-4219-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-6119-24	OR	FDX-6119-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-7618-24		FDX-7618-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-7719-24		FDX-7719-24	CSA-22	S-22-22	20"	RT-1103 or RT-1103-3*
RMX-2742		FDX-2742	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-2761		FDX-2761	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-2770		FDX-2770	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-2777		FDX-2777	CSA-22	S-27-22	20"	RT-1110 or RT-1110-3*
RMX-7030		FDX-7030	CSA-22	S-33-22	20"	RT-1111 or RT-1111-3*

* 3" dia. caster

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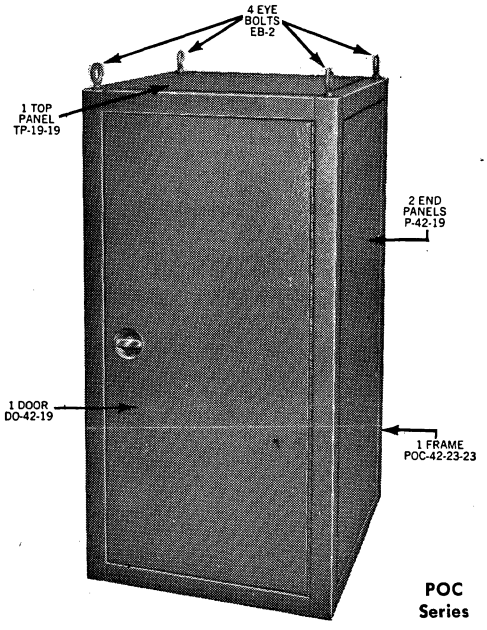
PREMIER HEAVY DUTY CUBICLES

FOR STANDARD 19, 24 and 30" WIDE PANELS

PREM-O-CUBE

- Frame made of No. 12 gauge steel and supplied with 10-32 tapped holes on EIA spacings (⅝-⅝-½") on both legs of all vertical uprights.
- Top of frame supplied with knock-out in each corner to accommodate eye bolts for lifting.
- Top and side panels and doors made of No. 14 gauge steel and supplied with a return flange on all sides for easy gasketing.
- Doors and/or side panels can be mounted to any openings of frame.
- Finished in Gray Hammertone.



POC Series

FRAMES 23" WIDE for 19" PANELS

Overall Height	Panel Height	23" Deep Cat. No.	Net Price	28" Deep Cat. No.	Net Price	34" Deep Cat. No.	Net Price
40¾"	36¾"	POC-36-23-23	$103.60	POC-36-23-28	$107.30	POC-36-23-34	$114.30
46"	42"	POC-42-23-23	107.30	POC-42-23-28	113.15	POC-42-23-34	120.15
65¼"	61¼"	POC-61-23-23	130.60	POC-61-23-28	136.50	POC-61-23-34	143.55
74"	70"	POC-70-23-23	139.95	POC-70-23-28	145.80	POC-70-23-34	152.75
81"	77"	POC-77-23-23	148.10	POC-77-23-28	153.90	POC-77-23-34	160.95
84½"	80½"	POC-80-23-23	152.75	POC-80-23-28	158.60	POC-80-23-34	165.40

FRAMES 28" WIDE for 24" PANELS

40¾"	36¾"	—	—	POC-36-28-28	$113.15	POC-36-28-34	$120.15
46"	42"	—	—	POC-42-28-28	118.95	POC-42-28-34	125.95
65¼"	61¼"	—	—	POC-61-28-28	142.25	POC-61-28-34	149.25
74"	70"	—	—	POC-70-28-28	151.60	POC-70-28-34	158.60
81"	77"	—	—	POC-77-28-28	159.70	POC-77-28-34	166.75
84½"	80½"	—	—	POC-80-28-28	164.40	POC-80-28-34	171.40

FRAMES 34" WIDE for 30" PANELS

40¾"	36¾"	—	—	—	—	POC-36-34-34	$127.10
46"	42"	—	—	—	—	POC-42-34-34	132.90
65¼"	61¼"	—	—	—	—	POC-61-34-34	156.25
74"	70"	—	—	—	—	POC-70-34-34	165.40
81"	77"	—	—	—	—	POC-77-34-34	173.75
84½"	80½"	—	—	—	—	POC-80-34-34	178.50

PANELS AND DOORS FOR PREM-O-CUBE HEAVY DUTY CUBICLES

END PANELS

Blank and Louvred — ¾" DEEP. Made of No. 14 gauge steel with return bend for easy gasketing.

FOR 19" WIDE

BLANK Cat. No.	Net Price	Height	LOUVRED Cat. No.	Net Price
P-36-19	$26.15	36¾"	PL-36-19	$35.45
P-42-19	28.50	42"	PL-42-19	37.75
P-61-19	37.80	61¼"	PL-61-19	47.10
P-70-19	41.55	70"	PL-70-19	50.85
P-77-19	47.80	77"	PL-77-19	54.10
P-80-19	46.65	80½"	PL-80-19	55.95

FOR 24" WIDE

P-36-24	$28.95	36¾"	PL-36-24	$37.30
P-42-24	30.40	42"	PL-42-24	39.65
P-61-24	39.75	61¼"	PL-61-24	49.95
P-70-24	43.40	70"	PL-70-24	52.75
P-77-24	46.65	77"	PL-77-24	55.95
P-80-24	48.55	80½"	PL-80-24	57.90

FOR 30" WIDE

P-36-30	$31.30	36¾"	PL-36-30	$40.65
P-42-30	33.60	42"	PL-42-30	42.90
P-61-30	42.95	61¼"	PL-61-30	52.30
P-70-30	46.65	70"	PL-70-30	55.95
P-77-30	49.90	77"	PL-77-30	59.25
P-80-30	51.80	80½"	PL-80-30	61.15

DOORS

Blank and Louvred

- Made of No. 14 gauge steel
- Continuous hinge flush fitting
- Supplied with 3 point latching device and round flush handle

FOR 19" WIDE

Blank	Net Price	Height	Width	Louvred	Net Price
DO-36-19	$43.15	36¾"	19"	DOL-36-19	$53.75
DO-36-24	47.60	36¾"	24"	DOL-36-24	56.90
DO-36-30	53.15	36¾"	30"	DOL-36-30	62.50
DO-42-19	48.40	42"	19"	DOL-42-19	57.75
DO-42-24	51.50	42"	24"	DOL-42-24	60.90
DO-42-30	56.20	42"	30"	DOL-42-30	65.25
DO-61-19	63.65	61¼"	19"	DOL-61-19	73.50
DO-61-24	67.40	61¼"	24"	DOL-61-24	77.70
DO-61-30	73.00	61¼"	30"	DOL-61-30	83.05
DO-70-19	70.56	70"	19"	DOL-70-19	80.65
DO-70-24	73.75	70"	24"	DOL-70-24	83.15
DO-70-30	79.30	70"	30"	DOL-70-30	88.65
DO-77-19	76.15	77"	19"	DOL-77-19	85.45
DO-77-24	79.30	77"	24"	DOL-77-24	88.65
DO-77-30	84.85	77"	30"	DOL-77-30	94.20
DO-80-19	79.30	80½"	19"	DOL-80-19	88.65
DO-80-24	82.50	80½"	24"	DOL-80-24	91.80
DO-80-30	88.00	80½"	30"	DOL-80-30	97.35

ACCESSORIES FOR PREM-O-CUBE HEAVY DUTY CUBICLES

TOP & BOTTOM PANELS

Size	Blank Cat No.	Net Price	Louvred Cat. No.	Net Price
19x19"	TP-19-19	$17.75	TPL-19-19	$23.55
19x24"	TP-19-24	20.10	TPL-19-24	25.95
19x30"	TP-19-30	22.85	TPL-19-30	28.55
24x24"	TP-24-24	22.40	TPL-24-24	27.95
24x30"	TP-24-30	25.20	TPL-24-30	31.05
30x30"	TP-30-30	28.05	TPL-30-30	33.85

PANEL MOUNTING ANGLES

12 gauge steel; tapped 10-32 on E.I.A. spacings

Length	Cat. No.	Net Price (Pair)
36¾"	PMA 362-12	$12.85
42"	PMA 422-12	14.70
61¼"	PMA 612-12	18.40
70"	PMA 702-12	20.65
77"	PMA 772-12	22.25
80½"	PMA 802-12	23.40

HORIZONTAL CROSS PIECES

Fits Frame Depth	Cat. No.	Net Price
23"	HCP-23	$2.95
28"	HCP-28	3.50
34"	HCP-34	4.10

ROLLER TRUCKS

with 4" Diameter Rockite Casters
Fits into recess in bottom of frame

Size	Cat. No.	Net Price
19x19"	CRT 19-19	$58.30
19x24"	CRT 19-24	60.65
19x30"	CRT 19-30	63.45
24x24"	CRT 24-24	62.95
24x30"	CRT 24-30	65.75
30x30"	CRT 30-30	68.55

EYE BOLTS

2" Dia. — Cat. No. EB-2
Net Price — $7.20 set of 4

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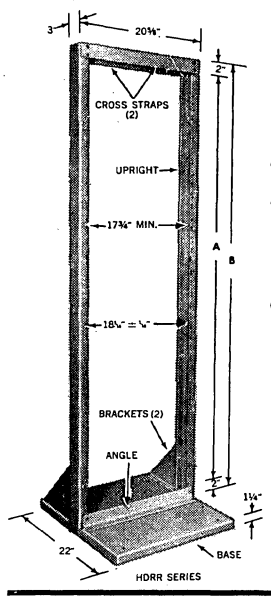
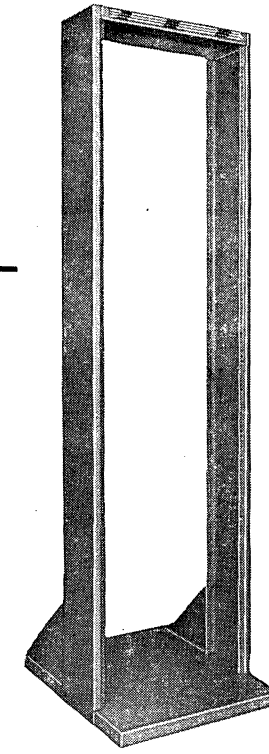
PREMIER CHANNEL RELAY RACKS



HEAVY DUTY RELAY RACK *Meets MIL-STD-189*

- Uprights and top cross straps made of 3/16" sheet steel.
- Base and Brackets made of No. 12 gauge sheet steel.
- Base angle made of 2 x 2 x 3/16" steel.
- Panel mounting holes are tapped 10-32 on E.I.A. spacings (1¼-½").
- Finished in Zinc Chromate Primer (MIL SPEC. 6889A) or Gray Hammertone (Specify finish when ordering).
- Shipped knocked down and assembled with ¼-20 x ¾" long hex head cap screws and nuts.

Catalog No.	Panel Space (A)	Frame Height (B)	Net Price
HDRR-6619	66 21/32"	71 29/32"	$78.15
HDRR-7319	73 21/32"	78 29/32"	85.10
HDRR-7719	77 5/32"	82 13/32"	89.80

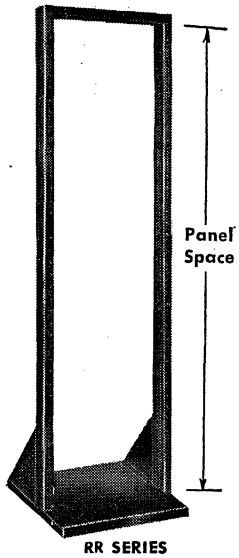


RR-2100 Series

DELUXE UTILITY RACKS

- Made of No. 12 gauge (.104) steel Tapped 10-32 on EIA spacings (⅝—⅝—½) both front and rear.
- Uprights 8⅛" deep.
- Panels Fit into ½" Recess. Either flat or Formed Panels may be used.
- Finished in Gray Hammertone.
- Top ventilated by means of grille.
- Racks can be bolted side by side.
- There are no screw heads projecting.
- Vertical members and top cross piece are welded together.
- The base and rear supports are shipped knocked down.

FOR 19" WIDE PANELS					Height	FOR 24" WIDE PANELS				
Cat. No.	Width	Panel Space	Shpg. Wt. Lbs.	Net Price		Cat. No.	Width	Panel Space	Shpg. Wt. Lbs.	Net Price
RR-2164	21 1/16"	61¼x19"	85	$42.70	64½"	RR-2664	26 1/16"	61¼x24"	100	$55.05
RR-2173	21 1/16"	70x19"	90	46.05	73¼"	RR-2673	26 1/16"	70x24"	105	58.40
RR-2180	21 1/16"	77x19"	95	50.50	80¼"	RR-2680	26 1/16"	77x24"	105	62.90



RR SERIES

CHANNEL RELAY RACKS

- Rigidly constructed of #12 gauge cold rolled sheet steel and finished in Gray Hammertone.
- Vertical members and top crossbrace are welded together.
- Panel mounting holes are tapped for 10/32 machine screws on E.I.A. spacings (⅝-⅝-½").
- Racks are shipped knocked down with all necessary bolts for easy assembly.
- Base punched to accommodate CA-4 (2") and CA-5 (3") casters.

Cat. No.	H.	W.	D.	Panel Space	Shp. Wt. Lbs.	Net Price
RR-800	39¼"	20"	18⅜"	36¾" x 19"	40	$23.80
RR-801	74¼"	20"	20⅞"	71¾" x 19"	55	28.30
RR-802	79½"	20"	20⅞"	77" x 19"	60	32.80
RR-803	69"	20"	20⅞"	66½" x 19"	50	27.20

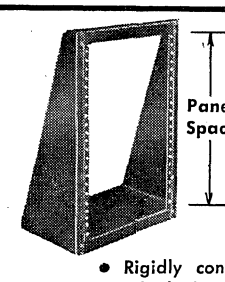


TABLE TYPE RELAY RACKS

TR SERIES

- Rigidly constructed of #16 gauge cold rolled sheet steel and finished in Gray Hammertone. Also available in Black Wrinkle.
- Base constructed of one piece, similar to a chassis.
- Panel mounting holes are tapped for 10/32 machine screws on E.I.A. spacings (⅝-⅝-½").
- Racks are shipped knocked down with all necessary bolts for easy assembly.

Cat. No.	H.	W.	D.	Panel Space	Shp. Wt. Lbs.	Net Price
TR-2119	25"	21"	12"	21 x 19"	17	$ 9.85
TR-2819	32"	21"	12"	28 x 19"	20	12.25

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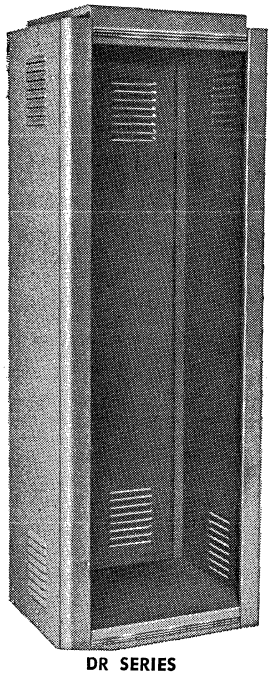
PREMIER CABINET RELAY RACKS

FOR STANDARD 19" RACK PANELS (KNOCKED DOWN)

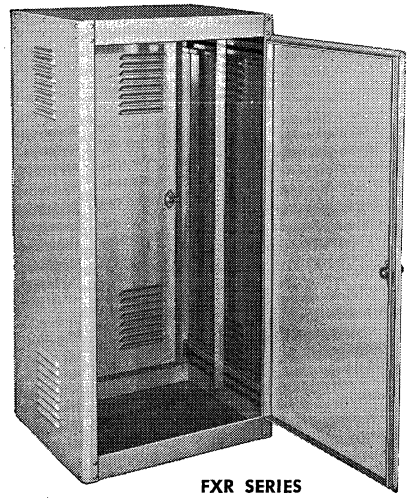
- Rigidly constructed of #16 gauge cold rolled sheet steel.
- The panel mounting angles are of #12 gauge steel and are tapped for 10-32 machine screws on E.I.A. spacings (⅝-⅝-½).
- Panels fit into a 5/16" recess so that the edges are not exposed.
- Racks are shipped knocked down with all necessary bolts for easy assembly.
- Rear doors are hung on sturdy slip-jointed hinges, and closed by a chrome handle. Locking handle with two keys available at additional cost.
- Holes punched in bottom to accommodate CA-4 and CA-5 casters.
- ROUNDED TYPE has front vertical rounded corners.
- DELUXE TYPE — The removable vertical corner mouldings are rounded and cover the mounting screws.
- DELUXE TYPE — Top and bottom are trimmed with chrome finished moulding.
- FRONT DOOR TYPE has front vertical rounded corners and is supplied with locking chrome handle and two keys for front door.
- Finished in Gray Hammertone.

DELUXE TYPE



DR SERIES

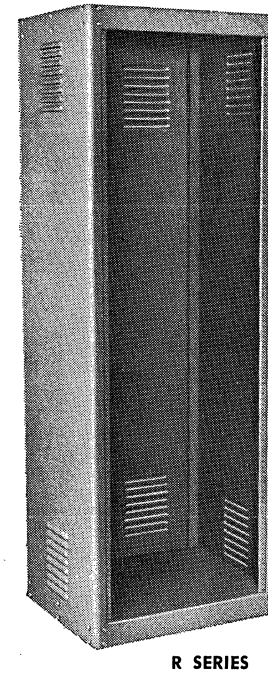
FRONT DOOR TYPE



FXR SERIES

Supplied with adjustable Panel Mounting Angles

ROUNDED TYPE



R SERIES

Racks are 22" wide x 18" deep

	Cat. No.	Overall Height	Panel Space	Use Slide Length*	Ship. Wt.—Lbs.	Net Price
DELUXE	DR-3619	43 1/8"	36 3/4"	16"	85	$66.10
	DR-6119	67 5/8"	61 1/4"	16"	135	80.85
	DR-7719	83 3/8"	77"	16"	160	97.85
FRONT DOOR	FXR-3619	41 7/8"	36 3/4"	16"	93	70.70
	FXR-4219	47 1/8"	42"	16"	105	80.15
	FXR-6119	66 3/8"	61 1/4"	16"	140	110.40
	FXR-7719	82 1/8"	77"	16"	164	121.30
ROUNDED	R-3619	41 7/8"	36 3/4"	16"	80	50.15
	R-4219	47 1/8"	42"	16"	90	58.30
	R-6119	66 3/8"	61 1/4"	16"	120	74.65
	R-7719	82 1/8"	77"	16"	140	88.65

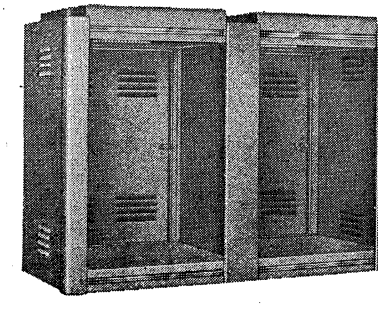
	Cat. No.	Overall Height	Panel Space	Use Slide Length*	Used With	Net Price
MULTIPLE RACK SECTIONS	DMR-3619	43 1/8"	36 3/4"	16"	DR-3619	$63.45
	DMR-6119	67 5/8"	61 1/4"	16"	DR-6119	75.70
	DMR-7719	83 3/8"	77"	16"	DR-7719	90.35
	MR-3619	41 7/8"	36 3/4"	16"	R-3619	48.40
	MR-4219	47 1/8"	42"	16"	R-4219	56.55
	MR-6119	66 3/8"	61 1/4"	16"	R-6119	72.95
	MR-7719	82 1/8"	77"	16"	R-7719	86.85
	MXR-3619	41 7/8"	36 3/4"	16"	FXR-3619	67.90
	MXR-4219	47 1/8"	42"	16"	FXR-4219	78.50
	MXR-6119	66 3/8"	61 1/4"	16"	FXR-6119	98.50
	MXR-7719	82 1/8"	77"	16"	FXR-7719	119.70

* Use Slide Adapter Kit (Cat. No. SAK-35) for rear mounting. (See Premier Page 28).

FOR MODIFICATIONS SEE PREMIER PAGE 2
FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22
FOR BLOWERS, FANS and HARDWARE SEE PREMIER PAGES 27 THRU 32

MULTIPLE RACK UNITS

These racks can be joined together to make multiple units by means of a solid center partition which is bolted to the top and bottom. Each multiple section comprises a top, bottom, rear door and center partition. On MXR Models, front door is also supplied. When ordering multiple units, specify number of units, such as double, triple, quad, etc.



ABOVE UNIT IS ONE DOUBLE DR3619

Example: One Double DR-3619 consists of one DR-3619 and one DMR-3619.

One Triple FXR-3619 consists of one FXR-3619 and two MXR-3619.

One Quad R-3619 consists of one R-3619 and three MR-3619.

PREMIER METAL PRODUCTS COMPANY
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PREMIER PAGE 11 **ALL PRICES 10% HIGHER WEST OF MISSISSIPPI**

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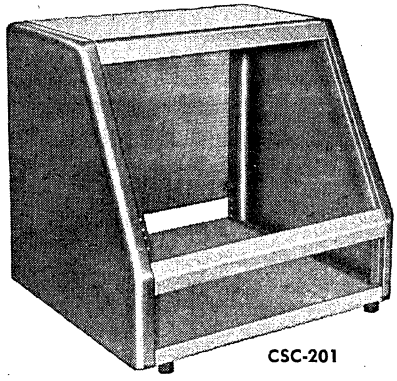
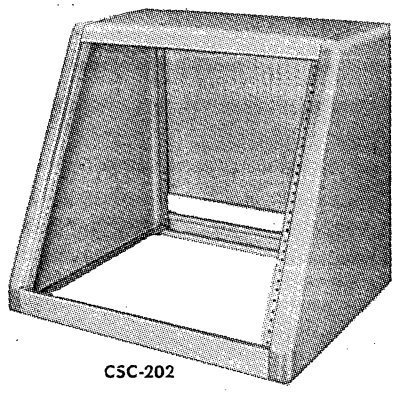
PREMIER MODULAR SLOPING DESK CABINETS

PREM-O-RAK®

- BOTH FRONT AND REAR HAVE ATTRACTIVE BALL CORNERS.
- Shipped knocked down with necessary hardware for easy assembly.
- All screws for assembling console are not visible from the outside.
- Both front and rear are tapped for 10/32 machine screws on E.I.A. spacings (⅝-⅝-½).
- Interlocking removable rear panel made of perforated metal and held in place by four captive screws.
- Made of No. 16 gauge steel.
- Rear panel has 1¾" opening on bottom for leads, etc.
- Panels fit into ½" recess.
- May be used individually or in multiples.
- Handsomely finished in Two Tone Hammertone—Top, cross-piece and base are Gray Hammertone. Rear and side panels are Brown Hammertone.



CSC-201

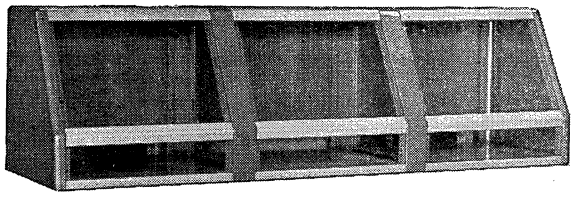


CSC-202

Cat. No.	Width	Height	Depth	Sloped Panel Space	Front Vertical Panel Space	Rear Panel Space	Slope from Vertical	Bottom Panel Space	Ship. Wt. Lbs.	Net Price
CSC-201	21¾"	18⅛"	18"	12¼" x19"	3½" x 9"	15¾" x 19"	30°	———	35	$64.15
CSC-202	21¾"	18⅞"	18⅞"	17½" x 19"	———	15¾" x 19"	25°	15¾" x 19"	40	69.95

DESIGNED FOR MULTIPLE INSTALLATION

The PREM-O-RAK CONSOLE CABINETS can be joined together to make multiple units by means of a center frame section which is bolted to the top, cross-piece and base. When ordering multiple units specify number of units, such as Double, Triple, etc.



One Triple CSC-201 consists of one CSC-201 and two CMS-301

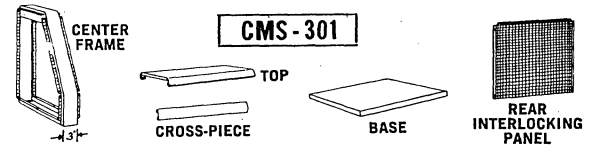
MULTIPLE SECTION for SLOPING CABINET

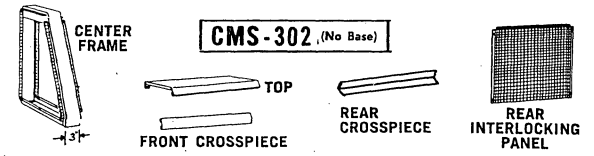
Cat. No.	Ship. Wt. Lbs.	Net Price
CMS-301	26	$42.00
CMS-302	28	46.65

EACH MULTIPLE SECTION comprises 5 pieces as shown:

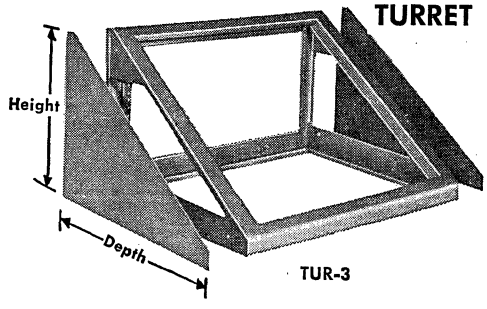
Rigidly constructed of No. 16 gauge steel and finished in Two Tone Hammertone.

EXAMPLE: One Double CSC-201 consists of one CSC-201 and one CMS-301
One Triple CSC-201 consists of one CSC-201 and two CMS-301



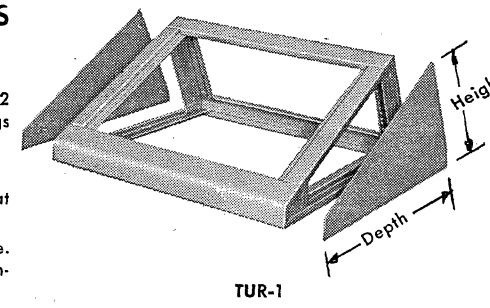


TURRET WITH FLAT SIDE PANELS



TUR-3

- Made of No. 16 gauge steel.
- All panel openings tapped for 10/32 machine screws on E.I.A. spacings (⅝-⅝-½).
- Panels fit into ½" recess.
- Flat side panels are assembled at factory before shipping.
- Frame finished in Gray Hammertone. Side panels finished in Brown Hammertone.



TUR-1

Cat. No.	Width	Height	Depth	Sloped Front Panel Space	Rear Panel Space	Bottom Panel Space	Ship. Wt. lbs.	Net Price
TUR-1	22"	9¾"	21"	14" x 19"	7" x 19"	17½" x 19"	25	$44.50
TUR-3	22"	12¼"	17½"	17½" x 19"	8¾" x 19"	14" x 19"	20	38.70

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PREMIER DESK CABINET RACKS

PREM-O-RAK®

POR Series

- All screws for assembling PREM-O-RAK are not visible from the outside.
- Both front and rear verticals are tapped for 10/32 machine screws on E.I.A. spacings (⅝-⅝-½") so that panels may be mounted on both front and rear if desired.
- Interlocking removable top made of perforated metal and held in place by only one captive screw.
- Interlocking removable rear panel made of perforated metal and held in place by two captive screws.
- Rigidly constructed of #16 gauge steel.

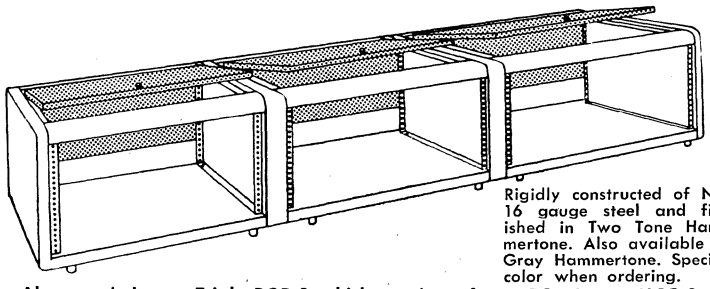
15¼" and 18" DEEP FOR STANDARD 19" WIDE PANELS

(KNOCKED DOWN)

BOTH FRONT AND REAR OF TOP HAVE ATTRACTIVE BALL CORNERS.

- Rear Panel has 3½" opening on bottom for leads, etc., except on POR-3, 318, 5, 518.
- Panels fit into ½" recess.
- Base supplied with four rubber feet.
- Components may be mounted on base before assembly of rack into a complete unit.
- Shipped knocked down with all necessary hardware for easy assembly.
- HANDSOMELY FINISHED IN TWO-TONE HAMMERTONE.
  Top cross braces and base are Gray Hammertone.
  Top & rear panel & side panels are Brown Hammertone.
  Also available all Gray Hammertone. Specify color when ordering.

15¼" DEEP				ALL CABINETS ARE 21¾" WIDE		18" DEEP			
Catalog No.	Shp. Wt. Lbs.	Use Slide Length	Net Price	Overall Height	Panel Space	Catalog No.	Ship. Wt. Lbs.	Use Slide Length	Net Price
POR-3	18	14"	$29.25	5⅞"	3½"	POR-318	20	16"	$31.85
POR-5	20	14"	31.85	7⅝"	5¼"	POR-518	22	16"	35.95
POR-7	22	14"	33.75	9⅜"	7"	POR-718	24	16"	36.10
POR-8	24	14"	35.95	11⅛"	8¾"	POR-818	26	16"	37.65
POR-10	26	14"	39.15	12⅞"	10½"	POR-1018	29	16"	42.85
POR-12	28	14"	42.05	14⅝"	12¼"	POR-1218	31	16"	46.65
POR-14	32	14"	46.85	16⅜"	14"	POR-1418	35	16"	51.85
POR-17	40	14"	55.85	19⅞"	17½"	POR-1718	44	16"	61.45
POR-21	44	14"	60.65	23⅜"	21"	POR-2118	48	16"	58.75
POR-26	45	14"	65.25	28⅝"	26¼"	POR-2618	49	16"	72.15
POR-31	50	14"	68.70	33⅞"	31½"	POR-3118	55	16"	76.55
POR-35	55	14"	72.75	37⅜"	35"	POR-3518	60	16"	80.95



Rigidly constructed of No. 16 gauge steel and finished in Two Tone Hammertone. Also available in Gray Hammertone. Specify color when ordering.

Above unit is one Triple POR-8 which consists of one POR-8 two MOR-8

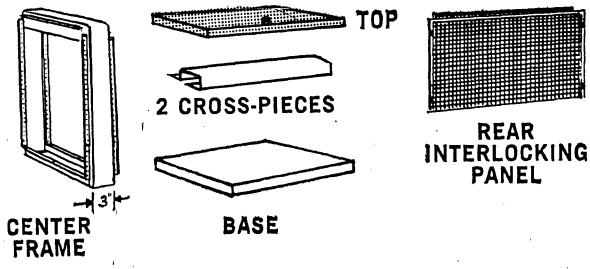
MULTIPLE SECTION FOR PREM-O-RAK DESK CABINETS

PREM-O-RAK DESK CABINETS can be joined together to make multiple units by means of a center frame section which is bolted to the top cross pieces and base. When ordering multiple units specify number of units, such as Double, Triple, etc.

EXAMPLE: One Double POR-1218 consists of one POR-1218 and one MOR-1218.
One Triple POR-8 consists of one POR-8 and two MOR-8.

EACH MULTIPLE SECTION (MOR Series) comprises 6 pieces as shown.

15¼" DEEP					18" DEEP		
Cat. No.	Ship. Wt. Lbs.	Net Price	Overall Height	Panel Space	Cat. No.	Ship. Wt Lbs.	Net Price
MOR-3	16	$20.55	5⅞"	3½"	MOR-318	18	$21.55
MOR-5	17	21.55	7⅝"	5¼"	MOR-518	19	23.80
MOR-7	18	22.65	9⅜"	7"	MOR-718	20	25.20
MOR-8	19	23.80	11⅛"	8¾"	MOR-818	21	26.50
MOR-10	20	27.30	12⅞"	10½"	MOR-1018	23	30.20
MOR-12	21	29.50	14⅝"	12¼"	MOR-1218	24	32.40
MOR-14	23	32.85	16⅜"	14"	MOR-1418	26	36.25
MOR-17	31	39.15	19⅞"	17½"	MOR-1718	34	43.20
MOR-21	33	42.50	23⅜"	21"	MOR-2118	37	47.10
MOR-26	34	45.95	28⅝"	26¼"	MOR-2618	38	50.60
MOR-31	36	48.10	33⅞"	31½"	MOR-3118	40	53.65
MOR-35	40	50.95	37⅜"	35"	MOR-3518	44	56.20



FOR MODIFICATIONS SEE PREMIER PAGE 2 • FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22
FOR BLOWERS, FANS, HARDWARE SEE PREMIER PAGES 27 THRU 32

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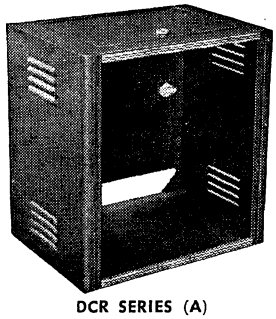
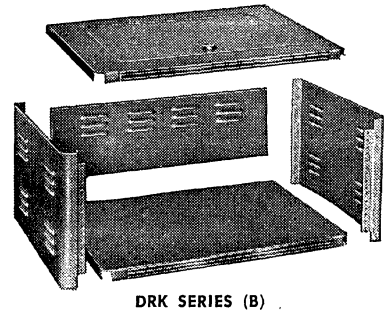
PREMIER DESK CABINET RACKS

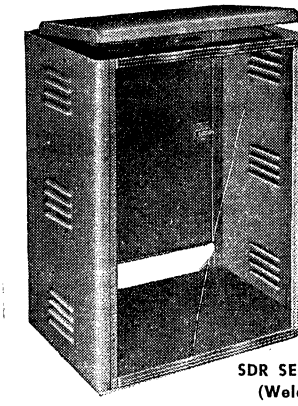
15¼" and 18" DEEP
FOR STANDARD 19" WIDE PANEL
(WELDED AND KNOCKED DOWN MODELS)



DCR SERIES (A)
(Welded)



DRK SERIES (B)
(Knocked Down)



SDR SERIES (C)
(Welded)

- Front vertical corners are rounded and the top and bottom are trimmed with chrome finished moulding.
- Rigidly constructed of #16 gauge cold rolled sheet steel.
- Panels fit into a ¼" recess so that the edges are not exposed.
- Panel mounting holes are tapped for 10-32 machine screws on E.I.A. spacings (⅝-⅝-½).
- Piano type hinges are used on the top doors, which are provided with snap catches.
- Top door on Model SDR opens to 90° and has a rounded front corner.
- DRK is identical to DCR except shipped knocked down with all necessary hardware for easy assembly. On these models the bolts are not visible from the outside and have the same appearance as the welded models.
- Gussets welded at bottom of rear on Models 170-350 for additional strength.
- Finished in Gray Hammertone. Also available in Black Wrinkle.
- Specify color when ordering.

FOR MODIFICATIONS SEE PREMIER PAGE 2
FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22
FOR BLOWERS, FANS and HARDWARE SEE PREMIER PAGES 27 THRU 32

WALL MOUNTING BRACKETS

FOR MOUNTING DESK CABINET RACKS ON WALL – REMOVE REAR DOOR AND USE WALL MOUNTING BRACKETS.

Catalog No. WB-19
Net Price $5.30
Not applicable on DSR-70 through DCR-140.

Sold in sets only.
Finished in Gray Hammertone.
Shipping Weight 2½ lbs.

21¾" WIDE x 15¼" DEEP

	Catalog No. (A)	Net Price	Catalog No. (C)	Net Price	Catalog No. (B)	Net Price	Overall Height	Panel Space	Ship. Wt. Lbs.	Use Slide Length*
WITH DOOR ON TOP ONLY	DCR-70	$16.70	SDR-70	$23.25	DRK-70	$18.25	8¾"	7"	22	14"
	DCR-80	17.80	SDR-80	24.40	DRK-80	19.35	10½"	8¾"	24	14"
	DCR-100	19.50	SDR-100	26.10	DRK-100	21.00	12¼"	10½"	26	14"
	DCR-120	21.70	SDR-120	28.25	DRK-120	23.25	14"	12¼"	28	14"
	DCR-140	23.35	SDR-140	29.85	DRK-140	24.90	15¾"	14"	32	14"
WITH DOOR ON TOP AND REAR	DCR-170	28.40	SDR-170	34.95	DRK-170	29.90	19¼"	17½"	40	14"
	DCR-190	30.05	SDR-190	36.65	DRK-190	31.60	21"	19¼"	42	14"
	DCR-210	31.15	SDR-210	37.70	DRK-210	32.65	22¾"	21"	44	14"
	DCR-260	33.40	SDR-260	39.95	DRK-260	34.95	28"	26¼"	45	14"
	DCR-310	35.60	SDR-310	42.20	DRK-310	37.15	33¼"	31½"	50	14"
	DCR-350	37.85	SDR-350	44.45	DRK-350	39.40	36¾"	35"	55	14"

21¾" WIDE x 18" DEEP

	Catalog No. (A)	Net Price	Catalog No. (C)	Net Price	Overall Height	Panel Space	Ship. Wt. Lbs.	Use Slide Length*
WITH DOOR ON TOP ONLY	DCR-1880	$20.60	SDR-1880	$27.15	10½"	8¾"	26	16"
	DCR-18100	23.90	SDR-18100	30.50	12¼"	10½"	29	16"
	DCR-18120	27.30	SDR-18120	33.85	14"	12¼"	31	16"
	DCR-18140	28.95	SDR-18140	35.55	15¾"	14"	35	16"
WITH DOOR ON TOP AND REAR	DCR-18170	32.85	SDR-18170	39.40	19¼"	17½"	44	16"
	DCR-18190	33.95	SDR-18190	40.50	21"	19¼"	46	16"
	DCR-18210	35.60	SDR-18210	43.30	22¾"	21"	48	16"
	DCR-18260	38.95	SDR-18260	45.55	28"	26¼"	49	16"
	DCR-18310	40.60	SDR-18310	47.25	33¼"	31½"	55	16"
	DCR-18350	41.75	SDR-18350	48.25	36¾"	35"	60	16"

SPECIFY COLOR WHEN ORDERING

*Use Slide Adapter Kit (Cat. No. SAK-35) for rear mounting. (See Premier Page 28)

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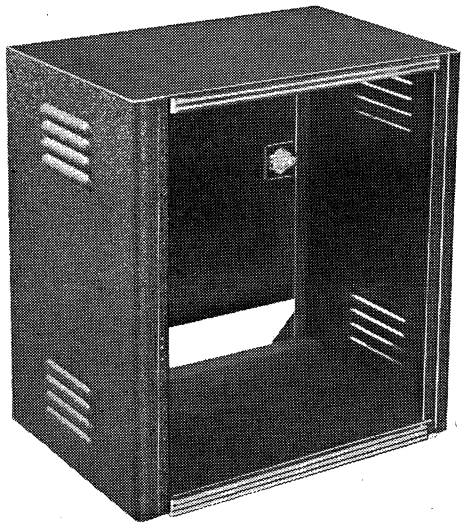
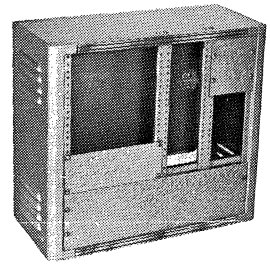
PREMIER 12" DEEP MINIATURE DESK CABINET RACKS





MDK SERIES → Shown with panels, horizontal (DH Series) and vertical (DV Series) dividers assembled.

MODU-RAK®

FOR STANDARD 19" RACK PANELS

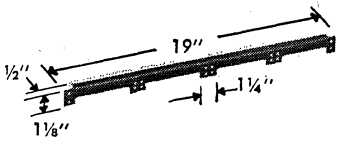
(KNOCKED DOWN)

- Front vertical corners are rounded and the top and bottom are trimmed with red striped chrome moulding.
- Rigidly constructed of #16 gauge cold rolled sheet steel.
- Panels fit into a recess so that the edges are not exposed.
- Panel mounting holes are tapped for 10-32 machine screws on E.I.A. Spacings (⅝-⅝-½").
- Rear doors have snap catches.
- Bolts are not visible from the outside and these units have the same appearance as the welded models.
- FINISHED IN GRAY HAMMERTONE.
- SHIPPED KNOCKED DOWN WITH ALL NECESSARY HARDWARE FOR EASY ASSEMBLY.

21¾" WIDE x 12" DEEP

	Catalog No.	Overall Height	Available Panel-Space	Ship. Wt. Lbs.	Net Price
WITH REMOVABLE REAR PANEL	MDK-50	7"	5¼ x 19"	16	$14.85
	MDK-70	8¾"	7 x 19"	20	15.30
	MDK-80	10½"	8¾ x 19"	21	16.15
	MDK-100	12¼"	10½ x 19"	23	18.30
	MDK-120	14"	12¼ x 19"	25	19.75
	MDK-140	15¾"	14 x 19"	29	22.20
WITH REAR DOOR	MDK-170	19¼"	17½ x 19"	36	26.60
	MDK-210	22¾"	21 x 19"	39	28.85
	MDK-260	28"	26¼ x 19"	40	31.50
	MDK-280	29¾"	28 x 19"	41	33.80

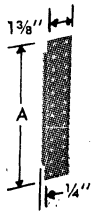
ACCESSORIES FOR SUBDIVIDING ANY 19" WIDE PANEL SPACE INTO MODULAR UNITS



HORIZONTAL DIVIDERS

- Holes punched to accommodate vertical dividers (DV Series) which subdivides the panel space into 9½" and 4¾" widths.
- Made of #16 gauge steel.
- Finished in Gray Hammertone.

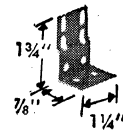
Catalog No.	Dimensions	Net Price
DH-19	19" x 1⅛"	$4.35
DH-95	9½" x 1⅛"	3.55



VERTICAL DIVIDERS

- Two rows of 10-32 tapped holes punched on E.I.A. Spacings.
- Made of No. 16 gauge steel.
- Finished in gray Hammertone.

Cat. No.	"A" Available Panel Mtg. Space	Net Price
DV-5	5¼"	$1.20
DV-7	7"	1.65
DV-8	8¾"	2.05
DV-10	10½"	2.50
DV-12	12¼"	2.65
DV-14	14"	2.90
DV-17	17½"	3.80
DV-21	21"	4.60
DV-26	26¼"	5.75
DV-28	28"	5.95



ANGLE BRACKETS

- Punched to accommodate vertical dividers.
- Made of No. 16 gauge steel.
- Finished in gray hammertone.

Cat. No.	Net Price	sold in
AB-2	$1.30 pr.	pairs only

FOR MODIFICATIONS SEE PREMIER PAGE 2 • FOR ACCESSORIES SEE PREMIER PAGES 16 THRU 22

FOR BLOWERS, FANS and HARDWARE SEE PREMIER PAGES 27 THRU 32

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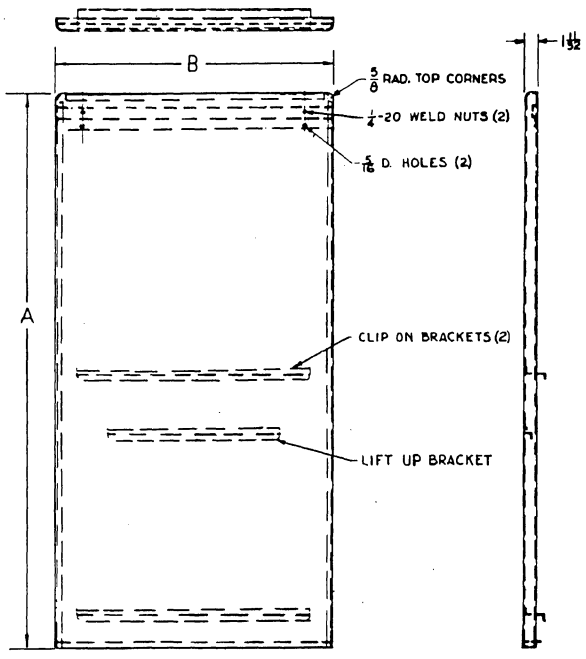
PREMIER END PANELS For Rounded Corner FRAMES



END PANEL

CEP SERIES

END PANELS FOR FA FRAMES 1-11/32" DEEP

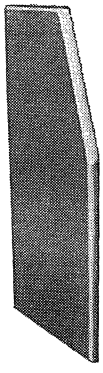
- Made of one piece of 16 gauge steel.
- BALL CORNERED.
- End panels attach to frame by means of a bracket on bottom and held securely by two captive screws on top.
- Panels supplied blank. Louvres furnished at no additional charge.
- Finished in Gray Hammertone.

22" WIDE

Cat. No.	For Use with Frame	Shpg. Wt. Lbs.	Hgt.	Net Price
CEP-42-22	FA-42-22	23	45¼"	$21.05
CEP-52-22	FA-52-22	27	55¾"	25.25
CEP-61-22	FA-61-22	30	64½"	27.90
CEP-70-22	FA-70-22	33	73¼"	30.15
CEP-77-22	FA-77-22	35	80¼"	31.65

25½" WIDE

Cat. No.	For Use with Frame	Shpg. Wt. Lbs.	Hgt.	Net Price
CEP-42-255	FA-42-255	28	45¼"	$24.55
CEP-52-255	FA-52-255	32	55¾"	28.75
CEP-61-255	FA-61-255	35	64½"	30.90
CEP-70-255	FA-70-255	38	73¼"	33.65
CEP-77-255	FA-77-255	40	80¼"	35.80



BALL CORNERED END PANELS FOR FS FRAMES — 1-11/32" DEEP

- Made of 1 Pc. No. 18 Gauge Steel.
- End Panels Attached to Frame by Means of a Bracket on Bottom & Held Securely by 2 Captive Screws on Top.
- Supplied Blank; Louvres Furnished at No Additional Charge.
- Finished in Gray Hammertone.

22" WIDE

End Panels	Used for Frame	Ship. Wt. Lbs.	Net Price
CEP-1201 LH	Left side FS-1001 & 1003	20	$20.60
CEP-1201 RH	Right side FS-1001 & 1003	20	20.60
CEP-1202 LH	Left side FS-1002 & 1004	18	21.05
CEP-1202 RH	Right side FS-1002 & 1004	18	21.05

25½" WIDE

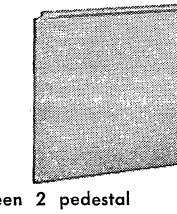
End Panels	Used for Frame	Ship. Wt. Lbs.	Net Price
CEP-1201-255 LH	Left side FS-1001-255 & 1003-255	22	$23.90
CEP-1201-255 RH	Right side FS-1001-255 & 1003-255	22	23.90
CEP-1202-255 LH	Left side FS-1002-255 & 1004-255	20	21.70
CEP-1202-255 RH	Right side FS-1002-255 & 1004-255	20	21.70

END PANELS FOR CPF FRAMES

- Made of one piece of #18 gauge steel.
- End panels attach to pedestal frame CPF Series by means of 2 brackets on bottom and held securely with 2 captive screws on top.
- Finished in Gray Hammertone.

BALL CORNERED END PANEL 1-11/32" DEEP

Cat. No.	Width	Height	For use with	Shpg. Wt. Lbs.	Net Price
CEP-401	22"	26"	CPF-101 & 103	17	$17.50
CEP-402	22"	33"	CPF-102 & 104	20	21.05
CEP-401-34	34¼"	26"	CPF-101-34	22	23.15
CEP-401-255	25½"	26"	CPF-101-255 & 103-255	21	19.50
CEP-402-255	25½"	33"	CPF-102-255 & 104-255	24	21.15
CEP-401-18	18½"	26"	CPF-101-18 & 103-18	16	16.70
CEP-402-18	18½"	23"	CPF-102-18 & 104-18	16	20.00



SHORT END PANEL — 1-11/32" DEEP

Used only when work top is mounted between 2 pedestal frames.

Cat. No.	Width	Height	For use with	Shpg. Wt. Lbs.	Net Price
CSS-701	22"	23"	CPF-101 & 103	15	$11.15
CSS-701-34	34¼"	23"	CPF-101-34	18	14.75
CSS-701-255	25½"	23"	CPF-101-255 & 103-255	17	13.35
CSS-701-18	18½"	23"	CPF-101-18 & 103-18	14	10.00

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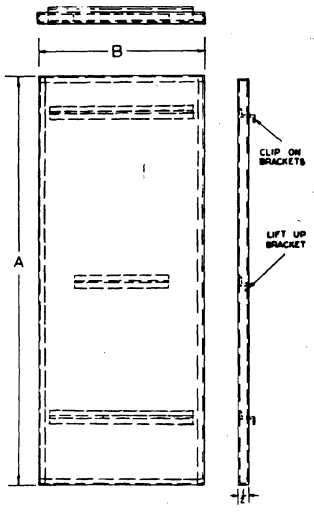
PREMIER END PANELS For Square Cornered FRAMES

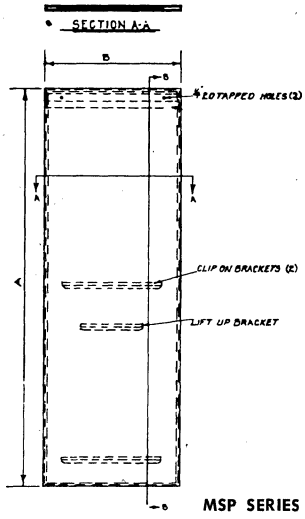


FL SERIES

FLUSH END PANELS FOR PRXA FRAMES ½" DEEP

- Fits into side recess of frame.
- Made of one piece of #16 gauge steel.
- Clips on to horizontal side section of frame. Finished in Gray Hammertone.

15" WIDE for 18" DEEP FRAMES				Height	21" WIDE for 24" DEEP FRAMES			
Cat. No.	To Fit Frame No.	Shpg. Wt. Lbs.	Net Price Each	(A)	Cat. No.	To Fit Frame No.	Shpg. Wt. Lbs.	Net Price Each
FL-36	PRXA-36	18	$16.45	42¾"	FL-36-24	PRXA-36-24	20	$21.70
FL-42	PRXA-42	19	17.40	48"	FL-42-24	PRXA-42-24	21	22.75
FL-52	PRXA-52	21	19.70	58½"	FL-52-24	PRXA-52-24	24	25.05
FL-61	PRXA-61, 2761, 3361	22	22.95	67¼"	FL-61-24	PRXA-61-24, 2761-24; 3361-24	27	27.70
FL-70	PRXA-70, 2770, 3370	25	24.75	76"	FL-70-24	PRXA-70-24, 2770-24; 3370-24	30	29.90
FL-77	PRXA-77, 2777, 3377	27	26.70	83"	FL-77-24	PRXA-77-24, 2777-24; 3377-24	33	32.25

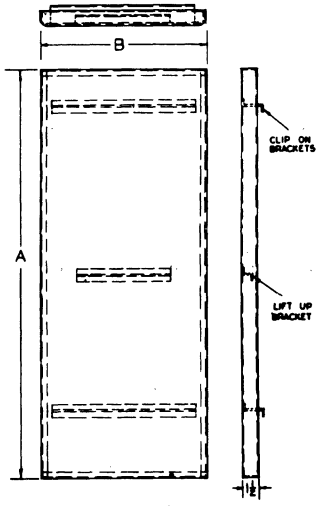


MSP SERIES

- Made of one piece of #16 gauge steel.
- End panels attach to frame by means of a bracket on bottom and held securely by two captive screws on top.
- Finished in Gray Hammertone.

SQUARE END PANELS FOR MSF FRAMES — 13/16" DEEP

22" WIDE for 22" DEEP FRAMES			Height	25½" WIDE for 25½" DEEP FRAMES		
Cat. No.	To Fit Frame No.	Net Price	(A)	Cat. No.	To Fit Frame No.	Net Price
MSP-21-22	MSF-21-22	$15.05	26"	MSP-21-255	MSF-21-255	$17.25
MSP-28-22	MSF-28-22	17.25	33"	MSP-28-255	MSF-28-255	19.50



SP SERIES

- Fits into side recess of frame.
- Made of one piece of #16 gauge steel.
- Clips on to horizontal side section of frame.
- Finished in Gray Hammertone.

ROUNDED END PANELS FOR PRXA FRAMES

1½" DEEP

15" WIDE for 18" DEEP FRAMES				
Cat. No.	To Fit Frame No.	Height (A)	Shpg. Wt. Lbs.	Net Price
SP-36	PRXA-36	42¾"	19	$18.35
SP-42	PRXA-42	48"	20	19.35
SP-52	PRXA-52	58½"	21	21.75
SP-61	PRXA-61	67¼"	23	25.20
SP-70	PRXA-70	76"	26	27.10
SP-77	PRXA-77	83"	28	29.10
21" WIDE for 24" DEEP FRAMES				
SP-36-24	PRXA-36-24	42¾"	21	$23.95
SP-42-24	PRXA-42-24	48"	22	24.95
SP-52-24	PRXA-52-24	58½"	25	27.35
SP-61-24	PRXA-61-24	67¼"	28	30.25
SP-70-24	PRXA-70-24	76"	31	32.45
SP-77-24	PRXA-77-24	83"	34	35.10

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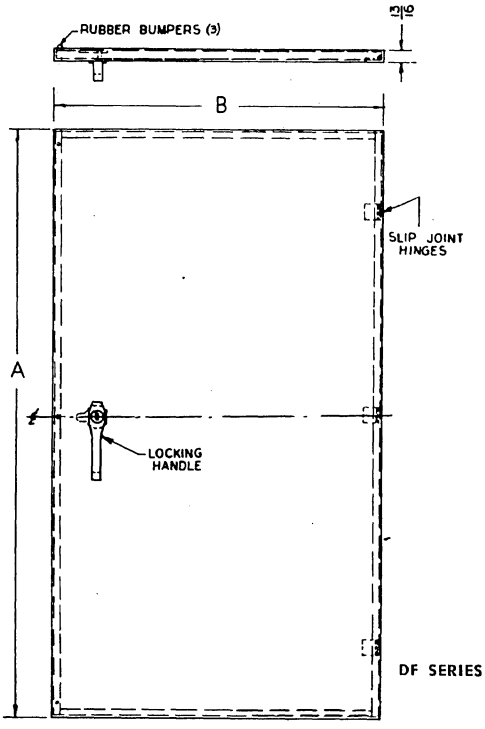
PREMIER DOORS for FRAMES and RACKS



DF SERIES

DOORS FOR FA, FS and PRXA FRAMES 13/16" DEEP

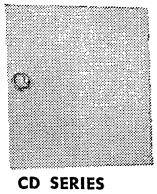
- Made of #16 gauge steel
- Doors can be mounted either left or right hand by rotating door 180°
- Doors supplied blank. Louvres furnished at no additional charge
- Doors hung on slip jointed hinges and equipped with locking handle and 2 keys
- Door mounted to frame by 3 removable hinge brackets, permitting the door to be mounted either left or right hand. Handle latch bracket also supplied
- Finished in Gray Hammertone
- **SPECIFY HINGED-SIDE WHEN DOORS ARE FURNISHED LOUVRED.**

21½" WIDE			Height	26½" WIDE		
Cat. No.	Shpg. Wt. Lbs.	Net Price	(A)	Cat. No.	Shpg. Wt. Lbs.	Net Price
DF-36	17	$27.80	40 5/16"	—	—	—
DF-42*	20	29.40	45 5/16"	DF-2742	26	$36.05
DF-52	25	33.25	56 1/16"	DF-2752	31	39.40
DF-61	28	37.40	64 13/16"	DF-2761	34	43.10
DF-70	31	40.10	73 9/16"	DF-2770	38	48.40
DF-77	34	42.75	80 9/16"	DF-2777	41	50.10

32½" WIDE (DOUBLE DOORS with 3 Point Locking Device)

Cat. No.	Shpg. Wt. Lbs.	Height	Net Price
DF-3361	40	64 13/16"	$50.10
DF-3370	45	73 9/16"	56.15
DF-3377	48	80 9/16"	60.10

*Add suffix -1002 when used with FS-1002, 1002-255, 1004, 1004-255



CD SERIES

FLUSH DOORS—½" DEEP

For Prem-O-Rak Console Frames CPF, FS, FA, MSF, POR and CSC Series.

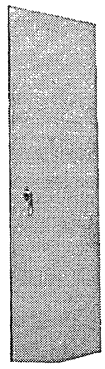
- Made of 16 gauge steel
- Finished in Gray Hammertone
- Doors can be mounted either left or right hand by rotating door 180°
- Hinge brackets are punched to accommodate panel mounting angles on cabinets.
- Furnished with attractive round chrome plated handle and snap catch.

Cat. No.	Height	Width	Shpg. Wt. Lbs	Net Price
CD-17	17½"	19"	7	$13.25
CD-21	21"	19"	8	14.15
CD-26	26¼"	19"	9	16.00
CD-28	28"	19"	10	16.80
CD-29	29¾"	19"	11	17.50
CD-42	42"	19"	16	28.35
CD-1724	17½"	24"	8	16.00
CD-2124	21"	24"	9	17.10
CD-2824	28"	24"	12	20.20
CD-2924	29¾"	24"	13	21.05
CD-4224	42"	24"	17	35.05

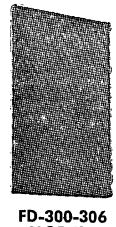
FRONT DOORS — 1¼" DEEP

TO FIT STANDARD 19" DESK RACK CABINETS AND CABINET RELAY RACKS

Constructed from one piece of #16 gauge steel. Two concealed piano hinges are provided with holes, punched to accommodate E.I.A. spacings and are made to fit on top of the panels. Supplied with cylinder lock and cam bracket to hold door in position on FD-300-306. Locking chrome handle with two keys supplied on FD-310-313 models. All necessary bolts furnished for easy assembly. All doors are 20½" wide x 1¼" deep. Finished in Gray Hammertone.



FD-310-313 MODELS



FD-300-306 MODELS

Cat. No.	Will Fit Rack No.	Overall Height	Shpg. Wt. lbs.	Net Price
FD-300	DCR, DRK, SDR-260, 18260, MDK-260	26¼"	10	$18.75
FD-301	DCR, DRK, SDR-310, 18310, MDK-310	31½"	11	21.70
FD-302	DCR, DRK, SDR-350, 18350, MDK-350	35"	12	25.20
FD-303	DCR, DRK, SDR-120, 18120, MDK-120	12¼"	6	14.05
FD-304	DCR, DRK, SDR-140, 18140, MDK-140	14"	7	15.25
FD-305	DCR, DRK, SDR-170, 18170, MDK-170	17½"	8	16.60
FD-306	DCR, DRK, SDR-210, 18210, MDK-210	21"	9	17.90
FD-310	R-3619	36⅞"	13	32.25
FD-311	R-4219	42⅛"	15	36.85
FD-312	R-6119	61⅜"	20	42.95
FD-313	R-7719	77⅛"	24	49.15

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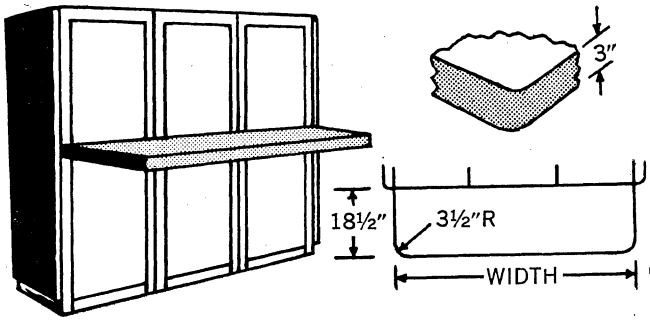
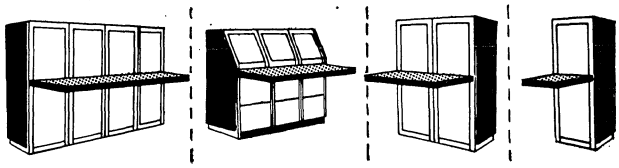
PREMIER ACCESSORIES

ONE PIECE FORMICA WORK WRITING SHELVES
For 22" Wide FA and FS FRAMES

- Gray linen weave Formica (2-C-1) bonded to ¾" plywood
- Other Standard Formica Colors or Patterns Available
- 3" self edged Formica skirt on 3 sides
- Supplied with 3½ x 19" formed panel, channels and brackets



TO FIT 22" DEEP FRAMES				TO FIT 25½" DEEP FRAMES	
Cat. No.	Net Price	Depth	Width	Cat. No.	Net Price
For 1 Vertical Frame (FA MSF, or PRXA Series) or 1 Sloped Front Frame (FS Series)					
OFT-2218-22	$87.50	18½"	22"	OFT-2218-255	$88.65
For 2 Vertical Frames (FA MSF, or PRXA Series) or 2 Sloped Front Frames (FS Series) Side By Side					
OFT-4418-22	110.75	18½"	44"	OFT-4418-255	111.95
For 3 Vertical Frames (FA MSF, or PRXA Series) or 3 Sloped Front Frames (FS Series) Side By Side					
OFT-6618-22	134.05	18½"	66"	OFT-6618-255	136.50
For 4 Vertical Frames (FA MSF, or PRXA Series) or 4 Sloped Front Frames (FS Series) Side By Side					
OFT-8818-22	163.25	18½"	88"	OFT-8818-255	165.20



NOTE:
ONE PIECE Formica shelves available for use with semi-circular arrangements when used with Wedge Frames.

FORMICA WRITING PANELS
19" and 24" WIDE — ½" THICK

Gray Linen Weave Pattern Formica 2-C-1 bonded to plywood as top surface; Unfinished Formica bonded to bottom surface.

19" WIDE

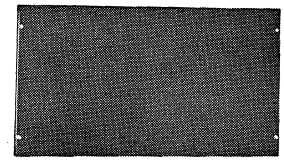
Cat. No.	Panel Space	Fits into	Net Price
FWP-1019	10½" x 19"	WW-15-22 & WW-15-255	$9.50
FWP-1419	14" x 19"	WW-18-22 & WW-18-255	10.90
FWP-1719	17½" x 19"	WW-22-22 & WW-22-255, WTO-22-22 & Top Panel Space of CPF-101, CPF-102, MSF-21-22, MSF-28-22	13.00
FWP-2119	21" x 19"	WTO-22-255, WW-255-22, WW-255-255, MSF-21-255, MSF-28-255	16.10
FWP-2919	29¾" x 19"	CPF-101-34, WTO-22-34	28.80

24" WIDE

Cat. No.	Panel Space	Fits into	Net Price
FWP-1024	10½" x 24"	WW-2715-22, WW-2715-255	$10.60
FWP-1424	14" x 24"	WW-2718-22, WW-2718-255	11.75
FWP-1724	17½" x 24"	WW-2722-22, WW-2722-255, WTO-27-22 & Top Panel Space of CPF-103 & CPF-104	13.75
FWP-2124	21" x 24"	WTO-27-255, WW-27-255, WW-27-255-255	17.25

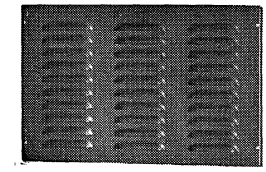
FORMED PANELS — ½" DEEP
19" and 24" WIDE

BLANK



FP Series

LOUVRED



FPL Series

- Made of one piece of No. 16 gauge steel, with edges formed for overall depth of ½".
- Each panel has only 2 mounting holes on each side.
- Finished in Gray Hammertone.

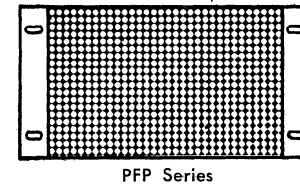
BLANK

19" WIDE Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	24" WIDE Cat. No.	Shpg. Wt. Lbs.	Net Price
FP-119	1½	$1.35	1¾"	FP-124	2	$1.55
FP-319	2	1.40	3½"	FP-324	3	1.70
FP-519	2½	1.60	5¼"	FP-524	3½	1.95
FP-719	3	1.80	7"	FP-724	4	2.25
FP-819	4	2.30	8¾"	FP-824	5	2.75
FP-1019	5	2.80	10½"	FP-1024	6	3.35
FP-1219	6	3.25	12¼"	FP-1224	7	3.85
FP-1419	6½	3.80	14"	FP-1424	7½	4.35
FP-1519	7	4.20	15¾"	FP-1524	8	4.90
FP-1719	7½	4.65	17½"	FP-1724	8½	5.50
FP-1919	8	5.05	19¼"	FP-1924	9	5.95
FP-2119	9	5.50	21"	FP-2124	10	6.60
FP-2219	10	6.05	22¾"	FP-2224	11	7.35
FP-2619	11	6.85	26¼"	FP-2624	12	8.35
FP-2819	12	7.45	28"	FP-2824	13	8.85
FP-4219	18	12.35	42"	FP-4224	20	14.85

LOUVRED

19" WIDE Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	24" WIDE Cat. No.	Shpg. Wt. Lbs.	Net Price
FPL-719	3	$3.80	7"	FPL-724	4	$4.65
FPL-819	4	4.40	8¾"	FPL-824	5	5.30
FPL-1019	5	4.95	10½"	FPL-1024	6	5.80
FPL-1219	6	5.45	12¼"	FPL-1224	7	6.55
FPL-1419	6½	5.85	14"	FPL-1424	7½	7.05
FPL-1719	7½	6.90	17½"	FPL-1724	8½	8.30
FPL-2119	9	8.55	21"	FPL-2124	10	10.25
FPL-2219	10	9.25	22¾"	FPL-2224	11	10.50
FPL-2619	11	9.60	26¼"	FPL-2624	12	11.55
FPL-2819	12	10.20	28"	FPL-2824	13	12.20
FPL-4219	18	17.30	42"	FPL-4224	20	21.05

PERFORATED



PFP Series

- Made of No. 20 gauge steel with 1/16" diameter holes on 3/16" staggered centers.
- Edges formed on 4 sides. • Overall depth ½".
- Each panel has 2 mounting holes on each side.
- Finished in Gray Hammertone.

19" WIDE Cat. No.	Shpg. Wt. Lbs.	Net Price	Height	24" WIDE Cat. No.	Shpg. Wt. Lbs.	Net Price
PFP-119	1¼	$2.80	1¾"	PFP-124	2¼	$3.65
PFP-319	1¾	3.10	3½"	PFP-324	2¾	3.95
PFP-519	2¼	3.35	5¼"	PFP-524	3¼	4.40
PFP-719	2¾	4.20	7"	PFP-724	3¾	5.65
PFP-819	3¾	4.80	8¾"	PFP-824	4¾	6.50
PFP-1019	4¾	5.60	10½"	PFP-1024	5¾	7.05
PFP-1219	5¾	6.30	12¼"	PFP-1224	6¾	8.30
PFP-1419	6¼	6.95	14"	PFP-1424	7¼	9.00
PFP-1519	6¾	7.50	15¾"	PFP-1524	7¾	9.95
PFP-1719	7¼	8.05	17½"	PFP-1724	8¼	10.70
PFP-1919	7¾	8.90	19¼"	PFP-1924	8¾	11.80
PFP-2119	8¾	9.55	21"	PFP-2124	9¾	12.65
PFP-2619	10¾	12.25	26¼"	PFP-2624	11¾	14.60
PFP-2819	11¾	13.00	28"	PFP-2824	12¾	16.05

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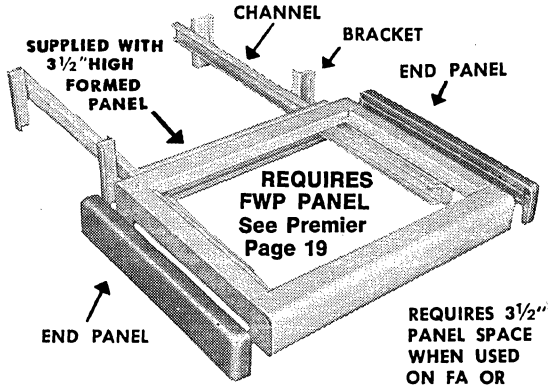
PREMIER ACCESSORIES

WRITING WORK SHELVES
FOR CPF, FA and FS FRAMES

- Made Of No. 16 Gauge Steel
- Tops Of Front And Rear Are Rounded
- Shipped Knocked Down • Finished In Gray Hammertone
- Supplied With Channels And Brackets For Mounting To Inside of Frames



DESIGNED FOR SINGLE OR MULTIPLE INSTALLATION
22" WIDE — 3" HIGH

To Fit 22" DEEP FRAMES				To Fit 25½" DEEP FRAMES			
Cat. No.	Shpg. Wt. Lbs.	Net Price	Top Panel Space	Depth	Cat. No.	Shpg. Wt. Lbs.	Net Price
WW-15-22	11	$42.10	10½"x19"	15"	WW-15-255	12	$42.95
WW-18-22	12	44.25	14" x19"	18½"	WW-18-255	13	45.10
WW-22-22	13	46.30	17½"x19"	22"	WW-22-255	14	47.20
WW-255-22	14	51.20	21" x19"	25½"	WW-255-255	15	52.35

27" WIDE

WW-2715-22	14	$58.25	10½"x24"	15"	WW-2715-255	15	$49.25
WW-2718-22	15	49.80	14" x24"	18½"	WW-2718-255	16	50.65
WW-2722-22	16	51.20	17½"x24"	22"	WW-2722-255	17	52.15
WW-27-255-22	17	53.40	21" x24"	25½"	WW-27-255-255	18	54.55

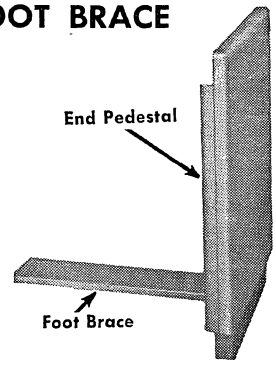
END PANELS FOR WRITING WORK SHELF

• Ball cornered • Attaches to Writing Work Shelf by means of 2 captive screws • Made of one piece of No. 18 gauge steel • Finished in Gray Hammertone

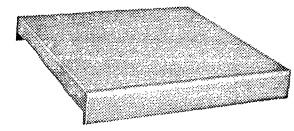
Cat. No.	Lbs.	Used With	Net Price each
CEP-15	1½	WW-15-22, 15-255; 2715-22, 2715-255	$4.20
CEP-18	2	WW-18-22, 18-255; 2718-22, 2718-255	4.45
CEP-22	2½	WW-22-22, 22-255; 2722-22, 2722-255, 255-22, 255-255, 27-255-22, 27-255-255	4.75

END PEDESTAL and FOOT BRACE
FOR DOUBLE UNIT ASSEMBLY

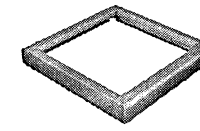
- Made of No. 18 gauge steel
- Ball cornered
- End Pedestal mounts to Work Top CWT Series or WTO Series. Foot Brace mounts to Pedestal Frame CPF Series and End Pedestal PE-901
  - Foot Brace can be mounted between two Pedestal Frames (CPF or MSF Series).
- Finished in Gray Hammertone



WORK TOPS FOR MULTIPLE ASSEMBLY — 3" HIGH



CWT Series
Solid Type



WTO Series
Open Type

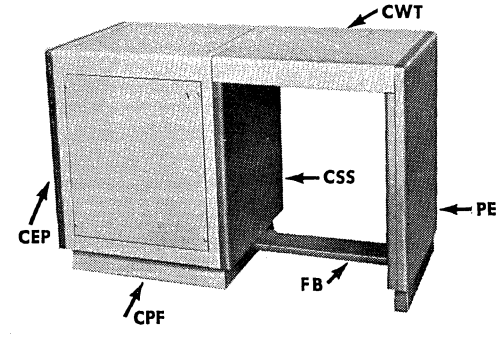
- Tops of front and rear are rounded.
- Designed for mounting between two Pedestal Frames or when used with End Pedestal (PE Series).
- USE SHORT END PANELS (CSS Series) FOR THIS INSTALLATION.
- Made of No. 16 gauge steel.
- Finished in Gray Hammertone.

WORK TOPS
Solid Type

Cat. No.	Width	Depth	Shp. Wt. Lbs.	Net Price
CWT-601	22"	22"	14	$15.60
CWT-603	27"	22"	18	18.35
CWT-601-34	22"	34¼"	20	23.15
CWT-601-18	22"	18½"	12	14.50
CWT-601-255	22"	25½"	16	16.70

Open Type

Cat. No.	Width	Depth	Panel Space	Shpg. Wt. Lbs.	Net Price
WTO-22-22	22"	22"	17½ x 19"	9½	$31.55
WTO-27-22	27"	22"	17½ x 24"	11	37.90
WTO-22-34	22"	34¼"	29¾ x 19"	12	49.10
WTO-22-255	22"	25½"	21 x 19"	12	42.30
WTO-27-255	27"	25½"	21 x 24"	13	44.55
WTO-22-18	22"	18½"	14 x 19"	9	30.10



END PEDESTAL

Cat. No.	Depth	Height	Shpg. Wt. Lbs.	Net Price
PE-901	22"	29½"	25	$35.10
PE-901-34	34¼"	29½"	30	52.65
PE-901-255	25½"	29½"	28	42.85
PE-901-18	18½"	29½"	22	33.40

FOOT BRACE

Cat. No.	Shpg. Wt. Lbs.	Used With	Net Price
FB-801	3	22" Wide Work Tops	9.95
FB-802	3½	27" Wide Work Tops	10.75

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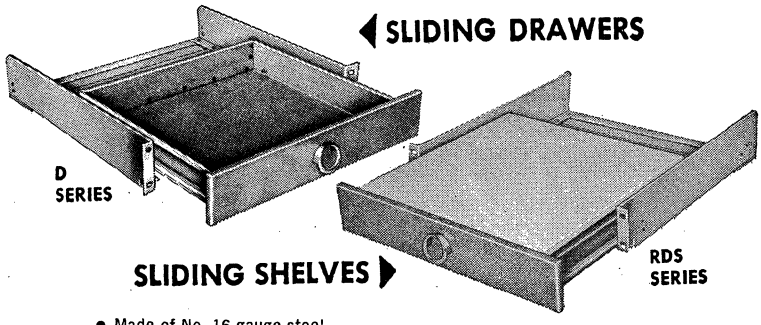
PREMIER ACCESSORIES

SLIDING DRAWERS



SLIDING SHELVES

- Made of No. 16 gauge steel.
- Mounted on suspension slides, which sustain 46 lbs.
- Drawer extends 16" from front of cabinet.
- Supplied with brackets for mounting to tapped holes of panel mounting angles.
- Furnished with attractive, round chrome-plated handle.
- Shipped knocked down with all necessary hardware for easy assembly.
- Will fit CPF, FS, MSF, POR, PRXA, RMX, FDX SERIES.
- Finished in Gray Hammertone.
- Sliding shelves supplied with Gray linen weave Formica (2-C-1) on top surface.

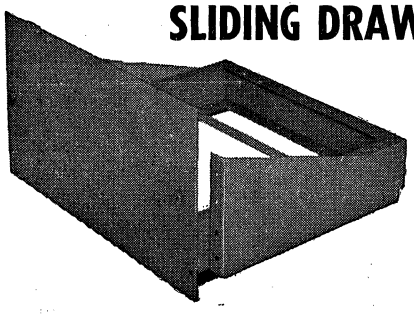
SLIDING DRAWERS

Cat. No.	Formed Panel Size	Drawer Size W	D	H	Shpg. Wt. Lbs.	Net Price
	FOR 19" WIDE PANEL SPACE					
D-1916	10⅜"x18⅞"x½"	16⅛"	16	6"	23	$21.05
D-2016	6⅞"x18⅞"x½"	16⅛"	16	6"	22	20.20
D-2316	3⅜"x18⅞"x½"	16⅛"	16	2 11/16"	16	25.25
	FOR 24" WIDE PANEL SPACE					
D-2116	10⅜"x23⅞"x½"	21⅛"	16	6"	25	24.20
D-2216	6⅞"x23⅞"x½"	21⅛"	16	6"	24	19.05
D-2416	3⅜"x23⅞"x½"	21⅛"	16	2 11/16"	17	21.05

SLIDING SHELVES

Cat. No.	Formed Panel Size	Shelf Size	Shpg. Wt. Lbs.	Net Price
	FOR 19" WIDE PANEL SPACE			
RDS-319-22	3⅜"x18⅞"x½"	16 9/16"x15 15/16"	20	$38.55
	FOR 24" WIDE PANEL SPACE			
RDS-324-22	3⅜"x23⅞"x½"	21 3/16"x15 15/16"	22	49.10

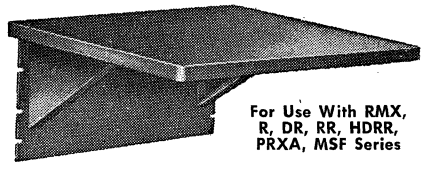
SLIDING DRAWERS TO FIT STANDARD 19" RACKS 15¼" AND 18" DEEP



Panel made of #12 gauge steel; chassis of #16 steel and has a 1" flange on top and bottom to accommodate plywood for the record changer. The chassis is mounted on ball-bearing suspension slides which can sustain 40 lbs. Drawer extends 11" from front of cabinet. Entire unit mounts on angle brackets which can be bolted on to the cabinet. Supplied knocked down with all necessary bolts for easy assembly. Locks in place by means of 2 latches. Finished in Gray Hammertone.

Catalog No.	Will Fit Rack No.	Panel Size	Chassis Size W. D. H.	Ship. Wt. Lbs.	Net Price
RD-10	R, DCR-18, SDR-18, RMX & FDX Models	10⅜" x 18⅞"	17" x 16" x 3"	15	$20.15
RD-12		12⅛" x 18⅞"	17" x 16" x 4"	18	22.30
RD-10-14	DCR, SDR, DRK, RMX & FDX, R, DCR-18, SDR-18 Models	10⅜" x 18⅞"	17" x 14" x 3"	14½	19.95
RD-12-14		12⅛" x 18⅞"	17" x 14" x 4"	17	22.15

DESK PANELS TO FIT STANDARD 19" WIDE PANEL RACKS



For Use With RMX, R, DR, RR, HDRR, PRXA, MSF Series

- Made of No. 16 gauge steel and bolted to a standard steel panel 10½"x19".
- Front corners are rounded.
- Finished in Gray Hammertone.
- SHIPPED KNOCKED DOWN WITH ALL NECESSARY HARDWARE FOR EASY ASSEMBLY.

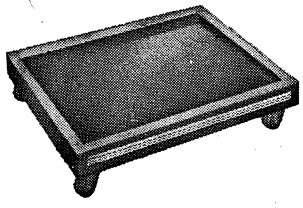
Cat. No.	Width	Depth	Ship. Wt. Lbs.	Net Price
DP-1016	22"	16"	20	$20.90
DP-1020	22"	20"	22	21.35

SHELVES TO FIT 19" WIDE PANEL RACKS

Made of one piece of #16 Ga. Cold Rolled Steel, 1" high. Holes are punched on sides for mounting to rack. Finished in Gray Hammertone.

Cat. No.	Will Fit Rack No.	Shelf Size	Shp. Wt. Lbs.	Net Price
RS-1106	All 15¼" SDR, DCR & DRK Racks	12x21 5/16	7	$3.60
RS-1107	R & DR Racks	15x21 13/16	7	4.50
RS-1108	FXR	13x21 13/16	7	4.05
RS-1111	MDK Series - 21¾" wide	10x21 5/16	6	3.50
RS-1113	18" deep DCR & SDR Racks	16x21 5/16	7	4.65

ROLLER TRUCKS FOR RACKS



Made from 1 piece of No. 16 ga. Cold Rolled Steel. Supplied with either 2" or 3" diameter casters and bolts for easy assembly. Finished in Gray Hammertone with a red striped chrome molding.

With 2" Dia Casters Cat. No.	Ship. Wt. lbs.	Net Price	Will Fit Rack No.	Inside Dimensions	With 3" Dia. Casters Cat. No.	Ship. Wt. lbs.	Net Price
RT-1100	22	$12.20	All 15¼" Racks	15¾ x 22¼"	RT-1100-3	24	$18.30
RT-1101	22	15.45	R, DR, FXR, 18" deep RMX, FDX, DCR and SDR Racks	18¾ x 22¾"	RT-1101-3	24	21.50
RT-1103	23	18.95	24" deep FDX & RMX Racks	22½ x 24½"	RT-1103-3	25	25.25
RT-1110	25	28.55	RMX-27 & FDX-27 Series	27½ x 24½"	RT-1110-3	27	34.95
RT-1111	30	36.75	RMX-7030	33½ x 24½"	RT-1111-3	32	42.85

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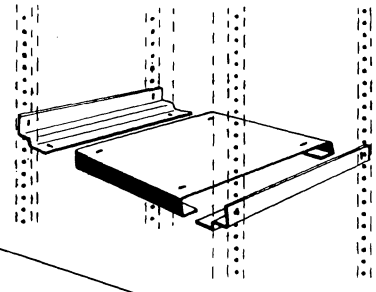
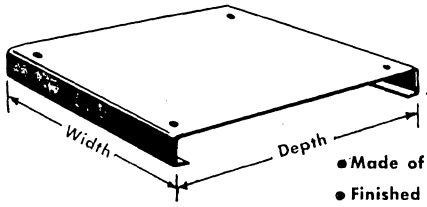


SHELF AND CHASSIS SUPPORT ANGLES IN POSITION



SHELVES

- Made of No. 16 Gauge Steel
- Finished in Gray Hammertone

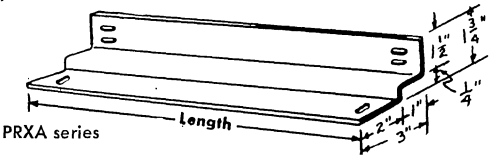
S SERIES

Cat. No.	Depth	Width	To Fit Frames		Net Price
S-18-22	14¼"	17½"	22"Wx18"D	18" FDX, RMX	$3.95
S-22-22	20⅜"	17½"	22"Wx22"D	FA	4.60
S-27-22	20⅜"	22½"	27"Wx22"D	FA	5.95
S-22-255	23⅞"	17½"	22"Wx25½"D	FA	5.40
S-27-255	23⅞"	22½"	27"Wx25½"D	FA	6.80
S-22-18	16⅜"	17½"	22"Wx18"D	PRXA	3.95
S-27-18	16⅜"	22½"	27"Wx18"D	PRXA	4.85
S-33-18	16⅜"	28½"	33"Wx18"D	PRXA	6.40
S-22-24	22⅜"	17½"	22"Wx24"D	PRXA	5.10
S-27-24	22⅜"	22½"	27"Wx24"D	PRXA	6.40
S-33-24	22⅜"	28½"	33"Wx24"D	PRXA	7.95
S-33-22	20⅜"	28½"	33"Wx24"D	RMX-7030	7.90

CHASSIS SUPPORT ANGLES

- Made of No. 12 ga. steel
- Accommodates Shelf (S Series)
- Finished in Gray Hammertone
- Mounts to tapped holes on side legs of Panel Mounting Angles of FA & PRXA series

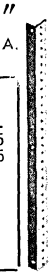
CSA SERIES



Cat. No.	Length	To Fit Frames	Net Price Pair
CSA-16	14⅛"	18" deep FDX, RMX	$4.95
CSA-18	16⅛"	18" deep PRXA, CPF	5.25
CSA-22	20⅛"	22" deep FA, CPF, MSF, FS & 24" deep FDX & RMX	5.85
CSA-24	22⅛"	24" deep PRXA	6.15
CSA-255	23⅝"	25½" deep FA, CPF, FS & MSF	6.40

PANEL MOUNTING ANGLES—1¼" x 1¼"

Made of #12 Ga. (.104) thick steel punched and tapped 10–32 on E.I.A. spacings (⅝-⅝-½) on both legs. Finished in Gray Hammertone.

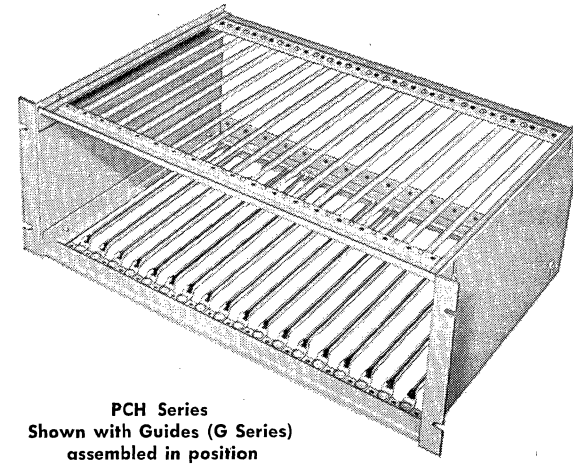


PANEL MOUNTING ANGLES			TO FIT RACKS
Cat. No.	Height	Net Price Pr.	
PMA-212-12	21"	$8.45	CPF-101, 103, MSF-21-22 & MSF-21-255
PMA-282-12	28"	11.10	CPF-102, 104, MSF-28-22 & MSF-28-255
PMA-362-12	36¾"	12.85	PRXA, FDX, RMX
PMA-422-12	42"	14.70	FA, PRXA, FS, FDX, RMX
PMA-522-12	52½"	16.95	FA, PRXA — Supplied in pairs
PMA-612-12	61¼"	18.40	FA, PRXA, FDX, RMX
PMA-702-12	70"	20.65	FA, PRXA, FDX, RMX
PMA-772-12	77"	22.25	FA, PRXA, FDX, RMX

PREMIER PRINTED CIRCUIT CARD HOLDER

TO FIT STANDARD 19" and 24" WIDE RACKS FOR 5¼" — 7" — 8¾" PANEL HEIGHTS

- To accommodate Printed Circuit Cards from 4½" to 14½" deep.
- 19" wide holder accommodates up to 32 cards, 24" wide holder up to 42 cards.
- Unit shipped unassembled with all necessary hardware.
- Guides are supplied with push rivets for easy positioning.
- Guide (G Series) sold in pairs and ordered as a separate item.
- Frames made of No. 16 gauge steel and finished in Gray Hammertone.
- Guides made of No. 16 gauge steel and zinc plated with colored iridite.
- Supplied with two rear connector panels made of ⅛" aluminum with natural finish. Holes tapped 4-40 on .200" centers.
- Vinyl coated guides for insulation available at additional cost. If required, specify letter V after number.



PCH Series
Shown with Guides (G Series) assembled in position

FOR 19" WIDE PANEL SPACE					FOR 24" WIDE PANEL SPACE		
	FRAME — 19" WIDE Rear Connector Panels 1½"x16¹¹⁄₁₆"			FRAME — 24" WIDE Rear Connector Panels — 1½"x21¹¹⁄₁₆"	GUIDES		
Panel Height	Cat. No.	Net Price	Overall Depth	Cat. No.	Net Price	Cat. No.	Length	Net Price Pair
5¼"	PCH-519-6	$14.00	6¼"	PCH-524-6	$16.90	G-6	4⅛"	$.35
	PCH-519-8	15.20	8¼"	PCH-524-8	18.10	G-8	6⅛"	.40
	PCH-519-10	16.35	10"	PCH-524-10	19.25	G-10	7⅞"	.50
	PCH-519-12	17.50	12"	PCH-524-12	20.45	G-12	9⅞"	.60
	PCH-519-14	18.65	14"	PCH-524-14	21.55	G-14	11⅞"	.65
	PCH-519-16	19.85	16"	PCH-524-16	22.75	G-16	13⅞"	.70
7"	PCH-719-6	15.20	6¼"	PCH-724-6	18.10	G-6	4⅛"	.35
	PCH-719-8	16.35	8¼"	PCH-724-8	19.25	G-8	6⅛"	.40
	PCH-719-10	17.50	10"	PCH-724-10	20.45	G-10	7⅞"	.50
	PCH-719-12	18.65	12"	PCH-724-12	21.55	G-12	9⅞"	.60
	PCH-719-14	19.85	14"	PCH-724-14	22.15	G-14	11⅞"	.65
	PCH-719-16	21.00	16"	PCH-724-16	23.95	G-16	13⅞"	.70
8¾"	PCH-819-6	16.35	6¼"	PCH-824-6	19.25	G-6	4⅛"	.35
	PCH-819-8	17.50	8¼"	PCH-824-8	20.45	G-8	6⅛"	.40
	PCH-819-10	18.65	10"	PCH-824-10	21.55	G-10	7⅞"	.50
	PCH-819-12	19.85	12"	PCH-824-12	22.75	G-12	9⅞"	.60
	PCH-819-14	21.00	14"	PCH-824-14	23.95	G-14	11⅞"	.65
	PCH-819-16	22.15	16"	PCH-824-16	25.05	G-16	13⅞"	.70

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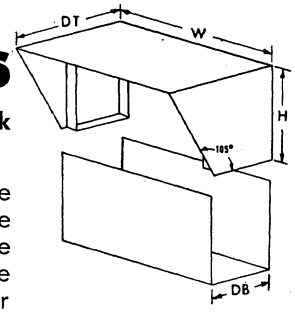
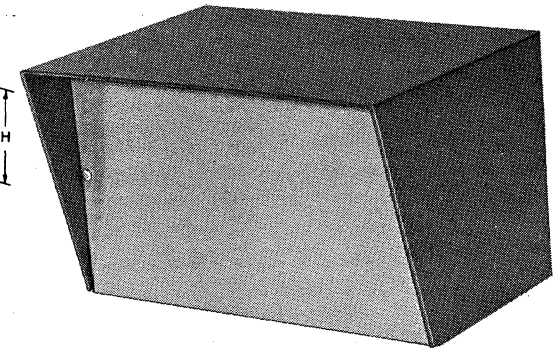
SLOPING COMPACT CASES

Give your equipment a new look with the new DESIGNER SERIES!

In addition to the standard two-tone metallic gray enamelled finish, the DESIGNER SERIES is now available with a black outer shell and a choice of Blue, Olive or Gold inserts. Other color combinations are optional. Specify insert color when ordering.

- Two piece case made of No. 20 gauge cold rolled steel
- Top of unit extends beyond the front panel
- Supplied with necessary screws for assembly





Standard Cat. No.	Net Price	Standard Cat. No.*	Net Price	OVERALL DIMENSIONS Height (H)	Width (W)	Depth Top (DT)	Depth Bottom (DB)
SCC-3000	$5.75	DSCC-3000	$6.35	6″	10″	7″	5⅛″
SCC-3001	6.30	DSCC-3001	6.95	7″	12″	8″	5¾″
SCC-3002	3.25	DSCC-3002	3.60	3″	8″	5″	3⅞″
SCC-3003	3.50	DSCC-3003	3.85	5″	5″	5″	3⅜″

DSCC — Designer Series

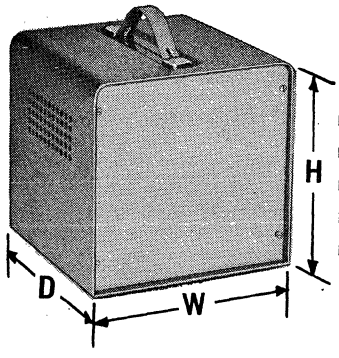
SCC — Standard Series

*For BLUE, OLIVE or GOLD INSERTS ADD B, O or G after Designer Series Number.

COMPACT CASES

with ROUNDED CORNERS ON BOTH FRONT AND REAR OF TOP

In addition to the standard two-tone metallic gray enamelled finish, the DESIGNER SERIES is now available with a black outer shell and a choice of Blue, Olive or Gold inserts. Other color combinations are optional. Specify insert color when ordering.



DCC — Designer Series

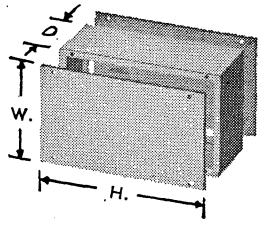
CC — Standard Series

- Body made of 20 gauge steel
- Front Panel made of .064 aluminum
- Recessed Handle supplied on top
- Perforated Sides for ventilation
- Base supplied with four rubber feet
- Panel fits into ½″ recess
- Two-inch opening in rear for leads
- Jet Black outer shell with choice of Blue, Olive or Gold front panel inserts. Other color combinations are optional
- Supplied with necessary screws for assembly
- Welded construction

Standard Cat. No.	Net Price	Designer Cat. No.*	Net Price	OVERALL DIMENSIONS Depth	Width	Height	Use Chassis	Wt. in Lbs.
CC-2000	$ 9.80	DCC-2000	$10.80	8″	6⅛″	8″	ACH 426 5 x 7 x 2	4
CC-2001	10.75	DCC-2001	11.85	8″	8⅛″	8″	ACH 403 7 x 7 x 2	5
CC-2002	11.50	DCC-2002	12.65	8″	10⅛″	8″	ACH 404 7 x 9 x 2	6
CC-2003	12.45	DCC-2003	13.70	12″	8⅛″	9″	ACH 405 7 x 11 x 2	7
CC-2004	14.75	DCC-2004	16.25	18″	11⅛″	11″	ACH 415 10 x 17 x 3	10
CC-2005	16.75	DCC-2005	18.45	18″	14⅛″	12″	ACH 423 13 x 17 x 3	11

* For BLUE, OLIVE or GOLD INSERTS ADD B, O or G after Designer Series Number

UTILITY CASES



ALUMINUM

Constructed of #16 ga. (.051) aluminum with ½″ flanged edges, spot welded corners and two removable flat covers. Natural Aluminum finish or Gray Hammertone.

Natural Aluminum Cat. No.	Net Price	Size H. W. D.	Ship. Wt. Lbs.	Gray Hammertone Cat. No.	Net Price
AC-442	$1.60	4 4 2″	½	PAC-442	$1.75
AC-453	1.70	4 5 3″	¾	PAC-453	2.00
AC-564	2.00	5 6 4″	1	PAC-564	2.45
AC-596	3.35	5 9 6″	1½	PAC-596	3.70
AC-666	2.60	6 6 6″	1½	PAC-666	2.90
AC-1276	4.60	12 7 6″	2¼	PAC-1276	5.05
AC-1597	6.35	15 9 7″	3½	PAC-1597	7.00
AC-695	3.25	6 9 5″	1½	PAC-695	3.70

STEEL

Constructed of #20 ga. sheet steel with ½″ flanged edges, spot welded corners, and two removable flat covers. Finished in Black Wrinkle.

Catalog No.	H.	W.	D.	Ship. Wt. Lbs.	Net Price
C-442	4″	4″	2″	⅞	$1.55
C-453	4″	5″	3″	1¼	1.65
C-564	5″	6″	4″	1¾	1.95
C-596	5″	9″	6″	3	2.75
C-666	6″	6″	6″	2¼	2.45
C-695	6″	9″	5″	3	2.75
C-754	7″	5″	4″	2	2.30
C-8101	10″	10″	8″	6	4.65
C-1276	12″	7″	6″	4½	3.75

PREMIER METAL PRODUCTS COMPANY

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PREMIER PAGE 23 **ALL PRICES 10% HIGHER WEST OF MISSISSIPPI**

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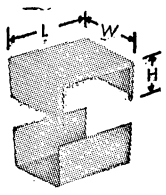
PREMIER CASES



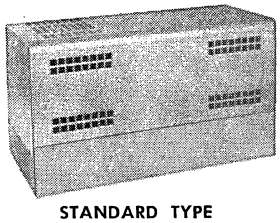
ALUMINUM MINIATURE UTILITY CASES

A two piece case made of #16 Ga. (.051) aluminum. Natural Aluminum Finish or Gray Hammertone.

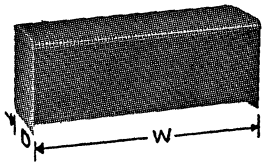
Natural Aluminum Cat. No.	Net Price	L.	W.	H.	Ship Wt. Lbs.	Gray Hammertone Cat. No.	Net Price
AMC-1000*	$ .75	2¾"	2⅛"	1⅝"	¼	PMC-1000*	$ .85
AMC-1001*	.78	3¼"	2⅛"	1⅝"	¼	PMC-1001*	.90
AMC-1002*	.80	4"	2⅛"	1⅝"	¼	PMC-1002*	.95
AMC-1003	1.00	4"	2¼"	2¼"	⅜	PMC-1003	1.15
AMC-1004	1.05	5"	2¼"	2¼"	½	PMC-1004	1.15
AMC-1005	1.25	5"	4"	3"	½	PMC-1005	1.40
AMC-1006	1.15	5¼"	3"	2⅛"	1	PMC-1006	1.25
AMC-1007	1.50	6"	5"	4"	¾	PMC-1007	1.70
AMC-1008	1.65	7"	5"	3"	1⅛	PMC-1008	1.90
AMC-1009	2.45	8"	6"	3½"	1½	PMC-1009	2.60
AMC-1010	3.05	10"	6"	3½"	1¾	PMC-1010	3.20
AMC-1011	3.40	12"	7"	4"	2	PMC-1011	3.80
AMC-1012	4.05	17"	5"	4"	½	PMC-1012	4.45
AMC-1013	1.25	10"	2"	1⅝"	¼	PMC-1013	1.45
AMC-1014	1.65	12"	2½"	2¼"	¼	PMC-1014	1.85
AMC-1015	1.05	4"	2"	2¾"	⅜	PMC-1015	1.30
AMC-1016	1.05	4¼"	2¼"	1½"	¼	PMC-1016	1.30

*18 Gauge (.040)

AMPLIFIER FOUNDATIONS



STANDARD TYPE



PERFORATED TYPE COVERS

STANDARD TYPE

TOP COVER has perforations, rounded corners and is 6" high. Finished in Gray Hammertone. Also available in Blue-Gray Wrinkle.

CHASSIS constructed of one piece with corners spot-welded. Finished in Gray Hammertone. Also available in Black Wrinkle.

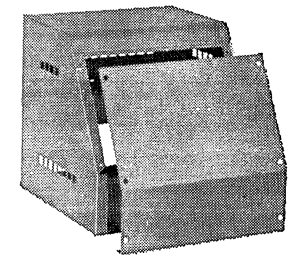
Cat. No.	Chassis Size	Ship. Wt. Lbs.	Net Price
AF-510	5" x 10" x 3"	5	$7.00
AF-615	6" x 14" x 3"	7	7.75
AF-1017	10" x 17" x 3"	11	9.75
AF-1317	13" x 17" x 3"	13	11.00

PERFORATED TYPE COVERS

TOP COVER made of perforated steel and has rounded corners with solid ends. 6" high except PC-57*. Finished in Gray Hammertone. Also available in Blue-Gray Wrinkle.

Cat. No.	W.	D.	Use Chassis No.	Ship. Wt. Lbs.	Net Price
*PC-57	7"	5"	ACH or CH-426	1	$3.95
PC-510	10"	5"	ACH or CH-401	1¾	4.05
PC-615	14"	6"	ACH or CH-402	2⅜	4.70
PC-717	17"	7"	ACH or CH-409	3	5.15
PC-1012	12"	10"	ACH or CH-412	3	5.25
PC-1017	17"	10"	ACH or CH-415	3¼	6.35

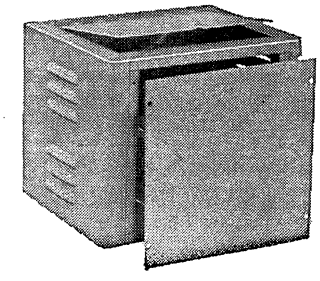
* 4" high.



SLOPING FRONT

Cabinet has rounded top corners and a removable front panel. Back of cabinet is perforated and has opening for leads. Constructed of #20 gauge steel. Finished in Gray Hammertone. Also available in Blue-Gray Wrinkle.

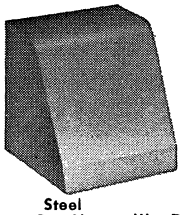
Catalog No.	H. W. D.	Use Chassis No.	Ship. Wt. Lbs.	Net Price
SFC-500	8x 8⅛x 8"	CH-403	6	$5.45
SFC-501	8x10⅛x 8"	CH-404	7	6.10
SFC-502	8x14⅛x 8"	CH-406	8	6.50
SFC-503	9x18⅛x 8"	CH-409	10	9.35
SFC-504	12x18⅛x12"	CH-415	14	11.95



HINGED TOP ROUNDED CORNER TYPE

Cabinet has front vertical rounded corners and a removable front panel. Back of cabinet is louvred and has opening for leads. Constructed of #20 gauge steel. Finished in Gray Hammertone. Also available in Blue-Gray Wrinkle.

Catalog No.	H. W. D.	Use Panel Size	Use Chassis No.	Ship Wt. Lbs.	Net Price
HTC-200	8x10¾₁₆x 8"	8x 8"	CH-403	6	$6.45
HTC-201	8x12¾₁₆x 8"	8x10"	CH-404	6½	6.75
HTC-202	8x16¾₁₆x 8"	8x14"	CH-406	11	8.45
HTC-203	9x17¾₁₆x11"	9x15"	CH-413	6½	12.35
HTC-204	12x20¾₁₆x12"	12x18"	CH-415	13½	14.60
HTC-205	8x14¾₁₆x 8"	8x12"	CH-405	7¼	7.25

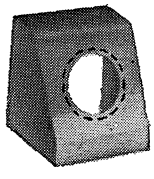


STEEL and ALUMINUM Sloping Panel Cases

ROUND TOP CORNERS WITH SLOPING FRONT

No. 20 gauge Steel—Black Wrinkle Finish. No. 18 gauge (.040) Aluminum—Natural Aluminum finish.

Steel Cat. No.	W.	D.	H.	Ship. Wt. Lbs.	Net Price	Alum. Cat. No.	Net Price
SPC-1200	4¾₁₆	4¼₁₆	4⅝₁₆	¾	$1.35	ASPC-1200	$2.15
SPC-1201	5¾₁₆	4¼₁₆	4⅝₁₆	1	1.55	ASPC-1201	2.25
SPC-1202	6¾₁₆	4¼₁₆	4⅝₁₆	1	1.75	ASPC-1202	2.35
SPC-1203	7¾₁₆	4¼₁₆	4⅝₁₆	1½	2.10	ASPC-1203	2.45



2 in 1 STEEL & ALUMINUM METER CASES

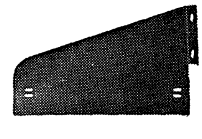
Center Hole for 2" meter (2-3/16" dia.) increases to 3" (2-13/16" dia). meter hole by simply removing a knock-out. Size: 4¾₁₆x4⅝₁₆x-4⅛". Supplied with two ½" dia. knockouts. #20 gauge steel—Black Wrinkle Finish, #18 gauge (.040) Aluminum — Natural Aluminum Finish.

	Cat. No.	Sh. Wt.	Net Price
ALUMINUM	ASPC-23	¾	$2.15
STEEL	SPC-23	¾	1.60

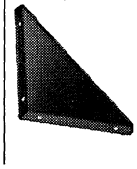
CHASSIS MOUNTING BRACKETS

- Constructed of No. 16 gauge steel.
- Finished in Gray Hammertone
- Sold in pairs only.

STANDARD TYPE



	Cat. No.	H.	D.	Ship. Wt. Lbs.	Net Price
Notched for 3" Chassis	CB-78	6½"	8"	1½	$1.30
	CB-710	6½"	10"	1¾	1.60
	CB-711	6½"	11"	2	1.75
	CB-712	6½"	12"	2⅛	1.90
	CB-713	6½"	13"	2¼	2.00
	CB-717	6½"	17"	3	3.20
Notched for 4" Chassis	CB-810	8½"	10"	2⅜	2.40
	CB-813	8½"	13"	3	2.55



TRIANGULAR TYPE

Cat. No.	Height	Depth	Ship. Wt. Lbs.	Net Price
TCB-55	5"	5"	1	$1.20
TCB-77	7"	7"	1	1.40
TCB-99	9"	9"	1½	1.70

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PREMIER PAGE 24

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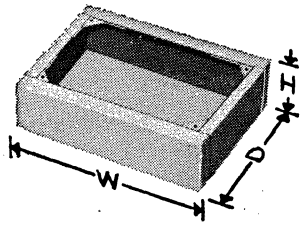
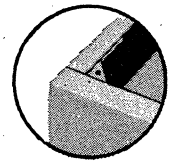
PREMIER STEEL and ALUMINUM CHASSIS

STEEL and ALUMINUM BLANK



EXCLUSIVE PREMIER FEATURE!



View of Chassis Showing Gusset Spot-Welded in Corner.

Chassis are of one piece construction with gussets spot-welded to the bottom flanges for additional strength. Corners have rounded effect and single inside thickness for mounting components. Bottom edges are flanged in on four sides and punched for bottom plates.

Steel chassis are zinc plated and made of No. 20 gauge cold rolled steel, except those marked * which are of No. 16 gauge.

Aluminum chassis are made of No. 18 gauge (.040) aluminum, except those marked * which are of No. 14 gauge (.064). Natural Aluminum Finish.

ALUMINUM Cat. No.	Ship. Wt. Lbs.	Net Price	Size D.	W.	H.	STEEL Cat. No.	Ship. Wt. Lbs.	Net Price
ACH-400	½	$1.70	5½"	9½"	1½"	CH-400	1	$1.90
ACH-401	¾	1.85	5"	10"	3"	CH-401	1½	2.15
ACH-402	1	2.90	6"	14"	3"	CH-402	2½	2.35
ACH-403	½	1.65	7"	7"	2"	CH-403	1¼	1.90
ACH-404	½	1.75	7"	9"	2"	CH-404	1½	1.90
ACH-405	¾	1.90	7"	11"	2"	CH-405	1⅞	2.05
ACH-406	¾	2.05	7"	13"	2"	CH-406	2	2.25
ACH-407	1	3.25	7"	15"	3"	CH-407	2¾	2.75
ACH-408	1	2.85	4"	17"	3"	CH-408	2¼	2.55
ACH-409	1½	3.40	7"	17"	3"	CH-409	3⅛	3.05
ACH-410	1⅛	3.25	8"	17"	2"	CH-410	2¾	2.85
ACH-411	1½	3.55	8"	17"	3"	CH-411	5¼	3.15
ACH-412	1¼	3.15	10"	12"	3"	CH-412	2¾	2.70
ACH-413	1¼	3.80	10"	14"	3"	CH-413	3¼	3.00
ACH-414	1¼	3.65	10"	17"	2"	CH-414	3¼	2.95
ACH-415*	1⅞	4.05	10"	17"	3"	CH-415*	6	3.50
ACH-416*	2	5.15	10"	17"	4"	CH-416*	7½	4.30
ACH-417*	1¾	3.95	11"	17"	2"	CH-417*	5¼	3.80
ACH-418*	2	4.80	11"	17"	3"	CH-418*	6¼	4.20
ACH-419*	1⅞	4.20	12"	17"	2"	CH-419*	5	3.65
ACH-420*	2⅛	5.05	12"	17"	3"	CH-420*	7	4.40
ACH-421*	2⅞	5.75	12"	17"	4"	CH-421*	8½	4.75
ACH-422*	1⅞	4.40	13"	17"	2"	CH-422*	6	4.35
ACH-423*	2⅛	5.25	13"	17"	3"	CH-423*	7	4.90
ACH-424*	2½	6.35	13"	17"	4"	CH-424*	10	5.75
ACH-425	⅞	2.30	7"	11"	3"	CH-425	2¼	2.75
ACH-426	¼	1.45	5"	7"	2"	CH-426	1	1.75
ACH-427	1¼	3.50	8½"	15"	3"	CH-427	3	3.15
ACH-428	¼	1.70	5"	7"	3"	CH-428	1¼	2.10
ACH-429	¾	2.10	5"	13"	3"	CH-429	2	2.50
ACH-430	1	2.60	8"	12"	3"	CH-430	2½	2.70
ACH-431	¼	1.40	4"	6"	2"	CH-431	1	1.75
ACH-432	¼	1.60	4"	6"	3"	CH-432	1	2.20
ACH-433	⅞	2.40	7"	12"	3"	CH-433	2½	2.60
ACH-434	1	3.25	6"	17"	3"	CH-434	4	2.85
ACH-435*	2½	6.25	10"	23"	3"	CH-435*	10	4.95
ACH-436	¼	1.35	4"	6"	1½"	CH-436	¾	1.60
ACH-437	⅜	1.50	4"	8"	2"	CH-437	1	1.65
ACH-438*	3	11.50	17"	17"	4"	CH-438*	13	8.25
—	—	—	10"	17"	5"	CH-439*	8½	6.25
—	—	—	13"	17"	5"	CH-440*	11	7.05
ACH-441	1	2.30	8"	10"	2½"	CH-441	2½	2.20

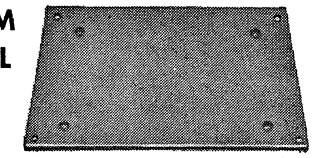
*Made of No. 14 gauge (.064) aluminum.

For Chassis Mounting Brackets See Premier Page 24

*Made of No. 16 gauge steel.

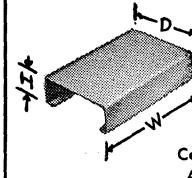
For Steel and Aluminum Panels See Premier Page 26

ALUMINUM AND STEEL BOTTOM PLATES



The bottom plates have holes to match the chassis and have 4 pressed dimples. Steel plates are zinc plated and made of No. 20 gauge steel. Aluminum plates made of No. 18 gauge (.040). Natural aluminum finish.

ALUMINUM Cat. No.	Net Price	Size	STEEL Cat. No.	Ship. Wt. Lbs.	Net Price
ABP-400	$0.95	5½" x 9½"	BP-400	1	$0.80
ABP-401	.95	5" x 10"	BP-401	1	.85
ABP-402	1.45	6" x 14"	BP-402	1	1.00
ABP-403	.95	7" x 7"	BP-403	1	.80
ABP-404	1.00	7" x 9"	BP-404	1	.85
ABP-405	1.15	7" x 11"	BP-405	1	.95
ABP-406	1.40	7" x 13"	BP-406	2	1.00
ABP-407	1.45	7" x 15"	BP-407	2	1.05
ABP-408	1.45	4" x 17"	BP-408	2	1.15
ABP-409	1.55	7" x 17"	BP-409	2	1.45
ABP-410	1.70	8" x 17"	BP-410	2	1.55
ABP-412	1.65	10" x 12"	BP-412	2	1.45
ABP-413	1.75	10" x 14"	BP-413	2	1.45
ABP-414	1.85	10" x 17"	BP-414	2	1.65
ABP-418	2.50	11" x 17"	BP-418	3	1.75
ABP-419	2.60	12" x 17"	BP-419	3	1.85
ABP-422	2.65	13" x 17"	BP-422	3	1.95
ABP-423	.95	5" x 7"	BP-423	1	.75
ABP-424	1.10	5" x 13"	BP-424	1	1.00
ABP-425	1.45	8" x 12"	BP-425	2	1.35
ABP-426	.95	4" x 6"	BP-426	1	.65
ABP-427	1.30	7" x 12"	BP-427	2	1.25
ABP-428	1.50	6" x 17"	BP-428	2	1.35
ABP-429	2.85	10" x 23"	BP-429	2	2.30
ABP-430	1.05	4" x 8"	BP-430	1	.85
ABP-431	2.85	17" x 17"	BP-431	4	2.45
ABP-432	2.55	8½" x 15"	BP-432	1½	1.85
ABP-433	1.25	8" x 10"	BP-433	1	1.15



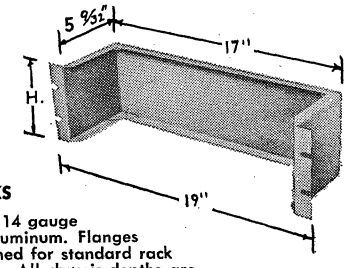
ALUMINUM OPEN END CHASSIS

Made of 18 ga. (.040) Aluminum.

Catalog No.	Depth	Width	Height	Ship. Wt. Lbs.	Net Price
ACH-1350	2⅝"	2¾"	1¼"	¼	$0.50
ACH-1351	1¾"	3⅛"	1"	¼	.50
ACH-1352	3¼"	4½"	2"	¼	.55
ACH-1353	2¾"	4⅛"	1"	¼	.55
ACH-1354	3¾"	4⅛"	1½"	¼	.55
ACH-1355	3"	6⅛"	1¼"	¼	.65
ACH-1356	5¾"	4⅞"	1½"	¼	.70
ACH-1357	4"	3⅛"	1"	½	.55
ACH-1358	4"	4⅛"	1"	½	.60
ACH-1359	4"	5⅛"	1"	½	.60
ACH-1360	4"	6⅛"	1"	½	.70

ALUMINUM VERTICAL PANEL CHASSIS

To FIT 19" STANDARD RACKS



Made of 14 gauge (.064) Aluminum. Flanges are notched for standard rack mounting. All chassis depths are 5-9/32". Gussets are spot welded in each corner for greater strength. Etched finish.

Catalog No.	Height	Ship. Wt. Lbs.	Net Price
ACH-1200	1¾"	¾	$3.00
ACH-1201	3½"	1¾	3.25
ACH-1202	5¼"	1½	3.60
ACH-1203	7"	2	4.05
ACH-1204	8¾"	2¼	4.75
ACH-1205	10½"	2¾	5.35
ACH-1206	12¼"	3	5.90
ACH-1207	14"	3¼	6.75

FOR SIDE HINGED PANELS (SHP SERIES) SEE PREMIER PAGE 26

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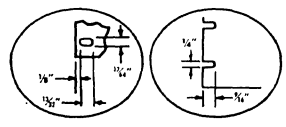
PREMIER STEEL & ALUMINUM RACK PANELS

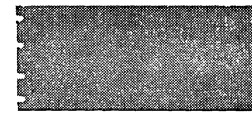
TWIN-TEX REVERSIBLE

19" wide painted panels are finished in REVERSIBLE HAMMERTONE-WRINKLE
One side is Gray Hammertone — the other side is Black Wrinkle.
9½", 24" and 30" WIDE PANELS are finished on both sides in either Gray Hammertone or Black Wrinkle. Specify color when ordering.

MASKED ALUMINUM PANELS
Made of bright natural aluminum covered on both sides with special self-adhesive paper. Drilling or milling can be done on paper in place, affording complete damage protection. Paper is removed simply by peeling.

NOTCHING
All panels are notched according to E.I.A. Standards and will fit any rack having multiple 5/8 - 5/8 - 1/2 or 1¼ - ½ spacings.
All panels have open slots except the 1¾" & 3½" high, which have closed slots for rigidity.





BLANK RACK PANELS

9½" - 19" - 24" - 30" WIDTHS

MATERIAL
Steel.....#12 Ga. (.104) Cold Rolled
Aluminum.....⅛" thick — 5005-H36 Alloy
Aluminum.....3/16" thick — 6061-T6 Alloy

***NOTE: All panels are cut 1/32" less than nominal height.**

ALUMINUM
Made of ⅛" Thick Aluminum **9½" Wide**

Cat. No.	*Nominal Height	Ship. Wt.	Net Price
ARP-195	1¾"	¼	$1.25
ARP-395	3½"	½	1.45
ARP-595	5¼"	¾	2.15
ARP-795	7"	1	2.60
ARP-895	8¾"	1¼	3.10
ARP-1095	10½"	1½	3.80
ARP-1295	12¼"	1¾	5.50
ARP-1495	14"	2	6.75

Modifications Available

- ⅛" thick Aluminum Panels available in 6061T6 alloy.
- Panels can be finished in same color on both sides.
- Special finishes, including unfinished.
- Special Heights.

19" WIDE

*Nominal Height	Masked Aluminum — ⅛" Thick			Masked Aluminum — 3 16" Thick		
	Cat. No.	Shipping Wt. Lbs.	Net Price	Cat. No.	Shipping Wt. Lbs.	Net Price
1¾"	MAP-119	½	$1.25	MAP-119-36	¾	$2.20
3½"	MAP-319	1	1.70	MAP-319-36	1½	3.00
5¼"	MAP-519	1½	2.30	MAP-519-36	2½	4.60
7"	MAP-719	2	2.75	MAP-719-36	3	5.50
8¾"	MAP-819	2½	3.40	MAP-819-36	3¾	6.60
10½"	MAP-1019	3	4.20	MAP-1019-36	4½	7.70
12¼"	MAP-1219	3½	4.85	MAP-1219-36	5	9.10
14"	MAP-1419	4	5.60	MAP-1419-36	6	11.20
15¾"	MAP-1519	4	6.25	MAP-1519-36	6	12.40
17½"	MAP-1719	4¾	6.85	MAP-1719-36	7	13.20
19¼"	MAP-1919	5	7.60	MAP-1919-36	7½	14.05
21"	MAP-2119	6	8.25	MAP-2119-36	9	15.95
26¼"	MAP-2619	7½	10.75	MAP-2619-36	11½	20.35
31½"	MAP-3119	8½	12.35	MAP-3119-36	13½	23.10
35"	MAP-3519	10	14.60	MAP-3519-36	15	28.60

*Nominal Height	Painted Aluminum — ⅛" Thick			Painted Aluminum — 3/16" Thick			Painted Steel — No. 12 Gauge		
	Cat. No.	Shipping Wt. Lbs.	Net Price	Cat. No.	Shipping Wt. Lbs.	Net Price	Cat. No.	Shipping Wt. Lbs.	Net Price
1¾"	ARP-119	½	$1.30	ARP-119-36	¾	$2.25	RP-119	1	$1.20
3½"	ARP-319	1	1.75	ARP-319-36	1½	2.85	RP-319	2	1.40
5¼"	ARP-519	1½	2.50	ARP-519-36	2½	3.95	RP-519	3	1.75
7"	ARP-719	2	3.05	ARP-719-36	3	5.50	RP-719	4	2.00
8¾"	ARP-819	2½	3.50	ARP-819-36	3¾	5.80	RP-819	5¼	2.40
10½"	ARP-1019	3	4.45	ARP-1019-36	4½	7.80	RP-1019	6¼	2.85
12¼"	ARP-1219	3½	4.95	ARP-1219-36	5	9.10	RP-1219	7¼	3.25
14"	ARP-1419	4	5.90	ARP-1419-36	6	10.40	RP-1419	8¼	3.75
15¾"	ARP-1519	4	6.60	ARP-1519-36	6	11.45	RP-1519	9	4.20
17½"	ARP-1719	4¾	7.20	ARP-1719-36	7	12.75	RP-1719	10½	4.70
19¼"	ARP-1919	5	7.75	ARP-1919-36	7½	14.10	RP-1919	12	5.10
21"	ARP-2119	6	8.60	ARP-2119-36	9	15.25	RP-2119	12½	5.65
26¼"	ARP-2619	7½	11.75	ARP-2619-36	11½	18.35	RP-2619	15½	7.10
31½"	ARP-3119	8½	15.90	ARP-3119-36	13½	21.70	RP-3119	19	9.05
35"	ARP-3519	10	17.45	ARP-3519-36	15	24.15	RP-3519	22	10.55

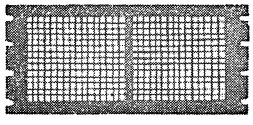
24" WIDE

Aluminum — 1/8" Thick			*Nominal Height	Steel — No. 12 Gauge		
Cat. No.	Ship. Wt. Lbs.	Net Price		Cat. No.	Ship. Wt. Lbs.	Net Price
ARP-324	1¼	$2.75	3½"	RP-324	2¼	$2.20
ARP-524	2	3.80	5¼"	RP-524	3½	2.60
ARP-724	2½	4.75	7"	RP-724	4½	3.00
ARP-824	3	5.50	8¾"	RP-824	6	3.50
ARP-1024	3½	6.90	10½"	RP-1024	7	3.75
ARP-1224	4	7.95	12¼"	RP-1224	8	4.55
ARP-1424	4½	9.25	14"	RP-1424	9	5.35
ARP-1524	5	10.50	15¾"	RP-1524	10	5.75
ARP-1724	5½	11.25	17½"	RP-1724	11	6.20
ARP-1924	6	12.20	19¼"	RP-1924	12	6.85
ARP-2124	6½	13.45	21"	RP-2124	13	7.45

30" WIDE

Aluminum — 1/8" Thick			*Nominal Height	Steel — No. 12 Gauge		
Cat. No.	Ship. Wt. Lbs.	Net Price		Cat. No.	Ship. Wt. Lbs.	Net Price
ARP-330	1½	$3.60	3½"	RP-330	3	$2.40
ARP-530	2¼	5.25	5¼"	RP-530	4½	2.85
ARP-730	3	6.50	7"	RP-730	6	3.30
ARP-830	3¾	7.50	8¾"	RP-830	8	3.95
ARP-1030	4½	9.25	10½"	RP-1030	9¼	4.20
ARP-1230	5	10.75	12¼"	RP-1230	10¼	5.70
ARP-1430	6	12.40	14"	RP-1430	12	6.60
ARP-1530	6½	13.75	15¾"	RP-1530	13½	7.40
ARP-1730	7	14.85	17½"	RP-1730	15	8.20
ARP-1930	7½	16.35	19¼"	RP-1930	18	9.05
ARP-2130	9	17.85	21"	RP-2130	19	9.95

PANELS — 19" WIDE
Made of No. 12 Gauge Steel



⅜" Sq. Perforations

GRILLE PANELS

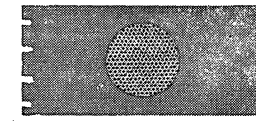
Cat. No.	Grill Size	*Nominal Height	Ship. Wt. Lbs.	Net Price
GRP-601	3⅞"x13⅜"	5¼"	2	$4.20
GRP-602	3⅞"x13⅜"	7"	2	4.35
GRP-603	5⅞"x13⅜"	8¾"	2½	5.15
GRP-604	*3⅞"x13⅜"	8¾"	2½	5.25
GRP-605	7⅞"x13⅜"	10½"	2½	5.65
GRP-606	*5⅞"x13⅜"	10½"	2½	5.50
GRP-607	*7⅞"x13⅜"	12¼"	3	6.05

* Allows 3½" space at bottom for chassis mounting.

FINISHED IN GRAY HAMMERTONE

SIDE HINGED DOOR PANELS
Can be used for left or right hand opening. Supplied with a quick turn fastener. Full height piano hinge welded to panel.

Cat. No.	Height	Net Price
SHP-319	3½"	$3.85
SHP-519	5¼"	4.00
SHP-719	7"	4.40
SHP-819	8¾"	4.75
SHP-1019	10½"	5.10
SHP-1219	12¼"	5.50
SHP-1419	14"	5.95
SHP-2119	21"	9.40



SPEAKER PANELS
Perforated metal is spot-welded behind the opening.

Cat. No.	Height	Spkr. Size	Hole Size	Ship. Wt. Lbs.	Net Price
SRP-819	8¾"	6"	4⅝"	6	$3.75
SRP-1019	10½"	8"	6½"	8	4.70
SRP-1219	12¼"	10"	8½"	9	5.60
SRP-1419	14"	12"	11"	10	6.45

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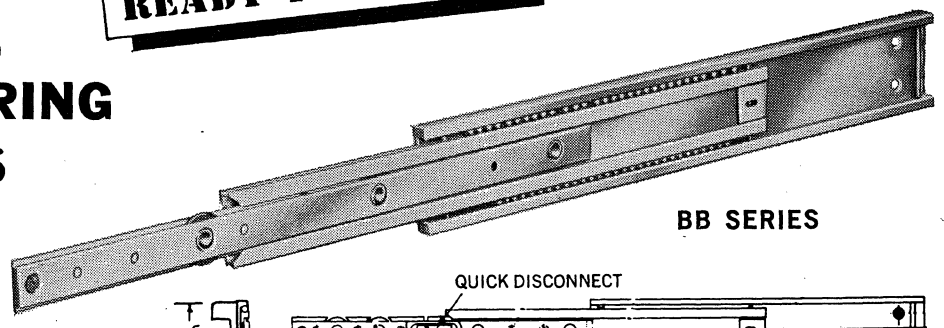
PREMIER CHASSIS SLIDES

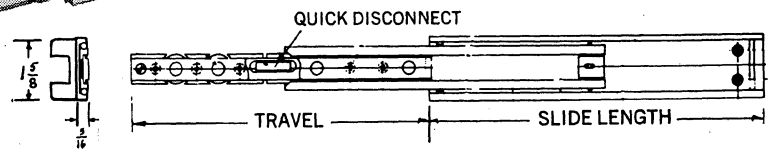
PREM-Ō-RAK®

READY-TO-MOUNT

100 lb. BALL BEARING SLIDES



BB SERIES



- EXCLUSIVE "QUICK DISCONNECT" allows for mediate removal of chassis.
- Carries load of 100 lbs. when fully extended.
- Glides smoothly on stainless steel ball bearings.
- 5/16" horizontal side space adjustable ± 1/16.
- 1⅝" vertical side space.
- 3 telescoping anodized aluminum members.
- Allows full accessibility for instantaneous servicing.
- Slide mounts standard 17" wide chassis.
- Slide locks in open position.
- Supplied with all necessary hardware for immediate installation.

Catalog No.	Load Rating Lbs.	Slide Length	Travel Length	Will Fit Racks	Net Price per Pair
BB-100-14	100	14"	13"	15¼" deep POR (DCR, SDR, DRK, FXR)* RMX, FDX	$73.05
BB-100-16	100	16	15	18" deep PRXA, POR (R, DCR, SDR)*	73.05
BB-100-20	100	20	19	FS, 22" deep CPF & FA, MSF, RMX, FDX	79.10
BB-100-22	100	22	21	24" deep PRXA	80.55
BB-100-24	100	24	23	25½" deep FA & FS, MSF, CPF	82.60

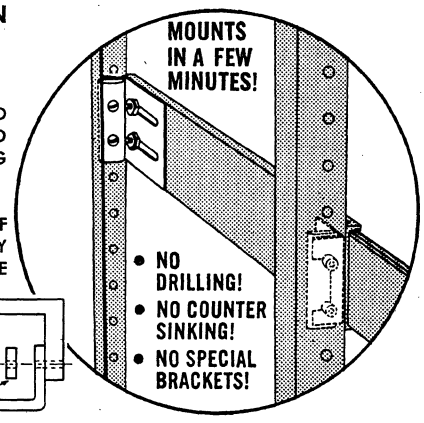
*Slide Adapter Kit (Cat. No. SAK-35) required for rear mounting on all models in parenthesis (See page 28).

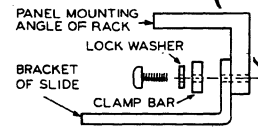
RAPID INSTALLATION

For BB, HBB, SB and SNR SERIES SLIDES

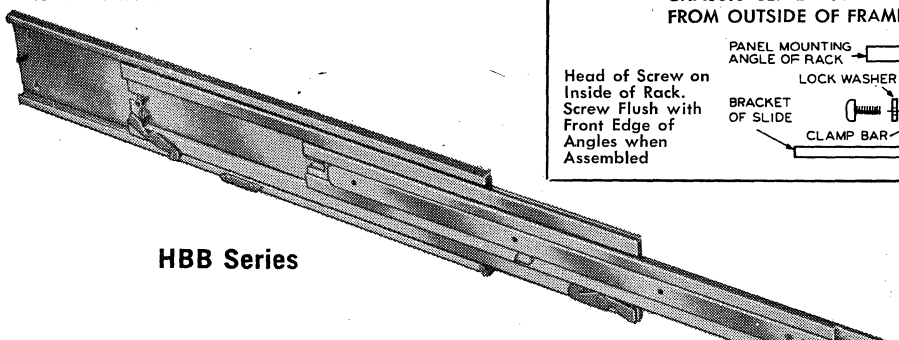
★ MOUNTS TO TAPPED HOLES OF FRONT AND REAR PANEL MOUNTING ANGLES

★ SIMPLE ADJUSTABILITY OF CHASSIS SLIDE ASSEMBLY FROM OUTSIDE OF FRAME

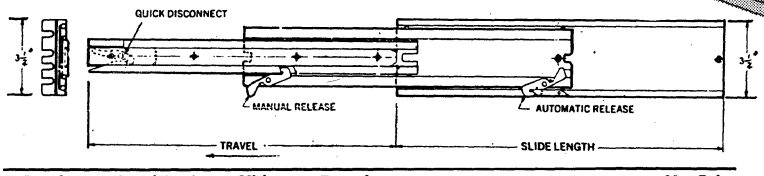




Head of Screw on Inside of Rack. Screw Flush with Front Edge of Angles when Assembled



HBB Series



Catalog No.	Load Rating Lbs.	Slide Length	Travel Length	Will Fit Racks	Net Price per Pair
HBB-200-14	200	14"	13"	15¼" deep POR, RMX, FDX (DCR, SDR, DRK, FXR)*	$95.05
HBB-200-16	200	16	15	18" deep PRXA, POR, (R, DCR, SDR)*	95.05
HBB-200-20	200	20	19	FS, 22" deep CPF & FA, MSF RMX, FDX	103.60
HBB-200-22	200	22	21	24" deep PRXA	107.25
HBB-200-24	200	24	23	25½" deep FA & FS MSF, CPF	109.60

*Slide Adapter Kit (Cat. No. SAK-35) required for rear mounting on all models in parenthesis (See page 28).

200 lb. HEAVY BALL BEARING SLIDES

- EXCLUSIVE "QUICK DISCONNECT" allows for immediate removal of chassis.
- Chassis may be removed from side by depressing quick release lever.
- Slide locks in open position.
- ½" horizontal side space adjustable ± 3/32.
- Carries loads of 200 lbs. when fully extended.
- 3½" vertical side space.
- 4 telescoping anodized aluminum members.
- Allows full accessibility for instantaneous servicing.
- Glides smoothly on stainless steel ball bearings.
- Supplied with all necessary hardware for immediate installation.

SEE PREMIER PAGE 29 FOR PREMIER CABLE RETRACTORS

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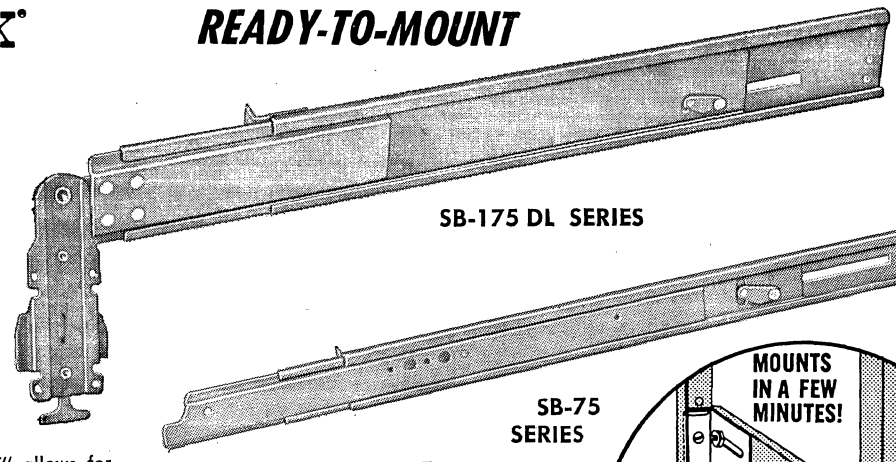
PREMIER CHASSIS SLIDES

PREM-Ō-RAK®

READY-TO-MOUNT

SOLID BEARING SLIDES



SB-175 DL SERIES

SB-75 SERIES

CARRY 75 lb. and 175 lb. LOADS

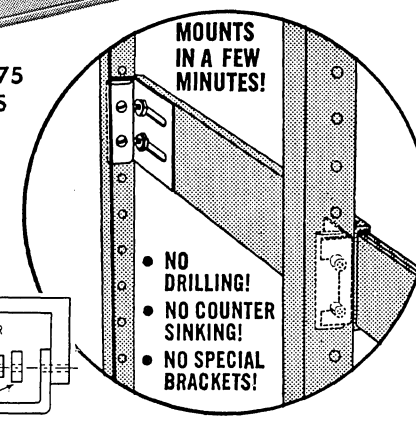
- **TILT and NON-TILT MODELS.**
- EXCLUSIVE "QUICK DISCONNECT" allows for immediate removal of chassis.
- SB-75 Series carry 75 lbs. fully extended. SB-175 Series carry 175 lbs. fully extended.
- Made of high strength cold rolled steel.
- Withstands 100 hours salt spray.
- Slide mounts standard 17" wide chassis.
- 3 telescoping members allow full accessibility for instant servicing.
- SB-75 Series—.386 horizontal side space adjustable ± 1/32.

  SB-175 Series—.398 horizontal side space adjustable ± 1/32.
- Finish: Electro zinc plated, chromate treated and completely coated with Molybedenum Disulphide lubricant.
- SB-175-DL Series have detent locks which allow chassis to be tilted either up or down and locked at 90° for easy servicing.

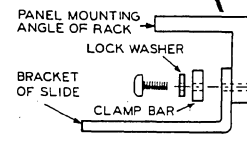
RAPID INSTALLATION For BB, HBB, SB and SNR SERIES SLIDES

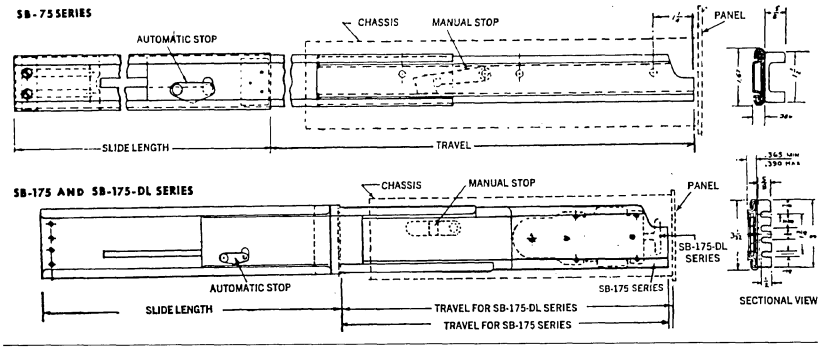
★ MOUNTS TO TAPPED HOLES OF FRONT AND REAR PANEL MOUNTING ANGLES

★ SIMPLE ADJUSTABILITY OF CHASSIS SLIDE ASSEMBLY FROM OUTSIDE FRAME



Head of Screw on Inside of Rack. Screw Flush with Front Edge of Angle when Assembled





Catalog No.	Load Rating lbs.	Slide Length	Travel Length	Will Fit Racks	Net Price per-Pair
SB-75-14	75	14"	14½"	15¼" deep POR (DCR, SDR, DRK, FXR)*	$20.20
SB-75-16	75	16	14½	RMX, FDX 18" deep PRXA, POR (R, DCR, SDR)*	20.20
SB-75-20	75	20	18½	FS, 22" deep CPF & FA, MSF, RMX, FDX	20.20
SB-75-22	75	22	22½	24" deep PRXA	21.65
SB-75-24	75	24	22½	25½" deep FA & FS, MSF, CPF	21.75
SB-175-14	175	14"	14½"	15¼" deep POR (DCR, SDR, DRK, FXR)*	43.00
SB-175-16	175	16	18½	RMX, FDX 18" deep PRXA, POR (R, DCR, SDR)*	43.00
SB-175-20	175	20	22½	FS, 22" deep CPF & FA, MSF, RMX, FDX	44.30
SB-175-22	175	22	24	24" deep PRXA	45.60
SB-175-24	175	24	26½	25½" deep FA & FS, MSF, CPF	46.50
SB-75-DL-14	75	14"	15"	15¼" deep POR (DCR, SDR, DRK, FXR)*	44.00
SB-75-DL-16	75	16	17	RMX, FDX 18" deep PRXA, POR (R, DCR, SDR)*	44.00
SB-75-DL-20	75	20	21	FS, 22" deep CPF & FA, MSF, RMX, FDX	46.20
SB-75-DL-22	75	22	23	24" deep PRXA	49.10
SB-75-DL-24	75	24	25	25½" deep FA & FS, MSF, CPF	50.85
SB-175-DL-14	175	14"	14½"	15¼" deep POR (DCR, SDR, DRK, FXR)*	68.15
SB-175-DL-16	175	16	18¼	RMX, FDX 18" deep PRXA, POR (R, DCR, SDR)*	68.15
SB-175-DL-20	175	20	22¼	FS, 22" deep CPF & FA, MSF, RMX, FDX	69.10
SB-175-DL-22	175	22	26¼	24" deep PRXA	71.00
SB-175-DL-24	175	24	26¼	25½" deep FA & FS, MSF, CPF	73.35

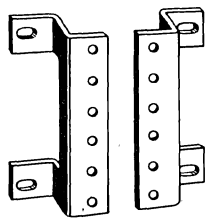
*Slide Adapter Kit (Cat. No. SAK-35) required for rear mounting on all models in parenthesis.

SLIDE ADAPTER KIT
For BB, HBB, SB and SNR SERIES

Required for rear mounting on DR, R, DCR, DRK, SDR and FXR models.

- Mounts to inside rear flange by drilling 4 holes.
- Made of No. 12 gauge steel and tapped 10-32 on E.I.A. spacings (5/8-5/8-1/2).
- Finished in Gray Hammertone.

Kit includes 2 brackets, four 10-32 screws and keps.



Cat. No. SAK-35
$3.95 Net Price

SLIDE TILTING KIT

For tilting one pair of slides. Consists of 4 special screws, lock washers and nuts.

STK-75 (For SB-75 series) .....**$3.20** Net Price
STK-175 (For SB-175 series) ..... **3.70** Net Price

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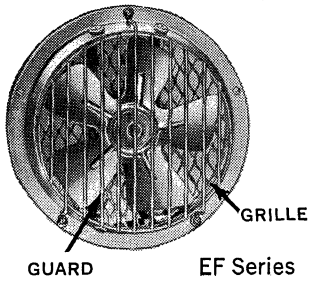
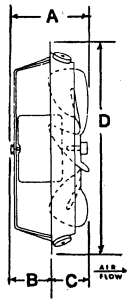
PREMIER PAGE 28

PREMIER FANS

PREM-O-KOOL





EXHAUST and INTAKE FANS

PREM-O-KOOL fans are available for exhausting air from cabinets (EF Series) and for drawing air into cabinets (IF Series).

- Motors are 115 volts 50/60 cycle single phase AC.
- Minimum space required. • Supplied with 18" lead.
- Fan and motor assembly shock mounted for minimum noise and vibration.
- Permanently lubricated ball bearing, shaded pole motors with low temperature rise.
- Easily interchangeable accessories for flexibility of mounting in cabinets.
- Cut-out and mounting holes for fans can be provided on any Premier rack or cabinet at slight additional cost.

Patent No. 3,019,965.
Other Patents Pending.

EXHAUST FANS

Cat. No.	CFM	Motor Watts	RPM	Fan Blade Dia.	A	B	C	D	Hole Dia. Required	Net Price
EF-165	165	20	1650	6½"	2⅞"	1⅝"	1¼"	8½"	7⅜"	$62.50
EF-220	220	25	1550	6½	3¼	1⅝	1⅝	8½	7⅜	52.75
EF-300	300	65	3000	6½	4⅛	2⅝	1½	8½	7⅜	56.00
EF-400	400	46	1460	8	3⅝	1⅞	1¾	10½	9¼	66.75
EF-550	550	90	1600	9	4⅜	2⅛	2¼	11½	10⅝	72.75
EF-750	750	105	1560	10	4⅜	2⅛	2¼	12½	11⅝	74.75

ACCESSORIES FOR EXHAUST FANS

GUARDS

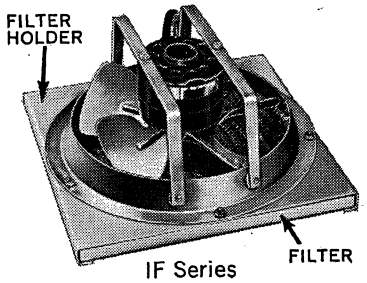
Cat. No.	Used with Fan	Dia.	Depth	Net Price
GU-6	EF165, 220, 300	6¾"	1⅞"	$2.90
GU-8	EF400	8¼	2⅜	2.90
GU-9	EF550	9¼	2⅜	3.55
GU-10	EF750	10¼	2⅜	4.25

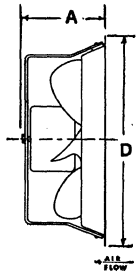
GRILLES

Cat. No.	Used with Fan	Dia.	Net Price
GR-6	EF165,220,300	8½"	$2.90
GR-8	EF400	10½	2.90
GR-9	EF550	11½	3.55
GR-10	EF750	12½	4.25

SLEEVES

Cat. No.	Used with Fan	Dia.	Depth	Net Price
SL-6	EF165,220,300	8½"	1¾"	$4.25
SL-8	EF400	10½	2	4.25
SL-9	EF550	11½	2⅜	5.00
SL-10	EF750	12½	2⅜	5.65





INTAKE FANS

Cat. No.	CFM	Motor Watts	RPM	Fan Blade Dia.	Dimensions A	Dimensions D	Hole Diam. Required	Net Price
IF-160	160	20	1650	6½"	2⅞"	8½"	7⅜"	$62.50
IF-180	180	25	1550	6½	3¼	8½	7⅜	52.75
IF-300	300	65	3000	6½	4⅛	8½	7⅜	56.00
IF-360	400	46	1460	8	3¾	10½	9¼	66.75
IF-540	540	90	1600	9	4⅜	11½	10⅝	72.75
IF-740	740	105	1560	10	4⅜	12½	11⅝	74.50

PREMIER CABINETS AND RACKS

FA, PRXA, FS, RMX, FDX, R, DR, DCR, DRK, SDR, POR and FXR models may be supplied with one round and 5 mounting holes to accommodate Exhaust and Intake Fans, at additional cost.

ACCESSORIES FOR INTAKE FANS

FILTERS — Permanent washable type, ½" thick

Cat. No.	Used with Fan	Size	Net Price
FL-6	IF 160, 180, 300	8⅜"Sq.	$2.85
FL-8	IF 360	10⅜ Sq.	2.85
FL-9	IF 540	11⅜ Sq.	3.65
FL-10	IF 740	12⅜ Sq.	3.65

FILTER HOLDERS

Cat. No.	Used with Fan	Size	Depth	Net Price
FH-6	IF 160, 180, 300	8⅜" Sq.	⅝"	$5.68
FH-8	IF 360	10⅜ Sq.	⅝	5.68
FH-9	IF 540	11⅜ Sq.	⅝	7.25
FH-10	IF 740	12⅜ Sq.	⅝	8.00

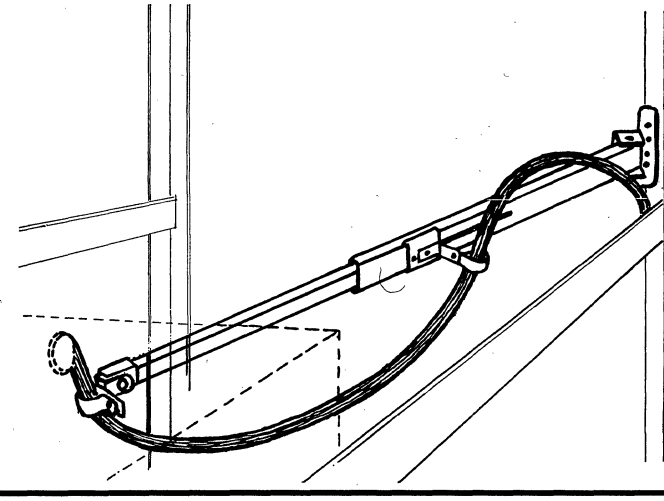
PREMIER BALL BEARING ACTION CABLE RETRACTOR

FOR CONTROL OF POWER SUPPLY CABLES

- Smooth gliding, stress-free motion
- Heavy duty construction
- Quick, simple installation
- Spring tension keeps cable "jam-proof"

The PREMIER CABLE RETRACTOR is designed for easy and fast installation in both new and existing equipment. It is attached to rear of cabinet and controls power supply cables most efficiently. As the chassis is extended, the retractor pivots and the inner ball bearing actuated member glides out as necessary.

CATALOG NO. PCR-3-16 **Net Price $18.55**



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PREMIER PANEL MOUNTED BLOWERS

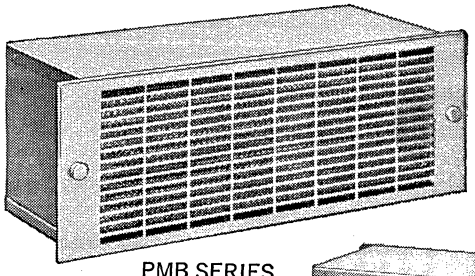
PREM-O-KOOL

MAXIMUM COOLING with MINIMUM SPACE!

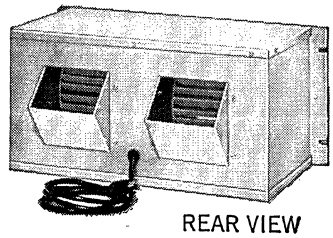
- Permanently lubricated motors with lubricant temperature range from −29°C to +148°C.
- Permanent type washable filter—easily removable from front.
- Low noise level with minimum of vibration.
- Standard E.I.A. notching.
- Grille supplied with 2 captive thumb nuts.
- Units furnished with 3'6" lead with molded male plug.
- Performance data prepared by impartial, independent testing laboratory.
- Motors are 115 Volt 50/60 cycle, single phase AC.
- Housing and grille made of cold rolled steel and finished in gray hammertone.

GRILLE FINISHED TO MATCH COLOR OF PREMIER CABINETS OR FRAMES AT NO ADDITIONAL COST.

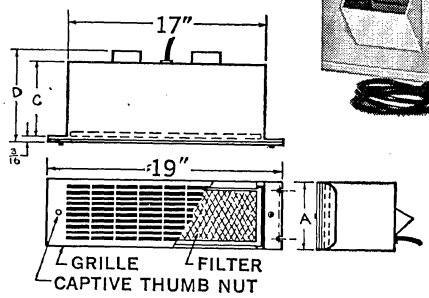
TO FIT STANDARD 19" WIDE PANEL SPACE



PMB SERIES



REAR VIEW

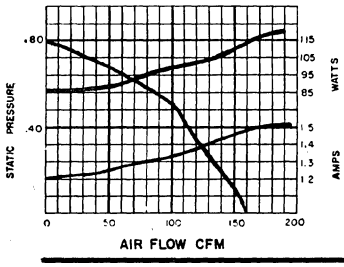


Units available to fit Standard 24" wide panel space. Prices upon request.

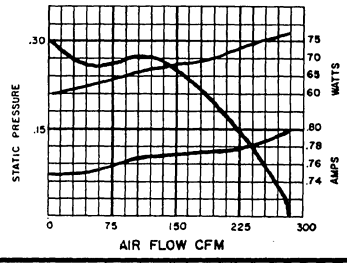
CATALOG NO.	PMB-5-150	PMB-7-285	PMB-8-410	PMB-10-750
CFM at 0" S.P.	150	285	410	750
PANEL HEIGHT (A)	5¼"	7"	8¾"	10½"
FILTER	16⅝"x4⅞" x½"	16⅝"x6¾" x½"	16⅝"x8⅜" x½"	16⅝"x10⅛" x½"
DEPTH OF ENCLOSURE ONLY (C)	6¼"	8½"	9¾"	11½"
OVERALL DEPTH including outlets and front grille (D)	7"	10¼"	11¼"	13⅜"
MOTOR				
RPM	3000	1500	1500	1500
WATTS	120	78	125	255
VOLTS	115	115	115	115
CYCLES	50/60	50/60	50/60	50/60
AMPS	1.5	1.1	1.3	2.2
TYPE	Ball Bearing shaded pole	Ball bearing permanent split capacitor	Ball bearing permanent split capacitor	Ball bearing permanent split capacitor
SHIPPING WT. LBS.	14	24	26	35
NET PRICE	$133.75	$175.00	$209.50	$235.50

PERFORMANCE

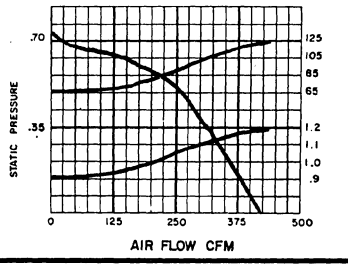
PMB-5-150



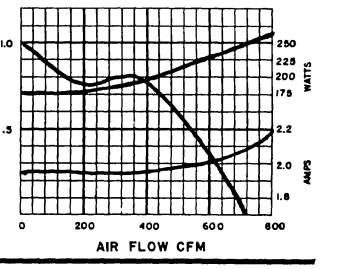
PMB-7-285



PMB-8-410



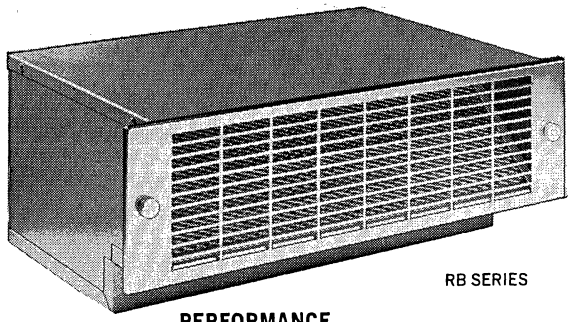
PMB-10-750



RECESSED TYPE

FOR INSTALLATION IN THE OPEN BASE AREA OF ELECTRONIC RACKS

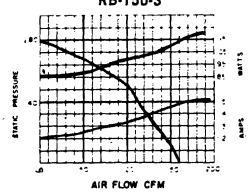
For maximum air delivery with minimum panel height. Built to the same general specifications as Panel Mounted Blowers (PMB Series).



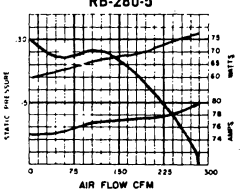
RB SERIES

PERFORMANCE

RB-150-3



RB-280-5



Cat. No.	RB-150-3	RB-360-5	RB-300-3
CFM at 0" S.P.	150	360	300
PANEL HEIGHT	3½"	5¼"	3½"
TYPE OF DISCHARGE	Diagonal Rear	Diagonal Rear	Diagonal Rear
OVERALL DEPTH including outlets and front grille	9 7/16"	12 7/16"	8½"
MOTOR			
RPM	3000	1500	3000
WATTS	120	78	90
VOLTS	115	115	115
CYCLES	50/60	50/60	50/60
AMPS	1.5	.8	1.0
TYPE	Shaded pole, permanent lubrication, ball bearing	Permanent split capacitor, permanent lubrication, ball bearing	Ball bearing permanent split capacitor
SHIP. WT. Lbs.	15	24	15
NET PRICE	$152.50	$173.50	$185.00

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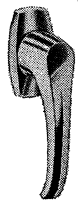
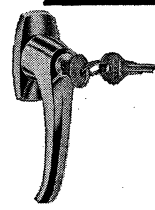
PREMIER HARDWARE

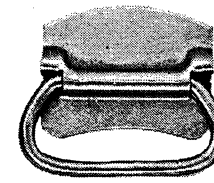
HW-1
NON-LOCKING HANDLE
Chrome plated
Net Price each
$2.75



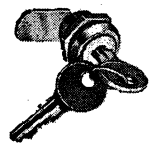
HW-3
LOCKING HANDLE
with 2 keys—
Chrome plated
Net Price each
$5.75



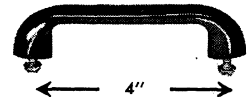
HW-5
DROP HANDLE
Finished in Gray Hammertone. Also available in Black Wrinkle or Brown Hammertone.
Net Price each
.85



HW-6
CYLINDER LOCK
with 2 keys—
Nickel plated
Net Price each
$4.65



HW-7

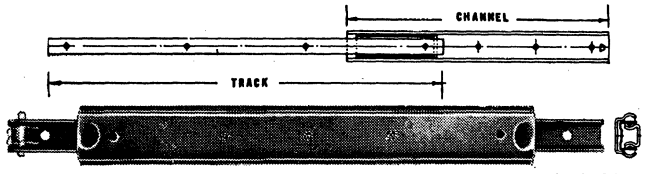


BLACK NYLON HANDLE
with 2 screws
Net Price each
.72

HW-13

TRUSS HEAD MACHINE SCREWS 10/32 x ¾"
Nickel plated
Net Price
.50 per 40*
*Minimum Quantity

ECONOMY SLIDES



"A" SERIES
Patent No. 2,542,247

- May be mounted on side or underneath.
- Ball bearing spacer and patented silencer spring eliminates slide noise and vibration.
- All members made of 16 gauge cold rolled steel.
- Black oxidized finish.

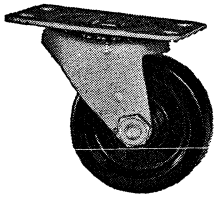
Catalog No.	Slide Travel	Channel Length	Track Length	Load Cap.	Net Price Per Pair
A-50-13	9"	11"	13"	50	$3.25
A-40-15	11	11	15	40	3.35
A-30-165	12½	11	16½	30	3.50
A-30-185	14½	11	18½	30	3.70

"330" SERIES

- Side mounted.
- Each slide rolls on 2 concealed and dust-free nylon wheels.
- No metal-to-metal contact—noiseless operation.
- Drawer is tilted up for quick removal.
- Made of 16 gauge cold rolled steel and zinc plated.

Catalog No.	Slide Travel	Track Length	Channel Length	Load Cap.	Net Price Per Pair
330-62-12	7⅞"	12"	12"	62	$3.75
330-58-14	9⅞	14	14	58	3.95
330-54-16	11⅞	16	16	54	4.05
330-50-18	13⅞	18	18	50	4.30
330-46-20	15⅞	20	20	46	4.40

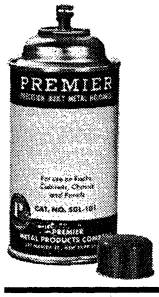
2" - 3" - 4" DIA. CASTERS



Made of non-marking composition wheel with Ball Bearing Swivel Plate. Packed one set of 4 in box with screws for assembly.

Cat. No.	Kind of Wheel	Wheel Size	Overall Height	Cap. per caster—lbs.	Net Price Set of 4
CA-4	Plaskite	2" dia. x 13/16"	2 7/16"	80	$4.90
CA-5	Rockite	3" dia. x 1¼"	3 13/16"	225	11.55
CA-6	Soft Rubber	Double 2" dia. x 1⅝"	2 13/16"	125	13.85
CA-7*	Rockite	3" dia. x 1¼"	3 13/16"	225	25.40
CA-8**	Rockite	4" dia. x 1⅝"	5¼"	450	53.85

*Foot operated friction brake for positive locking wheel.
**With roller bearing wheel.

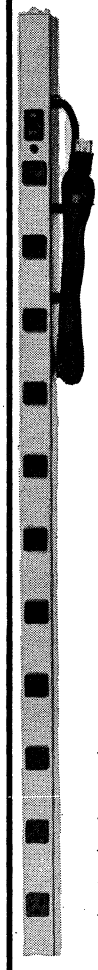


SPRAY CAN LACQUER Available in 2 Colors

Cat. No.	To Match	Net Price Ea. 12 oz. Can
GHL-102	Premier Gray Hammertone	$2.25
BHL-103	Premier Brown Hammertone	2.50

HW-2
ROUND CHROME PLATED HANDLE
Net Price each
.60

HW-8
QUICK TURN FASTENER
Nickel Plated
Net Price Each
$1.35



HEAVY DUTY OUTLET BOXES

FOR INTERNAL RACK MOUNTING

- Completely wired. Ready for use
- Supplied with 6' Neoprene cord set with molded plug
- Rated at 15 Amperes
- 130 Volts continuous duty
- "U" ground outlets—soldered connections
- Mounting centers 6"
- Circuit breaker
- 1½" wide x 1⅛" deep
- Mounts to crosspiece on PRXA, FA, FDX & RMX frames
- Steel case finished in Gray Hammertone

Model No.	Length	No. Of Outlets	Rack Panel Space	Net Price (Each)
OB-161	56¾"	9	61¼"†	$26.85
OB-170	65½"	10	70"†	32.20
OB-177	72½"	11	77"†	33.80

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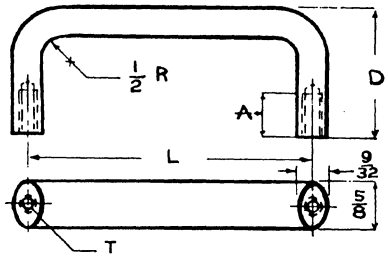
PREMIER HANDLES for INSTRUMENTS and EQUIPMENT



5/8" OVAL HW-16 SERIES

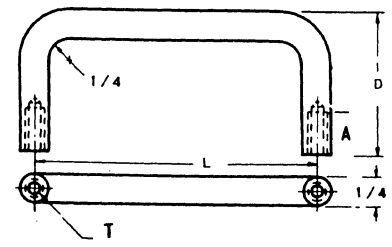
MATERIAL: Aluminum per QQ-A-325-A.
FINISH: Black Anodize per MIL-A-8625 Type II.

Cat. No.	L	D	A	T	Net Price
HW-16A1	3	1 9/32	9/32	10-24	$2.35
HW-16A4	4 5/16	1 1/2	1/2	10-24	2.50
HW-16A6	6 7/16	1 3/4	1/2	10-24	2.75

5/8" OVAL HW-17 SERIES

MATERIAL: Brass per QQ-B-626 Comp 22½ Hard.
FINISH: Nickel Plate and Polish per MIL-QQ-N-290 Type VI.

Cat. No.	L	D	A	T	Net Price
HW-17B1	3	1 9/32	9/32	10-32	$2.95
HW-17B4	4 5/16	1 1/2	1/2	10-32	3.20
HW-17B6	6 7/16	1 3/4	1/2	10-32	3.80



1/4" ROUND HW-19 SERIES

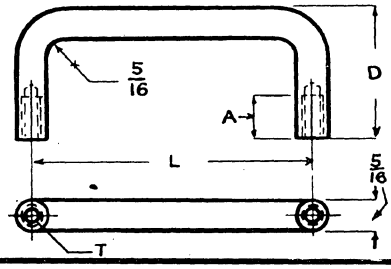
MATERIAL: Brass per QQ-B-626 Comp 22½ Hard.
FINISH: Nickel Plate and Polish per MIL-QQ-N-290 Type VI.

Cat. No.	L	D	A	T	Net Price
HW-19B1	2	1½	5/16	8-32	$1.65
HW-19B2	3	1½	5/16	8-32	1.75
HW-19B3	4	1½	5/16	8-32	1.85
HW-19B4	6	1½	5/16	8-32	1.95

1/4" ROUND HW-20 SERIES

MATERIAL: Aluminum per QQ-A-325A.
FINISH: Black Anodize per MIL-A-8625 Type II.

Cat. No.	L	D	A	T	Net Price
HW-20A1	2	1½	5/16	8-32	$1.65
HW-20A2	3	1½	5/16	8-32	1.75
HW-20A3	4	1½	5/16	8-32	1.85
HW-20A4	6	1½	5/16	8-32	1.95



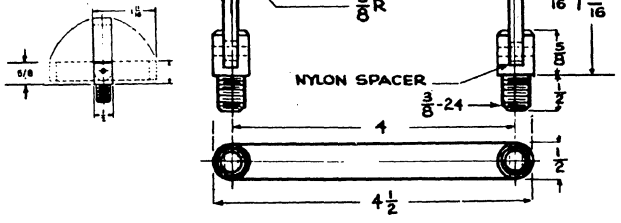
5/16" ROUND HW-18 SERIES

MATERIAL: Brass per QQ-B-626 Comp 22½ Hard.

FINISH: Nickel Plate and Polish per MIL-QQ-N-290 Type VI.

Cat. No.	L	D	A	T	Net Price
HW-18B3	3	1 5/16	7/16	8-3^	$1.80
HW-18B13	4 5/16	1½	5/16	10-32	1.90
HW-18B14	6	1½	5/16	10-32	1.95
HW-18B16	6 7/16	1¾	5/16	10-32	2.05

DROP HANDLES — HW-21 and HW-22 SERIES



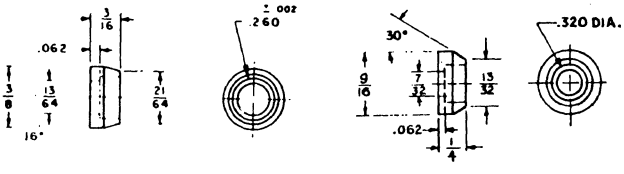
HW-21A
MATERIAL: Bow-Aluminum MIL Spec QQ-A-274. Ferrules MIL Spec QQ-A-325A.
FINISH: Semi-Frost Per MIL-A-8625 Type II.

HW-22B
MATERIAL: Bow-Brass MIL Spec QQ-B-626 Comp 22½ Hard. Ferrules MIL Spec QQ-B-626 Comp 22½ Hard.
FINISH: Nickel Plate and Polish MIL-QQ-N-290 Type VI.

NOTE: Handle and Ferrules are furnished with nylon spacer and roll-pin ⅛ dia. to hold bow in any given position. Swings 180° to either plane.

Cat.No.	Material	Net Price
HW-21A	Aluminum	$4.10
HW-22B	Brass	4.40

FERRULES FOR ABOVE HANDLES



FOR 1/4" DIAMETER HANDLES
HW-23AF (ALUMINUM) Made of Aluminum per QQ-A-325A, anodized black per MIL-A-8625 Type II.
Net Price .15

HW-24BF (BRASS) Made of Brass per QQ-B-626 comp. 22½ hard, nickel plated and polished per MIL-QQ-N-290 Type VI.
Net Price .15

FOR 5/16" DIAMETER HANDLES
HW-25BF (BRASS) Made of Brass per QQ-B-626 comp. 22½ hard, nickel plated and polished per MIL-QQ-N-290 Type VI.
Net Price .20

PREMIER METAL PRODUCTS COMPANY

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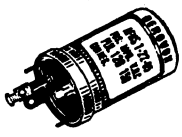
AEROVOX Hi-Q

CAPACITORS

ELECTROLYTICS



TYPE AFH (85°C) TWIST PRONG ELECTROLYTIC CAPACITOR

SINGLES • DUALS • TRIPLES • QUADS

The outstanding line of twist-prong mounting electrolytic capacitors with all the latest refinements — 85°C operation — high purity aluminum foil construction through out — improved moisture resistant seal. Types AFHS-PWHS are specially constructed for high ripple current circuits. PWH and PWHS are constructed for printed wiring board applications.

These units operate over a wide temperature range with a minimum change in capacitance.

While designed for filter audio bypass applications in Radio-TV and Amplifier equipment as exact replacements, many values are rapidly gaining acceptance in industrial applications.

They are manufactured to meet all requirements of EIA specification number RS-154. Capacity tolerances of this specification are listed below.

ELECTROLYTIC CAPACITY TOLERANCES

0-50 Volts	—	—10 +250%
51-350 Volts	—	—10 +100%
351 Volts & Up	—	—10 +50%

Aerovox Corporation is currently working on a size reduction program. Many sizes shown in the following listing reflect latest design figures. However Aerovox reserves the right to furnish previous catalog sizes until present stocks are depleted.

The AFH capacitors listed here include only those ratings which might find usage in in-industrial applications. A complete line of ratings may be found in the latest Aerovox Industrial Catalog, IDC 567, or Servicemen's Catalog, SE-567, and may be requested from Aerovox Corporation, Distributor Sales, or through your nearest authorized Aerovox Industrial Distributor.

SINGLES

Catalog Number	Capacity	Voltage	Dia. x Length	Net
AFH 1-00-50	2000	6	1-3/8 x 2	$1.83
AFH 1-02	1000	15	1 x 1½	1.53
AFH 1-03	2000	15	1-3/8 x 2	2.07
AFH 1-04	3000	15	1-3/8 x 2	2.55
AFH 1-08	500	25	1 x 2	1.53
AFH 1-10	1000	25	1-3/8 x 2	2.13
AFH 1-13	500	50	1-3/8 x 2	1.59
AFH 1-13-05	500	50	1 x 1½	1.59
AFH 1-14	1000	50	1-3/8 x 2	2.25
AFH 1-14-50	1500	50	1-3/8 x 2	2.64
AFH 1-18	50	150	1 x 1½	.99
AFH 1-21	100	150	1 x 1½	1.20
AFHS 1-22	120	150	1 x 1½	1.23
AFHS 1-22-05	120	150	1-3/8 x 2	1.29
AFHS 1-23	140	150	1 x 1¾	1.26
AFH 1-24	150	150	1 x 2	1.29
AFH 1-24-01	150	150	1-3/8 x 2	1.29
AFHS 1-24-25	200	150	1-3/8 x 2	1.47
AFHS 1-24-75	300	150	1-3/8 x 2	1.68
PWH 1-25-75,	160	200	1-3/8 x 2	1.74
AFH 1-29	40	250	1 x 1½	1.08
AFH 1-31-25	100	250	1 x 2	1.62
AFH 1-31-75	150	250	1-3/8 x 2	1.86
AFHS 1-31-85	200	250	1-3/8 x 2	2.19
AFH 1-35	80	300	1 x 1¾	1.53
AFH 1-36	100	300	1 x 2½	1.74
AFHS 1-37-25	150	300	1-3/8 x 2	2.10
AFH 1-37-35	250	300	1-3/8 x 2½	3.33
AFH 1-41	50	350	1 x 2	1.26
AFH 1-42	80	350	1-3/8 x 2	1.71
AFHS 1-43	125	350	1-3/8 x 2	2.19
AFH 1-43-20	150	350	1-3/8 x 2	2.37
AFH 1-50	20	450	1 x 1½	1.08
AFH 1-52	40	450	1 x 1¾	1.23
AFH 1-53	50	450	1 x 2½	1.41

SINGLES (Continued)

Catalog Number	Capacity	Voltage	Dia. x Length	*Net
AFH 1-55	80	450	1-3/8 x 2	1.83
AFH 1-55-20	100	450	1-3/8 x 2½	2.07
AFH 1-55-25	125	450	1-3/8 x 3	2.37
AFH 1-58	10	500	1 x 1½	.96
AFH 1-59	20	500	1 x 1½	1.11
AFH 1-61	40	500	1 x 2½	1.50
AFH 1-62	80	500	1-3/8 x 2½	2.16

DUALS

AFH 2-14	40-40	150	1 x 1½	1.14
AFH 2-15	50-30	150	1 x 1½	1.20
AFH 2-16	50-50	150	1 x 1½	1.29
PWH 2-17-50	70-30	150	1 x 1½	1.32
AFH 2-19-25	80-50	150	1 x 1½	1.44
AFH 2-20	80-80	150	1-3/8 x 2	1.59
AFH 2-20-61	150-100	150	1-3/8 x 2	2.01
AFHS 2-21	200-5	150	1-3/8 x 2	1.62
AFH 2-23	200-200	150	1-3/8 x 2	2.40
AFH 2-24	60-60	200	1-3/8 x 2	1.53
AFHS 2-24-75	200-5	200	1-3/8 x 2	1.83
AFH 2-26	20-20	250	1 x 1½	1.14
AFH 2-29	40-40	250	1 x 1½	1.50
AFHS 2-30	150-150	250	1-3/8 x 2½	3.09
AFHS 2-30-75	200-200	250	1-3/8 x 4	3.66
AFH 2-34	80-80	300	1-3/8 x 2	2.43
AFH 2-35	120-20	300	1-3/8 x 2	2.40
AFH 2-39	30-30	350	1 x 2	1.74
AFH 2-40-40	60-30	350	1-3/8 x 2	1.89
AFH 2-40-80	80-40	350	1-3/8 x 2	2.37
AFH 2-41-10	90-40	350	1-3/8 x 2½	2.58
AFH 2-41-40	100-60	350	1-3/8 x 3	2.88

*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249

Net

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AEROVOX Hi-Q

CAPACITORS

ELECTROLYTICS – (Continued)

DUALS (Continued)

Catalog Number	Capacity	Voltage	Dia. x Length	*Net
AFHS 2-41-50	100-100	350	1-3/8 x 3	3.69
AFHS 2-41-80	160-10	350	1-3/8 x 3	2.58
AFH 2-45-10	80-20	400	1-3/8 x 2	2.73
AFH 2-45-60	120-40	400	1-3/8 x 3	3.15
AFH 2-46	5-5	450	1 x 1½	1.05
AFH 2-47	10-10	450	1 x 1½	1.14
AFH 2-50	20-10	450	1 x 1¾	1.35
AFH 2-51	20-20	450	1 x 2	1.53
AFH 2-52	30-10	450	1 x 2	1.50
AFH 2-54	30-30	450	1-3/8 x 2	1.83
AFH 2-55	40-10	450	1 x 2	1.59
AFH 2-56	40-20	450	1-3/8 x 2	1.80
AFH 2-57	40-40	450	1-3/8 x 2	2.07
AFH 2-59	50-50	450	1-3/8 x 2½	2.31
AFH 2-61	60-40	450	1-3/8 x 2½	2.37
AFH 2-61-50	60-60	450	1-3/8 x 3	3.36
AFH 2-62	80-10	450	1-3/8 x 2	2.16
AFH 2-63	80-20	450	1-3/8 x 2¼	2.34
AFH 2-64	80-40	450	1-3/8 x 2¼	2.61
AFH 2-64-25	100-40	450	1-3/8 x 3	2.91
AFH 2-66-60	80-50	475	1-3/8 x 3	3.12
AFH 2-67	10-10	500	1 x 1¾	1.23
AFH 2-69	20-20	500	1-3/8 x 2	1.71
AFH 2-71	30-10	500	1-3/8 x 2	1.71
AFH 2-71-01	30-10	500	1 x 3	1.56
AFH 2-72	40-40	500	1-3/8 x 2½	2.64
AFH 2-73	60-40	500	1-3/8 x 3	2.76
AFH 2-86-70	100/30	400/50	1-3/8 x 2½	2.34
AFH 2-86-72	80/80	400/200	1-3/8 x 2½	2.37

TRIPLES

AFH 3-08	40-20-20	150	1 x 1½	1.44
AFH 3-09	40-30-20	150	1 x 2	1.50
AFH 3-10	40-40-40	150	1 x 1½	1.56
AFH 3-11-50	50-50-50	150	1 x 1¾	1.80
AFH 3-12	60-40-20	150	1 x 1½	1.65
AFH 3-13	80-40-20	150	1-3/8 x 2	1.74
AFH 3-13-08	100-30-10	150	1 x 2	1.83
AFH 3-13-30	120-120-40	150	1-3/8 x 2	2.43
AFH 3-13-50	200-100-60	150	1-3/8 x 2	2.73
AFH 3-13-75	200-150-150	200	1-3/8 x 3	4.50
AFH 3-17-10	20-20-20	250	1 x 1½	1.56
AFH 3-20	40-20-20	250	1 x 1¾	1.74
AFH 3-25-50	80-40-40	300	1-3/8 x 2	2.85
AFH 3-26	120-50-40	300	1-3/8 x 2½	3.39
AFH 3-28-30	30-20-10	350	1 x 2½	1.95
AFH 3-29	60-40-20	350	1-3/8 x 2	2.55
AFH 3-29-25	60-50-50	350	1-3/8 x 2¼	2.94
AFH 3-29-50	80-60-60	350	1-3/8 x 2½	3.33
AFH 3-29-75	90-40-20	350	1-3/8 x 2½	3.15
AFH 3-30	10-10-10-	400	1 x 1½	1.44
AFH 3-30-75	90-10-5	400	1-3/8 x 2	2.64
AFH 3-31	10-10-10	450	1 x 1¾	1.56

*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249

TRIPLES (Continued)

Catalog Number	Capacity	Voltage	Dia. x Length	*Net
AFH 3-34	15-15-15	450	1 x 2½	1.86
AFH 3-35	20-10-10	450	1 x 2	1.77
AFH 3-36	20-20-20	450	1-3/8 x 2	2.16
AFH 3-41	40-10-10	450	1-3/8 x 2	2.01
AFH 3-42	40-30-20	450	1-3/8 x 2	2.58
AFH 3-43	40-40-10	450	1-3/8 x 2	2.52
AFH 3-43-50	40-40-20	450	1-3/8 x 2½	2.67
AFH 3-44	40-40-40	450	1-3/8 x 2½	2.94
AFH 3-44-50	50-40-30	450	1-3/8 x 4	2.94
AFH 3-45	60-20-20	450	1-3/8 x 2½	2.76
AFH 3-45-25	60-40-20	450	1-3/8 x 2½	3.00
AFH 3-45-35	80-10/10	450	1-3/8 x 2½	2.58
AFH 3-46	80-40-20	450	1-3/8 x 3	3.24
AFH 3-49-10	30-30-20	475	1-3/8 x 2	2.85
AFH 3-50-07	40-30-10	475	1-3/8 x 2½	2.70
AFH 3-50-10	40-30-30	475	1-3/8 x 3	3.09
AFH 3-51	10-10-19	500	1 x 2½	1.62
AFH 3-52	30-20-20	500	1-3/8 x 2¼	2.52
AFH 3-54	40-40-10	500	1-3/8 x 2½	3.03
AFH 3-77	50-30-20	150-25	1 x 1½	1.50
AFH 3-82	80-40-20	150-25	1 x 1½	1.68
AFH 3-84-75	80-10-20	200-50	1 x 1¾	1.68
AFH 3-120	20-20-20	400-25	1 x 2	1.71
AFH 3-125	10-10-20	450-25	1 x 1½	1.44
AFH 3-132	40-20-20	450-25	1-3/8 x 2	2.10
AFH 3-187-05	20-100-140	450-400-300	1-3/8 x 3½	4.17

QUADS

AFH 4-01	40-40-40-30	150	1-3/8 x 2	2.01
AFH 4-01-40	100-80-60-40	150	1-3/8 x 3	2.79
AFHS 4-01-55	200-200-60-30	175	1-3/8 x 2¾	3.33
AFH 4-01-80	40-20-10-10	300	1-3/8 x 2	2.37
AFH 4-02	40-40-20-10	300	1-3/8 x 2½	2.73
AFH 4-02-10	40-40-30-20	300	1-3/8 x 3	2.91
AFH 4-02-90	200-20-20-20	300	1-3/8 x 3½	3.69
AFH 4-04	40-40-20-10	350	1-3/8 x 2	2.61
AFH 4-04-50	40-40-40-40	350	1-3/8 x 2¼	3.60
AFH 4-05-55	80-60-40-20	350	1-3/8 x 3	3.84
AFH 4-07	80-20-10-10	400	1-3/8 x 3½	3.03
AFH 4-10	10-10-10-10	450	1-3/8 x 2	2.01
AFH 4-14	20-20-20-20	450	1-3/8 x 2	2.82
AFH 4-15-30	30-30-20-20	450	1-3/8 x 3	3.12
AFH 4-16	35-35-10-5	450	1-3/8 x 2	2.79
AFH 4-18-10	45-35-10-10	450	1-3/8 x 2	2.88
AFH 4-18-30	40-40-20-20	450	1-3/8 x 3	3.33
AFH 4-18-40	40-40-30-30	450	1-3/8 x 3	3.63
AFH 4-18-45	40-40-40-40	450	1-3/8 x 3½	3.87
AFH 4-18-50	60-20-20-20	450	1-3/8 x 3	3.39
AFH 4-18-60	60-30-10-2	450	1-3/8 x 3	3.06
AFH 4-18-80	80-10-10-10	450	1-3/8 x 3	3.03
AFH 4-19-10	20-20-10-10	475	1-3/8 x 2¼	2.61
AFH 4-19-20	20-20-20-20	475	1-3/8 x 2½	3.12
AFH 4-19-50	40-20-10-10	475	1-3/8 x 2½	3.06
AFH 4-20	10-10-10-10	500	1-3/8 x 2	2.10
AFH 4-58-75	80-40-40-20	400-350	1-3/8 x 4	3.87
AFH 4-59	10-10-10-20	450-25	1-3/8 x 2	1.89

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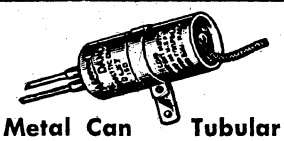

ELECTROLYTICS — (Continued)

TYPE PRS "DANDEE" (85°C)

SINGLES • DUALS • TRIPLES • MULTIPLES

Metal Can Tubular Electrolytic Capacitors TYPE PRS-AC (AC rated units) NP-PRS (non-polarized units)

Compact, electrolytic tubular capacitors furnished in aluminum cans with cardboard insulating sleeves. Designed for use in television and radio applications where space is at a premium.
Included in this listing are the AC rated units (PRS-AC) and non-polarized units (NP PRS) for replacement use in cross-over networks and color TV receivers.
Single section capacitors are furnished with bare tinned copper leads 3 inches long. Negative grounded to case. Multiple units are furnished with insulated, stranded copper leads 5 inches long. Negative is common and grounded to case. Multiple units have common cathode.
Sizes listed are diameters over cardboard insulating sleeve. For actual can size deduct 1/16" from diameter and 1/4" from length. Multiple units are supplied with mounting strap. If mounting strap is required on single units, specify on order.
Tolerance and surge voltage are in accordance with EIA Specification RS-154.
The factory is currently in the process of reducing sizes of this type. Aerovox reserves the right to ship sizes listed below until present stock is depleted and smaller sizes as they become available.

TYPE PRS – SINGLES

Prs No.	Cap. Mfd.	Size	Net Price*
		3V	
1010	25	7/16 x 1¼	$ .51
1015	50	7/16 x 1¼	.57
1020	100	7/16 x 1¼	.66
1025	200	7/16 x 1-7/8	.69
1030	300	9/16 x 1-3/8	.78
1040	500	9/16 x 1-7/8	.84
		4V	
1050	2000	13/16 x 2	1.38
		6V	
1075	5	7/16 x 1¼	.48
1080	25	7/16 x 1¼	.51
1090	50	7/16 x 1¼	.57
1100	100	7/16 x 1¼	.72
1110	250	9/16 x 1-3/8	.81
1120	500	11/16 x 1½	.93
1130	1000	11/16 x 2-1/8	1.14
1140	1500	13/16 x 2	1.26
1145	2000	13/16 x 2-3/8	1.38
		10V	
1147	2000	15/16 x 2	1.47
		12V	
1149	50	7/16 x 1-3/8	.60
1150	100	7/16 x 1-3/8	.72
1155	200	9/16 x 1-7/8	.81
1160	250	9/16 x 1¾	.87
1170	500	11/16 x 1-7/8	1.02
1180	1000	13/16 x 2-1/8	1.35
		15V	
1200	100	9/16 x 1-3/8	.75
1210	250	11/16 x 1-5/8	.93
1220	500	13/16 x 1¾	1.05
1230	1000	15/16 x 1-7/8	1.38
1240	2000	15/16 x 2¼	1.92
		20V	
1243	2000	1 x 2-5/16	2.32
		25V	
1245	5	7/16 x 1¼	.60
1250	10	7/16 x 1¼	.60
1255	16	7/16 x 1¼	.60
1257	20	7/16 x 1¼	.60
1260	25	7/16 x 1¼	.60
1265	50	7/16 x 1-3/8	.66
1270	100	9/16 x 1-5/8	.81
1280	250	13/16 x 1¾	1.02
1290	500	13/16 x 2¼	1.38
1295	1000	1-1/16 x 2-1/8	1.98
		50V	
1297	1	7/16 x 1¼	.54
1300	2	7/16 x 1¼	.54
1310	5	7/16 x 1¼	.60
1320	10	7/16 x 1¼	.60
1325	15	7/16 x 1-3/8	.60
1330	20	7/16 x 1¼	.60
1340	25	7/16 x 1¼	.63
1350	50	11/16 x 1½	.72
1360	100	11/16 x 1¾	.84
1370	150	13/16 x 1¾	.93
1380	250	15/16 x 1¾	1.05
1390	500	1-1/16 x 2¼	1.44
1395	1000	1 x 3	1.88
		150V	
1400	4	7/16 x 1¼	.60
1401	5	7/16 x 1¼	.60
1405	8	9/16 x 1¼	.63
1410	10	9/16 x 1-3/8	.63
1420	12	9/16 x 1-3/8	.66
1425	15	9/16 x 1-3/8	.69
1430	16	9/16 x 1½	.69
1440	20	9/16 x 1-5/8	.72
1450	24	9/16 x 1-7/8	.75
1451	25	9/16 x 1-7/8	.75
1460	30	11/16 x 1½	.78
1470	40	11/16 x 1¾	.81
1480	50	13/16 x 1¾	.84

TYPE PRS–SINGLES (Cont)

Prs No.	Cap. Mfd.	Size	Net Price*
1490	60	13/16 x 1¾	.90
1500	80	13/16 x 2	.96
1510	100	13/16 x 2¼	1.05
1520	150	15/16 x 2-3/8	1.14
1530	200	15/16 x 2-7/8	1.32
1540	300	1-1/16 x 3	1.53
		250V	
1550	4	7/16 x 1¼	.60
1555	8	9/16 x 1-3/8	.69
1560	12	9/16 x 1-5/8	.75
1565	16	11/16 x 1-3/8	.78
1570	20	11/16 x 1-5/8	.81
1575	30	11/16 x 2	.87
1580	40	13/16 x 1¾	.93
1585	50	13/16 x 2	1.02
1590	60	13/16 x 2-1/8	1.08
1595	100	15/16 x 2½	1.47
		350V	
1600	4	9/16 x 1¼	.63
1610	8	9/16 x 1-7/8	.72
1620	10	11/16 x 1½	.75
1630	12	11/16 x 1½	.78
1640	16	11/16 x 1¾	.84
1650	24	13/16 x 1-5/8	.93
1660	30	13/16 x 1¾	.99
1670	40	13/16 x 2-1/8	1.05
1680	50	15/16 x 2-1/8	1.11
1690	60	15/16 x 2-3/8	1.17
		450V	
1700	1	7/16 x 1¼	.66
1705	2	9/16 x 1¼	.69
1710	4	9/16 x 1½	.69
1715	8	11/16 x 1-5/8	.75
1720	10	11/16 x 1-7/8	.78
1725	12	13/16 x 1½	.81
1730	16	13/16 x 1¾	.84
1735	20	13/16 x 2	.93
1740	30	15/16 x 2-1/8	1.02
1750	40	15/16 x 2½	1.08
1760	50	15/16 x 3¼	1.26
1770	60	1-1/16 x 3	1.41
1780	80	1-1/16 x 3¾	1.68
1790	100	1-1/16 x 3¾	1.92
		500V	
1795	1	½ x 1	.60
1800	4	9/16 x 1¾	.72
1805	8	13/16 x 1½	.78
1810	10	13/16 x 1-5/8	.81
1815	12	13/16 x 1¾	.84
1820	16	13/16 x 2-1/8	.90
1830	20	15/16 x 2	.96
1840	30	15/16 x 2-5/8	1.05
		600V	
1845	4	11/16 x 2½	1.44
1850	8	13/16 x 2¾	1.71
1860	10	15/16 x 2¾	1.77
1870	12	15/16 x 2¾	1.89
1880	16	15/16 x 3¼	2.07
1890	20	1-1/16 x 3	2.13
		700V	
1900	8	15/16 x 2¾	1.74
1905	10	15/16 x 3	1.83
1910	12	15/16 x 3¼	1.95
1915	16	1-1/16 x 3-3/8	2.10

TYPE PRS – DUALS

Prs No.	Cap. Mfd.	Size	Net Price*
		15V	
2020	500-150	15/16 x 1¾	1.62
		25V	
2050	10-10	11/16 x 1¼	.84
2075	20-20	11/16 x 1¼	.84
		150V	
2150	8-8	11/16 x 1¼	.90

TYPE PRS–DUALS (Cont)

Prs No.	Cap. Mfd.	Size	Net Price*
2155	16-8	13/16 x 1-3/8	.93
2160	20-10	13/16 x 1½	.93
2165	20-20	13/16 x 1¾	.99
2170	30-20	13/16 x 1½	1.02
2175	30-30	13/16 x 1-5/8	1.08
2180	40-20	13/16 x 1-5/8	1.05
2190	40-30	13/16 x 1¾	1.08
2195	40-40	13/16 x 2	1.08
2200	50-30	13/16 x 2	1.17
2210	50-50	13/16 x 2¼	1.26
2220	80-20	13/16 x 2¼	1.29
2230	80-40	13/16 x 2	1.32
2240	80-50	15/16 x 2-1/8	1.41
2245	100-100	15/16 x 2¾	1.92
		200V	
2250	8-8	13/16 x 1¼	.90
2260	16-8	13/16 x 1½	.96
2280	16-16	13/16 x 1¾	1.02
2290	30-30	13/16 x 1-7/8	1.29
		250V	
2300	10-10	13/16 x 1-5/8	.99
2320	16-16	13/16 x 2-1/8	1.02
2330	20-20	13/16 x 1¾	1.11
2340	30-30	13/16 x 2-1/8	1.35
		300V	
2345	50-10	1-1/16 x 2¼	1.50
		350V	
2348	30-5	15/16 x 2¼	1.29
		450V	
2350	8-8	13/16 x 1¾	1.02
2360	10-10	13/16 x 2	1.11
2370	16-8	13/16 x 2¼	1.20
2380	16-16	15/16 x 2¼	1.35
2390	20-20	15/16 x 2½	1.50
2400	30-30	1-1/16 x 2¾	1.80
2410	40-20	1-1/16 x 3	1.77
2420	40-40	1-1/16 x 3¾	2.01
2430	50-30	1-1/16 x 3¾	2.04

TYPE PRS – TRIPLES

Prs No.	Cap. Mfd.	Size	Net Price*
		15V	
3200	500-100-100	15/16 x 1-13/16	1.80
		150V	
3500	20-20-20	15/16 x 1¾	1.51
3550	30-20-10	15/16 x 1¾	1.51
3555	30-25-20	15/16 x 1¾	1.51
3560	30-30-20	15/16 x 1¾	1.58
3570	30-30-30	15/16 x 1¾	1.58
3600	40-20-20	15/16 x 1¾	1.58
3625	40-30-20	15/16 x 1¾	1.58
3650	40-40-20	15/16 x 1-7/8	1.63
3675	40-40-40	15/16 x 2	1.67
3700	50-30-10	15/16 x 1¾	1.58
3750	50-30-20	15/16 x 1-7/8	1.63
3800	80-40-20	15/16 x 2¼	1.74
3825	80-50-20	15/16 x 2-3/8	1.74
		450V	
3900	10-10-10	15-16 x 2-1/8	1.67

TYPE PRS – MULTIPLE VOLTAGES

Prs No.	Cap Mfd.	VDCW	Size	Net Price*
4150	40-40/250	150/10	15/16 x 2¼	1.71
4200	20-20/20	150/25	15/16 x 1¾	1.48
4300	30-20/20	150/25	15/16 x 1¾	1.50
4350	30-20/100	150/25	15/16 x 1¾	1.58
4400	40-20/20	150/25	15/16 x 1¾	1.53
4425	40-30/20	150/25	15/16 x 1¾	1.55
4450	40-40/20	150/25	15/16 x 1¾	1.59
4475	40-40/100	150/25	15/16 x 2	1.67

TYPE PRS - MULTIPLE VOLTAGES (Cont)

Prs No.	Cap Mfd.	VDCW	Size	Net Price*
4500	50-30/20	150/25	15/16 x 1¾	1.59
4525	50-30/100	150/25	15/16 x 2	1.67
4550	50-30/250	150/25	15/16 x 2½	1.81
4575	50-50/20	150/25	15/16 x 1-7/8	1.66
4600	80-20/100	150/25	15/16 x 2¼	1.69
4650	80-40/20	150/25	15/16 x 2-1/8	1.69
4700	20-20/20	450/25	1-1/16 x 2-3/8	1.86
*4800	20/100	475/50	15/16 x 2-7/8	1.56
4805	20/100	500/25	15/16 x 2-5/8	1.56

*No Tube

TYPE PRS – AC Rated

Prs No.	Cap. Mfd.	Size	Net Price*
		10VAC	
6200	8	11/16 x 1½	$ .75
		25VAC	
6400	20	13/16 x 1½	.75
		50VAC	
6500	30	15/16 x 1¾	.84
6550	60	13/16 x 2¾	.93

NP-PRS–NON-POLARIZED

Prs No.	Cap. Mfd.	Size	Net Price*
		3 VNP	
7050	1000	13/16 x 2	1.29
		6 VNP	
7100	500	11/16 x 1-1/2	1.17
		10 VNP	
7200	25	7/16 x 1¼	.69
7220	50	7/16 x 1-3/8	.72
7230	170	11/16 x 1-5/8	.96
7240	450	1-1/16 x 2¼	1.20
7245	500	15/16 x 1¾	1.20
		12 VNP	
**7247	200	11/16 x 1¾	1.08

**with bracket

		15 VNP	
7250	500	15/16 x 1-7/8	1.31
7275	1000	1-1/16 x 2¼	1.74
		25 VNP	
7300	2	7/16 x 1¼	.69
7315	10	7/16 x 1¼	.75
7330	50	11/16 x 1½	.84
7340	100	11/16 x 1-5/8	1.02
		30 VNP	
7350	20	9/16 x 1¼	.75
		50 VNP	
7400	2	7/16 x 1-1/8	.69
7405	4	7/16 x 1¼	.75
		150 VNP	
7450	40	1-1/16 x 2	1.02
		200 VNP	
7500	2	11/16 x 1¼	.75
		300 VNP	
7525	1	7/16 x 1¼	.75
		350 VNP	
7550	5	15/16 x 1¾	.78
7555	10	13/16 x 2	.93
7560	20	1-1/16 x 2¼	1.09
		400 VNP	
7650	10	13/16 x 2	.93
		450 VNP	
7750	4	11/16 x 1-5/8	.84

*Request O.E.M. Prices in the following quantities:

25-49, 50-99, 100-249, 250-499.

Net

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AEROVOX Hi-Q

CAPACITORS

ELECTROLYTICS – (Continued)
TYPE CRE ULTRA-MINIATURE 85°C ALUMINUM CASED ELECTROLYTICS

Ultra-miniature, tubular, aluminum cased electrolytics with tinned copper leads. Furnished with insulating sleeves of heat shrinkable mylar tubing which adds only 1/32" to can diameter and 1/16" to length.

Ideal for use in bypass, filter, and coupling applications in low-voltage, compact, miniaturized equipments such as personal radios, hearing aids, microphones, wire receivers, etc.

Elimination of variable or high resistance connections, freedom from corrosion and extremely low leakage characteristics have been attained through the use of a combination of all-welded construction, high purity ingredients and extreme care in manufacture and test procedures.

Temperature Range: —30°C to +85°C
Capacitance Tolerance: —10%, +100%
Nominal lead length: 1½"

Packaging: Packaged in new, patented, straight-lead, 5-pack container. Keeps leads straight. Holds five units. The 5-pack is adaptable to packaging in bulk or in single inside cartons. For full technical information request Bulletin NPJ-124

STOCK LISTING

Mfd.	Size	Catalog Number *	Net **Price
		3 VDCW	
1	B	CRE200A	$ .75
2	B	CRE201A	.75
3	B	CRE202A	.75
4	B	CRE203A	.75
5	B	CRE204A	.75
6	B	CRE205A	.75
8	B	CRE206A	.75
10	B	CRE207A	.75
15	B	CRE209A	.75
20	B	CRE211A	.75
25	B	CRE212A	.75
30	C	CRE213A	.75
35	C	CRE214A	.75
40	C	CRE215A	.75
50	C	CRE217A	.75
60	D	CRE218A	.84
75	D	CRE220A	.84
100	D	CRE223A	.84
150	E	CRE228A	.87
200	F	CRE231A	.90
250	G	CRE233A	.96
300	G	CRE235A	.99
350	H	CRE237A	1.02
400	H	CRE239A	1.02
450	J	CRE241A	1.05
500	J	CRE243A	1.05
		6 VDCW	
1	B	CRE300A	.81
2	B	CRE301A	.81
3	B	CRE302A	.81
4	B	CRE303A	.81
5	B	CRE304A	.81
6	B	CRE305A	.81
8	B	CRE306A	.81
10	B	CRE307A	.81
15	B	CRE309A	.81
20	C	CRE311A	.81
25	C	CRE312A	.81
30	C	CRE313A	.84
35	C	CRE314A	.84
40	D	CRE315A	.84
50	D	CRE317A	.84
60	D	CRE318A	.84
75	E	CRE320A	.87
100	E	CRE323A	.90
150	G	CRE328A	.93
200	H	CRE331A	.96
250	H	CRE333A	1.02
300	J	CRE335A	1.08
350	J	CRE337A	1.08
		12 VDCW	
1	B	CRE400A	.84
2	B	CRE400A	.84
3	B	CRE402A	.84
4	B	CRE403A	.84
5	B	CRE404A	.84
6	B	CRE405A	.84
8	B	CRE406A	.84
10	B	CRE407A	.84
15	C	CRE409A	.84
20	C	CRE411A	.84
25	C	CRE412A	.84
30	D	CRE413A	.87
35	D	CRE414A	.87
40	E	CRE415A	.93
50	E	CRE417A	.93
60	E	CRE418A	.93
75	F	CRE420A	.99
100	F	CRE423A	1.05
150	H	CRE428A	1.14
200	H	CRE431A	1.23
250	J	CRE433A	1.32
		15 VDCW	
1	B	CRE450A	.84
2	B	CRE451A	.84
3	B	CRE452A	.84
4	B	CRE453A	.84
5	B	CRE454A	.84
6	B	CRE455A	.84
8	B	CRE456A	.84
10	B	CRE457A	.84
15	C	CRE459A	.87
20	C	CRE461A	.87
25	D	CRE462A	.87
30	D	CRE463A	.90
35	E	CRE464A	.93
40	E	CRE465A	.96
50	E	CRE467A	.96
60	F	CRE468A	1.02
75	F	CRE470A	1.02
100	G	CRE473A	1.08
150	H	CRE478A	1.17
200	J	CRE481A	1.26
		25 VDCW	
1	B	CRE600A	.84
2	B	CRE601A	.84
3	B	CRE602A	.84
4	B	CRE603A	.84
5	B	CRE604A	.84
6	C	CRE605A	.84
8	C	CRE606A	.87
10	C	CRE607A	.87
15	D	CRE609A	.87
20	E	CRE611A	.90
25	E	CRE612A	.93
30	E	CRE613A	.96
35	F	CRE614A	.99
40	F	CRE615A	1.02
50	G	CRE617A	1.08
60	G	CRE618A	1.08
75	H	CRE620A	1.17
100	J	CRE623A	1.26
		50 VDCW	
1	B	CRE750A	.84
2	B	CRE751A	.84
3	C	CRE752A	.84
4	C	CRE753A	.84
5	C	CRE754A	.87
6	D	CRE755A	.87
8	D	CRE756A	.90
10	D	CRE757A	.90
15	E	CRE759A	.90
20	F	CRE761A	.90
25	G	CRE762A	.93
30	G	CRE763A	.96
35	H	CRE764A	1.02
40	H	CRE765A	1.05
50	J	CRE767A	1.11
		100 VDCW	
1	D	CRE900A	.84
2	D	CRE901A	.84
3	D	CRE902A	.84
4	E	CRE903A	.84
5	E	CRE904A	.90
6	E	CRE905A	.90
8	F	CRE906A	.93
10	G	CRE907A	.93
15	H	CRE909A	.93
20	J	CRE911A	.96
25	J	CRE912A	.96
		150 VDCW	
1	D	CRE950A	.84
2	E	CRE951A	.87
3	E	CRE952A	.87
4	E	CRE953A	.87
5	E	CRE954A	.93
6	F	CRE955A	.93
8	G	CRE956A	.96
10	H	CRE957A	.96
15	H	CRE959A	.96
20	J	CRE961A	.96

*When ordering units without insulating sleeve delete sufix letter 'A' from Catalog No.
**Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249, 250-499

SIZE CHART			
B	¼ x ½	F	3/8 x 13/16
C	¼ x 11/16	G	3/8 x 15/16
D	5/16 x 11/16	H	3/8 x 1¼
E	3/8 x 11/16	J	3/8 x 1½

CRE PARENT CASES

CAP.	3V	6V	12V	15V	25V	50V	190V	150V
1	A	←	→			A	A	← → A
2	A	←	→			A	B	B
3	A	←	→			A	C	C
4	A	←	→			A	C	D
5	A	←	→		A	B	D	D
6	A	←	→		A	B	D	E
8	A	←	→		A	B	E	E
10	A	←	→		A	C	E	F
15	A	←	→	A	B	C	F	G
20	A	A	B	B	D	D	G	H
25	A	B	B	B	C	D	H	
30	A	B	B	C	C	E		
35	B	B	C	C	C	E		
40	B	B	D	D	D	F		
50	B	C	C	D	D	F		
60	B	C	C	D	E			
75	C	C	D	D	E			
100	C	D	E	E	F			
125	C	E	E	F	G			
150	D	E	F	F				
175	D	D	G	G				
200	D	E	G	G				
225	E	F	G					
250	E	F	G					
300	E	G						
350	F	G						
400	F							
450	G							
500	G							

CASE SIZES
A – 1/4 x 17/33
B – 1/4 x 23/32
C – 21/64 x 23/32
D – 21/64 x 27/32
E – 25/64 x 27/32
F – 25/64 x 31/32
G – 25/64 x 1-9/32
H – 25/64 x 1-17/32

As present stocks are depleted on this type new units will be compositely marked as long as the case size is the same.

AEROVOX Hi-Q

CAPACITORS

ELECTROLYTICS — (Continued)

TYPE PTT TUBULAR PLASTIC-CASED ELECTROLYTICS

Small in size big in performance, designed especially for wide applications in transistorized circuitry and cramped electronic assemblies, here is a truly MINIATURE electrolytic tubular that will handle full sized loads. Aerovox Type PTT units feature "Polycap" cases that are the next best thing to metal cans for maximum protection against humidity. Advanced construction techniques assure long capacitor life. Units are rated for operation at temperatures from —30°C to +65°C.

For full technical information request Bulletin NPJ-111 Rev.

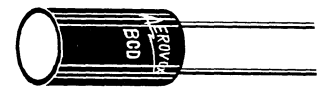
Cap.	PTT #	Size	Net Price*
	3 VDCW		
1	PTT 1	A	.42
2	PTT 2	A	.42
3	PTT 3	A	.42
5	PTT 4	A	.42
8	PTT 5	A	.42
10	PTT 6	A	.42
15	PTT 7	A	.42
20	PTT 8	B	.42
25	PTT 9	B	.42
30	PTT 10	B	.42
40	PTT 11	B	.42
50	PTT 12	C	.42
100	PTT 13	H	.45
150	PTT 100	J	.45
200	PTT 14	K	.45
250	PTT 15	K	.48
300	PTT 16	L	.54
500	PTT 17	O	.75
800	PTT 138	W	.75
	6 VDCW		
1	PTT 18	A	.42
2	PTT 19	A	.42
3	PTT 20	A	.42
5	PTT 21	A	.42
8	PTT 22	A	.42
10	PTT 23	A	.42
15	PTT 24	B	.42
20	PTT 25	B	.42
25	PTT 26	B	.42
30	PTT 27	C	.42
40	PTT 28	C	.45
50	PTT 29	E	.45
100	PTT 30	G	.45
150	PTT 101	J	.48
200	PTT 31	K	.48
250	PTT 32	M	.60
300	PTT 33	N	.75
	10 VDCW		
1	PTT 34	A	.42
2	PTT 35	A	.42
3	PTT 36	A	.42
5	PTT 37	A	.42
8	PTT 38	A	.42
10	PTT 39	A	.42
15	PTT 40	B	.42
20	PTT 41	B	.42
25	PTT 42	E	.45
30	PTT 43	E	.45
40	PTT 44	E	.45
50	PTT 45	F	.45
100	PTT 46	J	.45
150	PTT 102	K	.60
200	PTT 47	L	.75
250	PTT 103	N	.75
300	PTT 104	O	.75
	12 VDCW		
1	PTT 48	A	.42
2	PTT 49	A	.42
3	PTT 50	A	.42
5	PTT 51	A	.42
8	PTT 52	A	.42
10	PTT 53	B	.42
15	PTT 54	B	.42
20	PTT 55	E	.42
25	PTT 56	E	.45
30	PTT 57	E	.45
40	PTT 58	H	.45
50	PTT 59	H	.45
100	PTT 60	K	.45
150	PTT 105	L	.60
200	PTT 106	N	.75
	15 VDCW		
1	PTT 61	A	.42
2	PTT 62	A	.42
3	PTT 63	A	.42
5	PTT 64	A	.42
8	PTT 65	B	.42
10	PTT 66	B	.42
15	PTT 67	B	.42
20	PTT 68	E	.45
25	PTT 69	E	.45
30	PTT 70	E	.45
40	PTT 71	H	.45
50	PTT 72	H	.45
100	PTT 73	K	.60
150	PTT 107	L	.66
200	PTT 108	O	.75
	20 VDCW		
1	PTT 109	A	.42
2	PTT 110	A	.42
3	PTT 111	A	.42
5	PTT 112	A	.42
8	PTT 113	B	.42
10	PTT 114	B	.42
15	PTT 115	E	.45
20	PTT 116	E	.45
25	PTT 117	E	.45
30	PTT 118	H	.45
40	PTT 119	H	.45
50	PTT 120	J	.45
100	PTT 121	N	.60
150	PTT 122	S	.66
200	PTT 123	U	.75
	25 VDCW		
1	PTT 74	A	.42
2	PTT 75	A	.42
3	PTT 76	A	.42
5	PTT 77	B	.42
8	PTT 78	B	.42
10	PTT 79	E	.42
15	PTT 80	E	.45
20	PTT 81	H	.45
25	PTT 82	H	.45
30	PTT 83	H	.45
40	PTT 84	J	.45
50	PTT 85	K	.45
100	PTT 86	N	.66
150	PTT 124	V	.75
	35 VDCW		
1	PTT 125	A	.42
2	PTT 126	A	.42
3	PTT 127	A	.42
5	PTT 128	D	.42
8	PTT 129	E	.45
10	PTT 130	E	.45
15	PTT 131	H	.45
20	PTT 132	H	.45
25	PTT 133	J	.48
30	PTT 134	J	.60
40	PTT 135	P	.75
50	PTT 136	R	.75
100	PTT 137	T	.75
	50 VDCW		
1	PTT 87	A	.42
2	PTT 88	A	.42
3	PTT 89	B	.42
5	PTT 90	C	.42
8	PTT 91	E	.45
10	PTT 92	H	.45
15	PTT 93	H	.45
20	PTT 94	J	.45
25	PTT 95	K	.48
30	PTT 96	K	.60
40	PTT 97	M	.75
50	PTT 98	N	.75

*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249

SIZE CHART

A	1/4 x 5/8	J	3/8 x 7/8	R	7/16 x 1
B	1/4 x 1/4	K	3/8 x 1	S	7/16 x 1¼
C	1/4 x 7/8	L	3/8 x 1-1/8	T	7/16 x 1½
E	5/16 x 1/4	M	3/8 x 1¼	U	1/2 x 1¼
F	5/16 x 7/8	N	3/8 x 1-3/8	V	7/16 x 1-3/8
G	5/16 x 1	O	3/8 x 1½	W	1/2 x 1-3/8
H	3/8 x 3/4	P	7/16 x 7/8		

TYPE B C D UPRIGHT MOUNTING BAKELITE CASED ELECTROLYTICS



"Polycap" cased, epoxy end filled electrolytic capacitors. Upright mounting for replacement in printed wiring, transistorized personal radios and car radios.

Small size and type of mounting make these units ideal for use in any printed wiring circuit.

Plastic case and epoxy end seal offer good moisture barrier which protects against drying out or leakage of electrolyte.

High purity foil insures long life and low leakage.

Minimum 1" lead length assists in threading connections into printed wiring boards even in tightest spaces.

Positive lead is identified by a + (plus) mark on case.

For full technical information request Bulletin NPJ-108.

Cap. Mfds.	BCD No.	Size	Net Price*
	3 VDCW		
1	3001	A	.75
2	3002	A	.75
3	3003	A	.75
4	3004	A	.75
5	3005	A	.75
6	3006	A	.75
8	3008	A	.75
10	3010	A	.75
15	3015	A	.75
20	3020	A	.75
25	3025	A	.75
35	3035	B	.75
50	3050	B	.75
75	3075	B	.78
100	3100	C	.84
150	3150	D	.84
200	3200	D	.87
250	3250	F	.96
300	3300	F	.99
500-50	3X50050	N	1.14
1000-50	3X100050	Q	1.20
	4 VDCW		
100-100	4X100100	F	1.05
	5 VNP		
5	5005	A	.81
	6 VDCW		
1	6001	A	.75
2	6002	A	.75
3	6003	A	.75
4	6004	A	.75
5	6005	A	.75
6	6006	A	.75
8	6008	A	.75
10	6010	A	.75
15	6015	B	.75
20	6020	B	.75
25	6025	B	.75
35	6035	B	.75
50	6050	B	.75
75	6075	C	.81
100	6100	D	.90
150	6150	F	.93
200	6200	F	.96
100-30	6X10030	F	1.05
	8 VDCW		
800	8800	P	1.20
	10 VNP		
5	10005	A	.81
	10 VDCW		
10	10010	A	.75
25	10025	B	.75
50	100050	C	.75
80	10080	D	.84
100	10100	D	.90
190	10190	G	.99
50-30	10X5030	F	1.02
50-50	10X5050	F	1.02
80-50	10X8050	F	1.05
80-80	10X8080	F	1.05
	12 VDCW		
1	12001	A	.75
2	12002	A	.75
3	12003	A	.75
4	12004	A	.75
5	12005	A	.75
6	12006	A	.75
8	12008	A	.75
10	12010	A	.75
15	12015	B	.75
20	12020	B	.75
25	12025	B	.75
35	12035	B	.75
50	12050	C	.75
75	12075	D	.84
100	12100	F	.90
150	12150	G	.99
250	12250	H	1.08
500	12500	P	1.20

Cap. Mfds.	BCD No.	Size	Net Price*
	15 VDCW		
1	15001	A	.75
2	15002	A	.75
3	15003	A	.75
4	15004	A	.75
5	15005	A	.75
6	15006	A	.75
8	15008	A	.75
10	15010	A	.75
15	15015	B	.75
20	15020	B	.75
25	15025	B	.75
35	15035	C	.75
50	15050	C	.75
75	15075	F	.87
100	15100	F	.90
100-100	*15X100100	J	1.05
300-100	15X300100	K	1.11
300	15300	N	1.20
500	15500	P	1.20
	18 VDCW		
100	18100	M	.96
	20 VDCW		
200	20200	N	1.05
100-100	*20X100100	R	1.11
	25 VDCW		
1	25001	A	.75
2	25002	A	.75
3	25003	A	.75
4	25004	A	.75
5	25005	A	.75
6	25006	A	.75
8	25008	A	.75
10	25010	A	.75
15	25015	B	.75
20	25020	C	.75
25	25025	C	.75
35	25035	D	.81
50	25050	F	.84
75	25075	E	.90
	50 VDCW		
1	50001	A	.75
2	50002	A	.75
3	50003	A	.75
4	50004	A	.75
5	50005	B	.75
6	50006	B	.75
8	50008	B	.75
10	50010	B	.75
15	50015	C	.75
20	50020	D	.75
25	50025	F	.81

* Common Positive

BCD SIZE CODE

A	5/16 x 5/8	H	1/2 x 1-1/8
B	3/8 x 5/8	J	1/2 x 1-1/4
C	3/8 x 3/4	K	1/2 x 1-1/2
D	7/16 x 3/4	M	5/8 x 3/4
E	7/16 x 1	N	5/8 x 1
F	1/2 x 3/4	P	5/8 x 1-1/4
G	1/2 x 7/8	R	5/8 x 1-7/8
		Q	5/8 x 1½

Diam.	Lead Spacing
5/16	.125
3/8	.187
7/16	.250
1/2	.312
5/8	.400

LEAD SIZE

Diam.	Pos.	Neg.
5/16	.020	.025
3/8	.025	.032
7/16	.025	.032
1/2	.025	.032
5/8	.025	.032

As present stocks are depleted on the types shown on this page new units furnished will be compositely marked as long as the case size is the same. Example — for the PTT-1 we will furnish the PTT-87 marked 3-50 VDCW 1 mfd.

Net

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AEROVOX Hi-Q

CAPACITORS

ELECTROLYTICS — (Continued)

TYPE QE 61

Type QE capacitors are aluminum electrolytics designed for applications requiring high reliability and long life. Typical applications are in computor equipment, power supplies, telephone networks, industrial electronic equipment and high grade commercial and laboratory test instruments.

These units are manufactured with special high purity materials and processed under controlled conditions of cleanliness with the most modern equipment available. The aluminum container is hermetically sealed and furnished with low screw inserts with a pressure type safety vent provided in the cover.

Operating temperatures for QE61 is —20°C to +65°C. Standard capacity tolerance 2.5 Volts to 150 Volts is —10% +100%. For 151 Volts to 450 Volts —10% +50%. QE61 will be furnished with heat shrinkable mylar tubing which adds only .010 to the diameter and .020 to the length of the can size as shown.

For complete engineering details including ripple currents, dissipation factor, etc., request our latest bulletin NPJ-125.

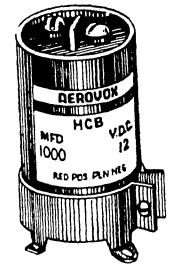
AVAILABLE CAN SIZES AND DESIGNATION

Can Size	Design-nation	Can Size	Design-nation	Can Size	Design-nation	Can Size	Design-nation	Can Size	Design-nation
1⅜ x 1⅜	A1	1¾ x 2⅛	B1	2 x 3⅛	C1	2½ x 3⅛	D1	3 x 4⅛	E1
1⅜ x 2⅛	A2	1¾ x 3⅛	B2	2 x 4⅛	C2	2½ x 4⅛	D2	3 x 4⅝	E2
1⅜ x 3⅛	A3	1¾ x 4⅛	B3	2 x 4⅝	C3	2½ x 4⅝	D3	3 x 5⅛	E3
1⅜ x 4⅛	A4	1¾ x 4⅝	B4	2 x 5⅛	C4	2½ x 5⅛	D4	3 x 5⅝	E4
1⅜ x 4⅝	A5	1¾ x 5⅛	B5	2 x 5⅝	C5	2½ x 5⅝	D5		

Cat. No.	Size	Capacity	Net Price*
10 VDCW			
61QE2048M	A1	1800	
61QE2049M	A2	3600	
61QE2051M	A3	7300	
61QE2052M	A4	11000	
61QE2058M	C2	25000	
15 VDCW			
61QE2072M	A1	1500	
61QE2073M	A2	3100	
61QE2075M	A3	6100	
61QE2076M	A4	9200	
61QE2079M	C1	14000	
61QE2083M	C2	21000	Contact
61QE2086M	C4	28000	Your
61QE2088M	D2	35000	Local
25 VDCW			Aerovox
61QE2120M	A1	950	Industrial
61QE2121M	A2	1900	Distributor
61QE2123M	A3	3800	for
61QE2124M	A4	5800	Prices
61QE2127M	C1	8900	
61QE2131M	C2	13000	
61QE2134M	C4	17000	
61QE2136M	D2	22000	
61QE2140M	E1	33000	
35 VDCW			
61QE2164M	E1	23000	
61QE2165M	E2	27000	
40 VDCW			
61QE2171M	A3	2400	
61QE2175M	C1	5600	
61QE2178M	C2	8300	
61QE2184M	D2	14000	
61QE2185M	E3	16300	
50 VDCW			
61QE2192M	A1	470	
61QE2193M	A2	940	
61QE2195M	A3	1850	
61QE2196M	A4	2830	
61QE2199M	C1	4300	
61QE2202M	C2	6500	
61QE2206M	C4	8700	
61QE2208M	D2	10900	

Cat. No.	Size	Capacity	Net Price*
75 VDCW			
61QE2243M	A3	950	
61QE2247M	C1	2300	
61QE2256M	D2	5800	
100 VDCW			
61QE2268M	A4	1000	
61QE2271M	C1	1600	
61QE2274M	C2	2400	
61QE2278M	C4	3200	
61QE2280M	D2	4000	
150 VDCW			
61QE2291M	A3	520	
61QE2292M	A4	785	Contact
61QE2295M	C1	1200	Your
61QE2298M	C2	1800	Local
61QE2304M	D2	3100	Aerovox
61QE2308M	E1	4700	Industrial
61QE2309M	E2	5400	Distributor
200 VDCW			for
61QE2315M	A3	400	Prices
61QE2319M	C1	960	
61QE2323M	C2	1450	
61QE2325M	D1	1600	
250 VDCW			
61QE2340M	A4	460	
61QE2343M	C1	750	
61QE2346M	C2	1100	
300 VDCW			
61QE2363M	A3	250	
350 VDCW			
61QE2387M	A3	185	
61QE2400M	D2	1100	
450 VDCW			
61QE2430M	C2	340	
61QE2436M	D2	570	
61QE2437M	E1	850	

*Request O.E.M. Prices in the following quantities: 25-49, 50-99



TYPES HCB and NPB High Capacity Low Voltage Bakelite Cased Electrolytics

Type HCB units are polarized electrolytic capacitors designed for use in industrial applications such as battery eliminators, power supplies, electric fence controls and sound movie projectors. For non-polarized applications in welding and control equipment Type NPB units are available.

Both types feature heavy-duty, moisture resistant bakelite cases which eliminate the need for outer cardboard insulating tubes. Operating temperature range from —40°C to +85°C. Capacitance tolerance up to 150 VDCW —10% +100%, over 150 VDCW —10% +50%. High capacity etched plate construction assures long trouble-free operation. Units supplied with wrap around—footed brackets for vertical mtg.—horizontal mtg. available on Special Order.

For full technical information request bulletin NPJ-117.

TYPE HCB			HCB (Continued)		
Capacity MFD	Size	Net Price**	Capacity MFD	Size	Net Price**
6 VDCW—8V Surge			**50 VDCW—75V Surge**		
12000	1-13/16 x 4-3/8	$8.16	500	1-7/16 x 3-3/8	$3.33
			1000	1-7/16 x 3-3/8	4.25
			2000	1-13/16 x 3-3/8	5.06
12 VDCW—18V Surge			3000	1-13/16 x 4-3/8	7.00
500	1-7/16 x 2¾	2.70	4000	2-1/16 x 4-3/8	7.32
1000	1-7/16 x 2¾	2.94			
2000	1-7/16 x 2¾	3.36	**150 VDCW—185V Surge**		
3000	1-7/16 x 3-3/8	3.96	1000	1-13/16 x 4-3/8	6.44
4000	1-7/16 x 3-3/8	4.60			
6000	1-13/16 x 3-3/8	5.20			
10000	1-13/16 x 4-3/8	7.82			
18 VDCW—25V Surge			**TYPE NPB**		
500	1-7/16 x 2¾	2.89	**125 VNP—175V Surge**		
1000	1-7/16 x 2¾	3.31	200	1-7/16 x 3-3/8	4.04
1500	1-7/16 x 2¾	3.39	300	1-13/16 x 3-3/8	4.87
2000	1-7/16 x 2¾	3.47	500	1-13/16 x 4-3/8	6.30
4000	1-13/16 x 3-3/8	5.37			
6000	1-13/16 x 3-3/8	5.62			
			300 VNP—375V Surge		
25 VDCW—40V Surge			15	1-7/16 x 2¾	2.87
500	1-7/16 x 2¾	2.89	100	1-13/16 x 3-3/8	6.13
1000	1-7/16 x 2¾	3.19	200	2-1/16 x 4-3/8	7.00
1250	1-7/16 x 3-3/8	3.43			
2000	1-7/16 x 3-3/8	4.15			
3000	1-13/16 x 3-3/8	4.88	**450 VNP—525V Surge**		
4000	1-13/16 x 3-3/8	5.58	50	1-13/16 x 3-3/8	6.30
6000	1-13/16 x 4-3/8	7.12	100	2-1/16 x 4-3/8	7.70

**Request O.E.M. Prices in the following quantities: 10-24, 25-49, 50-99, 100-249

CAPACITORS

ADDITIONAL STYLES

For complete information on any Types shown on this page request Catalog or Brochure from Aerovox Corporation, Distributor Sales, or your nearest authorized Aerovox Industrial Distributor.

TYPE G
Insulated Screw-Mounting Capacitors

Hermetically-sealed aluminum can unit, threaded cover size 7/8—16 with hex nut and washer for convenient mounting on chassis. Washer can be used to insulate can from chassis. Terminals molded in cover. Cathode connection thru terminal in cover. These units are the commercial equivalent of case style CE41 and 42 of specification MIL C62A.

7 Stock Values – 3 Voltages

TYPE FF
Photo-Flash Capacitors

Selective choice of highest purity materials makes these units ideal for rugged photoflash application calling for lowest leakage requirements. Type FF-1 furnished in molded black plastic container, type FF-2 in aluminum can with black glazed tubing; both units furnished with screw lug terminals. Highly resistant to moisture and oil. Surge voltages and time duty cycles as listed in EIA specification No. RS-154.

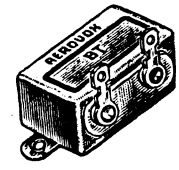
2 Stock Values

TYPE E
Hermetically-Sealed, Aluminum, Round Metal-Cased Capacitors

Can be mounted with terminals upright or inverted by use of a ring-type clamp provided with unit. Can is floating, thus having two terminals on single-section capacitors, three on duals, and four on triples.

These units are the commercial equivalent of case style CE31, 2 and 3 of MIL Specification C62A.

16 Stock Values – 10 Voltages



TYPE BT
Drawn-Case "Bathtub" Electrolytic Capacitors

Hermetically-sealed units designed for rigid mounting in minimum space. Of sturdy construction, these high-quality units are commercial equivalent to the case style CE63 of MIL Specification C62A.

21 Stock Values – 6 Voltages

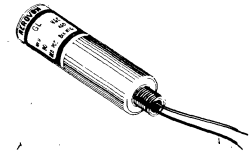
TYPE AEP
Plug-in Electrolytic Capacitors

Hermetically sealed, dry electrolytic capacitor furnished in round, aluminum can and 4-pin, octal-base mounting. For quick changes, readily removed and replaced in a standard octal-base tube socket.

For use where continuous service is important. They are ideally suited for experimental testing, juke boxes and communication receiver uses. These units are the commercial equivalents of Type CE51's, 2's and 3's, as listed in MIL Specification C62A.

Operating temperature to +65°C. Quadruple element units furnished with ground lug for cathode connection.

28 Stock Values – 5 Voltages

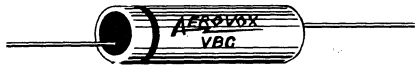


TYPE GL

These ever-popular inverted-mounting, aluminum can units, are furnished with the same high purity materials as the more expensive type E and G. Two separate color-coded leads 4" long for each section. Inverted chassis mounting can be made, using palnut and threaded neck. Threaded neck size 5/8—18.

24 Stock Values – 6 Voltages

Type VBC Vibrator Buffer Capacitors



These units are heavy-duty, Hyvol M impregnated, vibrator buffer capacitors in plastic tubes, specifically designed for severe-service auto-radio applications.

AUTOPASS® Vertical Mounting Plastic-Cased Paper Capacitors

Aerovox Autopass capacitors were specifically designed and developed for use in conjunction with printed-wiring assemblies where it is highly desirable to mount capacitors at right angles to the mounting surface thereby conserving valuable space

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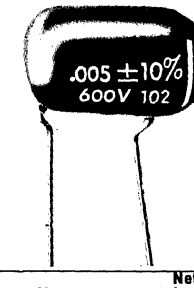
CAPACITORS

TYPE DBE DIPPED BI-ELECTRIC® AND TYPE BE POLYCAP® CAPACITORS ±10% TOLERANCE MYLAR† PAPER BYPASS TUBULARS



Type DBE is a dipped radial-lead style with all the advantages of a combination dielectric. Mylar and high quality kraft tissue with a solid impregnant for superior moisture protection and mechanical strength. Solid thermo-setting impregnant will not crack, soften or flow, assuring high stability. Low power factor, high insulation resistance, operating temperature to 125°C. All units with crimped-style leads.

Type BE is made of quality kraft tissue and Mylar film combined with Aerolene® impregnant and exclusive Polycap® plastic case.

Controlled end-fills provide sealed protection. Leads will not crack or pull out when extended for axial mounting. Standard capacitance tolerance ±10%, operating temperature range is −30°C to +100°C.

Complete technical information contained in Bulletins NPJ-130 Rev. and NPJ-118 Rev.

Cat. No.	Size	Net Price**
	200 VDCW	
DBE2P1	.470 x 1.180	$.27
DBE2P47	.730 x 1.600	.48
	400 VDCW	
DBE4S68	.440 x 1.180	$.27
DBE4P1	.520 x 1.180	.27
	600 VDCW	
DBE6D1	.340 x .690	$.15
DBE6D12	.340 x .690	.15
DBE6D15	.340 x .690	.15
DBE6D18	.340 x .690	.15
DBE6D2	.340 x .690	.15
DBE6D22	.340 x .690	.15
DBE6D25	.370 x .690	.15
DBE6D27	.370 x .690	.15
DBE6D3	.370 x .690	.15
DBE6D33	.370 x .690	.15
DBE6D39	.370 x .690	.15
DBE6D4	.370 x .690	.15
DBE6D47	.400 x .690	.15
DBE6D5	.415 x .690	.15
DBE6D56	.415 x .690	.15
DBE6D6	.415 x .690	.15
DBE6D68	.430 x .690	.18
DBE6D7	.430 x .690	.18
DBE6D75	.370 x .870	.18
DBE6D8	.370 x .870	.18
DBE6D82	.370 x .870	.18
DBE6S1	.390 x .870	.18
DBE6S12	.400 x .870	.18
DBE6S15	.415 x .870	.18
DBE6S18	.470 x .870	.18
DBW6S2	.470 x .870	.18
DBE6S22	.470 x .870	.18
DBE6S25	.415 x 1.150	.21
DBE6S27	.415 x 1.150	.21
DBE6S3	.430 x 1.150	.21
DBE6S33	.430 x 1.150	.21
DBE6S39	.470 x 1.150	.21
DBE6S4	.470 x 1.150	.21
DBE6S47	.490 x 1.150	.21
DBE6S5	.520 x 1.180	.21
DBE6S56	.520 x 1.180	.24
DBE6S6	.520 x 1.180	.24.
DBE6S68	.540 x 1.300	.27
DBE6S75	.570 x 1.300	.27
DBE6S82	.590 x 1.300	.27
DBE6P1	.640 x 1.300	.27
DBE6P15	.650 x 1.560	.33
DBE6P22	.750 x 1.560	.42
	1000 VDCW	
BE10D1	.340 x .690	$.33
BE10D12	.340 x .690	.33
BE10D15	.340 x .690	.33
BE10D18	.340 x .690	.33
BE10D2	.375 x .690	.33
BE10D22	.375 x .690	.33
BE10D33	.406 x .844	.33
BE10D39	.406 x .844	.33
BE10D47	.406 x .844	.33
BE10D68	.470 x .813	.33
BE10S1	.530 x .875	.33
BE10S15	.470 x 1.160	.33
BE10S18	.470 x 1.160	.36
BE10S22	.530 x 1.160	.36
BE10S25	.530 x 1.160	.36
BE10S27	.530 x 1.160	.36
BE10S33	.625 x 1.310	.36
BE10S39	.625 x 1.310	.39
BE10S47	.625 x 1.310	.39
BE10S56	.690 x 1.560	.42
BE10S68	.690 x 1.560	.42
BE10S75	.690 x 1.560	.45
BE10P1	.750 x 1.560	.45
BE10P15	.940 x 1.00	.60
	1600 VDCW	
DBE16D1	.350 x .870	$.21
DBE16D15	.375 x .870	.21
DBE16D18	.400 x .870	.21
DBE16D22	.420 x .870	.21
DBE16D33	.480 x .870	.24
DBE16D47	.540 x .870	.24
DBE16D68	.485 x 1.180	.27
DBE16S1	.525 x 1.180	.30
DBE16S15	.560 x 1.300	.33
DBE16S22	.585 x 1.600	.42
DBE16S33	.695 x 1.600	.45
DBE16S47	.785 x 1.600	.51

**Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499

*Dupont Registered Trademark

TYPE B161Y — High Voltage Capacitor

Now a dual purpose high voltage capacitor for use on standard DC applications or low frequency AC use. These units incorporate a dual dielectric of film and Kraft paper with a special impregnant which allows these units to be used as replacements for the higher priced glass tube capacitors. Standard tolerance is ±20%. Operating temperature is −45°C to +100°C. All units are furnished with #18 AWG wire leads. Also available on special order are units with studs for mounting in place of the glass capacitors.

Higher voltages and capacities available on request. For full technical information request bulletin NPJ-135.

Cap.	3000 VDCW	Net* Price	5000 VDCW	Net* Price	8000 VDCW	Net* Price	10,000 VDCW	Net* Price	15,000 VDCW	Net* Price
.0005			1/2 x 1-5/8	$1.05	9/16 x 11/16	$1.20	5/8 x 1-13/16	$1.32	5/8 x 2-13/16	$1.44
.001	1/2 x 1-3/8	$ .96	5/8 x 1-5/8	1.08	5/8 x 11/16	1.29	3/4 x 13/16	1.38	3/4 x 2-13/16	1.62
.002	5/8 x 1-3/8	.99	5/8 x 2	1.11	3/4 x 1-13/16	1.35	3/4 x 2	1.50	7/8 x 3	1.92
.005	5/8 x 1-9/16	1.05	11/16 x 2	1.14	7/8 x 1-15/16	1.44	15/16 x 2 1/4	1.62	1 x 9/16	2.43
.01	11/16 x 1-3/4	1.08	13/16 x 2	1.29	15/16 x 2-5/16	1.62	1 x 2-11/16	2.01	1 x 5-1/4	2.94
.02	3/4 x 1-13/16	1.26	7/8 x 2-3/8	1.44	1 x 2-15/16	2.04	1 x 3-3/4	2.67		
.03	3/4 x 2-1/8	1.32	1 x 2-3/8	1.77	1 x 2-3/8	2.55	1 x 5-1/8	2.94		
.05	7/8 x 2-1/8	1.38	1 x 2-15/16	2.04	1 x 5-3/8	2.79				
.1	1 x 2-7/16	1.74	1 x 4-3/8	2.67						
.15	1 x 3-1/16	2.19								
.25	1 x 4-1/4	2.64								

Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499

AEROFILM® (MYLAR*) CAPACITORS

TYPE V161

V161 Aerofilm Tubular Capacitors are high quality units in Polycap® cases. These units have exceptionally high insulation resistance and low dielectric absorption and power factor. They are extremely stable having a relatively small capacitance change with temperature variations over a range of 0 to 85°C.

Their excellent resistance to humidity and moisture are due to the use of Aerofilm (Aerovox's trade name for Mylar* polyester film), finest quality casing material, and an epoxy end fill which will not flow, soften or melt at any operating temperature. Standard tolerance is ±20% but also available in ±5% and ±10%

Cap. Mfd.	Size	Net Price*
	200 VDCW	
.0047	9/32 x 15/16	$.15
.0068	9/32 x 15/16	.15
.01	9/32 x 15/16	.15
.015	9/32 x 15/16	.15
.022	5/16 x 1	.15
.033	5/16 x 1	.15
.047	5/16 x 1-1/16	.15
.05	5/16 x 1-1/16	.15
.068	11/32 x 1-1/16	.18
.1	3/8 x 1¼	.21
.15	13/32 x 1¼	.24
.22	½ x 1¼	.24
.25	½ x 1¼	.27
.33	½ x 1½	.33
.47	9/16 x 1½	.39
.68	19/32 x 1¾	.51
1.0	13/16 x 1-7/8	.57
	400 VDCW	
.0015	9/32 x 15/16	.15
.0022	9/32 x 15/16	.15
.0033	9/32 x 15/16	.15
.0047	9/32 x 15/16	$.15
.0068	9/32 x 15/16	.15
.01	5/16 x 1	.15
.015	5/16 x 1	.15
.02	5/16 x 1-1/16	.15
.022	11/32 x 1-1/16	.15
.03	3/8 x 1-1/16	.18
.033	3/8 x 1-1/16	.18
.047	3/8 x 1¼	.18
.05	3/8 x 1¼	.18
.068	7/16 x 1¼	.21
.1	½ x 1¼	.21
.15	9/16 x 1½	.36
.22	9/16 x 1½	.39
.25	9/16 x 1¾	.39
.33	5/8 x 1¾	.51
.47	11/16 x 2	.66
.5	11/16 x 2	.69
.68	25/32 x 2	.87
1.0	7/8 x 2-1/8	1.05
	600 VDCW	
.001	9/32 x 15/16	.15
.0015	9/32 x 15/16	.15
.002	9/32 x 15/16	.15
.0022	9/32 x 15/16	.15
.003	9/32 x 15/16	$.15
.0033	9/32 x 15/16	.15
.004	5/16 x 1	.15
.0047	5/16 x 1	.15
.005	5/16 x 1	.15
.0068	5/16 x 1	.18
.01	11/32 x 1-1/16	.18
.015	3/8 x 1-3/16	.18
.02	3/8 x 1-3/16	.18
.022	13/32 x 1-3/16	.18
.03	7/16 x 1-3/16	.21
.033	7/16 x 1-3/16	.21
.04	½ x 1¼	.24
.047	½ x 1¼	.24
.05	½ x 1¼	.24
.068	½ x 1½	.27
.075	½ x 1½	.27
.1	9/16 x 1½	.30
.15	5/8 x 1-5/8	.39
.2	23/32 x 1-5/8	.48
.22	¾ x 1-5/8	.51
.25	¾ x 1¾	.54
.33	13/16 x 1-7/8	.78
.47	7/8 x 2-1/8	.84
.5	7/8 x 2-1/8	.87
	1000 VDCW	
.001	9/32 x 15/16	.30
.0012	9/32 x 15/16	.30
.0015	9/32 x 15/16	.30
.0018	9/32 x 15/16	.30
.002	9/32 x 15/16	.30
.0022	9/32 x 15/16	.30
.0033	5/16 x 1	.30
.0039	5/16 x 1	.30
.0047	5/16 x 1	.30
.0068	11/32 x 1-1/16	.30
.01	3/8 x 1-1/16	.30
.018	7/16 x 1-1/4	.36
.022	7/16 x 1-1/4	.36
.025	1/2 x 1-1/4	.36
.027	1/2 x 1-1/4	.36
.033	1/2 x 1-1/4	.36
.039	1/2 x 1-1/2	.36
.047	1/2 x 1-1/2	.42
.056	9/16 x 1-5/8	.45
.068	9/16 x 1-5/8	.48
.075	5/8 x 1-5/8	.51
.1	11/16 x 1-7/8	.54
.15	13/16 x 1-7/8	.66

*Dupont trademark

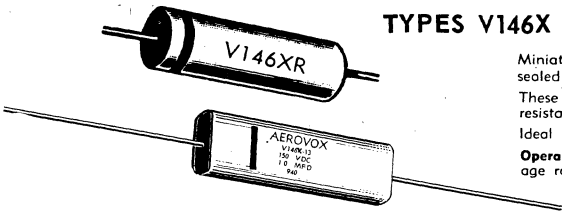
*Request O.E.M. Prices in the following quantities: 25 49, 50-99, 100-249

AEROVOX Hi-Q

CAPACITORS

FILM CAPACITORS

TYPES V146X AND V146XR "WRAP & FILL" AEROFILM® CAPACITORS



Miniature, mylar, tubular capacitor sections, extended foil construction, wrapped with a synthetic film and end-sealed with a plastic resin.

These units offer high insulation resistance, high operating temperature, low power factor and outstanding resistance to moisture.

Ideal for use in miniaturized circuits where size and weight are important factors.

Operating Temperature Range: Capable of operation in a temperature range of —65°C to +85°C at full voltage rating and to 125°C with voltage derating as follows:

DC Rated Voltage at 85°C	Maximum DC Working Voltage at 125°C
150	100
200	125
400	200
600	300

Leads: solder-coated "copper-weld" wire, 2" minimum length.

Tolerance: Standard ±10%. Available in closer tolerances on special order.

For Full technical information request bulletin NPJ-121 Rev.

STOCK LISTING V146XR

Capacity In Mfd.	150 VDC D	L	Cat. No.	Net Price*	200 VDC D	L	Cat. No.	Net Price*	400 VDC D	L	Cat. No.	Net Price*	600 VDC D	L	Cat. No.	Net Price*
.001	See Note 1				.156 x	1/2	V146XR-16	.31	.156 x	5/8	V146XR-37	.31	.156 x	3/4	V146XR-58	.31
.0015	See Note 1				.156 x	1/2	V146XR-17	.31	.156 x	5/8	V146XR-38	.31	.171 x	3/4	V146XR-59	.31
.0022	See Note 1				.156 x	1/2	V146XR-18	.31	.156 x	5/8	V146XR-39	.31	.187 x	3/4	V146XR-60	.31
.0033	See Note 1				.156 x	1/2	V146XR-19	.31	.156 x	5/8	V146XR-40	.31	.203 x	3/4	V146XR-61	.31
.0047	See Note 1				.156 x	1/2	V146XR-20	.31	.187 x	5/8	V146XR-41	.31	.234 x	3/4	V146XR-62	.31
.0068	See Note 1				.156 x	1/2	V146XR-21	.31	.218 x	5/8	V146XR-42	.31	.265 x	3/4	V146XR-63	.31
.01	.156 x	1/2	V146XR-1	.30	.171 x	1/2	V146XR-22	.31	.250 x	5/8	V146XR-43	.31	.312 x	3/4	V146XR-64	.31
.015	.187 x	1/2	V146XR- 2	.30	.203 x	1/2	V146XR-23	.31	.296 x	5/8	V146XR-44	.31	.312 x	7/8	V146XR-65	.34
.022	.203 x	5/8	V146XR- 3	.30	.250 x	5/8	V146XR-24	.31	.312 x	3/4	V146XR-45	.32	.375 x	7/8	V146XR-66	.38
.033	.218 x	5/8	V146XR- 4	.30	.250 x	3/4	V146XR-25	.31	.312 x	7/8	V146XR-46	.33	.406 x	1	V146XR-67	.39
.047	.234 x	3/4	V146XR- 5	.30	.296 x	3/4	V146XR-26	.31	.343 x	7/8	V146XR-47	.35	.453 x	1	V146XR-68	.43
.068	.265 x	3/4	V146XR- 6	.32	.343 x	3/4	V146XR-27	.33	.375 x	1	V146XR-48	.39	.531 x	1	V146XR-69	.48
.1	.281 x	7/8	V146XR- 7	.35	.375 x	7/8	V146XR-28	.35	.421 x	1	V146XR-49	.43	.562 x	1-3/8	V146XR-70	.52
.15	.328 x	7/8	V146XR- 8	.38	.453 x	7/8	V146XR-29	.39	.468 x	1-1/4	V146XR-50	.47	.671 x	1-3/8	V146XR-71	.64
.22	.385 x	1	V146XR- 9	.43	.438 x	1-1/8	V146XR-30	.44	.546 x	1-3/8	V146XR-51	.50	.718 x	1-5/8	V146XR-72	.86
.33	.375 x	1-1/8	V146XR-10	.45	.484 x	1-1/8	V146XR-31	.47	.593 x	1-5/8	V146XR-52	.61	.765 x	2	V146XR-73	1.09
.47	.468 x	1-1/4	V146XR-11	.54	.546 x	1-1/4	V146XR-32	.55	.671 x	1-5/8	V146XR-53	.78	.859 x	2	V146XR-74	1.25
.68	.562 x	1-1/4	V146XR-12	.59	.609 x	1-5/8	V146XR-33	.60	.796 x	1-3/4	V146XR-54	1.00	1.016 x	2	V146XR-75	1.61
1.0	.593 x	1-1/2	V146XR-13	.76	.671 x	1-3/4	V146XR-34	.85	.812 x	2	V146XR-55	1.12	1.125 x	2-1/2	V146XR-76	1.97
1.5	.718 x	1-3/4	V146XR-14	.97	.828 x	1-3/4	V146XR-35	1.31	.921 x	2-1/4	V146XR-56	1.48	1.234 x	3	V146XR-77	2.73
2.0	.812 x	1-3/4	V146XR-15	1.68	.875 x	1-7/8	V146XR-36	1.52	1.093 x	2-1/4	V146XR-57	1.92	1.421 x	3	V146XR-78	3.31

Note 1: These capacity values are only made at 200 VDC or higher.
The 200 VDC unit may be used for lower voltage requirements since sizes are as small as or smaller than competitive 100 VDC units.

*Request O.E.M. prices in the following quantities: 25-49, 50-99, 100-499

® Registered Trademark

AEROVOX MINIATURE TYPE WRAP & FILL FILM DIELECTRIC CAPACITORS Type V146X

Capacity	Thickness	Width	Length	Catalog No.
150 VDC AT 85°C				
.033	3/16	11/32	15/16	V146X-15
.047	3/16	3/8	15/16	V146X-16
.068	7/32	3/8	15/16	V146X-17
.082	7/32	13/32	15/16	V146X-18
.1	1/4	15/32	15/16	V146X-19
.15	1/4	7/16	1-1/16	V146X-20
.22	1/4	17/32	1-1/4	V146X-21
.33	5/16	19/32	1-1/4	V146X-22
.47	7/16	23/32	1-7/16	V146X-23
.68	13/32	23/32	1-11/16	V146X-24
.82	15/32	3/4	1-11/16	V146X-25
1.0	13/32	3/4	1-7/8	V146X-26
200 VDC AT 85°C				
.033	7/32	3/8	15/16	V146X-217
.047	7/32	13/32	15/16	V146X-218
.068	9/32	7/16	15/16	V146X-219
.1	5/16	15/32	1-1/8	V146X-220
.15	3/8	9/16	1-1/8	V146X-221
.22	13/32	9/16	1-1/4	V146X-222
.33	3/8	9/16	1-11/16	V146X-223
.47	7/16	21/32	1-11/16	V146X-224
.68	1/2	3/4	1-7/8	V146X-225
1.0	9/16	13/16	2-1/8	V146X-226
400 VDC AT 85°C				
.0033	3/16	5/16	13/16	V146X-27
.0047	3/16	5/16	13/16	V146X-28
.0068	3/16	5/16	13/16	V146X-29
.0082	3/16	5/16	13/16	V146X-30
.01	3/16	5/16	13/16	V146X-31
.015	7/32	3/8	13/16	V146X-32
.022	7/32	7/16	13/16	V146X-33
.033	7/32	7/16	15/16	V146X-34
.047	1/4	15/32	15/16	V146X-35
.068	9/32	1/2	1-1/8	V146X-36
.082	9/32	15/32	1-1/4	V146X-37
.10	9/32	17/32	1-1/4	V146X-38
.15	5/16	19/32	1-11/16	V146X-39
.22	3/8	21/32	1-7/8	V146X-40
.33	7/16	3/4	1-7/8	V146X-41
.47	1/2	7/8	1-7/8	V146X-42
.68	17/32	15/16	2-1/8	V146X-43
.82	17/32	31/32	2-5/16	V146X-44
1.0	9/16	1.0	2-5/16	V146X-45
600 VDC AT 85°C				
.001	3/16	5/16	13/16	V146X-46
.0015	3/16	5/16	13/16	V146X-47
.0022	3/16	5/16	13/16	V146X-48
.0033	3/16	3/8	7/8	V146X-49
.0047	3/16	13/32	7/8	V146X-50
.0068	7/32	13/32	7/8	V146X-51
.0082	1/4	13/32	7/8	V146X-52
.01	1/4	7/16	7/8	V146X-53
.015	5/16	1/2	7/8	V146X-54
.022	5/16	1/2	1-1/16	V146X-55
.033	9/32	1/2	1-1/8	V146X-56
.047	5/16	17/32	1-1/8	V146X-57
.068	5/16	19/32	1-1/4	V146X-58
.082	3/8	5/8	1-9/16	V146X-59
.10	13/32	21/32	1-9/16	V146X-60
.15	3/8	23/32	1-7/8	V146X-61
.22	1/2	27/32	1-7/8	V146X-62
.33	1/2	29/32	2-1/8	V146X-63
.47	5/8	1-1/16	2-1/8	V146X-64
.68	11/16	1-3/32	2-7/16	V146X-65

Note: For capacities greater than listed use type V146XR.

Net Prices for V146X are same as like Vt. & Cap. in V146XR listing.

Net

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AEROVOX Hi-Q

CAPACITORS

INDUSTRIAL SECTION — STANDARD TYPES
METALLIZED FILM CAPACITORS

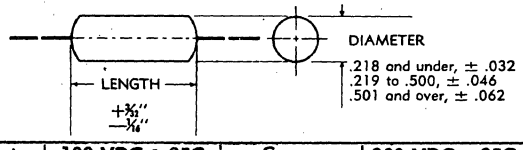
Type V146Z (Flat)
Metallized Mylar* 'Wrap & Fill' Capacitors

*Dupont Trademark.

V146Z-V146ZR Metallized 'Mylar Wrap & Fill' units offer lightweight ultra miniature design featuring high insulation resistance and long stable life. These units are instrument quality and feature the self-healing characteristic of all metallized dielectrics. Standard tolerance is ±10%. Also available at closer tolerances on request. Power factor will not exceed 1%. All leads are solder-coated "Copper-Weld" wire. These units ideally suited for use in printed assemblies and offer appreciable weight saving for use in light weight portable and air-borne equipment of all types. The flat style allows them to be mounted in banks using a minimum amount of space. For full technichal information request bulletin NPJ-132 Rev.

Cap. Mfd.	Catalog Number	Size T	Size W	Size L	Wire Lead Gauge	Net Price*1
100 VDCW @ 85 C — 50 VDCW @ 125 C						
.1	V146Z-160	.125	.234	9/16	#22	1.06
.15	V146Z-161	.156	.265	9/16	#22	1.15
.22	V146Z-162	.156	.250	11/16	#22	1.34
.33	V146Z-163	.203	.312	11/16	#22	1.58
.47	V146Z-164	.250	.359	11/16	#22	1.78
.68	V146Z-165	.218	.328	15/16	#22	2.21
1.0	V146Z-166	.265	.375	15/16	#22	2.93
1.5	V146Z-167	.250	.250	1 1/4	#20	3.79
2.0	V146Z-168	.312	.468	1 1/4	#20	4.70
3.0	V146Z-169	.406	.562	1 1/4	#20	6.67
4.0	V146Z-170	.406	.562	1 3/8	#20	8.30
5.0	V146Z-171	.375	.593	1 3/4	#20	9.79
200 VDCW @85 C — 150 VDCW @ 125 C						
.01	V146Z-127	.156	.203	7/16	#22	.86
.015	V146Z-128	.156	.234	7/16	#22	.86
.022	V146Z-129	.203	.265	7/16	#22	.88
.033	V146Z-130	.218	.281	7/16	#22	.90
.047	V146Z-131	.171	.265	9/16	#22	.91
.068	V146Z-60	.125	.250	11/16	#22	.93
.1	V146Z-6	.187	.281	11/16	#22	.94
.15	V146Z-61	.187	.312	11/16	#22	1.02
.22	V146Z-132	.265	.375	11/16	#22	1.11
.33	V146Z-133	.296	.484	11/16	#20	1.26
.47	V146Z-134	.359	.546	11/16	#20	1.47
.68	V146Z-135	.343	.515	11/16	#20	1.77
1.0	V146Z-64	.312	.468	1 3/16	#20	2.19
1.05	V146Z-65	.406	.593	1 3/16	#20	2.66
2.0	V146Z-8	.343	.563	1 11/16	#20	3.05
4.0	V146Z-55	.562	.687	1 11/16	#20	4.66
5.0	V146Z-136	.484	.843	1 3/4	#20	5.47

Cap. Mfd.	Catalog Number	Size T	Size W	Size L	Wire Lead Gauge	Net Price*
400 VDCW @ 125 C						
.01	V146Z-137	.140	.265	11/16	#22	.97
.015	V146Z-138	.171	.296	11/16	#22	.98
.022	V146Z-139	.203	.312	11/16	#22	.99
.033	V146Z-140	.250	.375	11/16	#22	1.01
.047	V146Z-81	.187	.281	7/8	#22	1.04
.068	V146Z-141	.234	.421	15/16	#22	1.09
.1	V146Z-142	.296	.484	15/16	#22	1.11
.15	V146Z-143	.343	.562	15/16	#20	1.22
.22	V146Z-84	.281	.281	1 1/4	#20	1.36
.33	V146Z-85	.375	.375	1 1/4	#20	1.58
.47	V146Z-144	.406	.406	1 1/2	#20	1.86
.68	V146Z-145	.421	.890	1 1/2	#20	2.27
1.0	V146Z-87	.531	.718	1 3/4	#20	2.91
1.5	V146Z-88	.500	1.093	1 3/4	#20	3.49
2.0	V146Z-146	.812	1.125	1 3/4	#20	4.66
4.0	V146Z-89	1.00	1.093	2 1/4	#20	7.87
600 VDCW @ 125 C						
.01	V146Z-147	.187	.246	11/16	#22	.99
.015	V146Z-148	.218	.343	11/16	#22	1.00
.022	V146Z-149	.250	.453	11/16	#22	1.01
.033	V146Z-150	.296	.500	11/16	#22	1.03
.047	V146Z-151	.234	.437	15/16	#20	1.12
.068	V146Z-152	.312	.531	15/16	#20	1.20
.1	V146Z-153	.375	.593	15/16	#20	1.29
.15	V146Z-95	.312	.437	1 1/4	#20	1.40
.22	V146Z-96	.343	.531	1 1/4	#20	1.54
.33	V146Z-154	.515	.875	1 1/2	#20	1.78
.47	V146Z-155	.515	.890	1 1/2	#20	2.49
.68	V146Z-156	.671	1.031	1 1/2	#20	3.02
1.0	V146Z-157	671	1.187	1 3/4	#20	3.70
1.5	V146Z-158	.859	1.375	1 3/4	#20	4.80
2.0	V146Z-159	1.032	1.515	1 3/4	#20	6.00



Type V146ZR (Round)

Net Prices for V146ZR are same as like Vt. & Cap. in V146Z listing.

Capacity in Mfd.	100 VDC @ 85C 50 VDC @ 125C D	L	Cat. No.	200 VDC @ 85C 150 VDC@ 125C D	L	Cat. No.	400 VDC @ 125 C D	L	Cat. No.	600 VDC @ 125 C D	L	Cat. No.
.01							.180 x	9/16	V146ZR-132	.171 x	3/4	V146ZR-63
.015							.180 x	11/16	V146ZR-133	.203 x	3/4	V146ZR-64
.022							.210 x	11/16	V146ZR-134	.300 x	3/4	V146ZR-145
.033							.250 x	11/16	V146ZR-135	.370 x	3/4	V146ZR-146
.047				.200 x	9/16	V146ZR-123	.300 x	11/16	V146ZR-136	.250 z	1 1/16	V146ZR-67
.068				.200 x	11/16	V146ZR-25	.350 x	11/16	V146ZR-137	.296 x	1 1/16	V146ZR-68
.1	.170 x	11/16	V146ZR-111	.234 x	11/16	V146ZR-26	.325 x	1	V146ZR-138	.359 x	1 1/16	V146ZR-69
.15	.190 x	11/16	V146ZR-112	.265 x	11/16	V146ZR-27	.375 x	1	V146ZR-139	.375 x	1 1/4	V146ZR-70
.22	.215 x	11/16	V146ZR-113	.340 x	11/16	V146ZR-124	.400 x	1 1/4	V146ZR-55	.468 x	1 1/4	V146ZR-71
.33	.265 x	11/16	V146ZR-114	.390 x	11/16	V146ZR-125	.450 x	1 1/2	V146ZR-140	.453 x	1 3/4	V146ZR-72
.47	.315 x	11/16	V146ZR-115	.328 x	1	V146ZR-16	.520 x	1 1/2	V146ZR-141	.531 x	1 3/4	V146ZR-73
.68	.280 x	1	V146ZR-116	.390 x	1	V146ZR-30	.625 x	1 1/2	V146ZR-142	.800 x	1 3/4	V146ZR-147
1.0	.325 x	1	V146ZR-117	.500 x	1	V146ZR-126	.656 x	1 3/4	V146ZR-59	.950 x	1 3/4	V146ZR-148
1.5	.340 x	1 1/4	V146ZR-118	.515 x	1 3/16	V146ZR-32	.825 x	1 3/4	V146ZR-60	.859 x	2 1/4	V146ZR-76
2.0	.405 x	1 1/4	V146ZR-119	.620 x	1 1/4	V146ZR-127	.950 x	1 3/4	V146ZR-143	.890 x	2 1/4	V146ZR-17
3.0	.500 x	1 1/4	V146ZR-120	.650 x	1 1/2	V146ZR-128	.990 x	2 1/4	V146ZR-144			
4.0	.510 x	1 3/8	V146ZR-121	.656 x	1 11/16	V146ZR-34	1.093 x	2 1/4	V146ZR-62			
5.0	.510 x	1 3/4	V146ZR-122	.800 x	1 3/4	V146ZR-129						
7.0				.930 x	1 3/4	V146ZR-130						
8.0				.990 x	1 3/4	V146ZR-131						

Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249

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AEROVOX Hi-Q

CAPACITORS

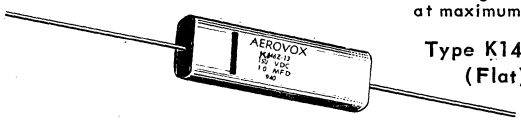
Type K323Z
Metallized Polycarbonate Capacitors

If plastic sleeve is desired add suffix "P" to type number and specify when ordering. Add 1/16" to the diameter and length and add .02 to cost of unit.

Here is the first stock line of hermetically sealed metallized polycarbonate capacitors. Polycarbonate film offers many advantages over paper or other film dielectrics including high capacitance stability, low dissipation factor, low dielectric absorption and high insulation resistance. Metallized polycarbonate offers the additional feature of self-healing in the rare case of dielectric breakdown. Size and weight savings over paper capacitors are most obvious in lower voltage ratings but the added stability is an important plus at the higher voltages. Operating temperature is -65°C to +125°C at full rating. Standard tolerance is ±20%. Other tolerances available on special order. For full technical information request bulletin NPJ-136.

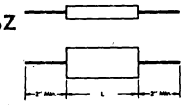
Capacity Mfd.	d x l	Net Price*	Capacity Mfd.	d x l	Net Price*	Capacity Mfd.	d x l	Net Price*	Capacity Mfd.	d x l	Net Price*
	K323Z – 100 VDCW			K323Z – 200 VDCW			K323Z – 400 VDCW			K323Z – 600 VDCW	
.015	.175 x 5/8	2.10	.01	.175 x 5/8	1.86	.01	.235 x 11/16	2.16	.01	.312 x 13/16	2.49
.022	.175 x 5/8	2.10	.015	.195 x 5/8	1.86	.015	.235 x 13/16	2.16	.015	.400 x 13/16	2.49
.033	.195 x 11/16	2.18	.022	.195 x 11/16	1.86	.022	.312 x 11/16	2.19	.022	.400 x 13/16	2.55
.047	.235 x 5/8	2.16	.033	.235 x 11/16	1.89	.033	.312 x 13/16	2.19	.033	.400 x 15/16	2.58
.068	.235 x 11/16	2.19	.047	.235 x 13/16	1.92	.047	.400 x 13/16	2.19	.047	.400 x 1 1/8	2.61
.1	.235 x 13/16	2.22	.068	.235 x 13/16	1.95	.068	.400 x 15/16	2.22	.068	.400 x 1 5/16	2.76
.15	.312 x 13/16	2.22	.1	.312 x 13/16	1.98	.1	.400 x 1 1/8	2.25	.1	.562 x 1 1/8	2.82
.22	.312 x 13/16	2.25	.15	.312 x 15/16	2.04	.15	.400 x 1 5/16	2.34	.15	.562 x 1 5/16	2.94
.33	.400 x 13/16	2.46	.22	.400 x 13/16	2.10	.22	.562 x 1 1/8	2.55	.22	.562 x 1 13/16	3.48
.47	.400 x 15/16	2.58	.33	.400 x 1 1/8	2.25	.33	.562 x 1 9/16	2.76	.33	.670 x 1 13/16	3.54
.68	.400 x 1 1/8	2.76	.47	.400 x 1 5/16	2.31	.47	.562 x 1 13/16	3.06	.47	.750 x 1 13/16	4.02
1.0	.400 x 1 9/16	3.00	.68	.562 x 15/16	2.61	.68	.670 x 1 13/16	3.48	.68	.750 x 2 5/16	4.68
1.5	.562 x 1 1/8	3.42	1.0	.562 x 1 5/16	2.91	1.0	.750 x 2 1/16	4.14	1.0	1.0 x 2 1/16	5.55
2.0	.562 x 1 5/16	3.90	1.5	.562 x 1 9/16	3.21	1.5	1.0 x 1 13/16	5.19			
3.0	.562 x 1 13/16	4.92	2.0	.562 x 1 13/16	3.51	2.0	1.0 x 2 1/16	6.24			
4.0	.670 x 1 13/16	5.76	3.0	.750 x 1 13/16	4.05						
5.0	.670 x 2 1/16	6.54	4.0	.750 x 2 1/16	4.65						
			5.0	.750 x 2 5/16	5.25						

AEROVOX MINIATURE TYPE WRAP & FILL METALLIZED DIELECTRIC CAPACITORS

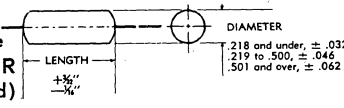


Aerovox Type K146Z and K146ZR offer excellent electrical characteristics to meet the miniature requirements of transistorized circuits for Military, Industrial and Consumer-Type applications. Aerovox capacitors utilize a metallized film dielectric proven by Aerovox Research and Engineering for capacitor use. Sizes chosen are consistent with high reliability and long service life at maximum rated conditions.

Type K146Z (Flat)



Type K146ZR (Round)



Capacity in Mfd.	100 VDC T x W x L	Cat. #	Net Price	200 VDC T x W x L	Cat. #	Net Price
.027				.125 x .234 x 1/2	K146Z-20	
.033				.125 x .234 x 1/2	K146Z-21	
.039				.125 x .234 x 1/2	K146Z-22	
.047				.109 x .218 x 11/16	K146Z-23	
.056				.125 x .234 x 11/16	K146Z-24	
.068				.140 x .250 x 11/16	K146Z-25	
.082	.125 x .218 x 9/16	K146Z-1	Contact	.156 x .265 x 11/16	K146Z-26	
.10	.140 x .250 x 9/16	K146Z-2	Your	.171 x .281 x 11/16	K146Z-27	
.12	.156 x .265 x 9/16	K146Z-3	Local	.187 x .296 x 11/16	K146Z-28	Contact
.15	.140 x .250 x 11/16	K146Z-4	Aerovox	.218 x .328 x 11/16	K146Z-29	Your
.18	.156 x .265 x 11/16	K146Z-5	Industrial	.250 x .359 x 11/16	K146Z-30	Local
.22	.171 x .281 x 11/16	K146Z-6	Distributor	.265 x .375 x 11/16	K146Z-31	Aerovox
.27	.203 x .312 x 11/16	K146Z-7	for	.250 x .359 x 13/16	K146Z-32	Industrial
.33	.218 x .328 x 11/16	K146Z-8	Prices	.218 x .375 x 1	K146Z-33	Distributor
.39	.250 x .359 x 11/16	K146Z-9		.234 x .390 x 1	K146Z-34	for
.47	.234 x .343 x 13/16	K146Z-10		.234 x .390 x 1 3/16	K146Z-35	Prices
.56	.234 x .390 x 1	K146Z-11		.250 x .406 x 1 3/16	K146Z-36	
.68	.250 x .406 x 1	K146Z-12		.281 x .437 x 1 3/16	K146Z-37	
.82	.281 x .429 x 1	K146Z-13		.328 x .484 x 1 3/16	K146Z-38	
1.0	.312 x .468 x 1	K146Z-14		.359 x .515 x 1 3/16	K146Z-39	
1.5	.296 x .453 x 1 3/16	K146Z-15		.359 x .556 x 1 7/16	K146Z-40	
2.0	.343 x .500 x 1 3/16	K146Z-16		.359 x .556 x 1 13/16	K146Z-41	
3.0	.296 x .493 x 1 13/16	K146Z-17		.468 x .671 x 1 13/16	K146Z-42	
4.0	.343 x .546 x 1 13/16	K146Z-18		.515 x .718 x 1 15/16	K146Z-43	
5.0	.375 x .578 x 1 15/16	K146Z-19		.546 x .750 x 2 3/16	K146Z-44	

Capacity in Mfd.	100 V D x L	Cat. #	Net Price	200 V D x L	Cat. #	Net Price
.01	Use 200 V			.140 x 1/2	K146ZR-32	
.012	Use 200 V			.140 x 1/2	K146ZR-33	
.015	Use 200 V			.156 x 1/2	K146ZR-34	
.018	Use 200 V			.156 x 1/2	K146ZR-35	
.022	.140 x 1/2	K146ZR-6		.171 x 1/2	K146ZR-36	
.027	.140 x 1/2	K146ZR-7		.187 x 1/2	K146ZR-37	
.033	.156 x 1/2	K146ZR-8		.187 x 9/16	K146ZR-38	
.039	.156 x 1/2	K146ZR-9		.187 x 9/16	K146ZR-39	
.047	.171 x 1/2	K146ZR-10		.171 x 11/16	K146ZR-40	
.056	.171 x 1/2	K146ZR-11	Contact	.187 x 11/16	K146ZR-41	Contact
.068	.171 x 9/16	K146ZR-12	Your	.203 x 11/16	K146ZR-42	Your
.082	.187 x 9/16	K146ZR-13	Local	.218 x 11/16	K146ZR-47	Local
.1	.203 x 9/16	K146ZR-14	Aerovox	.234 x 11/16	K146ZR-43	Aerovox
.12	.218 x 9/16	K146ZR-15	Industrial	.250 x 11/16	K146ZR-44	Industrial
.15	.203 x 11/16	K146ZR-16	Distributor	.281 x 11/16	K146ZR-45	Distributor
.18	.218 x 11/16	K146ZR-17	for	.312 x 11/16	K146ZR-46	for
.22	.234 x 11/16	K146ZR-18	Prices	.328 x 11/16	K146ZR-48	Prices
.27	.265 x 11/16	K146ZR-19		.312 x 13/16	K146ZR-49	
.33	.281 x 11/16	K146ZR-20		.312 x 1	K146ZR-50	
.39	.312 x 11/16	K146ZR-21		.328 x 1	K146ZR-51	
.47	.296 x 13/16	K146ZR-22		.328 x 1 3/16	K146ZR-52	
.56	.328 x 1	K146ZR-23		.343 x 1 3/16	K146ZR-53	
.68	.343 x 1	K146ZR-24		.375 x 1 3/16	K146ZR-54	
.82	.375 x 1	K146ZR-25		.421 x 1 3/16	K146ZR-55	
1.0	.406 x 1	K146ZR-26		.453 x 1 3/16	K146ZR-56	
1.5	.390 x 1 3/16	K146ZR-27		.484 x 1 7/16	K146ZR-57	
2.0	.437 x 1 3/16	K146ZR-28		.484 x 1 13/16	K146ZR-58	
3.0	.421 x 1 13/16	K146ZR-29		.593 x 1 13/16	K146ZR-59	
4.0	.468 x 1 13/16	K146ZR-30		.643 x 1 15/16		
5.0	.500 x 1 15/16	K146ZR-31		.670 x 2 3/16		

Capacity in Mfd.	400 VDC T x W x L	Cat. #	Net Price	600 VDC T x W x L	Cat. #	Net Price
.01	.140 x .250 x 9/16	K146Z-71		.125 x .281 x 11/16	K146Z-98	
.012	.140 x .250 x 9/16	K146Z-72		.140 x .296 x 11/16	K146Z-99	
.015	.171 x .281 x 9/16	K146Z-73		.156 x .312 x 11/16	K146Z-100	
.018	.187 x .296 x 9/16	K146Z-74		.187 x .343 x 11/16	K146Z-101	
.022	.203 x .312 x 9/16	K146Z-75		.203 x .359 x 11/16	K146Z-102	
.027	.187 x .296 x 11/16	K146Z-76		.187 x .343 x 13/16	K146Z-103	
.033	.203 x .312 x 11/16	K146Z-77		.218 x .375 x 13/16	K146Z-104	
.039	.234 x .343 x 11/16	K146Z-78	Contact	.187 x .390 x 1	K146Z-105	Contact
.047	.250 x .359 x 11/16	K146Z-79	Your	.203 x .406 x 1	K146Z-106	Your
.056	.281 x .390 x 11/16	K146Z-80	Local	.218 x .421 x 1	K146Z-107	Local
.068	.265 x .375 x 13/16	K146Z-81	Aerovox	.250 x .359 x 1	K146Z-108	Aerovox
.082	.281 x .390 x 13/16	K146Z-82	Industrial	.281 x .484 x 1	K146Z-109	Industrial
.10	.250 x .406 x 1	K146Z-83	Distributor	.312 x .515 x 1	K146Z-110	Distributor
.12	.281 x .437 x 1	K146Z-84	for	.312 x .515 x 1 3/16	K146Z-111	for
.15	.296 x .453 x 1	K146Z-85	Prices	.359 x .562 x 1 3/16	K146Z-112	Prices
.18	.343 x .500 x 1	K146Z-86		.390 x .593 x 1 7/16	K146Z-113	
.22	.390 x .546 x 1	K146Z-87		.453 x .656 x 1 7/16	K146Z-114	
.27	.375 x .531 x 1 3/16	K146Z-88		.500 x .703 x 1 7/16	K146Z-115	
.33	.343 x .546 x 1 7/16	K146Z-89		.406 x .609 x 1 13/16	K146Z-116	
.39	.375 x .578 x 1 7/16	K146Z-90		.453 x .656 x 1 13/16	K146Z-117	
.47	.421 x .625 x 1 7/16	K146Z-91		.500 x .703 x 1 13/16	K146Z-118	
.56	.453 x .656 x 1 7/16	K146Z-92		.562 x .765 x 1 13/16	K146Z-119	
.68	.515 x .718 x 1 7/16	K146Z-93		.609 x .812 x 1 13/16	K146Z-120	
.82	.578 x .781 x 1 7/16	K146Z-94		.687 x .890 x 1 13/16	K146Z-121	
1.0	.640 x .837 x 1 7/16	K146Z-95		.734 x .937 x 1 15/16	K146Z-122	
1.5	.812 x 1.015 x 1 7/16	K146Z-96				
2.0	.781 x 1.00 x 1 15/16	K146Z-97				

Capacity in Mfd.	400 V D x L	Cat. #	Net Price	600 V D x L	Cat. #	Net Price
.01	.203 x 9/16	K146ZR-88		.218 x 11/16	K146ZR-115	
.012	.203 x 9/16	K146ZR-89		.234 x 11/16	K146ZR-116	
.015	.234 x 9/16	K146ZR-90		.250 x 11/16	K146ZR-117	
.018	.250 x 9/16	K146ZR-91		.281 x 11/16	K146ZR-118	
.022	.265 x 9/16	K146ZR-92		.296 x 11/16	K146ZR-119	
.027	.250 x 11/16	K146ZR-93		.281 x 13/16	K146ZR-120	
.033	.265 x 11/16	K146ZR-94		.312 x 13/16	K146ZR-121	
.039	.296 x 11/16	K146ZR-95	Contact	.312 x 1	K146ZR-122	Contact
.047	.312 x 11/16	K146ZR-96	Your	.328 x 1	K146ZR-123	Your
.056	.343 x 11/16	K146ZR-97	Local	.343 x 1	K146ZR-124	Local
.068	.328 x 13/16	K146ZR-98	Aerovox	.375 x 1	K146ZR-125	Aerovox
.082	.343 x 13/16	K146ZR-99	Industrial	.406 x 1	K146ZR-126	Industrial
.1	.343 x 1	K146ZR-100	Distributor	.437 x 1	K146ZR-127	Distributor
.12	.375 x 1	K146ZR-101	for	.437 x 1 3/16	K146ZR-128	for
.15	.390 x 1	K146ZR-102	Prices	.484 x 1 3/16	K146ZR-129	Prices
.18	.437 x 1	K146ZR-103		.515 x 1 7/16	K146ZR-130	
.22	.484 x 1	K146ZR-104		.478 x 1 7/16	K146ZR-131	
.27	.468 x 1 3/16	K146ZR-105		.625 x 1 7/16	K146ZR-132	
.33	.468 x 1 7/16	K146ZR-106		.531 x 1 13/16	K146ZR-133	
.39	.500 x 1 7/16	K146ZR-107		.573 x 1 13/16	K146ZR-134	
.47	.546 x 1 7/16	K146ZR-108		.625 x 1 13/16	K146ZR-135	
.56	.578 x 1 7/16	K146ZR-109		.687 x 1 13/16	K146ZR-136	
.68	.643 x 1 7/16	K146ZR-110		.734 x 1 13/16	K146ZR-137	
.82	.703 x 1 7/16	K146ZR-111		.812 x 1 13/16	K146ZR-138	
1.0	.765 x 1 7/16	K146ZR-112		.859 x 1 15/16	K146ZR-139	
1.5	.937 x 1 7/16	K146ZR-113				
2.0	.906 x 1 15/16	K146ZR-114				

*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249

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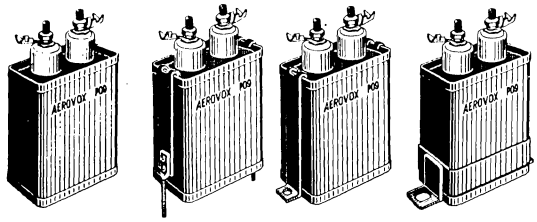
AEROVOX Hi-Q

CAPACITORS

INDUSTRIAL SECTION — STANDARD TYPES

TYPE P09



P09 P09MSB P09MS P09MB

PAPER CAPACITORS

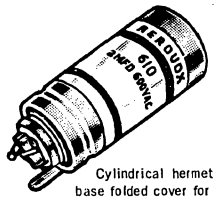
Immersion-proof units in sturdy, rectangular metal cans. High-voltage screw-type pillar terminals fitted with soldered lugs. Use of HYVOL M or J allows exceptionally compact size for capacity, working voltage and and safety factor. Intended for heavy-duty, continuous service in transmitters, amplifiers, etc. Operating temperature −55 to +85°C.

Standard tolerance +20 −10%. Other tolerance on request.

Type MB bracket is standard except on units with base sizes 3¾" x 3-3/16" and 3¾" x 4-9/16" where Type MS bracket should be used. MSB bracket is also available for all sizes.

Cap.	Size	Net Price*
	600V	
.5	1-1/16 x 1-13/16 x 2¼	3.39
1.0	1-1/16 x 1-13/16 x 2¼	3.96
2.0	1-1/16 x 1-13/16 x 2-7/8	4.89
3.0	1-1/16 x 1-13/16 x 3-7/8	6.45
4.0	1-3/16 x 2½ x 3½	6.45
5.0	1-1/16 x 1-13/16 x 4¾	7.05
6.0	1-3/16 x 2½ x 4¾	7.05
8.0	1¼ x 3¾ x 3-7/8	7.50
10.0	1¼ x 3¾ x 4¾	8.10
12.0	1½ x 3¾ x 4¾	10.05
15.0	1¾ x 3¾ x 4¾	12.09
	1000V	
.1	1-1/16 x 1-13/16 x 1-5/8	3.93
.25	1-1/16 x 1-13/16 x 2¼	4.11
.5	1-1/16 x 1-13/16 x 2¼	4.20
1.0	1-1/16 x 1-13/16 x 2¼	4.74
2.0	1-1/16 x 1-13/16 x 3-7/8	5.25
3.0	1-3/16 x 2½ x 3½	6.30
4.0	1-3/16 x 2½ x 4¾	6.30
5.0	1¼ x 3¾ x 3-7/8	8.70
6.0	1¼ x 3¾ x 4¾	8.70
8.0	1¼ x 3¾ x 4¾	10.20
10.0	1¾ x 3¾ x 4¾	11.40
12.0	2¼ x 3¾ x 3-7/8	12.75
15.0	2½ x 3¾ x 4¾	15.75
	1500V	
.5	1-1/16 x 1-13/16 x 2-7/8	4.80
1.0	1-1/16 x 1-13/16 x 3-7/8	5.10
2.0	1-3/16 x 2½ x 4¼	6.30
3.0	1-3/16 x 2½ x 4¾	8.55
4.0	1¼ x 3¾ x 4¾	8.55
5.0	1¾ x 3¾ x 4¾	11.70
6.0	1¾ x 3¾ x 4¾	11.70
8.0	2½ x 3¾ x 4¾	14.70
10.0	3-3/16 x 3¾ x 4¾	16.50
12.0	3-3/16 x 3¾ x 4¾	20.70
15.0	3¾ x 4-9/16 x 4¾	23.40
	2000V	
.1	1-1/16 x 1-13/16 x 2-1/8	4.74
.25	1-1/16 x 1-13/16 x 2-1/8	4.89
.5	1-1/16 x 1-13/16 x 2-7/8	5.22
1.0	1-3/16 x 2½ x 3½	5.55
2.0	1¼ x 3¾ x 4¼	6.90
3.0	1¼ x 3¾ x 4¾	9.60
4.0	2¼ x 3¾ x 3-7/8	9.60
5.0	2¼ x 3¾ x 4¾	12.90
6.0	3-3/16 x 3¾ x 4½	12.90
8.0	3-3/16 x 3¾ x 4¾	16.20
10.0	3¾ x 4-9/16 x 4¾	19.50
12.0	3¾ x 4-9/16 x 5½	23.40
15.0	3¾ x 4-9/16 x 6½	28.50
	2500V	
.5	1-3/16 x 2½ x 3½	6.75
1.0	1¾ x 3¾ x 3¼	7.65
2.0	1¾ x 3¾ x 4¾	10.20
4.0	3¾ x 4-9/16 x 4	16.50
10.0	3¾ x 4-9/16 x 6-3/8	34.50
	3000V	
.1	1-3/16 x 2½ x 2	6,30
.25	1-3/16 x 2½ x 2½	6.45
.5	1-3/16 x 2½ x 3-7/8	7.20
1.0	2¼ x 3¾ x 3-7/8	8.94
2.0	3-3/16 x 3¾ x 4-1/8	12.15
4.0	3¾ x 4-9/16 x 4¾	18.00
	4000V	
.1	2¼ x 3¾ x 2¾	12.69
.25	2¼ x 3¾ x 2¾	14.40
.5	2¼ x 3¾ x 3-7/8	17.10
1.0	2¼ x 3¾ x 5-1/8	21.60
2.0	3¾ x 4-9/16 x 5-1/8	28.20
4.0	3¾ x 4-9/16 x 8½	43.50
	5000V	
.1	2¼ x 3¾ x 2¾	13.50
.25	2¼ x 3¾ x 3-7/8	15.60
.5	2¼ x 3¾ x 4½	17.85
1.0	3¾ x 4-9/16 x 4-3/8	25.20
2.0	3¾ x 4-9/16 x 6	38.70
	6000V	
.1	2¼ x 3¾ x 3-3/8	15.30
.25	2¼ x 3¾ x 4½	18.15
1.0	3¾ x 4-9/16 x 7½	38.70
	7500V	
.1	2¼ x 3¾ x 3-7/8	18.15
.25	3¾ x 4-9/16 x 3-7/8	22.05
.5	3¾ x 4-9/16 x 5-1/8	29.10

*Request O.E.M. Prices in the following quantities: 10-24, 25-49, 50-99



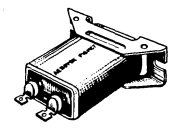
TYPE P10

Cylindrical hermetically sealed can with screw-base folded cover for vertical mounting. These units are Hyvol M or J impregnated and filled for long life and safe operation at temperatures from −55 to +85°C

Standard units have two terminals, case floating.

Standard tolerance +20% −10%. Other tolerances available on request.

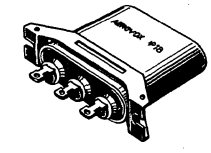
6 Standard Values - 3 Voltages



TYPE P16 and P16-CT

Small corrosion and immersion-proof unit for severe atmospheric and climatic conditions. P16-CT is standard; P16 is available in 400 and 600 volts. Operating temperature −55 to +85°C. Dual units have two terminals, case grounded. Standard tolerance +20 − 10%. CP0-91S and CP091F brackets available for P16. Base size 1-5/16 x 11/16. Impregnated with either Hyvol M or Hyvol J.

30 Standard Values - 3 Voltages

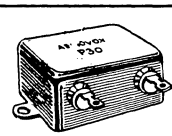


TYPE P18-CB

Similar to P16 in construction and electrical characteristics. Because of the difference in the base size type P18CB can be supplied with three terminals. Dual units are case floating, triples are case grounded. The size difference also makes these units suitable for use in assemblies where P16's do not fit. Operating temperature range −55 to +85°C. Standard tolerance +20 −10%. Impregnated with either Hyvol M or Hyvol J.

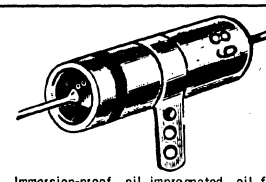
37 Standard Values - 3 Voltages

TYPE P30 Bathtub Case



High-quality bypass capacitors furnished in drawn metal bathtub cases, hermetically sealed. These units are Hyvol M or J impregnated for operation at temperatures from −55 to +85°C. They are especially recommended for applications where high reliability and superior performance are required. Typical applications for these rugged units would include marine, aircraft and tropical climates. Standard tolerance +20% − 10%.

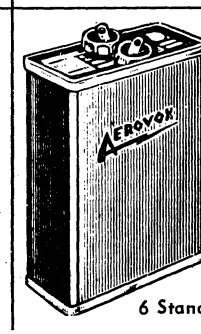
47 Standard Values - 3 Voltages



TYPE P89M

Immersion-proof, oil impregnated, oil filled units in hermetically sealed metal tubes. Ideal for coupling and bypass functions in transmitters, high voltage applications and for use in test equipment. Case is insulated, not connected to the capacitor section. Standard units are supplied with cardboard insulating sleeve and radial mounting bracket. (Type P89M).

26 Standard Values −5 Voltages



TYPE PX Energy Storage Capacitors

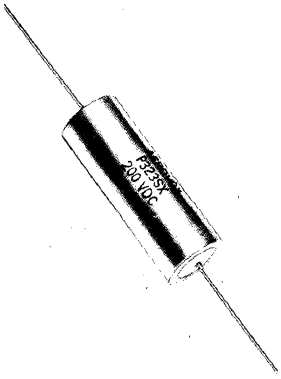
For high-speed flash photography, flash signaling equipment, pulsing and other energy storage uses.

6 Standard Values - 5 Voltages

AEROVOX Hi-Q

CAPACITORS

TYPES P323S AND P323SX



Tubular, metal-cased units with hermetically sealed construction and glass terminal end seals. Engineered to meet high-temperature, minimum space requirements, Types P323S and P323SX are designed for long life at elevated temperatures.

Impregnated with HYVOL "S", a special high temperature liquid impregnant. These units are capable of withstanding twice rated voltage between terminals or between terminal and case for a 1-minute period. Ambient temperature shall be +25°C, —10°C for this test. Power factor is less than 1% when measured or referred to a frequency of 1,000 cps at 25°C.

Type P323S and P323SX are rigidly processed to assure operation between —65°C and +100°C. Type P323S uses an inserted-tab construction to obtain minimum size, while type P323SX has extended-foil construction for applications at very-low AC voltages.

For equivalent types rated —65°C to +100°C in the same case size as shown, order as P123S, SX etc., and request prices.

Styles available from stock include units bearing suffixes S-SX which are as listed; G types, with one end grounded which are 1/16" shorter; GP types, grounded, with plastic insulating sleeve and 1/16" larger diameter and P types, with both ends insulated and a plastic sleeve, which are 1/16" larger in both length and diameter.

Grounded units to be discontinued when present stocks are depleted.

STYLE VARIATIONS

Suffix	Description	Can size change
S-SX	As listed	As listed
G	One end grounded	Deduct 1/16" from length
GP	Grounded with plastic insulating sleeve	Add 1/16" to diameter
P	Both ends insulated with plastic sleeve	Add 1/16" to diameter and length
GT	One end grounded with threaded neck mounting	Deduct 1/16" from length

Cap. uf	P323S	P323SX
100 VOLTS		
.001	.175 × 3/4	.175 × 3/4
.0015	.175 × 3/4	.175 × 3/4
.0022	.175 × 3/4	.175 × 3/4
.0033	.175 × 3/4	.175 × 3/4
.0047	.175 × 3/4	.175 × 3/4
.0068	.175 × 3/4	.195 × 3/4
.01	.175 × 3/4	.235 × 3/4
.015	.175 × 3/4	.235 × 3/4
.022	.195 × 3/4	.312 × 7/8
.027	.235 × 3/4	.312 × 7/8
.033	.235 × 3/4	.312 × 7/8
.047	.312 × 7/8	.312 × 7/8
.068	.312 × 7/8	.400 × 7/8
.082	.312 × 7/8	.400 × 7/8
.1	.312 × 7/8	.400 × 7/8
.12	.400 × 7/8	.400 × 1 1/8
.15	.400 × 7/8	.400 × 1 1/8
.18	.400 × 1 1/8	.400 × 1 3/8
.22	.400 × 1 1/8	.400 × 1 3/8
.27	.400 × 1 3/8	.562 × 1 1/8
.33	.400 × 1 3/8	.562 × 1 1/8
.39	.562 × 1 1/8	.562 × 1 3/8
.47	.562 × 1 1/8	.562 × 1 3/8
.56	.562 × 1 3/8	.562 × 1 5/8
.68	.562 × 1 3/8	.562 × 1 5/8
.82	.562 × 1 7/8	.670 × 1 5/8
1.00	.562 × 1 7/8	.670 × 1 5/8
200 VOLTS		
.001	.235 × 3/4	.235 × 3/4
.0012	.235 × 3/4	.235 × 3/4
.0015	.235 × 3/4	.235 × 3/4
.0018	.235 × 3/4	.235 × 3/4
.0022	.235 × 3/4	.235 × 3/4
.0027	.235 × 3/4	.235 × 3/4
.0033	.235 × 3/4	.235 × 3/4
.0039	.235 × 3/4	.235 × 3/4
.0047	.235 × 3/4	.235 × 3/4
.0056	.235 × 3/4	.235 × 3/4
.0068	.235 × 3/4	.235 × 3/4
.0082	.235 × 3/4	.312 × 7/8
.01	.235 × 3/4	.312 × 7/8
.012	.235 × 3/4	.312 × 7/8
.015	.235 × 3/4	.312 × 7/8
.018	.235 × 3/4	.312 × 7/8
.022	.235 × 3/4	.312 × 7/8
.027	.312 × 7/8	.312 × 7/8
.033	.312 × 7/8	.312 × 7/8
.039	.312 × 7/8	.400 × 7/8
.047	.312 × 7/8	.400 × 7/8
.056	.312 × 7/8	.400 × 7/8
.068	.312 × 7/8	.400 × 7/8
.082	.312 × 7/8	.400 × 1 1/8
.1	.312 × 7/8	.400 × 1 1/8
.12	.400 × 7/8	.400 × 1 3/8
.15	.400 × 7/8	.562 × 1 1/8
.18	.400 × 1 1/8	.562 × 1 3/8
.22	.562 × 1 1/8	.562 × 1 3/8
.27	.562 × 1 3/8	.562 × 1 5/8
.33	.562 × 1 3/8	.670 × 1 5/8
.39	.562 × 1 7/8	.670 × 1 5/8
.47	.562 × 1 7/8	.750 × 2 1/8
.56	.562 × 1 7/8	.750 × 2 1/8
.68	.670 × 1 7/8	.750 × 2 1/8
.82	.670 × 1 7/8	.750 × 2 1/8
1.00	.670 × 1 7/8	.750 × 2 1/8
300 VOLTS		
.001	.235 × 3/4	.235 × 3/4
.0015	.235 × 3/4	.235 × 3/4
.0022	.235 × 3/4	.235 × 3/4
.0033	.235 × 3/4	.235 × 3/4
.0047	.235 × 3/4	.235 × 3/4
.0068	.235 × 3/4	.312 × 7/8
.01	.235 × 3/4	.312 × 7/8
.015	.235 × 3/4	.312 × 7/8
.022	.312 × 7/8	.312 × 7/8
.033	.312 × 7/8	.400 × 7/8
.047	.312 × 7/8	.400 × 7/8
.068	.400 × 7/8	.400 × 1 1/8
.1	.400 × 1 1/8	.400 × 1 3/8
.15	.400 × 1 3/8	.562 × 1 1/8
.22	.562 × 1 1/8	.562 × 1 3/8
.33	.562 × 1 3/8	.562 × 1 5/8
.47	.562 × 1 7/8	.670 × 1 5/8
.68	.670 × 1 7/8	.750 × 2 1/8
1.00	.750 × 2 1/8	1.000 × 2 1/8
400 VOLTS		
.001	.235 × 3/4	.235 × 3/4
.0012	.235 × 3/4	.235 × 3/4
.0015	.235 × 3/4	.235 × 3/4
.0018	.235 × 3/4	.235 × 3/4
.0022	.235 × 3/4	.235 × 3/4
.0027	.235 × 3/4	.235 × 3/4
.0033	.235 × 3/4	.235 × 3/4
.0039	.235 × 3/4	.235 × 3/4
.0047	.235 × 3/4	.235 × 3/4
.0056	.235 × 3/4	.235 × 3/4
.0068	.235 × 3/4	.235 × 3/4
.0082	.235 × 3/4	.235 × 3/4
.01	.235 × 3/4	.235 × 3/4
.012	.235 × 3/4	.235 × 3/4
.015	.235 × 3/4	.235 × 3/4
.018	.235 × 3/4	.235 × 3/4
.022	.235 × 3/4	.235 × 3/4
.027	.235 × 3/4	.312 × 7/8
.033	.235 × 3/4	.312 × 7/8
.039	.235 × 3/4	.312 × 7/8
.047	.235 × 3/4	.312 × 7/8
.056	.235 × 3/4	.312 × 7/8
.068	.235 × 3/4	.312 × 7/8
.082	.312 × 7/8	.312 × 7/8
.01	.312 × 7/8	.312 × 7/8
.012	.312 × 7/8	.400 × 7/8
.015	.312 × 7/8	.400 × 7/8
.018	.312 × 7/8	.400 × 7/8
.022	.312 × 7/8	.400 × 7/8
.027	.400 × 7/8	.400 × 1 1/8
.033	.400 × 7/8	.400 × 1 1/8
.039	.400 × 1 1/8	.400 × 1 3/8
.047	.400 × 1 1/8	.400 × 1 3/8
.056	.400 × 1 3/8	.562 × 1 1/8
.068	.400 × 1 3/8	.562 × 1 1/8
.082	.562 × 1 1/8	.562 × 1 3/8
600 VOLTS		
.001	.235 × 3/4	.235 × 3/4
.0012	.235 × 3/4	.235 × 3/4
.0015	.235 × 3/4	.235 × 3/4
.0018	.235 × 3/4	.235 × 3/4
.0022	.235 × 3/4	.235 × 3/4
.0027	.235 × 3/4	.312 × 7/8
.0033	.235 × 3/4	.312 × 7/8
.0039	.235 × 3/4	.312 × 7/8
.0047	.235 × 3/4	.312 × 7/8
.0056	.235 × 3/4	.312 × 7/8
.0068	.235 × 3/4	.312 × 7/8
.0082	.312 × 7/8	.312 × 7/8
.01	.312 × 7/8	.312 × 7/8
.012	.312 × 7/8	.400 × 7/8
.015	.312 × 7/8	.400 × 7/8
.018	.312 × 7/8	.400 × 7/8
.022	.312 × 7/8	.400 × 7/8
.027	.400 × 7/8	.400 × 1 1/8
.033	.400 × 7/8	.400 × 1 1/8
.039	.400 × 1 1/8	.400 × 1 3/8
.047	.400 × 1 1/8	.400 × 1 3/8
.056	.400 × 1 3/8	.562 × 1 1/8
.068	.400 × 1 3/8	.562 × 1 1/8
.082	.562 × 1 1/8	.562 × 1 3/8
.1	.562 × 1 1/8	.562 × 1 3/8
.12	.562 × 1 3/8	.562 × 1 5/8
.15	.562 × 1 3/8	.562 × 1 5/8
.18	.562 × 1 7/8	.670 × 1 5/8
.22	.562 × 1 7/8	.670 × 1 5/8
.27	.670 × 1 7/8	.750 × 2 1/8
.33	.670 × 1 7/8	.750 × 2 1/8
.39	.750 × 2 1/8	.750 × 2 1/8
.47	.750 × 2 1/8	.750 × 2 1/8
.56	.750 × 2 1/8	.750 × 2 1/8
.68	.750 × 2 1/8	1.000 × 2 1/8
.82	1.000 × 1 7/8	1.000 × 2 5/8
1.00	1.000 × 1 7/8	1.000 × 2 5/8
600 VOLTS		
.001	.235 × 3/4	.235 × 3/4
.0012	.235 × 3/4	.235 × 3/4
.0015	.235 × 3/4	.235 × 3/4
.0018	.235 × 3/4	.235 × 3/4
.0022	.235 × 3/4	.235 × 3/4
.0027	.235 × 3/4	.312 × 7/8
.0033	.235 × 3/4	.312 × 7/8
.0039	.235 × 3/4	.312 × 7/8
.0047	.235 × 3/4	.312 × 7/8
.0056	.235 × 3/4	.312 × 7/8
.0068	.235 × 3/4	.312 × 7/8
.0082	.312 × 7/8	.312 × 7/8
.01	.312 × 7/8	.312 × 7/8
.012	.312 × 7/8	.400 × 7/8
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.022	.312 × 7/8	.400 × 7/8
.027	.400 × 7/8	.400 × 1 1/8
.033	.400 × 7/8	.400 × 1 1/8
.039	.400 × 1 1/8	.400 × 1 3/8
.047	.400 × 1 1/8	.400 × 1 3/8
.056	.400 × 1 3/8	.562 × 1 1/8
.068	.400 × 1 3/8	.562 × 1 1/8
.082	.562 × 1 1/8	.562 × 1 3/8
.1	.562 × 1 1/8	.562 × 1 3/8
.12	.562 × 1 3/8	.562 × 1 5/8
.15	.562 × 1 3/8	.562 × 1 5/8
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.27	.670 × 1 7/8	.750 × 2 1/8
.33	.670 × 1 7/8	.750 × 2 1/8
.39	.750 × 2 1/8	.750 × 2 1/8
.47	.750 × 2 1/8	.750 × 2 1/8
.56	.750 × 2 1/8	1.000 × 2 1/8
.68	1.000 × 1 7/8	1.000 × 2 1/8
.82	1.000 × 2 3/8	1.000 × 2 5/8
1.00	1.000 × 2 3/8	1.000 × 2 5/8
1000 VOLTS		
.001	.400 × 7/8	.400 × 7/8
.0012	.400 × 7/8	.400 × 7/8
.0015	.400 × 7/8	.400 × 7/8
.0018	.400 × 7/8	.400 × 7/8
.0022	.400 × 7/8	.400 × 7/8
.0027	.400 × 7/8	.400 × 7/8
.0033	.400 × 7/8	.400 × 7/8
.0039	.400 × 7/8	.400 × 7/8
.0047	.400 × 7/8	.400 × 7/8
.0056	.400 × 7/8	.400 × 7/8
.0068	.400 × 7/8	.400 × 7/8
.0082	.400 × 7/8	.400 × 7/8
.01	.400 × 7/8	.400 × 7/8
.012	.400 × 7/8	.400 × 1 1/8
.015	.400 × 7/8	.400 × 1 1/8
.018	.400 × 1 1/8	.400 × 1 3/8
.022	.400 × 1 1/8	.400 × 1 3/8
.027	.400 × 1 3/8	.562 × 1 1/8
.033	.400 × 1 3/8	.562 × 1 1/8
.039	.562 × 1 1/8	.562 × 1 3/8
.047	.562 × 1 1/8	.562 × 1 3/8
.056	.562 × 1 3/8	.562 × 1 5/8
.068	.562 × 1 3/8	.562 × 1 5/8
.082	.562 × 1 5/8	.670 × 1 5/8
.1	.562 × 1 5/8	.670 × 1 5/8
.12	.670 × 1 5/8	.670 × 1 7/8
.15	.670 × 1 5/8	.670 × 1 7/8
.18	.750 × 2 1/8	.750 × 2 1/8
.22	.750 × 2 1/8	.750 × 2 1/8
.27	.750 × 2 5/8	1.000 × 2 1/8
.33	.750 × 2 5/8	1.000 × 2 1/8
.39	1.000 × 2 1/8	1.000 × 2 5/8
.47	1.000 × 2 1/8	1.000 × 2 5/8

Request O.E.M. prices in the following quantities: 25-49, 50-99, 100-499

Contact your local Aerovox Industrial Distributor for Prices.

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AEROVOX Hi-Q

CAPACITORS

INDUSTRIAL SECTION — STANDARD TYPES (Continued)

METALLIZED-PAPER CAPACITORS

TYPE P8292ZN PLASTIC-CASED, METALLIZED-PAPER TUBULARS

Featuring an exclusive "polycap" plastic-case construction, these capacitors offer outstanding resistance to humidity and improved insulation resistance. The high temperature impregnant permits operation over the temperature range of −30° to +100°C at working voltage. Distinctive black cases are completely free of any wax coating to facilitate handling problems in automatic insertion and assembly equipment. Standard tolerance on these units is ±20%. Available in closer tolerances upon request at an additional charge. Mechanical Tolerances— ±1/16" on length and diameter.

For full technical information request Bulletin NPJ-113. Rev.

**Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499, 500-999.

200 VDCW

Cap. Mfd.	D L	Catalog Number	Net** Price
.01	1/4 x 19/32	P8292ZN6	$ .44
.02	1/4 x 21/32	P8292ZN7	.44
.03	5/16 x 23/32	P8292ZN8	.45
.05	5/16 x 23/32	P8292ZN9	.45
.1	3/8 x 23/32	P8292ZN10	.47
.25	1/2 x 23/32	P8292ZN11	.68
.5	7/16 x 1-5/32	P8292ZN12	.80
1.0	9/16 x 1-5/32	P8292ZN13	1.07
2.0	5/8 x 1-21/32	P8292ZN14	1.46
3.0	11/16 x 1-31/32	P8292ZN206	1.80
4.0	13/16 x 1-15/16	P8292ZN207	2.25
5.0	7/8 x 1-15/16	P8292ZN208	2.70
6.0	15/16 x 1-15/16	P8292ZN209	3.45
8.0	15/16 x 2-3/8	P8292ZN210	4.35
10.0	1 x 2-3/8	P8292ZN211	4.80

400 VDCW

Cap. Mfd.	D x L	Catalog Number	Net** Price
.01	5/16 x 23/32	P8292ZN15	.44
.02	3/8 x 23/32	P8292ZN16	.45
.03	3/8 x 23/32	P8292ZN17	.45
.05	7/16 x 23/32	P8292ZN18	.47

400 VDCW

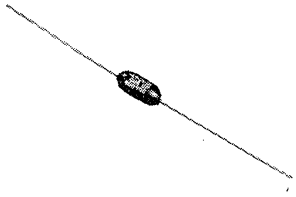
Cap. Mfd.	D x L	Catalog Number	Net** Price
.1	7/16 x 1-5/32	P8292ZN19	.51
.25	9/16 x 1-5/32	P8292ZN20	.74
.5	5/8 x 1-15/32	P8292ZN21	.95
1.0	11/16 x 1-31/32	P8292ZN22	1.32
2.0	7/8 x 2-3/8	P8292ZN23	1.86
3.0	1 x 2-7/8	P8292ZN212	2.64
4.0	1 x 3-5/8	P8292ZN213	3.39

600 VDCW

Cap. Mfd.	D x L	Catalog Number	Net** Price
.01	3/8 x 23/32	P8292ZN24	.78
.02	3/8 x 23/32	P8292ZN25	.81
.03	7/16 x 23/32	P8292ZN26	.84
.05	1/2 x 23/32	P8292ZN27	.87
.1	7/16 x 1-5/32	P8292ZN28	.93
.25	5/8 x 1-5/32	P8292ZN29	.96
.5	11/16 x 1-19/32	P8292ZN30	1.32
1.0	13/16 x 2	P8292ZN31	1.53
2.0	1 x 2-3/8	P8292ZN32	2.31
3.0	1 x 3-3/8	P8292ZN214	3.39

TYPE P95ZN

Micro-Miniature Dipped Metallized Paper Capacitors



Aerovox Type P95ZN capacitors employ an entirely new internal construction concept and utilize a dipped resinous housing to produce remarkably small sizes. The dielectric is a distinct departure from conventional foil paper and previous metallized paper construction. This new and improved metallized dielectric provides both the dielectric and the electrodes. Since capacitance is predetermined mechanically in the initial processing, the human element is eliminated for capacitance control. In addition, the P95ZN offers unusually strong lead connections as the result of an exclusive Aerovox manufacturing process. Leads are hot tin-coated phosphor bronze.

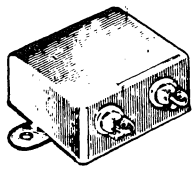
These Aerovox micro-miniature capacitors are especially suited for applications where low capacity units are now being used.

Cat. No.	Capacity	Net Price*	Size
	200 VDCW		
P95ZN1	.004	.41	.217 x .473
P95ZN2	.005	.41	.217 x .473
P95ZN3	.01	.41	.217 x .473
P95ZN4	.02	.51	.217 x .610
P95ZN5	.03	.51	.256 x .610
P95ZN6	.04	.51	.256 x .610
P95ZN7	.05	.51	.256 x .610
	400 VDCW		
P95ZN8	.002	.41	.217 x .473
P95ZN9	.003	.41	.217 x .473
P95ZN10	.005	.51	.217 x .610
P95ZN11	.01	.51	.256 x .610

Cat. No.	Capacity	Net Price*	Size
	600 VDCW		
P95ZN12	.00005	.41	.217 x .473
P95ZN13	.0001	.41	.217 x .473
P95ZN14	.0002	.41	.217 x .473
P95ZN15	.00025	.41	.217 x .473
P95ZN16	.0003	.41	.217 x .473
P95ZN17	.0005	.41	.217 x .473
P95ZN18	.001	.41	.217 x .473
P95ZN19	.002	.51	.256 x .610
P95ZN20	.003	.51	.256 x .610

*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499.

TYPE P30ZN High Temperature Bathtub Case



AEROVOX type P30ZN Aerolene impregnated metallized-paper capacitors housed in "bathtub" metal cases hermetically sealed. Operating temperature range —65°C. to +125°C. at full rating Standard Tolerance ±20%

*Request O.E.M. Prices in the following quantities: 25-49, 50-99

Capacity	150 V	Net* Price	200 V	Net* Price	400 V	Net* Price	600 V	Net* Price
.1			1-3/4 x 1 x 3/4	2.16	1-3/4 x 1 x 3/4	2.31	1-3/4 x 1 x 3/4	2.49
.25			1-3/4 x 1 x 3/4	2.40	1-3/4 x 1 x 3/4	2.52	1-3/4 x 1 x 3/4	2.80
.5			1-3/4 x 1 x 3/4	2.43	1-3/4 x 1 x 3/4	2.94	1-3/4 x 1 x 3/4	3.30
1.0			1-3/4 x 1 x 3/4	2.85	1-3/4 x 1 x 7/8	3.66	1-3/4 x 1¼ x 7/8	4.35
2.0			1-3/4 x 1 x 3/4	3.54	2 x 1-3/4 x 13/16	5.04	2 x 2 x 7/8	5.40
3.0	1-3/4 x 1 x 3/4	3.30			2 x 1-3/4 x 15/16	6.42	2 x 2 x 1-1/8	7.05
4.0	1-3/4 x 1 x 3/4	3.96			2 x 2 x 1	7.80	2 x 2 x 1-1/4	8.95
5.0	1-3/4 x 1 x 3/4	4.38			2 x 2 x 1-1/4	9.24		
6.0	1-3/4 x 1¼ x 7/8	4.56						
8.0	2 x 1-3/4 x 3/4	5.28						
10.0	2 x 1-3/4 x 3/4	6.09						
12.0	2 x 2 x 7/8	6.81						
15.0	2 x 2 x 1	8.25						

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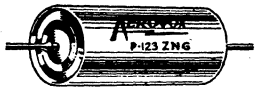
AEROVOX Hi-Q

CAPACITORS

INDUSTRIAL SECTION—STANDARD TYPES (Continued)
METALLIZED-PAPER



TYPES P123ZN, P123ZNG and TYPES P323ZN, P323ZNG Metal-Cased Capacitors

Metallized paper tubulars hermetically sealed in metal tubes with glass end seals soldered for positive moisture seal. P123ZN operating temperature range –55°C to +100°C. at full voltage rating and +125°C. with voltage derating to 75%.

Type P323ZN is in a similar construction but made to operate WITHOUT VOLTAGE DERATING over a temperature range of –55°C. to +125°C.

Standard tolerance – P123ZN –.01 mfd. and lower ±25% .012 mfd. and up ±20%. Type P323ZN – all values ±20%.

Sizes shown are for uninsulated styles, for insulated case add the suffix "P" to designation and 1/16" to diameter and length.

Capacity	P123ZN	P123ZNG	P323ZN	P323ZNG
		50 VOLTS		
.047	.195 x 13/16	.195 x 3/4		
.068	.195 x 13/16	.195 x 3/4		
.1	.195 x 15/16	.195 x 7/8		
.15	.235 x 15/16	.235 x 7/8		
.22	.312 x 13/16	.312 x 3/4		
.33	.312 x 1-1/8	.312 x 1-1/16		
.47	.312 x 1-3/16	.312 x 1-1/8		
.68	.400 x 1-1/8	.400 x 1-1/16		
1.0	.400 x 1-5/16	.400 x 1-1/4		
1.5	.500 x 1-1/8	.500 x 1-1/16		
2.0	.562 x 1-5/16	.562 x 1-1/4		
3.0	.562 x 1-7/16	.562 x 1-3/8		
4.0	.670 x 1-7/16	.670 x 1-3/8		
		200 VOLTS		
.0005	.175 x 1/2	.175 x 7/16		
.001	.175 x 1/2	.175 x 7/16		
.002	.175 x 1/2	.175 x 7/16		
.003	.175 x 1/2	.175 x 7/16		
.005	.175 x 1/2	.175 x 7/16		
.01	.175 x 1/2	.175 x 7/16	.175 x 1/2	.175 x 7/16
.012	.195 x 5/8	.195 x 9/16	.195 x 5/8	.195 x 9/16
.015	.195 x 5/8	.195 x 9/16	.195 x 5/8	.195 x 9/16
.018	.195 x 5/8	.195 x 9/16	.235 x 5/8	.235 x 9/16
.02	.195 x 5/8	.195 x 9/16		
.022	.195 x 5/8	.195 x 9/16	.235 x 5/8	.235 x 9/16
.027	.235 x 5/8	.235 x 9/16	.235 x 5/8	.235 x 9/16
.033	.235 x 5/8	.235 x 9/16	.235 x 3/4	.235 x 11/16
.039	.235 x 11/16	.235 x 5/8	.235 x 13/16	.235 x 3/4
.04	.235 x 11/16	.235 x 5/8		
.047	.235 x 11/16	.235 x 5/8	.235 x 13/16	.235 x 3/4
.05	.235 x 11/16	.235 x 5/8		
.056	.235 x 13/16	.235 x 3/4	.235 x 13/16	.235 x 3/4
.068	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4
.082	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4
.1	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4
.12	.312 x 1-1/8	.312 x 1-1/16	.312 x 1-1/8	.312 x 1-1/16
.15	.312 x 1-1/8	.312 x 1-1/16	.312 x 1-1/8	.312 x 1-1/16
.18	.312 x 1-1/8	.312 x 1-1/16	.400 x 7/8	.400 x 13/16
.2	.312 x 1-1/8	.312 x 1-1/16		
.22	.312 x 1-1/8	.312 x 1-1/16	.400 x 7/8	.400 x 13/16
.25	.312 x 1-1/8	.312 x 1-1/16		
.27	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16
.33	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16
.39	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16
.47	.400 x 1-1/8	.400 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16
.5	.400 x 1-1/8	.400 x 1-1/16		
.56	.500 x 1-1/8	.500 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16
.68	.500 x 1-1/8	.500 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16
.82	.562 x 1-1/8	.562 x 1-1/16	.562 x 1-1/8	.562 x 1-1/16
1.0	.562 x 1-1/8	.562 x 1-1/16	.562 x 1-1/8	.562 x 1-1/16
1.5	.562 x 1-5/8	.562 x 1-9/16	.562 x 1-5/8	.562 x 1-9/16
2.0	.562 x 1-7/8	.562 x 1-13/16	.670 x 1-5/8	.670 x 1-9/16
3.0	.670 x 1-7/8	.670 x 1-13/16	.670 x 1-7/8	.670 x 1-13/16
4.0	.750 x 1-7/8	.750 x 1-13/16	.750 x 1-7/8	.750 x 1-13/16
5.0	1.000 x 1-7/8	1.000 x 1-13/16	1.000 x 1-7/8	1.000 x 1-13/16
6.0	1.000 x 1-7/8	1.000 x 1-13/16	1.000 x 1-7/8	1.000 x 1-13/16
8.0			1.000 x 1-7/8	1.000 x 1-13/16
10.0			1.000 x 2-3/8	1.000 x 2-5/16
12.0			1.000 x 2-5/8	1.000 x 2-9/16
		400 VOLTS		
.0005	.235 x 1/2	.235 x 7/16		
.001	.235 x 1/2	.235 x 7/16	.235 x 3/4	.235 x 11/16
.002	.235 x 1/2	.235 x 7/16		
.0022			.235 x 3/4	.235 x 11/16
.003	.235 x 5/8	.235 x 9/16		
.0047			.235 x 3/4	.235 x 11/16
.005	.235 x 5/8	.235 x 9/16		
.01	.235 x 5/8	.235 x 9/16	.235 x 3/4	.235 x 11/16

Capacity	P123ZN	P123ZNG	P323ZN	P323ZNG
		400 VOLTS (Continued)		
.012	.235 x 13/16	.235 x 3/4	.235 x 13/16	.235 x 3/4
.015	.235 x 13/16	.235 x 3/4	.235 x 13/16	.235 x 3/4
.018	.235 x 13/16	.235 x 3/4	.312 x 13/16	.312 x 3/4
.02	.235 x 13/16	.235 x 3/4		
.022	.235 x 13/16	.235 x 3/4	.312 x 13/16	.312 x 3/4
.027	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4
.033	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4
.039	.312 x 1-1/8	.312 x 1-1/16	.312 x 1-1/8	.312 x 1-1/16
.04	.312 x 1-1/8	.312 x 1-1/16		
.047	.312 x 1-1/8	.312 x 1-1/16	.312 x 1-1/8	.312 x 1-1/16
.05	.312 x 1-1/8	.312 x 1-1/16		
.056	.312 x 1-1/8	.312 x 1-1/16	.312 x 1-1/8	.312 x 1-1/16
.068	.312 x 1-1/8	.312 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16
.082	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16
.1	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16
.12	.500 x 1-1/8	.500 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16
.15	.500 x 1-1/8	.500 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16
.18	.500 x 1-1/8	.500 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16
.2	.500 x 1-1/8	.500 x 1-1/16		
.22	.500 x 1-1/8	.500 x 1-1/16	.562 x 1-1/8	.562 x 1-1/16
.25	.500 x 1-1/8	.500 x 1-1/16		
.27	.562 x 1-1/8	.562 x 1-1/16	.562 x 1-1/8	.562 x 1-1/16
.33	.562 x 1-3/8	.562 x 1-5/16	.562 x 1-3/8	.562 x 1-5/16
.39	.562 x 1-5/8	.562 x 1-9/16	.562 x 1-5/8	.562 x 1-9/16
.47	.562 x 1-5/8	.562 x 1-9/16	.562 x 1-5/8	.562 x 1-9/16
.5	.562 x 1-5/8	.562 x 1-9/16		
.56	.670 x 1-5/8	.670 x 1-9/16	.670 x 1-5/8	.670 x 1-9/16
.68	.670 x 1-5/8	.670 x 1-9/16	.670 x 1-7/8	.670 x 1-13/16
.82	.670 x 1-7/8	.670 x 1-13/16	.750 x 1-7/8	.750 x 1-13/16
1.0	.670 x 2-1/8	.670 x 2-1/16	.750 x 1-7/8	.750 x 1-13/16
1.5	.750 x 2-3/8	.750 x 2-5/16	1.000 x 1-7/8	1.000 x 1-13/16
2.0	1.000 x 1-7/8	1.000 x 1-13/16	1.000 x 1-7/8	1.000 x 1-13/16
		600 VOLTS		
.0005	.235 x 1/2	.235 x 7/16		
.001	.235 x 5/8	.235 x 9/16	.235 x 3/4	.235 x 11/16
.002	.235 x 5/8	.235 x 9/16		
.0022			.235 x 3/4	.235 x 11/16
.003	.235 x 5/8	.235 x 9/16		
.0047			.235 x 3/4	.235 x 11/16
.005	.235 x 5/8	.235 x 9/16		
.01	.235 x 13/16	.235 x 3/4	.312 x 13/16	.312 x 3/4
.012	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4
.015	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4
.018	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4
.02	.312 x 13/16	.312 x 3/4		
.022	.312 x 13/16	.312 x 3/4	.312 x 13/16	.312 x 3/4
.027	.400 x 13/16	.400 x 3/4	.312 x 1-1/8	.312 x 1-1/16
.033	.400 x 13/16	.400 x 3/4	.312 x 1-1/8	.312 x 1-1/16
.039	.400 x 13/16	.400 x 3/4	.400 x 1-1/8	.400 x 1-1/16
.04	.400 x 13/16	.400 x 3/4		
.047	.400 x 13/16	.400 x 3/4	.400 x 1-1/8	.400 x 1-1/16
.05	.400 x 13/16	.400 x 3/4		
.056	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16
.068	.400 x 1-1/8	.400 x 1-1/16	.400 x 1-1/8	.400 x 1-1/16
.082	.400 x 1-1/8	.400 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16
.1	.400 x 1-1/8	.400 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16
.12	.500 x 1-1/8	.500 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16
.15	.500 x 1-1/8	.500 x 1-1/16	.500 x 1-1/8	.500 x 1-1/16
.18	.562 x 1-1/8	.562 x 1-1/16	.562 x 1-1/8	.562 x 1-1/16
.2	.562 x 1-3/8	.562 x 1-5/16		
.22	.562 x 1-3/8	.562 x 1-5/16	.562 x 1-3/8	.562 x 1-5/16
.25	.562 x 1-3/8	.562 x 1-5/16		
.27	.670 x 1-5/8	.562 x 1-9/16	.562 x 1-5/8	.562 x 1-9/16
.33	.562 x 1-5/8	.562 x 1-9/16	.562 x 1-5/8	.562 x 1-9/16
.39	.670 x 1-5/8	.670 x 1-9/16	.670 x 1-5/8	.670 x 1-9/16
.47	.670 x 1-5/8	.670 x 1-9/16	.670 x 1-5/8	.670 x 1-9/16
.5	.670 x 1-7/8	.670 x 1-13/16		
.56	.670 x 1-7/8	.670 x 1-13/16	.670 x 1-7/8	.670 x 1-13/16
.68	.670 x 1-7/8	.670 x 1-13/16	.670 x 1-7/8	.670 x 1-13/16
.82	.750 x 2-3/8	.750 x 2-5/16	1.000 x 1-7/8	1.000 x 1-13/16
1.0	.750 x 2-3/8	.750 x 2-5/16	1.000 x 1-7/8	1.000 x 1-13/16
1.5	1.000 x 1-7/8	1.000 x 1-13/16	1.000 x 1-7/8	1.000 x 1-13/16
2.0	1.000 x 2-3/8	1.000 x 2-5/16	1.000 x 2-3/8	1.000 x 2-5/16

Contact your local Aerovox Industrial Distributor for Prices.

*Request O.E.M. Prices in the following quantities: 25-99, 100-499

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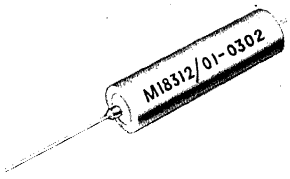
AEROVOX Hi-Q

CAPACITORS

MIL TYPES CH08 and CH09
METALLIZED TUBULAR CAPACITORS



Listed are the case floating style (diagram 1) only. Case grounded (diagram 3) are available on special order.

In accordance with directions in MIL-C-18312 Rev. C units will be marked with the MIL part number rather than MIL type designation. CH08 types will be marked M18312/01 plus the dash number listed below. CH09 types will be marked M18312/02 plus the dash number listed below. Dash number will change with tolerance and case style. Tolerances shown are standard, available at closer tolerance on special order.

Request O.E.M. Prices in the following quantities: 25-49, 50-99

Capacity uf	MIL Type Designation	Dash Number
	50 VDCW	
.018	CH-*-A1RA183K	0302
.022	CH-*-A1RA223K	0306
.027	CH-*-A1RA273K	0310
.033	CH-*-A1RA333K	0314
.039	CH-*-A1RA393K	0318
.047	CH-*-A1RA473K	0322
.056	CH-*-A1RA563K	0326
.068	CH-*-A1RA683K	0330
.082	CH-*-A1RA823K	0334
.1	CH-*-A1RA104K	0338
.18	CH-*-A1RA184K	0342
.22	CH-*-A1RA224K	0346
.27	CH-*-A1RA274K	0350
.33	CH-*-A1RA334K	0354
.39	CH-*-A1RA394K	0358
.47	CH-*-A1RA474K	0362
.56	CH-*-A1RA564K	0366
.68	CH-*-A1RA684K	0370
.82	CH-*-A1RA824K	0374
1.0	CH-*-A1RA105K	0378
1.5	CH-*-A1RA155K	0382
2.2	CH-*-A1RA225K	0386
2.7	CH-*-A1RA275K	0390
3.3	CH-*-A1RA335K	0394
3.9	CH-*-A1RA395K	0398
4.7	CH-*-A1RA475K	0402
5.6	CH-*-A1RA565K	0406
6.8	CH-*-A1RA685K	0410
10.0	CH-*-A1RA106K	0414
12.0	CH-*-A1RA126K	0418

Capacity uf	MIL Type Designation	Dash Number
	200 VDCW	
.1	CH-*-A1NC104M	0422
.22	CH-*-A1NC224M	0426
.47	CH-*-A1NC474M	0430
1.0	CH-*-A1NC105M	0434
1.5	CH-*-A1NC155M	0438
2.2	CH-*-A1NC225M	0442
3.3	CH-*-A1NC335M	0446
4.7	CH-*-A1NC475M	0450
6.8	CH-*-A1NC685M	0454
10.0	CH-*-A1NC106M	0458
12.0	CH-*-A1NC126M	0462
	400 VDCW	
.047	CH-*-A1NE473M	0466
.1	CH-*-A1NE104M	0470
.22	CH-*-A1NE224M	0474
.47	CH-*-A1NE474M	0478
1.0	CH-*-A1NE105M	0482
2.2	CH-*-A1NE225M	0486
3.3	CH-*-A1NE335M	0490
	600 VDCW	
.01	CH-*-A1NF103M	0494
.022	CH-*-A1NF223M	0498
.047	CH-*-A1NF473M	0502
.1	CH-*-A1NF104M	0506
.22	CH-*-A1NF224M	0510
.47	CH-*-A1NF474M	0514
1.0	CH-*-A1NF105M	0518
1.5	CH-*-A1NF155M	0522
2.2	CH-*-A1NF225M	0526

Contact your local Aerovox Industrial Distributor for Prices.

* Insert "08" for uninsulated case,
"09" for insulated case.

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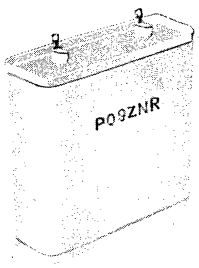
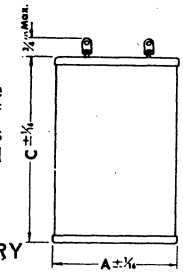
AEROVOX Hi-Q

CAPACITORS

TYPE P09ZNR — MIL TYPE CH70

HIGH-TEMPERATURE METALLIZED PAPER CAPACITORS



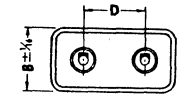


Hermetically sealed rectangular case metallized paper capacitors, the Type P09ZNR is equivalent to the CH70 of MIL-C-18312C. These units may be operated at full voltage to 125°C and offer a great deal of weight and size saving over conventional oil paper units. The operating temperature of these units is —55°C to +125°C. The P09ZNR is furnished with silicone terminals such as the "B" terminal specified in MIL-C-25. Also available with porcelain terminals equivalent to the "E" terminal on special order.

NOTES: AT PRESENT WE ARE STOCKING ONLY MIL CAPACITIES AND VOLTAGES.

ALL CAPACITIES AND VOLTAGES NOT LISTED AS MIL WILL BE SUBJECT TO FACTORY DELIVERY CYCLES.

SPECIFY CHARACTERISTIC "M" OR "N" WHEN ORDERING AND ADD "K" (10%) OR "M" (20%) FOR TOLERANCE DESIRED.



AS PRESENT STOCKS ARE DEPLETED INVENTORY WILL BE CHANGED TO TYPE CH72 TO MEET MILITARY SPECIFICATION MIL-C-18312D.

Request O.E.M. Prices in the following quantities: 10-24, 25-49, 50-99

Capacity uf	MIL Number	SIZE A	SIZE B	SIZE C	SIZE D	Tolerance
		150 VDCW				
4.0	———	1 13/16	1 1/16	1 1/4	13/16	K,M
6.0	———	1 13/16	1 1/16	1 1/2	13/16	K,M
8.0	———	1 13/16	1 1/16	1 3/4	13/16	K,M
10.0	———	1 13/16	1 1/16	1 7/8	13/16	K,M
12.0	———	1 13/16	1 1/16	2 1/8	13/16	K,M
15.0	CH70B1-V156-	1 13/16	1 1/16	2 3/8	13/16	K,M
20.0	CH70B1-V206-	1 13/16	1 1/16	2 3/4	13/16	K,M
25.0	———	1 13/16	1 1/16	3 3/8	13/16	K,M
30.0	CH70B1-V306-	1 13/16	1 1/16	4 1/4	13/16	K,M
40.0	———	2 1/2	1 3/16	3 1/4	1 1/8	K,M
50.0	CH70B1-V506-	2 1/2	1 3/16	4	1 1/8	K,M
60.0	———	3 3/4	1 1/4	3 3/8	2	K,M
75.0	———	3 3/4	1 1/2	3 1/2	2	K,M
100.0	———	3 3/4	1 3/4	3 3/4	2	K,M
		200 VDCW				
4.0	———	1 13/16	1 1/16	1 5/8	13/16	K,M
6.0	———	1 13/16	1 1/16	2	13/16	K,M
8.0	———	1 13/16	1 1/16	2 1/2	13/16	K,M
10.0	———	1 13/16	1 1/16	3	13/16	K,M
12.0	———	1 13/16	1 1/16	3 1/4	13/16	K,M
15.0	———	1 13/16	1 1/16	3 7/8	13/16	K,M
20.0	———	2 1/2	1 3/16	3 3/4	1 1/8	K,M
25.0	———	2 1/2	1 3/16	4 1/8	1 1/8	K,M
30.0	———	2 1/2	1 3/16	4 3/4	1 1/8	K,M
40.0	———	3 3/4	1 1/4	4	2	K,M
50.0	———	3 3/4	1 1/4	4 3/4	2	K,M
60.0	———	3 3/4	1 3/4	4 3/8	2	K,M
75.0	———	3 3/4	2 1/4	4 5/8	2	K,M
100.0	———	3 3/4	2 1/4	5 5/8	2	K,M
		400 VDCW				
4.0	———	1 13/16	1 1/16	2 3/8	13/16	K,M
6.0	CH70B1-E605-	1 13/16	1 1/16	3 1/2	13/16	K,M
8.0	CH70B1-E805-	1 13/16	1 1/16	4	13/16	K,M
10.0	CH70B1-E106	1 13/16	1 1/16	4 1/4	13/16	K,M
12.0	———	2 1/2	1 3/16	3 5/8	1 1/8	K,M
15.0	———	2 1/2	1 3/16	4	1 1/8	K,M
20.0	CH70B1-E206-	2 1/2	1 1/4	4 3/4	2	K,M
25.0	———	3 3/4	1 1/4	4 1/4	2	K,M
30.0	———	3 3/4	1 1/4	4 3/4	2	K,M
		600 VDCW				
4.0	———	1 13/16	1 1/16	2 3/4	13/16	K,M
6.0	CH70B1-F605-	1 13/16	1 1/16	3 3/4	13/16	K,M
8.0	CH70B1-F805-	2 1/2	1 3/16	3 1/4	1 1/8	K,M
10.0	CH70B1-F106-	2 1/2	1 3/16	4	1 1/8	K,M
12.0	———	2 1/2	1 3/16	4 3/8	1 1/8	K,M
15.0	CH70B1-F156-	3 3/4	1 1/4	3 5/8	2	K,M
22.0	CH72B1NF226-	3 3/4	1 3/4	3 5/8	2	K,M
25.0	———	3 3/4	2 1/4	3	2	K,M

Contact your local Aerovox Industrial Distributor for Prices.

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AEROVOX Hi-Q

CAPACITORS

INDUSTRIAL SECTION — MIL TYPES

MIL-C-25C

TYPES CP04 and CP05 — Characteristics K Vibration Grades 1 and 3

Hermetically sealed tubular capacitors with glass terminal seal and axial wire leads. CP04 and CP05 are inserted tab construction; CP08 and CP09 are extended foil construction. Standard tolerance is ±10% (K). Specify Vibration Grade when ordering.

CP04, CHAR. K

P323S

NO TUBE

Capacity	Voltage	Case Floating	Net Price*	Capacity	Voltage	Case Floating	Net Price*
.027	100V	CP04A1KB273K–	.78	.001	600V	CP04A1KF102K–	.75
.033	100V	CP04A1KB333K–	.78	.0012	600V	CP04A1KF122K–	.75
.082	100V	CP04A1KB823K–	1.08	.0015	600V	CP04A1KF152K–	.75
.1	100V	CP04A1KB104K–	1.08	.0018	600V	CP04A1KF182K–	.75
.12	100V	CP04A1KB124K–	1.14	.0022	600V	CP04A1KF222K–	.75
.15	100V	CP04A1KB154K–	1.17	.0027	600V	CP04A1KF272K–	.78
.18	100V	CP04A1KB184K–	1.23	.0033	600V	CP04A1KF332K–	.78
.22	100V	CP04A1KB224K–	1.29	.0039	600V	CP04A1KF392K–	.78
.27	100V	CP04A1KB274K–	1.35	.0047	600V	CP04A1KF472K–	.78
.33	100V	CP04A1KB334K–	1.44	.0056	600V	CP04A1KF562K–	.84
.39	100V	CP04A1KB394K–	1.50	.0068	600V	CP04A1KF682K–	.96
.47	100V	CP94A1KB474K–	1.56	.0082	600V	CP04A1KF822K–	.99
.56	100V	CP04A1KB564K–	1.59	.01	600V	CP04A1KF103K–	.99
.68	100V	CP04A1KB684K–	1.65	.012	600V	CP04A1KF123K–	1.05
.82	100V	CP04A1KB824K–	1.71	.015	600V	CP04A1KF153K–	1.08
1.0	100V	CP04A1KB105K–	1.77	.018	600V	CP04A1KF183K–	1.08
.012	200V	CP04A1KC123K–	.78	.022	600V	CP04A1KF223K–	1.08
.015	200V	CP04A1KC153K–	.78	.027	600V	CP04A1KF273K–	1.11
.018	200V	CP04A1KC183K–	.78	.033	600V	CP04A1KF333K–	1.11
.022	200V	CP04A1KC223K–	.84	.039	600V	CP04A1KF393K–	1.11
.039	200V	CP04A1KC393K–	.84	.047	600V	CP04A1KF473K–	1.11
.047	200V	CP04A1KC473K–	.84	.056	600V	CP04A1KF563K–	1.14
.056	200V	CP04A1KC563K–	.87	.068	600V	CP04A1KF683K–	1.14
.068	200V	CP04A1KC683K–	.93	.082	600V	CP04A1KF823K–	1.20
.082	200V	CP04A1KC823K–	.96	.1	600V	CP04A1KF104K–	1.26
.1	200V	CP04A1KC104K–	1.02	.12	600V	CP04A1KF124K–	1.35
.12	200V	CP04A1KC124K–	1.08	.15	600V	CP04A1KF154K–	1.44
.15	200V	CP04A1KC154K–	1.11	.18	600V	CP04A1KF184K–	1.47
.18	200V	CP04A1KC184K–	1.14	.22	600V	CP04A1KF224K–	1.53
.22	200V	CP04A1KC224K–	1.17	.27	600V	CP04A1KF274K–	1.59
.27	200V	CP04A1KC274K–	1.29	.33	600V	CP04A1KF334K–	1.62
.33	200V	CP04A1KC334K–	1.38	.39	600V	CP04A1KF394K–	1.74
.39	200V	CP04A1KC394K–	1.44	.47	600V	CP04A1KF474K–	1.86
.47	200V	CP04A1KC474K–	1.50	.56	600V	CP04A1KF564K–	2.37
.56	200V	CP04A1KC564K–	1.56	.68	600V	CP04A1KF684K–	2.37
.68	200V	CP04A1KC684K–	1.65	.015	1000V	CP04A1KG153K–	1.11
.82	200V	CP04A1KC824K–	1.77	.018	1000V	CP04A1KG183K–	1.11
1.0	200V	CP04A1KC105K–	1.86	.022	1000V	CP04A1KG223K–	1.11
.0082	400V	CP04A1KE822K–	.87	.027	1000V	CP04A1KG273K–	1.17
.01	400V	CP04A1KE103K–	.87	.033	1000V	CP04A1KG333K–	1.17
.027	400V	CP04A1KE273K–	.93	.039	1000V	CP04A1KG393K–	1.17
.033	400V	CP04A1KE333K–	.93	.047	1000V	CP04A1KG473K–	1.17
.039	400V	CP04A1KE393K–	.96	.056	1000V	CP04A1KG563K–	1.23
.047	400V	CP04A1KE473K–	1.02	.068	1000V	CP04A1KG683K–	1.26
.056	400V	CP04A1KE563K–	1.08	.082	1000V	CP04A1KG823K–	1.32
.068	400V	CP04A1KE683K–	1.11	.1	1000V	CP04A1KG104K–	1.35
.082	400V	CP04A1KE823K–	1.17	.12	1000V	CP04A1KG124K–	1.41
.1	400V	CP04A1KE104K–	1.26	.15	1000V	CP04A1KG154K–	1.41
.12	400V	CP04A1KE124K–	1.35	.18	1000V	CP04A1KG184K–	1.50
.15	400V	CP04A1KE154K–	1.44	.22	1000V	CP04A1KG224K–	1.65
.18	400V	CP04A1KE184K–	1.50	.27	1000V	CP04A1KG274K–	2.04
.22	400V	CP04A1KE224K–	1.56	.33	1000V	CP04A1KG334K–	2.16
.27	400V	CP04A1KE274K–	1.65	.39	1000V	CP04A1KG394K–	2.37
.33	400V	CP04A1KE334K–	1.71	.47	1000V	CP04A1KG474K–	2.37
.39	400V	CP04A1KE394K–	1.98				
.47	400V	CP04A1KE474K–	1.98				
.56	400V	CP04A1KE564K–	2.13				
.68	400V	CP04A1KE684K–	2.13				
.82	400V	CP04A1KE824K–	2.58				
1.0	400V	CP04A1KE105K–	2.58				

CP05, CHAR. K

P323SP

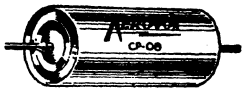
PLASTIC TUBE

Capacity	Voltage	Case Floating	Net Price*	Capacity	Voltage	Case Floating	Net Price*
.027	100V	CP05A1KB273K–	.84	.001	600V	CP05A1KF102K–	.81
.033	100V	CP05A1KB333K–	.84	.0012	600V	CP05A1KF122K–	.81
.082	100V	CP05A1KB823K–	1.14	.0015	600V	CP05A1KF152K–	.81
.1	100V	CP05A1KB104K–	1.14	.0018	600V	CP05A1KF182K–	.81
.12	100V	CP05A1KB124K–	1.20	.0022	600V	CP05A1KF222K–	.81
.15	100V	CP05A1KB154K–	1.23	.0027	600V	CP05A1KF272K–	.84
.18	100V	CP05A1KB184K–	1.29	.0033	600V	CP05A1KF332K–	.84
.22	100V	CP05A1KB224K–	1.35	.0039	600V	CP05A1KF392K–	.84
.27	100V	CP05A1KB274K–	1.41	.0047	600V	CP05A1KF472K–	.84
.33	100V	CP05A1KB334K–	1.50	.0056	600V	CP05A1KF562K–	.90
.39	100V	CP05A1KB394K–	1.59	.0068	600V	CP05A1KF682K–	1.02
.47	100V	CP05A1KB474K–	1.65	.0082	600V	CP05A1KF822K–	1.05
.56	100V	CP05A1KB564K–	1.68	.01	600V	CP05A1KF103K–	1.05
.68	100V	CP05A1KB684K–	1.74	.012	600V	CP05A1KF123K–	1.11
.82	100V	CP05A1KB824K–	1.80	.015	600V	CP05A1KF153K–	1.14
1.0	100V	CP05A1KB105K–	1.86	.018	600V	CP05A1KF183K–	1.14
.012	200V	CP05A1KC123K–	.84	.022	600V	CP05A1KF223K–	1.14
.015	200V	CP05A1KC153K–	.84	.027	600V	CP05A1KF273K–	1.17
.018	200V	CP05A1KC183K–	.84	.033	600V	CP05A1KF333K–	1.17
.022	200V	CP05A1KC223K–	.90	.039	600V	CP05A1KF393K–	1.17
.039	200V	CP05A1KC393K–	.90	.047	600V	CP05A1KF473K–	1.17
.047	200V	CP05A1KC473K–	.90	.056	600V	CP05A1KF563K–	1.20
.056	200V	CP05A1KC563K–	.93	.068	600V	CP05A1KF683K–	1.20
.068	200V	CP05A1KC683K–	.99	.082	600V	CP05A1KF823K–	1.29
.082	200V	CP05A1KC823K–	1.02	.1	600V	CP05A1KF104K–	1.35
.1	200V	CP05A1KC104K–	1.08	.12	600V	CP05A1KF124K–	1.44
.12	200V	CP05A1KC124K–	1.14	.15	600V	CP05A1KF154K–	1.53
.15	200V	CP05A1KC154K–	1.17	.18	600V	CP05A1KF184K–	1.56
.18	200V	CP05A1KC184K–	1.20	.22	600V	CP05A1KF224K–	1.62
.22	200V	CP05A1KC224K–	1.23	.27	600V	CP05A1KF274K–	1.68
.27	200V	CP05A1KC274K–	1.38	.33	600V	CP05A1KF334K–	1.71
.33	200V	CP05A1KC334K–	1.47	.39	600V	CP05A1KF394K–	1.83
.39	200V	CP05A1KC394K–	1.53	.47	600V	CP05A1KF474K–	1.95
.47	200V	CP05A1KC474K–	1.59	.56	600V	CP05A1KF564K–	2.46
.56	200V	CP05A1KC564K–	1.65	.68	600V	CP05A1KF684K–	2.46
.68	200V	CP05A1KC684K–	1.74	.015	1000V	CP05A1KG153K–	1.17
.82	200V	CP05A1KC824K–	1.86	.018	1000V	CP05A1KG183K–	1.17
1.0	200V	CP05A1KC105K–	1.95	.022	1000V	CP05A1KG223K–	1.17
.0082	400V	CP05A1KE822K–	.93	.027	1000V	CP05A1KG273K–	1.23
.01	400V	CP05A1KE103K–	.93	.033	1000V	CP05A1KG333K–	1.23
.027	400V	CP05A1KE273K–	.99	.039	1000V	CP05A1KG393K–	1.26
.033	400V	CP05A1KE333K–	.99	.047	1000V	CP05A1KG473K–	1.26
.039	400V	CP05A1KE393K–	1.02	.056	1000V	CP05A1KG563K–	1.32
.047	400V	CP05A1KE473K–	1.08	.068	1000V	CP05A1KG683K–	1.35
.056	400V	CP05A1KE563K–	1.14	.082	1000V	CP05A1KG823K–	1.41
.068	400V	CP05A1KE683K–	1.17	.1	1000V	CP05A1KG104K–	1.44
.082	400V	CP05A1KE823K–	1.23	.12	1000V	CP05A1KG124K–	1.50
.1	400V	CP05A1KE104K–	1.32	.15	1000V	CP05A1KG154K–	1.50
.12	400V	CP05A1KE124K–	1.44	.18	1000V	CP05A1KG184K–	1.59
.15	400V	CP05A1KE154K–	1.53	.22	1000V	CP05A1KG224K–	1.74
.18	400V	CP05A1KE184K–	1.59	.27	1000V	CP05A1KG274K–	2.13
.22	400V	CP05A1KE224K–	1.65	.33	1000V	CP05A1KG334K–	2.25
.27	400V	CP05A1KE274K–	1.74	.39	1000V	CP05A1KG394K–	2.46
.33	400V	CP05A1KE334K–	1.80	.47	1000V	CP05A1KG474K–	2.46
.39	400V	CP05A1KE394K–	2.07				
.47	400V	CP05A1KE474K–	2.07				
.56	400V	CP05A1KE564K–	2.22				
.68	400V	CP05A1KE684K–	2.22				
.82	400V	CP05A1KE824K–	2.67				
1.0	400V	CP05A1KE105K–	2.67				

*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499

AEROVOX Hi-Q

CAPACITORS



INDUSTRIAL SECTION — MIL TYPES
MIL-C-25C

TYPES CP08 and CP09—Characteristics K Vibration Grades 1 and 3

Hermetically sealed tubular capacitors with glass terminal seal and axial wire leads. CP04 and CP05 are inserted tab construction; CP08 and CP09 are extended foil construction. Standard tolerance is ±10% (K). Specify Vibration Grade when ordering.

CP08, CHAR. K
P323SX
NO TUBE

Capacity	Voltage	Case Floating	Net Price*
.0082	100V	CP08A1KB822K–	.75
.01	100V	CP08A1KB103K–	.75
.012	100V	CP08A1KB123K–	.75
.015	100V	CP08A1KB153K–	.75
.039	100V	CP08A1KB393K–	.84
.047	100V	CP08A1KB473K–	.90
.082	100V	CP08A1KB823K–	.99
.1	100V	CP08A1KB104K–	1.05
.12	100V	CP08A1KB124K–	1.08
.15	100V	CP08A1KB154K–	1.11
.18	100V	CP08A1KB184K–	1.20
.22	100V	CP08A1KB224K–	1.26
.27	100V	CP08A1KB274K–	1.32
.33	100V	CP08A1KB334K–	1.38
.39	100V	CP08A1KB394K–	1.44
.47	100V	CP08A1KB474K–	1.47
.56	100V	CP08A1KB564K–	1.56
.68	100V	CP08A1KB684K–	1.62
.82	100V	CP08A1KB824K–	1.71
1.0	100V	CP08A1KB105K–	1.86
.0039	200V	CP08A1KC392K–	.72
.0047	200V	CP08A1KC472–	.72
.0056	200V	CP08A1KC562K–	.72
.0068	200V	CP08A1KC682K–	.72
.018	200V	CP08A1KC183K–	.84
.022	200V	CP08A1KC223K–	.84
.027	200V	CP08A1KC273K–	.87
.033	200V	CP08A1KC333K–	.87
.039	200V	CP08A1KC393K–	.96
.047	200V	CP08A1KC473K–	.96
.056	200V	CP08A1KC563K–	1.02
.068	200V	CP08A1KC683K–	1.08
.082	200V	CP08A1KC823K–	1.17
.1	200V	CP08A1KC104K–	1.17
.12	200V	CP08A1KC124K–	1.23
.15	200V	CP08A1KC154K–	1.23
.18	200V	CP08A1KC184K–	1.29
.22	200V	CP08A1KC224K–	1.29
.27	200V	CP08A1KC274K–	1.35
.33	200V	CP08A1KC334K–	1.35
.39	200V	CP08A1KC394K–	1.41
.47	200V	CP08A1KC474K–	1.41
.56	200V	CP08A1KC564K–	1.56
.68	200V	CP08A1KC684K–	1.68
.82	200V	CP08A1KC824K–	1.86
1.0	200V	CP08A1KC105K–	1.92
.0027	400V	CP08A1KE272K–	.75
.0033	400V	CP08A1KE332K–	.75
.012	400K	CP08A1KE123K–	.81
.015	400V	CP08A1KE153K–	.84
.027	400V	CP08A1KE273K–	.96
.033	400V	CP08A1KE333K–	1.08
.039	400V	CP08A1KE393K–	1.08
.047	400V	CP08A1KE473K–	1.11
.056	400V	CP08A1KE563K–	1.11
.068	400V	CP08A1KE683K–	1.11
.082	400V	CP08A1KE823K–	1.17
.1	400V	CP08A1KE104K–	1.20
.12	400V	CP08A1KE124K–	1.26
.15	400V	CP08A1KE154K–	1.32
.18	400V	CP08A1KE184K–	1.47
.22	400V	CP08A1KE224K–	1.59
.27	400V	CP08A1KE274K–	1.71
.33	400V	CP08A1KE334K–	1.83
.39	400V	CP08A1KE394K–	1.89
.47	400V	CP08A1KE474K–	1.95
.001	600V	CP08A1KF102K–	.75
.0012	600V	CP08A1KF122K–	.75
.0015	600V	CP08A1KF152K–	.75
.0018	600V	CP08A1KF182K–	.75
.0022	600V	CP08A1KF222K–	.78
.0027	600V	CP08A1KF272K–	.78
.0033	600V	CP08A1KF332K–	.78
.0039	600V	CP08A1KF392K–	.81
.0047	600V	CP08A1KF472K–	.81
.0056	600V	CP08A1KF562K–	.87
.0068	600V	CP08A1KF682K–	.87
.0082	600V	CP08A1KF822K–	.87
.01	600V	CP08A1KF103K–	.87
.012	600V	CP08A1KF123K–	.93
.015	600V	CP08A1KF153K–	.93
.018	600V	CP08A1KF183K–	.99
.022	600V	CP08A1KF223K–	.99
.027	600V	CP08A1KF273K–	1.02
.033	600V	CP08A1KF333K–	1.08
.039	600V	CP08A1KF393K–	1.14
.047	600V	CP08A1KF473K–	1.14
.056	600V	CP08A1KF563K–	1.20
.068	600V	CP08A1KF683K–	1.23
.082	600V	CP08A1KF823K–	1.26
.1	600V	CP08A1KF104K–	1.26
.12	600V	CP08A1KF124K–	1.29
.15	600V	CP08A1KF154K–	1.29
.18	600V	CP08A1KF184K–	1.47
.22	600V	CP08A1KF224K–	1.59
.27	600V	CP08A1KF274K–	1.77
.33	600V	CP08A1KF334K–	1.89
.39	600V	CP08A1KF394K–	1.89
.47	600V	CP08A1KF474K–	1.95
.001	1000V	CP08A1KG102K–	.93
.0012	1000V	CP08A1KG122K–	.93
.0015	100 0V	CP08A1KG152K–	.93
.0018	1000V	CP08A1KG182K–	.93
.0022	1000V	CP08A1KG222K–	.93
.0027	1000V	CP08A1KG272K–	.96
.0033	1000V	CP08A1KG332K–	.96
.0039	1000V	CP08A1KG392K–	1.02
.0047	1000V	CP08A1KG472K–	1.02
.0056	1000V	CP08A1KG562K–	1.05
.0068	1000V	CP08A1KG682K–	1.05
.0082	1000V	CP08A1KG822K–	1.05
.01	1000V	CP08A1KG103K–	1.05
.012	1000V	CP08A1KG123K–	1.05
.015	1000V	CP08A1KG153K–	1.05
.018	1000V	CP08A1KG183K–	1.05
.022	1000V	CP08A1KG223K–	1.05
.027	1000V	CP08A1KG273K–	1.11
.033	1000V	CP08A1KG333K–	1.17
.039	1000V	CP08A1KG393K–	1.23
.047	1000V	CP08A1KG473K–	1.29
.056	1000V	CP08A1KG563K–	1.35
.068	1000V	CP08A1KG683K–	1.38
.082	1000V	CP08A1KG823K–	1.44
.1	1000V	CP08A1KG104K–	1.47
.12	1000V	CP08A1KG124K–	1.56
.15	1000V	CP08A1KG154K–	1.65
.18	1000V	CP08A1KG184K–	1.74
.22	1000V	CP08A1KG224K–	1.83
.27	1000V	CP08A1KG274K–	1.95
.33	1000V	CP08A1KG334K–	2.10
.39	1000V	CP08A1KG394K–	2.28
.47	1000V	CP08A1KG474K–	2.43

CP09, CHAR. K
P323SXP
PLASTIC TUBE

Capacity	Voltage	Case Floating	Net Price*
.0082	100V	CP09A1KB822K–	.81
.01	100V	CP09A1KB103K–	.81
.012	100V	CP09A1KB123K–	.81
.015	100V	CP09A1KB153K–	.81
.039	100V	CP09A1KB393K–	.90
.047	100V	CP09A1KB473K–	.96
.082	100V	CP09A1KB823K–	1.05
.1	100V	CP09A1KB104K–	1.11
.12	100V	CP09A1KB124K–	1.14
.15	100V	CP09A1KB154K–	1.17
.18	100V	CP09A1KB184K–	1.26
.22	100V	CP09A1KB224K–	1.32
.27	100V	CP09A1KB274K–	1.41
.33	100V	CP09A1KB334K–	1.47
.39	100V	CP09A1KB394K–	1.53
.47	100V	CP09A1KB474K–	1.56
.56	100V	CP09A1KB564K–	1.65
.68	100V	CP09A1KB684K–	1.71
.82	100V	CP09A1KB824K–	1.80
1.0	100V	CP09A1KB105K–	1.95
.0039	200V	CP09A1KC392K–	.78
.0047	200V	CP09A1KC472K–	.78
.0056	200V	CP09A1KC562K–	.78
.0068	200V	CP09A1KC682K–	.78
.018	200V	CP09A1KC183K–	.90
.022	200V	CP09A1KC223K–	.90
.027	200V	CP09A1KC273K–	.93
.033	200V	CP09A1KC333K–	.93
.039	200V	CP09A1KC393K–	1.02
.047	200V	CP09A1KC473K–	1.02
.056	200V	CP09A1KC563K–	1.08
.068	200V	CP09A1KC683K–	1.14
.082	200V	CP09A1KC823K–	1.23
.1	200V	CP09A1KC104K–	1.23
.12	200V	CP09A1KC124K–	1.29
.15	200V	CP09A1KC154K–	1.29
.18	200V	CP09A1KC184K–	1.38
.22	200V	CP09A1KC224K–	1.38
.27	200V	CP09A1KC274K–	1.44
.33	200V	CP09A1KC334K–	1.44
.39	200V	CP09A1KC394K–	1.50
.47	200V	CP09A1KC474K–	1.50
.56	200V	CP09A1KC564K–	1.65
.68	200V	CP09A1KC684K–	1.77
.82	200V	CP09A1KC334K–	1.95
1.0	200V	CP09A1KC105K–	2.01
.0027	400V	CP09A1KE272K–	.81
.0033	400V	CP09A1KE332K–	.81
.012	400V	CP09A1KE123K–	.87
.015	400V	CP09A1KE153K–	.90
.027	400V	CP09A1KE273K–	1.02
.033	400V	CP09A1KE333K–	1.14
.039	400V	CP09A1KE393K–	1.14
.047	400V	CP09A1KE473K–	1.17
.056	400V	CP09A1KE563K–	1.17
.068	400V	CP09A1KE683K–	1.17
.082	400V	CP09A1KE823K–	1.26
.1	400V	CP09A1KE104K–	1.29
.12	400V	CP09A1KE124K–	1.35
.15	400V	CP09A1KE154K–	1.41
.18	400V	CP09A1KE184K–	1.56
.22	400V	CP09A1KE224K–	1.68
.27	400V	CP09A1KE274K–	1.80
.33	400V	CP09A1KE334K–	1.92
.39	400V	CP09A1KE394K–	1.98
.47	400V	CP09A1KE474K–	2.04
.001	600V	CP09A1KF102K–	.81
.0012	600V	CP09A1KF122K–	.81
.0015	600V	CP09A1KF152K–	.81
.0018	600V	CP09A1KF182K–	.81
.0022	600V	CP09A1KF222K–	.84
.0027	600V	CP09A1KF272K–	.84
.0033	600V	CP09A1KF332K–	.84
.0039	600V	CP09A1KF392K–	.87
.0047	600V	CP09A1KF472K–	.87
.0056	600V	CP09A1KF562K–	.93
.0068	600V	CP09A1KF682K–	.93
.0082	600V	CP09A1KF822K–	.93
.01	600V	CP09A1KF103K–	.93
.012	600V	CP09A1KF123K–	.99
.015	600V	CP09A1KF153K–	.99
.018	600V	CP09A1KF183K–	1.05
.022	600V	CP09A1KF223K–	1.05
.027	600V	CP09A1KF273K–	1.08
.033	600V	CP09A1KF333K–	1.14
.039	600V	CP09A1KF393K–	1.20
.047	600V	CP09A1KF473K–	1.20
.056	600V	CP09A1KF563K–	1.29
.068	600V	CP09A1KF683K–	1.32
.082	600V	CP09A1KF823K–	1.35
.1	600V	CP09A1KF104K–	1.35
.12	600V	CP09A1KF124K–	1.38
.15	600V	CP09A1KF154K–	1.38
.18	600V	CP09A1KF184K–	1.56
.22	600V	CP09A1KF224K–	1.68
.27	600V	CP09A1KF274K–	1.86
.33	600V	CP09A1KF334K–	1.98
.39	600V	CP09A1KF394K–	1.98
.47	600V	CP09A1KF474K–	2.04
.001	1000V	CP09A1KG102K–	.99
.0012	1000V	CP09A1KG122K–	.99
.0015	1000V	CP09A1KG152K–	.99
.0018	1000V	CP09A1KG182K–	.99
.0022	1000V	CP09A1KG222K–	.99
.0027	1000V	CP09A1KG272K–	1.02
.0033	1000V	CP09A1KG332K–	1.02
.0039	1000V	CP09A1KG392K–	1.08
.0047	1000V	CP09A1KG472K–	1.08
.0056	1000V	CP09A1KG562K–	1.11
.0068	1000V	CP09A1KG682K–	1.11
.0082	1000V	CP09A1KG822K–	1.11
.01	1000V	CP09A1KG103K–	1.11
.012	1000V	CP09A1KG123K–	1.11
.015	1000V	CP09A1KG153K–	1.11
.018	1000V	CP09A1KG183K–	1.11
.022	1000V	CP09A1KG223K–	1.11
.027	1000V	CP09A1KG273K–	1.20
.033	1000V	CP09A1KG333K–	1.26
.039	1000V	CP09A1KG393K–	1.32
.047	1000V	CP09A1KG473K–	1.38
.056	1000V	CP09A1KG563K–	1.44
.068	1000V	CP09A1KG683K–	1.47
.082	1000V	CP09A1KG823K–	1.53
.1	1000V	CP09A1KG104K–	1.56
.12	1000V	CP09A1KG124K–	1.65
.15	1000V	CP09A1KG154K–	1.74
.18	1000V	CP09A1KG184K–	1.83
.22	1000V	CP09A1KG224K–	1.92
.27	1000V	CP09A1KG274K–	2.04
.33	1000V	CP09A1KG334K–	2.19
.39	1000V	CP09A1KG394K–	2.37
.47	1000V	CP09A1KG474K–	2.52

*Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-499

Net

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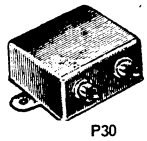
AEROVOX Hi-Q

CAPACITORS

INDUSTRIAL SECTION — MIL TYPES MIL-C-25C



TYPES CP53, CP54, CP55

Hyvol J or H oil impregnated and filled, drawn-metal cased capacitors, immersion proof and hermetically sealed. This unusually compact "bathtub" type capacitor is the most popular of the small units for severe operating conditions. Available with terminals on side (CP53), top (CP54), or bottom (CP55). The standard tolerance on single section units is ±10% (K), on multiple section units +20 —10% (V).

CAP.	VOLT.	P30 SIDE TERM.	Net Price*	P30-T TOP TERM.	Net Price*	P30-B BOTTOM TERM.	Net Price*
2.0	100V	CP53B1EB205K	$2.19				
4.0	100V	CP53B1EB405K	2.94				
1.0	200V	CP53B1EC105K	2.01				
2.0	200V	CP53B1EC205K	2.55				
.5	400V	CP53B1KE504K	1.95	CP54B1KE504K	$1.95		
1.0	400V	CP53B1KE105K	2.25				
3X.5	400V	CP53B5EE504V	3.81				
.25	600V	CP53B1EF254K	1.92	CP54B1EF254K	1.92	CP55B1EF254K	1.92
.5	600V	CP53B1EF504K	2.19	CP54B1EF504K	2.19	CP55B1EF504K	2.19
1.0	600V	CP53B1EF105K	2.49	CP54B1EF105K	2.49	CP55B1EF105K	2.49
2.0	600V	CP53B1EF205K	2.97	CP54B1EF205K	2.97	CP55B1EF205K	2.97
2X.05	600V	CP53B4EF503V	2.01	CP54B4EF503V	2.01	CP55B4EF503V	2.01
2X.1	600V	CP53B4EF104V	2.07	CP54B4EF104V	2.07	CP55B4EF104V	2.07
2X.25	600V	CP53B4EF254V	2.55	CP54B4EF254V	2.55	CP55B4EF254V	2.55
2X.5	600V	CP53B4EF504V	2.82	CP54B4EF504V	2.82	CP55B4EF504V	2.82
2X1.0	600V	CP53B4EF105V	3.48	CP54B4EF105V	3.48	CP55B4EF105V	3.48
3X.1	600V	CP53B5EF104V	2.67	CP54B5EF104V	2.67	CP55B5EF104V	2.67
3X.25	600V	CP53B5EF254V	3.06	CP54B5EF254V	3.06	CP55B5EF254V	3.06
3X.5	600V	CP53B5EF504V	3.75	CP54B5EF504V	3.75	CP55B5EF504V	3.75
.05	1000V	CP53B1EG503K	1.65				
.1	1000V	CP53B1EG104K	1.74				
.25	1000V	CP53B1EG254K	1.98				
.5	1000V	CP53B1EG504K	2.25				
1.0	1000V	CP53B1EG105K	2.91				
2X.05	1000V	CP53B4EG503V	2.28				
2X.1	1000V	CP53B4EG104V	2.37				
2X.25	1000V	CP53B4EG254V	2.55				
2X.5	1000V	CP53B4EG504V	3.06				
3X.05	1000V	CP53B5EG503V	2.64				
3X.1	1000V	CP53B5EG104V	2.91				
3X.25	1000V	CP53B5EG254V	3.57				

CHARACTERISTIC F

CAP.	VOLT.	P30J SIDE TERM.	Net Price*
8.0	100V	CP53B1FB805K	$4.50
10.0	100V	CP53B1FB106K	6.30

MIL-C-25C

CP63, CP65 — Characteristics E & K

Compact, Hyvol M or J oil impregnated and filled, rectangular units. Immersion proof and hermetically sealed. Dual secton has case grounded. Channel brackets attached. Standard tolerance on single section units, ±10% (K), on multiple section units +20 —10% (V).

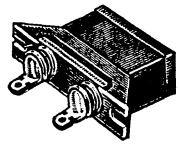
CAP.	VOLT.	P16-CT TOP TERM.	Net Price*	P16-CB BOTTOM TERM.	Net Price*
.1	400V	CP63B1KE104K	$2.02	CP65B1KE104K	$2.02
.25	400V	CP63B1KE254K	2.23		
1.0	400V	CP63B1EE105K	2.68		
.05	600V	CP63B1EF503K	2.05	CP65B1EF503K	2.05
.25	600V	CP63B1EF254K	2.32	CP65B1EF254K	2.32
.5	600V	CP63B1EF504K	2.50	CP65B1EF504K	2.50
1.0	600V	CP63B1EF105K	2.86	CP65B1EF105K	2.86
2X.1	600V	CP63B6EF104V	2.74	CP65B6EF104V	2.74
2X.25	600V	CP63B6EF254V	2.89	CP65B6EF254V	2.89
2X.5	600V	CP63B6EF504V	3.07	CP65B6EF504V	3.07
.01	1000V	CP63B1EG103K	2.08	CP65B1EG103K	2.08
.02	1000V	CP63B1EG203K	2.15	CP65B1EG203K	2.15
.05	1000V	CP63B1EG503K	2.32	CP65B1EG503K	2.32
.1	1000V	CP63B1EG104K	2.3[illegible]		
.25	100V	CP63B1EG254K	2.50		
.5	1000V	CP63B1EG504K	2.80		

MIL-C-25C

CP91 — Characteristics E & K

Former issues of MIL-C-25 listed variations of this item as CP61 and CP90. CP91 base size 1⅝ x ⅝. Brackets must be ordered separately. Specify CP091F (footed) or CP091S (spade).

CAP.	VOLT.	P16 NO. BRACKETS	Net Price*
.1	400V	CP91B1KE104K	$1.95
.25	400V	CP91B1KE254K	2.16
1.0	400V	CP91B1EE105K	2.61
.05	600V	CP91B1EF503K	1.98
.25	600V	CP91B1EF254K	2.25
.5	600V	CP91B1EF504K	2.43
1.0	600V	CP91B1EF105K	2.79
2X.05	600V	CP91B6EF503V	2.46
2X.1	600V	CP91B6EF104V	2.67
2X.25	600V	CP91B6EF254V	2.82
2X.5	600V	CP91B6EF504V	3.00
.01	1000V	CP91B1EG103K	2.01
.02	1000V	CP91B1EG203K	2.07
.05	1000V	CP91B1EG503K	2.25
.1	1000V	CP91B1EG104K	2.31
.25	1000V	CP91B1EG254K	2.43
.5	1000V	CP91B1EG504K	2.73



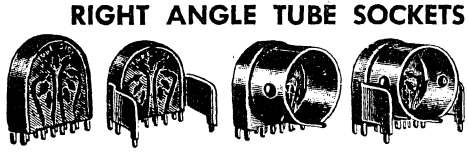
MIL-C-25C

TYPES CP67, CP69 — Characteristics E

Hyvol M or J oil impregnated and filled unit, rectangular cased. Similar to CP91 except additional length in base size of 1¾ x ⅝ permits 2 or 3 sections, case floating. Single units also can be used for special applications where type CP91 does not fit. Both CP67 and CP69 supplied with channel brackets attached. Standard tolerance on single section units ±10% (K), on multiple section units +20 —10% (V).

CAP.	VOLT.	P18-CT TOP TERM.	Net Price*	P18-CB BOTTOM TERM.	Net Price*
.05	600V	CP67B1EF503K	$2.25	CP69B1EF503K	$2.25
.1	600V	CP67B1EF104K	2.37	CP69B1EF104K	2.37
.25	600V	CP67B1EF254K	2.46	CP69B1EF254K	2.46
.5	600V	CP67B1EF504K	2.64	CP69B1EF504K	2.64
1.0	600V	CP67B1EF105K	3.09	CP69B1EF105K	3.09
2X.05	600V	CP67B4EF503V	2.67	CP69B4EF503V	2.67
2X.1	600V	CP67B4EF104V	2.85	CP69B4EF104V	2.85
2X.25	600V	CP67B4EF254V	2.94	CP69B4EF254V	2.94
2X.5	600V	CP67B4EF504V	3.36	CP69B4EF504V	3.36
3X.05	600V	CP67B5EF503V	3.27	CP69B5EF503V	3.27
3X.1	600V	CP67B5EF104V	3.54	CP69B5EF104V	3.54
3X.25	600V	CP67B5EF254V	3.72	CP69B5EF254V	3.72
.01	1000V	CP67B1EG103K	2.19	CP69B1EG103K	2.19
.02	1000V	CP67B1EG203K	2.22	CP69B1EG203K	2.22
.05	1000V	CP67B1EG503K	2.37	CP69B1EG503K	2.37
.1	1000V	CP69B1EG104K	$2.46		
.25	1000V	CP69B1EG254K	2.64		
.5	1000V	CP69B1EG504K	2.94		
2X.05	1000V	CP69B4EG503V	2.94		
2X.1	1000V	CP69B4EG104V	3.12		
2X.25	1000V	CP69B4EG254V	3.42		
3X.01	1000V	CP69B5EG103V	2.94		
3X.02	1000V	CP69B5EG203V	3.33		
3X.05	1000V	CP69B5EG503V	3.42		
3X.1	1000V	CP69B5EG104V	3.69		

RIGHT ANGLE TUBE SOCKETS



Type A Type AX Type B Type BX

Ordering Example: RA7A = (Type 7 Pin Socket)

Available in 7-pin and 9-pin types in four styles, these sockets are designed to meet existing MIL Specifications. Active contacts are silver plated and non-fatiguing contact pressure provides proper insertion and withdrawal pressure with a minimum of contact resistance. Ideal for hand or mechanical insertion into printed-wiring boards using simple in-line punched round holes. Templates are furnished with each socket. Long terminals permit use of sockets on wide range of board thickness.

Type A — for general purpose applications.
Type AX — for special applications (military and commercial) where extra strength and rigidity are required.
Type B — same as Type A except tube shield shell added.
Type BX — same as Type AX except tube shield shell added.

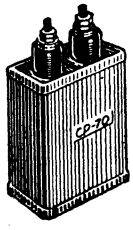
RA 7 — 7 pin right angle tube socket. RA 9 — 9 pin right angle tube socket

Cat. No.	Net Price**
RA7A	$ .71
RA7AX	.72
RA7B	.76
RA7BX	1.01
RA9A	.94
RA9AX	.95
RA9B	1.01
RA9BX	1.04

*Request O.E.M. Prices in the following quantities: 10-24, 25-49, 50-99.
**Request O.E.M. Prices in the following quantities: 25-99, 100-499

AEROVOX Hi-Q

CAPACITORS



INDUSTRIAL SECTION — MIL TYPES

TYPE CP70 MIL-C-25C

Characteristics E and F • Porcelain and Riveted Terminals

Hyvol M or J oil impregnated and filled, large, rectangular, metal-cased capacitor for heavy-duty, continuous-service applications such as power supplied for transmitters, amplifiers, etc. immersion proof and hermetically sealed. Available with either high-voltage screw-type porcelain-pillar terminals or the space-saving riveted terminal. Pillar terminals have soldering lugs.

Standard tolerance ±10% (K). MIL-C-25C mounting brackets are also available for all units.

Units meet Vibration Grade 1 of MIL-C-25C—Designated by addition of numeral 1 to part number.

Capacity	Voltage	CHAR. E P09 Porc. Term	Case Size and Brkt. Desig.	Net Price*	CHAR. F P09 Porc. Term	Case Size and Brkt. Desig.	Net Price*	CHAR. E P09-R Rivet Term	Case Size and Brkt. Desig.	Net Price*	CHAR. F P09-R Rivet Term	Case Size and Brkt. Desig.	Net Price*
1.0	600V	CP70E1EF105K	A2	3.96				CP70B1EF105K	A2	3.60			
2.0	600V	CP70E1EF205K	A4	4.74	CP70E1FF205K	A3	4.89	CP70B1EF205K	A4	4.38	CP70B1FF205K	A3	4.71
4.0	600V	CP70E1EF405K	B4	6.30	CP70E1FF405K	B3	6.45	CP70B1EF405K	B4	5.94	CP70B1FF405K	B3	6.21
6.0	600V	CP70E1EF605K	C2	7.80	CP70E1FF605K	B6	7.05	CP70B1EF605K	C2	7.44	CP70B1FF605K	B6	6.81
8.0	600V	CP70E1EF805K	C3	9.30	CP70E1FF805K	C2	7.50	CP70B1EF805K	C3	8.94	CP70B1FF805K	C2	7.29
10.0	600V	CP70E1EF106K	D3	10.80	CP70E1FF106K	C4	9.00	CP70B1EF106K	D3	10.44	CP70B1FF106K	C4	7.89
.1	1000V	CP70E1EG104K	A1	4.14									
.25	1000V	CP70E1EG254K	A2	4.50									
.5	1000V	CP70E1EG504K	A2	4.68									
1.0	1000V	CP70E1EG105K	A3	5.19	CP70E1FG105K	A2	4.74	CP70B1EG105K	A3	4.83			
2.0	1000V	CP70E1EG205K	A6	6.06	CP70E1FG205K	A5	5.25	CP70B1EG205K	A6	5.70	CP70B1FG205K	A5	5.04
4.0	1000V	CP70E1EG405K	C2	8.10	CP70E1FG405K	B6	6.30	CP70B1EG405K	C2	7.74	CP70B1FG405K	B6	6.06
6.0	1000V	CP70E1EG605K	D3	9.90	CP70E1FG605K	C4	8.70	CP70B1EG605K	D3	9.54	CP70B1FG605K	C4	8.46
8.0	1000V	CP70E1EG805K	D5	11.34				CP70B1EG805K	D5	10.98	CP70B1FG805K	D2	9.96
10.0	1000V	CP70E1EG106K	E5	12.99	CP70E1FG106K	D5	11.40	CP70B1EG106K	E5	12.63	CP70B1FG106K	D5	11.16
12.0	1000V	CP70E1EG126K	E6	14.40				CP70B1EG126K	E6	14.04	CP70B1FG126K	E4	12.51
15.0	1000V	CP70E1EG156K	G2	16.65	CP70E1FG156K	F1	15.75	CP70B1EG156K	G2	16.29	CP70B1FG156K	F1	15.51
.5	1500V	CP70E1EH504K	A3	5.25				CP70B1EH504K	A3	4.89			
1.0	1500V	CP70E1EH105K	A6	6.00	CP70E1FH105K	A5	5.10	CP70B1EH105K	A6	4.70			
2.0	1500V	CP70E1EH205K	E6	7.26	CP70E1FH205K	B5	6.30	CP70B1EH205K	B6	6.90	CP70B1FH205K	B5	6.06
4.0	1500V	CP70E1EH205K	D4	10.20	CP70E1FH405K	C4	9.00	CP70B1EH405K	D4	9.84	CP70B1FH405K	C4	8.31
6.0	1500V	CP70E1EH605K	E5	12.90	CP70E1FH605K	D5	11.70	CP70B1EH605K	E5	12.54	CP70B1FH605K	D5	11.46
8.0	1500V	CP70E1EH805K	F2	15.60	CP70E1FH805K	F1	14.70	CP70B1EH805K	F2	15.24	CP70B1FH805K	F1	14.46
10.0	1500V	CP70E1EH106K	G4	18.00	CP70E1FH106K	G2	16.50	CP70B1EH106K	G4	17.64	CP70B1FH106K	G2	16.26
12.0	1500V	CP70E1EH126K	J3	21.30	CP70E1FH126K	G2	20.70	CP70B1EH126K	J3	20.94	CP70B1FH126K	G2	20.46
15.0	1500V	CP70E1EH156K	J6	25.50	CP70E1FH156K	J3	23.40	CP70B1EH156K	J6	25.14	CP70B1FH156K	J3	23.16
.25	2000V	CP70E1EJ254K	B1	5.22									
.5	2000V	CP70E1EJ504K	B2	5.55									
1.0	2000V	CP70E1EJ105K	B6	6.45	CP70E1FJ105K	B3	5.55						
2.0	2000V	CP70E1EJ205K	C4	7.95	CP70E1FJ205K	C3	6.90						
4.0	2000V	CP70E1EJ405K	E6	11.55	CP70E1FJ405K	E3	9.60						
6.0	2000V				CP70E1FJ605K	G1	12.90						
10.0	2000V				CP70E1FJ106K	J3	19.50						
12.0	2000V				CP70E1FJ126K	J5	22.50						
15.0	2000V				CP70E1FJ156K	J7	26.40						
.1	2500V	CP70E1EK104K	B1	5.10									
.5	2500V	CP70E1EK504K	B4	6.30	CP70E1FK504K	B3	6.00						
1.0	2500V	CP70E1EK105K	D2	7.95	CP70E1FK105K	D1	7.65						
2.0	2500V	CP70E1EK205K	E5	11.10	CP70E1FK205K	D5	10.20						
4.0	2500V	CP70E1EK405K	J2	17.70									
10.0	2500V	CP70E1EK106K	J10	33.00									
.1	3000V	CP70E1EL104K	B2	5.70									
.25	3000V	CP70E1EL254K	B3	6.30									
.5	3000V	CP70E1EL504K	B6	7.35									
1.0	3000V	CP70E1EL105K	E4	9.75	CP70E1FL105K	E3	5.61						
2.0	3000V	CP70E1EL205K	G2	13.95	CP70E1FL205K	G1	12.15						
4.0	3000V	CP70E1EL405K	J7	22.95	CP70E1FL405K	J3	18.00						
.1	4000V	CP70E1EM104K	E1	13.89									
.25	4000V				CP70E1FM254K	E1	14.40						
.5	4000V				CP70E1FM504K	E3	17.10						
1.0	4000V				CP70E1FM105K	E6	19.74						
2.0	4000V				CP70E1FM205K	J4	25.14						
4.0	4000V	CP70E1EM405K	J11	36.00	CP70E1FM405K	J10	34.20						
.1	5000V	CP70E1EN104K	E1	15.15									
.25	5000V	CP70E1EN254K	E3	16.56									
.5	5000V	CP70E1EN504K	E6	19.29	CP70E1FN504K	E4	17.85						
1.0	5000V				CP70E1FN105K	J2	25.20						
2.0	5000V				CP70E1FN205K	J6	38.70						
.1	6000V	CP70D1EP104K	E3	16.35	CP70D1FP104K	E2	15.30						
.25	6000V	CP70D1EP254K	E5	19.14	CP70D1FP254K	E4	18.15						
.5	6000V	CP70D1EP504K	J3	22.20									
1.0	6000V	CP70D1EP105K	J11	41.16	CP70D1FP105K	J9	38.70						
.1	7500V				CP70D1FR104K	E3	18.15						
.25	7500V				CP70D1FR254K	J1	22.05						
.5	7500V				CP70D1FR504K	J4	29.10						

A1	1 13/16 x 1 1/16 x 1 5/8	E2	3 3/4 x 2 1/4 x 3 3/8
A2	1 13/16 x 1 1/16 x 2 1/4	E3	3 3/4 x 2 1/4 x 3 7/8
A3	1 13/16 x 1 1/16 x 2 7/8	E4	3 3/4 x 2 1/4 x 4 1/2
A4	1 13/16 x 1 1/16 x 3 1/4	E5	3 3/4 x 2 1/4 x 4 3/4
A5	1 13/16 x 1 1/16 x 3 7/8	E6	3 3/4 x 2 1/4 x 5 1/8
A6	1 13/16 x 1 1/16 x 4 3/4	F1	3 3/4 x 2 1/2 x 4 3/4
B1	2 1/2 x 1 3/4 x 2 1/2	F2	3 3/4 x 2 1/2 x 5 3/4
B2	2 1/2 x 1 3/4 x 2 7/8	G1	3 3/4 x 3 1/16 x 4 1/2
B3	2 1/2 x 1 3/4 x 3 1/2	G2	3 3/4 x 3 1/16 x 4 3/4
B4	2 1/2 x 1 3/4 x 3 7/8	G4	3 3/4 x 3 1/16 x 5 1/2
B5	2 1/2 x 1 3/4 x 4 1/4	J1	4 1/16 x 3 3/4 x 3 7/8
B6	2 1/2 x 1 3/4 x 4 3/4	J2	4 1/16 x 3 3/4 x 4 3/8
C2	3 3/4 x 1 1/4 x 3 7/8	J3	4 1/16 x 3 3/4 x 4 3/4
C3	3 3/4 x 1 1/4 x 4 1/4	J4	4 1/16 x 3 3/4 x 5 1/8
C4	3 3/4 x 1 1/4 x 4 3/4	J5	4 1/16 x 3 3/4 x 5 1/2
D1	3 3/4 x 1 3/4 x 3 1/4	J6	4 1/16 x 3 3/4 x 6
D2	3 3/4 x 1 3/4 x 3 7/8	J7	4 1/16 x 3 3/4 x 6 1/2
D3	3 3/4 x 1 3/4 x 4	J9	4 1/16 x 3 3/4 x 7 1/2
D4	3 3/4 x 1 3/4 x 4 1/4	J10	4 1/16 x 3 3/4 x 8 1/2
D5	3 3/4 x 1 3/4 x 4 3/4	J11	4 1/16 x 3 3/4 x 9 3/8
E1	3 3/4 x 2 1/4 x 2 3/4		

If MIL brackets are required with units, specify CP07S (spade) or CP07F (footed) and add the bracket designation listed beside the unit.

Example: CP70E1EF504K with CP07SA2 brackets.

*Request O.E.M. Prices in the following quantities: 10-24, 25-49, 50-99

TYPE CP41 — Characteristics E and F

Cylindrical, hermetically sealed can with screwbase molded cover for vertical mounting. Operating temperature range —55 +85°C. Solder lug, nonremovable terminals MIL designation B). Supplied with mounting nut and lockwasher. Standard tolerance ±10% (K).

Units meet Vibration Grade 1 of MIL-C-25C Designated by addition of numeral 1 to part number.

Capacity	Voltage	Char. E P10M	Net Price*	Char. F P10M	Net Price*
2.0	600V	CP41B1EF205K	5.51	CP41B1FF205K	5.51
4.0	600V	CP41B1EF405K	7.46	CP41B1FF405K	7.46
1.0	1000V	CP41B1EG105K	5.51	CP41B1FG105K	5.51
2.0	1000V	CP41B1EG205K	6.59	CP41B1FG205K	6.59
.5	1500V			CP41B1FH504K	6.26
1.0	1500V			CP41B1FH105K	7.07

*Request O.E.M. Prices in the following quantities: 25-49, 50-99

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AEROVOX Hi-Q

CAPACITORS

CERAFIL®

AEROVOX CERAFIL TYPE MC80V MOLDED CERAMIC CAPACITORS

These remarkably ultra-miniature units, are designed primarily for air-borne and space-borne equipments, having critical space and weight parameters. They are also designed for transistorized circuit applications in hearing aids and other critical requirements where space and weight are at an absolute premium. When tested using Cerafil® ratings, these units will meet or surpass the requirement of MIL-C-11015C. These units were previously supplied as CK12AX–CK17AX.

For full technical information request Bulletin NPJ-119 Rev. 4 and NPJ-120 Rev. 2

Cap. Mfd.	Dim.	Part No.*	Cap. Mfd.	Dim.	Part No.*
.00001	A	MC80V100A –	.0018	B	MC80V182A –
.000012	A	MC80V120A –	.002	B	MC80V202A –
.000015	A	MC80V150A –	.0022	B	MC80V222A –
.000018	A	MC80V180A –	.0027	B	MC80V272A –
.000022	A	MC80V220A –	.0033	B	MC80V332A –
.000027	A	MC 80V270A–	.0039	B	MC80V392A –
.000033	A	MC80V330A –	.0047	B	MC80V472A –
.000039	A	MC80V390A –	.005	B	MC80V502A –
.000047	A	MC80V470A –	.0056	C	MC80V562A –
.000056	A	MC80V560A –	.0068	C	MC80V682A –
.000068	A	MC80V680A –	.0082	C	MC80V822A –
.000082	A	MC80V820A –	.01	C	MC80V103A –
.0001	A	MC80V101A –	.012	D	MC80V123A –
.00012	A	MC80V121A –	.015	D	MC80V153A –
.00015	A	MC80V151A –	.018	D	MC80V183A –
.00018	A	MC80V181A –	.02	D	MC80V203A –
.00022	A	MC80V221A –	.022	D	MC80V223A –
.00027	A	MC80V271A –	.027	E	MC80V273A –
.00033	A	MC80V331A –	.033	E	MC 80V333A –
.00039	A	MC80V391A –	.039	E	MC80V393A –
.00047	A	MC80V471A –	.047	E	MC80V473A –
.00056	A	MC80V561A –	.05	E	MC80V503A –
.00068	A	MC80V681A –	.056	F	MC80V563A –
.00082	A	MC80V821A –	.068	F	MC80V683A –
.001	A	MC8 0V102A –	.082	F	MC80V823A –
.0012	B	MC80V122A –	.1	F	MC80V104A –
.0015	B	MC80V152A –			

Contact your local Authorized Aerovox Industrial Distributor for Prices.

ELECTRICAL SPECIFICATIONS

Voltage – 100 VDCW, 300 VDCT

Capacity Tolerance - ±10% (K), ±20% (M)

Insulation resistance - 100 mfd.--megohms or 10,000 megohms whichever is smaller.

Temperature Coefficient; (-55°C to +85° C.)
No Voltage +10% to - 15%
100 Volts applied -- 10% to -- 35%

Power Factor -- 2.5% maximum.

Operating Temperature
-55°C to 85°C at 100 volts
-55°C to 125°C at 50 volts

* Add K for 10% or M for 20% to End of Part No. (-)

Dimensions +.003 -.005 D x L
A. .087 x .315
B. .117 x .495
C. .157 x .495
D. .197 x .495
E. .237 x .645
F. .277 x .745

TYPE MC71, 705, 702 CORDWOOD CASE SIZE (.250 x .090) MOLDED CERALAM® CAPACITORS

These units meet size requirements of CK13BX per MIL-C-11015

Cap.	Old Number	New Number	Price	Cap.	Old Number	New Number	Price	Cap.	Old Number	New Number	Price
10	MC70A100AK	MC71A100AK		120	MC70B121AK	MC71B121AK		3900	MC70C392AK	MC71C392AK	
12	MC70A120AK	MC71A120AK	Contact	150	MC70B151AK	MC71B151AK	Contact	4700	MC70C472AM	MC71C472AM	Contact
15	MC70A150AK	MC71A150AK		180	MC70B181AK	MC71B181AK		5600	MC70C562AM	MC71C562AM	
18	MC70A180AK	MC71A180AK	Your	220	MC70B221AK	MC71B221AK	Your	6800	MC70C682AM	MC71C682AM	Your
22	MC70A220AK	MC71A220AK		270	MC70B271AK	MC71B271AK		8200	MC70C822AM	MC71C822AM	
27	MC70A270AK	MC71A270AK	Local	330	MC70C331AK	MC71C331AK	Local	10000	MC70C103AM	MC71C103AM	Local
33	MC70A330AK	MC71A330AK		470	MC70C471AK	MC71C471AK		10000	MC70C103AK	MC71C103AK	
39	MC70B390AK	MC71B390AK	Aerovox	560	MC70C561AK	MC71C561AK	Aerovox	15000	MC705C153AM	MC705C153AM	Aerovox
47	MC70B470AK	MC71B470AK		680	MC70C681AK	MC71C681AK		20000	MC705C203AM	MC705C203AM	
51	MC70B510AK	MC71B510AK	Industrial	820	MC70C821AK	MC71C821AK	Industrial	22000	MC702E223AM	MC702C223AM	Industrial
56	MC70B560AK	MC71B560AK		1000	MC70C102AK	MC71C102AK		33000	MC702E333AM	MC702C333AM	
62	MC70B620AK	MC71B620AK	Distributor	1200	MC70C122AK	MC71C122AK	Distributor	47000	MC702E473AM	MC702C473AM	Distributor
68	MC70B680AK	MC71B680AK		1500	MC70C152AK	MC71C152AK		68000	MC702E683AM	MC702C683AM	
75	MC70B750AK	MC71B750AK	for	1800	MC70C182AK	MC71C182AK	for	100000	MC702E104AM	MC702C104AM	for
82	MC70B820AK	MC71B820AK		2200	MC70C222AK	MC71C222AK		150000	MC702E154AM		
91	MC70B910AK	MC71B910AK	Prices	2700	MC70C272AK	MC71C272AK	Prices	220000	MC702E224AM		Prices
100	MC70B101AK	MC71B101AK		3300	MC70C332AK	MC71C332AK		250000	MC702E254AM		

CERALAM® MOLDED MINIATURE CERAMIC TUBULARS

A combination of our previous listing of MC89, 91 and 905, combined because of new factory nomenclature. These units will meet the environmental requirements of MIL-C-11015 and 39014. All units English marked with tin copper leads.

Cap.	Working Volts	±10%		±20%		Size	Price
		Old Number	New Number	Old Number	New Number	D x L	
.015	100	MC91C153K	MC91C153K*	MC91C153M	MC91C153M*	.200 x .500	Contact
.022	100	MC91C223K	MC91C223K*	MC91C223M	MC91C223M*	.200 x .500	
.033	100	MC91C333K	MC91C333K*	MC91C333M	MC91C333M*	.200 x .500	Your
.047	100	MC91C473K	MC91C473K*	MC91C473M	MC91C473M*	.200 x .500	Local
.068	100	MC91C683K	MC91C683K*	MC91C683M	MC91C683M*	.200 x .500	
.1	100	MC91C104K	MC91C104K*	MC91C104M	MC91C104M*	.200 x .500	Aerovox
.1	50	MC89C104AK	MC205C104K	MC89C104AM	MC205C104M	.140 x .390	
.15	50	MC905C154K	MC905C154K*	MC905C154M	MC905C154M*	.200 x .500	Industrial
.22	50	MC905C224K	MC905C224K*	MC905C224M	MC905C224M*	.200 x .500	
.25	50	MC89C254AK	MC905C254K*	MC89C254AM	MC905C254M*	.190 x .500	Distributor
.5	50	MC89C504AK	MC855C504K	MC89C504AM	MC855C504M	.250 x .500	for
1.0	50	MC89C105AK	MC865C105K	MC89C105AM	MC865C105M	.250 x .690	
2.0	50	MC89C205AK	MC875C205K	MC89C205AM	MC875C205M	.350 x .690	Prices

*Will be furnished with gold dumet leads until present stocks are depleted. The standard will then become tin copper leads.

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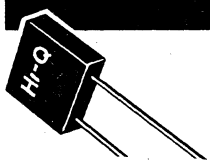
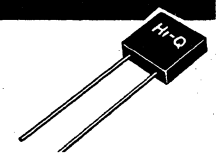
AEROVOX Hi-Q

CAPACITORS





AEROVOX CK05 – CK06 EXTENDED RANGE CERAMIC CAPACITORS
Per MIL-C-11015

STYLE CK05 CHARACTERISTICS

Capacitance pf	Type designation *	Rated voltage volts, dc	Aerovox Commercial Equivalent*	Capacitance tolerance
10	CK05BX100-	200		K, M
12	CK05BX120K	200		K
15	CK05BX150-	200		K, M
18	CK05BX180K	200		K
22	CK05BX220-	200		K, M
27	CK05BX270K	200		K
33	CK05BX330-	200		K, M
39	CK05BX390K	200		K
47	CK05BX470-	200		K, M
56	CK05BX560K	200		K
68	CK05BX680-	200		K, M
82	CK05BX820K	200		K
100	CK05BX101-	200		K, M
120	CK05BX121K	200		K
150	CK05BX151-	200		K, M
180	CK05BX181K	200		K
220	CK05BX221-	200		K, M
270	CK05BX271K	200		K
330	CK05BX331-	200		K, M
390	CK05BX391K	200		K
470	CK05BX471-	200		K, M
560	CK05BX561K	200		K
680	CK05BX681-	200		K, M
820	CK05BX821K	200		K
1,000	CK05BX102-	200		K, M
1,200	CK05BX122K	100		K
1,500	CK05BX152-	100	MC51C152R-	K, M
1,800	CK05BX182K	100		K
2,200	CK05BX222-	100	MC51C222R-	K, M
2,700	CK05BX272K	100		K
3,300	CK05BX332-	100	MC51C332R-	K, M
3,900	CK05BX392K	100		K
4,700	CK05BX472-	100	MC51C472R	K, M
5,600	CK05BX562K	100		K
6,800	CK05BX682-	100	MC51C682R-	K, M
8,200	CK05BX822K	100		K
10,000	CK05BX103-	100	MC51C103R-	K, M
12,000	CK05BX123K	50		K
15,000	CK05BX153-	50		K, M
18,000	CK05BX183K	50		K
22,000	CK05BX223-	50		K, M
27,000	CK05BX273K	50		K
33,000	CK05BX333-	50	MC505C333R-	K, M
39,000	CK05BX393K	50		K
47,000	CK05BX473-	50		K, M
56,000	CK05BX563K	50		K
68,000	CK05BX683-	50		K, M
82,000	CK05BX823K	50		K
100,000	CK05BX104-	50		K, M

STYLE CK06 CHARACTERISTICS

Capacitance pf	Type designation*	Rated voltage volts, dc	Aerovox Commercial Equivalent*	Capacitance tolerance
1,200	CK06BX122K	200		K
1,500	CK06BX152-	200		K, M
1,800	CK06BX182K	200		K
2,200	CK06BX222-	200		K, M
2,700	CK06BX272K	200		K
3,300	CK06BX332-	200		K, M
3,900	CK06BX392K	200		K
4,700	CK06BX472-	200		K, M
5,600	CK06BX562K	200		K
6,800	CK06BX682-	200		K, M
8,200	CK06BX822K	200		K
10,000	CK106BX103-	200		K, M
12,000	CK06BX123K	100		K
15,000	CK06BX153-	100	MC61C153R	K, M
18,000	CK06BX183K	100		K
22,000	CK06BX223-	100	MC61C223R	K, M
27,000	CK06BX273K	100		K
33,000	CK06BX333-	100	MC61C333R-	K, M
39,000	CK06BX393K	100		K
47,000	CK06BX473-	100	MC61C473R-	K, M
56,000	CK06BX563K	100		K
68,000	CK06BX683-	100	MC61C683R-	K, M
82,000	CK06BX823K	100		K
100,000	CK06BX104-	100	MC61C104R	K, M
120,000	CK06BX124K	50		K
150,000	CK06BX154-	50		K, M
180,000	CK06BX184K	50		K
220,000	CK06BX224-	50		K, M
270,000	CK06BX274K	50		K
330,000	CK06BX334-	50		K, M
390,000	CK06BX394K	50		K
470,000	CK06BX474-	50		K, M
560,000	CK06BX564K	50		K
680,000	CK06BX684-	50		K, M
820,000	CK06BX824K	50		K
1,000,000	CK06BX105-	50		K, M

* Where applicable, the complete type designation will include an additional symbol to indicate capacitance tolerance.

The following is a list of commercial units not contained in the MIL listing. As present stocks of these units are depleted they will be replaced by a MIL unit having the same capacity but a higher voltage.

COMMERCIAL STOCK LISTING MC505-605 – 50 VDCW

Cap. uf	Part No. ±10%	Part No. ±20%	Cap. uf	Part No. ±10%	Part No. ±20%
.00047	MC505A471RK	MC505A471RM	.0068	MC605B682RK	MC605B682RM
.00068	MC605A681RK	MC605A681RM	.01	MC605B103RK	MC605B103RM
.001	MC605A102RK	MC605A102RM	.015	MC605B153RK	MC605B153RM
.0015	MC605A152RK	MC605A152RM	.022	MC605B223RK	MC605B223RM
.0022	MC605A222RK	MC605A222RM	.047	MC605C473RK	MC605C473RM
.0033	MC505B332RK	MC505B332RM	.068	MC605C683RK	MC605C683RM
.0047	MC505B472RK	MC505B472RM	.1	MC605C104RK	MC605C104RM

COMMERCIAL STOCK LISTING MC502-602 – 25 VDCW

Cap. uf	Part No. ±10%	Cap uf.	Part No. ±10%	Cap. uf	Part No. ±20%
.001	MC502A102RK	.015	MC602A153RK	.15	MC502C154RM
.0015	MC502A152RK	.022	MC502B223RK	.22	MC502C224RM
.0022	MC502A222RK	.033	MC502B333RK	.33	MC502C334RM
.0033	MC502A332RK	.047	MC502B473RK	.47	MC602C474RM
.0047	MC502A472RK	.068	MC602B683RK	.68	MC602C684RM
.0068	MC502A682RK	.1	MC602B104RK	1.0	MC602C105RM
.01	MC602A103RK				

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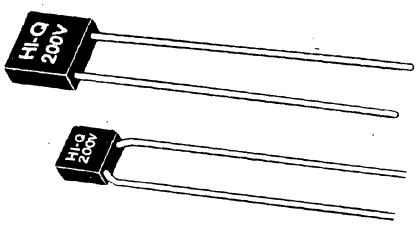
AEROVOX Hi-Q

CAPACITORS



HIGH RELIABILITY CERAMICS

MIL-C-39014 High Reliability version of units listed as CK05-06, etc. in MIL-C-11015.
All units listed meet failure rate level R (0.01%) shown by last digit in part number.
Better failure rate (S) will be made available as test time is completed.
Units are available on basis of factory delivery.
Marking – units are marked with MIL Part Number. Contact factory for prices.

MIL TYPE CKR05 – 200 VOLTS

Cap. pf	±10%		± 20%	
	MIL Type Designation	MIL Part Number	MIL Type Designation	MIL Part Number
10	CKRO5BX100KR	MIL-C-39014/01-0281	CKRP5BX100MR	MIL-C-39014/01-0282
12	CKRO5BX120KR	MIL-C-39014/01-0283		
15	CKTO5BX150KR	MIL-C-39014/01-0284	CKRO5BX150MR	MIL-C-39014/01-0285
18	CKRO5BX180KR	MIL-C-39014/01-0286		
22	CKRO5BX220KR	MIL-C-39014/01-0287	CKRO5BX220MR	MIL-C-39014/01-0288
27	CKRO5BX270KR	MIL-C-39014/01-0289		
33	CKRO5BX330KR	MIL-C-39014/01-0290	CKRO5BX330MR	MIL-C-39014/01-0291
39	CKRO5BX390KR	MIL-C-39014/01-0292		
47	CKRO5BX470KR	MIL-C-39014/01-0293	CKRO5BX470MR	MIL-C-39014/01-0294
56	CKRO5BX560KR	MIL-C-39014/01-0295		
68	CKRO5BX680KR	MIL-C-39014/01-0296	CKRO5BX680MR	MIL-C-39014/01-0297
82	CKRO5BX820KR	MIL-C-39014/01-0298		
100	CKRO5BX101KR	MIL-C-39014/01-2299	CKRO5BX101MR	MIL-C-39014/01-0300
120	CKRO5BX121KR	MIL-C-39014/01-0301		
150	CKRO5BX151KR	MIL-C-39014/01-0302	CKRO5BX151MR	MIL-C-39014/01-0303
180	CKRO5BX181KR	MIL-C-39014/01-0304		
220	CKRO5BX221KR	MIL-C-39014/01-0305	CKRO5BX221MR	MIL-C-39014/01-0306
270	CKRO5BX271KR	MIL-C-39014/01-0307		
330	CKRO5BX331KR	MIL-C-39014/01-0308	CKRO5BX331MR	MIL-C-39014/01-0309
390	CKRO5BX391KR	MIL-C-39014/01-0310		
470	CKRO5BX471KR	MIL-C-39014/01-0311	CKRO5BX471MR	MIL-C-39014/01-0312
560	CKRO5BX561KR	MIL-C-39014/01-0313		
680	CKRO5BX681KR	MIL-C-39014/01-0314	CKRO5BX681MR	MIL-C-39014/01-0315
820	CKRO5BX821KR	MIL-C-39014/01-0316		
1000	CKRO5BX102KR	MIL-C-39014/01-0317	CKRO5BX102MR	MIL-C-39014/01-0318

MIL TYPE CKR06 – 200 VOLTS

1200	CKRO6BX122KR	MIL-C-39014/02-0281		
1500	CKRO6BX152KR	MIL-C-39014/02-0282	CKRO6BX152MR	MIL-C-39014/02-0283
1800	CKRO6BX182KR	MIL-C-39014/02-0284		
2000	CKRO6BX202KR	MIL-C-39014/02-0285		
2200	CKRO6BX222KR	MIL-C-39014/02-0286	CKRO6BX222MR	MIL-C-39014/02-0287
2700	CKRO6BX272KR	MIL-C-39014/02-0288		
3300	CKRO6BX332KR	MIL-C-39014/02-0289	CKRO6BX332MR	MIL-C-39014/02-0290
3900	CKRO6BX392KR	MIL-C-39014/02-0291		
4700	CKRO6BX472KR	MIL-C-39014/02-0292	CKRO6BX472MR	MIL-C-39014/02-0293
5600	CKRO6BX562KR	MIL-C-39014/02-0294		
6800	CKRO6BX682KR	MIL-C-39014/02-0295	CKRO6BX682MR	MIL-C-39014/02-0296
8200	CKRO6BX822KR	MIL-C-39014/02-0297		
10000	CKRO6BX103KR	MIL-C-39014/02-0298	CKRO6BX103MR	MIL-C-39014/02-0299
*15000	CKRO6BX153KR	MIL-C-39014/02-0300		
*18000	CKRO6BX183KR	MIL-C-39014/02-0301		
*22000	CKRO6BX223KR	MIL-C-39014/02-0302		
*33000	CKRO6BX333KR	MIL-C-39014/02-0303		
*39000	CKRO6BX393KR	MIL-C-39014/02-0304		
*47000	CKRO6BX473KR	MIL-C-39014/02-0305		
*56000	CKRO6BX563KR	MIL-C-39014/02-0306		
*68000	CKRO6BX683KR	MIL-C-39014/02-0307		
*72000	CKRO6BX723KR	MIL-C-39014/02-0308		
*82000	CKRO6BX823KR	MIL-C-39014/02-0309	*200 volts except for asterisked items which are 100 volts.	
*100000	CKRO6BX104KR	MIL-C-39014/02-0310		

MIL TYPE CKR12 – 100 VOLTS

10	CKR12BX100KR	MIL-C-39014/05-0301	CKR12BX100MR	MIL-C-39014/05-0302
22	CKR12BX220KR	MIL-C-39014/05-0303	CKR12BX220MR	MIL-C-39014/05-0304
33	CKR12BX330KR	MIL-V-39014/05-0305	CKR12BX330MR	MIL-C-39014/05-0306
47	CKR12BX470KR	MIL-C-39014/05-0307	CKR12BX470MR	MIL-C-39014/05-0308
56	CKR12BX560KR	MIL-C-39014/05-0309		
68	CKR12BX680KR	MIL-C-39014/05-0310	CKR12BX680MR	MIL-C-39014/05-0311
82	CKR12BX820KR	MIL-C-39014/05-0312	CKR12BX820MR	MIL-C-39014/05-0313
100	CKR12BX101KR	MIL-C-39014/05-0314	CKR12BX101MR	MIL-C-39014/05-0315
150	CKR12BX151KR	MIL-C-39014/05-0316	CKR12BX151MR	MIL-C-39014/05-0317
180	CKR12BX181KR	MIL-C-39014/05-0318		
220	CKR12BX221KR	MIL-C-39014/05-0319	CKR12BX221M	MIK-C-39014/05-0320

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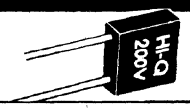
AEROVOX Hi-Q

CAPACITORS

HIGH RELIABILITY CERAMICS (Cont.)



MIL TYPE CKR12 – 100 VOLTS

Cap. pf	±10%		±20%	
	MIL Type Designation	MIL Part Number	MIL Type Designation	MIL Part Number
330	CKR12BX331KR	MIL-C-39014/05-0321	CKR12BX331M	MIL-C-39014/05-0322
390	CKR12BX391KR	MIL-C-39014/05-0323		
470	CKR12BX471KR	MIL-C-39014/05-0324	CKR12BX471MR	MIL-C-39014/05-0325
560	CKR12BX561KR	MIL-C-39014/05-0326		
680	CKR12BX681KR	MIL-C-39014-05-0327	CKR12BX681MR	MIL-C-39014/05-0328
720	CKR12BX721KR	MIL-C-39014/05-0329		
820	CKR12BX821KR	MIL-C-39014/05-0330	CKR12BX821MR	MIL-C-39014/05-0331
1000	CKR12BX102KR	MIL-C-39014/05-0332	CKR12BX102MR	MIL-C-39014/05-0333
1200	CKR12BX122KR	MIL-C-39014/05-0334		
1500	CKR12BX152KR	MIL-C-39014/05-0335	CKR12BX152MR	MIL-C-39014/05-0336
1800	CKR12BX182KR	MIL-C-39014/05-0337		
2200	CKR12BX222KR	MIL-C-39014/05-0338	CKR12BX222MR	MIL-C-39014/05-0339
3300	CKR12BX332KR	MIL-C-39014/05-0340	VKR12BX332MR	MIL-C-39014/05-0341
4700	CKR12BX472KR	MIL-C-39014/05-0342	CKR12BX472MR	MIL-C-39014/05-0343
6800	CKR12BX682KR	MIL-C-39014/05-0344	CKR12BX682MR	MIL-C-39014/05-0345
10000	CKR12BX103KR	MIL-C-39014/05-0346	CKR12BX103MR	MIL-C-39014/05-0347

MIL TYPE CKR13 – 100 VOLTS

15000	CKR13BX153KR	MIL-C-39015/06-0003	CKR13BX153MR	MIL-C-39014/06-0007
22000	CKR13BX223KR	MIL-C-39014/06-0011	CKR13BX223MR	MIL-C-39014/06-0015
33000	CKR13BX333KR	MIL-C-39014/06-0019	CKR13BX333MR	MIL-C-39014/06-0023
47000	CKR13BX473KR	MIK-C-39014/06-0027	CKR13BX473MR	MIL-C-39014/06-0031
68000	CKR13BX683KR	MIL-C-39014/06-0035	CKR13BX683MR	MIL-C-39014/06-0039
82000	CKR13BX823KR	MIL-C-39014/06-0043	CKR13BX823MR	MIL-C-39014/06-0047
100000	CKR13BX104KR	MIL-C-39014/06-0051	CKR13BX104MR	MIL-C-39014/06-0055

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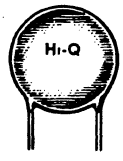


MILITARY CERAMIC DISCS

CK60 TO CK67

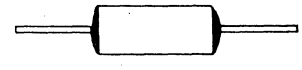
PER MIL-C-11015

CONTACT FACTORY FOR PRICES

Cap. pf.	VDCW	Tol.	Mil. Number	Cap. pf.	VDCW	Tol.	Mil Number
2.2	1000	10%	CK60BX2R2K	2200	500	20%	CK61AW222M
3.3	1000	10%	CK60BX3R3K	22	1500	20%	CK62AY220M
4.7	1000	10%	CK60BX4R7K	47	1500	20%	CK62AY470M
6.8	1000	10%	CK60BX6R8K	100	1500	20%	CK62AY101M
10	1000	10%	CK60BX100K	220	1500	20%	CK62AY221M
15	1000	10%	CK60BX150K	470	1500	20%	CK62AY471M
22	1000	10%	CK60BX220K	820	500	10%	CK62BX821K
33	1000	10%	CK60BX330K	1000	500	10%	CK62BX102K
33	1000	20%	CK60BX330M	1000	500	20%	CK62BX102M
47	1000	10%	CK60BX470K	1500	500	10%	CK62BX152K
47	1000	20%	CK60BX470M	1500	500	20%	CK62BX152M
68	1000	10%	CK60BX680K	2200	500	10%	CK62AX222K
68	1000	20%	CK60BX680M	2200	500	20%	CK62AX222M
100	1000	10%	CK60BX101K	3300	500	20%	CK62AW332M
100	1000	20%	CK60BX101M	4700	500	20%	CK62AW472M
150	500	10%	CK60BX151K	6800	500	20%	CK62AW682M
150	500	20%	CK60BX151M	2200	500	10%	CK63BX222K
220	1000	10%	CK60AX221K	2200	500	20%	CK63BX222M
220	1000	20%	CK60AX221M	3300	500	20%	CK63BX332M
330	500	10%	CK60AX331K	4700	1000	20%	CK63AW472M
330	500	20%	CK60AX331M	10000	1000	+80 –20	CK63AY103X
470	500	10%	CK60AX471K	10000	500	20%	CK63AW103M
470	500	20%	CK60AX471M	510	1600	20%	CK64AW511M
470	1000	20%	CK60AW471M	680	1600	20%	CK64AW681M
680	1000	20%	CK60AW681M	820	1600	20%	CK64AW821M
1000	1000	20%	CK60AW102M	1000	1600	20%	CK64AW102M
1500	500	20%	CK60AW152M	1500	1600	20%	CK64AE152M
220	500	10%	CK61BX221K	2200	1600	20%	CK64AW222M
220	500	20%	CK61BX221M	3300	500	10%	CK63BX332K
330	500	10%	CK61BX331K	3300	1600	20%	CK64AW332M
330	500	20%	CK61BX331M	3900	1600	20%	CK64AW392M
470	500	10%	CK61BX471K	4700	1600	20%	CK65AW472M
470	500	20%	CK61BX471M	5600	1600	20%	CK66AW562M
680	500	10%	CK61BX681K	6800	1600	20%	CK67AW682M
680	500	20%	CK61BX681M	7500	1600	20%	CK67AW752M

MILITARY GENERAL PURPOSE CERAMIC TUBULARS

CK21, CK22, CK26, CK27



MIL-C-11015

CK21 – 26 **CK22 – 27**

Cap. mmf.	±10%	** Price	±20%	* Price	±10%	* Price	±20%	* Price
12	CK21AX120K	.22			CK22AX120K	.17		
15	CK21AX150K	.22			CK22AX150K	.17		
18	CK21AX180K	.22			CK22AX180K	.17		
22	CK21AX220K	.22			CK22AX220K	.17		
27	CK21AX270K	.22			CK22AX270K	.17		
33	CK21AX330K	.22			CK22AX330K	.17		
39	CK21AX390K	.22			CK22AX390K	.17		
47	CK21AX470K	.22			CK22AX470K	.17		
56	CK21AX560K	.22			CK22A560K	.17		
68	CK21AX680K	.22	CK21AX680M	.21	CK22AX680K	.17	CK22AX680M	.16
82	CK21AX820K	.22			CK22AX820K	.17		
100	CK21AX101K	.22	CK21AX101M	.21	CK22AX101K	.17	CK22AX101M	.16
120	CK21AX121K	.22			CK22AX121K	.17		
150	CK21AX151K	.28	CK21AX151M	.26	CK22AX151K	.23	CK22AX151M	.21
180	CK21AX181K	.28	CK21AX221M	.26	CK22AX181K	.23		
200	CK21AX221K	.28			CK22AX221K	.23	CK22AX221M	.21
270	CK21AX271K	.28			CK22AX271K	.23		
330	CK21AX331K	.28	CK21AX331M	.26	CK22AX331K	.23	CK22AX331M	.21
390					CK22AX391K	.23		
470	CK21AX471K	.28	CK21AX471M	.26	CK22AX471K	.23	CK22AX471M	.21
560					CK22AX561K	.23		
680	CK21AX681K	.28	CK21AX681M	.26	CK22AX681K	.23	CK22AX681M	.21
820	CK26AX821M	.30	CK26AX821M	.28	CK27AX821K	.25		
1000	CK26AX102K	.30	CK26AX102M	.28	CK27AX102K	.25	CK27AX102M	.23
1200					CK27AX122K	.25		
1500	CK26AX152K	.30	CK26AX152M	.28	CK27AX152K	.25	CK27AX152M	.23

Request O.E.M. Prices in the following quantities: 25-99, 100-249, 250-499, 500-999.

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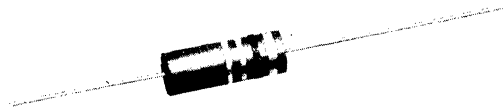
AEROVOX

CAPACITORS

AEROVOX CK12, CK13, CK14, CK15 AND CK16 CERAMIC DIELECTRIC (GENERAL PURPOSE) CAPACITORS Per MIL-C-11015C



Non-conductive material shall not extend beyond .010 from end of capacitor body.

Style	Dimensions L Inches	Dimensions D Inches	Dimensions C Inches	Aerovox Equivalent Type
CK12	.160±.010	.090±.010	.016+.004 −.001	ML 10
CK13	.250±.010	.090±.010	.016+.004 −.001	MC 70
CK14	.390±.010	.140±.010	.025+.004 −.001	MC 20
CK15	.500±.020	.250±.015	.025+.004 −.001	MC 85
CK16	.690±.030	.350±.020	.025+.004 −.001	MC 87

Marked in accordance with MIL-C-110152

Cross-reference of substitute items: MIL-C-11015/20A to MIL-C-11015/20B

Superseded Item PER MIL-C-11015/20A	Substitute Item PER MIL-C-11015/20B	Superseded Item PER MIL-C-11015/20A	Substitute Item PER MIL-C-11015/20B
CK12AX100K - - -	CK12BX100K	CK12AX102K - - -	CK12BX102K
CK12AX100M - - -	CK12BX100M	CK12AX102M - - -	CK12BX102M
CK12AX220K - - -	CK12BX220K	CK13AX222K - - -	CK12BX222K
CK12AX220M - - -	CK12BX220M	CK13AX222M - - -	CK12BX222M
CK12AX330K - - -	CK12BX330K	CK13AX332K - - -	CK12BX332K
CK12AX330M - - -	CK12BX330M	CK13AX332M - - -	CK12BX332M
CK12AX470K - - -	CK12BX470K	CK13AX472K - - -	CK12BX472K
CK12AX470M - - -	CK12BX470M	CK13AX472M - - -	CK12BX472M
CK12AX101K - - -	CK12BX101K	CK14AX103K - - -	CK13BX103K
CK12AX101M - - -	CK12BX101M	CK14AX103M - - -	CK13BX103M
CK12AX221K - - -	CK12BX221K	CK15AX223K - - -	CK14BX223K
CK12AX221M - - -	CK12BX221M	CK15AX223M - - -	CK14BX223M
CK12AX331K - - -	CK12BX331K	CK16AX473K - - -	CK14BX473K
CK12AX331M - - -	CK12BX331M	CK16AX473M - - -	CK14BX473M
CK12AX471K - - -	CK12BX471K	CK17AX104K - - -	CK14BR104K
CK12AX471M - - -	CK12BX471M	CK17AX104M - - -	CK14BR104M

Capacitance pf	Type designation*	Rated volts, dc	Capacitance tolerance	Price	Capacitance pf	Type designation*	Rated volts, dc	Capacitance tolerance	Price
10	CK12BX100-	100	K, M		12,000	CK13BX123K	50	K	
12	CK12BX120K	100	K		15,000	CK13BX153-	50	K, M	
15	CK12BX150-	100	K, M		18,000	CK13BX183K	50	K	
18	CK12BX180K	100	K		22,000	CK13BX223	50	K, M	
22	CK12BX220-	100	K, M		27,000	CK13BR273K	50	K	
27	CK12BX270K	100	K		33,000	CK13BR333-	50	K, M	
33	CK12BX330-	100	K		39,000	CK13BR393K	50	K	
39	CK12BX390K	100	K		47,000	CK13BR473	50	K, M	
47	CK12BX470-	100	K, M		12,000	CK14BX123K	100	K	
56	CK12BX560K	100	K		15,000	CK14BX153-	100	K, M	
68	CK12BX680-	100	K, M	Contact	18,000	CK14BX183K	100	K	Contact
82	CK12BX820K	100	K		22,000	CK14BX223-	100	K, M	
100	CK12BX101-	100	K, M	Your	27,000	CK14BX273K	100	K	Your
120	CK12BX121K	100	K		33,000	CK14BX333-	100	K, M	
150	CK12BX151	100	K, M	Local	39,000	CK14BX393K	100	K	Local
180	CK12BX181K	100	K		47,000	CK14BX473	100	K, M	
220	CK12BX221-	100	K, M	Aerovox	56,000	CK14BR563K	100	K	Aerovox
270	CK12BX271K	100	K		68,000	CK14BR683-	100	K, M	
330	CK12BX331-	100	K, M	Industrial	82,000	CK14BR823K	100	K	Industrial
390	CK12BX391K	100	K		100,000	CK14BR104-	100	K, M	
470	CK12BX471-	100	K, M	Distributor	120,000	CK14BR124K	50	K	Distributor
560	CK12BX561K	100	K		150,000	CK14BR154-	50	K, M	
680	CK12BX681-	100	K, M	for	180,000	CK14BR184K	50	K	for
820	CK12BX821K	100	K		220,000	CK14BR224-	50	K, M	
1,000	CK12BX102-	100	K, M	Prices	270,000	CK14BR274K	50	K	Prices
1,200	CK12BX122K	100	K		100,000	CK15BX104-	100	K, M	
1,500	CK12BX152-	100	K, M		120,000	CK15BR124K	100	K	
1,800	CK12BX182K	100	K		150,000	CK15BR154-	100	K, M	
2,200	CK12BX222-	100	K, M		180,000	CK15BR184K	100	K	
2,700	CK12BX272K	100	K		220,000	CK15BR224-	100	K, M	
3,300	CK12BX332-	100	K, M		270,000	CK15BR274K	100	K	
3,900	CK12BX392K	100	K		330,000	CK15BR334-	100	K, M	
4,700	CK12BX472-	100	K, M		470,000	CK15BR474	50	K, M	
5,600	CK12BX562K	50	K		1,000,000	CK15BR105-	50	K, M	
6,800	CK12BX682-	50	K, M		470,000	CK16BR474-	100	K, M	
8,200	CK12BX822K	50	K		1,000,000	CK16BR105-	100	K, M	
10,000	CK12BX103-	50	K, M		2,200,000	CK16BR225-	50	K, M	
5,600	CK13BX562K	100	K		3,300,000	CK16BR335-	50	K, M	
6,800	CK13BX682-	100	K, M						
8,200	CK13BX822K	100	K						
10,000	CK13BX103-	100	K, M						

*Where applicable, the complete type designation will include an additional symbol to indicate capacitance tolerance.

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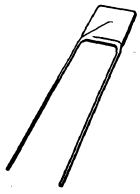
AEROVOX Hi-Q

CAPACITORS

INDUSTRIAL CERAMIC CAPACITORS (cont.)

SUBMINIATURE THIN PLATE CAPACITORS TYPES TPNPO, TP 25 & TP 89



Subminiature rectangular ceramic capacitors with a difference. Slim design allows close assembly, small size-maximum circuit density. Ideal for transistorized circuit and micromodule applications.

- Close temperature coefficients
- Operation to 125°C
- Closer standard tolerances
- Radial or axial lead
- Gold plate Dumet leads

For complete technical data request bulletin NPJ-122.

TYPICAL PROPERTIES

	TYPE TPNPO	TYPE TP25	TYPE TP89
Voltage, VDCW (@ 85° C, (Derated 50% (@ 125° C)	50	50	50
Power Factor, Maximum @ 1 KC.	.1%	.6%	2%
Temperature Coefficient with 0 Voltage, —55°C to +125°C.	0±30PPM/°C	+5%, —8%	+10%, —30%
Temperature Coefficient with rated Voltage applied, —55°C to +125°C.	0±30PPM/°C	+5%, —10%	+10%, —40%
Capacity Tolerance	±5%*	±10%	±20%

*To 6.8 mmf. ± .5 mmf.

TYPICAL CAPACITY RANGE—MMF

MAXIMUM SIZE (L x W x t)	TYPE TPNPO	TYPE TP25	TYPE TP89
.100 x .100 x .060"	5 - 20	25 - 140	360 - 1300
.150 x .150 x .060"	21 - 50	141 - 350	1301 - 3300
.200 x .200 x .060"	51 - 100	351 - 700	3301 - 6600
.250 x .250 x .060"	101 - 160	701 - 1200	6601 - 10500
.300 x .300 x .060"	161 - 220	1201 - 1500	10501 - 14500
.350 x .350 x .060"	221 - 305	1501 - 2100	14501 - 20000

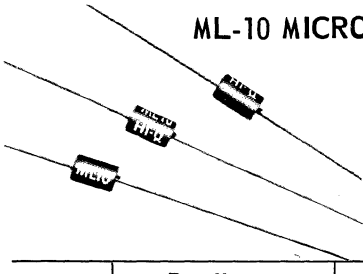
Spacing between radial leads is .100" on the .100" and .150" case sizes; .200" on all other case sizes.

STOCK VALUES†

Capacitance In MMFD.	CAT. NO. TPNPO	*Net Price	CAT. NO. TP25	*Net Price	CAT. NO. TP89	*Net Price
4.7	TPNPO-4R7*D	.68				
6.8	TPNPO-6R8*D	.68				
10.0	TPNPO-100*J	.68				
15.0	TPNPO-150*J	.68				
22.0	TPNPO-220*J	.68				
33.0	TPNPO-330*J	.68	TP25-330*K	.60		
47.0	TPNPO-470*J	.68	TP25-470*K	.60		
68.0	TPNPO-680*J	.68	TP25-680*K	.60		
100	TPNPO-101*J	.68	TP25-101*K	.60		
150	TPNPO-151*J	.82	TP25-151*K	.60		
220	TPNPO-221*J	.82	TP25-221*K	.60		
330			TP25-331*K	.60		
470			TP25-471*K	.60	TP89-471*M	.48
680			TP25-681*K	.60	TP89-681*M	.48
1000			TP25-102*K	.72	TP89-102*M	.48
1500			TP25-152*K	.72	TP89-152*M	.48
2200			TP25-222*K	1.45	TP89-222*M	.48
3300					TP89-332*M	.48
4700					TP89-472*M	.48
6800					TP89-682*M	.58
10,000					TP89-103*M	.58
15,000					TP89-153*M	1.16
20,000					TP89-203*M	1.16

*Insert "A" for axial leads or "R" for radial leads
†Intermediate values and closer tolerances available on special order
*Request O.E.M. Prices in the following quantities: 50-99, 100-499

ML-10 MICROMINIATURE MOLDED TUBULAR CERALAM® CAPACITORS



The ML-10 style is a microminiature monolithic ceramic capacitor molded into an environment resistant epoxy jacket. This unit, of proven reliable Hi-Q Ceralam® construction, will meet the environmental requirements of MIL-C-11015 and MIL-C-39014.

Ideal for automatic insertion in printed board circuitry.

Same size as previous listing .160 x .090, the axial lead designation (A in the part number) contained in the previous listing is no longer used and part number of 100vw units has been changed from ML110 to ML11. These units meet size of CK12BX per MIL-C-11015.

Cap. pf.	Part Number 100VW	Part Number 50 VW	Part Number 25 VW	Cap. pf.	Par Number 50 VW	Part Number 25 VW
10	ML11A100M			820		ML102A821M
15	ML11A150M			1000		ML102A102M
22	ML11A220M			1500	ML105B152M	
33	ML11A330M			2200	ML105B222M	
47	ML11A470M			3300	ML105B332M	
56	ML11A560M			4700		ML102B472M
68	ML11A680M			5600		ML102B562M
82	ML11A820M			6800		ML102B682M
100	ML11A101M			8200	ML105C822M	
150		ML105A151M		10000	ML105C103M	
220		ML105A221M		15000	ML105C153M	
330		ML105A331M		22000	ML105C223M	
470		ML105A471M		33000		ML102C333M
560			ML102A561M	47000		ML102C473M
680			ML102A681M			

Contact your local Aerovox Industrial Distributor for Prices.

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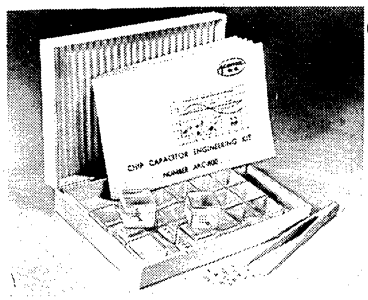
CAPACITORS

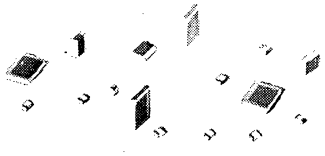


CHIP CAPACITOR ENGINEERING KIT AKC-800

To facilitate prototype development of hybrid circuits Aerovox offers a Chip Capacitor Engineering Kit containing 125 chip capacitors in capacitance values from 1 pf to 100,000 pf. Assortment covers the three basic temperature characteristics.

Chips are silver terminated and a supply of leads is provided for attaching either by soldering or welding methods.

TYPE ULA MICROMINIATURE CERALAM®
CHIP CAPACITORS FOR HYBRID CIRCUITS



Replacement units for items in Chip Kit AKC-800. High ratio of capacity to volume inherent in Ceralam monolithic capacitors allows unusually small sizes especially suited to hybrid circuitry. Units supplied unencapsulated, ready-to-solder into circuit.

Complete range of popular capacitance and voltage value in three temperature coefficient ratings for widest possible applications.

All units rated at 50 VDC and standard tolerance is ±20% except for 1.0 pf with tolerance of ± .5 mmf.

Part Number	Cap. uf	Volts working*
ULA105A1ROD	1	50V
ULA105A100M	10	50V
ULA105A500M	50	50V
ULA105A101M	100	50V
ULA105B501M	500	50V
ULA105B102M	1000	50V
ULA105C222M	2200	50V
ULA105C502M	5000	50V
ULA105C103M	10,000	50V

Part Number	Cap. uf	Volts working*
ULA305A501M	500	50V
ULA305B222M	2,200	50V
ULA305C223M	22,000	50V
ULA505A102M	1,000	50V
ULA505A222M	2,200	50V
ULA505B103M	10,000	50V
ULA505C104M	100,000	50V
ULA705B502M	5,000	50V
ULA705C503M	50,000	50V

*Improvements in the state of the art allow us to furnish replacement capacitors at 50 VDCW. All other characteristics are the same as the chips furnished in the Kit AKC-800—the only difference is in nomenclature. (ULA105 = 50 VDCW; ULA102 = 25 VDCW etc.)

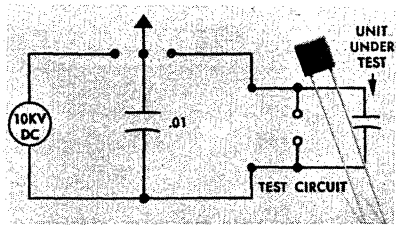
Chips are packaged in sealed packages of 25 each.

SIZE CHART

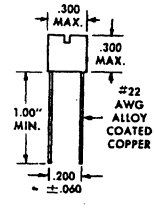
Type	L ±.010	x	W ±.010	x	T Max.
ULA105	.075"	x	.050"	x	.050"
ULA305	.105"	x	.070"	x	.060"
ULA505	.130"	x	.160"	x	.060"
ULA705	.180"	x	.050"	x	.060"

SPARK GAP CAPACITOR

The spark gap capacitor is a protective device which limits excessive transient voltage surges to a non-destructive level. One style is offered at present, Type 3411 a minimum capacitance type used between grid lead and chassis ground providing a low impedance path to ground. This unit is popular in color TV application.



SGC 3411



Capacity: .5 pf max. @ 1 mc.
Tol. %: Max.
Working Volts: 1 KV
Gap Breakdown: 1 KV to 2 KV
Temp. Coef.: Not Applicable
Marking: Hi-Q, working volts

Contact your local Aerovox Industrial Distributor for Prices.

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AEROVOX Hi-Q

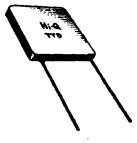
CAPACITORS

INDUSTRIAL CERAMIC CAPACITORS

Type TTP Transistor Disks

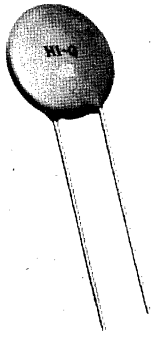
These square miniature disks are ideally suited for all applications where size is a factor such as transistorized radios and industrial applications having critical space requirements.

Units are rated at 100 VDCW ±20% standard tolerance.



Capacity	Length & Width	Thickness	Net Price**
.005	.280	.125	.24
.01	.340	.125	.24
.02	.430	.125	.30
.025	.465	.125	.30
.03	.465	.125	.30
.05	.535	.125	.36
.1	.700	.125	.54

**Request O.E.M. Prices in the following quantities: 50-99, 100-249, 250-499, 500-999.



NEW GENERAL PURPOSE BYPASS AND COUPLING DISKS – TYPE GPD

NOW . . . a consolidated and comprehensive line of ceramic disk capacitors for all bypass, coupling and filtering applications. All units offer maximum protection against humidity, voltage breakdown and vibration.

Rated at 1000 VDCW unless otherwise specified.

All units marked for capacity and tolerance.

This new and consolidated line replaces Types IDI, BPD-GMV and DI line listed in previous catalogs.

New Cat. No.	Cap. uf	Tolerance	Volts	T. C.	Size Dia.	Old Cat. No.
GPD COJ2R2K	2.2	10%	1000	NPO	.310	D1-3.3mf
GPD COJ3R3K	3.3	10%	1000	NPO	.310	D1-3.3mf
GPD COH4R7K	4.7	10%	1000	NPO	.310	D1-5.0mf
GPD COH6R8K	6.8	10%	1000	NPO	.310	D1-6.8mf
GPD COH8R2K	8.2	10%	1000	NPO	.310	D1-8.2mf
GPD COH100K	10.0	10%	1000	NPO	.310	D1-10mf
GPD U2J102K	12.0	10%	1000	N750	.310	D1-12mf
GPD U2J150K	15.0	10%	1000	N750	.310	D1-15mf
GPD U2J180K	18.0	10%	1000	N750	.310	D1-18mf
GPD U2J200K	20.0	10%	1000	N750	.310	D1-20mf
GPD U2J220K	22.0	10%	1000	N750	.310	D1-22mf
GPD U2J250K	25.0	10%	1000	N750	.310	D1-25mf
GPD U2J270K	27.0	10%	1000	N750	.310	D1-27mf
GPD P3K300K	30	10%	1000	N1500	.310	D1-30mf
GPD P3K330K	33	10%	1000	N1500	.310	D1-33mf
GPD P3K390K	39	10%	1000	N1500	.310	D1-39mf
GPD X5F470K	47	10%	1000	X5F	.310	D1-47mf
GPD X5F500K	50	10%	1000	X5F	.310	D1-50mf
GPD X5F560K	56	10%	1000	X5F	.310	D1-56
GPD X5F680K	68	10%	1000	X5F	.310	D1-68
GPD X5F820K	82	10%	1000	X5F	.310	D1-82
GPD X5F910K	91	10%	1000	X5F	.310	–
GPD X5F101K	100	10%	1000	X5F	.310	D1-100
GPD X5F121K	120	10%	1000	X5F	.310	D1-120
GPD X5F151K	150	10%	1000	X5F	.310	D1-150
GPD X5F181K	180	10%	1000	X5F	.310	D1-180
GPD X5F201K	200	10%	1000	X5F	.310	D1-200
GPD X5F221K	220	10%	1000	X5F	.310	D1-220
GPD X5F251K	250	10%	1000	X5F	.310	D1-250

New Cat. No.	Cap pf	Tolerance	Volts	T. C.	Size Dia.	Old Cat. No.
GPD X5F271K	270	10%	1000	X5F	.310	D1-270
GPD X5F301K	300	10%	1000	X5F	.310	D1-300
GPD X5F331K	330	10%	1000	X5F	.310	D1-330
GPD X5F391K	390	10%	1000	X5F	.310	D1-390
GPD X5F471	470	10%	1000	X5F	.310	D1-470
GPD X5U471P5	470	±100 –0	500V	X5U	.310	1D1-CK60Y471Z
GPD X5F501K	500	±10%	1000	X5F	.310	D1-500
GPD X5F561K	560	±10%	1000	X5F	.385	D1-560
GPD X5F681K	680	±10%	1000	X5F	.385	D1-680
GPD X5U681P5	680	±100 –0	500	X5U	.310	1D1-CK60Y681Z
GPD X5F751K	750	±10	1000	X5F	.385	D1-750
GPD X5F821K	820	±10	1000	X5F	.385	D1-820
GPD X5U821P5	820	+100 –0	500	X5U	.310	1D1-CK60Y821Z
GPD X5F911K	910	±10	1000	X5F	.385	–
GPD X5F102K	1000	±10	1000	X5F	.385	D1-1000
GPD Z5U102P	1000	+100 –0	1000	Z5U	.310	BPD-001
GPD X5U102P5	1000	+100 –0	500	X5U	.385	1D1-CK61Y102Z
GPD X5F122K	1200	±10	1000	X5F	.437	D1-1200
GPD X5F152K	1500	+	1000	X5F	.437	D1-1500
GPD X5U152P5	1500	+100 –0	500	X5U	.385	1D1-CK61Y152Z
GPD X5F182K	1800	±10	1000	X5F	.590	D1-1800
GPD X5F202K	2000	±10	1000	X5F	.590	D1-2000
GPD X5F222K	2200	±10	1000	X5F	.590	D1-2200
GPD X5U222P5	2200	+100 –0	500	X5U	.590	1D1-CK62Y222Z
GPD X5F252K	2500	±10	1000	X5F	.590	D1-2500
GPD X5F272	2700	±10	1000	X5F	.590	D1-2700
GPD X5R302	3000	±10	1000	X5R	.590	D1-3000
GPD X5R332K	3300	±10	1000	X5R	.690	D1-3300
GPD X5U332P5	3300	+100 –0	500	X5U	.590	1D1-CK62Y332Z
GPD X5R392K	3900	±10	1000	X5R	.690	–
GPD X5R402K	4000	±10	1000	X5R	.690	D1-4000
GPD X5R472K	4700	±10	1000	X5R	.690	D1-4700
GPD X5U472P5	4700	+100 –0	500	X5U	.590	1D1-CK62Y472Z
GPD X5R502K	5000	±10	1000	X5R	.690	D1-5000
GPD Z5U502P	5000	+100 –0	1000	Z5U	.590	BPD-5000
GPD X5R562K	5600	±10	1000	X5R	.760	D1-5600
GPD X5R682K	6800	±10	1000	X5R	.760	D1-6800
GPD X5R752K	7500	±10	1000	X5R	.760	D1-7500
GPD X5R822K	8200	±10	1000	X5R	.906	D1-8200
GPD X5R912K	9100	±10	1000	X5R	.906	–
GPD X5S103K	10000	±10	1000	X5S	.906	D1-10000
GPD Z5U103P	10000	+100 –10	1000	Z5U	.760	BPD-.01
GPD X5U103P5	10000	+100 –0	500	X5U	.690	1D1-CK63Y103Z
GPD Z5U153P	15000	+100 –0	1000	Z5U	.906	BPD-015
GPD Z5U203P	20000	+100 –0	1000	Z5U	.906	BPD-.02
GPD Z5V303P	30000	+100 –0	1000	Z5V	.760	BPD-.03
GPD Z5V503P	50000	+100 –0	1000	Z5V	.906	BPD-.05
GPD Z5V2X102P	2X.001	+100 –0	1000	Z5V	.437	BPD2X.001
GPD Z5V2X152P	2X.0051	+100 –0	1000	Z5V	.590	BPD2X.0015
GPD Z5V2X202P	2X.002	+100 –0	1000	Z5V	.590	BPD2X.002
GPD Z5V2X222P	2X.0022	+100 –0	1000	Z5V	.590	BPD2X.0022
GPD Z5V2X302P	2X.003	+100 –0	1000	Z5V	.690	BPD2X.003
GPD Z5V2X402P	2X.004	+100 –0	1000	Z5V	.760	BPD2X.004
GPD Z5V2X472P	2X.0047	+100 –0	1000	Z5V	.760	BPD2X.0047
GPD Z5V2X103P	2X.01	+100 –0	1000	Z5V	.760	BPD2X.01
GPD Z5V2X203P	2X.02	+100 –0	1000	Z5V	.906	BPD2X.02
GPD Z5V3X152P	3X.0015	+100 –0	1000	Z5V	.760	BPD3X.0015
GPD Z5V3X202P	3X.002	+100 –0	1000	Z5V	.760	BPD3X.002

Contact your local Aerovox Industrial Distributor for Prices.

Net

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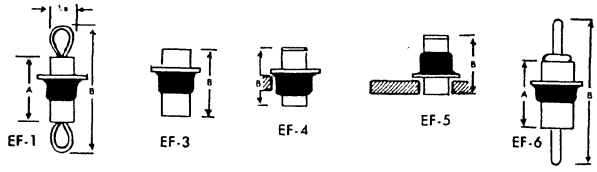
AEROVOX Hi-Q

CAPACITORS

INDUSTRIAL CERAMIC CAPACITORS (cont.)



Contact your local Aerovox Industrial Distributor for Prices.

Eyelet Feed-Thru Capacitors

Hi-Q Feed-Thru Capacitors Eyelet Type are the ultimate in miniaturization because of unique design. This design is such that the capacitors can be soldered directly to a chassis and provide excellent bypass performance where space is critical. The low inductance characteristics brought about through the construction of the capacitors make the eyelet type ideal for high frequency bypass.

***Net Price .33**

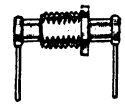
Style	Capacity in mmf						D.C. Working Voltage	Size A	Size B
EF-1	50	100	200	500	1000	1500	500	.375	.750
EF-3	50	100	200	500	1000	1500	500	—	.375
EF-4	50	100	200	500			250	—	.250
EF-5	50	100	200	500	1000		250	—	.250
EF-6	50	100	200	500	1000	1500	500	.375	.875

Tolerance ±20% up to and including 500 mmfd. GMV above 500 mmfd.

*Request O.E.M. prices in the following quantities: 25-99, 100-249, 250-499, 500-999.

Feed-Thru Capacitors

FEED-THRU TYPE CFC



FEED-THRU TYPE CF

Hi-Q Feed-Thru Capacitors provide means to transmit thru shields or ground potentials and simultaneously by-pass unwanted frequencies. A good mechanical connection is provided by the silver-plated bushing. These are excellent dependable units even under severe mechanical vibrations as in aircraft, missiles and automotive requirements. All units are flash tested at 1250 volts D.C.

*****Net Price $1.10**

Type	Cap. Mmfd.	Thread
CFC-1	500 mmf.	12-28
	1000 mmf.	12-28
	1500 mmf.	12-28
CF-1	1500 mmf.	¼-28

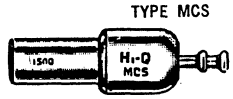
Tolerance ±20%

Type	Cap. Mmfd.	Thread
CF-2	1800 mmf.	5/16-24
	2300 mmf.	5/16-24
	3000 mmf.	5/16-24
CF-3	4000 mmf.	5/16-24
CF-4	7000 mmf.	5/16-24

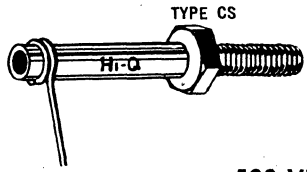
*****Request O.E.M. Prices in the following quantities: 250-499**

Stand-Off Capacitors

TYPE MCS



TYPE CS



Hi-Q stand-off capacitors have a screw fixture for mounting to the chassis or common ground. All units are coated with a high temperature enamel, stamped with capacity and supplied with mounting nut, if desired.

The MCS is a quick mounting type which permits high speed mechanical installation. The ceramic tube is enclosed in a cadmium-plated metal case with a specially developed end seal for protection against humidity and temperature changes. All units are flash tested at 1250 volts D.C. The power factor is under 3% and the insulation resistance is above 7500 megohms.

500 VDCW

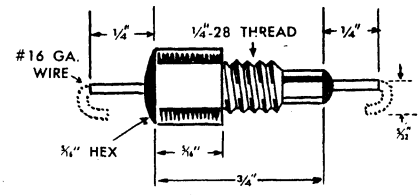
Type	Capacity Mmfd.	Net** Price
CS-1A	50	.765
CS-1A	100	.765
CS-1B	500	.765
CS-1B	1000	.713
CS-1B	1500	.713
CS-2	3000	.713
CS-3	4000	.891

Type	Capacity Mmfd.	Net** Price
CS-4	7500	.891
CIS-1	50	.410
CIS-1	100	.410
CIS-1	500	.410
CIS-1	1000	.377
CIS-2	1500	.377
MCS	1500	.468

Radial leads only

Tolerance ±10% up to and including 500 mmf. ±20% above 500 mmf.

****Request O.E.M. Prices in the following quantities: 100-249, 250-499, 500-999**



BLF

FRACTIONAL TOLERANCES ±1/32

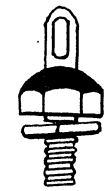
Heavy Duty Feed-Thru Capacitors

Type BLF-ICC

These heavy-duty Feed-Thru capacitors are the same as listed in specification MIL-C-11015. Units through 100 mmf. are rated at 1000 VDCW, values above 100 mmf. are rated at 500 VDCW. Capacity tolerance is ±10% except on the 1000 mmf. and 1500 mmf. which have capacity tolerance of ±20%.

Capacity	Part Number	***Net Price
10	AXCK70AX100K	1.10
33	AXCK70AX330K	1.10
47	AXCK70AX470K	1.10
68	AXCK70AX680K	1.10
100	AXCK70AX101K	1.10
470	AXCK70AX471K	1.10
680	AXCK70AX681K	1.10
1000	CK70AW102M	1.10
1500	CK70AW152M	1.10

*****Request O.E.M. Prices in the following quantities: 250-499**



DS-C

Disk Stand-Off Capacitors

Type DS-C

These units are very popular in industrial applications having a critical space requirement but requiring a stand-off capacitor. These stock units are furnished with captive lock washers, are rated at 950 VDCW. Capacity tolerance GMV. Both units are furnished with threaded portion 5/16" long, #6-32 thread.

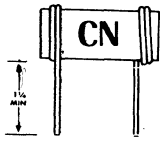
Capacity	**Net Price
470	.90
1000	.90

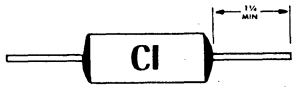
AEROVOX Hi-Q

CAPACITORS

INDUSTRIAL CERAMIC CAPACITORS (cont.)

Temperature Compensating Tubulars





Popular values in accordance with the latest revisions of specification MIL-C-20 and EIA specification RS-198. Uninsulated units are furnished color coded, packaged in bulk. Insulated units—stamped with part number. Voltage rating 500 VDCW.

Cap.	UNINSULATED TYPE CN NPO MIL No.	Net Price*	INSULATED TYPE CI MIL No.	Net Price*
.3	CC20CKOR3C		CC21CKOR3C	
.5	CC20CKOR5C		CC21CKOR5C	
.68	CC20CKR68C		CC21CKR68C	
.75	CC20CKR75C		CC21CKR75C	
1.0	CC20CK010C		CC21CK010C	
1.2	CC20CK1R2C		CC21CK1R2C	
1.5	CC20CK1R5C		CC21CK1R5C	
2.0	CC20CK020C	Contact	CC21CK020C	Contact
2.2	CC20CK2R2C		CC21CK2R2C	
3.0	CC20CJ030C		CC21CJ030C	
4.0	CC20CH040C	Your	CC21CH040C	Your
5.0	CC20CH050C		CC21CH050C	
6.0	CC20CH060C		CC21CH060C	
6.2	CC20CH6R2C	Local	CC21CH6R2C	Local
7.0	CC20CH070C		CC21CH070C	
8.0	CC20CH080C		CC21CH080C	
9.0	CC20CH090C	Aerovox	CC21CH090C	Aerovox
10.0	CC20CH100C		CC21CH100C	
12.0	CC20CH120G	Industrial	CC21CH120G	Industrial
15.0	CC20CH150G		CC21CH150G	
18.0	CC20CH180G		CC21CH180G	
20.0	CC20CH200G	Distributor	CC21CH200G	Distributor
22.0	CC20CH220G		CC21CH220G	
24	CC25CH240G		CC26CH240G	
27	CC25CH270G	for	CC26CH270G	for
30	CC25CH300G		CC26CH300G	
33	CC25CH330G		CC26CH330G	
36	CC25CH360J	Prices	CC26CH360J	Prices
39	CC25CH390J		CC26CH390J	
43	CC25CH430J		CC36CH430J	
47	CC25CH470J		CC36CH470J	
51	CC25CH510J		CC36CH510J	
56	CC32CG560J		CC36CG560J	
62	CC32CG620J		CC36CG620J	
68	CC32CG680J		CC36CG680J	
75	CC32CG750J		CC36CG750J	
82	CC32CG820J		CC36CG820J	
91	CC32CG910J		CC36CG910J	
100	CC32CG101G		CC36CG101J	
110	CC32CG111G		CC36CG111J	
120	CC35CG121G		CC36CG121J	
130	CC35CG131G		CC36CG131J	
150	CC35CG151G		CC36CG151J	

Cap.	UNINSULATED TYPE CN N750 MIL No.	Net Price*	INSULATED TYPE CI MIL No.	Net Price*
.5	CC20UKOR5C			
.75	CC20UKR75C		CC21UKR75C	
1.0	CC20UK010C		CC21UK010C	
1.5	CC20UK1R5C		CC21UK1R5C	
2.0	CC20UK020C		CC21UK020C	
5.0	CC20UJ050C		CC21UJ050C	
10.0	CC20UJ100C		CC21UJ100C	
12.0	CC20UJ120G	Contact	CC20UJ120G	Contact
15.0	CC20UJ150G		CC21UJ150G	
18.0	CC20UJ180G		CC21UJ180G	
20.0	CC20UJ200G	Your	CC21UJ200G	Your
22.0	CC20UJ220G		CC21UJ220G	
24.0	CC20UJ240G		CC21UJ240G	
27.0	CC20UJ270G	Local	CC21UJ270G	Local
30.0	CC20UJ300G		CC21UJ300G	
33.0	CC20UJ330G		CC21UJ330G	
36.0	CC20UJ360J	Aerovox	CC21UJ360J	Aerovox
39.0	CC20UJ390J		CC21UJ390J	
43.0	CC20UJ430J	Industrial	CC21UJ430J	Industrial
47.0	CC20UJ470J		CC21UJ470J	
51.0	CC20UJ510J		CC21UJ510J	
56.0	CC20UJ560J	Distributor	CC21UJ560J	Distributor
62.0	CC20UJ620J		CC21UJ620J	
68.0	CC25UJ680J		CC26UJ680J	
75.0	CC25UJ750J	for	CC26UJ750J	for
82.0	CC25UJ820J		CC26UJ820J	
91.0	CC25UJ910J		CC26UJ910J	
100.0	CC25UJ101G	Prices	CC26UJ101J	Prices
110	CC25UJ111G		CC26UJ111J	
120	CC25UJ121G		CC26UJ121J	
130	CC25UJ131G		CC36UJ131J	
150	CC25UJ151G		CC36UJ151J	
160	CC32UJ161G		CC36UJ161J	
180	CC32UJ181G		CC36UJ181J	
200	CC32UJ201G		CC36UJ201J	
220	CC32UJ221G		CC36UJ221J	
240	CC32UJ241G		CC36UJ241J	
270	CC35UJ271F		CC36UJ271J	
300	CC35UJ301F		CC36UJ301J	
330	CC35UJ331F		CC36UJ331F	
360	CC35UJ361F		CC36UJ361J	

Type Designation MIL	Max. Size	TOLERANCE Letter Descrip.	Tolerance
CC20	.200 x .400	C	± .25 mmf.
CC21	.200 x .562		
CC25	.250 x .655	F	± 1%
CC26	.250 x .812		
CC32	.250 x .860	G	± 2%
CC35	.255 x 1.090		
CC36	.340 x 1.328		

*Request O.E.M. Prices in the following quantities: 1-49, 50-99, 100-249, 250-499, 500-999

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AEROVOX Hi-Q

CAPACITORS

MIL Types CM15, CM20 and CM30 RECEIVING MICAS

Compact mica-dielectric molded capacitors made in accordance with MIL-C-5B. Furnished tested and color coded to meet all requirements for "N" temperature rating and all vibration grades of this specification. All units silver-mica molded in red Bakelite.
Types CM15, 20 and 30 bear Aerovox Part No. 1459, 1469 and 1464 respectively. In addition, items bearing Aerovox Part No. 1469-HV and 1464-HV have been designed specifically for television, low-power transmission and power amplifier applications.
Standard tolerance of all units is ±5%. Closer tolerances available on special order.

Type CM-15 (500 VDCW)

1459

Cap. pf	Type Designation	Net Price*
10	CM-15C-100	.18
12	CM-15C-120	.18
15	CM-15C-150	.18
18	CM-15C-180	.18
20	CM-15C-200	.18
22	CM-15C-220	.18
24	CM-15E-240	.18
27	CM-15E-270	.18
30	CM-15E-300	.18
33	CM-15E-330	.18
36	CM-15E-360	.18
39	CM-15E-390	.18
43	CM-15E-430	.18
47	CM-15E-470	.18
50	CM-15E-500	.18
51	CM-15E-510	.18
56	CM-15E-560	.18
62	CM-15E-620	.18
68	CM-15E-680	.18
75	CM-15E-750	.18
82	CM-15E-820	.18
91	CM-15E-910	.18
100	CM-15E-101	.18
110	CM-15E-111	.21
120	CM-15E-121	.21
130	CM-15E-131	.21
150	CM-15E-151	.21
160	CM-15E-161	.24
180	CM-15E-181	.24
200	CM-15E-201	.24
220	CM-15E-221	.27
240	CM-15E-241	.27
250	CM-15E-251	.27
270	CM-15E-271	.30
300	CM-15E-301	.30
330	CM-15E-331	.33
360	CM-15E-361	.36
390	CM-15E-391	.39
430*	CM-15E-431	.42
470*	CM-15E-471	.45
500*	CM-15E-501	.48
510*	CM-15E-511	.48

Type CM-20 (500 VDCW)

1469

Cap. pf	Type Designation	Net Price*
5	CM-20C-050	.18
10	CM-20C-100	.18
12	CM-20C-120	.18
15	CM-20C-150	.18
18	CM-20C-180	.18
20	CM-20C-200	.18
22	CM-20C-220	.18
24	CM-20C-240	.18
25	CM-20C-250	.18
27	CM-20C-270	.18
30	CM-20C-300	.18
33	CM-20C-330	.18
36	CM-20C-360	.18
39	CM-20C-390	.18
40	CM-20C-400	.18
43	CM-20C-430	.18
47	CM-20C-470	.18
50	CM-20C-500	.18
51	CM-20C-510	.18
56	CM-20C-560	.18
62	CM-20C-620	.18
68	CM-20C-680	.18
70	CM-20C-700	.18
75	CM-20C-750	.18
82	CM-20C-820	.18
91	CM-20C-910	.18
100	CM-20C-101	.18
110	CM-20C-111	.21
120	CM-20C-121	.21
130	CM-20C-131	.21
150	CM-20C-151	.21
160	CM-20C-161	.21
180	CM-20C-181	.21
200	CM-20D-301	.21
220	CM-20C-221	.21
240	CM-20D-241	.24
250	CM-20D-251	.24
270	CM-20D-271	.27
300	CM-20D-301	.27
330	CM-20D-331	.27
350	CM-20D-351b	.30
360	CM-20D-361	.30
390	CM-20D-391	.30
400	CM-20D-401	.30
430	CM-20D-431	.30
470	CM-20D-471	.33
500	CM-20D-501	.33
510	CM-20D-511	.33
560	CM-20D-561	.33
620	CM-20D-621	.36
680	CM-20D-681	.36
750	CM-20D-751	.39
820	CM-20D-821	.42
910	CM-20D-911	.42
1000	CM-20D-102	.45

*Request O.E.M. Prices in the following quantities: 25-99, 100-499, 500- and up

Type CM-30 (500 VDCW)

1464

Cap. pf	Type Designation	Net Price*
470	CM-30D-471	.33
510	CM-30D-511	.33
560	CM-30D-561	.36
620	CM-30D-621	.36
680	CM-30D-681	.39
750	CM-30D-751	.39
800	CM-30D-801	.43
820	CM-30D-821	.42
900	CM-30D-901	.42
910	CM-30D-911	.42
1000	CM-30D-102	.45
1100	CM-30D-112	.45
1200	CM-30D-122	.45
1300	CM-30D-132	.48
1500	CM-30D-152	.51
1600	CM-30D-162	.51
1800	CM-30D-182	.54
2000	CM-30D-202	.60
2200	CM-30D-222	.66
2400	CM-30D-242	.72
2500	CM-30D-252	.72
2700	CM-30D-272	.78
3000	CM-30D-302	.84
3300	CM-30D-332	.90
3600	CM-30D-362	.96
3900	CM-30D-392	1.02
4000	CM-30D-402	1.02
4300	CM-30D-432	1.08
4700	CM-30D-472	1.14
5000	CM-30D-502	1.20
5100	CM-30D-512	1.20
5600	CM-30D-562	1.26
6200	CM-30D-622	1.32
6800	CM-30D-682	1.32
7500	CM-30D-752	1.44
8200	CM-30D-822	1.44
9100	CM-30D-912	1.44
10000	CM-30D-103	1.86

Type 1469-HV / Type 1464-HV

Type 1469-HV CAP/pf	Type 1469-HV CAT. NO.*	Type 1464-HV CAP/pf	Type 1464-HV CAT. NO.*
5	15HVRM050	430	15HVRM431
10	15HVRM100	470	15HVRM471
12	15HVRM120	500	15HVRM501
15	15HVRM150	510	15HVRM511
18	15HVRM180	560	15HVRM561
20	15HVRM200	620	15HVRM621
22	15VHRM220	680	15HVRM681
24	15VHRM240	750	15HVRM751
25	15HVRM250	820	15HVRM821
27	15HVRM270	910	15HVRM911
30	15HVRM300	1000	15VHRM102
33	15VHRM330	1100	15VHRM112
36	15VHRM360	1200	15VHRM122
39	15VHRM390	1300	15VHRM132
43	15VHRM430	1500	15HVRM152
47	15HVRM470	1600	15HVRM162
50	15VHRM500	1800	15VHRM182
51	15VHRM510	2000	15HVRM202
56	15HVRM560	2200	15HVRM222
62	15HVRM630	2400	15HVRM242
68	15HVRM680	2500	15HVRM252
75	15HVRM750	2700	10HVRM272
82	15HVRM820	3000	10HVRM302
91	15HVRM910	3300	10HVRM332
100	15HVRM101	3600	10HVRM362
110	15HVRM111	3900	10HVRM392
120	15HVRM121	4000	10HVRM402
130	15HVRM131	4300	10HVRM432
150	15HVRM151	4700	10HVRM472
160	15HVRM161	5000	10HVRM502
180	15HVRM181	5100	10HVRM512
200	15HVRM201		
220	15HVRM221		
240	15HVRM241		
250	15HVRM251		
270	15HVRM271		
300	15HVRM301		
330	15VHRM331		
350	15HVRM351		
360	15HVRM361		
390	15HVRM391		
400	15HVRM401		

*Capacities of 5 pf to 400 pf are furnished in CM20 case balance furnished in CM30 case size. Prefix 15 designates 1500 VDCW. Prefix 10 designates 1000 VDCW. Standard tolerance.

Contact your local Aerovox Industrial Distributor for Prices.

NOTES

Nominal Size All CM30 Units — 53/64 x 53/64 x 1/2
Nominal Size All CM20 Units — 43/64 x 23/64 x 3/16
Nominal Size All CM15 Units — 1/2 x 3/32 x 3/16

In silver mica the standard tolerance is ±5%. Also available in ±2% and ±1%. Closest available tolerance up to 10 mmf. is ±1/2 mmf.; 10 mmf. and up ±1% or ± 1 mmf., whichever is greater.

AEROVOX Hi-Q

CAPACITORS

RECEIVING MICA CAPACITORS — (Continued)

DIPPED SILVERED MICA CAPACITORS - TYPES ADM-10, ADM-15, ADM-19, ADM-20 AND ADM-30

Aerovox plastic-coated dipped-mica units exceed many of the advantages of molded mica units, and at the same time are smaller than conventional units. Meeting all the applicable MIL-C-5B Test Standards for molded mica capacitors, these unique dipped-mica units offer the following features:

• High operating temperatures —55° to +125°C • Excellent long-life characteristics • Improved temperature coefficient range • Radial leads for automatic insertion and plug-in assemblies • Ideal for printed-wiring assemblies • Unsurpassed performance and stability characteristics • Smaller physical size.

Humidity Resistance: these capacitors shall have an insulation resistance of not less than 2,000 megohms after being subjected to the Humidity Resistance Test as outlined in MIL-C-5B. Minimum Insulation Resistance: 25,000 megohms at 25°C; 1000 meghoms at 125°C.

Capacitors will be marked with capacity and tolerance.

For full technical information request Bulletin NPJ-104.

Cap. pf	Type Designation	Type Designation	Type Designation	Type Designation	Type Designation
5		ADM-15-050			
10	ADM-10-100	ADM-15-100			
12	ADM-10-120	ADM-15-120			
15	ADM-10-150	ADM-15-150			
18	ADM-10-180	ADM-15-180			
20	ADM-10-200	ADM-15-200			
22	ADM-10-220	ADM-15-220			
24	ADM-10-240	ADM-15-240			
25	ADM-10-250				
27	ADM-10-270	ADM-15-270			
30	ADM-10-300	ADM-15-300			
33	ADM-10-330	ADM-15-330			
36	ADM-10-360	ADM-15-360			
39	ADM-10-390	ADM-15-390			
43	ADM-10-430	ADM-15-430			
47	ADM-10-470	ADM-15-470			
50	ADM-10-500	ADM-15-500			
51	ADM-10-510	ADM-15-510			
56	ADM-10-560	ADM-15-560			
62	ADM-10-620	ADM-15-620			
68	ADM-10-680	ADM-15-680			
75	ADM-10-750	ADM-15-750			
82	ADM-10-820	ADM-15-820			
91	ADM-10-910	ADM-15-910			
100	ADM-10-101	ADM-15-101	*ADM-19-101		
110	ADM-10-111	ADM-15-111	*ADM-19-111		
120	ADM-10-121	ADM-15-121	*ADM-19-121		
130	ADM-10-131	ADM-15-131	*ADM-19-131		
150	ADM-10-151	ADM-15-151	*ADM-19-151		
160	ADM-10-161	ADM-15-161	*ADM-19-161		
180	ADM-10-181	ADM-15-181	*ADM-19-181		
200	ADM-10-201	ADM-15-201	*ADM-19-201		
220	ADM-10-221	ADM-15-221	*ADM-19-221		
240	ADM-10-241	ADM-15-241	*ADM-19-241		
250	ADM-10-251	ADM-15-251	*ADM-19-251		
270		ADM-15-271	*ADM-19-271		
300		ADM-15-301	*ADM-19-301		
330		ADM-15-331	*ADM-19-331		
360		ADM-15-361	*ADM-19-361		
390		ADM-15-391	*ADM-19-391		
430		ADM-15-431	*ADM-19-431		
470		ADM-15-471	*ADM-19-471		
500		ADM-15-501	*ADM-19-501		
510		ADM-15-511	*ADM-19-511		
560			ADM-19-561		
620			ADM-19-621		
680			ADM-19-681	*ADM-20-681	
750			ADM-19-751	*ADM-20-751	
820			ADM-19-821	*ADM-20-821	
910			ADM-19-911	*ADM-20-911	
1000			ADM-19-102	*ADM-20-102	
1100			ADM-19-112	*ADM-20-112	
1200			ADM-19-122	*ADM-20-122	
1300			ADM-19-132	*ADM-20-132	
1500			ADM-19-152	*ADM-20-152	
1600			ADM-19-162	*ADM-20-162	
1800			ADM-19-182	*ADM-20-182	
2000			ADM-10-202	*ADM-20-202	
2200			ADM-19-222	*ADM-20-222	
2400			ADM-19-242	*ADM-20-242	
2500			ADM-19-252	*ADM-20-252	
2700			ADM-19-272	*ADM-20-272	
3000			ADM-19-302	*ADM-20-302	
3300				ADM-20-332	
3600				ADM-20-362	
3900				ADM-20-392	
4300				ADM-20-432	*ADM-30-432
4700				ADM-20-472	*ADM-30-472
5000				ADM-20-502	*ADM-30-502
5100				ADM-20-512	*ADM-30-512
5600					ADM-30-562
6200					ADM-30-622
6800					ADM-30-682
7500					ADM-30-752
8200					ADM-30-822
9100					ADM-30-912
10000					ADM-30-103
12000					ADM-30-123
13000					ADM-30-133
15000					ADM-30-153

CHARACTERISTICS

ADM-10—from 10 pf to 30 pf Characteristic "C"
from 31 pf to 100 pf Characteristic "D"
from 100 pf to 390 pf Characteristic "E"
ADM-15—from 5 to 20 mmf. Characteristic "C"
from 22 to 150 mmf. Characteristic "E"
from 160 mmf. and up Characteristic "F"
ADM-19—All capacities listed "F" Characteristic.
ADM-20—All capacities listed "F" Characteristic.
ADM-30—All capacities listed "F" Characteristic.

Standard Tolerance ±5%

Minimum tolerance for capacitances up to and including 10 mmf. is ± ½ mmf., for all other capacitances ± 1% or 1 mmf. whichever is greater.

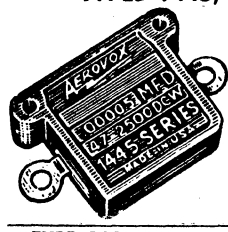
Sizes	L	W	T
ADM-10	.390	.380	.220
ADM-15	15/32	5/16	7/32 max.
ADM-19	21/32	15/32	7/32 max.
ADM-20	3/4	15/32	7/32 max.
ADM-30	25/32	27/32	5/16 max.

* To be discontinued when present stocks are depleted.

Contact your local Aerovox Industrial Distributor for Prices.

TRANSMITTING MICA CAPACITORS

TYPES 1445, 1446 and 1447

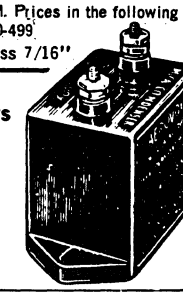


Designed with insulated mounting holes 1¾" apart independent of soldering lugs. Used to shunt meter windings.
Size: 1⅛" x 1⅝" x 1½"
Standard Tolerance ±10% ±5% and ±2% tolerance are available on special order. Meter Mounting Bracket E available. Specify when ordering. These units are equivalent to case styles CM45 and CM50 of specification MIL-C5B.

TYPE 1445 600 VDCW 1000 VDCT		TYPE 1446 1200 VDCW 2500 VDCT		TYPE 1447 2500 VDCW 5000 VDCT	
Cap. Mfd.	Net* Price	Cap. Mfd.	Net* Price	Cap. Mfd.	Net* Price
.00005	.40	.00005	.48	.00005	.60
.0001	.40	.0001	.48	.000075	.60
.00015	.40	.00015	.48	.0001	.60
.0002	.40	.0002	.48	.00015	.60
.00025	.40	.00025	.48	.0002	.60
.0003	.40	.0003	.48	.00025	.60
.00035	.40	.00035	.48	.0003	.60
.0004	.40	.0004	.48	.00035	.60
.0005	.40	.0005	.48	.0004	.60
.001	.40	.001	.48	.0005	.66
.0015	.46	.0015	.58	.001	.90
.002	.48	.002	.66	.0015	1.14
.0025	.52	.0025	.72	.002*	1.42
.003	.54	.003	.82	.0025*	1.66
.004	.60	.004*	.96	.003*	1.90
.005	.66	.005*	1.14	.004*	2.40
.006	.76	.006*	1.30	.005*	2.88
.008	.84	.008*	1.62		
.01	1.00	.01*	2.40		
.015*	1.30	.015*	2.74		
.02*	1.62				
.025*	1.92				
.03*	2.26				
.04*	2.88				

*Request O.E.M. Prices in the following quantities: 100-499
*Thickness 7/16"

TYPES 1991 thru 1996 Porcelain-Cased Capacitors



Ideal for high-frequency application. Glazed porcelain case, high temperature wax sealed. Heavy duty power terminals. Minimum power loss due to dielectric absorption. No heating at full load.
Size: 4" overall by 3" high; 2½" between mounting holes.
Standard Tolerance ±10%

Cap. Mfd.	DC Voltage Rating	Type	Maximum Current Capacity — Amperes 15 mc	7.5 mc	3750 kc	1875 kc	Net Price
.00005	12,500	1996	3	2.5	1.5	1	8.75
.0001	12,500	1996	5	4	3	2	8.75
.00025	12,500	1996	7	8	6	4	8.75
.0005	12,500	1996	8	9	8	7	8.75
	7,000	1994	7	8	6	4	7.00
.001	12,500	1996	9	10	11	12	10.50
	7,000	1994	8	9	10	8	7.88
	3,500	1992	8	9	8	5	7.88
.0015	12,500	1996	9	10	11	12	12.25
	7,000	1994	9	9	10	8	8.75
	5,000	1993	8	9	9	7	7.88
	3,500	1992	8	9	8	5	7.88
	2,000	1991	7	8	8	5	7.00
.002	12,500	1996	9	12	13	15	14.00
	10,000	1995	9	10	11	12	12.25
	7,000	1994	9	9	10	10	9.63
	5,000	1993	8	9	9	8	8.75
	3,500	1992	8	8	9	7	7.88
	2,000	1991	7	8	8	6	7.00
.003	12,500	1996	9	12	13	15	17.50
	10,000	1995	9	11	12	13	15.75
	7,000	1994	9	10	10	10	10.50
	5,000	1993	8	9	9	9	9.63
	3,500	1992	8	9	9	8	8.75
	2,000	1991	7	8	8	7	7.88
.005	10,000	1995	10	13	14	15	17.50
	7,000	1994	9	11	12	11	15.75
	5,000	1993	9	11	12	10	10.50
	3,500	1992	9	10	11	9	9.63
	2,000	1991	8	9	10	8	8.75
.01	7,000	1994	10	13	15	15	21.00
	5,000	1993	10	13	15	15	15.75
	3,500	1992	10	13	14	14	14.00
	2,000	1991	10	13	14	14	10.50
.02	3,500	1992	10	14	16	17	15.75
	2,000	1991	10	13	15	15	12.25
.05	3,500	1992	10	14	17	18	17.50
	2,000	1991	10	14	16	17	14.00
.1	2,000	1991	10	14	17	18	17.50

Net
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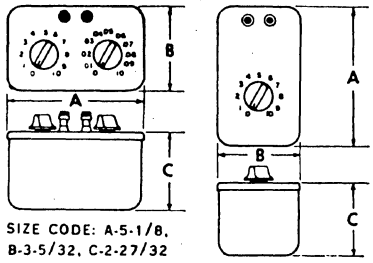
CAPACITORS

FIGURE A

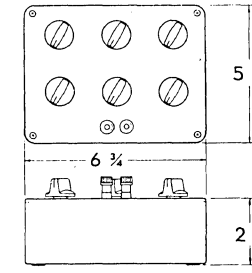


SIZE CODE: A-5-1/8, B-3-5/32, C-2-27/32

AEROVOX DECADE BOXES

RESISTANCE CAPACITANCE INDUCTANCE

FIGURE B



Aerovox now makes available to the electronic industry laboratory quality standards in capacitance, resistance and inductance decades. From one of the outstanding manufacturers of precision resistors, capacitors and inductors, Aerovox is making available decade boxes of the highest quality in the ranges most needed for electronic and electrical laboratories at a price far below that of equivalent quality standards. Aerovox decade boxes are available in 11 units; 4 resistance decades, 3 capacitance decades and 4 inductance decades.

Ten of the decades are housed in seamless, drawn steel cases coated with gray enamel. They are capable of taking the beating of bench use without impairment of accuracy. The 11th decade box, a new resistance model ARD-41, is housed in a special high impact plastic case which will also withstand rugged handling.

This new decade box has a range of 0 to 1.1 megohms in 1 ohm steps, combining all the three other resistance decades into one compact box. Outline drawings of both sizes are shown. All panels are black with the marking engraved in white.

For full technical information request bulletin NPJ-109 Rev. 2.

RESISTANCE

PART NO.	FIGURE	TYPE	DIELECTRIC	DIELS	RANGE	STEPS	ACCURACY ± 1st Dial	ACCURACY ± 2nd Dial	RATING 1st Dial	RATING 2nd Dial	Net Price
ARD-15	A	R	Wire-Wound	2	0 to 110 ohms	1.0 ohm	5%	3%	1.0 Amp.	.5 Amp.	15.15
ARD-23	A	R	Wire-Wound	2	0 to 11 K	100 ohm	3%	3%	100 Ma.	50 Ma.	15.15
ARD-31	A	R	Carbon Deposited	2	0 to 1.1 meg.	10.K ohms	1%	1%	5 Ma.	2 Ma.	15.15
ARD-41	B	R	Wire-Wound & Metal Film	6	0 to 1.1 meg.	1.0 ohm	1%		1st Dial 2 Ma. 2nd Dial 5 Ma. 3rd Dial 15 Ma.	4th Dial 50 Ma. 5th Dial 150 Ma. 6th Dial 500 Ma.	44.95

CAPACITANCE

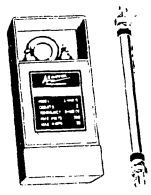
ACD-13	A	C	Mica	2	0 to .011 mfd.	.0001 mfd.	3%	3%	600 VDC 220 VAC	600 VDC 220 VAC	14.50
ACD-23	A	C	Oil Paper	2	0 to 1.1 mfd.	.01 mfd.	3%	3%	600 VDC 220 VAC	600 VDC 220 VAC	16.50
ACD-33	A	C	Oil Paper	1	0 to 10.0 mfd.	1.0 mfd.	3%	—	600 VDC 220 VAC	—	27.25

INDUCTANCE

ALD-12	A	L	Toroidal	1	0 to 10 mh	1.0 mh	2%	—	250 MaDC	—	29.90
ALD-22	A	L	Toroidal	1	0 to 100 mh	10.0 mh	2%	—	79 MaDC	—	29.90
ALD-32	A	L	Toroidal	1	0 to 1.0 hy.	100.0 mh	2%	—	25 MaDC	—	29.90
ALD-42	A	L	Toroidal	1	0 to 10.0 hy.	1.0 hy	2%	—	8 MaDC	—	32.90

FILTERS

SCREEN ROOM FILTERS



Screen room filters comply with rigid specifications set up by the designers of the most advanced type screen rooms. All have attenuation equal to or exceeding that of the screen room. Easy mounting arrangements plus high attenuation assure you of the finest equipment specially designed for screen room use. These filters are hermetically sealed and terminals at both ends are shielded using knock-outs for ¾" and 1" conduit.

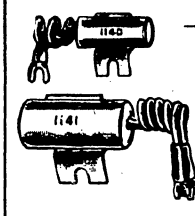
1¼" diameter mounting hole on all cases is countersunk to permit flush mounting of the filter on the screen room.

For full technical information request Bulletin NPJ-127.

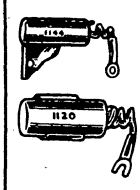
Part No.	Curr. (Amps.)	Circuits	CPS	Attenuation vs. Frequency	Size L x W x D	Net Price
*S-1076-1	50	1	0-60	100 db from 14 kc to 1000 mc	20" x 3-5/8" x 3-5/8"	95.00
*S-1076-2	50	2	0-60	100 db from 14 kc to 1000 mc	20" x 7-3/16" x 3-5/8"	190.00
*S-1076-3	50	3	0-60	100 db from 14 kc to 1000 mc	20-1/8" x 10-7/8" x 3-11/16	285.00
S-1142-1	30	1	0-400	100 db from 150 kc to 1000 mc	10-1/8" x 2-7/8" x 2-7/16"	36.50
S-1142-2	30	2	0-400	100 db from 150 kc to 1000 mc	10-1/8" x 4-3/4" x 2-7/16"	48.50
S-1142-3	30	3	0-400	100 db from 150 kc to 1000 mc	10-1/8" x 7" x 2-7/16"	62.50
S-1302-1	100	1	0-60	100 db from 200 kc to 1000 mc	14" x 4-3/8" x 4-3/8"	70.00
*S-1303-1	60	1	0-1000	100 db from 100 kc to 1000 mc	20" x 3-5/8" x 3-5/8"	100.00
S-1304-1	80	1	0-60	100 db from 14 kc to 1000 mc	22" x 4-3/8" x 4-3/8"	105.00
S-1305-1	100	1	0-1000	100 db from 100 kc to 1000 mc	22" x 4-3/8" x 4-3/8"	120.00
S-1361-1	100	1	0-60	100 db from 14 kc to 1000 mc	22" x 4-3/8" x 4-3/8"	130.00
S-1432-1	100	1	0-60	100 db from 100 kc to 1000 mc	22" x 4-3/8" x 4-3/8"	85.00
S-1455-1	100	1	0-60	100 db from 150 kc to 1000 mc	22" x 4-3/8" x 4-3/8"	90.00
					Overall L.	Overall D.	
S-1468-A	50	1	0-1000	60 db/1000 mc to 10000 mc	10-3/4"	7/8"	70.00
S-1468-B	100	1	0-1000	60 db/1000 mc to 10000 mc	10-3/4"	7/8"	80.00

*250 VAC/DC. All others 500VAC/DC.

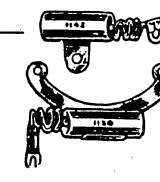
AUTO-RADIO CAPACITORS



Type	Net Price	Cap. Mfd.
		SINGLE ELEMENT
Car Generators		
Type 1120	.54	1.0
Type 1140	.39	0.5
		DUAL ELEMENT
Type 1141	.90	0.5-0.5
Ford Auto Radios		
Type 1144	.48	0.5
For 1936 Models		
Type 1150	.60	0.5

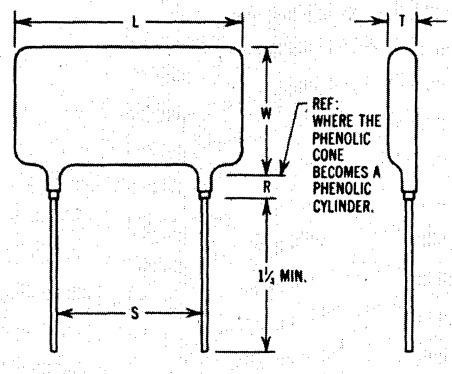


Type	Net Price	Cap. Mfd.
Oil Gage Filter Condenser		
Type 1142-0	.54	0.25



For complete Catalog listing and Engineering information on RF Noise Suppressors and Interference Filters request Catalog from Aerovox Corporation, Distributor Sales, or your nearest authorized Aerovox Industrial Distributor.

ELMENCO CAPACITORS — DIMENSIONAL DATA



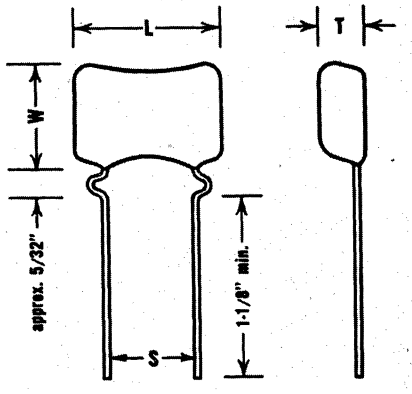
	DM-10	DM-15	DM-16	DM-19	DM-20	DM-30	DM-42	DM-43
R MAX.	1/8	1/8	1/8	5/64	5/64	11/64	11/64	11/64
S ±1/32	9/64	13/64	1/2	11/32	7/16	7/16	1 1/16	1 11/16
LEAD WIRE GAGE	#26	#22	#22	#20	#20	#18	#18	#18

Dur-Mica leads may be either tinned brass or tinned copper-clad steel, 30% minimum conductivity, except the following which are copper-clad steel only:

DM-10, DM-42, and DM-43.
DM-19 and DM-20 — 3000 mmf. and above.
DM-30 — 10,000 mmf. and above.

Crimped Leads

In addition to the straight lead design, DM capacitors are also available with crimped leads for printed circuit application. The crimp provides a positive stop when capacitors are mounted. This prevents interference of resin coat on the leads with dip-solder operation, provides greater mounting uniformity, and elevates the components slightly above the surface of the board. The crimp lead design is not a regularly stocked item, but it is available to special order at a small fixed handling charge.



Lead wire gage for crimped lead units is the same as for straight lead capacitors with the exception of DM-15 and DM-16. Crimped lead gage of DM-15 and DM-16 is #20. The DM-10 case size is not available with crimped leads.

Maximum Dimensions

The following is a tabulation of maximum dimensions of the various DM case sizes. They have been specified to anticipate variations in coat thickness and minor protrusions on the surface. As a result, average dimensions of a given lot may be appreciably smaller than those listed.

It is to be noted that the leads are not centered in the thickness dimension as can be seen on the end view dimensional drawing. Construction of Elmenco Dur-Mica capacitors provides for leads to project from one surface of the mica stack, causing them in turn to extend from one edge of the capacitor. Regardless of case size and overall thickness, leads will always be within 1/64 to 3/32 from one of the capacitor surfaces. (Exclude SCDM).

Not all dimensions of every capacitance value are listed below. It has been found that size varies almost linearly with capacitance value. As a result, dimensions of values between those specified below should be determined by interpolation.

CASE SIZE	Cap. mmf.	Volt. VDCW	L max.	W max.	T max.
DM-10	10	500	.360	.330	.190
	50	500	.370	.340	.190
	100	500	.370	.350	.200
	150	500	.380	.360	.210
	250	500	.390	.380	.220
	300	300	.390	.380	.220
	390	100	.390	.380	.220
DM-15 (CM05)	10	500	.450	.360	.170
	100	500	.460	.360	.180
	200	500	.460	.380	.190
	300	500	.470	.390	.210
	500	500	.490	.420	.240
	560	300	.470	.390	.210
	680	300	.470	.390	.210
	820	300	.470	.400	.230
	1000	100	.490	.420	.240
DM-16	430	500	.730	.390	.210
	600	500	.740	.400	.220
	720	500	.740	.410	.230
	720	300	.730	.380	.200
	900	300	.740	.390	.220
	1300	300	.740	.390	.230
DM-19 (CM06)	100	500	.640	.500	.190
	500	500	.650	.510	.200
	1000	500	.650	.520	.220
	2000	500	.670	.530	.240
	3000	500	.680	.550	.280
	5000	500	.710	.590	.360
	6200	300	.690	.570	.330
	8200	100	.700	.580	.350
DM-20	680	500	.750	.510	.200
	1000	500	.750	.510	.200
	2000	500	.760	.520	.220
	3900	500	.780	.560	.300
	5600	500	.790	.570	.340
	6800	300	.790	.560	.320
	7500	100	.780	.560	.300
	10000	100	.790	.570	.340
DM-30 (CM07)	4300	500	.780	.860	.270
	6800	500	.780	.870	.300
	10000	500	.800	.890	.340
	15000	500	.810	.900	.390
	20000	500	.830	.920	.450
	20000	300	.810	.890	.370
	25000	300	.820	.910	.420
	30000	300	.830	.920	.460
	36000	100	.830	.920	.450
DM-42 (CM08)	20000	500	1.420	.870	.300
	30000	500	1.440	.890	.350
	50000	500	1.480	.920	.460
	62000	300	1.470	.920	.450
	82000	100	1.480	.920	.460
DM-43	50000	500	2.060	.900	.380
	68000	500	2.070	.910	.440
	75000	300	2.060	.900	.380
	100000	300	2.070	.910	.440
	130000	100	2.090	.930	.490

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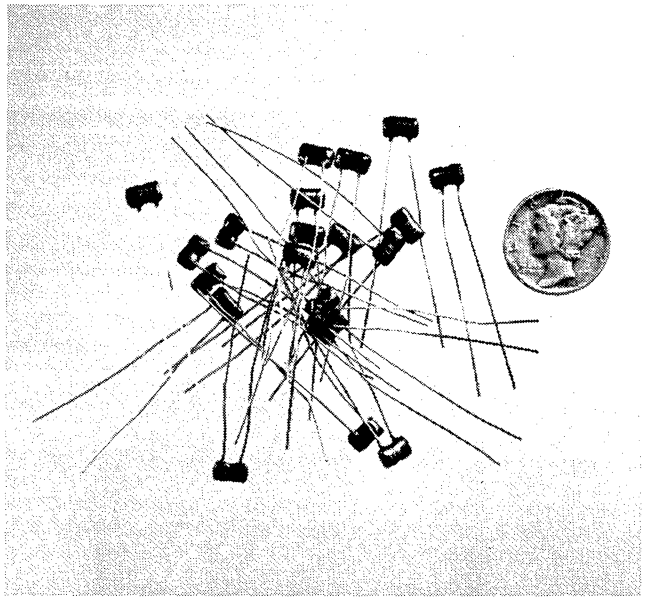
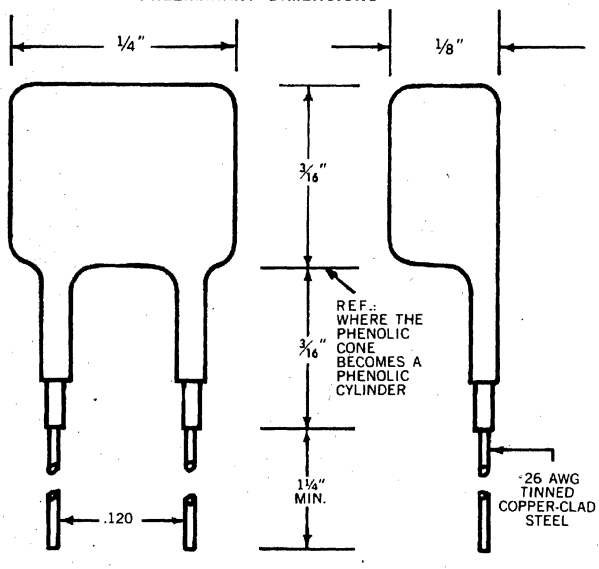
ELMENCO CAPACITORS — DM5 Miniature Dur-Mica



The new ELMENCO DM5 dipped silvered mica capacitor has been designed to keep pace with the ever-shrinking world of electronic circuitry. Significant volumetric savings are achieved in the lower values of capacitance through two principle changes in design. First, the area of each mica film has been reduced to get a better balance of area vs. thickness of capacitive section. This automatically resulted in further saving through redesign of other structural members to get more capacitance per cubic inch. Second, a newly developed dip-coat material is employed which imparts improved environmental protection with a far thinner coat than found on the larger mica capacitors of the ELMENCO line. The result is a much smaller capacitor in the 1 through 198 pf. range with the same reliability and high quality performance the industry has come to expect from ELMENCO mica capacitors.

DM5 capacitors have a standard voltage rating of 300 VDCW except for the highest values which are 100V and 50V ratings as indicated in the tabulation below. Electrical and environmental specifications are basically the same as for the other ELMENCO dipped mica capacitor styles. The capacitors are stamped with capacitance value in pf. followed by a letter signifying capacitance tolerance. For example, 27K would be 27 pf. ±10%; 150G would be 150 pf. ±2%. In the lower values, standard minimum tolerance is ±1 pf., but for an added charge we can produce ±0.5 pf. or even ±0.25 pf. capacitors.

PRELIMINARY DIMENSIONS



The preliminary dimensions indicated above represent the expected maximum limits for the largest DM5 capacitors. At this printing the analysis of dimensions vs. capacitance for all values and voltages had not yet been completed. Due to the variation in size of capacitive section with value, dimensions will vary 30 to 40 mils between 1 and 180 pf. Final tabulation of case size dimensions in mils will be published in the next ARCO catalog similar to tabulations now shown for established case sizes. The lead spacing and specifications will not change.

300VDCW

Cap. pf.	Part Number	TOLERANCE (Net Price 1-24 ea.) ±1 pf. (A)	±0.5 pf. (D)	±10% (K)	±5% (J)	±2% (G)	±1% (F)
1	DM5-CC010‡	$0.21	$0.37				
2	DM5-CC020‡	.21	.37				
3	DM5-CC030‡	.21	.37				
4	DM5-CC050‡	.21	.37				
5	DM5-CC050‡	.21	.37	$0.37			
6	DM5-CC060‡	.23	.38	.38			
7	DM5-CC070‡	.23	.38	.38			
8	DM5-CC080‡	.23	.38	.38			
10	DM5-CC100‡		.38	.23	$0.38		
12	DM5-CC120‡		.46	.24	.39		
15	DM5-CC150‡		.46	.24	.39		
18	DM5-CC180‡		.48	.25	.41		
20	DM5-CC200‡		.56	.25	.27		
22	DM5-CC220‡		.56	.25	.28		
24	DM5-CC240‡		.56	.25	.28		
27	DM5-EC270‡			.26	.29	$0.58	
30	DM5-EC300‡			.26	.29	.58	
33	DM5-EC330‡			.27	.30	.60	
36	DM5-EC360‡			.27	.31	.62	
39	DM5-EC390‡			.27	.31	.62	
43	DM5-EC430‡			.28	.31	.62	
47	DM5-EC470‡			.29	.32	.64	
50	DM5-EC500‡			.29	.32	.64	$0.96
51	DM5-EC510‡			.31	.34	.62	1.02
56	DM5-EC560‡			.32	.36	.64	1.08
62	DM5-EC620‡			.34	.38	.68	1.14
68	DM5-EC680‡			.36	.39	.72	1.17
75	DM5-EC750‡			.37	.41	.74	1.23
82	DM5-EC820‡			.41	.45	.82	1.35
91	DM5-FC910‡			.44	.49	.88	1.47
100	DM5FC-101‡			.46	.51	.92	1.02
110	DM5-FC111‡			.49	.54	.98	1.08
120	DM5-FC121‡*			.42	.47	.84	.94
130	DM5-FA131‡*			.44	.49	.88	.98
150	DM5-FA151‡*			.49	.54	.98	1.08
160	DM5-FA161‡**			.42	.47	.84	.94
180	DM5-FA181‡**			.46	.51	.92	1.02
200	DM5-FA201‡**			.62	.69	1.20	1.37

‡ Insert letter suffix to denote capacitance tolerance.

* 100VDCW ** 50VDCW

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ELMENCO CAPACITORS — DUR-MICA

TYPE DM-10 (CM04) 500VDCW

(SCDM10 values and prices the same)

CAP. MMF.	PART NUMBER	MIL-C-5 TYPE DESIGNATION (See Note on p. 13)	Net Price (1-24) Tolerance ±10% "K"	±5% "J"	±2% "G"	±1% "F"
1	DM-10-010§	CM-04-CD-101D03	$0.19			
2	DM-10-020§		.19			
3	DM-10-030§		.19			
5	DM-10-050§	CM-04-CD-050D03	.19			
10	DM-10-100	CM-04-CD-100‡03	.22	$0.31		
12	DM-10-120	CM-04-CD-120‡03	.22	.31		
15	DM-10-150	CM-04-CD-150‡03	.22	.31		
18	DM-10-180	CM-04-CD-180‡03	.22	.31		
20	DM-10-200	CM-04-ED-200‡03	.22	.24		
22	DM-10-220	CM-04-ED-220‡03	.22	.24		
24	DM-10-240	CM-04-ED-240‡03	.22	.24		
27	DM-10-270	CM-04-ED-270‡03	.22	.24	$0.42	
30	DM-10-300	CM-04-ED-300‡03	.22	.24	.42	
33	DM-10-330	CM-04-ED-330‡03	.22	.24	.42	
36	DM-10-360	CM-04-ED-360‡03	.22	.24	.44	
39	DM-10-390	CM-04-ED-390‡03	.22	.24	.44	
43	DM-10-430	CM-04-ED-430‡03	.22	.24	.44	
47	DM-10-470	CM-04-ED-470‡03	.25	.27	.47	
50	DM-10-500		.25	.27	.45	$0.69
51	DM-10-510	CM-04-ED-510‡03	.25	.27	.45	.69
56	DM-10-560	CM-04-ED-560‡03	.25	.27	.45	.69
62	DM-10-620	CM-04-ED-620‡03	.25	.27	.45	.69
68	DM-10-680	CM-04-ED-680‡03	.25	.27	.45	.72
75	DM-10-750	CM-04-ED-750‡03	.25	.27	.45	.72
82	DM-10-820	CM-04-ED-820‡03	.25	.27	.45	.72
91	DM-10-910	CM-04-FD-910‡03	.25	.27	.46	.75
100	DM-10-101	CM-04-FD-101‡03	.25	.27	.46	.63
110	DM-10-111	CM-04-FD-111‡03	.25	.27	.46	.63
120	DM-10-121	CM-04-FD-121‡03	.28	.31	.52	.63
130	DM-10-131	CM-04-FD-131‡03	.28	.31	.52	.63
150	DM-10-151	CM-04-FD-151‡03	.31	.34	.58	.69
160	DM-10-161	CM-04-FD-161‡03	.34	.38	.64	.78
180	DM-10-181	CM-04-FD-181‡03	.38	.42	.69	.84
200	DM-10-201	CM-04-FD-201‡03	.38	.42	.69	.84
220	DM-10-221	CM-04-FD-221‡03	.41	.46	.76	.90
240	DM-10-241	CM-04-FD-241‡03	.44	.48	.80	.96
250	DM-10-251		.44	.48	.80	.96
270*	DM-10-271	CM-04-FC-271‡03	.42	.46	.78	.92
300*	DM-10-301	CM-04-FC-301‡03	.45	.50	.85	1.00
330**	DM-10-331	CM-04-FA-331‡03	.45	.50	.85	1.00
360**	DM-10-361	CM-04-FA-361‡03	.48	.53	.90	1.06
390**	DM-10-391	CM-04-FA-391‡03	.51	.56	.95	1.12

TYPE DM-15 (CM05)

(SCDM15 values and prices the same)

CAP. MMF.	PART NUMBER	MIL-C-5 TYPE DESIGNATION (See Note on p. 13)	Net Price (1-24) Tolerance ±10% "K"	±5% "J"	±2% "G"	±1% "F"
1	DM-15-010†	CM-05-CD-010D03	$0.21			
2	DM-15-020†		.21			
3	DM-15-030†		.21			
5	DM-15-050†	CM-05-CD-050D03	.21			
6	DM-15-060	CM-05-CD-060‡03	.21			
7	DM-15-070	CM-05-CD-070‡03	.21			
8	DM-15-080	CM-05-CD-080‡03	.21			
10	DM-15-100	CM-05-CD-100‡03	.16	$0.21		
12	DM-15-120	CM-05-CD-120‡03	.16	.21		
15	DM-15-150	CM-05-CD-150‡03	.16	.21		
18	DM-15-180	CM-05-CD-180‡03	.16	.21		
20	DM-15-200	CM-05-ED-200‡03	.16	.18		
22	DM-15-220	CM-05-ED-220‡03	.16	.18		
24	DM-15-240	CM-05-ED-240‡03	.16	.18		
27	DM-15-270	CM-05-ED-270‡03	.16	.18	$0.25	
30	DM-15-300	CM-05-ED-300‡03	.16	.18	.25	
33	DM-15-330	CM-05-ED-330‡03	.16	.18	.25	
36	DM-15-360	CM-05-ED-360‡03	.16	.18	.25	
39	DM-15-390	CM-05-ED-390‡03	.16	.18	.25	
43	DM-15-430	CM-05-ED-430‡03	.16	.18	.25	
47	DM-15-470	CM-05-ED-470‡03	.16	.18	.25	
50	DM-15-500		.16	.18	.21	$0.35
51	DM-15-510	CM-05-ED-510‡03	.16	.18	.21	.35
56	DM-15-560	CM-05-ED-560‡03	.16	.18	.21	.35
62	DM-15-620	CM-05-ED-620‡03	.16	.18	.21	.35
68	DM-15-680	CM-05-ED-680‡03	.16	.18	.21	.35
75	DM-15-750	CM-05-ED-750‡03	.16	.18	.21	.35
82	DM-15-820	CM-05-ED-820‡03	.16	.18	.21	.36
91	DM-15-910	CM-05-FD-910‡03	.16	.18	.21	.36
100	DM-15-101	CM-05-FD-101‡03	.16	.18	.21	.36

DM-15 (Continued)

CAP. MMF.	PART NUMBER	MIL-C-5 TYPE DESIGNATION (See Note on p. 13)	Net Price (1-24) Tolerance ±10% "K"	±5% "J"	±2% "G"	±1% "F"
110	DM-15-111	CM-05-FD-111‡03	$0.19	$0.21	$0.25	$0.31
120	DM-15-121	CM-05-FD-121‡03	.19	.21	.25	.31
130	DM-15-131	CM-05-FD-131‡03	.19	.21	.25	.31
150	DM-15-151	CM-05-FD-151‡03	.19	.21	.25	.31
160	DM-15-161	CM-05-FD-161‡03	.22	.24	.29	.35
180	DM-15-181	CM-05-FD-181‡03	.23	.25	.30	.36
200	DM-15-201	CM-05-FD-201‡03	.23	.25	.30	.36
220	DM-15-221	CM-05-FD-221‡03	.25	.27	.33	.40
240	DM-15-241	CM-05-FD-241‡03	.26	.28	.34	.41
250	DM-15-251		.26	.28	.34	.41
270	DM-15-271	CM-05-FD-271‡03	.28	.31	.37	.44
300	DM-15-301	CM-05-FD-301‡03	.28	.31	.37	.44
330	DM-15-331	CM-05-FD-331‡03	.31	.34	.41	.49
360	DM-15-361	CM-05-FD-361‡03	.33	.36	.43	.52
390	DM-15-391	CM-05-FD-391‡03	.34	.38	.46	.55
430	DM-15-431		.36	.40	.48	.57
470	DM-15-471		.38	.42	.50	.60
500	DM-15-501		.38	.42	.52	.63
510	DM-15-511		.40	.44	.54	.65
560*	DM-15-561		.40	.44	.54	.65
620*	DM-15-621		.44	.48	.58	.69
680*	DM-15-681		.47	.52	.62	.75
750*	DM-15-751		.50	.55	.66	.80
820*	DM-15-821		.54	.60	.72	.86
910**	DM-15-911		.57	.63	.75	.89
1000**	DM-15-102		.60	.66	.78	.96
1100**	DM-15-112		.69	.76	.90	1.10
1200**	DM-15-122		.78	.86	1.01	1.28

TYPE DM-19 (CM-06) 500VDCW

CAP. MMF.	PART NUMBER	MIL-C-5 TYPE DESIGNATION (See Note on p. 13)	Net Price (1-24) Tolerance ±10% "K"	±5% "J"	±2% "G"	±1% "F"
100	DM-19-101		$0.18	$0.20	$0.22	$0.26
110	DM-19-111		.18	.20	.22	.26
120	DM-19-121		.18	.20	.22	.26
130	DM-19-131		.20	.22	.24	.28
150	DM-19-151		.20	.22	.24	.28
160	DM-19-161		.20	.22	.24	.28
180	DM-19-181		.20	.22	.24	.28
200	DM-19-201		.20	.22	.24	.28
220	DM-19-221		.20	.22	.24	.28
240	DM-19-241		.22	.24	.26	.32
250	DM-19-251		.22	.24	.26	.32
270	DM-19-271		.25	.27	.30	.37
300	DM-19-301		.25	.27	.30	.37
330	DM-19-331		.25	.27	.30	.37
360	DM-19-361		.28	.31	.34	.43
390	DM-19-391		.28	.31	.34	.43
430	DM-19-431	CM-06-FD-431‡03	.28	.31	.34	.43
470	DM-19-471	CM-06-FD-471‡03	.31	.34	.37	.46
500	DM-19-501		.31	.34	.37	.46
510	DM-19-511	CM-06-FD-511‡03	.31	.34	.37	.46
560	DM-19-561	CM-06-FD-561‡03	.31	.34	.37	.46
620	DM-19-621	CM-06-FD-621‡03	.34	.37	.41	.51
680	DM-19-681	CM-06-FD-681‡03	.34	.37	.41	.51
750	DM-19-751	CM-06-FD-751‡03	.37	.41	.44	.55
820	DM-19-821	CM-06-FD-821‡03	.40	.44	.48	.60
910	DM-19-911	CM-06-FD-911‡03	.40	.44	.48	.60
1000	DM-19-102	CM-06-FD-102‡03	.43	.47	.52	.64
1100	DM-19-112	CM-06-FD-112‡03	.45	.50	.54	.67
1200	DM-19-122	CM-06-FD-122‡03	.48	.53	.58	.72
1300	DM-19-132	CM-06-FD-132‡03	.51	.56	.61	.76
1500	DM-19-152	CM-06-FD-152‡03	.54	.59	.65	.81
1600	DM-19-162	CM-06-FD-162‡03	.57	.63	.69	.86
1800	DM-19-182	CM-06-FD-182‡03	.63	.69	.76	.94
2000	DM-19-202	CM-06-FD-202‡03	.69	.76	.83	1.03
2200	DM-19-222	CM-06-FD-222‡03	.75	.82	.90	1.12
2400	DM-19-242	CM-06-FD-242‡03	.81	.89	.97	1.21
2500	DM-19-252		.84	.92	1.10	1.26
2700	DM-19-272	CM-06-FD-272‡03	.87	.96	1.04	1.30
3000	DM-19-302	CM-06-FD-302‡03	.93	1.02	1.12	1.40
3300	DM-19-332	CM-06-FD-332‡03	1.00	1.10	1.20	1.50
3600	DM-19-362	CM-06-FD-362‡03	1.06	1.17	1.27	1.59
3900	DM-19-392	CM-06-FD-392‡03	1.12	1.23	1.34	1.68
4300	DM-19-432	CM-06-FD-432‡03	1.21	1.33	1.45	1.81
4700	DM-19-472	CM-06-FD-472‡03	1.31	1.44	1.57	1.96
5000	DM-19-502		1.40	1.54	1.68	2.10
5100	DM-19-512		1.43	1.57	1.72	2.15
5600*	DM-19-562		1.40	1.54	1.68	2.10
6200*	DM-19-622		1.52	1.67	1.82	2.28
6800**	DM-19-682		1.40	1.54	1.68	2.10
7500**	DM-19-752		1.51	1.66	1.81	2.26
8200**	DM-19-822		1.62	1.78	1.94	2.43

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ELMENCO CAPACITORS

DUR-MICA

TYPE DM-20 500VDCW

CAP. MMF.	PART NUMBER	TYPE DESIGNATION	Net Price (1-24) Tolerance ±10% "K"	±5% "J"	±2% "G"	±1% "F"
680	DM-20-681		$0.31	$0.34	$0.37	$0.47
750	DM-20-751		.31	.34	.37	.47
820	DM-20-821		.31	.34	.37	.47
910	DM-20-911		.34	.37	.41	.51
1000	DM-20-102		.37	.41	.44	.56
1100	DM-20-112		.37	.41	.44	.56
1200	DM-20-122		.40	.44	.48	.59
1300	DM-20-132		.44	.48	.53	.66
1500	DM-20-152		.47	.53	.56	.71
1600	DM-20-162		.50	.55	.60	.75
1800	DM-20-182		.56	.62	.67	.84
2000	DM-20-202		.60	.66	.72	.90
2200	DM-20-222		.66	.73	.79	.99
2400	DM-20-242		.69	.76	.83	1.04
2500	DM-20-252		.69	.76	.83	1.04
2700	DM-20-272		.74	.81	.89	1.11
3000	DM-20-302		.80	.88	.96	1.20
3300	DM-20-332		.86	.95	1.03	1.29
3600	DM-20-362		.92	1.02	1.10	1.38
3900	DM-20-392		.98	1.08	1.18	1.47
4300	DM-20-432		1.06	1.17	1.27	1.59
4700	DM-20-472		1.14	1.25	1.37	1.71
5000	DM-20-502		1.24	1.36	1.49	1.86
5100	DM-20-512		1.24	1.36	1.49	1.86
5600	DM-20-562		1.36	1.50	1.63	2.04
6200*	DM-20-622		1.32	1.45	1.58	1.98
6800*	DM-20-682		1.40	1.56	1.68	2.10
7500**	DM-20-752		1.32	1.45	1.58	1.98
8200**	DM-20-822		1.44	1.58	1.73	2.16
9100**	DM-20-912		1.62	1.78	1.94	2.43
10000**	DM-20-103		1.80	1.98	2.16	2.70

Notes: Higher DM-20 values are available on special order as follows: up to 10,000 mmf. at 500VDCW, up to 12,000 mmf. at 300VDCW, up to 18,000 mmf. at 100VDCW. Characteristics of DM-19 and DM-20 are as follows: C characteristic 1 to 180 mmf. E characteristic 200 to 510 mmf. F characteristic 560 and up.

TYPE DM-30 (CM-07) 500VDCW

4300	DM-30-432		$1.01	$1.11	$1.21	$1.31
4700	DM-30-472		1.07	1.18	1.28	1.39
5000	DM-30-502		1.10	1.21	1.32	1.43
5100	DM-30-512	CM-07-FD-512‡03	1.10	1.21	1.32	1.43
5600	DM-30-562	CM-07-FD-562‡03	1.14	1.25	1.37	1.48
6200	DM-30-622	CM-07-FD-622‡03	1.20	1.32	1.44	1.56
6800	DM-30-682	CM-07-FD-682‡03	1.32	1.45	1.58	1.72
7500	DM-30-752	CM-07-FD-752‡03	1.45	1.60	1.74	1.89
8200	DM-30-822	CM-07-FD-822‡03	1.58	1.74	1.90	2.05
9100	DM-30-912	CM-07-FD-912‡03	1.70	1.87	2.04	2.21
10000	DM-30-103	CM-07-FD-103‡03	1.89	2.08	2.27	2.46
11000	DM-30-113	CM-07-FD-113‡03	2.05	2.26	2.46	2.67
12000	DM-30-123	CM-07-FD-123‡03	2.21	2.43	2.65	2.87
13000	DM-30-133	CM-07-FD-133‡03	2.36	2.60	2.83	3.07
15000	DM-30-153	CM-07-FD-153‡03	2.68	2.95	3.24	3.48
16000	DM-30-163	CM-07-FD-163‡03	2.84	3.12	3.41	3.69
18000	DM-30-183	CM-07-FD-183‡03	3.15	3.47	3.78	4.10
20000	DM-30-203	CM-07-FD-203‡03	3.47	3.82	4.16	4.51
22000*	DM-30-223		3.42	3.76	4.10	4.45
24000*	DM-30-243		3.69	4.06	4.43	4.80
25000*	DM-30-253		3.84	4.22	4.61	4.99
27000*	DM-30-273		4.11	4.52	4.93	5.35
30000*	DM-30-303		4.50	4.95	5.40	5.85
33000**	DM-30-333		4.95	5.45	5.94	6.44
36000**	DM-30-363		5.40	5.94	6.48	7.02

TYPE DM-42 (CM-08) 500VDCW

CAP. MMF.	PART NUMBER	TYPE DESIGNATION	Net Price (1-24) Tolerance ±5% "J"	±2% "G"
20000	DM-42-203		$4.16	$4.58
22000	DM-42-223	CM-08-FD-223‡03	4.50	4.95
24000	DM-42-243	CM-08-FD-243‡03	4.91	5.40
25000	DM-42-253		5.04	5.54
27000	DM-42-273	CM-08-FD-273‡03	5.45	6.00
30000	DM-42-303	CM-08-FD-303‡03	5.95	6.55
33000	DM-42-333	CM-08-FD-333‡03	6.46	7.11
36000	DM-42-363	CM-08-FD-363‡03	7.09	7.80
39000	DM-42-393	CM-08-FD-393‡03	7.56	8.32
43000	DM-42-433	CM-08-FD-433‡03	8.19	9.01
47000	DM-42-473	CM-08-FD-473‡03	8.82	9.70
50000	DM-42-503		9.29	10.22
51000	DM-42-513	CM-08-FD-513‡03	9.45	10.40
56000*	DM-42-563	CM-08-FC-563‡03	9.01	9.91
62000*	DM-42-623	CM-08-FC-623‡03	9.77	10.75
68000**	DM-42-683	CM-08-FC-683‡03	9.45	10.40
75000**	DM-42-753	CM-08-FA-753‡03	10.08	11.09
82000**	DM-42-823	CM-08-FA-823‡03	10.71	11.78

±1% PRICES ON REQUEST

NOTES ON DUR-MICA CAPACITORS

Case sizes DM-16 and DM-43 (see page 10 for dimensions and capacitance ranges) are available to special order. Price and delivery information upon request.

All capacitances marked * are 300VDCW.

All capacitances marked ** are 100VDCW.

§ Minimum tolerance ±1 pf. For ±0.5 pf. add 50% to listed price.

† Minimum tolerance ±0.5 pf.

‡ Tolerance letter designation in part number.

All values available in ±½% tolerance if needed. Prices upon request.

All ELMENCO mica capacitors are manufactured to meet applicable MIL-C-5 specifications. The corresponding MIL designation is indicated next to each case size heading. The DM-19 (CM06), DM-30 (CM07), and DM-42 (CM08) capacitors are universally marked so that material shipped will automatically meet MIL-C-5 marking provisions. On DM-10 (CM04) and DM-15 (CM05) case sizes, the capacitors supplied are identical whether the ELMENCO or MIL part number is specified with the exception of marking. When the MIL part number is specified, MIL Type Designation must appear on the capacitor.

For capacitance values within the ranges specified for each case size but not listed, there is a $1.50 set-up charge per item. For the base price, use the next higher standard listed capacitance value.

For the "P" or 150°C. operating temperature requirement, add $0.10 to the indicated net price, then add an additional 20%.

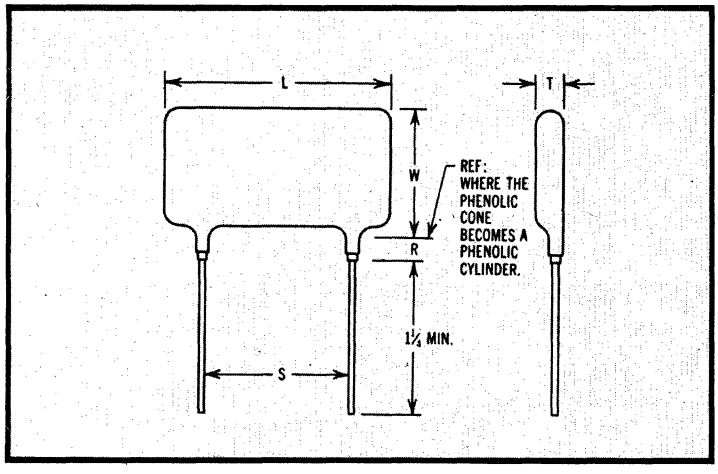
NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)
Sold Nationally to Electronic Parts Distributors by; Loral Distributor Products, a Division of Loral Corporation

SPACE-SAVER
TYPE SCDM THIN COAT DIPPED MICA CAPACITORS
(ELMENCO TYPE 1CR)

In applications requiring the high performance characteristics of dipped mica capacitors where space is at a premium, the Type SCDM reduced coat ELMENCO capacitors may often be used to advantage. A single protective resin coat is applied instead of the full series of dips incorporated in the standard unit. The amount of coat material is thereby reduced to a minimum consistent with good design, and a significant reduction of all dimensions is achieved.

All electrical and environmental requirements of MIL-C-5 are retained with the exception of case insulation (3.5.3) and moisture resistance (3.14). A maximum voltage stress of 100VDC through the case insulation is recommended for SCDM units. Although some lots of this type capacitor will not meet stringent MIL moisture resistance specifications, all will meet the humidity requirements of Paragraph 2.3.6 of EIA Standard RS-153. Therefore, the SCDM capacitors will operate with satisfaction where they will not be exposed to extensive periods of high humidity. It is recommended that if these capacitors are destined for operation under extreme environmental conditions, they should be given additional moisture protection such as encapsulation or hermetic sealing of the assembly.

TYPES SCDM10, SCDM15, and SCDM19 capacitors are stocked in depth at ARCO regional facilities in all values. They may be obtained within 24 hours from your local ARCO distributor. See standard DM tabulations on preceding pages for values and pricing.



	SCDM10	SCDM15	SCDM19
R MAX.	1/8	1/8	9/64
S ±1/32	9/64	15/64	11/32
LEAD WIRE GAGE	#26	#22	#20

Representative dimensions of the SCDM style capacitors. The dimensions of intermediate values may be closely approximated by interpolation.

Case Size	Cap. pf.	Volt. VDCW	L max.	W max.	T max.
SCDM10	10	500	.310	.230	.120
	100	500	.320	.230	.130
	180	500	.330	.240	.150
	250	500	.340	.250	.160
	300	300	.340	.250	.160
	390	100	.340	.250	.160
SCDM15	10	500	.430	.280	.140
	100	500	.430	.280	.150
	270	500	.440	.300	.160
	510	500	.450	.310	.190
	560	300	.450	.310	.160
	820	300	.450	.310	.170
	1000	100	.450	.320	.170
SCDM19	100	500	.610	.450	.130
	1000	500	.620	.460	.160
	3000	500	.630	.470	.230
	5100	500	.660	.500	.320
	5600	300	.640	.480	.250
	6800	300	.640	.490	.270
	8200	100	.650	.490	.300

SCDM capacitors in the larger sizes are available to special order.

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ELMENCO CAPACITORS — High Voltage Dur-Mica

A new line of ELMENCO Silvered Hi-Voltage Dur-Mica capacitors is now available to complement the similar values in the molded configuration. These high voltage capacitors afford the same facility of use in low power applications by providing reliable operation in a small case size. Elmenco Dur-Mica capacitors may be substituted for similarly rated molded units normally supplied in the larger CM45, CM50, CM55, and CM60 case sizes.

The Dur-Mica design provides advantage of higher temperature operation (125°C. max.); radial leads for printed circuit application; higher capacitance in a given case size; and improved reliability. The dipped units, being solidly impregnated with corona resistant material, do not have the voids which make molded types susceptible to corona. As a result, the dipped capacitors can be supplied with voltage rating as high as 5000VDCW.

All Elmenco Dur-Mica capacitors are silvered mica construction. They conform to electrical and environmental specifications set forth in MIL-C-5 specifications.

The physical configuration of these capacitors is the same as for the standard DM units. This information is found on page 8. The only difference is that for a given capacitance value case dimensions will be larger for higher voltage ratings because the mica is thicker. The maximum case dimensions for each of the case sizes indicated below is the same as the maximums indicated in the tabulation.

VDM-20 HI-VOLTAGE

TOLERANCE ±5%

CAP. MMF.	TYPE DESIGNATION	VDC 2000T 1000W NET	VDC 3000T 1500W NET	VDC 5000T 2500W NET
5	VDM-20-050K			$0.22
10	VDM-20-100J	USE	USE	.22
12	VDM-20-120J	2500V	2500V	.22
15	VDM-20-150J			.22
18	VDM-20-180J		.22	.26
20	VDM-20-200J		.22	.26
22	VDM-20-220J		.22	.26
24	VDM-20-240J		.22	.26
27	VDM-20-270J	USE	.22	.26
30	VDM-20-300J	1500V	.22	.26
33	VDM-20-330J		.22	.30
36	VDM-20-360J		.22	.30
39	VDM-20-390J		.22	.30
43	VDM-20-430J	.22	.26	.30
47	VDM-20-470J	.22	.26	.33
50	VDM-20-500J	.22	.26	.33
51	VDM-20-510J	.22	.26	.33
56	VDM-20-560J	.22	.26	.33
62	VDM-20-620J	.22	.26	.37
68	VDM-20-680J	.22	.26	.37
75	VDM-20-750J	.22	.26	.37
82	VDM-20-820J	.22	.30	.41
91	VDM-20-910J	.22	.30	.45
100	VDM-20-101J	.25	30	.45
110	VDM-20-111J	.25	.30	.48
120	VDM-20-121J	.25	.30	.48
130	VDM-20-131J	.25	.33	.52
150	VDM-20-151J	.25	.33	.56
160	VDM-20-161J	.25	.33	.60
180	VDM-20-181J	.25	.36	.64
200	VDM-20-201J	.29	.36	.69
220	VDM-20-221J	.29	.40	.74
240	VDM-20-241J	.29	.40	.78
250	VDM-20-251J	.29	.43	.82
270	VDM-20-271J	.29	.43	.86
300	VDM-20-301J	.33	.46	.90
330	VDM-20-331J	.33	.49	1.01
360	VDM-20-361J	.33	.49	1.12
390	VDM-20-391J	.36	.52	
430	VDM-20-431J	.36	.56	
470	VDM-20-471J	.36	.60	
500	VDM-20-501J	.39	.64	
510	VDM-20-511J	.39	.64	
560	VDM-20-561J	.39	.67	
620	VDM-20-621J	.42	.71	
680	VDM-20-681J	.45	.77	
750	VDM-20-751J	.45	.83	
820	VDM-20-821J	.48	.90	
910	VDM-20-911J	.51	1.00	
1000	VDM-20-102J	.54	1.06	
1100	VDM-20-112J	.57	1.18	
1200	VDM-20-122J	.60	1.28	
1300	VDM-20-132J	.64	1.40	
1500	VDM-20-152J	.70		
1600	VDM-20-162J	.73		
1800	VDM-20-182J	.80		
2000	VDM-20-202J	.90		
2200	VDM-20-222J	1.00		
2400	VDM-20-242J	1.06		
2700	VDM-20-272J	1.18		
3000	VDM-20-302J	1.30		

VDM-30 HI-VOLTAGE

Voltage Rating (D.C.)	Capacitance Range (mmf.)
2000T, 1000W	3300 - 10000
3000T, 1500W	1500 - 6800
5000T, 2500W	390 - 2700

PRICING ON REQUEST

VDM-42 HI-VOLTAGE

Voltage Rating (D.C.)	Capacitance Range (mmf.)
2000T, 1000W	12000 - 30000
3000T, 1500W	7500 - 20000
5000T, 2500W	3000 - 10000

PRICING ON REQUEST

VDM-43 HI-VOLTAGE

Voltage Rating (D.C.)	Capacitance Range (mmf.)
2000T, 1000W	33000 - 47000
3000T, 1500W	22000 - 30000
5000T, 2500W	12000 - 15000

PRICING ON REQUEST

HVDM-42 & HVDM-43 — 5,000WV UNITS

HVDM42 5 to 620 mmf.

HVDM43 680 to 910 mmf.

PRICING ON REQUEST

PLEASE SPECIFY WORKING VOLTAGE RATING WHEN ORDERING

Above prices are for Standard 5% Tolerance. Closer tolerances to ±1% available. Pricing on request.

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

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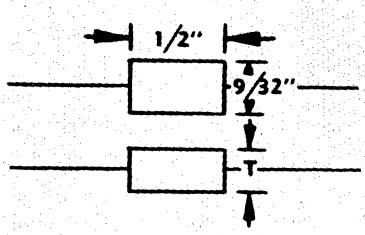
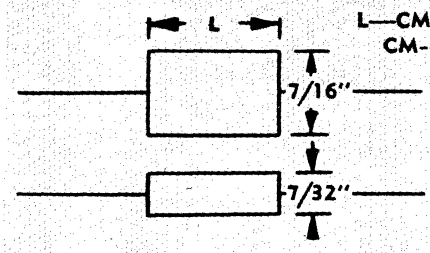
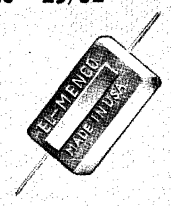
ELMENCO CAPACITORS — Molded Silvered Mica



T—from 1-300 mmf. 3/16"
T—from 310-510 mmf. 7/32"



L—CM-19—11/16":
CM-20—25/32"



TYPE CM-15

500VDCW

CAP. MMF.	TYPE DESIGNATION	Net Price (1-24) Tolerance "J" ±5%	"G" ±2%	"F" ±1%
1	CM-15-C-010†	$0.21		
2	CM-15-C-020†	.21		
3	CM-15-C-030†	.21		
5	CM-15-C-050†	.21		
10	CM-15-C-100	.21		
12	CM-15-C-120	.21		
15	CM-15-C-150	.21		
18	CM-15-C-180	.21		
20	CM-15-C-200	.19		
22	CM-15-C-220	.19		
24	CM-15-E-240	.19		
27	CM-15-E-270	.19	$0.26	
30	CM-15-E-300	.19	.26	
33	CM-15-E-330	.19	.26	
36	CM-15-E-360	.19	.26	
39	CM-15-E-390	.19	.26	
43	CM-15-E-430	.19	.26	
47	CM-15-E-470	.19	.26	
50	CM-15-E-500	.19	.26	$0.35
51	CM-15-E-510	.19	.26	.35
56	CM-15-E-560	.19	.26	.35
62	CM-15-E-620	.19	.26	.35
68	CM-15-E-680	.19	.26	.35
75	CM-15-E-750	.19	.26	.35
82	CM-15-E-820	.19	.26	.36
91	CM-15-E-910	.19	.26	.36
100	CM-15-E-101	.19	.26	.31
110	CM-15-E-111	.22	.26	.31
120	CM-15-E-121	.22	.26	.31
130	CM-15-E-131	.22	.26	.31
150	CM-15-E-151	.22	.26	.31
160	CM-15-E-161	.25	.30	.35
180	CM-15-E-181	.25	.30	.36
200	CM-15-E-201	.25	.30	.36
220	CM-15-E-221	.28	.34	.41
240	CM-15-E-241	.28	.34	.41
250	CM-15-E-251	.28	.34	.41
270	CM-15-E-271	.32	.38	.45
300	CM-15-E-301	.32	.38	.45
330	CM-15-E-331	.35	.42	.50
360	CM-15-E-361	.38	.46	.55
390	CM-15-E-391	.41	.49	.59
430	CM-15-E-431	.41	.49	.59
470	CM-15-E-471	.44	.54	.65
500	CM-15-E-501	.44	.54	.65
510	CM-15-E-511	.44	.54	.65
560**	CM-15-E-561	.44	.54	.65
620**	CM-15-E-621	.48	.58	.69
680**	CM-15-E-681	.51	.61	.73
750**	CM-15-E-751	.54	.64	.77
820**	CM-15-E-821	.57	.68	.82

† Capacities marked with † denote that closest tolerance is ±0.5 mmf.

* Voltage rating 300 VDCW.

** Voltage rating 100 VDCW.

SPECIFICATIONS NOTES:
±½% tolerance available above 100 mmf., pricing upon request.
CM-15, available "F" characteristic above 30 mmf.
CM-19, 20 available "E" characteristic above 110 mmf.
CM-19, 20 available "F' characteristic above 200 mmf.
All CM-30, 35, and 42 values listed are available in "F" characteristic.

TYPE CM-19 & 20

500VDCW

CAP. MMF.	TYPE DESIGNATION	Net Price (1-24) Tolerance "J" ±5%	"G" ±2%	"F" ±1%
100	CM-20-C-101	$0.20	$0.22	$0.27
110	CM-20-C-111	.22	.24	.30
120	CM-20-C-121	.22	.24	.30
130	CM-20-C-131	.22	.24	.30
150	CM-20-C-151	.22	.24	.30
160	CM-20-C-161	.22	.24	.30
180	CM-20-C-181	.22	.24	.30
200	CM-20-D-201	.22	.24	.30
220	CM-20-D-221	.22	.24	.30
240	CM-20-D-241	.25	.28	.35
250	CM-20-D-251	.25	.28	.35
270	CM-20-D-271	.25	.28	.35
300	CM-20-D-301	.25	.28	.35
330	CM-20-D-331	.25	.28	.35
360	CM-20-D-361	.25	.28	.35
390	CM-20-D-391	.28	.31	.39
430	CM-20-D-431	.28	.31	.39
470	CM-20-D-471	.28	.31	.39
500	CM-20-D-501	.31	.34	.43
510	CM-20-D-511	.31	.34	.43
560	CM-20-D-561	.31	.34	.43
620	CM-20-D-621	.34	.38	.47
680	CM-20-D-681	.38	.41	.51
750	CM-20-D-751	.38	.41	.51
820	CM-20-D-821	.40	.44	.56
910	CM-20-D-911	.44	.48	.62
1000	CM-20-E-102	.44	.48	.62
1100	CM-20-E-112	.48	.53	.67
1200	CM-20-E-122	.50	.55	.70
1300	CM-20-E-132	.50	.55	.70
1500	CM-20-E-152	.53	.58	.75
1600	CM-20-E-162	.56	.62	.80
1800	CM-20-E-182	.62	.68	.86
2000	CM-20-E-202	.69	.76	.96
2200	CM-20-E-222	.76	.84	1.06
2400	CM-20-E-242	.78	.86	1.09
2500	CM-20-E-252	.81	.90	1.15
2700	CM-20-E-272	.87	.96	1.22
3000	CM-20-E-302	.94	1.04	1.31
3300	CM-20-E-332	1.01	1.11	1.41
3600*	CM-20-E-362	1.06	1.16	1.48
3900*	CM-20-E-392	1.15	1.26	1.62
4300*	CM-20-E-432	1.20	1.32	1.68
4700*	CM-20-E-472	1.25	1.38	1.74
5000*	CM-20-E-502	1.32	1.46	1.84
5100*	CM-20-E-512	1.32	1.46	1.84

Capacities from 100 to 2400 mmf. can be supplied in CM-19 cases. In values above 1000 mmf. the list prices for CM-19 are 10% higher than those listed above.

As can be seen in the line drawing above, the only difference between CM19 and CM20 is length dimension. For competitive reasons it has been necessary to retain both mold sizes. However both CM19 and CM20 fully conform to all specifications for MIL-C-5 case size CM20, and they are interchangeable for military requirements.

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

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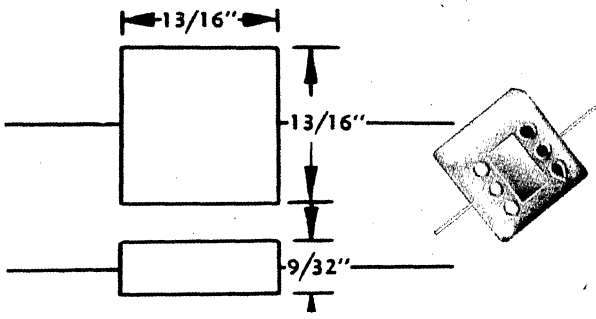
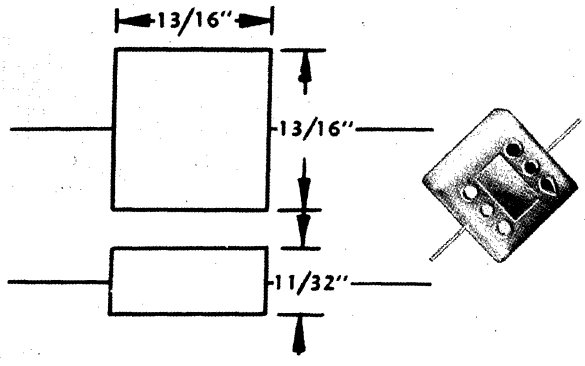
ELMENCO CAPACITORS — Molded Silvered Mica



TYPE CM-30

500VDCW

CAP. MMF.	TYPE DESIGNATION	Net Price (1-24) Tolerance "J" ±5%	"G" ±2%	"F" ±1%
510	CM-30-E-511	$0.35	$0.39	$0.42
560	CM-30-E-561	.38	.42	.45
620	CM-30-E-621	.38	.42	.45
680	CM-30-E-681	.41	.45	.49
750	CM-30-E-751	.41	.45	.49
820	CM-30-E-821	.44	.48	.53
910	CM-30-E-911	.44	.48	.53
1000	CM-30-E-102	.47	.53	.57
1100	CM-30-E-112	.47	.53	.57
1200	CM-30-E-122	.47	.53	.57
1300	CM-30-E-132	.50	.56	.61
1500	CM-30-E-152	.54	.59	.64
1600	CM-30-E-162	.54	.59	.64
1800	CM-30-E-182	.57	.62	.68
2000	CM-30-E-202	.63	.69	.76
2200	CM-30-E-222	.69	.77	.83
2400	CM-30-E-242	.76	.83	.90
2500	CM-30-E-252	.76	.83	.90
2700	CM-30-E-272	.82	.90	.99
3000	CM-30-E-302	.82	.97	1.06
3300	CM-30-E-332	.95	1.04	1.13
3600	CM-30-E-362	1.01	1.11	1.21
3900	CM-30-E-392	1.07	1.18	1.28
4300	CM-30-E-432	1.13	1.25	1.37
4700	CM-30-E-472	1.20	1.31	1.44
5000	CM-30-E-502	1.26	1.39	1.51
5100	CM-30-E-512	1.26	1.39	1.51
5600	CM-30-E-562	1.32	1.46	1.59
6200	CM-30-E-622	1.39	1.52	1.66



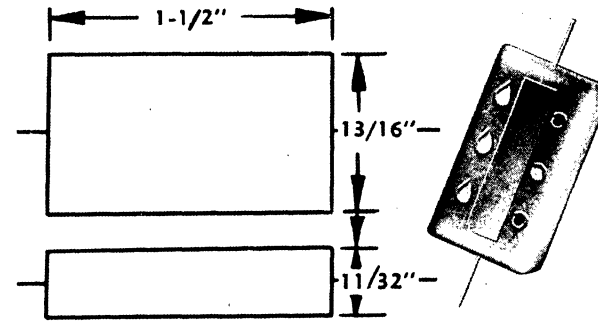
TYPE CM-35

500VDCW

		Net Price (1-24) Tolerance "J" ±5%	"G" ±2%	"F" ±1%
6800*	CM-35-E-682	$1.39	$1.52	$1.66
7500*	CM-35-E-752	1.51	1.66	1.82
8200*	CM-35-E-822	1.64	1.81	1.96
9100*	CM-35-E-912	1.76	1.94	2.12
10000*	CM-35-E-103	1.95	2.15	2.34
12000*	CM-35-E-123	2.27	2.50	2.72
15000*	CM-35-E-153	2.71	2.98	3.26
6800	VCM-35-E-682	1.51	1.66	1.82
7500	VCM-35-E-752	1.64	1.81	1.96
8200	VCM-35-E-822	1.76	1.94	2.12
9100	VCM-35-E-912	1.94	2.15	2.34
10000	VCM-35-E-103	2.14	2.35	2.57

All capacities marked with * are 300WV.

NOTE:—All above "SILVERED MICA" units can be supplied in "F" Characteristic at no extra cost.



TYPE CM-42

Type CM42 is available to special order in the capacitance range 12000 to 39000 pf. Please contact us for price and delivery information.

TYPE VCM
HIGH VOLTAGE MOLDED MICA

ELMENCO molded mica capacitors are available in voltage ratings up to 2500VDCW. These capacitors meet all electrical and environmental requirements met by the standard units with the exception that they are designed to operate reliably at higher voltage stress levels. The following is a tabulation of case sizes, voltage ratings, and capacitance ranges available:

VCM-20

Voltage Rating (D.C.)	Capacitance Range (pf.)
2000VT, 1000VW	5 - 1300
3000VT, 1500VW	5 - 560
5000VT, 2500VW	5 - 220

VCM-35

Voltage Rating (D.C.)	Capacitance Range (pf.)
2000VT, 1000VW	1500 - 5600
3000VT, 1500VW	620 - 3300
5000VT, 2500VW	240 - 2000

VCM-42

Voltage Rating (D.C.)	Capacitance Range (pf.)
2000VT, 1000VW	6200 - 16000
3000VT, 1500VW	3600 - 9100
5000VT, 2500VW	2200 - 3900

Standard tolerance is ±5%, but closer tolerances are available as well. Price and delivery information upon request.

PLEASE INDICATE WORKING VOLTAGE RATING IN ADDITION TO THE PART NUMBER WHEN SPECIFYING.

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

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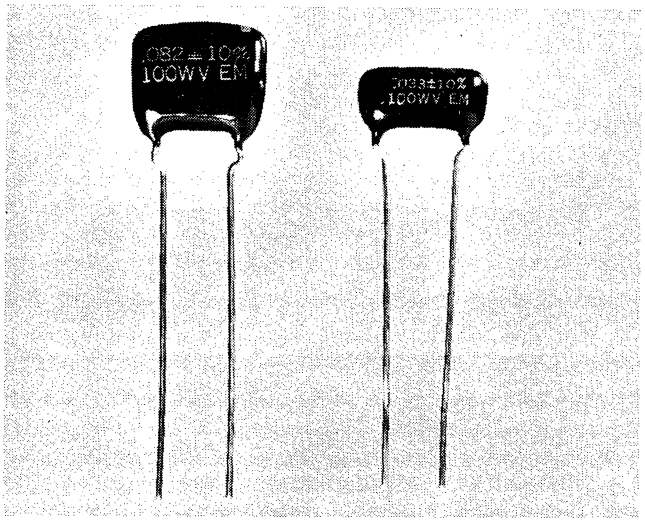
ELMENCO CAPACITORS — Epoxy-dipped Flat Mylar



The new ELMENCO Type MDF capactor is a mylar dielectric unit dipped in a newly formulated epoxy material and shaped in the flat configuration particularly suited to saving space on printed circuit boards. Before being brought to market, the design has been carefully evaluated for more than two years to be sure that the performance of the MDF will be of a level expected of ELMENCO capacitors. This release covers the 100VDCW rated series only. Dipped mylar capacitors with other voltage ratings will be announced shortly.

The specifications for the ELMENCO Type MDF are as follows:

Voltage Rating: 100VDCW, 250VDCT.

Insulation Resistance: 20,000 megohm-microfarads or 100,000 ohms, whichever is less, at 25°C.

At 85°C., the figures are 300 megohm-microfarads or 1500 megohms minimum; at 125°C., 20 and 100 respectively.

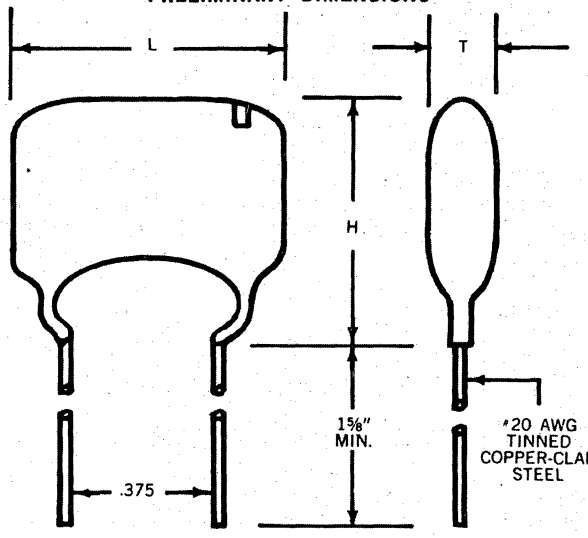
Maximum power factor at 1 kc.: 0.6%

Maximum cap. change from room temperature:

−7% at −55°C.
−3.5% at −30°C.
+4% at 85°C.
+17% at 125°C.

Capacitance drift: ±1% maximum.

PRELIMINARY DIMENSIONS



These preliminary dimensions are established maximums for the four basic configurations of Type MDF. When dimensional surveys are completed on production representative of all values, individual dimensional information for each capacitance value will be published as for other dipped ELMENCO capacitors. Dimensions, particularly thickness, will vary with capacitance value.

Cap. value (mfd.)	L max.	H max.	T max.
.001 - .033	.800	19/32	7/32
.034 - .068	.800	5/8	1/4
.069 - .15	.800	7/8	5/16
.16 - .47	.800	1⅛	9/16

STANDARD TOLERANCE ±10%

Cap. mfd.	Part Number	List Price	Net Price (1-24)
.001	1MDF-1-102	$0.25	$0.15
.0012	1MDF-1-122	.25	.15
.0015	1MDF-1-152	.25	.15
.0018	1MDF-1-182	.25	.15
.002	1MDF-1-202	.25	.15
.0022	1MDF-1-222	.25	.15
.0027	1MDF-1-272	.25	.15
.003	1MDF-1-302	.25	.15
.0033	1MDF-1-332	.25	.15
.0039	1MDF-1-392	.25	.15
.0047	1MDF-1-472	.25	.15
.005	1MDF-1-502	.25	.15
.0051	1MDF-1-512	.25	.15
.0056	1MDF-1-562	.25	.15
.0062	1MDF-1-622	.25	.15
.0068	1MDF-1-682	.25	.15
.0075	1MDF-1-752	.25	.15
.0082	1MDF-1-822	.25	.15
.01	1MDF-1-103	.25	.15
.012	1MDF-1-123	.30	.18
.015	1MDF-1-153	.30	.18
.018	1MDF-1-183	.30	.18
.02	1MDF-1-203	.30	.18
.022	1MDF-1-223	.30	.18
.024	1MDF-1-243	.30	.18
.027	1MDF-1-273	.30	.18
.03	1MDF-1-303	.30	.18
.033	1MDF-1-333	.30	.18
.039	1MDF-2-393	.30	.18
.047	1MDF-2-473	.30	.18
.05	1MDF-2-503	.30	.18
.051	1MDF-2-513	.30	.18
.056	1MDF-2-563	.30	.18
.062	1MDF-2-623	.35	.21
.068	1MDF-2-683	.35	.21
.075	1MDF-3-753	.35	.21
.082	1MDF-3-823	.35	.21
.1	1MDF-3-104	.35	.21
.12	1MDF-3-124	.40	.24
.15	1MDF-3-154	.40	.24
.2	1MDF-4-204	.45	.27
.22	1MDF-4-224	.50	.30
.27	1MDF-4-274	.60	.36
.33	1MDF-4-334	.70	.42
.39	1MDF-4-394	.80	.48
.47	1MDF-4-474	.90	.54

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ELMENCO CAPACITORS

DIPPED TUBULARS

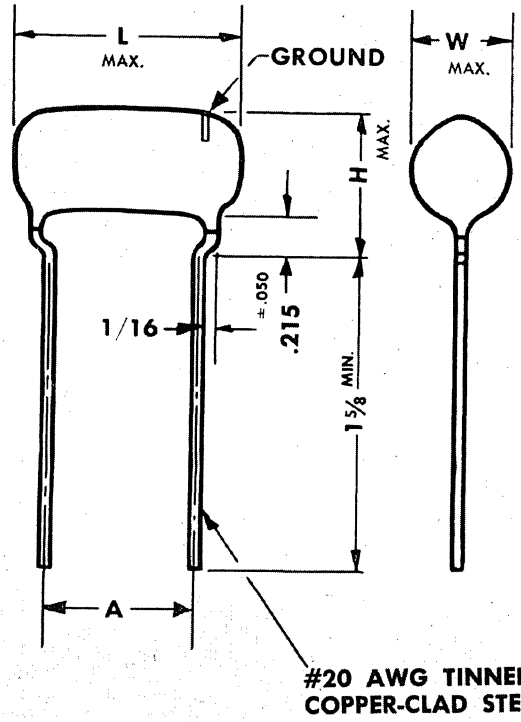
MYLAR* and MYLAR-PAPER

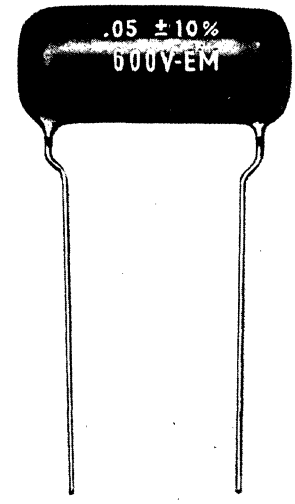
* Reg. DuPont Trademark

ELMENCO dipped mylar and mylar-paper capacitors represent a double break-through in capacitor design. They combine missile and computer quality with commercial radio-TV cost. A recent development is the addition of precision dipped tubular capacitors in tolerances as low as ±1% in addition to the popular ±10% general purpose unit. The only difference between the general purpose "dp" series and the industrial precision capacitors lies in the extra stabilizing processes applied to close tolerance capacitors to insure retention of accuracy in the field under operating extremes.

Elmenco Type MPD capacitors are non-inductively wound and vacuum dipped to obtain solid impregnation and a rugged, moisture-proof coat. New fabricating techniques realize the full potential of the dielectric materials utilizing most of the low-cost procedures of the exclusive Elmenco dip-coat process. The result is a product of electrical excellence with high reliability in operation at 125°C. without derating. The specifications listed on this and following pages well-illustrate the inherent quality of these capacitors.

NOTE: The 100VDCW rated dp units are pure mylar* dielectric capacitors.





SPECIFICATIONS

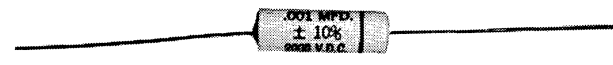
TOLERANCE:	±10%, ±5%, ±2%, ±1%.
VOLTAGE RATINGS:	Mylar-Paper — 200, 400, 600, 1600VDCW (no derating) Mylar — 100VDCW (derate 1% per °C. over 85°C.)
TEMPERATURE RANGE:	−55 to 125°C.

INSULATION RESISTANCE:		**MYLAR-PAPER**		**MYLAR**	
	Temperature	**Megohm-Microfarads Whichever is the lesser**	**Or Megohms**	**Megohm-Microfarads Whichever is the lesser**	**Or Megohms**
	25°C.	10,000	50,000	20,000	100,000
	85°C.	200	1,000	300	1,500
	105°C.	50	250	80	400
	125°C.	15	75	20	100

POWER FACTOR:	1% maximum at 1 kc.
CAPACITANCE CHANGE VS. TEMPERATURE:	See curves on following page.

CASE SIZE	1	2	3	4	5	6	7	8
DIM. "A" ±1/32	1/4	7/16	23/32	27/32	1 3/32	1 11/32	1 23/32	1 27/32

SPECIAL COLOR-TV CAPACITOR



20CMP-102K

.001 MFD ±10% — 2000VDCW

This specially designed capacitor has been created to withstand the high A.C. component in the vertical output circuit. Enclosed in steatite ceramic tube with synthetic resin end-fill, they exhibit long operating life and excellent resistance to moisture penetration.

LIST PRICE **$0.55** NET PRICE (1-24) **$0.33**

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ARCOLYTIC CAPACITORS

TYPE DP
GENERAL PURPOSE

Part Numbers:

6 DP - 2 - 103

- **6** — Voltage Rating (in 100's of volts DCW)
- **DP** — Type Designation
- **2** — Case Size
- **103** — Cap. Value (2 sig. figs. & dec. mult.)

The above example calls for a .01 mfd. capacitor with a 600VDCW voltage rating.

100VDCW

CAP. MFD.	PART NUMBER	L	W	H	LIST PRICE	NET PRICE (1-24)
.005	1DP-1-502	1 1/16	5/16	17/32	$0.30	$0.18
.006	1DP-1-602	1 1/16	5/16	17/32	.30	.18
.0068	1DP-1-682	1 1/16	5/16	17/32	.30	.18
.0075	1DP-1-752	1 1/16	5/16	17/32	.30	.18
.01	1DP-1-103	1 1/16	5/16	17/32	.30	.18
.015	1DP-1-153	23/32	11/32	19/32	.30	.18
.02	1DP-1-203	23/32	11/32	19/32	.30	.18
.022	1DP-1-223	23/32	11/32	19/32	.30	.18
.025	1DP-1-253	23/32	11/32	19/32	.30	.18
.03	1DP-1-303	23/32	3/8	5/8	.30	.18
.033	1DP-1-333	23/32	3/8	5/8	.30	.18
.04	1DP-1-403	23/32	3/8	5/8	.30	.18
.047	1DP-2-473	7/8	11/32	19/32	.35	.21
.05	1DP-2-503	7/8	11/32	19/32	.35	.21
.056	1DP-2-563	7/8	3/8	5/8	.35	.21
.068	1DP-2-683	7/8	13/32	5/8	.35	.21
.075	1DP-2-753	7/8	13/32	5/8	.35	.21
.1	1DP-2-104	29/32	7/16	11/16	.35	.21
.15	1DP-3-154	1 1/4	7/16	11/16	.40	.24
.2	1DP-3-204	1 1/32	1/2	23/32	.45	.27
.22	1DP-3-224	1 1/32	1/2	23/32	.45	.27
.25	1DP-3-254	1 1/32	17/32	3/4	.50	.30
.33	1DP-4-334	1 3/8	9/16	13/16	.60	.36
.47	1DP-4-474	1 3/8	21/32	29/32	.75	.45
.5	1DP-4-504	1 3/8	21/32	29/32	.75	.45
.68	1DP-5-684	1 7/16	1 1/16	1 5/16	.95	.57
1.0	1DP-5-105	1 7/16	3/4	1	1.20	.72

200VDCW

CAP. MFD.	PART NUMBER	L	W	H	LIST PRICE	NET PRICE (1-24)
.1	2DP-3-104	1 15/64	1/2	47/64	$0.35	$0.21
.15	2DP-3-154	1 15/64	37/64	25/32	.40	.24
.2	2DP-4-204	1 21/64	37/64	27/32	.45	.27
.22	2DP-4-224	1 21/64	37/64	27/32	.45	.27
.25	2DP-4-254	1 21/64	5/8	7/8	.50	.30
.33	2DP-5-334	1 5/8	5/8	13/16	.60	.36
.47	2DP-5-474	1 5/8	49/64	61/64	.75	.45
.5	2DP-5-504	1 5/8	49/64	61/64	.75	.45

TYPES MD AND MPD

Precision Dipped Tubulars Capacitors

Available in 100, 200, 400 & 600 VDCW

TOLERANCES OF

±1%, ±2%, ±5%, ±10%

600VDCW

CAP. MFD.	PART NUMBER	L	W	H	LIST PRICE	NET PRICE (1-24)
.001	6DP-1-102	23/32	25/64	5/8	$0.25	$0.15
.0012	6DP-1-122	23/32	25/64	5/8	.25	.15
.0015	6DP-1-152	23/32	25/64	5/8	.25	.15
.002	6DP-1-202	23/32	25/64	5/8	.25	.15
.0022	6DP-1-222	23/32	25/64	5/8	.25	.15
.0025	6DP-1-252	23/32	25/64	5/8	.25	.15
.0027	6DP-1-272	23/32	25/64	5/8	.25	.15
.003	6DP-1-302	23/32	25/64	5/8	.25	.15
.0033	6DP-1-332	23/32	25/64	5/8	.25	.15
.0039	6DP-1-392	23/32	25/64	5/8	.25	.15
.004	6DP-1-402	23/32	27/64	41/64	.25	.15
.0047	6DP-1-472	23/32	27/64	41/64	.25	.15
.005	6DP-1-502	23/32	7/16	41/64	.25	.15
.0056	6DP-1-562	23/32	7/16	41/64	.25	.15
.006	6DP-1-602	23/32	3/8	5/8	.25	.15
.0068	6DP-1-682	23/32	29/64	11/16	.30	.18
.0075	6DP-2-752	57/64	7/16	49/64	.30	.18
.008	6DP-2-802	57/64	7/16	49/64	.30	.18
.0082	6DP-2-822	57/64	7/16	49/64	.30	.18
.01	6DP-2-103	57/64	7/16	49/64	.30	.18
.012	6DP-2-123	57/64	7/16	11/16	.30	.18
.015	6DP-2-153	57/64	29/64	49/64	.30	.18
.018	6DP-2-183	57/64	15/32	23/32	.30	.18
.02	6DP-2-203	57/64	1/2	3/4	.30	.18
.022	6DP-2-223	57/64	1/2	3/4	.30	.18
.025	6DP-2-253	57/64	33/64	47/64	.35	.21
.027	6DP-3-273	1 7/32	33/64	47/64	.35	.21
.03	6DP-3-303	1 7/32	33/64	47/64	.35	.21
.033	6DP-3-333	1 7/32	33/64	47/64	.35	.21
.036	6DP-3-363	1 7/32	17/32	49/64	.35	.21
.039	6DP-3-393	1 7/32	17/32	49/64	.35	.21
.04	6DP-3-403	1 7/32	17/32	49/64	.35	.21
.047	6DP-3-473	1 7/32	17/32	49/64	.40	.24
.05	6DP-3-503	1 7/32	35/64	49/64	.40	.24
.056	6DP-3-563	1 7/32	35/64	49/64	.40	.24
.06	6DP-3-603	1 7/32	35/64	49/64	.45	.27
.068	6DP-4-683	1 11/32	9/16	51/64	.45	.27
.075	6DP-4-753	1 11/32	37/64	27/32	.45	.27
.082	6DP-4-823	1 11/32	37/64	27/32	.45	.27
.1	6DP-4-104	1 11/32	11/16	29/32	.45	.27
.15	6DP-5-154	1 5/16	47/64	15/16	.60	.36
.2	6DP-5-204	1 5/16	55/64	1 1/32	.70	.42
.22	6DP-5-224	1 5/16	55/64	1 1/32	.70	.42
.25	6DP-5-254	1 5/16	57/64	1 7/64	.75	.45
.33	6DP-6-334	1 7/8	7/8	1 1/16	1.05	.63
.47	6DP-6-474	2 3/8	29/32	1 7/32	1.50	.90
.5	6DP-6-504	2 3/8	15/16	1 3/16	1.50	.90

1600 VDCW

CAP. MFD.	PART NUMBER	L	W	H	LIST PRICE	NET PRICE (1-24)
.001	16DP-2-102	7/8	1 1/32	9/16	$0.40	$0.24
.0015	16DP-2-152	7/8	1 1/32	9/16	.40	.24
.0018	16DP-2-182	7/8	3/8	1 9/32	.40	.24
.002	16DP-2-202	7/8	3/8	1 9/32	.40	.24
.0022	16DP-2-222	7/8	3/8	1 9/32	.40	.24
.0025	16DP-2-252	7/8	1 3/32	5/8	.45	.27
.0027	16DP-2-272	7/8	7/16	5/8	.45	.27
.003	16DP-2-302	7/8	7/16	21/32	.45	.27
.0033	16DP-2-332	7/8	7/16	21/32	.45	.27
.004	16DP-2-402	7/8	15/32	23/32	.45	.27
.0047	16DP-2-472	7/8	1/2	23/32	.45	.27
.005	16DP-2-502	7/8	17/32	3/4	.45	.27
.006	16DP-3-602	1 3/16	7/16	21/32	.50	.30
.0068	16DP-3-682	1 3/16	15/32	11/16	.50	.30
.007	16DP-3-702	1 3/16	15/32	11/16	.50	.30
.0075	16DP-3-752	1 3/16	1/2	23/32	.50	.30
.008	16DP-3-802	1 3/16	17/32	3/4	.50	.30
.0082	16DP-3-822	1 3/16	17/32	3/4	.50	.30
.01	16DP-3-103	1 3/16	17/32	3/4	.50	.30
.015	16DP-4-153	1 11/32	9/16	27/32	.55	.33
.018	16DP-4-183	1 11/32	5/8	7/8	.60	.36
.02	16DP-4-203	1 11/32	21/32	7/8	.60	.36
.022	16DP-5-223	1 5/16	5/8	7/8	.70	.42
.025	16DP-5-253	1 5/16	21/32	7/8	.70	.42
.03	16DP-5-303	1 5/16	11/16	15/16	.70	.42
.033	16DP-5-333	1 5/16	23/32	15/16	.70	.42
.04	16DP-5-403	1 5/16	3/4	1	.75	.45
.047	16DP-5-473	1 5/16	13/16	1 1/16	.80	.48
.05	16DP-5-503	1 5/16	13/16	1 1/16	.80	.48

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor)

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ELMENCO CAPACITORS

Variable Compression Mica TRIMMERS

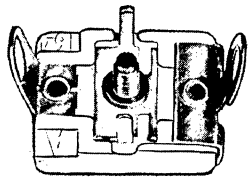
Elmenco Trimming Condensers are treated for resistance to humidity and for permanence of capacity setting.

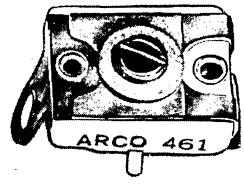
The base is made of the lowest dielectric loss ceramic material available and the mica is clear India Ruby.

The soldering lugs may be bent in any position without affecting capacity setting due to the rigid construction of adjusting plates.

Trimmers shown here are standard sizes and capacities.

Voltage 350 VDCT — 175 VDCW.



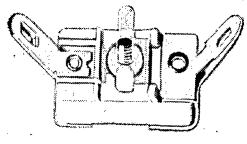


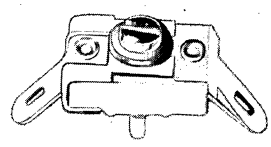
TYPE 46 STANDARD TRIMMER ¾" x ⅝"

TYPE 46 — STANDARD TRIMMER

TYPE 46W		GUARANTEED RANGE			
PART NUMBER	NUMBER OF PLATES	At Tight Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
460	1¼ Pl.	15	1.5	$0.60	$0.36
461	1¾ Pl.	30	2.7	.60	.36
462	2 Pl.	80	5	.60	.36
463	3 Pl.	180	10	.70	.42
464	4 Pl.	280	25	.80	.48
465	5 Pl.	380	50	.95	.57
466	6 Pl.	480	75	1.05	.63
467	7 Pl.	580	105	1.15	.69
468	8 Pl.	680	135	1.25	.75
469	9 Pl.	780	170	1.40	.84
4610	10 Pl.	900	210	1.55	.93
4611	11 Pl.	1000	250	1.70	1.02
4612	12 Pl.	1100	290	1.80	1.08
4613	13 Pl.	1200	330	1.95	1.17
4614	14 Pl.	1300	360	2.15	1.29
4615	15 Pl.	1400	390	2.35	1.41

Type S-46 Same as Type 46 with mounting bracket & adjusting shaft.

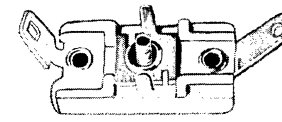


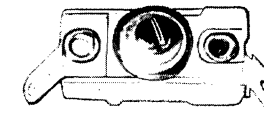


TYPE 40 MINIATURE TRIMMER ⅜" x 5/16"

TYPE 40 — MINIATURE TRIMMER

TYPE 40		GUARANTEED RANGE			
PART NUMBER	NUMBER OF PLATES	At Tight Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
400	1⅛ Pl.	7	0.9	$0.60	$0.36
402	2 Pl.	20	1.5	.60	.36
403	3 Pl.	40	4	.75	.45
404	4 Pl.	60	7	.85	.51
405	5 Pl.	80	10	1.00	.60
406	6 Pl.	115	15	1.10	.66



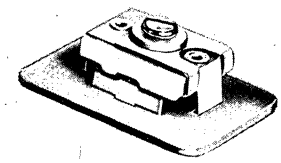


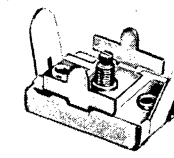
TYPE 42 MIDGET TRIMMER ⅜" x ¾"

TYPE 42 — MIDGET TRIMMER

TYPE 42		GUARANTEED RANGE			
PART NUMBER	NUMBER OF PLATES	At Tight Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
420	1⅛ Pl.	12	1	$0.60	$0.36
421	1¾ Pl.	25	2	.60	.36
422	2 Pl.	40	4	.60	.36
423	3 Pl.	100	7	.70	.42
424	4 Pl.	150	14	.80	.48
425	5 Pl.	200	24	.95	.57
426	6 Pl.	250	37	1.05	.63
427	7 Pl.	300	55	1.15	.69
428	8 Pl.	350	70	1.25	.75
429	9 Pl.	400	90	1.35	.81
4210	10 Pl.	450	110	1.60	.96
4211	11 Pl.	500	130	1.70	1.02
4212	12 Pl.	550	150	1.85	1.11
4213	13 Pl.	600	170	2.00	1.20
4214	14 Pl.	650	190	2.20	1.32
4215	15 Pl.	700	210	2.45	1.47

TYPE PC — PRINTED CIRCUIT TRIMMERS





The Elmenco Trimmer capacitors, Types 40, 42, and 46, have been adapted for printed circuit techniques through alteration of terminals and mounting configuration. The holes in the terminal lugs are removed since necessity for hook-up is eliminated. The resulting solid terminals have greatly increased spring action, allowing the trimmer to be "snapped in" the printed circuit board and firmly held until solderd. The mounting lug portion of the trimmer has also been modified to facilitate positioning and support of the unit. Drawings of the trippers and mounting layout are available upon request at no charge.

This printed circuit style is identified by the prefix letters "PC" preceding the regular part number. All listed values are available in the PC style.

For list price add $0.05, for net price add $0.03, to the respective prices of the standard trimmer.

MOUNTING BRACKETS AVAILABLE FOR ALL TYPES OF TRIMMERS — WRITE FOR PRICES

NET (For quantities of 25 or more, please contact your local Distributor)

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ELMENCO CAPACITORS — Variable Compression Mica

SINGLE AND DUAL
PADDERS

ELMENCO Padding Condensers have been acclaimed by engineers as the finest development in adjustable mica condensers.

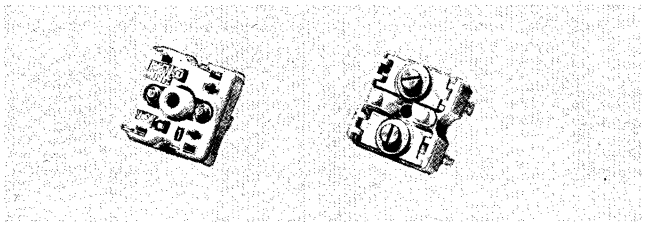
The construction is such as to completely enclose and protect the delicate edges of the mica films, made of the finest quality clear India ruby mica.

The phosphor bronze adjusting plates assure permanent resilience and freedom from mechanical fatigue. All parts are heavily plated to resist corrosion.

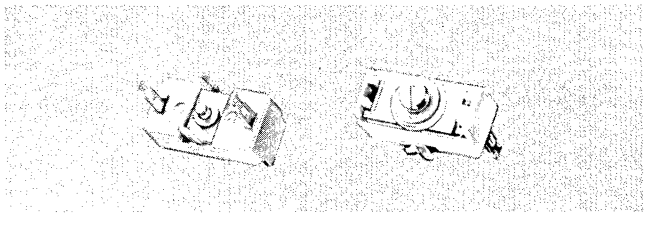
TYPE 30
500 Volts DC Flash-Test — 250 WVDC

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE: At 1¾ Inch Pounds Cap. Will Be More Than MMF.	GUARANTEED RANGE: At 3 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
302	2 Pl.	130	15	$1.15	$0.69
303	3 Pl.	340	65	1.25	.75
304	4 Pl.	550	100	1.35	.81
305	5 Pl.	760	190	1.45	.87
306	6 Pl.	970	275	1.55	.93
307	7 Pl.	1180	350	1.65	.99
308	8 Pl.	1390	450	1.75	1.05
309	9 Pl.	1600	550	1.90	1.14
310	10 Pl.	1890	650	2.00	1.20
311	11 Pl.	2110	780	2.15	1.29
312	12 Pl.	2330	880	2.25	1.35
313	13 Pl.	2605	1150	2.40	1.44
314	14 Pl.	2830	1300	2.55	1.53
315	15 Pl.	3055	1400	2.70	1.62

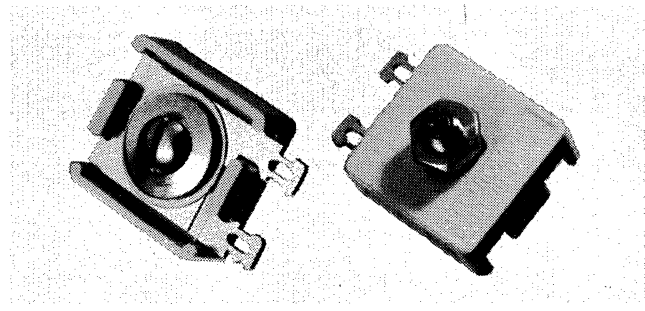
Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 1½ to 1¾ Mil Mica films.



TYPE 50 DUAL PADDER — 175 VDCW
(will fit any size shield having dimensions exceeding 1 1/16" x 1 1/16")



TYPE 58 PADDER 1" x 15/32" — 175 VDCW



TYPE 30 AND TYPE 30-M PADDER 7/8" x 15/16"

TYPE 30-M
1000 Volts DC Flash-Test — 500 WVDC

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE: At 1¾ Inch Pounds Cap. Will Be More Than MMF.	GUARANTEED RANGE: At 3 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
302-M	2 Pl.	120	15	$1.20	$0.72
303-M	3 Pl.	320	65	1.30	.78
304-M	4 Pl.	500	100	1.40	.84
305-M	5 Pl.	690	180	1.50	.90
306-M	6 Pl.	880	265	1.70	1.02
307-M	7 Pl.	1070	340	1.75	1.05
308-M	8 Pl.	1260	425	1.90	1.14
309-M	9 Pl.	1415	525	2.10	1.26
310-M	10 Pl.	1600	615	2.20	1.32
311-M	11 Pl.	1785	730	2.35	1.41
312-M	12 Pl.	1970	800	2.45	1.47
313-M	13 Pl.	2155	1000	2.60	1.56
314-M	14 Pl.	2340	1100	2.75	1.65
315-M	15 Pl.	2525	1200	3.00	1.80

Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 2 to 2¼ Mil Mica.

Type L-30 Same as Type 30-M but with special adjusting screw adapted for tuning knob — use designation above with prefix 'L'.

TYPE 50

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE: At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE: At 2 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
502	2 Pl.	80	7.5	$1.25	$0.75
503	3 Pl.	160	19	1.45	.87
504	4 Pl.	240	50	1.60	.96

◀ **TYPE 50** Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding 1 1/16" x 1 1/16".

TYPE 58

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE: At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE: At 2 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE	NET PRICE (1-24)
582	2 Pl.	80	7.5	$0.80	$0.48
583	3 Pl.	160	19	.90	.54
584	4 Pl.	240	50	1.00	.60

◀ **TYPE 58** Padder is a single variable trimmer section provided with a two-pronged staple mounting for attachment to bracket or chassis. Base is made of lowest loss steatite and the mica is India Ruby.

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)
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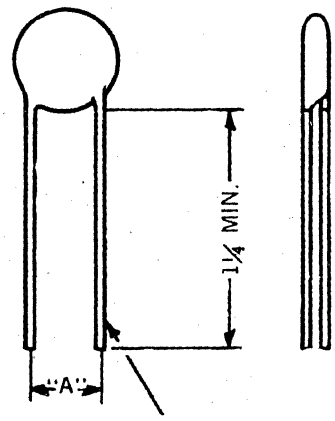
LORCAPS CERAMIC DISC

GENERAL INFORMATION

Arco ceramic disc capacitors exhibit a level of performance and reliability consistent with conservative design technique inherent in all Arco components. Higher voltage ratings improve reliability manyfold and provide extra reserve for resistance to surges and temporary overloads. Rugged phenolic coating and high temperature wax impregnation give superior moisture resistance and physical strength. Arco ceramic discs have been designed to minimum size obtainable with complete retention of original specifications while operating in the field. For originai equipment or for replacement, Arco ceramic disc capacitors may be used with confidence.

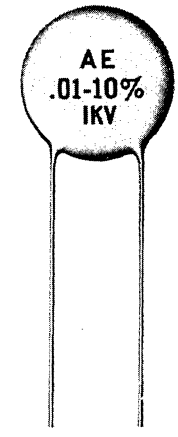
MINIATURE GENERAL PURPOSE

Arco Type CCD ceramic disc capacitors have improved ceramic bodies which impart longer life and greater stability to any application. The standard CCD line has a ±10% tolerance and 1000VDCW rating, making possible a single ceramic disc stock for universal use. Whether a broad coupling or by-pass application, or a critical close tolerance use, Arco CCD units fill the bill with dependability and economy. The "space-saving" size of Arco discs is another feature designed to offer greater service convenience with complete safety of operation. In addition to the 1000VDCW line, higher voltage ratings are available in Type CCD units. 3000-VDCW (Type 3CCD) and 6000VDCW (Type 6CCD) disc ceramics are supplied in tolerance of ±20%.



#20 (.032)
TINNED ANNEALED
COPPERWELD WIRE

DIM. A*	DISC DIA.
.250	UNDER ½"
.375	½" AND OVER



CERAMIC DISC SIZE TABULATION

Max. Diam.	Capacitance range (mmf.)					
	CCD	3CCD	6CCD	CCS	CCTO	CCTN
5/16"	5-1200			150-330	2.2-**15	5-39
3/8"	1500-3300	4.7-680		390-620	18-24	47-68
7/16"	3900-5000	820-1000		680-1000	27-39	75-120
9/16"	5600-8200	2000	4.7-560	1200-1500	47-56	150
11/16"	10000-15000	3000		1800-2700	68-82	200-270
3/4"	20000	4000	680-1000	3000-3300	100	300-330
15/16"	30000-50000*	5000	2000	3900-4700	120-150	390-470

Maximum thickness: Types CCD, CCS, CCTO, CCTN — 5/32" max.
*CCD-503 — 5/16" max.
**Type CCTO below 5 mmf. is .300 x 3/16 max.
Type 3CCD — 1/4" max.
Type 6CCD — 5/16" max.

TYPE CCD

±10% TOLERANCE

1000 VDCW

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)	CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
5	CCD-050	$0.25	$0.15	400	CCD-401	.25	.15
10	CCD-100	.25	.15	470	CCD-471	.25	.15
12	CCD-120	.25	.15	500	CCD-501	.25	.15
15	CCD-150	.25	.15	560	CCD-561	.25	.15
18	CCD-180	.25	.15	680	CCD-681	.25	.15
20	CCD-200	.25	.15	750	CCD-751	.25	.15
22	CCD-220	.25	.15	800	CCD-801	.25	.15
25	CCD-250	.25	.15	820	CCD-821	.25	.15
27	CCD-270	.25	.15	1000	CCD-102	.25	.15
30	CCD-300	.25	.15	1200	CCD-122	.25	.15
33	CCD-330	.25	.15	1500	CCD-152	.25	.15
39	CCD-390	.25	.15	2000	CCD-202	.25	.15
47	CCD-470	.25	.15	2200	CCD-222	.25	.15
50	CCD-500	.25	.15	2500	CCD-252	.25	.15
56	CCD-560	.25	.15	2700	CCD-272	.25	.15
68	CCD-680	.25	.15	3000	CCD-302	.25	.15
75	CCD-750	.25	.15	3300	CCD-332	.25	.15
82	CCD-820	.25	.15	3900	CCD-392	.25	.15
91	CCD-910	.25	.15	4700	CCD-472	.25	.15
100	CCD-101	.25	.15	5000	CCD-502	.30	.18
120	CCD-121	.25	.15	5600	CCD-562	.30	.18
150	CCD-151	.25	.15	6800	CCD-682	.30	.18
180	CCD-181	.25	.15	8200	CCD-822	.30	.18
200	CCD-201	.25	.15	10000	CCD-103	.30	.18
220	CCD-221	.25	.15	15000*	CCD-153	.30	.18
250	CCD-251	.25	.15	20000*	CCD-203	.30	.18
270	CCD-271	.25	.15	30000†	CCD-303	.50	.30
300	CCD-301	.25	.15	40000‡	CCD-403	.60	.36
330	CCD-331	.25	.15	50000‡	CCD-503	.70	.42
390	CCD-391	.25	.15				

*±20% tolerance
†500VDCW, ±20% tolerance
‡500VDCW, +80 −20% tolerance

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LORCAPS CERAMIC DISC

MINIATURE GENERAL PURPOSE

TYPE 3CCD

High Voltage ±20% TOLERANCE 3000 VDCW

(not recommended for deflection yoke application)

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)	CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
4.7	3CCD-4R7	$0.40	$0.24	180	3CCD-181	$0.40	$0.24
6.8	3CCD-6R8	.40	.24	220	3CCD-221	.40	.24
10	3CCD-100	.40	.24	270	3CCD-271	.40	.24
15	3CCD-150	.40	.24	330	3CCD-331	.40	.24
22	3CCD-220	.40	.24	390	3CCD-391	.40	.24
27	3CCD-270	.40	.24	470	3CCD-471	.40	.24
33	3CCD-330	.40	.24	560	3CCD-561	.40	.24
39	3CCD-390	.40	.24	680	3CCD-681	.40	.24
47	3CCD-470	.40	.24	820	3CCD-821	.40	.24
56	3CCD-560	.40	.24	1000	3CCD-102	.40	.24
68	3CCD-680	.40	.24	2000	3CCD-202	.40	.24
82	3CCD-820	.40	.24	3000	3CCD-302	.40	.24
100	3CCD-101	.40	.24	4000	3CCD-402	.40	.24
120	3CCD-121	.40	.24	5000	3CCD-502	.40	.24
150	3CCD-151	.40	.24				

TYPE 6CCD

High Voltage ±20% TOLERANCE 6000 VDCW

(not recommended for deflection yoke application)

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)	CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
4.7	6CCD-4R7	$0.60	$0.36	100	6CCD-101	$0.60	$0.36
6.8	6CCD-6R8	.60	.36	120	6CCD-121	.60	.36
10	6CCD-100	.60	.36	150	6CCD-151	.60	.36
15	6CCD-150	.60	.36	220	6CCD-221	.60	.36
22	6CCD-220	.60	.36	330	6CCD-331	.60	.36
27	6CCD-270	.60	.36	470	6CCD-471	.60	.36
33	6CCD-330	.60	.36	560	6CCD-561	.70	.42
47	6CCD-470	.60	.36	680	6CCD-681	.70	.42
56	6CCD-560	.60	.36	820	6CCD-821	.70	.42
68	6CCD-680	.60	.36	1000	6CCD-102	.70	.42
82	6CCD-820	.60	.36	2000	6CCD-202	.70	.42

TEMPERATURE STABLE

This new ARCO ceramic capacitor maintains excellent capacitance stability with wide temperature variation. The graph illustrates typical percentage variation of capacity value with temperature. The operating temperature range has been extended to −55°C. to +125°C, without derating of the 1000VDCW specification. Standard tolerance is ±10%. The combined small size, low cost, and high stability represents another significant advance in the quality line of ARCO capacitors. All units are marked "TS" for identification.

TYPE CCS

±10% TOLERANCE 1000 VDCW

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)	CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
150	CCS-151	$0.30	$0.18	750	CCS-751	.30	.18
180	CCS-181	.30	.18	820	CCS-821	.35	.21
200	CCS-201	.30	.18	1000	CCS-102	.35	.21
220	CCS-221	.30	.18	1200	CCS-122	.35	.21
250	CCS-251	.30	.18	1500	CCS-152	.35	.21
270	CCS-271	.30	.18	1800	CCS-182	.35	.21
300	CCS-301	.30	.18	2000	CCS-202	.35	.21
330	CCS-331	.30	.18	2200	CCS-222	.35	.21
390	CCS-391	.30	.18	2500	CCS-252	.40	.24
470	CCS-471	.30	.18	2700	CCS-272	.40	.24
500	CCS-501	.30	.18	3000	CCS-302	.40	.24
560	CCS-561	.30	.18	3300	CCS-332	.40	.24
620	CCS-621	.30	.18	3900	CCS-392	.40	.24
680	CCS-681	.30	.18	4700	CCS-472	.40	.24

TEMPERATURE COMPENSATING

TYPE CCTO

Arco Type CCTO ceramic disc capacitors are zero temperature coefficient units specifically suited for high stability, high Q application. In addition to extreme temperature stability, Type CCTO capacitors have very high insulation resistance and low aging rate. These special characteristics are added to the high 1000VDCW rating and close tolerance of the entire Arco ceramic line to provide a superior capacitor for the special purpose intended. Type CCTO capacitors are identified by "NPO" printed on each unit.

NPO-TYPE CCTO

±10% TOLERANCE 1000 VDCW

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)	CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
2.2*	CCTO-2R2	$0.50	$0.30	30	CCTO-300	.50	.30
3.3*	CCTO-3R3	.50	.30	33	CCTO-330	.50	.30
4.7*	CCTO-4R7	.50	.30				
5.0	CCTO-050	.50	.30	36	CCTO-360	.50	.30
6.8	CCTO-6R8	.50	.30	39	CCTO-390	.50	.30
				47	CCTO-470	.50	.30
10	CCTO-100	.50	.30	51	CCTO-510	.55	.33
12	CCTO-120	.50	.30	56	CCTO-560	.55	.33
15	CCTO-150	.50	.30				
18	CCTO-180	.50	.30	68	CCTO-680	.55	.33
20	CCTO-200	.50	.30	75	CCTO-750	.55	.33
				82	CCTO-820	.55	.33
22	CCTO-220	.50	.30	100	CCTO-101	.55	.33
24	CCTO-240	.50	.30	120	CCTO-121	.55	.33
27	CCTO-270	.50	.30	150	CCTO-151	.55	.33

*±.5 mmf. tolerance

TYPE CCTN

Another member of the Arco temperature compensating disc ceramic line is the Type CCTN unit which has a negative temperature coefficient of −750 ppm/°C. (N750). These units are used to counterbalance shifts in other circuit components with change in temperature. The result is a more stable circuit essential to many frequency control applications. Improved ceramic bodies in the temperature compensating line provide greater long term stability in addition to accurate temperature compensation. Type CCTN capacitors are identified by "N750" imprinted on each unit except the smallest size. On the small units the E.I.A. temperature coefficient designation "U2" is imprinted.

N750-TYPE CCTN

±10% TOLERANCE 1000 VDCW

CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)	CAP. MMF.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
5	CCTN-050	$0.50	$0.30	82	CCTN-820	.50	.30
10	CCTN-100	.50	.30	100	CCTN-101	.50	.30
15	CCTN-150	.50	.30	120	CCTN-121	.50	.30
22	CCTN-220	.50	.30				
27	CCTN-270	.50	.30	150	CCTN-151	.50	.30
				200	CCTN-201	.50	.30
33	CCTN-330	.50	.30	220	CCTN-221	.50	.30
39	CCTN-390	.50	.30	270	CCTN-271	.50	.30
47	CCTN-470	.50	.30	300	CCTN-301	.50	.30
56	CCTN-560	.50	.30				
62	CCTN-620	.50	.30	330	CCTN-331	.50	.30
				390	CCTN-391	.50	.30
68	CCTN-680	.50	.30	470	CCTN-471	.50	.30
75	CCTN-750	.50	.30				

NET (For quantities of 25 or more, please contact your local Arco-Elmenco Distributor)

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ARCOLYTIC CAPACITORS

Miniature Aluminum Electrolytics Type ME

Type ME Miniature Aluminum-cased Electrolytics are the latest addition to the Arcolytic capacitor line. They use the same high purity (99.99%) etched aluminum foil as the standard size Arcolytics. The design of the Type ME is particularly adapted to the latest transistorized circuitry which features low voltages and compactness of structure.

Type ME capacitors have an all-welded construction which provides increased ruggedness and resistance to environmental extremes. Corrosion and electrolyte leakage are eliminated. Electrically, they exhibit extremely low leakage current and maintain extended shelf life without deterioration. All units are insulated with a transparent plastic sleeve permanently bonded to the aluminum body.

SPECIFICATIONS:

CAPACITANCE AND TOLERANCE:

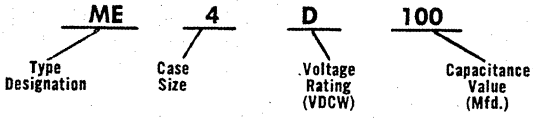
Capacitance measurements are made at 120 cycles per second and 25°C. Capacitance tolerance is −10%, +100%.

OPERATING TEMPERATURE RANGE: −30 to 85°C.

D.C. LEAKAGE CURRENT: Maximum leakage current is 5 microamperes or .03VC, whichever is greater, where V is D.C. voltage applied and C is capacitance in microfarads.

LEADS: Axial, 1½" length minimum, #20 tinned copper.

NOMENCLATURE: The part numbers for each Type ME incorporate case size, voltage, and capacitance value:



The example specifies a 100 mfd. 12V capacitor, case size ⅜" x ¾".

VOLTAGE RATINGS: The following table indicates letter designations assigned to the various voltages in which Type ME capacitors are supplied:

Letter Designation	A	B	D	E	G	J	M	N	R	T
VDCW	3	6	12	15	25	50	100	150	250	350

CASE SIZE: Type ME capacitors are made in 8 different case sizes:

CASE SIZE	DIMENSION	CASE SIZE	DIMENSION
1	3/16" D x ⅜" L	5	⅜" D x ⅞" L
2	¼" D x ⅝" L	6	⅜" D x 1" L
3	⅜" D x ⅝" L	7	⅜" D x 1⅛" L
4	⅜" D x ¾" L	8	⅜" D x 1⅜" L

The insulating plastic sleeve adds 1/32" x 1/16" to case dimensions.

STANDARD PACKAGING is in units of 5 in a custom-designed box which protects straight leads and allows visual observation of quantity through a clear plastic window.

3VDCW

CAP. MFD.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
1	ME-1-A-001	$1.25	$0.75
2	ME-1-A-002	1.25	.75
3	ME-1-A-003	1.25	.75
4	ME-1-A-004	1.25	.75
5	ME-1-A-005	1.25	.75
6	ME-1-A-006	1.25	.75
8	ME-1-A-008	1.25	.75
10	ME-1-A-010	1.25	.75
15	ME-2-A-015	1.25	.75
20	ME-2-A-020	1.25	.75
25	ME-2-A-025	1.25	.75
30	ME-2-A-030	1.25	.75
35	ME-2-A-035	1.25	.75
40	ME-2-A-040	1.25	.75
50	ME-2-A-050	1.25	.75
75	ME-3-A-075	1.40	.84
100	ME-3-A-100	1.40	.84
125	ME-4-A-125	1.45	.87
150	ME-4-A-150	1.45	.87
175	ME-4-A-175	1.50	.90
200	ME-4-A-200	1.50	.90
250	ME-4-A-250	1.60	.96
300	ME-7-A-300	1.65	.99
350	ME-7-A-350	1.70	1.02
400	ME-7-A-400	1.70	1.02
450	ME-7-A-450	1.75	1.05
500	ME-7-A-500	1.75	1.05

6VDCW

1	ME-1-B-001	1.25	.75
2	ME-1-B-002	1.25	.75
3	ME-1-B-003	1.25	.75
4	ME-1-B-004	1.25	.75
5	ME-1-B-005	1.25	.75
6	ME-1-B-006	1.25	.75
8	ME-1-B-008	1.35	.81
10	ME-1-B-010	1.35	.81
15	ME-2-B-015	1.35	.81
20	ME-2-B-020	1.35	.81
25	ME-2-B-025	1.35	.81
30	ME-2-B-030	1.40	.84
35	ME-2-B-035	1.40	.84
40	ME-2-B-040	1.40	.84
50	ME-2-B-050	1.40	.84
60	ME-2-B-060	1.40	.84
75	ME-3-B-075	1.45	.87
100	ME-3-B-100	1.50	.90
125	ME-6-B-125	1.55	.93
150	ME-6-B-150	1.55	.93
175	ME-6-B-175	1.60	.96
200	ME-6-B-200	1.60	.96
250	ME-6-B-250	1.70	1.02
300	ME-8-B-300	1.80	1.08
400	ME-8-B-400	1.85	1.11
500	ME-8-B-500	1.90	1.14

12VDCW

1	ME-1-D-001	1.25	.75
2	ME-1-D-002	1.25	.75
3	ME-1-D-003	1.25	.75
4	ME-1-D-004	1.25	.75
5	ME-1-D-005	1.35	.81
6	ME-1-D-006	1.35	.81
8	ME-1-D-008	1.35	.81
10	ME-1-D-010	1.35	.81
15	ME-2-D-015	1.40	.84
20	ME-2-D-020	1.40	.84
25	ME-2-D-025	1.40	.84
30	ME-3-D-030	1.45	.87
35	ME-3-D-035	1.45	.87
40	ME-3-D-040	1.50	.90
50	ME-3-D-050	1.55	.93
75	ME-4-D-075	1.65	.99
100	ME-4-D-100	1.65	.99
150	ME-6-D-150	1.75	1.05
200	ME-6-D-200	1.90	1.14
250	ME-8-D-250	2.00	1.20

15VDCW

1	ME-1-E-001	1.25	.75
2	ME-1-E-002	1.25	.75
3	ME-1-E-003	1.25	.75
4	ME-1-E-004	1.30	.78
5	ME-1-E-005	1.40	.84

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor).

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ARCO CAPACITORS

CAP. MFD.	PART NUMBER	LIST PRICE	NET PRICE (1-24)
	15VDCW (cont.)		
6	ME-1-E-006	$1.40	$0.84
8	ME-1-E-008	1.40	.84
10	ME-1-E-010	1.40	.84
15	ME-2-E-015	1.45	.87
20	ME-2-E-020	1.45	.87
25	ME-2-E-025	1.45	.87
30	ME-3-E-030	1.50	.90
35	ME-3-E-035	1.55	.93
40	ME-3-E-040	1.60	.96
50	ME-3-E-050	1.60	.96
75	ME-4-E-075	1.60	.96
100	ME-4-E-100	1.65	.99
150	ME-6-E-150	1.75	1.05
200	ME-6-E-200	1.95	1.17
250	ME-8-E-250	2.05	1.23
	25VDCW		
1	ME-1-G-001	1.25	.75
2	ME-1-G-002	1.30	.78
3	ME-1-G-003	1.30	.78
4	ME-1-G-004	1.30	.78
5	ME-1-G-005	1.40	.84
6	ME-2-G-006	1.40	.84
8	ME-2-G-008	1.45	.87
10	ME-2-G-010	1.45	.87
15	ME-3-G-015	1.45	.87
20	ME-3-G-020	1.50	.90
25	ME-3-G-025	1.55	.93
30	ME-3-G-030	1.60	.96
35	ME-4-G-035	1.65	.99
40	ME-4-G-040	1.65	.99
50	ME-4-G-050	1.65	.99
75	ME-7-G-075	1.70	1.02
100	ME-7-G-100	1.75	1.05
	50VDCW		
1	ME-1-J-001	1.30	.78
2	ME-1-J-002	1.35	.81
3	ME-2-J-003	1.35	.81
4	ME-2-J-004	1.35	.81
5	ME-2-J-005	1.45	.87
6	ME-2-J-006	1.45	.87
8	ME-3-J-008	1.50	.90
10	ME-3-J-010	1.50	.90
15	ME-4-J-015	1.50	.90
20	ME-4-J-020	1.50	.90
25	ME-4-J-025	1.55	.93
30	ME-4-J-030	1.60	.96
35	ME-7-J-035	1.70	1.02
40	ME-7-J-040	1.75	1.05
50	ME-7-J-050	1.75	1.05
	100VDCW		
1	ME-2-M-001	1.35	.81
2	ME-2-M-002	1.40	.84
3	ME-2-M-003	1.40	.84
4	ME-3-M-004	1.40	.84
5	ME-3-M-005	1.50	.90
6	ME-4-M-006	1.50	.90
8	ME-4-M-008	1.55	.93
10	ME-4-M-010	1.55	.93
15	ME-7-M-015	1.55	.93
20	ME-7-M-020	1.60	.96
25	ME-7-M-025	1.60	.96
	150VDCW		
1	ME-3-N-001	1.40	.84
2	ME-3-N-002	1.45	.87
3	ME-3-N-003	1.45	.87
4	ME-3-N-004	1.45	.87
5	ME-3-N-005	1.55	.93
6	ME-3-N-006	1.55	.93
8	ME-4-N-008	1.60	.96
10	ME-4-N-010	1.60	.96
12	ME-4-N-012	1.60	.96
15	ME-7-N-015	1.60	.96
20	ME-8-N-020	1.60	.96
	250VDCW		
1	ME-3-R-001	1.70	1.02
2	ME-3-R-002	1.70	1.02
5	ME-6-R-005	1.80	1.08
	350VDCW		
1	ME-3-T-001	1.75	1.05
2	ME-5-T-002	1.75	1.05

NET (For quantities of 25 or more, please contact your local Arco-Elmenco distributor).

Why do we wind all our tv-replacement capacitors with computer-grade 99.99% pure aluminum foil?

To help cure that pain in your neck.

Impurities in aluminum foil can lead to deterioration, premature failures, lost customer confidence — and call-back time you can't charge for. Big pains in the neck.

So we wind every Arcolytic® electrolytic capacitor with the purest aluminum foil available: 99.99% pure. It meets computer manufacturer standards. And exceeds those of radio-tv manufacturers.

Result: Arcolytic capacitors last longer in your customer's set. In fact, they won't deteriorate even at high operating temperatures of 85° C.

And while we wind them with computer-grade foil, we price them for home-entertainment service. You pay no premium.

You'll find whatever discrete capacitance value you need at your LDP Distributor's. And in your choice of single- and multiple-section tubular, or twist-mount designs. (You'll also find a complete line of equivalent-quality miniature ceramic disc capacitors up to 6000 VDCW.)

Start using Arcolytic capacitors. And the next call from your customer will be because he likes your kind of reliability, and wants more of your service.

WRITE FOR YOUR COPY OF THE COMPLETE

ARCOLYTIC CAPACITOR CATALOG

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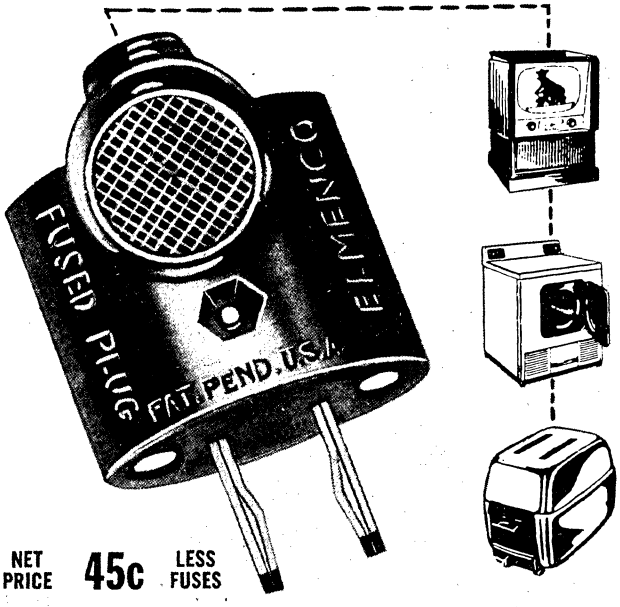
ELMENCO CAPACITORS

FUSED PLUG

PROTECTS ALL ELECTRICAL APPLIANCES

Offers complete protection against current surges & short circuits

REDUCES FIRE HAZARDS



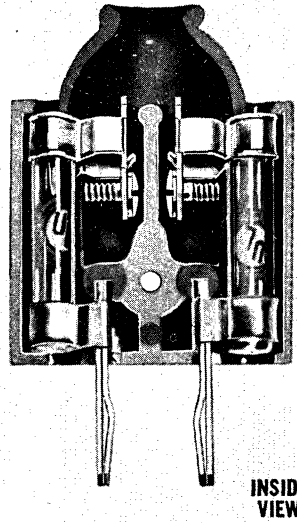
The Elmenco Fused Plug is like any standard plug, is light in weight, but easier to handle because of finger grips. However, it employs 2 small fuses which provide complete protection against damage to the appliance and to the main line. The blown fuse is easy to remove and simple to replace. Fits any standard wall outlet.

NEW MARKETS! GREATER VALUE!

Approved by Underwriters Laboratories and used by many of the largest manufacturers of radio and electronic equipment, battery chargers, washing machines, curling irons, lighting equipment, automatic relay equipment, motors of every description, and practically every other type of product that consumes electricity. Every wired home, office and store is a prospect.

IMPACT RESISTANT COVER
plus SPRING ACTION for positive contact

New spring action design of the male blades assures 100% positive contact regardless of worn condition of wall outlet.



Fuses are replaced instantly without need of opening plug. Can be used with standard 3AG and 3AB glass tubular fuses up to 20 amps.

REPLACE FUSE INSTANTLY!

Conveniently packed 10 to a Box in colorful self-merchandising displays. Easy to handle for resale.

RECOMMENDED BY THE BOARD OF FIRE UNDERWRITERS

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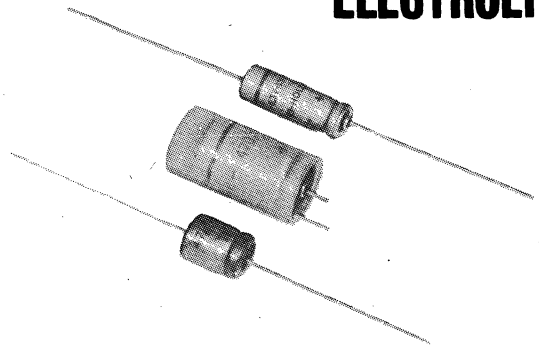
Amperex Capacitors

ELECTROLYTIC CAPACITORS



Amperex high quality, low cost electrolytic capacitors feature small size, high capacitance and long service life. Low leakage currents are achieved through the use of highly purified materials and carefully controlled manufacturing processes. They are the "dry" type with the liquid electrolyte absorbed into a layer of paper between cathode and anode foils. Winding is sealed in an aluminum can.

They are designed to operate at varied efficiences over a temperature range of −40°C to +85°C. The min. and max. temp. depends on the application; increase of impedance and losses are the limiting factors.

C426AR Series

CAN SIZE	DIMENSIONS* Length (in.)	Dia. (in.)	CAPACITANCES — μf 2.5 Volts	4.0 Volts	6.4 Volts	10 Volts	16 Volts	25 Volts	40 Volts	64 Volts
1	0.394	0.122	10	8	6.4	4	2.5	1.6	1	0.64
2	0.394	0.173	40	32	25	16	10	6.4	4	2.5
3	0.394	0.228	80	64	50	32	20	12.5	8	5
4	0.709	0.248	160	125	100	64	40	25	16	10
5	0.709	0.315	320	250	200	125	80	50	32	20
6	0.709	0.394	500	400	320	200	125	80	50	32

C437AR Series

CAN SIZE	DIMENSIONS* Length (in.)	Dia. (in.)	CAPACITANCES — μf 2.5 Volts	4.0 Volts	6.4 Volts	10 Volts	16 Volts	25 Volts	40 Volts	64 Volts
00	1.18	0.394	1000	800	640	400	250	160	100	64
01	1.18	0.492	1600	1250	1000	640	400	250	160	100
02	1.18	0.591	2500	2000	1600	1000	640	400	250	160
03	1.18	0.709	4000	3200	2500	1600	1000	640	400	250

**Includes Insulation*

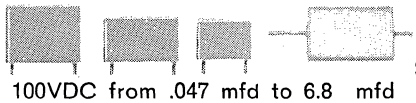
FILM CAPACITORS

Fixed Film Dielectric Capacitors

METALLIZED POLYCARBONATE

Metallized polycarbonate capacitors offer 125°C operation with no voltage de-rating, extreme capacitance stability with temperature, and low dissipation factor. High insulation resistance coupled with small physical size make these capacitors ideally suited for the most critical applications.

C280M Series



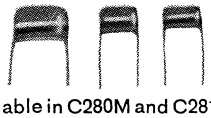
C281 Series

100VDC from .047 mfd to 6.8 mfd
400VDC from .01 mfd to 1.0 mfd
630VDC from .01 mfd to .47 mfd

METALLIZED POLYESTER

Available in 250VDC rating from .001 mfd to 2.2 mfd. Offer small size and cost advantages and are suitable for all general purpose applications.

C280AE Series

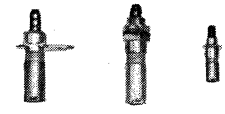


(Also available in C280M and C281 packaging configuration)

Variable Capacitors

CERAMIC DIELECTRIC

For high freq. temp.-compensating applications requiring low Zero capacitance. Feature high breakdown voltage, stability and accuracy of adjustment.



C004 Series
(typical configurations)

FILM DIELECTRIC

The CO10 is a general trimmer used when large Delta 'C' variations are required and space is limited. Adjustable top and bottom, available in following min.-max. ranges: 2pf-10pf, 5pf-20pf, 5pf-60pf.

C010/HT10 Series

HT10 TEFLON® SERIES

For applications requiring guaranteed Delta 'C' and where capacitance-variation is unaffected by temp. of 125° and higher. Same ranges as CO10 (above).

®Dupont Trademark

AMPEREX ELECTRONIC CORPORATION / **Amperex®**

TOMORROW'S THINKING IN TODAY'S PRODUCTS

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CENTRALAB CAPACITORS

Centralab capacitors present a particularly adaptable array of quality components for use in your most demanding applications.

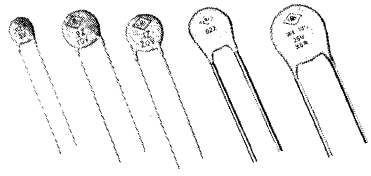
This product line is made up of a broad spread of ceramic, polystyrene and electrolytic dielectric capacitors in working voltages from 3 volts to 20,000 volts, capacitances from .5 pF to 1000 mfd tolerances and temperature compensating characteristics for every practical purpose.

The physical configurations include discs, plates and tubular types in miniaturized and standard sizes for convenient applications.

Ceramic trimmer capacitors are available for a wide range of military and commercial applications.

SEMI-CONDUCTOR TYPE, LOW VOLTAGE CERAMIC DISC CAPACITORS

TYPE UK, UK10, UK16, UK20, UK25 ULTRA-KAPS®



The "Ultra-Kap" is a device which provides capacitances as much as 100 times greater than those attainable in conventional ceramic dielectrics. These semi-conductor units have been used by the millions for bypass and audio coupling in transistorized circuits.

SPECIFICATIONS

OPERATING TEMPERATURE: −55° to +85°C.
MAXIMUM WORKING VOLTAGE: 3, 10, 16, 20 and 25 VDC.
INSULATION: Durez coated and wax impregnated.
CAPACITY: See Listing.
DISSIPATION FACTOR: See Specific part.
MINIMUM INSULATION RESISTANCE: See specific part.
LEADS: UK-502, UK-103 and UK-203 micro-miniature "Tear-Drop" size #26 tinned wire leads 1½" minimum length. All others have #22 tinned wrieleads 1½" minimum length.
MARKING: UK-502 Green dot; UK-103 Brown dot; UK-203 Red dot. All others stamped with CRL diamond or CRL in diamond, capacity, tolerance (P for GMV or Z for +80 −20%) ±30% for UK-25 series and voltage.
TESTING: All capacitance and dissipation factor measurements taken at 0.1 volt RMS at 1 KC @ 25°C ±5°C and 70% maximum Relative Humidity.
PACKAGED: 5 pieces per clear plastic box or 100 pieces bulk per carton or 1000 pieces bulk per warehouse pack.

TYPE UK; 3 VOLT ULTRA-KAPS®

Cap. (μF)	Cat. No.	Tolerance	Max. Dia.	Thick-ness	Lead Spac-ing	Max. Dissi-pation Factor @ 1KC	Min. Insu-lation Resist. Rated Volts
.005	UK-502	GMV	.120″	.100″	.....	10%	30K
.01	UK-103	GMV	.120″	.100″	.....	10%	30K
.02	UK-203	GMV	.120″	.100″	.....	10%	30K
.1	UK-104	GMV	.220″	.156″	.187″	5%	40K
.22	UK-224	GMV	.290″	.156″	.250″	5%	20K
.47	UK-474	GMV	.405″	.156″	.250″	5%	8K
1.0	UK-105	GMV	.590″	.156″	.375″	5%	4K
2.2	UK-225	GMV	.820″	.156″	.375″	5%	2K

TYPE UK10; 10 VOLT ULTRA-KAPS®

.05	UK10-503	+80 −20%	.290″	.156″	.250″	10%	500K
.1	UK10-104	+80 −20%	.405″	.156″	.250″	10%	250K
.2	UK10-204	+80 −20%	.590″	.156″	.375″	10%	120K
.47	UK10-474	+80 −20%	.820″	.156″	.375″	10%	60K

TYPE UK16; 16 VOLT ULTRA-KAPS®

.01	UK16-103	+80 −20%	.290″	.156″	.250″	5%	10M
.022	UK16-223	+80 −20%	.405″	.156″	.250″	5%	10M
.033	UK16-333	+80 −20%	.405″	.156″	.250″	5%	10M
.05	UK16-503	+80 −20%	.515″	.156″	.250″	5%	10M
.068	UK16-683	+80 −20%	.590″	.156″	.375″	5%	10M
.1	UK16-104	+80 −20%	.760″	.156″	.375″	5%	10M

TYPE UK20; 20 VOLT ULTRA-KAPS®

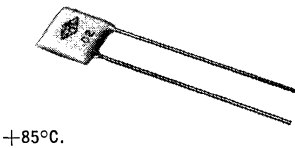
.05	UK20-503	+80 −20%	.405″	.156″	.250″	10%	400K
.1	UK20-104	+80 −20%	.590″	.156″	.375″	10%	200K
.2	UK20-204	+80 −20%	.820″	.156″	.375″	10%	100K

TYPE UK25; 25 VOLT ULTRA-KAPS®

.01	UK25-103	±30%	.290″	.156″	.250″	5%	10M
.022	UK25-223	±30%	.405″	.156″	.250″	5%	10M
.033	UK25-333	±30%	.405″	.156″	.250″	5%	10M
.05	UK25-503	±30%	.515″	.156″	.250″	5%	10M
.068	UK25-683	±30%	.590″	.156″	.375″	5%	10M
.1	UK25-104	±30%	.760″	.156″	.375″	5%	10M

Type DA; 30 Volt DCW

Type DA is designed for the high capacity, low voltage demands for transistor circuitry. Durez coated and high temperature wax impregnated.



SPECIFICATIONS

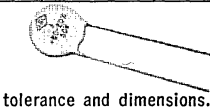
OPERATING TEMPERATURE: −55°C to +85°C.
CAPACITY AND TOLERANCE: See Listing.
LEADS: #22 tinned wire 1½" minimum length.
TEMPERATURE VS. CAPACITANCE: EIA Z5V (+22 − 82% maximum change from 25°C reading over temperature range of +10°C to +85°C).
DISSIPATION FACTOR: 2% maximum @ 1KC.
LEAKAGE RESISTANCE: Initial 7500 Megohms minimum, after humidity over 1000 magohms.
MARKING: Stamped with capacity, voltage and CRL in Diamod.
PACKAGED: 5 pieces per plastic box or 100 pieces bulk per carton.—Warehouse Pak.

"TRANSISTOR CIRCUIT" PLATE CAPACITORS

30 VDCW (50 VDC TEST)

Cap. (μF)	Cat. No.	Tolerance	Max. Square	Max. Thickness	Lead Spacing
.02	DA-203	+100 − 20%	½″	.140″	.250″
.05	DA-503	+100 − 20%	½″	.160″	.250″
.1	DA-104	+100 − 20%	9/16″	.218″	.250″

Type CK & HK 50 Volt DCW



SPECIFICATIONS

Same as listed for Type DA except for voltage, tolerance and dimensions.

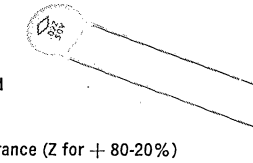
"TRANSISTOR CIRCUIT" DISC CAPACITORS

50 VDCW (100 VDC TEST)

Cap. (μF)	Cat. No.	Tolerance	Max. Diam.	Max. Thickness	Lead Spacing
.005	CK-502	+80 −20%	.390″	.156″	.250″
.01	CK-103	+80 −20%	.390″	.156″	.250″
.02	CK-203	+80 −20%	.590″	.156″	.375″
.025	CK-253	+80 −20%	.590″	.156″	.375″
.03	CK-303	+80 −20%	.590″	.156″	.375″
.05	CK-503	+80 −20%	.690″	.156″	.375″
.1	CK-104	+80 −20%	.719″	.156″	.375″

LOW VOLTAGE HK-SERIES

Thrifty, high capacity, low voltage, disc capacitors for production or replacement applications. Designed and manufactured by Centralab to exacting standards in Hong Kong. Ideal for transistor circuitry.



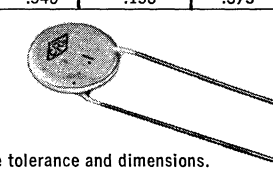
SPECIFICATIONS

INSULATION: Durez coated and wax impregnated
OPERATING TEMPERATURE: −55°C to +85°C
LEAKAGE RESISTANCE: 5000 megohms minimum
DISSIPATION FACTOR: 3% maximum @ 1 KHZ
MARKING: CRL diamond, capacity, voltage, tolerance (Z for + 80-20%)
LEADS: #22 tinned wire, 1" minimum length
PACKAGED: 100 pieces bulk per carton or 1000 pieces bulk per warehouse pak

TYPE HK —; 50 VOLT DCW (100V TEST)

Cap. (μF)	Cat. No.	Tolerance	Max. Diam.	Max. Thickness	Lead Spacing
.01	HK-103	+80 −20%	.320″	.156″	.250″
.02	HK-203	+80 −20%	.400″	.156″	.250″
.05	HK-503	+80 −20%	.540″	.153″	.375″

Type DDA; 75 Volt DCW



SPECIFICATIONS

Same as listed for Type DA except for voltage tolerance and dimensions.

"TRANSISTOR CIRCUIT" DISC CAPACITORS

75 VDCW (150 VDC) TEST)

Cap. (μF)	Cat. No.	Tolerance	Max. Diam.	Max. Thickness	Lead Spacing
.05	DDA-503	+80 −30%	.690″	.156″	.375″
.1	DDA-104	+80 −30%	.719″	.156″	.375″

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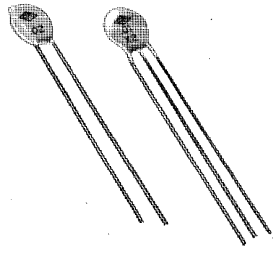
DISTRIBUTOR PRODUCTS

CENTRALAB
Electronics Division
GLOBE-UNION INC.

Type DDM, DDM2 Low Voltage Discs

150 VDCW (300 VDC TEST)



Designed for applications where voltages are higher and proper safety factors will not permit the use of lower voltage units.
Durez* coated and high temperature wax impregnated.

SPECIFICATIONS

OPERATING TEMPERATURE: −55°C to +85°C.

CAPACITY AND TOLERANCE: See Listing.

LEADS: #22 tinned wire 1½″ minimum length.

TEMPERATURE VS. CAPACITANCE: EIA Z5V or better (+22 −82% maximum capacity change from 25°C reading over temperature range of +10°C to +85°C).

DISSIPATION FACTOR: 2% maximum @ 1KC.

LEAKAGE RESISTANCE: Initial 7500 megohms min.; after humidity over 1000 megohms.

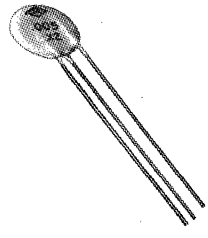
MARKING: Stamped with capacity, voltage and CRL diamond.

PACKAGED: 5 pieces per plastic box or 100 pieces bulk per carton.—Warehouse Pak.

Cap. (μF)	Cat. No.	Max. Dia.	Max. Thickness	Lead Spacing	Tolerance
.005	DDM-502	.390″	.156″	.250″	+60 −40%
.01	DDM-103	.390″	.156″	.250″	+60 −40%
.02	DDM-203	.406″	.166″	.250″	+60 −40%
2 x .01	DDM2-103	.406″	.186″	.094″	+60 −40%

Type DD2

600 VDCW—1200 VDC TEST

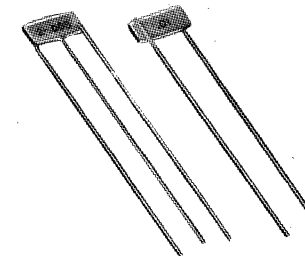


Type DD2—single disc dual capacity. Double "Durez" insulation. Stamped with capacity. Packaged 5 pieces per clear plastic box or 100 pieces bulk per carton.

Cap. Mfd. (μF)	Cat. No.	Max. Dia.	Max. Thick.	Lead Spacing	Tolerance
2 x .001	DD2-152	.408″	.156″	.125″	GMV
2 x .0015	DD2-152	.594″	.156″	.125″	GMV
2 x .005	DD2-502	.719″	.156″	.125″	+80 −20%

Type DM, DM2 Low Voltage

150 VOLTS DCW (300 VDC TEST)



Miniature plate capacitors.
Durez coated and high temperature wax impregnated.

SPECIFICATIONS

OPERATING TEMPERATURE: −55°C to +85°C.

CAPACITY AND TOLERANCE: See Listing.

LEADS: Tinned wire 1¾″ minimum lengths. DM-101, DM-201, DM-301, DM-501 and DM-102 have #24 wire leads. All others #26.

TEMPERATURE VS. CAPACITANCE: EIA Z5V or better (+22 −82% maximum capacity change from 25°C reading over temperature range of +10°C to +85°C).

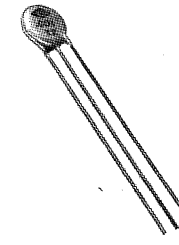
MARKING: Stamped with capacity and CRL and PEC in individual diamonds.

PACKAGED: 5 pieces per plastic box of 100 pieces bulk per carton.

Cap. (pF)	Cat. No.	Tolerance	Length	SIZE Width	Thickness
100	DM-101	+50 −20%	17/32″	7/32″	7/64″
200	DM-201	+50 −20%	17/32″	7/32″	7/64″
300	DM-301	+50 −20%	17/32″	7/32″	7/64″
500	DM-501	+30 −20%	17/32″	7/32″	7/64″
Cap. (μF)	**Cat. No.**	**Tolerance**	**Length**	**SIZE Width**	**Thickness**
.001	DM-102	+50 −30%	17/32″	7/32″	7/64″
.002	DM-202	+80 −20%	17/32″	7/32″	7/64″
.003	DM-302	+80 −20%	17/32″	7/32″	7/64″
.005	DM-502	+80 −20%	17/32″	7/32″	7/64″
.01	DM-103	+80 −20%	17/32″	7/32″	7/64″
2 x .005	DM2-502	+20 −20%	17/32″	7/32″	7/64″

Type DD3

600 VDCW—1200 VDC TEST



Type DD3—dual disc—two capacitors in the space required for one standard unit and shielded to minimize stray capacities between discs. Double "Durez" insulation. Stamped with capacity. Packaged 5 pieces per clear plastic box or 100 pieces bulk per carton.

PATENTED SHIELDED CONSTRUCTION

Cap. Mfd. (μF)	Cat. No.	Max. Dia.	Max. Thick.	Lead Spacing	Tolerance
2 x .001	DD3-102	.391″	.186″	.125″	GMV
2 x .0015	DD3-152	.391″	.186″	.125″	GMV
2 x .002	DD3-202	.593″	.225″	.125″	GMV
2 x .005	DD3-502	.593″	.225″	.125″	GMV
2 x .01	DD3-103	.719″	.225″	.125″	GMV

*Trademark

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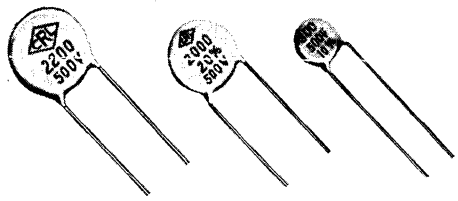
Type CE and CF



Type CE and CF Hi-Kaps® afford extra stability through a temperature range of +10°C to +85°C. Type CE STABLE "K" have ±7.5% maximum capacity change from the 25°C reading over a temperature range of +10°C to +85°C. Under these same conditions Type CF semi-stable "K" will not vary more than ±15%. These capacitors are for use in by-pass, filter and non-critical coupling circuits where operating temperatures range from −55°C to +85°C.

SPECIFICATIONS

OPERATING TEMPERATURE: −55°C to +85°C

VOLTAGE: 500 VDCW

LIFE TEST: 1000 hours at 1000 VDC @ + 85°C

SIZE: See listing

CAPACITY: See listing

TOLERANCE: ±10%

LEAKAGE RESISTANCE: Initial, 10,000 Megohms minimum; after humidity over 1000 Megohms

LEADS: No. 22 tinned copper, 1½" minimum length

DISSIPATION FACTOR: 2% max. at 1KC and +25°C

INSULATION: Double coating of phenolic, impregnated with high temperature wax.

MARKING: Stamped with capacity, tolerance and catalog number

PACKAGED: 100 pieces bulk per carton only

SIZE CHART

CRL Size	60	61	62	63	65
Diameter Max. in	.290	.390	.590	.690	.920
Thickness Max. in.	.156	.156	.156	.156	.156
Lead Spacing in.	.250	.250	.375	.375	.375

TYPE CE
TEMPERATURE STABLE "K"

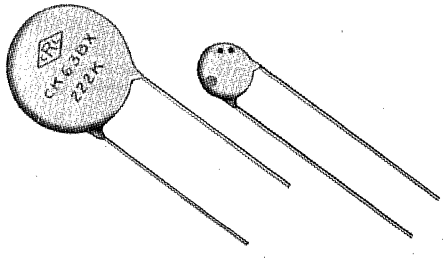
Cap. Mmf. (pF)	Cat. No.	CRL Size
150	CE-151	60
220	CE-221	60
330	CE-331	60
470	CE-471	60
500	CE-501	61
560	CE-561	61
680	CE-681	61
750	CE-751	61
800	CE-801	61
1000	CE-102	62

TYPE CF
TEMPERATURE SEMI-STABLE "K"

Cap. Mfd. (μF)	Cat. No.	CRL Size
.0012	CF-122	61
.0015	CF-152	61
.0018	CF-182	61
.002	CF-202	62
.0022	CF-222	62
.0033	CF-332	62
.0039	CF-392	62
.0047	CF-472	63
.005	CF-502	63
.0062	CF-622	63
.0082	CF-822	65
.01	CF-103	65

NOTE: If more STABLE and closer tolerance capacitors are desired and wherein space available is not critical use Centralab Type "CPR" Polystyrene capacitors.

MIL Type Discs CK60, CK61, CK62, CK63



Types CK60, CK61, CK62 and CK63 ceramic disc capacitors are manufactured to meet the specifications of MIL-C-11015B. By-Pass, coupling or filter applications are the primary uses of these capacitors. Exclusive phenolic insulation impregnated with high melting point wax, provides maximum protection against humidity, voltage breakdown and vibration.

SPECIFICATIONS

OPERATING TEMPERATURE RANGE: See listing

VOLTAGE: 500 VDCW, 1,800 VDC test

LIFE TEST: 1000 hours at 1000 volts at maximum operating temperature

SIZE: Type CK60—Diam. .280" ±.030", thickness—.120" ± .040", lead spacing —.250" ± .060"
Type CK61—Diam. .350" ± .035", thickness—.120" ± .040", lead spacing —.250" ± .060"
Type CK62—Diam. .550" ± .040" thickness—.120" ± .040", lead spacing —.375" ± .060"
Type CK63—Diam. .660" ± .030", thickness—.120" ± .040", lead spacing —.375" ± .060"

TOLERANCE: ±10% and ±20%; see listing

LEAKAGE RESISTANCE: 20,000 Megohms minimum initial; 5000 Megohms minimum after life test

LEADS: Types CK60, CK61 and CK62—#22 (.025" + .004" − .001") tinned copper, 1¼" minimum length. Type CK63--#20 (.032" + .004" − .001") tinned copper, 1¼" minimum length

DISSIPATION FACTOR: 1.5% maximum

INSULATION: Phenolic, vacuum impregnated with high temperature wax

TEMPERATURE VS. CAPACITANCE: See listing

MARKING: Type CK60—color coded per MIL-C-11015B. Types CK61, CK62 and CK63 stamped with MIL-C-11015B designation numbers and Centralab trademark.

PACKAGED: 100 pieces bulk per carton only

TYPES CK60, CK61, CK62 AND CK63 DISC HI-KAPS®

Cap. MMF(pF)	CRL Cat. No. & MIL-C-11015B Designation	Tol. %	Temperature vs. Capacitance	
			Temp. Range	Capacitance Change Limits
2.2	CK60BV2R2K	±10	−55°C to +125°C	±10% @ 25°C
3.3	CK60BV3R3K	±10	−55°C to +125°C	±10% @ 25°C
4.7	CK60BV4R7K	±10	−55°C to +125°C	±10% @ 25°C
6.8	CK60BV6R8K	±10	−55°C to +125°C	±10% @ 25°C
10	CK60BV100K	±10	−55°C to +125°C	±10% @ 25°C
15	CK60BV150K	±10	−55°C to +125°C	±10% @ 25°C
22	CK60BV220K	±10	−55°C to +125°C	±10% @ 25°C
33	CK60BX330K	±10	−55°C to +125°C	±15% @ 25°C
33	CK60BX330M	±20	−55°C to +125°C	±15% @ 25°C
47	CK60BX470K	±10	−55°C to +125°C	±15% @ 25°C
47	CK60BX470M	±20	−55°C to +125°C	±15% @ 25°C
150	CK60BX151K	±10	−55°C to +125°C	±15% @ 25°C
150	CK60BX151M	±20	−55°C to +125°C	±15% @ 25°C
220	CK60AX221K	±10	−55°C to + 85°C	±15% @ 25°C
220	CK60AX221M	±20	−55°C to + 85°C	±15% @ 25°C
330	CK60AX331K	±10	−55°C to + 85°C	±15% @ 25°C
330	CK60AX331M	±20	−55°C to + 85°C	±15% @ 25°C
330	CK61BX331K	±10	−55°C to +125°C	±15% @ 25°C
330	CK61BX331M	±20	−55°C to +125°C	±15% @ 25°C
470	CK60AX471K	±10	−55°C to + 85°C	±15% @ 25°C
470	CK60AX471M	±20	−55°C to + 85°C	±15% @ 25°C
470	CK61BX471K	±10	−55°C to +125°C	±15% @ 25°C
470	CK61BX471M	±20	−55°C to +125°C	±15% @ 25°C
680	CK61BX681K	±10	−55°C to +125°C	±15% @ 25°C
680	CK61BX681M	±20	−55°C to +125°C	±15% @ 25°C
820	CK62BX821K	±10	−55°C to +125°C	±15% @ 25°C
820	CK62BX821M	±20	−55°C to +125°C	±15% @ 25°C
1000	CK62BX102K	±10	−55°C to +125°C	±15% @ 25°C
1000	CK62BX102M	±20	−55°C to +125°C	±15% @ 25°C
1500	CK62BX152K	±10	−55°C to +125°C	±15% @ 25°C
1500	CK62BX152M	±20	−55°C to +125°C	±15% @ 25°C
2200	CK62AX222K	±10	−55°C to + 85°C	±15% @ 25°C
2200	CK62AX222M	±20	−55°C to + 85°C	±15% @ 25°C
2200	CK63BX222K	±10	−55°C to +125°C	±15% @ 25°C
2200	CK63BX222M	±20	−55°C to +125°C	±15% @ 25°C
3300	CK63BX332K	±10	−55°C to +125°C	±15% @ 25°C
3300	CK63BX332M	±20	−55°C to +125°C	±15% @ 25°C

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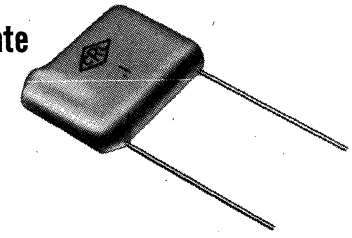
DISTRIBUTOR PRODUCTS

CENTRALAB
Electronics Division
GLOBE-UNION INC.

Type DF Flat Plate

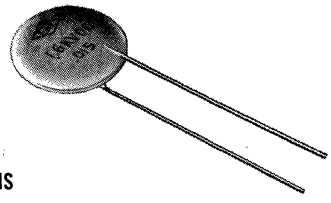
600 VDCW—1200 VDC TEST



High capacity, low mass weight, unusual thin design plus inherent Centralab ceramic stability and permanence have made these units extremely popular as by-pass and filter capacitors and are excellent for audio coupling applications. No. 20 tinned wire leads. Packaged 2 pieces per clear plastic box or 50 pieces bulk per carton.

Cap. Mfd. (μF)	Cat. No.	Max. Dimensions	Lead Spacing	Tolerance
.05	DF-503	1 7/16" x 1 1/16" x 7/32"	7/8"	GMV
.1	DF-104	1 7/16" x 1 1/16" x 13/64"	7/8"	+80 −20%

Type DD16



SPECIFICATIONS

VOLTAGE: 1600 VDCW, 3200 VDC test

SIZE: See listing

CAPACITY: .003 mfd. (μF thru) .015 mfd. (μF)

TOLERANCE: GMV, except DD16-153 which is +80 −20%

LEADS: #22 tinned copper wire

INSULATION: Double coating of "Durez" and high temperature wax impregnation

TEMPERATURE VS. CAPACITANCE: Will meet EIA Z5U (+22% to −56% from +10°C to +85°C)

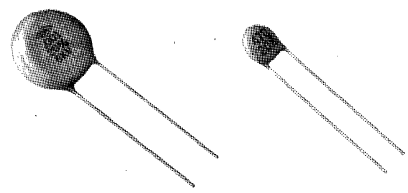
MARKING: Stamped with capacity and voltage. Tolerance also stamped on DD16-153.

PACKAGED: 5 pieces per plastic box or 100 pieces bulk per carton

TYPE DD16—HI-KAP BUFFERS

Cap. Mfd. (μF)	Cat. No.	Tolerance	Max. Dia.	Max. Thick-ness	Lead Spacing
.003	DD16-302	GMV	.605"	.172"	.375"
.004	DD16-402	GMV	.605"	.172"	.375"
.005	DD16-502	GMV	.605"	.172"	.375"
.006	DD16-602	GMV	.705"	.172"	.375"
.007	DD16-702	GMV	.705"	.172"	.375"
.0075	DD16-752	GMV	.835"	.172"	.375"
.008	DD16-802	GMV	.835"	.172"	.375"
.01	DD16-103	GMV	.835"	.172"	.375"
.015	DD16-153	+80 −20%	.935"	.172"	.375"

Type DD30 and DD60



Centralab Hi-Vo Disc capacitors are designed to guarantee superior quality and extra performance. These Hi-Vo-Kaps® are tested at twice working voltage before shipment and exceed EIA-RS-165 life test. These ceramic capacitors are highly efficient for by-pass coupling in high frequency circuits under conditions of extreme humidity or temperature.

SPECIFICATIONS

OPERATING TEMPERATURE RANGE: −55°C to +85°C

VOLTAGE: DD30 series: 3000 VDCW, 6000 VDCT
DD60 series: 6000 VDCW—12,000 VDC Test

LIFE TEST: Per EIA-RS-165

SIZE: See Listing

CAPACITY: See listing

CAPACITY TEST: Test DD30-4R7 thru DD30-820 and DD60-4R7 thru DD60-151 at 1MC. Test all other DD30- and DD60-values at 1KC.

TOLERANCE: DD30 series and DD60 series all units ±20%

LEAKAGE RESISTANCE: Initial, over 10,000 megohms; after humidity, over 1000 megohms

LEADS: #22 tinned copper wire, 1½" minimum length

DISSIPATION FACTOR: 2% maximum @ 1KC

INSULATION: Double coating of "Durez" and high temperature wax impregnation

TEMPERATURE VS. CAPACITANCE: EIA "Z5U" or better (+22% to −56% maximum capacity change from +25°C reading over temperature range of +10°C to +85°C).

MARKING: Stamped with capacity, tolerance and voltage

PACKAGED: 5 pieces per clear plastic box or 50 pieces bulk per carton.

TYPES DD30 AND DD60 HI-KAPS

CRL Size Code	60	61	62	63	67
Maximum Diameter					
DD30 Series	.330"	.430"	.630"	.730"	.800"
DD60 Series	.....	.....	.660"	.760"	.830"
Maximum Thickness					
DD30 Series	.203"	.203"	.203"	.203"	.203"
DD60 Series	.313"	.313"	.313"	.313"	.313"
Lead Spacing (±.060)	.250"	.250"	.375"	.375"	.375"

Cap. (pF)	Cat. No. 3000 V.D.C.W.	CRL Size	Cat. No. 6000 V.D.C.W.	CRL Size
4.7	DD30-4R7	60	DD60-4R7	62
10	DD30-100	60	DD60-100	62
15	DD30-150	60	DD60-150	62
22	DD30-220	60	.....	....
25	DD30-250	60	.....	....
30	DD30-300	60	DD60-300	62
33	DD30-330	60	DD60-330	62
39	DD30-390	60	DD60-390	62
47	DD30-470	60	DD60-470	62
50	DD30-500	60	DD60-500	62
56	DD30-560	60	DD60-560	62
68	DD30-680	60	DD60-680	62
75	DD30-750	60	DD60-750	62
82	DD30-820	60	DD60-820	62
100	DD30-101	60	DD60-101	62
120	DD30-121	60	DD60-121	62
150	DD30-151	60	DD60-151	62
180	DD30-181	60	DD60-181	62
200	DD30-201	60	DD60-201	62
220	DD30-221	60	DD60-221	62
250	DD30-251	60	DD60-251	62
270	DD30-271	60	DD60-271	62
300	DD30-301	60	DD60-301	62
330	DD30-331	60	DD60-331	62
390	DD30-391	60	DD60-391	62
400	DD30-401	60	.....	....
470	DD30-471	60	DD60-471	62
500	DD30-501	60	DD60-501	62
560	DD30-561	60	DD60-561	62
680	DD30-681	60	DD60-681	62
750	DD30-751	60	DD60-751	62
820	DD30-821	61	DD60-821	62
Cap. (μF)				
.001	DD30-102	61	DD60-102	62
.0012	DD30-122	61	DD60-122	62
.0015	DD30-152	62	DD60-152	62
.002	DD30-202	62	DD60-202	63
.0022	DD30-222	62	DD60-222	63
.0025	DD30-252	62	.....	....
.0027	DD30-272	62	.....	....
.003	DD30-302	62	.....	....
.0033	DD30-332	62	.....	....
.0039	DD30-392	63	.....	....
.0047	DD30-472	63	.....	....
.005	DD30-502	67	.....	....

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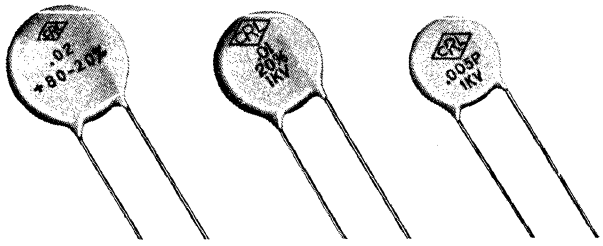
Type DD General Purpose Ceramic Discs



Centralab "DD" Series ceramic disc Hi-Kaps® provide the widest choice of general purpose capacitors available off-the-shelf. These capacitors are primarily designed for by-pass and non-critical coupling applications in electronic equipment having operating temperatures ranging from —55°C to +85°C. Specifications are based on EIA Standard RS-198.

SPECIFICATIONS

OPERATING TEMPERATURE RANGE: —55°C to +85°C

VOLTAGE: 1000 VDCW (Except DD-153 thru DD-503 and DD6-103 which are 600 VDCW).

LIFE TEST: 1000 hours at 1000 VDC at 85°C.

FLASH TEST: 1800 VDC

SIZE: See listing

CAPACITY: 3.3 pF thru 200 pF (Test at 1MC)
200 pF thru .05 μF (Test at 1KC)

TOLERANCE: See listing (GMV—Guaranteed Minimum Value)

LEAKAGE RESISTANCE: Initial, 10,000 megohms minimum; after humidity, over 1000 megohms.

LEADS: #22 tinned copper, minimum length 1½"

DISSIPATION FACTOR: EIA codes S2L and S3N 0.6% max. at 1MC. All other 2% max. at 1KC.

INSULATION: "Durez" coated and high temperature vacuum wax impregnated.

TEMPERATURE VS. CAPACITANCE: See EIA temperature characteristic chart vs. listing.

MARKING: Stamped with capacity, tolerance and voltage except tolerance omitted on GMV values and voltage omitted on DD-153 thru DD-503 and DD6-103.

PACKAGED: 5 pieces per plastic box or 100 pieces bulk per carton.

SIZE CHART TYPE DD

CRL Size	Max. Diameter	Max. Thickness	Lead Spacing
60	.290"	.156"	.250"
61	.385"	.156"	.250"
62	.590"	.156"	.375"
63	.690"	.156"	.375"
*	.718"	.250"	.375"
**	.875"	.250"	.375"

EIA TEMPERATURE CHARACTERISTIC CODE CHARTS

TC MATERIAL CODE

EIA Code	TC Nom.	TC Tol. PPM/°C	Temperature Range
S2L	N330	±500	+25°C to +85°C
S3N	N3300	±2500	+25°C to +85°C

HIGH-K MATERIAL CODE

EIA Code	Temperature Range	Max. Cap. Change from +25°C Value Over the Specified Temperature Range
Z5F	+10°C to +85°C	±7.5%
Z5R	+10°C to +85°C	±15%
Z5U	+10°C to +85°C	+22% to —56%

Cap. Mmf. (pF)	Cat. No.	EIA Code Char.	Tolerance	CRL Size
3.3	DD-3R3	S2L	±.5 Mmf.	60
5	DD-050	S2L	±10%	60
6	DD-060	S2L	±10%	60
6.8	DD-6R8	S2L	±10%	60
7.5	DD-7R5	S2L	±10%	60
8	DD-080	S2L	±10%	60
10	DD-100	S2L	±10%	60
12	DD-120	S2L	±10%	60
15	DD-150	S2L	±10%	60
18	DD-180	S2L	±10%	60
20	DD-220	S2L	±10%	60
22	DD-220	S2L	±10%	60
24	DD-240	S2L	±10%	60
25	DD-250	S2L	±10%	60
27	DD-270	S2L	±10%	60
30	DD-300	S2L	±10%	60
33	DD-330	S2L	±10%	60
39	DD-390	S2L	±10%	60
47	DD-470	S2L	±10%	60
50	DD-500	S3N	±10%	60
51	DD-510	S3N	±10%	60
56	DD-560	S3N	±10%	60
68	DD-680	S3N	±10%	60
75	DD-750	S3N	±10%	60
82	DD-820	S3N	±10%	60
91	DD-910	S3N	±10%	60
100	DD-101	S3N	±10%	60
120	DD-121	S3N	±10%	60
130	DD-131	S3N	±10%	60
150	DD-151	S3N	±10%	60
180	DD-181	S3N	±10%	60
200	DD-201	S3N	±10%	60
220	DD-221	Z5F	±10%	60
240	DD-241	Z5F	±10%	60
250	DD-251	Z5F	±10%	60
270	DD-271	Z5F	±10%	60
300	DD-301	Z5F	±10%	60
330	DD-331	Z5F	±10%	60
350	DD-351	Z5F	±10%	60
360	DD-361	Z5F	±10%	60
390	DD-391	Z5F	±10%	60
400	DD-401	Z5F	±10%	60
470	DD-471	Z5F	±10%	60
470	DD-471G	Z5R	GMV	60
500	DD-501	Z5R	±10%	60
510	DD-511	Z5R	±10%	60
560	DD-561	Z5R	±10%	60
600	DD-601	Z5R	±10%	60
680	DD-681	Z5R	±10%	60
750	DD-751	Z5R	±10%	60
800	DD-801	Z5U	GMV	60
820	DD-821	Z5R	±10%	60
910	DD-911	Z5R	±10%	60
Cap. Mfd. (μF)				
.001	DD-102	Z5R	±10%	61
.001	DD-102G	Z5U	GMV	60
.0012	DD-122	Z5R	±10%	61
.0012	DD-122G	Z5U	GMV	60
.0013	DD-132	Z5R	±10%	61
.0015	DD-152	Z5R	±10%	61
.0015	DD-152G	Z5U	GMV	60
.0016	DD-162	Z5R	±10%	61
.0018	DD-182	Z5R	±10%	61
.002	DD-202	Z5U	GMV	61
.0022	DD-222	Z5U	GMV	61
.0025	DD-252	Z5U	GMV	61
.0027	DD-272	Z5U	GMV	61
.003	DD-302	Z5U	GMV	61
.0033	DD-332	Z5U	GMV	62
.0039	DD-392	Z5U	GMV	62
.004	DD-402	Z5U	GMV	62
.0043	DD-432	Z5U	GMV	62
.0047	DD-472	Z5U	±20%	62
.0047	DD-472G	Z5U	GMV	62
.005	DD-5022	Z5U	±20%	62
.005	DD-502	Z5U	GMV	62
.0056	DD-562	Z5U	GMV	62
.0068	DD-682	Z5U	GMV	62
.0075	DD-752	Z5U	GMV	62
.0082	DD-822	Z5U	GMV	63
.01	DD6-103	Z5U	GMV	62
.01	DD-1032	Z5U	±20%	63
.01	DD-103	Z5U	GMV	63
.015	DD-153	Z5U	+80 —20%	63
.02	DD-203	Z5U	+80 —20%	63
.03	DD-303	Z5U	+80 —20%	*
.04	DD-403	Z5U	+80 —20%	*
.05	DD-503	Z5U	+80 —20%	**

CAUTION: Do not use for AC Line by-pass or antenna chassis isolation. For these applications see Centralab type "CI" AC line disc Hi-Kaps®

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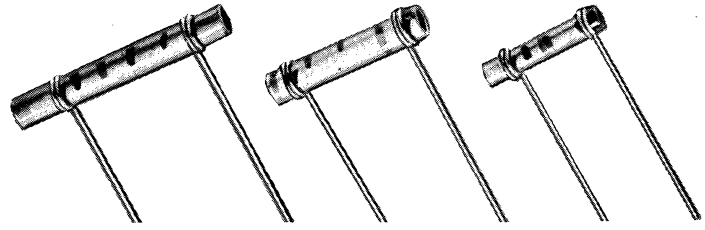
DISTRIBUTOR PRODUCTS

CENTRALAB
Electronics Division
GLOBE-UNION INC.

Type TCZ, TCN, TCA, TCL Temperature Compensating Tubular



Centralab T.C. (temperature compensating) ceramic tubular and disc capacitors are available in zero and negative temperature coefficients to compensate for changes in other components due to temperature changes. Special lacquer coating only on the tubular series reduces to a minimum the time lag between temperature change and corrective capacity compensation.

SPECIFICATIONS

OPERATING TEMPERATURE RANGE: −55°C to +85°C

VOLTAGE: 600 VDCW, 1500 VDC Flash Test

LIFE TEST: 1000 VDC @ 1000 hours @ 85°C.

SIZE: See listings

CAPACITIES: Tubulars — NPO, 0.5 pF thru 300 pF; N750, 3.3 pF thru 750 pF; N330, 10 pF thru 100 pF; N1500, 10 pF thru 100 pF.
Discs — NPO, 1.5 pF thru 270 pF; N750, 5 pF thru 330 pF.

TOLERANCES: See listings.

LEAKAGE RESISTANCE: Initial, 10,000 megohms minimum; after humidity, 1000 megohms minimum.

DISSIPATION FACTOR: Per EIA RS-198 Class 1.

TEMPERATURE VS. CAPACITANCE: T.C. tolerances per listings apply over a temperature range of +25°C to +85°C.

INSULATION: Tubulars, special lacquer coating; discs, durez coated and high temperature vacuum wax impregnated.

LEADS: #22 tinned copper, 1½" minimum length.

MARKING: Tubulars, color coded per 5 and 6 dot color code chart; (Per EIA RS-198 Class 1). Discs, stamped with capacity, tolerance and nominal T.C. value.

CAPACITY TESTS: Capacitance shall be within limits specified at +25°C with 0.5 to 5 volts RMS at a frequency of 1MC.

PACKAGED: 2 pieces per clear plastic box or 50 pieces bulk per carton.

TYPE TCA—N330 T.C. TUBULAR

A new group of intermediate stock values allow additional T.C. values without combining NPO and N750 capacitors. This group changes negatively capacity-wise with temperature increases at the rate of 330 parts per million per degree C. Left end coded green, with leads away from you in the up position. See 5-Dot Color Code Chart.

Cap. Mmf.	Tolerance	Cat. No.	Size Type	Temp. Coeff.	T.C. Tol. PPM/°C
10	±.5 pF	TCA-10	CC20	N330	±60
15	±2%	TCA-15	CC20	N330	±60
22	±2%	TCA-22	CC20	N330	±60
33	±2%	TCA-33	CC20	N330	±60
47	±2%	TCA-47	CC30	N330	±60
68	±2%	TCA-68	CC25	N330	±60
100	±2%	TCA-100	CC25	N330	±60

TYPE TCL—N1500 T.C. TUBULAR

Show negative capacity change of minus 1500 parts per million per degree C. rise in temperature. Left end coded orange plus an orange stripe. (See 6-Dot Color Coding Chart.)

Cap. Mmf.	Tolerance	Cat. No.	Size Type	Temp. Coeff.	T.C. Tol. PPM/°C
10	±.5 pF	TCL-10	CC20	N1500	±250
15	±2%	TCL-15	CC20	N1500	±250
22	±2%	TCL-22	CC20	N1500	±250
33	±2%	TCL-33	CC20	N1500	±250
47	±2%	TCL-47	CC20	N1500	±250
68	±2%	TCL-68	CC20	N1500	±250
100	±2%	TCL-100	CC30	N1500	±250

See opposite page for other specifications and also T.C. discs.

TYPE TCZ—NPO OR ZERO T.C.

NOTE: Zero T.C. units (Type TCZ) are superior to micas for all applications and recommended as replacements for mica capacitors in any circuit.

Show zero capacitance changeover temperature range −20° to +85°C. Left end coded black, with leads away from you in the up position. (See 5-Dot Color Code Chart.)

Cap. (pF)	Tolerance	Cat. No.	Size Type	Temp. Coeff.	T.C. Tol. PPM/°C
.5	±.25 pF	TCZ-R5	CC20	NPO	±250
.68	±.25 pF	TCZ-R68	CC20	NPO	±250
1.0	±.25 pF	TCZ-1	CC20	NPO	±250
1.5	±.25 pF	TCZ-1R5	CC20	NPO	±250
2.2	±.25 pF	TCZ-2R2	CC20	NPO	±120
3.3	±.25 pF	TCZ-3R3	CC20	NPO	±120
4.7	±.5 pF	TCZ-4R7	CC20	NPO	±60
6.8	±.5 pF	TCZ-6R8	CC20	NPO	±60
10	±.5 pF	TCZ-10	CC20	NPO	±30
12	±2%	TCZ-12	CC20	NPO	±30
15	±2%	TCZ-15	CC20	NPO	±30
18	±2%	TCZ-18	CC20	NPO	±30
20	±2%	TCZ-20	CC20	NPO	±30
22	±2%	TCZ-22	CC20	NPO	±30
24	±2%	TCZ-24	CC20	NPO	±30
25	±2%	TCZ-25	CC30	NPO	±30
27	±2%	TCZ-27	CC30	NPO	±30
30	±2%	TCZ-30	CC30	NPO	±30
33	±2%	TCZ-33	CC30	NPO	±30
36	±2%	TCZ-36	CC30	NPO	±30
39	±2%	TCZ-39	CC25	NPO	±30
43	±2%	TCZ-43	CC25	NPO	±30
47	±2%	TCZ-47	CC25	NPO	±30
50	±2%	TCZ-50	CC25	NPO	±30
51	±2%	TCZ-51	CC25	NPO	±30
56	±2%	TCZ-56	CC25	NPO	±30
62	±2%	TCZ-62	CC32	NPO	±30
68	±2%	TCZ-68	CC32	NPO	±30
75	±2%	TCZ-75	CC32	NPO	±30
82	±2%	TCZ-82	CC32	NPO	±30
91	±2%	TCZ-91	CC32	NPO	±30
100	±2%	TCZ-100	CC32	NPO	±30
110	±5%	TCZ-110	CC35	NPO	±30
120	±5%	TCZ-120	CC35	NPO	±30
130	±5%	TCZ-130	CC35	NPO	±30
150	±5%	TCZ-150	CC35	NPO	±30
160	±5%	TCZ-160	CC35	NPO	±30
180	±5%	TCZ-180	CC35	NPO	±30
200	±5%	TCZ-200	CC35	NPO	±30
220	±5%	TCZ-220	CC45	NPO	±30
240	±5%	TCZ-240	CC45	NPO	±30
270	±5%	TCZ-270	CC45	NPO	±30
300	±5%	TCZ-300	CC45	NPO	±30

TYPE TCN—N750 T.C.

Show negative capacity of minus 750 parts per million per degree C. rise in temperature. Left end coded violet, with leads away from you in the up position. See 5-Dot Color Code Chart.

Cap. (pF)	Tolerance	Cat. No.	Size Type	Temp. Coeff.	T.C. Tol. PPM/°C
3.3	±.5 pF	TCN-3R3	CC20	N750	±120
5	±.5 pF	TCN-5	CC20	N750	±120
10	±.5 pF	TCN-10	CC20	N750	±120
12	±2%	TCN-12	CC20	N750	±120
15	±2%	TCN-15	CC20	N750	±120
18	±2%	TCN-18	CC20	N750	±120
20	±2%	TCN-20	CC20	N750	±120
22	±2%	TCN-22	CC20	N750	±120
24	±2%	TCN-24	CC20	N750	±120
25	±2%	TCN-25	CC20	N750	±120
27	±2%	TCN-27	CC20	N750	±120
30	±2%	TCN-30	CC20	N750	±120
33	±2%	TCN-33	CC20	N750	±120
36	±2%	TCN-36	CC20	N750	±120
39	±2%	TCN-39	CC20	N750	±120
43	±2%	TCN-43	CC20	N750	±120
47	±2%	TCN-47	CC20	N750	±120
50	±2%	TCN-50	CC20	N750	±120
51	±2%	TCN-51	CC20	N750	±120
56	±2%	TCN-56	CC20	N750	±120
62	±2%	TCN-62	CC30	N750	±120
68	±2%	TCN-68	CC30	N750	±120
75	±2%	TCN-75	CC30	N750	±120
82	±2%	TCN-82	CC30	N750	±120
91	±2%	TCN-91	CC25	N750	±120
100	±2%	TCN-100	CC25	N750	±120
110	±5%	TCN-110	CC25	N750	±120
120	±5%	TCN-120	CC25	N750	±120
130	±5%	TCN-130	CC25	N750	±120
150	±5%	TCN-150	CC25	N750	±120
160	±5%	TCN-160	CC32	N750	±120
180	±5%	TCN-180	CC32	N750	±120
200	±5%	TCN-200	CC32	N750	±120
220	±5%	TCN-220	CC32	N750	±120
240	±5%	TCN-240	CC32	N750	±120
270	±5%	TCN-270	CC35	N750	±120
300	±5%	TCN-300	CC35	N750	±120
330	±5%	TCN-330	CC35	N750	±120
360	±5%	TCN-360	CC35	N750	±120
390	±5%	TCN-390	CC35	N750	±120
430	±5%	TCN-430	CC35	N750	±120
470	±5%	TCN-470	CC35	N750	±120
510	±5%	TCN-510	CC35	N750	±120
560	±5%	TCN-560	CC45	N750	±120
620	±5%	TCN-620	CC45	N750	±120
680	±5%	TCN-680	CC45	N750	±120
750	±5%	TCN-750	CC45	N750	±120

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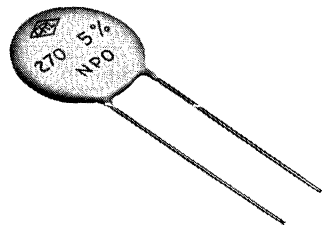
Type DTN, DTZ



Because of the inherent stability of T.C. ceramic dielectric material and smaller size, Centralab DTN and DTZ find many applications in frequency determining and resonant circuits—BETTER THAN MICA FOR ALL APPLICATIONS.

TYPE DTN—N750 T.C. DISC

Cap. (pF)	Cat. No.	Cap. Tolerance	T.C.	T.C. Tol. PPM/°C	Max. Diameter	Max. Thickness	Lead Spacing
5	DTN-5	±.5 pF	N750	±120	.320″	.180″	.250″
10	DTN-10	±.5 pF	N750	±120	.290″	.156″	.250″
15	DTN-15	±5%	N750	±120	.290″	.156″	.250″
20	DTN-20	±5%	N750	±120	.290″	.156″	.250″
22	DTN-22	±5%	N750	±120	.290″	.156″	.250″
25	DTN-25	±5%	N750	±120	.290″	.156″	.250″
33	DTN-33	±5%	N750	±120	.290″	.156″	.250″
47	DTN-47	±5%	N750	±120	.290″	.156″	.250″
68	DTN-68	±5%	N750	±120	.390″	.156″	.250″
75	DTN-75	±5%	N750	±120	.390″	.156″	.250″
100	DTN-100	±5%	N750	±120	.390″	.156″	.250″
150	DTN-150	±5%	N750	±120	.590″	.156″	.375″
200	DTN-200	±5%	N750	±120	.590″	.156″	.375″
220	DTN-220	±5%	N750	±120	.590″	.156″	.375″
330	DTN-330	±5%	N750	±120	.690″	.156″	.375″

TYPE DTZ—NPO OR ZERO T.C. DISC

Cap. (pF)	Cat. No.	Cap. Tol.	T.C.	T.C. Tol. PPM/°C	Max. Diameter	Max. Thickness	Lead Spacing
1.5	DTZ-1R5	±.5 pF	NPO	±250	.320″	.180″	.250″
2.2	DTZ-2R2	±.5 pF	NPO	±250	.290″	.156″	.250″
3.3	DTZ-3R3	±.5 pF	NPO	±120	.290″	.156″	.250″
4.7	DTZ-4R7	±.5 pF	NPO	±60	.290″	.156″	.250″
6.8	DTZ-6R8	±.5 pF	NPO	±60	.290″	.156″	.250″
10	DTZ-10	±5%	NPO	±30	.290″	.156″	.250″
15	DTZ-15	±5%	NPO	±30	.290″	.156″	.250″
20	DTZ-20	±5%	NPO	±30	.290″	.156″	.250″
22	DTZ-22	±5%	NPO	±30	.390″	.156″	.250″
25	DTZ-25	±5%	NPO	±30	.390″	.156″	.250″
33	DTZ-33	±5%	NPO	±30	.390″	.156″	.250″
47	DTZ-47	±5%	NPO	±30	.590″	.156″	.375″
50	DTZ-50	±5%	NPO	±30	.590″	.156″	.375″
68	DTZ-68	±5%	NPO	±30	.590″	.156″	.375″
75	DTZ-75	±5%	NPO	±30	.590″	.156″	.375″
82	DTZ-82	±5%	NPO	±30	.590″	.156″	.375″
100	DTZ-100	±5%	NPO	±30	.590″	.156″	.375″
120	DTZ-120	±5%	NPO	±30	.690″	.156″	.375″
150	DTZ-150	±5%	NPO	±30	.760″	.156″	.375″
180	DTZ-180	±5%	NPO	±30	.594″	.235″	.375″
200	DTZ-200	±5%	NPO	±30	.594″	.235″	.375″
220	DTZ-220	±5%	NPO	±30	.719″	.250″	.375″
270	DTZ-270	±5%	NPO	±30	.719″	.250″	.375″

5 AND 6 DOT COLOR CODE CHART

	Temperature Coefficient	CAPACITY: Significant Figures	CAPACITY: Multiplier	CAPACITY: TOLERANCE pF	CAPACITY: TOLERANCE Percent
Black	ZERO (TCZ)	0	1	±2.0	±20%
Brown	.....	1	10	.....	± 1%
Red	.....	2	100	.....	± 2%
Orange	.....	3	1,000	.....	.....
Yellow	.....	4	10,800	.....	.....
Green	N330 (TCA)	5	.....	± .5	± 5%
Blue	.....	6	.....	.....	.....
Violet	N750 (TCN)	7	.....	.....	.....
Grey	.....	8	.01	±.25	
White	.....	9	.1	±1.0	±10%
Orange-Orange	N1500 (TCL)	....	.....	.....	.....

HOW TO PARALLEL TCZ AND TCN UNITS TO OBTAIN A DESIRED CAPACITY AND TEMPERATURE COEFFICIENT VALUE

By using the proper TCZ and TCN units in parallel, a great variety of intermediate capacities and temperature coefficients are obtainable. Follow this simple formula:

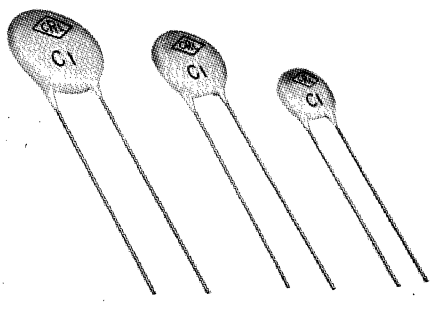
1. Desired capacity is .....(pf).
2. Desired temperature coefficient is.....
   Example: enter 330 for N330.
3. Multiply figure of line 1 by figure of line 2.
4. Divide the answer obtained (line 3) by 750. This gives you the value in (pf), of the TCN capacitor required. (For practical purposes, choose a standard unit of the nearest capacitance.)
5. Subtract your result obtained in line 4, in mmf. (using the standard capacitance value you have selected) from line 1. The result will be the required TCZ capacitor, in (pf). Select nearest TCZ value.
   Typical example: 560pF, N470TC:
   a. 560 (pF) × 470(N470) = 263,200.
   b. 263,200 ÷ 750(N750) = 351 (Use TCN-360) 360pF, N750 as one unit.
   c. Subtract 360pF from desired value of 560pF = 200pF (Use TCZ 200) 200pF, NPO as the other parallel unit.
   d. Paralleling TCN-360 and TCZ-200 = 560pF, N470.

TUBULAR TYPES AND DIMENSIONS

Tube Type	Max. Dia.	Max. Length
CC20	.200″	.400″
CC30	.225″	.460″
CC25	.200″	.690″
CC32	.225″	.860″
CC35	.285″	1.165″
CC45	.285″	1.625″

See previous page for T.C. Tubular Capacitors.

Type CI AC Line



Type CI capacitors are recommended for AC line by-pass application or where a steady or intermittent higher voltage may occur. (U/L approved per Underwriters Laboratories Examination Service #E32296, dated 12-6-60.)

SPECIFICATIONS

VOLTAGE: 1.4 K.V. except CI-103 1 K.V. VDC minimum (suitable for continuous operation at 150 VAC-RMS, 60 cycles)
SIZE: See listing
CAPACITY: 470 pF to 10,000 pF
TOLERANCE: ±20%
LEAKAGE RESISTANCE: Initial, over 10,000 megohms; after humidity, over 1000 megohms
LEADS: ±22 tinned copper—1½″ minimum length
DISSIPATION FACTOR: 2% maximum at 1 KC
INSULATION: Phenolic, vacuum impregnated with high temperature wax
TEMPERATURE VS. CAPACITANCE: Will meet EIA Z5U (+22% −56% from +10° C to +85° C)
MARKING: Stamped with capacity, tolerance, voltage. Type designation "CI", or CRL
PACKAGED: 5 pieces per plastic box or 25 pieces bulk per carton.

Cap. (pF)	Catalog No.	Max. Diameter	Max. Thickness	Lead Spacing
470	CI-471	.440″	.240″	.250″
680	CI-681	.440″	.240″	.250″
1000	CI-102	.640″	.240″	.375″
2200	CI-222	.640″	.240″	.375″
5000	CI-502	.730″	.240″	.375″
10,000	CI-103	.840″	.180″	.375″

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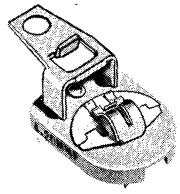
CENTRALAB
Electronics Division
GLOBE-UNION INC.

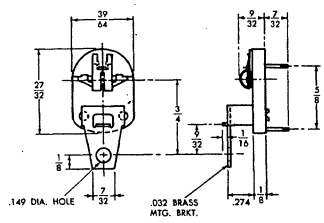
CERAMIC TRIMMER CAPACITORS

Centralab Ceramic Trimmers are small in size, light in weight and are easily mounted. Equal stability over 180° rotation is maintained even under adverse environmental conditions.

To eliminate any air film on the contact surfaces, mating surfaces of rotor and stator are ground optically flat and lubricated with silicone oil.

Type 820 Trimmer



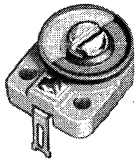


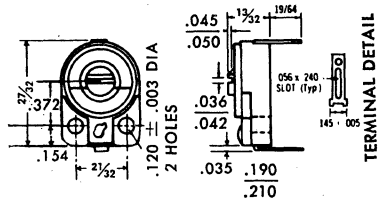
VOLTAGE RATING: 500 VDCW, 1500 VDCT
POWER FACTOR: Less than .2% @ 1 MC
TERMINALS: Brass, silver-plated, bent down 90° from plane of stator.
INSULATION RESISTANCE: 10,000 megohms min.
MOUNTING: Holes clear No. 4 machine screws (without bracket) spaced .375 centers. Bracket used for single hole mounting.
PACKAGED: Singly, or 5 pcs. bulk per carton.

Cap. pF	Cat. No.	Cap. pF	Cat. No.
1.0 to 3.5	820D	35.0 to 55.0	820E
2.5 to 6.0	820A	55.0 to 75.0	820F
5.0 to 20.0	820B	70.0 to 90.0	820G
7.0 to 35.0	820C		

All with bracket except 820E, 820F and 820G.

Type 822 Trimmer

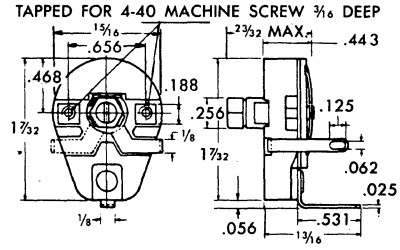




VOLTAGE RATING: 500 VDCW, 1500 VDCT
POWER FACTOR: Less than .2% @ 1 MC
SIZE: Same as 825.
TERMINALS: Brass, silver-plated, bent down 90° from plane of stator.
INSULATION RESISTANCE: 10,000 megohms min.
MOUNTING: Holes clear No. 4 machine screws
PACKAGED: Singly, or 5 pcs. bulk per carton.

NPO or Zero TC		N650 or Negative TC	
Cap. (pF)	Cat. No.	Cap. (pF)	Cat. No.
1.5 to 3	822-DZ	2.0 to 6.0	822-DN
1.5 to 7	822-EZ	4.0 to 30.0	822-EN
2.0 to 7.5	822-CZ	4.5 to 25.0	822-CN
2.5 to 13.0	822-BZ	7.0 to 45.0	822-BN
3.0 to 12.0	822-FZ	8.0 to 50.0	822-AN
4.5 to 25.0	822-AZ		

Type 823 Trimmer

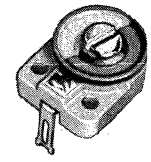


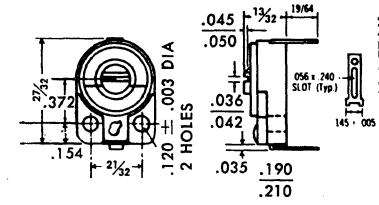
VOLTAGE RATING: 500 VDCW, 1500 VDCT
POWER FACTOR: Less than .2% @ 1 MC
TERMINALS: Brass, silver-plated, bent down 90° from plane of stator.
INSULATION RESISTANCE: 10,000 megohms min.
MOUNTING: Studs are set in base, tapped for 440 machine screws
PACKAGED: Singly, or 5 pcs. bulk per carton.

NPO or Zero TC		N650 or Negative TC	
Cap. pF	Cat. No.	Cap. pF	Cat. No.
5.0 to 12	823-EZ	5.0 to 15	823-FN
6 to 25	823-DZ	8 to 25	823-EN
10 to 50	823-BZ	8 to 50	823-DN
12 to 62	823-AZ	10 to 100	823-BN
		20 to 125	823-AN

Type 825 Trimmer

The new 825 series of ceramic trimmer capacitors are manufactured to meet the specifications of MIL-C-81A.



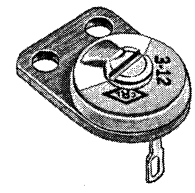


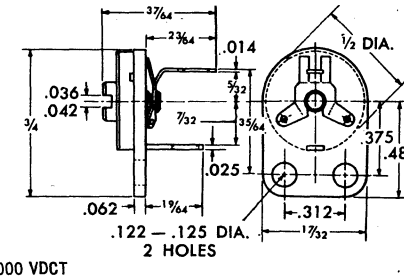
VOLTAGE RATING: 500 VDCW, 1500 VDCT
POWER FACTOR: Less than .2% @ 1 MC
CAPACITANCE DRIFT: ±.75% or ±.5 mmf, whichever is greater.
TERMINALS: Brass, silver-plated. Terminals bent at 90° angle from plane of stator, 1¾4″ long.
INSULATION RESISTANCE: 10,000 megohms min.
PACKAGED: Singly, or 5 pcs. bulk per carton.

NPO or Zero TC			N650 or Negative TC		
Cap. pF	CRL Cat. No.	MIL-C-81A Number	Cap. pF	CRL Cat. No.	MIL-C-81A Number
1.5 to 7	825-EZ	CV11A070	2.0 to 6	825-DN	CV11D060
3.0 to 12	825-FZ	CV11A120	4.0 to 30	825-EN	CV11D300
4.5 to 25	825-AZ	CV11A250	7.0 to 45	825-BN	CV11D450

Capacitance Range	CRL Cat. No.	Military Designation	Temperature Characteristic
3.0 to 13.0	825-AN	CV11B130	N300
5.0 to 20.0	825-FN	CV11B200	N300
4.0 to 30.0	825-CN	CV11C300	N500
7.0 to 45.0	825-GN	CV11C450	N500

Type 827 Trimmer

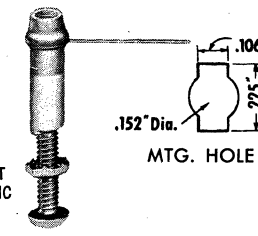




VOLTAGE RATING: 500 VDCW, 1000 VDCT
POWER FACTOR: Less than .2% @ 1 MC
SIZE: 17⁄32″ wide, ¾″ long
TERMINALS: Brass, silver-plated, bent down 90° from plane of stator.
INSULATION RESISTANCE: Greater than 10,000 megohms.
MOUNTING: High grade phenolic mounting plate. Two .122″-.125″ mounting holes spaced 5⁄16″ apart. Can be mounted on chassis through 5⁄16″ diameter hole.
PACKAGED: Singly, or 5 pcs. bulk per carton.

Cap. pF	Cat. No.	Cap. pF	Cat. No.
2.5 to 7	827A	6.0 to 30	827C
3.5 to 12	827B	7.0 to 35	827D

Type 829 Tubular Trimmer



VOLTAGE RATING: 500 VDCW, 1000 VDCT
POWER FACTOR: Less than .25% @ 1 MC
SIZE: See listing
LEADS: AWG No. 22 tinned wire
INSULATION RESISTANCE: Greater than 10,000 megohms.
MOUNTING: Perpendicular to panel by means of special locknut.
PACKAGED: 2 pcs. per pkg., or 25 bulk per carton, including locknuts.

Cap. Range pF	Body Length	Cat. No.
0.5 to 3.0	½″	829–3
1.0 to 4.0	½″	829–4
1.0 to 6.0	5⁄8″	829–6
1.0 to 7.5	¾″	829–7
1.5 to 10.0	¾″	829–10

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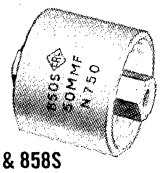
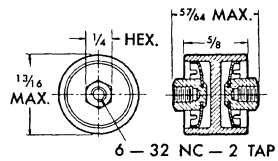
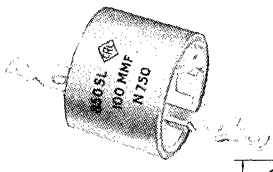
CERAMIC TRANSMITTING CAPACITORS

Centralab's transmitting capacitors are designed primarily for transmitters, induction heaters, electronic welding equipment, x-ray, diathermy and other high voltage, high frequency circuits. These capacitors have extremely low power factor and stable retrace characteristics. Long leakage paths and rugged mechanical construction are afforded by the "double cup" design. Current ratings are listed for each unit.

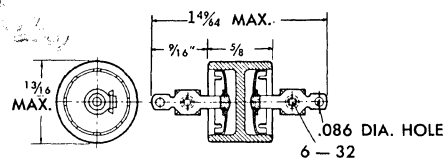


850 & 858S





850SL



TOLERANCE: 850 type ±10%; 858 type ±20%

DIMENSIONS: 13/16" diameter, 5/8" long

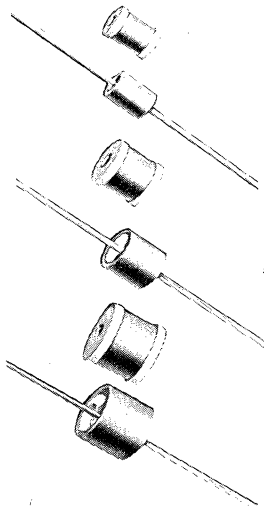
MOUNTING: S Series: 1/8" long hex studs tapped 6-32 thread. SL Series: 9/16" long solder lugs with 6-32 tapped hole.

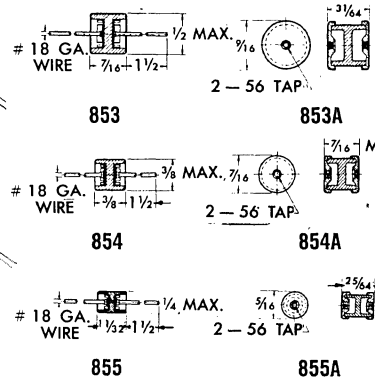
PACKAGED: Singly, or 5 pieces bulk per carton.

TYPE 850 AND 858—5 KV AND 7.5 KV

Cap. (pF)	Volts D.C.W.	Temp. Coeff.	R. F. Load at 30 MC‡	Cat. No. Stud Type	Cat. No. Lug Type
25	7500	NPO	7 amps.	850S-25Z	850SL-25Z
50	7500	NPO	10 amps.	850S-50Z	850SL-50Z
50	7500	N750	8.8 amps.	850S-50N	850SL-50N
75	7500	N750	10 amps.	850S-75N	850SL-75N
100	5000	N750	9.8 amps.	850S-100N	850SL-100N
500	5000	HI-K	.....	858S-500	.....
1000	5000	HI-K	.....	858S-1000	.....

‡Typical R.F. Characteristics





TOLERANCE: ±10%

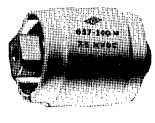
DIMENSIONS:
853—1/2" dia. x 7/16" long
854—3/8" dia. x 3/8" long
855—1/4" dia. x 11/32" long
853A—9/16" dia. x 31/64" long
854A—7/16" dia. x 7/16" long
855A—5/16" dia. x 25/64" long

MOUNTING: 853, 854, 855: 1 1/2" axial wire leads. 853A, 854A, 855A: axial screw terminals tapped 2-56.

PACKAGED: Singly, or 5 pieces bulk per carton.

TYPE 853, 854, 855—5 KV

Cap. (pF)	Volts D.C.W.	Temp. Coeff.	R. F. Load at 30 MC‡	Cat. No. Lead Type	Cat. No. Tap Type
3	5000	NPO	1.8 amps.	855-3Z	855A-3Z
5	5000	NPO	1.8 amps.	855-5Z	855A-5Z
10	5000	NPO	1.8 amps.	854-10Z	854A-10Z
10	5000	N750	3.2 amps.	855-10N	855A-10N
20	5000	NPO	2.8 amps.	853-20Z	853A-20Z
20	5000	N750	3.2 amps.	854-20N	854A-20N
40	5000	N750	5.6 amps.	853-40N	853A-40N



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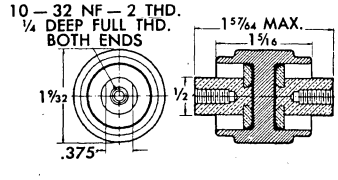


TOLERANCE: ±10%

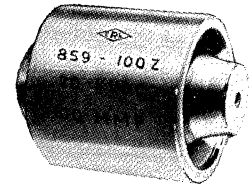
DIMENSIONS: Diameter 1 9/32", 1 57/64" long

MOUNTING: Axial screw terminals, 10-32 NF-2 thread. 1/4" deep full thread, both ends.

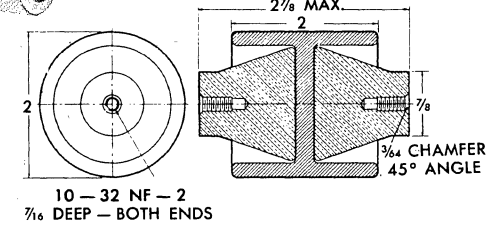
PACKAGED: Singly

TYPE 857—7.5 KV AND 15 KV

Cap. (pF)	Volts D. C. W.	Temp. Coeff.	R. F. Load at 30 MC.‡	Catalog Number
25	15000	NPO	12 amps.	857-25Z
50	15000	NPO	12 amps.	857-50Z
100	15000	N750	14.4 amps.	857-100N
200	7500	N750	18.2 amps.	857-200N



859S



TOLERANCE: ±10%

DIMENSIONS: Overall length 2 7/8" max., diameter 2" nom.

MOUNTING: Terminal ends tapped 10-32—7/16" deep both ends.

PACKAGED: Singly

TYPE 859—15 AND 20 KV

Cap. (pF)	Volts D. C. W.	Tolerance	Temp. Coeff.	R. F. Load at 30 MC.‡	Catalog Number
50	20000	±10%	NPO	30 amps.	859S-50Z
100	20000	±10%	NPO	30 amps.	859S-100Z
250	20000	±10%	N750	30 amps.	859S-250N
500	15000	±10%	N3300	30 amps.	859S-500N

‡Typical RF characteristics. These are not specific ratings.

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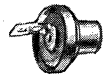
Electronics Division
GLOBE-UNION INC.

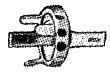
Type FT, MFT, ZA, ZB CERAMIC Feed-Thru CAPACITORS

TYPE ZA AND ZB
DISCOIDAL HI-KAPS

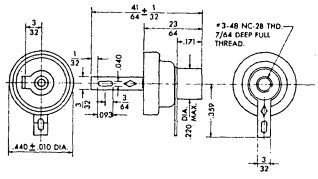
Type ZA and ZB, solder-sealed ceramic capacitors provide accurate, dependable, long life replacements for old style mica typs. The shell is effectively at ground potential in all styles.

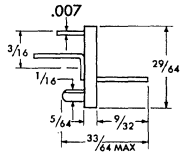


ZA



ZB





CAPACITY: 15 thru 1000 pF
TOLERANCE: See listing
VOLTAGE: 500 VDCW—1000 VDCTEST
SIZE: See illustration
INSULATION: Exceeds 5000 megohms initially.
MOUNTING: ZA—Stand-off Type No. 3-48 thread tapped base and ground terminal. ZB—Feed-thru style with 3 solder lugs.
MARKING: Per EIA specifications (color coded)
PACKAGED: Singly, or 50 pieces bulk per carton

TYPE ZA—TAPPED GROUND TERMINAL

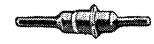
Cap. (pF)	Tolerance	Cat. No.
15	±10%	ZA-150
50	±10%	ZA-500
500	±20%	ZA-501
1000	GMV	ZA-102

TYPE ZB—RIM TYPE FEED-THRU

Cap. (pF)	Tolerance	Cat. No.
15	±10%	ZB-150
50	±10%	ZB-500
500	±20%	ZB-501
1000	GMV	ZB-102

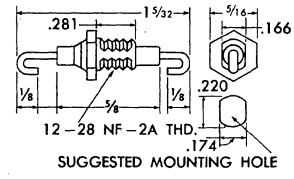
TYPE FT AND MFT

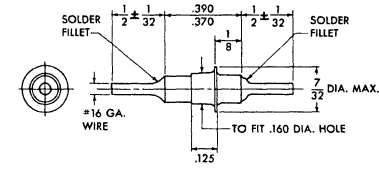
Type FT Feed-Thru or bushing mounted capacitors have been specifically designed and widely used in high frequency circuits where, in addition to feed-thru, a capacity ground to either chassis or shield is desired. Lead inductance is virtually eliminated. Type MFT MINIATURE Eyelet Feed-Thru is a condensed version of the above units required in many new high frequency applications where space is at a premium.



FT

MFT





CAPACITY: FT—500 thru 2300 pF
MFT—50 thru 1000 pF
TOLERANCE: See listing
VOLTAGE: 500 VDCW—1000 VDCTEST
SIZE: See illustration
INSULATION: Uninsulated
LEADS: FT—#16 tinned copper wire both ends hooked to facilitate soldering. MFT—No. 16 tinned copper wire.
MOUNTING: FT—Brass cadmium plated double-flatted mounting bushing .281″ long with 12-28 thread bushing and mounting nut. MFT—7/32″ max. flange diameter eyelet to be inserted in .160″ dia. hole and soldered directly to chassis.
MARKING: Color coded to capacitance value per EIA specs.
PACKAGED: 2 pieces per clear plastic box or 100 pieces bulk per carton. Mounting nut included with each FT., unassembled.

TYPE FT

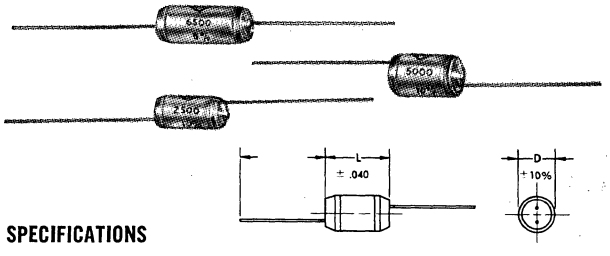
Cap. (pF)	Tolerance	Cat. No.
500	±20%	FT-500
1000	±20%	FT-1000
1500	+50 −20%	FT-1500
1800	+50 −20%	FT-1800
2300	+50 −20%	FT-2300

TYPE MFT

Cap. (pF)	Tolerance	Cat. No.
50	±10%	MFT-50
100	±10%	MFT-100
500	±20%	MFT-500
1000	GMV	MFT-1000

Type CPR POLYSTYRENE

Centralab high "Q" Polystyrene Film Capacitors have a leakage resistance greater than 100,000 megohms. They exceed other foil capacitors in life span, reliability, and freedom from drift.



Ideal for applications wherein high reliability and long life is required. They also have many applications in TV, radio, and stereo where they substitute for and out-perform micas and mylars.

SPECIFICATIONS

OPERATING TEMPERATURE: −40°C to +85°C
VOLTAGE: 500 VDCW (1500 VDC Test)
LIFE TEST: 1000 hours at 500 VDC @ +85°C
SIZE: See listing
CAPACITY: See listing. (Test 20 pF to 1000 pF at 1MC and 1000 pF and over at 1KC.)
TOLERANCE: ±5%
LEAKAGE RESISTANCE: Over 100,000 megohms
NATURAL INDUCTANCE: 10 to 30 Nanohenries
DIELECTRIC: Polystyrene film
DISSIPATION FACTOR: .05% maximum @ +25°C and 0.1 to 5 volts RMS (Based on frequency of 1MC for values under 1000 pF and 1KC for values 1000 pF and over).
INSULATION: Fused polystyrene encased
TEMPERATURE COEFFICIENT: N150 nominal
SHIELDING: Inner foil completely shielded by outer foil
LEADS: Tinned copper wire. See listing for wire diameters. Leads are doubled-welded to foil.
MARKING: Stamped with capacity, tolerance, and CRL in Diamond or plain diamond. Black coded end indicated 500 VDCW and this is the outer foil terminal.
PACKAGED: 5 pieces per plastic box or 50 pieces bulk per carton.—Warehouse Pak.

Cap. (pF)	Cat. Number	Body Length	Body Dia.	Lead Dia.	Cap. (pF)	Cat. Number	Body Length	Body Dia.	Lead Dia.
20	CPR-20J	.434″	.165″	.016″	560	CPR-560J	.631″	.228″	.020″
22	CPR-22J	.434″	.165″	.016″	620	CPR-620J	.631″	.205″	.020″
24	CPR-24J	.434″	.165″	.016″	680	CPR-680J	.631″	.205″	.020″
27	CPR-27J	.434″	.165″	.016″	750	CPR-750J	.631″	.217″	.020″
30	CPR-30J	.434″	.165″	.016″	820	CPR-820J	.631″	.224″	.020″
33	CPR-33J	.434″	.165″	.016″	910	CPR-910J	.631″	.232″	.020″
36	CPR-36J	.434″	.165″	.016″	1000	CPR-1000J	.631″	.240″	.020″
39	CPR-39J	.434″	.165″	.016″	1100	CPR-1100J	.631″	.240″	.020″
43	CPR-43J	.434″	.165″	.016″	1200	CPR-1200J	.631″	.240″	.020″
47	CPR-47J	.434″	.165″	.016″	1300	CPR-1300J	.631″	.256″	.020″
56	CPR-56J	.434″	.173″	.016″	1500	CPR-1500J	.631″	.272″	.020″
62	CPR-62J	.434″	.173″	.016″	1600	CPR-1600J	.631″	.272″	.020″
68	CPR-68J	.434″	.173″	.016″	1800	CPR-1800J	.631″	.272″	.020″
75	CPR-75J	.434″	.173″	.016″	2000	CPR-2000J	.631″	.303″	.020″
82	CPR-82J	.434″	.173″	.016″	2200	CPR-2200J	.631″	.303″	.020″
91	CPR-91J	.434″	.173″	.016″	2400	CPR-2400J	.631″	.303″	.020″
100	CPR-100J	.434″	.181″	.016″	2500	CPR-2500J	.631″	.327″	.020″
110	CPR-110J	.434″	.181″	.016″	2700	CPR-2700J	.631″	.327″	.020″
120	CPR-120J	.434″	.181″	.016″	3000	CPR-3000J	.631″	.346″	.020″
130	CPR-130J	.434″	.181″	.016″	3300	CPR-3300J	.827″	.346″	.020″
150	CPR-150J	.434″	.181″	.016″	3600	CPR-3600J	.827″	.346″	.020″
160	CPR-160J	.434″	.181″	.016″	3900	CPR-3900J	.827″	.346″	.020″
180	CPR-180J	.434″	.181″	.016″	4300	CPR-4300J	.827″	.335″	.020″
200	CPR-200J	.434″	.197″	.016″	4700	CPR-4700J	.827″	.335″	.020″
220	CPR-220J	.434″	.197″	.016″	5000	CPR-5000J	.827″	.374″	.020″
240	CPR-240J	.434″	.197″	.016″	5100	CPR-5100J	.827″	.374″	.020″
270	CPR-270J	.434″	.197″	.016″	5600	CPR-5600J	.827″	.374″	.020″
300	CPR-300J	.434″	.205″	.016″	6200	CPR-6200J	.827″	.402″	.020″
330	CPR-330J	.434″	.205″	.016″	6800	CPR-6800J	.827″	.402″	.020″
360	CPR-360J	.434″	.205″	.016″	7500	CPR-7500J	.827″	.402″	.020″
390	CPR-390J	.434″	.205″	.016″	8200	CPR-8200J	.827″	.465″	.020″
430	CPR-430J	.434″	.217″	.016″	9100	CPR-9100J	.827″	.465″	.020″
470	CPR-470J	.434″	.217″	.016″	10,000	CPR-10000J	.827″	.504″	.020″
510	CPR-510J	.631″	.228″	.020″					

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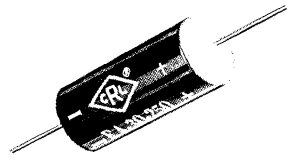


AXIAL LEAD ELECTROLYTICS

Centralab miniaturized electrolytics were developed for direct replacement of other plastic-cased as well as the more costly aluminum-cased units. Sturdy phenolic cases and epoxy resin end-seals protect the accurately manufactured internal assembly.

Centralab Electrolytics are chassis-ground proof...insulating sleeves are not required as with aluminum "can" units.

SPECIFICATIONS

OPERATING TEMPERATURE RANGE: −20° to +85°C

TOLERANCE: +100 to −0%

MAXIMUM DISSIPATION FACTOR @ 120 cps @ 25°C:

6V	15V	30V	50V
25%	20%	17%	15%

LEADS: Length 2.000" +½" −0"; tinned copper for ready solderability

INSULATION: Phenolic plastic molded case and epoxy resin end closures

MARKING: Centralab diamond, catalog number, capacity, voltage and polarity. (Red Seal also designates positive polarity)

PACKAGING: Packed 2 per clear plastic box. Available in cartons of 25 and 50 pieces.—Warehouse Pak.

6 VOLTS DCW

Cat. No.	Mfd.	Dia., In.	Lgth., In.
EA6-2	2	.215	.687
EA6-5	5	.215	.687
EA6-10	10	.215	.687
EA6-15	15	.215	.687
EA6-25	25	.250	.750
EA6-50	50	.312	.875
EA6-100	100	.375	.875
EA6-150	150	.375	1.000
EA6-250	250	.375	1.375
EA6-500	500	.500	1.125
EA6-1000	1000	.500	1.750

15 VOLTS DCW

Cat. No.	Mfd.	Dia., In.	Lgth., In.
EA15-2	2	.215	.687
EA15-5	5	.215	.687
EA15-10	10	.250	.750
EA15-15	15	.250	.750
EA15-25	25	.312	.875
EA15-50	50	.375	.875
EA15-100	100	.437	1.125
EA15-150	150	.437	1.125
EA15-250	250	.500	1.125
EA15-500	500	.625	1.500
EA15-1000	1000	.750	2.000
EA15-2000	2000	.875	2.250

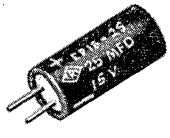
30 VOLTS DCW

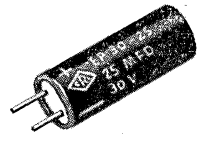
Cat. No.	Mfd.	Dia., In.	Lgth., In.
EA30-2	2	.215	.687
EA30-5	5	.250	.750
EA30-10	10	.312	.875
EA30-15	15	.312	.875
EA30-25	25	.375	.875
EA30-50	50	.375	1.125
EA30-100	100	.500	1.125
EA30-150	150	.500	1.625
EA30-250	250	.625	1.625
EA30-500	500	.750	2.000
EA30-1000	1000	.875	2.000

50 VOLTS DCW

Cat. No.	Mfd.	Dia., In.	Lgth., In.
EA50-2	2	.250	.750
EA50-5	5	.312	.875
EA50-10	10	.375	.875
EA50-15	15	.375	1.000
EA50-25	25	.375	1.125
EA50-50	50	.437	1.375
EA50-100	100	.625	1.375
EA50-150	150	.625	1.625
EA50-250	250	.750	1.875
EA50-500	500	.875	2.000

PRINTED CIRCUIT ELECTROLYTICS





Centralab Printed Circuit Electrolytics are exact replacements for original equipment in entertainment semi-conductor equipment.

The wide operating temperature characteristic assures dependable performance in mobile equipment.

Standard PC leads furnished on these units make them practical for use in prototype styling as well as in replacement service.

SPECIFICATIONS

OPERATING TEMPERATURE RANGE: −20° to +85°C

TOLERANCE: +100 to −0%

MAXIMUM DISSIPATION FACTOR @ 120 cps @ 25°C:

6V	15V	30V	50V
25%	20%	17%	15%

LEADS: Length .500" +⅛" −0"; tinned copper for ready solderability

INSULATION: Phenolic plastic molded case and red colored epoxy resin end closure

MARKING: Centralab diamond, catalog number, capacity, voltage and polarity.

PACKAGING: Packed 2 per clear plastic box. Available in cartons of 50.—Warehouse Pak.

6 VOLTS DCW

Cat. No.	Mfd.	Dia. In.	Lgth. In.	"C" Dim., In.
EP6-2	2	.250	.500	.....
EP6-5	5	.250	.500	.....
EP6-10	10	.250	.500	.125
EP6-25	25	.250	.500	.125
EP6-50	50	.312	.625	.125
EP6-100	100	.375	.625	.150

15 VOLTS DCW

Cat. No.	Mfd.	Dia. In.	Lgth. In.	Dim., In.
EP15-2	2	.250	.500	.....
EP15-5	5	.250	.500	.....
EP15-10	10	.250	.500	.125
EP15-25	25	.312	.625	.125
EP15-50	50	.375	.750	.150
EP15-100	100	.437	.875	.200

30 VOLTS DCW

Cat. No.	Mfd.	Dia. In.	Lgth. In.	Dim., In.
EP30-2	2	.250	.500	.....
EP30-5	5	.250	.750	.125
EP30-10	10	.312	.625	.125
EP30-25	25	.375	.750	.150
EP30-50	50	.437	.875	.200

50 VOLTS DCW

Cat. No.	Mfd.	Dia. In.	Lgth. In.	Dim., In.
EP50-2	2	.250	.500	.125
EP50-5	5	.312	.500	.125
EP50-10	10	.312	.750	.125
EP50-25	25	.437	.750	.200
EP50-50	50	.500	1.000	.250

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CORNING® FIXED GLASS CAPACITORS

For coupling, decoupling, filtering, timing, switching or computer circuits, CORNING Capacitors provide ultra-stable electrical performance. This stability is inherent in their fused glass and aluminum foil capacitive elements. These inorganic materials and continuous process and quality monitoring are responsible for the well-known CORNING CYFR capacitor made for the Minuteman. Many of the basic advantages of the CYFR have found their way into standard CORNING Capacitors. The properties of these capacitors are entirely those of the closely controlled dielectric, and can't be changed by assembly methods or subsequent treatment. At 1 Kc and 25°C, dissipation factor is less than 0.001; at any given temperature, TC will not deviate from the curve by more than 5 ppm on CYFR, CYFM and TYO units.

Corning manufactures highly stable fixed glass capacitors to meet your demanding circuit requirements. Their performance and economic advantages will add value to your equipment.

	TYPE AND MIL SPEC	MODEL	CAPACITANCE RANGE (pf)	VOLTAGE	NOMINAL DIMENSIONS Size in inches	WEIGHT IN GRAMS
CYFM	Fusion-sealed environment-proof performance at cost savings. Electrically and environmentally interchangeable with CYFR. MIL-C-11272B.	CYFM10	0.5 to 200 220 to 300	500 300	11/32 x 11/64 x 5/64	0.25-0.50
		CYFM15	220 to 510 560 to 1200	500 300	15/32 x 17/64 x 7/64	0.75-1.25
		CYFM20	560 to 3300 3600 to 5100	500 300	47/64 x 27/64 x 9/64	2.50-4.00
		CYFM30	3600 to 6200 6800 to 10,000	500 300	49/64 x 3/4 x 9/64	5.00-7.00
TYO	New printed circuit capacitor provides glass stability in a uniformly symmetric case. Eliminates shorting. Lead spacing: TYO-6—0.2", TYO-7—0.2", TYO-8—0.4".	TYO-6	1 to 560	300	.300 x .200 x .115	.3-.4
		TYO-7	561 to 1000	300	.300 x .300 x .115	.4-.5
		TYO-8	1001 to 2400	300	.500 x .300 x .115	.7-.8
GLASS-K	New miniature stable capacitor exhibits high capacitance-to-volume ratio. Offers size advantages of ceramic types, and consistent performance associated with glass dielectrics. 10% and 20% tolerances. Solderable and weldable gold plated dumet leads.	CYK01	270 to 51,000	50	0.250 x 0.100	0.2
		CYK02	12,000 to 100,000	50	0.250 x 0.140	0.3

STANDARD CAPACITOR VALUES, CYFM, TYO

CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL. EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.
0.5†	0R5C	7.5	7R5J	33	330J	130	131J	560	561J	2400	242J
1.0	1R0C	8.2	8R2J	36	360J	150	151J	620	621J	2700	272J
1.5	1R5C	9.1	9R1J	39	390J	160	161J	680	681J	3000	302J
2.2	2R2C	10	100J	43	430J	180	181J	750	751J	3300	332J
2.7	2R7C	11	110J	47	470J	200	201J	820	821J	3600	362J
3.0	3R0C	12	120J	51	510J	220	221J	910	911J	3900	392J
3.3	3R3C	13	130J	56	560J	240	241J	1000	102J	4300	432J
3.6	3R6C	15	150J	62	620J	270	271J	1100	112J	4700	472J
3.9	3R9C	16	160J	68	680J	300	301J	1200	122J	5100	512J
4.3	4R3C	18	180J	75	750J	330	331J	1300	132J	5600	562J
4.7	4R7C	20	200J	82	820J	360	361J	1500	152J	6200	622J
5.1	5R1C	22	220J	91	910J	390	391J	1600	162J	6800	682J
5.6	5R6C	24	240J	100	101J	430	431J	1800	182J	7500	752J
6.2	6R2C	27	270J	110	111J	470	471J	2000	202J	8200	822J
6.8	6R8C	30	300J	120	121J	510	511J	2200	222J	9100	912J
										10000	103J

*Standard Tolerances As Shown: C = ±25 pf J = ±5%.
*Other Tolerances Available On Request: D = ±.50 pf F = ±1% G = ±2% K = ±10%
†0.5 pf does not apply to TYO capacitors

CORNING ELECTRONICS

CORNING GLASS WORKS
ELECTRONIC PRODUCTS DIVISION

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THE HAMMARLUND MANUFACTURING COMPANY INCORPORATED

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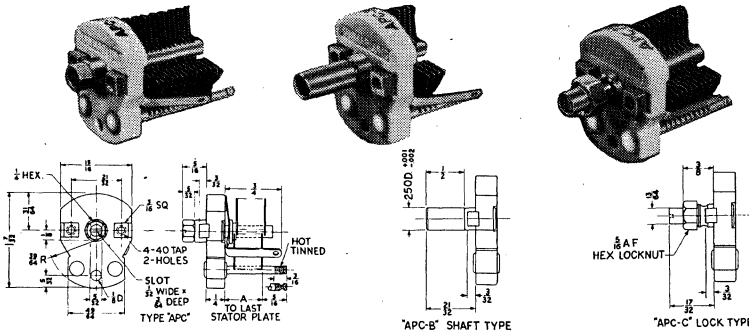
88 STANDARD TYPES OF VARIABLE AIR CAPACITORS



APC

Capacitor Type	Net Price	Capacitor Type	Net Price
APC-25	$ 1.20	APC-100-B	$ 1.70
APC-50	1.35	APC-140-B	1.90
APC-75	1.45	APC-25-C	1.85
APC-100	1.60	APC-50-C	2.00
APC-140	1.80	APC-75-C	2.10
APC-25-B	1.30	APC-100-C	2.25
APC-50-B	1.40	APC-140-C	2.45
APC-75-B	1.50		

TYPE	CAPACITANCE		PLATES	DIMENSION "A"
	Max.	Min.		
APC-25	25.	3.0	7	21/64
APC-50	50.	3.9	14	1/2
APC-75	75.	4.6	20	11/16
APC-100	100.	5.5	27	59/64
APC-140	140.	6.7	37	1-7/32

Note: When ordering the APC-"B" or "C" type, add the suffix -B or -C to the above listed type number.

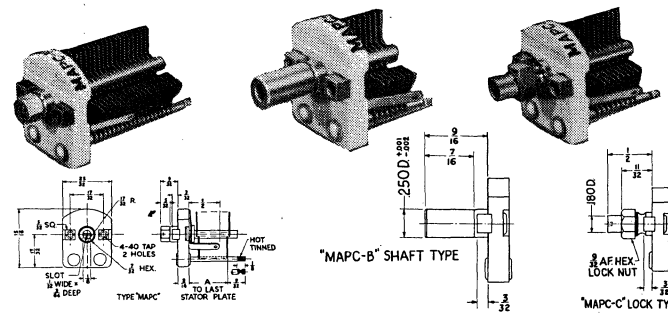
APC capacitors are available in three basic groups. The original APC group is furnished with a hex collar on a slotted shaft as indicated in the drawing. The APC-"B" group is furnished with 1/4" diameter shafts to permit adjustment of the capacitance with a front panel knob. The APC-"C" group is supplied with slotted shafts for variation of the capacitance and a 5/16" hex locknut to prevent movement of the rotor in equipment subjected to high levels of vibration or shock.

MAPC

FEATURES—The MAPC series is similar to the APC series of capacitors in that identical materials and assembly methods are employed. The silicone treated steatite bases and all brass nickel plated metal parts with exception of the phosphor bronze rotor wiper assure the same type of reliable performance that the APC series provides.

TYPE	CAPACITANCE		PLATES	DIMENSION "A"
	Max.	Min.		
MAPC-15	15	2.3	6	17/64
MAPC-25	25	2.6	10	3/8
MAPC-35	35	2.9	14	15/32
MAPC-50	50	3.2	19	37/64
MAPC-75	75	3.9	29	53/64
MAPC-100	100	4.5	38	1-5/64

Note: When ordering the MAPC-"B" or "C" type, add the suffix -B or -C to the type numbers listed above.

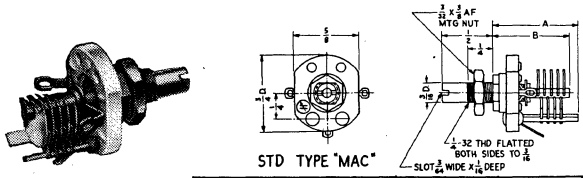


Capacitor Type	Net Price	Capacitor Type	Net Price	Capacitor Type	Net Price
MAPC-15	$ 1.00	MAPC-15-B	$ 1.00	MAPC-15-C	$ 1.35
MAPC-25	1.05	MAPC-25-B	1.05	MAPC-25-C	1.40
MAPC-35	1.10	MAPC-35-B	1.10	MAPC-35-C	1.45
MAPC-50	1.15	MAPC-50-B	1.15	MAPC-50-C	1.50
MAPC-75	1.20	MAPC-75-B	1.20	MAPC-75-C	1.55
MAPC-100	1.30	MAPC-100-B	1.30	MAPC-100-C	1.70

MAC

The MAC capacitors provide the low minimum capacitance and inductance essential for trimming and tuning resonant circuits in the VHF and UHF range. The materials employed and the constructional methods are the same as those used in the manufacture of the APC and MAPC series of capacitors.

TYPE	CAPACITANCE		PLATES	DIMENSIONS	
	Max.	Min.		"A"	"B"
MAC-5	5.4	1.3	5	45/64	39/64
MAC-10	9.6	1.5	9	13/16	23/32
MAC-15	15.8	1.9	15	1	29/32
MAC-20	21.5	2.2	21	1-11/64	1-5/64
MAC-30	32.0	2.5	27	1-17/65	1-11/64

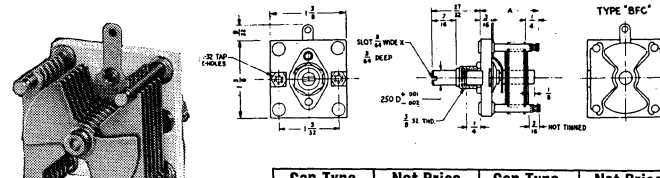


Cap. Type	Net Price	Cap. Type	Net Price
MAC-5	$ .90	MAC-20	$ 1.10
MAC-10	.95	MAC-30	1.20
MAC-15	1.00		

BFC

The BFC capacitors are of the butterfly type permitting operation as a series capacitor without a rotor connection or as a split stator capacitor with provision for grounding the rotor independently from the capacitor mounting studs, which are insulated from the rotor in the silicone treated steatite base.

CODE	CAPACITY/SECTION		SERIES CAPACITY		PLATES		DIMENSION "A"
	Max.	Min.	Max.	Min.	Rotor	Ea. Stator	
BFC-12	14.5	3.4	7.6	2.2	4	3	29/32
BFC-25	27.3	4.8	14.1	2.9	7	6	1-13/64
BFC-38	40.1	6.2	20.6	3.6	10	9	1-1/2

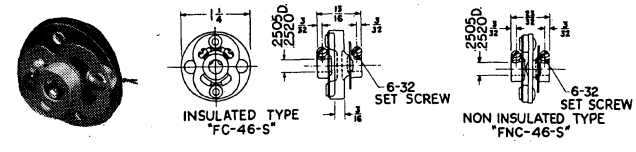


Cap Type	Net Price	Cap Type	Net Price
BFC-12	$ 2.25	BFC-38	$ 2.95
BFC-25	2.65		

FC-FNC

The FC-46-S is an insulated flexible coupling to provide mechanical ganging of angularly misaligned shafts. The FNC-46-S is non-insulated.

FC-46-S — $1.50; FNC-46-S — $1.20.



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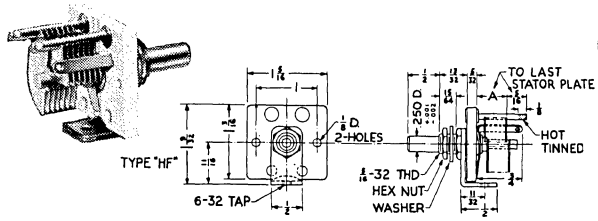
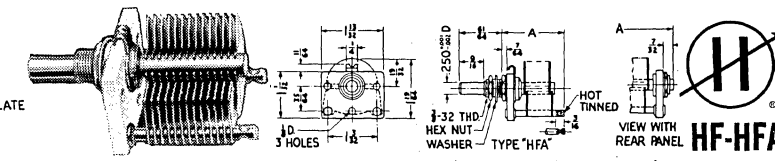
88 STANDARD TYPES OF VARIABLE AIR CAPACITORS



CODE	CAPACITY		PLATES/SECTION	DIMENSION "A"
	Max.	Min.		
HF-15	17.5	2.8	5	17/64
HF-35	36.	3.2	10	25/64
HF-50	52.	3.7	14	1/2
HF-100	102.	5.3	27	59/64
HF-140	142.	6.3	37	1-7/32
HF-15-X	15.	3.6	10	23/32
HF-30-X	30.	5.2	20	1-5/16

The HF is a single section capacitor employing the APC rotor and stator design. An extra long sleeve bearing and positive contact nickel-plated phosphor bronze wiper make this unit ideally suited to high frequency applications.

The HFA capacitors are similar to the HF series except that larger rotor and stator plates are used.



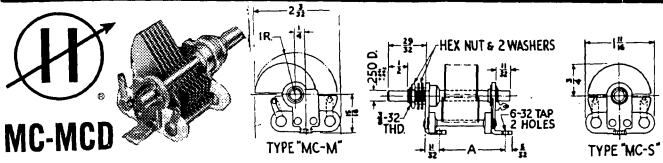
HF-HFA

CODE	CAPACITY		AIR GAP	PLATES/ SECTION	DIMENSION "A"
	Max.	Min.			
HFA-100-A	102	4.5	0.020	19	1-13/32
HFA-140-A	145	6.0	0.020	27	1-23/32
HFA-200-A	200	8.0	0.020	38	2-7/32
HFA-15-B	16	2.8	0.030	5	7/8
HFA-25-B	25	3.0	0.030	7	31/32
HFA-50-B	50	4.3	0.030	14	1-3/8
HFA-100-B*	100	7.5	0.030	27	2-21/64
HFA-15-E	16	4.0	0.070	9	1-3/8

60 cycle peak test voltage
HFA-A, 1130 V. B, 1690 V. E, 1750 V.

*Has Front and Rear Supporting Panels.

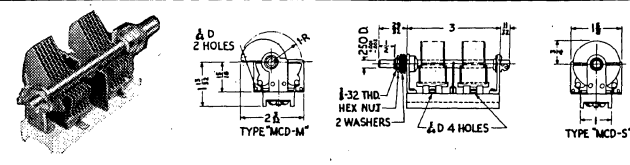
Cap. Type	Net Price	Cap. Type	Net Price
HF-15	$ 1.30	HFA-100-A	$ 2.75
HF-35	1.40	HFA-140-A	2.95
HF-50	1.60	HFA-200-A	3.70
HF-100	1.80	HFA-15-B	2.20
HF-140	1.95	HFA-25-B	2.30
HF-15-X	1.30	HFA-50-B	2.50
HF-30-X	1.70	HFA-100-B	3.90
		HFA-15-E	2.45



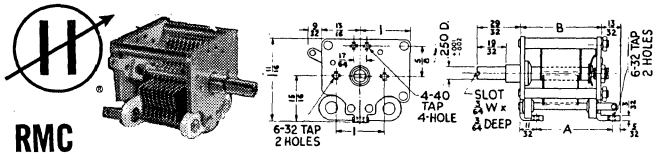
MC-MCD

The MC is a versatile single section tuning capacitor designed to give the equipment engineer a choice of mountings, connections and capacity characteristics. The threaded brass front bearing and tapped aluminum end brackets permit panel or base mounting.

Capacitor Type	Net Price	Capacitor Type	Net Price	Capacitor Type	Net Price
MC-20-S	$ 2.40	MC-140-S	$ 3.15	MC-50-SX	$ 3.00
MC-35-S	2.45	MC-200-M	3.40	MC-100-SX	3.95
MC-50-M	2.55	MC-250-M	3.70	MCD-50-M	7.25
MC-50-S	2.60	MC-325-M	4.20	MCD-100-M	7.85
MC-75-M	2.75	MC-20-SX	2.60	MCD-100-S	7.50
MC-75-S	2.85	MC-35-MX	2.75	MCD-140-M	8.35
MC-100-M	2.90	MC-35-SX	2.75	MCD-35-MX	7.85
MC-100-S	2.95	MC-50-MX	3.00	MCD-35-SX	7.50
MC-140-M	3.00				



TYPE	CAPACITY		PLATES/SECTION	DIMENSION "A"
	Max.	Min.		
MC-20-S	20.	5.5	3	1-7/32
MC-35-S	35.	6.0	5	1-7/32
MC-50-M	50.	6.3	7	1-7/32
MC-50-S	50.	6.5	7	1-7/32
MC-75-M	80.	7.3	11	1-7/32
MC-75-S	80.	8.0	11	1-7/32
MC-100-M	100.	7.7	14	1-13/32
MC-100-S	100.	8.3	14	1-13/32
MC-140-M	140.	9.0	19	1-19/32
MC-140-S	140.	10.0	19	1-19/32
MC-200-M	200.	10.3	27	2
MC-250-M	250.	12.0	34	2-5/16
MC-325-M	320.	13.5	43	2-23/32
MC-20-SX	20.	6.8	7	1-13/32
MC-35-MX	32.	7.8	11	1-19/32
MC-35-SX	32.	8.5	11	1-19/32
MC-50-MX	53.	10.5	19	2-5/16
MC-50-SX	53.	11.5	19	2-5/16
MC-100-SX	100.	16.5	35	3-29/32
MCD-50-M	50.	5.5	7	Single Hole panel mtg. Length back of panel
MCD-100-M	100.	6.3	14	
MCD-100-S	100.	7.0	14	
MCD-140-M	140.	7.8	19	
MCD-35-MX	31.	6.0	11	3-11/32
MCD-35-SX	31.	6.8	11	

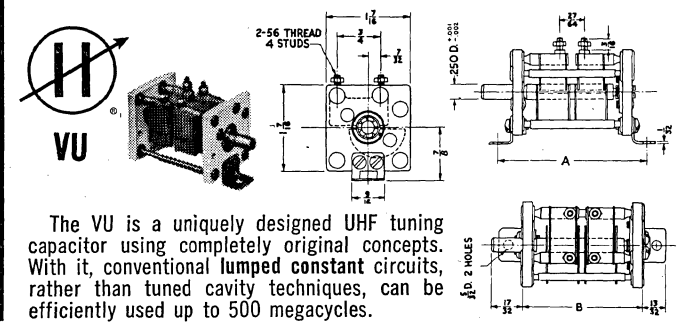


RMC

The RMC was designed specifically for applications requiring an MC type tuning capacitor with very rigid construction. Its sturdy frame consists of heavy gauge aluminum end panels held together by three aluminum tie rods.

Cap. Type	Net Price	Cap. Type	Net Price
RMC-50-S	$ 4.95	RMC-140-S	$ 5.95
RMC-100-S	5.25	RMC-325-S	6.85

CODE	CAPACITY		PLATES	DIMENSIONS	
	Max.	Min.		"A"	"B"
RMC-50-S	50.	7.3	7	1-7/32	1-5/16
RMC-100-S	105.	9.5	14	1-13/32	1-1/2
RMC-140-S	143.5	11.0	19	1-19/32	1-11/16
RMC-325-S	327.	17.5	43	2-23/32	2-13/16



VU

The VU is a uniquely designed UHF tuning capacitor using completely original concepts. With it, conventional **lumped constant** circuits, rather than tuned cavity techniques, can be efficiently used up to 500 megacycles.

Cap. Type	Net Price	Cap. Type	Net Price
VU-20	$ 7.10	VU-45	$ 8.00
VU-30	7.50		

CODE	SERIES CAPACITY		PLATES/ SECTION	DIMENSIONS	
	Eff.	Min.		"A"	"B"
VU-20	22.5	3.35	11	2-9/32	1-25/32
VU-30	31.5	3.5	15	2-9/16	2-1/16
VU-45	45.0	3.8	21	2-31/32	2-15/32

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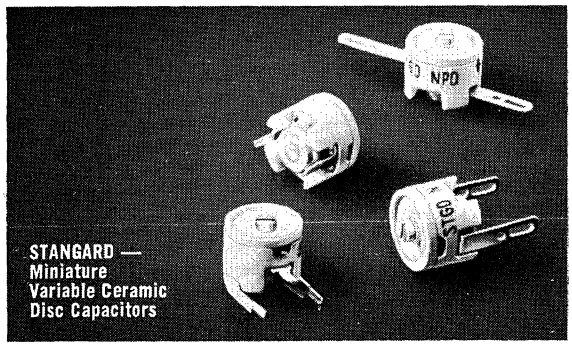
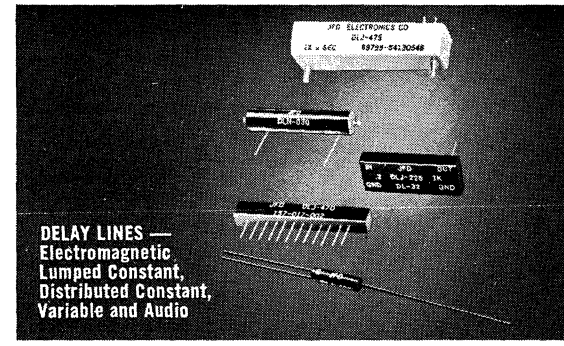
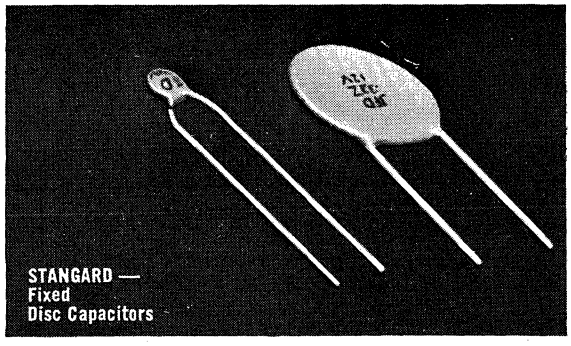


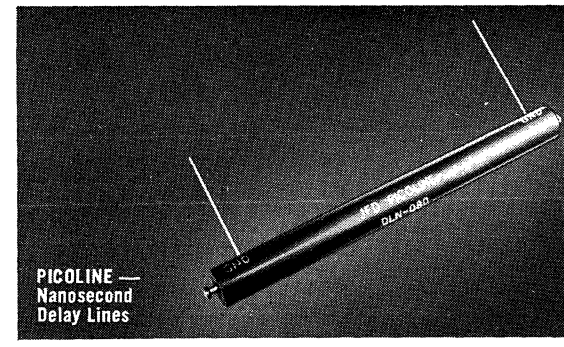
Low-cost for commercial and industrial applications. 9 △ Cs are available from 2.0 to 60.0 pf in 4 versatile configurations. DV11 Series meets or exceeds applicable MIL-C-81A. Write for catalogs STD-DV/67-A and DVJ-300/66.



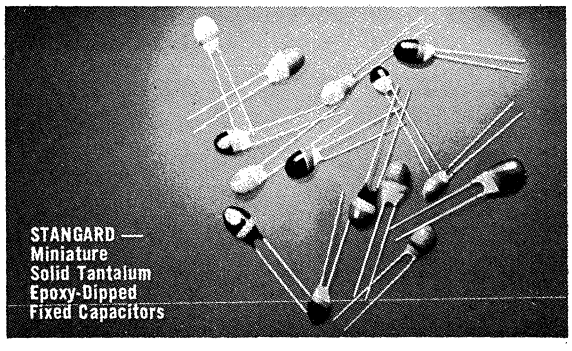
Top quality, rugged, precision components of proven dependability. High delay to rise time ratios. Mounting methods for a wide variety of circuit applications. Write for catalog DL-68.



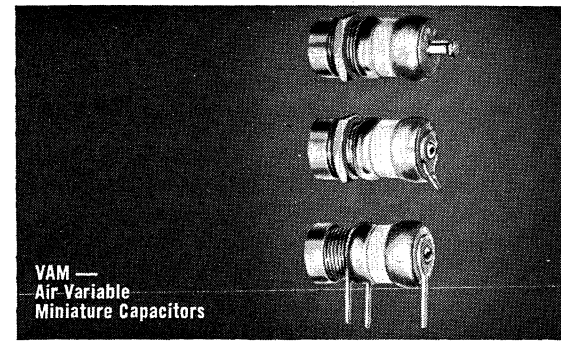
Low-cost for transistor and general commercial circuitry. High K. Available in voltage ratings from 3 volts and higher. Write for catalog STD-FD/67-A.



Ideal for nanosecond delay in high pulse circuitry. Rise time is less than one nanosecond. TC less than 20 PPM/°C. Operating temperature range —55°C to +125°C. Impedance 50 Ω. Write for catalog PL-67.



Low-cost for instrument, control, communication systems as well as general commercial circuitry. Capacitance range from 0.1 to 50.0 mfd. Write for catalog STD-TR/67.



Specially designed for high frequency applications that demand extreme stability, small size and high Q capacitance. Range measured at 1 MHz is 0.8 through 10.0 pf, Q measured at 10 pf and 100 MHz is greater than 2,000. Write for catalog VAM-67-B.

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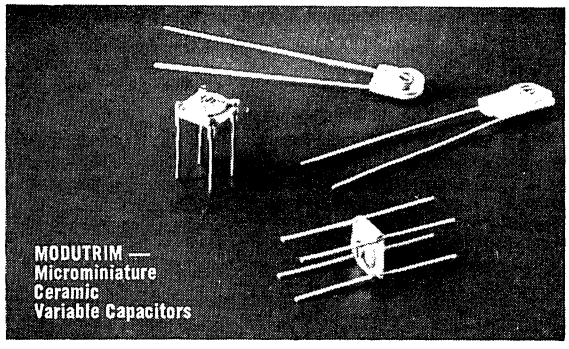
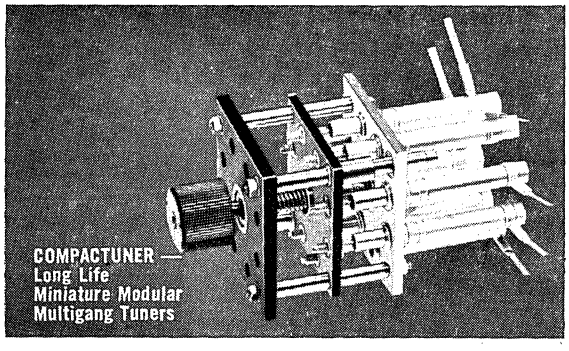
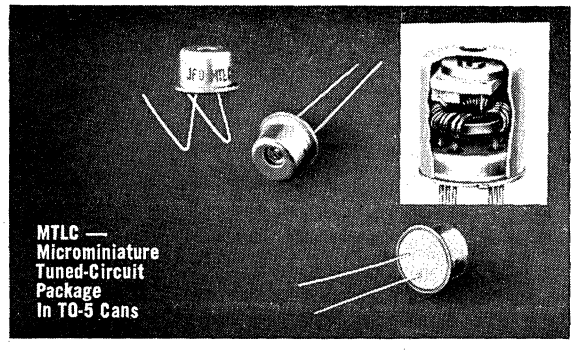


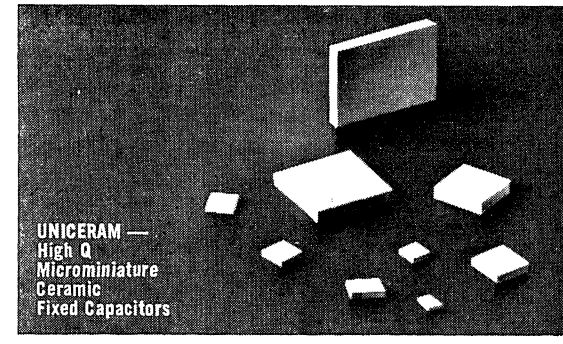
Offer micromodule and hybrid circuit designers a choice of wide △ Cs in extremely small and stable units. Capacitance ranges from 1.1 to 60.0 pf. Meet or exceed applicable MIL-C-81. Write for catalogs MT-67-A and MT-500-68.



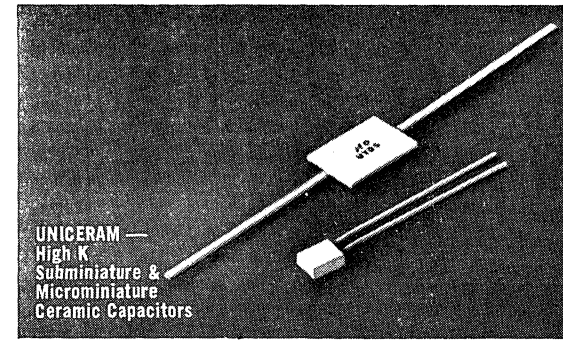
4 and 8 gang models for SLC and SLF tuning. Each provides stability and accuracy of tuning in a smaller sized package, unobtainable before Compactuner! Write for catalog LLCT-68.



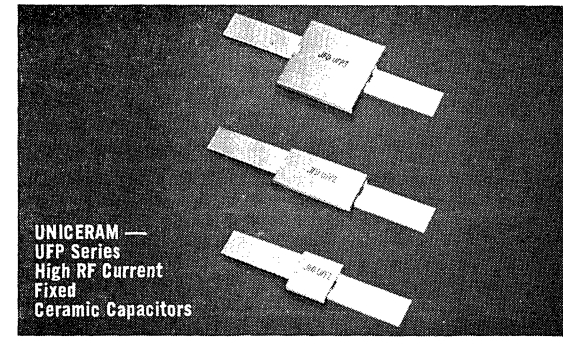
Complete LC tuned circuits within TO-5 cans. Standard frequency ranges from 2 to 300 MHz. Various other complex networks such as discriminators, phase detectors are also available on special order. Write for catalog MTLC-67-A.



Offer a high ratio of capacitance per unit volume. They combine exceptional stability and a guaranteed minimum Q in a smaller size package than competitive units. Over 1,000 glass encapsulated models with capacitance values from 0.5 to 3,000 pf. Write for catalog UNM-H/Q-67-A.



Multi-layer 'chips' and glass encapsulated leaded units are available in 5 square and 12 rectangular configurations. Ideal for hybrid integrated circuits. Capacitance range is 10 pf to 1.5 mfd. Meet or exceed applicable MIL-C-11015C. Write for catalog UNM-H/K-67.



The smallest high RF power capacitors available! Typical UFP1 rating is 12 KVAR at +25°C. Recommended 'space-savers' for use in military communications, mobile, commercial broadcast and amateur radio transmitters. Write for catalog UNM-UFP-68.

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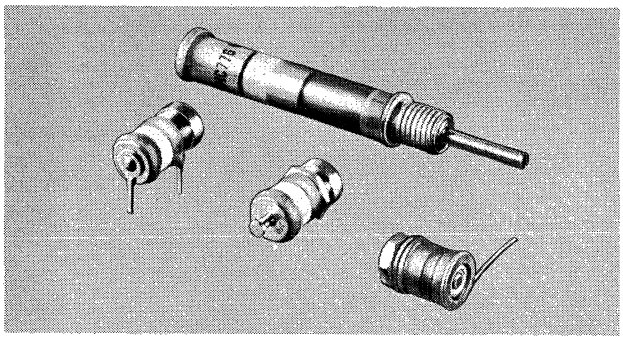


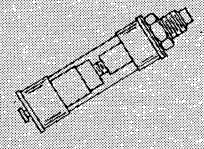
PISTON TRIMMER

JFD has available the largest selection of Precision Piston Trimmers in the industry—more than 2,500 standard and special designs that meet or exceed MIL-C-14409B.

JFD's unique capacitor-design-capability offers an unmatched number of exclusive features—Seven drive mechanisms incorporating advanced construction . . . Matched metalizing / homogeneous bond with dielectric . . . High level shock and vibration resistance . . . Clean room high reliability units available.

Write for complete catalog #C-67-A "Precision Piston Trimmer and Tuning Capacitors."

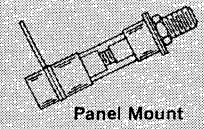
Max-C High Range Miniature Telescopic Sealed Capacitor Series



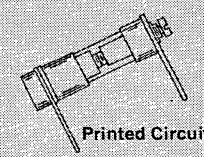
(Dia. 5/16 in.)

PANEL MOUNT					PRINTED CIRCUIT				
JFD No.	Mil. Spec.	Cap. (pf) Min.	Cap. (pf) Max.	Body Length	JFD No.	Mil. Spec.	Cap. (pf) Min.	Cap. (pf) Max.	Body Length
GLASS				±1/32 in.	**GLASS**				±1/32 in.
NMC601	PC39J160	1.0	16.0	15/32	NMC621	PC43J160	1.0	16.0	.750
NMC603	PC39J360	1.0	36.0	45/64	NMC623	PC43J360	1.0	36.0	.990
NMC604	PC39J520	1.0	52.0	59/64	NMC624	PC43J520	1.0	52.0	1.205
NMC606	PC39J750	1.0	75.0	1 11/64	NMC626	PC43J750	1.0	75.0	1.450
NMC609	PC39J121	1.0	120.0	1 49/64	NMC629	PC43J121	1.0	120.0	2.050
MC601Y	PC39J140	1.0	14.0	15/32	MC621Y	PC43J140	1.0	14.0	.750
MC603Y	PC39J280	1.0	28.0	45/64	MC621	PC43J140	1.0	14.0	.700
MC604Y	PC39J420	1.0	42.0	59/64	MC623Y	PC43J280	1.0	28.0	.990
MC606Y	PC39J600	1.0	60.0	1 11/64	MC623	PC43J280	1.0	28.0	.940
MC609Y	PC39J900	1.0	90.0	1 49/64	MC624Y	PC43J420	1.0	42.0	1.205
MC601	PC39J140	1.0	14.0	15/32	MC624	PC43J420	1.0	42.0	1.155
MC603	PC39J280	1.0	28.0	45/64	MC626Y	PC43J600	1.0	60.0	1.450
MC604	PC39J420	1.0	42.0	59/64	MC626	PC43J600	1.0	60.0	1.400
MC606	PC39J600	1.0	60.0	1 11/64	MC629Y	PC43J900	1.0	90.0	2.050
MC609	PC39J900	1.0	90.0	1 49/64	MC629	PC43J900	1.0	90.0	2.000

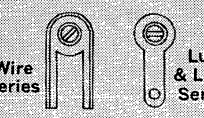
Miniature Telescopic Capacitor Series*



Panel Mount



Printed Circuit



Wire Series — Lug & Lead Series

(Dia. ¼ in.)

GLASS				+3/64 −1/32	**GLASS**				±1/32 in.
NVC20G	PC50J110	0.8	11.0	35/64	NVC9GW	PC51J110	0.8	11.0	9/16
NVC21G	PC50J5R5	0.8	5.5	19/64	NVC10GW	PC51J5R5	0.8	5.5	5/16
NVC22G	PC50H160	0.8	16.0	3/4	NVC31GW	PC51H160	0.8	16.0	49/64
NVC23G	PC50H230	0.8	23.0	63/64	NVC32GW	PC51H230	0.8	23.0	1
NVC24G	PC50H380	1.0	38.0	1 19/32	NVC43GW	PC51H380	1.0	38.0	1 39/64
VC20GY	PC40J8R5	0.8	8.5	35/64	VC9GWY	PC41J8R5	0.8	8.5	9/16
VC21GY	PC40J4R5	0.8	4.5	19/64	VC10GWY	PC41J4R5	0.8	4.5	5/16
VC22GY	PC40H120	0.8	12.0	3/4	VC31GWY	PC41H120	0.8	12.0	49/64
VC23GY	PC40H180	0.8	18.0	63/64	VC32GWY	PC41H180	0.8	18.0	1
VC24GY	PC40H300	1.0	30.0	1 19/32	VC43GWY	PC41H300	1.0	30.0	1 39/64
VC20G	PC40J8R5	0.8	8.5	35/64	VC9GW	PC41J8R5	0.8	8.5	5/16
VC21G	PC40J4R5	0.8	4.5	19/64	VC10GW	PC41J4R5	0.8	4.5	9/16
VC22G	PC40H120	0.8	12.0	3/4	VC31GW	PC41H120	0.8	12.0	49/64
VC23G	PC40H180	0.8	18.0	63/64	VC32GW	PC41H180	0.8	18.0	1
VC24G	PC40H300	1.0	30.0	1 19/32	VC43GW	PC41H300	1.0	30.0	1 39/64
QUARTZ				+3/64 −1/32	**QUARTZ**				±1/32 in.
NMQ101	PC40Q1R8	0.6	1.8	19/64	NMQ121	PC41Q1R8	0.6	1.8	5/16
NMQ103	PC40Q5R5	0.6	5.5	35/64	NMQ123	PC41Q5R5	0.6	5.5	9/16
NMQ106	PC40Q9R5	0.6	9.5	63/64	NMQ126	PC41Q9R5	0.6	9.5	1
NMQ109	PC40Q160	0.8	16.0	1 19/32	NMQ129	PC41Q160	0.8	16.0	1 19/32
MQ101	PC40Q1R8	0.6	1.8	19/64	MQ121	PC41Q1R8	0.6	1.8	5/16
MQ103	PC40Q5R5	0.6	5.5	35/64	MQ123	PC41Q5R5	0.6	5.5	9/16
MQ106	PC40Q9R5	0.6	9.5	63/64	MQ126	PC41Q9R5	0.6	9.5	1
MQ109	PC40Q160	0.8	16.0	1 19/32	MQ129	PC41Q160	0.8	16.0	1 39/64

TYPICAL SPECIFICATIONS	GLASS	QUARTZ
JFD No./Prefix 'N'	Green Glass dielectric & Hi-Life mechanism	Hi-Life mechanism only
JFD No./Suffix 'Y'	Hi-Life mechanism only	
WVDC	750	750
Dielectric Strength VDC	1,500	1,500
"Q" Minimum at 20 MC	500 min.	1,500 min.
Temperature Coefficient PPM/°C	±50 (−55 to +125°C)	+25 ±25 (−55 to +150°C)
Insulation Resistance megohms	10^6	10^6
Turning Torque inch ounces	1-10	1-10

Body length indicated on Panel Mount only is exclusive of mounting bushing. 'N' and 'Y' Series mounting bushing dimension: 9/32 in. All other ¼ in. ¼ in.
*Miniature Telescopic Capacitor Series available sealed.

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DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

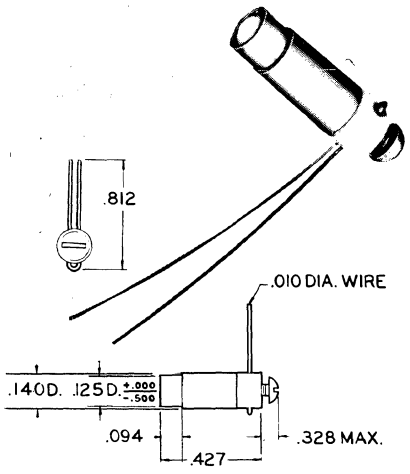
Miniature Teflon® dielectric trimmer capacitors

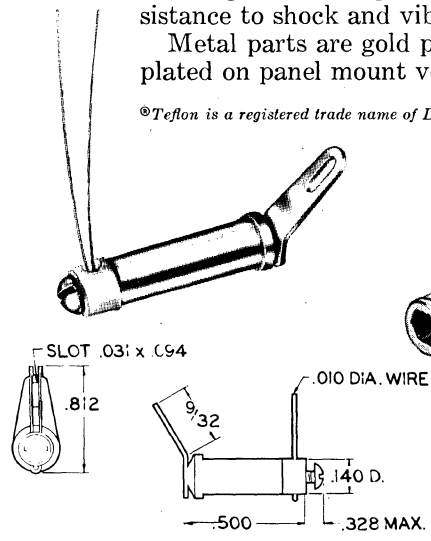
E. F. JOHNSON CO.

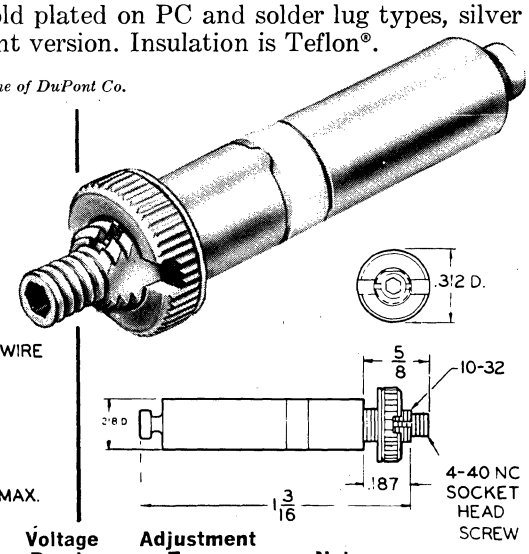
These new trimming capacitors are ideally suited for VHF and UHF applications requiring low minimum capacity and delta C. They provide high resolution and electrical stability. Tuning is linear. Q is high (2000 at 1 MHz typically). Insulation resistance 10^6 megohms. Temperature range — 55° to +150°C. High resistance to shock and vibration.

Metal parts are gold plated on PC and solder lug types, silver plated on panel mount version. Insulation is Teflon®.

®*Teflon is a registered trade name of DuPont Co.*



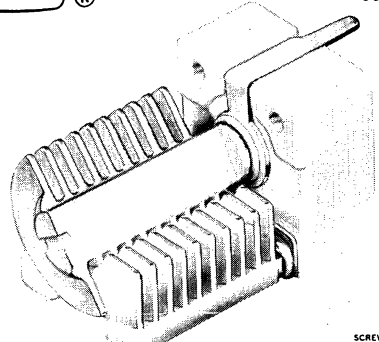


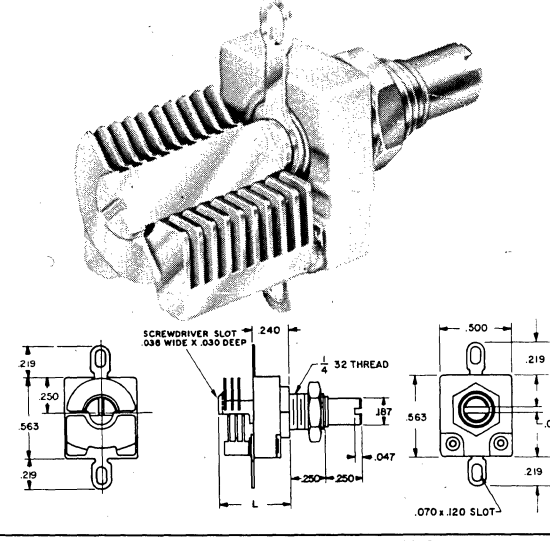


Cat. No.	Mounting	Nom. pf. Max.	Cap. Per Sec. Min.	Torque Oz. In.	Voltage Breakdown	Adjustment Turns Per Inch	Net Price
273-1-1	PC	1.5	.25	.2-3.0	2,000	80	**$0.50**
273-1-2	Solder Lug	1.5	.25	.2-3.0	2,000	80	**.55**
273-15-1	Panel	2.9	.30	.2-10.0	2,000	40	**.80**

Type "V" capacitors

These air variables provide high capacity in small space. Printed circuit and panel mount types mount in less than 0.3 sq. in. area. Rotors and stators precision machined from one piece of solid brass for high reliability and outstanding mechanical stability. High "Q" (greater than 1500 at 1 MC) . . . high torque (2½ to 10 ounce inches) . . . low temperature coefficient (plus 50 ± 20 PPM/°C) . . . exceptionally uniform delta C and voltage characteristics. Metal parts silver-plated. Ceramic is steatite Grade L-423 or better. Voltage breakdown rating 650 VDC. Freedom from moisture entrapment. Slotted rotor or shaft extension for convenient adjustment.





Cat. No.	Nom. Cap. pf. per Sec. Max.	Min.	Plates Per Section	L ± 1/32"	Volts Peak Bkdwn.	Air Gap	Net Price
SINGLE SECTION—Printed Circuit Types							
193-4-5	13	1.4	8	37/64"	650	.010"	**$.76**
193-6-5	20	1.7	12	11/16"	650	.010"	**.78**
193-8-5	27	2.0	16	25/32"	650	.010"	**.80**
193-10-5	34	2.2	20	57/64"	650	.010"	**.82**

Capacitors with .016" air gap available as specials.

Cat. No.	Nom. Cap. pf. per Sec. Max.	Min.	Plates Per Section	L ± 1/32"	Volts Peak Bkdwn.	Air Gap	Net Price
SINGLE SECTION—Panel Mount Type							
193-4-1	13	1.4	8	35/64"	650	.010"	**$0.95**
193-6-1	20	1.7	12	21/32"	650	.010"	**1.00**
193-8-1	27	2.0	16	3/4"	650	.010"	**1.05**
193-10-1	34	2.2	20	55/64"	650	.010"	**1.10**

Capacitors with .016" air gap available as specials.

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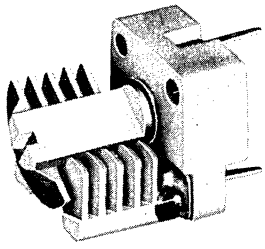
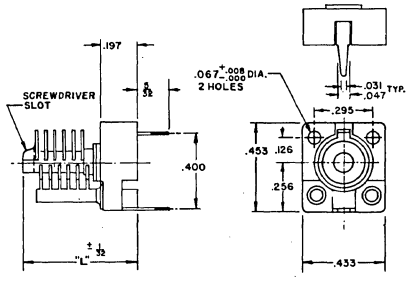
Air variable capacitors

E. F. JOHNSON COMPANY

Type "U" capacitors

Sub-miniature Type "U" air variable capacitors cut costs, improve performance, and save valuable space in compact electronic equipment. Available in single section, differential and butterfly types, they occupy minimum mounting area. Single section type requires less than 0.2 square-inch and differential and butterfly types less than 0.23 square-inch area for chassis or printed board mounting. Rotors and stators are precision machined from one piece of solid brass, providing outstanding mechanical stability and uniformity. Units offer high "Q" (greater than 1500 at 1 mc.), high torque (2½ to 10 ounce inches), exceptionally low temperature coefficient (plus 45 ± 15 PPM/°C), and absolute freedom from moisture entrapment. All metal parts silver-plated—ceramic is steatite, Grade L-423 or better. Exceptionally uniform delta C and voltage characteristics . . . breakdown ratings available to 1100 volts DC. No special tools required for installation—slotted end accommodates large screwdriver for quick adjustment. Choice of wide, double-pierced or printed circuit style terminals. Single-section models available in 2-Hole; Printed Circuit; and #10-32 Panel Mount types. Differential and Butterfly models available in Printed Circuit mounting. Specials available in production quantities with features including front shaft extensions and special platings.

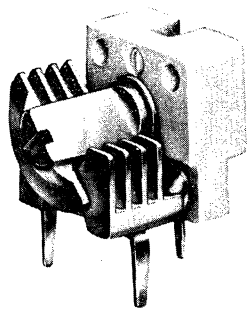


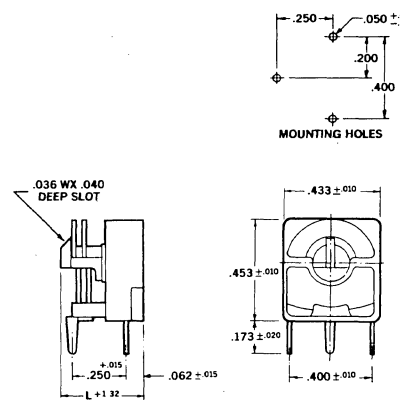


Printed Circuit Mounting —Single Section

Cat. No.	Nom. Cap. pf. per Sec. Max.	Min.	Plates Per Section	L ± 1/32"	Volts Peak Bkdwn.	Air Gap	Net Price
189-501-5	4.2	1.2	4	27/64"	650	.010	$.56
189-502-5	6.7	1.3	6	15/32"	650	.010	.58
189-503-5	9.2	1.4	8	33/64"	650	.010	.56
189-504-5	11.6	1.5	10	9/16"	650	.010	.58
189-505-5	14.1	1.7	12	39/64"	650	.010	.60
189-506-5	16.7	1.8	14	43/64"	650	.010	.62
189-507-5	19.3	2.0	16	23/32"	500	.010	.64
189-508-5	21.9	2.2	18	49/64"	500	.010	.66
189-509-5	24.5	2.4	20	13/16"	500	.010	.68

Capacitors with .016" air gap available as specials.

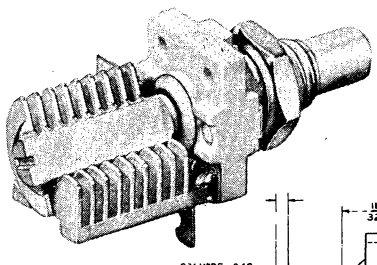


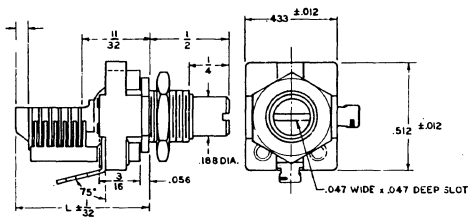


Horizontal Mounting Printed Circuit Type—Single Section

Cat. No.	Nom. Cap. pf. per Sec. Max.	Min.	Plates Per Section	L ± 1/32"	Volts Peak Brkdn.	Air Gap	Net Price
189-503-105	9.2	1.4	8	31/64	650	.010	$0.64
189-504-105	11.6	1.5	10	17/32	650	.010	.66
189-505-105	14.1	1.7	12	37/64	650	.010	.68
189-506-105	16.7	1.8	14	41/64	650	.010	.70
189-507-105	19.3	2.0	16	11/16	500	.010	.72
189-508-105	21.9	2.2	18	47/64	500	.010	.74
189-509-105	24.5	2.4	20	25/32	500	.010	.76

Capacitors with .016" air gap available as specials.





Panel Mounting Type "U" Capacitors—Single Section

Cat. No.	Nom. Cap. pf. per Sec. Max.	Min.	Plates Per Section	L ± 1/32"	Volts Peak Brkdn.	Air Gap	Net Price
189-563-1	9.2	1.4	8	9/16	650	.010	$0.82
189-564-1	11.6	1.5	10	5/8	650	.010	.84
189-565-1	14.1	1.7	12	43/64	650	.010	.86
189-566-1	16.7	1.8	14	23/32	650	.010	.88
189-567-1	19.3	2.0	16	49/64	500	.010	.90
189-568-1	21.9	2.2	18	13/16	500	.010	.92
189-569-1	24.5	2.4	20	7/8	500	.010	.94

Capacitors with .016" air gap available as specials.

Two-Hole Mounting Type "U" with Press-In Acetal Fastener and Differential Type "U" with PC Mounting Also Available.

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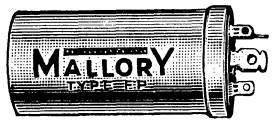
MALLORY Dry Electrolytic Capacitors

METAL CAN ELECTROLYTIC CAPACITORS



FP-WP capacitors are designed for 85° C operation, and have standard twist-prong mounting lugs with solder terminals. PFP-PWP types use standard EIA printed circuit terminals and can be used in place of normal solder terminal types. FPS is special mounting for auto radios. FP-WP types may be adapted to printed circuit mounting by using an **FPA Adapter Kit** (Net Each, **27c**). All types use "etched cathode" construction for hum-free operation, and have an exclusive vent and seal design. Standard tolerance: Up to 50 WVDC, −10% to +150%; 51 to 350 WVDC, −10% to +100%; 351 WVDC and up, −10% to +50%.

FP-WP AND PFP-PWP—SINGLES

Mallory No.	Cap., µF	WV DC	*	Net Each
WP540	1.0Z/60†	3NP	h	$2.92
WP505	10Z/30†	3NP	a	1.24
PWP030A	750	6	o	1.24
FP030.6	5000	6	c	3.18
FP030.8	10000	6	g	5.50
PWP031C	2500	10	m	2.25
FP031.6A	5000	10	c	3.45
FP031.8A	10000	10	g	6.16
WP035	225	15	a	1.04
PWP036	400	15	a	1.13
WP039A	1000	15	l	1.56
WP041A	2000	15	f	2.35
WP042A	3000	15	f	2.92
FP042.6	5000	15	g	4.05
FP042.8A	10000	15	h	6.66
WP052	40	25	a	.95
WP055A	100	25	l	1.14
PWP056	400	25	b	1.32
WP057A	500	25	l	1.35
WP059	1000	25	f	1.89
PWP060A	1500	25	c	$2.01
FP060.2	2000	25	r	2.56
FP060.4A	4000	25	g	3.93
FP060.6A	5000	25	h	4.63
FP060.8	7500	25	n	6.31
WP063	4	50	a	.92
WP064A	100	50	l	1.18
PWP-063.9A	100	50	o	1.04
WP064.2A	150	50	l	1.24
WP065	500	50	f	1.73
WP066B	500	50	b	1.51
FP066.5	1000	50	f	2.18
PWP067A	1250	50	g	2.47
WP068	1500	50	h	2.70
FP070A	2000	50	h	3.21
FP113	30	150	a	1.00
FP115A	50	150	l	1.19
FP116A	100	150	l	1.34
FP116.5A	120	150	b	1.40
FP116.6	120	150	f	1.64
PFP116.8A	140	150	b	1.49
FP117A	150	150	b	$1.48
FP117.5	150	150	f	1.73
FP118A	200	150	f	1.88
FP119A	300	150	f	2.15
FP121	120	200	f	1.79
FP122A	125	200	b	1.57
PFP121.5	125	200	b	1.61
PFP122A	160	200	f	2.00
WP123A	500	200	h	3.38
FP125	15	250	a	1.00
WP125.5A	140	250	c	1.82
WP125.9A	150	250	c	1.87
FP127	200	250	d	.92
FP128A	80	300	c	1.61
FP129.1A	100	300	c	1.75
WP131.5	160	300	g	2.43
WP132	200	300	g	2.71
FP135A	30	350	l	1.31
FP137A	50	350	b	1.48
FP137.2A	60	350	c	1.53
FP138A	80	350	f	2.00
FP140A	125	350	g	2.41
FP140.5A	140	350	g	$2.54
FP140.6A	150	350	g	2.63
FP141	320	350	i	4.23
FP142	10	450	a	1.04
FP143A	15	450	l	1.24
FP144A	20	450	m	1.31
PFP144A	20	450	m	1.35
FP145A	30	450	b	1.45
FP146	40	450	c	1.58
FP147	50	450	d	1.72
FP148A	60	450	f	2.10
FP149	80	450	g	2.37
FP150A	100	450	g	2.68
FP155A	125	450	h	3.05
FP171A	10	500	l	1.22
FP173A	20	500	m	1.41
FP175A	30	500	b	1.60
FP176	40	500	f	2.02
FP177	40	500	d	1.79
PFP-176.5A	40	500	c	1.83
FP187A	90	500	g	2.95

FP-WP AND PFP-PWP—DUALS

Mallory No.	Capacity, µF	WVDC	*	Net Each
WP204	250-1000	10-6	f	$2.01
WP205	.5Z-2.5Z/15750†-60†	12-6	i	2.91
WP200	1000-1000	15-15	f	2.48
WP200.1B	1000-1000	15-15	b	2.27
FPS200.13A	1000-1000	16-10	b	2.23
WP200.23	1500-1000	16-10	f	2.68
PFP200.64	500-500	16-16	l	1.75
PFP200.65	500-500	16-16	l	1.74
PFP200.45A	700-200	16-16	l	1.68
WP200.18	800-200	16-16	b	1.70
PFP200.19	1000-200	16-16	b	1.86
WP200.21A	1000-500	16-16	b	1.98
PWP200.3A	250-250	20-20	l	1.49
WP200.5A	500-100	20-20	l	1.52
PWP200.6	500-100	20-20	b	1.56
PFP200.7	500-100	20-20	b	1.56
WP200.7A	500-200	20-20	l	1.58
PWP200.4A	800-250	20-20	b	1.83
WP200.2B	1000-2000	25-15	f	3.20
WP201.1A	40-40	25-25	l	1.27
PWP-201.13A	400-200	25-25	l	1.60
PWP-201.15A	1000-1000	25-25	f	2.78
PWP201.3A	1500-1500	25-25	g	3.46
WP201.5A	1000-1000	35-35	f	2.96
WP202.1A	50-50	50-50	l	1.33
WP202.5A	100-100	50-50	l	1.46
WP205.8	50-1000	150-8	b	1.89
FP208A	20-20	150-150	l	1.31
FP211A	30-30	150-150	l	1.37
FP210A	40-20	150-150	l	1.37
FP212A	40-40	150-150	l	1.43
FP213A	50-30	150-150	l	1.43
PFP213.1A	50-30	150-150	l	1.47
FP214A	50-50	150-150	l	1.50
PFP214.3	70-30	150-150	b	1.53
FP214.5	75-75	150-150	f	1.90
FP214.6A	75-75	150-150	b	1.63
FP216.2A	80-40	150-150	m	1.55
PWP214.4A	80-40	150-150	b	1.59
WP216.24	80-50	150-150	b	1.57
PFP214.7A	100-50	150-150	b	1.67
FP215A	125-100	150-150	r	2.13
FP216.3A	200-150	150-150	f	2.48
FP216.4A	200-200	150-150	g	2.66
PFP216.4A	200-200	150-150	g	$2.70
PFP216.45	50-100	200-150	f	2.00
PFP216.5A	40-20	200-200	l	1.48
FP216.6A	60-60	200-200	b	1.69
FP216.1A	200-5	200-200	f	2.30
PFP216.1A	200-5	200-200	f	2.34
FP216.7	250-100	200-200	g	2.91
FP217.865	100-100	200-300	k	2.34
FP216.8A	40-25	250-150	l	1.49
FP217A	20-20	250-250	l	1.41
FP221A	40-40	250-250	m	1.63
FP217.7A	150-150	250-250	g	3.12
FP217.74A	200-200	250-250	h	3.70
WP217.85A	35-500	300-6	m	1.68
FP217.86A	30-20	300-50	l	1.43
FP217.8A	20-60	300-250	b	1.66
PFP217.86	10-10	300-300	f	1.64
FP217.87	40-40	300-300	f	2.02
FP217.88	50-10	300-300	f	1.88
FP217.9A	75-75	300-300	g	2.54
FP218A	120-20	300-300	g	2.47
WP219	125-60	300-300	g	2.82
FP219.7	150-100	300-300	h	3.26
FP219.9	200-100	300-300	j	3.65
PFP220.1	40-25	350-25	b	1.61
FP223A	5-75	350-150	m	1.46
FP225A	15-15	350-350	m	1.46
FP227A	20-20	350-350	b	1.55
FP227.3A	30-30	350-350	c	1.73
WP227.35	80-20	350-350	d	2.10
FP227.4A	80-20	350-350	f	2.34
FP227.5A	80-40	350-350	g	2.55
FP227.6A	80-80	350-350	h	2.92
FP227.7A	100-100	350-350	j	3.29
FP227.9	150-100	350-350	j	3.98
FP228.3	150-20	350-350	h	3.01
FP229A	35-100	400-50	c	1.75
FP229.25	80-4	400-350	e	2.21
FP229.28	100-10	400-350	g	2.74
FP229.3	75-75	400-400	i	3.31
FP229.4	80-60	400-400	i	3.20
FP229.5	120-40	400-400	i	3.43
WP229.52	120-120	400-400	i	4.37
FP229.53	40-50	450-50	d	1.81
FP229.55A	40-100	450-50	d	1.88
FP229.6A	50-100	450-50	f	2.28
FP244	80-50	450-50	h	2.64
FP229.8A	80-100	450-50	g	$2.58
FP229.9A	30-200	450-150	g	2.47
FP230A	20-50	450-250	c	1.74
WP230.2	20-200	450-250	h	1.84
FP230.3A	40-10	450-300	c	1.82
FP230.5	10-50	450-350	d	1.79
FP230.6A	10-100	450-350	g	2.52
FP235	20-80	450-350	g	2.46
PFP230.7	80-2	450-350	h	2.63
PFP217.11	2-20	450-400	b	1.50
WP230.9A	5-5	450-450	l	1.33
FP231A	10-10	450-450	m	1.46
FP231.2	20-5	450-450	b	1.53
FP231.3A	20-10	450-450	b	1.59
FP234A	20-20	450-450	c	1.73
FP237	30-30	450-450	g	2.28
FP238A	40-40	450-450	g	2.54
FP239A	50-40	450-450	g	2.70
FP240‡	50-50	450-450	h	2.99
FP242A	60-20	450-450	g	2.55
FP242.5B	60-60	450-450	h	3.13
FP245A	80-10	450-450	g	2.70
FP245.2	80-20	450-450	h	2.83
FP245.3B	80-30	450-450	h	2.99
FP247A	100-40	450-450	j	3.41
FP248	100-60	450-450	i	3.68
FP250A	40-80	475-200	f	2.44
FP252B	80-80	475-250	h	3.22
FP253	80-160	475-250	n	3.70
FP255A	20-100	475-300	g	2.50
FP256A	20-100	475-400	j	3.01
FP258	15-15	475-475	c	1.67
FP259	30-10	475-475	d	1.84
FP260B	40-10	475-475	f	2.27
FP262A	40-40	475-475	g	2.76
FP263B	60-40	475-475	h	3.09
FP264.5A	80-40	475-475	h	3.43
FP266A	80-50	475-475	j	3.58
WP272A	10-100	500-50	m	1.51
FP282A	10-10	500-500	b	1.56
FP282.5	20-20	500-500	f	2.19
FP283	30-10	500-500	f	2.19
FP284A	30-30	500-500	f	2.58
PFP284.1B	30-30	500-500	f	2.62
FP288A	40-40	500-500	g	2.96
FP290A	60-40	500-500	h	3.35

†Hz. ‡Can ungrounded for photoflash.

FP-WP AND PFP-PWP—TRIPLES

Mallory No.	Capacity, µF	Working Volts DC	*	Net Each
FP300.12	1000-150-15	16-4-#	b	$2.52
PFP300.45	600-120-170	16-16-16	l	1.77
WP300.6A	850-400-2.2	16-16-#	b	2.10
WP300.7A	850-400-4	16-16-#	b	2.10
FPS300.75	850-400-4	16-16-#	a	3.01
FP300.76	850-400-8	16-16-#	c	2.14
FP300.77	850-400-12	16-16-#	c	2.18
FPS300.78	850-400-12	16-16-#	c	2.73
FP300.83	400-500-100	16-16-16	l	1.83
WP300.88	1000-400-4	16-16-#	c	2.08
WP300.89	1000-400-4	16-16-#	f	2.33
WP300.9A	1000-500-4	16-16-#	b	2.13
FPS300.91	1000-500-4	16-16-#	q	2.26
FPS300.93	1000-500-15	16-16-#	q	$2.67
PWP300.3A	250-250-50	16-16-16	l	1.62
PWP300.4B	250-250-500	16-16-16	l	1.87
WP300.5	400-100-100	16-16-16	b	1.61
PFP300.65	400-300-100	16-16-16	m	1.76
PFP300.8	500-100-100	16-16-16	m	1.70
PFP300.81	500-300-300	16-16-16	l	1.93
PFP300.18	500-450-100	16-16-16	l	1.90
WP300.85B	500-500-100	16-16-16	l	$1.89
PFP300.87	700-200-100	16-16-16	l	1.87
WP300	1000-500-20	16-16-16	f	2.49
WP300.17A	500-200-5	16-16-25	m	1.71
WP520A	40-40-40	25-25-25	l	1.38
WP301A	30-30-30	50-50-50	l	1.45
FP312A	100-50-25	150-50-25	b	1.71
PFP302.38	70-30-100	150-150-10	c	1.75
FP302.5A	80-60-250	150-150-10	c	1.78
PWP302.55B	80-60-250	150-150-10	b	1.82
PFP302.75A	90-40-400	150-150-10	c	1.80

*Sizes on another page. #11.5 rms.

Triples continued on next page.

Net

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MALLORY Dry Electrolytic Capacitors

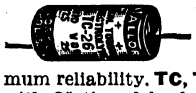
FP-WP AND PFP-PWP—TRIPLES (CONTINUED)

Mallory No.	Capacity, μF	WVDC	*	Net Each
FP302.8A	100-80-200	150-150-10	f	$2.26
FP302.9	80-20-100	150-150-15	f	1.98
FP306A	40-20-20	150-150-25	l	1.38
PFP311.1A	40-20-20	150-150-25	l	1.57
FP307A	40-20-100	150-150-25	l	1.61
FP304A	40-20-200	150-150-25	m	1.71
FP310A	40-40-20	150-150-25	l	1.59
FP314A	40-40-200	150-150-25	m	1.78
WP308.1A	40-40-250	150-150-25	b	1.80
FP309A	50-30-100	150-150-25	m	1.66
FP311A	50-50-20	150-150-25	m	1.65
PFP-311.12A	70-30-20	150-150-25	b	1.69
FP311.05	80-20-200	150-150-25	b	1.82
FP311.1A	80-40-25	150-150-25	b	1.71
FP311.15A	80-40-300	150-150-25	f	2.24
FP311.2A	20-20-20	150-150-150	l	1.51
PFP311.3A	30-25-20	150-150-150	l	1.59
PFP-311.63A	30-50-40	150-150-150	b	1.73
FP311.4A	40-20-20	150-150-150	l	1.57
FP311.5A	40-40-40	150-150-150	m	1.69
PFP311.51	40-60-40	150-150-150	b	1.79
FP311.55A	50-20-20	150-150-150	m	1.60
PFP-311.62A	50-30-20	150-150-150	m	1.67
FP311.6A	50-40-10	150-150-150	m	1.63
FP311.65A	50-50-50	150-150-150	b	1.77
PFP311.53	60-60-40	150-150-150	f	2.12
FP326.45	60-60-60	150-150-150	c	1.88
FP311.66A	70-15-15	150-150-150	m	1.63
FP311.8A	70-40-40	150-150-150	b	1.77
FP311.67A	80-30-10	150-150-150	m	1.66
FP311.7	80-40-20	150-150-150	f	2.02
FP311.71	80-40-20	150-150-150	b	1.74
PWP-311.75A	80-60-20	150-150-150	c	1.86
FP311.84	120-80-20	150-150-150	c	1.99
FP311.85A	120-80-40	150-150-150	f	2.32
FP311.9A	120-120-40	150-150-150	f	2.43
WP-311.95A	150-50-50	150-150-150	f	2.35
FP312.5A	200-100-60	150-150-150	g	2.69
FP312.6A	300-100-80	150-150-150	g	3.04
PWP315	80-100-40	160-160-160	d	2.09
FP312.8A	60-200-140	200-150-150	g	2.88
FP314.7	150-150-60	200-150-150	e	2.61
FP315.1	60-5-200	200-200-50	c	1.89
FP318.3A	30-20-40	200-200-150	m	1.66
FP318.5A	20-20-20	200-200-200	l	1.73
FP318.7B	30-20-20	200-200-200	l	1.62
FP318.74	40-40-20	200-200-200	f	2.02
WP318.77	60-60-40	200-200-200	f	2.27
FP318.8A	250-200-10	200-200-200	h	3.54
FP318.85A	250-200-50	200-200-200	h	3.74
FP318.86	150-150-200	200-200-200	l	3.36
WP319.6A	60-5-100	250-250-50	b	1.82
FP319.5A	90-90-20	250-250-50	f	2.62
WP319.7	60-5-50	250-250-200	f	2.18
FP319.8A	20-20-20	250-250-250	m	1.66
FP320	40-20-20	250-250-250	f	2.05
FP321A	40-20-20	250-250-250	b	1.66
FP321.5	40-40-40	250-250-250	c	2.01
FP323A	80-80-60	250-250-250	f	2.81
FP326A	100-60-20	300-150-25	f	2.51
PWP-326.16A	10-20-10	300-150-150	l	1.54
FP326.2A	20-150-80	300-150-150	f	2.43
FP326.3A	100-200-60	300-150-150	h	3.13
WP326.35A	20-100-100	300-200-50	d	2.04
FP326.61	80-200-10	300-200-300	h	2.38
FP326.4A	60-30-30	300-250-250	f	2.36
FP335A	100-60-20	300-250-250	g	2.78
FP336A	200-60-20	300-250-250	h	3.51
PFP326.4	60-10-25	300-300-25	f	2.36
FP326.5A	150-10-25	300-300-25	g	2.78
FP326.54A	20-20-50	300-300-50	b	1.70
FP326.6A	100-10-60	300-300-50	f	2.46
FP326.7A	140-100-60	300-300-50	h	3.43
WP326.71A	140-100-100	300-300-50	h	3.48
FP326.74A	140-10-200	300-300-150	h	$3.30
WP326.63A	30-10-20	300-300-250	b	1.68
WP326.64	60-5-20	300-300-250	c	1.91
FP326.62A	80-40-40	300-300-300	g	2.76
FP326.65A	100-60-4	300-300-300	g	2.41
FP326.67A	120-50-40	300-300-300	h	3.14
FP326.75A	150-30-30	300-300-300	h	3.14
PWP-326.77A	150-30-100	300-300-300	j	3.72
FP326.78A	140-100-20	300-300-300	j	3.51
WP326.8A	4-100-40	350-25-25	l	1.50
WP327.2A	20-50-100	350-100-75	c	1.81
FP327.3A	60-200-30	350-150-150	g	2.84
FP327.35	10-150-200	350-200-75	f	2.65
FP327.4A	125-5-100	350-200-75	g	2.93
FP327.5A	10-40-40	350-200-200	b	1.75
FP331A	30-30-20	350-300-25	c	1.85
FP327.89A	40-40-40	350-300-300	f	2.53
WP327.896	160-120-30	350-300-300	l	4.18
PWP-327.95A	20-20-1000	350-350-15	f	2.69
FP328A	15-10-20	350-350-25	m	1.57
FP329.5	20-20-20	350-350-25	b	1.71
FP330A	30-20-20	350-350-25	c	1.81
FP330.13A	200-10-50	350-350-25	j	3.59
FP330.14	250-3-200	350-350-25	i	4.05
FP330.15A	10-5-30	350-350-50	l	1.49
FP330.2A	10-5-150	350-350-50	m	1.66
FP330.21A	20-5-150	350-350-50	b	1.76
FP330.23	80-40-400	350-350-50	h	3.26
FP330.22A	100-20-50	350-350-50	g	2.76
FP330.244	150-4-30	350-350-50	g	3.04
FP330.246	150-5-100	350-350-50	j	3.19
FP330.25A	30-20-100	350-350-150	f	2.35
FP330.248A	70-40-50	350-350-150	g	2.76
FP330.24	125-20-20	350-350-150	h	3.00
FP330.29A	30-5-100	350-350-200	f	2.34
FP330.26A	100-60-20	350-350-200	h	3.16
FP330.27A	125-60-40	350-350-200	j	3.49
FP330.28A	100-60-100	350-350-200	j	3.51
FP330.3A	20-10-5	350-350-250	m	1.63
PFP330.4	10-10-60	350-350-300	f	2.25
FP330.5A	10-10-10	350-350-350	m	1.60
PFP330.6A	20-20-20	350-350-350	c	1.92
FP330.7A	30-20-10	350-350-350	c	1.88
PFP330.8A	40-40-40	350-350-350	g	2.74
FP330.9A	60-50-50	350-350-350	h	3.08
FP331.2	80-20-20	350-350-350	g	2.70
FP331.3A	80-60-60	350-350-350	j	3.45
FP331.6A	90-40-20	350-350-350	g	2.96
WP331.7A	100-40-5	350-350-350	g	2.92
FP331.76A	100-40-40	350-350-350	h	3.25
FP331.8A	100-60-40	350-350-350	j	3.45
FP332.4A	100-100-10	350-350-350	j	3.54
WP332.44	140-140-20	350-350-350	i	4.36
FP332.5A	40-200-60	400-200-200	j	3.22
FP332.7A	10-4-40	400-350-25	l	1.53
FP333	10-50-30	400-350-25	f	2.20
FP333.05	100-10-200	400-350-25	h	3.13
FP333.08	10-4-4	400-350-150	b	1.50
FP333.1	40-4-4	400-350-150	d	1.87
PFP333.16	40-30-20	400-350-300	g	2.56
FP333.2A	80-40-100	400-400-50	j	3.24
FP333.3A	80-40-150	400-400-50	j	3.30
FP333.15	100-20-20	400-400-50	h	3.10
FP333.5A	20-10-40	400-400-350	k	2.08
FP333.6	20-20-10	400-400-350	d	1.92
FP333.7	60-30-20	400-400-350	h	2.90
FP333.8	80-20-10	400-400-350	h	2.92
FP333.85	100-10-80	400-400-350	i	3.71
FP333.86	100-40-100	400-400-350	i	4.24
FP333.88	50-30-4	400-400-400	g	2.63
FP333.89	80-60-40	400-400-400	j	3.81
FP333.9	90-10-5	400-400-400	h	2.89
FP333.95	100-30-20	400-400-400	i	3.48
WP334.6A	20-500-500	450-25-25	g	2.83
WP339.5A	10-50-100	450-150-75	c	1.80
FP341A	40-90-50	450-150-150	g	2.58
FP341.2B	10-100-200	450-200-25	d	2.12
FP341.24	10-100-100	450-200-50	d	2.03
FP341.28	10-150-100	450-200-150	g	2.68
FP341.3A	20-80-50	450-200-150	f	2.35
FP341.5A	20-60-100	450-250-25	f	$2.30
FP341.6A	50-160-50	450-250-50	j	3.29
FP341.8A	10-80-80	450-250-250	g	2.64
FP342.2A	5-80-40	450-300-300	g	2.55
FP342.7	30-40-50	450-350-25	e	2.18
FP342.75	80-2-25	450-350-25	h	2.45
FP342.8	80-50-100	450-350-200	i	3.63
FP343.1A	15-20-20	450-350-250	c	1.83
FP343.2	50-10-160	450-350-250	j	3.33
FP343.4	20-15-15	450-350-350	d	1.89
FP343.6A	20-40-10	450-350-350	f	2.32
FP344.2	60-80-20	450-400-250	i	3.56
FP345.2	10-10-20	450-450-25	b	1.62
FP345.5	15-15-40	450-450-25	c	1.79
FP345.8	20-20-20	450-450-25	c	1.91
FP345.3A	40-20-20	450-450-25	f	2.46
FP346A	40-40-20	450-450-25	g	2.75
FP364A	80-40-100	450-450-25	j	3.37
FP365A	10-10-40	450-450-50	b	1.65
FP366A	20-10-50	450-450-50	c	1.82
FP366.5A	30-10-150	450-450-50	f	2.34
FP367.5	40-30-25	450-450-50	g	2.60
FP368B	60-40-75	450-450-50	h	3.12
FP368.3B	80-20-100	450-450-50	h	3.15
FP368.5A	80-50-50	450-450-50	j	3.51
FP368.6A	30-30-125	450-450-75	g	2.65
FP368.68A	10-4-20	450-450-150	m	1.58
PFP368.9	40-30-8	450-450-150	g	2.63
FP369.1A	40-40-40	450-450-150	g	2.84
FP370A	40-10-80	450-450-200	g	2.63
FP375A	40-40-100	450-450-200	j	3.16
FP375.2A	15-10-120	450-450-300	h	2.84
FP375.6A	60-20-40	450-450-350	j	3.10
FP375.7	20-10-15	450-450-400	d	1.93
FP375.75	80-80-20	450-450-400	n	4.09
FP375.45	4-20-50	450-450-450	e	2.39
FP375.8	10-10-10	450-450-450	c	1.75
FP376.1A	15-15-10	450-450-450	c	1.89
FP376.3	20-10-10	450-450-450	d	1.89
FP376.5A	20-20-20	450-450-450	f	2.44
FP376.6	30-10-10	450-450-450	f	2.28
FP376.7A	30-30-30	450-450-450	g	2.86
FP376.8A	40-40-10	450-450-450	g	2.86
FP376.9	40-40-20	450-450-450	h	2.99
FP377.1A	40-40-40	450-450-450	h	3.28
FP377.2A	50-40-30	450-450-450	j	3.28
FP377.4A	60-10-10	450-450-450	g	2.70
FP377.6	60-30-10	450-450-450	h	2.99
FP377.7A	60-40-40	450-450-450	j	3.58
FP378	80-40-20	450-450-450	i	3.58
FP378.1	80-40-30	450-450-450	i	3.70
FP378.4	80-40-40	450-450-450	i	3.84
FP379.1A	20-50-20	475-50-25	c	1.75
FP382.1A	40-40-100	475-250-100	g	2.71
FP384	20-20-40	475-300-25	f	2.10
FP384.14A	5-100-200	475-300-150	j	3.05
FP384.16	10-4-100	475-350-50	b	1.66
FP384.2	10-4-40	475-350-300	f	2.09
FP384.35	20-10-5	475-350-350	c	1.80
FP384.5	10-45-100	475-450-50	g	2.53
FP384.7	25-40-40	50-450-475	h	2.85
FP385A	10-40-100	475-450-200	g	2.73
FP385.5A	40-80-10	475-450-450	j	3.53
FP387.1	10-10-150	475-475-50	d	1.87
FP388.1	25-10-20	475-475-50	d	1.93
FP389.1A	20-10-100	475-475-400	j	3.33
FP391.1B	20-20-60	475-475-450	h	3.11
FP394A	10-10-10	475-475-475	c	1.82
FP396A	30-30-20	475-475-475	g	2.92
FP396.2A	40-10-10	475-475-475	f	2.58
FP396.1A	40-20-20	475-475-475	g	2.92
FP396.12A	40-30-10	475-475-475	g	2.92
FP396.14B	40-30-30	475-475-475	h	3.25
FP397A	40-35-10	475-475-475	g	2.99
PFP397.5	40-40-60	500-200-50	g	2.65
PFP397.7	40-40-20	500-350-250	h	2.89
FP398A	10-40-40	500-450-450	g	2.91
FP399B	20-10-100	500-500-50	c	2.03
FP399.5A	40-20-20	500-500-500	g	3.12
FP399.55	40-40-20	500-500-500	j	3.51

FP-WP AND PFP-PWP—QUADS

Mallory No.	Capacity, μF	WVDC	*	Net Each
WP401.5	750-600-350-4	16-16-16-11.5 rms	f	$2.73
WP401.8	750-750-350-4	16-16-16-11.5 rms	f	2.82
FP401.85	850-400-100-4	16-16-16-11.5 rms	r	2.51
FP401.9	850-400-100-15	16-16-16-11.5 rms	r	2.52
FP405	20-20-160-40	150-150-25-25	f	2.05
WP405.5	50-40-160-40	150-150-25-25	f	2.20
WP406	40-40-200-100	150-150-25-25	f	2.26
FP407	30-20-20-200	150-150-150-10	f	2.06
FP407.5	40-40-20-200	150-150-150-10	f	2.15
FP408	60-40-20-200	150-150-150-10	f	2.21
FP408.7A	300-30-10-100	150-150-150-10	g	2.82
FP408.9	30-30-30-40	150-150-150-25	f	2.05
FP409	40-40-30-20	150-150-150-25	f	2.09
FP409.6	50-40-10-50	150-150-150-25	f	2.09
FP410A	50-50-50-20	150-150-150-25	f	2.20
FP410.3	60-40-20-20	150-150-150-25	f	2.12
FP411A	80-40-30-100	150-150-150-25	f	2.28
FP411.3A	80-40-40-20	150-150-150-25	f	2.23
FP411.32A	80-40-40-40	150-150-150-25	f	2.25
FP411.4	80-50-50-25	150-150-150-25	g	$2.32
PFP411.9A	60-60-40-10	150-150-150-150	f	2.31
FP412A	100-80-60-40	150-150-150-150	f	2.56
WP412.1A	200-200-60-30	175-175-175-175	h	3.49
FP412.14	200-200-200-30	175-175-175-175	j	3.99
WP412.15	200-200-100-10	200-200-200-200	i	3.94
FP412.13	160-240-240-5	200-200-200-200	i	4.50
PFP412.17	250-200-10-20	200-200-200-200	h	3.81
FP412.19	160-450-60-5	200-200-200-200	i	4.62
FP419.41	200-20-20-5	200-300-300-300	g	2.91
PFP419.575A	150-100-5-100	200-350-150-50	h	3.51
FP412.2A	40-40-50-80	250-250-150-50	f	2.43
WP412.8	40-40-40-40	250-250-250-250	f	2.62
FP417.2A	20-150-150-100	300-150-150-30	g	2.89
FP417.3A	10-200-140-30	300-150-150-150	g	2.92
FP417.8A	10-200-200-30	300-150-150-150	h	3.13
FP417.9A	100-60-10-20	300-200-150-50	g	2.78
PFP419.05	125-5-120-100	300-200-175-75	h	3.33

MALLORY Electrolytic Capacitors



Metal tubulars with insulating sleeve. Use etched cathode construction for maximum reliability. **TC, TCN** are single section with 3″ tinned leads except (*) 2″ leads; **TCD, TCT** have 7″ insulated leads; **TCS** has solder lugs. Sizes .89″ dia. and up have mtg. straps. **Temp. Range:** −20° C to +85° C except (*) rated at +65° C. **Tolerance:** −10%, +100% up to 350 WVDC; −10%, +50% 450 WVDC and up.

METAL TUBULAR ELECTROLYTICS

TC SINGLE SECTION

Mallory No.	Cap., µF	WV DC	Size, In. Dia. x Lg.	Net Each
TC304A*	200	3	.39 x .81	$0.76
TC305A*	500	3	.39 x 1.44	.90
TC310A*	1000	3	.64 x 1.13	1.05
TC602	250	6	.39 x 1.06	.82
TC605A*	500	6	.42 x 1.56	.92
TC610A*	1000	6	.64 x 1.38	1.08
TC615	2000	6	.77 x 1.63	1.38
TC1205	500	12	.64 x 1.13	1.02
TC1210	1000	12	.64 x 1.88	1.35
TC1215	1500	12	.77 x 1.63	1.40
TC1220	2000	12	.77 x 2.13	1.62
TC1502A*	200	15	.39 x 1.44	.90
TC15025	250	15	.52 x 1.38	.97
TC1505A*	500	15	.64 x 1.38	1.05
TC1501A	1000	15	.77 x 1.63	1.38
TC1520A*	2000	15	.89 x 1.88	1.65
TC1530	3000	15	.89 x 2.13	2.40
TC1540	4000	15	.89 x 2.75	2.75
TC1550	5000	15	1.02 x 2.75	3.05
TC22A*	10	25	.28 x .69	.60
TC26A*	25	25	.32 x .81	.60
TC29A*	50	25	.39 x .94	.67
TC2501A*	100	25	.39 x 1.44	.80
TC25015A*	150	25	.42 x 1.69	.87
TC25025	250	25	.64 x 1.38	1.02
TC2505B	500	25	.77 x 1.63	1.35
TC2510	1000	25	.89 x 1.88	1.98
TC2515	1500	25	.89 x 2.13	2.35
TC2520	2000	25	1.02 x 2.75	2.75
TC31*	1	50	.28 x .69	.54
TC302*	2	50	.28 x .69	.54
TC30A*	5	50	.28 x .69	.60
TC32A*	10	50	.32 x .81	.60
TC36A*	25	50	.39 x .94	.64
TC39A*	50	50	.39 x 1.44	.72
TC3501A*	100	50	.64 x 1.63	.83
TC50015A*	150	50	.64 x 1.63	.90
TC50025A*	250	50	.77 x 1.63	1.00
TC50050A*	500	50	1.02 x 1.63	1.40
TC50100A*	1000	50	1.02 x 2.75	1.90
TC40A*	5	150	.32 x .81	.60
TC41A*	8	150	.39 x .94	.64
TC42A*	10	150	.39 x 1.06	.64
TC43A*	12	150	.39 x 1.06	.67
TC44A*	16	150	.39 x 1.19	.69
TC45A*	20	150	.39 x 1.44	.72
TC47A*	30	150	.64 x 1.13	.79
TC48A*	40	150	.77 x 1.13	.82
TC49A*	50	150	.64 x 1.63	.84
TC492A*	80	150	.77 x 1.63	.95
TC493A*	100	150	.77 x 1.88	1.05
TC495A*	150	150	1.02 x 1.38	1.13
TC496A*	200	150	1.02 x 1.63	1.32
TC499A*	300	150	1.02 x 2.13	1.63
TC50XA	5	250	.52 x 1.13	.69
TC51A	8	250	.64 x 1.13	.70
TC52A	10	250	.64 x 1.13	.72
TC53A	12	250	.64 x 1.13	.75
TC54A	16	250	.64 x 1.38	.79
TC55A	20	250	.64 x 1.38	.82
TC57	30	250	.77 x 1.38	.87
TC58A	40	250	.77 x 1.63	.94
TC59A	50	250	.77 x 1.63	1.02
TC1265A	100	250	.89 x 2.13	1.47
TC593A	150	300	1.02 x 2.75	1.84
TC595	2	350	.42 x 1.06	.60
TC60A	5	350	.64 x 1.13	.65
TC61A	8	350	.64 x 1.63	.72
TC62A	10	350	.64 x 1.63	.75
TC63A	12	350	.77 x 1.39	.79
TC64A	16	350	.77 x 1.63	.84
TC65A	20	350	.77 x 1.63	.87
TC67A	40	350	.77 x 2.13	1.05
TC68A	60	350	.89 x 2.75	1.17
TC69A	100	350	1.02 x 2.75	1.82
TC692A	150	350	1.02 x 3.88	2.22
TC695A	2	450	.52 x 1.38	.65
TC697A	4	450	.64 x 1.38	.69
TC70A	5	450	.64 x 1.38	.72
TC71A	8	450	.77 x 1.63	.75
TC72A	10	450	.77 x 1.63	.77
TC73A	12	450	.77 x 1.63	.82
TC74A	16	450	.89 x 1.63	.84
TC75A	20	450	.89 x 1.63	.93
TC77A	30	450	1.02 x 1.88	1.02
TC78A	40	450	1.02 x 2.13	1.08
TC79A	50	450	1.02 x 2.75	1.25
TC795A	60	450	1.02 x 2.75	1.40

TC SINGLE SECTION (CONT'D)

Mallory No.	Cap., µF	WV DC	Size, In. Dia. x Lg.	Net Each
TC80A	80	450	1.02 x 3.38	$1.63
TC805A	100	450	1.39 x 2.88	1.82
TC807	100	450	1.02 x 3.88	1.82
TC811*	2	500	.64 x 1.13	.81
TC81A*	10	500	.77 x 1.63	.82
TC82A	10	500	.69 x 3.00	.82
TC83A*	20	500	1.02 x 1.63	.97
TC84A*	30	500	1.02 x 2.13	1.16
TC90A	4	600	.69 x 2.50	1.17
TC92A	10	600	.81 x 2.50	1.77
TC96	20	600	1.06 x 2.94	2.35

NON-POLAR SINGLE SECTION

Mallory No.	Cap., µF	VNP	Size, In. Dia. x Lg.	Net Each
TCN105	5	10	.69 x 1.25	$0.68
TCN106	6	10	.56 x 1.25	.68
TCN108	8	10	.69 x 1.50	.68
TCN1025	25	10	.39 x .81	.75
TCN412	500	10	.94 x 2.00	1.20
TCN1550	500	15	15/16 x 2 1/4	1.25
TCN415	1000	15	1 1/16 x 3 1/2	1.65
TCN2516	16	25	9/16 x 1 1/2	.94
TCN425	100	25	13/16 x 1 1/2	.97
TCN501	1	50	9/16 x 1 1/4	.68
TCN502	2	50	9/16 x 1 1/4	.68
TCN503	3	50	9/16 x 1 1/4	.68
TCN504	4	50	9/16 x 1 1/4	.68
TCN505	5	50	9/16 x 1 1/4	.70
TCN5010	10	50	9/16 x 1 1/4	.72
TCN5099	100	50	15/16 x 1 3/4	1.42
TCN510	4	150	9/16 x 1 1/4	.70
TCN1512	12	150	5/8 x 1 3/4	.97
TCN1540	40	150	15/16 x 1 3/4	1.07
TCN1551	50	150	15/16 x 2 1/4	1.19
TCN2550	4	200	1 1/16 x 1 3/4	1.12
TCN3520	20	350	1 1/16 x 2 7/8	1.19
TCN511	10	450	1 1/16 x 2 1/4	1.24

TCS DUAL SEPARATE SECTION

Mallory No.	Cap., µF	WV DC‡	Size, In. Dia. x Lg.	Net Each
TCS44	15–15	150	13/16 x 2 3/8	$1.37
TCS45	20–20	150	15/16 x 2 3/8	1.42
TCS47	30–30	150	1 1/16 x 2 3/8	1.55
TCS48	40–40	150	1 1/16 x 2 7/8	1.63
TCS49	120–120	150	1 1/16 x 3 7/8	2.07
TCS505	70–70	175	1 1/16 x 3 7/8	2.00
TCS52	10–10	250	15/16 x 2 3/8	1.55
TCS55	20–20	250	1 1/16 x 2 7/8	1.78
TCS61	8–8	350	15/16 x 2 3/8	1.55
TCS71	8–8	450	1 1/16 x 2 3/8	1.68
TCS74	15–15	450	1 1/16 x 2 7/8	1.87
TCS75	20–20	450	1 1/16 x 3 1/2	2.03

‡Each section.

TCD DUAL COMMON NEGATIVE

No. TCD-	Cap., µF	WVDC	Size, In. Dia. x Lg.	Net Each
204	250–1000	10–6	1 1/16 x 2 1/4	$1.85
16	500–100	16–16	15/16 x 2 1/8	1.00
20	1000–1500	20–20	1 1/16 x 3	2.72
26	25–25	25–25	13/16 x 1 3/8	1.00
N201†	130–130	25–25	1 1/16 x 2 1/4	2.15
40	10–10	100–100	13/16 x 1 3/8	1.00
43	10–30	150–150	13/16 x 1 3/4	1.05
45	20–20	150–150	13/16 x 1 3/4	1.05
508	130–20	150–150	1 1/16 x 2 7/8	1.59
47	30–30	150–150	15/16 x 1 7/8	1.09
485	40–20	150–150	15/16 x 1 7/8	1.09
475	40–30	150–150	15/16 x 2 1/8	1.09
48	40–40	150–150	1 1/16 x 2 1/8	1.12
497	50–30	150–150	15/16 x 2 1/8	1.17
49	50–50	150–150	1 1/16 x 2 3/8	1.27
50	60–20	150–150	15/16 x 1 7/8	1.20
4975	80–40	150–150	1 1/16 x 2 3/8	1.34
498	80–50	150–150	1 1/16 x 2 3/8	1.42
2155	100–100	150–150	1 1/16 x 4 1/8	1.92
46	30–20	200–200	15/16 x 2 1/8	1.12
2165	30–30	200–200	1 1/16 x 2 3/8	1.24
2169	50–75	250–50	1 1/16 x 2 3/8	1.49
2174	100–150	250–50	1 1/16 x 4 1/8	2.15
2173	8–8	250–250	15/16 x 1 7/8	1.09
52	10–10	250–250	15/16 x 2	1.07
55	20–20	250–250	1 1/16 x 2	1.12
2274	40–40	300–300	1 1/16 x 3 1/8	1.84
58	80–40	300–300	1 1/16 x 4	1.94
62	10–10	350–350	15/16 x 2	1.12
65	20–20	350–350	1 1/16 x 2 3/8	1.44
68	30–5	350–350	15/16 x 2 3/8	1.40
2297	40–50	450–50	1 1/16 x 3 1/8	1.84
2302	30–60	450–300	1 1/16 x 4	2.09
71	8–8	450–450	15/16 x 2 1/8	1.17
72	10–10	450–450	1 1/16 x 2	1.24
74	15–15	450–450	1 1/16 x 3 1/8	1.35
745	20–8	450–450	1 1/16 x 2 1/4	1.34
75	20–20	450–450	1 1/16 x 3 1/4	1.50
77	30–30	450–450	1 1/16 x 4	1.95
78	40–40	450–450	1 1/16 x 4 1/8	2.24

†Non-polar.

TCT TRIPLE COMMON NEGATIVE

No. TCT-	Cap., µF	Volts	Size, In. Dia. x L.	Net Each
3053	20-20-20	150-150-25	15/16x2 3/8	$1.74
3055	30-30-20	150-150-25	1 1/16x2 1/4	1.89
3094	50-30-200	150-150-25	1 1/16x2 7/8	2.02
3109	20-10-10	150-150-150	15/16x1 3/4	1.70
3112	20-20-20	150-150-150	1 1/16x1 7/8	1.77
3113	30-30-30	150-150-150	1 1/16x2 3/8	1.87
3114	40-20-20	150-150-150	1 1/16x2 1/4	1.80
3105	40-30-20	150-150-150	1 1/16x1 7/8	1.87
3116	40-40-20	150-150-150	1 1/16x2 3/8	1.87
3115	40-40-40	150-150-150	1 1/16x2 3/8	1.92
3107	50-30-20	150-150-150	1 1/16x2 3/8	1.89
3110	60-30-10	150-150-150	1 1/16x2	1.89
3119	60-50-20	150-150-150	1 1/16x2 7/8	1.94
3117	80-40-20	150-150-150	1 1/16x2 7/8	1.98
3118	80-50-50	150-150-150	1 1/16x4	2.10
3120	80-80-20	150-150-150	15/16x3	2.10
3285	40-30-40	350-250-150	1 1/16x4	2.86
3405	30-50-100	450-150-25	1 1/16x4	2.57
3432	30-30-30	450-350-250	1 1/16x4	2.76
3764	40-20-10	450-450-450	1 1/16x4	2.64

"SNAP-CAP" CARDBOARD TUBULAR ELECTROLYTICS

"Snap-Cap" capacitors are made to the same specifications as the "W" series and are supplied with an exclusive mounting ring which allows them to be snapped into a standard BP4 or MP4 mounting plate. Lugs hold securely and won't shake or vibrate loose, yet capacitors are easily removed if required. Furnished with color-coded insulated wire leads with stripped and tinned ends; wires 5″ long. Used in equipment where temperature does not exceed 65° C. **Tolerance:** −10%, +100%.

Mallory No.	Cap., µF	WVDC*	Size, In.	Net Each
CVM2316	40-40	150	1x2	$1.23
CVM2225	50-30	150	1x2	1.10
CVM2200	80-20	150	1x2 1/2	1.28
CVM3200	20-80-20	150	1x2 1/2	1.46
CVM3300	40-30-20	150	1x2	1.39
CVM3375	50-50-20	150	1x2 1/2	1.46
CVM3325	60-40-20	150	1x2 1/2	1.46
CVM3350	80-40-20	150	1x2 1/2	1.51
CVM3210	150-20-20	150	1x3	1.64
CVM3355	150-40-20	150	1x3	1.83

*WVDC each section.

PRINTED CIRCUIT CARDBOARD TUBULAR CAPACITORS

High quality aluminum electrolytic capacitors in wax-filled cardboard tubes with printed circuit terminals. Widely used in home entertainment equipment. Dual and triple section. **Temp. Range:** −20° C to +65° C. **Tolerance:** −10%, +100%. Terminals are securely staked to capacitor body and are 1/16″ wide, 9/32″ long and .020″ thick. **Ask for form 4-76 for complete specifications.**

Mallory No.	Cap., µF	WVDC	Size, In. Dia. x L.	Net Each
PWD211	50-30	150*	1x2	$1.26
PWD221	50-50	150*	1x2	1.44
PWD231	75-30	150*	1x2 3/8	1.34
PWD240	80-30	150*	1x2 3/8	1.35
PWD252	80-50	150*	1x2 3/8	1.42
PWD253	80-50	200*	1x2 5/8	1.58
PWD263	100-50	150*	1x2 3/8	1.50
PWT205	30-25-20	150*	1x1 3/4	1.44
PWT225	50-30-20	150*	1x2	1.52
PWT245	60-20-5	150*	1x2 7/8	1.47
PWT260	60-80-20	150*	1x2 3/8	1.71
PWT275	80-40-150	150-150-25	1x2 3/8	1.69
PWT285	80-60-250	150-150-25	1 1/8x2 3/8	1.83
PWT360	60-120-20	200*	1 1/8x2 7/8	2.12

*WVDC each section.

Net

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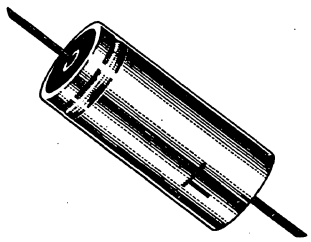
MALLORY Electrolytic Capacitors

TT TINY TUBULAR ALUMINUM ELECTROLYTIC CAPACITORS

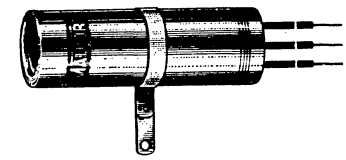


Mallory TT capacitors are made from very high purity aluminum foil, deep-etched to provide maximum capacity per unit of volume. Etched cathode construction assures long, hum-free operation. Utilize all-welded construction; exhibit exceptionally low DCL and ESR. Supplied in aluminum case with insulating sleeve; wire leads 2" lg. (±¼"). **Temperature Range:** −55° C to +85° C, 3 to 100-volt units; −30° C to +85° C, all others. **Tolerance:** −10%, +150%, 1–50 WVDC; −10%, +100%, 60 WVDC and up.

Mallory No.	Cap., µF	WV DC	Size, In.* Dia. x L.	Net Each
TT3X1	1	3	¼ x ⅝	$0.51
TT3X5	5	3	¼ x ⅝	.51
TT3X6	6	3	¼ x ⅝	.51
TT3X8	8	3	¼ x ⅝	.51
TT3X20	20	3	¼ x ⅝	.51
TT3X25	25	3	¼ x ⅝	.51
TT3X40	40	3	¼ x ⅝	.72
TT3X50	50	3	¼ x ⅝	.74
TT3X75	75	3	¼ x ¾	.75
TT3X100	100	3	⅜ x ⅝	.81
TT3X110	110	3	⅜ x ⅝	.81
TT3X150	150	3	5⁄16 x ¾	.81
TT3X200	200	3	⅜ x ¾	.81
TT3X250	250	3	⅜ x ⅞	.81
TT3X300	300	3	⅜ x 1	.87
TT3X400	400	3	⅜ x 1⅛	.93
TT3X500	500	3	⅜ x 1⅜	.99
TT6X1	1	6	¼ x ⅝	.54
TT6X2	2	6	¼ x ⅝	.54
TT6X3	3	6	¼ x ⅝	.54
TT6X4	4	6	¼ x ⅝	.54
TT6X5	5	6	¼ x ⅝	.54
TT6X6	6	6	¼ x ⅝	.54
TT6X8	8	6	¼ x ⅝	.54
TT6X10	10	6	¼ x ⅝	.54
TT6X15	15	6	¼ x ⅝	.54
TT6X20	20	6	¼ x ⅝	.54
TT6X25	25	6	¼ x ⅝	.54
TT6X30	30	6	¼ x ⅝	.57
TT6X35	35	6	¼ x ⅝	.57
TT6X40	40	6	¼ x ⅝	.57
TT6X50	50	6	5⁄16 x ⅝	.75
TT6X60A	60	6	5⁄16 x ⅝	.75
TT6X75	75	6	⅜ x ⅝	.81
TT6X80	80	6	5⁄16 x ¾	.81
TT6X100	100	6	⅜ x ⅝	.81
TT6X150	150	6	⅜ x ¾	.81
TT6X200	200	6	⅜ x ⅞	.84
TT6X250	250	6	⅜ x 1	.87
TT6X300	300	6	⅜ x 1	.93
TT10X2	2	10	¼ x ⅝	.57
TT10X6	6	10	¼ x ⅝	.57
TT10X10	10	10	¼ x ⅝	.57
TT10X15	15	10	¼ x ⅝	.57
TT10X25	25	10	¼ x ⅝	.75
TT10X30	30	10	5⁄16 x ⅝	.81
TT10X40	40	10	¼ x ¾	.81
TT10X50	50	10	5⁄16 x ⅝	.81
TT10X60	60	10	⅜ x ⅝	.81
TT10X100	100	10	⅜ x ¾	.81
TT10X200	200	10	⅜ x 1	.96
TT12X1	1	12	¼ x ⅝	.57
TT12X2	2	12	¼ x ⅝	.57
TT12X3	3	12	¼ x ⅝	.57
TT12X4	4	12	¼ x ⅝	.57
TT12X5	5	12	¼ x ⅝	.57
TT12X6	6	12	¼ x ⅝	.57
TT12X8	8	12	¼ x ⅝	.57
TT12X10	10	12	¼ x ⅝	.57
TT12X15	15	12	¼ x ⅝	.57
TT12X20	20	12	¼ x ⅝	.57
TT12X25	25	12	¼ x ¾	.75
TT12X35	35	12	5⁄16 x ⅝	.75
TT12X50	50	12	⅜ x ⅝	.81
TT12X75	75	12	⅜ x ¾	.81
TT12X100	100	12	⅜ x ⅞	.81
TT12X150	150	12	⅜ x 1	.93
TT12X200	200	12	⅜ x 1⅛	.96
TT12X250	250	12	⅜ x 1⅜	.96
TT15X1	1	15	¼ x ⅝	$0.57
TT15X2	2	15	¼ x ⅝	.57
TT15X3	3	15	¼ x ⅝	.57
TT15X4	4	15	¼ x ⅝	.57
TT15X5	5	15	¼ x ⅝	.57
TT15X6	6	15	¼ x ⅝	.57
TT15X8	8	15	¼ x ⅝	.57
TT15X10	10	15	¼ x ⅝	.57
TT15X15	15	15	¼ x ⅝	.57
TT15X20	20	15	5⁄16 x ⅝	.57
TT15X25	25	15	¼ x ¾	.75
TT15X30	30	15	5⁄16 x ⅝	.75
TT15X35A	35	15	5⁄16 x ⅝	.75
TT15X40A	40	15	5⁄16 x ⅝	.81
TT15X50	50	15	5⁄16 x ¾	.81
TT15X75	75	15	⅜ x ⅞	.81
TT15X100	100	15	⅜ x ⅞	.81
TT15X150	150	15	⅜ x 1⅛	.87
TT15X200	200	15	⅜ x 1⅜	.96
TT25X1	1	25	¼ x ⅝	.54
TT25X2	2	25	¼ x ⅝	.57
TT25X3	3	25	¼ x ⅝	.57
TT25X4	4	25	¼ x ⅝	.57
TT25X5	5	25	¼ x ⅝	.57
TT25X6	6	25	¼ x ⅝	.57
TT25X8	8	25	¼ x ⅝	.60
TT25X10	10	25	¼ x ⅝	.60
TT25X15	15	25	5⁄16 x ⅝	.75
TT25X20	20	25	5⁄16 x ⅝	.81
TT25X25	25	25	⅜ x ⅝	.81
TT25X30	30	25	5⁄16 x ¾	.81
TT25X35	35	25	5⁄16 x ¾	.81
TT25X50	50	25	⅜ x ⅞	.81
TT25X75	75	25	⅜ x 1	.87
TT25X100	100	25	⅜ x 1⅛	.90
TT50X1	1	50	¼ x ⅝	.54
TT50X2	2	50	¼ x ⅝	.54
TT50X3	3	50	¼ x ⅝	.57
TT50X4	4	50	¼ x ⅝	.57
TT50X5A	5	50	¼ x ⅝	.57
TT50X6	6	50	¼ x ¾	.81
TT50X8	8	50	¼ x ¾	.81
TT50X10A	10	50	5⁄16 x ⅝	.81
TT50X15	15	50	5⁄16 x ¾	.81
TT50X20A	20	50	⅜ x ¾	.81
TT50X25	25	50	⅜ x ⅞	.84
TT50X35	35	50	⅜ x 1	.84
TT50X50	50	50	⅜ x 1⅛	.87
TT100X1	1	100	¼ x ⅝	.81
TT100X2	2	100	¼ x ⅝	.81
TT100X3	3	100	¼ x ⅝	.81
TT100X4	4	100	¼ x ¾	.81
TT100X5	5	100	5⁄16 x ⅝	.81
TT100X6	6	100	5⁄16 x ¾	.81
TT100X10	10	100	⅜ x ¾	.81
TT100X15	15	100	⅜ x ⅞	.84
TT100X20	20	100	⅜ x 1	.84
TT100X25	25	100	⅜ x 1⅛	.84
TT150X1	1	150	¼ x ⅝	.84
TT150X2	2	150	¼ x ¾	.84
TT150X3	3	150	5⁄16 x ⅝	.84
TT150X4	4	150	⅜ x ⅝	.84
TT150X5	5	150	⅜ x ¾	.84
TT150X6	6	150	⅜ x ¾	.84
TT150X8	8	150	⅜ x ⅞	.84
TT150X10	10	150	⅜ x ⅞	.84
TT150X12	12	150	⅜ x 1	.87
TT250X1A	1	250	¼ x ⅝	1.02
TT350X2	2	350	⅜ x 1⅜	1.05

*Size shown for plain case. For insul. sleeve add .010" dia. x 1⁄16" l.

CARDBOARD TUBULAR WAX-FILLED ELECTROLYTICS



Very high quality aluminum electrolytics in wax-filled cardboard tubes with mounting straps and 5" insulated leads. All values have exclusive Mallory safety vent and feature all-welded internal construction. **Temperature Range:** −20° C to +65° C. **Tolerance:** −10%, +250% up to 50 WVDC; −10%, +100% 51 to 350 WVDC; −10%, +50% 450 WVDC and up. WQ240 is special double ended design.

Mall. No.	Cap., µF at WVDC	Size, In. D. x L.	Net Each
WS342	200 at 200	1⅛ x 2⅞	$1.84
WS427	140 at 300	1¼ x 2⅞	2.05
WS560	150 at 400	1¼ x 4⅜	2.64
WS730	100 at 450	1⁵⁄16 x 3⅜	2.63
WD210	50-30 at 150	¾ x 2⅜	1.24
WD215	50-50 at 150	⅞ x 2⅜	1.30
WD220	70-30 at 150	⅞ x 2⅜	1.30
WD235	100-50 at 150	1 x 2⅜	1.56
WD270	120-120 at 150	1 x 2⅞	1.87
WD251	250-50 at 160	1⅜ x 2⅝	2.18
WD340	60-125 at 200-50	1⅛ x 2⅜	1.54
WD345	5-200 at 200-200	1⅛ x 3⅛	2.05
WD355	250-120 at 200-200	1⅜ x 3⅛	2.92
WD410	200-100 at 300-50	1⅛ x 4⅜	2.93
WD446	100-150 at 350-300	1⅜ x 3⅝	3.40
WD448	150-100 at 350-300	1⅜ x 4⅜	3.49
WD450	5-140 at 350-350	1⅛ x 4⅜	2.54
WT201	60-40-250 at 150-150-15	1 x 2⅜	1.72
WT240	60-60-100 at 150-150-25	1 x 2⅜	1.72
WT312	250-120-50 at 160-160-100	1⅜ x 3⅝	2.31
WT217	40-40-20 at 150	1 x 2⅞	1.58
WT316	150-150-150 at 150	1¼ x 3⅝	2.81
WT350	150-150-20 at 200	1⅛ x 4⅜	2.78
WT360	200-250-10 at 200	1⅜ x 3⅝	3.58
WT430	100-60-100 at 300-300-50	1¼ x 3⅜	2.74
WT434	120-40-100 at 300-300-50	1¼ x 3⅝	2.74
WT407	70-50-30 at 300-300-250	1¼ x 3⅜	2.41
WT447	10-100-200 at 350-150-150	1⅜ x 2⅜	2.47
WT449	140-5-200 at 350-300-200	1⅜ x 4⅜	3.60
WT455	100-40-40 at 350-350-250	1⅛ x 4⅜	2.90
WT458	60-60-60 at 350-350-300	1¼ x 4⅜	2.93
WT460	60-60-4 at 350	1¼ x 3⅜	2.49
WT565	100-75-70 at 400-400-25	1½ x 4⅜	3.41
WT630	5-40-80 at 450-400-400	1⅜16 x 4⅜	2.72
WT700	10-10-150 at 450-450-50	1⅛ x 2⅝	1.85
WQ209	60-40-20-200 at 150-150-150-10	1 x 2⅜	1.93
WQ215	40-20-20-100 at 150-150-150-25	1 x 2	1.77
WQ230	40-40-20-20 at 150-150-150-25	1⁵⁄16 x 2⅞	1.70
WQ250	60-40-40-20 at 150-150-150-25	1 x 2⅜	1.91
WQ240	10-10-40-200 at 150-150-150-35	1⅛ x 2	1.74
WQ290	60-50-40-20 at 150	⅞ x 2⅞	1.90
WQ401	140-4-50-4 at 300-300-150-150	1⅜ x 3½	2.88
WQ405	120-40-40-10 at 300-300-300-250	1⅜ x 3⅜	3.18
WQ511	140-5-200-100 at 350-300-200-150	1⅜ x 4⅜	4.27
WQ505	140-5-200-30 at 350-300-200-200	1½ x 4⅜	4.06
WQ515	40-20-20-100 at 350-300-250-50	1¼ x 2⅝	2.34
WQ525	50-40-20-50 at 350-350-350-50	1¼ x 3⅜	2.59
WQ520	150-100-20-100 at 350-350-350-50	1½ x 4⅜	4.33
WQ635	25-100-10-50 at 450-300-300-50	1⅜ x 3⅜	2.98
WQ640	10-80-40-40 at 450-300-300-300	1¼ x 4⅜	2.94
WQ650	10-40-80-100 at 450-300-400-50	1¼ x 4⅜	3.07
WQ775	10-20-20-40 at 450	1¼ x 3⅜	3.02
WQ795	20-20-40-40 at 450	1¼ x 4⅜	3.53
WV404	40-20-20-20-50 at 300-300-300-300-50	1¼ x 3⅜	2.58

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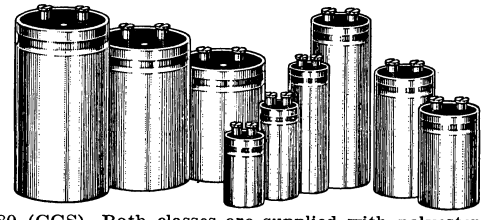
Net

MALLORY Computer Grade Capacitors



Two classes of Computer Grade Capacitors are available: CGS for 65° C operation and CG for 85° C operation. Operating life of both types should exceed 10 years when used within stated parameters. Derating voltage and/or lowering operating temperature will extend life by a large factor. **Temp. Range:** −20° C to +65° (CGS), +85° (CG). **Tolerance:** 0–150 WVDC, −10 +75% (U); 151 WVDC up, −10 +50% (T). For complete specifications, ask for Form 4-64 (CG), 4-80 (CGS). Both classes are supplied with polyester film insulating sleeves and have "High-post" terminals with #10-32 screws. Physical mounting of these capacitors is usually done with VR clamps shown below. The clamps, however, are not included with the capacitors. Order separately.

85° C COMPUTER GRADE

Mallory No.	Cap., µF	WV DC	Size	Net Each
CG552U3A1	5,500	3	A	$2.02
CG1052U3B1	10,500	3	B	2.35
CG143U3C1	14,000	3	C	2.86
CG1752U3H1	17,500	3	H	3.09
CG233U3K1	23,000	3	K	3.57
CG243U3J1	24,000	3	J	3.68
CG363U3D1	36,000	3	D	4.41
CG54U3E1	50,000	3	E	5.65
CG753U3F1	75,000	3	F	7.06
CG1153U3G1	115,000	3	G	8.63
CG442U5A1	4,400	5	A	1.83
CG852U5B1	8,500	5	B	2.71
CG1252U5C1	12,500	5	C	3.28
CG143U5H1	14,000	5	H	3.72
CG1852U5K1	18,500	5	K	4.01
CG24U5J1	20,000	5	J	4.07
CG2752U5D1	27,500	5	D	4.60
CG453U5E1	45,000	5	E	6.05
CG653U5F1	65,000	5	F	7.14
CG15U5G1	100,000	5	G	9.39
CG322U10A1	3,200	10	A	1.75
CG63U10B1	6,000	10	B	2.37
CG822U10C1	8,200	10	C	2.84
CG14U10H1	10,000	10	H	3.15
CG1352U10K1	13,500	10	K	3.72
CG143U10J1	14,000	10	J	3.86
CG183U10D1	18,000	10	D	4.59
CG34U10E1	30,000	10	E	6.61
CG4352U10F1	43,500	10	F	8.25
CG683U10G1	68,000	10	G	9.66
CG252U15A1	2,500	15	A	1.97
CG452U15B1	4,500	15	B	2.60
CG642U15C1	6,400	15	C	2.69
CG83U15H1	8,000	15	H	3.07
CG1052U15K1	10,500	15	K	3.38
CG113U15J1	11,000	15	J	3.50
CG143U15D1	14,000	15	D	4.47
CG233U15E1	23,000	15	E	6.32
CG343U15F1	34,000	15	F	7.11
CG533U15G1	53,000	15	G	9.30
CG152U25A1	1,500	25	A	1.72
CG282U25B1	2,800	25	B	2.12
CG382U25C1	3,800	25	C	2.60
CG452U25H1	4,500	25	H	2.77
CG63U25K1	6,000	25	K	3.23
CG652U25J1	6,500	25	J	3.40
CG852U25D1	8,500	25	D	3.90
CG1352U25E1	13,500	25	E	5.99
CG24U25F1	20,000	25	F	6.55
CG3152U25G1	31,500	25	G	8.78
CG112U35A1	1,100	35	A	1.89
CG212U35B1	2,100	35	B	2.16
CG312U35C1	3,100	35	C	3.04
CG362U35H1	3,600	35	H	3.21
CG472U35K1	4,700	35	K	3.46
CG532U35J1	5,300	35	J	3.63
CG692U35D1	6,900	35	D	4.77
CG113U35E1	11,000	35	E	6.42
CG1652U35F1	16,500	35	F	7.16
CG243U35G1	24,000	35	G	7.75
CG82U50A1	800	50	A	1.74
CG152U50B1	1,500	50	B	2.05
CG23U50C1	2,000	50	C	2.29
CG252U50H1	2,500	50	H	2.52
CG332U50K1	3,300	50	K	3.25
CG352U50J1	3,500	50	J	3.29
CG452U50D1	4,500	50	D	3.47
CG732U50E1	7,300	50	E	5.33
CG14U50F1	10,000	50	F	6.70
CG1652U50G1	16,500	50	G	9.20
CG62U75A1	600	75	A	2.01
CG13U75B1	1,000	75	B	2.35
CG152U75C1	1,500	75	C	2.84
CG23U75H1	2,000	75	H	3.09
CG252U75K1	2,500	75	K	3.70
CG262U75J1	2,600	75	J	3.75
CG3451U75D1	3,450	75	D	4.03
CG552U75E1	5,500	75	E	6.40
CG822U75F1	8,200	75	F	7.25
CG1252U75G1	12,500	75	G	9.45
CG42U100A1	400	100	A	2.01
CG751U100B1	750	100	B	2.38
CG13U100C1	1,000	100	C	2.73
CG132U100H1	1,300	100	H	2.99
CG1651U100K1	1,650	100	K	3.17
CG172U100J1	1,700	100	J	3.31

85°C COMPUTER GRADE (CONT.)

Mallory No.	Cap., µF	WV DC	Size	Net Each
CG2251U100D1	2,250	100	D	$4.12
CG362U100E1	3,600	100	E	6.03
CG532U100F1	5,300	100	F	6.74
CG832U100G1	8,300	100	G	9.68
CG2750U150A1	275	150	A	1.63
CG52U150B1	500	150	B	2.05
CG72U150C1	700	150	C	2.40
CG8750U150H1	875	150	H	2.71
CG112U150K1	1,100	150	K	3.13
CG1151U150J1	1,150	150	J	3.17
CG1551U150D1	1,550	150	D	4.01
CG252U150E1	2,500	150	E	5.92
CG362U150F1	3,600	150	F	7.08
CG562U150G1	5,600	150	G	9.87
CG181T200A1	180	200	A	2.02
CG341T200B1	340	200	B	2.42
CG451T200C1	450	200	C	2.58
CG551T200H1	550	200	H	2.86
CG751T200K1	750	200	K	3.30
CG82T200J1	800	200	J	3.44
CG13T200D1	1,000	200	D	4.51
CG1651T200E1	1,650	200	E	5.36
CG2451T200F1	2,450	200	F	6.83
CG382T200G1	3,800	200	G	12.26
CG141T250A1	140	250	A	2.41
CG2750T250B1	275	250	B	2.75
CG3750T250C1	375	250	C	2.99
CG451T250H1	450	250	H	3.24
CG62T250K1	600	250	K	3.65
CG6205T250J1	625	250	J	3.80
CG82T250D1	800	250	D	4.72
CG132T250E1	1,300	250	E	6.30
CG192T250F1	1,900	250	F	7.60
CG33T250G1	3,000	250	G	10.16
CG121T300A1	120	300	A	2.45
CG2250T300B1	225	300	B	2.66
CG3250T300C1	325	300	C	2.85
CG42T300H1	400	300	H	3.00
CG5250T300K1	525	300	K	3.27
CG551T300J1	550	300	J	3.32
CG72T300D1	700	300	D	4.74
CG1151T300E1	1,150	300	E	7.35
CG1651T300F1	1,650	300	F	8.46
CG262T300G1	2,600	300	G	10.63
CG12T350A1	100	350	A	2.43
CG181T350B1	180	350	B	2.73
CG251T350C1	250	350	C	2.96
CG32T350H1	300	350	H	3.15
CG42T350K1	400	350	K	3.57
CG4250T350J1	425	350	J	3.80
CG551T350D1	550	350	D	5.10
CG92T350E1	900	350	E	6.46
CG132T350F1	1,300	350	F	8.59
CG23T350G1	2,000	350	G	10.63
CG550T400A1	55	400	A	2.45
CG111T400B1	110	400	B	2.89
CG151T400C1	150	400	C	2.96
CG181T400H1	180	400	H	3.10
CG241T400K1	240	400	K	3.44
CG251T400J1	250	400	J	3.48
CG3250T400D1	325	400	D	3.80
CG531T400E1	530	400	E	5.04
CG41T450A1	40	450	A	1.80
CG81T450B1	80	450	B	2.54
CG111T450C1	110	450	C	2.73
CG141T450H1	140	450	H	3.00
CG181T450K1	180	450	K	3.09
CG191T450J1	190	450	J	3.20
CG241T450D1	240	450	D	3.42

65° C COMPUTER GRADE

Mallory No.	Cap., µF	WV DC	Size	Net Each
CGS722U010BB1	7,200	10	BB	$ 2.65
CGS133U010BD1	13,000	10	BD	3.42
CGS203U010BF1	20,000	10	BF	4.80
CGS303U010DD1	30,000	10	DD	6.62
CGS443U010DF1	44,000	10	DF	8.12
CGS663U010DI1	66,000	10	DI	9.51
CGS104U010FF1	100,000	10	FF	10.71
CGS134U010FH1	130,000	10	FH	11.26
CGS164U010FJ1	160,000	10	FJ	11.55
CGS552U015BB1	5,500	15	BB	2.67
CGS103U015BD1	10,000	15	BD	3.34
CGS153U015BF1	15,000	15	BF	4.68

65°C COMPUTER GRADE (CONT.)

Mallory No.	Cap., µF	WV DC	Size	Net Each
CGS233U015DD1	23,000	15	DD	$ 6.55
CGS343U015DF1	34,000	15	DF	6.99
CGS503U015DI1	50,000	15	DI	8.90
CGS803U015FF1	80,000	15	FF	10.46
CGS104U015FH1	100,000	15	FH	11.25
CGS124U015FJ1	120,000	15	FJ	11.55
CGS302U025BB1	3,000	25	BB	2.29
CGS562U025BD1	5,600	25	BD	3.15
CGS822U025BF1	8,200	25	BF	3.82
CGS123U025DD1	12,000	25	DD	5.35
CGS183U025DF1	18,000	25	DF	6.43
CGS273U025DI1	27,000	25	DI	7.56
CGS433U025FF1	43,000	25	FF	9.93
CGS573U025FH1	57,000	25	FH	10.81
CGS673U025FJ1	67,000	25	FJ	11.26
CGS222U040BB1	2,200	40	BB	2.14
CGS422U040BD1	4,200	40	BD	3.25
CGS622U040BF1	6,200	40	BF	4.00
CGS932U040DD1	9,300	40	DD	6.05
CGS133U040DF1	13,000	40	DF	6.88
CGS203U040DI1	20,000	40	DI	7.41
CGS323U040FF1	32,000	40	FF	9.50
CGS433U040FH1	43,000	40	FH	10.60
CGS503U040FJ1	50,000	40	FJ	10.75
CGS162U050BB1	1,600	50	BB	2.10
CGS292U050BD1	2,900	50	BD	3.11
CGS432U050BF1	4,300	50	BF	3.42
CGS652U050DD1	6,500	50	DD	5.29
CGS962U050DF1	9,600	50	DF	6.48
CGS143U050DI1	14,000	50	DI	8.35
CGS223U050FF1	22,000	50	FF	9.42
CGS303U050FH1	30,000	50	FH	9.97
CGS353U050FJ1	35,000	50	FJ	10.85
CGS821U075BB1	820	75	BB	2.18
CGS152U075BD1	1,500	75	BD	2.83
CGS232U075BF1	2,300	75	BF	3.46
CGS342U075DD1	3,400	75	DD	4.01
CGS502U075DF1	5,000	75	DF	6.32
CGS752U075DI1	7,500	75	DI	7.14
CGS123U075FF1	12,000	75	FF	9.19
CGS163U075FH1	16,000	75	FH	10.56
CGS193U075FJ1	19,000	75	FJ	10.81
CGS651U100BB1	650	100	BB	2.29
CGS122U100BD1	1,200	100	BD	2.96
CGS182U100BF1	1,800	100	BF	3.21
CGS272U100DD1	2,700	100	DD	5.22
CGS402U100DF1	4,000	100	DF	6.17
CGS592U100DI1	5,900	100	DI	7.45
CGS932U100FF1	9,300	100	FF	10.14
CGS123U100FH1	12,000	100	FH	10.39
CGS153U100FJ1	15,000	100	FJ	11.13
CGS401U150BB1	400	150	BB	2.21
CGS721U150BD1	720	150	BD	2.63
CGS112U150BF1	1,100	150	BF	3.05
CGS162U150DD1	1,600	150	DD	4.20
CGS252U150DF1	2,500	150	DF	5.92
CGS352U150DI1	3,500	150	DI	6.93
CGS552U150FF1	5,500	150	FF	9.87
CGS742U150FH1	7,400	150	FH	10.69
CGS872U150FJ1	8,700	150	FJ	11.34
CGS201T250BB1	200	250	BB	2.56
CGS381T250BD1	380	250	BD	3.04
CGS551T250BF1	550	250	BF	3.52
CGS851T250DD1	850	250	DD	5.21
CGS122T250DF1	1,200	250	DF	6.20
CGS192T250DI1	1,900	250	DI	7.60
CGS292T250FF1	2,900	250	FF	9.83
CGS392T250FH1	3,900	250	FH	10.52
CGS452T250FJ1	4,500	250	FJ	10.99
CGS131T350BB1	130	350	BB	2.54
CGS251T350BD1	250	350	BD	2.98
CGS371T350BF1	370	350	BF	3.44
CGS551T350DD1	550	350	DD	5.01
CGS801T350DF1	800	350	DF	5.98
CGS122T350DI1	1,200	350	DI	7.91
CGS202T350FF1	2,000	350	FF	10.62
CGS262T350FH1	2,600	350	FH	10.92
CGS302T350FJ1	3,000	350	FJ	11.55
CGS750T450BB1	75	450	BB	1.72
CGS141T450BD1	140	450	BD	3.17
CGS211T450BF1	210	450	BF	3.51
CGS321T450DD1	320	450	DD	3.94
CGS481T450DF1	480	450	DF	4.70
CGS701T450DI1	700	450	DI	6.30
CGS112T450FF1	1,100	450	FF	10.12
CGS152T450FH1	1,500	450	FH	10.71
CGS182T450FJ1	1,800	450	FJ	11.55

COMPUTER GRADE CASE SIZES

CG	CGS	Dia. x L., In.	Mtg. Clamp
A	BB	1 25/64 x 2 9/64	VR3
B	BD	1 25/64 x 3 9/64	VR3
C	BF	1 25/64 x 4 9/64	VR3
H	.....	1 49/64 x 3 9/64	VR6
J	.....	1 49/64 x 4 9/64	VR6
K	DD	2 1/64 x 3 9/64	VR8
D	DF	2 1/64 x 4 9/64	VR8
.....	DI	2 1/64 x 5 41/64	VR8
E	.....	2 33/64 x 4 9/64	VR10
F	FF	3 1/64 x 4 9/64	VR12
.....	FH	3 1/64 x 5 9/64	VR12
G	.....	3 1/64 x 5 41/64	VR12
.....	FJ	3 1/64 x 5 57/64	VR12

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MALLORY Tantalum Capacitors

TYPE CSR13 SOLID ELECTROLYTE TANTALUM CAPACITORS
TO MIL-C-39003/01, FRL (FAILURE RATE LEVEL) "L" (2%)

Established reliability, low leakage and low impedance. Hermetically sealed with plastic insulating sleeve. Meet MIL-C-39003A specifications. Life test, 10,000 hours. Temperature range, −55° C to +125° C. Leads may be welded or soldered; are tinned nickel, type N1 of MIL-STD-1276.

STOCK VALUES FRL (FAILURE RATE LEVEL) "L"—2% PER 1000 HOURS

Cap., µF	Tol.	WVDC at +85° C	MIL and Mallory No.	MIL Dash No.	Size †
5.6	±10%	6	CSR13B565KL	-2001	A
6.8	±10%	6	CSR13B685KL	-2002	A
6.8	±20%	6	CSR13B685ML	-2003	A
47	±10%	6	CSR13B476KL	-2004	B
47	±20%	6	CSR13B476ML	-2005	B
56	±10%	6	CSR13B566KL	-2006	B
150	±10%	6	CSR13B157KL	-2007	C
150	±20%	6	CSR13B157ML	-2008	C
180	±10%	6	CSR13B187KL	-2009	C
270	±10%	6	CSR13B277KL	-2010	D
330	±10%	6	CSR13B337KL	-2011	D
330	±20%	6	CSR13B337ML	-2012	D
3.9	±10%	10	CSR13C395KL	-2013	A
4.7	±10%	10	CSR13C475KL	-2014	A
4.7	±20%	10	CSR13C475ML	-2015	A
27	±10%	10	CSR13C276KL	-2016	B
33	±10%	10	CSR13C336KL	-2017	B
33	±20%	10	CSR13C336ML	-2018	B
39	±10%	10	CSR13C396KL	-2019	B
82	±10%	10	CSR13C826KL	-2020	C
100	±10%	10	CSR13C107KL	-2021	C
100	±20%	10	CSR13C107ML	-2022	C
120	±10%	10	CSR13C127KL	-2023	C
180	±10%	10	CSR13C187KL	-2024	D
220	±10%	10	CSR13C227KL	-2025	D
220	±20%	10	CSR13C227ML	-2026	D
2.7	±10%	15	CSR13D275KL	-2027	A
3.3	±10%	15	CSR13D335KL	-2028	A
3.3	±20%	15	CSR13D335ML	-2029	A
18	±10%	15	CSR13D186KL	-2030	B
22	±10%	15	CSR13D226KL	-2031	B
22	±20%	15	CSR13D226ML	-2032	B
56	±10%	15	CSR13D566KL	-2033	C
68	±10%	15	CSR13D686KL	-2034	C
68	±20%	15	CSR13D686ML	-2035	C
120	±10%	15	CSR13D127KL	-2036	D
150	±10%	15	CSR13D157KL	-2037	D
150	±20%	15	CSR13D157ML	-2038	D
1.2	±10%	20	CSR13E125KL	-2039	A
1.5	±10%	20	CSR13E155KL	-2040	A
1.5	±20%	20	CSR13E155ML	-2041	A
1.8	±10%	20	CSR13E185KL	-2042	A
2.2	±10%	20	CSR13E225KL	-2043	A
2.2	±20%	20	CSR13E225ML	-2044	A
8.2	±10%	20	CSR13E825KL	-2045	B
10	±10%	20	CSR13E106KL	-2046	B
10	±20%	20	CSR13E106ML	-2047	B
12	±10%	20	CSR13E126KL	-2048	B
15	±10%	20	CSR13E156KL	-2049	B
15	±20%	20	CSR13E156ML	-2050	B
27	±10%	20	CSR13E276KL	-2051	C
33	±10%	20	CSR13E336KL	-2052	C
33	±20%	20	CSR13E336ML	-2053	C
39	±10%	20	CSR13E396KL	-2054	C
47	±10%	20	CSR13E476KL	-2055	C
47	±20%	20	CSR13E476ML	-2056	C
56	±10%	20	CSR13E566KL	-2057	D
68	±10%	20	CSR13E686KL	-2058	D
68	±20%	20	CSR13E686ML	-2059	D
82	±10%	20	CSR13E826KL	-2060	D
100	±10%	20	CSR13E107KL	-2061	D
100	±20%	20	CSR13E107ML	-2062	D
5.6	±10%	35	CSR13F565KL	-2063	B
6.8	±10%	35	CSR13F685KL	-2064	B
6.8	±20%	35	CSR13F685ML	-2065	B
22	±10%	35	CSR13F226KL	-2066	C
22	±20%	35	CSR13F226ML	-2067	C
27	±10%	35	CSR13F276KL	-2068	D
33	±10%	35	CSR13F336KL	-2069	D
33	±20%	35	CSR13F336ML	-2070	D
39	±10%	35	CSR13F396KL	-2071	D
47	±10%	35	CSR13F476KL	-2072	D
47	±20%	35	CSR13F476ML	-2073	D
.0047	±10%	50	CSR13G472KL	-2074	A
.0047	±20%	50	CSR13G472ML	-2075	A
.0056	±10%	50	CSR13G562KL	-2076	A
.0068	±10%	50	CSR13G682KL	-2077	A
.0068	±20%	50	CSR13G682ML	-2078	A
.0082	±10%	50	CSR13G822KL	-2079	A
.01	±10%	50	CSR13G103KL	-2080	A
.01	±20%	50	CSR13G103ML	-2081	A
.012	±10%	50	CSR13G123KL	-2082	A
.015	±10%	50	CSR13G153KL	-2083	A
.015	±20%	50	CSR13G153ML	-2084	A
.018	±10%	50	CSR13G183KL	-2085	A
.022	±10%	50	CSR13G223KL	-2086	A
.022	±20%	50	CSR13G223ML	-2087	A
.027	±10%	50	CSR13G273KL	-2088	A
.033	±10%	50	CSR13G333KL	-2089	A
.033	±20%	50	CSR13G333ML	-2090	A
.039	±10%	50	CSR13G393KL	-2091	A
.047	±10%	50	CSR13G473KL	-2092	A
.047	±20%	50	CSR13G473ML	-2093	A
.056	±10%	50	CSR13G563KL	-2094	A
.068	±10%	50	CSR13G683KL	-2095	A
.068	±20%	50	CSR13G683ML	-2096	A
.082	±10%	50	CSR13G823KL	-2097	A
.1	±10%	50	CSR13G104KL	-2098	A
.1	±20%	50	CSR13G104ML	-2099	A
.12	±10%	50	CSR13G124KL	-2100	A
.15	±10%	50	CSR13G154KL	-2101	A
.15	±20%	50	CSR13G154ML	-2102	A
.18	±10%	50	CSR13G184KL	-2103	A
.22	±10%	50	CSR13G224KL	-2104	A
.22	±20%	50	CSR13G224ML	-2105	A
.27	±10%	50	CSR13G274KL	-2106	A
.33	±10%	50	CSR13G334KL	-2107	A
.33	±20%	50	CSR13G334ML	-2108	A
.39	±10%	50	CSR13G394KL	-2109	A
.47	±10%	50	CSR13G474KL	-2110	A
.47	±20%	50	CSR13G474ML	-2111	A
.56	±10%	50	CSR13G564KL	-2112	A
.68	±10%	50	CSR13G684KL	-2113	A
.68	±20%	50	CSR13G684ML	-2114	A
.82	±10%	50	CSR13G824KL	-2115	A
1.0	±10%	50	CSR13G105KL	-2116	A
1.0	±20%	50	CSR13G105ML	-2117	A
1.2	±10%	50	CSR13G125KL	-2118	B
1.5	±10%	50	CSR13G155KL	-2119	B
1.5	±20%	50	CSR13G155ML	-2120	B
1.8	±10%	50	CSR13G185KL	-2121	B
2.2	±10%	50	CSR13G225KL	-2122	B
2.2	±20%	50	CSR13G225ML	-2123	B
2.7	±10%	50	CSR13G275KL	-2124	B
3.3	±10%	50	CSR13G335KL	-2125	B
3.3	±20%	50	CSR13G335ML	-2126	B
3.9	±10%	50	CSR13G395KL	-2127	B
4.7	±10%	50	CSR13G475KL	-2128	B
4.7	±20%	50	CSR13G475ML	-2129	B
5.6	±10%	50	CSR13G565KL	-2130	C
6.8	±10%	50	CSR13G685KL	-2131	C
6.8	±20%	50	CSR13G685ML	-2132	C
8.2	±10%	50	CSR13G825KL	-2133	C
10	±10%	50	CSR13G106KL	-2134	C
10	±20%	50	CSR13G106ML	-2135	C
12	±10%	50	CSR13G126KL	-2136	C
15	±10%	50	CSR13G156KL	-2137	C
15	±20%	50	CSR13G156ML	-2138	C
18	±10%	50	CSR13G186KL	-2139	C
22	±10%	50	CSR13G226KL	-2140	D
22	±20%	50	CSR13G226ML	-2141	D

†NET PRICES BY CASE SIZE, VOLTAGE AND TOLERANCE

Voltage	† Case	Size, Inches Dia. x Lgth.	±10% Tolerance Net Each, Lots of 1-24	25-49	50-99	100-499	500-999	±20% Tolerance Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
6, 10,	A	.135 x .286	$1.46	$1.17	$0.80	$0.65	$0.56	$1.[illegible]	$1.13	$0.78	$0.62	$0.52
15, 20	B	.185 x .474	1.71	1.37	.83	.69	.57	1.68	1.34	.79	.64	.54
and 35	C	.289 x .686	2.82	2.25	1.55	1.25	1.06	2.77	2.22	1.51	1.22	1.03
WVDC	D	.351 x .786	5.21	4.15	3.08	2.49	2.09	5.19	4.12	3.06	2.46	2.05
	A	.135 x .286	2.71	2.17	1.83	1.58	1.42	2.09	1.66	1.42	1.20	1.10
50	B	.185 x .474	2.86	2.29	1.94	1.65	1.52	2.20	1.76	1.50	1.27	1.16
WVDC	C	.289 x .686	4.70	3.75	3.19	2.70	2.47	3.60	2.89	2.45	2.08	1.91
	D	.351 x .786	8.76	7.00	5.92	5.03	4.61	6.75	5.39	4.57	3.87	3.55

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MALLORY Tantalum Capacitors

TYPE CSR13 SOLID ELECTROLYTE TANTALUM CAPACITORS TO MIL-C-39003/01, FRL (FAILURE RATE LEVEL) "M" (1%)

Established reliability design is hermetically sealed with plastic insulating sleeve. Meet MIL-C-39003A specifications. Life test, 10,000 hours. High reliability, low DC leakage and low impedance. Temperature range, −55° C to +125° C. Leads may be welded or soldered; are tinned nickel, type N1 of MIL-STD-1276.

STOCK VALUES FRL (FAILURE RATE LEVEL) "M"—1% PER 1000 HOURS

Cap., µF	Tol.	WVDC at +85° C	MIL and Mallory No.	MIL Dash No.	Size †
5.6	±10%	6	CSR13B565KM	-2241	A
6.8	±10%	6	CSR13B685KM	-2242	A
6.8	±20%	6	CSR13B685MM	-2243	A
47	±10%	6	CSR13B476KM	-2244	B
47	±20%	6	CSR13B476MM	-2245	B
56	±10%	6	CSR13B566KM	-2246	B
150	±10%	6	CSR13B157KM	-2247	C
150	±20%	6	CSR13B157MM	-2248	C
180	±10%	6	CSR13B187KM	-2249	C
270	±10%	6	CSR13B277KM	-2250	D
330	±10%	6	CSR13B337KM	-2251	D
330	±20%	6	CSR13B337MM	-2252	D
3.9	±10%	10	CSR13C395KM	-2253	A
4.7	±10%	10	CSR13C475KM	-2254	A
4.7	±20%	10	CSR13C475MM	-2255	A
27	±10%	10	CSR13C276KM	-2256	B
33	±10%	10	CSR13C336KM	-2257	B
33	±20%	10	CSR13C336MM	-2258	B
39	±10%	10	CSR13C396KM	-2259	B
82	±10%	10	CSR13C826KM	-2260	C
100	±10%	10	CSR13C107KM	-2261	C
100	±20%	10	CSR13C107MM	-2262	C
120	±10%	10	CSR13C127KM	-2263	C
180	±10%	10	CSR13C187KM	-2264	D
220	±10%	10	CSR13C227KM	-2265	D
220	±20%	10	CSR13C227MM	-2266	D
2.7	±10%	15	CSR13D275KM	-2267	A
3.3	±10%	15	CSR13D335KM	-2268	A
3.3	±20%	15	CSR13D335MM	-2269	A
18	±10%	15	CSR13D186KM	-2270	B
22	±10%	15	CSR13D226KM	-2271	B
22	±20%	15	CSR13D226MM	-2272	B
56	±10%	15	CSR13D566KM	-2273	C
68	±10%	15	CSR13D686KM	-2274	C
68	±20%	15	CSR13D686MM	-2275	C
120	±10%	15	CSR13D127KM	-2276	D
150	±10%	15	CSR13D157KM	-2277	D
150	±20%	15	CSR13D157MM	-2278	D
1.2	±10%	20	CSR13E125KM	-2279	A
1.5	±10%	20	CSR13E155KM	-2280	A
1.5	±20%	20	CSR13E155MM	-2281	A
1.8	±10%	20	CSR13E185KM	-2282	A
2.2	±10%	20	CSR13E225KM	-2283	A
2.2	±20%	20	CSR13E225MM	-2284	A
8.2	±10%	20	CSR13E825KM	-2285	B
10	±10%	20	CSR13E106KM	-2286	B
10	±20%	20	CSR13E106MM	-2287	B
12	±10%	20	CSR13E126KM	-2288	B
15	±10%	20	CSR13E156KM	-2289	B
15	±20%	20	CSR13E156MM	-2290	B
27	±10%	20	CSR13E276KM	-2291	C
33	±10%	20	CSR13E336KM	-2292	C
33	±20%	20	CSR13E336MM	-2293	C
39	±10%	20	CSR13E396KM	-2294	C
47	±10%	20	CSR13E476KM	-2295	C
47	±20%	20	CSR13E476MM	-2296	C
56	±10%	20	CSR13E566KM	-2297	D
68	±10%	20	CSR13E686KM	-2298	D
68	±20%	20	CSR13E686MM	-2299	D
82	±10%	20	CSR13E826KM	-2300	D
100	±10%	20	CSR13E107KM	-2301	D
100	±20%	20	CSR13E107MM	-2302	D
5.6	±10%	35	CSR13F565KM	-2303	B
6.8	±10%	35	CSR13F685KM	-2304	B
6.8	±20%	35	CSR13F685MM	-2305	B
22	±10%	35	CSR13F226KM	-2306	C
22	±20%	35	CSR13F226MM	-2307	C
27	±10%	35	CSR13F276KM	-2308	D
33	±10%	35	CSR13F336KM	-2309	D
33	±20%	35	CSR13F336MM	-2310	D
39	±10%	35	CSR13F396KM	-2311	D
47	±10%	35	CSR13F476KM	-2312	D
47	±20%	35	CSR13F476MM	-2313	D
.0047	±10%	50	CSR13G472KM	-2314	A
.0047	±20%	50	CSR13G472MM	-2315	A
.0056	±10%	50	CSR13G562KM	-2316	A
.0068	±10%	50	CSR13G682KM	-2317	A
.0068	±20%	50	CSR13G682MM	-2318	A
.0082	±10%	50	CSR13G822KM	-2319	A
.01	±10%	50	CSR13G103KM	-2320	A
.01	±20%	50	CSR13G103MM	-2321	A
.012	±10%	50	CSR13G123KM	-2322	A
.015	±10%	50	CSR13G153KM	-2323	A
.015	±20%	50	CSR13G153MM	-2324	A
.018	±10%	50	CSR13G183KM	-2325	A
.022	±10%	50	CSR13G223KM	-2326	A
.022	±20%	50	CSR13G223MM	-2327	A
.027	±10%	50	CSR13G273KM	-2328	A
.033	±10%	50	CSR13G333KM	-2329	A
.033	±20%	50	CSR13G333MM	-2330	A
.039	±10%	50	CSR13G393KM	-2331	A
.047	±10%	50	CSR13G473KM	-2332	A
.047	±20%	50	CSR13G473MM	-2333	A
.056	±10%	50	CSR13G563KM	-2334	A
.068	±10%	50	CSR13G683KM	-2335	A
.068	±20%	50	CSR13G683MM	-2336	A
.082	±10%	50	CSR13G823KM	-2337	A
.1	±10%	50	CSR13G104KM	-2338	A
.1	±20%	50	CSR13G104MM	-2339	A
.12	±10%	50	CSR13G124KM	-2340	A
.15	±10%	50	CSR13G154KM	-2341	A
.15	±20%	50	CSR13G154MM	-2342	A
.18	±10%	50	CSR13G184KM	-2343	A
.22	±10%	50	CSR13G224KM	-2344	A
.22	±20%	50	CSR13G224MM	-2345	A
.27	±10%	50	CSR13G274KM	-2346	A
.33	±10%	50	CSR13G334KM	-2347	A
.33	±20%	50	CSR13G334MM	-2348	A
.39	±10%	50	CSR13G394KM	-2349	A
.47	±10%	50	CSR13G474KM	-2350	A
.47	±20%	50	CSR13G474MM	-2351	A
.56	±10%	50	CSR13G564KM	-2352	A
.68	±10%	50	CSR13G684KM	-2353	A
.68	±20%	50	CSR13G684MM	-2354	A
.82	±10%	50	CSR13G824KM	-2355	A
1.0	±10%	50	CSR13G105KM	-2356	A
1.0	±20%	50	CSR13G105MM	-2357	A
1.2	±10%	50	CSR13G125KM	-2358	B
1.5	±10%	50	CSR13G155KM	-2359	B
1.5	±20%	50	CSR13G155MM	-2360	B
1.8	±10%	50	CSR13G185KM	-2361	B
2.2	±10%	50	CSR13G225KM	-2362	B
2.2	±20%	50	CSR13G225MM	-2363	B
2.7	±10%	50	CSR13G275KM	-2364	B
3.3	±10%	50	CSR13G335KM	-2365	B
3.3	±20%	50	CSR13G335MM	-2366	B
3.9	±10%	50	CSR13G395KM	-2367	B
4.7	±10%	50	CSR13G475KM	-2368	B
4.7	±20%	50	CSR13G475MM	-2369	B
5.6	±10%	50	CSR13G565KM	-2370	C
6.8	±10%	50	CSR13G685KM	-2371	C
6.8	±20%	50	CSR13G685MM	-2372	C
8.2	±10%	50	CSR13G825KM	-2373	C
10	±10%	50	CSR13G106KM	-2374	C
10	±20%	50	CSR13G106MM	-2375	C
12	±10%	50	CSR13G126KM	-2376	C
15	±10%	50	CSR13G156KM	-2377	C
15	±20%	50	CSR13G156MM	-2378	C
18	±10%	50	CSR13G186KM	-2379	C
22	±10%	50	CSR13G226KM	-2380	D
22	±20%	50	CSR13G226MM	-2381	D

†NET PRICES BY CASE SIZE, VOLTAGE AND TOLERANCE

Voltage	† Case	Size, Inches Dia. x Lgth.	±10% Tolerance Net Each, Lots of 1-24	25-49	50-99	100-499	500-999	±20% Tolerance Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
6, 10, 15, 20 and 35 WVDC	A	.135 x .286	$ 1.99	$1.60	$1.10	$0.90	$0.77	$1.94	$1.53	$1.06	$0.85	$0.71
	B	.185 x .474	2.34	1.88	1.13	.93	.78	2.29	1.82	1.09	.89	.74
	C	.289 x .686	3.83	3.08	2.11	1.72	1.45	3.79	3.00	2.05	1.67	1.40
	D	.351 x .786	7.10	5.66	4.20	3.40	2.85	7.07	5.57	4.17	3.36	2.79
50 WVDC	A	.135 x .286	3.69	2.95	2.49	2.15	1.93	2.86	2.27	1.94	1.63	1.52
	B	.185 x .474	3.91	3.11	2.63	2.25	2.05	3.00	2.39	2.04	1.73	1.58
	C	.289 x .686	6.40	5.10	4.34	3.69	3.35	4.93	3.94	3.35	2.83	2.60
	D	.351 x .786	11.95	9.54	8.07	6.86	6.28	9.19	7.34	6.23	5.27	4.84

Net

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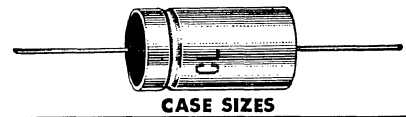
MALLORY Tantalum Capacitors

MIL-C-3965 CL64/65 MINIATURE METAL CASE WET-SLUG TANTALUM CAPACITORS (TLS)

Mallory CL64/65 (TLS) sintered anode tantalums have flangeless case, ideal for high density packaging. Completely replaces the older CL44/45 MIL type. Type CL64 exhibits very high performance and very low DCL. Supplied in two temperature grades: −55° C to +85° C and −55° C to +125° C. Tolerances: ±10% **(K)**, ±20% **(M)**, −15% +30% **(S)** and −15% +50% **(T)**. Types listed are in plain, uninsulated case; for insulating sleeve, specify CL65 and add **5c** to prices shown. **Complete specs in bulletin 9-351.**



CASE SIZES

Case Size	Uninsulated Dia.	Uninsulated Lgth.	Insulated Dia.	Insulated Lgth.
T1	.190″	.453″	.219″	.485″
T2	.281″	.641″	.313″	.672″
T3	.375″	.766″	.406″	.797″

CL64B—, −55° TO +85° C

Cap., µF	WVDC at +85°C	Mallory Number	Case Size
30	6	CL64BB300*P3	T1
68	6	CL64BB680*P3	T1
140	6	CL64BB141*P3	T2
270	6	CL64BB271*P3	T2
330	6	CL64BB331*P3	T3
560	6	CL64BB561*P3	T3
25	8	CL64BC250*P3	T1
56	8	CL64BC560*P3	T1
220	8	CL64BC221*P3	T2
430	8	CL64BC431*P3	T3
20	10	CL64BD200*P3	T1
47	10	CL64BD470*P3	T1
100	10	CL64BD101*P3	T2
180	10	CL64BD181*P3	T2
250	10	CL64BD251*P3	T3
390	10	CL64BD391*P3	T3
15	15	CL64BE150*P3	T1
33	15	CL64BE330*P3	T1
70	15	CL64BE700*P3	T2
120	15	CL64BE121*P3	T2
170	15	CL64BE171*P3	T3
270	15	CL64BE271*P3	T3
10	25	CL64BG100*P3	T1
22	25	CL64BG220*P3	T1
100	25	CL64BG101*P3	T2
180	25	CL64BG181*P3	T3
8	30	CL64BH080*P3	T1
15	30	CL64BH150*P3	T1
40	30	CL64BH400*P3	T2
68	30	CL64BH680*P3	T2
100	30	CL64BH101*P3	T3
150	30	CL64BH151*P3	T3
5	50	CL64BJ050*P3	T1
10	50	CL64BJ100*P3	T1
25	50	CL64BJ250*P3	T2
47	50	CL64BJ470*P3	T2
60	50	CL64BJ600*P3	T3
82	50	CL64BJ820*P3	T3
4	60	CL64BK040*P3	T1
8.2	60	CL64BK8R2*P3	T1
20	60	CL64BK200*P3	T2
39	60	CL64BK390*P3	T2
50	60	CL64BK500*P3	T3
68	60	CL64BK680*P3	T3
3.5	75	CL64BL3R5*P3	T1
6.8	75	CL64BL6R8*P3	T1
15	75	CL64BL150*P3	T2
33	75	CL64BL330*P3	T2
40	75	CL64BL400*P3	T3
56	75	CL64BL560*P3	T3
2.5	100	CL64BN2R5*P3	T1
4.7	100	CL64BN4R7*P3	T1
11	100	CL64BN110*P3	T2
22	100	CL64BN220*P3	T2
30	100	CL64BN300*P3	T3
43	100	CL64BN430*P3	T3
1.7	125	CL64BP1R7*P3	T1
3.6	125	CL64BP3R6*P3	T1
9	125	CL64BP090*P3	T2
14	125	CL64BP140*P3	T2
18	125	CL64BP180*P3	T3
25	125	CL64BP250*P3	T3

CL64C—, −55° TO +125° C

Cap., µF	WVDC at +125° C	Mallory Number	Case Size
30	4	CL64CB300*P3	T1
68	4	CL64CB680*P3	T1
140	4	CL64CB141*P3	T2
270	4	CL64CB271*P3	T2
330	4	CL64CB331*P3	T3
560	4	CL64CB561*P3	T3
25	5.3	CL64CC250*P3	T1
56	5.3	CL64CC560*P3	T1
220	5.3	CL64CC221*P3	T2
430	5.3	CL64CC431*P3	T3
20	6.7	CL64CD200*P3	T1
47	6.7	CL64CD470*P3	T1
100	6.7	CL64CD101*P3	T2
180	6.7	CL64CD181*P3	T2
250	6.7	CL64CD251*P3	T3
390	6.7	CL64CD391*P3	T3
15	10	CL64CE150*P3	T1
33	10	CL64CE330*P3	T1
70	10	CL64CE700*P3	T2
120	10	CL64CE121*P3	T2
170	10	CL64CE171*P3	T3
270	10	CL64CE271*P3	T3
10	16.7	CL64CG100*P3	T1
22	16.7	CL64CG220*P3	T1
100	16.7	CL64CG101*P3	T2
180	16.7	CL64CG181*P3	T3
8	20	CL64CH080*P3	T1
15	20	CL64CH150*P3	T1
40	20	CL64CH400*P3	T2
68	20	CL64CH680*P3	T2
100	20	CL64CH101*P3	T3
150	20	CL64CH151*P3	T3
5	33.3	CL64CJ050*P3	T1
10	33.3	CL64CJ100*P3	T1
25	33.3	CL64CJ250*P3	T2
47	33.3	CL64CJ470*P3	T2
60	33.3	CL64CJ600*P3	T3
82	33.3	CL64CJ820*P3	T3
4	40	CL64CK040*P3	T1
8.2	40	CL64CK8R2*P3	T1
20	40	CL64CK200*P3	T2
39	40	CL64CK390*P3	T2
50	40	CL64CK500*P3	T3
68	40	CL64CK680*P3	T3
3.5	50	CL64CL3R5*P3	T1
6.8	50	CL64CL6R8*P3	T1
15	50	CL64CL150*P3	T2
33	50	CL64CL330*P3	T2
40	50	CL64CL400*P3	T3
56	50	CL64CL560*P3	T3
2.5	66.7	CL64CN2R5*P3	T1
4.7	66.7	CL64CN4R7*P3	T1
11	66.7	CL64CN110*P3	T2
22	66.7	CL64CN220*P3	T2
30	66.7	CL64CN300*P3	T3
43	66.7	CL64CN430*P3	T3
1.7	83.3	CL64CP1R7*P3	T1
3.6	83.3	CL64CP3R6*P3	T1
9	83.3	CL64CP090*P3	T2
14	83.3	CL64CP140*P3	T2
18	83.3	CL64CP180*P3	T3
25	83.3	CL64CP250*P3	T3

*Specify tolerance: **K** = ±10%; **M** = ±20%; **S** = −15 +30%; **T** = −15 +50%.

CL64/65 INDUSTRIAL NET PRICES

Prices are for uninsulated case; for insulating sleeve, change no. to CL65 and add **5c** to prices shown.

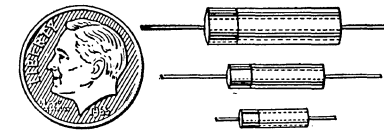
CL64B—, (+85° C) ±10% (K)

Case Size	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
T1	$2.42	$1.94	$1.64	$1.40	$1.27
T2	3.70	2.95	2.50	2.13	1.94
T3	5.83	4.67	3.94	3.36	3.06
±20% (M)					
T1	$2.20	$1.76	$1.49	$1.27	$1.16
T2	3.36	2.69	2.27	1.93	1.76
T3	5.30	4.25	3.58	3.05	2.78
−15 +30% (S)					
T1	$2.20	$1.76	$1.49	$1.27	$1.16
T2	3.36	2.69	2.27	1.93	1.76
T3	5.30	4.25	3.58	3.05	2.78
−15 +50% (T)					
T1	$1.98	$1.58	$1.34	$1.14	$1.04
T2	3.02	2.41	2.03	1.73	1.58
T3	4.72	3.77	3.18	2.71	2.48

CL64C—, (+125° C) ±10% (K)

Case Size	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
T1	$2.50	$2.00	$1.70	$1.44	$1.31
T2	3.85	3.08	2.61	2.21	2.02
T3	6.10	4.88	4.12	3.51	3.20
±20% (M)					
T1	$2.28	$1.82	$1.54	$1.31	$1.20
T2	3.50	2.80	2.39	2.02	1.84
T3	5.54	4.43	3.74	3.19	2.91
−15 +30% (S)					
T1	$2.28	$1.82	$1.54	$1.31	$1.20
T2	3.50	2.80	2.39	2.02	1.84
T3	5.54	4.43	3.74	3.19	2.91
−15 +50% (T)					
T1	$2.04	$1.63	$1.37	$1.17	$1.07
T2	3.14	2.52	2.12	1.81	1.65
T3	4.94	3.95	3.33	2.84	2.59

MTP/MTPH ULTRA-MINIATURE TANTALUM CAPACITORS



Mallory MTP/MTPH capacitors provide the greatest capacity-voltage product of any tantalum type. Sintered anodes are housed in special silver cases with elastomer end seal, and are completely insulated. MTPH types are manufactured to rigid "Minuteman II" standards with zero failures in 3.7 million unit-hours of testing. Type MTP is the commercial equivalent. Operating Temp.: −50° C to +85° C. Tolerance: ±20%. DCL is extremely low. **See bulletin 4-70 for details.**

MTP TYPES

µF	WVDC	Mallory Number	Size
15	6	MTP156M006P1D	D
47	6	MTP476M006P1A	A
150	6	MTP157M006P1B	B
180	6	MTP187M006P1B	B
450	6	MTP457M006P1C	C
470	6	MTP477M006P1C	C
10	10	MTP106M010P1D	D
33	10	MTP336M010P1A	A
100	10	MTP107M010P1B	B
120	10	MTP127M010P1B	B
300	10	MTP307M010P1C	C
330	10	MTP337M010P1C	C
22	15	MTP226M015P1A	A
68	15	MTP686M015P1B	B
80	15	MTP806M015P1B	B
200	15	MTP207M015P1C	C
220	15	MTP227M015P1C	C
6.8	20	MTP685M020P1D	D
15	20	MTP156M020P1A	A
47	20	MTP476M020P1B	B
60	20	MTP606M020P1B	B
150	20	MTP157M020P1C	C
6	30	MTP605M030P1D	D
10	30	MTP106M030P1A	A
45	30	MTP456M030P1B	B
120	30	MTP127M030P1C	C
4.7	35	MTP475M035P1D	D
10	35	MTP106M035P1A	A
100	35	MTP107M035P1C	C
4	50	MTP405M050P1D	D
6.8	50	MTP685M050P1A	A
30	50	MTP306M050P1B	B
33	50	MTP336M050P1B	B
68	50	MTP686M050P1C	C
78	50	MTP786M050P1C	C
3.3	60	MTP335M060P1D	D
4.7	60	MTP475M060P1A	A
6.8	60	MTP685M060P1A	A
10	60	MTP106M060P1B	B
15	60	MTP156M060P1B	B
22	60	MTP226M060P1B	B
33	60	MTP336M060P1C	C
47	60	MTP476M060P1C	C

MTPH TYPES

180	6	MTPH12	B
450	6	MTPH13	C
120	10	MTPH10	B
300	10	MTPH11	C
80	15	MTPH8	B
200	15	MTPH9	C
60	20	MTPH7	B
10	30	MTPH4	A
45	30	MTPH5	B
120	30	MTPH6	C
6.8	50	MTPH1	A
30	50	MTPH2	B
78	50	MTPH3	C

CASE SIZES

Case Size	Dimensions Diameter	Dimensions Length
A	.115″	.400″
B	.145″	.590″
C	.225″	.775″
D	.115″	.312″

MTP INDUSTRIAL NET PRICES

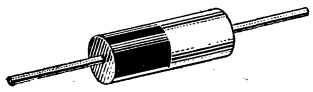
Case Size	Net Each, Lots of 1-9	10-24	25-49	50-99	100-499	500-999
A	$2.59	$2.28	$1.99	$1.71	$1.37	$1.25
B	3.11	2.74	2.39	2.06	1.64	1.51
C	3.62	3.18	2.78	2.39	1.91	1.75
D	2.57	2.26	1.97	1.69	1.35	1.23

MTPH INDUSTRIAL NET PRICES

A	$7.68	$6.40	$5.12	$3.84	$3.33	$2.81
B	8.04	6.70	5.36	4.02	3.49	2.94
C	8.34	6.95	5.56	4.17	3.62	3.06

MALLORY Tantalum Capacitors

TAP-TNT MINIATURE PELLET EPOXY SEAL −55° C TO +85° C



Mallory TNT-TAP capacitors employ sintered anode wet-slug construction and are furnished in metal cases with precision formed epoxy end seals and insulating sleeves. Standard tolerance: −15% +75%; other tolerances are available on special order. **For detailed specifications, ask for bulletins: 4-38 (TNT) and 4-52 (TAP).**

CASE SIZES

Case Code	Size, In. (Dia. x L.) TNT	TAP
A	.162 x .418	.238 x .593
B	.162 x .568	.238 x .753
C	.....	.238 x .968

TNT

Cap., µF	WVDC +85° C	Mallory Number	Case Size
40	3	TNT406U003P1A	A
80	3	TNT806U003P1B	B
25	6	TNT256U006P1A	A
50	6	TNT506U006P1B	B
35	12	TNT356U012P1B	B
12	15	TNT126U015P1A	A
25	15	TNT256U015P1B	B
15	30	TNT156U030P1B	B
6	35	TNT605U035P1A	A
12	35	TNT126U035P1B	B
2	50	TNT205U050P1A	A
4	50	TNT405U050P1A	A
8	50	TNT805U050P1B	B

TNT PRICES

Case Size	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
A	$1.29	$1.04	$0.89	$0.764	$0.701
B	1.51	1.22	1.04	.89	.816

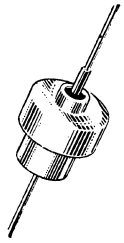
TAP PRICES

Case Size	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
A	$1.51	$1.22	$1.04	$0.89	$0.816
B	2.51	2.02	1.71	1.465	1.34
C	4.33	3.47	2.94	2.51	2.30

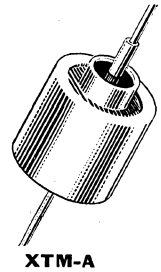
TAP

Cap., µF	WVDC +85° C	Mallory Number	Case Size
30	6	TAP306U006P1A	A
140	6	TAP147U006P1B	B
330	6	TAP337U006P1C	C
20	10	TAP206U010P1A	A
100	10	TAP107U010P1B	B
250	10	TAP257U010P1C	C
15	15	TAP156U015P1A	A
70	15	TAP706U015P1B	B
170	15	TAP177U015P1C	C
12	20	TAP126U020P1A	A
10	25	TAP106U025P1A	A
8	30	TAP805U030P1A	A
40	30	TAP406U030P1B	B
100	30	TAP107U030P1C	C
7	35	TAP705U035P1A	A
6	40	TAP605U040P1A	A
30	40	TAP306U040P1B	B
5	50	TAP505U050P1A	A
25	50	TAP256U050P1B	B
60	50	TAP606U050P1C	C
4	60	TAP405U060P1A	A
20	60	TAP206U060P1B	B
50	60	TAP506U060P1C	C
3.5	75	TAP355U075P1A	A
15	75	TAP156U075P1B	B
40	75	TAP406U075P1C	C
2	90	TAP205U090P1A	A
11	90	TAP116U090P1B	B
30	90	TAP306U090P1C	C

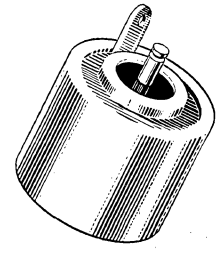
HIGH TEMPERATURE—HERMETICALLY SEALED



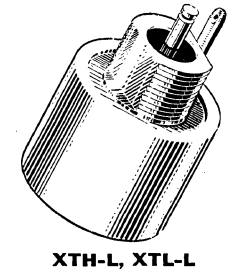
MTF



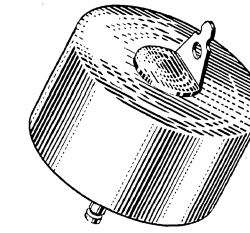
XTM-A



XTH-C, XTL-C, XTV-C



XTH-L, XTL-L



XTV-B

Mallory high temperature tantalum capacitors are furnished in hermetically sealed metal cases and are wet-slug polarized types. MTF and XTM-A have axial leads. Other XTM's and all XTL, H and V types have a wide variety of terminal arrangements available. The types shown here are the standard MIL-C-3965 values and all are available from stock. **For detailed specifications, ask for bulletins: 4-41 (MTF); 4-49 (XTM); 4-60 (XTH-XTL-XTV). XTH, L and V also available in radiation proof construction; ask for bulletin 4-69 (XTG).**

MTF −55° TO +150° C

Axial leads, commercial equivalent to MIL-C-3965 Style CL44.

Cap., µF	WVDC +85°C	Mallory Number	Cap., µF	WVDC +85°C	Mallory Number
140	6	MTF147T006P0H	25	50	MTF256T050P0H
100	10	MTF107T010P0H	20	60	MTF206T060P0H
70	15	MTF706T015P0H	15	75	MTF156T075P0H
40	30	MTF406T030P0H	11	90	MTF116T090P0H
30	40	MTF306T040P0H			

Any Model listed above—Net Each, Lots of 1–24, **$6.76**; 25–49, **$5.41**; 50–99, **$4.56**; 100–499, **$3.89.**

XTM −55° TO +175° C

Cap., µF	WVDC +85° C	Mallory Number*	Net Each, Lots of 1-24	25-49	50-99
40	35	XTM406T035P0A	$ 6.56	$ 6.12	$ 5.68
25	60	XTM256T060P0A	6.56	6.12	5.68
16	90	XTM166T090P0A	6.56	6.12	5.68
8	170	XTM805T170P0A	9.90	9.24	8.56
5	255	XTM505T255P0A	12.96	12.10	11.23
4	340	XTM405T340P0A	16.20	15.12	14.04

*Suffix **A** indicates MIL-C-3965/20A, Style CL10. Also available in Style CL13; change suffix **A** to **D**, add **5c** to prices shown.

XTH −55° TO +200° C

Cap., µF	WVDC +85° C	Mallory Number*	Net Each, Lots of 1-24	25-49	50-99
240	18	XTH247U018P0L	$ 9.65	$ 9.04	$ 8.42
150	30	XTH157U030P0C	9.30	8.69	8.07
150	30	XTH157U030P0L	9.65	9.04	8.42
120	35	XTH127U035P0C	9.30	8.69	8.07
80	60	XTH806U060P0C	9.30	8.69	8.07
80	60	XTH806U060P0L	9.65	9.04	8.42
50	90	XTH506U090P0C	9.30	8.69	8.07
25	180	XTH256U180P0C	14.80	13.81	12.83
25	180	XTH256U180P0L	15.15	14.16	13.18
16	270	XTH166U270P0C	20.48	19.12	17.76
16	270	XTH166U270P0L	20.83	19.47	18.11
12	360	XTH126U360P0C	26.06	24.33	22.59
12	360	XTH126U360P0L	26.41	24.68	22.94
7	630	XTH705U630P0C	42.62	39.78	36.94

*C, MIL-C-3965/1D, CL14; **L**, MIL-C-3965/1D, CL16.

XTL −55° TO +200° C

Cap., µF	WVDC +85° C	Mallory Number	Net Each, Lots of 1-24	25-49	50-99
120	18	XTL127U018P0C*	$ 8.24	$ 7.69	$ 7.15
75	30	XTL756U030P0C*	8.24	7.69	7.15
75	30	XTL756U030P0L‡	8.59	8.04	7.50
40	60	XTL406U060P0C*	8.24	7.69	7.15
40	60	XTL406U060P0L‡	8.59	8.04	7.50
25	90	XTL256U090P0C*	8.24	7.69	7.15
12	180	XTL126U180P0C*	12.38	11.56	10.64
12	180	XTL126U180P0L‡	12.73	11.91	11.09
8	270	XTL805U270P0C*	16.70	15.59	14.48
6	360	XTL605U360P0C*	21.16	19.75	18.34
6	360	XTL605U360P0L‡	21.50	20.10	18.69
5	450	XTL505U450P0C*	25.70	23.99	22.28
4	540	XTL405U540P0C*	29.89	27.90	25.91
3.5	630	XTL355U630P0C*	34.30	32.01	29.73

*Stock Items (MIL-C-3965/1D, Style CL14). ‡Stock Items (MIL-C-3965/1D, Style CL16).

XTV −55° TO +200° C

XTV listed by MIL-C-3965/19A Style CL17 ("C") and CL18 ("B") are stocked. Ten other case configurations available on special order.

Cap., µF	WVDC +85° C	Mallory Number	Net Each, Lots of 1-24	25-49	50-99
370	30	XTV377T030P0C	$19.55	$18.25	$16.95
650	30	XTV657T030P0C	30.05	28.05	26.05
1300	30	XTV138T030P0*	43.55	40.65	37.75
190	40	XTV197T040P0B	13.55	12.65	11.75
290	40	XTV297T040P0*	19.55	18.25	16.95
500	40	XTV507T040P0*	30.05	28.05	26.05
1000	40	XTV108T040P0*	43.55	40.65	37.75
200	60	XTV207T060P0*	19.55	18.25	16.95
350	60	XTV357T060P0*	30.05	28.05	26.05
700	60	XTV707T060P0*	43.55	40.65	37.75
750	60	XTV757T060P0*	43.55	40.65	37.75
220	75	XTV227T075P0*	30.05	28.05	26.05
450	75	XTV457T075P0*	43.55	40.65	37.75
120	90	XTV127T090P0*	19.55	18.25	16.95
60	180	XTV606T180P0*	35.00	32.67	30.34
40	270	XTV406T270P0*	49.55	46.25	42.95
25	450	XTV256T450P0*	79.55	74.25	68.95

*Specify **B** for CL18 or **C** for CL17.

Net

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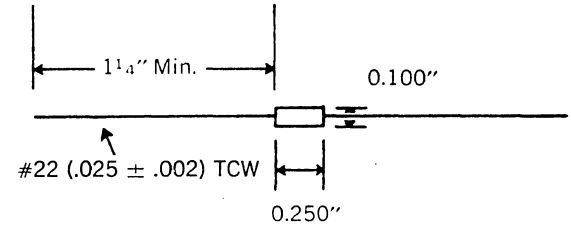
NYTRONICS, INC.® Capacitors

ESSEX ELECTRONICS DIVISION

The DECI-CAP

4.7pf to 27,000pf in 46 values. Standardized size 0.100" by 0.250". Designed to meet the requirements of MIL-C-11015. Epoxy molded for highest performance and reliability. High density cordwood packaging.

The **DECI-CAP** offers the design engineer unique epoxy-molded reliability and a new high standard in performance. This subminiature ceramic capacitor features a low power factor and exhibits outstanding stability over its entire —55° to +125°C operating range. Its rugged epoxy molded envelope and high quality ceramic dielectric insure that the DECI-CAP meets the environmental requirements of MIL-C-11015C.



ELECTRICAL CHARACTERISTICS

Capacitance Range: 4.7pf to 27,000pf.

Tolerance: ±10%.

Working Voltage: 4.7pf to 470pf: 200 Volts D.C. 560pf to 27,000pf: 100 Volts D.C.

Insulation Resistance: 20,000 Megohms Minimum.

Dielectric Strength: Withstands an applied voltage of 500 Volts D.C. to 470pf; 250 Volts D.C. from 560pf to 27,000pf.

Note: Test frequency for all measurements is 1 KC. and test voltage is 2 volts RMS.

DENSITY CHARACTERISTICS

Volume: 0.002 Cubic Inches **Weight:** 0.352 Grams

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Life Test: 1000 hours at 125°C under twice rated voltage.

Moisture, Vibration, and Shock Resistance: Meets the requirements of MIL-C-11015C.

Nytronics Cat. No.	Capacitance pf at 25°C	Performance Curves Ref. No.
DC-047	4.7	1
DC-056	5.6	1
DC-068	6.8	1
DC-082	8.2	1
DC-100	10	1
DC-120	12	1
DC-150	15	1
DC-180	18	1
DC-220	22	1
DC-270	27	1
DC-330	33	1
DC-390	39	1
DC-470	47	1
DC-560	56	1
DC-680	68	2
DC-820	82	2
DC-101	100	2
DC-121	120	2
DC-151	150	2
DC-181	180	2
DC-221	220	2
DC-271	270	3
DC-331	330	3

Nytronics Cat. No.	Capacitance pf at 25°C	Performance Curves Ref. No.
DC-391	390	3
DC-471	470	4
DC-561	560	4
DC-681	680	4
DC-821	820	4
DC-102	1000	4
DC-122	1200	4
DC-152	1500	4
DC-182	1800	4
DC-222	2200	4
DC-272	2700	4
DC-332	3300	4
DC-392	3900	4
DC-472	4700	4
DC-562	5600	4
DC-682	6800	4
DC-822	8200	4
DC-103	10000	4
DC-123	12000	4
DC-153	15000	4
DC-183	18000	4
DC-223	22000	4
DC-273	27000	4

The HY-CAP

High Capacity Ceramic Capacitor. Capacitance Range .01 mfd to 2.5 mfd*. Less than ±15% capacitance change from —55°C to 125°C Voltage: 100 Volts D.C. No derating to 125°C Designed to meet MIL-C-11015

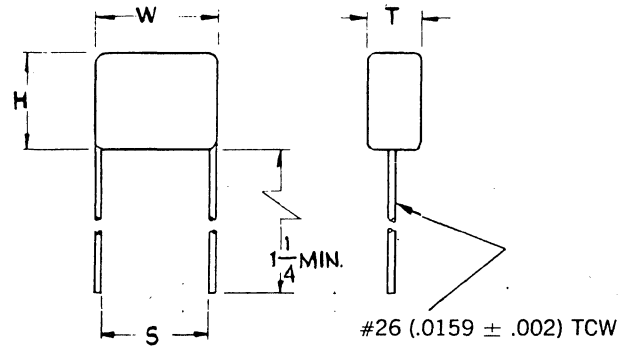
Nytronics offers the **HY-CAP** Ceramic Capacitor to accommodate design application in coupling, by-pass, and filter circuits where temperature stability and high capacitance are mandatory.

ELECTRICAL CHARACTERISTICS

Capacitance Range: .01 mfd to 2.5 mfd.*
Tolerance: ±20%.
Working Voltage: 100 Volts D.C. (No derating to 125°C).

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Life Test: 1000 hours at 125°C under twice rated voltage.
Moisture, Vibration, and Shock Resistance: Meets the requirements of MIL-C-11015 (body mounted).
*Higher values available on special order.



Nytronics Part No.	Cap. (mfd.)	Case
HC-A-103-M	.01	A
HC-A-123-M	.012	A
HC-A-153-M	.015	A
HC-A-183-M	.018	A
HC-A-223-M	.022	A
HC-A-273-M	.027	A
HC-A-333-M	.033	A
HC-B-393-M	.039	B
HC-B-473-M	.047	B
HC-B-563-M	.056	B
HC-B-683-M	.068	B
HC-B-823-M	.082	B
HC-B-104-M	.100	B

Nytronics Part No.	Cap. (mfd.)	Case
HC-B-124-M	.12	B
HC-C-154-M	.15	C
HC-C-184-M	.18	C
HC-C-224-M	.22	C
HC-C-274-M	.27	C
HC-C-334-M	.33	C
HC-C-394-M	.39	C
HC-C-474-M	.47	C
HC-D-105-M	1.0	D
HC-E-155-M	1.5	E
HC-F-205-M	2.0	F
HC-G-255-M	2.5	G

Types	W max.	H max.	T max.	S nom.
A	0.225	0.175	0.110	0.200
B	0.325	0.310	0.150	0.300
C	0.670	0.355	0.150	0.625
D	0.800	0.550	0.225	0.625
E	0.800	0.550	0.250	0.625
F	0.800	0.550	0.300	0.625
G	0.800	0.550	0.375	0.625

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NYTRONICS, INC.® Capacitors

ESSEX ELECTRONICS DIVISION

The NYT-CAP

Ultra High Stability — Less than ±25 ppm/°C
Miniature Molded Epoxy Case suitable for high component density applications
200 Volt D.C. rating

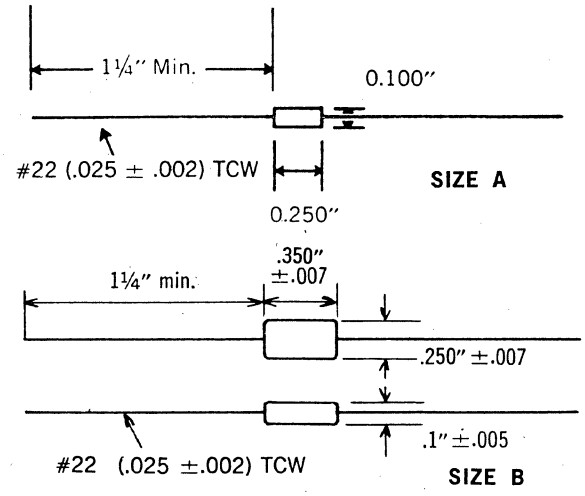
A new development from Nytronics' ceramic research laboratory now makes possible the manufacture of an extremely stable ceramic capacitor in a miniature package size. Now you can have the capacitor stability long desired for use in oscillators, filters, and other critical circuitry.

ELECTRICAL CHARACTERISTICS

Capacitance Range: 4.7 pf. to 4700 pf.
Capacitance Tolerance: ±10% standard.
Working Voltage: 200 Volts D.C.
Temperature Coefficient: Does not exceed ±25 ppm/°C over temperature range of —55°C to +125°C.
Dissipation Factor: Less than 0.001 at 25°C.
(Measured at 1KC) Less than 0.002 at 125°C.
Insulation Resistance: 1,000,000 Megohms at 25°C.
(Minimum) 10,000 Megohms at 125°C.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Case Size: **A:** 0.1" dia. x 0.250" long.
B: 0.350" x 0.250" x 0.1".
Case Material: Epoxy.
Volume **A:** 0.002 cubic inches.
B: 0.0088 cubic inches.
Weight (Maximum): **A:** 0.352 grams.
B: 0.69 grams.



Nytronics Part No.	Capacity (pF)	Case Size
NC-047	4.7	A
NC-056	5.6	A
NC-068	6.8	A
NC-082	8.2	A
NC-100	10	A
NC-120	12	A
NC-150	15	A
NC-180	18	A
NC-220	22	A
NC-270	27	A

Nytronics Part No.	Capacity (pF)	Case Size
NC-330	33	A
NC-390	39	A
NC-470	47	A
NC-560	56	A
NC-680	68	A
NC-820	82	A
NC-101	100	A
NC-121	120	A
NC-151	150	A
NC-181	180	A

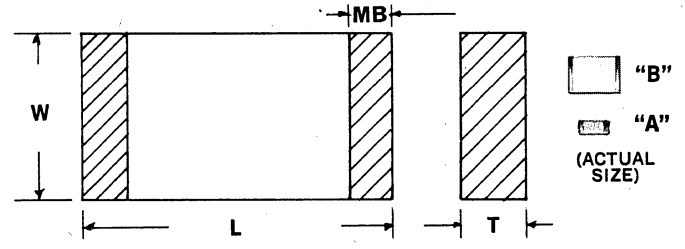
Nytronics Part No.	Capacity (pF)	Case Size
NC-221	220	A
NC-271	270	B
NC-331	330	B
NC-391	390	B
NC-471	470	B
NC-561	560	B
NC-681	680	B
NC-821	820	B
NC-102	1000	B
NC-122	1200	B

Nytronics Part No.	Capacity (pF)	Case Size
NC-152	1500	B
NC-182	1800	B
NC-222	2200	B
NC-272	2700	B
NC-332	3300	B
NC-392	3900	B
NC-472	4700	B

The NYT-CHIP

Ultra High Stability — Less than ±25 ppm/°C
200 Volt D.C. rating
Compatible with:
Integrated Circuitry; Thick and Thin Film Circuitry; Printed Circuitry

The **NYT-CHIP** provides in slug form all of the high stability and low loss features of the epoxy molded NYT-CAP. This configuration yields the greatest possible packaging density and has the highest degree of mounting flexibility for use with all presently used packaging techniques. **NYT-CHIPS** are supplied with "wrap-around" tinned terminals permitting connection to either face or to the ends of the chip.



ELECTRICAL CHARACTERISTICS

Capacitance Range: 4.7 pf. to 4700 pf.
Capacitance Tolerance: ±10% standard.
Working Voltage: 200 Volts D.C.
Temperature Coefficient: Does not exceed ±25 ppm/°C over temperature range of —55°C to +125°C.
Dissipation Factor: Less than 0.001 at 25°C.
(Measured at 1KC) Less than 0.002 at 125°C.
Insulation Resistance: 1,000,000 Megohms at 25°C.
(Minimum) 10,000 Megohms at 125°C.

PHYSICAL CHARACTERISTICS

	L	W	T	MB
Size A:	.170±.015	.065±.015	.070 max.	.035+.020 —.010
Size B:	.280±.020	.195±.020	.070 max.	.035+.020 —.010

Note: Dimensions are for slugs with tinned terminals.

NYTRONICS, INC.

Nytronics Part No.	Capacity (pf)	Chip Size
NCU-047	4.7	A
NCU-056	5.6	A
NCU-068	6.8	A
NCU-082	8.2	A
NCU-100	10	A
NCU-120	12	A
NCU-150	15	A
NCU-180	18	A
NCU-220	22	A
NCU-270	27	A
NCU-330	33	A
NCU-390	39	A
NCU-470	47	A
NCU-560	56	A
NCU-680	68	A
NCU-820	82	A
NCU-101	100	A
NCU-121	120	A
NCU-151	150	A

Nytronics Part No.	Capacity (pf)	Chip Size
NCU-181	180	A
NCU-221	220	A
NCU-271	270	B
NCU-331	330	B
NCU-391	390	B
NCU-471	470	B
NCU-561	560	B
NCU-681	680	B
NCU-821	820	B
NCU-102	1000	B
NCU-122	1200	B
NCU-152	1500	B
NCU-182	1800	B
NCU-222	2200	B
NCU-272	2700	B
NCU-332	3300	B
NCU-392	3900	B
NCU-472	4700	B

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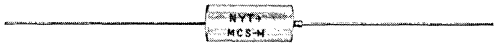
NYTRONICS, INC.® Capacitors

Tantalum Capacitors

Miniaturized electrolytic tantalum capacitors offer long life, close tolerances, stability and sealed construction in a space saving size. Most units are made to rigid standards and will operate over a wide range of temperatures and environmental conditions. The wide variety of voltages, capacitance and physical configurations offer exceptional design versatility.

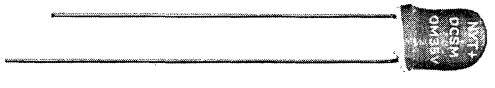


TYPE MCS **(MIL TYPE CS12 and CS13)** Miniature solid electrolyte hermetically sealed capacitor. This unit is a rugged, reliable, yet low cost unit for all but the most critical applications. Available in capacitance range: .0047 to 330 uf. Also available in non-polar construction.

TYPE CSR13 An established reliability capacitor manufactured to exacting military standards. Meets or exceeds the requirements of MIL-C-39003A. Capacitance range: .0047 to 330 uf.

TYPE TAK AND TAK-H **(MIL TYPE CL64 and CL65)** A sintered anode liquid electrolyte miniature capacitor, designed to operate over a wide temperature range and under extreme environmental conditions. Capacitance range: . + to 560 uf.

TYPE MTAK Subminiature version of the TAK series offering the many advantages of the TAK units but in a much smaller configuration. Capacitance range: .5 to 325 uf.



TYPE DCS Designed for printed circuit applications. Available in capacitance range of .1 to 330 uf. This capacitor is epoxy sealed on a ceramic base combining dimensional integrity, quality and low cost.

TYPE ACS Solid electrolyte in metal can with epoxy end fill. Available in standard MCS can sizes and in subminiature cans. Axial or radial leads.

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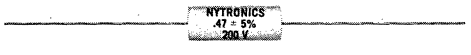
NYTRONICS, INC.® Capacitors

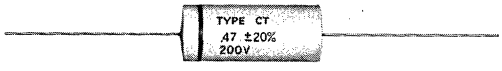
Film and Paper Dielectric Capacitors

Nytronics' broad experience in film and paper dielectrics is represented in a line of standard units for the aerospace, computer, instrumentation and consumer markets. The extensive Nytronics facilities are also available for production of custom components for use in these markets. A wide range of configurations and types is available to meet the most stringent requirements.

PSF SERIES — POLYSTYRENE AND FOIL Hermetically sealed in metal cases, these units are designed for applications requiring high insulation resistance, low dissipation factor, and minimal dielectric absorption. They are applicable for designs requiring high capacitor stability. Available in standard tolerance of ± 1% to ± 20%. They can be provided to special close tolerance requirements of ± 0.1%, as well as matching sets for application in digital computers, precision timing circuits, and laboratory standards.

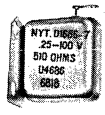


RPM SERIES — METALIZED POLYCARBONATE Available in tubular cases with glass-to-metal — seal terminals, the RPM Series provides high insulation resistance, exceptional stability and a minimal change in capacitance with temperature. Its self-healing properties, in the remote event of a dielectric breakdown, provide an extremely reliable unit. It also offers a low dissipation factor for AC applications.



MAF SERIES — MYLAR AND FOIL Designed for applications requiring a flat capacitance change with temperature from +15 to +65°C, the MAF series provides exceptional electrical properties in the temperature range of −55°C to +125°C. The dissipation factor at room temperature is less than 0.6%. The extended foil design provides for positive electrical contact between leads and electrodes irrespective of the operating voltage.

MAM SERIES — METALIZED MYLAR The MAM series offers a reduction in size over the MAF series. It's self-healing property, in the remote event of a dielectric breakdown, makes this hermetic unit suitable for the most stringent applications. Special capacitance tolerance of ± 1% can be provided on a special order basis.



AFS SERIES — KRAFT AND FOIL Hermetically sealed with compression type glass-to-metal solder-seal terminals the AFS series is approved to MIL-C-25. Designed for operation from −55°C to +125°C this series is intended for use in military and industrial electronics.

Various packaging configurations are available for the series shown above:

- wrap and fill
- plastic
- standard glasseals and other custom hermetic enclosures

Other dielectric series are available such as Teflon, Metalized Paper, Combination Films and/or Film Kraft.

NYTRONICS, INC.®/CAPACITOR DIVISION

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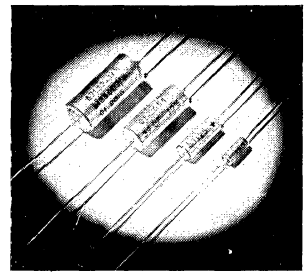
NYTRONICS, INC.® Capacitors

Established Reliability Solid Electrolyte Tantalum Capacitors Type CSR13 to MIL-C-39003A



- Hermetically Sealed
- Insulated Metal Case
- Axial Leads
- −55°C to +125°C
- 6 to 50 Volts
- Four Case Configurations

TYPE DESIGNATION

CSR13	B	565	L	L*
STYLE	DC RATED & SURGE VOLTAGES	CAPACITANCE	CAPACITANCE TOLERANCE	FAILURE RATE LEVEL

SYMBOL	RATED	SURGE
B	6	8
C	10	13
D	15	20
E	20	26
F	35	46
G	50	65
H	75	98
J	100	130

NOMINAL CAPACITANCE IN PICOFARADS. FIRST TWO DIGITS ARE SIGNIFICANT FIGURES. LAST DIGIT SPECIFIES NUMBER OF ZEROS TO FOLLOW.

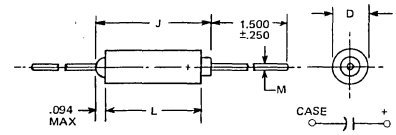
EXAMPLE:
565 = 5,600,000 pF
OR
5.6 µF

K = ±10%
M = ±20%

ESTABLISHED AT 60% CONFIDENCE LEVEL IN % PER 1000 HOURS.
L = 2%
M = 1%
P = .1%
R = .01%
S = .001%

*COMPLETE TYPE NUMBER INCLUDES A FOUR-DIGIT SUFFIX FOLLOWING THE FAILURE-RATE DESIGNATION. SEE STANDARD RATING TABLES BELOW.

STANDARD DIMENSIONS



Case size	Dimensions L ±.031	D +.016 −.015	M ±.002	J Max
A	.286	.135	.020	.422
B	.474	.185	.020	.610
C	.686	.289	.025	.822
D	.786	.351	.025	.922

NOTES:
1. Dimensions are in inches.
2. These capacitors are not intended to be mounted by their leads.
3. The case insulation shall extend .015 inch (.38 mm) minimum beyond each end. However, when a shrink-fitted insulation is used, it shall lap over the ends of the capacitor body.
4. Example of marking:

83125	+	Source Code (Federal Supply Code)+
67139-JAN		Date (2 Digits) & Lot No. (3 Digits)
M39003/	+	Part of Part No. (Polarity)+
01-2001		Balance of Part No.
5.6 µF 6VDC 10%		Capacitance, Voltage, Tolerance

When size of can does not provide sufficient space for complete marking shown above, the following alternate markings are used:

83125+		J+
67139-J	OR	M390
M39003/		03/01
01-2001		-2001

5. Case: Type — Tubular, insulated.
   Material — Metal.
   Type of seal — Hermetic.
6. Leads: Nickel, Tin-lead coated.
7. DC rated voltage: Above 85°C voltage derating is required, as follows:

AT 125°C		
SYMBOL	RATED	SURGE
B	4	5
C	7	9
D	10	12
E	13	16
F	23	28
G	33	40
H	50	64
J	67	81

STANDARD RATINGS

Type designation 1/	DC rated voltage	Capacitance 2/	Capacitance tolerance	DC leakage at +25°C	DC leakage at +85°C	DC leakage at +125°C	Dissipation factor at −55°C +25°C	Dissipation factor at +85°C +125°C	Case size	Dash number failure rate level (%/1,000 hours) 3/ L	M	P	R	S
	volts	µF	percent	µA	µA	µA	percent	percent		2.0	1.0	0.1	0.01	0.001
CSR138565K-	6	5.6	10	.5	6	7.5	4	4	A	2001	2241	2481	2721	2961
8685K-	6	6.8	10	.5	6	7.5	6	6	A	2002	2242	2482	2722	2962
8685M-	6	6.8	20	.5	6	7.5	6	6	A	2003	2243	2483	2723	2963
8476K-	6	47.0	10	3.0	24	30.0	6	6	B	2004	2244	2484	2724	2964
8476M-	6	47.0	20	3.0	24	30.0	6	6	B	2005	2245	2485	2725	2965
8566K	6	56.0	10	3.0	24	30.0	6	6	B	2006	2246	2486	2726	2966
8157K-	6	150.0	10	9.0	90	113.0	8	8	C	2007	2247	2487	2727	2967
8157M-	6	150.0	20	9.0	90	113.0	8	8	C	2008	2248	2488	2728	2968
8187K-	6	180.0	10	11.0	110	138.0	8	8	C	2009	2249	2489	2729	2969
8277K-	6	270.0	10	13.0	130	163.0	8	8	D	2010	2250	2490	2730	2970
8337K-	6	330.0	10	15.0	150	188.0	8	8	D	2011	2251	2491	2731	2971
8337M-	6	330.0	20	15.0	150	188.0	8	8	D	2012	2252	2492	2732	2972
C395K-	10	3.9	10	.6	6	7.5	4	4	A	2013	2253	2493	2733	2973
C475K-	10	4.7	10	.7	7	8.8	4	4	A	2014	2254	2494	2734	2974
C475M-	10	4.7	20	.7	7	8.8	4	4	A	2015	2255	2495	2735	2975
C276K-	10	27.0	10	4.0	40	50.0	6	6	B	2016	2256	2496	2736	2976
C336K-	10	33.0	10	5.0	50	63.0	6	6	B	2017	2257	2497	2737	2977
C336M-	10	33.0	20	5.0	50	63.0	6	6	B	2018	2258	2498	2738	2978
C396K-	10	39.0	10	5.0	50	63.0	6	6	B	2019	2259	2499	2739	2979
C826K-	10	82.0	10	8.0	80	100.0	6	6	C	2020	2260	2500	2740	2980
C107K-	10	100.0	10	10.0	100	125.0	8	8	C	2021	2261	2501	2741	2981
C107M-	10	100.0	20	10.0	100	125.0	8	8	C	2022	2262	2502	2742	2982
C127K-	10	120.0	10	12.0	120	150.0	8	8	C	2023	2263	2503	2743	2983
C187K-	10	180.0	10	18.0	180	226.0	8	8	D	2024	2264	2504	2744	2984
C227K-	10	220.0	10	20.0	200	250.0	8	8	D	2025	2265	2505	2745	2985
C227M-	10	220.0	20	20.0	200	250.0	8	8	D	2026	2266	2506	2746	2986
D275K-	15	2.7	10	.6	6	7.5	4	4	A	2027	2267	2507	2747	2987
D335K-	15	3.3	10	.8	8	10.0	4	4	A	2028	2268	2508	2748	2988
D335M-	15	3.3	20	.8	8	10.0	4	4	A	2029	2269	2509	2749	2989
D186K-	15	18.0	10	3.5	35	44.0	6	6	B	2030	2270	2510	2750	2990
D226K-	15	22.0	10	4.0	40	50.0	6	6	B	2031	2271	2511	2751	2991
D226M-	15	22.0	20	4.0	40	50.0	6	6	B	2032	2272	2512	2752	2992
D566K-	15	56.0	10	8.0	80	100.0	6	6	C	2033	2273	2513	2753	2993
D686K-	15	68.0	10	10.0	100	125.0	6	6	C	2034	2274	2514	2754	2994
D686M-	15	68.0	20	10.0	100	125.0	6	6	C	2035	2275	2515	2755	2995
D127K-	15	120.0	10	18.0	180	226.0	8	8	D	2036	2276	2516	2756	2996
D157K-	15	150.0	10	20.0	200	250.0	8	8	D	2037	2277	2517	2757	2997
D157M-	15	150.0	20	20.0	200	250.0	8	8	D	2038	2278	2518	2758	2998
E125K-	20	1.2	10	.6	6	7.5	4	4	A	2039	2279	2519	2759	2999
E155K-	20	1.5	10	.6	6	7.5	4	4	A	2040	2280	2520	2760	3000
E155M-	20	1.5	20	.6	6	7.5	4	4	A	2041	2281	2521	2761	3001
E185K-	20	1.8	10	.6	6	7.5	4	4	A	2042	2282	2522	2762	3002
E225K-	20	2.2	10	.8	8	10.0	4	4	A	2043	2283	2523	2763	3003
E225M-	20	2.2	20	.8	8	10.0	4	4	A	2044	2284	2524	2764	3004
E825K-	20	8.2	10	2.0	8	25.0	6	6	B	2045	2285	2525	2765	3005
E106K-	20	10.0	10	3.0	30	38.0	6	6	B	2046	2286	2526	2766	3006
E106M-	20	10.0	20	3.0	30	38.0	6	6	B	2047	2287	2527	2767	3007
E126K-	20	12.0	10	3.5	35	44.0	6	6	B	2048	2288	2528	2768	3008
E156K-	20	15.0	10	4.0	40	50.0	6	6	B	2049	2289	2529	2769	3009
E156M-	20	15.0	20	4.0	40	50.0	6	6	B	2050	2290	2530	2770	3010
E276K-	20	27.0	10	5.0	50	63.0	6	6	C	2051	2291	2531	2771	3011
E336K-	20	33.0	10	7.0	70	88.0	6	6	C	2052	2292	2532	2772	3012
E336M-	20	33.0	20	7.0	70	88.0	6	6	C	2053	2293	2533	2773	3013
E396K-	20	39.0	10	8.0	80	100.0	6	6	C	2054	2294	2534	2774	3014
E476K-	20	47.0	10	9.0	90	113.0	6	6	C	2055	2295	2535	2775	3015
E476M-	20	47.0	20	9.0	90	113.0	6	6	C	2056	2296	2536	2776	3016
E566K-	20	56.0	10	11.0	110	138.0	6	6	D	2057	2297	2537	2777	3017
E686K-	20	68.0	10	14.0	140	175.0	6	6	D	2058	2298	2538	2778	3018
E686M-	20	68.0	20	14.0	140	175.0	6	6	D	2059	2299	2539	2779	3019
E826K-	20	82.0	10	16.0	160	200.0	6	6	D	2060	2300	2540	2780	3020
E107K-	20	100.0	10	20.0	200	250.0	8	8	D	2061	2301	2541	2781	3021
E107M-	20	100.0	20	20.0	200	250.0	8	8	D	2062	2302	2542	2782	3022
F565K-	35	5.6	10	2.5	25	32.0	4	4	B	2063	2303	2543	2783	3023
F685K-	35	6.8	10	3.0	30	38.0	6	6	B	2064	2304	2544	2784	3024
F685M-	35	6.8	20	3.0	30	38.0	6	6	B	2065	2305	2545	2785	3025
F226K-	35	22.0	10	8.0	80	100.0	6	6	C	2066	2306	2546	2786	3026
F226M-	35	22.0	20	8.0	80	100.0	6	6	C	2067	2307	2547	2787	3027
F276K-	35	27.0	10	9.0	90	113.0	6	6	D	2068	2308	2548	2788	3028
F336K-	35	33.0	10	11.0	110	138.0	6	6	D	2069	2309	2549	2789	3029
F336M-	35	33.0	20	11.0	110	138.0	6	6	D	2070	2310	2550	2790	3030

Type designation 1/	DC rated voltage	Capacitance 2/	Capacitance tolerance	DC leakage at +25°C	DC leakage at +85°C	DC leakage at +125°C	Dissipation factor at −55°C +25°C	Dissipation factor at +85°C +125°C	Case size	Dash number failure rate level (%/1,000 hours) 3/ L	M	P	R	S
	volts	µF	percent	µA	µA	µA	percent	percent		2.0	1.0	0.1	0.01	0.001
CSR13F396K-	35	39.0	10	14.0	140	175.0	6	6	D	2071	2311	2551	2791	3031
F476K-	35	47.0	10	16.0	160	200.0	6	6	D	2072	2312	2552	2792	3032
G476M-	35	47.0	20	16.0	160	200.0	6	6	D	2073	2313	2553	2793	3033
G472K-	50	.0047	10	.5	5	6.3	2	4	A	2074	2314	2554	2794	3034
G472M-	50	.0047	20	.5	5	6.3	2	4	A	2075	2315	2555	2795	3035
G562K-	50	.0056	10	.5	5	6.3	2	4	A	2076	2316	2556	2796	3036
G682K-	50	.0068	10	.5	5	6.3	2	4	A	2077	2317	2557	2797	3037
G682M-	50	.0068	20	.5	5	6.3	2	4	A	2078	2318	2558	2798	3038
G822K-	50	.0082	10	.5	5	6.3	2	4	A	2079	2319	2559	2799	3039
G103K-	50	.01	10	.5	5	6.3	2	4	A	2080	2320	2560	2800	3040
G103M-	50	.01	20	.5	5	6.3	2	4	A	2081	2321	2561	2801	3041
G123K-	50	.012	10	.5	5	6.3	2	4	A	2082	2322	2562	2802	3042
G153K-	50	.015	10	.5	5	6.3	2	4	A	2083	2323	2563	2803	3043
G153M-	50	.015	20	.5	5	6.3	2	4	A	2084	2324	2564	2804	3044
G183K-	50	.018	10	.5	5	6.3	2	4	A	2085	2325	2565	2805	3045
G223K-	50	.022	10	.5	5	6.3	2	4	A	2086	2326	2566	2806	3046
G223M-	50	.022	20	.5	5	6.3	2	4	A	2087	2327	2567	2807	3047
G273K-	50	.027	10	.5	5	6.3	2	4	A	2088	2328	2568	2808	3048
G333K-	50	.033	10	.5	5	6.3	2	4	A	2089	2329	2569	2809	3049
G333M-	50	.033	20	.5	5	6.3	2	4	A	2090	2330	2570	2810	3050
G393K-	50	.039	10	.5	5	6.3	2	4	A	2091	2331	2571	2811	3051
G473K-	50	.047	10	.5	5	6.3	2	4	A	2092	2332	2572	2812	3052
G473M-	50	.047	20	.5	5	6.3	2	4	A	2093	2333	2573	2813	3053
G563K-	50	.056	10	.5	5	6.3	2	4	A	2094	2334	2574	2814	3054
G683K-	50	.068	10	.5	5	6.3	2	4	A	2095	2335	2575	2815	3055
G683M-	50	.068	20	.5	5	6.3	2	4	A	2096	2336	2576	2816	3056
G823K-	50	.082	10	.5	5	6.3	2	4	A	2097	2337	2577	2817	3057
G104K-	50	.1	10	.5	5	6.3	2	4	A	2098	2338	2578	2818	3058
G104M-	50	.1	20	.5	5	6.3	2	4	A	2099	2339	2579	2819	3059
G124K-	50	.12	10	.5	5	6.3	2	4	A	2100	2340	2580	2820	3060
G154K-	50	.15	10	.5	5	6.3	2	4	A	2101	2341	2581	2821	3061
G154M-	50	.15	20	.5	5	6.3	2	4	A	2102	2342	2582	2822	3062
G184K-	50	.18	10	.5	5	6.3	2	4	A	2103	2343	2583	2823	3063
G224K-	50	.22	10	.5	5	6.3	2	4	A	2104	2344	2584	2824	3064
G224M-	50	.22	20	.5	5	6.3	2	4	A	2105	2345	2585	2825	3065
G274K-	50	.27	10	.5	5	6.3	2	4	A	2106	2346	2586	2826	3066
G334K-	50	.33	10	.5	5	6.3	2	4	A	2107	2347	2587	2827	3067
G334M-	50	.33	20	.5	5	6.3	2	4	A	2108	2348	2588	2828	3068
G394K-	50	.39	10	.5	5	6.3	2	4	A	2109	2349	2589	2829	3069
G474K-	50	.47	10	.5	5	6.3	2	4	A	2110	2350	2590	2830	3070
G474M-	50	.47	20	.5	5	6.3	2	4	A	2111	2351	2591	2831	3071
G564K-	50	.56	10	.5	5	6.3	2	4	A	2112	2352	2592	2832	3072
G684K-	50	.68	10	.5	5	6.3	2	4	A	2113	2353	2593	2833	3073
G684M-	50	.68	20	.5	5	6.3	2	4	A	2114	2354	2594	2834	3074
G824K-	50	.82	10	.5	5	6.3	2	4	A	2115	2355	2595	2835	3075
G105K-	50	1.0	10	.8	8	10.0	2	4	A	2116	2356	2596	2836	3076
G105M-	50	1.0	20	.8	8	11.0	2	4	A	2117	2357	2597	2837	3077
G125K-	50	1.2	10	.9	9	11.0	4	4	B	2118	2358	2598	2838	3078
G155K-	50	1.5	10	1.2	12	15.0	4	4	B	2119	2359	2599	2839	3079
G155M-	50	1.5	20	1.2	12	15.0	4	4	B	2120	2360	2600	2840	3080
G185K-	50	1.8	10	1.4	14	18.0	4	4	B	2121	2361	2601	2841	3081
G225K-	50	2.2	10	1.7	17	22.0	4	4	B	2122	2362	2602	2842	3082
G225M-	50	2.2	20	1.7	17	22.0	4	4	B	2123	2363	2603	2843	3083
G275K-	50	2.7	10	2.0	20	25.0	4	4	B	2124	2364	2604	2844	3084
G335K-	50	3.3	10	2.5	25	32.0	4	4	B	2125	2365	2605	2845	3085
G335M-	50	3.3	20	2.5	25	32.0	4	4	B	2126	2366	2606	2846	3086
G395K-	50	3.9	10	3.0	30	38.0	4	4	B	2127	2367	2607	2847	3087
G475K-	50	4.7	10	3.5	35	44.0	4	4	B	2128	2368	2608	2848	3088
G475M-	50	4.7	20	3.5	35	44.0	4	4	B	2129	2369	2609	2849	3089
G565K-	50	5.6	10	4.5	45	56.0	4	4	C	2130	2370	2610	2850	3090
G685K-	50	6.8	10	4.5	45	56.0	6	6	C	2131	2371	2611	2851	3091
G685M-	50	6.8	20	4.5	45	56.0	6	6	C	2132	2372	2612	2852	3092
G825K-	50	8.2	10	5.0	50	63.0	6	6	C	2133	2373	2613	2853	3093
G106K-	50	10.0	10	5.0	50	63.0	6	6	C	2134	2374	2614	2854	3094
G106M-	50	10.0	20	5.0	50	63.0	6	6	C	2135	2375	2615	2855	3095
G126K-	50	12.0	10	6.0	60	75.0	6	6	C	2136	2376	2616	2856	3096
G156K-	50	15.0	10	8.0	80	100.0	6	6	C	2137	2377	2617	2857	3097
G156M-	50	15.0	20	8.0	80	100.0	6	6	C	2138	2378	2618	2858	3098
G186K	50	18.0	10	9.0	90	113.0	6	6	C	2139	2379	2619	2859	3099
G226K-	50	22.0	10	11.0	110	138.0	6	6	D	2140	2380	2620	2860	3100
G226M-	50	22.0	20	11.0	110	138.0	6	6	D	2141	2381	2621	2861	3101

1/ Complete type designation will include an additional symbol to indicate failure rate level.
2/ For information only.
3/ Dash numbers — 2001 through — 3193 of this specification shall unilaterally supersede and be acceptable alternates for dash numbers — 0001 through — 1045 of MIL-C-39003/1 for units of equivalent capacitance, capacitance tolerance, voltage rating, failure rate level, and case size.

WE ALSO MAKE WET-TANTALUM, FILM, AND PAPER DIELECTRIC CAPACITORS.

NYTRONICS, INC.® / CAPACITOR DIVISION

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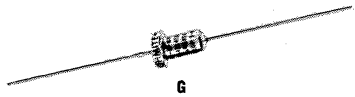
OHMITE tan-o-mite® tantalum capacitors • wire • foil • slug

SERIES TS
SLUG



G

HAT-SHAPE

SU SG

STRAIGHT-CYLINDRICAL

The "slug" type of tantalum capacitor utilizes a porous anode of sintered tantalum. Intended for polar applications, these capacitors offer the best characteristics of all the types described in this catalog. They exceed the vibration test of MIL-C-3965, Grade 3.

Available from stock in two physical types — the "hat-shaped" type, 3 sizes (U, F, G) and the "straight-cylindrical" type, 3 sizes (SU, SF, SG) which have the same range of capacitance and voltage as the equivalent hat-shape sizes. Hat-shape and straight-cylindrical types are offered in two operating temperature ranges, —55°C to +85°C and —55°C to +125°C. Tolerances: See footnotes under price and stock tables. Units insulated with plastic sleeve are available at slight extra cost. Stock listings below.

DIMENSIONS — UNINSULATED

HAT SHAPE				STRAIGHT-CYLINDRICAL				
Com'l.	MIL	Dia.	Lgth.	Com'l.	MIL	Dia.	Lgth.	Leads
U	T1	5/16	15/32	SU	T1	3/16	29/64	1½
F	T2	13/32	1 1/16	SF	T2	3/32	41/64	2¼
G	T3	37/64	49/64	SG	T3	⅜	49/64	2¼

COMMERCIAL SLUG CAPACITOR 1-24 QTY. NET PRICES

HAT-SHAPE AND STRAIGHT-CYLINDRICAL — UNINSULATED*

Case Size		85°C Tolerance†		125°C Tolerance†	
Hat	Straight	M	K	M	K
U	SU	$1.98	$2.22	$2.06	$3.30
F	SF	3.02	3.38	3.16	3.52
G	SG	4.72	5.32	4.96	5.56

*For plastic insulating sleeve add 10c for case sizes U, F, G. Add 5c for sizes SU, SF, SG.
†Standard Tolerances — M = ±20%; K = ±10%.

MIL-C-3965 SLUG CAPACITORS 1-24 QTY. NET PRICES

HAT-SHAPE (CL44) AND STRAIGHT-CYLINDRICAL (CL64) UNINSULATED*

Case Size	85C° Tolerance†		125°C Tolerance†	
CL44*, 64*	M	K	M	K
T1	$1.98	$2.22	$2.06	$2.30
T2	3.02	3.38	3.16	3.52
T3	4.72	5.32	4.96	5.56

*For plastic insulating sleeve (MIL STYLES CL45, CL65) add 10c each.
†Standard Tolerances — M = ±20%; K = ±10%.

STOCK HAT-SHAPE & STRAIGHT-CYLINDRICAL SLUG CAPACITORS
COMMERCIAL CASES U, F, G, SU, SF, SG — MIL STYLES CL44, CL45 (MIL-C-3965/4D) CL64, CL65, (MIL-C-3965/4D, 4E)

	D.C. Volts		Commercial		MIL-C-3965	
Mfd.	85°C	125°C	Case Size	Stock No. (Incomplete†)	Case Size	Type Designation (Incomplete*)
30	6		U	30__UB6__	T1	CL__ __BB300__P3
30	6	4	U	30__UC4__	T1	CL__ __CB300__P3
68‡	6		U	68__UB6__	T1	CL__ __BB680__P3
68‡	6	4	U	68__UC4__	T1	CL__ __CB680__P3
140	6		F	140__FB6__	T2	CL__ __BB141__P3
140	6	4	F	140__FC4__	T2	CL__ __CB141__P3
270‡	6		F	270__FB6__	T2	CL__ __BB271__P3
270‡	6	4	F	270__FC4__	T2	CL__ __CB271__P3
330	6		G	330__GB6__	T3	CL__ __BB331__P3
330	6	4	G	330__GC4__	T3	CL__ __CB331__P3
560‡	6		G	560__GB6__	T3	CL__ __BB561__P3
560‡	6	4	G	560__GC4__	T3	CL__ __CB561__P3
25	8		U	25__UB8__	T1	CL__ __BC250__P3
25	8	5	U	25__UC5__	T1	CL__ __CC250__P3
56‡	8		U	56__UB8__	T1	CL__ __BC560__P3
56‡	8	5	U	56__UC5__	T1	CL__ __CC560__P3
220‡	8		F	220__FB8__	T2	CL__ __BC221__P3
220‡	8	5	F	220__FC5__	T2	CL__ __CC221__P3
430‡	8		G	430__GB8__	T3	CL__ __BC431__P3
430‡	8	5	G	430__GC5__	T3	CL__ __CC431__P3
20	10		U	20__UB10__	T1	CL__ __BD200__P3
20	10	7	U	20__UC7__	T1	CL__ __CD200__P3
47‡	10		U	47__UB10__	T1	CL__ __BD470__P3
47‡	10	7	U	47__UC7__	T1	CL__ __CD470__P3
100	10		F	100__FB10__	T2	CL__ __BD101__P3
100	10	7	F	100__FC7__	T2	CL__ __CD101__P3
180‡	10		F	180__FB10__	T2	CL__ __BD181__P3
180‡	10	7	F	180__FC7__	T2	CL__ __CD181__P3
250	10		G	250__GB10__	T3	CL__ __BD251__P3
250	10	7	G	250__GC7__	T3	CL__ __CD251__P3
390‡	10		G	390__GB10__	T3	CL__ __BD391__P3
390‡	10	7	G	390__GC7__	T3	CL__ __CD391__P3
15	15		U	15__UB15__	T1	CL__ __BE150__P3
15	15	10	U	15__UC10__	T1	CL__ __CE150__P3
33‡	15		U	33__UB15__	T1	CL__ __BE330__P3
33‡	15	10	U	33__UC10__	T1	CL__ __CE330__P3
70	15		F	70__FB15__	T2	CL__ __BE700__P3
70	15	10	F	70__FC10__	T2	CL__ __CE700__P3
120‡	15		F	120__FB15__	T2	CL__ __BE121__P3
120‡	15	10	F	120__FC10__	T2	CL__ __CE121__P3
170	15		G	170__GB15__	T3	CL__ __BE171__P3
170	15	10	G	170__GC10__	T3	CL__ __CE171__P3
270‡	15		G	270__GB15__	T3	CL__ __BE271__P3
270‡	15	10	G	270__GC10__	T3	CL__ __CE271__P3
10	25		U	10__UB25__	T1	CL__ __BG100__P3
10	25	17	U	10__UC17__	T1	CL__ __CG100__P3
22‡	25		U	22__UB25__	T1	CL__ __BG220__P3
22‡	25	17	U	22__UC17__	T1	CL__ __CG220__P3
100‡	25		F	100__FB25__	T2	CL__ __BG101__P3
100‡	25	17	F	100__FC17__	T2	CL__ __CG101__P3
180‡	25		G	180__GB25__	T3	CL__ __BG181__P3
180‡	25	17	G	180__GC17__	T3	CL__ __CG181__P3
8	30		U	8__UB30__	T1	CL__ __BH080__P3
8	30	20	U	8__UC20__	T1	CL__ __CH080__P3
15‡	30		U	15__UB30__	T1	CL__ __BH150__P3
15‡	30	20	U	15__UC20__	T1	CL__ __CH150__P3
40	30		F	40__FB30__	T2	CL__ __BH400__P3
40	30	20	F	40__FC20__	T2	CL__ __CH400__P3
68‡	30		F	68__FB30__	T2	CL__ __BH680__P3
68‡	30	20	F	68__FC20__	T2	CL__ __CH680__P3
100	30		G	100__GB30__	T3	CL__ __BH101__P3
100	30	20	G	100__GC20__	T3	CL__ __CH101__P3
150‡	30		G	150__GB30__	T3	CL__ __BH151__P3
150‡	30	20	G	150__GC20__	T3	CL__ __CH151__P3
5	50		U	5__UB50__	T1	CL__ __BJ050__P3
5	50	33	U	5__UC33__	T1	CL__ __CJ050__P3
10‡	50		U	10__UB50__	T1	CL__ __BJ100__P3
10‡	50	33	U	10__UC33__	T1	CL__ __CJ100__P3
25	50		F	25__FB50__	T2	CL__ __BJ250__P3
25	50	33	F	25__FC33__	T2	CL__ __CJ250__P3
47‡	50		F	47__FB50__	T2	CL__ __BJ470__P3
47‡	50	33	F	47__FC33__	T2	CL__ __CJ470__P3
60	50		G	60__GB50__	T3	CL__ __BJ600__P3
60	50	33	G	60__GC33__	T3	CL__ __CJ600__P3
82‡	50		G	82__GB50__	T3	CL__ __BJ820__P3
82‡	50	33	G	82__GC33__	T3	CL__ __CJ820__P3
4	60		U	4__UB60__	T1	CL__ __BK040__P3
4	60	40	U	4__UC40__	T1	CL__ __CK040__P3
8.2‡	60		U	8R2__UB60__	T1	CL__ __BK8R2__P3
8.2‡	60	40	U	8R2__UC40__	T1	CL__ __CK8R2__P3
20	60		F	20__FB60__	T2	CL__ __BK200__P3
20	60	40	F	20__FC40__	T2	CL__ __CK200__P3
39‡	60		F	39__FB60__	T2	CL__ __BK390__P3
39‡	60	40	F	39__FC40__	T2	CL__ __CK390__P3
50	60		G	50__GB60__	T3	CL__ __BK500__P3
50	60	40	G	50__GC40__	T3	CL__ __CK500__P3
68‡	60		G	68__GB60__	T3	CL__ __BK680__P3
68‡	60	40	G	68__GC40__	T3	CL__ __CK680__P3
3.5	75		U	3R5__UB75__	T1	CL__ __BL3R5__P3
3.5	75	50	U	3R5__UC50__	T1	CL__ __CL3R5__P3
6.8‡	75		U	6R8__UB75__	T1	CL__ __BL6R8__P3
6.8‡	75	50	U	6R8__UC50__	T1	CL__ __CL6R8__P3
15	75		F	15__FB75__	T2	CL__ __BL150__P3
15	75	50	F	15__FC50__	T2	CL__ __CL150__P3
33‡	75		F	33__FB75__	T2	CL__ __BL330__P3
33‡	75	50	F	33__FC50__	T2	CL__ __CL330__P3
40	75		G	40__GB75__	T3	CL__ __BL400__P3
40	75	50	G	40__GC50__	T3	CL__ __CL400__P3
56‡	75		G	56__GB75__	T3	CL__ __BL560__P3
56‡	75	50	G	56__GC50__	T3	CL__ __CL560__P3
2.5	100		U	2R5__UB100__	T1	CL__ __BN2R5__P3
2.5	100	70	U	2R5__UC70__	T1	CL__ __CN2R5__P3
4.7‡	100		U	4R7__UB100__	T1	CL__ __BN4R7__P3
4.7‡	100	70	U	4R7__UC70__	T1	CL__ __CN4R7__P3
11	100		F	11__FB100__	T2	CL__ __BN110__P3
11	100	70	F	11__FC70__	T2	CL__ __CN110__P3
22‡	100		F	22__FB100__	T2	CL__ __BN220__P3
22‡	100	70	F	22__FC70__	T2	CL__ __CN220__P3
30	100		G	30__GB100__	T3	CL__ __BN300__P3
30	100	70	G	30__GC70__	T3	CL__ __CN300__P3
43‡	100		G	43__GB100__	T3	CL__ __BN430__P3
43‡	100	70	G	43__GC70__	T3	CL__ __CN430__P3
1.7	125		U	1R7__UB125__	T1	CL__ __BP1R7__P3
1.7	125	85	U	1R7__UC85__	T1	CL__ __CP1R7__P3
3.6‡	125		U	3R6__UB125__	T1	CL__ __BP3R6__P3
3.6‡	125	85	U	3R6__UC85__	T1	CL__ __CP3R6__P3
9	125		F	9__FB125__	T2	CL__ __BP090__P3
9	125	85	F	9__FC85__	T2	CL__ __CP090__P3
14‡	125		F	14__FB125__	T2	CL__ __BP140__P3
14‡	125	85	F	14__FC85__	T2	CL__ __CP140__P3
25	125		G	25__GB125__	T3	CL__ __BP250__P3
25	125	85	G	25__GC85__	T3	CL__ __CP250__P3
39‡	125		G	39__GB125__	T3	CL__ __BP390__P3
39‡	125	85	G	39__GC85__	T3	CL__ __CP390__P3

†Complete commercial stock no. as follows: If straight-cylindrical capacitor is desired, insert an "S" in the middle of the number where the underlined space is provided as in "30SUB6__." If a hat-shape capacitor is desired, write this number without the space as in "30UB6__." Add K, or M at end of number to indicate tolerance. Add "A" after tolerance letter if insulating sleeve is desired.

*Complete MIL type designation as follows: For hat-shape, uninsulated type insert "44" after "CL__ __" for insulated type insert "45" instead. For straight-cylindrical shape, uninsulated, insert "64" after "CL__ __"; for insulated type insert "65" instead. Insert K, or M before "P" to indicate tolerance.

‡High capacitance units.

Tolerances: K = ±10%; M = ±20%.

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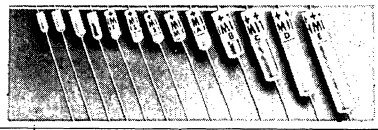
OHMITE tan-o-mite® tantalum capacitors

SERIES TW WIRE



Smallest subminiature electrolytic capacitors available. The anode is specially processed tantalum wire sealed into a silver case. Axial leads are 2" long. Units are insulated with Mylar plastic sleeve. These polar type units are used in DC circuits where capacitance can exceed nominal circuit values (standard tolerance, −0 +100%). Wide use in hearing aids and other subminiature apparatus. Operating temperature range: −55°C to +85°C. Nine of thirteen available case sizes stocked.

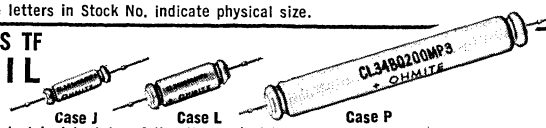
Size	Dia.	Lgth.	Size	Dia.	Lgth.
TK	.060	.150	M	.100	.218
TJ	.060	.190	B	.134	.375
HK	.075	.150	C	.134	.562
HJ	.075	.190	E	.134	.812
S	.080	.234			

SERIES TW — STOCK VALUES

Mfd.	DCWV	Stock No.*	Net 1-24	Mfd.	DCWV	Stock No.*	Net 1-24
0.1	20	R1TJ20	$1.65		3	4HJ3	$1.65
	60	R1M60	1.65	4	4	4S4	1.65
0.2	20	R2TK20	1.65		20	4B20	1.78
	150	R2E150	3.44		30	5C30	2.56
	10	R5TK10	1.65	5	60	5E60	3.44
0.5	16	R5TJ16	1.65	6	1.25	6HJ1R25	1.65
	20	R5S20	1.65		1.25	8S1R25	1.65
	80	R5B80	2.19	8	4	8M4	1.65
	4	1TK4	1.65		8	10B8	1.78
	8	1HK8	1.65		16	10C16	1.78
1.0	10	1HJ10	1.65	10	30	10E30	3.44
	20	1M20	1.65		1.25	15M1R25	1.65
	60	1B60	2.19	15	2	20B2	1.78
	80	1C80	2.56	20	6	25C6	1.78
	1.25	2TK1R25	1.65	25	10	30E10	2.89
2	4	2HJ4	1.65	30	2	50C2	1.78
	8	2S8	1.65	50	4	60E4	2.89
	40	2B40	2.19	60	2	75E2	2.89
	1.25	3HK1R25	1.65	75			
3	80	3E80	3.44				
	4	3HJ4	1.65				

*Middle letters in Stock No. indicate physical size.

SERIES TF FOIL



Case J Case L Case P

Plain and etched tantalum foil units stocked in polar and non-polar types. The polar unit is intended for applications in which reversals of potential do not occur but will withstand reversals up to 3.75 VDC except where the voltage rating is less. Foil types offer closer tolerance, also leakage and power factor characteristics superior to wire types. The etched foil units afford higher maximum capacitances for a given case size and have somewhat lower leakage current than the plain foil units. Operating temperature range: —55°C to +85°C. Tolerances: Plain foil, ±20% (MIL code "M"). Etched foil, less than 50 volts, —15 +75% (MIL code U); 50-99 volts, —15 +50% (T); 100-150 volts, —15 +30% (S). 1½" axial leads. Designed to meet MIL-C-3965C, Styles CL24, CL25, CL34, CL35. 5 MIL case sizes. All units meet MIL vibration rating Grade 3. Units can be furnished with plastic sleeve.

PRICES, DIMENSIONS

Case Size Com'l.	MIL Styles* CL34, CL24	Uninsulated* Dia.	Uninsulated* Length	Net 1-9 Qty. Plain Foil	Net 1-9 Qty. Etched Foil
J	C1	3/16"	11/16"	$4.13	$4.14
K	C2	3/32"	7/8"	6.54	7.18
L	C3	3/16"	1 1/16"	10.38	12.54
N	C4	3/16"	2 1/8"	14.54	20.48
P	C5	3/16"	2 3/4"	19.53	27.29

*For plastic insulating sleeve commercial "S" suffix or MIL Styles CL35, CL25—add 10c extra.

STOCK — PLAIN FOIL
UNINSULATED‡

DC Volts	Mfd.	Case	Commercial Stock No.‡	Case	MIL-C-3965C Type Designation‡
3	10	J	10J3*	C1	CL34BA100MP3
	50	K	50K3*	C2	CL34BA500MP3
3.75	10	J	10J3R75N		
	45	K	45K3R75N		
	140	L	140L3R75N		
	280	N	280N3R75N		
	400	P	400P3R75N		
6	8	J	8J6	C1	CL34BB080MP3
	30	K	30K6	C2	CL34BB300MP3
	35	K	35K6		
	100	L	100L6	C3	CL34BB101MP3
	200	N	200N6	C4	CL34BB201MP3
	300	P	300P6	C5	CL34BB301MP3
10	7	J	7J6N		
	25	K	25K6N		
	85	L	85L6N		
	175	N	175N6N		
	250	P	250P6N		
	6	J	6J10	C1	CL34BD060MP3
	25	K	25K10	C2	CL34BD250MP3
	80	L	80L10	C3	CL34BD800MP3
	160	N	160N10	C4	CL34BD161MP3
	220	P	220P10	C5	CL34BD221MP3
	4	J	4J10N		
	16	K	16K10N		
	55	L	55L10N		
	110	N	110N10N		
	150	P	150P10N		

NOTE:

Numbers in screen are non-polar units. Non-polar units may be used as polar units.

‡For insulating sleeve add "S" to commercial stock number; on MIL designations, change "CL24" to "CL25," "CL34" to "CL35."

*Regardless of polarity indicated, these low voltage units can be used as either polar or non-polar units.

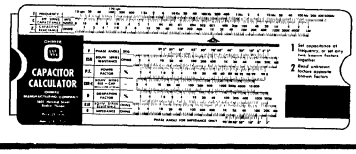
†MIL-C-3965C requires only 3 volt rating—Ohmite units are rated 3.75 V.

STOCK — PLAIN FOIL (cont.)
UNINSULATED‡

DC Volts	Mfd.	Case	Commercial Stock No.‡	Case	MIL-C-3965C Type Designation‡
15	4.5	J	4R5J15	C1	CL34BE4R5MP3
	10	K	10K15	C2	CL34BE100MP3
	18	K	18K15	C2	CL34BE180MP3
	55	L	55L15	C3	CL34BE550MP3
	110	N	110N15	C4	CL34BE111MP3
	160	P	160P15	C5	CL34BE161MP3
	2.5	J	2R5J15N		
	10	K	10K15N		
	35	L	35L15N		
	70	N	70N15N		
	100	P	100P15N		
25	3	J	3J25		
	12	K	12K25		
	35	L	35L25		
	70	N	70N25		
	100	P	100P25		
	1.5	J	1R5J25N		
	6	K	6K25N		
	20	L	20L25N		
	40	N	40N25N		
	60	P	60P25N		
30	2.5	J	2R5J30	C1	CL34BH2R5MP3
	10	K	10K30		
	30	L	30L30	C3	CL34BH300MP3
	60	N	60N30	C4	CL34BH600MP3
	85	P	85P30	C5	CL34BH850MP3
	1.4	J	1R4J30N		
	5.5	K	5R5K30N		
	18	L	18L30N		
	36	N	36N30N		
	45	P	45P30N		
50	1.5	J	1R5J50	C1	CL34BJ1R5MP3
	6	K	6K50	C2	CL34BJ060MP3
	20	L	20L50	C3	CL34BJ200MP3
	40	N	40N50	C4	CL34BJ400MP3
	55	P	55P50	C5	CL34BJ550MP3
	0.8	J	R8J50N		
	3	K	3K50N		
	10	L	10L50N		
	20	N	20N50N		
	30	P	30P50N		
60	1.25	J	1R25J60		
	5	K	5K60		
	17	L	17L60		
	34	N	34N60		
	48	P	48P60		
	0.6	J	R6J60N		
	2.5	K	2R5K60N		
	8.5	L	8R5L60N		
	17	N	17N60N		
	24	P	24P60N		
75	1	J	1J75	C1	CL34BL010MP3
	4	K	4K75	C2	CL34BL040MP3
	14	L	14L75	C3	CL34BL140MP3
	28	N	28N75	C4	CL34BL280MP3
	40	P	40P75	C5	CL34BL400MP3
	0.5	J	R5J75N		
	2	K	2K75N		
	7	L	7L75N		
	14	N	14N75N		
	20	P	20P75N		
100	0.8	J	R8J100	C1	CL34BN0R8MP3
	3	K	3K100	C2	CL34BN030MP3
	10	L	10L100	C3	CL34BN100MP3
	20	N	20N100	C4	CL34BN200MP3
	30	P	30P100	C5	CL34BN300MP3
	0.4	J	R4J100N		
	1.5	K	1R5K100N		
	5	L	5L100N		
	10	N	10N100N		
	15	P	15P100N		
150	0.5	J	R5J150	C1	CL34BQ0R5MP3
	2	K	2K150	C2	CL34BQ020MP3
	4	L	4L150	C3	CL34BQ040MP3
	7	L	7L150	C3	CL34BQ070MP3
	8	N	8N150	C4	CL34BQ080MP3
	12	N	12N150	C4	CL34BQ120MP3
	14	N	14N150	C4	CL34BQ140MP3
	20	P	20P150	C5	CL34BQ200MP3
	0.25	J	R25J150N		
	1	K	1K150N		
	3.5	L	3R5L150N		
	7	N	7N150N		
	10	P	10P150N		

STOCK — ETCHED FOIL
UNINSULATED‡

DC Volts	Mfd.	Case	Commercial Stock No.‡	Case	MIL-C-3965C Type Designation‡
15	15	J	15JE15	C1	CL24BE150UP3
	60	K	60KE15	C2	CL24BE600UP3
	200	L	200LE15	C3	CL24BE201UP3
	400	N	400NE15	C4	CL24BE401UP3
	580	P	580PE15	C5	CL24BE581UP3
	10	J	10JE15N		
	40	K	40KE15N		
	120	L	120LE15N		
	125	L	125LE15N		
	250	N	250NE15N		
	350	P	350PE15N		
25	10	J	10JE25	C1	CL24BG100UP3
	40	K	40KE25	C2	CL24BG400UP3
	120	L	120LE25	C3	CL24BG121UP3
	125	L	125LE25		
	250	N	250NE25	C4	CL24BG251UP3
	350	P	350PE25	C5	CL24BG351UP3
	5	J	5JE25N		
	20	K	20KE25N		
	70	L	70LE25N		
	140	N	140NE25N		
	200	P	200PE25N		
30	8	J	8JE30	C1	CL24BH080UP3
	32	K	32KE30	C2	CL24BH320UP3
	110	L	110LE30	C3	CL24BH111UP3
	220	N	220NE30	C4	CL24BH221UP3
	300	P	300PE30	C5	CL24BH301UP3
	4.5	J	4R5JE30N		
	18	K	18KE30N		
	60	L	60LE30N		
	120	N	120NE30N		
	170	P	170PE30N		
50	4.5	J	4R5JE50	C1	CL24BJ4R5TP3
	18	K	18KE50	C2	CL24BJ180TP3
	60	L	60LE50	C3	CL24BJ600TP3
	100	N	100NE50	C4	CL24BJ101TP3
	150	P	150PE50	C5	CL24BJ151TP3
	2.5	J	2R5JE50N		
	10	K	10KE50N		
	30	L	30LE50N		
	60	N	60NE50N		
	80	P	80PE50N		
60	4	J	4JE60		
	15	K	15KE60		
	50	L	50LE60		
	88	N	88NE60		
	125	P	125PE60		
	2	J	2JE60N		
	7.5	K	7R5KE60N		
	25	L	25LE60N		
	50	N	50NE60N		
	67	P	67PE60N		
75	3	J	3JE75	C1	CL24BL030TP3
	12	K	12KE75	C2	CL24BL120TP3
	30	L	30LE75	C3	CL24BL300TP3
	70	N	70NE75	C4	CL24BL700TP3
	100	P	100PE75	C5	CL24BL101TP3
	1.5	J	1R5JE75N		
	6	K	6KE75N		
	15	L	15LE75N		
	35	N	35NE75N		
	50	P	50PE75N		
100	2	J	2JE100	C1	CL24BN020SP3
	8	K	8KE100	C2	CL24BN080SP3
	25	L	25LE100	C3	CL24BN250SP3
	50	N	50NE100	C4	CL24BN500SP3
	70	P	70PE100	C5	CL24BN700SP3
	1	J	1JE100N		
	4	K	4KE100N		
	12	L	12LE100N		
	25	N	25NE100N		
	35	P	35PE100N		
150	1	J	1JE150	C1	CL24BQ010SP3
	4	K	4KE150	C2	CL24BQ040SP3
	13	L	13LE150	C3	CL24BQ130SP3
	25	N	25NE150	C4	CL24BQ250SP3
	36	P	36PE150	C5	CL24BQ360SP3
	0.5	J	R5JE150N		
	2	K	2KE150N		
	6	L	6LE150N		
	12	N	12NE150N		
	18	P	18PE150N		



CAPACITOR CALCULATOR

Pocket size calculator (7" x 2⅝") solves capacitance problems involving frequency, reactance, power factor, dissipation factor, equivalent series resistance, impedance and phase angle — with just one setting of the slide. For convenience in making supplementary calculations, the calculator carries the standard A, B, C, D slide rule scales. Also listed are important capacitance formulae and a comparison chart of different types of capacitors. In heavy, varnished cardboard.

Stock No. 5184 ..... Net $0.25

OHMITE PAGE 29

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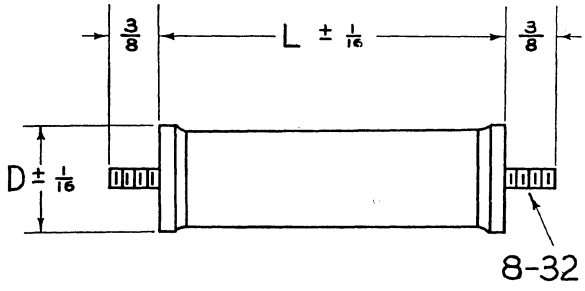
HIGH VOLTAGE CAPACITORS TYPE OF

85°C GLASS CAP — PLASTIC FILM DC FILTER

TYPE OF Capacitors are housed in glass tubes with metal-to-glass soldered ferrules. Capacitor element is an improved plastic dielectric type, impregnated with a highly purified and inhibited mineral oil.



All glass containers with 'D' dimensions of 19/32 have 2-1/2 inch long 18 tinned copper pigtail leads.

PART NUMBER	CAP MFD	VOLTS DC	DIMENSIONS L	D
OF20-102	.001	2000	1 3/16	19/32
OF20-202	.002	2000	1 3/16	19/32
OF20-502	.005	2000	1 3/36	19/32
OF20-103	.01	2000	1 3/16	19/32
OF20-203	.02	2000	1 9/16	19/32
OF20-503	.05	2000	1 3/4	3/4
OF20-104	0.1	2000	2 1/4	3/4
OF20-254	0.25	2000	2 3/4	29/32
OF20-504	0.5	2000	2	1 3/8
OF30-102	.001	3000	1 3/16	19/32
OF30-202	.002	3000	1 3/16	19/32
OF30-502	.005	3000	1 3/16	19/32
OF30-103	.01	3000	1 9/16	19/32
OF30-203	.02	3000	1 3/4	3/4
OF30-503	.05	3000	2 1/4	3/4
OF30-104	0.1	3000	1 3/4	1 1/8
OF30-254	0.25	3000	2	1 3/8
OF30-504	0.5	3000	2 3/4	1 5/8
OF40-102	.001	4000	1 3/16	19/32
OF40-202	.002	4000	1 3/16	19/32
OF40-502	.005	4000	1 3/16	19/32
OF40-103	.01	4000	1 3/16	3/4
OF40-203	.02	4000	1 3/4	3/4
OF40-503	.05	4000	2	13/16
OF40-104	0.1	4000	2	1 1/8
OF40-254	0.25	4000	2 1/4	1 5/8
OF40-504	0.5	4000	3 3/4	1 5/8

PART NUMBER	CAP MFD	VOLTS DC	DIMENSIONS L	D
OF50-202	.002	5000	1 3/16	19/32
OF50-502	.005	5000	1 5/8	19/32
OF50-103	.01	5000	1 3/4	3/4
OF50-203	.02	5000	2 1/4	3/4
OF50-503	.05	5000	2 1/4	29/32
OF50-104	0.1	5000	2 1/4	1 3/8
OF50-254	0.25	5000	3	1 5/8
OF50-504	0.5	5000	6	1 5/8
OF60-103	.01	6000	1 3/4	3/4
OF60-203	.02	6000	2 1/4	3/4
OF60-503	.05	6000	3 1/4	29/32
OF60-104	0.1	6000	3	1 3/8
OF60-254	0.25	6000	4	1 5/8
OF60-504	0.5	6000	7	1 5/8
OF80-502	.005	8000	1 3/4	3/4
OF80-103	.01	8000	2 1/4	3/4
OF80-203	.02	8000	2 3/4	29/32
OF80-503	.05	8000	2 3/4	1 3/8
OF80-104	0.1	8000	3 5/8	1 5/8
OF80-204	0.2	8000	7	1 5/8
OF100-101	.0001	10 KV	1 5/8	19/32
OF100-201	.0002	10 KV	1 5/8	19/32
OF100-501	.0005	10 KV	1 5 8	19/32
OF100-102	.001	10 KV	1 5/8	19/32
OF100-202	.002	10 KV	1 5/8	3/4
OF100-502	.005	10 KV	1 3/4	13/16
OF100-103	.01	10 KV	2 1/4	29/32
OF100-203	.02	10 KV	2 3/4	1 1/8
OF100-503	.05	10 KV	2 3/4	1 5/8
OF100-603	.06	10 KV	3	1 5/8
OF100-104	0.1	10 KV	5	1 5/8
OF150-101	.0001	15 KV	2 1/4	19/32
OF150-201	.0002	15 KV	2 1/4	19/32
OF150-501	.0005	15 KV	2 1/4	19/32
OF150-102	.001	15 KV	2 1/4	3/4
OF150-202	.002	15 KV	2 1/4	3/4
OF150-502	.005	15 KV	2 3/4	1 1/8
OF150-103	.01	15 KV	3 3/4	1 1/8
OF150-203	.02	15 KV	4 1/4	1 3/8
OF150-503	.05	15 KV	7	1 5/8
OF150-603	.06	15 KV	8	1 5/8
OF200-101	.0001	20 KV	3 1/2	19/32
OF200-201	.0002	20 KV	3 1/2	19/32
OF200-501	.0005	20 KV	3 1/2	19/32
OF200-102	.001	20 KV	3 1/2	3/4
OF200-202	.002	20 KV	3 1/2	13/16
OF200-502	.005	20 KV	3 1/2	1 1/8
OF200-103	.01	20 KV	4 1/2	1 1/8
OF200-203	.02	20 KV	4 1/2	1 5/8
OF200-403	.04	20 KV	7 1/4	1 5/8
OF300-101	.0001	30 KV	4 9/16	19/32
OF300-201	.0002	30 KV	4 9/16	19/32
OF300-501	.0005	30 KV	4 9/16	19/32
OF300-102	.001	30 KV	5	3/4
OF300-202	.002	30 KV	5	29/32
OF300-502	.005	30 KV	5	1 3/8
OF300-103	.01	30 KV	6 1/2	1 5/8
OF300-203	.02	30 KV	9	1 5/8

The above is a partial listing. Additional capacitance and voltage values are available. Send for complete listing.

HIGH VOLTAGE POWER PACKS

COMPACT "M" SERIES 2 TO 75 KVDC

SEE SECTION 4000, PAGE 1018

Plastic Capacitors, Inc.

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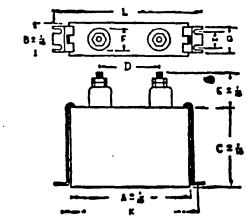
HIGH VOLTAGE CAPACITORS
TYPE LK

MYLAR★ PAPER FILTER CAPACITORS

TYPE LK Capacitors are specifically designed for filter, bypass and coupling applications in the low audio frequency range. The CP70 style container and internal construction permit operation in any position. Glazed steatite bushings are used, and in the voltage ranges of 2000 and greater, steatite is the electrical insulation in the terminal assembly. The threaded stud terminal is supplied with nut, lockwasher and/or solder lug. The whole assembly is hermetically sealed.



2000 VDCW

PART NUMBER	CAP. MFD.	A	B	C
LK20-105	1.0	1 3/4	1	3 1/4
LK20-205	2	2 1/2	1 3/16	3 1/2
LK20-205Y	2	1 3/4	1	5
LK20-405	4	2 1/2	1 3/16	5 1/2
LK20-405Y	4	3 3/4	1 1/4	3 3/4
LK20-605	6	3 3/4	1 1/4	5
LK20-605Y	6	3 3/4	1 3/4	3 3/4
LK20-805	8	3 3/4	1 1/4	6 1/4
LK20-805Y	8	3 3/4	1 3/4	4 1/2
LK20-106	10	3 3/4	1 3/4	5 1/4
LK20-106Y	10	3 3/4	2 1/4	4 1/2
LK20-126	12	3 3/4	1 3/4	6 1/4
LK20-126Y	12	3 3/4	2 1/4	5
LK20-126Z	12	3 3/4	3 3/16	4
LK20-156	15	3 3/4	2 1/4	6
LK20-156Y	15	3 3/4	3 3/16	5
LK20-156Z	15	4 9/16	3 3/4	3 3/4
LK20-206	20	3 3/4	3 3/16	6
LK20-206Y	20	4 9/16	3 3/4	4 1/4
LK20-256	25	3 3/4	3 3/16	6 3/4
LK20-306	30	4 9/16	3 3/4	5 3/4

3000 VDCW

PART NUMBER	CAP. MFD.	A	B	C
LK30-504	.5	1 3/4	1	3 1/4
LK30-105	1.0	1 3/4	1	5 1/4
LK30-105Y	1.0	2 1/2	1 3/16	3 1/2
LK30-205	2	2 1/2	1 3/16	5 1/2
LK30-205Y	2	3 3/4	1 1/4	3 3/4
LK30-405	4	3 3/4	1 1/4	6 1/4
LK30-405Y	4	3 3/4	1 3/4	4 3/4
LK30-405Z	4	3 3/4	2 1/4	4
LK30-605	6	3 3/4	1 3/4	6 1/4
LK30-605Y	6	3 3/4	2 1/4	5 1/4
LK30-605Z	6	3 3/4	3 3/16	4
LK30-805	8	3 3/4	2 1/4	6 1/2
LK30-805Y	8	3 3/4	3 3/16	5
LK30-805Z	8	4 9/16	3 3/4	3 3/4
LK30-106	10	3 3/4	3 3/16	5 3/4
LK30-106Y	10	4 9/16	3 3/4	4 1/2
LK30-126	12	3 3/4	3 3/16	6 3/4
LK30-126Y	12	4 9/16	3 3/4	5
LK30-156	15	4 9/16	3 3/4	6
LK30-206Y	20	4 9/16	3 3/4	7
LK30-256Y	25	4 9/16	3 3/4	10
LK30-306Z	30	4 9/16	3 3/4	11 1/2

4000 VDCW

PART NUMBER	CAP. MFD.	A	B	C
LK40-254	.25	1 3/4	1	2 3/4
LK40-504	.5	1 3/4	1	4
LK40-105	1.0	2 1/2	1 3/16	4
LK40-205	2	2 1/2	1 3/16	6 3/4
LK40-205Y	2	3 3/4	1 3/4	3 3/4
LK40-405	4	3 3/4	1 3/4	6
LK40-405Y	4	3 3/4	2 1/4	4 3/4
LK40-605	6	3 3/4	2 1/4	6 1/2
LK40-605Y	6	3 3/4	3 3/16	5
LK40-605Z	6	4 9/16	3 3/4	3 3/4
LK40-805	8	3 3/4	3 3/16	6
LK40-805Y	8	4 9/16	3 3/4	4 3/4
LK40-106	10	4 9/16	3 3/4	5 1/2
LK40-126	12	4 9/16	3 3/4	6 1/2
LK40-156	15	4 9/16	3 3/4	8 1/2
LK40-206Z	20	4 9/16	3 3/4	9

5000 VDCW

PART NUMBER	CAP. MFD.	A	B	C
LK50-104	.1	1 3/4	1	2 1/8
LK50-254	.25	1 3/4	1	3
LK50-504	.5	1 3/4	1	4 3/4
LK50-504Y	.5	2 1/2	1 3/16	3 1/4
LK50-105	1.0	2 1/2	1 3/16	5
LK50-105Y	1.0	3 3/4	1 1/4	3 3/4
LK50-205	2	3 3/4	1 1/4	6
LK50-205Y	2	3 3/4	1 3/4	4 1/2
LK50-205Z	2	3 3/4	2 1/4	3 3/4
LK50-405	4	3 3/4	2 1/4	6 1/4
LK50-405Y	4	3 3/4	3 3/16	4 3/4
LK50-405Z	4	4 9/16	3 3/4	3 3/4
LK50-605	6	3 3/4	3 3/16	6 1/2
LK50-605Y	6	4 9/16	3 3/4	4 3/4
LK50-805	8	4 9/16	3 3/4	6 1/4
LK50-106Y	10	4 9/16	3 3/4	7 1/2
LK50-126Y	12	4 9/16	3 3/4	9 1/2
LK50-156Y	15	4 9/16	3 3/4	9 1/4
LK50-206Y	20	7 5/16	5 9/16	5 3/4
LK50-206Z	20	6	4 5/8	8
LK50-256Y	25	6	4 5/8	9 1/4
LK50-306Y	30	6	4 5/8	11 1/4

6000 VDCW

PART NUMBER	CAP. MFD.	A	B	C
LK60-104	.1	3 3/4	1 1/4	2 1/4
LK60-254	.25	3 3/4	1 1/4	2 1/2
LK60-504	.5	3 3/4	1 1/4	3 3/4
LK60-105	1.0	3 3/4	1 1/4	6 1/2
LK60-105Y	1.0	3 3/4	1 3/4	4 1/2
LK60-205	2	3 3/4	2 1/4	6 1/4
LK60-205Y	2	3 3/4	3 3/16	4 3/4
LK60-405	4	4 9/16	3 3/4	6
LK60-605	6	4 9/16	3 3/4	8 1/4
LK60-805	8	4 9/16	3 3/4	10 1/4
LK60-106Y	10	6	4 5/8	8 3/4
LK60-126Y	12	6	4 5/8	9 3/4
LK60-156Y	15	6	4 5/8	11
LK60-206Y	20	7 5/16	5 9/16	10 1/4
LK60-306Y	30	13 1/2	5 1/8	11 7/8

8000 VDCW

PART NUMBER	CAP. MFD.	A	B	C
LK80-104Y	.1	2 1/2	1 3/16	3
LK80-104	.1	3 3/4	1 1/4	2 1/2
LK80-254Y	.25	2 1/2	1 3/16	5 1/4
LK80-254	.25	3 3/4	1 1/4	3 3/4
LK80-504	.5	3 3/4	1 1/4	5 3/4
LK80-504Y	.5	3 3/4	1 3/4	4 1/4
LK80-105	1.0	3 3/4	1 3/4	7
LK80-105Y	1.0	3 3/4	2 1/4	5 3/4
LK80-105Z	1.0	3 3/4	3 3/16	4 1/2
LK80-205	2	3 3/4	3 3/16	7
LK80-205Y	2	4 9/16	3 3/4	5 1/4
LK80-405	4	4 9/16	3 3/4	8 1/2
LK80-605Y	6	6	4 5/8	8 1/4
LK80-605Z	6	4 9/16	3 3/4	12
LK80-805Y	8	6	4 5/8	10
LK80-106Y	10	7 5/16	5 9/16	9
LK80-126Y	12	7 5/16	5 9/16	10
LK80-156Y	15	13 1/2	4 1/8	11
LK80-206Y	20	13 1/2	5 1/8	11 7/8

10 KVDC

PART NUMBER	CAP. MFD.	A	B	C
LK100-104	.1	3 3/4	1 3/4	3 1/4
LK100-254	.25	3 3/4	1 3/4	3 3/4
LK100-254Y	.25	3 3/4	2 1/4	3 1/4
LK100-504	.5	3 3/4	1 3/4	5 3/4
LK100-504Y	.5	3 3/4	2 1/4	4 1/2
LK100-504Z	.5	3 3/4	3 3/16	3 3/4
LK100-105	1.0	3 3/4	2 1/4	7 1/4
LK100-105Y	1.0	3 3/4	3 3/16	5 1/4
LK100-105Z	1.0	4 9/16	3 3/4	4 1/2
LK100-205	2	4 9/16	3 3/4	6 3/4
LK100-405Y	4	4 9/16	3 3/4	11
LK100-605Y	6	6	4 5/8	10 1/2
LK100-805Y	8	7 5/16	5 9/16	9 1/4
LK100-106Y	10	7 5/16	5 9/16	11

12.5 KVDC

PART NUMBER	CAP. MFD.	A	B	C
LK125-503	.05	3 3/4	1 3/4	3
LK125-104	.1	3 3/4	1 3/4	3 5/8
LK125-254	.25	3 3/4	1 3/4	5 7/8
LK125-504	.5	3 3/4	3 3/16	5 5/8
LK125-504Y	.5	4 9/16	3 3/4	4 3/8
LK125-105	1.0	4 9/16	3 3/4	6 5/8
LK125-205	2	4 9/16	3 3/4	11
LK125-205Z	2	6	4 1/8	7 3/4
LK125-405Y	4	7 5/16	5 9/16	9 1/2
LK125-605	6	13 1/2	4 1/8	11
LK125-805Y	8	13 1/2	5 1/8	11 7/8
LK125-106	10	13 1/2	5 1/8	13 3/4

15 KVDC

PART NUMBER	CAP. MFD.	A	B	C
LK150-104	.1	3 3/4	1 3/4	3 3/4
LK150-254	.25	3 3/4	1 3/4	7
LK150-254Y	.25	3 3/4	2 1/4	5
LK150-504	.5	3 3/4	3 3/16	6 1/2
LK150-504Y	.5	4 9/16	3 3/4	5
LK150-105	1.0	4 9/16	3 3/4	8 1/2
LK150-205Y	2	6	4 5/8	9 1/4
LK150-405Y	4	7 5/16	5 9/16	12

20 KVDC

PART NUMBER	CAP. MFD.	A	B	C
LK200-104	.1	3 3/4	2 1/4	4 3/4
LK200-254	.25	3 3/4	3 3/16	6
LK200-254Y	.25	4 9/16	3 3/4	4 3/4
LK200-504	.5	4 9/16	3 3/4	7 1/2
LK200-105	1.0	8	4	9 1/4
LK200-205	2	13 1/2	4 1/8	9 1/4

25 KVDC

PART NUMBER	CAP. MFD.	A	B	C
LK250-503	.05	3 3/4	3 3/16	4
LK250-104	.1	3 3/4	3 3/16	4 3/4
LK200-254	.25	4 9/16	3 3/4	6 1/2
LK250-504	.5	4 9/16	3 3/4	11 1/2
LK250-504Y	.5	8	4	9 1/4
LK250-105	1.0	13 1/2	4 1/8	9 1/4

30 KVDC

PART NUMBER	CAP. MFD.	A	B	C
LK300-503	.05	3 3/4	3 3/16	5 1/2
LK300-104	.1	3 3/4	3 3/16	8 3/4
LK300-254Y	.25	4 9/16	3 3/4	8 3/4
LK300-504Z	.5	6	4 5/8	9 1/4
LK300-105Y	1.0	13 1/2	4 1/8	11 1/2

★ DUPONT POLYESTER FILM

The above is a partial listing. Additional capacitance and voltage values are available. Send for complete listing.

Plastic Capacitors, Inc.

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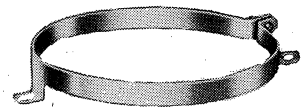
SANGAMO ELECTRIC COMPANY

capacitors

SANGAMO ELECTRONIC COMPONENTS

Type DCM Computer Grade FILTER AND ENERGY STORAGE ELECTROLYTIC CAPACITOR



Type DCM Mounting Bracket	Capacitor Diameter (Inches)	Net Price
	1-7/16	$0.24
	1-13/16	0.33
	2-1/16	0.36
	2-9/16	0.48
	3-1/16	0.60

Note: 1-7/16" bracket available with 2 feet only. Two or 3 feet are available in other sizes.

The SANGAMO Type DCM is a high quality, long life, electrolytic capacitor, specially designed for use as an energy storage or filter capacitor at 65°C. The Type DCM is enclosed in an aluminum can and is normally furnished with a clear plastic insulating sleeve. Aluminum terminals, which are permanently molded into the top, include #10-32 machine screws. A pressure-sensivent is provided as a safety mechanism in each top. A footed, wrap-around mounting bracket is available at extra cost. ***For more complete information write for Bulletin 2231.***

Catalog Number	Cap. (Mfd)	Rated Volts d-c	Case Sizes * Diameter	Case Sizes * Length	Term. * Ctr. to Ctr.	Net Price 1-24†
539-2619-01	33,000	5	2-1/16	4-1/2	.875	$ 7.62
539-2621-01	125,000	5	3-1/16	6	1.250	16.71
539-2530-01	3,750	10	1-7/16	2-1/2	.500	3.36
539-2531-01	7,000	10	1-7/16	3-1/2	.500	4.20
539-2622-01	10,000	10	1-7/16	4-1/2	.500	5.10
539-2736-01	15,000	10	1-13/16	4-1/2	.750	5.73
539-2623-01	20,000	10	2-1/16	4-1/2	.875	8.07
539-2624-01	35,000	10	2-1/16	6	.875	10.92
539-2625-01	40,000	10	2-9/16	4-1/2	1.125	12.12
539-2626-01	60,000	10	3-1/16	4-1/2	1.250	15.39
539-2627-01	90,000	10	3-1/16	6	1.250	19.77
539-2532-01	2,500	15	1-7/16	2-1/2	.500	2.94
539-2533-01	5,000	15	1-7/16	3-1/2	.500	4.17
539-2628-01	6,000	15	1-7/16	4-1/2	.500	4.23
539-2534-01	8,000	15	1-7/16	4-1/2	.500	4.98
539-2737-01	10,000	15	1-13/16	4-1/2	.750	5.34
539-2738-01	14,000	15	1-13/16	4-1/2	.750	6.94
539-2629-01	18,000	15	2-1/16	4-1/2	.875	8.49
539-2630-01	25,000	15	2-1/16	6	.875	10.95
539-2631-01	33,000	15	2-9/16	4-1/2	1.125	11.28
539-1246-02	35,000	15	3-1/16	4-1/2	1.250	11.34
539-2632-01	40,000	15	3-1/16	4-1/2	1.250	12.48
539-2598-01	45,000	15	3-1/16	4-1/2	1.250	13.77
539-2673-01	50,000	15	3-1/16	6	1.250	15.12
539-2633-01	60,000	15	3-1/16	6	1.250	17.67
539-2535-01	2,250	20	1-7/16	2-1/2	.500	2.97
539-2536-01	4,500	20	1-7/16	3-1/2	.500	4.32
539-2537-01	6,500	20	1-7/16	4-1/2	.500	4.77
539-2538-01	10,000	20	1-13/16	4-1/2	.750	5.85
539-2539-01	14,750	20	2-1/16	4-1/2	.875	8.04
539-2540-01	22,000	20	2-1/16	6	.875	10.56
539-2541-01	25,000	20	2-9/16	4-1/2	1.125	11.10
539-2542-01	35,000	20	3-1/16	4-1/2	1.250	13.50
539-2543-01	50,000	20	3-1/16	6	1.250	16.92
539-2544-01	1,500	25	1-7/16	2-1/2	.500	2.79
539-2545-01	3,000	25	1-7/16	3-1/2	.500	3.69
539-2634-01	5,000	25	1-7/16	4-1/2	.500	4.74
539-2739-01	8,000	25	1-13/16	4-1/2	.750	6.12
539-2635-01	10,000	25	2-1/16	4-1/2	.875	7.26
539-2636-01	15,000	25	2-1/16	6	.875	10.20
539-2637-01	20,000	25	2-9/16	4-1/2	1.125	10.59
539-2638-01	25,000	25	3-1/16	4-1/2	1.250	11.22
539-2639-01	40,000	25	3-1/16	6	1.250	17.55
539-2640-01	1,500	35	1-7/16	3-1/2	.500	3.03
539-2547-01	2,500	35	1-7/16	3-1/2	.500	3.60
539-2641-01	4,000	35	1-7/16	4-1/2	.500	4.50
539-2740-01	5,000	35	1-13/16	4-1/2	.750	5.31
539-2548-01	7,000	35	1-13/16	4-1/2	.750	6.69
539-2642-01	8,000	35	2-1/16	4-1/2	.875	6.78
539-2549-01	9,000	35	2-1/16	4-1/2	.875	7.71
539-2643-01	10,000	35	2-1/16	6	.875	8.31
539-2550-01	13,500	35	2-1/16	6	.875	10.53
539-2644-01	15,000	35	2-9/16	4-1/2	1.125	11.07
539-2645-01	20,000	35	3-1/16	4-1/2	1.250	12.12
539-2646-01	30,000	35	3-1/16	6	1.250	13.92
539-2551-01	750	50	1-7/16	2-1/2	.500	2.88
539-1615-03	1,000	50	1-7/16	3-1/2	.500	3.24
539-2552-01	1,500	50	1-7/16	3-1/2	.500	3.69
539-1463-03	2,000	50	1-7/16	4-1/2	.500	3.81
539-2647-01	2,500	50	1-7/16	4-1/2	.500	4.08
539-2741-01	4,000	50	1-13/16	4-1/2	.750	5.49
539-2648-01	5,000	50	2-1/16	4-1/2	.875	7.11
539-2649-01	8,000	50	2-1/16	6	.875	8.79
539-2650-01	10,000	50	2-9/16	4-1/2	1.125	11.46
539-2651-01	15,000	50	3-1/16	4-1/2	1.250	13.65
539-2652-01	20,000	50	3-1/16	6	1.250	16.71

Catalog Number	Cap. (Mfd)	Rated Volts d-c	Case Sizes * Diameter	Case Sizes * Length	Term. * Ctr. to Ctr.	Net Price 1-24†
539-2553-01	450	75	1-7/16	2-1/2	.500	$ 2.85
539-2554-01	900	75	1-7/16	3-1/2	.500	3.78
539-2653-01	1,000	75	1-7/16	4-1/2	.500	4.02
539-2555-01	1,350	75	1-7/16	4-1/2	.500	4.29
539-2654-01	3,000	75	2-1/16	4-1/2	.875	6.27
539-2656-01	5,000	75	2-9/16	4-1/2	1.125	10.23
539-2557-01	7,750	75	3-1/16	4-1/2	1.250	12.84
539-2657-01	10,000	75	3-1/16	6	1.250	16.20
539-2558-01	350	100	1-7/16	2-1/2	.500	3.00
539-2559-01	500	100	1-7/16	3-1/2	.500	3.18
539-2658-01	1,000	100	1-7/16	4-1/2	.500	4.41
539-2742-01	1,500	100	1-13/16	4-1/2	.750	4.86
539-2597-01	3,000	100	2-1/16	6	.875	9.42
539-2660-01	4,000	100	2-9/16	4-1/2	1.125	9.96
539-2661-01	5,000	100	3-1/16	4-1/2	1.250	10.71
539-2662-01	8,500	100	3-1/16	6	1.250	16.35
539-2560-01	250	150	1-7/16	2-1/2	.500	2.64
539-2663-01	500	150	1-7/16	3-1/2	.500	3.84
539-2664-01	700	150	1-7/16	4-1/2	.500	4.32
539-2561-01	750	150	1-7/16	4-1/2	.500	4.41
539-2743-01	1,000	150	1-13/16	4-1/2	.750	4.83
539-2744-01	1,250	150	1-13/16	4-1/2	.750	5.22
539-2562-01	1,450	150	1-13/16	4-1/2	.750	6.12
539-2861-01	1,850	150	2-1/16	4-1/2	.875	7.71
539-2665-01	2,000	150	2-1/16	6	.875	8.37
539-2666-01	2,500	150	2-9/16	4-1/2	1.125	9.57
539-2564-01	3,000	150	2-9/16	4-1/2	1.125	10.44
539-2667-01	4,000	150	3-1/16	4-1/2	1.250	12.63
539-2565-01	4,500	150	3-1/16	4-1/2	1.250	13.29
539-2668-01	6,000	150	3-1/16	6	1.250	15.18
539-2566-01	200	200	1-7/16	2-1/2	.500	3.12
539-2669-01	500	200	1-7/16	4-1/2	.500	4.17
539-2745-01	750	200	1-13/16	4-1/2	.750	5.37
539-2670-01	1,500	200	2-1/16	6	.875	7.65
539-2671-01	2,000	200	2-9/16	4-1/2	1.125	9.18
539-2672-01	2,500	200	3-1/16	4-1/2	1.250	10.80
539-2570-01	4,500	200	3-1/16	6	1.250	14.13
539-2746-01	500	250	1-13/16	4-1/2	.750	4.50
539-2575-01	1,000	250	2-1/16	4-1/2	.875	9.81
539-2874-01	1,500	250	2-9/16	4-1/2	1.125	10.83
539-2675-01	275	300	1-7/16	4-1/2	.500	4.50
539-2747-01	450	300	1-13/16	4-1/2	.750	5.10
539-2676-01	1,000	300	2-9/16	4-1/2	1.125	11.22
539-2677-01	1,500	300	3-1/16	4-1/2	1.250	17.73
539-2584-01	150	350	1-7/16	3-1/2	.500	4.08
539-2748-01	350	350	1-13/16	4-1/2	.750	5.49
539-2678-01	1,000	350	3-1/16	4-1/2	1.250	11.73
539-2590-01	50	400	1-7/16	2-1/2	.500	3.00
539-2595-01	50	450	1-7/16	2-1/2	.500	3.60
539-2682-01	100	450	1-7/16	3-1/2	.500	.50
539-2596-01	150	450	1-7/16	4-1/2	.500	5.04
539-2749-01	250	450	1-13/16	4-1/2	.750	5.94
539-2683-01	300	450	2-1/16	4-1/2	.875	6.33
539-2684-01	500	450	2-1/16	6	.875	8.04
539-2685-01	600	450	2-9/16	4-1/2	1.125	9.90
539-2686-01	800	450	3-1/16	4-1/2	1.250	11.46
539-2687-01	850	450	3-1/16	4-1/2	1.250	12.24

*All dimensions are in inches.
†Prices for larger quantities are available on request.

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SANGAMO ELECTRIC COMPANY

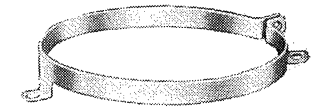
capacitors

SANGAMO ELECTRONIC COMPONENTS

Type 500 Computer Electrolytic

FOR HIGH RIPPLE AND HIGH TEMPERATURE APPLICATIONS

The Sangamo Type 500 capacitor represents the optimum design in electrolytic capacitors for storage and filter requirements in high reliability circuits requiring 85°C operation. An exceptional anode surface gain and better production control have been achieved in perfecting the Type 500. These advanced techniques, plus the use of the best electrolytes, result in capacitors having lower ESR which may be operated at higher ripple currents and in case sizes smaller than conventional capacitors. All units are supplied with screw terminals. Mounting brackets are furnished at extra cost. ***For more complete information write for Bulletin 2236.***



Type	Capacitor Diameter	Net Price
500 Mounting Bracket	1-3/8"	$0.24
	2"	0.36
	2-1/2"	0.48
	3"	0.60

Note: 1-3/8" bracket available with 2 feet only. Other sizes are available with 2 or 3 feet. Specify accordingly.

Catalog Number	Cap. (Mfd)	Rated Volts d-c	Case Sizes* Diameter	Case Sizes* Length	Term * Ctr. to Ctr.	Net Price 1-24†
500-1900-01	14000	3	1-3/8	2-1/8	.500	$ .94
500-1901-01	25000	3	1-3/8	3-1/8	.500	1.21
500-1902-01	35000	3	1-3/8	4-1/8	.500	1.44
500-1903-01	80000	3	2	4-1/8	.875	2.36
500-1904-01	120000	3	2	5-5/8	.875	3.11
500-1905-01	145000	3	2-1/2	4-1/8	1.125	3.62
500-1906-01	200000	3	3	4-1/8	1.250	4.58
500-1907-01	300000	3	3	5-5/8	1.250	6.02
500-1908-01	500000	3	3	8-5/8	1.250	8.73
500-1909-01	11000	5	1-3/8	2-1/8	.500	1.00
500-1910-01	20000	5	1-3/8	3-1/8	.500	1.21
500-1911-01	29000	5	1-3/8	4-1/8	.500	1.44
500-1912-01	67000	5	2	4-1/8	.875	2.40
500-1913-01	95000	5	2	5-5/8	.875	3.11
500-1914-01	120000	5	2-1/2	4-1/8	1.125	3.65
500-1915-01	170000	5	3	4-1/8	1.250	4.69
500-1916-01	250000	5	3	5-5/8	1.250	6.08
500-1917-01	400000	5	3	8-5/8	1.250	8.75
500-1918-01	8000	10	1-3/8	2-1/8	.500	.98
500-1919-01	14000	10	1-3/8	3-1/8	.500	1.17
500-1920-01	20000	10	1-3/8	4-1/8	.500	1.38
500-1921-01	47000	10	2	4-1/8	.875	2.29
500-1922-01	70000	10	2	5-5/8	.875	3.10
500-1923-01	85000	10	2-1/2	4-1/8	1.125	3.63
500-1924-01	120000	10	3	4-1/8	1.250	4.61
500-1925-01	180000	10	3	5-5/8	1.250	6.02
500-1926-01	280000	10	3	8-5/8	1.250	8.42
500-1927-01	6500	15	1-3/8	2-1/8	.500	1.00
500-1928-01	11000	15	1-3/8	3-1/8	.500	1.20
500-1929-01	16000	15	1-3/8	4-1/8	.500	1.45
500-1930-01	37000	15	2	4-1/8	.875	2.38
500-1931-01	55000	15	2	5-5/8	.875	3.11
500-1932-01	65000	15	2-1/2	4-1/8	1.125	3.50
500-1933-01	95000	15	3	4-1/8	1.250	4.49
500-1934-01	140000	15	3	5-5/8	1.250	5.97
500-1935-01	225000	15	3	8-5/8	1.250	8.79
500-1936-01	4400	20	1-3/8	2-1/8	.500	1.00
500-1937-01	8000	20	1-3/8	3-1/8	.500	1.21
500-1938-01	11000	20	1-3/8	4-1/8	.500	1.44
500-1939-01	26000	20	2	4-1/8	.875	2.38
500-1940-01	38000	20	2	5-5/8	.875	3.11
500-1941-01	46000	20	2-1/2	4-1/8	1.125	3.65
500-1942-01	65000	20	3	4-1/8	1.250	4.69
500-1943-01	100000	20	3	5-5/8	1.250	6.08
500-1944-01	160000	20	3	8-5/8	1.250	8.87
500-1945-01	3600	25	1-3/8	2-1/8	.500	.97
500-1946-01	6500	25	1-3/8	3-1/8	.500	1.18
500-1947-01	9500	25	1-3/8	4-1/8	.500	1.40
500-1948-01	22000	25	2	4-1/8	.875	2.38
500-1949-01	30000	25	2	5-5/8	.875	2.45
500-1950-01	37000	25	2-1/2	4-1/8	1.125	3.39
500-1951-01	55000	25	3	4-1/8	1.250	4.70
500-1952-01	80000	25	3	5-5/8	1.250	5.93
500-1953-01	130000	25	3	8-5/8	1.250	8.28
500-1954-01	2500	35	1-3/8	2-1/8	.500	1.00
500-1955-01	4500	35	1-3/8	3-1/8	.500	1.21
500-1956-01	6500	35	1-3/8	4-1/8	.500	1.45
500-1957-01	14000	35	2	4-1/8	.875	2.08
500-1958-01	20000	35	2	5-5/8	.875	3.02
500-1959-01	25000	35	2-1/2	4-1/8	1.125	3.58
500-1960-01	35000	35	3	4-1/8	1.250	4.58
500-1961-01	55000	35	3	5-5/8	1.250	6.02
500-1962-01	85000	35	3	8-5/8	1.250	8.45
500-1963-01	1500	50	1-3/8	2-1/8	.500	.96
500-1964-01	2800	50	1-3/8	3-1/8	.500	1.16
500-1965-01	4200	50	1-3/8	4-1/8	.500	1.37
500-1966-01	9400	50	2	4-1/8	.875	2.20
500-1967-01	13000	50	2	5-5/8	.875	2.79
500-1968-01	16000	50	2-1/2	4-1/8	1.125	3.28
500-1969-01	23500	50	3	4-1/8	1.250	4.25
500-1970-01	35000	50	3	5-5/8	1.250	5.78
500-1971-01	57000	50	3	8-5/8	1.250	$ 8.70
500-1972-01	1050	75	1-3/8	2-1/8	.500	1.02
500-1973-01	2000	75	1-3/8	3-1/8	.500	1.26
500-1974-01	2800	75	1-3/8	4-1/8	.500	1.41
500-1975-01	6500	75	2	4-1/8	.875	2.31
500-1976-01	9500	75	2	5-5/8	.875	3.14
500-1977-01	11000	75	2-1/2	4-1/8	1.125	3.50
500-1978-01	16000	75	3	4-1/8	1.250	4.49
500-1979-01	24000	75	3	5-5/8	1.250	6.18
500-1980-01	39000	75	3	8-5/8	1.250	9.86
500-1981-01	550	100	1-3/8	2-1/8	.500	.97
500-1982-01	1000	100	1-3/8	3-1/8	.500	1.20
500-1983-01	1500	100	1-3/8	4-1/8	.500	1.40
500-1984-01	3400	100	2	4-1/8	.875	2.29
500-1985-01	5000	100	2	5-5/8	.875	2.98
500-1986-01	6000	100	2-1/2	4-1/8	1.125	3.43
500-1987-01	8500	100	3	4-1/8	1.250	4.57
500-1988-01	12500	100	3	5-5/8	1.250	6.39
500-1989-01	20000	100	3	8-5/8	1.250	9.85
500-1991-01	400	150	1-3/8	2-1/8	.500	.99
500-1992-01	700	150	1-3/8	3-1/8	.500	1.17
500-1993-01	1000	150	1-3/8	4-1/8	.500	1.36
500-1994-01	2300	150	2	4-1/8	.875	2.30
500-1995-01	3500	150	2	5-5/8	.875	3.05
500-1996-01	4000	150	2-1/2	4-1/8	1.125	3.48
500-1997-01	6000	150	3	4-1/8	1.250	4.63
500-1998-01	8500	150	3	5-5/8	1.250	6.12
500-1999-01	13000	150	3	8-5/8	1.250	8.82
500-1089-01	200	200	1-3/8	2-1/8	.500	.96
500-1090-01	400	200	1-3/8	3-1/8	.500	1.17
500-1091-01	575	200	1-3/8	4-1/8	.500	1.31
500-1092-01	1300	200	2	4-1/8	.875	2.04
500-1990-01	1800	200	2	5-5/8	.875	2.38
500-1094-01	2200	200	2-1/2	4-1/8	1.125	2.85
500-1095-01	3250	200	3	4-1/8	1.250	3.70
500-2000-01	4800	200	3	5-5/8	1.250	5.06
500-1097-01	160	250	1-3/8	2-1/8	.500	.92
500-1098-01	300	250	1-3/8	3-1/8	.500	1.12
500-1099-01	430	250	1-3/8	4-1/8	.500	1.26
500-1100-01	1000	250	2	4-1/8	.875	2.05
500-2001-01	1400	250	2	5-5/8	.875	2.42
500-1102-01	1700	250	2-1/2	4-1/8	1.125	2.85
500-1103-01	2500	250	3	4-1/8	1.250	3.77
500-1104-01	110	300	1-3/8	2-1/8	.500	.96
500-1105-01	210	300	1-3/8	3-1/8	.500	1.11
500-1106-01	310	300	1-3/8	4-1/8	.500	1.23
500-1107-01	700	300	2	4-1/8	.875	1.89
500-2002-01	1000	300	2	5-5/8	.875	2.42
500-1109-01	1200	300	2-1/2	4-1/8	1.125	2.83
500-1110-01	1750	300	3	4-1/8	1.250	3.77
500-1111-01	80	350	1-3/8	2-1/8	.500	.97
500-1112-01	150	350	1-3/8	3-1/8	.500	1.12
500-1113-01	220	350	1-3/8	4-1/8	.500	1.23
500-1114-01	500	350	2	4-1/8	.875	1.89
500-2003-01	750	350	2	5-5/8	.875	2.43
500-1116-01	850	350	2-1/2	4-1/8	1.125	2.72
500-1117-01	1250	350	3	4-1/8	1.250	3.66
500-1118-01	60	440	1-3/8	2-1/8	.500	.96
500-1119-01	115	400	1-3/8	3-1/8	.500	1.12
500-1120-01	165	400	1-3/8	4-1/8	.500	1.25
500-1121-01	390	400	2	4-1/8	.875	1.94
500-2004-01	560	400	2	5-5/8	.875	2.42
500-1123-01	650	400	2-1/2	4-1/8	1.125	2.79
500-1124-01	975	400	3	4-1/8	1.250	3.76
500-1125-01	55	450	1-3/8	2-1/8	.500	.97
500-1126-01	100	450	1-3/8	3-1/8	.500	1.11
500-1127-01	150	450	1-3/8	4-1/8	.500	1.29
500-1128-01	330	450	2	4-1/8	.875	1.97
500-2005-01	500	450	2	5-5/8	.875	2.70
500-1130-01	600	450	2-1/2	4-1/8	1.125	3.11
500-1131-01	850	450	3	4-1/8	1.250	3.77

* All dimensions are in inches.
\+ Prices for larger quantities are available on request.

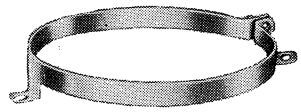
SANGAMO ELECTRIC COMPANY

capacitors

SANGAMO ELECTRONIC COMPONENTS

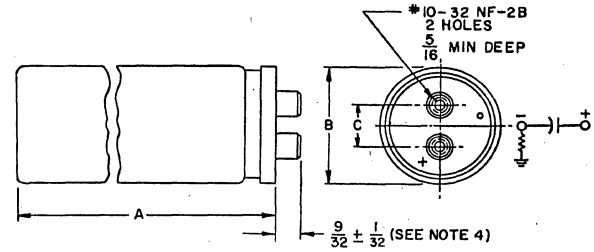
Type CE70 and CE71 MILITARY GRADE CAPACITORS

The Sangamo Types CE70 and CE71 are aluminum electrolytic capacitors designed and manufactured in accordance with Mil-C-62B. They are recommended for operation up to +85°C and are available in voltage ratings from 5 to 450 d-c volts. The Type CE70 is supplied with a plastic insulating sleeve. Commercial equivalents can be supplied which meet or exceed the applicable military requirements. ***FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2236.***



Type	Capacitor Diameter (Inches)	Net Price
CE70 & CE71 Mounting Bracket	1-7/16	$.24
	2-1/16	.36
	2-9/16	.48
	3-1/16	.60

Note: 1-7/16" bracket available with 2 feet only. Other sizes are available with 2 or 3 feet.



1. All dimensions in inches.
2. Capacitors are mounted by means of a wraparound, footed-type bracket.
3. There is an indeterminate resistance between the metal case and the negative terminal.
4. This dimension shall be measured from the base of the container.

Type Designation	Cap. (Mfd)	Rated Volts d-c	Case Sizes* Diam.	Case Sizes* Length	Term.* Ctr. to Ctr.	Net Price 1-24†
CE71C103C	10,000	5	1-7/16	4-1/2	.500	$ 4.98
CE71C153C	15,000	5	2-1/16	4-1/2	.875	6.12
CE71C253C	25,000	5	2-1/16	4-1/2	.875	7.62
CE71C333C	33,000	5	2-9/16	4-1/2	1.125	8.76
CE71C473C	47,000	5	2-9/16	4-1/2	1.125	10.77
CE71C683C	68,000	5	3-1/16	4-1/2	1.250	13.65
CE71C682D	6,800	10	1-7/16	4-1/2	.500	4.77
CE71C103D	10,000	10	2-1/16	4-1/2	.875	5.88
CE71C153D	15,000	10	2-1/16	4-1/2	.875	6.60
CE71C283D	28,000	10	2-9/16	4-1/2	1.125	11.76
CE71C403D	40,000	10	3-1/16	4-1/2	1.250	13.95
CE71C472E	4,700	15	1-7/16	4-1/2	.500	4.77
CE71C562E	5,600	15	1-7/16	4-1/2	.500	4.83
CE71C123E	12,000	15	2-1/16	4-1/2	.875	5.85
CE71C223E	22,000	15	2-9/16	4-1/2	1.125	11.34
CE71C333E	33,000	15	3-1/16	4-1/2	1.250	12.96
CE71C393E	39,000	15	3-1/16	4-1/2	1.250	14.04
CE71C332F	3,300	25	1-7/16	4-1/2	.500	4.26
CE71C472F	4,700	25	2-1/16	4-1/2	.875	5.25
CE71C682F	6,800	25	2-1/16	4-1/2	.875	6.72
CE71C103F	10,000	25	2-1/16	4-1/2	.875	8.34
CE71C153F	15,000	25	2-9/16	4-1/2	1.125	11.73
CE71C223F	22,000	25	3-1/16	4-1/2	1.250	12.48
CE71C152G	1,500	50	1-7/16	4-1/2	.500	4.23
CE71C222G	2,200	50	2-1/16	4-1/2	.875	4.50
CE71C332G	3,300	50	2-1/16	4-1/2	.875	6.12
CE71C472G	4,700	50	2-9/16	4-1/2	1.125	6.78
CE71C562G	5,600	50	2-9/16	4-1/2	1.125	8.88
CE71C682G	6,800	50	2-9/16	4-1/2	1.125	9.90
CE71C103G	10,000	50	3-1/16	4-1/2	1.250	13.17
CE71C681H	680	100	1-7/16	4-1/2	.500	4.08
CE71C102H	1,000	100	1-7/16	4-1/2	.500	5.07
CE71C152H	1,500	100	2-1/16	4-1/2	.875	5.76
CE71C222H	2,200	100	2-9/16	4-1/2	1.125	7.59
CE71C332H	3,300	100	2-9/16	4-1/2	1.125	11.01
CE71C472H	4,700	100	3-1/16	4-1/2	1.250	12.00
CE71C471J	470	150	1-7/16	4-1/2	.500	4.38
CE71C681J	680	150	1-7/16	4-1/2	.500	4.89
CE71C122J	1,200	150	2-1/16	4-1/2	.875	5.94
CE71C202J	2,000	150	2-9/16	4-1/2	1.125	$ 9.63
CE71C332J	3,300	150	3-1/16	4-1/2	1.250	12.63
CE71C351K	350	200	1-7/16	4-1/2	.500	4.23
CE71C471K	470	200	1-7/16	4-1/2	.500	4.74
CE71C681K	680	200	2-1/16	4-1/2	.875	5.85
CE71C102K	1,000	200	2-1/16	4-1/2	.875	8.43
CE71C152K	1,500	200	2-9/16	4-1/2	1.125	8.79
CE71C222K	2,200	200	3-1/16	4-1/2	1.250	11.22
CE71C301M	300	250	1-7/16	4-1/2	.500	4.65
CE71C471M	470	250	2-1/16	4-1/2	.875	5.10
CE71C681M	680	250	2-1/16	4-1/2	.875	7.20
CE71C102M	1,000	250	2-9/16	4-1/2	1.125	11.28
CE71C122M	1,200	250	2-9/16	4-1/2	1.125	11.46
CE71C152M	1,500	250	2-9/16	4-1/2	1.125	12.33
CE71C222M	2,200	250	3-1/16	4-1/2	1.250	15.72
CE71C251N	250	300	1-7/16	4-1/2	.500	5.01
CE71C331N	330	300	2-1/16	4-1/2	.875	5.46
CE71C471N	470	300	2-1/16	4-1/2	.875	5.94
CE71C551N	550	300	2-1/16	4-1/2	.875	6.18
CE71C681N	680	300	2-9/16	4-1/2	1.125	8.52
CE71C102N	1,000	300	2-9/16	4-1/2	1.125	12.90
CE71C152N	1,500	300	3-1/16	4-1/2	1.250	19.38
CE71C201P	200	350	1-7/16	4-1/2	.500	5.13
CE71C331P	330	350	2-1/16	4-1/2	.875	6.21
CE71C471P	470	350	2-1/16	4-1/2	.875	8.34
CE71C681P	680	350	2-9/16	4-1/2	1.125	10.23
CE71C751P	750	350	2-9/16	4-1/2	1.125	10.62
CE71C122P	1,200	350	3-1/16	4-1/2	1.250	15.30
CE71C151Q	150	400	1-7/16	4-1/2	.500	5.34
CE71C221Q	220	400	2-1/16	4-1/2	.875	6.06
CE71C331Q	330	400	2-1/16	4-1/2	.875	6.90
CE71C471Q	470	400	2-9/16	4-1/2	1.125	7.89
CE71C601Q	600	400	2-9/16	4-1/2	1.125	10.56
CE71C681Q	680	400	2-9/16	4-1/2	1.125	10.77
CE71C101R	100	450	1-7/16	4-1/2	.500	5.19
CE71C151R	150	450	1-7/16	4-1/2	.500	5.79
CE71C221R	220	450	2-1/16	4-1/2	.875	6.39
CE71C331R	330	450	2-1/16	4-1/2	.875	7.41
CE71C471R	470	450	2-9/16	4-1/2	1.125	8.67

For Type CE70 (CE71 without sleeve), Deduct 3/8" From Length, 1/16" From Diameter and $0.05 From Net Price

* All Dimensions are in Inches.

† Prices for Larger Quantities are Available on Request.

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SANGAMO ELECTRIC COMPANY

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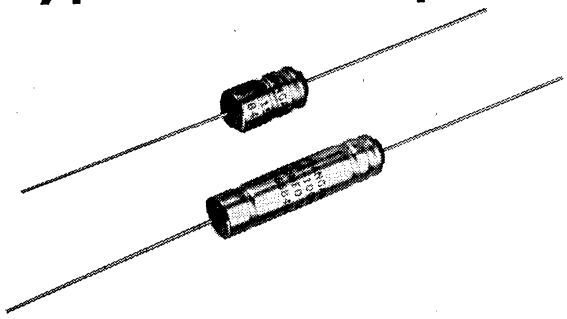
SANGAMO ELECTRONIC COMPONENTS

Type 556 Computer Grade

ALUMINUM ELECTROLYTIC AXIAL LEAD CAPACITOR (105° C)



The Sangamo type 556 is a computer grade axial lead aluminum electrolytic capacitor with an operating temperature range of –40°C to +105°C. Voltage ratings from 3 to 150 VDC and capacitance values from 4 to 560 Mfd. are available in 8 case sizes. Mylar sleeves are provided for improved electrical insulation and mechanical properties. ***FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2238.***

Catalog Number	Cap. (mfd.)	Rated Volts d-c	Case Sizes* Diameter	Case Sizes* Length	Price † 1-24
556DB131WO03B	130	3	3/8	11/16	$.90
556DC181WO03B	180	3	3/8	13/16	.78
556DD251WO03B	250	3	3/8	15/16	.795
556DE311WO03B	310	3	3/8	1-1/8	.795
556DF371WO03B	370	3	3/8	1-1/4	.795
556DG441WO03B	440	3	3/8	1-3/8	.810
556DH501WO03B	500	3	3/8	1-1/2	.825
556DJ561WO03B	560	3	3/8	1-5/8	.840
556DB850WO05B	85	5	3/8	11/16	.90
556DC131WO05B	130	5	3/8	13/16	.78
556DD171WO05B	170	5	3/8	15/16	.795
556DE211WO05B	210	5	3/8	1-1/8	.795
556DF251WO05B	250	5	3/8	1-1/4	.795
556DG301WO05B	300	5	3/8	1-3/8	.810
556DH341WO05B	340	5	3/8	1-1/2	.825
556DJ391WO05B	390	5	3/8	1-5/8	.840
556DB600WO10B	60	10	3/8	11/16	.90
556DC900WO10B	90	10	3/8	13/16	.78
556DD131WO10B	130	10	3/8	15/16	.795
556DE161WO10B	160	10	3/8	1-1/8	.795
556DF191WO10B	190	10	3/8	1-1/4	.795
556DG221WO10B	220	10	3/8	1-3/8	.810
556DH251WO10B	250	10	3/8	1-1/2	.825
556DJ281WO10B	280	10	3/8	1-5/8	.840
556DB500WO15B	50	15	3/8	11/16	.90
556DC750WO15B	75	15	3/8	13/16	.78
556DD101WO15B	100	15	3/8	15/16	.795
556DE131WO15B	130	15	3/8	1-1/8	.795
556DF151WO15B	150	15	3/8	1-1/4	.795
556DG181WO15B	180	15	3/8	1-3/8	.810
556DH201WO15B	200	15	3/8	1-1/2	.825
556DJ231WO15B	230	15	3/8	1-5/8	.840
556DB350WO20B	35	20	3/8	11/16	.90
556DC550WO20B	55	20	3/8	13/16	.78
556DD750WO20B	75	20	3/8	15/16	.795
556DE950WO20B	95	20	3/8	1-1/8	.795
556DF111WO20B	110	20	3/8	1-1/4	.795
556DG131WO20B	130	20	3/8	1-3/8	.810
556DH151WO20B	150	20	3/8	1-1/2	.825
556DJ171WO20B	170	20	3/8	1-5/8	.840
556DB250WO25B	25	25	3/8	11/16	.90
556DC400WO25B	40	25	3/8	13/16	.78
556DD550WO25B	55	25	3/8	15/16	.795
556DE700WO25B	70	25	3/8	1-1/8	.795
556DF850WO25B	85	25	3/8	1-1/4	.795
556DG101WO25B	100	25	3/8	1-3/8	.810
556DH121WO25B	120	25	3/8	1-1/2	.825
556DJ131WO25B	130	25	3/8	1-5/8	.840
556DB230WO30B	23	30	3/8	11/16	.90
556DC350WO30B	35	30	3/8	13/16	.78
556DD450WO30B	45	30	3/8	15/16	.795
556DE550WO30B	55	30	3/8	1-1/8	.795
556DF700WO30B	70	30	3/8	1-1/4	$.795
556DG800WO30B	80	30	3/8	1-3/8	.810
556DH950WO30B	95	30	3/8	1-1/2	.825
556DJ111WO30B	110	30	3/8	1-5/8	.840
556DB200WO40B	20	40	3/8	11/16	.90
556DC300WO40B	30	40	3/8	13/16	.78
556DD400WO40B	40	40	3/8	15/16	.795
556DE500WO40B	50	40	3/8	1-1/8	.795
556DF600WO40B	60	40	3/8	1-1/4	.795
556DG700WO40B	70	40	3/8	1-3/8	.810
556DH800WO40B	80	40	3/8	1-1/2	.825
556DJ900WO40B	90	40	3/8	1-5/8	.840
556DB150WO50B	15	50	3/8	11/16	.90
556DC200WO50B	20	50	3/8	13/16	.78
556DD300WO50B	30	50	3/8	15/16	.795
556DE350WO50B	35	50	3/8	1-1/8	.795
556DF450WO50B	45	50	3/8	1-1/4	.795
556DG500WO50B	50	50	3/8	1-3/8	.810
556DH600WO50B	60	50	3/8	1-1/2	.825
556DJ650WO50B	65	50	3/8	1-5/8	.840
556DB100WO60B	10	60	3/8	11/16	.90
556DC150WO60B	15	60	3/8	13/16	.78
556DD200WO60B	20	60	3/8	15/16	.795
556DE300WO60B	30	60	3/8	1-1/8	.795
556DF350WO60B	35	60	3/8	1-1/4	.795
556DG400WO60B	40	60	3/8	1-3/8	.810
556DH450WO60B	45	60	3/8	1-1/2	.825
556DJ500WO60B	50	60	3/8	1-5/8	.840
556DB6R5UO75B	6.5	75	3/8	11/16	.90
556DC100UO75B	10	75	3/8	13/16	.78
556DD130UO75B	13	75	3/8	15/16	.795
556DE170UO75B	17	75	3/8	1-1/8	.795
556DF200UO75B	20	75	3/8	1-1/4	.795
556DG240UO75B	24	75	3/8	1-3/8	.810
556DH270UO75B	27	75	3/8	1-1/2	.820
556DJ300UO75B	30	75	3/8	1-5/8	.840
556DB050U100B	5	100	3/8	11/16	.90
556DC080U100B	8	100	3/8	13/16	.78
556DD110U100B	11	100	3/8	15/16	.795
556DE130U100B	13	100	3/8	1-1/8	.795
556DF160U100B	16	100	3/8	1-1/4	.795
556DG190U100B	19	100	3/8	1-3/8	.810
556DH200U100B	20	100	3/8	1-1/2	.825
556DJ240U100B	24	100	3/8	1-5/8	.840
556DB040U150B	4	150	3/8	11/16	.90
556DC060U150B	6	150	3/8	13/16	.78
556DD080U150B	8	150	3/8	15/16	.795
556DE100U150B	10	150	3/8	1-1/8	.795
556DF120U150B	12	150	3/8	1-1/4	.795
556DG150U150B	15	150	3/8	1-3/8	.810
556DH170U150B	17	150	3/8	1-1/2	.825
556DJ190U150B	19	150	3/8	1-5/8	.840

* All dimensions are in inches. † Prices for larger quantities are available on request.

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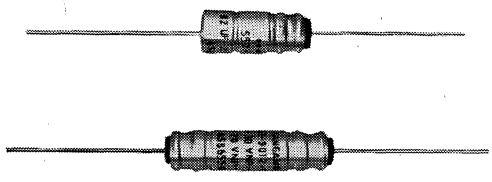
ELECTRONIC COMPONENTS

Type 557 Aluminum Electrolytic

−55°C TO + 125°C AXIAL LEAD CAPACITOR



The axial lead type 557 has extremely stable characteristics at much wider temperature ranges. The type 557, designed for application in high reliability circuits, meets the MIL - C - 39018 military specifications at temperatures from −55°C to +125°C. Standard ratings are available for both polar and non-polar applications. Mylar sleeves are provided for improved electrical insulation and mechanical properties. ***FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2240.***

Catalog Number	Cap. mfd.	d-c Volts +85°C rated	d-c Volts +85°C surge	d-c Volts +125°C rated	d-c Volts +125°C surge	Case Sizes* D	Case Sizes* L	Price 1-9†
557DC151U007B	150	7	10	5	7	3/8	13/16	$2.92
557DD221U007B	220	7	10	5	7	3/8	15/16	3.08
557DE281U007B	280	7	10	5	7	3/8	1-1/8	3.96
557DG421U007B	420	7	10	5	7	3/8	1-3/8	5.92
557DJ561U007B	560	7	10	5	7	3/8	1-5/8	6.04
557DL851U007B	850	7	10	5	7	3/8	2-3/16	6.44
557DX102U007B	1000	7	10	5	7	3/8	2-11/16	9.76
557DC101U015B	100	15	20	10	15	3/8	13/16	2.92
557DD151U015B	150	15	20	10	15	3/8	15/16	3.08
557DE191U015B	190	15	20	10	15	3/8	1-1/8	3.96
557DG291U015B	290	15	20	10	15	3/8	1-3/8	5.92
557DJ391U015B	390	15	20	10	15	3/8	1-5/8	6.04
557DL581U015B	580	15	20	10	15	3/8	2-3/16	6.44
557DX681U015B	680	15	20	10	15	3/8	2-11/16	9.76
557DC800U020B	80	20	25	15	20	3/8	13/16	2.92
557DD101U020B	100	20	25	15	20	3/8	15/16	3.08
557DE141U020B	140	20	25	15	20	3/8	1-1/8	3.96
557DG221U020B	220	20	25	15	20	3/8	1-3/8	5.92
557DJ291U020B	290	20	25	15	20	3/8	1-5/8	6.04
557DL441U020B	440	20	25	15	20	3/8	2-3/16	6.44
557DX601U020B	600	20	25	15	20	3/8	2-11/16	9.76
557DC700U025B	70	25	30	20	25	3/8	13/16	2.92
557DD800U025B	80	25	30	20	25	3/8	15/16	3.08
557DE101U025B	100	25	30	20	25	3/8	1-1/8	3.96
557DG151U025B	150	25	30	20	25	3/8	1-3/8	5.92
557DJ211U025B	210	25	30	20	25	3/8	1-5/8	6.04
557DL311U025B	310	25	30	20	25	3/8	2-3/16	6.44
557DX401U025B	400	25	30	20	25	3/8	2-11/16	9.76
557DC400U040B	40	40	50	30	40	3/8	13/16	2.92
557DD500U040B	50	40	50	30	40	3/8	15/16	3.08
557DE700U040B	70	40	50	30	40	3/8	1-1/8	3.96
557DG101U040B	100	40	50	30	40	3/8	1-3/8	5.92
557DJ141U040B	140	40	50	30	40	3/8	1-5/8	6.04
557DL211U040B	210	40	50	30	40	3/8	2-3/16	6.44
557DX251U040B	250	40	50	30	40	3/8	2-11/16	9.76
557DC250U050B	25	50	60	40	50	3/8	13/16	2.92
557DD350U050B	35	50	60	40	50	3/8	15/16	3.08
557DE500U050B	50	50	60	40	50	3/8	1-1/8	3.96
557DG750U050B	75	50	60	40	50	3/8	1-3/8	5.92
557DJ101U050B	100	50	60	40	50	3/8	1-5/8	6.04
557DL151U050B	150	50	60	40	50	3/8	2-3/16	6.44
557DX181U050B	180	50	60	40	50	3/8	2-11/16	9.76
557DC200U060B	20	60	70	50	60	3/8	13/16	2.92
557DD250U060B	25	60	70	50	60	3/8	15/16	3.08
557DE400U060B	40	60	70	50	60	3/8	1-1/8	3.96
557DG600U060B	60	60	70	50	60	3/8	1-3/8	5.92
557DJ800U060B	80	60	70	50	60	3/8	1-5/8	6.04
557DL121U060B	120	60	70	50	60	3/8	2-3/16	6.44
557DX151U060B	150	60	70	50	60	3/8	2-11/16	9.76
557DC150U070B	15	70	80	60	70	3/8	13/16	2.92
557DD200U070B	20	70	80	60	70	3/8	15/16	3.08
557DE300U070B	30	70	80	60	70	3/8	1-1/8	3.96
557DG500U070B	50	70	80	60	70	3/8	1-3/8	5.92
557DJ650U070B	65	70	80	60	70	3/8	1-5/8	6.04
557DL101U070B	100	70	80	60	70	3/8	2-3/16	6.44
557DX121U070B	120	70	80	60	70	3/8	2-11/16	9.76
557DC100T100B	10	100	125	75	100	3/8	13/16	2.92
557DD150T100B	15	100	125	75	100	3/8	15/16	3.08
557DE170T100B	17	100	125	75	100	3/8	1-1/8	3.96
557DG250T100B	25	100	125	75	100	3/8	1-3/8	5.92
557DJ350T100B	35	100	125	75	100	3/8	1-5/8	6.04
557DL500T100B	50	100	125	75	100	3/8	2-3/16	6.44
557DX680T100B	68	100	125	75	100	3/8	2-11/16	9.76
557DC080T150B	8	150	175	100	125	3/8	13/16	2.92
557DD100T150B	10	150	175	100	125	3/8	15/16	3.08
557DE120T150B	12	150	175	100	125	3/8	1-1/8	3.96
557DG180T150B	18	150	175	100	125	3/8	1-3/8	5.92
557DJ250T150B	25	150	175	100	125	3/8	1-5/8	6.04
557DL400T150B	40	150	175	100	125	3/8	2-3/16	6.44
557DX560T150B	56	150	175	100	125	3/8	2-11/16	9.76
557DC040T200B	4	200	225	150	175	3/8	13/16	2.92
557DD060T200B	6	200	225	150	175	3/8	15/16	3.08
557DE080T200B	8	200	225	150	175	3/8	1-1/8	3.96
557DG130T200B	13	200	225	150	175	3/8	1-3/8	5.92
557DJ170T200B	17	200	225	150	175	3/8	1-5/8	6.04
557DL260T200B	26	200	225	150	175	3/8	2-3/16	6.44
557DX390T200B	39	200	225	150	175	3/8	2-11/16	9.76

*All dimensions are in inches.
†Prices for larger quantities are available on request.

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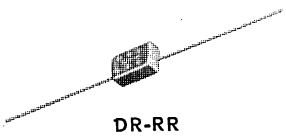
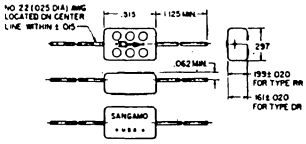
SANGAMO ELECTRONIC COMPONENTS

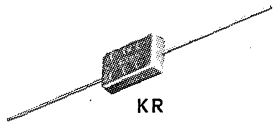
Type DR,RR and KR

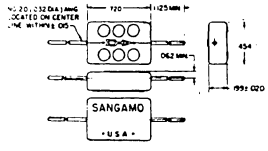
SILVER MICA, 500W.V.D.C. (MILITARY CM15 and CM20)

Type DR, RR and KR capacitors are molded in red Humiditite and are normally supplied to ±5% tolerance, "C" characteristic up to 20 mmf. Characteristic "E" is supplied on units above 20 mmf. unless specified otherwise. ***FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2320.***





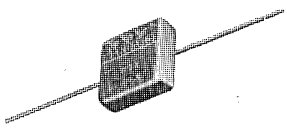


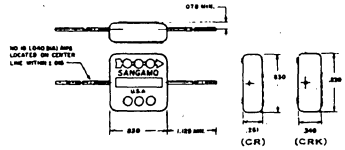


Type CR and CRK

SILVER MICA (MILITARY CM30 and CM35)

Types CR and CRK silvered mica capacitors are molded in red Humiditite and are normally supplied to ±5% capacitive tolerance and characteristic "E". Characteristics C, D and F are also available on request. When the thicker case size is required in higher capacitive values, the type designation changes to CRK (example: CRK5E362). ***FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2320.***



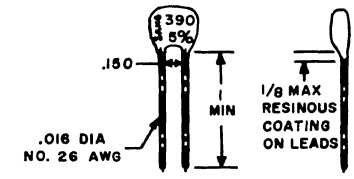


Type D10, D15, D19, D20, D30, and D42

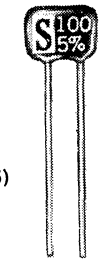
DIPPED SILVER MICA CAPACITORS

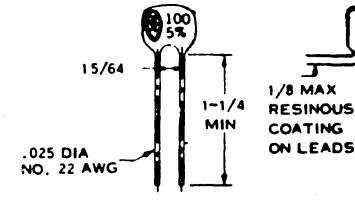
Sangamo Type D dipped Mica capacitors are available in six case sizes: D10, D25, D19, D20, D30 and D42. With the exception of the Type D20 they correspond to the MIL-C-5D sizes CM04, CM05, CM06, CM07 and CM08 respectively. These units utilize silvered mica sections encased in several coatings of electrical grade phenolic and epoxy resins. All commercial units meet or exceed the applicable requirements of MIL-C-5 and are normally furnished to a capacitive tolerance of ±5% and characteristic F. ***FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2323.***

TYPE D10
(MILITARY CM04)

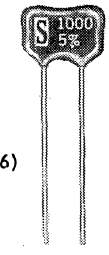


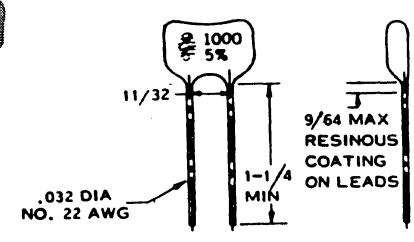
TYPE D15
(MILITARY CM05)



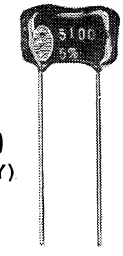


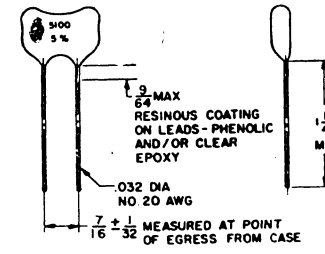
TYPE D19
(MILITARY CM06)



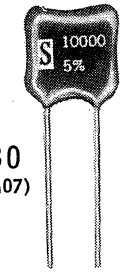


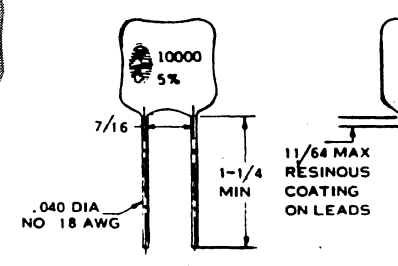
TYPE D20
(NON MILITARY)



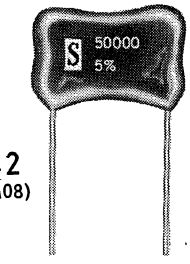


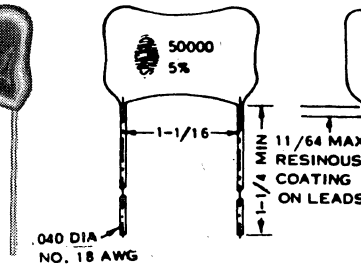
TYPE D30
(MILITARY CM07)





TYPE D42
(MILITARY CM08)





SANGAMO ELECTRIC COMPANY

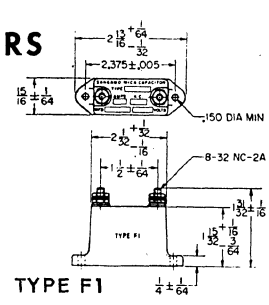
capacitors

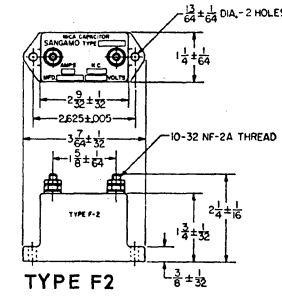
SANGAMO ELECTRONIC COMPONENTS

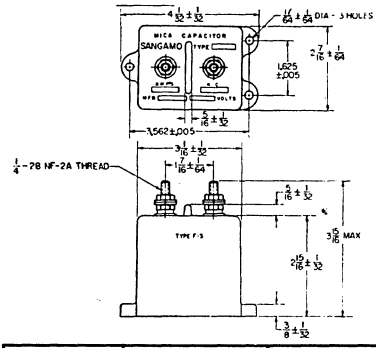
Types F1-F2-F3 MICA CAPACITORS

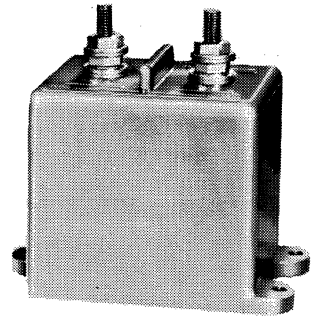
The Types F1, F2 and F3 are the smallest of the Sangamo line of transmitting capacitors. They are encapsulated in low loss molded phenolic cases and possess a wide range of voltage and current ratings. The mica and foil sections are pressure clamped, vacuum impregnated and encapsulated in the case in such a manner as to provide stable characteristics and adequate resistance to moisture. All Type F1 and F2 capacitors meet or exceed the applicable requirements of the MIL-C-5 specification.

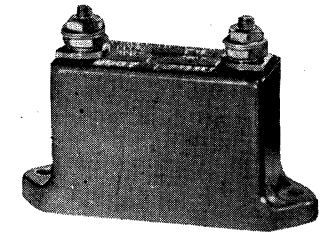
For more complete information write for Bulletin 2322.











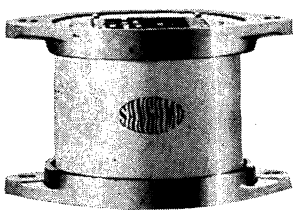
Type F1–F2

Catalog Number	Military Type Designation	Cap. (Mfd)	Peak Volts d-c	Net Price 1-9*
F1-331	CM65B101J	.0001	3000	$ 4.99
F1-332	CM65B201J	.0002	3000	4.99
F1-333	CM65B301J	.0003	3000	4.99
F1-321	CM65B102J	.001	3000	4.99
F1-223	CM65B302J	.003	2000	4.99
F1-111	CM65B103J	.01	1000	4.99
F1-112	CM65B203J	.02	1000	5.67
F1-0201		.1	200	6.00
F2-531	CM70B101J	.0001	5000	7.14
F2-532	CM70B201J	.0002	5000	7.14
F2-533	CM70B301J	.0003	5000	7.14
F2-522	CM70B202J	.002	5000	7.14
F2-211	CM70B103J	.01	2000	7.14
F2-212	CM70B203J	.02	2000	7.54

Catalog Number	Military Type Designation	Cap. (Mfd)	Peak Volts d-c	Net Price 1-9*
F2-0501	CM70B104J	.1	500	$ 8.65
F2-02025		.25	250	11.53
F3-835		.0005	8000	17.44
F3-821		.001	8000	17.04
F3-825		.005	8000	21.38
F3-828		.008	8000	32.50
F3-512		.02	5000	29.50
F3-201		.1	2000	27.25
F3-0605		.5	600	34.50
F3-0410		1.0	400	35.50

*Prices for larger quantities are available on request.
Note: Standard tolerance ±5%, "B" characteristic.
Note: Prices for closer tolerances and other characteristics are available on request.

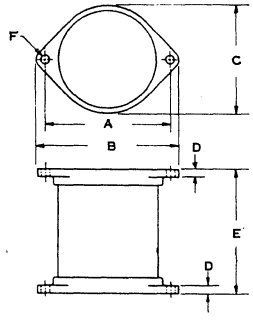
Types G1-G2-G3-G4-G5 *MICA*



Type G ceramic cased capacitors are intended for service where high voltage and R.F. current ratings are required, such as in commercial transmitting or induction heating applications. All possible steps are taken in design and manufacturing operations to insure permanence of quality. Terminal plates are designed to permit any usual connecting or mounting practices. Case sizes are in accordance with Mil-C-5C specification covering type CM75, 80, 85, 90 and 95. ***For more complete information write for Bulletin 2322.***

TYPE G MICA CAPACITOR DIMENSIONS - INCHES

Type	A	B	C	D	E	F
G1	3¼	3-13/16	2-13/16	¼	2½	17/64
G2	4¼	5	3½	¼	3	.272
G3	5¾	6½	5	3/8	4	.377
G4	5¾	6½	5	3/8	5¾	.377
G5	8	9	6¾	½	10	13/32



TYPES G1, G2, G3, G4 and G5

Catalog Number	Military Type Designation	Cap. (Mfd)	Peak Volts d-c	Net Price 1-9*
G1-6315	CM75B151J	.00015	6000	$26.50
G1-633	CM75B301J	.0003	6000	26.50
G1-621	CM75B102J	.001	6000	22.25
G1-624		.004	6000	22.25
G1-511		.01	5000	28.00
G1-312		.02	3000	24.80
G2-1032	CM80B201J	.0002	10,000	25.96
G2-1022	CM80B202J	.002	10,000	27.75
G2-824		.004	8000	27.75
G2-511	CM80B103J	.01	5000	30.88
G2-1511	CM80B104J	.1	1500	30.88
G3-2031	CM85B101J	.0001	20,000	76.00
G3-2035		.0005	20,000	76.88
G3-2021	CM85B102J	.001	20,000	69.75
G3-1522	CM85B202J	.002	15,000	69.75

Catalog Number	Military Type Designation	Cap. (Mfd)	Peak Volts d-c	Net Price 1-9*
G3-1011		.01	10,000	$111.75
G3-201	CM85B104J	.1	2000	81.00
G4-3031	CM90B101J	.0001	30,000	106.25
G4-3035		.0005	30,000	106.25
G4-3021	CM90B102J	.001	30,000	114.00
G4-1525		.005	15,000	126.25
G4-301	CM90B104J	.1	3000	139.38
G5-3521	CM95B101J	.0001	35,000	300.00
G5-3535		.0005	35,000	315.00
G5-3531	CM95B102J	.001	35,000	315.00
G5-30225		.0025	30,000	390.00
G5-1511	CM95B103J	.01	15,000	415.00

*Prices for larger quantities are available on request.
Note: Standard capacitive tolerance is ±5%, "B" characteristic.
Note: Prices for closer tolerance and better characteristics available on request.

Net

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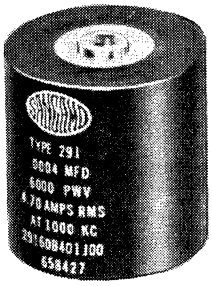
SANGAMO ELECTRONIC COMPONENTS

Types 271-272-273-291-292-293-294 MICA CAPACITORS

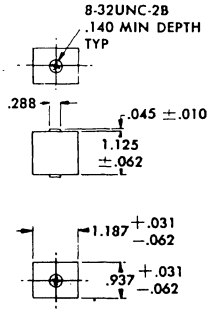


TYPE 291

TYPE 272

Sangamo transmitting cast mica capacitors are supplied in seven basic case sizes. They are encapsulated in a high quality thermo-setting compound which eliminates moisture intrusion and makes them highly shock resistant. These capacitors are designed for frequencies ranging from 100 kilocycles per second to 3 megacycles per second and are ideally suited for high current and high voltage circuits.

In capacitance and current ratings, Sangamo cast mica units are equivalent to MIL-C-5 Types CM65 through CM90 in molded and ceramic cases, but in environmental capability, operating temperature range, physical size, mounting configuration and reliability, they are far superior. ***FOR MORE COMPLETE INFORMATION WRITE FOR BULLETIN 2324.***



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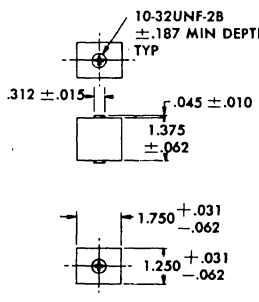

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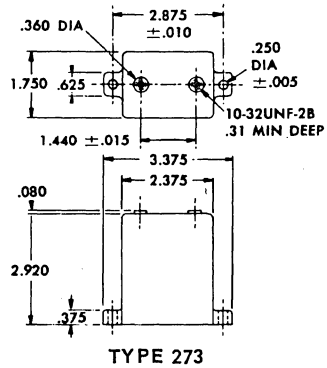

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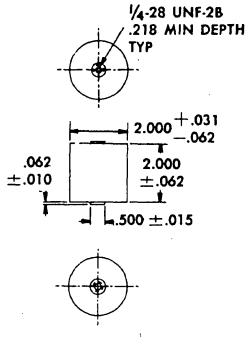

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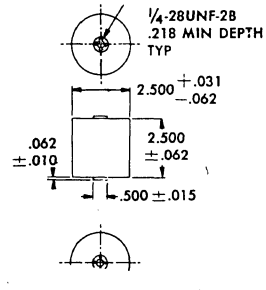

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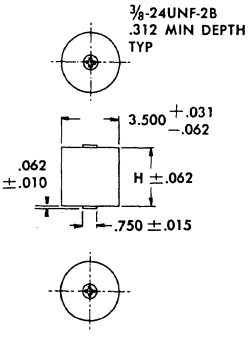

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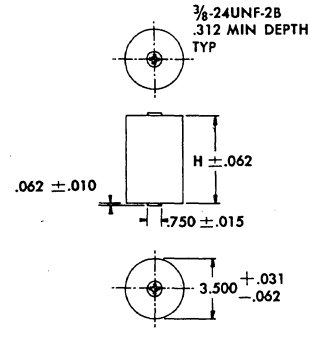

TYPE 294

Catalog Number	Cap. (pf)	Peak Volts (d-c)	Net Price 1-9*
TYPE 271			
27130B101J0	100	3000	$ 4.40
27130B151J0	150	3000	4.40
27130B201J0	200	3000	4.40
27130B501J0	500	3000	4.40
27130B102J0	1000	3000	4.40
27130B202J0	2000	3000	4.40
27120B302J0	3000	2000	4.40
27120B502J0	5000	2000	4.40
27110B103J0	10000	1000	4.40
27102B503J0	50000	250	4.55
27102B104J0	100000	250	4.88
TYPE 272			
27250B101J0	100	5000	$ 6.19
27250B151J0	150	5000	6.19
27250B201J0	200	5000	6.19
27250B501J0	500	5000	6.19
27250B102J0	1000	5000	6.19
27250B202J0	2000	5000	6.19
27230B302J0	3000	3000	6.19
27230B502J0	5000	3000	6.19
27220B103J0	10000	2000	6.19
27215B503J0	50000	1500	6.19
27205B104J0	100000	500	7.90
TYPE 273			
27380B501J0	500	8000	$15.29
27380B102J0	1000	8000	17.04
27380B202J0	2000	8000	17.04
27380B502J0	5000	8000	19.75
27380B103J0	10000	8000	25.81
27340B503J0	50000	4000	27.58
27320B104J0	100000	2000	23.00
27304B105J0	1000000	400	35.46

Catalog Number	Cap. (pf)	Peak Volts (d-c)	Case Height	Net Price 1-9*
TYPE 291				
29160B251J0	250	6000		$12.85
29160B501J0	500	6000		14.00
29160B102J0	1000	6000		14.00
29160B202J0	2000	6000		14.63
29160B502J0	5000	6000		14.63
29140B103J0	10000	4000		15.33
29110B104J0	100000	1000		18.38
TYPE 292				
292100B251J0	250	10000		$18.50
292100B501J0	500	10000		18.50
292100B102J0	1000	10000		18.50
292100B202J0	2000	10000		18.50
29260B502J0	5000	6000		18.50
29250B103J0	10000	5000		20.56
29215B104J0	100000	1500		20.56
TYPE 293				
293200B251J0	250	20000	2.50	$43.78
293200B501J0	500	20000	2.50	45.01
293200B102J0	1000	20000	2.75	47.25
293150B202J0	2000	15000	3.00	47.25
293100B502J0	5000	10000	2.75	48.85
29380B103J0	10000	8000	3.25	48.85
29320B104J0	100000	2000	2.75	48.85
TYPE 294				
294300B251J0	250	30000	4.00	$78.11
294300B501J0	500	30000	4.00	78.11
294300B102J0	1000	30000	4.50	79.28
294200B202J0	2000	20000	4.50	79.28
294150B502J0	5000	15000	4.50	87.51
294100B103J0	10000	10000	5.00	94.25
29430B104J0	100000	3000	4.50	94.25

* Prices for larger quantities are available on request

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SANGAMO ELECTRIC COMPANY

capacitors

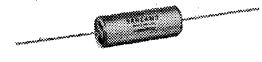
SANGAMO ELECTRONIC COMPONENTS

Type S Subminiature Hermetically Sealed Metal Tubular Capacitors

Sangamo Type S capacitors are designed to meet the demands for a high quality, hermetically sealed paper tubular capacitor. They are encapsulated in brass tubular cases finished with a high tin content alloy. Hermetic sealing is accomplished by using glass-to-metal solder seal terminals. The impregnant used in these units is Etherm, an oil of high thermal stability and superior electrical characteristics over the temperature range of -55°C to +125°C. Sangamo Type S capacitors meet the case sizes and performance requirements of military specification MIL-C-25. The limited number of popular listings below are furnished with insulated sections. They are also available with grounded case if equipment requirements so dictate. The adjacent cross reference table will assist in the interpretation of Sangamo catalog nomenclatures with the various military types and case constructions.

For more complete information on other ratings, tolerances and voltages, write for Bulletin 2421.

Sangamo Type	Military Type	Description
SBA	CP04	Tab construction (without sleeve)
SBB	CP05	Tab construction (with sleeve)
SDA	CP08	Extended foil (without sleeve)
SDB	CP09	Extended foil (with sleeve)
SBC	CP10	Tab construction (with bracket)
SBE	CP11	Tab construction (with threaded mtg)
SDC	CP12	Extended foil (with bracket)
SDE	CP13	Extended foil (with threaded mtg)

Capacitance Tolerance ±10% †		Tab Construction		Tab Construction		 Extended Foil		Extended Foil	
Cap. (Mfd)	Rated Volts d-c	Catalog Number	Net Price 1-9*	Catalog Number	Net Price 1-9*	Catalog Number	Net Price 1-9*	Catalog Number	Net Price 1-9*
.027	100	SBA1K01273K	$1.76	SBB1K01273K	$1.84	SDA1K01273K	$1.96	SDB1K01273K	$2.04
.033	100	SBA1K01333K	1.80	SBB1K01333K	1.84	SDA1K01333K	1.96	SDB1K01333K	2.04
.082	100	SBA1K01823K	1.92	SBB1K01823K	1.96	SDA1K01823K	2.00	SDB1K01823K	2.08
.1	100	SBA1K01104K	1.92	SBB1K01104K	2.00	SDA1K01104K	2.04	SDB1K01104K	2.08
.15	100	SBA1K01154K	1.92	SBB1K01154K	2.04	SDA1K01154K	2.04	SDB1K01154K	2.12
.22	100	SBA1K01224K	2.00	SBB1K01224K	2.04	SDA1K01224K	2.16	SDB1K01224K	2.20
.27	100	SBA1K01274K	2.04	SBB1K01274K	2.08	SDA1K01274K	2.24	SDB1K01274K	2.28
.33	100	SBA1K01334K	2.08	SBB1K01334K	2.16	SDA1K01334K	2.32	SDB1K01334K	2.40
.39	100	SBA1K01394K	2.16	SBB1K01394K	2.24	SDA1K01394K	2.36	SDB1K01394K	2.44
.47	100	SBA1K01474K	2.24	SBB1K01474K	2.32	SDA1K01474K	2.44	SDB1K01474K	2.52
.68	100	SBA1K01684K	2.36	SBB1K01684K	2.48	SDA1K01684K	2.56	SDB1K01684K	2.64
.82	100	SBA1K01824K	2.44	SBB1K01824K	2.52	SDA1K01824K	2.68	SDB1K01824K	2.80
1.0	100	SBA1K01105K	2.52	SBB1K01105K	2.64	SDA1K01105K	2.88	SDB1K01105K	2.96
.015	200	SBA1K02153K	1.84	SBB1K02153K	1.92	SDA1K02153K	2.00	SDB1K02153K	2.08
.022	200	SBA1K02223K	1.84	SBB1K02223K	1.92	SDA1K02223K	2.00	SDB1K02223K	2.08
.039	200	SBA1K02393K	1.92	SBB1K02393K	2.00	SDA1K02393K	2.04	SDB1K02393K	2.12
.047	200	SBA1K02473K	1.96	SBB1K02473K	2.00	SDA1K02473K	2.08	SDB1K02473K	2.12
.068	200	SBA1K02683K	1.96	SBB1K02683K	2.04	SDA1K02683K	2.08	SDB1K02683K	2.16
.1	200	SBA1K02104K	2.00	SBB1K02104K	2.08	SDA1K02104K	2.08	SDB1K02104K	2.16
.15	200	SBA1K02154K	2.04	SBB1K02154K	2.08	SDA1K02154K	2.20	SDB1K02154K	2.28
.22	200	SBA1K02224K	2.16	SBB1K02224K	2.20	SDA1K02224K	2.32	SDB1K02224K	2.40
.33	200	SBA1K02334K	2.28	SBB1K02334K	2.36	SDA1K02334K	2.48	SDB1K02334K	2.56
.39	200	SBA1K02394K	2.36	SBB1K02394K	2.44	SDA1K02394K	2.52	SDB1K02394K	2.64
.47	200	SBA1K02474K	2.44	SBB1K02474K	2.52	SDA1K02474K	2.64	SDB1K02474K	2.72
.68	200	SBA1K02684K	2.56	SBB1K02684K	2.64	SDA1K02684K	2.88	SDB1K02684K	2.96
.82	200	SBA1K02824K	2.56	SBB1K02824K	2.76	SDA1K02824K	2.92	SDB1K02824K	3.00
1.0	200	SBA1K02105K	2.80	SBB1K02105K	2.88	SDA1K02105K	3.00	SDB1K02105K	3.08
.0082	400	SBA1K04822K	1.88	SBB1K04822K	1.96	SDA1K04822K	2.04	SDB1K04822K	2.12
.01	400	SBA1K04103K	1.92	SBB1K04103K	1.96	SDA1K04103K	2.04	SDB1K04103K	2.12
.033	400	SBA1K04333K	2.00	SBB1K04333K	2.04	SDA1K04333K	2.12	SDB1K04333K	2.20
.047	400	SBA1K04473K	2.04	SBB1K04473K	2.12	SDA1K04473K	2.16	SDB1K04473K	2.24
.068	400	SBA1K04683K	2.08	SBB1K04683K	2.16	SDA1K04683K	2.24	SDB1K04683K	2.32
.082	400	SBA1K04823K	2.12	SBB1K04823K	2.16	SDA1K04823K	2.28	SDB1K04823K	2.36
.1	400	SBA1K04104K	2.16	SBB1K04104K	2.24	SDA1K04104K	2.32	SDB1K04104K	2.40
.15	400	SBA1K04154K	2.28	SBB1K04154K	2.36	SDA1K04154K	2.48	SDB1K04154K	2.56
.22	400	SBA1K04224K	2.44	SBB1K04224K	2.52	SDA1K04224K	2.60	SDB1K04224K	2.68
.33	400	SBA1K04334K	2.56	SBB1K04334K	2.64	SDA1K04334K	2.88	SDB1K04334K	2.96
.47	400	SBA1K04474K	2.80	SBB1K04474K	2.88	SDA1K04474K	3.00	SDB1K04474K	3.12
.68	400	SBA1K04684K	3.00	SBB1K04684K	3.08	SDA1K04684K	3.12	SDB1K04684K	3.24
.82	400	SBA1K04824K	3.16	SBB1K04824K	3.24	----------	-----	----------	-----
1.0	400	SBA1K04105K	3.36	SBB1K04105K	3.48	----------	-----	----------	-----
.0015	600	SBA1K06152K	1.88	SBB1K06152K	1.92	SDA1K06152K	1.96	SDB1K06152K	2.00
.0022	600	SBA1K06222K	1.88	SBB1K06222K	1.92	SDA1K06222K	1.96	SDB1K06222K	2.04
.0047	600	SBA1K06472K	1.92	SBB1K06472K	1.96	SDA1K06472K	2.04	SDB1K06472K	2.12
.0068	600	SBA1K06682K	1.92	SBB1K06682K	2.00	SDA1K06682K	2.04	SDB1K06682K	2.12
.0082	600	SBA1K06822K	1.92	SBB1K06822K	2.04	SDA1K06822K	2.08	SDB1K06822K	2.12
.01	600	SBA1K06103K	1.96	SBB1K06103K	2.04	SDA1K06103K	2.08	SDB1K06103K	2.12
.015	600	SBA1K06153K	2.00	SBB1K06153K	2.08	SDA1K06153K	2.16	SDB1K06153K	2.20
.022	600	SBA1K06223K	2.00	SBB1K06223K	2.12	SDA1K06223K	2.16	SDB1K06223K	2.24
.033	600	SBA1K06333K	2.08	SBB1K06333K	2.16	SDA1K06333K	2.16	SDB1K06333K	2.24
.047	600	SBA1K06473K	2.12	SBB1K06473K	2.20	SDA1K06473K	2.28	SDB1K06473K	2.32
.068	600	SBA1K06683K	2.20	SBB1K06683K	2.32	SDA1K06683K	2.40	SDB1K06683K	2.48
.1	600	SBA1K06104K	2.32	SBB1K06104K	2.44	SDA1K06104K	2.48	SDB1K06104K	2.56
.15	600	SBA1K06154K	2.40	SBB1K06154K	2.52	SDA1K06154K	2.64	SDB1K06154K	2.72
.22	600	SBA1K06224K	2.60	SBB1K06224K	2.80	SDA1K06224K	2.92	SDB1K06224K	3.00
.39	600	SBA1K06394K	2.96	SBB1K06394K	3.12	SDA1K06394K	3.16	SDB1K06394K	3.24
.47	600	SBA1K06474K	3.04	SBB1K06474K	3.20	SDA1K06474K	3.24	SDB1K06474K	3.36
.68	600	SBA1K06684K	3.20	SBB1K06684K	3.52	SDA1K06684K	3.40	----------	-----
.82	600	SBA1K06824K	3.32	SBB1K06824K	3.52	----------	-----	----------	-----
1.0	600	SBA1K06105K	3.40	SBB1K06105K	3.72	----------	-----	----------	-----

*Prices for larger quantities are available on request.
†For ±5% tolerance add 30% to above price.

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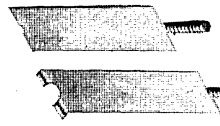
SANGAMO ELECTRONIC COMPONENTS

MIL Type CP72 PAPER

Footed Brackets



Spade Brackets

Type CP72 capacitors are furnished in drawn metal cases and are designed to comply with the requirements of specification MIL-C-25. They are impregnated with various dielectric oils to guarantee the desired electrical characteristics available. Capacitors rated at 3000 volts or less are normally supplied with solder lug (B) terminals capable of accomodating a #14AWG wire. Type D and E terminals may be substituted if desired. If brackets are required, specify a choice of spade, lug or footed type.

For more complete information write for Bulletin 2423.

Military Type Designation	Cap. (Mfd)	Dimensions (inches) L±1/16	W±1/16	H±1/16†	Net Price 1-9*	Bracket Price Per Pr.
600 WVDC						
CP72B1EF254K1	.25	1-13/16	1-1/16	1-5/8	$ 2.82	$ .28
CP72B1EF105K1	1.0	1-13/16	1-1/16	2-1/4	3.18	.28
CP72B1EF405K1	4.0	2- 1/2	1-3/16	3-1/2	5.55	.30
CP72B1EF106K1	10.0	3- 3/4	1-3/4	4	9.75	.56
1000 WVDC						
CP72B1EG504K1	.5	1-13/16	1-1/16	2-1/4	3.78	.28
CP72B1EG205K1	2.0	1-13/16	1-1/16	2-7/8	4.71	.30
CP72B1EG605K1	6.0	3- 3/4	1-3/4	4	7.71	.56
CP72B1EG106K1	10.0	3- 3/4	2-1/4	4-3/4	13.23	.58
1500 WVDC						
CP72B1EH105K1	1.0	1-13/16	1-1/16	4-3/4	4.26	.30
CP72B1EH405K1	4.0	3- 3/4	1-3/4	4-1/4	8.28	.56
CP72B1EH805K1	8.0	3- 3/4	2-1/2	5-3/4	14.28	.58
CP72B1EH156K1	15.0	4- 9/16	3-3/4	6	23.25	1.06
2000 WVDC						
CP72E1EJ504K1	.5	2- 1/2	1-3/16	2-7/8	6.75	.28
CP72E1EJ105K1	1.0	2- 1/2	1-3/16	4-3/4	7.74	.30
CP72E1EJ605K1	6.0	3- 3/4	3-3/16	5-1/2	16.95	1.26
CP72E1EJ106K1	10.0	4- 9/16	3-3/4	6-1/2	25.50	1.06

Catalog Number	Cap. (Mfd)	Dimensions (inches) L±1/16	W±1/16	H±1/16†	Net Price 1-9*	Bracket Price Per Pr.
2500 WVDC						
CP72E1EK104K1	.1	2- 1/2	1-3/16	2-1/2	$ 7.59	$ .28
CP72E1EK105K1	1.0	3- 3/4	1-3/4	3-7/8	11.94	.30
CP72E1EK205K1	2.0	3- 3/4	2-1/4	4-3/4	15.42	.58
CP72E1EK405K1	4.0	4- 9/16	3-3/4	4-3/8	23.34	1.06
4000 WVDC						
CP72E1EM104K1	.1	3- 3/4	2-1/4	2-3/4	12.93	.58
CP72E1EM254K1	.25	3- 3/4	2-1/4	3-7/8	13.80	.58
CP72E1EM504K1	.5	3- 3/4	2-1/4	4-3/4	19.92	.58
CP72E1EM105K1	1.0	3- 3/4	3-3/16	4-3/4	21.06	.58
6000 WVDC						
CP72D1EP254K1	.25	3- 3/4	2-1/4	4-3/4	19.83	.58
CP72D1EP504K1	.5	4- 9/16	3-3/4	4-3/4	24.15	1.06
CP72D1EP105K1	1.0	4- 9/16	3-3/4	9-5/8	46.20	1.26
CP72D1EP205K1	2.0	13- 1/2	4-1/8	7	114.00	4.00
7500 WVDC						
CP72D1ER254K1	.25	4- 9/16	3-3/4	4-3/8	26.70	1.06
CP72D1ER504K1	.5	4- 9/16	3-3/4	6	37.74	1.06
CP72D1ER105K1	1.0	8	4	9-1/4	93.00	3.70
CP72D1ER205K1	2.0	13- 1/2	4-1/8	9-1/4	171.00	4.25
12,500 WVDC						
CP72D1ET104K1	.1	8	4	5-1/2	93.30	1.26
CP72D1ET504K1	.5	13- 1/2	4-1/8	7	165.00	4.00
CP72D1ET105K1	1.0	13- 1/2	5-1/8	12-7/8	198.45	4.50
CP72D1ET205K1	2.0	13- 1/2	5-1/8	13-3/4	255.00	4.50

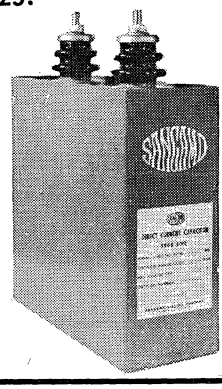
*Prices for larger quantities available on request.
†Height does not include terminals.
Note: Standard capacitive tolerance ±10%

Note: Currently stocked as CP70; CP72 stock added as orders dictate.

Type HVC HIGH VOLTAGE PAPER CAPACITORS

Sangamo Type HVC High Voltage capacitors are impregnated with a halogenated hydrocarbon called Diaclor B. This oil provides the desirable electrical performance characteristics for the most severe applications. They are sealed in shock and vibration resistant drawn rectangular or cold-rolled steel cases. The absence of solder seams eliminates oil leakage and contamination from solder flux. A wide variety of capacitance ranges are available in voltage ratings up to 50,000 volts d-c. Spade, footed or wrap-around brackets are optional at extra cost, but will not be furnished unless requested. When choice of brackets is not indicated, spade type will be supplied.

For more complete information write for Bulletin 2425.



Catalog Number	Cap. (Mfd)	Rated Volts d-c	Case Dimensions (inches) L±1/16	W±1/16	H±1/16	Net Price 1-9*	Bracket Price Per Pr.
702012-9401	100	600	4-9/16	3-3/4	9-1/2	$46.59	$ 1.20
702012-7503	30	1000	4-9/16	3-3/4	4-3/8	24.66	1.20
702013-0708	100	1500	8	4	11	52.90	3.00
702013-3107	250	1500	13-1/2	5-1/8	12-7/8	120.75	4.50
702012-7801	10	2000	4-9/16	3-3/4	4-3/4	21.30	4.20
702013-0207	30	2000	8	4	7	37.09	3.00
702013-3108	150	2000	13-1/2	5-1/8	12-7/8	121.90	4.50
702013-6604	100	2500	13-1/2	5-1/8	12-7/8	120.75	4.50
702012-7403	4	3000	4-9/16	3-3/4	4-1/4	22.08	1.20
702012-9101	10	3000	4-9/16	3-3/4	8-1/2	37.50	1.20
702013-2904	50	3000	13-1/2	4-1/8	12-7/8	115.00	4.00
702012-4203	1.0	4000	3-3/4	1-3/4	4-1/2	12.93	.50
702013-9301	20	4000	8	4	11	54.62	3.00
702013-7401	30	4000	13-1/2	4-1/8	9-1/4	98.33	4.00
702013-4101	50	4000	13-1/2	5-1/8	11	125.35	4.50
702013-0402	10	5000	8	4	9-1/4	45.43	3.00
702013-7601	20	5000	13-1/2	4-1/8	9-1/4	93.15	4.00
702013-2201	30	5000	13-1/2	4-1/8	12-7/8	109.25	4.00
702013-6601	25	6000	13-1/2	4-1/8	9-1/4	120.75	4.50
702012-8904	1.0	10KV	4-9/16	3-3/4	7-1/2	43.98	1.20
702013-6701	10.	10KV	13-1/2	5-1/8	12-7/8	125.35	4.50
702013-7802	3.5	12.5KV	13-1/2	4-1/8	11	98.90	4.00
702013-9501	2.5	12.5KV	13-1/2	4-1/8	11	75.90	3.00
702013-8402	3.5	15KV	13-1/2	4-1/8	14-1/2	117.88	4.00
702013-6602	2.0	20KV	13-1/2	5-1/8	12-7/8	127.65	4.50
702013-3302	1.0	25KV	13-1/2	5-1/8	11	110.40	4.50
702013-4102	.75	30KV	13-1/2	5-1/8	11	121.33	4.50
702013-3501	.5	35KV	13-1/2	5-1/8	11	120.18	4.50
702013-6603	.25	50KV	13-1/2	5-1/8	12-7/8	139.15	4.50

*Prices for larger quantities available on request.
Note: Standard capacitive tolerance ±10%

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Prices in this MASTER should not be considered as final. INQUIRE ABOUT LATEST PRICES AND DELIVERY.

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Since previous editions of the MASTER are frequently referred to, it is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

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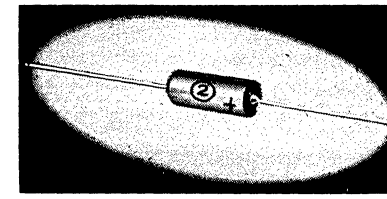
While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

SPRAGUE CAPACITORS

TYPE 150D SOLID-ELECTROLYTE TANTALEX® CAPACITORS

- Combine True Miniaturization with Characteristics Previously Unobtainable in Electrolytic Capacitors.
- Hermetically Sealed Metal Case.
- Solid Electrolyte Cannot Leak or Corrode, Even if Hermetic Seal is Accidentally Broken.
- Exhibit Stable Capacitance and Low Dissipation Factor over Temperature Range of —80°C to +85°C. With Appropriate Voltage Derating, May Be Operated to +125°C.
- Listed Units have Plastic Sleeves. For Bare Case, end Cat. No. in "0" instead of "2."
- For complete technical data, refer to latest issue of Engineering Bulletin 3520.
- Call your Sprague Industrial Distributor for Current Quantity Prices



µF	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.
6 WVDC — 8 VDC SURGE			
.22	A	150D224X0006A2	150D224X9006A2
.27	A	———	150D274X9006A2
.33	A	150D334X0006A2	150D334X9006A2
.39	A	———	150D394X9006A2
.47	A	150D474X0006A2	150D474X9006A2
.56	A	———	150D564X9006A2
.68	A	150D684X0006A2	150D684X9006A2
.82	A	———	150D824X9006A2
1.0	A	150D105X0006A2	150D105X9006A2
1.2	A	———	150D125X9006A2
1.5	A	150D155X0006A2	150D155X9006A2
1.8	A	———	150D185X9006A2
2.2	A	150D225X0006A2	150D225X9006A2
2.7	A	———	150D275X9006A2
3.3	A	150D335X0006A2	150D335X9006A2
3.9	A	———	150D395X9006A2
4.7	A	150D475X0006A2	150D475X9006A2
5.6	A	———	150D565X9006A2
6.8	A	150D685X0006A2	150D685X9006A2
8.2	B	———	150D825X9006B2
10	B	150D106X0006B2	150D106X9006B2
12	B	———	150D126X9006B2
15	B	150D156X0006B2	150D156X9006B2
18	B	———	150D186X9006B2
22	B	150D226X0006B2	150D226X9006B2
27	B	———	150D276X9006B2
33	B	150D336X0006B2	150D336X9006B2
39	B	———	150D396X9006B2
47	B	150D476X0006B2	150D476X9006B2
56	B	———	150D566X9006B2
60	B	150D606X0006B2	150D606X9006B2
68	R	150D686X0006R2	150D686X9006R2
82	R	———	150D826X9006R2
100	R	150D107X0006R2	150D107X9006R2
120	R	150D127X0006R2	150D127X9006R2
150	R	150D157X0006R2	150D157X9006R2
180	R	150D187X0006S2	150D187X9006R2
220	S	150D227X0006S2	150D227X9006S2
270	S	150D277X0006S2	150D227X9006S2
330	S	150D337X0006S2	150D337X9006S2
10 WVDC — 13 VDC SURGE			
.22	A	150D224X0010A2	150D224X9010A2
.27	A	———	150D274X9010A2
.33	A	150D334X0010A2	150D334X9010A2
.39	A	———	150D394X9010A2
.47	A	150D474X0010A2	150D474X9010A2
.56	A	———	150D564X9010A2
.68	A	150D684X0010A2	150D684X9010A2
.82	A	———	150D824X9010A2
1.0	A	150D105X0010A2	150D105X9010A2
1.2	A	———	150D125X9010A2
1.5	A	150D155X0010A2	150D155X9010A2
1.8	A	———	150D185X9010A2
2.2	A	150D225X0010A2	150D225X9010A2
2.7	A	———	150D275X9010A2
3.3	A	150D335X0010A2	150D335X9010A2
3.9	A	———	150D395X9010A2
4.7	A	150D475X0010A2	150D475X9010A2
5.6	B	———	150D565X9010B2
6.8	B	150D685X0010B2	150D685X9010B2
8.2	B	———	150D825X9010B2
10	B	150D106X0010B2	150D106X9010B2
12	B	———	150D126X9010B2
15	B	150D156X0010B2	150D156X9010B2
18	B	———	150D186X9010B2
22	B	150D226X0010B2	150D226X9010B2
27	B	———	150D276X9010B2
33	B	150D336X0010B2	150D336X9010B2
39	B	———	150D396X9010B2
40	B	150D406X0010B2	150D406X9010B2
47	R	150D476X0010R2	150D476X9010R2
56	R	———	150D566X9010R2
68	R	150D686X0010R2	150D686X9010R2
82	R	———	150D826X9010R2
100	R	150D107X0010R2	150D107X9010R2
120	R	150D127X0010R2	150D127X9010R2
150	S	150D157X0010S2	150D157X9010S2
180	S	———	150D187X9010S2
220	S	150D227X0010S2	150D227X9010S2
15 WVDC — 18 VDC SURGE			
.22	A	150D224X0015A2	150D224X9015A2
.27	A	———	150D274X9015A2
.33	A	150D334X0015A2	150D334X9015A2
.39	A	———	150D394X9015A2
.47	A	150D474X0015A2	150D474X9015A2
.56	A	———	150D564X9015A2
.68	A	150D684X0015A2	150D684X9015A2
.82	A	———	150D824X9015A2
1.0	A	150D105X0015A2	150D105X9015A2
1.2	A	———	150D125X9015A2
1.5	A	150D155X0015A2	150D155X9015A2
1.8	A	———	150D185X9015A2
2.2	A	150D225X0015A2	150D225X9015A2
2.7	A	———	150D275X9015A2
3.3	A	150D335X0015A2	150D335X9015A2
3.9	B	———	150D395X9015B2
4.7	B	150D475X0015B2	150D475X9015B2
5.6	B	———	150D565X9015B2
6.8	B	150D685X0015B2	150D685X9015B2
8.2	B	———	150D825X9015B2
10	B	150D106X0015B2	150D106X9015B2
12	B	———	150D126X9015B2
15	B	150D156X0015B2	150D156X9015B2
18	B	———	150D186X9015B2
22	B	150D226X0015B2	150D226X9015B2
27	R	———	150D276X9015R2
33	R	150D336X0015R2	150D336X9015R2
39	R	———	150D396X9015R2
47	R	150D476X0015R2	150D476X9015R2
56	R	———	150D566X9015R2
68	R	150D686X0015R2	150D686X9015R2
82	S	———	150D826X9015S2
100	S	150D107X0015S2	150D107X9015S2
120	S	———	150D127X9015S2
150	S	150D157X0015S2	150D157X9015S2
20 WVDC — 23 VDC SURGE			
.0047	A	150D472X0020A2	150D472X9020A2
.0056	A	———	150D562X9020A2
.0068	A	150D682X0020A2	150D682X9020A2
.0082	A	———	150D822X9020A2
.01	A	150D103X0020A2	150D103X9020A2
.012	A	———	150D123X9020A2
.015	A	150D153X0020A2	150D153X9020A2
.018	A	———	150D183X9020A2
.022	A	150D223X0020A2	150D223X9020A2
.027	A	———	150D273X9020A2
.033	A	150D333X0020A2	150D333X9020A2
.039	A	———	150D393X9020A2
.047	A	150D473X0020A2	150D473X9020A2
.056	A	———	150D563X9020A2
.068	A	150D683X0020A2	150D683X9020A2
.082	A	———	150D823X9020A2
.10	A	150D104X0020A2	150D104X9020A2
.12	A	———	150D124X9020A2
.15	A	150D154X0020A2	150D154X9020A2
.18	A	———	150D184X9020A2
.22	A	150D224X0020A2	150D224X9020A2
.27	A	———	150D274X9020A2
.33	A	150D334X0020A2	150D334X9020A2
.39	A	———	150D394X9020A2
.47	A	150D474X0020A2	150D474X9020A2
.56	A	———	150D564X9020A2
.68	A	150D684X0020A2	150D684X9020A2
.82	A	———	150D824X9020A2
1.0	A	150D105X0020A2	150D105X9020A2
1.2	A	———	150D125X9020A2
1.5	A	150D155X0020A2	150D155X9020A2
1.8	A	———	150D185X9020A2
2.2	A	150D225X0020A2	150D225X9020A2
2.7	B	———	150D275X9020B2
3.3	B	150D335X0020B2	150D335X9020B2
3.9	B	———	150D395X9020B2
4.7	B	150D475X0020B2	150D475X9020B2
5.6	B	———	150D565X9020B2
6.8	B	150D685X0020B2	150D685X9020B2
8.2	B	———	150D825X9020B2
10	B	150D106X0020B2	150D106X9020B2
12	B	———	150D126X9020B2
15	B	150D156X0020B2	150D156X9020B2
18	R	———	150D186X9020R2
22	R	150D226X0020R2	150D226X9020R2
27	R	———	150D276X9020R2
33	R	150D336X0020R2	150D336X9020R2
39	R	———	150D396X9020R2
47	R	150D476X0020R2	150D476X9020R2
56	S	———	150D566X9020S2
68	S	150D686X0020S2	150D686X9020S2
82	S	———	150D826X9020S2
100	S	150D107X0020S2	150D107X9020S2
35 WVDC — 40 VDC SURGE			
.0047	A	150D472X0035A2	150D472X9035A2
.0056	A	———	150D562X9035A2
.0068	A	150D682X0035A2	150D682X9035A2
.0082	A	———	150D822X9035A2
.01	A	150D103X0035A2	150D103X9035A2
.012	A	———	150D123X9035A2
.015	A	150D153X0035A2	150D153X9035A2
.018	A	———	150D183X9035A2
.022	A	150D223X0035A2	150D223X9035A2
.027	A	———	150D273X9035A2
.033	A	150D333X0035A2	150D333X9035A2
.039	A	———	150D393X9035A2
.047	A	150D473X0035A2	150D473X9035A2
.056	A	———	150D563X9035A2
.068	A	150D683X0035A2	150D683X9035A2
.082	A	———	150D823X9035A2
.10	A	150D104X0035A2	150D104X9035A2
.12	A	———	150D124X9035A2
.15	A	150D154X0035A2	150D154X9035A2
.18	A	———	150D184X9035A2
.22	A	150D224X0035A2	150D224X9035A2
.27	A	———	150D274X9035A2
.33	A	150D334X0035A2	150D334X9035A2
.39	A	———	150D394X9035A2
.47	A	150D474X0035A2	150D474X9035A2
.56	A	———	150D564X9035A2
.68	A	150D684X0035A2	150D684X9035A2
.82	A	———	150D824X9035A2
1.0	A	150D105X0035A2	150D105X9035A2
1.2	B	———	150D125X9035B2
1.5	B	150D155X0035B2	150D155X9035B2
1.8	B	———	150D185X9035B2
2.2	B	150D225X0035B2	150D225X9035B2
2.7	B	———	150D275X9035B2
3.3	B	150D335X0035B2	150D335X9035B2
3.9	B	———	150D395X9035B2
4.7	B	150D475X0035B2	150D475X9035B2
5.6	B	———	150D565X9035B2
6.8	B	150D685X0035B2	150D685X9035B2
8.2	R	———	150D825X9035R2
10	R	150D106X0035R2	150D106X9035R2
12	R	———	150D126X9035R2
15	R	150D156X0035R2	150D156X9035R2
18	R	———	150D186X9035R2
22	R	150D226X0035R2	150D226X9035R2
27	S	———	150D276X9035S2
33	S	150D336X0035S2	150D336X9035S2
39	S	———	150D396X9035S2
47	S	150D476X0035S2	150D476X9035S2

DIMENSIONS

Code	With Sleeve D. x L.	Bare Case D. x L.
A	.135" x .286"	.125" x .250"
B	.185" x .474"	.175" x .438"
R	.289" x .686"	.279" x .650"
S	.351" x .786"	.341" x .750"

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Sizes subject to change without notice.

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SPRAGUE CAPACITORS

TYPE 150D SOLID-ELECTROLYTE TANTALEX® CAPACITORS (Cont.)

50 WVDC, 65 VDC SURGE

µF	Size Code	Catalog Number ±20% Tol.	±10% Tol.
.0047	A	150D472X0050A2	150D472X9050A2
.0056	A	—	150D562X9050A2
.0068	A	150D682X0050A2	150D682X9050A2
.0082	A	—	150D822X9050A2
.01	A	150D103X0050A2	150D103X9050A2
.012	A	—	150D123X9050A2
.015	A	150D153X0050A2	150D153X9050A2
.018	A	—	150D183X9050A2
.022	A	150D223X0050A2	150D223X9050A2
.027	A	—	150D273X9050A2
.033	A	150D333X0050A2	150D333X9050A2
.039	A	—	150D393X9050A2
.047	A	150D473X0050A2	150D473X9050A2
.056	A	—	150D563X9050A2
.068	A	150D683X0050A2	150D683X9050A2
.082	A	—	150D823X9050A2
.1	A	150D104X0050A2	150D104X9050A2
.12	A	—	150D124X9050A2
.15	A	150D154X0050A2	150D154X9050A2
.18	A	—	150D184X9050A2
.22	A	150D224X0050A2	150D224X9050A2
.27	A	—	150D274X9050A2
.33	A	150D334X0050A2	150D334X9050A2
.39	A	—	150D394X9050A2
.47	A	150D474X0050A2	150D474X9050A2
.56	A	—	150D564X9050A2
.68	A	150D684X0050A2	150D684X9050A2
.82	A	—	150D824X9050A2
1.0	A	150D105X0050A2	150D105X9050A2
1.2	B	—	150D125X9050B2
1.5	B	150D155X0050B2	150D155X9050B2
1.8	B	—	150D185X9050B2
2.2	B	150D225X0050B2	150D225X9050B2
2.7	B	—	150D275X9050B2
3.3	B	150D335X0050B2	150D335X9050B2
3.9	B	—	150D395X9050B2
4.7	B	150D475X0050B2	150D475X9050B2
5.6	R	—	150D565X9050R2
6.8	R	150D685X0050R2	150D685X9050R2
8.2	R	—	150D825X9050R2
10	R	150D106X0050R2	150D106X9050R2
12	R	—	150D126X9050R2
15	R	150D156X0050R2	150D156X9050R2
18	R	—	150D186X9050R2
22	S	150D226X0050S2	150D226X9050S2

60 WVDC, 78 VDC SURGE

µF	Size Code	Catalog Number ±20% Tol.	±10% Tol.
.0047	A	150D472X0060A2	150D472X9060A2
.0056	A	—	150D562X9060A2
.0068	A	150D682X0060A2	150D682X9060A2
.0082	A	—	150D822X9060A2
.01	A	150D103X0060A2	150D103X9060A2
.012	A	—	150D123X9060A2
.015	A	150D153X0060A2	150D153X9060A2
.018	A	—	150D183X9060A2
.022	A	150D223X0060A2	150D223X9060A2
.027	A	—	150D273X9060A2
.033	A	150D333X0060A2	150D333X9060A2
.039	A	—	150D393X9060A2
.047	A	150D473X0060A2	150D473X9060A2
.056	A	—	150D563X9060A2
.068	A	150D683X0060A2	150D683X9060A2
.082	A	—	150D823X9060A2
.1	A	150D104X0060A2	150D104X9060A2
.12	A	—	150D124X9060A2
.15	A	150D154X0060A2	150D154X9060A2
.18	A	—	150D184X9060A2
.22	A	150D224X0060A2	150D224X9060A2
.27	A	—	150D274X9060A2
.33	A	150D334X0060A2	150D334X9060A2
.39	A	—	150D394X9060A2
.47	A	150D474X0060A2	150D474X9060A2
.56	A	—	150D564X9060A2
.68	A	150D684X0060A2	150D684X9060A2
.82	B	—	150D824X9060B2
1.0	B	150D105X0060B2	150D105X9060B2
1.2	B	—	150D125X9060B2
1.5	B	150D155X0060B2	150D155X9060B2
1.8	B	—	150D185X9060B2
2.2	B	150D225X0060B2	150D225X9060B2
2.7	B	—	150D275X9060B2
3.3	B	150D335X0060B2	150D335X9060B2
3.9	B	—	150D395X9060B2
4.7	R	150D475X0060R2	150D475X9060R2
5.6	R	—	150D565X9060R2
6.8	R	150D685X0060R2	150D685X9060R2
8.2	R	—	150D825X9060R2
10	R	150D106X0060R2	150D106X9060R2
12	S	—	150D126X9060S2
15	S	150D156X0060S2	150D156X9060S2
18	S	—	150D186X9060S2
22	S	150D226X0060S2	150D226X9060S2

75 WVDC, 97 VDC SURGE

µF	Size Code	Catalog Number ±20% Tol.	±10% Tol.
.0047	A	150D472X0075A2	150D472X9075A2
.0056	A	—	150D562X9075A2
.0068	A	150D682X0075A2	150D682X9075A2
.0082	A	—	150D822X9075A2
.01	A	150D103X0075A2	150D103X9075A2
.012	A	—	150D123X9075A2
.015	A	150D153X0075A2	150D153X9075A2
.018	A	—	150D183X9075A2
.022	A	150D223X0075A2	150D223X9075A2
.027	A	—	150D273X9075A2
.033	A	150D333X0075A2	150D333X9075A2
.039	A	—	150D393X9075A2
.047	A	150D473X0075A2	150D473X9075A2
.056	A	—	150D563X9075A2
.068	A	150D683X0075A2	150D683X9075A2
.082	A	—	150D823X9075A2
.1	A	150D104X0075A2	150D104X9075A2
.12	A	—	150D124X9075A2
.15	A	150D154X0075A2	150D154X9075A2
.18	A	—	150D184X9075A2
.22	A	150D224X0075A2	150D224X9075A2
.27	A	—	150D274X9075A2
.33	A	150D334X0075A2	150D334X9075A2
.39	A	—	150D394X9075A2
.47	A	150D474X0075A2	150D474X9075A2
.56	A	—	150D564X9075A2
.68	A	150D684X0075A2	150D684X9075A2
.82	B	—	150D824X9075B2
1.0	B	150D105X0075B2	150D105X9075B2
1.2	B	—	150D125X9075B2
1.5	B	150D155X0075B2	150D155X9075B2
1.8	B	—	150D185X9075B2
2.2	B	150D225X0075B2	150D225X9075B2
2.7	B	—	150D275X9075B2
3.3	B	150D335X0075B2	150D335X9075B2
3.9	B	—	150D395X9075B2
4.7	R	150D475X0075R2	150D475X9075R2
5.6	R	—	150D565X9075R2
6.8	R	150D685X0075R2	150D685X9075R2
8.2	R	—	150D825X9075R2
10.0	R	150D106X0075R2	150D106X9075R2
12.0	S	—	150D126X9075S2
15.0	S	150D156X0075S2	150D156X9075S2

100 WVDC, 115 VDC SURGE

µF	Size Code	Catalog Number ±20% Tol.	±10% Tol.
.0047	A	150D472X0100A2	150D472X9100A2
.0056	A	—	150D562X9100A2
.0068	A	150D682X0100A2	150D682X9100A2
.0082	A	—	150D822X9100A2
.01	A	150D103X0100A2	150D103X9100A2
.012	A	—	150D123X9100A2
.015	A	150D153X0100A2	150D153X9100A2
.018	A	—	150D183X9100A2
.022	A	150D223X0100A2	150D223X9100A2
.027	A	—	150D273X9100A2
.033	A	150D333X0100A2	150D333X9100A2
.039	A	—	150D393X9100A2
.047	A	150D473X0100A2	150D473X9100A2
.056	A	—	150D563X9100A2
.068	A	150D683X0100A2	150D683X9100A2
.082	A	—	150D823X9100A2
.1	A	150D104X0100A2	150D104X9100A2
.12	A	—	150D124X9100A2
.15	A	150D154X0100A2	150D154X9100A2
.18	A	—	150D184X9100A2
.22	A	150D224X0100A2	150D224X9100A2
.27	A	—	150D274X9100A2
.33	A	150D334X0100A2	150D334X9100A2
.39	A	—	150D394X9100A2
.47	A	150D474X0100A2	150D474X9100A2
.56	A	—	150D564X9100A2
.68	B	150D684X0100B2	150D684X9100B2
.82	B	—	150D824X9100B2
1.0	B	150D105X0100B2	150D105X9100B2
1.2	B	—	150D125X9100B2
1.5	B	150D155X0100B2	150D155X9100B2
1.8	B	—	150D185X9100B2
2.2	B	150D225X0100B2	150D225X9100B2
2.7	B	—	150D275X9100B2
3.3	R	150D335X0100B2	150D335X9100R2
3.9	R	—	150D395X9100R2
4.7	R	150D475X0100R2	150D475X9100R2
5.6	R	—	150D565X9100R2
6.8	R	150D685X0100R2	150D685X9100R2

125 WVDC, 140 VDC SURGE

µF	Size Code	Catalog Number ±20% Tol.	±10% Tol.
.0047	A	150D472X0125A2	150D472X9125A2
.0056	A	—	150D562X9125A2
.0068	A	150D682X0125A2	150D682X9125A2
.0082	A	—	150D822X9125A2
.01	A	150D103X0125A2	150D103X9125A2
.012	A	—	150D123X9125A2
.015	A	150D153X0125A2	150D153X9125A2
.018	A	—	150D183X9125A2
.022	A	150D223X0125A2	150D223X9125A2
.027	A	—	150D273X9125A2
.033	A	150D333X0125A2	150D333X9125A2
.039	A	—	150D393X9125A2
.047	A	150D473X0125A2	150D473X9125A2
.056	A	—	150D563X9125A2
.068	A	150D683X0125A2	150D683X9125A2
.082	A	—	150D823X9125A2
.1	A	150D104X0125A2	150D104X9125A2
.12	A	—	150D124X9125A2
.15	A	150D154X0125A2	150D154X9125A2
.18	A	—	150D184X9125A2
.22	A	150D224X0125A2	150D224X9125A2
.27	A	—	150D274X9125A2
.33	A	150D334X0125A2	150D334X9125A2
.39	A	—	150D394X9125A2
.47	A	150D474X0125A2	150D474X9125A2
.56	B	—	150D564X9125B2
.68	B	150D684X0125B2	150D684X9125B2
.82	B	—	150D824X9125B2
1.0	B	150D105X0125B2	150D105X9125B2
1.2	B	—	150D125X9125B2
1.5	B	150D155X0125B2	150D155X9125B2
1.8	B	—	150D185X9125B2
2.2	B	150D225X0125B2	150D225X9125B2

DIMENSIONS WITH SLEEVE

Code	D. x L.
A	.135"x.286"
B	.185"x.474"
R	.289"x.696"
S	.351"x.786"

Call your Sprague Industrial Distributor for Current Quantity Prices

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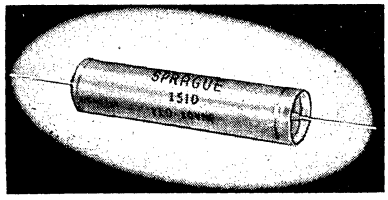
SPRAGUE CAPACITORS

151D NON-POLARIZED SOLID-ELECTROLYTE TANTALEX® CAPACITORS



- Truly Miniature Units Offer Excellent Electrical Characteristics and Outstanding Service Life.
- Hermetically Sealed in Metal Case.
- May Be Used At Full Rated Operating Voltages Up to 85°C. With Derating, May Be Used Up To 125°C.
- For Use Where Non-Polarized Solid Electrolyte Tantalums Excel—In Servo Systems, Crossover Networks, Low Frequency Tuned Circuits.
- Listed Units Have Plastic Sleeves.
- For Bare Case End Cat. No. in "0" Instead of "2."
- For Complete Technical Data, Refer To Latest Issue of Engineering Bulletin 3521.
- Call Your Sprague Industrial Distributor For Current Prices

µF	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.
6 WVDC — 8 VDC SURGE			
.11	W	151D114X0006W2	151D114X9006W2
.13	W	———	151D134X9006W2
.16	W	151D164X0006W2	151D164X9006W2
.19	W	———	151D194X9006W2
.23	W	151D234X0006W2	151D234X9006W2
.28	W	———	151D284X9006W2
.34	W	151D344X0006W2	151D344X9006W2
.41	W	———	151D414X9006W2
.50	W	151D504X0006W2	151D504X9006W2
.60	W	———	151D604X9006W2
.75	W	151D754X0006W2	151D754X9006W2
.90	W	———	151D904X9006W2
1.1	W	151D116X0006W2	151D115X9006W2
1.3	W	———	151D135X9006W2
1.6	W	151D165X0006W2	151D165X9006W2
1.9	W	———	151D195X9006W2
2.3	W	151D235X0006W2	151D235X9006W2
2.8	W	———	151D285X9006W2
3.4	W	151D345X0006W2	151D345X9006W2
4.1	X	———	151D415X9006X2
5.0	X	151D505X0006X2	151D505X9006X2
6.0	X	———	151D605X9006X2
7.5	X	151D755X0006X2	151D755X9006X2
9.0	X	———	151D905X9006X2
11	X	151D116X0006X2	151D116X9006X2
13	X	———	151D136X9006X2
16	X	151D166X0006X2	151D166X9006X2
19	X	———	151D196X9006X2
23	X	151D236X0006X2	151D236X9006X2
28	X	———	151D286X9006X2
30	X	151D306X0006X2	151D306X9006X2
34	Y	151D346X0006Y2	151D346X9006Y2
41	Y	———	151D416X9006Y2
50	Y	151D506X0006Y2	151D506X9006Y2
60	Y	151D606X0006Y2	151D606X9006Y2
75	Y	151D756X0006Y2	151D756X9006Y2
90	Y	151D906X0006Y2	151D906X9006Y2
110	Z	151D117X0006Z2	151D117X9006Z2
130	Z	151D137X0006Z2	151D137X9006Z2
160	Z	151D167X0006Z2	151D167X9006Z2
10 WVDC — 13 VDC SURGE			
.11	W	151D114X0010W2	151D114X9010W2
.13	W	———	151D134X9010W2
.16	W	151D164X0010W2	151D164X9010W2
.19	W	———	151D194X9010W2
.23	W	151D234X0010W2	151D234X9010W2
.28	W	———	151D284X9010W2
.34	W	151D344X0010W2	151D344X9010W2
.41	W	———	151D414X9010W2
.50	W	151D504X0010W2	151D504X9010W2
.60	W	———	151D604X9010W2
.75	W	151D754X0010W2	151D754X9010W2
.90	W	———	151D904X9010W2
1.1	W	151D115X0010W2	151D115X9010W2
1.3	W	———	151D135X9010W2
1.6	W	151D165X0010W2	151D165X9010W2
1.9	W	———	151D195X9010W2
2.3	W	151D235X0010W2	151D235X9010W2
2.8	X	———	151D285X9010X2
3.4	X	151D345X0010X2	151D345X9010X2
4.1	X	———	151D415X9010X2
5.0	X	151D505X0010X2	151D505X9010X2
6.0	X	———	151D605X9010X2
7.5	X	151D755X0010X2	151D755X9010X2
9.0	X	———	151D905X9010X2
11	X	151D116X0010X2	151D116X9010X2
13	X	———	151D136X9010X2
16	X	151D166X0010X2	151D166X9010X2
19	X	———	151D196X9010X2
20	X	151D206X0010X2	151D206X9010X2
23	Y	151D236X0010Y2	151D236X9010Y2
28	Y	———	151D286X9010Y2
34	Y	151D346X0010Y2	151D346X9010Y2
41	Y	———	151D416X9010Y2
50	Y	151D506X0010Y2	151D506X9010Y2
60	Y	151D606X0010Y2	151D606X9010Y2
75	Z	151D756X0010Z2	151D756X9010Z2
90	Z	———	151D906X9010Z2
110	Z	151D117X0010Z2	151D117X9010Z2
15 WVDC — 20 VDC SURGE			
.11	W	151D114X0015W2	151D114X9015W2
.13	W	———	151D134X9015W2
.16	W	151D164X0015W2	151D164X9015W2
.19	W	———	151D194X9015W2
.23	W	151D234X0015W2	151D234X9015W2
.28	W	———	151D284X9015W2
.34	W	151D344X0015W2	151D344X9015W2
.41	W	———	151D414X9015W2
.50	W	151D504X0015W2	151D504X9015W2
.60	W	———	151D604X9015W2
.75	W	151D754X0015W2	151D754X9015W2
.90	W	———	151D904X9015W2
1.1	W	151D115X0015W2	151D115X9015W2
1.3	W	———	151D135X9015W2
1.6	W	151D165X0015W2	151D165X9015W2
1.9	X	———	151D195X9015X2
2.3	X	151D235X0015X2	151D235X9015X2
2.8	X	———	151D285X9015X2
3.4	X	151D345X0015X2	151D345X9015X2
4.1	X	———	151D415X9015X2
5.0	X	151D505X0015X2	151D505X9015X2
6.0	X	———	151D605X9015X2
7.5	X	151D755X0015X2	151D755X9015X2
9.0	X	———	151D905X9015X2
11	X	151D116X0015X2	151D116X9015X2
13	Y	———	151D136X9015Y2
16	Y	151D166X0015Y2	151D166X9015Y2
19	Y	———	151D196X9015Y2
23	Y	151D236X0015Y2	151D236X9015Y2
28	Y	———	151D286X9015Y2
34	Y	151D346X0015Y2	151D346X9015Y2
41	Z	———	151D416X9015Z2
50	Z	151D506X0015Z2	151D506X9015Z2
60	Z	———	151D606X9015Z2
75	Z	151D756X0015Z2	151D756X9015Z2
20 WVDC — 26 VDC SURGE			
.0023	W	151D232X0020W2	151D232X9020W2
.0028	W	———	151D282X9020W2
.0034	W	151D342X0020W2	151D342X9020W2
.0041	W	———	151D412X9020W2
.005	W	151D502X0020W2	151D502X9020W2
.006	W	———	151D602X9020W2
.007	W	151D702X0020W2	151D702X9020W2
.009	W	———	151D902X9020W2
.011	W	151D113X0020W2	151D113X9020W2
.013	W	———	151D133X9020W2
.016	W	151D163X0020W2	151D163X9020W2
.019	W	———	151D193X9020W2
.023	W	151D233X0020W2	151D233X9020W2
.028	W	———	151D283X9020W2
.034	W	151D343X0020W2	151D343X9020W2
.041	W	———	151D413X9020W2
.05	W	151D503X0020W2	151D503X9020W2
.06	W	———	151D603X9020W2
.07	W	151D703X0020W2	151D703X9020W2
.09	W	———	151D903X9020W2
.11	W	151D114X0020W2	151D114X9020W2
.13	W	———	151D134X9020W2
.16	W	151D164X0020W2	151D164X9020W2
.19	W	———	151D194X9020W2
.23	W	151D234X0020W2	151D234X9020W2
.28	W	———	151D284X9020W2
.34	W	151D344X0020W2	151D344X9020W2
.41	W	———	151D414X9020W2
.50	W	151D504X0020W2	151D504X9020W2
.60	W	———	151D604X9020W2
.75	W	151D754X0020W2	151D754X9020W2
.90	W	———	151D904X9020W2
1.1	W	151D115X0020W2	151D115X9020W2
1.3	X	———	151D135X9020X2
1.6	X	151D165X0020X2	151D165X9020X2
1.9	X	———	151D195X9020X2
2.3	X	151D235X0020X2	151D235X9020X2
2.8	X	———	151D285X9020X2
3.4	X	151D345X0020X2	151D345X9020X2
4.1	X	———	151D415X9020X2
5.0	X	151D505X0020X2	151D505X9020X2
6.0	X	———	151D605X9020X2
7.5	X	151D755X0020X2	151D755X9020X2
9.0	Y	———	151D905X9020Y2
11	Y	151D116X0020Y2	151D116X9020Y2
13	Y	———	151D136X9020Y2
16	Y	151D166X0020Y2	151D166X9020Y2
19	Y	———	151D196X9020Y2
23	Y	151D236X0020Y2	151D236X9020Y2
28	Z	———	151D286X9020Z2
34	Z	151D346X0020Z2	151D346X9020Z2
41	Z	———	151D416X9020Z2
50	Z	151D506X0020Z2	151D506X9020Z2
35 WVDC — 46 VDC SURGE			
.0023	W	151D232X0035W2	151D232X9035W2
.0028	W	———	151D282X9035W2
.0034	W	151D342X0035W2	151D342X9035W2
.0041	W	———	151D412X9035W2
.005	W	151D502X0035W2	151D502X9035W2
.006	W	———	151D602X9035W2
.007	W	151D702X0035W2	151D702X9035W2
.009	W	———	151D902X9035W2
.011	W	151D113X0035W2	151D113X9035W2
.013	W	———	151D133X9035W2
.016	W	151D163X0035W2	151D163X9035W2
.019	W	———	151D193X9035W2
.023	W	151D233X0035W2	151D233X9035W2
.028	W	———	151D283X9035W2
.034	W	151D343X0035W2	151D343X9035W2
.041	W	———	151D413X9035W2
.050	W	151D503X0035W2	151D503X9035W2
.060	W	———	151D603X9035W2
.075	W	151D753X0035W2	151D753X9035W2
.090	W	———	151D903X9035W2
.11	W	151D114X0035W2	151D114X9035W2
.13	W	———	151D134X9035W2
.16	W	151D164X0035W2	151D164X9035W2
.19	W	———	151D194X9035W2
.23	W	151D234X0035W2	151D234X9035W2
.28	W	———	151D284X9035W2
.34	W	151D344X0035W2	151D344X9035W2
.41	W	———	151D414X9035W2
.50	W	151D504X0035W2	151D504X9035W2
.60	X	———	151D604X9035X2
.75	X	151D754X0035X2	151D754X9035X2
.90	X	———	151D904X9035X2
1.1	X	151D115X0035X2	151D115X9035X2
1.3	X	———	151D135X9035X2
1.6	X	151D165X0035X2	151D165X9035X2
1.9	X	———	151D195X9035X2
2.3	X	151D235X0035X2	151D235X9035X2
2.8	X	———	151D285X9035X2
3.4	X	151D345X0035X2	151D345X9035X2
4.1	Y	———	151D415X9035Y2
5.0	Y	151D505X0035Y2	151D505X9035Y2
6.0	Y	———	151D605X9035Y2
7.5	Y	151D755X0035Y2	151D755X9035Y2
9.0	Y	———	151D905X9035Y2
11	Y	151D116X0035Y2	151D116X9035Y2
13	Z	———	151D136X9035Z2
16	Z	151D166X0035Z2	151D166X9035Z2
19	Z	———	151D196X9035Z2
23	Z	151D236X0035Z2	151D236X9035Z2

DIMENSIONS

Code	With Sleeve D. x L.	Bare Case D. x L.
W	.161″ x .575″	.146″ x .540″
X	.207″ x .955″	.192″ x .915″
Y	.314″ x 1.350″	.299″ x 1.320″
Z	.376″ x 1.550″	.361″ x 1.520″

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SPRAGUE CAPACITORS

TYPE 151D NON-POLARIZED SOLID-ELECTROLYTE TANTALEX® CAPACITORS (Cont.)

50 VOLTS NP, 65 NP SURGE

µF	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.
.0023	W	151D232X0050W2	151D232X9050W2
.0028	W	———	151D282X9050W2
.0034	W	151D342X0050W2	151D342X9050W2
.0041	W	———	151D412X9050W2
.005	W	151D502X0050W2	151D502X9050W2
.006	W	———	151D602X9050W2
.0075	W	151D752X0050W2	151D752X9050W2
.009	W	———	151D902X9050W2
.011	W	151D113X0050W2	151D113X9050W2
.013	W	———	151D133X9050W2
.016	W	151D163X0050W2	151D163X9050W2
.019	W	———	151D193X9050W2
.023	W	151D233X0050W2	151D233X9050W2
.028	W	———	151D283X9050W2
.034	W	151D343X0050W2	151D343X9050W2
.041	W	———	151D413X9050W2
.05	W	151D503X0050W2	151D503X9050W2
.06	W	———	151D603X9050W2
.075	W	151D753X0050W2	151D753X9050W2
.09	W	———	151D903X9050W2
.11	W	151D114X0050W2	151D114X9050W2
.13	W	———	151D134X9050W2
.16	W	151D164X0050W2	151D164X9050W2
.19	W	———	151D194X9050W2
.23	W	151D234X0050W2	151D234X9050W2
.28	W	———	151D284X9050W2
.34	W	151D344X0050W2	151D344X9050W2
.41	W	———	151D414X9050W2
.50	W	151D504X0050W2	151D504X9050W2
.60	X	———	151D604X9050X2
.75	X	151D754X0050X2	151D754X9050X2
.90	X	———	151D904X9050X2
1.1	X	151D115X0050X2	151D115X9050X2
1.3	X	———	151D135X9050X2
1.6	X	151D165X0050X2	151D165X9050X2
1.9	X	———	151D195X9050X2
2.3	X	151D235X0050X2	151D235X9050X2
2.8	Y	———	151D285X9050Y2
3.4	Y	151D345X0050Y2	151D345X9050Y2
4.1	Y	———	151D415X9050Y2
5.0	Y	151D505X0050Y2	151D505X9050Y2
6.0	Y	———	151D605X9050Y2
7.5	Y	151D755X0050Y2	151D755X9050Y2
9.0	Y	———	151D905X9050Y2
11.0	Z	151D116X0050Z2	151D116X9050Z2

60 VOLTS NP, 78 NP SURGE

µF	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.
.0023	W	151D232X0060W2	151D232X9060W2
.0028	W	———	151D282X9060W2
.0034	W	151D342X0060W2	151D342X9060W2
.0041	W	———	151D412X9060W2
.005	W	151D502X0060W2	151D502X9060W2
.006	W	———	151D602X9060W2
.0075	W	151D752X0060W2	151D752X9060W2
.009	W	———	151D902X9060W2
.011	W	151D113X0060W2	151D113X9060W2
.013	W	———	151D133X9060W2
.016	W	151D163X0060W2	151D163X9060W2
.019	W	———	151D193X9060W2
.023	W	151D233X0060W2	151D233X9060W2
.028	W	———	151D283X9060W2
.034	W	151D343X0060W2	151D343X9060W2
.041	W	———	151D413X9060W2
.05	W	151D503X0060W2	151D503X9060W2
.06	W	———	151D603X9060W2
.075	W	151D753X0060W2	151D753X9060W2
.09	W	———	151D903X9060W2
.11	W	151D114X0060W2	151D114X9060W2
.13	W	———	151D134X9060W2
.16	W	151D164X0060W2	151D164X9060W2
.19	W	———	151D194X9060W2
.23	W	151D234X0060W2	151D234X9060W2
.28	W	———	151D284X9060W2
.34	W	151D344X0060W2	151D344X9060W2
.41	X	———	151D414X9060X2
.50	X	151D504X0060X2	151D504X9060X2
.60	X	———	151D604X9060X2
.75	X	151D754X0060X2	151D754X9060X2
.90	X	———	151D904X9060X2
1.1	X	151D115X0060X2	151D115X9060X2
1.3	X	———	151D135X9060X2
1.6	X	151D165X0060X2	151D165X9060X2
1.9	X	———	151D195X9060X2
2.3	Y	151D235X0060Y2	151D235X9060Y2
2.8	Y	———	151D285X9060Y2
3.4	Y	151D345X0060Y2	151D345X9060Y2
4.1	Y	———	151D415X9060Y2
5.0	Y	151D505X0060Y2	151D505X9060Y2
6.0	Z	———	151D605X9060Z2
7.5	Z	151D755X0060Z2	151D755X9060Z2
9.0	Z	———	151D905X9060Z2
11.0	Z	151D116X0060Z2	151D116X9060Z2

75 VOLTS NP, 97 NP SURGE

µF	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.
.0023	W	151D232X0075W2	151D232X9075W2
.0028	W	———	151D282X9075W2
.0034	W	151D342X0075W2	151D342X9075W2
.0041	W	———	151D412X9075W2
.005	W	151D502X0075W2	151D502X9075W2
.006	W	———	151D602X9075W2
.0075	W	151D752X0075W2	151D752X9075W2
.009	W	———	151D902X9075W2
.011	W	151D113X0075W2	151D113X9075W2
.013	W	———	151D133X9075W2
.016	W	151D163X0075W2	151D163X9075W2
.019	W	———	151D193X9075W2
.023	W	151D233X0075W2	151D233X9075W2
.028	W	———	151D283X9075W2
.034	W	151D343X0075W2	151D343X9075W2
.041	W	———	151D413X9075W2
.05	W	151D503X0075W2	151D503X9075W2
.06	W	———	151D603X9075W2
.075	W	151D753X0075W2	151D753X9075W2
.09	W	———	151D903X9075W2
.11	W	151D114X0075W2	151D114X9075W2
.13	W	———	151D134X9075W2
.16	W	151D164X0075W2	151D164X9075W2
.19	W	———	151D194X9075W2
.23	W	151D234X0075W2	151D234X9075W2
.28	W	———	151D284X9075W2
.34	W	151D344X0075W2	151D344X9075W2
.41	X	———	151D414X9075X2
.50	X	151D504X0075X2	151D504X9075X2
.60	X	———	151D604X9075X2
.75	X	151D754X0075X2	151D754X9075X2
.90	X	———	151D904X9075X2
1.1	X	151D115X0075X2	151D115X9075X2
1.3	X	———	151D135X9075X2
1.6	X	151D165X0075X2	151D165X9075X2
1.9	X	———	151D195X9075X2
2.3	Y	151D235X0075Y2	151D235X9075Y2
2.8	Y	———	151D285X9075Y2
3.4	Y	151D345X0075Y2	151D345X9075Y2
4.1	Y	———	151D415X9075Y2
5.0	Y	151D505X0075Y2	151D505X9075Y2
6.0	Z	———	151D605X9075Z2
7.5	Z	151D755X0075Z2	151D755X9075Z2

100 VOLTS NP, 115 NP SURGE

µF	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.
.0023	W	151D232X0100W2	151D232X9100W2
.0028	W	———	151D282X9100W2
.0034	W	151D342X0100W2	151D342X9100W2
.0041	W	———	151D412X9100W2
.005	W	151D502X0100W2	151D502X9100W2
.006	W	———	151D602X9100W2
.0075	W	151D752X0100W2	151D752X9100W2
.009	W	———	151D902X9100W2
.011	W	151D113X0100W2	151D113X9100W2
.013	W	———	151D133X9100W2
.016	W	151D163X0100W2	151D163X9100W2
.019	W	———	151D193X9100W2
.023	W	151D233X0100W2	151D233X9100W2
.028	W	———	151D283X9100W2
.034	W	151D343X0100W2	151D343X9100W2
.041	W	———	151D413X9100W2
.050	W	151D503X0100W2	151D503X9100W2
.060	W	———	151D603X9100W2
.075	W	151D753X0100W2	151D753X9100W2
.090	W	———	151D903X9100W2
.11	W	151D114X0100W2	151D114X9100W2
.13	W	———	151D134X9100W2
.16	W	151D164X0100W2	151D164X9100W2
.19	W	———	151D194X9100W2
.23	W	151D234X0100W2	151D234X9100W2
.28	W	———	151D284X9100W2
.34	X	151D344X0100X2	151D344X9100X2
.41	X	———	151D414X9100X2
.50	X	151D504X0100X2	151D504X9100X2
.60	X	———	151D604X9100W2
.75	X	151D754X0100X2	151D754X9100W2
.90	X	———	151D904X9100X2
1.1	X	151D115X0100X2	151D115X9100X2
1.3	X	———	151D135X9100X2
1.6	Y	151D165X0100Y2	151D165X9100Y2
1.9	Y	151D195X0100Y2	151D195X9100Y2
2.3	Y	151D235X0100Y2	151D235X9100Y2
2.8	Y	151D285X0100Y2	151D285X9100Y2
3.4	Y	151D345X0100Y2	151D345X9100Y2

125 VOLTS NP, 140 NP SURGE

µF	Size Code	Catalog Number ±20% Tol.	Catalog Number ±10% Tol.
.0023	W	151D232X0125W2	151D232X9125W2
.0028	W	———	151D282X9125W2
.0034	W	151D342X0125W2	151D342X9125W2
.0041	W	———	151D412X9125W2
.005	W	151D502X0125W2	151D502X9125W2
.006	W	———	151D602X9125W2
.0075	W	151D752X0125W2	151D752X9125W2
.009	W	———	151D902X9125W2
.011	W	151D113X0125W2	151D113X9125W2
.013	W	———	151D133X9125W2
.016	W	151D163X0125W2	151D163X9125W2
.019	W	———	151D193X9125W2
.023	W	151D233X0125W2	151D233X9125W2
.028	W	———	151D283X9125W2
.034	W	151D343X0125W2	151D343X9125W2
.041	W	———	151D413X9125W2
.05	W	151D503X0125W2	151D503X9125W2
.06	W	———	151D603X9125W2
.07	W	151D703X0125W2	151D703X9125W2
.09	W	———	151D903X9125W2
.11	W	151D114X0125W2	151D114X9125W2
.13	W	———	151D134X9125W2
.16	W	151D164X0125W2	151D164X9125W2
.19	X	———	151D194X9125X2
.23	X	151D234X0125X2	151D234X9125X2
.28	X	———	151D284X9125X2
.34	X	151D344X0125X2	151D344X9125X2
.41	X	———	151D414X9125X2
.50	X	151D504X0125X2	151D504X9125X2
.60	X	———	151D604X9125X2
.75	X	151D754X0125X2	151D754X9125X2
.90	X	———	151D904X9125X2
1.1	X	151D115X0125X2	151D115X9125X2

DIMENSIONS WITH SLEEVE Code	D. x L.
W	.161″ x .575″
X	.207″ x .955″
Y	.314″ x 1.350″
Z	.376″ x 1.550″

Call your Sprague Industrial Distributor for Current Quantity Prices

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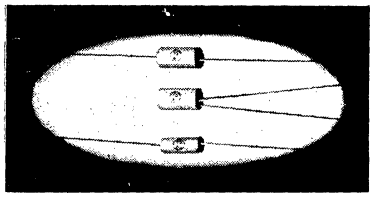
SPRAGUE CAPACITORS



DIMENSIONS

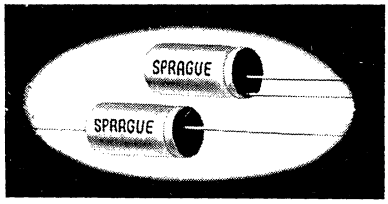
Case Code	D	x	L
AA	0.080	x	0.135
AB	0.080	x	0.185
BA	0.105	x	0.265
CA	0.145	x	0.265

TYPES 162D, 169D MINIATURE SOLID-ELECTROLYTE RED TOP® TANTALEX® CAPACITORS IN RESIN-SEALED CASES

- Miniature Polarized Tantalex Capacitors in Resin-sealed Case For Use in Compactly Designed Electronic Equipment.
- Two Lead Styles—Type 162D With Axial Leads, and "Single-Ended" Type 169D, Which is Especially Suited For Printed Wiring Board Applications.
- Red End Seal Indicates Positive End on Axial Lead Units. Center Lead is Positive on "Single-Ended" Type 169D Capacitors.
- Listed Units have Plastic-Film Insulation. Bare Metal Case Units Available.
- Ratings From 2 Through 100 WVDC Available.
- Capacitance Values From 0.033 μF to 68 μF.
- Temperature Range of —55 C to +85C.
- For Complete Technical Data, Refer to the Latest Issue of Sprague Engineering Bulletin No. 3536.
- Call Your Sprague Industrial Distributor For Prices.

μF	WVDC	Size Code	Catalog Number Axial-Lead	Catalog Number Single-Ended
47	4	CA	162D476X9004CA2	169D476X9004CA2
1.0	10	AA	162D105X9010AA2	169D105X9010AA2
10	10	BA	162D106X9010BA2	169D106X9010BA2
22	10	CA	162D226X9010CA2	169D226X9010CA2
.68	15	AA	162D684X9015AA2	169D684X9015AA2
2.2	15	AB	162D225X9015AB2	169D225X9015AB2
6.8	15	BA	162D685X9015BA2	169D685X9015BA2
15	15	CA	162D156X9015CA2	169D156X9015CA2
.47	20	AA	162D474X9020AA2	169D474X9020AA2
1.0	20	AB	162D105X9020AB2	169D105X9020AB2
4.7	20	BA	162D475X9020BA2	169D475X9020BA2
.15	35	AA	162D154X9035AA2	169D154X9035AA2
.1	50	AA	162D104X9050AA2	169D104X9050AA2
.033	100	AA	162D333X9100AA2	169D333X9100AA2
.068	100	AA	162D683X9100AA2	169D683X9100AA2

TYPE 164D, SOLID-ELECTROLYTE RED TOP® TANTALEX® CAPACITORS



- Economically Priced Red Top Capacitors Are For Use in Commercial Digital Computers and All Types of Industrial Electronic Equipment.
- Metal Cases With Resin End Seals Afford Greater Moisture Protection Than Organic Housings Such as Moldings or Polyester Film.
- Case Sizes are the Same as those of the "Industrial Standard" Type 150D Hermetically-Sealed Design.
- Red End Seal Indicates Positive End on Axial Lead Units.
- Listed Units Have Plastic-Film Insulation. Bare Metal Case Units Available.
- Voltage Ratings From 6 Through 75 WVDC.
- Temperature Range of —55 C to +85 C.
- For Complete Technical Data, Refer to the Latest Issue of Sprague Engineering Bulletin No. 3537.
- Call Your Sprague Industrial Distributor for Prices.

DIMENSIONS **Case Code** A — .135 D. x .322 L. B — .185 D. x .510 L. R — .289 D. x .722 L. S — .351 D. x .822 L.

μF	WVDC	Size	Catalog Number Axial-Lead
5.6	6	A	164D565X9006A2
6.8	6	A	164D685X9006A2
47	6	B	164D476X9006B2
56	6	B	164D566X9006B2
150	6	R	164D157X9006R2
180	6	R	164D187X9006R2
270	6	S	164D277X9006S2
330	6	S	164D337X9006S2
3.9	10	A	164D395X9010A2
4.7	10	A	164D475X9010A2
27	10	B	164D276X9010B2
33	10	B	164D336X9010B2
39	10	B	164D386X9010B2
82	10	R	164D826X9010R2
100	10	R	164D107X9010R2
120	10	R	164D127X9010R2
180	10	S	164D187X9010S2
220	10	S	164D227X9010S2
2.7	15	A	164D275X9015A2
3.3	15	A	164D335X9015A2
18	15	B	164D186X9015B2
22	15	B	164D226X9015B2
56	15	R	164D566X9015R2
68	15	R	164D686X9015R2
120	15	S	164D127X9015S2
150	15	S	164D157X9015S2
1.2	20	A	164D125X9020A2
1.5	20	A	164D155X9020A2
1.8	20	A	164D185X9020A2
2.2	20	A	164D225X9020A2
8.2	20	B	164D825X9020B2
10	20	B	164D106X9020B2
12	20	B	164D126X9020B2
15	20	B	164D156X9020B2
27	20	R	164D276X9020R2
33	20	R	164D336X9020R2
39	20	R	164D396X9020R2
47	20	R	164D476X9020R2
56	20	S	164D566X9020S2
68	20	S	164D686X9020S2
82	20	S	164D826X9020S2
100	20	S	164D107X9020S2
.0047	35	A	164D472X9035A2
.0068	35	A	164D682X9035A2
.01	35	A	164D103X9035A2
.015	35	A	164D153X9035A2
.022	35	A	164D223X9035A2
.033	35	A	164D333X9035A2
.047	35	A	164D473X9035A2
.068	35	A	164D683X9035A2
.1	35	A	164D104X9035A2
.15	35	A	164D154X9035A2
.22	35	A	164D224X9035A2
.33	35	A	164D334X9035A2
.47	35	A	164D474X9035A2
.68	35	A	164D684X9035A2
1.0	35	A	164D105X9035A2
1.2	35	B	164D125X9035B2
1.5	35	B	164D155X9035B2
1.8	35	B	164D185X9035B2
2.2	35	B	164D225X9035B2
2.7	35	B	164D275X9035B2
3.3	35	B	164D335X9035B2
3.9	35	B	164D395X9035B2
4.7	35	B	164D475X9035B2
5.6	35	B	164D565X9035B2
6.8	35	B	164D685X9035B2
8.2	35	R	164D825X9035R2
10	35	R	164D106X9035R2
12	35	R	164D126X9035R2
15	35	R	164D156X9035R2
18	35	R	164D186X9035R2
22	35	R	164D226X9035R2
27	35	S	164D276X9035S2
33	35	S	164D336X9035S2
39	35	S	164D396X9035S2
47	35	S	164D476X9035S2
.0047	50	A	164D472X9050A2
.0068	50	A	164D682X9050A2
.01	50	A	164D103X9050A2
.015	50	A	164D153X9050A2
.022	50	A	164D223X9050A2
.033	50	A	164D333X9050A2
.047	50	A	164D473X9050A2
.068	50	A	164D683X9050A2
.1	50	A	164D104X9050A2
.15	50	A	164D154X9050A2
.22	50	A	164D224X9050A2
.33	50	A	164D334X9050A2
.47	50	A	164D474X9050A2
.68	50	A	164D684X9050A2
1.0	50	A	164D105X9050A2
1.2	50	B	164D125X9050B2
1.5	50	B	164D155X9050B2
1.8	50	B	164D185X9050B2
2.2	50	B	164D225X9050B2
2.7	50	B	164D275X9050B2
3.3	50	B	164D335X9050B2
3.9	50	B	164D395X9050B2
4.7	50	B	164D475X9050B2
5.6	50	R	164D565X9050R2
6.8	50	R	164D685X9050R2
8.2	50	R	164D825X9050R2
10	50	R	164D106X9050R2
12	50	R	164D126X9050R2
15	50	R	164D156X9050R2
18	50	R	164D186X9050R2
22	50	S	164D226X9050R2
.0047	75	A	164D472X9075A2
.0068	75	A	164D682X9075A2
.01	75	A	164D103X9075A2
.015	75	A	164D153X9075A2
.022	75	A	164D223X9075A2
.033	75	A	164D333X9075A2
.047	75	A	164D473X9075A2
.068	75	A	164D683X9075A2
.1	75	A	164D104X9075A2
.15	75	A	164D154X9075A2
.22	75	A	164D224X9075A2
.33	75	A	164D334X9075A2
.47	75	A	164D474X9075A2
.68	75	A	164D684X9075A2
1.0	75	B	164D105X9075B2
1.2	75	B	164D125X9075B2
1.5	75	B	164D155X9075B2
1.8	75	B	164D185X9075B2
2.2	75	B	164D225X9075B2
2.7	75	B	164D275X9075B2
3.3	75	B	164D335X9075B2
3.9	75	B	164D395X9075B2

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SPRAGUE CAPACITORS

125C FOIL TANTALEX® CAPACITORS

- Small size, electrically stable, long life. For data, see latest Engineering Bulletin 3602.
- 120D, 122D available as MIL-C-3965 units.
- Tol., 120D, 121D, ±20%; 122D, 123D, −15, +75%.
- Listed units have plastic wrap. For bare metal case units, end Cat. No. in "0" instead of "1".
- Call Your Sprague Industrial Distributor for Quantity Prices.

Size Code	D. x L.	Size Code	D. x L.
E	0.203 x 0.843	Q	0.390 x 2.968
H	0.296 x 1.125	S	0.483 x 2.968
K	0.390 x 1.656	Z	0.546 x 2.968
N	0.390 x 2.343		

TYPE 120D
POLARIZED PLAIN-FOIL
STANDARD RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS D-C		
4.5	E	120D455X0010E1
18	H	120D186X0010H1
55	K	120D556X0010K1
110	N	120D117X0010N1
160	Q	120D167X0010Q1
260	S	120D267X0010S1
320	Z	120D327X0010Z1
15 WORKING VOLTS D-C		
3	E	120D305X0015E1
12	H	120D126X0015H1
35	K	120D356X0015K1
70	N	120D706X0015N1
100	Q	120D107X0015Q1
180	S	120D187X0015S1
210	Z	120D217X0015Z1
30 WORKING VOLTS D-C		
1.5	E	120D155X0030E1
6	H	120D605X0030H1
20	K	120D206X0030K1
40	N	120D406X0030N1
55	Q	120D556X0030Q1
100	S	120D107X0030S1
120	Z	120D127X0030Z1
50 WORKING VOLTS D-C		
1	E	120D105X0050E1
4	H	120D405X0050H1
14	K	120D146X0050K1
28	N	120D286X0050N1
40	Q	120D406X0050Q1
70	S	120D706X0050S1
88	Z	120D886X0050Z1
65 WORKING VOLTS D-C		
0.8	E	120D804X0065E1
3	H	120D305X0065H1
10	K	120D106X0065K1
20	N	120D206X0065N1
30	Q	120D306X0065Q1
57	S	120D576X0065S1
70	Z	120D706X0065Z1
100 WORKING VOLTS D-C		
0.5	E	120D504X0100E1
2	H	120D205X0100H1
7	K	120D705X0100K1
14	N	120D146X0100N1
20	Q	120D206X0100Q1
40	S	120D406X0100S1
47	Z	120D476X0100Z1
150 WORKING VOLTS D-C		
0.35	E	120D354X0150E1
1.5	H	120D155X0150H1
5	K	120D505X0150K1
10	N	120D106X0150N1
15	Q	120D156X0150Q1
25	S	120D256X0150S1
30	Z	120D306X0150Z1
200 WORKING VOLTS D-C		
0.25	E	120D254X8200E1
1	H	120D105X8200H1
3	K	120D305X8200K1
7	N	120D705X8200N1
10	Q	120D106X8200Q1
18	S	120D186X8200S1
250 WORKING VOLTS D-C		
0.2	E	120D204X8250E1
0.8	H	120D804X8250H1
2.5	K	120D255X8250K1
5	N	120D505X8250N1
8	Q	120D805X8250Q1
12	S	120D126X8250S1
300 WORKING VOLTS D-C		
0.15	E	120D154X8300E1
0.65	H	120D654X8300H1
2	K	120D205X8300K1
4	N	120D405X8300N1
6	Q	120D605X8300Q1

TYPE 121D
NON-POLARIZED PLAIN-FOIL
STANDARD RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS N.P.		
2.5	E	121D255X0010E1
10	H	121D106X0010H1
35	K	121D356X0010K1
70	N	121D706X0010N1
100	Q	121D107X0010Q1
160	S	121D167X0010S1
200	Z	121D207X0010Z1
15 WORKING VOLTS N.P.		
1.5	E	121D155X0015E1
6	H	121D605X0015H1
20	K	121D206X0015K1
40	N	121D406X0015N1
60	Q	121D606X0015Q1
100	S	121D107X0015S1
120	Z	121D127X0015Z1
30 WORKING VOLTS N.P.		
0.8	E	121D804X0030E1
3	H	121D305X0030H1
10	K	121D106X0030K1
20	N	121D206X0030N1
30	Q	121D306X0030Q1
50	S	121D506X0030S1
65	Z	121D656X0030Z1
50 WORKING VOLTS N.P.		
0.5	E	121D504X0050E1
2	H	121D205X0050H1
7	K	121D705X0050K1
14	N	121D146X0050N1
20	Q	121D206X0050Q1
40	S	121D406X0050S1
47	Z	121D476X0050Z1
65 WORKING VOLTS N.P.		
0.4	E	121D404X0065E1
1.5	H	121D155X0065H1
5	K	121D505X0065K1
10	N	121D106X0065N1
15	Q	121D156X0065Q1
30	S	121D306X0065S1
37	Z	121D376X0065Z1
100 WORKING VOLTS N.P.		
0.25	E	121D254X0100E1
1.0	H	121D105X0100H1
3.5	K	121D355X0100K1
7	N	121D705X0100N1
10	Q	121D106X0100Q1
20	S	121D206X0100S1
24	Z	121D246X0100Z1
150 WORKING VOLTS N.P.		
0.15	E	121D154X0150E1
0.75	H	121D754X0150H1
2.5	K	121D255X0150K1
5.0	N	121D505X0150N1
7.5	Q	121D755X0150Q1
13	S	121D136X0150S1
16	Z	121D166X0150Z1
200 WORKING VOLTS N.P.		
0.1	E	121D104X8200E1
0.5	H	121D504X8200H1
1.5	K	121D155X8200K1
3.5	N	121D355X8200N1
5.0	Q	121D505X8200Q1
9.5	S	121D955X8200S1
250 WORKING VOLTS N.P.		
0.1	E	121D104X8250E1
0.4	H	121D404X8250H1
1.2	K	121D125X8250K1
2.5	N	121D255X8250N1
4.0	Q	121D405X8250Q1

TYPE 122D
POLARIZED ETCHED-FOIL
STANDARD RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS D-C		
15	E	122D156C7010E1
60	H	122D606C7010H1
200	K	122D207C7010K1
400	N	122D407C7010N1
580	Q	122D587C7010Q1
15 WORKING VOLTS D-C		
10	E	122D106C7015E1
40	H	122D406C7015H1
120	K	122D127C7015K1
250	N	122D257C7015N1
350	Q	122D357C7015Q1
30 WORKING VOLTS D-C		
4.5	E	122D455C5030E1
18	H	122D186C5030H1
60	K	122D606C5030K1
100	N	122D107C5030N1
150	Q	122D157C5030Q1
50 WORKING VOLTS D-C		
3	E	122D305C5050E1
12	H	122D126C5050H1
30	K	122D306C5050K1
70	N	122D706C5050N1
100	Q	122D107C5050Q1
65 WORKING VOLTS D-C		
2	E	122D205C3065E1
8	H	122D805C3065H1
25	K	122D256C3065K1
50	N	122D506C3065N1
70	Q	122D706C3065Q1
100 WORKING VOLTS D-C		
1	E	122D105C3100E1
4	H	122D405C3100H1
13	K	122D136C3100K1
25	N	122D256C3100N1
36	Q	122D366C3100Q1

TYPE 122D
POLARIZED ETCHED-FOIL
MAXIMUM RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS D-C		
36	E	122D366C7010E1
130	H	122D137C7010H1
370	K	122D377C7010K1
780	N	122D787C7010N1
1100	Q	122D118C7010Q1
2000	S	122D208C7010S1
2500	Z	122D258C7010Z1
15 WORKING VOLTS D-C		
23	E	122D236C7015E1
80	H	122D806C7015H1
240	K	122D247C7015K1
510	N	122D517C7015N1
720	Q	122D727C7015Q1
1300	S	122D138C7015S1
1600	Z	122D168C7015Z1
20 WORKING VOLTS D-C		
19	E	122D196C7020E1
67	H	122D676C7020H1
200	K	122D207C7020K1
420	N	122D427C7020N1
590	Q	122D597C7020Q1
1100	S	122D118C7020S1
1400	Z	122D148C7020Z1
30 WORKING VOLTS D-C		
8	E	122D805C5030E1
29	H	122D296C5030H1
85	K	122D856C5030K1
180	N	122D187C5030N1
260	Q	122D267C5030Q1
470	S	122D477C5030S1
580	Z	122D587C5030Z1
50 WORKING VOLTS D-C		
4	E	122D405C5050E1
15	H	122D156C5050H1
45	K	122D456C5050K1
95	N	122D956C5050N1
130	Q	122D137C5050Q1
250	S	122D257C5050S1
300	Z	122D307C5050Z1
65 WORKING VOLTS D-C		
3	E	122D305C3065E1
10	H	122D106C3065H1
30	K	122D306C3065K1
63	N	122D636C3065N1
90	Q	122D906C3065Q1
170	S	122D177C3065S1
210	Z	122D217C3065Z1
100 WORKING VOLTS D-C		
1.6	E	122D165C3100E1
5.5	H	122D555C3100H1
17	K	122D176C3100K1
35	N	122D356C3100N1
50	Q	122D506C3100Q1
90	S	122D906C3100S1
120	Z	122D127C3100Z1
150 WORKING VOLTS D-C		
0.75	E	122D754C3150E1
2.5	H	122D255C3150H1
7.5	K	122D755C3150K1
15	N	122D156C3150N1
22	Q	122D226C3150Q1
41	S	122D416C3150S1
51	Z	122D516C3150Z1
200 WORKING VOLTS D-C		
1.7	H	122D175X0200H1
5	K	122D505X0200K1
11	N	122D116X0200N1
15	Q	122D156X0200Q1
28	S	122D286X0200S1
250 WORKING VOLTS D-C		
1.3	H	122D135X0250H1
4	K	122D405X0250K1
8	N	122D805X0250N1
12	Q	122D126X0250Q1

TYPE 123D
NON-POLARIZED ETCHED-FOIL
STANDARD RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS N.P.		
10	E	123D106C7010E1
40	H	123D406C7010H1
120	K	123D127C7010K1
250	N	123D257C7010N1
350	Q	123D357C7010Q1
15 WORKING VOLTS N.P.		
5	E	123D505C7015E1
20	H	123D206C7015H1
70	K	123D706C7015K1
140	N	123D147C7015N1
200	Q	123D207C7015Q1
30 WORKING VOLTS N.P.		
2.5	E	123D255C5030E1
10	H	123D106C5030H1
30	K	123D306C5030K1
60	N	123D606C5030N1
80	Q	123D806C5030Q1
50 WORKING VOLTS N.P.		
1.5	E	123D155C5050E1
6	H	123D605C5050H1
15	K	123D156C5050K1
35	N	123D356C5050N1
50	Q	123D506C5050Q1
65 WORKING VOLTS N.P.		
1	E	123D105C3065E1
4	H	123D405C3065H1
12	K	123D126C3065K1
25	N	123D256C3065N1
35	Q	123D356C3065Q1
100 WORKING VOLTS N.P.		
0.5	E	123D504C3100E1
2	H	123D205C3100H1
6	K	123D605C3100K1
12	N	123D126C3100N1
18	Q	123D186C3100Q1

TYPE 123D
NON-POLARIZED ETCHED-FOIL
MAXIMUM RATINGS

µF	Case Code	Catalog Number
10 WORKING VOLTS N.P.		
25	E	123D256C7010E1
90	H	123D906C7010H1
250	K	123D257C7010K1
530	N	123D537C7010N1
760	Q	123D767C7010Q1
1400	S	123D148C7010S1
2000	Z	123D208C7010Z1
15 WORKING VOLTS N.P.		
14	E	123D146C7015E1
50	H	123D506C7015H1
140	K	123D147C7015K1
290	N	123D297C7015N1
420	Q	123D427C7015Q1
800	S	123D807C7015S1
1100	Z	123D118C7015Z1
20 WORKING VOLTS N.P.		
11	E	123D116C7020E1
39	H	123D396C7020H1
110	K	123D117C7020K1
230	N	123D237C7020N1
320	Q	123D327C7020Q1
600	S	123D607C7020S1
850	Z	123D857C7020Z1
30 WORKING VOLTS N.P.		
4	E	123D405C5030E1
14	H	123D146C5030H1
40	K	123D406C5030K1
84	N	123D846C5030N1
120	Q	123D127C5030Q1
230	S	123D237C5030S1
310	Z	123D317C5030Z1
50 WORKING VOLTS N.P.		
2	E	123D205C5050E1
7	H	123D705C5050H1
20	K	123D206C5050K1
43	N	123D436C5050N1
60	Q	123D606C5050Q1
110	S	123D117C5050S1
160	Z	123D167C5050Z1
65 WORKING VOLTS N.P.		
1.4	E	123D145C3065E1
5	H	123D505C3065H1
14	K	123D146C3065K1
29	N	123D296C3065N1
41	Q	123D416C3065Q1
78	S	123D786C3065S1
110	Z	123D117C3065Z1
100 WORKING VOLTS N.P.		
0.75	E	123D754C3100E1
2.7	H	123D275C3100H1
7.5	K	123D755C3100K1
15	N	123D156C3100N1
22	Q	123D226C3100Q1
43	S	123D436C3100S1
60	Z	123D606C3100Z1

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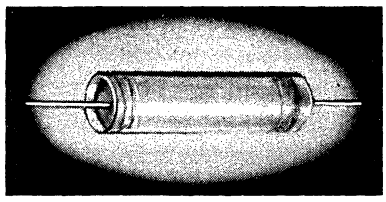
SPRAGUE CAPACITORS



85C FOIL TANTALEX® CAPACITORS

- Small Size, Electrically Stable, Long Life. For Data, See Latest Engineering Bulletin 3601
- 110D and 112D Available as MIL-C-3965 Units
- Tol. 110D, 111D, ±20% and ±15%; 112D and 113D +75%, −15%, +50%, −15% and +30%, −15%
- Plastic Wrap, For Bare Case, End Cat. No. in "0" Instead of "1"
- Call Your Sprague Industrial Distributor For Quantity Prices

DIMENSIONS

Case	D x L	Case	D x L
D	0.203 x 0.812	P	0.390 x 2.875
G	0.296 x 1.000	R	0.483 x 2.875
J	0.390 x 1.562	Y	0.546 x 2.875
M	0.390 x 2.250		

TYPE 110D
POLARIZED PLAIN-FOIL

µF	Case	Catalog No.
3 WORKING VOLTS D-C		
10	D	110D106X0003D1
55	G	110D556X0003G1
160	J	110D167X0003J1
350	M	110D357X0003M1
440	P	110D447X0003P1
1100	R	110D118X0003R1
1300	Y	110D138X0003Y1
6 WORKING VOLTS D-C		
8	D	110D805X0006D1
35	G	110D356X0006G1
100	J	110D107X0006J1
200	M	110D207X0006M1
300	P	110D307X0006P1
460	R	110D467X0006R1
560	Y	110D567X0006Y1
10 WORKING VOLTS D-C		
6	D	110D605X0010D1
25	G	110D256X0010G1
80	J	110D806X0010J1
160	M	110D167X0010M1
220	P	110D227X0010P1
350	R	110D357X0010R1
420	Y	110D427X0010Y1
15 WORKING VOLTS D-C		
4.5	D	110D455X0015D1
18	G	110D186X0015G1
55	J	110D556X0015J1
110	M	110D117X0015M1
160	P	110D167X0015P1
260	R	110D267X0015R1
320	Y	110D327X0015Y1
25 WORKING VOLTS D-C		
3	D	110D305X0025D1
12	G	110D126X0025G1
35	J	110D356X0025J1
70	M	110D706X0025M1
100	P	110D107X0025P1
180	R	110D187X0025R1
210	Y	110D217X0025Y1
30 WORKING VOLTS D-C		
2.5	D	110D255X0030D1
10	G	110D106X0030G1
30	J	110D306X0030J1
60	M	110D606X0030M1
85	P	110D856X0030P1
150	R	110D157X0030R1
180	Y	110D187X0030Y1
50 WORKING VOLTS D-C		
1.5	D	110D155X0050D1
6	G	110D605X0050G1
20	J	110D206X0050J1
40	M	110D406X0050M1
55	P	110D556X0050P1
100	R	110D107X0050R1
120	Y	110D127X0050Y1
60 WORKING VOLTS D-C		
1.2	D	110D125X0060D1
5	G	110D505X0060G1
17	J	110D176X0060J1
34	M	110D346X0060M1
48	P	110D486X0060P1
85	R	110D856X0060R1
100	Y	110D107X0060Y1
75 WORKING VOLTS D-C		
1	D	110D105X0075D1
4	G	110D405X0075G1
14	J	110D146X0075J1
28	M	110D286X0075M1
40	P	110D406X0075P1
70	R	110D706X0075R1
88	Y	110D886X0075Y1
100 WORKING VOLTS D-C		
0.8	D	110D804X0100D1
3	G	110D305X0100G1
10	J	110D106X0100J1
20	M	110D206X0100M1
30	P	110D306X0100P1
57	R	110D576X0100R1
70	Y	110D706X0100Y1
150 WORKING VOLTS D-C		
0.5	D	110D504X0150D1
2	G	110D205X0150G1
7	J	110D705X0150J1
14	M	110D146X0150M1
20	P	110D206X0150P1
40	R	110D406X0150R1
47	Y	110D476X0150Y1
200 WORKING VOLTS D-C		
0.35	D	110D354X8200D1
1.5	G	110D155X8200G1
5.0	J	110D505X8200J1
10.0	M	110D106X8200M1
15.0	P	110D156X8200P1
25	R	110D256X8200R1
35	Y	110D356X8200Y1
250 WORKING VOLTS D-C		
0.3	D	110D304X8250D1
1.2	G	110D125X8250G1
4.0	J	110D405X8250J1
8.0	M	110D805X8250M1
12.0	P	110D126X8250P1
20	R	110D206X8250R1
30	Y	110D306X8250Y1
300 WORKING VOLTS D-C		
0.25	D	110D254X8300D1
1	G	110D105X8300G1
3	J	110D305X8300J1
7	M	110D705X8300M1
10	P	110D106X8300P1
18	R	110D186X8300R1
375 WORKING VOLTS D-C		
0.2	D	110D204X8375D1
0.8	G	110D804X8375G1
2.5	J	110D255X8375J1
5	M	110D505X8375M1
7	P	110D705X8375P1
12	R	110D126X8300R1
450 WORKING VOLTS D-C		
0.15	D	110D154X8450D1
0.65	G	110D654X8450G1
2	J	110D205X8450J1
4	M	110D405X8450M1
6	P	110D605X8450P1

TYPE 111D
NON-POLARIZED PLAIN-FOIL

µF	Case	Catalog No.
6 WORKING VOLTS N.P.		
7	D	111D705X0006D1
25	G	111D256X0006G1
85	J	111D856X0006J1
170	M	111D177X0006M1
250	P	111D257X0006P1
360	R	111D367X0006R1
470	Y	111D477X0006Y1
10 WORKING VOLTS N.P.		
4	D	111D405X0010D1
16	G	111D166X0010G1
55	J	111D556X0010J1
110	M	111D117X0010M1
150	P	111D157X0010P1
230	R	111D237X0010R1
280	Y	111D287X0010Y1
15 WORKING VOLTS N.P.		
2.5	D	111D255X0015D1
10	G	111D106X0015G1
35	J	111D356X0015J1
70	M	111D706X0015M1
100	P	111D107X0015P1
160	R	111D167X0015R1
200	Y	111D207X0015Y1
25 WORKING VOLTS N.P.		
1.5	D	111D155X0025D1
6	G	111D605X0025G1
20	J	111D206X0025J1
40	M	111D406X0025M1
60	P	111D606X0025P1
100	R	111D107X0025R1
120	Y	111D127X0025Y1
30 WORKING VOLTS N.P.		
1.4	D	111D145X0030D1
5.5	G	111D555X0030G1
18	J	111D186X0030J1
36	M	111D366X0030M1
45	P	111D456X0030P1
85	R	111D856X0030R1
100	Y	111D107X0030Y1
50 WORKING VOLTS N.P.		
0.8	D	111D804X0050D1
3	G	111D305X0050G1
10	J	111D106X0050J1
20	M	111D206X0050M1
30	P	111D306X0050P1
50	R	111D506X0050R1
65	Y	111D656X0050Y1
60 WORKING VOLTS N.P.		
0.6	D	111D604X0060D1
2.5	G	111D255X0060G1
8.5	J	111D855X0060J1
17	M	111D176X0060M1
24	P	111D246X0060P1
45	R	111D456X0060R1
53	Y	111D536X0060Y1
75 WORKING VOLTS N.P.		
0.5	D	111D504X0075D1
2	G	111D205X0075G1
7	J	111D705X0075J1
14	M	111D146X0075M1
20	P	111D206X0075P1
40	R	111D406X0075R1
47	Y	111D476X0075Y1
100 WORKING VOLTS N.P.		
0.4	D	111D404X0100D1
1.5	G	111D155X0100G1
5	J	111D505X0100J1
10	M	111D106X0100M1
15	P	111D156X0100P1
30	R	111D306X0100R1
37	Y	111D376X0100Y1
150 WORKING VOLTS N.P.		
0.25	D	111D254X0150D1
1.0	G	111D105X0150G1
3.5	J	111D355X0150J1
7	M	111D705X0150M1
10	P	111D106X0150P1
20	R	111D206X0150R1
24	Y	111D246X0150Y1
200 WORKING VOLTS N.P.		
0.15	D	111D154X8200D1
0.75	G	111D754X8200G1
2.5	J	111D255X8200J1
5.0	M	111D505X8200M1
7.5	P	111D755X8200P1
14	R	111D146X8200R1
17	Y	111D176X8200Y1
250 WORKING VOLTS N.P.		
0.15	D	111D154X8250D1
0.6	G	111D604X8250G1
2.0	J	111D205X8250J1
4.0	M	111D405X8250M1
6.0	P	111D605X8250P1
12	R	111D126X8250R1
15	Y	111D156X8250Y1
300 WORKING VOLTS N.P.		
0.1	D	111D104X8300D1
.5	G	111D504X8300G1
1.5	J	111D155X8300J1
3.5	M	111D355X8300M1
5	P	111D505X8300P1
9.5	R	111D955X8300R1

TYPE 112D
POLARIZED ETCHED-FOIL

µF	Case	Catalog No.
15 WORKING VOLTS D-C		
15	D	112D156C7015D1
36	D	112D366C7015D1
60	G	112D606C7015G1
130	G	112D137C7015G1
200	J	112D207C7015J1
370	J	112D377C7015J1
400	M	112D407C7015M1
580	P	112D587C7015P1
780	M	112D787C7015M1
1100	P	112D118C7015P1
2000	R	112D208C7015R1
2500	Y	112D258C7015Y1
25 WORKING VOLTS D-C		
10	D	112D106C7025D1
23	D	112D236C7025D1
40	G	112D406C7025G1
80	G	112D806C7025G1
120	J	112D127C7025J1
240	J	112D247C7025J1
250	M	112D257C7025M1
350	P	112D357C7025P1
510	M	112D517C7025M1
720	P	112D727C7025P1
1300	R	112D138C7025R1
1600	Y	112D168C7025Y1
30 WORKING VOLTS D-C		
8	D	112D805C7030D1
19	D	112D196C7030D1
32	G	112D326C7030G1
67	G	112D676C7030G1
110	J	112D117C7030J1
200	J	112D207C7030J1
220	M	112D227C7030M1
300	P	112D307C7030P1
420	M	112D427C7030M1
590	P	112D597C7030P1
1100	R	112D118C7030R1
1400	Y	112D148C7030Y1
50 WORKING VOLTS D-C		
4.5	D	112D455C5050D1
8	D	112D805C5050D1
18	G	112D186C5050G1
29	G	112D296C5050G1
60	J	112D606C5050J1
85	J	112D856C5050J1
100	M	112D107C5050M1
150	P	112D157C5050P1
180	M	112D187C5050M1
260	P	112D267C5050P1
470	R	112D477C5050R1
580	Y	112D587C5050Y1
60 WORKING VOLTS D-C		
4	D	112D405C5060D1
75 WORKING VOLTS D-C		
3	D	112D305C5075D1
4	D	112D405C5075D1
12	G	112D126C5075G1
15	G	112D156C5075G1
30	J	112D306C5075J1
45	J	112D456C5075J1
70	M	112D706C5075M1
95	M	112D956C5075M1
100	P	112D107C5075P1
130	P	112D137C5075P1
250	R	112D257C5075R1
300	Y	112D307C5075Y1
100 WORKING VOLTS D-C		
2	D	112D205C3100D1
3	D	112D305C3100D1
8	G	112D805C3100G1
10	G	112D106C3100G1
25	J	112D256C3100J1
30	J	112D306C3100J1
50	M	112D506C3100M1
63	M	112D636C3100M1
70	P	112D706C3100P1
90	P	112D906C3100P1
170	R	112D177C3100R1
210	Y	112D217C3100Y1
150 WORKING VOLTS D-C		
1	D	112D105C3150D1
1.6	D	112D165C3150D1
4	G	112D405C3150G1
5.5	G	112D555C3150G1
13	J	112D136C3150J1
17	J	112D176C3150J1
25	M	112D256C3150M1
35	M	112D356C3150M1
36	P	112D366C3150P1
50	P	112D506C3150P1
90	R	112D906C3150R1
120	Y	112D127C3150Y1
200 WORKING VOLTS D-C		
3	G	112D305X0200G1
9	J	112D905X0200J1
19	M	112D196X0200M1
27	P	112D276X0200P1
55	R	112D556X0200R1
66	Y	112D666X0200Y1
250 WORKING VOLTS D-C		
2	G	112D205X0250G1
6	J	112D605X0250J1
13	M	112D136X0250M1
19	P	112D196X0250P1
37	R	112D376X0250R1
45	Y	112D456X0250Y1
300 WORKING VOLTS D-C		
1.8	G	112D185X0300G1
5	J	112D505X0300J1
11	M	112D116X0300M1
15	P	112D156X0300P1
28	R	112D286X0300R1

TYPE 113D
NON-POLARIZED ETCHED-FOIL

µF	Case	Catalog No.
15 WORKING VOLTS N.P.		
10	D	113D106C7015D1
25	D	113D256C7015D1
40	G	113D406C7015G1
90	G	113D906C7015G1
120	J	113D127C7015J1
250	J	113D257C7015J1
250	M	113D257C7015M1
350	P	113D357C7015P1
530	M	113D537C7015M1
760	P	113D767C7015P1
1400	R	113D148C7015R1
2000	Y	113D208C7015Y1
25 WORKING VOLTS N.P.		
5	D	113D505C7025D1
14	D	113D146C7025D1
20	G	113D206C7025G1
50	G	113D506C7025G1
70	J	113D706C7025J1
140	J	113D147C7025J1
140	M	113D147C7025M1
200	P	113D207C7025P1
290	M	113D297C7025M1
420	P	113D427C7025P1
800	R	113D807C7025R1
1100	Y	113D118C7025Y1
30 WORKING VOLTS N.P.		
4.5	D	113D455C7030D1
11	D	113D116C7030D1
18	G	113D186C7030G1
39	G	113D396C7030G1
60	J	113D606C7030J1
110	J	113D117C7030J1
120	M	113D127C7030M1
170	P	113D177C7030P1
220	M	113D227C7030M1
320	P	113D327C7030P1
600	R	113D607C7030R1
850	Y	113D857C7030Y1
50 WORKING VOLTS N.P.		
2.5	D	113D255C5050D1
4	D	113D405C5050D1
10	G	113D106C5050G1
14	G	113D146C5050G1
30	J	113D306C5050J1
40	J	113D406C5050J1
60	M	113D606C5050M1
80	P	113D806C5050P1
84	M	113D846C5050M1
120	P	113D127C5050P1
230	R	113D237C5050R1
310	Y	113D317C5050Y1
75 WORKING VOLTS N.P.		
1.5	D	113D155C5075D1
2	D	113D205C5075D1
6	G	113D605C5075G1
7	G	113D705C5075G1
15	J	113D156C5075J1
20	J	113D206C5075J1
35	M	113D356C5075M1
43	M	113D436C5075M1
50	P	113D506C5075P1
60	P	113D606C5075P1
110	R	113D117C5075R1
160	Y	113D167C5075Y1
100 WORKING VOLTS N.P.		
1	D	113D105C3100D1
1.4	D	113D145C3100D1
4	G	113D405C3100G1
5	G	113D505C3100G1
12	J	113D126C3100J1
14	J	113D146C3100J1
25	M	113D256C3100M1
29	M	113D296C3100M1
35	P	113D356C3100P1
41	P	113D416C3100P1
78	R	113D786C3100R1
110	Y	113D117C3100Y1
150 WORKING VOLTS N.P.		
0.5	D	113D504C3150D1
0.75	D	113D754C3150D1
2	G	113D205C3150G1
2.7	G	113D275C3150G1
6	J	113D605C3150J1
7.5	J	113D755C3150J1
12	M	113D126C3150M1
15	M	113D156C3150M1
18	P	113D186C3150P1
22	P	113D226C3150P1
43	R	113D436C3150R1
60	Y	113D606C3150Y1

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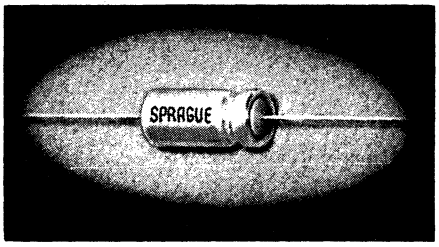
SPRAGUE CAPACITORS

TYPE 130D 125C SINTERED-ANODE TANTALEX® CAPACITORS



DIMENSIONS

Code	D x L	Code	D x L	Code	D x L	Code	D x L
C	.203 x .515	F	.296 x .703	T	.390 x .828	W	.390 x 1.312

- Reliable, Superior Quality Capacitors With no Voltage Derating for 125C Operation
- Especially Suited for Military Electronics
- Meets 2000 Cycle MIL Missile Vibration Requirements
- Clean, Shoulder-Less Design Simplifies Mounting on Printed Wiring Boards
- Voltage Ratings From 4 WVDC Through 100 WVDC
- Capacitances from 1.7 μF to 1200 μF
- For Complete Technical Data, Refer to the Latest Issue of Sprague Engineering Bulletin No. 3701
- Listed Units Have Plastic-Film Insulation For Bare Metal Cases, Change Last Digit of Cat. No. to "0"
- Call Your Sprague Industrial Distributor for Current Quantity Prices

GROUP 1: ±10%, +20, −15%, and +75, −15% Capacitance Tolerance with outer plastic-film insulation

μF	WVDC	Size Code	Catalog Number ±10%	+20 −15%	+75 −15%
27	4	C	130D276X9004C2	130D276C2004C2	130D276C7004C2
30	4	C	130D306X9004C2	130D306C2004C2	130D306C7004C2
120	4	F	130D127X9004F2	130D127C2004F2	130D127C7004F2
140	4	F	130D147X9004F2	130D147C2004F2	130D147C7004F2
290	4	T	130D297X9004T2	130D297C2004T2	130D297C7004T2
330	4	T	130D337X9004T2	130D337C2004T2	130D337C7004T2
22	5	C	130D226X9005C2	130D226C2005C2	130D226C7005C2
25	5	C	130D256X9005C2	130D256C2005C2	130D256C7005C2
100	5	F	130D107X9005F2	130D107C2005F2	130D107C7005F2
120	5	F	130D127X9005F2	130D127C2005F2	130D127C7005F2
260	5	T	130D267X9005T2	130D267C2005T2	130D267C7005T2
290	5	T	130D297X9005T2	130D297C2005T2	130D297C7005T2
18	7	C	130D186X9007C2	130D186C2007C2	130D186C7007C2
20	7	C	130D206X9007C2	130D206C2007C2	130D206C7007C2
85	7	F	130D856X9007F2	130D856C2007F2	130D856C7007F2
100	7	F	130D107X9007F2	130D107C2007F2	130D107C7007F2
220	7	T	130D227X9007T2	130D227C2007T2	130D227C7007T2
250	7	T	130D257X9007T2	130D257C2007T2	130D257C7007T2
13	10	C	130D136X9010C2	130D136C2010C2	130D136C7010C2
15	10	C	130D156X9010C2	130D156C2010C2	130D156C7010C2
55	10	F	130D556X9010F2	130D556C2010F2	130D556C7010F2
70	10	F	130D706X9010F2	130D706C2010F2	130D706C7010F2
150	10	T	130D157X9010T2	130D157C2010T2	130D157C7010T2
170	10	T	130D177X9010T2	130D177C2010T2	130D177C7010T2
9	15	C	130D905X9015C2	130D905C2015C2	130D905C7015C2
10	15	C	130D106X9015C2	130D106C2015C2	130D106C7015C2
45	15	F	130D456X9015F2	130D456C2015F2	130D456C7015F2
50	15	F	130D506X9015F2	130D506C2015F2	130D506C7015F2
100	15	T	130D107X9015T2	130D107C2015T2	130D107C7015T2
110	15	T	130D117X9015T2	130D117C2015T2	130D117C7015T2
7	20	C	130D705X9020C2	130D705C2020C2	130D705C7020C2
8	20	C	130D805X9020C2	130D805C2020C2	130D805C7020C2
35	20	F	130D356X9020F2	130D356C2020F2	130D356C7020F2
40	20	F	130D406X9020F2	130D406C2020F2	130D406C7020F2
80	20	T	130D806X9020T2	130D806C2020T2	130D806C7020T2
100	20	T	130D107X9020T2	130D107C2020T2	130D107C7020T2
4.5	30	C	130D455X9030C2	130D455C2030C2	130D455C7030C2
5	30	C	130D505X9030C2	130D505C2030C2	130D505C7030C2
22	30	F	130D226X9030F2	130D226C2030F2	130D226C7030F2
25	30	F	130D256X9030F2	130D256C2030F2	130D256C7030F2
55	30	T	130D556X9030T2	130D556C2030T2	130D556C7030T2
60	30	T	130D606X9030T2	130D606C2030T2	130D606C7030T2
3.6	40	C	130D365X9040C2	130D365C2040C2	130D365C7040C2
4	40	C	130D405X9040C2	130D405C2040C2	130D405C7040C2
18	40	F	130D186X9040F2	130D186C2040F2	130D186C7040F2
20	40	F	130D206X9040F2	130D206C2040F2	130D206C7040F2
45	40	T	130D456X9040T2	130D456C2040T2	130D456C7040T2
50	40	T	130D506X9040T2	130D506C2040T2	130D506C7040T2
3	50	C	130D305X9050C2	130D305C2050C2	130D305C7050C2
3.5	50	C	130D355X9050C2	130D355C2050C2	130D355C7050C2
13	50	F	130D136X9050F2	130D136C2050F2	130D136C7050F2
15	50	F	130D156X9050F2	130D156C2050F2	130D156C7050F2
35	50	T	130D356X9050T2	130D356C2050T2	130D356C7050T2
40	50	T	130D406X9050T2	130D406C2050T2	130D406C7050T2
2.5	70	C	130D255X9070C2	130D255C2070C2	130D255C7070C2
10	70	F	130D106X9070F2	130D106C2070F2	130D106C7070F2
11	70	F	130D116X9070F2	130D116C2070F2	130D116C7070F2
27	70	T	130D276X9070T2	130D276C2070T2	130D276C7070T2
30	70	T	130D306X9070T2	130D306C2070T2	130D306C7070T2
1.7	85	C	130D175X9085C2	130D175C2085C2	130D175C7085C2
9	85	F	130D905X9085F2	130D905C2085F2	130D905C7085F2
18	85	T	130D186X9085T2	130D186C2085T2	130D186C7085T2
1.7	100	C	130D175X9100C2	130D175C2100C2	130D175C7100C2
6.8	100	F	130D685X9100F2	130D685C2100F2	130D685C7100F2
14	100	T	130D146X9100T2	130D146C2100T2	130D146C7100T2

GROUP 2: ±20% and ±10% Capacitance Tolerance with outer plastic-film insulation

These capacitors have approximately twice the capacitance of Group 1 Capacitors of the same physical size at a given voltage rating.

μF	WVDC	Case Code	±20% Tol.	±10% Tol.
68	4	C	130D686X0004C2	130D686X9004C2
270	4	F	130D277X0004F2	130D277X9004F2
560	4	T	130D567X0004T2	130D567X9004T2
1200	4	W	130D128X0004W2	130D128X9004W2
56	5	C	130D566X0005C2	130D566X9005C2
220	5	F	130D227X0005F2	130D227X9005F2
430	5	T	130D437X0005T2	130D437X9005T2
850	5	W	130D857X0005W2	130D857X9005W2
47	7	C	130D476X0007C2	130D476X9007C2
180	7	F	130D187X0007F2	130D187X9007F2
390	7	T	130D397X0007T2	130D397X9007T2
750	7	W	130D757X0007W2	130D757X9007W2
33	10	C	130D336X0010C2	130D336X9010C2
120	10	F	130D127X0010F2	130D127X9010F2
270	10	T	130D277X0010T2	130D277X9010T2
540	10	W	130D547X0010W2	130D547X9010W2
22	15	C	130D226X0015C2	130D226X9015C2
100	15	F	130D107X0015F2	130D107X9015F2
180	15	T	130D187X0015T2	130D187X9015T2
350	15	W	130D357X0015W2	130D357X9015W2
15	20	C	130D156X0020C2	130D156X9020C2
68	20	F	130D686X0020F2	130D686X9020F2
150	20	T	130D157X0020T2	130D157X9020T2
300	20	W	130D307X0020W2	130D307X9020W2
10	30	C	130D106X0030C2	130D106X9030C2
47	30	F	130D476X0030F2	130D476X9030F2
82	30	T	130D826X0030T2	130D826X9030T2
160	30	W	130D167X0030W2	130D167X9030W2
8.2	40	C	130D825X0040C2	130D825X9040C2
39	40	F	130D396X0040F2	130D396X9040F2
68	40	T	130D686X0040T2	130D686X9040T2
140	40	W	130D147X0040W2	130D147X9040W2
6.8	50	C	130D685X0050C2	130D685X9050C2
33	50	F	130D336X0050F2	130D336X9050F2
56	50	T	130D566X0050T2	130D566X9050T2
110	50	W	130D117X0050W2	130D117X9050W2
4.7	70	C	130D475X0070C2	130D475X9070C2
22	70	F	130D226X0070F2	130D226X9070F2
43	70	T	130D436X0070T2	130D436X9070T2
86	70	W	130D866X0070W2	130D866X9070W2
3.6	85	C	130D365X0085C2	130D365X9085C2
14	85	F	130D146X0085F2	130D146X9085F2
25	85	T	130D256X0085T2	130D256X9085T2
56	85	W	130D566X0085W2	130D566X9085W2
3	100	C	130D305X0100C2	130D305X9100C2
11	100	F	130D116X0100F2	130D116X9100F2
22	100	T	130D226X0100T2	130D226X9100T2

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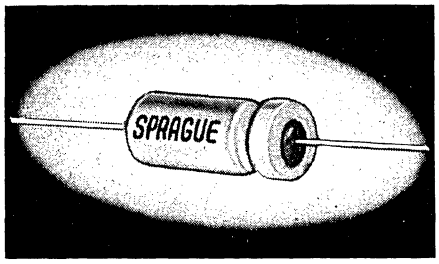
SPRAGUE CAPACITORS

TYPE 109D SINTERED-ANODE TANTALEX® CAPACITORS



DIMENSIONS

Code	D. x L.	Code	D. x L.	Code	D. x L.	Code	D. x L.
C	.203x.515	F	.296x.703	T	.380x.828	W	.390x1.312

- Intended for Applications Where Reliable Design in Military Equipment is Required
- Double Spun TFE-fluorocarbon Elastomer High Temp. End Seals
- Large Values of Capacitance in Small Physical Size
- Listed Units Have Plastic Sleeves
- For Bare Case, End Catalog Number in "0" instead of "2"
- May Be Operated at 85C at Rated Voltage and to 105C With 15% Voltage Derating
- Will Meet 2000 Cycle Missile Vibration Requirements
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 3700
- Call Your Sprague Industrial Distributor For Current Quantity Prices

GROUP 1: Available in Capacitance Tolerances of ±10%, +20, −15%; +75, −15%

μF	WVDC	Size Code	Catalog Number ±10%	+20, −15%	+75, −15%
27	6	C	109D276X9006C2	109D276C2006C2	109D276C7006C2
30	6	C	109D306X9006C2	109D306C2006C2	109D306C7006C2
120	6	F	109D127X9006F2	109D127C2006F2	109D127C7006F2
140	6	F	109D147X9006F2	109D147C2006F2	109D147C7006F2
290	6	T	109D297X9006T2	109D297C2006T2	109D297C7006T2
330	6	T	109D337X9006T2	109D337C2006T2	109D337C7006T2
22	8	C	109D226X9008C2	109D226C2008C2	109D226C7008C2
25	8	C	109D256X9008C2	109D256C2008C2	109D256C7008C2
100	8	F	109D107X9008F2	109D107C2008F2	109D107C7008F2
120	8	F	109D127X9008F2	109D127C2008F2	109D127C7008F2
260	8	T	109D276X9008T2	109D267C2008T2	109D276C7008T2
290	8	T	109D297X9008T2	109D297C2008T2	109D297C7008T2
18	10	C	109D186X9010C2	109D186C2010C2	109D186C7010C2
20	10	C	109D206X9010C2	109D206C2010C2	109D206C7010C2
85	10	F	109D856X9010F2	109D856C2010F2	109D856C7010F2
100	10	F	109D107X9010F2	109D107C2010F2	109D107C7010F2
220	10	T	109D227X9010T2	109D227C2010T2	109D227C7010T2
250	10	T	109D257X9010T2	109D257C2010T2	109D257C7010T2
13	15	C	109D136X9015C2	109D136C2015C2	109D136C7015C2
15	15	C	109D156X9015C2	109D156C2015C2	109D156C7015C2
55	15	F	109D556X9015F2	109D556C2015F2	109D556C7015F2
70	15	F	109D706X9015F2	109D706C2015F2	109D706C7015F2
150	15	T	109D157X9015T2	109D157C2015T2	109D157C7015T2
170	15	T	109D177X9015T2	109D177C2015T2	109D177C7015T2
9	25	C	109D905X9025C2	109D905C2025C2	109D905C7025C2
	25	C	109D106X9025C2	109D106C2025C2	109D106C7025C2
45	25	F	109D456X9025F2	109D456C2025F2	109D456C7025F2
50	25	F	109D506X9025F2	109D506C2025F2	109D506C7025F2
100	25	T	109D107X9025T2	109D107C2025T2	109D107C7025T2
110	25	T	109D117X9025T2	109D117C2025T2	109D117C7025T2
7	30	C	109D705X9030C2	109D705C2030C2	109D705C7030C2
8	30	C	109D805X9030C2	109D805C2030C2	109D805C7030C2
35	30	F	109D356X9030F2	109D356C2030F2	109D356C7030F2
40	30	F	109D406X9030F2	109D406C2030F2	109D406C7030F2
80	30	T	109D806X9030T2	109D806C2030T2	109D806C7030T2
100	30	T	109D107X9030T2	109D107C2030T2	109D107C7030T2
4.5	50	C	109D455X9050C2	109D455C2050C2	109D455C7050C2
5	50	C	109D505X9050C2	109D505C2050C2	109D505C7050C2
22	50	F	109D226X9050F2	109D226C2050F2	109D226C7050F2
25	50	F	109D256X9050F2	109D256C2050F2	109D256C7050F2
55	50	T	109D556X9050T2	109D556C2050T2	109D556C7050T2
60	50	T	109D606X9050T2	109D606C2050T2	109D606C7050T2
3.6	60	C	109D365X9060C2	109D365C2060C2	109D365C7060C2
4	60	C	109D405X9060C2	109D405C2060C2	109D405C7060C2
18	60	F	109D186X9060F2	109D186C2060F2	109D186C7060F2
20	60	F	109D206X9060F2	109D206C2060F2	109D206C7060F2
45	60	T	109D456X9060T2	109D456C2060T2	109D456C7060T2
50	60	T	109D506X9060T2	109D506C2060T2	109D506C7060T2
3	75	C	109D305X9075C2	109D305C2075C2	109D305C7075C2
3.5	75	C	109D355X9075C2	109D355C2075C2	109D355C7075C2
13	75	F	109D136X9075F2	109D136C2075F2	109D136C7075F2
15	75	F	109D156X9075F2	109D156C2075F2	109D156C7075F2
35	75	T	109D356X9075T2	109D356C2075T2	109D356C7075T2
40	75	T	109D406X9075T2	109D406C2075T2	109D406C7075T2
2.5	100	C	109D255X9100C2	109D255C2100C2	109D255C7100C2
10	100	F	109D106X9100F2	109D106C2100F2	109D106C7100F2
11	100	F	109D116X9100F2	109D116C2100F2	109D116C7100F2
27	100	T	109D276X9100T2	109D276C2100T2	109D276C7100T2
30	100	T	109D306X9100T2	109D306C2100T2	109D306C7100T2
1.7	125	C	109D175X9125C2	109D175C2125C2	109D175C7125C2
9	125	F	109D905X9125F2	109D905C2125F2	109D905C7125F2
18	125	T	109D186X9125T2	109D186C2125T2	109D186C7125T2
1.7	150	C	109D175X9150C2	109D175C2150C2	109D175C7150C2
6.8	150	F	109D685X9150F2	109D685C2150F2	109D685C7150F2
14	150	T	109D146X9150T2	109D146C2150T2	109D146C7150T2

GROUP 2. Available in Capacitance Tolerances of ±20% and ± 10%

These capacitors have approximately twice the capacitance of Group I Capacitors of the same physical size at a given voltage rating.

μF	WVDC	Size Code	Catalog Number ±20% Tol.	±10% Tol.
68	6	C	109D686X0006C2	109D686X9006C2
270	6	F	109D277X0006F2	109D277X9006F2
560	6	T	109D567X0006T2	109D567X9006T2
1200	6	W	109D128X0006W2	109D128X9006W2
56	8	C	109D566X0008C2	109D566X9008C2
220	8	F	109D227X0008F2	109D227X9008F2
430	8	T	109D437X0008T2	109D437X9008T2
850	8	W	109D857X0008W2	109D857X9008W2
47	10	C	109D476X0010C2	109D476X9010C2
180	10	F	109D187X0010F2	109D187X9010F2
390	10	T	109D397X0010T2	109D397X9010T2
750	10	W	109D757X0010W2	109D757X9010W2
33	15	C	109D336X0015C2	109D336X9015C2
120	15	F	109D127X0015F2	109D127X9015F2
270	15	T	109D277X0015T2	109D277X9015T2
540	15	W	109D547X0015W2	109D547X9015W2
22	25	C	109D226X0025C2	109D226X9025C2
100	25	F	109D107X0025F2	109D107X9025F2
180	25	T	109D187X0025T2	109D187X9025T2
350	25	W	109D357X0025W2	109D357X9025W2
15	30	C	109D156X0030C2	109D156X9030C2
68	30	F	109D686X0030F2	109D686X9030F2
150	30	T	109D157X0030T2	109D157X9030T2
300	30	W	109D307X0030W2	109D307X9030W2
10	50	C	109D106X0050C2	109D106X9050C2
47	50	F	109D476X0050F2	109D476X9050F2
82	50	T	109D826X0050T2	109D826X9050T2
160	50	W	109D167X0050W2	109D167X9050W2
8.2	60	C	109D825X0060C2	109D825X9060C2
39	60	F	109D396X0060F2	109D396X9060F2
68	60	T	109D686X0060T2	109D686X9060T2
140	60	W	109D147X0060W2	109D147X9060W2
6.8	75	C	109D685X0075C2	109D685X9075C2
33	75	F	109D336X0075F2	109D336X9075F2
56	75	T	109D566X0075T2	109D566X9075T2
110	75	W	109D117X0075W2	109D117X9075W2
4.7	100	C	109D475X0100C2	109D475X9100C2
22	100	F	109D226X0100F2	109D226X9100F2
43	100	T	109D436X0100T2	109D436X9100T2
86	100	W	109D866X0100W2	109D866X9100W2
3.6	125	C	109D365X0125C2	109D365X9125C2
14	125	F	109D146X0125F2	109D146X9125F2
25	125	T	109D256X0125T2	109D256X9125T2
56	125	W	109D566X0125W2	109D566X9125W2
3	150	C	109D305X0150C2	109D305X9150C2
11	150	F	109D116X0150F2	109D116X9150F2
22	150	T	109D226X0150T2	109D226X9150T2

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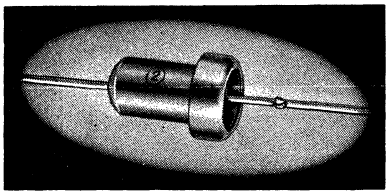
SPRAGUE CAPACITORS

"CUP STYLE" TANTALEX® CAPACITORS



Size Code	Dimensions Dia. x Length
U	7/32 x 15/32
V	9/32 x 11/16
T	3/8 x 49/64

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

- −55C to +85C Operation at Full Rating. 100C Operation With 15% Derating.
- Stable in Performance Characteristics Over Entire Temperature Range.
- Large Capacitance in Small Size.
- Extremely Low Leakage Currents.
- 132D Designed to Withstand Severe Military Vibration Tests.
- For Plastic Tube on units, change "0" to "4" at End of Catalog Number.
- For Complete Technical Data See Latest Issue of Engineering Bulletin 3710 and 3711.

VIBRATION-PROOF TYPE 132D

µF	Size Code	Catalog Number ±10% Tol.	Catalog Number −15, +20% Tol.
6 WVDC — 7 VDC SURGE			
30	U	132D306X9006U0	132D306C2006U0
140	V	132D147X9006V0	132D147C2006V0
320	T	132D327X9006T0	132D327C2006T0
8 WVDC — 10 VDC SURGE			
25	U	132D256X9008U0	132D256C2008U0
10 WVDC — 12 VDC SURGE			
20	U	132D206X9010U0	132D206C2010U0
100	V	132D107X9010V0	132D107C2010V0
250	T	132D257X9010T0	132D257C2010T0
15 WVDC — 18 VDC SURGE			
15	U	132D156X9015U0	132D156C2015U0
70	V	132D706X9015V0	132D706C2015V0
170	T	132D177X9015T0	132D177C2015T0
25 WVDC — 30 VDC SURGE			
10	U	132D106X9025U0	132D106C2025U0
30 WVDC — 36 VDC SURGE			
8	U	132D805X9030U0	132D805C2030U0
40	V	132D406X9030V0	132D406C2030V0
100	T	132D107X9030T0	132D107C2030T0
50 WVDC — 60 VDC SURGE			
5	U	132D505X9050U0	132D505C2050U0
25	V	132D256X9050V0	132D256C2050V0
60	T	132D606X9050T0	132D606C2050T0
60 WVDC — 72 VDC SURGE			
4	U	132D405X9060U0	132D405C2060U0
20	V	132D206X9060V0	132D206C2060V0
50	T	132D506X9060T0	132D506C2060T0
75 WVDC — 87 VDC SURGE			
3.5	U	132D355X9075U0	132D355C2075U0
15	V	132D156X9075V0	132D156C2075V0
40	T	132D406X9075T0	132D406C2075T0
100 WVDC — 115 VDC SURGE			
2	U	132D205X9100U0	132D205C2100U0
11	V	132D116X9100V0	132D116C2100V0
30	T	132D306X9100T0	132D306C2100T0
125 WVDC — 140 VDC SURGE			
1.7	U	132D175X9125U0	132D175C2125U0
9	V	132D905X9125V0	132D905C2125V0
25	T	132D256X9125T0	132D256C2125T0

VIBRATION-PROOF TYPE 133D

- −55C to +125C Operation at Full Rating. May Be Up-Rated 50% for Operation at 85C.
- Meet Stringent Requirements in Military and Missile Applications.
- Sintered Anode for Unusual Capacitance Stability, Large Values of Capacitance in Small Physical Size.
- Non-Tarnish Finish to Prevent Discoloration During Storage or Use.
- For Units With Outer Plastic Insulating Tube, Substitute "4" for "0" at End of Catalog Number.
- Housed in Miniature Silver Thimble.

µF	Size Code	Catalog Number −15, +20% Tol.	Catalog Number ±10% Tol.
4 WORKING VOLTS D-C			
30	U	133D306C2004U0	133D306X9004U0
140	V	133D147C2004V0	133D147X9004V0
320	T	133D327C2004T0	133D327X9004T0
5 WORKING VOLTS D-C			
25	U	133D256C2005U0	133D256X9005U0
7 WORKING VOLTS D-C			
20	U	133D206C2007U0	133D206X9007U0
100	V	133D107C2007V0	133D107X9007V0
250	T	133D257C2007T0	133D257X9007T0
10 WORKING VOLTS D-C			
15	U	133D156C2010U0	133D156X9010U0
70	V	133D706C2010V0	133D706X9010V0
170	T	133D177C2010T0	133D177X9010T0
15 WORKING VOLTS D-C			
10	U	133D106C2015U0	133D106X9015U0
20 WORKING VOLTS D-C			
8	U	133D805C2020U0	133D805X9020U0
40	V	133D406C2020V0	133D406X9020V0
100	T	133D107C2020T0	133D107X9020T0
30 WORKING VOLTS D-C			
5	U	133D505C2030U0	133D505X9030U0
25	V	133D256C2030V0	133D256X9030V0
60	T	133D606C2030T0	133D606X9030T0
40 WORKING VOLTS D-C			
4	U	133D405C2040U0	133D405X9040U0
20	V	133D206C2040V0	133D206X9040V0
50	T	133D506C2040T0	133D506X9040T0
50 WORKING VOLTS D-C			
3.5	U	133D355C2050U0	133D355X9050U0
15	V	133D156C2050V0	133D156X9050V0
40	T	133D406C2050T0	133D406X9050T0
70 WORKING VOLTS D-C			
2	U	133D205C2070U0	133D205X9070U0
11	V	133D116C2070V0	133D116X9070V0
30	T	133D306C2070T0	133D306X9070T0
85 WORKING VOLTS D-C			
1.7	U	133D175C2085U0	133D175X9085U0
9	V	133D905C2085V0	133D905X9085V0
25	T	133D256C2085T0	133D256X9085T0

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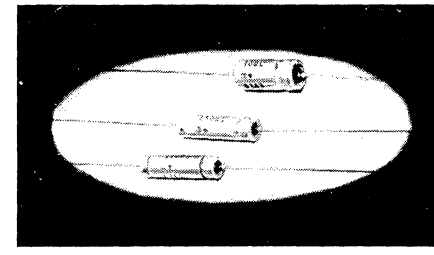
SPRAGUE CAPACITORS

TYPE 137D HERMETICALLY-SEALED GELLED-ELECTROLYTE SINTERED-ANODE TANTALEX® CAPACITORS

- Glass-to-metal Hermetic Seal Makes Type 137D Capacitors Especially Well Suited For Use in Satellites and Other Space Equipment.
- Gelled-electrolyte For Optimum Performance Characteristics
- High Volumetric Efficiency Results in Space Savings
- Operating Temperature Range of —55C to +175C
- Available in Voltage Ratings From 6 WVDC Through 125 WVDC At 85C With Appropriate Derating For Higher Temperature Operation
- Group 1 Available in Capacitance Tolerances of +20, —15% and +75, —15%; Group 2 Available in a Capacitance Tolerance of ±20%
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin Number 3703
- Call Your Sprague Industrial Distributor For Current Quantity Prices



GROUP 1: +20%, —15% and +75%, —15% Capacitance Tolerance with Outer Plastic-film Insulation

μF	WVDC	Diam.	Length (max.)	Catalog No.*
140	6	0.296	0.704	137D147C2006F2
330	6	0.390	0.828	137D337C2006T2
120	8	0.296	0.704	137D127C2008F2
290	8	0.390	0.828	137D297C2008T2
85	10	0.296	0.704	137D856C2010F2
100	10	0.296	0.704	137D107C2010F2
220	10	0.390	0.828	137D227C2010T2
250	10	0.390	0.828	137D257C2010T2
55	15	0.296	0.704	137D556C2015F2
70	15	0.296	0.704	137D706C2015F2
150	15	0.390	0.828	137D157C2015T2
170	15	0.390	0.828	137D177C2015T2
45	25	0.296	0.704	137D456C2025F2
50	25	0.296	0.704	137D506C2025F2
110	25	0.390	0.828	137D117C2025T2
35	30	0.296	0.704	137D356C2030F2
40	30	0.296	0.704	137D406C2030F2
80	30	0.390	0.828	137D806C2030T2
100	30	0.390	0.828	137D107C2030T2
22	50	0.296	0.704	137D226C2050F2
25	50	0.296	0.704	137D256C2050F2
55	50	0.390	0.828	137D556C2050T2
60	50	0.390	0.828	137D606C2050T2
18	60	0.296	0.704	137D186C2060F2
20	60	0.296	0.704	137D206C2060F2
45	60	0.390	0.828	137D456C2060T2
50	60	0.390	0.828	137D506C2060T2
13	75	0.296	0.704	137D136C2075F2
15	75	0.296	0.704	137D156C2075F2
35	75	0.390	0.828	137D356C2075T2
45	75	0.390	0.828	137D456C2075T2
10	100	0.296	0.704	137D106C2100F2
11	100	0.296	0.704	137D116C2100F2
27	100	0.390	0.828	137D276C2100T2
30	100	0.390	0.828	137D306C2100T2
9	125	0.296	0.704	137D905C2125F2
18	125	0.390	0.828	137D186C2125T2

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*Catalog numbers listed are for +20, —15% tolerance capacitors. For +75, —15% tolerance capacitors, change the digit following the letter "C" from "2" to "7".

GROUP 2: ±20% Capacitance Tolerance with Outer Plastic-film Insulation

These capacitors have approximately twice the capacitance of Group 1 capacitors of the same physical size of a given voltage rating.

μF	WVDC	Diam.	Length (max.)	Catalog No.*
68	6	0.203	0.515	137D686X0006C2
270	6	0.296	0.704	137D277X0006F2
540	6	0.296	1.095	137D547X0006A2
560	6	0.390	0.828	137D567X0006T2
1200	6	0.390	1.312	137D128X0006W2
56	8	0.203	0.515	137D566X0008C2
220	8	0.296	0.704	137D227X0008F2
430	8	0.390	0.828	137D437X0008T2
440	8	0.296	1.095	137D447X0008A2
1000	8	0.390	1.312	137D108X0008W2
47	10	0.203	0.515	137D476X0010C2
180	10	0.296	0.704	137D187X0010F2
360	10	0.296	1.095	137D367X0010A2
390	10	0.390	0.828	137D397X0010T2
820	10	0.390	1.312	137D827X0010W2
33	15	0.203	0.515	137D336X0015C2
120	15	0.296	0.704	137D127X0015F2
240	15	0.296	1.095	137D247X0015A2
270	15	0.390	0.828	137D277X0015T2
560	15	0.390	1.312	137D567X0015W2
22	25	0.203	0.515	137D226X0025C2
100	25	0.296	0.704	137D107X0025F2
180	25	0.390	0.828	137D187X0025T2
200	25	0.296	1.095	137D207X0025A2
390	25	0.390	1.312	137D397X0025W2
18	30	0.203	0.515	137D186X0030C2
68	30	0.296	0.704	137D686X0030F2
140	30	0.296	1.095	137D147X0030A2
150	30	0.390	0.828	137D157X0030T2
330	30	0.390	1.312	137D337X0030W2
10	50	0.203	0.515	137D106X0050C2
47	50	0.296	0.704	137D476X0050F2
82	50	0.390	0.828	137D826X0050T2
94	50	0.296	1.095	137D946X0050A2
180	50	0.390	1.312	137D187X0050W2
8.2	60	0.203	0.515	137D825X0060C2
39	60	0.296	0.704	137D396X0060F2
68	60	0.390	0.828	137D686X0060T2
78	60	0.296	1.095	137D786X0060A2
150	60	0.390	1.312	137D157X0060W2
6.8	75	0.203	0.515	137D685X0075C2
33	75	0.296	0.704	137D336X0075F2
56	75	0.390	0.828	137D566X0075T2
66	75	0.296	1.095	137D666X0075A2
120	75	0.390	1.312	137D127X0075W2
4.7	100	0.203	0.515	137D475X0100C2
22	100	0.296	0.704	137D226X0100F2
43	100	0.390	0.828	137D436X0100T2
44	100	0.296	1.095	137D446X0100A2
86	100	0.390	1.312	137D866X0100W2
3.6	125	0.203	0.515	137D365X0125C2
14	125	0.296	0.704	137D146X0125F2
25	125	0.390	0.828	137D256X0125T2
28	125	0.296	1.095	137D286X0125A2
56	125	0.390	1.312	137D566X0125W2

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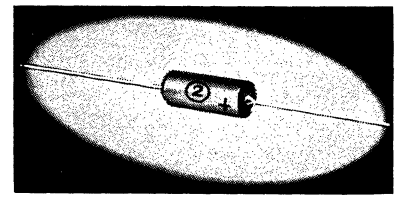
MIL-C-26655 Solid TANTALUM CAPACITORS

- Military Version of Type 150D.
- CS12, Bare Tube; CS13, Insulating Sleeve
- Solid Electrolyte Will Not Seep Even if Hermetic Seal is Accidentally Broken
- Temperature Range of −55C to +85C. Also −55C to +125C With Voltage Derating
- See Latest Issue of Engineering Bulletin 3502.1
- Call Your Sprague Distributor For Quantity Prices
- For Insulated Style CS13, Add 0.010" to Diameter and 0.036" to Length



SIZE CODE

A = .125" D. x .250" L. C = .279" D. x .650" L.
B = .175" D. x .438" L. D = .341" D. x .750" L.

µF	Size Code	Tol.	CS12 Type Designation	CS13 Type Designation
6 WVDC				
5.6	A	10%	CS12BB565K	CS13BB565K
6.8	A	10%	CS12BB685K	CS13BB685K
6.8	A	20%	CS12BB685M	CS13BB685M
47	B	10%	CS12BB476K	CS13BB476K
47	B	20%	CS12BB476M	CS13BB476M
56	B	10%	CS12BB566K	CS13BB566K
150	C	10%	CS12BB157K	CS13BB157K
150	C	20%	CS12BB157M	CS13BB157M
180	C	10%	CS12BB187K	CS13BB187K
270	D	10%	CS12BB277K	CS13BB277K
330	D	10%	CS12BB337K	CS13BB337K
330	D	20%	CS12BB337M	CS13BB337M
10 WVDC				
3.9	A	10%	CS12BC395K	CS13BC395K
4.7	A	10%	CS12BC475K	CS13BC475K
4.7	A	20%	CS12BC475M	CS13BC475M
27	B	10%	CS12BC276K	CS13BC276K
33	B	10%	CS12BC336K	CA13BC336K
33	B	20%	CS12BC336M	CA13BC336M
39	B	10%	CS12BC396K	CS13BC396K
82	C	10%	CS12BC826K	CS13BC826K
100	C	10%	CS12BC107K	CS13BC107K
100	C	20%	CS12BC107M	CS13BC107M
120	C	10%	CS12BC127K	CS13BC127K
180	D	10%	CS12BC187K	CS13BC187K
220	D	10%	CS12BC227K	CS13BC227K
220	D	20%	CS12BC227M	CS13BC227M
15 WVDC				
2.7	A	10%	CS12BD275K	CS13BD275K
3.3	A	10%	CS12BD335K	CS13BD335K
3.3	A	20%	CS12BD335M	CS13BD335M
18	B	10%	CS12BD186K	CS13BD186K
22	B	10%	CS12BD226K	CS13BD226K
22	B	20%	CS12BD226M	CS13BD226M
56	C	10%	CS12BD566K	CS13BD566K
68	C	10%	CS12BD686K	CS13BD686K
68	C	20%	CS12BD686M	CS13BD686M
120	D	10%	CS12BD127K	CS13BD127K
150	D	10%	CS12BD157K	CS13BD157K
150	D	20%	CS12BD157M	CS13BD157M
20 WVDC				
1.2	A	10%	CS12BE125K	CS13BE125K
1.5	A	10%	CS12BE155K	CS13BE155K
1.5	A	20%	CS12BE155M	CS13BE155M
1.8	A	10%	CS12BE185K	CS13BE185K
2.2	A	10%	CS12BE225K	CS13BE225K
2.2	A	20%	CS12BE225M	CS13BE225M
8.2	B	10%	CS12BE825K	CS13BE825K
10	B	10%	CS12BE106K	CS13BE106K
10	B	20%	CS12BE106M	CS13BE106M
12	B	10%	CS12BE126K	CS13BE126K
15	B	10%	CS12BE156K	CS13BE156K
15	B	20%	CS12BE156M	CS13BE156M
27	C	10%	CS12BE276K	CS13BE276K
33	C	10%	CS12BE336K	CS13BE336K
33	C	20%	CS12BE336M	CS13BE336M
39	C	10%	CS12BE396K	CS13BE396K
47	C	10%	CS12BE476K	CS13BE476K
47	C	20%	CS12BE476M	CS13BE476M
56	D	10%	CS12BE566K	CS13BE566K
68	D	10%	CS12BE686K	CS13BE686K
68	D	20%	CS12BE686M	CS13BE686M
82	D	10%	CS12BE826K	CS13BE826K
100	D	10%	CS12BE107K	CS13BE107K
100	D	20%	CS12BE107M	CS13BE107M
35 WVDC				
.33	A	10%	CS12BF334K	CS13BF334K
.33	A	20%	CS12BF334M	CS13BF334M
.39	A	10%	CS12BF394K	CS13BF394K
.47	A	10%	CS12BF474K	CS13BF474K
.47	A	20%	CS12BF564K	CS13BF474M
.56	A	10%	CS12BF564K	CS13BF564K
.68	A	10%	CS12BF684K	CS13BF684K
.68	A	20%	CS12BF684M	CS13BF684M
.82	A	10%	CS12BF824K	CS13BF824K
1.0	A	10%	CS12BF105K	CS13BF105K
1.0	A	20%	CS12BF105M	CS13BF105M
1.2	B	10%	CS12BF125K	CS13BF125K
1.5	B	10%	CS12BF155K	CS13BF155K
1.5	B	20%	CS12BF155M	CS13BF155M
1.8	B	10%	CS12BF185K	CS13BF185K
2.2	B	10%	CS12BF225K	CS13BF225K
2.2	B	20%	CS12BF225M	CS13BF225M
2.7	B	10%	CS12BF275K	CS13BF275K
3.3	B	10%	CS12BF335K	CS13BF335K
3.3	B	20%	CS12BF335M	CS13BF335M
3.9	B	10%	CS12BF395K	CS13BF395K
4.7	B	10%	CS12BF475K	CS13BF475K
4.7	B	20%	CS12BF475M	CS13BF475M
5.6	B	10%	CS12BF565K	CS13BF565K
6.8	B	10%	CS12BF685K	CS13BF685K
6.8	B	20%	CS12BF685M	CS13BF685M
8.2	C	10%	CS12BF825K	CS13BF825K
10	C	10%	CS12BF106K	CS13BF106K
10	C	20%	CS12BF106M	CS13BF106M
12	C	10%	CS12BF126K	CS13BF126K
15	C	10%	CS12BF156K	CS13BF156K
15	C	20%	CS12BF156M	CS13BF156M
18	C	10%	CS12BF186K	CS13BF186K
22	C	10%	CS12BF226K	CS13BF226K
22	C	20%	CS12BF226M	CS13BF226M
27	D	10%	CS12BF276K	CS13BF276K
33	D	10%	CS12BF336K	CS13BF336K
33	D	20%	CS12BF336M	CS13BF336M
39	D	10%	CS12BF396K	CS13BF396K
47	D	10%	CS12BF476K	CS13BF476K
47	D	20%	CS12BF476M	CS13BF476M
50 WVDC				
1.0	A	10%	CS12BG105K	CS13BG105K
1.0	A	20%	CS12BG105M	CS13BG105M
1.2	B	10%	CS12BG125K	CS13BG125K
1.5	B	10%	CS12BG155K	CS13BG155K
1.5	B	20%	CS12BG155M	CS13BG155M
1.8	B	10%	CS12BG185K	CS13BG185K
2.2	B	10%	CS12BG225K	CS13BG225K
2.2	B	20%	CS12BG225M	CS13BG225M
2.7	B	10%	CS12BG275K	CS13BG275K
3.3	B	10%	CS12BG335K	CS13BG335K
3.3	B	20%	CS12BG335M	CS13BG335M
3.9	B	10%	CS12BG395K	CS13BG395K
4.7	B	10%	CS12BG475K	CS13BG475K
4.7	B	20%	CS12BG475M	CS13BG475M
5.6	C	10%	CS12BG565K	CS13BG565K
6.8	C	10%	CS12BG685K	CS13BG685K
6.8	C	20%	CS12BG685M	CS13BG685M
8.2	C	10%	CS12BG825K	CS13BG825K
10	C	10%	CS12BG106K	CS13BG106K
10	C	20%	CS12BG106M	CS13BG106M
12	C	10%	CS12BG126K	CS13BG126K
15	C	10%	CS12BG156K	CS13BG156K
15	C	20%	CS12BG156M	CS13BG156M
18	C	10%	CS12BG186K	CS13BG186K
22	D	10%	CS12BG226K	CS13BG226K
22	D	20%	CS12BG226M	CS13BG226M
75 WVDC				
.10	A	10%	CS12BH104K	CS13BH104K
.10	A	20%	CS12BH104M	CS13BH104M
.12	A	10%	CS12BH124K	CS13BH124K
.15	A	10%	CS12BH154K	CS13BH154K
.15	A	20%	CS12BH154M	CS13BH154M
.18	A	10%	CS12BH184K	CS13BH184K
.22	A	10%	CS12BH224K	CS13BH224K
.22	A	20%	CS12BH224M	CS13BH224M
.27	A	10%	CS12BH274K	CS13BH274K
.33	A	10%	CS12BH334K	CS13BH334K
.33	A	20%	CS12BH334M	CS13BH334M
.39	A	10%	CS12BH394K	CS13BH394K
.47	A	10%	CS12BH474K	CS13BH474K
.47	A	20%	CS12BH474M	CS13BH474M
.56	A	10%	CS12BH564K	CS13BH564K
.68	A	10%	CS12BH684K	CS13BH684K
.68	A	20%	CS12BH684M	CS13BH684M
.82	B	10%	CS12BH824K	CS13BH824K
1.0	B	10%	CS12BH105K	CS13BH105K
1.0	B	20%	CS12BH105M	CS13BH105M
1.2	B	10%	CS12BH125K	CS13BH125K
1.5	B	10%	CS12BH155K	CS13BH155K
1.5	B	20%	CS12BH155M	CS13BH155M
1.8	B	10%	CS12BH185K	CS13BH185K
2.2	B	10%	CS12BH225K	CS13BH225K
2.2	B	20%	CS12BH225M	CS13BH225M
2.7	B	10%	CS12BH275K	CS13BH275K
3.3	B	10%	CS12BH335K	CS13BH335K
3.3	B	20%	CS12BH335M	CS13BH335M
3.9	B	10%	CS12BH395K	CS13BH395K
4.7	C	10%	CS12BH475K	CS13BH475K
4.7	C	20%	CS12BH475M	CS13BH475M
5.6	C	10%	CS12BH565K	CS13BH565K
6.8	C	10%	CS12BH685K	CS13BH685K
6.8	C	20%	CS12BH685M	CS13BH685M
8.2	C	10%	CS12BH825K	CS13BH825K
10	C	10%	CS12BH106K	CS13BH106K
10	C	20%	CS12BH106M	CS13BH106M
12	D	10%	CS12BH126K	CS13BH126K
15	D	10%	CS12BH156K	CS13BH156K
15	D	20%	CS12BH156M	CS13BH156M
100 WVDC				
.0047	A	10%	CS12BJ472K	CS13BJ472K
.0047	A	20%	CS12BJ472M	CS13BJ472M
.0056	A	10%	CS12BJ562K	CS13BJ562K
.0068	A	10%	CS12BJ682K	CS13BJ682K
.0068	A	20%	CS12BJ682M	CS13BJ682M
.0082	A	10%	CS12BJ822K	CS13BJ822K
.01	A	10%	CS12BJ103K	CS13BJ103K
.01	A	20%	CS12BJ103M	CS13BJ103M
.012	A	10%	CS12BJ123K	CS13BJ123K
.015	A	10%	CS12BJ153K	CS13BJ153K
.015	A	20%	CS12BJ153M	CS13BJ153M
.018	A	10%	CS12BJ183K	CS13BJ183K
.022	A	10%	CS12BJ223K	CS13BJ223K
.022	A	20%	CS12BJ223M	CS13BJ223M
.027	A	10%	CS12BJ273K	CS13BJ273K
.033	A	10%	CS12BJ333K	CS13BJ333K
.033	A	20%	CS12BJ333M	CS13BJ333M
.039	A	10%	CS12BJ393K	CS13BJ393K
.047	A	10%	CS12BJ473K	CS13BJ473K
.047	A	20%	CS12BJ473M	CS13BJ473M
.056	A	10%	CS12BJ563K	CS13BJ563K
.068	A	10%	CS12BJ683K	CS13BJ683K
.068	A	20%	CS12BJ683M	CS13BJ683M
.082	A	10%	CS12BJ823K	CS13BJ823K
.10	A	10%	CS12BJ104K	CS13BJ104K
.10	A	20%	CS12BJ104M	CS13BJ104M
.12	A	10%	CS12BJ124K	CS13BJ124K
.15	A	10%	CS12BJ154K	CS13BJ154K
.15	A	20%	CS12BJ154M	CS13BJ154M
.18	A	10%	CS12BJ184K	CS13BJ184K
.22	A	10%	CS12BJ224K	CS13BJ224K
.22	A	20%	CS12BJ224M	CS13BJ224M
.27	A	10%	CS12BJ274K	CS13BJ274K
.33	A	10%	CS12BJ334K	CS13BJ334K
.33	A	20%	CS12BJ334M	CS13BJ334M
.39	A	10%	CS12BJ394K	CS13BJ394K
.47	A	10%	CS12BJ474K	CS13BJ474K
.47	A	20%	CS12BJ474M	CS13BJ474M
.56	A	10%	CS12BJ564K	CS13BJ564K
.68	B	10%	CS12BJ634K	CS13BJ684K
.68	B	20%	CS12BJ684M	CS13BJ684M
.82	B	10%	CS12BJ824K	CS13BJ824K
1.0	B	10%	CS12BJ105K	CS13BJ105K
1.0	B	20%	CS12BJ105M	CS13BJ105M
1.2	B	10%	CS12BJ125K	CS13BJ125K
1.5	B	10%	CS12BJ155K	CS13BJ155K
1.5	B	20%	CS12BJ155M	CS13BJ155M
1.8	B	10%	CS12BJ185K	CS13BJ185K
2.2	B	10%	CS12BJ225K	CS13BJ225K
2.2	B	20%	CS12BJ225M	CS13BJ225M
2.7	B	10%	CS12BJ275K	CS13BJ275K

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Sizes subject to change without notice.

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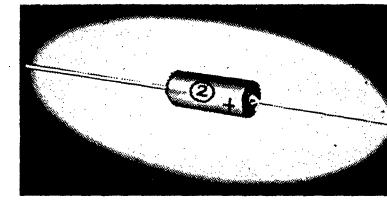
SPRAGUE CAPACITORS

MIL-39003 Solid TANTALUM CAPACITORS

- Military Version of Type 150D
- Solid Electrolyte Will Not Seep Even if Hermetic Seal is Accidentally Broken
- Temperature Range of -55C to +125C
- Capacitance Tolerance Indicated by 10th Character in MIL Type Designation: K = +10%, -10% M = +20%, -20%
- CSR13 Listing Shown are With Insulating Sleeve Only
- Established Reliability

SIZE CODE
A = .135"D. x .286"L. C = .289"D. x .686"L.
B = .185"D. x .474"L. D = .351"D. x .786"L.



µF	Case Code	MIL Type Designation L 2% Failure Rate	M 1% Failure Rate	P .1% Failure Rate
6 WVDC				
5.6	A	CSR13B565KL	CSR13B565KM	CSR13B565KP
6.8	A	CSR13B685KL	CSR13B685KM	CSR13B685KP
6.8	A	CSR13B685ML	CSR13B685MM	CSR13B685MP
47	B	CSR13B476KL	CSR13B476KM	CSR13B476KP
47	B	CSR13B476ML	CSR13B476MM	CSR13B476MP
56	B	CSR13B566KL	CSR13B566KM	CSR13B566KP
150	C	CSR13B157KL	CSR13B157KM	CSR13B157KP
150	C	CSR13B157ML	CSR13B157MM	CSR13B157MP
180	C	CSR13B187KL	CSR13B187KM	CSR13B187KP
270	D	CSR13B277KL	CSR13B277KM	CSR13B277KP
330	D	CSR13B337KL	CSR13B337KM	CSR13B337KP
330	D	CSR13B337ML	CSR13B337MM	CSR13B337MP
10 WVDC				
3.9	A	CSR13C395KL	CSR13C395KM	CSR13C395KP
4.7	A	CSR13C475KL	CSR13C475KM	CSR13C475KP
4.7	A	CSR13C475ML	CSR13C475MM	CSR13C475MP
27	B	CSR13C276KL	CSR13C276KM	CSR13C276KP
33	B	CSR13C336KL	CSR13C336KM	CSR13C336KP
33	B	CSR13C336ML	CSR13C336MM	CSR13C336MP
39	B	CSR13C396KL	CSR13C396KM	CSR13C396KP
82	C	CSR13C826KL	CSR13C826KM	CSR13C826KP
100	C	CSR13C107KL	CSR13C107KM	CSR13C107KP
100	C	CSR13C107ML	CSR13C107MM	CSR13C107MP
120	C	CSR13C127KL	CSR13C127KM	CSR13C127KP
180	D	CSR13C187KL	CSR13C187KM	CSR13C187KP
220	D	CSR13C227KL	CSR13C227KM	CSR13C227KP
220	D	CSR13C227ML	CSR13C227MM	CSR13C227MP
15 WVDC				
2.7	A	CSR13D275KL	CSR13D275KM	CSR13D275KP
3.3	A	CSR13D335KL	CSR13D335KM	CSR13D335KP
3.3	A	CSR13D335ML	CSR13D335MM	CSR13D335MP
18	B	CSR13D186KL	CSR13D186KM	CSR13D186KP
22	B	CSR13D226KL	CSR13D226KM	CSR13D226KP
22	B	CSR13D226ML	CSR13D226MM	CSR13D226MP
56	C	CSR13D566KL	CSR13D566KM	CSR13D566KP
68	C	CSR13D686KL	CSR13D686KM	CSR13D686KP
68	C	CSR13D686ML	CSR13D686MM	CSR13D686MP
120	D	CSR13D127KL	CSR13D127KM	CSR13D127KP
150	D	CSR13D157KL	CSD13D157KM	CSR13D157KP
150	D	CSR13D157ML	CSR13D157MM	CSR13D157MP
20 WVDC				
1.2	A	CSR13E125KL	CSR13E125KM	CSR13E125KP
1.5	A	CSR13E155KL	CSR13E155KM	CSR13E155KP
1.5	A	CSR13E155ML	CSR13E155MM	CSR13E155MP
1.8	A	CSR13E185KL	CSR13E185KM	CSR13E185KP
2.2	A	CSR13E225KL	CSR13E225KM	CSR13E225KP
2.2	A	CSR13E225ML	CSR13E225MM	CSR13E225MP
8.2	B	CSR13E825KL	CSR13E825KM	CSR13E825KP
10	B	CSR13E106KL	CSR13E106KM	CSR13E106KP
10	B	CSR13E106ML	CSR13E106MM	CSR13E106MP
12	B	CSR13E126KL	CSR13E126KM	CSR13E126KP
15	B	CSR13E156KL	CSR13E156KM	CSR13E156KP
15	B	CSR13E156ML	CSR13E156MM	CSR13E156MP
27	C	CSR13E276KL	CSR13E276KM	CSR13E276KP
33	C	CSR13E336KL	CSR13E336KM	CSR13E336KP
33	C	CSR13E336ML	CSR13E336MM	CSR13E336MP
39	C	CSR13E396KL	CSR13E396KM	CSR13E396KP
47	C	CSR13E476KL	CSR13E476KM	CSR13E476KP
47	C	CSR13E476ML	CSR13E476MM	CSR13E476MP
56	D	CSR13E566KL	CSR13E566KM	CSR13E566KP
68	D	CSR13E686KL	CSR13E686KM	CSR13E686KP
68	D	CSR13E686ML	CSR13E686MM	CSR13E686MP
82	D	CSR13E826KL	CSR13E826KM	CSR13E826KP
100	D	CSR13E107KL	CSR13E107KM	CSR13E107KP
100	D	CSR13E107ML	CSR13E107MM	CSR13E107MP
35 WVDC				
5.6	B	CSR13F565KL	CSR13F565KM	CSR13F565KP
6.8	B	CSR13F685KL	CSR13F685KM	CSR13F685KP
6.8	B	CSR13F685ML	CSR13F685MM	CSR13F685MP
22	C	CSR13F226KL	CSR13F226KM	CSR13F226KP
22	C	CSR13F226ML	CSR13F226MM	CSR13F226MP
27	D	CSR13F276KL	CSR13F276KM	CSR13F276KP
33	D	CSR13F336KL	CSR13F336KM	CSR13F336KP
33	D	CSR13F336ML	CSR13F336MM	CSR13F336MP
39	D	CSR13F396KL	CSR13F396KM	CSR13F396KP
47	D	CSR13F476KL	CSR13F476KM	CSR13F476KP
47	D	CSR13F476ML	CSR13F476MM	CSR13F476MP
50 WVDC				
.0047	A	CSR13G472KL	CSR13G472KM	CSR13G472KP
.0047	A	CSR13G472ML	CSR13G472MM	CSR13G472MP
.0056	A	CSR13G562KL	CSR13G562KM	CSR13G562KP
.0068	A	CSR13G682KL	CSR13G682KM	CSR13G682KP
.0068	A	CSR13G682ML	CSR13G682MM	CSR13G682MP
.0082	A	CSR13G822KL	CSR13G822KM	CSR13G822KP
.01	A	CSR13G103KL	CSR13G103KM	CSR13G103KP
.01	A	CSR13G103ML	CSR13G103MM	CSR13G103MP
.012	A	CSR13G123KL	CSR13G123KM	CSR13G123KP
.015	A	CSR13G153KL	CSR13G153KM	CSR13G153KP
.015	A	CSR13G153ML	CSR13G153MM	CSR13G153MP
.018	A	CSR13G183KL	CSR13G183KM	CSR13G183KP
.022	A	CSR13G223KL	CSR13G223KM	CSR13G223KP
.022	A	CSR13G223ML	CSR13G223MM	CSR13G223MP
.027	A	CSR13G273KL	CSR13G273KM	CSR13G273KP
.033	A	CSR13G333KL	CSR13G333KM	CSR13G333KP
.033	A	CSR13G333ML	CSR13G333MM	CSR13G333MP
.039	A	CSR13G393KL	CSR13G393KM	CSR13G393KP
.047	A	CSR13G473KL	CSR13G473KM	CSR13G473KP
.047	A	CSR13G473ML	CSR13G473MM	CSR13G473MP
.056	A	CSR13G563KL	CSR13G563KM	CSR13G563KP
.068	A	CSR13G683KL	CSR13G683KM	CSR13G683KP
.068	A	CSR13G683ML	CSR13G683MM	CSR13G683MP
.082	A	CSR13G823KL	CSR13G823KM	CSR13G823KP
.1	A	CSR13G104KL	CSR13G104KM	CSR13G104KP
.1	A	CSR13G104ML	CSR13G104MM	CSR13G104MP
.12	A	CSR13G124KL	CSR13G124KM	CSR13G124KP
.15	A	CSR13G154KL	CSR13G154KM	CSR13G154KP
.15	A	CSR13G154ML	CSR13G154MM	CSR13G154MP
.18	A	CSR13G184KL	CSR13G184KM	CSR13G184KP
.22	A	CSR13G224KL	CSR13G224KM	CSR13G224KP
.22	A	CSR13G224ML	CSR13G224MM	CSR13G224MP
.27	A	CSR13G274KL	CSR13G274KM	CSR13G274KP
.33	A	CSR13G334KL	CSR13G334KM	CSR13G334KP
.33	A	CSR13G334ML	CSR13G334MM	CSR13G334MP
.39	A	CSR13G394KL	CSR13G394KM	CSR13G394KP
.47	A	CSR13G474KL	CSR13G474KM	CSR13G474KP
.47	A	CSR13G474ML	CSR13G474MM	CSR13G474MP

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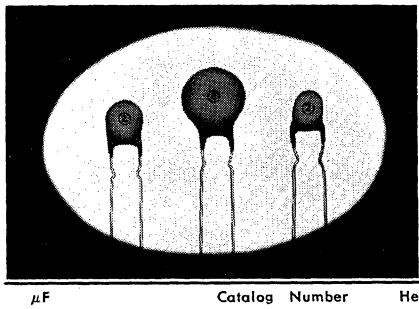
SPRAGUE CAPACITORS

TYPE CSR13 SOLID-ELECTROLYTE TANTALUM CAPACITORS (Cont.)

µF	Case Code	MIL Type Designation L 2% Failure Rate	M 1% Failure Rate	P .1% Failure Rate
		50 WVDC (Cont.)		
.56	A	CSR13G564KL	CSR13G564KM	CSR13G564KP
.68	A	CSR13G684KL	CSR13G684KM	CSR13G684KP
.68	A	CSR13G684ML	CSR13G684MM	CSR13G684MP
.82	A	CSR13G824KL	CSR13G824KM	CSR13G824KP
1	A	CSR13G105KL	CSR13G105KM	CSR13G105KP
1	A	CSR13G105ML	CSR13G105MM	CSR13G105MP
1.2	B	CSR13G125KL	CSR13G125KM	CSR13G125KP
1.5	B	CSR13G155KL	CSR13G155KM	CSR13G155KP
1.5	B	CSR13G155ML	CSR13G155MM	CSR13G155MP
1.8	B	CSR13G185KL	CSR13G185KM	CSR13G185KP
2.2	B	CSR13G225KL	CSR13G225KM	CSR13G225KP
2.2	B	CSR13G225ML	CSR13G225MM	CSP13G225MP
2.7	B	CSR13G275KL	CSR13G275KM	CSR13G275KP
3.3	B	CSR13G335KL	CSR13G335KM	CSR13G335KP
3.3	B	CSR13G335ML	CSR13G335MM	CSR13G335MP
3.9	B	CSR13G395KL	CSR13G395KM	CSR13G395KP
4.7	B	CSR13G475KL	CSR13G475KM	CSR13G475KP
4.7	B	CSR13G475ML	CSR13G475MM	CSR13G475MP
5.6	C	CSR13G565KL	CSR13G565KM	CSR13G565KP
6.8	C	CSR13G685KL	CSR13G685KM	CSR13G685KP
6.8	C	CSR13G685ML	CSR13G685MM	CSR13G685MP
8.2	C	CSR13G825KL	CSR13G825KM	CSR13G825KP
10	C	CSR13G106KL	CSR13G106KM	CSR13G106KP
10	C	CSR13G106ML	CSR13G106MM	CSR13G106MP
12	C	CSR13G126KL	CSR13G126KM	CSR13G126KP
15	C	CSR13G156KL	CSR13G156KM	CSR13G156KP
15	C	CSR13G156ML	CSR13G156MM	CSR13G156MP
18	C	CSR13G186KL	CSR13G186KM	CSR13G186KP
22	D	CSR13G226KL	CSR13G226KM	CSR13G226KP
22	D	CSR13G226ML	CSR13G226MM	CSR13G226MP
		75 WVDC		
.1	A	CSR13H104KL	CSR13H104KM	———
.1	A	CSR13H104ML	CSR13H104MM	———
.12	A	CSR13H124KL	CSR13H124KM	———
.15	A	CSR13H154KL	CSR13H154KM	———
.15	A	CSR13H154ML	CSR13H154MM	———
.18	A	CSR13H184KL	CSR13H184KM	———
.22	A	CSR13H224KL	CSR13H224KM	———
.22	A	CSR13H224ML	CSR13H224MM	———
.27	A	CSR13H274KL	CSR13H274KM	———
.33	A	CSR13H334KL	CSR13H334KM	———
.33	A	CSR13H334ML	CSR13H334MM	———
.39	A	CSR13H394KL	CSR13H394KM	———
.47	A	CSR13H474KL	CSR13H474KM	———
.47	A	CSR13H474ML	CSR13H474MM	———
.56	A	CSR13H564KL	CSR113H564KM	———
.68	A	CSR13H684KL	CSR13H684KM	———
.68	A	CSR13H684ML	CSR13H684MM	———
.82	B	CSR13H824KL	CSR13H824KM	———
1	B	CSR13H105KL	CSR13H105KM	———
1	B	CSR13H105ML	CSR13H105MM	———
1.2	B	CSR13H125KL	CSR13H125KM	———
1.5	B	CSR13H155KL	CSR13H155KM	———
1.5	B	CSR13H155ML	CSR13H155MM	———
1.8	B	CSR13H185KL	CSR13H185KM	———
2.2	B	CSR13H225KL	CSR13H225KM	———
2.2	B	CSR13H225ML	CSR13H225MM	———
2.7	B	CSR13H275KL	CSR13H275KM	———
3.3	B	CSR13H335KL	CSR13H335KM	———
3.3	B	CSR13H335ML	CSR13H335MM	———
3.9	B	CSR13H395KL	CSR13H395KM	———
4.7	C	CSR13H475KL	CSR13H475KM	———
4.7	C	CSR13H475ML	CSR13H475MM	———
5.6	C	CSR13H565KL	CSR13H565KM	———
6.8	C	CSR13H685KL	CSR13R685KM	———
6.8	C	CSR13H685ML	CSR13H685MM	———
8.2	C	CSR13H825KL	CSR13H825KM	———
10	C	CSR13H106KL	CSR13H106KM	———
10	C	CSR13H106ML	CSR13H106MM	———
12	D	CSR13H126KL	CSR13H126KM	———
15	D	CSR13H156KL	CSR13H156KM	———
15	D	CSR13H156ML	CSR13H156MM	———

TYPE 196D EPOXY-DIPPED SOLID-ELECTROLYE TANTALEX® CAPACITORS



- Epoxy-Dipped Coating Economically Provides Good Electrical and Mechanical Protection
- High Stability, Very Little Capacitance Change, Even at Outer Limits of Operation Temperature Range (-55C to +85C)
- Low Dissipation Factor Permits Higher Ripple Currents
- Radial Leads For Plug-in Mounting on Printed Wiring Boards
- Small Size Lets You Minimize Equipment Size and Weight
- Call Your Sprague Distributor For Quantity Prices

µF	Catalog Number	Height x Width x Thickness
	4 WVDC	
33	196D336X0004EB	.350 x .400 x .225
150	196D157X0004FB	.450 x .450 x .250
	6 WVDC	
22	196D226X0006EB	.350 x .400 x .225
100	196D107X0006FB	.450 x .450 x .250
330	196D337X0006GB	.670 x .600 x .275
	10 WVDC	
15	196D156X0010EB	.350 x .400 x .225
68	196D686X0010FB	.450 x .450 x .250
220	196D227X0010GB	.670 x .600 x .275
	15 WVDC	
10	196D106X0015EB	.350 x .400 x .225
33	196D336X0015FB	.450 x .450 x .250
47	196D476X0015FB	.450 x .450 x .250
150	196D157X0015GB	.670 x .600 x .275
	20 WVDC	
2.2	196D225X0020EB	.350 x .400 x .225
4.7	196D475X0020EB	.350 x .400 x .225
	20 WVDC (Cont.)	
6.8	196D685X0020EB	.350 x .400 x .225
10	196D106X0020FB	.450 x .450 x .250
22	196D226X0020FB	.450 x .450 x .250
100	196D107X0020GB	.670 x .600 x .275
	35 WVDC	
.1	196D104X0035DB	.400 x .250 x .200
.22	196D224X0035DB	.400 x .250 x .200
.33	196D334X0035DB	.400 x .250 x .200
.47	196D474X0035DB	.400 x .250 x .200
.68	196D684X0035DB	.400 x .250 x .200
1.0	196D105X0035DB	.400 x .250 x .200
1.0	196D105X0035EB	.350 x .400 x .225
1.5	196D155X0035EB	.350 x .400 x .225
2.2	196D225X0035FB	.450 x .450 x .250
3.3	196D335X0035FB	.450 x .450 x .250
4.7	196D475X0035FB	.450 x .450 x .250
6.8	196D685X0035FB	.450 x .450 x .250
27	196D276X0035GB	.670 x .600 x .275

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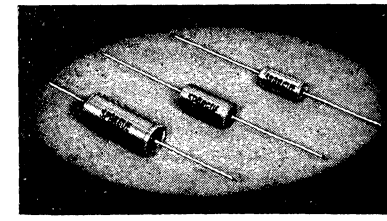
SPRAGUE CAPACITORS

MIL-C-3965 FOIL TANTALUM CAPACITORS TYPES CL24 & CL25

- For −55C to +85C Operation up to 150 Volts in Military and Industrial Electronic Equipment
- Low Leakage Current and Stable Temperature Coefficient Makes Possible Its Use in Many Circuits Where Aluminum Foil Designs Are Undesirable
- The Electrolyte System Used Assures Long Operating and Shelf Life, excellent Low-temperature Performance, Chemical Stability and Inertness
- Dimensions Listed Are For Bare Metal-Case For Insulated Case Add 1/64" to Diameter and 1/8" to Length
- MIL Version of Sprague Type 112D
- Type CL24 Is a Bare Metal-Case Unit. If An Outer Insulating Sleeve Is Desired, Order Type CL25
- Call Your Sprague Industrial Distributor For Current Quantity Prices

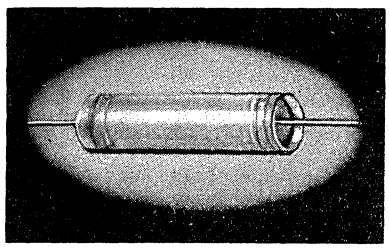


DIMENSIONS

Code	D. x L.	Code	D. x L.
D	13/64 x 3/4	M	25/64 x 23/16
G	19/64 x 15/16	P	25/64 x 213/16
J	25/64 x 1 1/2		

µF	WVDC	Size Code	Military Designation*	
15	15	D	CL24BE150UP3	CL25BE150UP3
60	15	G	CL24BE600UP3	CL25BE600UP3
200	15	J	CL24BE201UP3	CL25BE201UP3
400	15	M	CL24BE401UP3	CL25BE401UP3
580	15	P	CL24BE581UP3	CL25BE581UP3
10	25	D	CL24BG100UP3	CL25BG100UP3
40	25	G	CL24BG400UP3	CL25BG400UP3
120	25	J	CL24BG121UP3	CL25BG121UP3
250	25	M	CL24BG251UP3	CL25BG251UP3
350	25	P	CL24BG351UP3	CL25BG351UP3
8	30	D	CL24BH080UP3	CL25BH080UP3
32	30	G	CL24BH320UP3	CL25BH320UP3
110	30	J	CL24BH111UP3	CL25BH111UP3
220	30	M	CL24BH221UP3	CL25BH221UP3
300	30	P	CL24BH301UP3	CL25BH301UP3
4.5	50	D	CL24BJ4R5TP3	CL25BJ4R5TP3
18	50	G	CL24BJ180TP3	CL25BJ180TP3
60	50	J	CL24BJ600TP3	CL25BJ600TP3
100	50	M	CL24BJ101TP3	CL25BJ101TP3
150	50	P	CL24BJ151TP3	CL25BJ151TP3
3	75	D	CL24BL030TP3	CL25BL030TP3
12	75	G	CL24BL120TP3	CL25BL120TP3
30	75	J	CL24BL300TP3	CL25BL300TP3
70	75	M	CL24BL700TP3	CL25BL700TP3
100	75	P	CL24BL101TP3	CL25BL101TP3
2	100	D	CL24BN020SP3	CL25BN020SP3
8	100	G	CL24BN080SP3	CL25BN080SP3
25	100	J	CL24BN250SP3	CL25BN250SP3
50	100	M	CL24BN500SP3	CL25BN500SP3
70	100	P	CL24BN700SP3	CL25BN700SP3
1	150	D	CL24BQ010SP3	CL25BQ010SP3
4	150	G	CL24BQ040SP3	CL25BQ040SP3
13	150	J	CL24BQ130SP3	CL25BQ130SP3
25	150	M	CL24BQ250SP3	CL25BQ250SP3
36	150	P	CL24BQ360SP3	CL25BQ360SP3

*Note: For vibration grade 1 or 2, change last digit of military designation to 1 or 2.



MIL-C-3965 FOIL TANTALUM CAPACITORS TYPES CL34 and CL35

- For use in military and industrial electronic equipment. Designed to operate over the temperature range of −55C to +85C
- Long operation and shelf life, excellent low temperature performance, and optimum electrical characteristics
- For use in circuits where aluminum foil units are unsatisfactory
- Low leakage current and good temperature coefficient
- Type CL34 is a bare metal case unit. If an outer insulating sleeve is desired, order Type CL35
- MIL version of Sprague Type 110D
- Call Your Sprague Industrial Distributor For Current Quantity Prices

DIMENSIONS

Code	D. x L.	Code	D. x L.
D	3/16 x 11/16	M	3/8 x 2 1/8
G	9/32 x 7/8	P	3/8 x 2 3/4
J	3/8 x 1 7/16		

µF	WVDC	Size Code	Military Designation*	
10	3	D	CL34BA100MP3	CL35BA100MP3
50	3	G	CL34BA500MP3	CL35BA500MP3
8	6	D	CL34BB080MP3	CL35BB080MP3
30	6	G	CL34BB300MP3	CL35BB300MP3
100	6	J	CL34BB101MP3	CL35BB101MP3
200	6	M	CL34BB201MP3	CL35BB201MP3
300	6	P	CL34BB301MP3	CL35BB301MP3
6	10	D	CL34BD060MP3	CL35BD060MP3
25	10	G	CL34BD250MP3	CL35BD250MP3
80	10	J	CL34BD800MP3	CL35BD800MP3
160	10	M	CL34BD161MP3	CL35BD161MP3
220	10	P	CL34BD221MP3	CL35BD221MP3
4.5	15	D	CL34BE4R5MP3	CL35BE4R5MP3
10	15	G	CL34BE100MP3	CL35BE100MP3
18	15	G	CL34BE180MP3	CL35BE180MP3
55	15	J	CL34BE550MP3	CL35BE550MP3
110	15	M	CL34BE111MP3	CL35BE111MP3
160	15	P	CL34BE161MP3	CL35BE161MP3
2.5	30	D	CL34BH2R5MP3	CL35BH2R2MP3
30	30	J	CL34BH300MP3	CL35BH300MP3
60	30	M	CL34BH600MP3	CL35BH600MP3
85	30	P	CL34BH850MP3	CL35BH850MP3
1.5	50	D	CL34BJ1R5MP3	CL35BJ1R5MP3
6	50	G	CL34BJ060MP3	CL35BJ060MP3
20	50	J	CL34BJ200MP3	CL35BJ200MP3
40	50	M	CL34BJ400MP3	CL35BJ400MP3
55	50	P	CL34BJ550MP3	CL35BJ550MP3
1	75	D	CL34BL010MP3	CL35BL010MP3
4	75	G	CL34BL040MP3	CL35BL040MP3
14	75	J	CL34BL140MP3	CL35BL140MP3
28	75	M	CL34BL280MP3	CL35BL280MP3
40	75	P	CL34BL400MP3	CL35BL400MP3
0.8	100	D	CL34BN0R8MP3	CL35BN0R8MP3
3	100	G	CL34BN030MP3	CL35BN030MP3
10	100	J	CL34BN100MP3	CL35BN100MP3
20	100	M	CL34BN200MP3	CL35BN200MP3
30	100	P	CL34BN300MP3	CL35BN300MP3
0.5	150	D	CL34BQ0R5MP3	CL35BQ0R5MP3
2	150	G	CL34BQ020MP3	CL35BQ020MP3
4	150	J	CL34BQ040MP3	CL35BQ040MP3
7	150	J	CL34BQ070MP3	CL35BQ070MP3
8	150	M	CL34BQ080MP3	CL35BQ080MP3
12	150	M	CL34BQ120MP3	CL35BQ120MP3
14	150	M	CL34BQ140MP3	CL35BQ140MP3
20	150	P	CL34BQ200MP3	CL35BQ200MP3
.35	200	D	CL34BRR35LP3	CL35BRR35LP3
1.5	200	G	CL34BR1R5LP3	CL35BR1R5LP3
5	200	J	CL34BR050LP3	CL35BR050LP3
10	200	M	CL34BR100LP3	CL35BR100LP3
15	200	P	CL34BR150LP3	CL35BR150LP3
.30	250	D	CL34BSR30LP3	CL35BSR30LP3
1.2	250	G	CL34BS1R2LP3	CL35BS1R2LP3
4	250	J	CL34BS040LP3	CL35BS040LP3
8	250	M	CL34BS080LP3	CL35BS080LP3
12	250	P	CL34BS120LP3	CL35BS120LP3
1	300	G	CL34BX010LP3	CL35BX010LP3
3	300	J	CL34BX030LP3	CL35BX030LP3
7	300	M	CL34BX070LP3	CL35BX070LP3
10	300	P	CL34BX100LP3	CL35BX100LP3

*Note: For vibration grade 1 or 2, change last digit of military designation to 1 or 2.

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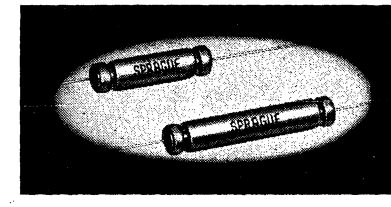
SPRAGUE CAPACITORS

MIL-C-3965 TUBULAR FOIL TANTALUM ELECTROLYTICS

TYPES CL20, CL21, CL22, CL23, CL30, CL31, CL32, and CL33

- Meet Requirements of Military Specification MIL-C-3965
- Small Electrically Stable Foil Tantalums, Long, Reliable Life
- Available in Industrial Equivalents as Types 120D, 121D, 122D, 123D
- Temperature Rating 125C
- Types Marked (*) Have Insulating Sleeves All Others are Bare Case
- Capacitance Tolerance
  M = +20, −20% S = +30, −15%
  T = +50, −15% U = +75, −15%
- Call Your Sprague Industrial Distributor for Current Quantity Prices

SIZE CODE (Diam x Length)	
E 13/64 x 3/4	N 25/64 x 2 1/4
H 1 9/64 x 1 1/32	Q 25/64 x 2 7/8
K 25/64 x 1 9/16	



TYPE CL20
POLARIZED ETCHED FOIL

µF	Size Code	MIL Type
10 WORKING VOLTS D-C		
15	E	CL20CD150UP3
60	H	CL20CD600UP3
200	K	CL20CD201UP3
400	N	CL20CD401UP3
580	Q	CL20CD581UP3
15 WORKING VOLTS D-C		
10	E	CL20CE100UP3
40	H	CL20CE400UP3
120	K	CL20CE121UP3
250	N	CL20CE251UP3
350	Q	CL20CE351UP3
30 WORKING VOLTS D-C		
4.5	E	CL20CH4R5TP3
18	H	CL20CH180TP3
60	K	CL20CH600TP3
100	N	CL20CH101TP3
150	Q	CL20CH151TP3
50 WORKING VOLTS D-C		
3	E	CL20CJ030TP3
12	H	CL20CJ120TP3
30	K	CL20CJ300TP3
70	N	CL20CJ700TP3
100	Q	CL20CJ101TP3
60 WORKING VOLTS D-C		
2	E	CL20CK020TP3
8	H	CL20CK080TP3
25	K	CL20CK250TP3
50	N	CL20CK500TP3
70	Q	CL20CK700TP3
100 WORKING VOLTS D-C		
1	E	CL20CN010SP3
4	H	CL20CN040SP3
13	K	CL20CN130SP3
25	N	CL20CN250SP3
36	Q	CL20CN360SP3

TYPE CL21*
POLARIZED ETCHED FOIL

µF	Size Code	MIL Type
10 WORKING VOLTS D-C		
15	E	CL21CD150UP3
60	H	CL21CD600UP3
200	K	CL21CD201UP3
400	N	CL21CD401UP3
580	Q	CL21CD581UP3
15 WORKING VOLTS D-C		
10	E	CL21CE100UP3
40	H	CL21CE400UP3
120	K	CL21CE121UP3
250	N	CL21CE251UP3
350	Q	CL21CE351UP3
30 WORKING VOLTS D-C		
4.5	E	CL21CH4R5TP3
18	H	CL21CH180TP3
60	K	CL21CH600TP3
100	N	CL21CH101TP3
150	Q	CL21CH151TP3
50 WORKING VOLTS D-C		
3	E	CL21CJ030TP3
12	H	CL21CJ120TP3
30	K	CL21CJ300TP3
70	N	CL21CJ700TP3
100	Q	CL21CJ101TP3
60 WORKING VOLTS D-C		
2	E	CL21CK020TP3
8	H	CL21CK080TP3
25	K	CL21CK250TP3
50	N	CL21CK500TP3
70	Q	CL21CK700TP3
100 WORKING VOLTS D-C		
1	E	CL21CN010SP3
4	H	CL21CN040SP3
13	K	CL21CN130SP3
25	N	CL21CN250SP3
36	Q	CL21CN360SP3

TYPE CL22
NON-POLARIZED ETCHED FOIL

µF	Size Code	MIL Type
10 WORKING VOLTS D-C		
10	E	CL22CD100UN3
40	H	CL22CD400UN3
120	K	CL22CD121UN3
250	N	CL22CD251UN3
350	Q	CL22CD351UN3
15 WORKING VOLTS D-C		
5	E	CL22CE050UN3
20	H	CL22CE200UN3
70	K	CL22CE700UN3
140	N	CL22CE141UN3
200	Q	CL22CE201UN3
30 WORKING VOLTS D-C		
2.5	E	CL22CH2R5TN3
10	H	CL22CH100TN3
30	K	CL22CH300TN3
60	N	CL22CH600TN3
80	Q	CL22CH800TN3
50 WORKING VOLTS D-C		
1.5	E	CL22CJ1R5TN3
6	H	CL22CJ060TN3
15	K	CL22CJ150TN3
35	N	CL22CJ350TN3
50	Q	CL22CJ500TN3
60 WORKING VOLTS D-C		
1	E	CL22CK010TN3
4	H	CL22CK040TN3
12	K	CL22CK120TN3
25	N	CL22CK250TN3
35	Q	CL22CK350TN3
100 WORKING VOLTS D-C		
0.5	E	CL22CN0R5SN3
2	H	CL22CN020SN3
6	K	CL22CN060SN3
12	N	CL22CN120SN3
18	Q	CL22CN180SN3

TYPE CL23*
NON-POLARIZED ETCHED FOIL

µF	Size Code	MIL Type
10 WORKING VOLTS D-C		
10	E	CL23CD100UN3
40	H	CL23CD400UN3
120	K	CL23CD121UN3
250	N	CL23CD251UN3
350	Q	CL23CD351UN3
15 WORKING VOLTS D-C		
5	E	CL23CE050UN3
20	H	CL23CE200UN3
70	K	CL23CE700UN3
140	N	CL23CE141UN3
200	Q	CL23CE201UN3
30 WORKING VOLTS D-C		
2.5	E	CL23CH2R5TN3
10	H	CL23CH100TN3
30	K	CL23CH300TN3
60	N	CL23CH600TN3
80	Q	CL23CH800TN3
50 WORKING VOLTS D-C		
1.5	E	CL23CJ1R5TN3
6	H	CL23CJ060TN3
15	K	CL23CJ150TN3
35	N	CL23CJ350TN3
50	Q	CL23CJ500TN3
60 WORKING VOLTS D-C		
1	E	CL23CK010TN3
4	H	CL23CK040TN3
12	K	CL23CK120TN3
25	N	CL23CK250TN3
35	Q	CL23CK350TN3
100 WORKING VOLTS D-C		
0.5	E	CL23CN0R5SN3
2	H	CL23CN020SN3
6	K	CL23CN060SN3
12	N	CL23CN120SN3
18	Q	CL23CN180SN3

TYPE CL30
POLARIZED PLAIN FOIL

µF	Size Code	MIL Type
10 WORKING VOLTS D-C		
4.5	E	CL30CD4R5MP3
18	H	CL30CD180MP3
55	K	CL30CD550MP3
110	N	CL30CD111MP3
160	Q	CL30CD161MP3
15 WORKING VOLTS D-C		
3	E	CL30CE030MP3
12	H	CL30CE120MP3
35	K	CL30CE350MP3
70	N	CL30CE700MP3
100	Q	CL30CE101MP3
30 WORKING VOLTS D-C		
1.5	E	CL30CH1R5MP3
6	H	CL30CH060MP3
20	K	CL30CH200MP3
40	N	CL30CH400MP3
55	Q	CL30CH550MP3
50 WORKING VOLTS D-C		
1	E	CL30CJ010MP3
4	H	CL30CJ040MP3
14	K	CL30CJ140MP3
28	N	CL30CJ280MP3
40	Q	CL30CJ400MP3
60 WORKING VOLTS D-C		
0.8	E	CL30CK0R8MP3
3	H	CL30CK030MP3
10	K	CL30CK100MP3
20	N	CL30CK200MP3
30	Q	CL30CK300MP3
100 WORKING VOLTS D-C		
0.5	E	CL30CN0R5MP3
2	H	CL30CN020MP3
7	K	CL30CN070MP3
14	N	CL30CN140MP3
20	Q	CL30CN200MP3
150 WORKING VOLTS D-C		
0.35	E	CL30CQR35MP3
1.5	H	CL30CQ1R5MP3
5	K	CL30CQ050MP3
10	N	CL30CQ100MP3
15	Q	CL30CQ150MP3

TYPE CL31*
POLARIZED PLAIN FOIL

µF	Size Code	MIL Type
10 WORKING VOLTS D-C		
4.5	E	CL31CD4R5MP3
18	H	CL31CD180MP3
55	K	CL31CD550MP3
110	N	CL31CD111MP3
160	Q	CL31CD161MP3
15 WORKING VOLTS D-C		
3	E	CL31CE030MP3
12	H	CL31CE120MP3
35	K	CL31CE350MP3
70	N	CL31CE700MP3
100	Q	CL31CE101MP3
30 WORKING VOLTS D-C		
1.5	E	CL31CH1R5MP3
6	H	CL31CH060MP3
20	K	CL31CH200MP3
40	N	CL31CH400MP3
55	Q	CL31CH550MP3
50 WORKING VOLTS D-C		
1	E	CL31CJ010MP3
4	H	CL31CJ040MP3
14	K	CL31CJ140MP3
28	N	CL31CJ280MP3
40	Q	CL31CJ400MP3
60 WORKING VOLTS D-C		
0.8	E	CL31CK0R8MP3
3	H	CL31CK030MP3
10	K	CL31CK100MP3
20	N	CL31CK200MP3
30	Q	CL31CK300MP3
100 WORKING VOLTS D-C		
0.5	E	CL31CN0R5MP3
2	H	CL31CN020MP3
7	K	CL31CN070MP3
14	N	CL31CN140MP3
20	Q	CL31CN200MP3
150 WORKING VOLTS D-C		
0.35	E	CL31CQR35MP3
1.5	H	CL31CQ1R5MP3
5	K	CL31CQ050MP3
10	N	CL31CQ100MP3
15	Q	CL31CQ150MP3

TYPE CL32
NON-POLARIZED PLAIN FOIL

µF	Size Code	MIL Type
10 WORKING VOLTS D-C		
2.5	E	CL32CD2R5MN3
10	H	CL32CD100MN3
35	K	CL32CD350MN3
70	N	CL32CD700MN3
100	Q	CL32CD101MN3
15 WORKING VOLTS D-C		
1.5	E	CL32CE1R5MN3
6	H	CL32CE060MN3
20	K	CL32CE200MN3
40	N	CL32CE400MN3
60	Q	CL32CE600MN3
30 WORKING VOLTS D-C		
0.8	E	CL32CH0R8MN3
3	H	CL32CH030MN3
10	K	CL32CH100MN3
20	N	CL32CH200MN3
30	Q	CL32CH300MN3
50 WORKING VOLTS D-C		
0.5	E	CL32CJ0R5MN3
2	H	CL32CJ020MN3
7	K	CL32CJ070MN3
14	N	CL32CJ140MN3
20	Q	CL32CJ200MN3
60 WORKING VOLTS D-C		
0.4	E	CL32CK0R4MN3
1.5	H	CL32CK1R5MN3
5	K	CL32CK050MN3
10	N	CL32CK100MN3
15	Q	CL32CK150MN3
100 WORKING VOLTS D-C		
0.25	E	CL32CNR25MN3
1	H	CL32CN010MN3
3.5	K	CL32CN3R5MN3
7	N	CL32CN070MN3
10	Q	CL32CN100MN3
150 WORKING VOLTS D-C		
0.15	E	CL32CQR15MN3
0.75	H	CL32CQR75MN3
2.5	K	CL32CQ2R5MN3
5	N	CL32CQ050MN3
7.5	Q	CL32CQ7R5MN3

TYPE CL33*
NON-POLARIZED PLAIN FOIL

µF	Size Code	MIL Type
10 WORKING VOLTS D-C		
2.5	E	CL33CD2R5MN3
10	H	CL33CD100MN3
35	K	CL33CD350MN3
70	N	CL33CD700MN3
100	Q	CL33CD101MN3
15 WORKING VOLTS D-C		
1.5	E	CL33CE1R5MN3
6	H	CL33CE060MN3
20	K	CL33CE200MN3
40	N	CL33CE400MN3
60	Q	CL33CE600MN3
30 WORKING VOLTS D-C		
0.8	E	CL33CH0R8MN3
3	H	CL33CH030MN3
10	K	CL33CH100MN3
20	N	CL33CH200MN3
30	Q	CL33CH300MN3
50 WORKING VOLTS D-C		
0.5	E	CL33CJ0R5MN3
2	H	CL33CJ020MN3
7	K	CL33CJ070MN3
14	N	CL33CJ140MN3
20	Q	CL33CJ200MN3
60 WORKING VOLTS D-C		
0.4	E	CL33CK0R4MN3
1.5	H	CL33CK1R5MN3
5	K	CL33CK050MN3
10	N	CL33CK100MN3
15	Q	CL33CK150MN3
100 WORKING VOLTS D-C		
0.25	E	CL33CNR25MN3
1	H	CL33CN010MN3
3.5	K	CL33CN3R5MN3
7	N	CL33CN070MN3
10	Q	CL33CN100MN3
150 WORKING VOLTS D-C		
0.15	E	CL33CQR15MN3
0.75	H	CL33CQR75MN3
2.5	K	CL33CQ2R5MN3
5	N	CL33CQ050MN3
7.5	Q	CL33CQ7R5MN3

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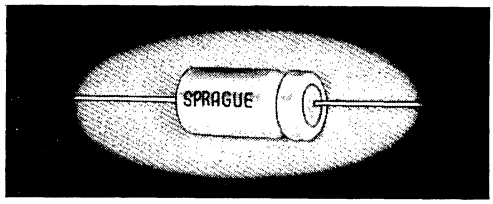
SPRAGUE CAPACITORS

MIL-C-3965 TUBULAR SINTERED-ANODE TANTALEX® CAPACITORS—TYPES CL64 and CL65



DIMENSIONS

Code	D. x L.	Code	D. x L.	Code	D.x L.
T1	.188" x .453"	T2	.281" x .641"	T3	.375" x .766"

- Reliable Superior Quality Capacitors With No Voltage Derating For 125C Operation
- MIL Version of Sprague Type 130D
- Voltage Ratings From 6 WVDC Through 125 WVDC
- Type CL64 Is a Bare Metal-Case Unit. If An Outer Insulating Sleeve is Desired, Order Type CL65.
- Capacitance Tolerance: K = ±10%; M = ± 20%
- Call Your Sprague Industrial Distributor For Quantity Prices

TYPES CL64, CL65 - 85C ALSO AVAILABLE IN CHARACTERISTIC C (125C)

μF	Size Code	CL64 Type Number*	CL65 Type Number*
		6 WVDC	
30	T1	CL64BB300KP3	CL65BB300KP3
30	T1	CL64BB300MP3	CL65BB300MP3
68	T1	CL64BB680MP3	CL65BB680MP3
140	T2	CL64BB141KP3	CL65BB141KP3
140	T2	CL64BB141MP3	CL65BB141MP3
270	T2	CL64BB271MP3	CL65BB271MP3
330	T3	CL64BB331KP3	CL65BB331KP3
330	T3	CL64BB331MP3	CL65BB331MP3
560	T3	CL64BB561MP3	CL65BB561MP3
		8 WVDC	
25	T1	CL64BC250KP3	CL65BC250KP3
25	T1	CL64BC250MP3	CL65BC250MP3
56	T1	CL64BC560MP3	CL65BC560MP3
220	T2	CL64BC221MP3	CL65BC221MP3
430	T3	CL64BC431MP3	CL65BC431MP3
		10 WVDC	
20	T1	CL64BD200KP3	CL65BD200KP3
20	T1	CL64BD200MP3	CL65BD200MP3
47	T1	CL64BD470MP3	CL65BD470MP3
100	T2	CL64BD101KP3	CL65BD101KP3
100	T2	CL64BD101MP3	CL65BD101MP3
180	T2	CL64BD181MP3	CL65BD181MP3
250	T3	CL64BD251KP3	CL65BD251KP3
250	T3	CL64BD251MP3	CL65BD251MP3
390	T3	CL64BD391MP3	CL65BD391MP3
		15 WVDC	
15	T1	CL64BE150KP3	CL65BE150KP3
15	T1	CL64BE150MP3	CL65BE150MP3
33	T1	CL64BE330MP3	CL65BE330MP3
70	T2	CL64BE700KP3	CL65BE700KP3
70	T2	CL64BE700MP3	CL65BE700MP3
120	T2	CL64BE121MP3	CL65BE121MP3
170	T3	CL64BE171KP3	CL65BE171KP3
170	T3	CL64BE171MP3	CL65BE171MP3
270	T3	CL64BE271MP3	CL65BE271MP3
		25 WVDC	
10	T1	CL64BG100KP3	CL65BG100KP3
10	T1	CL64BG100MP3	CL65BG100MP3
22	T1	CL64BG220MP3	CL65BG220MP3
100	T2	CL64BG101MP3	CL65BG101MP3
180	T3	CL64BG181MP3	CL65BG181MP3
		30 WVDC	
8	T1	CL64BH080KP3	CL65BH080KP3
8	T1	CL64BH080MP3	CL65BH080MP3
15	T1	CL64BH150MP3	CL65BH150MP3
40	T2	CL64BH400KP3	CL65BH400KP3
40	T2	CL64BH400MP3	CL65BH400MP3
68	T2	CL64BH680MP3	CL65BH680MP3
100	T3	CL64BH101KP3	CL65BH101KP3
100	T3	CL64BH101MP3	CL65BH101MP3
150	T3	CL64BH151MP3	CL65BH151MP3
		50 WVDC	
5	T1	CL64BJ050KP3	CL65BJ050KP3
5	T1	CL64BJ050MP3	CL65BJ050MP3
10	T1	CL64BJ100MP3	CL65BJ100MP3
25	T2	CL64BJ250KP3	CL65BJ250KP3
25	T2	CL64BJ250MP3	CL65BJ250MP3
47	T2	CL64BJ470MP3	CL65BJ470MP3
60	T3	CL64BJ600KP3	CL65BJ600KP3
60	T3	CL64BJ600MP3	CL65BJ600MP3
82	T3	CL64BJ820MP3	CL65BJ820MP3
		60 WVDC	
4	T1	CL64BK040KP3	CL65BK040KP3
4	T1	CL64BK040MP3	CL65BK040MP3
8.2	T1	CL64BK8R2MP3	CL65BK8R2MP3
20	T2	CL64BK200KP3	CL65BK200KP3
20	T2	CL64BK200MP3	CL65BK200MP3
39	T2	CL64BK390MP3	CL65BK390MP3
50	T3	CL64BK500KP3	CL65BK500KP3
50	T3	CL64BK500MP3	CL65BK500MP3
68	T3	CL64BK680MP3	CL65BK680MP3
		75 WVDC	
3.5	T1	CL64BL3R5KP3	CL65BL3R5KP3
3.5	T1	CL64BL3R5MP3	CL65BL3R5MP3
6.8	T1	CL64BL6R8MP3	CL65BL6R8MP3
15	T2	CL64BL150KP3	CL65BL150KP3
15	T2	CL64BL150MP3	CL65BL150MP3
33	T2	CL64BL330MP3	CL65BL330MP3
40	T3	CL64BL400KP3	CL65BL400KP3
40	T3	CL64BL400MP3	CL65BL400MP3
56	T3	CL64BL560MP3	CL65BL560MP3
		100 WVDC	
2.5	T1	CL64BN2R5KP3	CL65BN2R5KP3
2.5	T1	CL64BN2R5MP3	CL65BN2R5MP3
4.7	T1	CL64BN4R7MP3	CL65BN4R7MP3
11	T2	CL64BN110KP3	CL65BN110KP3
11	T2	CL64BN110MP3	CL65BN110MP3
22	T2	CL64BN220MP3	CL65BN220MP3
30	T3	CL64BN300KP3	CL65BN300KP3
30	T3	CL64BN300MP3	CL65BN300MP3
43	T3	CL64BN430MP3	CL65BN430MP3
		125 WVDC	
1.7	T1	CL64BP1R7MP3	CL65BP1R7MP3
1.7	T1	CL64BP1R7KP3	CL65BP1R7KP3
3.6	T1	CL64BP3R6MP3	CL65BP3R6MP3
3.6	T1	CL64BP3R6KP3	CL65BP3R6KP3
9	T2	CL64BP090MP3	CL65BP090MP3
9	T2	CL64BP090KP3	CL65BP090KP3
14	T2	CL64BP140MP3	CL65BP140MP3
14	T2	CL64BP140KP3	CL65BP140KP3
18	T3	CL64BP180MP3	CL65BP180MP3
18	T3	CL64BP180KP3	CL65BP180KP3
25	T3	CL64BP250MP3	CL65BP250MP3
25	T3	CL64BP250KP3	CL65BP250KP3

*For Vibration Guide 1, or 2, change last digit in Type Number to 1, or 2.

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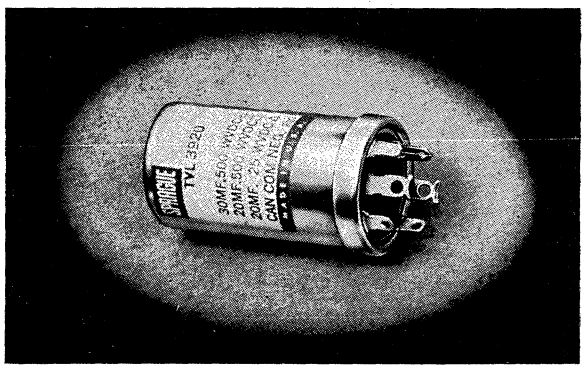
SPRAGUE CAPACITORS

TVL TWIST-LOK® ELECTROLYTICS



- Hermetically Sealed in Aluminum Cans for Long Life and Dependable Performance in TV, Radio and Hi-Fi
- Designed for 85C (185F) Operation
- Stand Up Under Extremely High Temperatures Often Encountered in TV, Hi-Fi, and Auto Radio Cabinets
- Withstand High Surge Voltages
- Ideal for High Ripple Selenium Rectifier Circuits
- Can Be Safely Mounted "Above Ground" Using Phenolic Mounting Plate and Insulating Tube
- Easy to Mount — Unit Locks Firmly in Place with a Twist of the Tabs
- Furnished Complete with Both Phenolic and Metal Mounting Plates

The Twist-lok Capacitors listed here include only popular ratings for industrial applications. For the complete line of more than 2300 Twist-lok Capacitors, please refer to Distributor's Guide to Replacement Electrolytic Capacitors, C-1004.

μF	WVDC	Dia. x Length	Cat. No.
		SINGLE UNITS	
2000	6	1⅜ x 2	TVL-1115
3000	10	1⅜ x 2½	TVL-1140
225	15	¾ x 2	TVL-1160
1000	15	1 x 1½	TVL-1165
1500	15	1 x 2	TVL-1167
2000	15	1⅜ x 2	TVL-1168
3000	15	1⅜ x 2	TVL-1170
4000	15	1⅜ x 3½	TVL-1173
100	25	¾ x 2	TVL-1215
500	25	1 x 1½	TVL-1220
1000	25	1⅜ x 2	TVL-1230
25	50	¾ x 2	TVL-1308
100	50	¾ x 2	TVL-1317
150	50	¾ x 2½	TVL-1320
250	50	1 x 2	TVL-1324
500	50	1⅜ x 2	TVL-1330
1000	50	1⅜ x 2½	TVL-1338
1500	50	1⅜ x 3	TVL-1341
30	150	1 x 2	TVL-1408
50	150	1 x 1½	TVL-1415
80	150	1 x 2½	TVL-1420
100	150	1 x 1½	TVL-1423
120	150	1 x 2	TVL-1425
120	150	1⅜ x 2½	TVL-1426
140	150	1 x 2½	TVL-1428
150	150	1 x 2	TVL-1429
150	150	1⅜ x 2	TVL-1430
200	150	1⅜ x 2	TVL-1431
200	150	1 x 3	TVL-1431.1
300	150	1⅜ x 2	TVL-1434
500	150	1⅜ x 4	TVL-1439.5
125	200	1 x 2½	TVL-1470
150	200	1 x 2⅞	TVL-1471
160	200	1⅜ x 2	TVL-1473
200	200	1⅜ x 2	TVL-1475
500	200	1⅜ x 4	TVL-1490
20	250	1 x 2	TVL-1509
40	250	1 x 2	TVL-1519
100	250	1 x 3	TVL-1535
150	250	1 x 3	TVL-1539
150	250	1⅜ x 2½	TVL-1540
160	250	1⅜ x 2½	†TVL-1541

† Furnished with a plastic outer insulating sleeve.

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	WVDC	Dia. x Length	Cat. No.
160	250	1 x 4	TVL-1541.1
200	250	1⅜ x 2½	TVL-1547
60	300	1 x 3	TVL-1570
80	300	1 x 2½	TVL-1573
100	300	1 x 2½	TVL-1578
125	300	1⅜ x 2½	TVL-1580
150	300	1⅜ x 3½	TVL-1584
250	300	1⅜ x 4	TVL-1590
30	350	1 x 2	TVL-1617
40	350	1 x 2	TVL-1621
50	350	1 x 2	TVL-1622
60	350	1 x 2½	TVL-1624
80	350	1⅜ x 2	TVL-1630
125	350	1⅜ x 2½	TVL-1638
150	350	1⅜ x 2½	TVL-1642
250	350	1⅜ x 4½	TVL-1644.2
320	350	1⅜ x 4	TVL-1645
4	450	1 x 2	TVL-1702
10	450	1 x 1½	TVL-1705
15	450	1 x 1½	TVL-1709
20	450	1 x 2	TVL-1714
25	450	1 x 2	TVL-1716
30	450	1 x 2½	TVL-1720
40	450	1 x 2½	TVL-1725
50	450	1 x 2½	TVL-1728
60	450	1⅜ x 2½	TVL-1730
80	450	1⅜ x 2½	TVL-1735
100	450	1⅜ x 2½	TVL-1750
125	450	1⅜ x 3½	TVL-1760
150	450	1⅜ x 4	TVL-1770
40	475	1⅜ x 2	TVL-1820
10	500	1 x 1½	TVL-1940
20	500	1 x 2½	TVL-1943
30	500	1 x 2½	TVL-1947
40	500	1 x 2½	TVL-1950
80	500	1⅜ x 2½	TVL-1958
90	500	1⅜ x 3	TVL-1960
15	525	1⅜ x 3	TVL-1980

		DUAL UNITS	
500-500	15-15	1 x 2	TVL-2157
1000-1000	15-15	1 x 2½	TVL-2160
1000-1000	15-15	1⅜ x 2½	TVL-2161
500-100	16-16	1 x 2	TVL-2175

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

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SPRAGUE CAPACITORS

TVL TWIST-LOK® ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.
800-200	16-16	1 x 2	TVL-2179.5
1000-500	16-16	1 x 2½	TVL-2185
500-200	16-16	1 x 2	TVL-2190
500-500	25-25	1⅜ x 2	TVL-2233
1000-500	25-25	1⅜ x 2	TVL-2239
100-25	50-50	1 x 2	TVL-2324
100-100	50-50	1 x 1½	TVL-2326
150-100	150-50	1 x 3	TVL-2413
20-20	150-150	1 x 1½	TVL-2415
30-30	150-150	1 x 1½	TVL-2422
40-20	150-150	1 x 1½	TVL-2425
40-30	150-150	1 x 2	TVL-2427
40-40	150-150	1 x 1½	TVL-2428
50-30	150-150	1 x 1½	TVL-2432
50-50	150-150	1 x 1½	TVL-2435
60-20	150-150	1 x 2	TVL-2436
60-60	150-150	1 x 3½	TVL-2438
70-30	150-150	1 x 2	TVL-2439
75-75	150-150	1 x 2	TVL-2440
80-40	150-150	1⅜ x 2	TVL-2442
80-50	150-150	1 x 2½	TVL-2442.1
80-60	150-150	1 x 3	TVL-2442.2
80-80	150-150	1⅜ x 2	TVL-2442.4
125-100	150-150	1⅜ x 2½	TVL-2443.3
150-80	150-150	1⅜ x 2½	TVL-2443.5
200-5	150-150	1⅜ x 3	TVL-2444
200-125	150-150	1⅜ x 3½	TVL-2445
200-150	150-150	1⅜ x 4	TVL-2446
200-200	150-150	1⅜ x 2½	TVL-2447
60-60	200-200	1 x 1¾	TVL-2461
60-60	200-200	1⅜ x 2	TVL-2462
100-100	200-200	1⅜ x 3	TVL-2464
200-5	200-200	1⅜ x 2	TVL-2470
20-20	250-250	1 x 1½	TVL-2515
40-40	250-250	1 x 3	TVL-2520
150-150	250-250	1⅜ x 2½	TVL-2535
200-200	250-250	1⅜ x 4	TVL-2538
100-100	300-200	1 x 3½	TVL-2562
40-30	300-300	1 x 3	TVL-2574
40-40	300-300	1⅜ x 2	TVL-2575
80-80	300-300	1⅜ x 2½	TVL-2585
120-20	300-300	1⅜ x 3½	TVL-2588
120-40	300-300	1⅜ x 3½	TVL-2589
150-100	300-300	1⅜ x 3	TVL-2591
200-80	300-300	1⅜ x 4½	TVL-2593
15-15	350-350	1 x 2	TVL-2625
20-20	350-350	1 x 2	TVL-2626
30-30	350-350	1 x 2½	TVL-2628
50-30	350-350	1⅜ x 2	TVL-2630
80-20	350-350	1⅜ x 2½	TVL-2633
80-40	350-350	1⅜ x 2½	TVL-2634
80-80	350-350	1⅜ x 2½	TVL-2635
90-40	350-350	1⅜ x 3	TVL-2637
100-60	350-350	1⅜ x 3½	TVL-2639
100-100	350-350	1⅜ x 3	TVL-2641
160-10	350-350	1⅜ x 3	TVL-2643
200-200	350-350	1⅜ x 5	TVL-2645.5
100-30	400-50	1⅜ x 2½	TVL-2655
80-80	400-200	1⅜ x 3½	TVL-2656
80-60	400-400	1⅜ x 3	TVL-2677
80-80	400-400	1⅜ x 4	TVL-2678
120-40	400-400	1⅜ x 4	TVL-2679
40-100	450-50	1 x 3½	TVL-2709
80-100	450-50	1⅜ x 3	TVL-2711
20-50	450-250	1 x 3	TVL-2722
20-160	450-250	1⅜ x 4	TVL-2722.7
80-200	450-250	1⅜ x 4½	TVL-2722.8
40-10	450-300	1 x 3	TVL-2724
80-2	450-350	1⅜ x 2½	TVL-2738.5
10-10	450-450	1 x 2	TVL-2750
15-15	450-450	1 x 2½	TVL-2753
20-10	450-450	1 x 2½	TVL-2754
20-20	450-450	1 x 2½	TVL-2755
30-10	450-450	1 x 2½	TVL-2757
30-30	450-450	1⅜ x 2	TVL-2759
40-20	450-450	1⅜ x 2	TVL-2762
40-40	450-450	1⅜ x 2½	TVL-2764
50-50	450-450	1⅜ x 3	TVL-2767
60-20	450-450	1⅜ x 3	TVL-2768
60-40	450-450	1⅜ x 3½	TVL-2770
60-60	450-450	1⅜ x 3	TVL-2772
80-10	450-450	1⅜ x 3	TVL-2776
80-20	450-450	1⅜ x 2½	TVL-2776.5
80-30	450-450	1⅜ x 4	TVL-2777
80-40	450-450	1⅜ x 3½	TVL-2778
80-50	450-450	1⅜ x 4	TVL-2778.5
80-80	450-450	1⅜ x 3½	TVL-2779
100-40	450-450	1⅜ x 3½	TVL-2780
30-100	475-50	1 x 3½	TVL-2803
80-160	475-250	1⅜ x 4½	TVL-2808
20-100	475-400	1⅜ x 3	TVL-2813
15-15	475-475	1 x 2½	TVL-2820
30-10	475-475	1 x 3	TVL-2824
80-50	475-475	1⅜ x 3½	TVL-2851
10-10	500-500	1 x 2½	TVL-2933
20-20	500-500	1⅜ x 2	TVL-2935
30-30	500-500	1⅜ x 2½	TVL-2937
40-40	500-500	1⅜ x 2½	TVL-2940
60-40	500-500	1⅜ x 3½	TVL-2944

TRIPLE UNITS

850-400-4	16-16-11.5	1 x 2½	TVL-3021
1000-500-4	16-16-11.5	1⅜ x 2	TVL-3021.5
400-100-100	16-16-16	1 x 2	TVL-3025
500-500-100	16-16-16	1 x 2	TVL-3026.8
1000-500-20	16-16-16	1⅜ x 2	TVL-3027
20-20-20	25-25-25	1 x 1½	TVL-3210
40-20-20	150-150-25	1 x 2	TVL-3422
40-40-20	150-150-25	1 x 1½	TVL-3426
40-40-200	150-150-25	1 x 2	TVL-3426.3
40-40-250	150-150-25	1 x 2½	TVL-3426.4
50-30-20	150-150-25	1 x 2½	TVL-3426.7
50-50-20	150-150-25	1 x 3	TVL-3430
60-40-200	150-150-25	1 x 3	TVL-3431.3
80-40-20	150-150-25	1 x 2½	TVL-3432
20-20-20	150-150-150	1 x 1½	TVL-3433
30-30-10	150-150-150	1 x 2	TVL-3435
40-20-10	150-150-150	1 x 2	TVL-3436
40-20-20	150-150-150	1 x 1½	TVL-3437
40-30-20	150-150-150	1 x 2	TVL-3438
40-40-40	150-150-150	1 x 1¾	TVL-3440
50-40-10	150-150-150	1 x 2½	TVL-3441
50-50-50	150-150-150	1 x 3	TVL-3442
60-40-20	150-150-150	1 x 1¾	TVL-3443
70-40-40	150-150-150	1 x 3	TVL-3443.4
80-40-20	150-150-150	1 x 2	TVL-3444
80-80-80	150-150-150	1⅜ x 3	TVL-3446
100-30-10	150-150-150	1 x 2½	TVL-3447
120-80-40	150-150-150	1⅜ x 3½	TVL-3448
120-120-40	150-150-150	1⅜ x 2	TVL-3448.2
200-100-60	150-150-150	1⅜ x 2½	TVL-3450
200-150-150	150-150-150	1⅜ x 4	TVL-3452
250-200-10	150-150-150	1⅜ x 4	TVL-3453
60-200-140	200-150-150	1⅜ x 3	TVL-3461.4
60-5-20	200-200-50	1 x 2½	TVL-3467
80-10-20	200-200-50	1 x 3	TVL-3471
250-200-10	200-200-200	1⅜ x 4	TVL-3490

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TVL TWIST-LOK® ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.
15-15-20	250-250-25	1 x 2	TVL-3510
20-20-20	250-250-250	1 x 2	TVL-3532
40-20-20	250-250-250	1 x 2	TVL-3540
80-80-60	250-250-250	1⅜ x 3	TVL-3545
100-60-20	300-150-50	1⅜ x 3	TVL-3560.1
100-200-60	300-150-150	1⅜ x 4	TVL-3560.5
100-200-30	300-150-150	1⅜ x 4	TVL-3560.6
20-100-100	300-200-50	1 x 3½	TVL-3560.10
100-60-20	300-250-250	1⅜ x 3	TVL-3562
200-60-20	300-250-250	1⅜ x 4	TVL-3563
100-10-60	300-300-50	1⅜ x 2½	TVL-3574
125-20-20	300-300-50	1⅜ x 3½	TVL-3574.3
125-60-40	300-300-50	1⅜ x 4	TVL-3574.6
140-100-60	300-300-50	1⅜ x 3½	TVL-3574.7
140-100-100	300-300-50	1⅜ x 3½	TVL-3574.8
10-10-10	300-300-300	1 x 2	TVL-3580
80-40-40	300-300-300	1⅜ x 2½	TVL-3583
120-50-40	300-300-300	1⅜ x 3	TVL-3585
140-100-20	300-300-300	1⅜ x 4½	TVL-3585.5
160-60-20	300-300-300	1⅜ x 4	TVL-3587
40-200-100	350-150-150	1⅜ x 3½	TVL-3608.3
60-200-30	350-150-150	1⅜ x 3	TVL-3608.6
125-5-100	350-200-75	1⅜ x 3	TVL-3610
30-30-20	350-300-25	1 x 3	TVL-3620
15-10-20	350-350-25	1 x 2	TVL-3630
20-10-20	350-350-25	1 x 2	TVL-3634
20-20-20	350-350-25	1 x 2	TVL-3635
30-20-20	350-350-25	1 x 2	TVL-3636
200-10-50	350-350-25	1⅜ x 4	TVL-3636.8
20-5-150	350-350-50	1 x 3	TVL-3638.1
80-40-100	350-350-200	1⅜ x 3	TVL-3639
100-60-20	350-350-200	1⅜ x 3	TVL-3639.2
20-10-10	350-350-350	1 x 2	TVL-3639.6
30-20-10	350-350-350	1 x 2½	TVL-3639.8
60-40-20	350-350-350	1⅜ x 3½	TVL-3640
60-50-50	350-350-350	1⅜ x 2½	TVL-3641
80-60-60	350-350-350	1⅜ x 3½	TVL-3642
90-40-20	350-350-350	1⅜ x 2½	TVL-3645
140-140-20	350-350-350	1⅜ x 4	TVL-3648
80-80-100	400-200-50	1⅜ x 3	TVL-3652
40-200-60	400-200-200	1⅜ x 4	TVL-3653
10-4-20	400-350-25	1 x 2	TVL-3668
100-10-20	400-350-50	1⅜ x 3½	TVL-3672
20-20-20	400-400-25	1 x 2½	TVL-3678
80-40-60	400-400-50	1⅜ x 3½	TVL-3682.8
80-40-100	400-400-50	1⅜ x 3	TVL-3683
80-40-150	400-400-50	1⅜ x 4	TVL-3684
100-10-20	400-400-50	1⅜ x 2	TVL-3685
20-20-10	400-400-350	1 x 3	TVL-3687.4
60-30-20	400-400-350	1⅜ x 3	TVL-3688
80-20-10	400-400-350	1⅜ x 3	TVL-3689
100-10-80	400-400-350	1⅜ x 3½	TVL-3689.3
100-30-20	400-400-400	1⅜ x 4	TVL-3697
100-40-10	400-400-400	1⅜ x 4	TVL-3698
10-100-200	450-200-25	1 x 3½	TVL-3708.2
10-100-100	450-200-50	1 x 3½	TVL-3708.4
50-160-50	450-250-50	1⅜ x 4	TVL-3711.2
20-160-40	450-250-150	1⅜ x 3	TVL-3711.3
10-40-10	450-300-150	1⅜ x 2	TVL-3713.7
50-10-160	450-350-250	1⅜ x 4½	TVL-3719.4
60-80-20	450-400-250	1⅜ x 4	TVL-3720
80-50-100	450-350-200	1⅜ x 4	TVL-3723.7
40-80-40	450-350-350	1⅜ x 3½	TVL-3724.7
10-10-20	450-450-25	1 x 2	TVL-3731
15-15-40	450-450-25	1 x 2½	TVL-3734
20-10-20	450-450-25	1 x 3	TVL-3735
20-20-20	450-450-25	1 x 3	TVL-3739
40-40-20	450-450-25	1⅜ x 2½	TVL-3744
40-40-40	450-450-25	1⅜ x 2½	TVL-3744.2
80-40-100	450-450-25	1⅜ x 4	TVL-3746
20-10-50	450-450-50	1 x 3	TVL-3751
30-10-150	450-450-50	1⅜ x 2	TVL-3752
80-65-50	450-450-50	1⅜ x 3½	TVL-3754.9
40-40-100	450-450-50	1⅜ x 3	TVL-3755
60-40-75	450-450-50	1⅜ x 4	TVL-3756
80-20-100	450-450-50	1⅜ x 3½	TVL-3757
40-40-40	450-450-150	1⅜ x 3	TVL-3758
40-10-100	450-450-200	1⅜ x 3½	TVL-3762
40-40-100	450-450-200	1⅜ x 3	TVL-3764
40-40-80	450-450-350	1⅜ x 4	TVL-3774
50-20-4	450-450-350	1 x 3½	TVL-3774.6
80-80-10	450-450-400	1⅜ x 4	TVL-3775.7
10-10-10	450-450-450	1 x 2	TVL-3776
15-15-10	450-450-450	1 x 3	TVL-3778
15-15-15	450-450-450	1 x 2½	TVL-3778.2
20-10-10	450-450-450	1 x 3	TVL-3779
20-20-20	450-450-450	1⅜ x 2	TVL-3780
30-10-10	450-450-450	1⅜ x 2	TVL-3780.5
30-20-20	450-450-450	1⅜ x 3	TVL-3781
30-30-30	450-450-450	1⅜ x 3	TVL-3782
40-10-10	450-450-450	1⅜ x 2½	TVL-3783
40-30-20	450-450-450	1⅜ x 2½	TVL-3784
40-40-10	450-450-450	1⅜ x 2½	TVL-3785
40-40-20	450-450-450	1⅜ x 2½	TVL-3786
40-40-40	450-450-450	1⅜ x 3	TVL-3787
50-20-4	450-450-450	1 x 3½	TVL-3787.5
50-40-30	450-450-450	1⅜ x 3	TVL-3788
60-20-20	450-450-450	1⅜ x 3	TVL-3789
60-30-10	450-450-450	1⅜ x 3	TVL-3790
60-40-20	450-450-450	1⅜ x 3	TVL-3791
80-40-20	450-450-450	1⅜ x 3	TVL-3793
80-50-30	450-450-450	1⅜ x 4	TVL-3793.3
40-80-10	475-300-300	1⅜ x 3½	TVL-3806
10-100-25	475-350-25	1⅜ x 3	TVL-3806.4
10-4-100	475-350-50	1 x 2	TVL-3806.6
20-10-5	475-350-150	1 x 2½	TVL-3806.8
40-80-10	475-450-450	1⅜ x 4	TVL-3816
50-40-40	475-475-25	1⅜ x 3½	TVL-3816.11
20-10-100	475-475-50	1⅜ x 2	TVL-3817
20-10-100	475-475-400	1⅜ x 3½	TVL-3819
30-30-20	475-475-475	1⅜ x 3	TVL-3840
40-20-20	475-475-475	1⅜ x 3	TVL-3842
40-30-10	475-475-475	1⅜ x 3	TVL-3842.6
40-30-30	475-475-475	1⅜ x 4	TVL-3843
20-10-100	500-500-50	1 x 4	TVL-3928
40-40-100	500-500-200	1⅜ x 4	TVL-3935
10-10-10	500-500-500	1 x 2½	TVL-3952
30-20-20	500-500-500	1⅜ x 3	TVL-3956
40-40-10	500-500-500	1⅜ x 3½	TVL-3965

QUADRUPLE UNITS

50-40-160-40	150-150-25-25	1⅜ x 2	TVL-4410.7
60-40-20-200	150-150-150-10	1⅜ x 2	TVL-4414
40-40-30-20	150-150-150-25	1⅜ x 2	TVL-4420
40-40-40-20	150-150-150-25	1⅜ x 2	TVL-4421
80-40-40-20	150-150-150-25	1⅜ x 2	TVL-4431
80-40-40-40	150-150-150-25	1⅜ x 2½	TVL-4432
80-40-40-100	150-150-150-25	1⅜ x 2	TVL-4434
250-200-10-25	150-150-150-50	1⅜ x 3	TVL-4440
200-200-100-10	150-150-150-75	1⅜ x 2½	TVL-4440.3
40-40-40-30	150-150-150-150	1⅜ x 2	TVL-4441
100-80-60-40	150-150-150-150	1⅜ x 3	TVL-4445
200-200-60-30	150-150-150-150	1⅜ x 4	TVL-4448
200-200-60-30	175-175-175-175	1⅜ x 3½	TVL-4450
100-40-10-100	250-250-250-50	1⅜ x 3½	TVL-4516
10-200-140-30	300-150-150-150	1⅜ x 3½	TVL-4559
10-200-200-30	300-150-150-150	1⅜ x 4	TVL-4559.2
100-60-10-20	300-200-150-50	1⅜ x 3	TVL-4559.5
100-10-200-30	300-300-150-150	1⅜ x 3½	TVL-4561
140-10-200-30	300-300-150-150	1⅜ x 4	TVL-4561.3
60-40-20-50	300-300-300-25	1⅜ x 3½	TVL-4570

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TVL TWIST-LOK® ELECTROLYTICS, continued

μF	WVDC	Dia. x Length	Cat. No.
150-30-30-150	300-300-300-50	1⅜ x 4	TVL-4574
80-20-20-200	300-300-300-150	1⅜ x 3½	TVL-4576
40-20-10-10	300-300-300-300	1⅜ x 2	TVL-4578
40-40-20-10	300-300-300-300	1⅜ x 2	TVL-4579
40-40-30-20	300-300-300-300	1⅜ x 3	TVL-4580
60-40-10-10	300-300-300-300	1⅜ x 2½	TVL-4583
150-100-10-5	300-300-300-300	1⅜ x 4	TVL-4587
140-100-20-20	300-300-300-300	1⅜ x 4½	TVL-4588
150-150-30-30	300-300-300-300	1⅜ x 4½	TVL-4589
200-20-20-20	300-300-300-300	1⅜ x 3½	TVL-4590
10-20-10-50	350-200-200-50	1⅜ x 2	TVL-4603.13
5-100-20-100	350-200-200-25	1⅜ x 2	TVL-4603.15
160-30-30-20	350-300-300-50	1⅜ x 4	TVL-4605.2
140-100-20-20	350-300-300-300	1⅜ x 4	TVL-4605.3
160-60-10-4	350-300-300-300	1⅜ x 3½	TVL-4605.5
40-80-10-10	350-300-300-300	1⅜ x 2½	TVL-4605.6
60-4-100-40	350-350-25-25	1⅜ x 2½	TVL-4607
60-20-80-100	350-350-150-50	1⅜ x 3	TVL-4608
5-20-100-100	350-350-200-50	1⅜ x 2	TVL-4608.12
60-40-60-20	350-350-200-150	1⅜ x 3	TVL-4609
100-60-10-100	350-350-200-150	1⅜ x 4½	TVL-4609.4
100-80-10-20	350-350-300-50	1⅜ x 4	TVL-4610.8
30-10-5-200	350-350-350-25	1⅜ x 2	TVL-4620.3
40-20-20-25	350-350-350-25	1⅜ x 2½	TVL-4621.3
40-40-20-20	350-350-350-25	1⅜ x 2½	TVL-4621.6
40-40-30-10	350-350-350-25	1⅜ x 3	TVL-4622
40-40-40-40	350-350-350-25	1⅜ x 2½	TVL-4622.3
250-20-20-50	350-350-350-25	1⅜ x 4½	TVL-4622.11
90-30-5-100	350-350-350-75	1⅜ x 3½	TVL-4625
60-30-30-150	350-350-350-50	1⅜ x 3	TVL-4630.4
70-40-10-50	350-350-350-50	1⅜ x 3	TVL-4631
100-10-10-20	350-350-350-50	1⅜ x 3	TVL-4632
100-20-10-20	350-350-350-50	1⅜ x 3½	TVL-4633
100-40-30-50	350-350-350-50	1⅜ x 4	TVL-4634
30-20-5-100	350-350-350-200	1⅜ x 3	TVL-4634.6
30-10-5-100	350-350-350-200	1⅜ x 2½	TVL-4634.7
40-20-20-10	350-350-350-350	1⅜ x 2	TVL-4635
40-40-40-40	350-350-350-350	1⅜ x 4	TVL-4635.3
80-60-40-20	350-350-350-350	1⅜ x 3½	TVL-4635.7
90-40-30-30	350-350-350-350	1⅜ x 4	TVL-4635.8
20-10-10-20	400-350-200-25	1⅜ x 2	TVL-4652
40-80-100-100	400-350-200-50	1⅜ x 3½	TVL-4653
40-80-100-25	400-350-200-50	1⅜ x 3½	TVL-4654
40-80-10-100	400-350-350-200	1⅜ x 4	TVL-4661.4
40-100-20-10	400-350-350-350	1⅜ x 4	TVL-4661.6
50-40-100-100	400-400-50-25	1⅜ x 4	TVL-4663.2
80-40-100-20	400-400-50-25	1⅜ x 3	TVL-4663.4
100-10-30-20	400-400-50-50	1⅜ x 2½	TVL-4663.5
50-20-20-25	400-400-350-25	1⅜ x 3	TVL-4665.5
100-10-20-20	400-400-350-50	1⅜ x 3	TVL-4666.2
80-40-10-20	400-400-400-25	1⅜ x 3½	TVL-4669
80-40-30-40	400-400-400-25	1⅜ x 3½	TVL-4670
90-20-10-50	400-400-400-50	1⅜ x 4	TVL-4670.7
80-10-4-100	400-400-400-50	1⅜ x 4	TVL-4670.9
80-40-10-100	400-400-400-200	1⅜ x 4	TVL-4671.2
80-40-30-4	400-400-400-350	1⅜ x 4	TVL-4672
50-40-30-20	400-400-400-400	1⅜ x 4	TVL-4674
80-25-10-10	400-400-400-400	1⅜ x 4	TVL-4680
100-40-10-10	400-400-400-400	1⅜ x 4	TVL-4681
100-80-10-10	400-400-400-400	1⅜ x 4	TVL-4683
100-80-30-10	400-400-400-400	1⅜ x 4½	TVL-4683.8
20-80-20-50	450-200-200-50	1⅜ x 3	TVL-4701
20-160-50-50	450-250-75-50	1⅜ x 4	TVL-4701.3
25-100-10-60	450-300-300-50	1⅜ x 3	TVL-4703.5
10-100-20-20	450-300-300-200	1⅜ x 3	TVL-4704
80-2-100-25	450-350-25-25	1⅜ x 3	TVL-4705.3
40-30-15-50	450-350-300-50	1⅜ x 3	TVL-4705.8
10-140-100-20	450-350-300-300	1⅜ x 4	TVL-4705.9
80-10-40-30	450-400-300-300	1⅜ x 4	TVL-4710.2
20-80-50-100	450-350-350-50	1⅜ x 4	TVL-4711
60-40-20-20	450-400-400-400	1⅜ x 4	TVL-4711.3

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μF	WVDC	Dia. x Length	Cat. No.
20-15-20-20	450-450-25-25	1⅜ x 2	TVL-4712
50-20-4-40	450-450-150-25	1⅜ x 2½	TVL-4712.9
50-40-4-40	450-450-150-25	1⅜ x 2½	TVL-4712.10
35-25-20-100	450-450-200-50	1⅜ x 2½	TVL-4714
80-30-20-50	450-450-250-50	1⅜ x 3½	TVL-4714.2
40-40-100-60	450-450-200-200	1⅜ x 4	TVL-4714.3
30-20-160-40	450-450-250-150	1⅜ x 4½	TVL-4714.4
80-50-100-250	450-450-250-50	1⅜ x 4	TVL-4714.5
80-50-20-50	450-450-250-50	1⅜ x 4	TVL-4714.6
30-20-160-10	450-450-250-250	1⅜ x 4	TVL-4714.10
30-20-4-200	450-450-350-250	1⅜ x 4½	TVL-4716.4
40-40-30-30	450-450-350-350	1⅜ x 4	TVL-4720
10-10-10-20	450-450-450-25	1⅜ x 2	TVL-4723
20-20-20-20	450-450-450-25	1⅜ x 2	TVL-4724.2
40-20-20-20	450-450-450-25	1⅜ x 3	TVL-4731
40-20-20-40	450-450-450-25	1⅜ x 2½	TVL-4732
40-30-10-20	450-450-450-25	1⅜ x 3	TVL-4734
40-40-10-20	450-450-450-25	1⅜ x 3½	TVL-4736
40-40-20-20	450-450-450-25	1⅜ x 3½	TVL-4737
40-40-40-40	450-450-450-25	1⅜ x 3	TVL-4739
60-50-5-20	450-450-450-25	1⅜ x 4	TVL-4739.5
80-40-40-40	450-450-450-25	1⅜ x 4	TVL-4739.6
80-50-10-20	450-450-450-25	1⅜ x 4	TVL-4739.9
40-20-10-100	450-450-450-50	1⅜ x 3½	TVL-4743
40-40-10-25	450-450-450-50	1⅜ x 3	TVL-4745
40-40-10-50	450-450-450-50	1⅜ x 4	TVL-4746
40-40-10-100	450-450-450-100	1⅜ x 3½	TVL-4747
20-30-80-40	450-450-450-150	1⅜ x 4	TVL-4754
40-20-10-100	450-450-450-250	1⅜ x 4	TVL-4757
30-20-10-20	450-450-450-350	1⅜ x 2½	TVL-4757.12
40-10-10-40	450-450-450-350	1⅜ x 3	TVL-4758
5-5-5-5	450-450-450-450	1⅜ x 2	TVL-4759.7
10-10-10-10	450-450-450-450	1⅜ x 2	TVL-4760
20-10-10-10	450-450-450-450	1⅜ x 2	TVL-4761
20-20-20-20	450-450-450-450	1⅜ x 2½	TVL-4763
30-30-20-20	450-450-450-450	1⅜ x 3	TVL-4769.4
35-35-10-5	450-450-450-450	1⅜ x 3	TVL-4771
40-10-10-10	450-450-450-450	1⅜ x 3	TVL-4771.3
40-35-10-10	450-450-450-450	1⅜ x 3	TVL-4771.8
40-40-20-20	450-450-450-450	1⅜ x 2½	TVL-4773
40-40-30-30	450-450-450-450	1⅜ x 4	TVL-4774
40-40-40-40	450-450-450-450	1⅜ x 3½	TVL-4775
60-20-20-20	450-450-450-450	1⅜ x 3	TVL-4778
80-10-10-10	450-450-450-450	1⅜ x 3½	TVL-4783
20-80-20-10	475-300-300-300	1⅜ x 3½	TVL-4801
20-140-20-10	475-300-300-300	1⅜ x 4	TVL-4801.2
10-100-10-100	475-300-300-25	1⅜ x 3½	TVL-4802
10-140-4-100	475-350-350-50	1⅜ x 4	TVL-4803.3
10-130-20-10	475-350-350-350	1⅜ x 3	TVL-4803.4
30-130-10-10	475-350-350-350	1⅜ x 4	TVL-4803.8
10-40-100-10	475-400-50-25	1⅜ x 2½	TVL-4804
10-40-4-100	475-400-350-50	1⅜ x 2½	TVL-4805
10-80-40-100	475-400-400-50	1⅜ x 4	TVL-4805.2
10-60-30-125	475-450-400-50	1⅜ x 4	TVL-4811
10-50-30-30	475-450-450-25	1⅜ x 3	TVL-4813
80-4-4-200	475-450-450-25	1⅜ x 3½	TVL-4813.2
10-40-10-100	475-450-450-50	1⅜ x 2½	TVL-4814
50-18-4-40	475-475-150-25	1⅜ x 2½	TVL-4814.7
20-10-20-100	475-475-450-25	1⅜ x 2½	TVL-4818
100-4-4-200	475-475-475-25	1⅜ x 4	TVL-4818.5
80-4-4-4	475-450-450-450	1⅜ x 3	TVL-4820.3
50-40-4-40	475-475-150-25	1⅜ x 3½	TVL-4820.4
80-80-4-4	475-475-450-450	1⅜ x 4	TVL-4820.5
80-4-4-200	475-475-475-25	1⅜ x 3½	TVL-4823
20-20-10-10	475-475-475-475	1⅜ x 2½	TVL-4832
20-20-20-20	475-475-475-475	1⅜ x 2½	TVL-4834
40-20-10-10	475-475-475-475	1⅜ x 2½	TVL-4840
10-10-4-20	500-300-300-25	1⅜ x 2	TVL-4909
30-10-150-30	500-450-50-50	1⅜ x 3	TVL-4917
10-10-10-10	500-500-500-500	1⅜ x 2	TVL-4940
40-40-8-8	500-500-500-500	1⅜ x 4	TVL-4944

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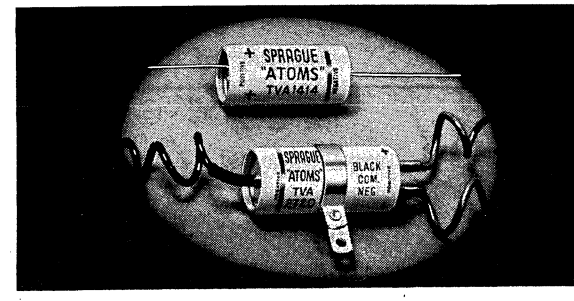
ATOM® ELECTROLYTICS

- The Smallest Dependable Standard Tubular—Designed for 85C (185F) Operation in Voltages to 475 WVDC
- Whether For AC-DC Sets, Auto Radios, Home Radio-phono Combinations, Or TV Sets, The SPRAGUE Line Will Handle All Your Replacement Requirements—No Dual Inventory Problems
- Have Low Leakage And Long Shelf Life
- Will Withstand High Temperatures, High Ripple Currents, High Surge Voltages
- Metal Case Construction with Outer Kraftboard Insulating Case Except as Noted by † Sign



SINGLE UNITS

µF	WVDC	D. x L.	Cat. No.
750	3	9/16 x 2 9/16	TVA-1097
50	6	7/16 x 1 1/4]* 3/8 x 13/16]	TVA-1100
100	6	9/16 x 1 5/16	TVA-1101
250	6	9/16 x 1 5/16	TVA-1102
500	6	5/8 x 1 9/16	TVA-1103
1000	6	3/4 x 1 13/16	TVA-1104
1500	6	13/16 x 2 1/16	TVA-1105
2000	6	13/16 x 2 1/16	TVA-1106
8	10NP	9/16 x 1 5/16	TVAN-1112
50	10NP	9/16 x 1 9/16	TVAN-1117
160	10NP	1 1/16 x 1 13/16	TVAN-1120
100	12	9/16 x 1 5/16	TVA-1130
250	12	5/8 x 1 5/16	TVA-1131
500	12	1 1/16 x 1 9/16	TVA-1132
1000	12	13/16 x 1 13/16	TVA-1133
100	15	9/16 x 1 5/16	TVA-1160
250	15	5/8 x 1 9/16	TVA-1161
500	15	1 1/16 x 1 13/16	TVA-1162
1000	15	13/16 x 1 13/16	TVA-1163
2000	15	15/16 x 2 13/16	★TVA-1170
3000	15	1 1/16 x 4 1/16	TVA-1175
2	25	7/16 x 1 3/8]* 5/16 x 5/8]	TVA-1201
2	25NP	9/16 x 1 9/16	TVAN-1202
4	25NP	15/16 x 1 5/16	★TVAN-1202.2
5	25	7/16 x 1 3/8]* 5/16 x 5/8]	TVA-1203
5	25NP	9/16 x 1 5/16	TVAN-1203.1
8	25NP	1 1/16 x 1 13/16	★TVAN-1203.8
10	25	7/16 x 1 3/8]* 5/16 x 1 3/16]	TVA-1204
10	25NP	9/16 x 1 5/16	TVAN-1204.1
20	25	7/16 x 1 1/4]* 3/8 x 1 3/16]	TVA-1204.5
25	25	7/16 x 1 1/4]* 3/8 x 1 3/16]	TVA-1205
50	25	9/16 x 1 5/16	TVA-1206
50	25NP	1 1/16 x 1 13/16	TVAN-1206.1
100	25	9/16 x 1 11/16	TVA-1207
100	25NP	1 1/16 x 1 5/16	TVAN-1207.1
150	25	13/16 x 1 9/16	TVA-1207.5
250	25	1 1/16 x 1 9/16	TVA-1208
500	25	3/4 x 1 13/16	TVA-1209
1000	25	1 3/16 x 2 5/16	TVA-1211
3	30NP	1 1/16 x 1 5/16	TVAN-1215
20	30NP	1 1/16 x 1 9/16	TVAN-1220
10	40NP	9/16 x 1 13/16	TVAN-1230
1	50	7/16 x 1 3/8]* 5/16 x 5/8]	TVA-1300
2	50	7/16 x 1 3/8]* 5/16 x 5/8]	TVA-1301
2	50NP	1 1/16 x 1 13/16	TVAN-1301.1
3	50	9/16 x 1 5/16	TVA-1302
3	50NP	9/16 x 1 9/16	TVAN-1302.1
4	50NP	1 1/16 x 9/16	★TVAN-1302.5
5	50	7/16 x 1 3/8]* 5/16 x 1 3/16]	TVA-1303
5	50NP	1 1/16 x 2 5/16	TVAN-1303.1
10	50	7/16 x 1 1/4]* 3/8 x 1 3/16]	TVA-1304
10	50NP	1 1/16 x 2 1/16	TVAN-1304.1
15	50	7/16 x 1 1/4]* 3/8 x 1 3/16]	TVA-1305
20	50	7/16 x 1 1/4]* 3/8 x 1 5/16]	TVA-1305.5
25	50	7/16 x 1 1/4]* 3/8 x 1 5/16]	TVA-1306
50	50	5/8 x 1 5/16	TVA-1308
50	50NP	13/16 x 2 1/16	TVAN-1303.1
100	50	5/8 x 1 9/16	TVA-1310
150	50	3/4 x 1 9/16	TVA-1311
250	50	13/16 x 1 9/16	TVA-1312
500	50	1 x 1 15/16	TVA-1315
10	90	7/16 x 1 7/8	TVA-1320
10	100NP	1 1/16 x 1 13/16	TVAN-1333
1	150	7/16 x 1 3/8]* 5/16 x 5/8]	TVA-1400
4	150	7/16 x 1 1/4]* 3/8 x 1 5/16]	TVA-1402
4	150NP	9/16 x 1 13/16	TVAN-1402.1
5	150	7/16 x 1 1/4]* 3/8 x 1 5/16]	TVA-1403
8	150	7/16 x 1 7/8	TVA-1405
10	150	9/16 x 1 5/16	TVA-1406
10	150NP	13/16 x 1 9/16	TVAN-1406.1
12	150	9/16 x 1 5/16	TVA-1407
16	150	9/16 x 1 9/16	TVA-1409
20	150	5/8 x 1 9/16	TVA-1410
25	150	3/4 x 1 9/16	TVA-1411
30	150	13/16 x 1 5/16	TVA-1412
40	150	13/16 x 1 9/16	TVA-1413
50	150	13/16 x 1 13/16	TVA-1414
60	150	15/16 x 1 9/16	TVA-1415
80	150	15/16 x 1 9/16	TVA-1418
100	150	15/16 x 2 1/16	TVA-1420
150	150	1 1/16 x 2 1/16	TVA-1422
200	150	1 1/16 x 2 9/16	TVA-1423
250	150	1 1/4 x 4 3/8	★TVA-1424†
300	150	1 1/16 x 3 5/16	TVA-1425
80	175	1 1/16 x 2 1/16	TVA-1430
2	200NP	9/16 x 1 9/16	TVAN-1435.1
60	200NP	1 1/16 x 2 13/16	TVAN-1440
100	200	1 1/16 x 2 5/16	TVA-1445
150	200	1 3/8 x 3 3/8	★TVA-1447†
200	200	1 3/8 x 3 3/8	★TVA-1480†
1	250	9/16 x 1 5/16	TVA-1500
4	250	9/16 x 1 5/16	TVA-1501
8	250	9/16 x 1 9/16	TVA-1503
10	250	5/8 x 1 9/16	TVA-1504
12	250	5/8 x 1 9/16	TVA-1505
16	250	13/16 x 1 5/16	TVA-1507
20	250	13/16 x 1 5/16	TVA-1508
30	250	13/16 x 1 13/16	TVA-1510
40	250	13/16 x 2 1/16	TVA-1511
50	250	15/16 x 1 13/16	TVA-1512
60	250	1 x 1 13/16	TVA-1513
70	250	1 1/16 x 2 1/16	TVA-1515
100	250	1 1/16 x 2 5/16	TVA-1522
200	250	1 3/8 x 3 1/8	TVA-1528†
100	300	1 1/16 x 3 1/16	TVA-1573
140	300	1 3/8 x 3 3/8	★TVA-1575†
150	300	1 3/8 x 3 7/8	TVA-1576†
200	300	1 3/8 x 4 5/8	TVA-1578†
4	350	1 1/16 x 1 5/16	TVA-1601
5	350NP	13/16 x 1 13/16	TVAN-1602
8	350	1 1/16 x 1 9/16	TVA-1603
10	350	3/4 x 1 9/16	TVA-1604
10	350NP	1 1/16 x 2 1/16	TVAN-1604.1
12	350	13/16 x 1 9/16	TVA-1605
16	350	13/16 x 1 9/16	TVA-1607
20	350	13/16 x 1 13/16	TVA-1608
30	350	13/16 x 2 1/16	TVA-1610
40	350	15/16 x 2 1/16	TVA-1611
60	350	1 1/16 x 2 1/16	TVA-1613
100	350	1 1/16 x 2 13/16	TVA-1620
150	350	1 3/8 x 3 3/8	TVA-1622†
200	350	1 3/8 x 4 1/8	TVA-1624†
10	400NP	1 1/16 x 2 1/16	★TVAN-1650
20	400NP	1 1/16 x 2 5/16	TVAN-1652
1	450	9/16 x 1 5/16	TVA-1700
2	450	9/16 x 1 5/16	TVA-1701
4	450	1 1/16 x 1 5/16	TVA-1702
5	450	1 1/16 x 1 9/16	TVA-1703
8	450	3/4 x 1 9/16	TVA-1704
10	450	13/16 x 1 9/16	TVA-1705
12	450	13/16 x 1 9/16	TVA-1706
16	450	13/16 x 1 13/16	TVA-1708
20	450	15/16 x 1 13/16	TVA-1709
30	450	15/16 x 2 1/16	TVA-1711
40	450	1 1/16 x 2 1/16	TVA-1712
50	450	1 1/16 x 2 9/16	TVA-1713
60	450	1 1/16 x 2 13/16	TVA-1714
80	450	1 1/16 x 3 13/16	TVA-1716
100	450	1 1/16 x 4 1/16	TVA-1718
150	450	1 3/8 x 3 5/8	TVA-1719†
200	450	1 1/2 x 4 5/8	TVA-1720†
10	475	13/16 x 2 1/16	TVA-1802
20	475	15/16 x 2 5/16	TVA-1804
8	500	15/16 x 1 13/16	TVA-1902
10	500	15/16 x 1 13/16	TVA-1903
12	500	15/16 x 2 1/16	TVA-1904
16	500	1 x 2 5/16	TVA-1905
20	500	1 1/16 x 2 5/16	TVA-1906
40	500	1 1/16 x 3 1/16	TVA-1908
8	600	1 1/16 x 3 3/16	TVA-1962
10	600	1 1/16 x 3 3/16	TVA-1963
16	600	1 1/16 x 4 3/16	TVA-1965
20	600	1 1/16 x 4 3/16	TVA-1966

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★ Mounting straps attached †Kraftboard construction. *Either of the two listed sizes may be supplied at Sprague's option.

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SPRAGUE CAPACITORS

ATOM® ELECTROLYTICS, continued

μF	WVDC	Diam. x Length	Cat. No.
DUAL UNITS (COMMON NEGATIVE)—3 LEADS			
10-10	25-25	15/16 x 1 9/16	★TVA-2210
10-10	50-50	1 3/16 x 1 5/16	★TVA-2315
8-8	150-150	1 3/16 x 1 5/16	★TVA-2415
16-16	150-150	1 3/16 x 1 9/16	★TVA-2420
30-20	150-150	1 5/16 x 1 9/16	★TVA-2421
20-12	150-150	1 3/16 x 1 9/16	★TVA-2425
20-20	150-150	1 3/16 x 1 9/16	★TVA-2428
30-30	150-150	1 5/16 x 1 9/16	★TVA-2434
40-20	150-150	1 5/16 x 1 9/16	★TVA-2438
40-30	150-150	1 5/16 x 1 13/16	★TVA-2442
40-40	150-150	1 5/16 x 2 1/16	★TVA-2445
50-30	150-150	1 5/16 x 2 1/16	★TVA-2450
50-50	150-150	1 5/16 x 2 1/16	★TVA-2453
60-20	150-150	1 5/16 x 2 1/16	★TVA-2455
60-40	150-150	1 5/16 x 2 13/16	★TVA-2456
60-60	150-150	1 5/16 x 2 13/16	★TVA-2457
80-20	150-150	1 5/16 x 2 9/16	★TVA-2459
80-30	150-150	1 5/16 x 2 9/16	★TVA-2460
80-40	150-150	1 5/16 x 2 9/16	★TVA-2461
80-50	150-150	1 5/16 x 2 9/16	★TVA-2462
100-50	150-150	1 11/16 x 2 13/16	★TVA-2463
100-100	150-150	1 3/8 x 3 3/8	TVA-2464†
150-150	150-150	1 3/8 x 4 1/8	TVA-2466†
200-5	150-150	1 11/16 x 3 9/16	★TVA-2467
200-100	150-150	1 3/8 x 5 1/8	★TVA-2470†
250-50	150-150	1 3/8 x 3 1/8	TVA-2473†
250-200	150-150	1 3/8 x 4 1/8	TVA-2475†
60-125	200-50	1 1/8 x 2 7/8	★TVA-2484†
60-1	200-200	1 5/16 x 2 5/16	★TVA-2493
200-5	200-200	1 11/16 x 3 13/16	★TVA-2498
20-20	250-250	1 5/16 x 1 13/16	★TVA-2515
40-10	250-250	1 5/16 x 2 1/16	★TVA-2520
80-10	250-250	1 11/16 x 2 5/16	★TVA-2525
120-80	250-250	1 3/8 x 3 7/8	TVA-2535†
140-100	300-50	1 3/8 x 3 3/8	TVA-2563†
200-100	300-50	1 3/8 x 4 5/8	★TVA-2565†
60-32	300-300	1 11/16 x 3 1/16	★TVA-2585
150-100	300-300	1 3/8 x 4 7/8	TVA-2590†
140-5	350-350	1 1/4 x 3 7/8	★TVA-2640†
10-100	450-50	1 x 2 3/8	★TVA-2663†
80-100	450-50	1 3/8 x 4 3/4	TVA-2711†
8-8	450-450	1 5/16 x 1 13/16	★TVA-2720
10-10	450-450	1 5/16 x 2 1/16	★TVA-2722
16-8	450-450	1 5/16 x 2 5/16	★TVA-2725
20-20	450-450	1 5/16 x 2 13/16	TVA-2730
30-30	450-450	1 11/16 x 3 5/16	★TVA-2735
40-40	450-450	1 11/16 x 4 1/16	★TVA-2740
50-30	450-450	1 11/16 x 4 1/16	★TVA-2743
80-30	450-450	1 11/16 x 4 9/16	★TVA-2750
20-100	475-50	1 11/16 x 2 9/16	★TVA-2765
DUAL UNITS (SEPARATE SECTIONS)—4 LEADS			
20-20	150-150	1 x 2 3/8	★TU-220†
40-20	150-150	1 11/16 x 2 5/8	★TU-420†
16-16	250-250	1 x 2 7/8	TU-216†
8-8	450-450	1 11/16 x 3 3/8	★TU-88†
16-16	450-450	1 3/8 x 3 1/8	★TU-1616†
120-120	150-150	1 11/16 x 4 1/16	TU-2120
TRIPLE UNITS			
40-40-250	150-150-10	1 x 2 1/16	★TVA-3406
20-20-20	150-150-25	1 5/16 x 1 9/16	★TVA-3415
30-30-100	150-150-12	1 5/16 x 2 1/16	★TVA-3419
60-40-250	150-150-15	1 11/16 x 2 1/16	★TVA-3421.5
40-20-20	150-150-25	1 5/16 x 1 13/16	★TVA-3422.9
40-30-20	150-150-25	1 5/16 x 2 1/16	★TVA-3423
40-40-20	150-150-25	1 5/16 x 2 5/16	★TVA-3425
40-40-100	150-150-25	1 5/16 x 2 9/16	★TVA-3427
50-30-20	150-150-25	1 5/16 x 2 5/16	★TVA-3430
50-30-100	150-150-25	1 5/16 x 2 9/16	★TVA-3432
50-30-200	150-150-25	1 11/16 x 2 5/16	★TVA-3433
50-50-20	150-150-25	1 x 2 5/16	★TVA-3436
80-20-100	150-150-25	1 1/4 x 2 7/8	TVA-3437†
80-40-20	150-150-25	1 11/16 x 2 1/16	★TVA-3437.1
250-120-50	150-150-25	1 3/8 x 3 7/8	★TVA-3437.6†
20-20-20	150-150-150	1 5/16 x 1 13/16	★TVA-3440
30-25-20	150-150-150	1 5/16 x 2 5/16	★TVA-3442
30-30-20	150-150-150	1 5/16 x 2 5/16	★TVA-3443
30-30-30	150-150-150	1 5/16 x 2 5/16	★TVA-3444
40-20-10	150-150-150	1 5/16 x 2 5/16	★TVA-3445
40-20-20	150-150-150	1 5/16 x 2 1/16	★TVA-3446
40-30-20	150-150-150	1 5/16 x 2 5/16	★TVA-3448
40-30-30	150-150-150	1 11/16 x 2 9/16	★TVA-3449
40-40-20	150-150-150	1 5/16 x 2 9/16	★TVA-3450
40-40-40	150-150-150	1 11/16 x 2 9/16	★TVA-3451
50-30-20	150-150-150	1 11/16 x 2 9/16	★TVA-3453
50-50-50	150-150-150	1 11/16 x 3 1/16	★TVA-3453.5
60-40-40	150-150-150	1 11/16 x 2 9/16	★TVA-3454.3
80-40-20	150-150-150	1 11/16 x 3 1/16	★TVA-3455
80-40-40	150-150-150	1 11/16 x 3 1/16	★TVA-3456
80-50-50	150-150-150	1 11/16 x 3 5/16	★TVA-3456.5
80-60-20	150-150-150	1 1/4 x 4 5/8	★TVA-3457
100-30-10	150-150-150	1 11/16 x 2 13/16	★TVA-3458
150-150-150	150-150-150	1 1/4 x 4 5/8	★TVA-3459†
250-200-10	150-150-150	1 3/8 x 3 5/8	★TVA-3460†
40-20-100	250-250-50	1 3/8 x 2 5/8	TVA-3485†
200-150-50	250-250-150	1 1/2 x 4 1/8	TVA-3493†
80-10-100	300-250-50	1 3/8 x 3 3/8	★TVA-3556†
80-40-100	300-300-50	1 3/8 x 3 7/8	TVA-3558†
100-60-100	300-300-50	1 3/8 x 3 7/8	TVA-3559†
120-40-100	300-300-50	1 3/8 x 4 3/8	TVA-3560†
120-40-10	300-300-250	1 3/8 x 3 3/8	TVA-3563†
60-60-60	300-300-300	1 3/8 x 3 7/8	TVA-3567†
80-40-40	300-300-300	1 3/8 x 3 5/8	TVA-3569†
100-40-40	350-300-250	1 3/8 x 4 5/8	★TVA-3590†
100-20-50	350-350-50	1 3/8 x 3 7/8	★TVA-3605†
140-5-200	350-350-200	1 1/2 x 5 1/8	TVA-3620†
60-60-60	350-350-250	1 3/8 x 3 7/8	TVA-3626†
60-60-4	350-350-350	1 3/8 x 3 3/8	TVA-3630†
10-80-60	400-250-150	1 3/8 x 3 3/8	TVA-3650†
100-75-70	400-400-25	1 1/2 x 4 3/8	TVA-3667†
5-80-40	450-400-400	1 3/8 x 4 1/8	★TVA-3712†
12-12-20	450-450-25	1 11/16 x 2 1/16	★TVA-3716
20-20-20	450-450-25	1 11/16 x 2 9/16	★TVA-3718
40-40-20	450-450-25	1 11/16 x 4 1/16	★TVA-3720
40-20-20	450-450-450	1 11/16 x 4 1/16	★TVA-3740
60-60-60	450-450-450	1 1/2 x 4 5/8	TVA-3748†
QUADRUPLE UNITS			
40-20-20-100	150-150-150-25	1 1/4 x 2 7/8	TVA-4517†
40-40-20-20	150-150-150-25	1 1/8 x 2 5/8	★TVA-4520†
50-50-30-25	150-150-150-25	1 3/8 x 2 7/8	TVA-4525†
60-40-40-20	150-150-150-25	1 1/4 x 2 5/8	TVA-4529†
40-40-40-25	250-250-150-25	1 11/16 x 3 1/16	★TVA-4560
100-40-40-25	300-300-50-25	1 1/2 x 3 1/8	TVA-4567†
140-5-200-30	350-300-200-150	1 1/2 x 4 7/8	TVA-4576†
150-100-20-100	300-300-300-25	1 3/8 x 4 5/8	TVA-4580†
100-80-20-50	300-300-300-50	1 3/8 x 4 3/8	TVA-4580.5†
80-40-10-40	300-300-300-250	1 3/8 x 4 1/8	TVA-4582†
120-40-40-10	300-300-300-250	1 3/8 x 4 5/8	TVA-4584†
140-5-200-30	350-300-200-200	1 1/2 x 5 1/8	TVA-4607†
80-60-40-20	350-350-300-150	1 1/2 x 4 5/8	TVA-4618†
80-10-40-100	400-400-300-50	1 3/8 x 4 1/8	★TVA-4659†
10-80-40-100	450-300-250-50	1 3/8 x 4 1/8	★TVA-4705†
20-120-40-100	450-300-250-50	1 3/8 x 4 3/8	★TVA-4706†
10-80-40-40	450-300-250-250	1 3/8 x 4 3/8	★TVA-4708†
10-20-20-10	450-300-300-300	1 3/8 x 3 1/8	TVA-4712†
20-20-20-10	450-450-450-450	1 3/8 x 3 5/8	TVA-4742†
40-20-20-10	450-450-450-450	1 3/8 x 4 3/8	TVA-4748†
40-40-20-20	450-450-450-450	1 1/2 x 4 1/4	TVA-4750†
QUINTUPLE UNITS			
40-20-20-20-50	300-300-300-300-50	1 3/8 x 3 1/8	TVA-5100†

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★Mounting straps attached (†)cardboard construction.

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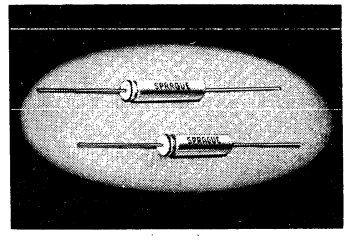
TYPE 500D
MINIATURE METAL-CASE ALUMINUM ELECTROLYTICS

- Excellent Low Temperature Operation
- Reliability at Low Cost
- Withstand High Surge Voltages
- Long Shelf Life, Extremely Low Leakage Current
- High Capacitance in Ultra-Small Physical Size
- Available in Voltage Ratings From 3WVDC Through 150 WVDC
- Furnished with Plastic Outer Insulating Sleeves
- Packaged 5 to A Handy Rigid Kleer-Pak Plastic Box
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3149
- Call Your Sprague Industrial Distributor For Current Quantity Prices



μF	WVDC	D. x L.	Cat. No.
1	3	.260 x .536	500D105G003BA2
2	3	.260 x .536	500D205G003BA2
3	3	.260 x .536	500D305G003BA2
4	3	.260 x .536	500D405G003BA2
5	3	.260 x .536	500D505G003BA2
6	3	.260 x .536	500D605G003BA2
8	3	.260 x .536	500D805G003BA2
10	3	.260 x .536	500D106G003BA2
15	3	.260 x .536	500D156G003BA2
20	3	.260 x .536	500D206G003BA2
25	3	.260 x .536	500D256G003BA2
30	3	.260 x .536	500D306G003BA2
50	3	.260 x .723	500D506G003BB2
65	3	.260 x .723	500D656G003BB2
75	3	.322 x .723	500D756G003CB2
100	3	.322 x .723	500D107G003CB2
130	3	.322 x .723	500D137G003CB2
150	3	.322 x .848	500D157G003CC2
200	3	.322 x .848	500D207G003CC2
250	3	.385 x .848	500D257G003DC2
300	3	.385 x .848	500D307G003DC2
400	3	.385 x .973	500D407G003DD2
500	3	.385 x 1.286	500D507G003DF2
600	3	.385 x 1.286	500D607G003DF2
800	3	.385 x 1.536	500D807G003DH2
1	6	.260 x .536	500D105G006BA2
2	6	.260 x .536	500D205G006BA2
3	6	.260 x .536	500D305G006BA2
4	6	.260 x .536	500D405G006BA2
5	6	.260 x .536	500D505G006BA2
6	6	.260 x .536	500D605G006BA2
8	6	.260 x .536	500D805G006BA2
10	6	.260 x .536	500D106G006BA2
15	6	.260 x .536	500D156G006BA2
20	6	.260 x .536	500D206G006BA2
25	6	.260 x .723	500D256G006BB2
35	6	.260 x .723	500D356G006BB2
50	6	.260 x .723	500D506G006BB2
75	6	.322 x .723	500D756G006CB2
90	6	.322 x .723	500D906G006CB2
100	6	.322 x .848	500D107G006CC2
140	6	.322 x .848	500D147G006CC2
150	6	.385 x .848	500D157G006DC2
200	6	.385 x .848	500D207G006DC2
250	6	.385 x .973	500D257G006DD2
300	6	.385 x .973	500D307G006DD2
400	6	.385 x 1.286	500D407G006DF2
500	6	.385 x 1.536	500D507G006DH2
600	6	.385 x 1.536	500D607G006DH2
1	12	.260 x .536	500D105G012BA2
2	12	.260 x .536	500D205G012BA2
3	12	.260 x .536	500D305G012BA2
4	12	.260 x .536	500D405G012BA2
5	12	.260 x .536	500D505G012BA2
6	12	.260 x .536	500D605G012BA2
8	12	.260 x .536	500D805G012BA2
10	12	.260 x .536	500D106G012BA2
15	12	.260 x .536	500D156G012BA2
20	12	.260 x .723	500D206G012BB2
25	12	.260 x .723	500D256G012BB2
30	12	.260 x .723	500D306G012BB2
50	12	.322 x .723	500D506G012CB2
60	12	.322 x .723	500D606G012CB2
75	12	.322 x .848	500D756G012CC2
90	12	.385 x .723	500D906G012DB2
100	12	.322 x .848	500D107G012CC2
140	12	.385 x .848	500D147G012DC2
150	12	.385 x .973	500D157G012DD2
190	12	.385 x .973	500D197G012DD2
200	12	.385 x 1.286	500D207G012DF2
250	12	.385 x 1.286	500D257G012DF2
290	12	.385 x 1.286	500D297G012DF2
390	12	.385 x 1.536	500D397G012DH2
1	15	.260 x .536	500D105G015BA2
2	15	.260 x .536	500D205G015BA2
3	15	.260 x .536	500D305G015BA2
4	15	.260 x .536	500D405G015BA2
5	15	.260 x .536	500D505G015BA2
6	15	.260 x .536	500D605G015BA2
8	15	.260 x .536	500D805G015BA2
10	15	.260 x .536	500D106G015BA2
15	15	.260 x .723	500D156G015BB2
20	15	.260 x .723	500D206G015BB2
25	15	.260 x .723	500D256G015BB2
30	15	.322 x .723	500D306G015CB2
35	15	.322 x .723	500D356G015CB2
50	15	.322 x .723	500D506G015CB2
75	15	.322 x .848	500D756G015CC2
85	15	.385 x .723	500D856G015DB2
90	15	.322 x .848	500D906G015CC2
100	15	.385 x .848	500D107G015DC2
130	15	.385 x .848	500D137G015DC2
150	15	.385 x .973	500D157G015DD2
180	15	.385 x .973	500D187G015DD2
200	15	.385 x 1.286	500D207G015DF2
250	15	.385 x 1.286	500D257G015DF2
300	15	.385 x 1.536	500D307G015DH2
350	15	.385 x 1.536	500D357G015DH2
1	25	.260 x .536	500D105G025BA2
2	25	.260 x .536	500D205G025BA2
3	25	.260 x .536	500D305G025BA2
4	25	.260 x .536	500D405G025BA2
5	25	.260 x .536	500D505G025BA2
6	25	.260 x .536	500D605G025BA2
8	25	.260 x .536	500D805G025BA2
10	25	.260 x .723	500D106G025BB2
15	25	.260 x .723	500D156G025BB2
25	25	.322 x .723	500D256G025CB2
30	25	.322 x .723	500D306G025CB2
35	25	.322 x .723	500D356G025CB2
50	25	.322 x .848	500D506G025CC2
75	25	.385 x .848	500D756G025DC2
100	25	.385 x .973	500D107G025DD2
150	25	.385 x 1.286	500D157G025DF2
200	25	.385 x 1.536	500D207G025DH2
1	50	.260 x .536	500D105G050BA2
2	50	.260 x .536	500D205G050BA2
3	50	.260 x .536	500D305G050BA2
4	50	.260 x .536	500D405G050BA2
5	50	.260 x .723	500D505G050BB2
6	50	.260 x .723	500D605G050BB2
8	50	.260 x .723	500D805G050BB2
10	50	.322 x .723	500D106G050CB2
15	50	.322 x .723	500D156G050CB2
20	50	.322 x .848	500D206G050CC2
25	50	.322 x .848	500D256G050CC2
35	50	.385 x .848	500D356G050DC2
50	50	.385 x .973	500D506G050DD2
75	50	.385 x 1.286	500D756G050DF2
100	50	.385 x 1.536	500D107G050DH2
1	100	.260 x .536	500D105F100BA2
2	100	.260 x .723	500D205F100BB2
3	100	.322 x .723	500D305F100CB2
4	100	.322 x .723	500D405F100CB2
5	100	.322 x .848	500D505F100CC2
6	100	.322 x .848	500D605F100CC2
8	100	.385 x .848	500D805F100DC2
10	100	.385 x .848	500D106F100DC2
15	100	.385 x .848	500D156F100DD2
20	100	.385 x 1.286	500D206F100DF2
25	100	.385 x 1.536	500D256F100DH2
30	100	.385 x 1.536	500D306F100DH2
1	150	.260 x .536	500D105F150BA2
2	150	.260 x .723	500D205F150BB2
3	150	.322 x .723	500D305F150CB2
4	150	.322 x .848	500D405F150CC2
5	150	.322 x .848	500D505F150CC2
6	150	.385 x .848	500D605F150DC2
7	150	.385 x .848	500D705F150DC2
8	150	.385 x .848	500D805F150DC2
10	150	.385 x .973	500D106F150DD2
15	150	.385 x 1.286	500D156F150DF2
20	150	.385 x 1.536	500D206F150DH2

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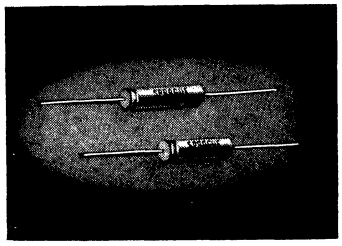
SPRAGUE CAPACITORS

TE LITTL-LYTIC® ELECTROLYTICS



- Ultra-Small — Excellent, Dependable Replacement Units for Transistorized Equipment Presently on the Market
- Reliability at Reasonable Prices
- All-Welded Construction — No Pressure Joints to Cause "Open" or Intermittent Circuits
- No Corrosion as with Competitive Units
- Extremely Low Leakage Current, Long Shelf Life
- Withstand Temperatures Up to 85C (185F)
- Furnished with Clear Plastic Outer Insulating Sleeves
- Packed 5 to a Handy Rigid Kleer-Pak® Plastic Box

For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3150

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
	1 WVDC		
5	.260 x .536	TE-1010*	.....
	3 WVDC		
1	.260 x .536	TE-1050	30D105G003BA2
2	.260 x .536	TE-1051	30D205G003BA2
3	.260 x .536	TE-1052	30D305G003BA2
4	.260 x .536	TE-1052.1	30D405G003BA2
5	.260 x .536	TE-1052.2	30D505G003BA2
6	.260 x .536	TE-1052.3	30D605G003BA2
8	.260 x .536	TE-1052.5	30D805G003BA2
10	.260 x .536	TE-1053	30D106G003BA2
15	.260 x .536	TE-1053.5	30D156G003BA2
20	.260 x .536	TE-1054	30D206G003BA2
25	.260 x .536	TE-1055	30D256G003BA2
30	.260 x .536	TE-1055.5	30D306G003BA2
35	.260 x .723	TE-1056*	.....
40	.260 x .723	TE-1057*	.....
50	.260 x .723	TE-1058	30D506G003BB2
65	.260 x .723	TE-1058.5	30D656G003BB2
100	.322 x .723	TE-1059.5	30D107G003CB2
110	.322 x .723	TE-1060*	.....
130	.322 x .723	TE-1060.1	30D137G003CB2
150	.322 x .848	TE-1061	30D157G003CC2
200	.322 x .848	TE-1064	30D207G003CC2
250	.385 x .848	TE-1065	30D257G003DD2
290	.385 x .848	TE-1066.1	30D297G003DC2
300	.385 x .848	TE-1066*	.....
390	.385 x .973	TE-1067.1	30D397G003DD2
400	.385 x .973	TE-1067*	.....
500	.385 x 1.286	TE-1068	30D507G003DF2
590	.385 x 1.286	TE-1069	30D597G003DF2
790	.385 x 1.536	TE-1070	30D797G003DH2
	6 WVDC		
1	.260 x .536	TE-1080	30D105G006BA2
2	.260 x .536	TE-1081	30D205G006BA2
3	.260 x .536	TE-1082	30D305G006BA2
4	.260 x .536	TE-1083	30D405G006BA2
5	.260 x .536	TE-1084	30D505G006BA2
6	.260 x .536	TE-1085	30D605G006BA2
8	.260 x .536	TE-1086	30D805G006BA2
10	.260 x .536	TE-1087	30D106G006BA2
15	.260 x .536	TE-1089	30D156G006BA2
20	.260 x .536	TE-1090	30D206G006BA2
25	.260 x .723	TE-1091	30D256G006BB2
30	.260 x .723	TE-1092*	.....
35	.260 x .723	TE-1093	30D356G006BB2
40	.260 x .723	TE-1095	30D406G006BB2
50	.322 x .723	TE-1100*	.....
75	.322 x .723	TE-1101.5	30D756G006CB2
90	.322 x .723	TE-1101.7	30D906G006CB2
100	.322 x .848	TE-1102	30D107G006CC2
140	.322 x .848	TE-1102.5	30D147G006CC2
150	.385 x .848	TE-1103	30D157G006DC2
200	.385 x .848	TE-1104	30D207G006DC2
250	.385 x .973	TE-1105	30D257G006DD2
280	.385 x .973	TE-1105.5	30D287G006DD2
300	.385 x 1.286	TE-1106	30D307G006DF2

*Available until present stock is exhausted

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
	10 WVDC		
400	.385 x 1.286	TE-1107	30D407G006DF2
560	.385 x 1.536	TE-1108	30D567G006DH2
10	.260 x .536	TE-1114*	.....
25	.260 x .723	TE-1118*	.....
50	.322 x .723	TE-1119*	.....
200	.385 x 1.286	TE-1119.6*	.....
	12 WVDC		
1	.260 x .536	TE-1120	30D105G012BA2
2	.260 x .536	TE-1121	30D205G012BA2
3	.260 x .536	TE-1122	30D305G012BA2
4	.260 x .536	TE-1123	30D405G012BA2
5	.260 x .536	TE-1127	30D505G012BA2
6	.260 x .536	TE-1127.1	30D605G012BA2
8	.260 x .536	TE-1127.3	30D805G012BA2
10	.260 x .536	TE-1128	30D106G012BA2
15	.260 x .536	TE-1129	30D156G012BA2
20	.260 x .723	TE-1130	30D206G012BB2
25	.260 x .723	TE-1131	30D256G012BB2
30	.260 x .723	TE-1132.1	30D306G012BB2
35	.322 x .723	TE-1132*	.....
50	.322 x .723	TE-1133	30D506G012CB2
60	.322 x .723	TE-1133.5	30D606G012CB2
75	.322 x .848	TE-1134	30D756G012CC2
90	.385 x .723	TE-1134.5	30D906G012DB2
100	.322 x .848	TE-1135	30D107G012CC2
140	.385 x .848	TE-1135.5	30D147G012DC2
150	.385 x .973	TE-1136	30D157G012DD2
190	.385 x .973	TE-1136.5	30D197G012DD2
200	.385 x 1.286	TE-1137	30D207G012DF2
250	.385 x 1.286	TE-1138	30D257G012DF2
290	.385 x 1.286	TE-1139	30D297G012DF2
390	.385 x 1.536	TE-1140	30D397G012DH2
	15 WVDC		
1	.260 x .536	TE-1148	30D105G015BA2
2	.260 x .536	TE-1149	30D205G015BA2
3	.260 x .536	TE-1150	30D305G015BA2
4	.260 x .536	TE-1151	30D405G015BA2
5	.260 x .536	TE-1152	30D505G015BA2
6	.260 x .536	TE-1153	30D605G015BA2
8	.260 x .536	TE-1154	30D805G015BA2
10	.260 x .536	TE-1155	30D106G015BA2
15	.260 x .723	TE-1156	30D156G015BB2
20	.260 x .723	TE-1157	30D206G015BB2
25	.260 x .723	TE-1157.1	30D256G015BB2
30	.322 x .723	TE-1158	30D306G015CB2
35	.322 x .723	TE-1159	30D356G015CB2
50	.322 x .723	TE-1160	30D506G015CB2
75	.322 x .848	TE-1161	30D756G015CC2
85	.385 x .723	TE-1161.5	30D856G015DB2
90	.322 x .848	TE-1161.7	30D906G015CC2
100	.385 x .848	TE-1162	30D107G015DC2
130	.385 x .848	TE-1162.5	30D137G015DC2
150	.385 x .973	TE-1163	30D157G015DD2
170	.385 x .973	TE-1163.5	30D177G015DD2
200	.385 x 1.286	TE-1164	30D207G015DF2
260	.385 x 1.286	TE-1165	30D267G015DF2
350	.385 x 1.536	TE-1166	30D357G015DH2

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
	25 WVDC		
1	.260 x .536	TE-1200	30D105G025BA2
2	.260 x .536	TE-1201	30D205G025BA2
3	.260 x .536	TE-1201.1	30D305G025BA2
4	.260 x .536	TE-1201.2	30D405G025BA2
5	.260 x .536	TE-1202	30D505G025BA2
6	.260 x .536	TE-1203	30D605G025BA2
8	.260 x .536	TE-1203.5	30D805G025BA2
10	.260 x .723	TE-1204	30D106G025BB2
15	.260 x .723	TE-1205	30D156G025BB2
25	.322 x .723	TE-1207	30D256G025CB2
30	.322 x .723	TE-1207.5	30D306G025CB2
35	.322 x .723	TE-1208	30D356G025CB2
50	.322 x .848	TE-1209	30D506G025CC2
75	.385 x .848	TE-1210	30D756G025DC2
100	.385 x .973	TE-1211	30D107G025DD2
150	.385 x 1.286	TE-1212	30D157G025DF2
200	.385 x 1.536	TE-1213	30D207G025DH2
	50 WVDC		
1	.260 x .536	TE-1300	30D105G050BA2
2	.260 x .536	TE-1301	30D205G050BA2
3	.260 x .536	TE-1302	30D305G050BA2
4	.260 x .536	TE-1302.1	30D405G050BA2
5	.260 x .723	TE-1303	30D505G050BB2
6	.260 x .723	TE-1303.1	30D605G050BB2
8	.260 x .723	TE-1303.3	30D805G050BB2
10	.322 x .723	TE-1304	30D106G050CB2
15	.322 x .723	TE-1304.2	30D156G050CB2
20	.322 x .848	TE-1305	30D206G050CC2
25	.322 x .848	TE-1305.5	30D256G050CC2
35	.385 x .848	TE-1306	30D356G050DC2
50	.385 x .973	TE-1307	30D506G050DD2
75	.385 x 1.286	TE-1308	30D756G050DF2
100	.385 x 1.536	TE-1309	30D107G050DH2
	100 WVDC		
1	.260 x .536	TE-1400	30D105G100BA2
2	.260 x .723	TE-1401	30D205G100BB2
3	.322 x .723	TE-1402	30D305G100CB2
4	.322 x .723	TE-1403	30D405G100CB2
5	.322 x .848	TE-1404	30D505G100CC2
6	.322 x .848	TE-1405	30D605G100CC2
8	.385 x .848	TE-1406	30D805G100DC2
10	.385 x .848	TE-1407	30D106G100DC2
15	.385 x .973	TE-1408	30D156G100DD2
20	.385 x 1.286	TE-1409	30D206G100DF2
25	.385 x 1.536	TE-1410	30D256F100DH2
30	.385 x 1.536	TE-1411	30D306F100DH2
	150 WVDC		
1	.260 x .536	TE-1500	30D105G150BA2
2	.260 x .723	TE-1501	30D205G150BB2
3	.322 x .723	TE-1502	30D305G150CB2
4	.322 x .848	TE-1503	30D405G150CC2
5	.322 x .848	TE-1504	30D505G150CC2
6	.385 x .848	TE-1505	30D605G150DC2
7	.385 x .848	TE-1505.5	30D705F150DC2
8	.385 x .848	TE-1506	30D805G150DC2
10	.385 x .973	TE-1507	30D106G150DD2
15	.385 x 1.286	TE-1508.1	30D156F150DF2
20	.385 x 1.536	TE-1509	30D206F150DH2

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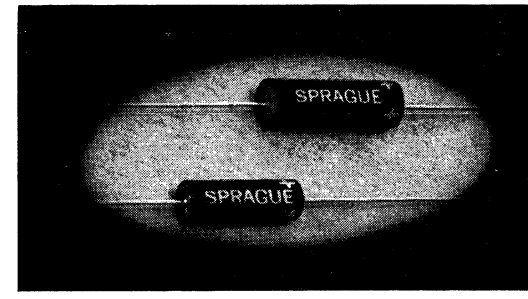
SPRAGUE CAPACITORS

TL TRANSI-LYTIC® ELECTROLYTICS

- Miniature Low-Cost Capacitors For Use in Transistorized Pocket and "Personal Portable" Radios
- Special Low-Leakage Current Construction to Meet The Requirements of Transistor Circuitry
- Sturdy Plastic Case With Thermo-setting Resin End Seals
- Excellent Resistance to High Humidity Conditions
- Polarity Stamped on Each Unit



µF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
3 WVDC			
1	.180 x .570	TL-1050	31D1
2	.180 x .570	TL-1051	31D2
3	.180 x .570	TL-1052	31D3
4	.180 x .570	TL-1052.1	31D4
5	.180 x .570	TL-1052.2	31D5
6	.180 x .570	TL-1052.3	31D6
8	.180 x .570	TL-1052.5	31D7
10	.180 x .570	TL-1053	31D8
15	.180 x .570	TL-1053.5	31D9
20	.210 x .700	TL-1054	31D10
25	.210 x .700	TL-1055	31D11
35	.250 x .820	TL-1056	31D12
50	.250 x .820	TL-1058	31D13
75	.250 x .820	TL-1059	31D14
100	.312 x .820	TL-1059.5	31D15
150	.375 x 1.070	TL-1061	31D16
200	.375 x 1.070	TL-1064	31D17
250	.375 x 1.070	TL-1065	31D18
300	.375 x 1.070	TL-1066	31D93
400	.437 x 1.070	TL-1067	31D94
500	.437 x 1.070	TL-1068	31D95
1000	.625 x 1.700	TL-1069	31D96
1500	.625 x 1.700	TL-1070	31D97
2000	.625 x 1.700	TL-1071	31D98
2500	.750 x 2.100	TL-1072	31D99
3000	.750 x 2.100	TL-1073	31D100
4000	.750 x 2.100	TL-1074	31D101
6 WVDC			
1	.180 x .570	TL-1080	31D19
2	.180 x .570	TL-1081	31D20
3	.180 x .570	TL-1082	31D21
4	.180 x .570	TL-1083	31D22
5	.180 x .570	TL-1084	31D23
6	.180 x .570	TL-1085	31D24
8	.180 x .570	TL-1086	31D25
10	.180 x .570	TL-1087	31D26
15	.210 x .700	TL-1089	31D27
20	.210 x .700	TL-1090	31D28
25	.250 x .820	TL-1091	31D29
35	.250 x .820	TL-1093	31D30
50	.250 x .820	TL-1100	31D31
75	.312 x .820	TL-1101.5	31D32
100	.375 x 1.070	TL-1102	31D33
150	.375 x 1.070	TL-1103	31D34
175	.375 x 1.070	TL-1103.5	31D35
200	.375 x 1.070	TL-1104	31D102
250	.437 x 1.070	TL-1105	31D103
300	.437 x 1.070	TL-1106	31D104
400	.500 x 1.440	TL-1107	31D105
500	.500 x 1.440	TL-1108	31D106
1000	.625 x 1.700	TL-1111	31D107
1500	.625 x 1.700	TL-1112	31D108
2000	.750 x 2.100	TL-1113	31D109
2500	.750 x 2.100	TL-1114	31D110
3000	.875 x 2.320	TL-1115	31D111
4000	.875 x 2.320	TL-1116	31D112
12 WVDC			
1	.180 x .570	TL-1120	31D36
2	.180 x .570	TL-1121	31D37
3	.180 x .570	TL-1122	31D38
4	.180 x .570	TL-1123	31D39
5	.180 x .570	TL-1127	31D40
6	.180 x .570	TL-1127.1	31D41
8	.210 x .700	TL-1127.3	31D42
10	.210 x .700	TL-1128	31D43
15	.210 x .700	TL-1129	31D44
20	.250 x .820	TL-1130	31D45
25	.250 x .820	TL-1131	31D46
35	.250 x .820	TL-1132	31D47
50	.312 x .820	TL-1133	31D48
75	.375 x 1.070	TL-1134	31D49
100	.375 x 1.070	TL-1135	31D50
150	.375 x 1.070	TL-1136	31D113
200	.437 x 1.070	TL-1137	31D114
250	.500 x 1.440	TL-1138	31D115
300	.500 x 1.440	TL-1139	31D116
400	.500 x 1.440	TL-1140	31D181
500	.625 x 1.700	TL-1141	31D117
1000	.625 x 1.700	TL-1142	31D118
1500	.750 x 1.440	TL-1143	31D119
2000	.750 x 2.100	TL-1144	31D120
2500	.875 x 2.320	TL-1145	31D121
3000	.875 x 2.320	TL-1146	31D122
4000	1.000 x 2.320	TL-1147	31D123
16 WVDC			
1	.180 x .570	TL-1148	31D51
2	.180 x .570	TL-1149	31D52
3	.180 x .570	TL-1150	31D53
4	.180 x .570	TL-1151	31D54
5	.180 x .570	TL-1152	31D55
6	.180 x .570	TL-1153	31D56
8	.210 x .700	TL-1154	31D57
10	.210 x .700	TL-1155	31D58
15	.250 x .820	TL-1156	31D59
20	.250 x .820	TL-1157	31D60
25	.250 x .820	TL-1157.1	31D61
35	.312 x .820	TL-1159	31D62
50	.312 x .820	TL-1160	31D63
75	.375 x 1.070	TL-1161	31D64
100	.375 x 1.070	TL-1162	31D65
150	.375 x 1.070	TL-1163	31D124
200	.437 x 1.070	TL-1164	31D125
250	.500 x 1.440	TL-1164.5	31D126
300	.500 x 1.440	TL-1165	31D127
400	.625 x 1.700	TL-1165.5	31D128
500	.625 x 1.700	TL-1166	31D129
1000	.750 x 1.700	TL-1166.5	31D130
1500	.750 x 1.700	TL-1167	31D131
2000	.875 x 2.320	TL-1167.5	31D132
2500	.875 x 2.320	TL-1168	31D133
3000	1.000 x 2.320	TL-1168.5	31D134
20 WVDC			
1	.180 x .570	TL-1170	31D66
2	.180 x .570	TL-1171	31D67
3	.180 x .570	TL-1172	31D68
4	.180 x .570	TL-1173	31D69
5	.180 x .570	TL-1174	31D70
6	.210 x .700	TL-1175	31D71
8	.210 x .700	TL-1176	31D72
10	.210 x .700	TL-1177	31D73
15	.250 x .820	TL-1178	31D74
20	.250 x .820	TL-1179	31D75
25	.250 x .820	TL-1180	31D76
35	.312 x .820	TL-1181	31D77
50	.312 x .820	TL-1182	31D78
75	.375 x 1.070	TL-1183	31D79
100	.375 x 1.070	TL-1184	31D135
150	.437 x 1.070	TL-1185	31D136
200	.500 x 1.440	TL-1186	31D137
250	.500 x 1.440	TL-1187	31D138
300	.500 x 1.440	TL-1188	31D139
400	.625 x 1.700	TL-1189	31D140
500	.625 x 1.700	TL-1190	31D141
1000	.750 x 1.700	TL-1191	31D142
1500	.750 x 2.100	TL-1192	31D143
2000	.875 x 2.320	TL-1193	31D144
2500	1.000 x 2.320	TL-1194	31D145
3000	1.000 x 2.320	TL-1195	31D146
25 WVDC			
1	.180 x .570	TL-1200	31D80
2	.180 x .570	TL-1201	31D81
3	.180 x .570	TL-1201.1	31D82
4	.180 x .570	TL-1201.2	31D83
5	.210 x .700	TL-1202	31D84
6	.210 x .700	TL-1203	31D85
8	.210 x .700	TL-1203.5	31D86
10	.250 x .820	TL-1204	31D87
15	.250 x .820	TL-1205	31D88
20	.250 x .820	TL-1206	31D89
25	.312 x .820	TL-1207	31D90
35	.375 x 1.070	TL-1208	31D91
50	.375 x 1.070	TL-1209	31D92
75	.375 x 1.070	TL-1210	31D147
100	.437 x 1.070	TL-1211	31D148
150	.500 x 1.440	TL-1212	31D149
200	.500 x 1.440	TL-1213	31D150
250	.625 x 1.700	TL-1214	31D151
300	.625 x 1.700	TL-1215	31D152
400	.625 x 1.700	TL-1216	31D153
500	.625 x 1.700	TL-1217	31D154
1000	.750 x 2.100	TL-1218	31D155
1500	.875 x 2.320	TL-1219	31D156
2000	1.000 x 2.320	TL-1220	31D157
50 WVDC			
1	.180 x .570	TL-1300	31D158
2	.180 x .570	TL-1301	31D159
3	.210 x .700	TL-1302	31D160
4	.210 x .700	TL-1302.1	31D161
5	.250 x .820	TL-1303	31D162
6	.250 x .820	TL-1303.1	31D163
8	.250 x .820	TL-1303.3	31D164
10	.250 x .820	TL-1304	31D165
15	.312 x .820	TL-1304.2	31D166
20	.375 x 1.070	TL-1305	31D167
25	.375 x 1.070	TL-1305.1	31D168
35	.375 x 1.070	TL-1306	31D169
50	.437 x 1.070	TL-1307	31D170
75	.500 x 1.440	TL-1308	31D171
100	.500 x 1.440	TL-1309	31D172
150	.625 x 1.700	TL-1310	31D173
175	.625 x 1.700	TL-1311	31D174
200	.625 x 1.700	TL-1312	31D175
250	.625 x 1.700	TL-1313	31D176
300	.750 x 1.195	TL-1314	31D177
400	.750 x 2.100	TL-1315	31D178
500	.750 x 2.100	TL-1316	31D179
1000	1.000 x 2.320	TL-1317	31D180

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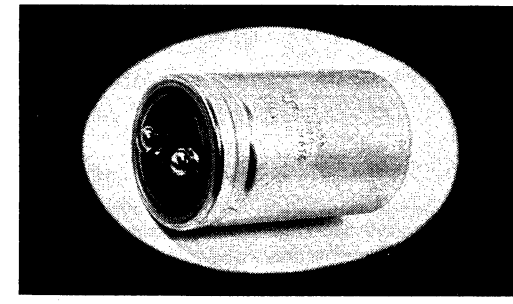
SPRAGUE CAPACITORS

TYPE 36D POWERLYTIC® ALUMINUM ELECTROLYTICS

- For Maximum Capacitance in a Given Case Size.
- Especially Suitable for Transistorized Circuitry where High Capacitance is Required.
- Maximum Space Economy at Operating Temperatures Up To 65 C.
- Low ESR and Leakage Currents. • Extremely Long Shelf Life.
- Uses Most Reliable Seal Developed by Sprague for Aluminum Electrolytic Capacitors. Pressure-type Safety Vents Employing Silicone Rubber Are Used On All Cases.
- Low Screw Insert Terminal, 9/32" high. • Plastic Outer Tube.
- Superior Electrical and Life Characteristics Are Insured By Careful Raw Material Inspection, High Quality Control Standards and Close Manufacturing Supervision. • For Complete Technical Data, Consult Sprague Engineering Bulletin 3431.



μF	Case Code	WVDC	Catalog No.
270,000	DF	3	36D274G003DF2A
120,000	DC	6	36D124G006DC2A
190,000	DF	6	36D194G006DF2A
6,000	AA	10	36D602G010AA2A
12,000	AB	10	36D123G010AB2A
18,000	AC	10	36D183G010AC2A
28,000	BB	10	36D283G010BB2A
42,000	BC	10	36D423G010BC2A
48,000	CB	10	36D483G010CB2A
100,000	DC	10	36D104G010DC2A
160,000	DF	10	36D164G010DF2A
4,600	AA	15	36D462G015AA2A
9,200	AB	15	36D922G015AB2A
13,000	AC	15	36D133G015AC2A
21,000	BB	15	36D213G015BB2A
31,000	BC	15	36D313G015BC2A
36,000	CB	15	36D363G015CB2A
54,000	CC	15	36D543G015CC2A
63,000	CD	15	36D633G015CD2A
80,000	DC	15	36D803G015DC2A
2,700	AA	25	36D272G025AA2A
5,500	AB	25	36D552G025AB2A
8,200	AC	25	36D822G025AC2A
18,000	BC	25	36D183G025BC2A
32,000	CC	25	36D323G025CC2A
47,000	DC	25	36D473G025DC2A
55,000	DD	25	36D553G025DD2A
71,000	DF	25	36D713G025DF2A
36,000	DC	30	36D363G030DC2A
42,000	DD	30	36D423G030DD2A
5,500	AC	40	36D552G040AC2A
8,400	BB	40	36D842G040BB2A
12,000	BC	40	36D123G040BC2A
21,000	CC	40	36D213G040CC2A
25,000	CD	40	36D253G040CD2A
1,300	AA	50	36D132G050AA2A
2,600	AB	50	36D262G050AB2A
3,900	AC	50	36D392G050AC2A
6,000	BB	50	36D602G050BB2A
9,000	BC	50	36D902G050BC2A
15,000	CC	50	36D153G050CC2A
22,000	DC	50	36D223G050DC2A
2,500	AC	75	36D252F075AC2A
3,900	BB	75	36D392F075BB2A
5,900	BC	75	36D592F075BC2A
11,000	CD	75	36D113F075CD2A
14,000	DC	75	36D143F075DC2A
22,000	DF	75	36D223F075DF2A

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μF	Case Code	WVDC	Catalog No.
450	AA	100	36D451F100AA2A
1,300	AC	100	36D132F100AC2A
3,000	BC	100	36D302F100BC2A
5,300	CC	100	36D532F100CC2A
7,800	DC	100	36D782F100DC2A
300	AA	150	36D301F150AA2A
900	AC	150	36D901F150AC2A
1,400	BB	150	36D142F150BB2A
2,100	BC	150	36D212F150BC2A
3,600	CC	150	36D362F150CC2A
5,300	DC	150	36D532F150DC2A
7,800	DF	150	36D782F150DF2A
250	AA	200	36D251F200AA2A
430	AB	200	36D431F200AB2A
640	AC	200	36D641F200AC2A
1,400	BC	200	36D142F200BC2A
1,600	CB	200	36D162F200CB2A
3,700	DC	200	36D372F200DC2A
5,500	DF	200	36D552F200DF2A
530	AC	250	36D531F250AC2A
1,200	BC	250	36D122F250BC2A
3,000	DC	250	36D302F250DC2A
4,500	DF	250	36D452F250DF2A
240	AB	300	36D241F300AB2A
820	BC	300	36D821F300BC2A
2,100	DC	300	36D212F300DC2A
95	AA	350	36D950F350AA2A
190	AB	350	36D191F350AB2A
420	BB	350	36D421F350BB2A
650	BC	350	36D651F350BC2A
1,100	CC	350	36D112F350CC2A
1,600	DC	350	36D162F350DC2A
2,500	DF	350	36D252F350DF2A
420	BC	400	36D421F400BC2A
50	AA	450	36D500F450AA2A
140	AC	450	36D141F450AC2A
220	BB	450	36D221F450BB2A
330	BC	450	36D331F450BC2A
860	DC	450	36D861F450DC2A

CALL YOUR SPRAGUE DISTRIBUTOR FOR QUANTITY PRICES

CASE CODE	BARE CAN D x L	CASE CODE	BARE CAN D x L	VERTICAL MOUNTING Cat. No.	CLAMPS Dia.
AA	1⅜ x 2⅛	CB	2½ x 3⅛	CMC-22	1⅜
AB	1⅜ x 3⅛	CC	2½ x 4⅛		
AC	1⅜ x 4⅛	CD	2½ x 4⅝	CMC-32	2
BB	2 x 3⅛	DC	3 x 4⅛	CMC-40	2½
BC	2 x 4⅛	DD	3 x 4⅝	CMC-48	3
		DF	3 x 5⅝		

Add 1/32" to diameter and 1/16" to length for plastic outer tube.

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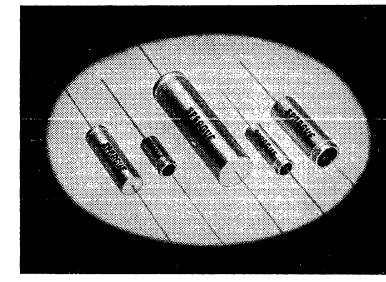
SPRAGUE CAPACITORS

TYPE 39D POWERLYTIC® CAPACITORS

- Designed for Such Applications as Transistorized Apparatus, Which Require the Greatest Possible Capacitance in Small Case Size.
- Type 39D Capacitors Supplement the Original Type 36D Powerlytic by Offering Lower Capacitance Values in Small Case Size.
- Welds at all Critical Anode and Cathode Terminals Eliminates Riveted or Pressure Connections to Assure Freedom from Open Circuits Even During Operation in the Microvolt or Millivolt Signal Range.
- End-seals of an Improved Molded Phenolic
- Furnished with an Outer Insulation of Flexible Plastic.
- Operating Temperature Up to 85C
- These Capacitors are Provided with a Pressure-sensitive Safety Vent.
- For Additional Technical Data, Consult the Latest Issue of Sprague Electric Company Engineering Bulletin 3415.



µF	D. x L.	Catalog Number
3 WVDC, 4 VDC SURGE		
1,300	½ x 2⅛	39D138G003EL4
2,100	⅞ x 1⅛	39D218G003HE4
3,000	1 x 1⅛	39D308G003JE4
5,700	¾ x 2⅝	39D578G003GP4
10,000	⅞ x 3⅛	39D109G003HS4
18,000	1 x 3⅝	39D189G003JT4
6 WVDC, 8 VDC SURGE		
600	½ x 1⅝	39D607G006EJ4
1,000	¾ x 1⅛	39D108G006GE4
2,000	¾ x 1⅝	39D208G006GJ4
4,000	¾ x 2⅝	39D408G006GP4
6,000	¾ x 2⅝	39D608G006HP4
10,000	1 x 3⅛	39D109G006JS4
10 WVDC, 12 VDC SURGE		
500	½ x 1⅝	39D507G010EJ4
1,000	⅝ x 1⅝	39D108G010FJ4
1,600	⅝ x 2⅛	39D168G010FL4
2,500	¾ x 2⅛	39D258G010GL4
5,000	⅞ x 2⅝	39D508G010HP4
10,000	1 x 3⅝	39D109G010JT4

µF	D. x L.	Catalog Number
15 WVDC, 18 VDC SURGE		
600	½ x 2⅛	39D607G015EL4
1,200	⅝ x 2⅛	39D128G015FL4
2,500	¾ x 2⅝	39D258G015GP4
4,000	1 x 2⅛	39D408G015JL4
8,000	1 x 3⅝	39D808G015JT4
25 WVDC, 30 VDC SURGE		
200	½ x 1⅝	39D207G025EJ4
500	⅞ x 1⅛	39D507G025HE4
1,000	¾ x 2⅛	39D108G025GL4
2,200	⅞ x 2⅝	39D228G025HP4
4,000	1 x 3⅝	39D408G025JT4
30 WVDC, 40 VDC SURGE		
75	½ x 1⅛	39D756G030EE4
150	½ x 1⅝	39D157G030EJ4
250	½ x 2⅛	39D257G030EL4
500	⅝ x 2⅛	39D507G030FL4
1,100	¾ x 2⅝	39D118G030GP4
2,100	⅞ x 3⅛	39D218G030HS4
3,000	1 x 3⅛	39D308G030JS4

µF	D. x L.	Catalog Number
50 WVDC, 65 VDC SURGE		
50	½ x 1⅛	39D506G050EE4
100	½ x 1⅝	39D107G050EJ4
150	½ x 2⅛	39D157G050EL4
250	⅞ x 1⅛	39D257G050HE4
500	¾ x 2⅛	39D507G050GL4
1,100	⅞ x 2⅝	39D118G050HP4
2,300	1 x 3⅝	39D238G050JT4
150 WVDC, 175 VDC SURGE		
25	½ x 1⅝	39D256F150EJ4
50	⅝ x 1⅝	39D506F150FJ4
100	⅝ x 2⅝	39D107F150FP4
250	⅞ x 2⅝	39D257F150HP4
530	1 x 3⅝	39D537F150JT4
250 WVDC, 300 VDC SURGE		
20	½ x 2⅛	39D206F250EL4
50	1 x 1⅛	39D506F250JE4
100	⅞ x 2⅛	39D107F250HL4
200	1 x 2⅝	39D207F250JP4
300	1 x 3⅝	39D307F250JT4

µF	D. x L.	Catalog Number
350 WVDC, 400 VDC SURGE		
20	⅝ x 2⅛	39D206F350FL4
30	⅝ x 2⅝	39D306F350FP4
40	¾ x 2⅛	39D406F350GL4
50	¾ x 2⅝	39D506F350GP4
100	⅞ x 3⅛	39D107F350HS4
160	1 x 3⅝	39D167F350JT4
450 WVDC, 525 VDC SURGE		
5	½ x 2⅛	39D505F450EL4
10	⅝ x 2⅛	39D106F450FL4
20	¾ x 2⅛	39D206F450GL4
50	1 x 2⅝	39D506F450JP4
75	1 x 3⅝	39D756F450JT4

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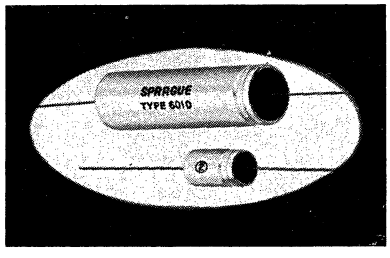

TYPE 601D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

- Supplement Type 600D Extralytic Capacitors With Larger Case Sizes and Higher Capacitance Values
- Pressure-sensitive Safety Vent
- Designed to Operate at a Temperature Range of —55C to +85C
- Unique New Electrolyte, High-gain Etched Foil, Improved Oxide System Provide Long Life With Superior Electrical Characteristics
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3456

Call Your Sprague Industrial Distributor For Current Quantity Prices

µF	Diam. (±0.031)	Length (±0.062)	Catalog Number*
5 VOLTS D-C WORKING, 7 VDC SURGE			
1500	.687	1.250	601D158G005FJ4
2300	.687	2.250	601D238G005FL4
3500	.687	3.250	601D358G005FS4
5500	.812	3.250	601D558G005GS4
10000	1.062	3.250	601D109G005JS4
13000	1.062	3.750	601D139G005JT4
7.5 VOLTS D-C WORKING, 10 VDC SURGE			
650	.687	1.250	601D657G7R5FE4
1000	.812	1.250	601D108G7R5GE4
2000	.812	1.750	601D208G7R5GJ4
4000	1.062	1.750	601D408G7R5JJ4
6000	1.062	2.250	601D608G7R5JL4
11000	1.062	3.750	601D119G7R5JT4
10 VOLTS D-C WORKING, 15 VDC SURGE			
540	.687	1.250	601D547G010FE4
1000	.687	1.750	601D108G010FJ4
1600	.687	2.250	601D168G010FL4
2500	.812	2.250	601D258G010GL4
5000	1.062	2.250	601D508G010JL4
9100	1.062	3.750	601D918G010JT4

µF	Diam. (±0.031)	Length (±0.062)	Catalog Number*
15 VOLTS D-C WORKING, 20 VDC SURGE			
650	.812	1.250	601D657G015GE4
1200	.687	2.250	601D128G015FL4
2500	1.062	1.750	601D258G015JJ4
4200	.937	3.250	601D428G015HS4
6900	1.062	3.750	601D698G015JT4
25 VOLTS D-C WORKING, 40 VDC SURGE			
220	.687	1.250	601D227G025FE4
500	.937	1.250	601D507G025HE4
1000	.812	2.250	601D108G025GL4
2200	.937	3.250	601D228G025HS4
3700	1.062	3.750	601D378G025JT4
30 VOLTS D-C WORKING, 45 VDC SURGE			
190	.687	1.250	601D197G030FE4
310	.812	1.250	601D317G030GE4
580	.687	2.250	601D587G030FL4
1000	.687	3.750	601D108G030FT4
2000	.937	3.250	601D208G030HS4
3300	1.062	3.750	601D338G030JT4

µF	Diam. (±0.031)	Length (±0.062)	Catalog Number*
50 VOLTS D-C WORKING, 75 VDC SURGE			
110	.687	1.250	601D117G050FE4
170	.812	1.250	601D177G050GE4
250	.937	1.250	601D257G050HE4
500	.687	3.250	601D507G050FS4
1100	.937	3.250	601D118G050HS4
1800	1.062	3.750	601D188G050JT4
150 VOLTS D-C WORKING, 200 VDC SURGE			
18	.687	1.250	601D186F150FE4
55	.687	2.250	601D556F150FL4
100	.687	3.750	601D107F150FT4
260	.937	3.750	601D267F150HT4
360	1.062	3.750	601D367F150JT4
200 VOLTS D-C WORKING, 250 VDC SURGE			
16	.687	1.250	601D166F200FE4
50	.812	1.750	601D506F200GJ4
100	.812	3.250	601D107F200GS4
160	1.062	2.250	601D167F200JL4
210	.937	3.750	601D217F200HT4
290	1.062	3.750	601D297F200JT4

*Catalog numbers listed are for capacitors with Outer Insulation. For units with bare can substitute "0" for "4" at the end of the catalog number, and subtract 1/64" from diameter.

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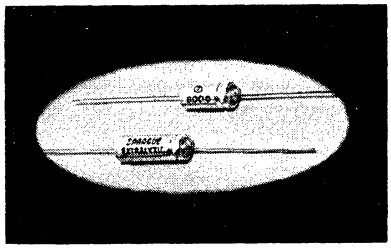
SPRAGUE CAPACITORS



TYPE 600D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

- Extended Operating Temperature Range From —55C to +125C
- Dual Rating Makes Possible Operation At Either 85C or 125C
- Voltage Ratings Up to 250 Volts D-C
- Improved Oxide Systems, Etching Techniques, and End Seals; a New Electrolyte Makes The Type 600D Equivalent to Or Better Than Comparable Foil Tantalum Capacitors.
- Lower Cost and One Third The Weight of Comparable Foil Tantalums

For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 3455.

μF	Case Code	Catalog Number†
7 WVDC @ 85C, 5 WVDC @ 125C		
120	KD	600D127G007KD4
140	DC	*600D147G007DC4
210	DD	*600D217G007DD4
220	DD	600D227G007DD4
270	DE	600D277G007DE4
280	DE	*600D287G007DE4
390	DG	600D397G007DG4
420	DG	*600D427G007DG4
560	DJ	600D567G007DJ4
820	DL	600D827G007DL4
850	DL	*600D857G007DL4
1000	DX	600D108G007DX4
10 WVDC @ 85C, 7 WVDC @ 125C		
100	KD	600D107G010KD4
180	DE	600D187G010DE4
220	DE	600D227G010DE4
330	DG	600D337G010DG4
470	DJ	600D447G010DJ4
680	DL	600D687G010DL4
820	DX	600D827G010DX4
15 WVDC @ 85C, 10 WVDC @ 125C		
68	KD	600D686G015KD4
82	KD	600D826G015KD4
95	DC	*600D956G015DC4
140	DD	*600D147G015DD4
150	DD	600D157G015DD4
180	DE	600D187G015DE4
190	DE	*600D197G015DE4
270	DG	600D277G015DG4
290	DG	*600D297G015DG4
390	DJ	600D397G015DJ4
560	DL	600D567G015DL4
580	DL	*600D587G015DL4
680	DX	600D687G015DX4
20 WVDC @ 85C, 15 WVDC @ 125C		
68	KD	600D686G020KD4
70	DC	*600D706G020DC4
100	DD	600D107G020DD4
140	DE	600D147G020DE4
220	DG	600D227G020DG4
290	DJ	600D297G020DJ4
440	DL	600D447G020DL4
600	DX	600D607G020DX4

μF	Case Code	Catalog Number†
25 WVDC @ 85C, 20 WVDC @ 125C		
50	DC	*600D506G025DC4
75	DD	*600D756G025DD4
100	DE	*600D107G025DE4
150	DG	*600D157G025DG4
210	DJ	*600D217G025DJ4
310	DL	*600D317G025DL4
30 WVDC @ 85C, 20 WVDC @ 125C		
33	KD	600D336G030KD4
47	KD	600D476G030KD4
82	DD	600D826G030DD4
100	DE	600D107G030DE4
120	DG	600D127G030DG4
150	DG	600D157G030DG4
220	DJ	600D227G030DJ4
330	DL	600D337G030DL4
390	DX	600D397G030DX4
40 WVDC @ 85C, 30 WVDC @ 125C		
30	KD	600D306G040KD4
30	DC	*600D306G040DC4
50	DD	600D506G040DD4
70	DE	600D706G040DE4
100	DG	600D107G040DG4
140	DJ	600D147G040DJ4
210	DL	600D217G040DL4
280	DX	600D287G040DX4
50 WVDC @ 85C, 40 WVDC @ 125C		
20	DC	*600D206G050DC4
22	KD	600D226G050KD4
33	DD	600D336G050DD4
35	DD	*600D356G050DD4
47	DE	600D476G050DE4
50	DE	*600D506G050DE4
56	DG	600D566G050DG4
68	DG	600D686G050DG4
75	DG	*600D756G050DG4
100	DJ	600D107G050DJ4
150	DL	600D157G050DL4
180	DX	600D187G050DX4

μF	Case Code	Catalog Number†
60 WVDC @ 85C, 50 WVDC @ 125C		
17	KD	600D176G060KD4
18	DC	*600D186G060DC4
25	DD	600D256G060DD4
40	DE	600D406G060DE4
60	DG	600D606G060DG4
80	DJ	600D806G060DJ4
120	DL	600D127G060DL4
160	DX	600D167G060DX4
70 WVDC @ 85C, 60 WVDC @ 125C		
15	DC	*600D156G070DC4
20	DD	*600D206G070DD4
30	DE	*600D306G070DE4
50	DG	*600D506G070DG4
65	DJ	*600D656G070DJ4
100	DL	*600D107G070DL4
75 WVDC @ 85C, 60 WVDC @ 125C		
12	KD	600D126F075KD4
22	DD	600D226F075DD4
33	DE	600D336F075DE4
47	DG	600D476F075DG4
68	DJ	600D686F075DJ4
100	DL	600D107F075DL4
120	DX	600D127F075DX4
100 WVDC @ 85C, 75 WVDC @ 125C		
8	DC	*600D805G100DC4
8.2	KD	600D825F100KD4
12	DD	600D126F100DD4
13	DD	*600D136G100DD4
15	DE	600D156F100DE4
17	DE	*600D176G100DE4
22	DG	600D226F100DG4
25	DG	*600D256G100DG4
33	DJ	600D336F100DJ4
35	DJ	*600D356G100DJ4
47	DL	600D476F100DL4
50	DL	*600D506G100DL4
68	DX	600D686F100DX4

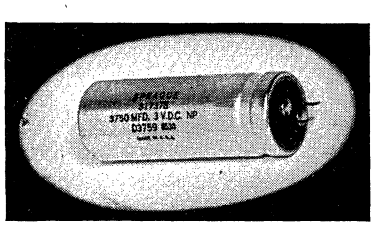
μF	Case Code	Catalog Number†
150 WVDC @ 85C, 100 WVDC @ 125C		
4.7	KD	600D475F150KD4
5.6	KD	600D565F150KD4
6	DC	*600D605F150DC4
8.2	DD	600D825F150DD4
9	DD	*600D905F150DD4
12	DE	600D126F150DE4
18	DG	600D186F150DG4
22	DJ	600D226F150DJ4
25	DJ	*600D256F150DJ4
33	DL	600D336F150DL4
37	DL	*600D376F150DL4
56	DX	600D566F150DX4
200 WVDC @ 85C, 150 WVDC @ 125C		
4	KD	600D405F200KD4
4	DC	*600D405F200DC4
6	DD	600D605F200DD4
8	DE	600D805F200DE4
13	DG	600D136F200DG4
17	DJ	600D176F200DJ4
26	DL	600D266F200DL4
39	DX	600D396F200DX4
250 WVDC @ 85C, 200 WVDC @ 125C		
3.3	KD	600D335F250KD4
5.6	DD	600D565F250DD4
6.8	DE	600D685F250DE4
10	DG	600D106F250DG4
12	DJ	600D126F250DJ4
22	DL	600D226F250DL4
27	DX	600D276F250DX4

TABLE OF DIMENSIONS

Case Code	With Outer Insulation D	L
DC	.390 x	.875
KD	.296 x	1.000
DD	.390 x	1.000
DE	.390 x	1.187
DG	.390 x	1.437
DJ	.390 x	1.687
DL	.390 x	2.249
DX	.390 x	2.749

*Available until present stock is exhausted

†Catalog numbers listed are for capacitors with Outer Insulation. For units with bare can substitute "0" for "4" at the end of the catalog number, and subtract 1/64" from diameter.



SPECIAL PURPOSE ELECTROLYTIC CAPACITORS

- Designed to Filter Low Voltage Power Supplies For Aircraft
- Solder Lug Terminals

μF	D. x L.	VDC	Catalog Number	
1250	1 x 2 3/4	3NP	D16255	(S17377)*
3750	1 3/8 x 3 5/8	3NP	D3759	(S17378)*

*Please use "S" number when ordering.

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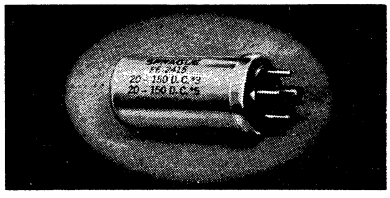
SPRAGUE CAPACITORS

PE OCTAL-BASE ELECTROLYTICS



- For Applications where Rapid Changing of Capacitors is Desired
- Will Fit Standard Octal-Base Tube Sockets
- Hermetically Sealed in Metal Cans for Long Life
- Will Stand Up Under High Temperatures, High Ripple Currents, High Surge Voltages

Terminal Code

Sections	−	+
Single	1	5
Dual	1	3,5
Triple	1	3,5,7
Quadruple	Gnd Lug	1,3,5,7

µF	WVDC	Diam. x Lgth.	Cat. No.
100	350	1⅜ x 3	PE-1636
10	450	1 5/32 x 2½	PE-1705
20	450	1 5/32 x 2½	PE-1714
40	450	1⅜ x 2½	PE-1725
80	450	1⅜ x 3½	PE-1730
20-20	150-150	1 5/32 x 2½	PE-2415
40-40	150-150	1 5/32 x 2½	PE-2428

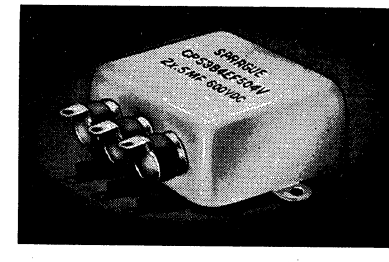
Call Your Sprague Distributor for Prices

µF	WVDC	Diam. x Lgth.	Cat. No.
10-10	450-450	1 5/32 x 2½	PE-2750
20-20	450-450	1⅜ x 2½	PE-2755
40-40	450-450	1⅜ x 3½	PE-2764
10-10-10	450-450-450	1 5/32 x 2½	PE-3776
20-20-20	450-450-450	1⅜ x 3	PE-3780
30-30-10-20	450-450-450-50	1⅜ x 3½	PE-4741

Call Your Sprague Distributor for Prices

MIL-C-25 CAPACITORS—TYPE CP53

- Impregnated with specially processed mineral oil to exceed performance requirements of MIL-C-25A
- Hermetically sealed, with silicone rubber compression terminals
- Rated for—55°C to +85°C operation
- Drawn metal cases have mounting flanges as integral part of containers
- Single and dual capacitance units have insulated sections — triple capacitance units have grounded cases
- Call Your Sprague Distributor for Current Prices



NOTE: Capacitors listed below have capacitance tolerances of +20%, −10% (V) or ±10% (K). For ±20% units, change last letter in catalog number from K to M or V to M.

µF	Volts	L. x W. x H.	Cat. No.
		Single Capacitance	
.05	600	1 13/16 x 1 x ¾	*CP53B1EF503KI
.05	1000	1 13/16 x 1 x ¾	CP53B1EG503KI
.1	600	1 13/16 x 1 x ¾	*CP53B1EF104KI
.1	1000	1 13/16 x 1 x ¾	CP53B1EG104KI
.25	600	1 13/16 x 1 x ¾	CP53B1EF254KI
.25	1000	1 13/16 x 1 x ⅞	CP53B1EG254KI
.5	400	1 13/16 x 1 x ⅞	*CP53B1EE504KI
.5	600	1 13/16 x 1 x 1	CP53B1EF504KI
.5	1000	2 x 1¾ x ⅞	CP53B1EG504KI
1.0	600	2 x 1¾ x 1	CP53B1EF105KI
1.0	1000	2 x 2 x 1⅛	CP53B1EG105KI
2.0	100	2 x 1¾ x ⅞	CP53B1EB205KI
2.0	200	2 x 2 x 1	CP53B1EC205KI
2.0	600	2 x 2 x 1⅛	CP53B1EF205KI
4.0	100	2 x 2 x 1⅛	CP53B1EB405KI

*Available until present stocks are exhausted

Call Your Sprague Distributor for Prices

µF	Volts	L. x W. x H.	Cat. No.
		Dual Capacitance	
.05 + .05	600	1 13/16 x 1 x ¾	CP53B4EF503VI
.05 + .05	1000	1 13/16 x 1 x ¾	CP53B4EG503VI
.1 + .1	600	1 13/16 x 1 x ¾	CP53B4EF104VI
.1 + .1	1000	1 13/16 x 1 x ⅞	CP53B4EG104VI
.25 + .25	600	1 13/16 x 1 x 1	CP53B4EF254VI
.25 + .25	1000	2 x 1¾ x ⅞	CP53B4EF504VI
.5 + .5	600	2 x 1¾ x 1	CP53B4EG254VI
.5 + .5	1000	2 x 2 x 1⅛	CP53B4EG504VI
1.0 + 1.0	600	2 x 2 x 1⅛	CP53B4EF105VI
		Triple Capacitance	
.05 + .05 + .05	600	1 13/16 x 1 x ¾	*CP53B5EF503VI
.1 + .1 + .1	600	1 13/16 x 1 x ⅞	CP53B5EF104VI
.5 + .5 + .5	600	2 x 2 x 1⅛	CP53B5EF504VI

Call Your Sprague Distributor for Prices

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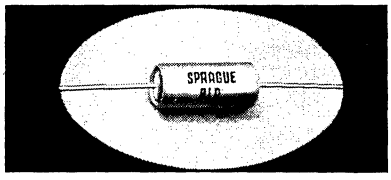
SPRAGUE CAPACITORS

VITAMIN Q® SUBMINIATURE PAPER CAPACITORS



These capacitors are the most widely used of all paper capacitors in commercial and military electronic equipment. Hermetically sealed in metal cases, they are electrically and mechanically designed to meet stringent operating requirements.

Impregnated with Vitamin Q, a substantially linear, controlled molecular weight, hydrocarbon polymer, which is exclusive with Sprague, these dependable capacitors are available for operation in two temperature ranges: −55°C to +85°C and −55°C to +125°C. Because of their Vitamin Q impregnation, these subminiature capacitors have a higher insulation resistance and longer life than comparable units with ordinary oils.

Sprague Subminiature paper capacitors exceed the performance requirements of military specification MIL-C-25A. A limited number of the ratings shown here are listed in the military specification and should be ordered by their MIL type designation where equipment specifications so require. (See page after next.)

Listed below are the most popular insulated section (ungrounded case) capacitors. For technical data on these and other types, ratings, and tolerances, as well as on wax-impregnated units for absolute minimum size, refer to the latest issue of Engineering Bulletin 2110.

Call your Sprague Industrial Distributor for Current Quantity Prices.

CHOICE OF INSERTED TAB OR EXTENDED FOIL CONSTRUCTION

In the past, inserted tab capacitors have not been recommended for low-voltage applications (e.g., below 10 volts) but recent improvements in design now make it possible to recommend them for operation at all voltages from 1 to rated, in nearly all applications.

From the application standpoint, the principal difference between the two construction types is that, at resonance, losses are likely to be lower in the extended foil type. This is because the resistive component of impedance is likely to be higher at resonance in the inserted tab type of construction. Unless unusual circuit requirements make the losses at resonance a critical factor, the inserted tab construction is recommended, primarily because of the smaller size of the capacitor roll.

TYPE 91P, INSERTED TAB CONSTRUCTION, 85°C OPERATION

			Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*		Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*	
μF	WVDC	Size D. x L.	Cat. No.		Cat. No.		Cat. No.		Cat. No.	
	100	.175 x ¾	91P10201S2		91P10201S4		91P10291S2		91P10291S4	
	200	.235 x ¾	91P10202S2		91P10202S4		91P10292S2		91P10292S4	
.001	300	.235 x ¾	91P10203S2		91P10203S4		91P10293S2		91P10293S4	
	400	.235 x ¾	91P10204S2		91P10204S4		91P10294S2		91P10294S4	
	600	.235 x ¾	91P10206S2		91P10206S4		91P10296S2		91P10296S4	
	100	.175 x ¾	91P15201S2		91P15201S4		91P15291S2		91P15291S4	
	200	.235 x ¾	91P15202S2		91P15202S4		91P15292S2		91P15292S4	
.0015	300	.235 x ¾	91P15203S2		91P15203S4		91P15293S2		91P15293S4	
	400	.235 x ¾	91P15204S2		91P15204S4		91P15294S2		91P15294S4	
	600	.235 x ¾	91P15206S2		91P15206S4		91P15296S2		91P15296S4	
	100	.175 x ¾	91P22201S2		91P22201S4		91P22291S2		91P22291S4	
	200	.235 x ¾	91P22202S2		91P22202S4		91P22292S2		91P22292S4	
.0022	300	.235 x ¾	91P22203S2		91P22203S4		91P22293S2		91P22293S4	
	400	.235 x ¾	91P22204S2		91P22204S4		91P22294S2		91P22294S4	
	600	.235 x ¾	91P22206S2		91P22206S4		91P22296S2		91P22296S4	
	100	.175 x ¾	91P33201S2		91P33201S4		91P33291S2		91P33291S4	
	200	.235 x ¾	91P33202S2		91P33202S4		91P33292S2		91P33292S4	
.0033	300	.235 x ¾	91P33203S2		91P33203S4		91P33293S2		91P33293S4	
	400	.235 x ¾	91P33204S2		91P33204S4		91P33294S2		91P33294S4	
	600	.235 x ¾	91P33206S2		91P33206S4		91P33296S2		91P33296S4	
	100	.175 x ¾	91P47201S2		91P47201S4		91P47291S2		91P47291S4	
	200	.235 x ¾	91P47202S2		91P47202S4		91P47292S2		91P47292S4	
.0047	300	.235 x ¾	91P47203S2		91P47203S4		91P47293S2		91P47293S4	
	400	.235 x ¾	91P47204S2		91P47204S4		91P47294S2		91P47294S4	
	600	.235 x ¾	91P47206S2		91P47206S4		91P47296S2		91P47296S4	
	100	.175 x ¾	91P68201S2		91P68201S4		91P68291S2		91P68291S4	
	200	.235 x ¾	91P68202S2		91P68202S4		91P68292S2		91P68292S4	
.0068	300	.235 x ¾	91P68203S2		91P68203S4		91P68293S2		91P68293S4	
	400	.235 x ¾	91P68204S2		91P68204S4		91P68294S2		91P68294S4	
	600	.235 x ¾	91P68206S2		91P68206S4		91P68296S2		91P68296S4	

Call Your Sprague Industrial Distributor for Current Quantity Prices

*For Style 4 units add .0625″ to diameter and 1/16″ to length.

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SPRAGUE CAPACITORS

TYPE 91P, continued

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*		Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*	
			Cat. No.		Cat. No.		Cat. No.		Cat. No.	
.01	100	.175 x ¾	91P10301S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10301S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10391S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	91P10391S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
	200	.235 x ¾	91P10302S2		91P10302S4		91P10392S2		91P10392S4	
	300	.235 x ¾	91P10303S2		91P10303S4		91P10393S2		91P10393S4	
	400	.235 x ¾	91P10304S2		91P10304S4		91P10394S2		91P10394S4	
	600	.312 x ⅞	91P10306S2		91P10306S4		91P10396S2		91P10396S4	
.015	100	.175 x ¾	91P15301S2		91P15301S4		91P15391S2		91P15391S4	
	200	.235 x ¾	91P15302S2		91P15302S4		91P15392S2		91P15392S4	
	300	.235 x ¾	91P15303S2		91P15303S4		91P15393S2		91P15393S4	
	400	.312 x ⅞	91P15304S2		91P15304S4		91P15394S2		91P15394S4	
	600	.312 x ⅞	91P15306S2		91P15306S4		91P15396S2		91P15396S4	
.022	100	.195 x ¾	91P22301S2		91P22301S4		91P22391S2		91P22391S4	
	200	.235 x ¾	91P22302S2		91P22302S4		19P22392S2		91P22392S4	
	300	.312 x ⅞	91P22303S2		91P22303S4		91P22393S2		91P22393S4	
	400	.312 x ⅞	91P22304S2		91P22304S4		91P22394S2		91P22394S4	
	600	.312 x ⅞	91P22306S2		91P22306S4		91P22396S2		91P22396S4	
.033	100	.235 x ¾	91P33301S2		91P33301S4		91P33391S2		91P33391S4	
	200	.312 x ⅞	91P33302S2		91P33302S4		91P33392S2		91P33392S4	
	300	.312 x ⅞	91P33303S2		91P33303S4		91P33393S2		91P33393S4	
	400	.312 x ⅞	91P33304S2		91P33304S4		91P33394S2		91P33394S4	
	600	.400 x ⅞	91P33306S2		91P33306S4		91P33396S2		91P33396S4	
.047	100	.312 x ⅞	91P47301S2		91P47301S4		91P47391S2		91P47391S4	
	200	.312 x ⅞	91P47302S2		91P47302S4		91P47392S2		91P47392S4	
	300	.312 x ⅞	91P47303S2		91P47303S4		91P47393S2		91P47393S4	
	400	.400 x ⅞	91P47304S2		91P47304S4		91P47394S2		91P47394S4	
	600	.400 x 1⅛	91P47306S2		91P47306S4		91P47396S2		91P47396S4	
.068	100	.312 x ⅞	91P68301S2		91P68301S4		91P68391S2		91P68391S4	
	200	.312 x ⅞	91P68302S2		91P68302S4		91P68392S2		91P68392S4	
	300	.400 x ⅞	91P68303S2		91P68303S4		91P68393S2		91P68393S4	
	400	.400 x 1⅛	91P68304S2		91P68304S4		91P68394S4		91P68394S4	
	600	.400 x 1⅜	91P68306S2		91P68306S4		91P68396S2		91P68396S4	
.1	100	.312 x ⅞	91P10401S2		91P10401S4		91P10491S2		91P10491S4	
	200	.400 x ⅞	91P10402S2		91P10402S4		91P10492S2		91P10492S4	
	300	.400 x 1⅛	91P10403S2		91P10403S4		91P10493S2		91P10493S4	
	400	.400 x 1⅜	91P10404S2		91P10404S4		91P10494S2		91P10494S4	
	600	.562 x 1⅛	91P10406S2		91P10406S4		91P10496S2		91P10496S4	
.15	100	.400 x ⅞	91P15401S2		91P15401S4		91P15491S2		91P15491S4	
	200	.400 x 1⅛	91P15402S2		91P15402S4		91P15492S2		91P15492S4	
	300	.400 x 1⅜	91P15403S2		91P15403S4		91P15493S2		91P15493S4	
	400	.562 x 1⅛	91P15404S2		91P15404S4		91P15494S2		91P15494S4	
	600	.562 x 1⅜	91P15406S2		91P15406S4		91P15496S2		91P15496S4	
22	100	.400 x 1⅛	91P22401S2		91P22401S4		91P22491S2		91P22491S4	
	200	.400 x 1⅜	91P22402S2		91P22402S4		91P22492S2		91P22492S4	
	300	.562 x 1⅛	91P22403S2		91P22403S4		91P22493S2		91P22493S4	
	400	.562 x 1⅜	91P22404S2		91P22404S4		91P22494S2		91P22494S4	
	600	.562 x 1⅞	91P22406S2		91P22406S4		91P22496S2		91P22496S4	
.33	100	.400 x 1⅜	91P33401S2		91P33401S4		91P33491S2		91P33491S4	
	200	.562 x 1⅛	91P33402S2		91P33402S4		91P33492S2		91P33492S4	
	300	.562 x 1⅜	91P33403S2		91P33403S4		91P33493S2		91P33493S4	
	400	562 x 1⅞	91P33404S2		91P33404S4		91P33494S2		91P33494S4	
	600	.562 x 1⅛	91P33406S2		91P33406S4		91P33496S2		91P33496S4	
		.670 x 1⅞								
.47	100		91P47401S2		91P47401S4		91P47491S2		91P47491S4	
	200	.562 x 1⅜	91P47402S2		91P47402S4		91P47492S2		91P47492S4	
	300	.562 x 1⅞	91P47403S2		91P47403S4		91P47493S2		91P47493S4	
	400	.670 x 1⅞	91P47404S2		91P47404S4		91P47494S2		91P47494S4	
	600	.750 x 2⅛	91P47406S2		91P47406S4		91P47496S2		91P47496S4	
68	100	.562 x 1⅜	91P68401S2		91P68401S4		91P68491S2		91P68491S4	
	200	.562 x 1⅞	91P68402S2		91P68402S4		91P68492S2		91P68492S4	
	300	.670 x 1⅞	91P68403S2		91P68403S4		91P68493S2		91P68493S4	
	400	.750 x 2⅛	91P68404S2		91P68404S4		91P68494S2		91P68494S4	
	600	1.000 x 1⅞	91P68406S2		91P68406S4		91P68496S2		91P68496S4	
1.0	100	.562 x 1⅞	91P10501S2		91P10501S4		91P10591S2		91P10591S4	
	200	.670 x 1⅞	91P10502S2		91P10502S4		91P10592S2		91P10592S4	
	300	.750 x 2⅛	91P10503S2		91P10503S4		91P10593S2		91P10593S4	
	400	1.000 x 1⅞	91P10504S2		91P10504S4		91P10594S2		91P10594S4	

*For Style 4 units add .0625" to diameter and 1/16" to length.

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SPRAGUE CAPACITORS

TYPE 96P, INSERTED TAB CONSTRUCTION, 125°C OPERATION

µF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*		Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*	
			Cat. No.		Cat. No.		Cat. No.		Cat. No.	
	100	.175 x 3/4	96P10201S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	96P10201S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	96P10291S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	96P10201S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
	200	.235 x 3/4	96P10202S2		96P10202S4		96P10292S2		96P10202S4	
.001	300	.235 x 3/4	96P10203S2		96P10203S4		96P10293S2		96P10203S4	
	400	.235 x 3/4	96P10204S2		96P10204S4		96P10294S2		96P10204S4	
	600	.235 x 3/4	96P10206S2		96P10206S4		96P10296S2		96P10206S4	
.0012	600	.235 x 3/4	———		———		96P12296S2		96P12296S4	
	100	.175 x 3/4	96P15201S2		96P15201S4		96P15291S2		96P15291S4	
	200	.235 x 3/4	96P15202S2		96P15202S4		96P15292S2		96P15292S4	
.0015	300	.235 x 3/4	96P15203S2		96P15203S4		96P15293S2		96P15293S4	
	400	.235 x 3/4	96P15204S2		96P15204S4		96P15294S2		96P15294S4	
	600	.235 x 3/4	96P15206S2		96P15206S4		96P15296S2		96P15296S4	
.0018	600	.235 x 3/4	———		———		96P18296S2		96P18296S4	
	100	.175 x 3/4	96P22201S2		96P22201S4		96P22291S2		96P22201S4	
	200	.235 x 3/4	96P22202S2		96P22202S4		96P22292S2		96P22202S4	
.0022	300	.235 x 3/4	96P22203S2		96P22203S4		96P22293S2		96P22203S4	
	400	.235 x 3/4	96P22204S2		96P22204S4		96P22294S2		96P22204S4	
	600	.235 x 3/4	96P22206S2		96P22206S4		96P22296S2		96P22026S4	
.0027	600	.235 x 3/4	———		———		96P27296S2		96P27296S4	
	100	.175 x 3/4	96P33201S2		96P33201S4		96P33291S2		96P33291S4	
	200	.235 x 3/4	97P33202S2		96P33202S4		96P33292S2		96P33292S4	
.0033	300	.235 x 3/4	96P33203S2		96P33203S4		96P33293S2		96P33293S4	
	400	.235 x 3/4	96P33204S2		96P33204S4		96P33294S2		96P33294S4	
	600	.235 x 3/4	96P33206S2		96P33206S4		96P33296S2		96P33296S4	
.0039	600	.235 x 3/4	———		———		96P39296S2		96P33296S4	
	100	.175 x 3/4	96P47201S2		96P47201S4		96P47291S2		96P47291S4	
	200	.235 x 3/4	96P47202S2		96P47202S4		96P47292S2		96P47292S4	
.0047	300	.235 x 3/4	96P47203S2		96P47203S4		96P47293S2		96P47293S4	
	400	.235 x 3/4	96P47204S2		96P47204S4		96P47294S2		96P47294S4	
	600	.235 x 3/4	96P47206S2		96P47206S4		96P47296S2		96P47296S4	
.0056	600	.235 x 3/4	———		———		96P56296S2		96P56296S4	
	100	.175 x 3/4	96P68201S2		96P68201S4		96P68291S2		96P68391S4	
	200	.235 x 3/4	96P68202S2		96P68202S4		96P68292S2		96P68392S4	
.0068	300	.235 x 3/4	96P68203S2		96P68203S4		96P68293S2		96P68393S4	
	400	.235 x 3/4	96P68204S2		96P68204S4		96P68294S2		96P68394S4	
	600	.235 x 3/4	96P68206S2		96P68206S4		96P68296S2		96P68396S4	
.0082	400	.235 x 3/4	———		———		96P82294S2		96P82294S4	
	600	.312 x 7/8	———		———		96P82296S2		96P82296S4	
	100	.175 x 3/4	96P10301S2		96P10301S4		96P10391S2		96P10391S4	
	200	.235 x 3/4	96P10302S2		96P10302S4		96P10392S2		96P10392S4	
.01	300	.235 x 3/4	96P10303S2		96P10303S4		97P10393S2		96P10393S4	
	400	.235 x 3/4	96P10304S2		96P10304S4		96P10394S2		96P10394S4	
	600	.312 x 7/8	96P10306S2		96P10306S4		96P10396S2		96P10396S4	
.012	200	.235 x 3/4	———		———		96P12392S2		96P12392S4	
	600	.312 x 7/8	———		———		96P12396S2		96P12396S4	
	100	.175 x 3/4	96P15301S2		96P15301S4		96P15391S2		96P15391S4	
	200	.235 x 3/4	96P15302S2		96P15302S4		96P15392S2		96P15392S4	
.015	300	.235 x 3/4	96P15303S2		96P15303S4		96P15393S2		96P15393S4	
	400	.312 x 7/8	96P15304S2		96P15304S4		96P15394S2		96P15394S4	
	600	.312 x 7/8	96P15306S2		96P15306S4		96P15396S2		96P15396S4	
	1000	.400 x 7/8	———		———		96P153910S2		96P153910S4	
	200	.235 x 3/4	———		———		96P18392S2		96P18392S4	
.018	600	.312 x 7/8	———		———		96P18396S2		96P18396S4	
	1000	.400 x 1 1/8	———		———		96P183910S2		96P183910S4	
	100	.195 x 3/4	96P22301S2		96P22301S4		96P22391S2		96P22391S4	
	200	.235 x 3/4	96P22302S2		96P22302S4		96P22392S2		96P22392S4	
.022	300	.312 x 7/8	96P22303S2		96P22303S4		96P22393S2		96P22393S4	
	400	.312 x 7/8	96P22304S2		96P22304S4		96P22394S2		96P22394S4	
	600	.312 x 7/8	96P22306S2		96P22306S4		96P22396S2		96P22396S4	
	1000	.400 x 1 1/8	———		———		96P223910S2		96P223910S4	
	100	.235 x 3/4	———		———		96P27391S2		96P27391S4	
.027	400	.312 x 7/8	———		———		96P27394S2		96P27394S4	
	600	.400 x 7/8	———		———		96P27396S2		96P27396S4	
	1000	.400 x 3/8	———		———		96P273910S2		96P273910S4	
	100	.235 x 3/4	96P33301S2		96P33301S4		96P33391S2		96P33391S4	
	200	.312 x 7/8	96P33302S2		96P33302S4		96P33392S2		96P33392S4	
.033	300	.312 x 7/8	96P33303S2		96P33303S4		96P33393S2		96P33393S4	
	400	.312 x 7/8	96P33304S2		96P33304S4		96P33394S2		96P33394S4	
	600	.400 x 7/8	96P33306S2		96P33306S4		96P33396S2		96P33396S4	
	1000	.400 x 1 3/8	———		———		96P333910S2		96P333910S4	
	200	.312 x 7/8	———		———		96P39392S2		96P39392S4	
.039	400	.312 x 7/8	———		———		96P39394S2		96P39394S4	
	600	.312 x 7/8	———		———		96P39396S2		96P39396S4	
	1000	.400 x 7/8	———		———		96P393910S2		96P393910S4	
	100	.312 x 7/8	96P47301S2		96P47301S4		96P47391S2		96P47391S4	
	200	.312 x 7/8	96P47302S2		96P47302S4		96P47392S2		96P47392S4	
.047	300	.312 x 7/8	96P47303S2		96P47303S4		96P473932S		96P47393S4	
	400	.400 x 7/8	96P47304S2		96P47304S4		96P47394S2		96P47394S4	
	600	.400 x 1 1/8	96P47306S2		96P47306S4		96P47396S2		96P47396S4	
	1000	.562 x 1 1/8	———		———		96P473910S2		96P473910S4	
	200	.312 x 7/8	———		———		96P56392S2		96P56392S4	
.056	400	.400 x 1 1/8	———		———		96P56394S2		96P56394S4	
	600	.400 x 1 3/8	———		———		96P56396S2		96P56396S4	
	1000	.562 x 1 3/8	———		———		96P563910S2		96P563910S4	

*For Style 4 units add .0625" to diameter and 1/16" to length.

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SPRAGUE CAPACITORS

TYPE 96P, continued

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*		Style 2 (bare metal case)		Style 4 (w/plastic sleeve)*	
			Cat. No.		Cat. No.		Cat. No.		Cat. No.	
	100		96P68301S2		96P68301S4		96P68391S2		96P68391S4	
	200	.312 x ⅞	96P68302S2		96P68302S4		96P68392S2		96P68392S4	
.068	300	.312 x ⅞	96P68303S2		96P68303S4		96P68393S2		96P68393S4	
	400	.400 x ⅞	96P68304S2		96P68304S4		96P68394S2		96P68394S4	
	600	.400 x 1⅛	96P68306S2		96P68306S4		96P68396S2		96P68396S4	
	1000	.400 x 1⅜	———		———		96P683910S2		96P683910S4	
	100	.562 x 1⅜	———		———		96P82391S2		96P82391S4	
	200	.312 x ⅞	———		———		96P82392S2		96P82392S4	
.082	400	.400 x ⅞	———		———		96P82394S2		96P82394S4	
	600	.400 x 1⅜	———		———		96P82396S2		96P82396S4	
	1000	.562 x 1⅛	———		———		96P823910S2		96P823910S4	
	100	.562 x 1⅝	96P10401S2		96P10401S4		96P10491S2		96P10491S4	
	200	.312 x ⅞	96P10402S2		96P10402S4		96P10492S2		96P10492S4	
.1	300	.400 x ⅞	96P10403S2		96P10403S4		96P10493S2		96P10493S4	
	400	.400 x 1⅛	96P10404S2		96P10404S4		96P10494S2		96P10494S4	
	600	.400 x 1⅜	96P10406S2		96P10406S4		96P10496S2		96P10496S4	
	1000	.562 x 1⅛	———		———		96P104910S2		96P104910S4	
	100	.562 x 1⅝	———		———		96P12491S2		96P12491S4	
	200	.400 x ⅞	———		———		96P12492S2		96P12492S4	
.12	400	.400 x 1⅛	———		———		96P12494S2		96P12494S4	
	600	.562 x 1⅛	———		———		96P12496S2		96P12496S4	
	1000	.562 x 1⅜	———		———		96P124910S2		96P124910S4	
	100	.670 x 1⅝	96P15491S2		96P15401S4		96P15491S2		96P15491S4	
	200	.400 x ⅞	96P15492S2		96P15402S4		96P15492S2		96P15492S4	
.15	300	.400 x 1⅛	96P15493S2		96P15403S4		96P15493S2		96P15493S4	
	400	.400 x 1⅜	96P15494S2		96P15404S4		96P15494S2		96P15494S4	
	600	.562 x 1⅛	96P15496S2		96P15406S4		96P15496S2		96P15496S4	
	1000	.562 x 1⅜	———		———		96P154910S2		96P154910S4	
	100	.670 x 1⅝	———		———		96P18491S2		96P18491S4	
	200	.400 x 1⅛	———		———		96P18492S2		96P18492S4	
.18	400	.400 x 1⅜	———		———		96P18494S2		96P18494S4	
	600	.562 x 1⅜	———		———		96P18496S2		96P18496S4	
	1000	.562 x 1⅞	———		———		96P184910S2		96P184910S4	
	100	.750 x 2⅛	96P22401S2		96P22401S4		96P22491S2		96P22491S4	
	200	.400 x 1⅛	96P22402S2		96P22402S4		96P22492S2		96P22492S4	
.22	300	.400 x 1⅜	96P22403S2		96P22403S4		96P22493S2		96P22493S4	
	400	.562 x 1⅛	96P22404S2		96P22404S4		96P22494S2		96P22494S4	
	600	.562 x 1⅜	96P22406S2		96P22406S4		96P22496S2		96P22496S4	
	1000	.562 x 1⅞	———		———		96P224910S2		96P224910S4	
	100	.750 x 2⅛	———		———		96P27491S2		96P27491S4	
	200	.400 x 1⅜	———		———		96P27492S2		96P27492S4	
.27	400	.562 x 1⅛	———		———		96P27494S2		96P27494S4	
	600	.562 x 1⅞	———		———		96P27496S2		96P27496S4	
	1000	.670 x 1⅞	———		———		96P274910S2		96P274910S4	
	100	.750 x 2⅝	96P33401S2		96P33401S4		96P33491S2		96P33491S4	
	200	.400 x 1⅜	96P33402S2		96P33402S4		96P33492S2		96P33492S4	
.33	300	.562 x 1⅛	96P33403S2		96P33403S4		96P33493S2		96P33493S4	
	400	.562 x 1⅜	96P33404S2		96P33404S4		96P33494S2		96P33494S4	
	600	.562 x 1⅞	96P33406S2		96P33406S4		96P33496S2		96P33496S4	
	1000	.670 x 1⅞	———		———		96P334910S2		96P334910S4	
	100	.750 x 2⅝	———		———		96P39491S2		96P39491S4	
	200	.562 x 1⅛	———		———		96P39492S2		96P39492S4	
.39	400	.562 x 1⅜	———		———		96P39494S2		96P39494S4	
	600	.670 x 1⅞	———		———		96P39496S2		96P39496S4	
	1000	.750 x 2⅛	———		———		96P394910S2		96P394910S4	
	100	1.000 x 2⅛	———		———		96P47491S2		96P47491S4	
	200	.562 x 1⅛	96P47401S2		96P47401S4		96P47492S2		96P47492S4	
.47	300	.562 x 1⅜	96P47402S2		96P47402S4		96P47493S2		96P47493S4	
	400	.562 x 1⅞	96P47403S2		96P47403S4		96P47494S2		96P47494S4	
	600	.670 x 1⅞	96P47404S2		96P47404S4		96P47496S2		96P47496S4	
	1000	.750 x 2⅛	96P47406S2		96P47406S4		96P474910S2		96P474910S4	
	100	1.000 x 2⅛	———		———		96P56491S2		96P56491S4	
	200	.562 x 1⅜	———		———		96P56492S2		96P56492S4	
.56	400	.562 x 1⅞	———		———		96P56494S2		96P56494S4	
	600	.750 x 2⅛	———		———		96P56496S2		96P56496S4	
	1000	1.000 x 1⅞	———		———		96P68491S2		96P68491S4	
	100	.562 x 1⅜	96P68401S2		96P68401S4		96P68492S2		96P68492S4	
	200	.562 x 1⅞	96P68402S2		96P68402S4		96P68493S2		96P68493S4	
.68	300	.670 x 1⅞	96P68403S2		96P68403S4		96P68494S2		96P68494S4	
	400	.750 x 2⅛	96P68404S2		96P68404S4		96P68496S2		96P68496S4	
	600	1.000 x 1⅞	96P68406S2		96P68406S4		96P82491S2		96P82491S4	
	100	.562 x 1⅞	———		———		96P82492S2		96P82492S4	
.82	200	.670 x 1⅞	———		———		96P82494S2		96P82494S4	
	400	1.000 x 1⅞	———		———		96P10591S2		96P10591S4	
	100	.562 x 1⅞	96P10501S2		96P10501S4		96P10592S2		96P10592S4	
1.0	200	.670 x 1⅞	96P10502S2		96P10502S4		96P10593S2		96P10593S4	
	300	.750 x 2⅛	96P10503S2		96P10503S4		96P10594S2		96P10594S4	
	400	1.000 x 1⅞	96P10504S2		96P10504S4					

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

*For Style 4 units add .0625 to diameter and 1/16" to length.

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SPRAGUE CAPACITORS

TYPE 191P, EXTENDED FOIL CONSTRUCTION, 85°C OPERATION

			Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)		Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)	
μF	WVDC	Size D. x L.	Cat. No.		Cat. No.		Cat. No.		Cat. No.	
.001	100	.175 x 3/4	191P10201S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	191P10201S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	191P10291S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	191P10291S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
	200	.235 x 3/4	191P10202S2		191P10202S4		191P10292S2		191P10292S4	
	300	.235 x 3/4	191P10203S2		191P10203S4		191P10293S2		191P10293S4	
	400	.235 x 3/4	191P10204S2		191P10204S4		191P10294S2		191P10294S4	
	600	.235 x 3/4	191P10206S2		191P10206S4		191P10296S2		191P10296S4	
.0015	100	.175 x 3/4	191P15201S2		191P15201S4		191P15291S2		191P15291S4	
	200	.235 x 3/4	191P15202S2		191P15202S4		191P15292S2		191P15292S4	
	300	.235 x 3/4	191P15203S2		191P15203S4		191P15293S2		191P15293S4	
	400	.235 x 3/4	191P15204S2		191P15204S4		191P15294S2		191P15294S4	
	600	.235 x 3/4	191P15206S2		191P15206S4		191P15296S2		191P15296S4	
.0022	100	.175 x 3/4	191P22201S2		191P22201S4		191P22291S2		191P22291S4	
	200	.235 x 3/4	191P22202S2		191P22202S4		191P22292S2		191P22292S4	
	300	.235 x 7/8	191P22203S2		191P22203S4		191P22293S2		191P22293S4	
	400	.235 x 3/4	191P22204S2		191P22204S4		191P22294S2		191P22294S4	
	600	.235 x 3/4	191P22206S2		191P22206S4		191P22296S2		191P22296S4	
.0033	100	.175 x 3/4	191P33201S2		191P33201S4		191P33291S2		191P33291S4	
	200	.235 x 3/4	191P33202S2		191P33202S4		191P33292S2		191P33292S4	
	300	.235 x 3/4	191P33203S2		191P33203S4		191P33293S2		191P33293S4	
	400	.235 x 3/4	191P33204S2		191P33204S4		191P33294S2		191P33294S4	
	600	.312 x 7/8	191P33206S2		191P33206S4		191P33296S2		191P33296S4	
.0047	100	.175 x 3/4	191P47201S2		191P47201S4		191P47291S2		191P47291S4	
	200	.235 x 3/4	191P47202S2		191P47202S4		191P47292S2		191P47292S4	
	300	.235 x 3/4	191P47203S2		191P47203S4		191P47293S2		191P47293S4	
	400	.312 x 7/8	191P47204S2		191P47204S4		191P47294S2		191P47294S4	
	600	.312 x 7/8	191P47206S2		191P47206S4		191P47296S2		191P47296S4	
.0068	100	.195 x 7/8	191P68201S2		191P68201S4		191P68291S2		191P68291S4	
	200	.235 x 7/8	191P68202S2		191P68202S4		191P68292S2		191P68292S4	
	300	.312 x 7/8	191P68203S2		191P68203S4		191P68293S2		191P68293S4	
	400	.312 x 7/8	191P68204S2		191P68204S4		191P68294S2		191P68294S4	
	600	.312 x 7/8	191P68206S2		191P68206S4		191P68296S2		191P68296S4	
.01	100	.235 x 3/4	191P10301S2		191P10301S4		191P10391S2		191P10391S4	
	200	.312 x 7/8	191P10302S2		191P10302S4		191P10392S2		191P10392S4	
	300	.312 x 7/8	191P10303S2		191P10303S4		191P10393S2		191P10393S4	
	400	.312 x 7/8	191P10304S2		191P10304S4		191P10394S2		191P10394S4	
	600	.312 x 7/8	191P10306S2		191P10306S4		191P10396S2		191P10396S4	
.015	100	.235 x 3/4	191P15301S2		191P15301S4		191P15391S2		191P15391S4	
	200	.312 x 7/8	191P15302S2		191P15302S4		191P15392S2		191P15392S4	
	300	.312 x 7/8	191P15303S2		191P15303S4		191P15393S2		191P15393S4	
	400	.312 x 7/8	191P15304S2		191P15304S4		191P15394S2		191P15394S4	
	600	.400 x 7/8	191P15306S2		191P15306S4		191P15396S2		191P15396S4	
.022	100	.312 x 7/8	191P22301S2		191P22301S4		191P22391S2		191P22391S4	
	200	.312 x 7/8	191P22302S2		191P22302S4		191P22392S2		191P22392S4	
	300	.312 x 7/8	191P22303S2		191P22303S4		191P22393S2		191P22393S4	
	400	.400 x 7/8	191P22304S2		191P22304S4		191P22394S2		191P22394S4	
	600	.400 x 7/8	191P22306S2		191P22306S4		191P22396S2		191P22394S4	

*For Style 4 units add .0625" to diameter and 1/16" to length

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SPRAGUE CAPACITORS

TYPE 191P, continued

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20% — Style 2 (bare metal case) Cat. No.	Capacitance Tolerance ±20% — Style 4 (w/plastic sleeve*) Cat. No.	Capacitance Tolerance ±10% — Style 2 (bare metal case) Cat. No.	Capacitance Tolerance ±10% — Style 4 (w/plastic sleeve*) Cat. No.
.033	100	.312 x 7/8	191P33301S2	191P33301S4	191P33391S2	191P33391S4
	200	.312 x 7/8	191P33302S2	191P33302S4	191P33392S2	191P33392S4
	300	.400 x 7/8	191P33303S2	191P33303S4	191P33393S2	191P33393S4
	400	.400 x 7/8	191P33304S2	191P33304S4	191P33394S2	191P33394S4
	600	.400 x 1 1/8	191P33306S2	191P33306S4	191P33396S2	191P33396S4
.047	100	.312 x 7/8	191P47301S2	191P47301S4	191P47391S2	191P47391S4
	200	.400 x 7/8	191P47302S2	191P47302S4	191P47392S2	191P47392S4
	300	.400 x 7/8	191P47303S2	191P47303S4	191P47393S2	191P47393S4
	400	.400 x 1 1/8	191P47304S2	191P47304S4	191P47394S2	191P47394S4
	600	.400 x 1 3/8	191P47306S2	191P47306S4	191P47396S2	191P47396S4
.068	100	.400 x 7/8	191P68301S2	191P68301S4	191P68391S2	191P68391S4
	200	.400 x 7/8	191P68302S2	191P68302S4	191P68392S2	191P68392S4
	300	.400 x 1 1/8	191P68303S2	191P68303S4	191P68393S2	191P68393S4
	400	.400 x 1 3/8	191P68304S2	191P68304S4	191P68394S2	191P68394S4
	600	.562 x 1 1/8	191P68306S2	191P68306S4	191P68396S2	191P68396S4
.1	100	.400 x 7/8	191P10401S2	191P10401S4	191P10491S2	191P10491S4
	200	.400 x 1 1/8	191P10402S2	191P10402S4	191P10492S2	191P10492S4
	300	.400 x 1 3/8	191P10403S2	191P10403S4	191P10493S2	191P10493S4
	400	.562 x 1 1/8	191P10404S2	191P10404S4	191P10494S2	191P10494S4
	600	.562 x 1 3/8	191P10406S2	191P10406S4	191P10496S2	191P10496S4
.15	100	.400 x 1 1/8	191P15401S2	191P15401S4	191P15491S2	191P15491S4
	200	.400 x 1 3/8	191P15402S2	191P15402S4	191P15492S2	191P15492S4
	300	.562 x 1 1/8	191P15403S2	191P15403S4	191P15493S2	191P15493S4
	400	.562 x 1 3/8	191P15404S2	191P15404S4	191P15494S2	191P15494S4
	600	.562 x 1 5/8	191P15406S2	191P15406S4	191P15496S2	191P15496S4
.22	100	.400 x 1 3/8	191P22401S2	191P22401S4	191P22491S2	191P22491S4
	200	.562 x 1 1/8	191P22402S2	191P22402S4	191P22492S2	191P22492S4
	300	.562 x 1 3/8	191P22403S2	191P22403S4	191P22493S2	191P22493S4
	400	.562 x 1 5/8	191P22404S2	191P22404S4	191P22494S2	191P22494S4
	600	.670 x 1 5/8	191P22406S2	191P22406S4	191P22496S2	191P22496S4
.33	100	.562 x 1 1/8	191P33401S2	191P33401S4	191P33491S2	191P33491S4
	200	.562 x 1 3/8	191P33402S2	191P33402S4	191P33492S2	191P33492S4
	300	.562 x 1 5/8	191P33403S2	191P33403S4	191P33493S2	191P33493S4
	400	.670 x 1 5/8	191P33404S2	191P33404S4	191P33494S2	191P33494S4
	600	.750 x 2 1/8	191P33406S2	191P33406S4	191P33496S2	191P33496S4
.47	100	.562 x 1 3/8	191P47401S2	191P47401S4	191P47491S2	191P47491S4
	200	.562 x 1 5/8	191P47402S2	191P47402S4	191P47492S2	191P47492S4
	300	.670 x 1 5/8	191P47403S2	191P47403S4	191P47493S2	191P47493S4
	400	.750 x 2 1/8	191P47404S2	191P47404S4	191P47494S2	191P47494S4
	600	.750 x 2 3/8	191P47406S2	191P47406S4	191P47496S2	191P47496S4
.68	100	.562 x 1 5/8	191P68401S2	191P68401S4	191P68491S2	191P68491S4
	200	.670 x 1 5/8	191P68402S2	191P68402S4	191P68492S2	191P68492S4
	300	.750 x 2 1/8	191P68403S2	191P68403S4	191P68493S2	191P68493S4
1.0	100	.670 x 1 5/8	191P10501S2	191P10501S4	191P10591S2	191P10591S4
	200	.750 x 2 1/8	191P10502S2	191P10502S4	191P10592S2	191P10592S4

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

*For Style 4 units add .0625" to diameter and 1/16" to length

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SPRAGUE CAPACITORS

TYPE 196P, EXTENDED FOIL CONSTRUCTION, 125°C OPERATION

μF	WVDC	Size D. x L.	Capacitance Tolerance ±20% — Style 2 (bare metal case) Cat. No.	Capacitance Tolerance ±20% — Style 4 (w/plastic sleeve*) Cat. No.	Capacitance Tolerance ±10% — Style 2 (bare metal case) Cat. No.	Capacitance Tolerance ±10% — Style 4 (w/plastic sleeve*) Cat. No.
.001	100	.175 x 3/4	196P10201S2	196P10201S4	196P10291S2	196P10291S4
	200	.235 x 3/4	196P10202S2	196P10202S4	196P10292S2	196P10292S4
	300	.235 x 3/4	196P10203S2	196P10203S4	196P10293S2	196P10293S4
	400	.235 x 3/4	196P10204S2	196P10204S4	196P10294S2	196P10294S4
	600	.235 x 3/4	196P10206S2	196P10206S4	196P10296S2	196P10296S4
	1000	.400 x 7/8	———	———	196P102910S2	196P102910S4
.001	600	.235 x 11/16	———	———	196P12296S2	196P12296S4
	1000	.400 x 13/16	———	———	196P12910S2	196P122810S4
.0015	100	.175 x 3/4	196P15201S2	196P15201S4	196P15291S2	196P15291S4
	200	.235 x 3/4	196P15202S2	196P15202S4	196P15292S2	196P15292S4
	300	.235 x 3/4	196P15203S2	196P15203S4	196P15293S2	196P15293S4
	400	.235 x 3/4	196P15204S2	196P15204S4	196P15294S2	196P15294S4
	600	.235 x 3/4	196P15206S2	196P15206S4	196P15296S2	196P15296S4
	1000	.400 x 7/8	———	———	196P152910S2	196P152910S4
.0018	600	.235 x 11/16	———	———	196P18296S2	196P18296S4
	1000	.400 x 13/16	———	———	196P182910S2	196P182910S4
.0022	100	.175 x 3/4	196P22201S2	196P22201S4	196P22291S2	196P22291S4
	200	.235 x 3/4	196P22202S2	196P22202S4	196P22292S2	196P22292S4
	300	.235 x 7/8	196P22203S2	196P22203S4	196P22292S2	196P22293S4
	400	.235 x 3/4	196P22204S2	196P22204S4	196P22294S2	196P22294S4
	600	.235 x 3/4	196P22206S2	196P22206S4	196P22296S2	196P22296S4
	1000	.400 x 13/16	———	———	196P222910S2	196P222910S4
.0027	400	.235 x 7/8	———	———	196P27294S2	196P27294S4
	600	.312 x 7/8	———	———	196P27296S2	196P27296S4
	1000	.400 x 7/8	———	———	196P272910S2	196P272910S4
.0033	100	.175 x 3/4	196P33201S2	196P33201S4	196P33291S2	196P33291S4
	200	.235 x 3/4	196P33202S2	196P33202S4	196P33292S2	196P33292S4
	300	.235 x 3/4	196P33203S2	196P33203S4	196P33293S2	196P33293S4
	400	.235 x 3/4	196P33204S2	196P33204S4	196P33294S2	196P33294S4
	600	.312 x 7/8	196P33206S2	196P33206S4	196P33296S2	196P33296S4
	1000	.400 x 7/8	———	———	196P332910S2	196P332910S4
.0039	200	.235 x 11/16	———	———	196P39292S2	196P39292S4
	600	.312 x 7/8	———	———	196P39296S2	196P39296S4
	1000	.400 x 13/16	———	———	196P392910S2	196P392910S4
.0047	100	.175 x 3/4	196P47201S2	196P47201S4	196P47291S2	196P47291S4
	200	.235 x 3/4	196P47202S2	196P47202S4	196P47292S2	196P47292S4
	300	.235 x 3/4	196P47203S2	196P47203S4	196P47293S2	196P47293S4
	400	.312 x 7/8	196P47204S2	196P47204S4	196P47294S2	196P47294S4
	600	.312 x 7/8	196P47206S2	196P47206S4	196P47296S2	196P47296S4
	1000	.400 x 7/8	———	———	196P472910S2	196P472910S4
.0056	200	.235 x 11/16	———	———	196P56292S2	196P56292S4
	600	.312 x 7/8	———	———	196P56296S2	196P56296S4
	1000	.400 x 7/8	———	———	196P562910S2	196P562910S4
.0068	100	.195 x 7/8	196P68201S2	196P68201S4	196P68291S2	196P68291S4
	200	.235 x 7/8	196P68202S2	196P68202S4	196P68292S2	196P68282S4
	300	.312 x 7/8	196P68203S2	196P68203S4	196P68293S2	196P68293S4
	400	.312 x 7/8	196P68204S2	196P68204S4	196P68294S2	196P68294S4
	600	.312 x 7/8	196P68206S2	196P68206S4	196P68296S2	196P68296S4
	1000	.400 x 7/8	———	———	196P682910S2	196P682910S4
.0082	100	.235 x 3/4	———	———	196P82291S2	196P82291S4
	600	.312 x 7/8	———	———	196P82296S2	196P82296S4
	1000	.400 x 7/8	———	———	196P822910S2	196P822910S4
.01	100	.235 x 3/4	196P10301S2	196P10301S4	196P10391S2	196P10391S4
	200	.312 x 7/8	196P10302S2	196P10302S4	196P10392S2	196P10392S4
	300	.312 x 7/8	196P10303S2	196P10303S4	196P10393S2	196P10393S4
	400	.312 x 7/8	196P10304S2	196P10304S4	196P10394S2	196P10394S4
	600	.312 x 7/8	196P10306S2	196P10306S4	196P10396S2	196P10396S4
	1000	.400 x 7/8	———	———	196P103910S2	196P103910S4
.012	100	.235 x 3/4	———	———	196P12391S2	196P12391S4
	400	.312 x 7/8	———	———	196P12394S2	196P12394S4
	600	.312 x 7/8	———	———	196P12396S2	196P12396S4
	1000	.400 x 7/8	———	———	196P123910S2	196P123910S4
.015	100	.235 x 3/4	196P15301S2	196P15301S4	196P15391S2	196P15391S4
	200	.312 x 7/8	196P15302S2	196P15302S4	196P15392S2	196P15392S4
	300	.312 x 7/8	196P15303S2	196P15303S4	196P15393S2	196P15393S4
	400	.312 x 7/8	196P15304S2	196P15304S4	196P15394S2	196P15394S4
	600	.400 x 7/8	196P15306S2	196P15306S4	196P15396S2	196P15396S4
	1000	.400 x 1 1/8	———	———	196P153910S2	196P153910S4
.018	200	.312 x 7/8	———	———	196P18392S2	196P18392S4
	600	.400 x 7/8	———	———	196P18396S2	196P18396S4
	1000	.400 x 1 3/8	———	———	196P183910S2	196P183910S4
.022	100	.312 x 7/8	196P22301S2	196P22301S4	196P22391S2	196P22391S4
	200	.312 x 7/8	196P22302S2	196P22302S4	196P22392S2	196P22392S4
	300	.312 x 7/8	196P22303S2	196P22303S4	196P22393S2	196P22393S4
	400	.400 x 7/8	196P22304S2	196P22304S4	196P22394S2	196P22394S4
	600	.400 x 7/8	196P22306S2	196P22306S4	196P22396S2	196P22396S4
	1000	.400 x 1 3/8	———	———	196P223910S2	196P223910S4
.027	200	.312 x 7/8	———	———	196P27392S2	196P27392S4
	400	.400 x 7/8	———	———	196P27294S2	196P27394S4
	600	.400 x 1 1/8	———	———	196P27396S2	196P27396S4
	1000	.562 x 1 1/8	———	———	196P273910S2	196P273910S4
.033	100	.312 x 7/8	196P33301S2	196P33301S4	196P33391S2	196P33391S4
	200	.312 x 7/8	196P33302S2	196P33302S4	196P33392S2	196P33392S4
	300	.400 x 7/8	196P33303S2	196P33303S4	196P33393S2	196P33393S4
	400	.400 x 7/8	196P33304S2	196P33304S4	196P33394S2	196P33394S4
	600	.400 x 1 1/8	196P33306S2	196P33306S4	196P33396S2	196P33396S4
	1000	.562 x 1 1/8	———	———	196P333910S2	196P333910S4

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

*For Style 4 units add .0625" to diameter and 1/16" to length.

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SPRAGUE CAPACITORS

TYPE 196P, continued

µF	WVDC	Size D. x L.	Capacitance Tolerance ±20%				Capacitance Tolerance ±10%			
			Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)		Style 2 (bare metal case)		Style 4 (w/plastic sleeve*)	
			Cat. No.		Cat. No.		Cat. No.		Cat. No.	
.039	100	.312 x 7/8	———	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	———	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	196P39391S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES	196P39391S4	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES
	200	.400 x 7/8	———		———		196P39392S2		196P39392S4	
	400	.400 x 1 1/8	———		———		196P39394S2		196P39394S4	
	600	.400 x 1 3/8	———		———		196P39396S2		196P39396S4	
	1000	.562 x 1 3/8	———		———		196P393910S2		196P393910S4	
.047	100	.312 x 7/8	196P47301S2		196P47301S4		196P47391S2		196P47391S4	
	200	.400 x 7/8	196P47302S2		196P47302S4		196P47392S2		196P47392S4	
	300	.400 x 7/8	196P47303S2		196P47303S4		196P47393S2		196P47393S4	
	400	.400 x 1 1/8	196P47304S2		196P47304S4		196P47394S2		196P47394S4	
	600	.400 x 1 3/8	196P47306S2		196P47306S4		196P47396S2		196P47396S4	
	1000	.562 x 1 3/8	———		———		196P47391OS2		196P47391OS4	
.056	200	.400 x 7/8	———		———		196P56392S2		196P56392S4	
	400	.400 x 1 3/8	———		———		196P56394S2		196P56394S4	
	600	.562 x 1 1/8	———		———		196P56396S2		196P56396S4	
	1000	.562 x 1 5/8	———		———		196P563910S2		196P563910S4	
.068	100	.400 x 7/8	196P68301S2		196P68301S4		196P68391S2		196P68391S4	
	200	.400 x 7/8	196P68302S2		196P68302S4		196P68392S2		196P68392S4	
	300	.400 x 1 1/8	196P68303S2		196P68303S4		196P68393S2		196P68393S4	
	400	.400 x 1 3/8	196P68304S2		196P68304S4		196P68394S2		196P68394S4	
	600	.562 x 1 1/8	196P68306S2		196P68306S4		196P68396S2		196P68396S4	
	1000	.562 x 1 5/8	———		———		196P683910S2		196P683910S4	
.082	100	.400 x 7/8	———		———		196P82391S2		196P82391S4	
	200	.400 x 1 1/8	———		———		196P82392S2		196P82392S4	
	400	.562 x 1 1/8	———		———		196P82394S2		196P82394S4	
	600	.562 x 1 3/8	———		———		196P82396S2		196P82396S4	
	1000	.670 x 1 5/8	———		———		196P823910S2		196P823910S4	
.1	100	.400 x 7/8	196P10401S2		196P10401S4		196P10491S2		196P10491S4	
	200	.400 x 1 1/8	196P10402S2		196P10402S4		196P10492S2		196P10492S4	
	300	.400 x 1 3/8	196P10403S2		196P10403S4		196P10493S2		196P10493S4	
	400	.562 x 1 1/8	196P10404S2		196P10404S4		196P10494S2		196P10494S4	
	600	.562 x 1 3/8	196P10406S2		196P10406S4		196P10496S2		196P10496S4	
	1000	.670 x 1 5/8	———		———		196P104910S2		196P104910S4	
.12	100	.400 x 1 1/8	———		———		196P12491S2		196P12491S4	
	200	.400 x 1 3/8	———		———		196P12492S2		196P12492S4	
	400	.562 x 1 3/8	———		———		196P12494S2		196P12494S4	
	600	.562 x 1 5/8	———		———		196P12496S2		196P12496S4	
	1000	.670 x 1 7/8	———		———		196P124910S2		196P124910S4	
.15	100	.400 x 1 1/8	196P15401S2		196P15401S4		196P15491S2		196P15491S4	
	200	.400 x 1 3/8	196P15402S2		196P15402S4		196P15492S2		196P15492S4	
	300	.562 x 1 1/8	196P15403S2		196P15403S4		196P15493S2		196P15493S4	
	400	.562 x 1 3/8	196P15404S2		196P15404S4		196P15494S2		196P15494S4	
	600	.562 x 1 5/8	196P15406S2		196P15406S4		196P15496S2		196P15496S4	
	1000	.670 x 1 7/8	———		———		196P154910S2		196P154910S4	
.18	100	.400 x 1 3/8	———		———		196P18491S2		196P18491S4	
	200	.562 x 1 1/8	———		———		196P18492S2		196P18492S4	
	400	.562 x 1 5/8	———		———		196P18494S2		196P18494S4	
	600	.670 x 1 5/8	———		———		196P18496S2		196P18496S4	
	1000	.750 x 2 1/8	———		———		196P184910S2		196P184910S4	
.22	100	.400 x 1 3/8	196P22401S2		196P22401S4		196P22491S2		196P22491S4	
	200	.562 x 1 1/8	196P22402S2		196P22402S4		196P22492S2		196P22492S4	
	300	.562 x 1 3/8	196P22403S2		196P22403S4		196P22493S2		196P22493S4	
	400	.562 x 1 5/8	196P22404S2		196P22404S4		196P22494S2		196P22494S4	
	600	.670 x 1 5/8	196P22406S2		196P22406S4		196P22496S2		196P22496S4	
	1000	.750 x 2 1/8	———		———		196P224910S2		196P224910S4	
.27	100	.562 x 1 1/8	———		———		196P27491S2		196P27491S4	
	200	.562 x 1 3/8	———		———		196P27492S2		196P27492S4	
	400	.670 x 1 5/8	———		———		196P27494S2		196P27494S4	
	600	.750 x 2 1/8	———		———		196P27496S2		196P27496S4	
	1000	1.000 x 2 1/8	———		———		196P274910S2		196P274910S4	
.33	100	.562 x 1 1/8	196P33401S2		196P33401S4		196P33491S2		196P33491S4	
	200	.562 x 1 3/8	196P33402S2		196P33402S4		196P33492S2		196P33492S4	
	300	.562 x 1 5/8	196P33403S2		196P33403S4		196P33493S2		196P33493S4	
	400	.670 x 1 5/8	196P33404S2		196P33404S4		196P33494S2		196P33494S4	
	600	.750 x 2 1/8	196P33406S2		196P33406S4		196P33496S2		196P33496S4	
	1000	1.000 x 2 1/8	———		———		196P334910S2		196P334910S4	
.39	100	.562 x 1 3/8	———		———		196P39491S2		196P39491S4	
	200	.562 x 1 5/8	———		———		196P39492S2		196P39492S4	
	400	.750 x 2 1/8	———		———		196P39494S2		196P39494S4	
	600	.750 x 2 3/8	———		———		196P39496S2		196P39496S4	
	1000	1.000 x 2 3/8	———		———		196P394910S2		196P394910S4	
.47	100	.562 x 1 3/8	196P47401S2		196P47401S4		196P47491S2		196P47491S4	
	200	.562 x 1 5/8	196P47402S2		196P47402S4		196P47492S2		196P47492S4	
	300	.670 x 1 5/8	196P47403S2		196P47403S4		196P47493S2		196P47493S4	
	400	.750 x 2 1/8	196P47404S2		196P47404S4		196P47494S2		196P47494S4	
	600	.750 x 2 3/8	196P47406S2		196P47406S4		196P47496S2		196P47496S4	
	1000	1.000 x 2 3/8	———		———		196P474910S2		196P474910S4	
.56	100	.562 x 1 5/8	———		———		196P56491S2		196P56491S4	
	200	.670 x 1 5/8	———		———		196P56492S2		196P56492S4	
.68	100	.562 x 1 5/8	196P68401S2		196P68401S4		196P68491S2		196P68491S4	
	200	.670 x 1 5/8	196P68402S2		196P68402S4		196P68492S2		196P68492S4	
	300	.750 x 2 1/8	196P68403S2		196P68403S4		196P68493S2		196P68493S4	
.82	100	.670 x 1 5/8	———		———		196P82491S2		196P82491S4	
	200	.750 x 2 1/8	———		———		196P82492S2		196P82492S4	
1.0	100	.670 x 1 5/8	196P10501S2		196P10501S4		196P10591S2		196P10591S4	
	200	.750 x 2 1/8	196P10502S2		196P10502S4		196P10592S2		196P10592S4	

*For Style 4 units add .0625" to diameter and 1/16" to length.

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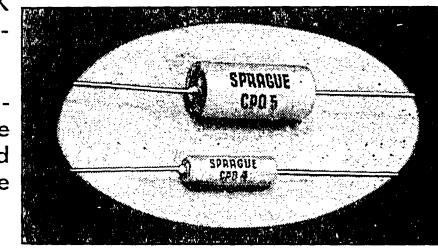
SPRAGUE CAPACITORS

TYPE CP04 CAPACITORS TO MIL-C-25C

- Impregnation wth Vitamin Q assures capacitors exceed MIL-C-25C performance requirements.
- Inserted tab construction for applications where minimum size is necessary.
- Positive hermetic closure of the metal cases assured by glass-to-metal solder-seal terminals.
- Type CP04 has plain metal case.
- Available in Characteristic K (−55C to +125C). ±10% Capacitance Tolerance.
- Only popular insulated section (ungrounded case) capacitors are listed. For information on grounded case units, consult your Sprague Industrial Distributor.
- Call your Sprague Industrial Distributor for Quantity Prices.



µF	WVDC	D. x L.	Cat. No.*
.001	600	.235 x ¾	CP04A1KF102K3
.0012	600	.235 x ¾	CP04A1KF122K3
.0015	600	.235 x ¾	CP04A1KF152K3
.0018	600	.235 x ¾	CP04A1KF182K3
.0022	600	.235 x ¾	CP04A1KF222K3
.0027	600	.235 x ¾	CP04A1KF272K3
.0033	600	.235 x ¾	CP04A1KF332K3
.0039	600	.235 x ¾	CP04A1KF392K3
.0047	600	.235 x ¾	CP04A1KF472K3
.0056	600	.235 x ¾	CP04A1KF562K3
.0068	600	.235 x ¾	CP04A1KF682K3
.0082	400	.235 x ¾	CP04A1KE822K3
	600	.312 x ⅞	CP04A1KF822K3
.01	400	.235 x ¾	CP04A1KE103K3
	600	.312 x ⅞	CP04A1KF103K3
.012	200	.235 x ¾	CP04A1KC123K3
	600	.312 x ⅞	CP04A1KF123K3
.015	200	.235 x ¾	CP04A1KC153K3
	600	.312 x ⅞	CP041AKF153K3
	1000	.400 x ⅞	CP04A1KG153K3
.018	200	.235 x ¾	CP04A1KC183K3
	600	.312 x ⅞	CP04A1KF183K3
	1000	.400 x 1⅛	CP04A1KG183K3
.022	200	.235 x ¾	CP04A1KC223K3
	600	.312 x ⅞	CP04A1KF223K3
	1000	.400 x 1⅛	CP04A1KG223K3
.027	100	.235 x ¾	CP04A1KB273K3
	400	.312 x ⅞	CP04A1KE273K3
	600	.400 x ⅞	CP04A1KF273K3
	1000	.400 x 1⅜	CP04A1KG273K3
.033	100	.235 x ¾	CP04A1KB333K3
	400	.312 x ⅞	CP04A1KE333K3
	600	.400 x ⅞	CP04A1KF333K3
	1000	.400 x 1⅜	CP04A1KG333K3
.039	200	.312 x ⅞	CP04A1KC393K3
	400	.400 x ⅞	CP04A1KE393K3
	600	.400 x 1⅛	CP04A1KF393K3
	1000	.562 x 1⅛	CP04A1KG393K3
.047	200	.312 x ⅞	CP04A1KC473K3
	400	.400 x ⅞	CP04A1KE473K3
	600	.400 x 1⅛	CP041AKF473K3
	1000	.562 x 1⅛	CP04A1KG473K3
.056	200	.312 x ⅞	CP04A1KC563K3
	400	.400 x 1⅛	CP04A1KE563K3
	600	.400 x 1⅜	CP04A1KF563K3
	1000	.562 x 1⅜	CP04A1KG563K3
.068	200	.312 x ⅞	CP04A1KC683K3
	400	.400 x 1⅛	CP04A1KE683K3
	600	.400 x 1⅜	CP04A1KF683K3
	1000	.562 x 1⅜	CP04A1KG683K3
.082	100	.312 x ⅞	CP04A1KB823K3
	200	.400 x ⅞	CP04A1KC823K3
	400	.400 x 1⅜	CP04A1KE823K3
	600	.562 x 1⅛	CP04A1KF823K3
	1000	.562 x 1⅝	CP04A1KG823K3

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µF	WVDC	D. x L.	Cat. No.*
.1	100	.312 x ⅞	CP04A1KB104K3
	200	.400 x ⅞	CP04A1KC104K3
	400	.400 x 1⅜	CP04A1KE104K3
	600	.562 x 1⅛	CP04A1KF104K3
	1000	.562 x 1⅝	CP04A1KG104K3
.12	100	.400 x ⅞	CP04A1KB124K3
	200	.400 x 1⅛	CP04A1KC124K3
	400	.562 x 1⅛	CP04A1KE124K3
	600	.562 x 1⅜	CP04A1KF124K3
	1000	.670 x 1⅝	CP04A1KG124K3
.15	100	.400 x ⅞	CP04A1KB154K3
	200	.400 x 1⅛	CP04A1KC154K3
	400	.562 x 1⅛	CP04A1KE154K3
	600	.562 x 1⅜	CP04A1KF154K3
	1000	.670 x 1⅝	CP04A1KG154K3
.18	100	.400 x 1⅛	CP04A1KB184K3
	200	.400 x 1⅜	CP04A1KC184K3
	400	.562 x 1⅜	CP04A1KE184K3
	600	.562 x 1⅞	CP04A1KF184K3
	1000	.750 x 2⅛	CP04A1KG184K3
.22	100	.400 x 1⅛	CP04A1KB224K3
	200	.400 x 1⅜	CP04A1KC224K3
	400	.562 x 1⅜	CP04A1KE224K3
	600	.562 x 1⅞	CP04A1KF224K3
	1000	.750 x 2⅛	CP04A1KG224K3
.27	100	.400 x 1⅜	CP04A1KB274K3
	200	.562 x 1⅛	CP04A1KC274K3
	400	.562 x 1⅞	CP04A1KE274K3
	600	.670 x 1⅞	CP04A1KF274K3
	1000	.750 x 2⅝	CP04A1KG274K3
.33	100	.400 x 1⅜	CP04A1KB334K3
	200	.562 x 1⅛	CP04A1KC334K3
	400	.562 x 1⅞	CP04A1KE334K3
	600	.670 x 1⅞	CP04A1KF334K3
	1000	.750 x 2⅝	CP04A1KG334K3
.39	100	.562 x 1⅛	CP04A1KB394K3
	200	.562 x 1⅜	CP04A1KC394K3
	400	.670 x 1⅞	CP05A1KE394K3
	600	.750 x 2⅛	CP04A1KF394K3
	1000	1.000 x 2⅛	CP04A1KG394K3
.47	100	.562 x 1⅛	CP04A1KB474K3
	200	.562 x 1⅜	CP04A1KC474K3
	400	.670 x 1⅞	CP04A1KE474K3
	600	.750 x 2⅛	CP04A1KF474K3
	1000	1.000 x 2⅛	CP04A1KG474K3
.56	100	.562 x 1⅜	CP04A1K5B64K3
	200	.562 x 1⅞	CP04A1KC564K3
	400	.750 x 2⅛	CP04A1KE564K3
	600	1.000 x 1⅞	CP04A1KF564K3
.68	100	.562 x 1⅜	CP04A1KB684K3
	200	.562 x 1⅞	CP04A1KC684K3
	400	.750 x 2⅛	CP04A1KE684K3
	600	1.000 x 1⅞	CP04A1KF684K3
.82	100	.562 x 1⅞	CP04A1KB824K3
	200	.670 x 1⅞	CP04A1KC824K3
	400	1.000 x 1⅞	CP04A1KE824K3
1.0	100	.562 x 1⅞	CP05A1KB105K3
	200	.670 x 1⅞	CP05A1KC105K3
	400	1.000 x 1⅞	CP04A1KE105K3

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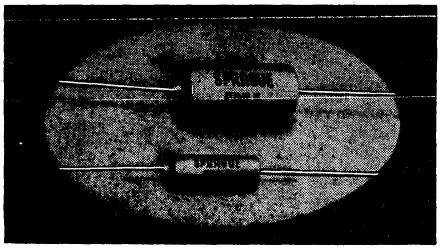
SPRAGUE CAPACITORS

TYPE CP05 CAPACITORS TO MIL-C-25C



- Vitamin Q impregnation assures performance above and beyond MIL-C-25C requirements.
- Inserted tab construction for applications where minimum size is necessary.
- Positive hermetic closure of the metal cases assured by glass-to-metal solder-seal terminals.
- Type CP05 has insulating sleeve.
- Capacitance Tolerance ±10%. Characteristic K Temperature Range (−55°C to +125°C).
- Only popular insulated section (ungrounded case) capacitors are listed. For information on grounded case units, consult you Sprague Industrial Distributor.
- Call your Sprague Industrial Distributor for Quantity Prices.

µF	WVDC	D. x L.	Cat. No.*
.001	600	.298 x 13/16	CP05A1KF102K3
.0012	600	.298 x 13/16	CP05A1KF122K3
.0015	600	.298 x 13/16	CP05A1KF152K3
.0018	600	.298 x 13/16	CP05A1KF182K3
.0022	600	.298 x 13/16	CP05A1KF222K3
.0027	600	.298 x 13/16	CP05A1KF272K3
.0033	600	.298 x 13/16	CP05A1KF332K3
.0039	600	.298 x 13/16	CP05A1KF392K3
.0047	600	.298 x 13/16	CP05A1KF472K3
.0056	600	.298 x 13/16	CP05A1KF562K3
.0068	600	.298 x 13/16	CP05A1KF682K3
.0082	400	.298 x 13/16	CP05A1KE822K3
	600	.375 x 15/16	CP05A1KF822K3
.01	400	.298 x 13/16	CP05A1KE103K3
	600	.375 x 15/16	CP05A1KF103K3
.012	200	.298 x 13/16	CP05A1KC123K3
	600	.375 x 15/16	CP05A1KF123K3
	200	.298 x 13/16	CP05A1KC153K3
015	600	.375 x 15/16	CP05A1KF153K3
	1000	.463 x 15/16	CP05A1KG153K3
	200	.298 x 13/16	CP05A1KC183K3
018	600	.375 x 15/16	CP05A1KF183K3
	1000	.463 x 13/16	CP05A1KG183K3
	200	.298 x 13/16	CP05A1KC223K3
022	600	.375 x 15/16	CP05A1KF223K3
	1000	.463 x 13/16	CP05A1KG223K3
	100	.298 x 13/16	CP05A1KB273K3
.027	400	.375 x 15/16	CP05A1KE273K3
	600	.463 x 15/16	CP05A1KF273K3
	1000	1.463 x 17/16	CP05A1KG273K3
	100	.298 x 13/16	CP05A1KB333K3
.033	400	.375 x 15/16	CP05A1KE333K3
	600	.463 x 15/16	CP05A1KF333K3
	1000	1.463 x 17/16	CP05A1KG333K3
	200	.375 x 15/16	CP05A1KC393K3
.039	400	.463 x 15/16	CP05A1KE393K3
	600	.463 x 13/16	CP05A1KF393K3
	1000	.625 x 13/16	CP05A1KG393K3
	200	.375 x 15/16	CP05A1KC473K3
.047	400	.463 x 15/16	CP05A1KE473K3
	600	.463 x 13/16	CP05A1KF473K3
	1000	.625 x 13/16	CP05A1KG473K3
	200	.375 x 15/16	CP05A1KC563K3
.056	400	.463 x 13/16	CP05A1KE563K3
	600	.463 x 17/16	CP05A1KF563K3
	1000	.625 x 17/16	CP05A1KG563K3
	200	.375 x 15/16	CP05A1KC683K3
.068	400	.463 x 13/16	CP05A1KE683K3
	600	.463 x 17/16	CP05A1KF685K3
	1000	.625 x 17/16	CP05A1KG683K3
	100	.375 x 15/16	CP05A1KB823K3
	200	.463 x 15/16	CP05A1KC823K3
.082	400	.463 x 17/16	CP05A1KE823K3
	600	.625 x 13/16	CP05A1KF823K3
	1000	.625 x 111/16	CP05A1KG823K3
	100	.463 x 15/16	CP05A1KB104K3
	200	.463 x 15/16	CP05A1KC104K3
.1	400	.463 x 17/16	CP05A1KE104K3
	600	.625 x 13/16	CP05A1KF104K3
	1000	.625 x 111/16	CP05A1KG104K3
	100	.463 x 15/16	CP05A1KB124K3
	200	.463 x 13/16	CP05A1KC124K3
.12	400	.625 x 13/16	CP05A1KE124K3
	600	.625 x 17/16	CP05A1KF124K3
	1000	.733 x 111/16	CP05A1KG124K3
	100	.463 x 15/16	CP05A1KB154K3
	200	.463 x 1 1/8	CP05A1KC154K3
.15	400	.625 x 13/16	CP05A1KE154K3
	600	.625 x 17/16	CP05A1KF154K3
	1000	.733 x 111/16	CP05A1KG154K3
	100	.463 x 13/16	CP05A1KB184K3
	200	.463 x 17/16	CP05A1KC184K3
.18	400	.625 x 17/16	CP05A1KE184K3
	600	.625 x 115/16	CP05A1KF184K3
	1000	.813 x 23/16	CP05A1KG184K3
	100	.463 x 13/16	CP05A1KB224K3
	200	.463 x 17/16	CP05A1KC224K3
.22	400	.625 x 17/16	CP05A1KE224K3
	600	.625 x 115/16	CP05A1KF224K3
	1000	.813 x 23/16	CP05A1KG224K3
	100	.463 x 17/16	CP05A1KB274K3
	200	.625 x 13/16	CP05A1KC274K3
.27	400	.625 x 115/16	CP05A1KE274K3
	600	.733 x 115/16	CP05A1KF274K3
	1000	.813 x 211/16	CP05A1KG274K3
	100	.463 x 17/16	CP05A1KB334K3
	200	.625 x 13/16	CP05A1KC334K3
.33	400	.625 x 115/16	CP05A1KE334K3
	600	.733 x 115/16	CP05A1KF334K3
	1000	.813 x 211/16	CP05A1KG334K3
	100	.625 x 13/16	CP05A1KB394K3
	200	.625 x 17/16	CP05A1KC394K3
.39	400	.733 x 115/16	CP05A1KE394K3
	600	.813 x 23/16	CP05A1KF394K3
	1000	1.063 x 23/16	CP05A1KG394K3
	100	.625 x 13/16	CP05A1KB474K3
	200	.625 x 17/16	CP05A1KC474K3
.47	400	.733 x 115/16	CP05A1KE474K3
	600	.813 x 23/16	CP05A1KF474K3
	1000	1.063 x 23/16	CP05A1KG474K3
	100	.625 x 17/16	CP05A1KB564K3
	200	.625 x 115/16	CP05A1KC564K3
.56	400	.813 x 23/16	CP05A1KE564K3
	600	1.063 x 115/16	CP05A1KF564K3
	100	.625 x 17/16	CP05A1KB684K3
.68	200	.625 x 115/16	CP05A1KC684K3
	400	.813 x 23/16	CP05A1KE684K3
	600	1.063 x 115/16	CP05A1KF684K3
	100	.625 x 113/16	CP05A1KB824K3
.82	200	.733 x 115/16	CP05A1KC824K3
	400	1.063 x 115/16	CP05A1KE824K3
	100	.625 x 115/16	CP05A1KB105K3
1.0	200	.733 x 115/16	CP05A1KC105K3
	400	1.063 x 115/16	CP05A1KE105K3

*For Vibration Grade 1, change last digit of Catalog Number to "1."

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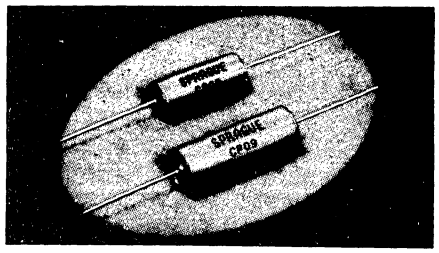
SPRAGUE CAPACITORS

TYPE CP08 CAPACITORS TO MIL-C-25C

- Vitamin Q impregnation assures performance above and beyond MIL-C-25C requirements.
- Positive hermetic closure of the metal cases with glass-to-metal solder-seal terminals.
- Capacitance Tolerance ±10%. Characteristic K Temperature Range (−55°C to +125°C).
- Type CP08 has plain metal case.
- Extended foil (so-called non-inductive section) construction.
- Listed below are popular insulated section (ungrounded case) capacitors. Consult your Sprague Industrial Distributor for information on grounded case units.
- Call your Sprague Industrial Distributor for Quantity Prices.



µF	WVDC	D. x L.	Cat. No.*
.001	600	.235 x 3/4	CP08A1KF102K3
	1000	.400 x 7/8	CP08A1KG102K3
.0012	600	.235 x 3/4	CP08A1KF122K3
	1000	.400 x 7/8	CP08A1KG122K3
.0015	600	.235 x 3/4	CP08A1KF152K3
	1000	.400 x 7/8	CP08A1KG152K3
.0018	600	.235 x 3/4	CP08A1KF182K3
	1000	.400 x 7/8	CP08A1KG182K3
.0022	600	.235 x 3/4	CP08A1KF222K3
	1000	.400 x 7/8	CP08A1KG222K3
	400	.235 x 3/4	CP08A1KE272K3
.0027	600	.312 x 7/8	CP08A1KF272K3
	1000	.400 x 7/8	CP08A1KG272K3
	400	.235 x 3/4	CP08A1KE332K3
.0033	600	.312 x 7/8	CP08A1KF332K3
	1000	.400 x 7/8	CP08A1KG332K3
	200	.235 x 3/4	CP08A1KC392K3
.0039	600	.312 x 7/8	CP08A1KF392K3
	1000	.400 x 7/8	CP08A1KG392K3
	200	.235 x 3/4	CP08A1KC472K3
.0047	600	.312 x 7/8	CP08A1KF472K3
	1000	.400 x 7/8	CP08A1KG472K3
	200	.235 x 3/4	CP08A1KC562K3
.0056	600	.312 x 7/8	CP08A1KF562K3
	1000	.400 x 7/8	CP08A1KG562K3
	200	.235 x 3/4	CP08A1KC682K3
.0068	600	.312 x 7/8	CP08A1KF682K3
	1000	.400 x 7/8	CP08A1KG682K3
	100	.235 x 3/4	CP08A1KB822K3
.0082	600	.312 x 7/8	CP08A1KF822K3
	1000	.400 x 7/8	CP08A1KG822K3
	100	.235 x 3/4	CP08A1KB103K3
.01	600	.312 x 7/8	CP08A1KF103K3
	1000	.400 x 7/8	CP08A1KG103K3
	100	.235 x 3/4	CP08A1KB123K3
.012	400	.312 x 7/8	CP08A1KE123K3
	600	.400 x 7/8	CP08A1KF123K3
	1000	.400 x 1 1/8	CP08A1KG123K3
	100	.235 x 3/4	CP08A1KB153K3
.015	400	.312 x 7/8	CP08A1KE153K3
	600	.400 x 7/8	CP08A1KF153K3
	1000	.400 x 1 1/8	CP08A1KG153K3
	200	.312 x 7/8	CP08A1KC183K3
0.18	600	.400 x 7/8	CP08A1KF183K3
	1000	.400 x 1 3/8	CP08A1KG183K3
	200	.312 x 7/8	CP08A1KC223K3
.022	600	.400 x 7/8	CP08A1KF223K3
	1000	.400 x 1 3/8	CP08A1KG223K3
	200	.312 x 7/8	CP08A1KC273K3
.027	400	.400 x 7/8	CP08A1KE273K3
	600	.400 x 1 1/8	CP08A1KF273K3
	1000	.562 x 1 1/8	CP08A1KG273K3
	200	.312 x 7/8	CP08A1KC333K3
.033	400	.400 x 7/8	CP08A1KE333K3
	600	.400 x 1 1/8	CP08A1KF333K3
	1000	.562 x 1 1/8	CP08A1KG333K3
	100	.312 x 7/8	CP08A1KB393K3
	200	.400 x 7/8	CP08A1KC393K3
.039	400	.400 x 1 1/8	CP08A1KE393K3
	600	.400 x 1 3/8	CP08A1KF393K3
	1000	.562 x 1 3/8	CP08A1KG393K3
	100	.312 x 7/8	CP08A1KB473K3
	200	.400 x 7/8	CP08A1KC473K3
.047	400	.400 x 1 1/8	CP08A1KE473K3
	600	.400 x 1 3/8	CP08A1KF473K3
	1000	.562 x 1 3/8	CP08A1KG473K3
	200	.400 x 7/8	CP08A1KC563K3
.056	400	.400 x 1 3/8	CP08A1KE563K3
	600	.562 x 1 1/8	CP08A1KF563K3
	1000	.562 x 1 5/8	CP08A1KG563K3
	200	.400 x 7/8	CP08A1KC683K3
.068	400	.400 x 1 3/8	CP08A1KE683K3
	600	.562 x 1 1/8	CP08A1KF683K3
	1000	.562 x 1 5/8	CP08A1KG683K3
	100	.400 x 7/8	CP08A1KB823K3
	200	.400 x 1 1/8	CP08A1KC823K3
.082	400	.562 x 1 1/8	CP08A1KE823K3
	600	.562 x 1 3/8	CP08A1KF823K3
	1000	.670 x 1 5/8	CP08A1KG823K3
	100	.400 x 7/8	CP08A1KB104K3
	200	.400 x 1 1/8	CP08A1KC104K3
.1	400	.562 x 1 1/8	CP08A1KE104K3
	600	.562 x 1 3/8	CP08A1KF104K3
	1000	.670 x 1 5/8	CP08A1KG104K3
	100	.400 x 1 1/8	CP08A1KB124K3
	200	.400 x 1 3/8	CP08A1KC124K3
.12	400	.562 x 1 3/8	CP08A1KE124K3
	600	.562 x 1 5/8	CP08A1KF124K3
	1000	.670 x 1 7/8	CP08A1KG124K3
	100	.400 x 1 1/8	CP08A1KB154K3
	200	.400 x 1 3/8	CP08A1KC154K3
.15	400	.562 x 1 3/8	CP08A1KE154K3
	600	.562 x 1 5/8	CP08A1KF154K3
	1000	.670 x 1 7/8	CP08A1KG154K3
	100	.400 x 1 3/8	CP08A1KB184K3
	200	.562 x 1 1/8	CP08A1KC184K3
.18	400	.562 x 1 5/8	CP08A1KE184K3
	600	.670 x 1 5/8	CP08A1KF184K3
	1000	.750 x 2 1/8	CP08A1KG184K3
	100	.400 x 1 3/8	CP08A1KB224K3
	200	.562 x 1 1/8	CP08A1KC224K3
.22	400	.562 x 1 5/8	CP08A1KE224K3
	600	.670 x 1 5/8	CP08A1KF224K3
	1000	.750 x 2 1/8	CP08A1KG224K3
	100	.562 x 1 1/8	CP08A1KB274K3
	200	.562 x 1 3/8	CP08A1KC274K3
.27	400	.670 x 1 5/8	CP08A1KE274K3
	600	.750 x 2 1/8	CP08A1KF274K3
	1000	1.000 x 2 1/8	CP08A1KG274K3

*For Vibration Grade 1, change last digit of Catalog Number to "1."

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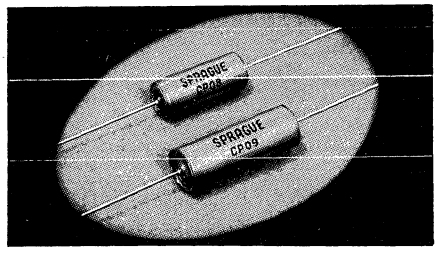
SPRAGUE CAPACITORS

TYPE CP09 CAPACITORS TO MIL-C-25C



- Vitamin Q impregnation assures performance above and beyond MIL-C-25C requirements.
- Positive hermetic closure of the metal cases with glass-to-metal solder-seal terminals.
- Available in Characteristic K (−55C to +125C). Capacitance Tolerance ±10%.
- Type CP09 has insulating sleeve.
- Extended foil, non-inductive section construction.
- Listed below are popular insulated section (ungrounded case) capacitors. Consult your Sprague Industrial Distributor for information on grounded case units.
- Call your Sprague Industrial Distributor for Quantity Prices.

µF	WVDC	D. x L.	Cat. No.
.001	600	.298 x 13/16	CP09A1KF102K3
	1000	.463 x 15/16	CP09A1KG102K3
.0012	600	.298 x 13/16	CP09A1KF122K3
	1000	.463 x 15/16	CP09A1KG122K3
.0015	600	.298 x 13/16	CP09A1KF152K3
	1000	.463 x 15/16	CP09A1KG152K3
.0018	600	.298 x 13/16	CP09A1KF182K3
	1000	.463 x 15/16	CP09A1KG182K3
.0022	600	.298 x 13/16	CP09A1KF222K3
	1000	.463 x 15/16	CP09A1KG222K3
.0027	400	.298 x 13/16	CP09A1KE272K3
	600	.375 x 15/16	CP09A1KF272K3
	1000	.463 x 15/16	CP09A1KG272K3
.0033	400	.298 x 13/16	CP09A1KE332K3
	600	.375 x 15/16	CP09A1KF332K3
	1000	.463 x 15/16	CP09A1KG332K3
.0039	200	.298 x 13/16	CP09A1KC392K3
	600	.375 x 15/16	CP09A1KF393K3
	1000	.463 x 15/16	CP09A1KG393K3
.0047	200	.298 x 13/16	CP09A1KC472K3
	600	.375 x 15/16	CP09A1KF472K3
	1000	.463 x 15/16	CP09A1KG472K3
.0056	200	.298 x 13/16	CP09A1KC562K3
	600	.375 x 15/16	CP09A1KF562K3
	1000	.463 x 15/16	CP09A1KG562K3
.0068	200	.298 x 13/16	CP09A1KC682K3
	600	.375 x 15/16	CP09A1KF682K3
	1000	.463 x 15/16	CP09A1KG682K3
.0082	100	.298 x 13/16	CP09A1KB822K3
	600	.375 x 15/16	CP09A1KF822K3
	1000	.463 x 15/16	CP09A1KG822K3
.01	100	.298 x 13/16	CP09A1KB103K3
	600	.375 x 15/16	CP09A1KF103K3
	1000	463 x 15/16	CP09A1KG103K3
.012	100	.298 x 13/16	CP09A1KB123K3
	400	.375 x 15/16	CP09A1KE123K3
	600	.463 x 15/16	CP09A1KF123K3
	1000	.463 x 13/16	CP09A1KG123K3
.015	100	.298 x 13/16	CP09A1KB153K3
	400	.375 x 15/16	CP09A1KE153K3
	600	.463 x 15/16	CP09A1KF153K3
	1000	.463 x 13/16	CP09A1KG153K3
.018	200	.375 x 15/16	CP09A1KC183K3
	600	.463 x 15/16	CP09A1KF183K3
	1000	.463 x 17/16	CP09A1KG183K3
.022	200	.375 x 15/16	CP09A1KC223K3
	600	.463 x 15/16	CP09A1KF223K3
	1000	.463 x 17/16	CP09A1KG223K3

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

µF	WVDC	D. x L.	Cat. No.
.027	200	.375 x 15/16	CP09A1KC273K3
	400	.463 x 15/16	CP09A1KE273K3
	600	.463 x 13/16	CP09A1KF273K3
	1000	.625 x 13/16	CP09A1KG273K3
.033	200	.375 x 15/16	CP09A1KC333K3
	400	.463 x 15/16	CP09A1KE333K3
	600	.463 x 13/16	CP09A1KF333K3
	1000	.625 x 13/16	CP09A1KG333K3
.039	100	.375 x 15/16	CP09A1KB393K3
	200	.463 x 15/16	CP09A1KC393K3
	400	.463 x 13/16	CP09A1KE393K3
	600	.463 x 17/16	CP09A1KF393K3
	1000	.625 x 17/16	CP09A1KG393K3
.047	100	.375 x 15/16	CP09A1KB473K3
	200	.463 x 15/16	CP09A1KC473K3
	400	.463 x 13/16	CP09A1KE473K3
	600	.463 x 17/16	CP09A1KF473K3
	1000	.625 x 17/16	CP09A1KG473K3
.056	200	.463 x 15/16	CP09A1KC563K3
	400	.463 x 17/16	CP09A1KE563K3
	600	.625 x 13/16	CP09A1KF563K3
	1000	.625 x 1 11/16	CP09A1KG563K3
.068	200	.463 x 15/16	CP09A1KC683K3
	400	.463 x 17/16	CP09A1KE683K3
	600	.625 x 13/16	CP09A1KF683K3
	1000	.625 x 1 11/16	CP09A1KG683K3
.082	100	.463 x 15/16	CP09A1KB823K3
	200	.463 x 13/16	CP09A1KC823K3
	400	.625 x 13/16	CP09A1KE823K3
	600	.625 x 17/16	CP09A1KF823K3
	1000	.733 x 1 11/16	CP09A1KG823K3
.1	100	.463 x 15/16	CP09A1KB104K3
	200	.463 x 13/16	CP09A1KC104K3
	400	.625 x 13/16	CP09A1KE104K3
	600	.625 x 17/16	CP09A1KF104K3
	1000	.733 x 1 11/16	CP09A1KG104K3
.12	100	.463 x 13/16	CP09A1KB124K3
	200	.463 x 17/16	CP09A1KC124K3
	400	.625 x 17/16	CP09A1KE124K3
	600	.625 x 1 11/16	CP09A1KF124K3
	1000	.733 x 1 15/16	CP09A1KG124K3
.15	100	.463 x 13/16	CP09A1KB154K3
	200	.463 x 17/16	CP09A1KC154K3
	400	.625 x 17/16	CP09A1KE154K3
	600	.625 x 1 11/16	CP09A1KF154K3
	1000	.733 x 1 15/16	CP09A1KG154K3
.18	100	.463 x 17/16	CP09A1KB184K3
	200	.625 x 13/16	CP09A1KC184K3
	400	.625 x 1 11/16	CP09A1KE184K3
	600	.733 x 1 11/16	CP09A1KF184K3
	1000	.813 x 2 3/16	CP09A1KG184K3
.22	100	.463 x 17/16	CP09A1KB224K3
	200	.625 x 13/16	CP09A1KC224K3
	400	.625 x 1 11/16	CP09A1KE224K3
	600	.733 x 1 11/16	CP09A1KF224K3
	1000	.813 x 2 3/16	CP09A1KG224K3

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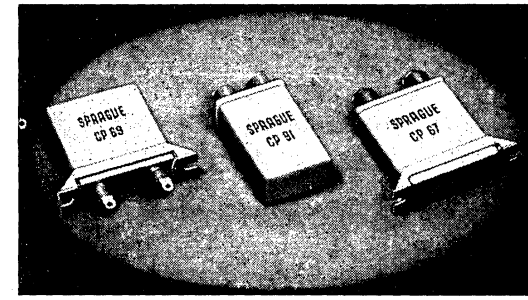
SPRAGUE CAPACITORS

TYPE CP67, CP69, CP91, CAPACITORS to MIL-C-25C

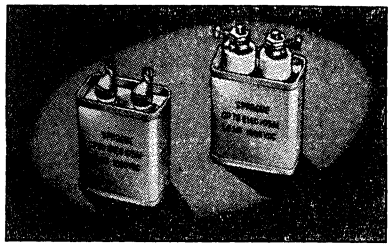
µF	WVDC	CAT. NO.	SIZE	Mounting Brackets CAT. NO.
TYPE CP67 Terminals opposite channel bracket				
.1	600	CP67B1EF104K1	1¾ x 4¼₆₄ x 1 1/16	Integral Channel Brackets
.25	600	CP67B1EF254K1	1¾ x 4¼₆₄ x 1½	
.5	600	CP67B1EF504K1	1¾ x 4¼₆₄ x 2	
1.0	600	CP67B1EF105K1	1¾ x 4¼₆₄ x 2¾	
TYPE CP69 Terminals on same end as channel bracket				
.05	600	CP69B1EF503K1	1¾ x 4¼₆₄ x 1 1/16	Integral Channel Brackets
.1	600	CP69B1EF104K1	1¾ x 4¼₆₄ x 1 1/16	
.25	600	CP69B1EF254K1	1¾ x 4¼₆₄ x 1½	
.5	600	CP69B1EF504K1	1¾ x 4¼₆₄ x 2	
1.0	600	CP69B1EF105K1	1¾ x 4¼₆₄ x 2¾	
TYPE CP91				
.05	600	CP91B1EF503K1	1 5/16 x ⅜ x 1 1/16	CP091SB1
.25	600	CP91B1EF254K1	1 5/16 x ⅜ x 1⅜	CP091SB3
.5	600	CP91B1EF504K1	1 5/16 x ⅜ x 2	CP091SB4
1.0	600	CP91B1EF105K1	1 5/16 x ⅜ x 2¾	CP091SB6
.05-.05	600	CP91B6EF503V1	1 5/16 x ⅜ x 1⅜	CP091SB2
.1-.1	600	CP91B6EF104V1	1 5/16 x ⅜ x 1⅜	CP091SB3
.25-.25	600	CP91B6EF254V1	1 5/16 x ⅜ x 2	CP091SB4
.5-.5	600	CP91B6EF504V1	1 5/16 x ⅜ x 2¾	CP091SB6

Call Your Sprague Industrial Distributor for Current Quantity Prices



- Mineral Oil Impregnated for Minimum Capacitance Change with Temperature
- Hermetically Sealed in Drawn Metal Cases
- Have Silicone Rubber Compression Terminals for Positive Prevention Against Entrance of Moisture or Leakage of Impregnant
- Designed and Manufactured for Service Life Beyond Specification Requirements
- Units Listed are Most Popular Ratings. Complete Military Line Available from Sprague
- CP91 Capacitors Require Separate Mounting Brackets.
- CP67 and CP69 have integral channel brackets
- Call Your Sprague Industrial Distributor For Current Quantity Prices

NOTE: These units have capacitance tolerance of ±10% (K) or +20, −10% (V).



TYPES CP70, CP72 CAPACITORS to MIL-C-25

- Ruggedly Constructed for Exacting Heavy-Duty Applications
- Long Life and Reliable Service under High Ambient Temperatures
- Terminals have Ceramic Pillar Insulators (E) or Rubber Compression Seals (B)
- Impregnated with a Specially Processed Mineral Oil to Withstand Severe Operating Conditions
- Char. F Units Recommended Primarily for Ground Equipment Where no Low Temperatures are Encountered
- Call Your Sprague Industrial Distributor For Current Quantity Prices

NOTE: These units have a capacitance tolerance of ±10%. For ± 20% tolerance, change the last letter in the catalog from K to M.

		Char. E (E Term.)			Char. F (B Term.)			Char. E (B Term.)			DIMENSIONS	
µF	WVDC	*MIL-C-25A Cat. No.	MIL-C-25C Cat. No.	Case Code	*MIL-C-25A Cat. No.	MIL-C-25C Cat. No.	Case Code	*MIL-C-25A Cat. No.	MIL-C-25C Cat. No.	Case Code	Code	W. x T. x H.
.1	1000	CP70E1EG104K	CP72E1EG104K1	A1	———	———	—	———	———	—	A1	1 13/16 x 1 1/16 x 1 5/16
.1	2000	CP70E1EJ104K	———	B1	———	———	—	———	———	—	A2	1 13/16 x 1 1/16 x 2¼
.25	1000	CP70E1EG254K	———	A2	———	———	—	———	———	—	A3	1 13/16 x 1 1/16 x 2 7/8
.25	2000	CP70E1EJ254K	CP72E1EJ254K1	B1	———	———	—	———	———	—	A4	1 13/16 x 1 1/16 x 3¼
.5	600	CP70E1EF504K	———	A2	———	———	—	———	———	—	A5	1 13/16 x 1 1/16 x 3 7/8
.5	1000	CP70E1EG504K	CP72E1EG504K1	A2	———	———	—	CP70B1EG504K	CP72B1EG504K1	A2	A6	1 13/16 x 1 1/16 x 4¾
.5	1500	CP70E1EH504K	CP72E1EH504K1	A3	———	———	—	———	———	—	B1	2½ x 1 3/16 x 2½
.5	2000	CP70E1EJ504K	CP72E1EJ504K1	B2	———	———	—	———	———	—	B2	2½ x 1 3/16 x 2 7/8
.5	2500	CP70E1EK504K	———	B4	———	———	—	———	———	—	B3	2½ x 1 3/16 x 3½
1.0	600	CP70E1EF105K	CP72E1EF105K1	A2	———	———	—	CP70B1EF105K	CP72B1EF105K1	A2	B4	2½ x 1 3/16 x 3 7/8
1.0	1000	CP70E1EG105K	CP72E1EG105K1	A3	———	———	—	CP70B1EG105K	CP72B1EG105K1	A3	B6	2½ x 1 3/16 x 4¾
1.0	1500	CP70E1EH105K	———	A6	———	———	—	———	———	—	C2	3¾ x 1¼ x 3 7/8
1.0	2000	CP70E1EJ105K	CP72E1EJ105K1	B6	———	———	—	———	———	—	C3	3¾ x 1¼ x 4¼
1.0	2500	CP70E1EK105K	———	D2	———	———	—	———	———	—	C4	3¾ x 1¼ x 4¾
2.0	600	CP70E1EF205K	CP72E1EF205K1	A4	CP70B1FF205K	———	A3	CP70B1EF205K	CP72B1EF205K1	A4	D2	3¾ x 1¾ x 3 7/8
2.0	1000	CP70E1EG205K	CP72E1EG205K1	A6	CP70B1FG205K	CP72B1FG205K1	A5	CP70B1EG205K	CP72B1EG205K1	A6	D3	3¾ x 1¾ x 4
2.0	1500	CP70E1EH205K	———	B6	———	———	—	CP70B1EH205K	———	B6	D4	3¾ x 1¾ x 4¼
2.0	2000	CP70E1EJ205K	CP72E1EJ205K1	C4	———	———	—	———	———	—	D5	3¾ x 1¾ x 4¾
2.0	2500	CP70E1EK205K	———	E5	———	———	—	———	———	—	E5	3¾ x 2¼ x 4¾
4.0	600	CP70E1EF405K	CP72E1EF405K1	B4	CP70B1FF405K	CP72B1EF405K1	B3	CP70B1EF405K	CP72B1EF405K1	B4	E6	3¾ x 2¼ x 5 1/8
4.0	1000	CP70E1EG405K	CP72E1EG405K1	C2	CP70B1FG405K	———	B6	CP70B1EG405K	———	C2	F2	3¾ x 2½ x 5¾
4.0	1500	CP70E1EH405K	CP72E1EH405K1	D4	———	———	—	CP70B1EH405K	———	D4	G2	3¾ x 3 3/16 x 4¾
4.0	2000	CP70E1EJ405K	CP72E1EJ405K1	E6	———	———	—	———	———	—	G4	3¾ x 3 3/16 x 5½
4.0	2500	CP70E1EK405K	———	J2	———	———	—	———	———	—	J2	4 5/16 x 3¾ x 4⅜
6.0	600	CP70E1EF605K	CP72E1EF605K1	C2	CP70B1FF605K	———	B6	CP70B1EF605K	CP72B1EF605K1	C2		
6.0	1000	CP70E1EG605K	CP72E1EG605K1	D3	CP70B1FG605K	———	C4	CP70B1EG605K	CP72B1EG605K1	D3		
6.0	1500	CP70E1EH605K	———	E5	———	———	—	CP70B1EH605K	———	E5		
8.0	600	CP70E1EF305K	CP72E1EF805K1	C3	CP70B1FF805K	———	C2	CP70B1EF805K	CP72B1EF805K1	C3		
8.0	1000	CP70E1EG805K	CP72E1EG805K1	D5	CP70B1FG805K	———	D2	CP70B1EG805K	———	D5		
8.0	1500	CP70E1EH805K	———	F2	———	———	—	CP70B1EH805K	———	F2		
10.0	600	CP70E1EF106K	CP72E1EF106K1	D3	CP70B1FF106K	CP72B1FF106K1	C4	CP70B1EF106K	CP72B1EF106K1	D3		
10.0	1000	CP70E1EG106K	CP72E1EG106K1	E5	CP70B1FG106K	———	D5	CP70B1EG106K	———	F5		
10.0	1500	CP70E1EH106K	———	G4	———	———	—	CP70B1EH106K	———	G4		
12.0	1000	CP70E1EG126K	———	E6	———	———	—	CP70B1EG126K	———	E6		
15.0	1000	CP70E1EG156K	———	G2	———	———	—	———	———	—		

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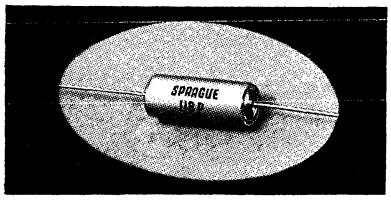
SPRAGUE CAPACITORS

118P DIFILM® METALLIZED CAPACITORS



- The Best of Their Type Possible to Produce at the Present State of the Art
- Rated for Operation at 125°C WITHOUT VOLTAGE DERATING
- Unique Dual Dielectric —a Combination of Metallized Paper and of Polyester Film, Impregnated With Special High-Temperature Mineral Wax
- Subjected to Stringent Quality Control During Manufacture
- Higher Insulation Resistance Than Any Other Metallized Paper Capacitors—at 125°C, Minimum Product of Insulation Resistance and Capacitance is 10 Megohm-microfarads for 200 V Units or 40 Megohm-microfarads for 400 and 600 V Units
- Capacitor Sections are Effectively of Non-inductive Construction, Resulting in Capacitors Unmatched in Performance Quality by any Other Metallized Capacitors
- Hermetically Sealed, with Glass-to-metal Solder-seal Terminals
- Have Unusual Self-healing Characteristics, in the Rare Event of Capacitor Dielectric Breakdown
- May be Used at Extremely Low Voltages Where Metallized Paper Construction has Previously Been Unsatisfactory
- For Complete Performance Characteristics, see Latest Issue of Engineering Bulletin 2211
- For Units With Outer Plastic Insulating Sleeves, Change Last Digit of Cat. No. From "2" to "4"
- Capacitors Listed Below Are Ungrounded Case (Insulating Section) Units Without Outer Insulating Sleeves. For Information on Other Styles Consult Your Sprague Industrial Distributor
- Call your Sprague Industrial Distributor for Quantity Prices.

200 WVDC

μF	D. x L.	±20% Tol. Catalog Number		±10% Tol. Catalog Number	
.01	.175 x .749	118P10302S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES	118P10392S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES
.012	.195 x .749			118P12392S2	
.015	.195 x .749	118P15302S2		118P15392S2	
.018	.235 x .749			118P18392S2	
.022	.235 x .749	118P22302S2		118P22392S2	
.027	.235 x .749			118P27392S2	
.033	.235 x .749	118P33302S2		118P33392S2	
.039	.312 x .874			118P39392S2	
.047	.312 x .874	118P47302S2		118P47392S2	
.056	.312 x .874			118P56392S2	
.068	.312 x .874	118P68302S2		118P68392S2	
.082	.312 x .874			118P82392S2	
.1	.312 x .874	118P10402S2		118P10492S2	
.12	.312 x 1.124			118P12492S2	
.15	.312 x 1.124	118P15402S2		118P15492S2	
.18	.400 x .874			118P18492S2	
.22	.400 x .874	118P22402S2		118P22492S2	
.27	.400 x 1.124			118P27492S2	
.33	.400 x 1.124	118P33402S2		118P33492S2	
.39	.500 x 1.124			118P39492S2	
.47	.500 x 1.124	118P47402S2		118P47492S2	
.56	.500 x 1.124			118P56492S2	
.68	.500 x 1.124	118P68402S2		118P68492S2	
.82	.562 x 1.124			118P82492S2	
1.0	.562 x 1.124	118P10502S2		118P10592S2	
1.5	.562 x 1.624	118P15502S2		118P15592S2	
2.0	.670 x 1.624	118P20502S2		118P20592S2	
3.0	.670 x 1.874	118P30502S2		118P30592S2	
4.0	.750 x 1.874	118P40502S2		118P40592S2	
5.0	1.000 x 1.874	118P50502S2		118P50592S2	
6.0	1.000 x 1.874	118P60502S2		118P60592S2	
8.0	1.000 x 1.874	118P80502S2		118P80592S2	
10.0	1.000 x 2.374	118P10602S2		118P10692S2	
12.0	1.000 x 2.624	118P12602S2		118P12692S2	

400 WVDC

μF	D. x L.	±20% Tol. Catalog Number		±10% Tol. Catalog Number	
.01	.312 x .874	118P10304S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES	118P10394S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES
.015	.312 x .874	118P15304S2		118P15394S2	
.022	.312 x .874	118P22304S2		118P22394S2	
.033	.312 x 1.124	118P33304S2		118P33394S2	
.047	.400 x 1.124	118P47304S2		118P47394S2	
.068	.400 x 1.124	118P68304S2		118P68394S2	
.1	.500 x 1.124	118P10404S2		118P10494S2	
.15	.500 x 1.124	118P15404S2		118P15494S2	
.22	.562 x 1.374	118P22404S2		118P22494S2	
.33	.562 x 1.624	118P33404S2		118P33494S2	
.47	.670 x 1.624	118P47404S2		118P47494S2	
.68	.670 x 1.874	118P68404S2		118P68494S2	
1.0	.750 x 1.874	118P10504S2		118P10594S2	
1.5	1.000 x 1.874	118P15504S2		118P15594S2	
2.0	1.000 x 1.874	118P20504S2		118P20594S2	
3.0	1.000 x 2.624	118P30504S2		118P30594S2	

600 WVDC

μF	D. x L.	±20% Tol. Catalog Number		±10% Tol. Catalog Number	
.01	.312 x .874	118P10306S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES	118P10396S2	CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES
.015	.312 x .874	118P15306S2		118P15396S2	
.022	.312 x 1.124	118P22306S2		118P22396S2	
.033	.312 x 1.124	118P33306S2		118P33396S2	
.047	.400 x 1.124	118P47306S2		118P47396S2	
.068	.400 x 1.124	118P68306S2		118P68396S2	
.1	.500 x 1.124	118P10406S2		118P10496S2	
.15	.562 x 1.124	118P15406S2		118P15496S2	
.22	.562 x 1.374	118P22406S2		118P22496S2	
.33	.562 x 1.624	118P33406S2		118P33496S2	
.47	.670 x 1.624	118P47406S2		118P47496S2	
.68	.670 x 1.874	118P68406S2		118P68496S2	
1.0	1.000 x 1.874	118P10506S2		118P10596S2	
1.5	1.000 x 1.874	118P15506S2		118P15596S2	
2.0	1.000 x 2.124	118P20506S2		118P20596S2	
2.5	1.000 x 2.624	118P25506S2		118P25596S2	

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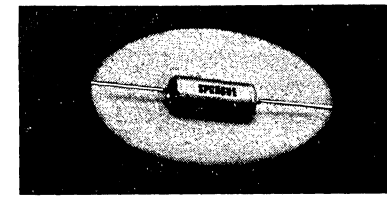
SPRAGUE CAPACITORS

121P METALLIZED PAPER CAPACITORS

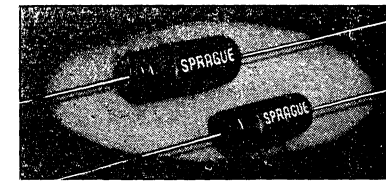
- Designed to Operate at 125C WITHOUT VOLTAGE DERATING—Extremely Important in Military and Industrial Equipment Where Higher Temperatures Are Encountered.
- Quality of These Capacitors Is Surpassed only by Type 118P Units Described on Opposite Page.
- High Insulation Resistance—at 85C, Minimum Product of Insulation Resistance and Capacitance Is 20 Megohm-Microfarads. At 125C, Minimum Product is 1.0 Megohm-Microfarads.
- Hermetically Sealed With Glass-to-Metal Solder-Seal Terminals—Capacitor Cases Are of Corrosion Resistant Materials—Similar in Appearance to Type 118P.
- May Be Operated at Low Voltages, Unlike Many Other Metallized Capacitors.
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 2210.
- Capacitors Listed Below Are Ungrounded Case (Insulated Section) Units Without Outer Insulating Sleeves. For Information on Other Styles Consult Your Sprague Industrial Distributor.



- Call Your Sprague Industrial Distributor For Quantity Prices.
- For Units With Outer Plastic Insulating Sleeve, Change Last Digit in Cat. No. From 2 to 4.

μF	D. x L.	±20% Tol. Cat. No.	±10% Tol. Cat. No.
150 WVDC			
1.5	.562 x 1 1/8	121P15501R5S2	121P15591R5S2
2.0	.562 x 1 3/8	121P20501R5S2	121P20591R5S2
2.5	.562 x 1 5/8	121P25501R5S2	121P25591R5S2
3.0	.670 x 1 3/8	121P30501R5S2	121P30591R5S2
3.5	.670 x 1 5/8	121P35501R5S2	121P35591R5S2
4.0	.670 x 1 5/8	121P40501R5S2	121P40591R5S2
5.0	.670 x 1 7/8	121P50501R5S2	121P50591R5S2
6.0	.750 x 1 7/8	121P60501R5S2	121P60591R5S2
8.0	.750 x 2 3/8	121P80501R5S2	121P80591R5S2
10	.750 x 2 5/8	121P10601R5S2	121P10691R5S2
12	1.000 x 1 7/8	121P12601R5S2	121P12691R5S2
14	1.000 x 2 1/8	121P14601R5S2	121P14691R5S2
16	1.000 x 2 3/8	121P16601R5S2	121P16691R5S2
18	1.000 x 2 5/8	121P18601R5S2	121P18691R5S2

TYPE 155P & 156P MOLDED METALLIZED PAPER CAPACITORS



- Superior to Most Competitive Units—Withstand Twice Rated Voltage Tests Giving Extra Design Safety Factor. Stand up Under High Humidity Condition.
- Self-generated Noise Practically Non-Existent. Sealed With Epoxy.
- Type 155P—Molded in Case. Type 156P in Premolded Case. Available in Kleer-Pak® Boxes. Complete Technical Data in Latest Issue of Sprague Bulletin 2030.
- Call Your Sprague Industrial Distributor For Current Quantity Prices.

μF	D. x L.	Catalog Number
200 VOLTS D-C		
.01	5/16 x 1	155P10302
.015	5/16 x 1	155P15302
.02	5/16 x 1	155P20302
.022	5/16 x 1	155P22302
.03	5/16 x 1	155P30302
.033	5/16 x 1	155P33302
.047	5/16 x 1	155P47302
.05	5/16 x 1	155P50302
.068	5/16 x 1	155P68302
.1	5/16 x 1	155P10402
.15	3/8 x 1 1/4	155P15402
.22	3/8 x 1 1/4	155P22402
.25	7/16 x 1 1/4	155P25402
.33	7/16 x 1 1/4	155P33402
.47	7/16 x 1 1/4	155P47402
.5	1/2 x 1 1/2	155P50402
.68	1/2 x 1 1/2	155P68402
1.0	1/2 x 1 1/2	155P10502
1.5	5/8 x 1 7/8	155P15502
2.0	5/8 x 1 7/8	155P20502
2.5	3/4 x 2 1/4	156P25502
3.0	3/4 x 2 1/4	156P30502
3.5	3/4 x 2 1/4	156P35502
4.0	3/4 x 2 1/4	156P40502
4.5	7/8 x 2 1/2	156P45502
5.0	7/8 x 2 1/2	156P50502
5.5	7/8 x 2 1/2	156P55502
6.0	7/8 x 2 1/2	156P60502
6.5	7/8 x 2 1/2	156P65502
7.0	7/8 x 2 1/2	156P70502
7.5	7/8 x 2 1/2	156P75502
8.0	1 x 2 1/2	156P80502
8.5	1 x 2 1/2	156P85502
9.0	1 x 2 1/2	156P90502
9.5	1 x 2 1/2	156P95502
400 VOLTS D-C		
.01	5/16 x 1	155P10304
.015	5/16 x 1	155P15304
.02	5/16 x 1	155P20304
.022	5/16 x 1	155P22304
.025	3/8 x 1 1/4	155P25304
.03	3/8 x 1 1/4	155P30304
.033	3/8 x 1 1/4	155P33304
.04	3/8 x 1 1/4	155P40304
.047	3/8 x 1 1/4	155P47304
.05	3/8 x 1 1/4	155P50304
.068	3/8 x 1 1/4	155P68304
.1	7/16 x 1 1/4	155P10404
.15	1/2 x 1 1/2	155P15404
.2	1/2 x 1 1/2	155P20404
.22	1/2 x 1 1/2	155P22404
.25	5/8 x 1 7/8	155P25404
.33	5/8 x 1 7/8	155P33404
.47	5/8 x 1 7/8	155P47404
.5	5/8 x 1 7/8	155P50404
.68	3/4 x 2 1/4	156P68404
1.0	3/4 x 2 1/4	156P10504
1.5	7/8 x 2 1/2	156P15504
2.0	7/8 x 2 1/2	156P20504
2.5	1 x 2 1/2	156P25504
600 VOLTS D-C		
.01	5/16 x 1	155P10306
.015	3/8 x 1 1/4	155P15306
.02	3/8 x 1 1/4	155P20306
.022	3/8 x 1 1/4	155P22306
.03	3/8 x 1 1/4	155P30306
.033	3/8 x 1 1/4	155P33306
.04	3/8 x 1 1/4	155P40306
.047	3/8 x 1 1/4	155P47306
.05	7/16 x 1 1/4	155P50306
.06	7/16 x 1 1/4	155P60306
.068	7/16 x 1 1/4	155P68306
.1	1/2 x 1 1/2	155P10406
.15	1/2 x 1 1/2	155P15406
.2	5/8 x 1 7/8	155P20406
.22	5/8 x 1 7/8	155P22406
.25	5/8 x 1 7/8	155P25406
.33	5/8 x 1 7/8	155P33406
.47	3/4 x 2 1/4	156P47406
.5	3/4 x 2 1/4	156P50406
.68	3/4 x 2 1/4	156P68406
1.0	7/8 x 2 1/2	156P10506
1.5	1 x 2 1/2	156P15506

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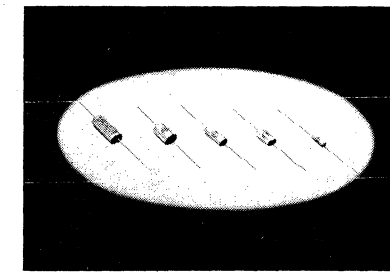
SPRAGUE CAPACITORS

TYPE 431P METFILM® 'E' CAPACITORS

- Unique Construction Gives Definite Space Advantages Over Metal-Encased, Molded, or Wax-Coated Cardboard-Case Tubulars of Comparable Ratings.
- Axial-Lead Polyester-Film Capacitor Section Protected Against Moisture By An Outer Wrap of Polyester-Film Tape.
- An Improved End Seal of a Plastic Resin Which Bonds With the Film Wrap and the Tinned Leads Provides Superior Humidity Resistance.
- Because of Their Small Size, These Capacitors Are Particularly Well-Suited For Potting or Encapsulating in Electronic Sub-Assemblies.
- For Complete Technical Data, Refer to The Latest Issue of Sprague Engineering Bulletin 2445.
- Call Your Sprague Industrial Distributor For Current Quantity Prices.



μF	T. x W. x L.	WVDC	Catalog Number
.047	3/32 x 3/16 x 5/8	50	431P4739R5
.068	1/8 x 7/32 x 5/8	50	431P6839R5
.10	5/32 x 7/32 x 5/8	50	431P1049R5
.15	3/16 x 1/4 x 5/8	50	431P1549R5
.22	5/32 x 9/32 x 3/4	50	431P2249R5
.33	3/16 x 5/16 x 3/4	50	431P3349R5
.47	3/16 x 5/16 x 1	50	431P4749R5
.68	3/16 x 3/8 x 1	50	431P6849R5
1.0	1/4 x 13/32 x 1	50	431P1059R5
1.5	9/32 x 1/2 x 1	50	431P1559R5
2.0	3/8 x 9/16 x 1	50	431P2059R5
2.5	11/32 x 17/32 x 1 1/4	50	431P2559R5
3.0	3/8 x 19/32 x 1 1/4	50	431P3059R5
4.0	3/8 x 19/32 x 1 1/2	50	431P4059R5
5.0	13/32 x 19/32 x 1 3/4	50	431P5059R5
6.0	15/32 x 11/16 x 1 1/2	50	431P6059R5
7.0	15/32 x 11/16 x 1 3/4	50	431P7059R5
10.0	9/16 x 25/32 x 1 3/4	50	431P1069R5
12.0	1/2 x 13/16 x 2 1/4	50	431P1269R5
.015	3/32 x 3/16 x 5/8	200	431P15392
.022	1/8 x 3/16 x 5/8	200	431P22392
.033	1/8 x 7/32 x 5/8	200	431P33392
.047	5/32 x 1/4 x 5/8	200	431P47392
.068	5/32 x 9/32 x 3/4	200	431P68392
.1	3/16 x 5/16 x 3/4	200	431P10492
.15	7/32 x 11/32 x 3/4	200	431P15492
.22	1/4 x 13/32 x 3/4	200	431P22492
.33	7/32 x 13/32 x 1	200	431P33492
.47	7/32 x 13/32 x 1 1/4	200	431P47492
.68	5/16 x 17/32 x 1	200	431P68492
1.0	5/16 x 17/32 x 1 1/4	200	431P10592
1.5	11/32 x 9/16 x 1 1/2	200	431P15592
2.0	3/8 x 9/16 x 1 3/4	200	431P20592
2.5	15/32 x 21/32 x 1 1/2	200	431P25592
3.0	15/32 x 21/32 x 1 3/4	200	431P30592
4.0	17/32 x 3/4 x 1 3/4	200	431P40592
5.0	15/32 x 3/4 x 2 1/4	200	431P50592
6.0	15/32 x 25/32 x 2 1/2	200	431P60592
7.0	3/4 x 15/16 x 1 3/4	200	431P70592
10.0	23/32 x 1 x 2 1/4	200	431P10692
12.0	23/32 x 1 x 2 1/2	200	431P12692

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μF	T. x W. x L.	WVDC	Catalog Number
.0033	3/32 x 3/16 x 5/8	400	431P33294
.0047	1/8 x 3/16 x 5/8	400	431P47294
.0068	5/32 x 7/32 x 5/8	400	431P68294
.01	3/16 x 1/4 x 5/8	400	431P10394
.015	5/32 x 9/32 x 3/4	400	431P15394
.022	3/16 x 5/16 x 3/4	400	431P22394
.033	7/32 x 11/32 x 3/4	400	431P33394
.047	1/4 x 13/32 x 3/4	400	431P47394
.068	7/32 x 3/8 x 1	400	431P68394
.1	9/32 x 7/16 x 1	400	431P10494
.15	5/16 x 17/32 x 1	400	431P15494
.22	13/32 x 19/32 x 1	400	431P22494
.33	11/32 x 9/16 x 1 1/2	400	431P33494
.47	3/8 x 9/16 x 1 3/4	400	431P47494
.68	15/32 x 21/32 x 1 3/4	400	431P68494
1.0	1/2 x 23/32 x 2	400	431P10594
1.5	1/2 x 25/32 x 2 1/2	400	431P15594
.0015	3/32 x 3/16 x 5/8	600	431P15296
.0022	1/8 x 3/16 x 5/8	600	431P22296
.0033	5/32 x 7/32 x 5/8	600	431P33296
.0047	1/8 x 1/4 x 3/4	600	431P47296
.0068	5/32 x 9/32 x 3/4	600	431P68296
.01	3/16 x 5/16 x 3/4	600	431P10396
.015	3/16 x 3/8 x 3/4	600	431P15396
.022	1/4 x 13/32 x 3/4	600	431P22396
.033	7/32 x 3/8 x 1	600	431P33396
.047	7/32 x 3/8 x 1 1/4	600	431P47396
.068	5/16 x 1/2 x 1	600	431P68396
.1	3/8 x 19/32 x 1	600	431P10496
.15	3/8 x 19/32 x 1 1/4	600	431P15496
.22	11/32 x 9/16 x 1 3/4	600	431P22496
.33	7/16 x 21/32 x 1 3/4	600	431P33496
.47	9/16 x 3/4 x 1 3/4	600	431P47496
.68	15/32 x 25/32 x 2 1/2	600	431P68496
1.0	3/4 x 31/32 x 2	600	431P10596
1.5	3/4 x 1 1/16 x 2 1/2	600	431P15596

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

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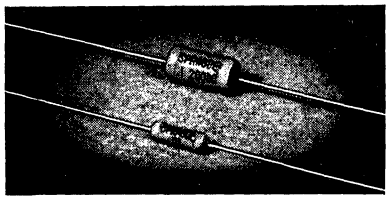
SPRAGUE CAPACITORS

TYPE 192P PACER® FILMITE® 'E' CAPACITORS



- New Minimum Construction Size. Extended Foil Film Sections Terminate in End Caps, Best Possible Non-Inductive Section. Rated for −55C to +85C
- Controlled Dimensions—May Be Used With Automatic Insertion Equipment
- Wound With Polyester Film Dielectric and Thin Gage Foil Under Controlled Atmospheric Conditions. Entire Assembly Protected by Orange Heat Shrinkable Mylar Sleeve
- Capacitance Tolerance: ±10%
- Also Available in Kleer-Pak® Boxes
- **Call Your Sprague Industrial Distributor For Current Quantity Prices**
- See Latest Issue of Sprague Engineering Bulletin 2066

μF	D	x	L	Cat. No.
80 VOLTS D-C				
0.0022	0.138		5/16	192P2229R8
0.0027	0.138		5/16	192P2729R8
0.0033	0.138		5/16	192P3329R8
0.0039	0.138		5/16	192P3929R8
0.0047	0.138		5/16	192P4729R8
0.0056	0.170		3/8	192P5629R8
0.0068	0.170		3/8	192P6829R8
0.0082	0.170		3/8	192P8229R8
0.01	0.170		3/8	192P1039R8
0.012	0.170		7/16	192P1239R8
0.015	0.170		7/16	192P1539R8
0.018	0.170		1/2	192P1839R8
0.022	0.170		1/2	192P2239R8
0.027	0.204		7/16	192P2739R8
0.033	0.204		7/16	192P3339R8
0.039	0.204		9/16	192P3939R8
0.047	0.204		9/16	192P4739R8
0.056	0.225		9/16	192P5639R8
0.068	0.225		9/16	192P6839R8
0.082	0.290		1/2	192P8239R8
0.1	0.290		1/2	192P1049R8
0.12	0.290		5/8	192P1249R8
0.15	0.290		5/8	192P1549R8
0.18	0.318		5/8	192P1849R8
0.22	0.318		5/8	192P2249R8
0.27	0.318		7/8	192P2749R8
0.33	0.318		7/8	192P3349R8
0.39	0.318		1 3/16	192P3949R8
0.47	0.318		1 3/16	192P4749R8

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES

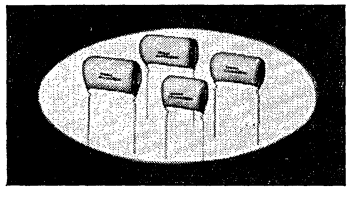
μF	D	x	L	Cat. No.
200 VOLTS D-C				
0.00047	0.138		5/16	192P47192
0.00056	0.138		5/16	192P56192
0.00068	0.138		5/16	192P68192
0.00082	0.138		5/16	192P82192
0.001	0.138		5/16	192P10292
0.0012	0.138		5/16	192P12292
0.0015	0.138		5/16	192P15292
0.0018	0.170		5/16	192P18292
0.0022	0.170		5/16	192P22292
0.0027	0.170		5/16	192P27292
0.0033	0.170		5/16	192P33292
0.0039	0.170		7/16	192P39292
0.0047	0.170		7/16	192P47292
0.0056	0.170		7/16	192P56292
0.0068	0.170		7/16	192P68292
0.0082	0.170		1/2	192P82292
0.01	0.170		1/2	192P10392
0.012	0.204		7/16	192P12392
0.015	0.204		7/16	192P15392
0.018	0.204		9/16	192P18392
0.022	0.204		9/16	192P22392
0.027	0.225		9/16	192P27392
0.033	0.225		9/16	192P33392
0.039	0.290		1/2	192P39392
0.047	0.290		1/2	192P47392
0.056	0.290		5/8	192P56392
0.068	0.290		5/8	192P68392
0.082	0.318		5/8	192P82392
0.1	0.318		5/8	192P10492
0.12	0.318		7/8	192P12492
0.15	0.318		7/8	192P15492

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES

μF	D	x	L	Cat. No.
200 VOLTS D-C (Cont.)				
0.18	0.318		1 3/16	192P18492
0.22	0.318		1 3/16	192P22492
400 VOLTS D-C				
0.00047	0.170		3/8	192P47194
0.00056	0.170		3/8	192P56194
0.00068	0.170		3/8	192P68194
0.00082	0.170		3/8	192P82194
0.001	0.170		3/8	192P10294
0.0012	0.170		3/8	192P12294
0.0015	0.170		3/8	192P15294
0.0018	0.170		7/16	192P18294
0.0022	0.170		7/16	192P22294
0.0027	0.204		7/16	192P27294
0.0033	0.204		7/16	192P33294
0.0039	0.204		7/16	192P39294
0.0047	0.204		7/16	192P47294
0.0056	0.225		9/16	192P56294
0.0068	0.225		9/16	192P68294
0.0082	0.225		9/16	192P82294
0.01	0.225		9/16	192P10394
0.012	0.290		1/2	192P12394
0.015	0.290		1/2	192P15394
0.018	0.290		5/8	192P18394
0.022	0.290		5/8	192P22394
0.027	0.318		5/8	192P27394
0.033	0.318		5/8	192P33394
0.039	0.318		7/8	192P39394
0.047	0.318		7/8	192P47394
0.056	0.318		1 3/16	192P56394
0.068	0.318		1 3/16	192P68394

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR QUANTITY PRICES

TYPE 2DF METALLIZED FILM ORANGE DROP® CAPACITORS



- Fit Easily into Tight Spots Because They're Smaller Than Other Types of Comparably-Rated Capacitors
- Extremely High Insulation Resistance Insures Peak Performance At Temperatures Up to +85C (185F)
- Radial Leads Are Extra Long For Point-to-Point Wiring and Crimped For Printed Board Insertion
- Double Dipped in Orange Epoxy Resin For Protection Against Heat And Humidity
- Capacitance Tolerance: ±10% ● Ideal For Color TV Capacitor Replacement
- **Call Your Sprague Industrial Distributor For Current Quantity Prices**

200 WVDC		
μF	H. x T. x L.	Cat. No.
.15	9/16 x 3/8 x 13/16	2DF-P15
.22	5/8 x 7/16 x 13/16	2DF-P22
.33	11/16 x 1/2 x 13/16	2DF-P33
.47	13/16 x 9/16 x 13/16	2DF-P47
.68	3/4 x 1/2 x 1 1/4	2DF-P68
1.0	13/16 x 9/16 x 1 1/4	2DF-M1
1.5	7/8 x 5/8 x 1 1/4	2DF-M1.5
2.0	15/16 x 11/16 x 1 1/4	2DF-M2

200 WVDC		
μF	H. x T. x L.	Cat. No.
2.5	1 1/16 x 13/16 x 1 1/4	2DF-M2.5
3.0	1 5/16 x 11/16 x 1 5/8	2DF-M3
3.5	1 x 3/4 x 1 5/8	2DF-M3.5
4.0	1 1/16 x 13/16 x 1 5/8	2DF-M4
4.5	1 1/8 x 7/8 x 1 5/8	2DF-M4.5
5.0	1 1/8 x 7/8 x 1 5/8	2DF-M5
5.5	1 3/16 x 15/16 x 1 5/8	2DF-M5.5

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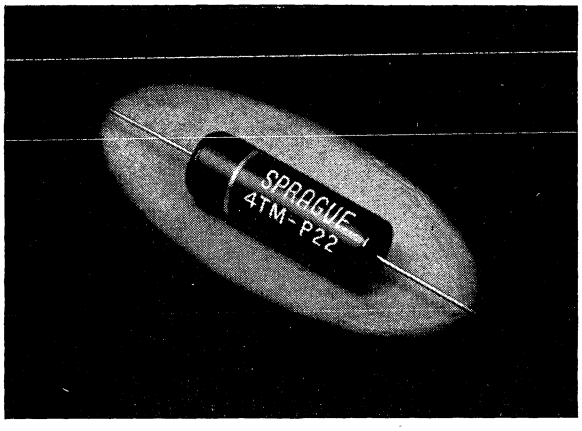
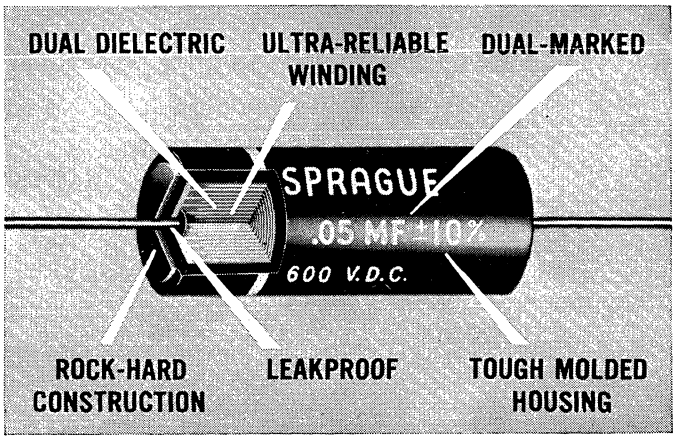
SPRAGUE CAPACITORS

DIFILM® BLACK BEAUTY® MOLDED TUBULARS





- Developed Especially for Long Life Under High Humidity and Temperature Operating Conditions
- Dual Dielectric (film and paper) Combines Best Features of Both Polyester Film and Paper Capacitors
- Exclusive HCX® Solid Impregnant Construction Results in Rock-hard Capacitor Section
- Won't Leak or Drip

LOOK FOR THE RED MARKINGS ON THE BLACK CASE

- Mica-filled, Non-flammable Molded Case. Won't Crack when Dropped; Soldering won't Harm it
- Every Capacitor Marked Twice. No Twisting the Case to Read Ratings
- Also Available in Handy Sprague Kleer-Pak®
- **Capacitance Tolerance:** ±10% from .001 μF up Except 2TM-M1 ±20%

For Complete Technical Data, See Latest Sprague Engineering Bulletin 2025

The World's Best Molded Tubular at No Extra Cost!

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
200 WVDC			
.01	5/16 x 1	2TM-S10	160P10392
.02	3/8 x 1 1/4	2TM-S20	.....
.022	3/8 x 1 1/4	2TM-S22	160P22392
.047	3/8 x 1 1/4	2TM-S47	160P47392
.05	3/8 x 1 1/4	2TM-S50	.....
.1	7/16 x 1 1/4	2TM-P10	160P10492
.15	1/2 x 1 1/2	2TM-P15	160P15492
.22	5/8 x 1 7/8	2TM-P22	160P22492
.25	5/8 x 1 7/8	2TM-P25	.....
.47	5/8 x 1 7/8	2TM-P47	160P47492
.5	5/8 x 1 7/8	2TM-P50	.....
1.0	3/4 x 2 1/4	2TM-M1	161P10502
400 WVDC			
.001	5/16 x 1	4TM-D10	160P10294
.005	5/16 x 1	4TM-D50	.....
.01	5/16 x 1	4TM-S10	160P10394
.015	3/8 x 1 1/4	4TM-S15	160P15394
.02	3/8 x 1 1/4	4TM-S20	.....
.022	3/8 x 1 1/4	4TM-S22	160P22394
.025	3/8 x 1 1/4	4TM-S25	.....
.03	3/8 x 1 1/4	4TM-S30	.....
.04	7/16 x 1 1/4	4TM-S40	.....
.047	7/16 x 1 1/4	4TM-S47	160P47394
.05	7/16 x 1 1/4	4TM-S50	.....
.068	1/2 x 1 1/2	4TM-S68	160P68394
.1	1/2 x 1 1/2	4TM-P10	160P10494
.15	5/8 x 1 7/8	4TM-P15	160P15494
.2	5/8 x 1 7/8	4TM-P20	.....
.22	5/8 x 1 7/8	4TM-P22	160P22494
.25	5/8 x 1 7/8	4TM-P25	.....
.47	3/4 x 2 1/4	4TM-P47	160P47494
.5	3/4 x 2 1/4	4TM-P50	.....
1.0	1 x 2 1/2	4TM-M1	161P10594

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SPRAGUE CAPACITORS

DIFILM® BLACK BEAUTY® MOLDED TUBULARS, continued

µF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part. No.
600 WVDC			
.0001	5/16 x 1	6TM-T10	.....
.00025	5/16 x 1	6TM-T25	.....
.0004	5/16 x 1	6TM-T40	.....
.0005	5/16 x 1	6TM-T50	.....
.001	5/16 x 1	6TM-D10	160P10296
.0015	5/16 x 1	6TM-D15	160P15296
.002	5/16 x 1	6TM-D20	.....
.0022	5/16 x 1	6TM-D22	160P22296
.0025	5/16 x 1	6TM-D25	.....
.003	5/16 x 1	6TM-D30	.....
.0033	5/16 x 1	6TM-D33	160P33296
.004	3/8 x 1 1/4	6TM-D40	.....
.0047	3/8 x 1 1/4	6TM-D47	160P47296
.005	3/8 x 1 1/4	6TM-D50	.....
.006	3/8 x 1 1/4	6TM-D60	.....
.0068	3/8 x 1 1/4	6TM-D68	160P68296
.008	3/8 x 1 1/4	6TM-D80	.....
.01	3/8 x 1 1/4	6TM-S10	160P10396
.015	3/8 x 1 1/4	6TM-S15	160P15396
.02	7/16 x 1 1/4	6TM-S20	.....
.022	7/16 x 1 1/4	6TM-S22	160P22396
.025	7/16 x 1 1/4	6TM-S25	.....
.03	7/16 x 1 1/4	6TM-S30	.....
.033	7/16 x 1 1/4	6TM-S33	160P33396
.035	7/16 x 1 1/4	6TM-S35	.....
.04	1/2 x 1 1/2	6TM-S40	.....
.047	1/2 x 1 1/2	6TM-S47	160P47396
.05	1/2 x 1 1/2	6TM-S50	.....
.06	1/2 x 1 1/2	6TM-S60	.....
.068	1/2 x 1 1/2	6TM-S68	160P68396
.1	5/8 x 1 7/8	6TM-P10	160P10496
.15	5/8 x 1 7/8	6TM-P15	160P15496
.2	3/4 x 2 1/4	6TM-P20	.....
.22	3/4 x 2 1/4	6TM-P22	160P22496
.25	3/4 x 2 1/4	6TM-P25	.....
.47	1 x 2 1/2	6TM-P47	161P47496
.5	1 x 2 1/2	6TM-P50	.....
1.0	1 x 2 1/2	6TM-M1	.....
1000 WVDC			
.0005	5/16 x 1	10TM-T50	.....
.001	5/16 x 1	10TM-D10	160P102910
.0015	5/16 x 1	10TM-D15	160P152910
.002	3/8 x 1 1/4	10TM-D20	.....
.0022	3/8 x 1 1/4	10TM-D22	160P222910
.003	3/8 x 1 1/4	10TM-D30	.....
.004	3/8 x 1 1/4	10TM-D40	.....
.0047	3/8 x 1 1/4	10TM-D47	160P472910
.005	3/8 x 1 1/4	10TM-D50	.....
.0068	3/8 x 1 1/4	10TM-D68	160P682910
.01	7/16 x 1 1/4	10TM-S10	160P103910
.015	1/2 x 1 1/2	10TM-S15	160P153910
.02	1/2 x 1 1/2	10TM-S20	.....
.022	1/2 x 1 1/2	10TM-S22	160P223910
.03	5/8 x 1 7/8	10TM-S30	.....
.035	5/8 x 1 7/8	10TM-S35	.....
.047	5/8 x 1 7/8	10TM-S47	160P473910
.05	5/8 x 1 7/8	10TM-S50	.....
.068	5/8 x 1 7/8	10TM-S68	160P683910
.1	3/4 x 2 1/4	10TM-P10	160P104910
.15	3/4 x 2 1/4	10TM-P15	160P154910
1600 WVDC BUFFER CAPACITORS			
.0005	3/8 x 1 1/4	MB-T5	.....
.001	3/8 x 1 1/4	MB-D1	160P102916
.0015	3/8 x 1 1/4	MB-D15	160P152916
.002	3/8 x 1 1/4	MB-D2	.....
.0022	3/8 x 1 1/4	MB-D22	160P222916
.003	7/16 x 1 1/4	MB-D3	.....
.0033	7/16 x 1 1/4	MB-D33	160P332916
.004	1/2 x 1 1/2	MB-D4	.....
.0047	1/2 x 1 1/2	MB-D47	160P472916
.005	1/2 x 1 1/2	MB-D5	.....
.006	1/2 x 1 1/2	MB-D6	.....
.0068	1/2 x 1 1/2	MB-D68	160P682916
.007	1/2 x 1 1/2	MB-D7	.....
.0075	1/2 x 1 1/2	MB-D75	.....
.008	5/8 x 1 7/8	MB-D8	.....
.01	5/8 x 1 7/8	MB-S1	160P103916
.015	5/8 x 1 7/8	MB-S15	160P153916
.02	5/8 x 1 7/8	MB-S2	.....
.022	5/8 x 1 7/8	MB-S22	160P223916
.03	3/4 x 2 1/4	MB-S3	.....
.04	3/4 x 2 1/4	MB-S4	.....
.05	3/4 x 2 1/4	MB-S5	.....

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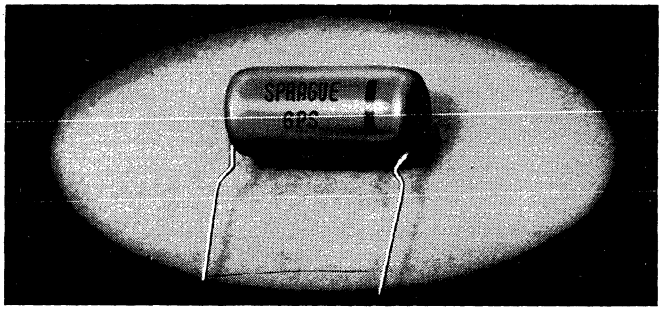
SPRAGUE CAPACITORS

DIFILM® ORANGE DROP® DIPPED TUBULARS



- Especially Made for Exact, Original Replacement
- Outperforms Any Other Dipped Tubular Capacitor
- Dual Dielectric (Film-paper) Solidly Impregnated With Exclusive HCX®—Produces Rock-Hard Capacitor Section
- Crimped Wire Leads for Correct Spacing When Mounted On Printed Wiring Boards.
- Voltage Ratings From 200 VDC to 2000 VDC
- Outside Foil on All Units Identified by Black Striping
- Double Dipped in Bright Orange Epoxy Resin—Beats Heat and Humidity
- Won't Leak or Drip
- Also Available in Handy Sprague Kleer-Pak® Boxes
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 2004

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
	200 VOLTS D-C		
.02	3/8 x 7/8	2PS-S20	.....
.022	25/64 x 7/8	2PS-S22	220P22392
.047	29/64 x 7/8	2PS-S47	220P47392
.05	15/32 x 7/8	2PS-S50	.....
.1	31/64 x 1 3/16	2PS-P10	220P10492
.15	7/16 x 1 3/16	2PS-P15	220P15492
.2	19/32 x 1 5/16	2PS-P20	.....
.22	39/64 x 1 5/16	2PS-P22	220P22492
.25	5/8 x 1 5/16	2PS-P25	.....
.33	5/8 x 1 5/8	2PS-P33	220P33492
.47	45/64 x 1 5/8	2PS-P47	220P47492
.5	23/32 x 1 5/8	2PS-P50	.....
	400 VOLTS D-C		
.01	13/32 x 11/16	4PS-S10	220P10394
.015	29/64 x 11/16	4PS-S15	220P15394
.02	13/32 x 7/8	4PS-S20	.....
.022	27/64 x 7/8	4PS-S22	220P22394
.025	7/16 x 7/8	4PS-S25	.....
.03	29/64 x 7/8	4PS-S30	.....
.033	15/32 x 7/8	4PS-S33	220P33394
.04	27/64 x 1 3/16	4PS-S40	.....
.047	29/64 x 1 3/16	4PS-S47	220P47394
.05	29/64 x 1 3/16	4PS-S50	.....
.056	31/64 x 1 3/16	4PS-S56	220P56394
.068	33/64 x 1 3/16	4PS-S68	220P68394
.075	33/64 x 1 3/16	4PS-S75	.....
.1	37/64 x 1 3/16	4PS-P10	220P10494
.15	39/64 x 1 5/16	4PS-P15	220P15494
.2	19/32 x 1 5/8	4PS-P20	.....
.22	39/64 x 1 5/8	4PS-P22	220P22494
.25	41/64 x 1 5/8	4PS-P25	.....
	600 VOLTS D-C		
.001	21/64 x 11/16	6PS-D10	220P10296
.0012	21/64 x 11/16	6PS-D12	220P12296
.0015	21/64 x 11/16	6PS-D15	220P15296
.0018	21/64 x 11/16	6PS-D18	220P18296
.002	21/64 x 11/16	6PS-D20	.....
.0022	21/64 x 11/16	6PS-D22	220P22296
.0025	21/64 x 11/16	6PS-D25	.....
.0027	11/32 x 11/16	6PS-D27	220P27296
.003	11/32 x 11/16	6PS-D30	.....
.0033	23/64 x 11/16	6PS-D33	220P33296
.0039	3/8 x 11/16	6PS-D39	220P39296
.004	3/8 x 11/16	6PS-D40	.....
.0047	25/64 x 11/16	6PS-D47	220P47296
.005	25/64 x 11/16	6PS-D50	.....
.0056	25/64 x 11/16	6PS-D56	220P56296
.006	13/32 x 11/16	6PS-D60	.....
.0068	13/32 x 11/16	6PS-D68	220P68296
.0075	23/64 x 7/8	6PS-D75	.....
.008	23/64 x 7/8	6PS-D80	.....
.0082	3/8 x 7/8	6PS-D82	220P82296
.01	25/64 x 7/8	6PS-S10	220P10396
.012	25/64 x 7/8	6PS-S12	220P12396
.015	27/64 x 7/8	6PS-S15	220P15396
.02	31/64 x 7/8	6PS-S20	.....

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
	600 VOLTS D-C (cont.)		
.022	31/64 x 7/8	6PS-S22	220P22396
.025	17/32 x 7/8	6PS-S25	.....
.027	7/16 x 1 3/16	6PS-S27	220P27396
.03	7/16 x 1 3/16	6PS-S30	.....
.033	15/32 x 1 3/16	6PS-S33	220P33396
.035	15/32 x 1 3/16	6PS-S35	.....
.039	31/64 x 1 3/16	6PS-S39	220P39396
.04	1/2 x 1 3/16	6PS-S40	.....
.047	17/32 x 1 3/16	6PS-S47	220P47396
.05	17/32 x 1 3/16	6PS-S50	.....
.056	35/64 x 1 3/16	6PS-S56	220P56396
.06	9/16 x 1 3/16	6PS-S60	.....
.068	37/64 x 1 3/16	6PS-S68	220P68396
.075	9/16 x 1 5/16	6PS-S75	.....
.082	37/64 x 1 5/16	6PS-S82	220P82396
.1	5/8 x 1 5/16	6PS-P10	220P10496
.15	43/64 x 1 5/8	6PS-P15	220P15496
.2	3/4 x 1 5/8	6PS-P20	.....
.22	25/32 x 1 5/8	6PS-P22	220P22496
.25	13/16 x 1 5/8	6PS-P25	.....
.33	55/64 x 1 5/8	6PS-P33	.....
.47	61/64 x 1 5/8	6PS-P47	.....
	1000 VOLTS D-C		
.001	21/64 x 11/16	10PS-D10	220P102910
.0015	11/32 x 11/16	10PS-D15	220P152910
.002	3/8 x 11/16	10PS-D20	.....
.0022	3/8 x 11/16	10PS-D22	220P222910
.003	11/32 x 7/8	10PS-D30	.....
.004	3/8 x 7/8	10PS-D40	.....
.0047	13/32 x 7/8	10PS-D47	220P472910
.005	13/32 x 7/8	10PS-D50	.....
	1600 VOLTS D-C		
.0005	3/8 x 1 1/4	16PS-T50	.....
.001	3/8 x 1 1/4	16PS-D10	220P102916
.0015	3/8 x 1 1/4	16PS-D15	220P152916
.002	3/8 x 1 1/4	16PS-D20	.....
.0022	3/8 x 1 1/4	16PS-D22	220P222916
.003	7/16 x 1 1/4	16PS-D30	.....
.0033	7/16 x 1 1/4	16PS-D33	220P332916
.004	1/2 x 1 1/2	16PS-D40	.....
.0047	1/2 x 1 1/2	16PS-D47	220P472916
.005	1/2 x 1 1/2	16PS-D50	.....
.006	1/2 x 1 1/2	16PS-D60	.....
.0068	1/2 x 1 1/2	16PS-D68	220P682916
.007	1/2 x 1 1/2	16PS-D70	.....
.0075	1/2 x 1 1/2	16PS-D75	.....
.008	5/8 x 1 7/8	16PS-D80	.....
.01	5/8 x 1 7/8	16PS-S10	220P103916
.015	5/8 x 1 7/8	16PS-S15	220P153916
.02	5/8 x 1 7/8	16PS-S20	.....
.022	5/8 x 1 7/8	16PS-S22	220P223916
.03	3/4 x 2 1/4	16PS-S30	.....
.04	3/4 x 2 1/4	16PS-S40	.....
.05	3/4 x 2 1/4	16PS-S50	.....
	2000 VOLTS D-C		
.001	3/8 x 1 1/4	20PS-D10	.....

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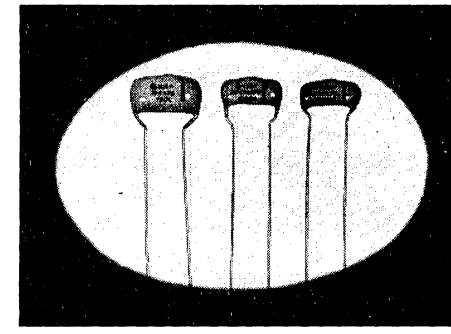
SPRAGUE CAPACITORS

TYPE 225P FILMITE® 'E' ORANGE DROP® CAPACITORS

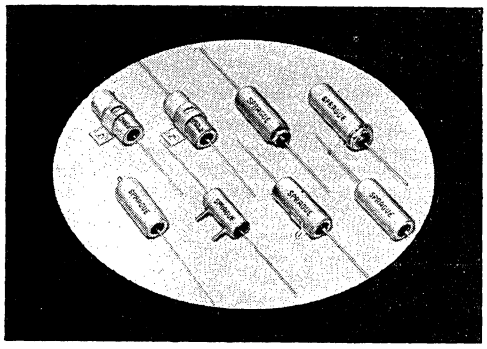
- Designed Specifically for Printed Wiring Board Applications and are Furnished with Radial Leads to Facilitate Insertion on Boards
- Find Wide Application in Television Receivers, Radio Sets, and Commercial Electronic Equipment
- Available in Voltage Ratings of 75 Volts and 100 Volts D-C for Operation up to 85C
- Capacitor Sections are Wound From Polyester Film and Thin-gage Foil Under Carefully Controlled Atmospheric Conditions
- Protected Against Moisture by a Wax-free Conformal Coating of Epoxy
- For Complete Technical Data, Refer to Latest Issue of Sprague Engineering Bulletin 2062
- Call Your Sprague Industrial Distributor for Current Quantity Prices



μF	Tol.	Size Height x Thickness x Length	Catalog Number
75 VOLTS D-C			
.12	10%	5/8 x 25/64 x 3/4	225P1249R75
.15	10%	5/8 x 25/64 x 3/4	225P1549R75
.18	10%	43/64 x 27/64 x 3/4	225P1849R75
.22	10%	43/64 x 27/64 x 3/4	225P2249R75
.27	10%	27/32 x 31/64 x 3/4	225P2749R75
.33	10%	27/32 x 31/64 x 3/4	225P3349R75
.39	10%	27/32 x 19/32 x 3/4	225P3949R75
.47	10%	27/32 x 19/32 x 3/4	225P4749R75
.56	10%	57/64 x 9/16 x 1 3/16	225P5649R75
.68	10%	29/32 x 19/32 x 1 3/16	225P6849R75
.82	10%	61/64 x 21/32 x 1 3/16	225P8249R75
1.0	10%	63/64 x 47/64 x 1 3/16	225P1059R75
100 VOLTS D-C			
.001	10%	5/16 x 13/64 x 45/64	225P10291
.0012	10%	5/16 x 13/64 x 45/64	225P12291
.0015	10%	5/16 x 13/64 x 45/64	225P15291
.0018	10%	5/16 x 13/64 x 45/64	225P18291
.0022	10%	5/16 x 13/64 x 45/64	225P22291
.0027	10%	5/16 x 13/64 x 45/64	225P27291

μF	Tol.	Size Height x Thickness x Length	Catalog Number
100 VOLTS D-C (Cont.)			
.0033	10%	5/16 x 13/64 x 45/64	225P33291
.0039	10%	5/16 x 13/64 x 45/64	225P39291
.0047	10%	5/16 x 13/64 x 45/64	225P47291
.0056	10%	5/16 x 13/64 x 45/64	225P56291
.0068	10%	5/16 x 13/64 x 45/64	225P68291
.0082	10%	5/16 x 13/64 x 45/64	225P82291
.01	10%	5/16 x 13/64 x 45/64	225P10391
.012	10%	5/16 x 13/64 x 45/64	225P12391
.015	10%	5/16 x 13/64 x 45/64	225P15391
.018	10%	5/16 x 13/64 x 45/64	225P18391
.022	10%	5/16 x 13/64 x 45/64	225P22391
.027	10%	21/64 x 15/64 x 45/64	225P27391
.033	10%	21/64 x 15/64 x 45/64	225P33391
.039	10%	11/32 x 1/4 x 45/64	225P39391
.047	10%	11/32 x 1/4 x 45/64	225P47391
.056	10%	3/8 x 9/32 x 45/64	225P56391
.068	10%	3/8 x 9/32 x 45/64	225P68391
.082	10%	17/32 x 21/64 x 45/64	225P82391
.1	10%	17/32 x 21/64 x 45/64	225P10491

TYPE 260P
TUBULAR METAL-CLAD METALLIZED FILMITE® 'K' CAPACITORS



- Designed for Applications Such as Low-frequency Tuned Circuits, Analog Computer Reference Capacitors and Precision Timing and Integrating Circuits
- High Insulation Resistance, High Stability, Minimum Capacitance Change with Temperature, Low Dielectric Absorption and Low Dissipation Factor
- Capacitor Sections are of Non-inductive Construction
- Will Operate at Full Rated D-C Voltage Over the Temperature Range of −55C to +105C
- Capacitance Tolerance ±5%, Voltage Rating 200 WVDC
- For Complete Technical Data, Refer to the Latest Issue of Sprague Engineering Bulletin 2705
- Call Your Sprague Industrial Distributor for Current Quantity Prices

μF	WVDC	D. x L.	Catalog No.
.01	200	.175" x 3/4	260P10352S4
.015	200	.195" x 3/4	260P15352S4
.022	200	.235" x 3/4	260P22352S4
.033	200	.235" x 3/4	260P33352S4
.047	200	.312" x 7/8	260P47352S4
.056	200	.312" x 7/8	260P56352S4
.068	200	.312" x 7/8	260P68352S4
.1	200	.312" x 7/8	260P10452S4
.15	200	.312" x 1 1/8	260P15452S4
.22	200	.400" x 7/8	260P22452S4
.33	200	.400" x 1 1/8	260P33452S4

μF	WVDC	D. x L.	Catalog No.
.47	200	.400" x 1 3/8	260P47452S4
.68	200	.562" x 1 1/8	260P68452S4
1.0	200	.562" x 1 3/8	260P10552S4
2.0	200	.670" x 1 5/8	260P20552S4
3.0	200	.750" x 1 7/8	260P30552S4
4.0	200	.750" x 2 1/8	260P40552S4
5.0	200	.750" x 2 3/8	260P50552S4
7.0	200	1.000" x 1 7/8	260P70552S4
8.0	200	1.000" x 2 1/8	260P80552S4
10.0	200	1.000" x 2 5/8	260P10652S4

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SPRAGUE CAPACITORS

BF ISOFARAD® PLASTIC FILM CAPACITORS

For Applications Where the Best in Tubulars is None Too Good

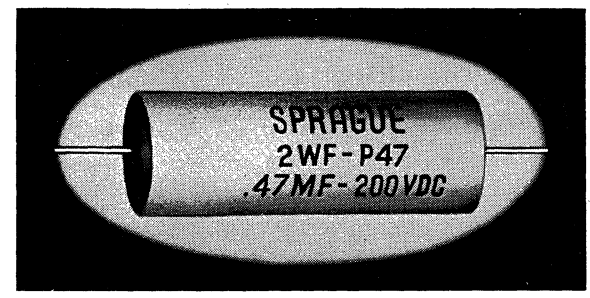
- Isofarad Quality is a Must in Color TV Synchroguide Circuits, Horizontal and Vertical Oscillators, Bridge and Parallel T Circuits and Other Tuned Circuit Applications Requiring Close Tolerance and Zero Temperature Coefficient of Capacitance
- Superior to Silvered Mica Capacitors, Yet Far Less Expensive
- Constant Capacitance—Will Not Change More Than ±0.2% from Room Temperature to +80C at Maximum Rated Voltage Will Withstand Operating Temperatures to 85C (185F)
- **Capacitance Tolerance:** ±5%
- Also Available in Handy Sprague Kleer-Pak® Boxes
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 2075

μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
		500 WVDC	
.001	5/16 x 1	5BF-D10	183P10255
.0012	5/16 x 1	5BF-D12	183P12255
.0015	5/16 x 1	5BF-D15	183P15255
.0018	5/16 x 1	5BF-D18	183P18255
.0022	5/16 x 1	5BF-D22	183P22255
.0027	5/16 x 1	5BF-D27	183P27255
.0033	5/16 x 1	5BF-D33	183P33255
.0039	3/8 x 1 1/4	5BF-D39	183P39255
.0047	3/8 x 1 1/4	5BF-D47	183P47255
.0056	3/8 x 1 1/4	5BF-D56	183P56255
.0068	3/8 x 1 1/4	5BF-D68	183P68255
.0082	3/8 x 1 1/4	5BF-D82	183P82255
.01	3/8 x 1 1/4	5BF-S10	183P10355
.012	7/16 x 1 1/4	5BF-S12	183P12355
.015	7/16 x 1 1/4	5BF-S15	183P15355
.018	1/2 x 1 1/2	5BF-S18	183P18355
.022	1/2 x 1 1/2	5BF-S22	183P22355
.027	1/2 x 1 1/2	5BF-S27	183P27355
.033	1/2 x 1 1/2	5BF-S33	183P33355
.039	5/8 x 1 7/8	5BF-S39	183P39355
.047	5/8 x 1 7/8	5BF-S47	183P47355
.056	5/8 x 1 7/8	5BF-S56	183P56355
.068	5/8 x 1 7/8	5BF-S68	183P68355
.082	3/4 x 2 1/4	5BF-S82	145P82355
.1	3/4 x 2 1/4	5BF-P10	145P10455
.12	7/8 x 2 1/2	5BF-P12	145P12455
.15	7/8 x 2 1/2	5BF-P15	145P15455
.18	7/8 x 2 1/2	5BF-P18	145P18455
.22	7/8 x 2 1/2	5BF-P22	145P22455
.27	1 x 2 1/2	5BF-P27	145P27455
.33	1 x 2 1/2	5BF-P33	145P33455

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

*WF YELLOW-JACKET® FILMITE® 'E' CAPACITORS

- Excellent for Use in Transistorized Circuits and Low-Voltage Electron Tube Circuits
- Extended Foil Type Sections, Wound from Selected, Ultra-Thin Polyester Film and Thin Gage Foil
- Outer Plastic Film Wrap and Resin End Seals Protect Against Moisture and Humidity
- "Smaller Than Small" — These Capacitors Will Fit Anywhere
- Rated to **200 WVDC** — Capacitance Tolerance: ±10%
- Designed for Operation to 85C (185F)
- Available in Kleer-Pak® Boxes
- For Technical Data, See Latest Issue of Sprague Bulletin 2063



μF	D. x L.	Sprague Products Cat. No.	Sprague O.E.M. Part No.
		200 WVDC	
.01	13/64 x 11/16	2WF-S10	148P10392
.012	13/64 x 11/16	2WF-S12	148P12392
.015	13/64 x 11/16	2WF-S15	148P15392
.018	13/64 x 11/16	2WF-S18	148P18392
.022	13/64 x 11/16	2WF-S22	148P22392
.027	13/64 x 11/16	2WF-S27	148P27392
.033	13/64 x 11/16	2WF-S33	148P33392
.039	15/64 x 11/16	2WF-S39	148P39392
.047	15/64 x 11/16	2WF-S47	148P47392
.056	1/4 x 13/16	2WF-S56	148P56392
.068	1/4 x 13/16	2WF-S68	148P68392
.082	19/64 x 13/16	2WF-S82	148P82392
.1	19/64 x 13/16	2WF-P10	148P10492
.12	11/32 x 13/16	2WF-P12	148P12492
.15	11/32 x 13/16	2WF-P15	148P15492
.18	11/32 x 1 1/16	2WF-P18	148P18492
.22	11/32 x 1 1/16	2WF-P22	148P22492
.27	15/32 x 13/16	2WF-P27	148P27492
.33	15/32 x 13/16	2WF-P33	148P33492
.39	35/64 x 13/16	2WF-P39	148P39492
.47	35/64 x 13/16	2WF-P47	148P47492
.56	35/64 x 1 9/16	2WF-P56	148P56492
.68	35/64 x 1 9/16	2WF-P68	148P68492
.82	19/32 x 1 13/16	2WF-P82	148P82492
1.0	19/32 x 1 13/16	2WF-M1	148P10592

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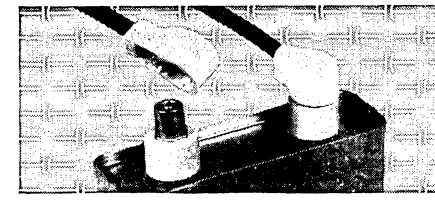
SPRAGUE CAPACITORS

TYPE CR RECTANGULAR OILS

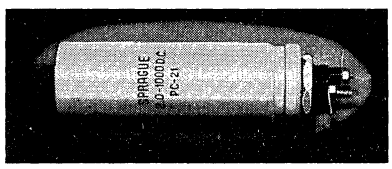
- Hermetically sealed in Rugged Rectangular Metal Cans
- Oil-Impregnated and Oil-Filled
- Extremely High Insulation Resistance
- Will Withstand High Surge Voltages and High Ambient Temperatures
- Widely Used in Transmitter Power Supplies and Other High-Voltage Applications
- Furnished With Adapters (as shown below) to Fit Standard Transmitting Tube Plate Caps



μF	WVDC	T. x W. x L.	Cat. No.
1.0	600	1 1/16 x 1 13/16 x 2 1/4	CR-16
2.0	600	1 1/16 x 1 13/16 x 2 7/8	CR-26
3.0	600	1 1/16 x 1 13/16 x 3 1/4	*CR-36
4.0	600	1 3/16 x 2 1/2 x 3 1/2	CR-46
6.0	600	1 3/16 x 2 1/2 x 4 3/4	CR-66
8.0	600	1 1/4 x 3 3/4 x 3 7/8	CR-86
10.0	600	1 1/4 x 3 3/4 x 4 3/4	CR-106
.1	1000	1 1/16 x 1 13/16 x 1 5/8	CR-011
.5	1000	1 1/16 x 1 13/16 x 2 1/4	CR-051
1.0	1000	1 1/16 x 1 13/16 x 2 1/4	CR-11
2.0	1000	1 1/16 x 1 13/16 x 3 7/8	CR-21
4.0	1000	1 3/16 x 2 1/2 x 3 5/8	CR-41
8.0	1000	1 1/4 x 3 3/4 x 4 3/4	CR-81
10.0	1000	1 3/4 x 3 3/4 x 4 3/4	CR-101
12.0	1000	2 1/4 x 3 3/4 x 4 1/2	*CR-121
15.0	1000	2 1/2 x 3 3/4 x 4 3/4	*CR-151
.5	1500	1 1/16 x 1 13/16 x 2 7/8	CR-0515
1.0	1500	1 1/16 x 1 13/16 x 3 7/8	*CR-115
2.0	1500	1 3/16 x 2 1/2 x 4 1/4	*CR-215
4.0	1500	1 1/4 x 3 3/4 x 4 3/4	CR-415
5.0	1500	1 1/4 x 3 3/4 x 4 3/4	*CR-515
8.0	1500	2 1/2 x 3 3/4 x 4 3/4	*CR-815
10.0	1500	3 3/16 x 3 3/4 x 4 3/4	*CR-1015
.25	2000	1 3/16 x 2 1/2 x 2 1/2	CR-0252
.5	2000	1 3/16 x 2 1/2 x 2 7/8	CR-052
1.0	2000	1 3/16 x 2 1/2 x 3 1/2	CR-12
2.0	2000	1 1/4 x 3 3/4 x 4 1/4	CR-22
3.0	2000	1 1/4 x 3 3/4 x 4 3/4	CR-32
4.0	2000	2 1/4 x 3 3/4 x 3 7/8	CR-42
6.0	2000	3 3/16 x 3 3/4 x 4 1/2	*CR-62
10.0	2000	4 5/16 x 3 3/4 x 4 3/4	*CR-102
.1	2500	1 3/16 x 2 1/2 x 2 1/2	*CR-0125
.5	2500	1 1/4 x 3 3/4 x 3 1/4	*CR-0525
1.0	2500	1 3/4 x 3 3/4 x 3 1/4	*CR-125
2.0	2500	1 3/4 x 3 3/4 x 4 3/4	*CR-225
.1	3000	1 3/16 x 2 1/2 x 2 1/2	*CR-013
.25	3000	1 3/16 x 2 1/2 x 2 7/8	*CR-0253
.5	3000	1 3/16 x 2 1/2 x 4 1/4	*CR-053
1.0	3000	2 1/4 x 3 3/4 x 3 7/8	*CR-13
2.0	3000	3 3/16 x 3 3/4 x 4 1/2	*CR-23
4.0	3000	4 5/16 x 3 3/4 x 4 3/4	*CR-43
.1	4000	2 1/4 x 3 3/4 x 2 3/4	*CR-014
.25	4000	2 1/4 x 3 3/4 x 2 3/4	*CR-0254
.5	4000	2 1/4 x 3 3/4 x 3 7/8	*CR-054
1.0	4000	2 1/4 x 3 3/4 x 5 1/8	*CR-14
2.0	4000	4 5/16 x 3 3/4 x 5 1/8	*CR-24
.2	5000	1 3/4 x 3 3/4 x 3 7/8	*CR-025
.5	5000	2 1/4 x 3 3/4 x 4 1/2	*CR-055
1.0	5000	4 5/16 x 3 3/4 x 4 3/8	*CR-15
2.0	5000	4 5/16 x 3 3/4 x 6	*CR-25
.1	6000	2 1/4 x 3 3/4 x 3 3/8	*CR-0160
.2	6000	1 3/4 x 3 3/4 x 4 1/4	*CR-0260
1.0	6000	4 5/16 x 3 3/4 x 7 1/2	*CR-160
.1	7500	2 1/4 x 3 3/4 x 3 7/8	*CR-0175
.2	7500	1 3/4 x 3 3/4 x 4 3/4	*CR-0275

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

SCREWBASE *PC OILS



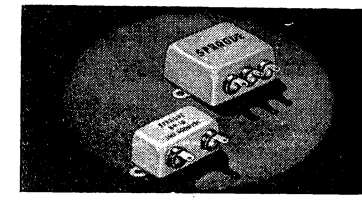
- Oil-Impregnated
- Oil-Filled
- Screwbase Can For Easy Single Hole Mounting
- Small Size — Will Fit Tight Spaces

μF	WVDC	Diam. x Lgth.	Cat. No.
2	600	1 1/2 x 2 7/8	PC-26
3	600	1 1/2 x 3 1/2	PC-36
4	600	1 1/2 x 5 1/4	PC-46
1	1000	1 1/2 x 2 7/8	PC-11
2	1000	1 1/2 x 4 1/2	PC-21
0.5	1500	1 1/2 x 2 3/8	PC-515
1	1500	1 1/2 x 3 7/8	PC-115

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

TYPE BP BATHTUB CAPACITORS

- For Applications Where Severe Operating Conditions Are Encountered
- Hermetically Sealed for Extra Protection
- Seamless Drawn Metal Can
- Oil-Filled and Oil-impregnated for Long, Dependable Service Life
- Convenient Mounting Ears are Integral Part of Metal Container



μF	L. x W. x H.	Cat. No.
400 WVDC		
.1	1 13/16 x 1 x 3/4	*BP-1
.25	1 13/16 x 1 x 3/4	*BP-25
.5	1 13/16 x 1 x 7/8	*BP-50
1.0	2 x 1 3/4 x 7/8	*BP-10
.1 + .1	1 13/16 x 1 x 3/4	*BP-21
.25 + .25	1 13/16 x 1 x 7/8	*BP-225
.5 + .5	2 x 1 3/4 x 7/8	*BP-250
.1 + .1 + .1	1 13/16 x 1 x 3/4	*BP-31
600 WVDC		
.05	1 13/16 x 1 x 3/4	*BP-56
.1	1 13/16 x 1 x 3/4	BP-16
.25	1 13/16 x 1 x 3/4	BP-256
.5	1 13/16 x 1 x 7/8	BP-506
1.0	2 x 1 3/4 x 7/8	BP-106
2.0	2 x 2 x 1 1/8	BP-206
.05 + .05	1 13/16 x 1 x 3/4	BP-2056
.1 + .1	1 13/16 x 1 x 3/4	BP-216
.25 + .25	1 13/16 x 1 x 7/8	BP-2256
.5 + .5	2 x 1 3/4 x 7/8	BP-2506
1.0 + 1.0	2 x 2 x 1 1/8	*BP-116
.1 + .1 + .1	1 13/16 x 1 x 3/4	BP-316
.25 + .25 + .25	2 x 1 3/4 x 7/8	BP-3256
.5 + .5 + .5	2 x 2 x 1 1/8	BP-356
1000 WVDC		
.05	1 13/16 x 1 x 3/4	BP-51
.1	1 13/16 x 1 x 3/4	BP-11
.25	1 13/16 x 1 x 3/4	BP-251
.5	2 x 1 3/4 x 7/8	BP-501
1.0	2 x 2 x 1 1/8	BP-101
.05 + .05	1 13/16 x 1 x 3/4	BP-2051
.1 + .1	1 13/16 x 1 x 3/4	BP-211
.25 + .25	2 x 1 3/4 x 7/8	BP-2251
.5 + .5	2 x 2 x 1 1/8	BP-2501
.1 + .1 + .1	1 13/16 x 1 x 7/8	*BP-311
.25 + .25 + .25	2 x 2 x 1 1/8	*BP-3251

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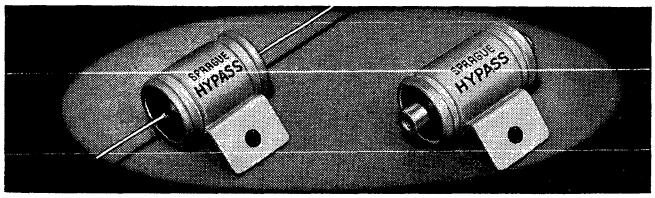
SPRAGUE FILTERS

HYPASS® CAPACITORS



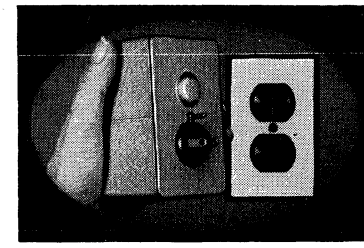
- Exclusive Sprague 3-terminal Network Feed-thru Capacitors
- Bypass V-H-F Currents Where Ordinary Capacitors are Ineffective
- Suppress TVI from Short-wave Transmitters, Diathermy Machines, Electronic Heating Apparatus, etc.
- Eliminate Interference caused by Line-conducted Radiation Between Neighboring TV Sets
- Install Leads in Series with Circuit Being Filtered and Ground the Case

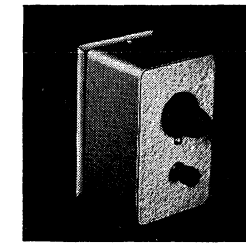
μF	Amps.	WVDC	Dia. x Length	Cat. No.
.5	40	50	1 x 1 13/16	*48P18
.5	60	50	1 x 1 13/16	48P100
.25	20	200	3/4 x 1 13/16	*48P10
.5	20	200	1 x 1 13/16	*48P14
.1	20	250(VAC)	1 1/16 x 1 13/16	*48P9
.1	20	400	1 1/16 x 1 13/16	*48P6
.1	20	400	1 1/16 x 1 13/16	†80P1
.002	15	600	1/4 x 1 3/8	46P12
.005	15	600	1/4 x 1 5/8	46P8
.01	20	600	7/16 x 1 1/4	47P6
.02	20	600	7/16 x 1 1/2	47P8
.1	20	600	1 1/16 x 1 13/16	*48P8
.1	20	600	1 1/16 x 1 13/16	*†80P3
.25	20	600	1 x 1 13/16	*48P12
.5	20	600	1 x 2 1/4	*48P16
.005	20	1000	7/16 x 1 1/4	47P12
.01	20	1000	7/16 x 1 1/2	47P13
.005	20	2500	1 x 1 9/16	47P14
.01	20	2500	1 x 1 9/16	47P15
.002	20	5000	1 x 1 9/16	47P16

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

*Has female screw terminals †Bulkhead mounting

TYPE F-400 MIRACLE FILTEROL®



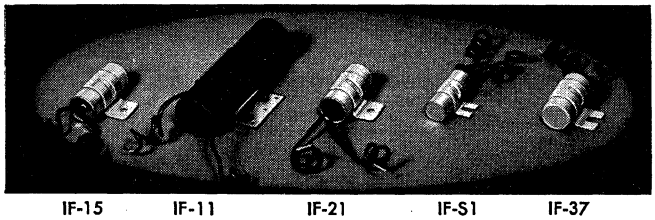


A LINE FILTER THAT REALLY WORKS

- Effectively Suppresses Radio Interference by Filtering Power Lines of Receivers and Appliances
- Maximum Noise Eliminating Efficiency because of Practically Zero Length of Ground Lead
- Plugs into Standard Duplex Wall Outlet — Captive Screw Fastens Filterol F-400 to Outlet for Safe, Secure Mounting
- Direct Wall-Mounting Provides Neat Installation — No Unsightly Cord — Receiver or Appliance Plugs into Standard Outlet on Face of F-400
- Will Also Operate at Slightly Reduced Efficiency in Older Homes where Wiring is of Knob and Tube or 2-Conductor Non-Metallic Sheathed Cable Type by Using the External Grounding Post Provided for this Purpose
- Handsomely Finished in Tan Hammerloid Baked Enamel
- Rated at 5 Amperes, 125 Volts AC or DC

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT PRICES

TYPE IF FILTERS



IF-15 IF-11 IF-21 IF-S1 IF-37

IF-15 — TRIPLE-SECTION FILTER for small motor-operated devices such as fans, drills, etc. designed to prevent shocks from discharge of filter capacitors.

IF-11 — DUAL HIGH-CAPACITY FILTER designed for use on motors over 1 hp up to 220 volts ac-dc. Also used on high-current arcing devices.

IF-21 — COMPACT DUAL FILTER for use on fractional horsepower motors with case grounded to motor frame. Also used across line terminals of motors.

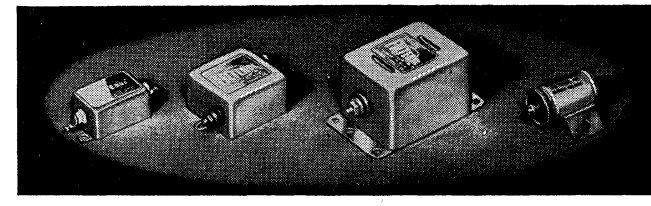
IF-S1 — SINGLE SECTION 2-LEAD FILTER for use across make-and-break contacts, such as thermostats, circuit breakers, etc.

IF-37 — 3-SECTION DELTA-CONNECTED FILTER especially designed for fluorescent fixtures. Also used on governor-type motors.

Underwriters' Laboratories, Inc. listed.

Cat. No.	Volts AC or DC	Dia. x Length
IF-15	220	1 x 2 3/16
IF-11	220	1 3/8 x 5 1/4
IF-21	220	1 x 2 3/16
IF-S1	220	3/4 x 2 1/16
IF-37	220	1 x 2"

FILTEROL® FILTERS



FILTEROL 1 FILTEROL 2 FILTEROL 3 FILTEROL 4

Filterol Types 1, 2, and 3 — Designed for connection in series with power supply lines to interference-producing devices . . . A 3-terminal network with the case as one terminal . . . The selected filter should have a rating higher than the continuous operating current of the offending device . . . A single Filterol connected to the high side of the line is usually sufficient . . . In severe cases a Filterol in each leg of the power line may be necessary . . . For three or four-wire systems, a Filterol in each wire is necessary.

Filterol Type 4 — A new, exclusive Sprague development incorporating a Sprague HYPASS® Capacitor . . . Provides exceptionally high attenuation at frequencies above 5 megacycles . . . Intended for small devices with continuous current ratings up to 20 amperes.

Cat. No.	Amps.	Volts AC or DC	Size
Filterol 1	1	115	7/8 x 1 1/4 x 1 3/4
Filterol 2	10	115	1 1/8 x 2 x 2
Filterol 3	35	115	1 7/8 x 2 7/8 x 3 1/8
Filterol 4	20	115	1" dia. x 1 13/16" long

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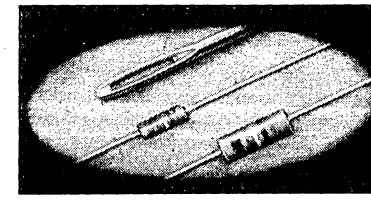
SPRAGUE CAPACITORS

TYPES 262C, 263C MINIATURE MOLDED MONOLYTHIC® CEROD® CERAMIC CAPACITORS

- Cerod Capacitors — Tiny, Molded Cylindrical Ceramics Now in Monolythic Construction. True Miniaturization Without Compromise
- Two Cordwood Sizes Available. Designers Can Make Full Use of This New Packaging Concept
- Ceramic Elements Fully Molded in Thermosetting Resin — Assures Good Mechanical and Electrical Properties Plus Precise Dimensions
- Two Ceramic Formulations Available Including a New Temperature-Stable Body
- Call Your Sprague Industrial Distributor for Current Prices
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 6250



TYPE 262C—STANDARD RATINGS—100 VDC

μμF	Catalog Number ±5% Tol.	±10% Tol.	±20% Tol.
FORMULATION N030			
6.8	———	262C0256R8X9101B	262C0256R8X0101B
8.2	———	262C0258R2X9101B	262C0258R2X0101B
10	262C025100X5101B	262C025100X9100B	262C025100X0101B
12	262C025120X5101B	262C025120X9101B	262C025120X0101B
15	262C025150X5101B	262C025150X9100B	262C025150X0101B
18	262C025180X5101B	262C025180X9101B	262C025180X0101B
22	262C025220X5101B	262C025220X9101B	262C025220X0101B
27	262C025270X5101B	262C025270X9101B	262C025270X0101B
33	262C025330X5101B	262C025330X9101B	262C025330X0101B
39	262C025390X5101B	262C025390X9101B	262C025390X0101B
47	262C025470X5101B	262C025470X9101B	262C025470X0101B
56	262C025560X5101B	262C025560X9101B	262C025560X0101B
68	262C025680X5101B	262C025680X9101B	262C025680X0101B
82	262C025820X5101B	262C025820X9101B	262C025820X0101B
100	262C025101X5101B	262C025101X9101B	262C025101X0101B

μμF	Catalog Number ±5% Tol.	±10% Tol.	±20% Tol.
FORMULATION N030 (Cont.)			
120	262C025121X5101B	262C025121X9101B	262C025121X0101B
150	262C025151X5101B	262C025151X9101B	262C025151X0101B

μμF	Catalog Number ±10% Tol.	±20% Tol.	+80%, −20% Tol.
FORMULATION X5R			
470	262C067471X9101B	262C067471X0101B	262C067471D8101B
680	262C067681X9101B	262C067681X0101B	262C067681D8101B
1000	262C067102X9101B	262C067102X0101B	262C067102D8101B
1500	262C067152X9101B	262C067152X0101B	262C067152D8101B
2200	262C067222X9101B	262C067222X0101B	262C067222D8101B
3300	262C067332X9101B	262C067332X0101B	262C067332D8101B
4700	262C067472X9101B	262C067472X0101B	262C067472D8101B
6800	262C067682X9101B	262C067682X0101B	262C067682D8101B
10000	262C067103X9101B	262C067103X0101B	262C067103D8101B

TYPE 263C—STANDARD RATINGS—100 VDC

μμF	Catalog Number ±5% Tol.	±10% Tol.	±20% Tol.
FORMULATION N030			
180	263C025181X5101B	263C025181X9101B	263C025181X0101B
220	263C025221X5101B	263C025221X9101B	263C025221X0101B
270	263C025271X5101B	263C025271X9101B	263C025271X0101B
330	263C025331X5101B	263C025331X9101B	263C025331X0101B
390	263C025391X5101B	263C025391X9101B	263C025391X0101B
470	263C025471X5101B	263C025471X9101B	263C025471X0101B
560	263C025561X5101B	263C025561X9101B	263C025561X0101B
680	263C025681X5101B	263C025681X9101B	263C025681X0101B

μμF	Catalog Number ±10% Tol.	±20% Tol.	+80%, −20% Tol.
FORMULATION X5R			
15000	263C067153X9101B	263C067153X0101B	263C067153D8101B
22000	263C067223X9101B	263C067223X0101B	263C067223D8101B
33000	263C067333X9101B	263C067333X0101B	263C067333D8101B

DIMENSIONS

Type	Diameter	Length
262C	.090"±.009"	.250"±.015"
263C	.138"±.010"	.390"±.015"

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SPRAGUE CAPACITORS

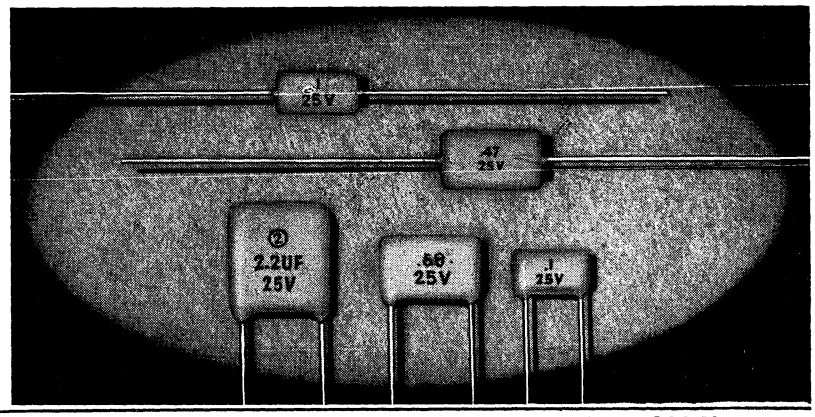
MONOLYTHIC® LAYER-BUILT CERAMIC CAPACITORS

Types 3C and 4C—Formulation N030

- Temperature Compensating Units, N030 Dielectric Offers Greater Capacitance Per Unit Volume and Greater Stability Than Previously Available.
- Highly Reliable, Small in Size, Axial or Radial Leads.
- Temperature Coefficient Guaranteed Less Than ±.6% Between —55C and +125C.

Types 2C, 3C, 4C, 5C—Formulation 023

- High-K General Application—High Capacitances in Small Physical Size, Axial or Radial Leads.
- Well Suited for By-pass and Filtering Applications
- For Complete Technical Data, See Latest Sprague Engineering Bulletin 6212 (N030) or 6201 (023)



Type 3C, 4C Monolythic Ceramic Capacitors—Formulation N030—Temperature Compensating—200 V

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μμF	Tol.	Cat. No.
TYPE 3C AXIAL LEADS		
51	5%	3C5105BH1
51	2%	3C5102BH1
56	10%	3C5609BH1
56	5%	3C5605BH1
56	2%	3C5602BH1
62	5%	3C6205BH1
62	2%	3C6202BH1
68	10%	3C6809BH1
68	5%	3C6805BH1
68	2%	3C6802BH1
75	5%	3C7505BH1
75	2%	3C7502BH1
82	10%	3C8209BH1
82	5%	3C8205BH1
82	2%	3C8202BH1
91	5%	3C9105BH1
91	2%	3C9102BH1
100	10%	3C1019BH1
100	5%	3C1015BH1
100	2%	3C1012BH1
110	5%	3C1115BH1
110	2%	3C1112BH1
120	10%	3C1219BH1
120	5%	3C1215BH1
120	2%	3C1212BH1
130	5%	3C1315BH1
130	2%	3C1312BH1
150	10%	3C1519BH1
150	5%	3C1515BH1
150	2%	3C1512BH1
160	5%	3C1615BH1
160	2%	3C1612BH1
180	10%	3C1819BH1
180	5%	3C1815BH1
180	2%	3C1812BH1
200	5%	3C2015BH1
200	2%	3C2012BH1
220	10%	3C2219BH1
220	5%	3C2215BH1
220	2%	3C2212BH1
240	5%	3C2415BH1

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μμF	Tol.	Cat. No.
240	2%	3C2412BH1
270	10%	3C2719BH1
270	5%	3C2715BH1
270	2%	3C2712BH1
300	5%	3C3015BH1
300	2%	3C3012BH1
330	10%	3C3319BH1
330	5%	3C3315BH1
330	2%	3C3312BH1
360	5%	3C3615BH1
360	2%	3C3612BH1
390	10%	3C3919BH1
390	5%	3C3915BH1
390	2%	3C3912BH1
430	5%	3C4315BH1
430	2%	3C4312BH1
470	10%	3C4719BH1
470	5%	3C4715BH1
470	2%	3C4712BH1
510	5%	3C5115BH1
510	2%	3C5112BH1
560	10%	3C5619BH1
560	5%	3C5615BH1
560	2%	3C5612BH1
620	5%	3C6215BH1
620	2%	3C6212BH1
680	10%	3C6819BH1
680	5%	3C6815BH1
680	2%	3C6812BH1
TYPE 4C AXIAL LEADS		
750	5%	4C7515BH1
750	2%	4C7512BH1
820	10%	4C8219BH1
820	5%	4C8215BH1
820	2%	4C8212BH1
910	5%	4C9115BH1
910	2%	4C9112BH1
1000	10%	4C1029BH1
1000	5%	4C1025BH1
1000	2%	4C1022BH1
1100	5%	4C1125BH1
1100	2%	4C1122BH1
1200	10%	4C1229BH1

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μμF	Tol.	Cat. No.
1200	5%	4C1225BH1
1200	2%	4C1222BH1
1300	5%	4C1325BH1
1300	2%	4C1322BH1
1500	10%	4C1529BH1
1500	5%	4C1525BH1
1500	2%	4C1522BH1
1600	5%	4C1625BH1
1600	2%	4C1622BH1
1800	10%	4C1829BH1
1800	5%	4C1825BH1
1800	2%	4C1822BH1
TYPE 3C RADIAL LEADS		
51	5%	3C5105BH3
51	2%	3C5102BH3
56	10%	3C5609BH3
56	5%	3C5605BH3
56	2%	3C5602BH3
62	5%	3C6205BH3
62	2%	3C6202BH3
68	10%	3C6809BH3
68	5%	3C6805BH3
68	2%	3C6802BH3
75	5%	3C7505BH3
75	2%	3C7502BH3
82	10%	3C8209BH3
82	5%	3C8205BH3
82	2%	3C8202BH3
91	5%	3C9105BH3
91	2%	3C9102BH3
100	10%	3C1019BH3
100	5%	3C1015BH3
100	2%	3C1012BH3
110	5%	3C1115BH3
110	2%	3C1112BH3
120	10%	3C1219BH3
120	5%	3C1215BH3
120	2%	3C1212BH3
130	5%	3C1315BH3
130	2%	3C1312BH3
150	10%	3C1519BH3
150	5%	3C1515BH3

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μμF	Tol.	Cat. No.
150	2%	3C1512BH3
160	5%	3C1615BH3
160	2%	3C1612BH3
180	10%	3C1819BH3
180	5%	3C1815BH3
180	2%	3C1812BH3
200	5%	3C2015BH3
200	2%	3C2012BH3
220	10%	3C2219BH3
220	5%	3C2215BH3
220	2%	3C2212BH3
240	5%	3C2415BH3
240	2%	3C2412BH3
270	10%	3C2719BH3
270	5%	3C2715BH3
270	2%	3C2712BH3
300	5%	3C3015BH3
300	2%	3C3012BH3
330	10%	3C3319BH3
330	5%	3C3315BH3
330	2%	3C3312BH3
360	5%	3C3615BH3
360	2%	3C3612BH3
390	10%	3C3919BH3
390	5%	3C3915BH3
390	2%	3C3912BH3
430	5%	3C4315BH3
430	2%	3C4312BH3
470	10%	3C4719BH3
470	5%	3C4715BH3
470	2%	3C4712BH3
510	5%	3C5115BH3
510	2%	3C5112BH3
560	10%	3C5619BH3
560	5%	3C5615BH3
560	2%	3C5612BH3
620	5%	3C6215BH3
620	2%	3C6212BH3
680	10%	3C6819BH3
680	5%	3C6815BH3
680	2%	3C6812BH3
TYPE 4C RADIAL LEADS		
750	5%	4C7515BH3
750	2%	4C7512BH3
820	10%	4C8219BH3

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SPRAGUE CAPACITORS

MONOLYTHIC® CERAMIC CAPACITORS, TYPE 4C, RADIAL LEADS (Cont.)

pF	Tol.	Cat. No.
820	5%	4C8215BH3
820	2%	4C8212BH3
910	5%	4C9115BH3
910	2%	4C9112BH3
1000	10%	4C1029BH3
1000	5%	4C1025BH3
1000	2%	4C1022BH3
1100	5%	4C1125BH3
1100	2%	4C1122BH3
1200	10%	4C1229BH3
1200	5%	4C1225BH3
1200	2%	4C1222BH3
1300	5%	4C1325BH3
1300	2%	4C1322BH3
1500	10%	4C1529BH3
1500	5%	4C1525BH3
1500	2%	4C1522BH3
1600	5%	4C1625BH3
1600	2%	4C1622BH3
1800	10%	4C1829BH3
1800	5%	4C1825BH3
1800	2%	4C1822BH3
2000	5%	4C2025BH3
2000	2%	4C2022BH3
2200	10%	4C2229BH3
2200	5%	4C2225BH3
2200	2%	4C2222BH3
2400	5%	4C2425BH3
2400	2%	4C2422BH3
2700	10%	4C2729BH3
2700	5%	4C2725BH3
2700	2%	4C2722BH3
3000	5%	4C3025BH3
3000	2%	4C3022BH3
3300	10%	4C3329BH3
3300	5%	4C3325BH3
3300	2%	4C3322BH3
3600	5%	4C3625BH3
3600	2%	4C3622BH3
3900	10%	4C3929BH3
3900	5%	4C3925BH3
3900	2%	4C3922BH3
4300	5%	4C4325BH3
4300	2%	4C4322BH3
4700	10%	4C4729BH3
4700	5%	4C4725BH3
4700	2%	4C4722BH3
5100	5%	4C5125BH3
5100	2%	4C5122BH3

Call Your Sprague Industrial Distributor for Current Prices

TYPE 2C, 3C, 4C, 5C Monolythic Ceramic Capacitors
High-K Formulation 023 ±20% Cap. Tol.

µF	VDC	Catalog Number
TYPE 2C RADIAL LEADS		
.01	25	2C023103X0250A3
.015	25	2C023153X0250A3
.022	25	2C023223X0250A3
.033	25	2C023333X0250A3
.047	25	2C023473X0250A3
.068	25	2C023683X0250A3
.1	25	2C023104X0250A3
.15	25	2C023154X0250A3
.22	25	2C023224X0250A3
.33	25	2C023334X0250A3
.47	25	2C023474X0250A3
TYPE 3C RADIAL LEADS		
.01	25	3C023103X0250A3
.015	25	3C023153X0250A3
.022	25	3C023223X0250A3
.033	25	3C023333X0250A3
.047	25	3C023473X0250A3
.068	25	3C023683X0250A3
.1	25	3C023104X0250A3
.15	25	3C023154X0250A3
.22	25	3C023224X0250A3
.33	25	3C023334X0250A3
.47	25	3C023474X0250A3
TYPE 4C RADIAL LEADS		
.15	25	4C023154X0250A3
.22	25	4C023224X0250A3
.33	25	4C023334X0250A3
.47	25	4C023474X0250A3
.68	25	4C023684X0250A3
1.0	25	4C023105X0250A3
1.5	25	4C023155X0250A3
TYPE 5C RADIAL LEADS		
.1	25	5C023104X0250B3
.15	25	5C023154X0250B3
.22	25	5C023224X0250B3
.33	25	5C023334X0250B3
.47	25	5C023474X0250B3
.68	25	5C023684X0250B3
1.0	25	5C023105X0250B3
1.5	25	5C023155X0250B3
2.2	25	5C023225X0250B3
3.3	25	5C023335X0250B3
TYPE 5C RADIAL LEADS		
.1	50	5C023104X0500B3
.15	50	5C023154X0500B3
.22	50	5C023224X0500B3
.33	50	5C023334X0500B3
.47	50	5C023474X0500B3
.68	50	5C023684X0500B3
1.0	50	5C023105X0500B3
1.5	50	5C023155X0500B3
TYPE 3C AXIAL LEADS		
.01	25	3C023103X0250B1
.015	25	3C023153X0250B1
.022	25	3C023223X0250B1
.033	25	3C023333X0250B1
.047	25	3C023473X0250B1
.068	25	3C023683X0250B1
.1	25	3C023104X0250B1
.15	25	3C023154X0250B1
.22	25	3C023224X0250B1
TYPE 4C AXIAL LEADS		
.15	25	4C023154X0250B1
.22	25	4C023224X0250B1
.33	25	4C023334X0250B1
.47	25	4C023474X0250B1
.68	25	4C023684X0250B1

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

TYPE 2C, 3C, 4C, 5C Monolythic Ceramic Capacitors
Formulation 067 ±10% Cap. Tol. 100 VDC

- Temperature-Stable; Developed For Application Requiring Stability of Capacitance Over a Wide Temperature Range
- High Capacitance Values in Small Physical Size
- For Complete Technical Data, See Latest Issue of Engineering Bulletin 6205

µF	Catalog Number
TYPE 2C RADIAL LEADS	
0.0018	2C067182X9191A3
0.0022	2C067222X9191A3
0.0027	2C067272X9191A3
0.0033	2C067332X9101A3
0.0039	2C067392X9101A3
0.0047	2C067472X9101A3
0.0056	2C067562X9101A3
0.0068	2C067682X9101A3
0.0082	2C067822X9101A3
0.01	2C067103X9101A3
0.015	2C067153X9101A3
0.018	2C067183X9101A3
0.022	2C067223X9101A3
0.033	2C067333X9101A3
0.039	2C067393X9101A3
0.047	2C067473X9101A3
0.056	2C067563X9101A3
0.068	2C067683X9101A3
0.082	2C067823X9101A3
0.1	2C067104X9101A3
TYPE 3C RADIAL LEADS	
0.0027	3C067272X9101A3
0.0033	3C067332X9101A3
0.0039	3C067392X9101A3
0.0047	3C067472X9101A3
0.0056	3C067562X9101A3
0.0068	3C067682X9101A3
0.0082	3C067822X9101A3
0.010	3C067103X9101A3
0.012	3C067123X9101A3
0.015	3C067153X9101A3
0.018	3C067183X9101A3
0.022	3C067223X9101A3
0.027	3C067273X9101A3
TYPE 4C RADIAL LEADS	
0.033	4C067333X9101A3
0.039	4C067393X9101A3
0.047	4C067473X9101A3
0.056	4C067563X9101A3
0.068	4C067683X9101A3
0.082	4C067823X9101A3
0.10	4C067104X9101A3
0.12	4C067124X9101A3
0.15	4C067154X9101A3
0.18	4C067184X9101A3
TYPE 5C RADIAL LEADS	
0.027	5C067273X9101B3
0.033	5C067333X9101B3
0.039	5C067393X9101B3
0.047	5C067473X9101B3
0.056	5C067563X9101B3
0.068	5C067683X9101B3
0.082	5C067823X9101B3
0.1	5C067104X9101B3
0.12	5C067124X9101B3
0.15	5C067154X9101B3
0.18	5C067184X9101B3
0.22	5C067224X9101B3
0.27	5C067274X9101B3
0.33	5C067334X9101B3
0.39	5C067394X9101B3
0.47	5C067474X9101B3
0.56	5C067564X9101B3
TYPE 3C AXIAL LEADS	
0.0027	3C067272X9101B1
0.0033	3C067332X9101B1
0.0039	3C067392X9101B1
0.0047	3C067472X9101B1
0.0056	3C067562X9101B1
0.0068	3C067682X9101B1
0.0082	3C067822X9101B1
0.010	3C067103X9101B1
0.012	3C067123X9101B1
0.015	3C067153X9101B1
0.018	3C067183X9101B1
0.022	3C067223X9101B1
0.027	3C067273X9101B1
TYPE 4C AXIAL LEADS	
0.033	4C067333X9101B1
0.039	4C067393X9101B1
0.047	4C067473X9101B1
0.056	4C067563X9101B1
0.068	4C067683X9101B1
0.082	4C067823X9101B1
0.10	4C067104X9101B1
0.12	4C067124X9101B1
0.15	4C067154X9101B1
0.18	4C067184X9101B1

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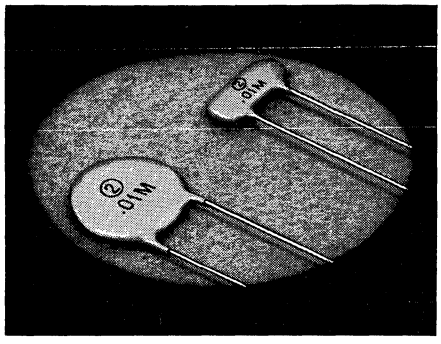
SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS



- Tiny, Tough, Dependable In Every Application
- Low Self-Inductance Of Silvered Flat-plate Design Means Very High By-pass Efficiency In All TV Circuits
- Flat-plate Construction Permits Higher Self-resonant Frequency Than Tubular Ceramic Or Molded Mica Capacitors
- Tough Moisture-proof Coating Protects Against Short-circuiting And Assures Good Performance Under Severe Conditions Of Humidity And Vibration
- Cera-mite Capacitors Easily Fit Into Tight Spaces, Even Across Subminiature Tube Sockets
- Designed For 85C (185F) Continuous Operation

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GENERAL APPLICATION TYPES

- Excellent Where Temperature Coefficient Is Not Important, Such As By-pass and Coupling Applications in IF and RF Circuits
- EIA Designation: 5GA=Z5U, TG=Z5U
- Low Cost, Smallest Size 1 kV General Application Type Available
- Same Characteristic Available In High Voltage At Low Cost

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
1000 WVDC (discs) ±20% Tol.			
5.0	5GA-V50	C023B102E5R0M	5/16 x 5/32
6.8	5GA-V68	C023B102E6R8M	5/16 x 5/32
7.5	5GA-V75	C023B102E7R5M	5/16 x 5/32
8.2	5GA-V82	C023B102E8R2M	5/16 x 5/32
10	5GA-Q10	C023B102E100M	5/16 x 5/32
12	5GA-Q12	C023B102E120M	5/16 x 5/32
15	5GA-Q15	C023B102E150M	5/16 x 5/32
18	5GA-Q18	C023B102E180M	5/16 x 5/32
20	5GA-Q20	C023B102E200M	5/16 x 5/32
22	5GA-Q22	C023B102E220M	5/16 x 5/32
25	5GA-Q25	C023B102E250M	5/16 x 5/32
27	5GA-Q27	C023B102E270M	5/16 x 5/32
30	5GA-Q30	C023B102E300M	5/16 x 5/32
33	5GA-Q33	C023B102E330M	5/16 x 5/32
39	5GA-Q39	C023B102E390M	5/16 x 5/32
47	5GA-Q47	C023B102E470M	5/16 x 5/32
50	5GA-Q50	C023B102E500M	5/16 x 5/32
56	5GA-Q56	C023B102E560M	5/16 x 5/32
68	5GA-Q68	C023B102E680M	5/16 x 5/32
75	5GA-Q75	C023B102E750M	5/16 x 5/32
82	5GA-Q82	C023B102E820M	5/16 x 5/32
100	5GA-T10	C023B102E101M	5/16 x 5/32
120	5GA-T12	C023B102E121M	5/16 x 5/32
150	5GA-T15	C023B102E151M	5/16 x 5/32
180	5GA-T18	C023B102E181M	5/16 x 5/32
200	5GA-T20	C023B102E201M	5/16 x 5/32
220	5GA-T22	C023B102E221M	5/16 x 5/32
250	5GA-T25	C023B102E251M	5/16 x 5/32
270	5GA-T27	C023B102E271M	5/16 x 5/32
300	5GA-T30	C023B102E301M	5/16 x 5/32
330	5GA-T33	C023B102E331M	5/16 x 5/32
360	5GA-T36	C023B102E361M	5/16 x 5/32
390	5GA-T39	C023B102E391M	5/16 x 5/32
470	5GA-T47	C023B102E471M	5/16 x 5/32
1000 WVDC (discs) (cont.)			
500	5GA-T50	C023B102E501M	5/16 x 5/32
560	5GA-T56	C023B102E561M	5/16 x 5/32
680	5GA-T68	C023B102E681M	5/16 x 5/32
750	5GA-T75	C023B102E751M	5/16 x 5/32
800	5GA-T80	C023B102E801M	5/16 x 5/32
820	5GA-T82	C023B102E821M	5/16 x 5/32
.001µF	5GA-D10	C023B102E102M	5/16 x 5/32
.0012	5GA-D12	C023B102E122M	5/16 x 5/32
.0015	5GA-D15	C023B102E152M	5/16 x 5/32
.0018	5GA-D18	C023B102F182M	3/8 x 5/32
.002	5GA-D20	C023B102F202M	3/8 x 5/32
.0022	5GA-D22	C023B102F222M	3/8 x 5/32
.0025	5GA-D25	C023B102F252M	3/8 x 5/32
.0027	5GA-D27	C023B102F272M	3/8 x 5/32
.003	5GA-D30	C023B102F302M	3/8 x 5/32
.0033	5GA-D33	C023B102G332M	7/16 x 5/32
.0039	5GA-D39	C023B102G392M	7/16 x 5/32
.004	5GA-D40	C023B102G402M	7/16 x 5/32
.0047	5GA-D47	C023B102H472M	1/2 x 5/32
.005	5GA-D50	C023B102H502M	1/2 x 5/32
.0068	5GA-D68	C023B102J682M	5/8 x 5/32
.0082	5GA-D82	C023B102K822M	5/8 x 5/32
.01	5GA-S10	C023A102J103M	5/8 x 5/32
.015	5GA-S15	C023A102M153M	3/4 x 5/32
.02	5GA-S20	C023A102P203M	7/8 x 5/32
500 WVDC(discs) ±20% Tol.			
.01µF	5GAS-S10	C023A501G103M	7/16 x 5/32
.02	5GAS-S20	C023A501J203M	5/8 x 5/32
.025	5GA-S25	C023A501L253M	11/16 x 5/32
.04	5GA-S40	C023A501P403M	7/8 x 5/32
.05	5GA-S50	33C17A	11/16 x 3/16
.1	5GA-P10	41C92A10	7/8 x 3/16
3000 WVDC (discs) ±20% Tol.			
1.5	30GA-V15	19C306	3/8 x 1/4
3.3	30GA-V33	19C307	3/8 x 1/4
4.7	30GA-V47	19C308	3/8 x 1/4
5.0	30GA-V50	19C309	3/8 x 1/4
6.0	30GA-V60	19C310	3/8 x 1/4
6.8	30GA-V68	19C311	3/8 x 1/4
7.5	30GA-V75	19C291	3/8 x 1/4
8.2	30GA-V82	19C290	3/8 x 1/4
10	30GA-Q10	19C312	3/8 x 1/4
12	30GA-Q12	19C313	3/8 x 1/4
15	30GA-Q15	19C314	3/8 x 1/4
18	30GA-Q18	19C292	3/8 x 1/4
20	30GA-Q20	19C315	3/8 x 1/4
22	30GA-Q22	19C316	3/8 x 1/4
25	30GA-Q25	19C317	3/8 x 1/4
27	30GA-Q27	19C318	3/8 x 1/4
30	30GA-Q30	19C319	3/8 x 1/4
33	30GA-Q33	19C320	3/8 x 1/4
39	30GA-Q39	19C321	3/8 x 1/4
47	30GA-Q47	19C322	3/8 x 1/4
50	30GA-Q50	19C323	3/8 x 1/4
56	30GA-Q56	19C324	3/8 x 1/4
60	30GA-Q60	19C325	3/8 x 1/4
62	30GA-Q62	19C326	3/8 x 1/4
68	30GA-Q68	19C327	3/8 x 1/4
75	30GA-Q75	19C328	3/8 x 1/4
82	30GA-Q82	20C184	7/16 x 1/4
100	30GA-T10	20C43	7/16 x 1/4
120	30GA-T12	20C44	7/16 x 1/4
150	30GA-T15	20C45	7/16 x 1/4
180	30GA-T18	20C46	7/16 x 1/4
200	30GA-T20	20C47	7/16 x 1/4

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SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS, continued

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
3000 WVDC (cont.)			
220	30GA-T22	20C48	7/16 x 1/4
250	30GA-T25	20C49	7/16 x 1/4
270	30GA-T27	20C50	7/16 x 1/4
300	30GA-T30	20C51	7/16 x 1/4
330	30GA-T33	20C28A	7/16 x 1/4
390	30GA-T39	20C176	7/16 x 1/4
400	30GA-T40	20C175	7/16 x 1/4
470	30GA-T47	29C289	19/32 x 1/4
500	30GA-T50	29C90	19/32 x 1/4
560	30GA-T56	29C290	19/32 x 1/4
680	30GA-T68	29C288	19/32 x 1/4
750	30GA-T75	29C298	19/32 x 1/4
820	30GA-T82	29C299	19/32 x 1/4
.001 μF	30GA-D10	29C300	19/32 x 1/4
.0012	30GA-D12	29C301	19/32 x 1/4
.0015	30GA-D15	29C302	19/32 x 1/4
.002	30GA-D20	29C303	19/32 x 1/4
.0022	30GA-D22	29C255A	19/32 x 1/4
.0025	30GA-D25	44C63	21/32 x 1/4
.0027	30GA-D27	44C65	21/32 x 1/4
.003	30GA-D30	33C31A1	11/16 x 1/4
.0033	30GA-D33	33C32A2	11/16 x 1/4
.0039	30GA-D39	36C155A	25/32 x 1/4
.004	30GA-D40	36C78A	25/32 x 1/4
.0047	30GA-D47	36C339	25/32 x 1/4
.005	30GA-D50	36C124A	25/32 x 1/4
.006	30GA-D60	41C34A	29/32 x 1/4
.0068	30GA-D68	41C153	29/32 x 1/4
.008	30GA-D80	41C151	29/32 x 1/4
.0082	30GA-D82	41C150	29/32 x 1/4
.01	30GA-S10	41C121A2	29/32 x 1/4
6000 WVDC (discs) ±20% Tol.			
1.5	60GA-V15	29C406	9/16 x 5/16
4.7	60GA-V47	29C407	9/16 x 5/16
6.8	60GA-V68	29C408	9/16 x 5/16
8.2	60GA-V82	29C409	9/16 x 5/16
10	60GA-Q10	29C410	9/16 x 5/16
12	60GA-Q12	29C411	9/16 x 5/16
15	60GA-Q15	29C412	9/16 x 5/16
18	60GA-Q18	29C413	9/16 x 5/16
20	60GA-Q20	29C414	9/16 x 5/16
22	60GA-Q22	29C415	9/16 x 5/16
25	60GA-Q25	29C416	9/16 x 5/16
27	60GA-Q27	29C417	9/16 x 5/16
30	60GA-Q30	29C418	9/16 x 5/16
33	60GA-Q33	29C419	9/16 x 5/16
39	60GA-Q39	29C420	9/16 x 5/16
47	60GA-Q47	29C421	9/16 x 5/16
50	60GA-Q50	29C422	9/16 x 5/16
56	60GA-Q56	29C423	9/16 x 5/16
60	60GA-Q60	29C424	9/16 x 5/16
68	60GA-Q68	29C425	9/16 x 5/16
75	60GA-Q75	29C426	9/16 x 5/16
82	60GA-Q82	29C427	9/16 x 5/16
100	60GA-T10	29C428	9/16 x 5/16
120	60GA-T12	29C429	9/16 x 5/16
150	60GA-T15	33C187	11/16 x 5/16
180	60GA-T18	33C188	11/16 x 5/16
200	60GA-T20	33C189	11/16 x 5/16
220	60GA-T22	33C190	11/16 x 5/16

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
6000 WVDC (cont.)			
250	60GA-T25	33C191	11/16 x 5/16
270	60GA-T27	33C192	11/16 x 5/16
300	60GA-T30	36C265	3/4 x 5/16
330	60GA-T33	36C266	3/4 x 5/16
390	60GA-T39	41C9A1	7/8 x 5/16
400	60GA-T40	41C142	7/8 x 5/16
470	60GA-T47	41C80A1	7/8 x 5/16
500	60GA-T50	33C185	11/16 x 5/16
560	60GA-T56	33C186	11/16 x 5/16
680	60GA-T68	33C107	11/16 x 5/16
750	60GA-T75	33C108	11/16 x 5/16
820	60GA-T82	33C109	11/16 x 5/16
.001 μF	60GA-D10	33C90A	11/16 x 5/16
.0012	60GA-D12	33C101	11/16 x 5/16
.0015	60GA-D15	36C253A	3/4 x 5/16
.0022	60GA-D22	41C152	7/8 x 5/16
.0025	60GA-D25	41C250	7/8 x 5/16
.0027	60GA-D27	41C251	7/8 x 5/16
.003	60GA-D30	41C252	7/8 x 5/16
.0033	60GA-D33	41C253	7/8 x 5/16
.0039	60GA-D39	41C254	7/8 x 5/16
.0047	60GA-D47	41C255	7/8 x 5/16

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
7500 WVDC (discs) ±20% Tol.			
4.7	75GA-V47	29C387	9/16 x 5/16
8.2	75GA-V82	29C380	9/16 x 5/16
10	75GA-Q10	29C382	9/16 x 5/16
12	75GA-Q12	29C383	9/16 x 5/16
15	75GA-Q15	29C378	9/16 x 5/16
18	75GA-Q18	29C379	9/16 x 5/16
20	75GA-Q20	29C405	9/16 x 5/16
22	75GA-Q22	29C118A	9/16 x 5/16
30	75GA-Q30	29C418A	9/16 x 5/16
33	75GA-Q33	29C419A	9/16 x 5/16
47	75GA-Q47	29C381	9/16 x 5/16
56	75GA-Q56	29C30A	9/16 x 5/16
100	75GA-T10	33C56A2	11/16 x 5/16
220	75GA-T22	33C224	11/16 x 5/16
470	75GA-T47	33C169	11/16 x 5/16
500	75GA-T50	44C89	21/32 x 5/16
560	75GA-T56	44C90	21/32 x 5/16
680	75GA-T68	44C92	21/32 x 5/16
750	75GA-T75	33C175	11/16 x 5/16
820	75GA-T82	33C177	11/16 x 5/16
.001 μF	75GA-D10	33C178	11/16 x 5/16
.0012	75GA-D12	36C334	3/4 x 5/16
.0015	75GA-D15	41C221	7/8 x 5/16
.0018	75GA-D18	41C223	7/8 x 5/16
.002	75GA-D20	41C224	7/8 x 5/16
.0022	75GA-D22	41C225	7/8 x 5/16
.0025	75GA-D25	41C226	7/8 x 5/16

HIGH-K TYPES

- Designed for By-Pass and Coupling Applications Where Additional Capacitance Will Not Affect Circuit Operation
- Smallest Physical Size
- EIA Designation: 5HK=Z5U
- 5HK-S10 thru 5HK-P10, **500 WVDC,** Capacitance Tolerance: +80 —20%
- All Other 5HK are **1000 WVDC,** Capacitance Tolerance: GMV

μF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
SINGLE UNITS			
.001	5HK-D10	C023B102E102P	5/16 x 5/32
.0015	5HK-D15	C023B102F152P	3/8 x 5/32
.002	5HK-D20	C023B102F202P	3/8 x 5/32
.0022	5HK-D22	C023B102G222P	7/16 x 5/32
.0033	5HK-D33	C023B102G332P	7/16 x 5/32
.0039	5HK-D39	C023B102H392P	1/2 x 5/32
.0047	5HK-D47	C023A102J472P	9/16 x 5/32
.005	5HK-D50	C023A102J502P	9/16 x 5/32
.0068	5HK-D68	C023A102K682P	5/8 x 5/32
.0082	5HK-D82	C023A102L822P	11/16 x 5/32
.01	5HK-S10	C023A102L103P	11/16 x 5/32
.01	5HKS-S10	C023B501G103Z	7/16 x 5/32
.015	5HK-S15	C023A501J153Z	9/16 x 5/32

μF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
SINGLE UNITS (cont.)			
.02	5HK-S20	C023A501J203Z	9/16 x 5/32
.025	5HK-S25	C023A501L253Z	11/16 x 5/32
.04	5HK-S40	44C124A	11/16 x 3/16
.05	5HK-S50	33C58	11/16 x 3/16
.1	5HK-P10	41C92	7/8 x 3/16
DUAL UNITS			
2 x .001	5HK-2D10	20C253	7/16 x 5/32
2 x .0015	5HK-2D15	55C67	1/2 x 5/32
2 x .002	5HK-2D20	29C175	9/16 x 5/32
2 x .0022	5HK-2D22	29C27	9/16 x 5/32
2 x .0047	5HK-2D47	36C330	3/4 x 5/32
2 x .01	5HK-2S10	41C238	7/8 x 5/32
2 x .02	5HK-2S20	41C219	7/8 x 7/32

MINIATURIZED DISC CERAMIC CAPACITORS FOR TRANSISTORIZED CIRCUITRY

- For Coupling and By-Pass Applications

Type TG Standard Tolerance ±20%
Sprague Products Sprague O.E.M.

μF	Volts	Sprague Products Cat. No.	Sprague O.E.M. Cat. No.	Size D. x T
.005	100	TG-D50	C023B101E502M	5/16 x 5/32
.01	100	TG-S10	C023B101F103M	3/8 x 5/32
.02	100	TG-S20	C023B101H203M	1/2 x 5/32
.025	100	TG-S25	C023B101H253M	1/2 x 5/32
.03	100	TG-S30	C023A101J303M	5/8 x 5/32
.05	100	TG-S50	55C23A7	1/2 x 5/32
.1	100	TG-P10	33C41B6	11/16 x 5/32
.05	100	TGL-S50	C023A101L503M	11/16 x 5/32

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SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS, continued

SEMI-STABLE TYPES

- Better Stability Than the General Application Types. • Tighter Tolerance of ±10% is Better Than General Application Types
- Ideal for Replacing Other Types of Capacitors Such as Molded Micas, Paper Tubulars, and Mylar Film Tubulars
- Available in 1KV and a Smaller Size 250 Volt Rating • Small Size, Low Cost • EIA Designation: 10SS=Z5P, 2SS=Z5P

SEMI-STABLE 250 WVDC STANDARD TOLERANCE ±10%

µF	Sprague Products Cat. No.	Sprague O.E.M. Part. No.	Size D. x T.	µF	Sprague Products Cat. No.	Sprague O.E.M. Part. No.	Size D. x T.	µF	Sprague Products Cat. No.	Sprague O.E.M. Part. No.	Size D. x T.
750pF	2SS-T75	C067B251E751K	5/16 x 5/32	.0022	2SS-D22	C067B251E222K	5/16 x 5/32	.0068	2SS-D68	C067A251J682K	9/16 x 5/32
820pF	2SS-T82	C067B251E821K	5/16 x 5/32	.0027	2SS-D27	C067B251G272K	7/16 x 5/32	.0082	2SS-D82	C067A251K822K	5/8 x 5/32
.001	2SS-D10	C067B251E102K	5/16 x 5/32	.0033	2SS-D33	C067B251G332K	7/16 x 5/32	.01	2SS-S10	C067A251L103K	11/16 x 5/32
.0012	2SS-D12	C067B251E122K	5/16 x 5/32	.0039	2SS-D39	C067B251G392K	7/16 x 5/32	.012	2SS-S12	29C527	9/16 x 7/32
.0015	2SS-D15	C067B251E152K	5/16 x 5/32	.0047	2SS-D47	C067B251H472K	1/2 x 5/32	.015	2SS-S15	44C136	11/16 x 7/32
.0018	2SS-D18	C067B251E182K	5/16 x 5/32	.005	2SS-D50	C067B251H502K	1/2 x 5/32	.018	2SS-S18	33C291	3/4 x 7/32
.002	2SS-D20	C067B251E202K	5/16 x 5/32	.0056	2SS-D56	C067A251J562K	9/16 x 5/32	.02	2SS-S20	33C292	3/4 x 7/32

SEMI-STABLE 1000 WVDC STANDARD TOLERANCE ±10%

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	µF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	µF	Sprague Products Cat. No.	Sprague O.E.M. Part. No.	Size D. x T.
470	10SS-T47	C067B102E471K	5/16 x 5/32	.0018	10SS-D18	C067B102G182K	7/16 x 5/32	.0068	10SS-D68	C067A102M682K	3/4 x 5/32
500	10SS-T50	C067B102E501K	5/16 x 5/32	.002	10SS-D20	C067B102G202K	7/16 x 5/32	.0082	10SS-D82	C067A102P822K	7/8 x 5/32
560	10SS-T56	C067B102E561K	5/16 x 5/32	.0022	10SS-D22	C067B102H222K	1/2 x 5/32	.010	10SS-S10	C067A102P103K	7/8 x 5/32
680	10SS-T68	C067B102E681K	5/16 x 5/32	.0027	10SS-D27	C067B102H272K	1/2 x 5/32	.012	10SS-S12	33C249A	3/4 x 7/32
750	10SS-T75	C067B102F751K	3/8 x 5/32	.0033	10SS-D33	C067A102J332K	9/16 x 5/32	.015	10SS-S15	41C299A	15/16 x 7/32
820	10SS-T82	C067B102F821K	3/8 x 5/32	.0039	10SS-D39	C067A102J392K	9/16 x 5/32	.018	10SS-S18	41C300A1	15/16 x 7/32
.001µF	10SS-D10	C067B102F102K	3/8 x 5/32	.0047	10SS-D47	C067A102K472K	5/8 x 5/32	.02	10SS-S20	41C301A1	15/16 x 7/32
.0012	10SS-D12	C067B102F122K	3/8 x 5/32	.005	10SS-D50	C067A102K502K	5/8 x 5/32	.022	10SS-S22	41C310A1	15/16 x 7/32
.0015	10SS-D15	C067B102G152K	7/16 x 5/32	.0056	10SS-D56	C067A102L562K	11/16 x 5/32				

TEMPERATURE-STABLE TYPES

- Used Where Minimum Capacitance Change With Temperature Is An Important Consideration • Rated at **1000 WVDC**
- Standard Capacitance Tolerance: ±10% except 10TS-S15, 10TS-S20, 10TS-S30 ±15%. • EIA Designation: 10TS=X5E

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.	µF	Sprague Products Cat. No.	Sprague O.E.M. Part. No.	Size D. x T.
3.3	10TS-V33	C028B102E3R3K	5/16 x 5/32	75	10TS-Q75	C028B102E750K	5/16 x 5/32	.001	10TS-D10	C106B102G102K	7/16 x 5/32
5.0	10TS-V50	C028B102E5R0K	5/16 x 5/32	82	10TS-Q82	C028B102E820K	5/16 x 5/32	.0012	10TS-D12	C016B102G122K	7/16 x 5/32
6.8	10TS-V68	C028B102E6R8K	5/16 x 5/32	91	10TS-Q91	C028B102E910K	5/16 x 5/32	.0015	10TS-D15	C016A102J152K	9/16 x 5/32
7.5	10TS-V75	C028B102E7R5K	5/16 x 5/32	100	10TS-T10	C028B102E101K	5/16 x 5/32	.0018	10TS-D18	C016A102J182K	9/16 x 5/32
8.2	10TS-V82	C028B102E8R2K	5/16 x 5/32	120	10TS-T12	C028B102E121K	5/16 x 5/32	.0020	10TS-D20	C016A102J202K	9/16 x 5/32
10	10TS-Q10	C028B102E100K	5/16 x 5/32	150	10TS-T15	C028B102E151K	5/16 x 5/32	.0022	10TS-D22	C016A102J222K	9/16 x 5/32
12	10TS-Q12	C028B102E120K	5/16 x 5/32	180	10TS-T18	C028B102E181K	5/16 x 5/32	.0025	10TS-D25	C016A102K252K	5/8 x 5/32
15	10TS-Q15	C028B102E150K	5/16 x 5/32	200	10TS-T20	C028B102E201K	5/16 x 5/32	.0027	10TS-D27	C016A102L272K	11/16 x 5/32
18	10TS-Q18	C028B102E180K	5/16 x 5/32	220	10TS-T22	C028B102E221K	5/16 x 5/32	.0030	10TS-D30	C016A102L302K	11/16 x 5/32
20	10TS-Q20	C028B102E200K	5/16 x 5/32	250	10TS-T25	C028B102E251K	5/16 x 5/32	.0033	10TS-D33	C016A102L332K	11/16 x 5/32
22	10TS-Q22	C028B102E220K	5/16 x 5/32	270	10TS-T27	C016B102E271K	5/16 x 5/32	.0039	10TS-D39	C016A102M392K	3/4 x 5/32
25	10TS-Q25	C028B102E250K	5/16 x 5/32	300	10TS-T30	C016B102E301K	5/16 x 5/32	.0040	10TS-D40	C016A102M402K	3/4 x 5/32
27	10TS-Q27	C028B102E270K	5/16 x 5/32	330	10TS-T33	C016B102E331K	5/16 x 5/32	.0047	10TS-D47	C016A102P472K	7/8 x 5/32
30	10TS-Q30	C028B102E300K	5/16 x 5/32	390	10TS-T39	C016B102E391K	5/16 x 5/32	.0050	10TS-D50	C016A102P502K	7/8 x 5/32
33	10TS-Q33	C028B102E330K	5/16 x 5/32	470	10TS-T47	C016B102F471K	3/8 x 5/32	.0056	10TS-D56	C016A102P562K	7/8 x 5/32
39	10TS-Q39	C028B102E390K	5/16 x 5/32	500	10TS-T50	C016B102F501K	3/8 x 5/32	.0068	10TS-D68	36C108A	13/16 x 7/32
47	10TS-Q47	C028B102E470K	5/16 x 5/32	560	10TS-T56	C016B102F561K	3/8 x 5/32	.0075	10TS-D75	36C395	13/16 x 7/32
50	10TS-Q50	C028B102E500K	5/16 x 5/32	680	10TS-T68	C016B102F681K	3/8 x 5/32	.0082	10TS-D82	41C306A	15/16 x 7/32
56	10TS-Q56	C028B102E560K	5/16 x 5/32	750	10TS-T75	C016B102F751K	3/8 x 5/32	.01	10TS-S10	41C121A1	15/16 x 7/32
68	10TS-Q68	C028B102E680K	5/16 x 5/32	820	10TS-T82	C016B102G821K	7/16 x 5/32				

DISC CERAMICS FOR AC APPLICATIONS

- Rated at 125 VAC or 1400 VDC • Standard Tolerance ±20%
- For AC Line Bypass Application • Heavy Duty for Long Life
- May Be Connected Across the Line or Chassis to Line

µF	Sprague Products Catalog No.	Sprague O.E.M. Part No.	D. x T.
.001	125L-D10	19C251	3/8 x 7/32
.0015	125L-D15	19C252	3/8 x 7/32
.002	125L-D20	19C253	3/8 x 7/32
.0047	125L-D47	29C145	9/16 x 7/32
.005	125L-D50	29C145A	9/16 x 7/32
.01	125L-S10	36C218	3/4 x 7/32
.02	125L-S20	36C220	3/4 x 1/4
2 x .005	125L-2D50	29C147	9/16 x 1/4
2 x .01	125L-2S10	36C219	3/4 x 1/4

DISC CERAMICS FOR BUFFER APPLICATIONS

- Rated at 2000 WVDC • Standard Tolerance ±20%

µF	Sprague Products Catalog No.	Sprague O.E.M. Part No.	D. x T.
.001	BL-D10	29C162	9/16 x 7/32
.002	BL-D20	29C163	9/16 x 7/32
.003	BL-D30	29C164	9/16 x 7/32
.004	BL-D40	29C165	9/16 x 7/32
.005	BL-D50	29C251	9/16 x 7/32
.006	BL-D60	44C126	11/16 x 7/32
.007	BL-D70	33C82	11/16 x 7/32
.0075	BL-D75	33C81	11/16 x 7/32
.008	BL-D80	33C84	11/16 x 7/32
.01	BL-S10	36C151	3/4 x 7/32

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SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS, continued

TEMPERATURE-COMPENSATING AND NPO TYPES

- Zero Temperature-coefficient Capacitors used Where Capacitance Change with Temperature is Undesirable
- Superior to Silvered-mica Types in Stability, High "Q", and Insulation Resistance
- Units listed below are discs
- Eliminate oscillator drift in TV, FM, VHF and AM receivers
- Negative Temperature Coefficient is 30 ppm/°C for N030 types, 80 ppm/°C for N080 types, 150 ppm/°C for N150 types, 220 ppm/°C for N220 types, 330 ppm/°C for N330 types, 470 ppm/°C for N470 types, 750 ppm/°C for N750 types, 1500 ppm/°C for N1500 types and 2200 ppm/°C for N2200 types.
- Standard Capacitance Tolerance of 5pF and up; ±5%. On 4.7 pF and below: ±.25pF
- Rated at **1000 WVDC**
- For Use in Tuned Circuits
- Temperature-compensating Types Have a Linear Negative Coefficient Curve
- Available in Standard 5% Decade Values in NPO and N030 thru N2200 Coefficients

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
		NPO	
1.0	10TCC-V10	C030B102S1R0D	3/8 x 1/4
1.2	10TCC-V12	C030B102S1R2D	3/8 x 1/4
1.5	10TCC-V15	C030B102S1R5D	3/8 x 1/4
1.8	10TCC-V18	C030B102S1R8D	3/8 x 1/4
2.2	10TCC-V22	C030B102S2R2D	3/8 x 1/4
2.7	10TCC-V27	C030B102S2R7D	3/8 x 1/4
3.0	10TCC-V30	C030B102S3R0D	3/8 x 1/4
3.3	10TCC-V33	C030B102E3R3D	5/16 x 5/32
3.9	10TCC-V39	C030B102E3R9D	5/16 x 5/32
4.7	10TCC-V47	C030B102E4R7D	5/16 x 5/32
5.0	10TCC-V50	C030B102E5R0D	5/16 x 5/32
5.6	10TCC-V56	C030B102E5R6D	5/16 x 5/32
6.8	10TCC-V68	C030B102E6R8D	5/16 x 5/32
8.2	10TCC-V82	C030B102E8R2D	5/16 x 5/32
10	10TCC-Q10	C030B102E100J	5/16 x 5/32
12	10TCC-Q12	C030B102E120J	5/16 x 5/32
15	10TCC-Q15	C030B102E150J	5/16 x 5/32
18	10TCC-Q18	C030B102F180J	3/8 x 5/32
20	10TCC-Q20	C030B102F200J	3/8 x 5/32
22	10TCC-Q22	C030B102F220J	3/8 x 5/32
25	10TCC-Q25	C030B102F250J	3/8 x 5/32
27	10TCC-Q27	C030B102G270J	7/16 x 5/32
30	10TCC-Q30	C030B102G300J	7/16 x 5/32
33	10TCC-Q33	C030B102G330J	7/16 x 5/32
39	10TCC-Q39	C030B102G390J	7/16 x 5/32
47	10TCC-Q47	C030B102H470J	1/2 x 5/32
50	10TCC-Q50	C030B102H500J	1/2 x 5/32
56	10TCC-Q56	C030A102J560J	9/16 x 5/32
68	10TCC-Q68	C030A102J680J	9/16 x 5/32
75	10TCC-Q75	C030A102J750J	9/16 x 5/32
82	10TCC-Q82	C030A102K820J	5/8 x 5/32
100	10TCC-T10	C030A102L101J	11/16 x 5/32
120	10TCC-T12	C030A102L121J	11/16 x 5/32
150	10TCC-T15	C030A102M151J	3/4 x 5/32
180	10TCC-T18	C030A102P181J	7/8 x 5/32
200	10TCC-T20	C030A102P201J	7/8 x 5/32
220	10TCC-T22	33C182	3/4 x 7/32
270	10TCC-T27	36C27A2	13/16 x 7/32
300	10TCC-T30	36C337	13/16 x 7/32
330	10TCC-T33	41C145	15/16 x 7/32
390	10TCC-T39	41C272	15/16 x 7/32
		N030	
1.0	10TCM-V10	C025B102S1R0D	3/8 x 1/4
1.2	10TCM-V12	C025B102S1R2D	3/8 x 1/4
1.5	10TCM-V15	C025B102S1R5D	3/8 x 1/4
1.8	10TCM-V18	C025B102S1R8D	3/8 x 1/4
2.2	10TCM-V22	C025B102S2R2D	3/8 x 1/4
2.7	10TCM-V27	C025B102S2R7D	3/8 x 1/4
3.0	10TCM-V30	C025B102S3R0D	3/8 x 1/4
3.3	10TCM-V33	C025B102S3R3D	3/8 x 1/4
3.9	10TCM-V39	C025B102S3R9D	3/8 x 1/4
4.7	10TCM-V47	C025B102E4R7D	5/16 x 5/32
5.0	10TCM-V50	C025B102E5R0D	5/16 x 5/32
5.6	10TCM-V56	C025B102E5R6D	5/16 x 5/32
6.8	10TCM-V68	C025B102E6R8D	5/16 x 5/32
8.2	10TCM-V82	C025B102E8R2D	5/16 x 5/32
10	10TCM-Q10	C025B102E100J	5/16 x 5/32
12	10TCM-Q12	C025B102E120J	5/16 x 5/32
15	10TCM-Q15	C025B102E150J	5/16 x 5/32
18	10TCM-Q18	C025B102F180J	3/8 x 5/32
20	10TCM-Q20	C025B102F200J	3/8 x 5/32
22	10TCM-Q22	C025B102F220J	3/8 x 5/32
25	10TCM-Q25	C025B102F250J	3/8 x 5/32
27	10TCM-Q27	C025B102G270J	7/16 x 5/32
30	10TCM-Q30	C025B102G300J	7/16 x 5/32
33	10TCM-Q33	C025B102G330J	7/16 x 5/32
39	10TCM-Q39	C025B102G390J	7/16 x 5/32
47	10TCM-Q47	C025B102H470J	1/2 x 5/32
50	10TCM-Q50	C025B102H500J	1/2 x 5/32
56	10TCM-Q56	C025B102H560J	1/2 x 5/32
68	10TCM-Q68	C025A102J680J	9/16 x 5/32
75	10TCM-Q75	C025A102J750J	9/16 x 5/32
82	10TCM-Q82	C025A102K820J	5/8 x 5/32
100	10TCM-T10	C025A102K101J	5/8 x 5/32
120	10TCM-T12	C025A102L121J	11/16 x 5/32
150	10TCM-T15	C025A102M151J	3/4 x 5/32
180	10TCM-T18	C025A102P181J	7/8 x 5/32
200	10TCM-T20	C025A102P201J	7/8 x 5/32
220	10TCM-T22	C025A102P221J	7/8 x 5/32
270	10TCM-T27	33C196	3/4 x 7/32
300	10TCM-T30	36C308	13/16 x 7/32
330	10TCM-T33	41C244	15/16 x 7/32
390	10TCM-T39	41C273	15/16 x 7/32
		N080	
2.2	10TCN-V22	C026B102S2R2D	3/8 x 1/4
2.7	10TCN-V27	C026B102S2R7D	3/8 x 1/4
3.0	10TCN-V30	C026B102S3R0D	3/8 x 1/4
3.3	10TCN-V33	C026B102S3R3D	3/8 x 1/4
3.9	10TCN-V39	C026B102S3R9D	3/8 x 1/4
4.7	10TCN-V47	C026B102S4R7D	3/8 x 1/4
5.0	10TCN-V50	C026B102E5R0D	5/16 x 5/32
5.6	10TCN-V56	C026B102E5R6D	5/16 x 5/32
6.8	10TCN-V68	C026B102E6R8D	5/16 x 5/32
8.2	10TCN-V82	C026B102E8R2D	5/16 x 5/32
10	10TCN-Q10	C026B102E100J	5/16 x 5/32
12	10TCN-Q12	C026B102E120J	5/16 x 5/32
15	10TCN-Q15	C026B102E150J	5/16 x 5/32
18	10TCN-Q18	C026B102F180J	3/8 x 5/32
20	10TCN-Q20	C026B102F200J	3/8 x 5/32
22	10TCN-Q22	C026B102F220J	3/8 x 5/32
25	10TCN-Q25	C026B102F250J	3/8 x 5/32
27	10TCN-Q27	C026B102F270J	3/8 x 5/32
30	10TCN-Q30	C026B102G300J	7/16 x 5/32
33	10TCN-Q33	C026B102G330J	7/16 x 5/32
39	10TCN-Q39	C026B102G390J	7/16 x 5/32
47	10TCN-Q47	C026B102H470J	1/2 x 5/32
50	10TCN-Q50	C026B102H500J	1/2 x 5/32
56	10TCN-Q56	C026B102H560J	1/2 x 5/32
68	10TCN-Q68	C026A102J680J	9/16 x 5/32
75	10TCN-Q75	C026A102J750J	9/16 x 5/32
82	10TCN-Q82	C026A102J820J	9/16 x 5/32
100	10TCN-T10	C026A102K101J	5/8 x 5/32
120	10TCN-T12	C026A102L121J	11/16 x 5/32
150	10TCN-T15	C026A102L151J	11/16 x 5/32
180	10TCN-T18	C026A102P181J	7/8 x 5/32
200	10TCN-T20	C026A102P201J	7/8 x 5/32
220	10TCN-T22	C026A102P221J	7/8 x 5/32
270	10TCN-T27	33C219	3/4 x 7/32
300	10TCN-T30	33C197	3/4 x 7/32
330	10TCN-T33	36C325	13/16 x 7/32
390	10TCN-T39	41C274	15/16 x 7/32
470	10TCN-T47	41C222	15/16 x 7/32
		N150	
2.2	10TCP-V22	C032B102S2R2D	3/8 x 1/4
2.7	10TCP-V27	C032B102S2R7D	3/8 x 1/4
3.0	10TCP-V30	C032B102S3R0D	3/8 x 1/4
3.3	10TCP-V33	C032B102S3R3D	3/8 x 1/4
3.9	10TCP-V39	C032B102S3R9D	3/8 x 1/4
4.7	10TCP-V47	C032B102S4R7D	3/8 x 1/4
5.0	10TCP-V50	C032B102S5R0D	3/8 x 1/4
5.6	10TCP-V56	C032B102E5R6D	5/16 x 5/32
6.8	10TCP-V68	C032B102E6R8D	5/16 x 5/32
8.2	10TCP-V82	C032B102E8R2D	5/16 x 5/32
10	10TCP-Q10	C032B102E100J	5/16 x 5/32
12	10TCP-Q12	C032B102E120J	5/16 x 5/32
15	10TCP-Q15	C032B102E150J	5/16 x 5/32
18	10TCP-Q18	C032B102E180J	5/16 x 5/32
20	10TCP-Q20	C032B102F200J	3/8 x 5/32
22	10TCP-Q22	C032B102F220J	3/8 x 5/32
25	10TCP-Q25	C032B102F250J	3/8 x 5/32
27	10TCP-Q27	C032B102F270J	3/8 x 5/32
30	10TCP-Q30	C032B102F300J	3/8 x 5/32
33	10TCP-Q33	C032B102G330J	7/16 x 5/32
39	10TCP-Q39	C032B102G390J	7/16 x 5/32
47	10TCP-Q47	C032B102G470J	7/16 x 5/32
50	10TCP-Q50	C032B102G500J	7/16 x 5/32
56	10TCP-Q56	C032B102H560J	1/2 x 5/32
68	10TCP-Q68	C032B102H680J	1/2 x 5/32
75	10TCP-Q75	C032A102J750J	9/16 x 5/32
82	10TCP-Q82	C032A102J820J	9/16 x 5/32
100	10TCP-T10	C032A102K101J	5/8 x 5/32
120	10TCP-T12	C032A102K121J	5/8 x 5/32
150	10TCP-T15	C032A102L151J	11/16 x 5/32
180	10TCP-T18	C032A102M181J	3/4 x 5/32
200	10TCP-T20	C032A102P201J	7/8 x 5/32
220	10TCP-T22	C032A102P221J	7/8 x 5/32
270	10TCP-T27	33C220	3/4 x 7/32
300	10TCP-T30	33C221	3/4 x 7/32
330	10TCP-T33	36C315	13/16 x 7/32
390	10TCP-T39	41C231	15/16 x 7/32
470	10TCP-T47	41C275	15/16 x 7/32
		N220	
3.0	10TCR-V30	C033B102S3R0D	3/8 x 1/4
3.3	10TCR-V33	C033B102S3R3D	3/8 x 1/4
3.9	10TCR-V39	C033B102S3R9D	3/8 x 1/4
4.7	10TCR-V47	C033B102S4R7D	3/8 x 1/4

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SPRAGUE CAPACITORS

CERA-MITE® CERAMIC CAPACITORS, continued

pF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	Size D. x T.
N220 (cont.)			
5.0	10TCR-V50	C033B102S5R0D	3/8 x 1/4
5.6	10TCR-V56	C033B102S5R6D	3/8 x 1/4
6.8	10TCR-V68	C033B102E6R8D	5/16 x 5/32
8.2	10TCR-V82	C033B102E8R2D	5/16 x 5/32
10	10TCR-Q10	C033B102E100J	5/16 x 5/32
12	10TCR-Q12	C033B102E120J	5/16 x 5/32
15	10TCR-Q15	C033B102E150J	5/16 x 5/32
18	10TCR-Q18	C033B102E180J	5/16 x 5/32
20	10TCR-Q20	C033B102E200J	5/16 x 5/32
22	10TCR-Q22	C033B102F220J	3/8 x 5/32
25	10TCR-Q25	C033B102F250J	3/8 x 5/32
27	10TCR-Q27	C033B102F270J	3/8 x 5/32
30	10TCR-Q30	C033B102F300J	3/8 x 5/32
33	10TCR-Q33	C033B102F330J	3/8 x 5/32
39	10TCR-Q39	C033B102G390J	7/16 x 5/32
47	10TCR-Q47	C033B102G470J	7/16 x 5/32
50	10TCR-Q50	C033B102G500J	7/16 x 5/32
56	10TCR-Q56	C033B102G560J	7/16 x 5/32
68	10TCR-Q68	C033B102H680J	1/2 x 5/32
75	10TCR-Q75	C033B102H750J	1/2 x 5/32
82	10TCR-Q82	C033A102J820J	9/16 x 5/32
100	10TCR-T10	C033A102J101J	9/16 x 5/32
120	10TCR-T12	C033A102K121J	5/8 x 5/32
150	10TCR-T15	C033A102L151J	11/16 x 5/32
180	10TCR-T18	C033A102M181J	3/4 x 5/32
200	10TCR-T20	C033A102M201J	3/4 x 5/32
220	10TCR-T22	C033A102P221J	7/8 x 5/32
270	10TCR-T27	C033A102P271J	7/8 x 5/32
300	10TCR-T30	C033A102P301J	7/8 x 5/32
330	10TCR-T33	33C199	3/4 x 7/32
390	10TCR-T39	36C321	13/16 x 7/32
470	10TCR-T47	41C235	15/16 x 7/32
560	10TCR-T56	41C277	15/16 x 7/32
N330			
3.0	10TCS-V30	C034B102S3R0D	3/8 x 1/4
3.3	10TCS-V33	C034B102S3R3D	3/8 x 1/4
3.9	10TCS-V39	C034B102S3R9D	3/8 x 1/4
4.7	10TCS-V47	C034B102S4R7D	3/8 x 1/4
5.0	10TCS-V50	C034B102S5R0D	3/8 x 1/4
5.6	10TCS-V56	C034B102S5R6D	3/8 x 1/4
6.8	10TCS-V68	C034B102S6R8D	3/8 x 1/4
8.2	10TCS-V82	C034B102E8R2D	5/16 x 5/32
10	10TCS-Q10	C034B102E100J	5/16 x 5/32
12	10TCS-Q12	C034B102E120J	5/16 x 5/32
15	10TCS-Q15	C034B102E150J	5/16 x 5/32
18	10TCS-Q18	C034B102E180J	5/16 x 5/32
20	10TCS-Q20	C034B102E200J	5/16 x 5/32
22	10TCS-Q22	C034B102E220J	5/16 x 5/32
25	10TCS-Q25	C034B102F250J	3/8 x 5/32
27	10TCS-Q27	C034B102F270J	3/8 x 5/32
30	10TCS-Q30	C034B102F300J	3/8 x 5/32
33	10TCS-Q33	C034B102F330J	3/8 x 5/32
39	10TCS-Q39	C034B102G390J	7/16 x 5/32
47	10TCS-Q47	C034B102G470J	7/16 x 5/32
50	10TCS-Q50	C034B102G500J	7/16 x 5/32
56	10TCS-Q56	C034B102G560J	7/16 x 5/32
68	10TCS-Q68	C034B102H680J	1/2 x 5/32
75	10TCS-Q75	C034B102H750J	1/2 x 5/32
82	10TCS-Q82	C034A102J820J	9/16 x 5/32
100	10TCS-T10	C034A102J101J	9/16 x 5/32
120	10TCS-T12	CC34A102K121J	5/8 x 5/32
150	10TCS-T15	C034A102L151J	11/16 x 5/32
180	10TCS-T18	C034A102M181J	3/4 x 5/32
200	10TCS-T20	C034A102M201J	3/4 x 5/32
220	10TCS-T22	C034A102P221J	7/8 x 5/32
270	10TCS-T27	C034A102P271J	7/8 x 5/32
300	10TCS-T30	C034A102P301J	7/8 x 5/32
330	10TCS-T33	33C241	3/4 x 7/32
390	10TCS-T39	36C318	13/16 x 7/32
470	10TCS-T47	41C276	15/16 x 7/32
560	10TCS-T56	41C278	15/16 x 7/32
N470			
3.0	10TCT-V30	C035B102S3R0D	3/8 x 1/4
3.3	10TCT-V33	C035B102S3R3D	3/8 x 1/4
3.9	10TCT-V39	C035B102S3R9D	3/8 x 1/4
4.7	10TCT-V47	C035B102S4R7D	3/8 x 1/4
5.0	10TCT-V50	C035B102S5R0D	3/8 x 1/4
5.6	10TCT-V56	C035B102S5R6D	3/8 x 1/4
6.8	10TCT-V68	C035B102S6R8D	3/8 x 1/4
8.2	10TCT-V82	C035B102S8R2D	3/8 x 1/4
10	10TCT-Q10	C035B102E100J	5/16 x 5/32
12	10TCT-Q12	C035B102E120J	5/16 x 5/32
15	10TCT-Q15	C035B102E150J	5/16 x 5/32
18	10TCT-Q18	C035B102E180J	5/16 x 5/32
20	10TCT-Q20	C035B102E200J	5/16 x 5/32
22	10TCT-Q22	C035B102E220J	5/16 x 5/32
25	10TCT-Q25	C035B102E250J	5/16 x 5/32
27	10TCT-Q27	C035B102F270J	3/8 x 5/32
30	10TCT-Q30	C035B102F300J	3/8 x 5/32
33	10TCT-Q33	C035B102F330J	3/8 x 5/32
39	10TCT-Q39	C035B102F390J	3/8 x 5/32
47	10TCT-Q47	C035B102F470J	3/8 x 5/32
50	10TCT-Q50	C035B102G500J	7/16 x 5/32
56	10TCT-Q56	C035B102G560J	7/16 x 5/32
68	10TCT-Q68	C035B102G680J	7/16 x 5/32
75	10TCT-Q75	C035B102G750J	7/16 x 5/32
82	10TCT-Q82	C035B102H820J	1/2 x 5/32
100	10TCT-T10	C035B102H101J	1/2 x 5/32
120	10TCT-T12	C035A102J121J	9/16 x 5/32
150	10TCT-T15	C035A102K151J	5/8 x 5/32
180	10TCT-T18	C035A102K181J	5/8 x 5/32
200	10TCT-T20	C035A102L201J	11/16 x 5/32
220	10TCT-T22	C035A102L221J	11/16 x 5/32
270	10TCT-T27	C035A102M271J	3/4 x 5/32
300	10TCT-T30	C035A102P301J	7/8 x 5/32
330	10TCT-T33	C035A102P331J	7/8 x 5/32
390	10TCT-T39	C035A102P391J	7/8 x 5/32
470	10TCT-T47	36C344	13/16 x 7/32
560	10TCT-T56	41C248	15/16 x 7/32
680	10TCT-T68	41C291	15/16 x 7/32
750	10TCT-T75	41C292	15/16 x 7/32
N750			
4.7	10TCU-V47	C036B102S4R7D	3/8 x 1/4
5.0	10TCU-V50	C036B102S5R0D	3/8 x 1/4
5.6	10TCU-V56	C036B102S5R6D	3/8 x 1/4
6.8	10TCU-V68	C036B102S6R8D	3/8 x 1/4
8.2	10TCU-V82	C036B102S8R2D	3/8 x 1/4
10	10TCU-Q10	C036B102S100J	3/8 x 1/4
12	10TCU-Q12	C036B102E120J	5/16 x 5/32
15	10TCU-Q15	C036B102E150J	5/16 x 5/32
18	10TCU-Q18	C036B102E180J	5/16 x 5/32
20	10TCU-Q20	C036B102E200J	5/16 x 5/32
22	10TCU-Q22	C036B102E220J	5/16 x 5/32
25	10TCU-Q25	C036B102E250J	5/16 x 5/32
27	10TCU-Q27	C036B102E270J	5/16 x 5/32
30	10TCU-Q30	C036B102E300J	5/16 x 5/32
33	10TCU-Q33	C036B102E330J	5/16 x 5/32
39	10TCU-Q39	C036B102F390J	3/8 x 5/32
47	10TCU-Q47	C036B102F470J	3/8 x 5/32
50	10TCU-Q50	C036B102F500J	3/8 x 5/32
56	10TCU-Q56	C036B102F560J	3/8 x 5/32
68	10TCU-Q68	C036B102G680J	7/16 x 5/32
75	10TCU-Q75	C036B102G750J	7/16 x 5/32
82	10TCU-Q82	C036B102G820J	7/16 x 5/32
100	10TCU-T10	C036B102H101J	1/2 x 5/32
120	10TCU-T12	C036B102H121J	1/2 x 5/32
150	10TCU-T15	C036A102J151J	9/16 x 5/32
180	10TCU-T18	C036A102K181J	5/8 x 5/32
200	10TCU-T20	C036A102K201J	5/8 x 5/32
220	10TCU-T22	C036A102K221J	5/8 x 5/32
270	10TCU-T27	C036A102L271J	11/16 x 5/32
300	10TCU-T30	C036A102M301J	3/4 x 5/32
330	10TCU-T33	C036A102M331J	3/4 x 5/32
390	10TCU-T39	C036A102P391J	7/8 x 5/32
470	10TCU-T47	C036A102P471J	7/8 x 5/32
560	10TCU-T56	33C238	3/4 x 7/32
680	10TCU-T68	36C348	13/16 x 7/32
750	10TCU-T75	41C293	15/16 x 7/32
820	10TCU-T82	41C294	15/16 x 7/32
1000	10TCU-D10	41C295	15/16 x 7/32
N1500			
10	10TCW-Q10	C048B102S100J	3/8 x 1/4
12	10TCW-Q12	C048B102S120J	3/8 x 1/4
15	10TCW-Q15	C048B102S150J	3/8 x 1/4
18	10TCW-Q18	C048B102E180J	5/16 x 5/32
20	10TCW-Q20	C048B102E200J	5/16 x 5/32
22	10TCW-Q22	C048B102E220J	5/16 x 5/32
25	10TCW-Q25	C048B102E250J	5/16 x 5/32
27	10TCW-Q27	C048B102E270J	5/16 x 5/32
30	10TCW-Q30	C048B102E300J	5/16 x 5/32
33	10TCW-Q33	C048B102E330J	5/16 x 5/32
39	10TCW-Q39	C048B102E390J	5/16 x 5/32
47	10TCW-Q47	C048B102F470J	3/8 x 5/32
50	10TCW-Q50	C048B102F500J	3/8 x 5/32
56	10TCW-Q56	C048B102F560J	3/8 x 5/32
68	10TCW-Q68	C048B102F680J	3/8 x 5/32
75	10TCW-Q75	C048B102G750J	7/16 x 5/32
82	10TCW-Q82	C048B102G820J	7/16 x 5/32
100	10TCW-T10	C048B102G101J	7/16 x 5/32
120	10TCW-T12	C048B102G121J	7/16 x 5/32
150	10TCW-T15	C048B102H151J	1/2 x 5/32
180	10TCW-T18	C048A102J181J	9/16 x 5/32
200	10TCW-T20	C048A102J201J	9/16 x 5/32
220	10TCW-T22	C048A102K221J	5/8 x 5/32
270	10TCW-T27	C048A102K271J	5/8 x 5/32
300	10TCW-T30	C048A102L301J	11/16 x 5/32
330	10TCW-T33	C048A102L331J	11/16 x 5/32
390	10TCW-T39	C048A102M391J	3/4 x 5/32
470	10TCW-T47	C048A102P471J	7/8 x 5/32
560	10TCW-T56	C048A102P561J	7/8 x 5/32
680	10TCW-T68	33C263	3/4 x 7/32
750	10TCW-T75	36C363	13/16 x 7/32
820	10TCW-T82	36C364	13/16 x 7/32
1000	10TCW-D10	41C331	15/16 x 7/32
1200	10TCW-D12	41C332	15/16 x 7/32
N2200			
10	10TCY-Q10	C041B102S100J	3/8 x 1/4
12	10TCY-Q12	C041B102S120J	3/8 x 1/4
15	10TCY-Q15	C041B102S150J	3/8 x 1/4
18	10TCY-Q18	C041B102S180J	3/8 x 1/4
20	10TCY-Q20	C041B102S200J	3/8 x 1/4
22	10TCY-Q22	C041B102E220J	5/16 x 5/32
25	10TCY-Q25	C041B102E250J	5/16 x 5/32
27	10TCY-Q27	C041B102E270J	5/16 x 5/32
30	10TCY-Q30	C041B102E300J	5/16 x 5/32
33	10TCY-Q33	C041B102E330J	5/16 x 5/32
39	10TCY-Q39	C041B102E390J	5/16 x 5/32
47	10TCY-Q47	C041B102E470J	5/16 x 5/32
50	10TCY-Q50	C041B102E500J	5/16 x 5/32
56	10TCY-Q56	C041B102E560J	5/16 x 5/32
68	10TCY-Q68	C041B102E680J	5/16 x 5/32
75	10TCY-Q75	C041B102E750J	5/16 x 5/32
82	10TCY-Q82	C041B102F820J	3/8 x 5/32
100	10TCY-T10	C041B102F101J	3/8 x 5/32
120	10TCY-T12	C041B102F121J	3/8 x 5/32
150	10TCY-T15	C104B102G151J	7/16 x 5/32
180	10TCY-T18	C041B102G181J	7/16 x 5/32
200	10TCY-T20	C041B102G201J	7/16 x 5/32
220	10TCY-T22	C041B102H221J	1/2 x 5/32
270	10TCY-T27	C041B102H271J	1/2 x 5/32
300	10TCY-T30	C041A102J301J	9/16 x 5/32
330	10TCY-T33	C041A102J331J	9/16 x 5/32
390	10TCY-T39	C041A102J391J	9/16 x 5/32
470	10TCY-T47	C041A102K471J	5/8 x 5/32
560	10TCY-T56	C041A102L561J	11/16 x 5/32
680	10TCY-T68	C041A102M681J	3/4 x 5/32
750	10TCY-T75	C041A102M751J	3/4 x 5/32
820	10TCY-T82	C041A102P821J	7/8 x 5/32
1000	10TCY-D10	C041A102P102J	7/8 x 5/32
1200	10TCY-D12	33C264	3/4 x 7/32
1500	10TCY-D15	36C365	13/16 x 7/32
1800	10TCY-D18	41C333	15/16 x 7/32
2000	10TCY-D20	41C334	15/16 x 7/32
2200	10TCY-D22	41C335	15/16 x 7/32

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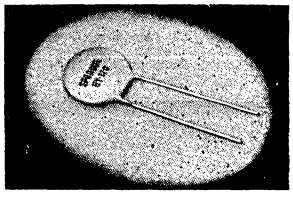
SPRAGUE CAPACITORS

HYPERCON® CERAMIC DISCS



- Superior to Electrolytic Capacitors of Similar Capacitance Values because of the Very Low Power Factor of Hypercons
- Ultra-miniature Ceramic Discs Ideal for use in Transistorized Circuitry
- Designed for By-pass and Coupling Applications but Particularly Well-suited for any Low Voltage use Where High Capacitance and Low Power Factor are Important Considerations
- Tolerance: +80 −20%

μF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	D. x T.
3 VOLTS D-C			
.1	HY-120	C052B3R0C104Z	1/4 x 5/32
.22	HY-125	C052B3R0E224Z	5/16 x 5/32
.33	HY-128	C052B3R0F334Z	3/8 x 5/32
.47	HY-130	C052B3R0G474Z	7/16 x 5/32
.68	HY-132	C052B3R0H684Z	1/2 x 5/32
1.0	HY-135	C052B3R0K105Z	5/8 x 5/32
2.2	HY-150	C052A3R0P225Z	7/8 x 5/32
10 VOLTS D-C			
.047	HY-310	C052B100E473Z	5/16 x 5/32
.068	HY-315	C052B100F683Z	3/8 x 5/32
.1	HY-320	C052B100G104Z	7/16 x 5/32
.15	HY-322	C052B100J154Z	9/16 x 5/32
.22	HY-325	C052B100J224Z	9/16 x 5/32
.33	HY-327	C052B100L334Z	11/16 x 5/32
.47	HY-330	C052A100P474Z	7/8 x 5/32

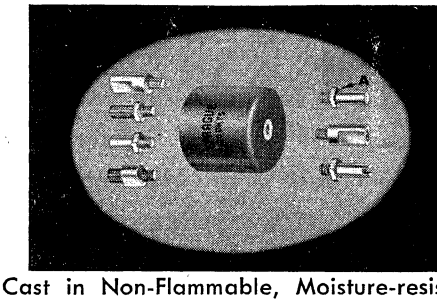
CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

μF	Sprague Products Cat. No.	Sprague O.E.M. Part No.	D. x T.
16 VOLTS D-C			
.01	HY-420	C069B160C103Z	1/4 x 5/32
.022	HY-425	C069B160E223Z	5/16 x 5/32
.033	HY-430	C069B160F333Z	3/8 x 5/32
.047	HY-435	C069B160G473Z	7/16 x 5/32
.068	HY-440	C069B160H683Z	1/2 x 5/32
.1	HY-450	C069B160L104Z	11/16 x 5/32
.2	HY-470	C069A160P204Z	7/8 x 5/32
25 VOLTS D-C			
.0047	HY-510	C069B250C472Z	1/4 x 5/32
.01	HY-520	C069B250E103Z	5/16 x 5/32
.022	HY-525	C069B250F223Z	3/8 x 5/32
.033	HY-530	C069B250G333Z	7/16 x 5/32
.047	HY-535	C069B250H473Z	1/2 x 5/32
.068	HY-540	C069B250J683Z	9/16 x 5/32
.1	HY-550	C069A250L104Z	11/16 x 5/32

CALL YOUR SPRAGUE INDUSTRIAL DISTRIBUTOR FOR CURRENT QUANTITY PRICES

HIGH-VOLTAGE DOORKNOB CERAMICS

- For Bypass, Arc Suppression and Other High-Voltage Applications
- 20DK-T5 Comes Complete with 7 Terminals, as illustrated. (Packaged 2 per Plastic Box, with 14 terminals
- 30DK-T5 is Supplied with 2 Terminals, as per Style Marked "A"
- Capacitor Body has Female Threads for interchangeable Screw-in Terminals



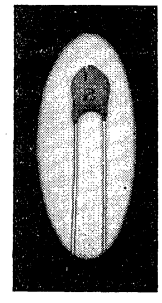
pF	KV	Diam. x Length	Sprague Products Cat. No.	Sprague O.E.M. Cat. No.
500	20	1.000 x 1.122	20DK-T5	708C50
500	30	1.312 x 1.312	30DK-T5	709C2

Call Your Sprague Distributor for Current Prices

- Cast in Non-Flammable, Moisture-resistant, Epoxy Resin

SPARK GAPS

- A Spark Gap Consists of a Wire Loop Encased in Phenolic Resin. After the Loop Has Been Encased a Precise Slot is Cut Through The Wire Loop and Its Protective Case to Form a Spark Gap
- Suppress Transient Voltage Surges That Damage Costly Electronic Equipment
- Protect TV Circuits From Damage Caused By the Momentary Arcing or Shorting of Elements Within Expensive Set Components
- Mechanically Sturdy and Electrically Reliable
- Each Unit is Accurately Checked for Voltage Breakdown as Part of the Manufacturing Process
- See Latest Issue of Engineering Bulletin 6145



Capacitance	Arc-over Voltage	Catalog Number
0.75pF	1.5kV ±0.5kV	302C100A2
0.75pF	2.5kV ±0.5kV	302C100A3

TV YOKE CAPACITORS

- High Quality Factor
- High Corona Start Voltage
- Does Not Cause Interference or Failure Due to Arcing
- Standard Tolerance ±10%

pF	Sprague Products Catalog Number	Sprague O.E.M. Catalog Number	Size D. x T.
30TCY 3000 WVDC			
50	30TCY-Q50	29C483	3/4 x 9/32
75	30TCY-Q75	44C113	3/4 x 9/32
100	30TCY-T10	33C269	13/16 x 9/32
130	30TCY-T13	36C368	7/8 x 9/32
150	30TCY-T15	41C340	1 x 5/16
180	30TCY-T18	41C341	1 x 5/16
50TCY 5000 WVDC			
50	50TCY-Q50	44C115	3/4 x 9/32
75	50TCY-Q75	33C270	13/16 x 9/32
100	50TCY-T10	41C344	1 x 5/16
130	50TCY-T13	41C345	1 x 5/16
60TCY 6000 WVDC			
130	60TCY-T13	41C281A4	1 x 5/16

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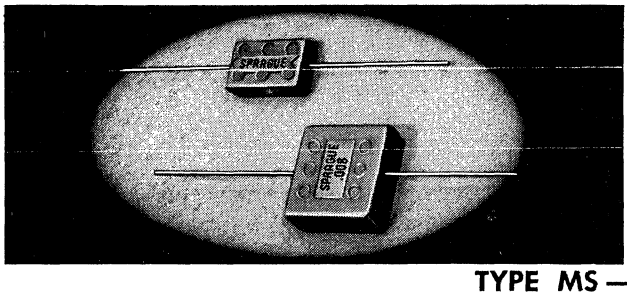
SPRAGUE CAPACITORS

MICA CAPACITORS TYPE MS and 1FM MICAS



- Each Mica Capacitor Section Receives a Radio Frequency Test Before Molding
- Careful Selection and Electrical Grading of Raw Mica Assures Maximum Quality
- Section Foils on Foil Micas are Connected to Terminals through Special Low-resistance R-F Bonds
- R-F Current Tested for Peak Ratings After Impregnation and Molding

TYPE MS — SILVERED MICA
(Standard Capacitance Tolerance ±5%)

µF	Cat. No.	µF	Cat. No.	µF	Cat. No.	µF	Cat. No.
500 WVDC, 1000 V Test		.000068	MS-468	.000470	MS-347	.002500	MS-225
.000005	MS-55	.000070	MS-47	.000500	MS-35	.002700	MS-227
.000010	MS-41	.000075	MS-475	.000510	MS-351	.003000	MS-23
.000012	MS-412	.000082	MS-482	.000560	MS-356	.003300	MS-233
.000015	MS-415	.000091	MS-491	.000600	MS-36	.003600	MS-236
.000018	MS-418	.000100	MS-31	.000620	MS-362	.003900	MS-239
.000020	MS-42	.000110	MS-311	.000680	MS-368	.004000	MS-24
.000022	MS-422	.000120	MS-312	.000700	MS-37	.004300	MS-243
.000024	MS-424	.000130	MS-313	.000750	MS-375	.004700	MS-247
.000025	MS-425	.000150	MS-315	.000800	MS-38	.005000	MS-25
.000027	MS-427	.000160	MS-316	.000820	MS-382	.005100	MS-251
.000030	MS-43	.000180	MS-318	.000900	MS-39	.005600	MS-256
.000033	MS-433	.000200	MS-32	.000910	MS-391	.006000	MS-26
.000036	MS-436	.000220	MS-322	.001000	MS-21	.006200	MS-262
.000039	MS-439	.000240	MS-324	.001100	MS-211	**300 WVDC, 600 V Test**	
.000040	MS-44	.000250	MS-325	.001200	MS-212	.006800	MS-268
.000043	MS-443	.000270	MS-327	.001300	MS-213	.007000	MS-27
.000047	MS-447	.000300	MS-33	.001500	MS-215	.007500	MS-275
.000050	MS-45	.000330	MS-333	.001600	MS-216	.008000	MS-28
.000051	MS-451	.000360	MS-336	.001800	MS-218	.008200	MS-282
.000056	MS-456	.000390	MS-339	.002000	MS-22	.009000	MS-29
.000060	MS-46	.000400	MS-34	.002200	MS-222	.009100	MS-291
.000062	MS-462	.000430	MS-343	.002400	MS-224	.010000	MS-11

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TYPE 1FM
(Standard Capacitance Tolerance ±20%)

µF	Cat. No.	µF	Cat. No.	µF	Cat. No.	µF	Cat. No.
500 WVDC, 1000 V Test		.000082	1FM-482	.000470	1FM-347	.003000	1FM-23
.000010	1FM-41	.000091	1FM-491	.000500	1FM-35	.003300	1FM-233
.000012	1FM-412	.000100	1FM-31	.000510	1FM-351	.003600	1FM-236
.000015	1FM-415	.000110	1FM-311	.000560	1FM-356	.003900	1FM-239
.000018	1FM-418	.000120	1FM-312	.000620	1FM-362	.004000	1FM-24
.000020	1FM-42	.000130	1FM-313	.000680	1FM-368	.004300	1FM-243
.000022	1FM-422	.000150	1FM-315	.000700	1FM-37	.004700	1FM-247
.000024	1FM-424	.000160	1FM-316	.000750	1FM-375	.005000	1FM-25
.000027	1FM-427	.000180	1FM-318	.000820	1FM-382	.005100	1FM-251
.000030	1FM-43	.000200	1FM-32	.000910	1FM-391	.005600	1FM-256
.000033	1FM-433	.000220	1FM-322	.001000	1FM-21	.006000	1FM-26
.000036	1FM-436	.000240	1FM-324	.001100	1FM-211	.006200	1FM-262
.000039	1FM-439	.000250	1FM-325	.001200	1FM-212	**300 WVDC, 600 V Test**	
.000040	1FM-44	.000270	1FM-327	.001300	1FM-213	.006800	1FM-268
.000043	1FM-443	.000300	1FM-33	.001500	1FM-215	.007000	1FM-27
.000047	1FM-447	.000330	1FM-333	.001600	1FM-216	.007500	1FM-275
.000050	1FM-45	.000350	1FM-335	.001800	1FM-218	.008000	1FM-28
.000051	1FM-451	.000360	1FM-336	.002000	1FM-22	.008200	1FM-282
.000056	1FM-456	.000390	1FM-339	.002200	1FM-222	.009000	1FM-29
.000062	1FM-462	.000400	1FM-34	.002400	1FM-224	.009100	1FM-291
.000068	1FM-468	.000430	1FM-343	.002500	1FM-225	.010000	1FM-11
.000075	1FM-475			.002700	1FM-227		

Call Your Sprague Distributor For Current Prices

MS and 1FM Dimensions

Catalog Numbers	L x W x T
MS-55 thru MS-35	51/64 x 15/32 x 7/32
MS-351 thru MS-222	53/64 x 53/64 x 9/32
MS-224	53/64 x 53/64 x 11/32
MS-225 thru MS-227	53/64 x 53/64 x 9/32
MS-23	53/64 x 53/64 x 11/32
MS-233	53/64 x 53/64 x 9/32
MS-236 thru MS-282	53/64 x 53/64 x 11/32
MS-29 thru MS-11	1 x 5/8 x 5/16
1FM-41 thru 1FM-462	51/64 x 15/32 x 7/32
1FM-468 thru 1FM-475	53/64 x 53/64 x 9/32
1FM-482 thru 1FM-356	51/64 x 15/32 x 7/32
1FM-362 thru 1FM-233	53/64 x 53/64 x 9/32
1FM-236 thru 1FM-282	53/64 x 53/64 x 11/32
1FM-29 thru 1FM-11	1 x 5/8 x 5/16

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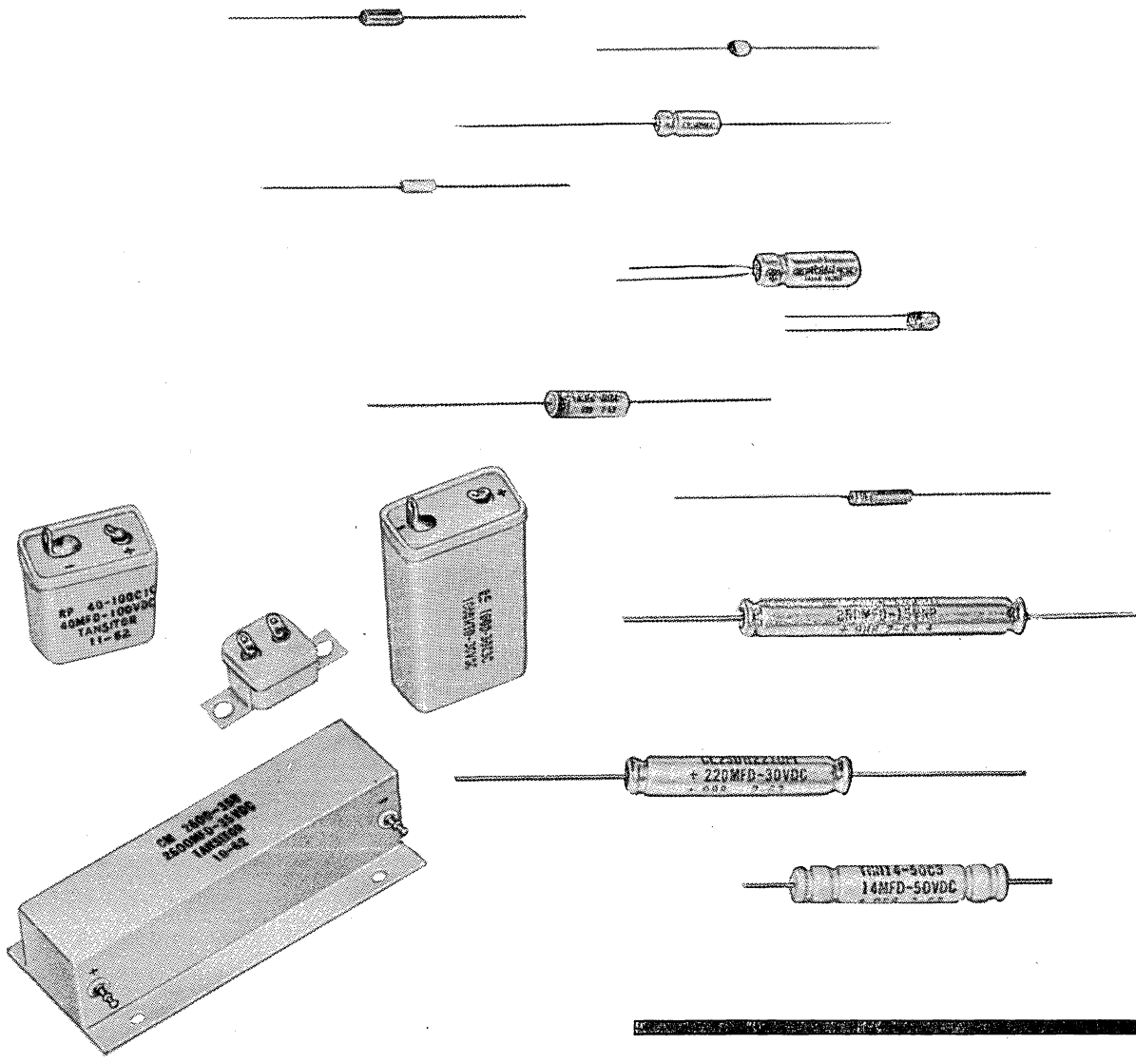
SECTION 1500

Tansitor

TANTALUM CAPACITORS

CONDENSED CATALOG



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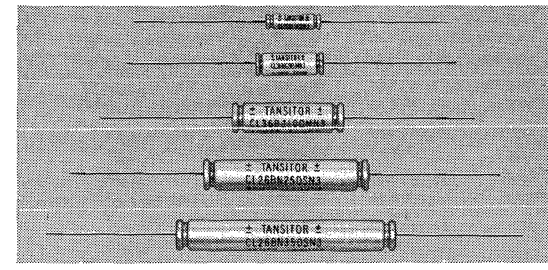
MIL-C-3965C
TANSITOR TANTALUM FOIL CAPACITORS

TYPES: CL24, CL25, CL26, CL27, CL34, CL35, CL36, CL37
−55°C to +85°C

Tansitor Military Type 85°C capacitors are tantalum foil capacitors which will operate reliably over the temperature range −55°C to +85°C. These units are equivalent to Tansitor Type TEF capacitors.



MILITARY DESIGNATION CODE

CL26	B	Q	180	S	N	3
Style	Temp. Characteristic	Voltage	Capacitance	Capacitance Tolerance	Polarity	Vibration Grade

CASE DIMENSIONS
CL24, CL26, CL34, CL36 — Uninsulated*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
C1	0.688 x 0.188
C2	0.875 x 0.281
C3	1.438 x 0.375
C4	2.125 x 0.375
C5	2.750 x 0.375

*For dimensions of insulated units add approximately 0.125" to length, 0.015" to diameter.

MIL-C-3965/2 — ETCHED FOIL, POLAR
TYPE: CL24 (Uninsulated) CL25 (Insulated)

All Parts Numbers are listed as CL24 Type. If insulating sleeve is required, change CL24 to CL25.

Designation Military	D.C. Volts	Mfds. Cap.	Size Case	Net (1-24)† Price
CL24BE150UP3	15	15	C1	$ 4.20
CL24BE600UP3	15	60	C2	7.55
CL24BE201UP3	15	200	C3	12.40
CL24BE401UP3	15	400	C4	20.55
CL24BE581UP3	15	580	C5	27.35
CL24BG100UP3	25	10	C1	4.20
CL24BG400UP3	25	40	C2	7.55
CL24BG121UP3	25	120	C3	12.40
CL24BG251UP3	25	250	C4	20.55
CL24BG351UP3	25	350	C5	27.35
CL24BH080UP3	30	8	C1	4.20
CL24BH320UP3	30	32	C2	7.55
CL24BH111UP3	30	110	C3	12.40
CL24BH221UP3	30	220	C4	20.55
CL24BH301UP3	30	300	C5	27.35
CL24BJ4R5TP3	50	4.5	C1	4.20
CL24BJ180TP3	50	18	C2	7.55
CL24BJ600TP3	50	60	C3	12.40

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL24BJ101TP3	50	100	C4	20.55
CL24BJ151TP3	50	150	C5	27.35
CL24BL030TP3	75	3	C1	4.20
CL24BL120TP3	75	12	C2	7.55
CL24BL300TP3	75	30	C3	12.40
CL24BL700TP3	75	70	C4	20.55
CL24BL101TP3	75	100	C5	27.35
CL24BN020SP3	100	2	C1	4.20
CL24BN080SP3	100	8	C2	7.55
CL24BN250SP3	100	25	C3	12.40
CL24BN500SP3	100	50	C4	20.55
CL24BN700SP3	100	70	C5	27.35
CL24BQ010SP3	150	1	C1	4.20
CL24BQ040SP3	150	4	C2	7.55
CL24BQ130SP3	150	13	C3	12.40
CL24BQ250SP3	150	25	C4	20.55
CL24BQ360SP3	150	36	C5	27.35

MIL-C-3965/12 — ETCHED FOIL, NON-POLAR
TYPE: CL26 (Uninsulated) CL27 (Insulated)

All Part Numbers are listed as CL 26 Type. If insulating sleeve is required, change CL 26 to CL27.

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL26BE100UN3	15	10	C1	$ 4.20
CL26BE400UN3	15	40	C2	7.55
CL26BE121UN3	15	120	C3	12.40
CL26BE251UN3	15	250	C4	20.55
CL26BE351UN3	15	350	C5	27.35
CL26BG050UN3	25	5	C1	4.20
CL26BG200UN3	25	20	C2	7.55
CL26BG700UN3	25	70	C3	12.40
CL26BG141UN3	25	140	C4	20.55
CL26BG201UN3	25	200	C5	27.35
CL26BH4R5UN3	30	4.5	C1	4.20
CL26BH180UN3	30	18	C2	7.55
CL26BH600UN3	30	60	C3	12.40
CL26BH121UN3	30	120	C4	20.55
CL26BH171UN3	30	170	C5	27.35
CL26BJ2R5TN3	50	2.5	C1	4.20
CL26BJ100TN3	50	10	C2	7.55
CL26BJ300TN3	50	30	C3	12.40

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL26BJ600TN3	50	60	C4	20.55
CL26BJ800TN3	50	80	C5	27.35
CL26BL1R5TN3	75	1.5	C1	4.20
CL26BL060TN3	75	6	C2	7.55
CL26BL150TN3	75	15	C3	12.40
CL26BL350TN3	75	35	C4	20.55
CL26BL500TN3	75	50	C5	27.35
CL26BN010SN3	100	1	C1	4.20
CL26BN040SN3	100	4	C2	7.55
CL26BN120SN3	100	12	C3	12.40
CL26BN250SN3	100	25	C4	20.55
CL26BN350SN3	100	35	C5	27.35
CL26BQ0R5SN3	150	0.5	C1	4.20
CL26BQ020SN3	150	2	C2	7.55
CL26BQ060SN3	150	6	C3	12.40
CL26BQ120SN3	150	12	C4	20.55
CL26BQ180SN3	150	18	C5	27.35

MIL-C-3965/3 — PLAIN FOIL, POLAR
TYPE: CL34 (Uninsulated) CL35 (Insulated)

All Part Numbers are listed as CL34 Type. If insulating sleeve is required, change CL34 to CL35.

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL34BA100MP3	3	10	C1	$ 4.20
CL34BA500MP3	3	50	C2	6.60
CL34BB080MP3	6	8	C1	4.20
CL34BB300MP3	6	30	C2	6.60
CL34BB101MP3	6	100	C3	10.45
CL34BB201MP3	6	200	C4	14.60
CL34BB301MP3	6	300	C5	19.60
CL34BD060MP3	10	6	C1	4.20
CL34BD250MP3	10	25	C2	6.60
CL34BD800MP3	10	80	C3	10.45
CL34BD161MP3	10	160	C4	14.60
CL34BD221MP3	10	220	C5	19.60
CL34BE4R5MP3	15	4.5	C1	4.20
CL34BE100MP3	15	10	C2	6.60
CL34BE180MP3	15	18	C2	6.60
CL34BE550MP3	15	55	C3	10.45
CL34BE111MP3	15	110	C4	14.60
CL34BE161MP3	15	160	C5	19.60
CL34BH2R5MP3	30	2.5	C1	4.20
CL34BH300MP3	30	30	C3	10.45
CL34BH600MP3	30	60	C4	14.60
CL34BH850MP3	30	85	C5	19.60

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL34BJ1R5MP3	50	1.5	C1	$ 4.20
CL34BJ060MP3	50	6	C2	6.60
CL34BJ200MP3	50	20	C3	10.45
CL34BJ400MP3	50	40	C4	14.60
CL34BJ550MP3	50	55	C5	19.60
CL34BL010MP3	75	1	C1	4.20
CL34BL040MP3	75	4	C2	6.60
CL34BL140MP3	75	14	C3	10.45
CL34BL280MP3	75	28	C4	14.60
CL34BL400MP3	75	40	C5	19.60
CL34BN0R8MP3	100	0.8	C1	4.20
CL34BN030MP3	100	3	C2	6.60
CL34BN100MP3	100	10	C3	10.45
CL34BN200MP3	100	20	C4	14.60
CL34BN300MP3	100	30	C5	19.60
CL34BQ0R5MP3	150	0.5	C1	4.20
CL34BQ020MP3	150	2	C2	6.60
CL34BQ040MP3	150	4	C3	10.45
CL34BQ070MP3	150	7	C3	10.45
CL34BQ080MP3	150	8	C4	14.60
CL34BQ120MP3	150	12	C4	14.60
CL34BQ140MP3	150	14	C4	14.60
CL34BQ200MP3	150	20	C5	19.60

MIL-C-3965/14 — PLAIN FOIL, NON-POLAR
TYPE: CL36 (Uninsulated) CL37 (Insulated)

All Part Numbers are listed as CL36 Type. If insulating sleeve is required, change CL36 to CL37.

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL36BA100MN3	3	10	C1	$ 4.20
CL36BA150MN3	3	45	C2	6.60
CL36BA141MN3	3	140	C3	10.45
CL36BA281MN3	3	280	C4	14.60
CL36BA401MN3	3	400	C5	19.60
CL36BB070MN3	6	7	C1	4.20
CL36BB250MN3	6	25	C2	6.60
CL36BB850MN3	6	85	C3	10.45
CL36BB171MN3	6	170	C4	14.60
CL36BB251MN3	6	250	C5	19.60
CL36BD040MN3	10	4	C1	4.20
CL36BD160MN3	10	16	C2	6.60
CL36BD550MN3	10	55	C3	10.45
CL36BD111MN3	10	110	C4	14.60
CL36BD151MN3	10	150	C5	19.60
CL36BE2R5MN3	15	2.5	C1	4.20
CL36BE100MN3	15	10	C2	6.60
CL36BE350MN3	15	35	C3	10.45
CL36BE700MN3	15	70	C4	14.60
CL36BE101MN3	15	100	C5	19.60
CL36BG1R5MN3	25	1.5	C1	4.20
CL36BG060MN3	25	6	C2	6.60
CL36BG200MN3	25	20	C3	10.45
CL36BG400MN3	25	40	C4	14.60
CL36BG600MN3	25	60	C5	19.60

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL36BH1R4MN3	30	1.4	C1	$ 4.20
CL36BH5R5MN3	30	5.5	C2	6.60
CL36BH180MN3	30	18	C3	10.45
CL36BH360MN3	30	36	C4	14.60
CL36BH450MN3	30	45	C5	19.60
CL36BJ0R8MN3	50	0.8	C1	4.20
CL36BJ030MN3	50	3	C2	6.60
CL36BJ100MN3	50	10	C3	10.45
CL36BJ200MN3	50	20	C4	14.60
CL36BJ300MN3	50	30	C5	19.60
CL36BL0R5MN3	75	0.5	C1	4.20
CL36BL020MN3	75	2	C2	6.60
CL36BL070MN3	75	7	C3	10.45
CL36BL140MN3	75	14	C4	14.60
CL36BL200MN3	75	20	C5	19.60
CL36BN0R4MN3	100	0.4	C1	4.20
CL36BN1R5MN3	100	1.5	C2	6.60
CL36BN050MN3	100	5	C3	10.45
CL36BN100MN3	100	10	C4	14.60
CL36BN150MN3	100	15	C5	19.60
CL36BQR25MN3	150	0.25	C1	4.20
CL36BQ010MN3	150	1	C2	6.60
CL36BQ3R5MN3	150	3.5	C3	10.45
CL36BQ070MN3	150	7	C4	14.60
CL36BQ100MN3	150	10	C5	19.60

†See your Tansitor Distributor for prices for 25 or more pieces.

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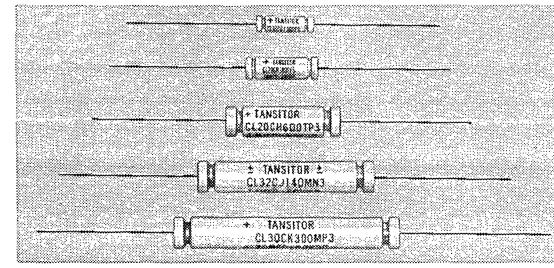
MIL-C-3965C
TANSITOR TANTALUM FOIL CAPACITORS

TYPES: CL20, CL21, CL22, CL23, CL30, CL31, CL32, CL33

Tansitor Military Type 125°C Foil Tantalum Capacitors are small foil capacitors which will operate reliably over the range −55°C to +125°C. These units are equivalent to Tansitor Type TH capacitors.



MILITARY DESIGNATION CODE

CL30	C	N	200	M	P	3
Style	Temp. Characteristic	Voltage	Capacitance	Capacitance Tolerance	Polarity	Vibration Grade

MIL-C-3965/17 — ETCHED FOIL, POLAR

TYPE: CL20 (Uninsulated) CL21 (Insulated)

All Part Numbers are listed as CL20 Type. If insulating sleeve is required, change CL 20 to CL21

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†	Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL20CE100UP3	15	10	D1	$ 7.37	CL20CK020TP3	60	2	D1	7.37
CL20CE400UP3	15	40	D2	10.49	CL20CK080TP3	60	8	D2	10.49
CL20CE121UP3	15	120	D3	16.16	CL20CK250TP3	60	25	D3	16.16
CL20CE251UP3	15	250	D4	25.54	CL20CK500TP3	60	50	D4	25.54
CL20CE351UP3	15	350	D5	31.75	CL20CK700TP3	60	70	D5	31.75
CL20CH4R5TP3	30	4.5	D1	7.37	CL20CN010SP3	100	1	D1	7.37
CL20CH180TP3	30	18	D2	10.49	CL20CN040SP3	100	4	D2	10.49
CL20CH600TP3	30	60	D3	16.16	CL20CN130SP3	100	13	D3	16.16
CL20CH101TP3	30	100	D4	25.54	CL20CN250SP3	100	25	D4	25.54
CL20CH151TP3	30	150	D5	31.75	CL20CN360SP3	100	36	D5	31.75

MIL-C-3965/18 — ETCHED FOIL, NON-POLAR

TYPE: CL22 (Uninsulated) CL23 (Insulated)

All Part Numbers are listed as CL22 Type. If insulating sleeve is required, change CL22 to CL23.

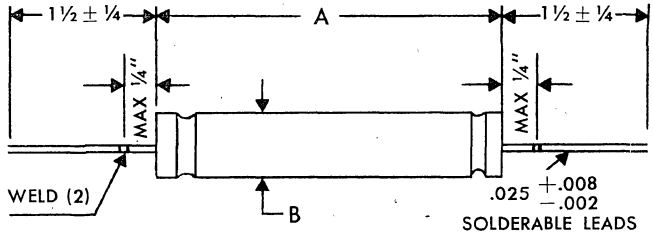
Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†	Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL22CE050UN3	15	5	D1	$ 7.37	CL22CK010TN3	60	1	D1	7.37
CL22CE200UN3	15	20	D2	10.49	CL22CK040TN3	60	4	D2	10.49
CL22CE700UN3	15	70	D3	16.16	CL22CK120TN3	60	12	D3	16.16
CL22CE141UN3	15	140	D4	25.54	CL22CK250TN3	60	25	D4	25.54
CL22CE201UN3	15	200	D5	31.75	CL22CK350TN3	60	35	D5	31.75
CL22CH2R5TN3	30	2.5	D1	7.37	CL22CN0R5SN3	100	0.5	D1	7.37
CL22CH100TN3	30	10	D2	10.49	CL22CN020SN3	100	2	D2	10.49
CL22CH300TN3	30	30	D3	16.16	CL22CN060SN3	100	6	D3	16.16
CL22CH600TN3	30	60	D4	25.54	CL22CN120SN3	100	12	D4	25.54
CL22CH800TN3	30	80	D5	31.75	CL22CN180SN3	100	18	D5	31.75

CASE DIMENSIONS

CL20, CL21, CL22, CL23, CL30, CL31, CL32, CL33 — Uninsulated*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
D1	0.688 x 0.188
D2	0.938 x 0.281
D3	1.469 x 0.375
D4	2.156 x 0.375
D5	2.781 x 0.375

*For dimensions of insulated units add approximately 0.125″ to length, 0.015″ to diameter.



MIL-C-3965/15 — PLAIN FOIL, POLAR

TYPE: CL30 (Uninsulated) CL31 (Insulated)

All Part Numbers are listed as CL30 Type. If insulating sleeve is required, change CL30 to CL31.

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL30CH1R5MP3	30	1.5	D1	$ 7.37
CL30CH060MP3	30	6	D2	9.80
CL30CH200MP3	30	20	D3	14.18
CL30CH400MP3	30	40	D4	18.31
CL30CH550MP3	30	55	D5	23.54
CL30CK0R8MP3	60	0.8	D1	7.37
CL30CK030MP3	60	3	D2	9.80
CL30CK100MP3	60	10	D3	14.18
CL30CK200MP3	60	20	D4	18.31
CL30CK300MP3	60	30	D5	23.54
CL30CN0R5MP3	100	0.5	D1	7.37
CL30CN020MP3	100	2	D2	9.80
CL30CN070MP3	100	7	D3	14.18
CL30CN140MP3	100	14	D4	18.31
CY30CN200MP3	100	20	D5	23.54
CL30CQR35MP3	150	0.35	D1	7.37
CL30CQ1R5MP3	150	1.5	D2	9.80
CL30CQ050MP3	150	5	D3	14.18
CL30CQ100MP3	150	10	D4	18.31
CL30CQ150MP3	150	15	D5	23.54

MIL-C-3965/16 — PLAIN FOIL, NON-POLAR

TYPE: CL32 (Uninsulated) CL33 (Insulated)

All Part Numbers are listed as CL32 Type. If insulating sleeve is required, change CL32 to CL33.

Military Designation	Volts D.C.	Cap. Mfds.	Case Size	Net Price (1-24)†
CL32CH0R8MN3	30	0.8	D1	$ 7.27
CL32CH030MN3	30	3	D2	9.80
CL32CH100MN3	30	10	D3	14.18
CL32CH200MN3	30	20	D4	18.31
CL32CH300MN3	30	30	D5	23.54
CL32CK0R4MN3	60	0.4	D1	7.27
CL32CK1R5MN3	60	1.5	D2	9.80
CL32CK050MN3	60	5	D3	14.18
CL32CK100MN3	60	10	D4	18.31
CL32CK150MN3	60	15	D5	23.54
CL32CNR25MN3	100	0.25	D1	7.27
CL32CN010MN3	100	1	D2	9.80
CL32CN3R5MN3	100	3.5	D3	14.18
CL32CN070MN3	100	7	D4	18.31
CL32CN100MN3	100	10	D5	23.54
CL32CQR15MN3	150	0.15	D1	7.27
CL32CQR75MN3	150	0.75	D2	9.80
CL32CQ2R5MN3	150	2.5	D3	14.18
CL32CQ050MN3	150	5	D4	18.31
CL32CQ7R5MN3	150	7.5	D5	23.54

†See your Tansitor Distributor for prices for 25 or more pieces.

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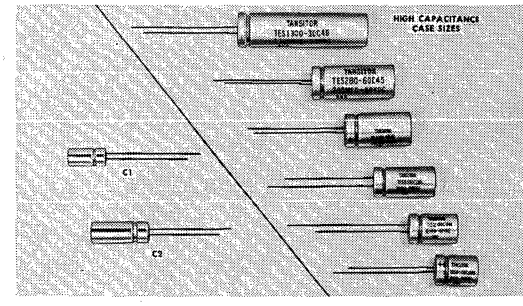
TANSITOR TANTALUM CAPACITORS

TYPE: TES −55°C to +85°C

Tansitor Type TES tantalum capacitors are unique small foil tantalum capacitors ideally suited for use in printed circuits. They are similar in performance to CL34 and CL24 type capacitors, but offer significant savings in space because both leads emerge from one end of the capacitors. They operate reliably over the temperature range of −55°C to +85°C.



CASE DIMENSIONS (Uninsulated)*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
C1	0.650 x 0.312
C2	1.000 x 0.375

*For dimensions of insulated units add approximately 0.125″ to length, 0.030″ to diameter.

HIGH CAPACITANCE TYPE

CASE DIMENSIONS (Uninsulated)*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
C30	0.813 x 0.563
C32	0.938 x 0.563
C33	1.188 x 0.563
C34	1.250 x 0.563
C35	1.563 x 0.563
C36	1.688 x 0.563
C37	1.938 x 0.563
C38	2.188 x 0.563
C39	2.438 x 0.563

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
C40	0.813 x 0.625
C42	0.938 x 0.625
C43	1.188 x 0.625
C44	1.250 x 0.625
C45	1.563 x 0.625
C46	1.688 x 0.625
C47	1.938 x 0.625
C48	2.188 x 0.625
C49	2.438 x 0.625

*For dimensions of insulated units add approximately 0.065″ to length, 0.015″ to diameter.

ETCHED FOIL, POLAR*

VOLTS D.C.	CASE SIZE	CAP. MFDS.	TANSITOR[1] CATALOG NO.	NET PRICE (1-24)†
6	C1	220	TES220-6C1	$ 3.74
	C2	600	TES600-6C2	6.10
10	C1	140	TES140-10C1	3.74
	C2	375	TES375-10C2	6.10
15	C1	90	TES90-15C1	3.74
	C2	250	TES250-15C2	6.10
20	C1	70	TES70-20C1	3.74
	C2	180	TES180-20C2	6.10
35	C1	35	TES35-35C1	3.74
	C2	100	TES100-35C2	6.10
50	C1	25	TES25-50C1	3.74
	C2	60	TES60-50C2	6.10
60	C1	19	TES19-60C1	3.74
	C2	50	TES50-60C2	6.10
75	C1	14	TES14-75C1	3.74
	C2	35	TES35-75C2	6.10
100	C1	8.5	TES8.5-100C1	3.74
	C2	20	TES20-100C2	6.10
125	C1	5	TES5-125C1	3.74
	C2	14	TES14-125C2	6.10
150	C1	3.5	TES3.5-150C1	3.74
	C2	10	TES10-150C2	6.10

ETCHED FOIL, NON-POLAR*

6	C1	150	TES150-6C1N	$ 3.74
	C2	350	TES350-6C2N	6.10
10	C1	80	TES80-10C1N	3.74
	C2	200	TES200-10C2N	6.10
15	C1	50	TES50-15C1N	3.74
	C2	140	TES140-15C2N	6.10
20	C1	35	TES35-20C1N	3.74
	C2	100	TES100-20C2N	6.10
35	C1	18	TES18-35C1N	3.74
	C2	50	TES50-35C2N	6.10
50	C1	13	TES13-50C1N	3.74
	C2	30	TES30-50C2N	6.10
60	C1	9.5	TES9.5-60C1N	3.74
	C2	25	TES25-60C2N	6.10
75	C1	7	TES7-75C1N	3.74
	C2	18	TES18-75C2N	6.10
100	C1	4.2	TES4.2-100C1N	3.74
	C2	10	TES10-100C2N	6.10
125	C1	2.5	TES2.5-125C1N	3.74
	C2	7	TES7-125C2N	6.10
150	C1	1.8	TES1.8-150C1N	3.74
	C2	5	TES5-150C2N	6.10

*Ratings in plain foil also available.

HIGH CAPACITANCE FOIL, POLAR

VOLTS D.C.	CASE SIZE	CAP. MFDS.	TANSITOR[1] CATALOG NO.	NET PRICE (1-24)†
3	C40	2000	TES2000-3C40	$ 8.84
	C42	3000	TES3000-3C42	13.20
	C43	4000	TES4000-3C43	17.42
	C44	5000	TES5000-3C44	22.04
	C45	7000	TES7000-3C45	30.80
	C46	8000	TES8000-3C46	35.16
	C47	10000	TES10K-3C47	44.00
	C48	12000	TES12K-3C48	52.76
	C49	14000	TES14K-3C49	61.54
25	C30	170	TES170-25C30	$ 6.40
	C32	260	TES260-25C32	9.60
	C33	350	TES350-25C33	12.80
	C34	430	TES430-25C34	16.00
	C35	600	TES600-25C35	22.38
	C36	690	TES690-25C36	25.36
	C37	870	TES870-25C37	31.96
	C38	1000	TES1000-25C38	38.36
	C39	1200	TES1200-25C39	44.74
50	C40	100	TES100-50C40	8.84
	C42	150	TES150-50C42	13.20
	C43	210	TES210-50C43	17.42
	C44	260	TES260-50C44	22.04
	C45	360	TES360-50C45	30.80
	C46	410	TES410-50C46	35.16
	C47	520	TES520-50C47	44.00
	C48	620	TES620-50C48	52.76
	C49	720	TES720-50C49	61.54
100	C30	27	TES27-100C30	6.40
	C32	41	TES41-100C32	9.60
	C33	55	TES55-100C33	12.80
	C34	68	TES68-100C34	16.00
	C35	95	TES95-100C35	22.38
	C36	110	TES110-100C36	25.36
	C37	140	TES140-100C37	31.96
	C38	160	TES160-100C38	38.36
	C39	190	TES190-100C39	44.74
150	C40	23	TES23-150C40	8.84
	C42	34	TES34-150C42	13.20
	C43	46	TES46-150C43	17.42
	C44	57	TES57-150C44	22.04
	C45	80	TES80-150C45	30.80
	C46	92	TES92-150C46	35.16
	C47	115	TES115-150C47	44.00
	C48	140	TES140-150C48	52.76
	C49	160	TES160-150C49	61.54

HIGH CAPACITANCE FOIL, NON-POLAR

25	C40	140	TES140-25C40N	8.84
	C42	210	TES210-25C42N	13.20
	C43	280	TES280-25C43N	17.42
	C44	350	TES350-25C44N	22.04
	C45	490	TES490-25C45N	30.80
	C46	550	TES550-25C46N	35.16
	C47	690	TES690-25C47N	44.00
	C48	830	TES830-25C48N	52.76
	C49	970	TES970-25C49N	61.54
50	C30	37	TES37-50C30N	6.40
	C32	55	TES55-50C32N	9.60
	C33	75	TES75-50C33N	12.80
	C34	90	TES90-50C34N	16.00
	C35	130	TES130-50C35N	22.38
	C36	150	TES150-50C36N	25.36
	C37	180	TES180-50C37N	31.96
	C38	220	TES320-50C38N	38.36
	C39	260	TES260-50C39N	44.74
150	C30	8	TES8-150C30N	6.40
	C32	12	TES12-150C32N	9.60
	C33	16	TES16-150C33N	12.80
	C34	20	TES20-150C34N	16.00
	C35	28	TES28-150C35N	22.38
	C36	33	TES33-150C36N	25.36
	C37	41	TES41-150C37N	31.96
	C38	50	TES50-150C38N	38.36
	C39	57	TES57-150C39N	44.74

[1]When insulating tube is desired, add letter "I" as a suffix to catalog number.
†See your Tansitor Distributor for prices for 25 or more pieces.

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Tansitor ELECTRONICS, INC.

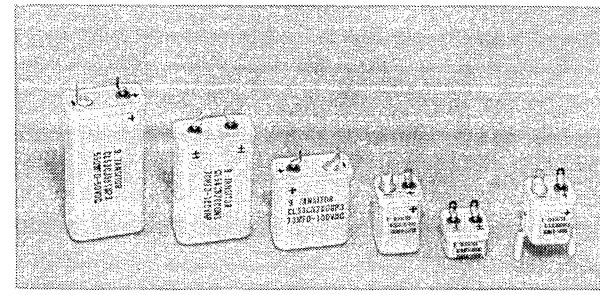
MIL-C-3965

TANSITOR TANTALUM CAPACITORS

TYPE: CL51, CL52, CL53, CL54; −55°C to +125°C

Tansitor's Type CL51, 52, 53 & 54 tantalum foil capacitors answer industry's need for packages of high capacitance in moderate size, hermetically sealed cases, and meet all the requirements of the current issue of MIL-C-3965. These units are equivalent to Tansitor Types RE & RP. Brackets available on request.

CASE SIZE	DIMENSIONS, INCHES	CASE SIZE	DIMENSIONS, INCHES
C1	0.750 x 0.750 x 0.500	D1	0.783 x 1.331 x 1.375
C2	0.750 x 0.750 x 0.875	D2	0.783 x 1.331 x 2.000
C3	0.750 x 0.750 x 1.125	D3	0.783 x 1.331 x 2.500



MILITARY DESIGNATION CODE

CL53	C	J	551	U	P	3
Style	Temp. Characteristic	Voltage	Capacitance	Capacitance Tolerance	Polarity	Vibration Grade

STANDARD MILITARY RATINGS

TYPE: CL53 — ETCHED FOIL*, POLAR

MIL-C-3965/11	D.C. VOLTAGE AT +125°C	CAPACITANCE MFDS.	CASE SIZE	NET PRICE (1-24)†
CL53CD122UP3	10	1200	D1	$44.10
CL53CD242UP3	10	2400	D2	56.60
CL53CD352UP3	10	3500	D3	62.80
CL53CF661UP3	20	660	D1	44.10
CL53CF132UP3	20	1300	D2	56.60
CL53CF182UP3	20	1800	D3	62.80
CL53CH351UP3	30	350	D1	44.10
CL53CH701UP3	30	700	D2	56.60
CL53CH102UP3	30	1000	D3	62.80
CL53CJ201UP3	50	200	D1	44.10
CL53CJ401UP3	50	400	D2	56.60
CL53CJ551UP3	50	550	D3	62.80
CL53CL121UP3	75	120	D1	44.10
CL53CL241UP3	75	240	D2	56.60
CL53CL321UP3	75	320	D3	62.80
CL53CN700UP3	100	70	D1	44.10
CL53CN141UP3	100	140	D2	56.60
CL53CN201UP3	100	200	D3	62.80
CL53CH550UP3	30	55	C1	29.86
CL53CH111UP3	30	110	C2	41.16
CL53CH181UP3	30	180	C3	48.02
CL53CJ300UP3	50	30	C1	29.86
CL53CJ600UP3	50	60	C2	41.16
CL53CJ101UP3	50	100	C3	48.02
CL53CL180UP3	75	18	C1	29.86
CL53CL360UP3	75	36	C2	41.16
CL53CL600UP3	75	60	C3	48.02
CL53CN120UP3	100	12	C1	29.86
CL53CN240UP3	100	24	C2	41.16
CL53CN360UP3	100	36	C3	48.02

TYPE: CL54 — ETCHED FOIL*, NON-POLAR

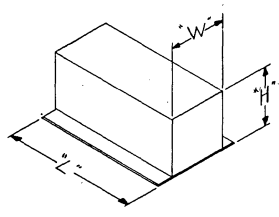
MIL-C-3965/12	D.C. VOLTAGE AT +125°C	CAPACITANCE MFDS.	CASE SIZE	NET PRICE (1-24)†
CL54CD751UN3	10	750	D1	$56.49
CL54CD152UN3	10	1500	D2	74.09
CL54CD212UN3	10	2100	D3	89.96
CL54CF361UN3	20	360	D1	56.49
CL54CF721UN3	20	720	D2	74.09
CL54CF102UN3	20	1000	D3	89.96
CL54CH201UN3	30	200	D1	56.49
CL54CH401UN3	30	400	D2	74.09
CL54CH551UN3	30	550	D3	89.96
CL54CJ101UN3	50	100	D1	56.49
CL54CJ201UN3	50	200	D2	74.09
CL54CJ271UN3	50	270	D3	89.96
CL54CL600UN3	75	60	D1	56.49
CL54CL121UN3	75	120	D2	74.09
CL54CL161UN3	75	160	D3	89.96
CL54CN350UN3	100	35	D1	56.49
CL54CN700UN3	100	70	D2	74.09
CL54CN101UN3	100	100	D3	89.96
CL54CH300UN3	30	30	C1	41.52
CL54CH600UN3	30	60	C2	54.88
CL54CH101UN3	30	100	C3	62.44
CL54CJ150UN3	50	15	C1	41.52
CL54CJ300UN3	50	30	C2	54.88
CL54CJ500UN3	50	50	C3	62.44
CL54CL090UN3	75	9	C1	41.52
CL54CL180UN3	75	18	C2	54.88
CL54CL300UN3	75	30	C3	62.44
CL54CN060UN3	100	6	C1	41.52
CL54CN120UN3	100	12	C2	54.88
CL54CN180UN3	100	18	C3	62.44

† See your Tansitor Distributor for prices for 25 or more pieces. * Ratings in plain foil (CL51, CL52) also available.

TANSITOR TANTALUM CAPACITORS

TYPE: CM, RECTANGULAR

−55°C to +125°C

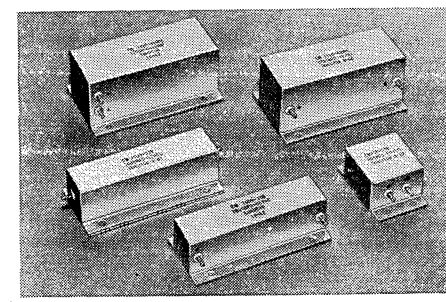


Tolerance on H, W & L dimensions is ±1/16"

SUGGESTED "STANDARD" CASE SIZES

DIMENSIONS IN INCHES H	W	L
9/16"	1 1/16"	3 7/8"
9/16"	1 9/16"	3 7/8"
1 1/16"	1 1/16"	3 7/8"
1 1/16"	1 9/16"	3 7/8"
1 9/16"	1 9/16"	3 7/8"
1 9/16"	2 1/16"	3 7/8"

DIMENSIONS IN INCHES H	W	L
2 1/16"	2 1/16"	3 7/8"
2 1/16"	2 9/16"	3 7/8"
2 9/16"	2 9/16"	3 7/8"
2 9/16"	3 1/16"	3 7/8"
3 1/16"	3 1/16"	3 7/8"
3 1/16"	3 9/16"	3 7/8"
3 9/16"	3 9/16"	3 7/8"



As the name implies, Tansitor Type CM or custom-made capacitor "packages" are designed to fill special or unusual tantalum capacitor needs, most frequently in the area of extra high capacitance.

In most cases, Type CM units have employed tantalum foil internally. By its nature, however, a CM unit may employ internal sections of solid or wet sintered anode tantalum capacitors where their respective characteristics are desired. Combinations of foil, solid and wet styles are also available, if needed.

A wide range of ratings are available, with capacitance values as high as 310,000 microfarads. The CM series, however is adaptable for many ratings beyond those suggested, even to 1 farad and above, if required.

Dual or plural ratings are available in a single case or other components can be potted in the same case with the capacitors. For specific applications contact Tansitor Electronics, Inc.

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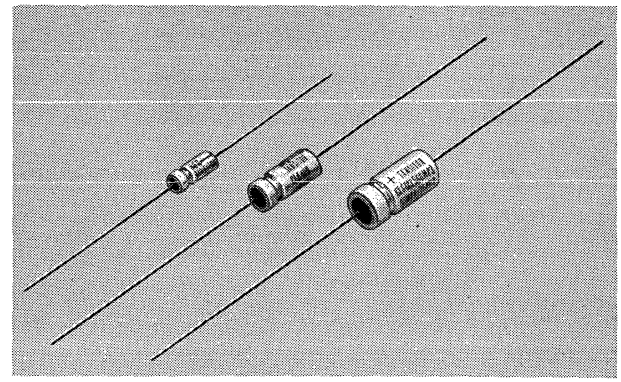
MIL-C-3965C
TANSITOR TANTALUM CAPACITORS
TYPES: CL64 & CL65 — CHARACTERISTICS "B" & "C"
−55°C to +85°C and −55°C to +125°C

Tansitor wet sintered anode capacitors listed herein are manufactured to meet all the requirements of MIL-C-3965C for MIL types CL64 and CL65. Encased in a fine silver can, the sintered porous tantalum anode provides exceptionally high capacitance per unit volume. These units exhibit extremely low leakage currents, low power factor, and little change in capacitance with frequency.

As opposed to "Shoulder Type" construction of other wet types, the CL64 and CL65 offer a straight cylindrical shape, readily lending them to flat circuit applications. CL 64 and CL65 styles are equivalent to Tansitor Type W. Tansitor Type WF equivalent with neutral electrolyte is also available.



CASE DIMENSIONS — CL64, CL65 (Uninsulated)*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
T1	0.453 x 0.188
T2	0.641 x 0.281
T3	0.766 x 0.375

*For dimensions of insulated units add approximately 0.065″ to length, 0.015″ to diameter. Basic case dimensions for insulated style are same as uninsulated.

MILITARY DESIGNATION CODE

CL65	C	J	050	M	P	3
Style	Temp. Characteristic	Voltage	Capacitance	Capacitance Tolerance	Polarity	Vibration Grade

STANDARD MILITARY 125°C RATINGS‡ TYPE: CL64 & CL65 — CHARACTERISTIC "C"

MIL-C-3965** DESIGNATION	VOLTS D.C. AT 125C°	CAPACITY MFDS.	CASE SIZE	NET PRICE (1-24)†
CL64(65)CB300MP3	4	30	T1	$2.30
CL64(65)CB680MP3	4	68	T1	2.30
CL64(65)CB141MP3	4	140	T2	3.52
CL64(65)CB271MP3	4	270	T2	3.52
CL64(65)CB331MP3	4	330	T3	5.56
CL64(65)CB561MP3	4	560	T3	5.56
CL64(65)CC250MP3	5	25	T1	2.30
CL64(65)CC560MP3	5	56	T1	2.30
CL64(65)CC221MP3	5	220	T2	3.52
CL64(65)CC431MP3	5	430	T3	5.56
CL64(65)CD200MP3	7	20	T1	2.30
CL64(65)CD470MP3	7	47	T1	2.30
CL64(65)CD101MP3	7	100	T2	3.52
CL64(65)CD181MP3	7	180	T2	3.52
CL64(65)CD251MP3	7	250	T3	5.56
CL64(65)CD391MP3	7	390	T3	5.56
CL64(65)CE150MP3	10	15	T1	2.30
CL64(65)CE330MP3	10	33	T1	2.30
CL64(65)CE700MP3	10	70	T2	3.52
CL64(65)CE121MP3	10	120	T2	3.52
CL64(65)CE171MP3	10	170	T3	5.56
CL64(65)CE271MP3	10	270	T3	5.56
CL64(65)CG100MP3	15	10	T1	2.30
CL64(65)CG220MP3	15	22	T1	2.30
CL64(65)CG101MP3	15	100	T2	3.52
CL64(65)CG181MP3	15	180	T3	5.56
CL64(65)CH080MP3	20	8	T1	2.30
CL64(65)CH150MP3	20	15	T1	2.30
CL64(65)CH400MP3	20	40	T2	3.52
CL64(65)CH680MP3	20	68	T2	3.52
CL64(65)CH101MP3	20	100	T3	5.56
CL64(65)CH151MP3	20	150	T3	5.56

MIL-C-3965** DESIGNATION	VOLTS D.C. AT 125C°	CAPACITY MFDS.	CASE SIZE	NET PRICE (1-24)†
CL64(65)CJ050MP3	30	5	T1	$2.30
CL64(65)CJ100MP3	30	10	T1	2.30
CL64(65)CJ250MP3	30	25	T2	3.52
CL64(65)CJ470MP3	30	47	T2	3.52
CL64(65)CJ600MP3	30	60	T3	5.56
CL64(65)CJ820MP3	30	82	T3	5.56
CL64(65)CK040MP3	40	4	T1	2.30
CL64(65)CK8R2MP3	40	8.2	T1	2.30
CL64(65)CK200MP3	40	20	T2	3.52
CL64(65)CK390MP3	40	39	T2	3.52
CL64(65)CK500MP3	40	50	T3	5.56
CL64(65)CK680MP3	40	68	T3	5.56
CL64(65)CL3R5MP3	50	3.5	T1	2.30
CL64(65)CL6R8MP3	50	6.8	T1	2.30
CL64(65)CL150MP3	50	15	T2	3.52
CL64(65)CL330MP3	50	33	T2	3.52
CL64(65)CL400MP3	50	40	T3	5.56
CL64(65)CL560MP3	50	56	T3	5.56
CL64(65)CN2R5MP3	70	2.5	T1	2.30
CL64(65)CN4R7MP3	70	4.7	T1	2.30
CL64(65)CN110MP3	70	11	T2	3.52
CL64(65)CN220MP3	70	22	T2	3.52
CL64(65)CN300MP3	70	30	T3	5.56
CL64(65)CN430MP3	70	43	T3	5.56
CL64(65)CP1R7MP3	85	1.7	T1	2.30
CL64(65)CP3R6MP3	85	3.6	T1	2.30
CL64(65)CP090MP3	85	9	T2	3.52
CL64(65)CP140MP3	85	14	T2	3.52
CL64(65)CP250MP3	85	25	T3	5.56

†See your Tansitor Distributor for prices for 25 or more pieces.
**CL64 indicates uninsulated capacitors. If outer insulating sleeve is required, change CL64 to CL65.
‡Standard Military 85°C Ratings (formerly "B" characteristic) are also available.

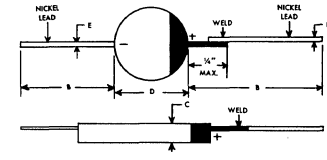
TANSITOR MICRO-MODULE — TANTALUM CAPACITORS DISC TYPE — −80°C to +125°C

Tansitor Disc Type are a new concept in tantalum capacitors. This capacitor has the best volumetric efficiency of any tantalum capacitor yet designed and produced for volume use. Specifically aimed at the micro-module market it supplements other Tansitor tantalum capacitors. Its characteristics include extremely low electrical leakage current, high capacitance per unit volume, exceptional stability over its temperature range −80°C to +125°C.

Unit	B, ±¼″	DIMENSIONS FOR D TYPE C, Max.	D, ±0.015″	E, ±0.001″	F, ±0.001″	NET PRICE (1-24)†
C1	1½″	0.060″	0.100″	0.010″	0.010″	$4.00
C2	1½″	0.100″	0.100″	0.010″	0.010″	4.50
C3	1½″	0.060″	0.250″	0.010″	0.010″	5.00
C4	1½″	0.100″	0.250″	0.010″	0.010″	5.50
C5	1½″	0.060″	0.500″	0.010″	0.010″	6.00
C6	1½″	0.100″	0.500″	0.010″	0.010″	6.50

These capacitors are not intended to be mounted by their leads.

DISC CAPACITORS



RATINGS AT 85°C

RATED VOLTAGE AT 85°C	DIMENSIONS OF UNITS C1 0.100″ Dia. x 0.060″ CAP.	PART NO.	C2 0.100″ Dia. x 0.100″ CAP.	PART NO.	C3 0.250″ Dia. x 0.060″ CAP.	PART NO.	C4 0.250″ Dia. x 0.100″ CAP.	PART NO.	C5 0.500″ Dia. x 0.060″ CAP.	PART NO.	C6 0.500″ Dia. x 0.100″ CAP.	PART NO.
3VDC	2.5	D2.5-3C1	5	D5-3C2	20	D20-3C3	40	D40-3C4	80	D80-3C5	160	D160-3C6
5	1.5	D1.5-5C1	3	D3-5C2	12	D12-5C3	24	D24-5C4	48	D48-5C5	96	D96-5C6
6	1.2	D1.2-6C1	2.4	D2.4-6C2	10	D10-6C3	20	D20-6C4	40	D40-6C5	80	D80-6C6
10	0.8	D0.8-10C1	1.6	D1.6-10C2	6	D6-10C3	12	D12-10C4	24	D24-10C5	48	D48-10C6
15	0.5	D0.5-15C1	1	D1-15C2	4	D4-15C3	8	D8-15C4	16	D16-15C5	32	D32-15C6
20	0.4	D0.4-20C1	0.8	D0.8-20C2	3	D3-20C3	6	D6-20C4	12	D12-20C5	24	D24-20C6
25	0.3	D0.3-25C1	0.6	D0.6-25C2	2.4	D2.4-25C3	4.8	D4.8-25C4	9.5	D9.5-25C5	19	D19-25C6
30	0.25	D0.25-30C1	0.5	D0.5-30C2	2	D2-30C3	4	D4-30C4	8	D8-30C5	16	D16-30C6
35	0.2	D0.2-35C1	0.4	D0.4-35C2	1.5	D1.5-35C3	3	D3-35C4	7	D7-35C5	14	D14-35C6
35	0.15	D0.15-35C1	0.3	D0.3-35C2	1.2	D1.2-35C3	2.4	D2.4-35C4	5	D5-35C5	10	D10-35C6
35	0.12	D0.12-35C1	0.24	D0.24-35C2	1	D1-35C3	2	D2-35C4	4	D4-35C5	8	D8-35C6

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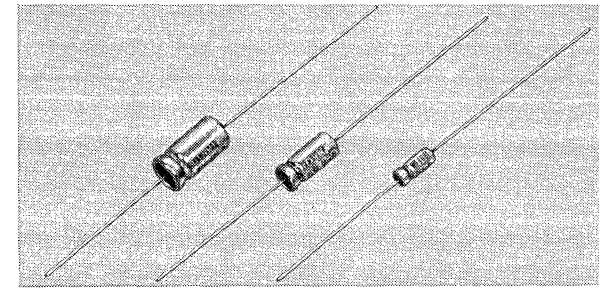
TANSITOR TANTALUM CAPACITORS — TYPE WF

(Equivalent to MIL Styles CL64 & CL65)

−55°C to +85°C and −55°C to +125°C

Tansitor type WF capacitors listed herein are manufactured to meet all the requirements of MIL-C-3965 for the ratings listed under MIL Types CL64 and CL65, except that tantalum foil is used in place of tantalum sintered slugs.

In addition to the advantages in volume, low leakage current and low power factor normally associated with this style of capacitor, the WF also offers an acid-free construction and voltage ratings up to 300 VDC at 85°C and up to 200 VDC at 125°C where 125 VDC and 85 VDC were previously considered the upper limits. The WF is lighter in weight, too, thus offering even more advantage for aerospace applications.



Case Dimensions (Uninsulated)†

CASE CODE	Length x Diameter, Inches, Nominal
D1	0.453 x 0.188
D2	0.641 x 0.281
D3	0.766 x 0.375

†For insulated case dimensions add 0.063″ to length, 0.015″ to diameter. Basic case dimensions for insulated style are same as uninsulated.

TANSITOR PART NUMBER CODE

WF | 5 | 50 | D1 | M | I

WF — Style; 5 — Capacitance; 50 — Voltage; D1 — Case Size; M — Tolerance; I — Insulating Sleeve

STANDARD WF 125°C RATINGS

Tansitor Part No.*·	Volts D.C. at 125°C	Cap. Mfds.	Case Size	Net Price 1-24†
WF30-4D1M	4	30	D1	$1.88
WF68-4D1M	4	68	D1	1.88
WF140-4D2M	4	140	D2	2.88
WF270-4D2M	4	270	D2	2.88
WF330-4D3M	4	330	D3	4.50
WF560-4D3M	4	560	D3	4.50
WF25-5D1M	5	25	D1	1.88
WF56-5D1M	5	56	D1	1.88
WF220-5D2M	5	220	D2	2.88
WF430-5D3M	5	430	D3	4.50
WF20-7D1M	7	20	D1	1.88
WF47-7D1M	7	47	D1	1.88
WF100-7D2M	7	100	D2	2.88
WF180-7D2M	7	180	D2	2.88
WF250-7D3M	7	250	D3	4.50
WF390-7D3M	7	390	D3	4.50
WF15-10D1M	10	15	D1	1.88
WF33-10D1M	10	33	D1	1.88
WF70-10D2M	10	70	D2	2.88
WF120-10D2M	10	120	D2	2.88
WF170-10D3M	10	170	D3	4.50
WF270-10D3M	10	270	D3	4.50
WF10-15D1M	15	10	D1	1.88
WF22-15D1M	15	22	D1	1.88
WF100-15D2M	15	100	D2	2.88
WF180-15D3M	15	180	D3	4.50
WF8-20D1M	20	8	D1	1.88
WF15-20D1M	20	15	D1	1.88
WF40-20D2M	20	40	D2	2.88
WF68-20D2M	20	68	D2	2.88
WF100-20D3M	20	100	D3	4.50
WF150-20D3M	20	150	D3	4.50
WF5-30D1M	30	5	D1	1.88
WF10-30D1M	30	10	D1	1.88
WF25-30D2M	30	25	D2	2.88
WF47-30D2M	30	47	D2	2.88
WF60-30D3M	30	60	D3	4.50
WF82-30D3M	30	82	D3	4.50

Tansitor Part No.*	Volts D.C. at 125°C	Cap. Mfds.	Case Size	Net Price 1-24†
WF4.40D1M	40	4	D1	$1.88
WF8.2-40D1M	40	8.2	D1	1.88
WF20-40D2M	40	20	D2	2.88
WF39-40D2M	40	39	D2	2.88
WF50-40D3M	40	50	D3	4.50
WF68-40D3M	40	68	D3	4.50
WF3.5-50D1M	50	3.5	D1	1.88
WF6.8-50D1M	50	6.8	D1	1.88
WF15-50D2M	50	15	D2	2.88
WF33-50D2M	50	33	D2	2.88
WF40-50D3M	50	40	D3	4.50
WF56-50D3M	50	56	D3	4.50
WF2.5-70D1M	70	2.5	D1	1.88
WF4.7-70D1M	70	4.7	D1	1.88
WF11-70D2M	70	11	D2	2.88
WF22-70D2M	70	22	D2	2.88
WF30-70D3M	70	30	D3	4.50
WF43-70D3M	70	43	D3	4.50
WF1.7-85D1M	85	1.7	D1	1.88
WF3.6-85D1M	85	3.6	D1	1.88
WF9-85D2M	85	9	D2	2.88
WF14-85D2M	85	14	D2	2.88
WF25-85D3M	85	25	D3	4.50
WF0.5-100D1M	100	0.5	D1	2.44
WF2.5-100D2M	100	2.5	D2	3.56
WF5-100D3M	100	5	D3	5.85
WF0.4-125D1M	125	0.4	D1	2.44
WF2-125D2M	125	2	D2	3.56
WF4-125D3M	125	4	D3	5.85
WF0.12-150D1M	150	0.12	D1	2.44
WF0.75-150D2M	150	0.75	D2	3.56
WF1.5-150D3M	150	1.5	D3	5.85
WF0.1-200D1M	200	0.1	D1	2.44
WF0.6-200D2M	200	0.6	D2	3.56
WF1.25-200D3M	200	1.25	D3	5.85

*When outer insulating sleeve is desired, add letter "I" as suffix to part number.

†See your Tansitor distributor for prices for 25 or more pieces.

SOLID CHIP TANTALUM CAPACITORS

TYPE TC: −55°C to +125°C

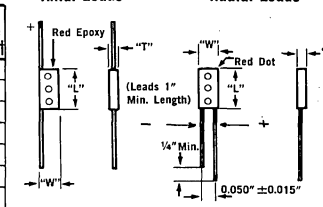
Performance Characteristics.

Tansitor's type TC solid tantalum capacitor is tailored to meet the demand for rectangular shaped, or "chip" components as often used in modular type assemblies. The small size facilitates high density packaging. Larger sizes with higher ratings available on request.

Partial List of Type TC Capacitors

Part No.*	Cap. (Mfd.)	Working Voltage DC	Net Price (1-24)†
TC .0047-20C1	0.0047	20	$1.00
TC .01-20C1	0.01	20	1.00
TC .033-20C1	0.033	20	1.00
TC .047-20C1	0.047	20	1.00
TC .068-20C1	0.068	20	1.00
TC .1-20C1	0.1	20	1.00
TC .33-10C1	0.33	10	1.00
TC .47-6C1	0.47	6	1.00
TC .68-4C1	0.68	4	1.00
TC 1-3C1	1.0	3	1.00
TC 1.5-2C1	1.5	2	1.00

Axial Leads — Radial Leads



Dimensions

Case Size	L (Max.)	W (Max.)	T (Max.)
C1	0.125″	0.070″	0.040″

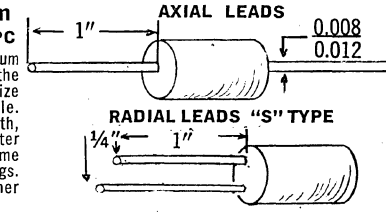
*NOTE: Part numbers as listed denote Axial Lead Configuration. When the Radial Lead Configuration is desired, add the suffix "S" to the part number. If a special capacitance tolerance is required, add the tolerance letter (see paragraph 2) at the end of the part number..

†See your Tansitor distributor for prices for 25 or more pieces.

Tansitor Solid Tantalum

Type HA: −55°C to +125°C

Tansitor's Type HA Solid Tantalum Capacitors are tailored for the Hearing Aid Industry and offer size reductions never before available. Without increasing unit length, Tansitor has decreased unit diameter while maintaining and, in some cases, increasing Capacitor ratings. Larger sizes beyond C6 with higher ratings available on request.



Axial Lead Dimensions

Case Size	Diameter +0.012 −0.000	Length ±0.010
C1	0.053	0.100
C2	0.053	0.125
C3	0.053	0.140
C4	0.063	0.170
C5	0.063	0.190
C6	0.063	0.240

Radial Lead Dimensions

Case Size	Diameter +0.012 −0.000	Length ±0.010
C1	0.063	0.100
C2	0.063	0.125
C3	0.063	0.140
C4	0.073	0.170
C5	0.073	0.190
C6	0.073	0.240

PARTIAL LIST TYPE HA SOLID TANTALUM CAPACITORS

Catalogue Number	Cap. Mfds.	Working Voltage DC	Net Price (1-24)†
HA 0.02-15C1	0.02	15	$0.80
HA 0.1-8C1	0.1	8	0.80
HA 0.1-4C1	0.2	4	0.80
HA 0.5-1.5C1	0.5	1.5	0.80
HA 0.05-15C2	0.05	15	0.80
HA 0.15-15C2	0.15	15	0.80
HA 0.5-6C2	0.5	6	0.80
HA 1-3C2	1	3	0.80
HA 2-1.5C2	2	1.5	0.80
HA 0.01-15C3	0.01	15	0.80
HA 0.05-15C3	0.05	15	0.80
HA 0.1-15C3	0.1	15	0.80
HA 0.8-15C3	0.8	15	0.80
HA 0.1-10C3	0.1	10	0.80
HA 0.5-10C3	0.5	10	0.80

Catalogue Number	Cap. Mfds.	Working Voltage DC	Net Price (1-24)†
HA 1-10C3	1.0	10	0.80
HA 0.05-8C3	0.05	8	0.80
HA 0.5-8C3	0.5	8	0.80
HA 1-8C3	1.0	8	0.80
HA 0.8-6C3	0.8	6	0.80
HA 1-6C3	1.0	6	0.80
HA 1.2-6C3	1.2	6	0.80
HA 0.04-4C3	0.04	4	0.80
HA 0.2-4C3	0.2	4	0.80
HA 0.4-4C3	0.4	4	0.80
HA 0.5-4C3	0.5	4	0.80
HA 0.8-4C3	0.8	4	0.80
HA 1.5-4C3	1.5	4	0.80
HA 2-4C3	2	4	0.80
HA 1-3C3	1.0	3	0.80

Catalogue Number	Cap. Mfds.	Working Voltage DC	Net Price (1-24)†
HA 1.5-3C3	1.5	3	0.80
HA 2-3C3	2.0	3	0.80
HA 2.5-3C3	2.5	3	0.80
HA 2-2C3	2.0	2	0.80
HA 3-2C3	3.0	2	0.80
HA 4-2C3	4.0	2	0.80
HA 0.8-15C4	0.8	15	0.80
HA 1-15C4	1.0	15	0.80
HA 1.5-8C4	1.5	8	0.80
HA 2-8C4	2.0	8	0.80
HA 4-4C4	4.0	4	0.80
HA 5-4C4	5.0	4	0.80
HA 6-3C4	6.0	3	0.80
HA 7-2C4	7.0	2	0.80

Catalogue Number	Cap. Mfds.	Working Voltage DC	Net Price (1-24)†
HA 1.5-15C5	1.5	15	0.80
HA 1.5-6C5	1.5	6	0.80
HA 2-4C5	2.0	4	0.80
HA 4-4C5	4.0	4	0.80
HA 5-4C5	5.0	4	0.80
HA 4-3C5	4.0	3	0.80
HA 5-3C5	5.0	3	0.80
HA 6-3C5	6.0	3	0.80
HA 8-2C5	8.0	2	0.80
HA 10-2C5	10.0	2	0.80
HA 2.5-15C6	2.5	15	0.80
HA 5-8C6	5.0	8	0.80
HA 10-4C6	10.0	4	0.80
HA 14-2C6	14.0	2	0.80

†See your Tansitor distributor for prices for 25 or more pieces.

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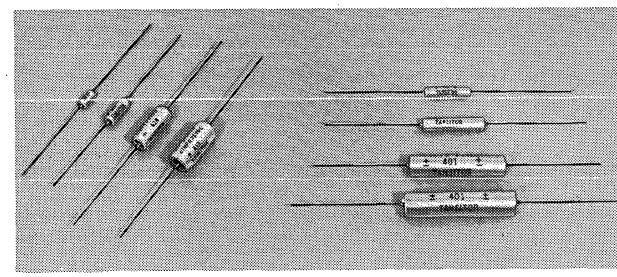
Tansitor ELECTRONICS, INC.

TANSITOR TYPE S POLAR AND NON-POLAR SOLID TANTALUM CAPACITORS

Tansitor Type S Polar and Non-polar Solid Tantalum Capacitors are designed for continuous, dependable use over their full operating range of −80°C to +125°C. The units are similar to MIL Styles CS12 and CS13.

These advantages for the design engineer are further enhanced by the excellent showing made by S type units under conditions of high frequency application and when subjected to extensive vibration and shock, including all the stringent environmental requirements of MIL-C-26655, Styles CS12 and CS13.



TYPE S POLARIZED CAPACITORS

Net Price (1-24)†

Case Size	Price (±20% tol.)	Case Size	Price (±20% tol.)
C1	$1.29	C3	$2.18
C2	1.52	C4	4.70

NOTE: Add 2¢ to unit price if sleeving is required.

STANDARD RATINGS OF TYPE S POLARIZED SOLID ELECTROLYTE TANTALUM CAPACITORS*

Cap. Mfds.	6VDC	10VDC	15VDC	20VDC	35VDC
0.0047	S0.0047-6C1	S0.0047-10C1	S0.0047-15C1	S0.0047-20C1	S0.0047-35C1
0.0056	S0.0056-6C1	S0.0056-10C1	S0.0056-15C1	S0.0056-20C1	S0.0056-35C1
0.0068	S0.0068-6C1	S0.0068-10C1	S0.0068-15C1	S0.0068-20C1	S0.0068-35C1
0.0082	S0.0082-6C1	S0.0082-10C1	S0.0082-15C1	S0.0082-20C1	S0.0082-35C1
0.01	S0.01-6C1	S0.01-10C1	S0.01-15C1	S0.01-20C1	S0.01-35C1
0.012	S0.012-6C1	S0.012-10C1	S0.012-15C1	S0.012-20C1	S0.12-35C1
0.015	S0.015-6C1	S0.015-10C1	S0.015-15C1	S0.015-20C1	S0.015-35C1
0.018	S0.018-6C1	S0.018-10C1	S0.018-15C1	S0.018-20C1	S0.018-35C1
0.022	S0.022-6C1	S0.022-10C1	S0.022-15C1	S0.022-20C1	S0.022-35C1
0.027	S0.027-6C1	S0.027-10C1	S0.027-15C1	S0.027-20C1	S0.027-35C1
0.033	S0.033-6C1	S0.033-10C1	S0.033-15C1	S0.033-20C1	S0.033-35C1
0.039	S0.039-6C1	S0.039-10C1	S0.039-15C1	S0.039-20C1	S0.039-35C1
0.047	S0.047-6C1	S0.047-10C1	S0.047-15C1	S0.047-20C1	S0.047-35C1
0.056	S0.056-6C1	S0.056-10C1	S0.056-15C1	S0.056-20C1	S0.056-35C1
0.068	S0.068-6C1	S0.068-10C1	S0.068-15C1	S0.068-20C1	S0.068-35C1
0.082	S0.082-6C1	S0.082-10C1	S0.082-15C1	S0.082-20C1	S0.082-35C1
0.1	S0.1-6C1	S0.1-10C1	S0.1-15C1	S0.1-20C1	S0.1-35C1
0.12	S0.12-6C1	S0.12-10C1	S0.12-15C1	S0.12-20C1	S0.12-35C1
0.15	S0.15-6C1	S0.15-10C1	S0.15-15C1	S0.15-20C1	S0.15-35C1
0.18	S0.18-6C1	S0.18-10C1	S0.18-15C1	S0.18-20C1	S0.18-35C1
0.22	S0.22-6C1	S0.22-10C1	S0.22-15C1	S0.22-20C1	S0.22-35C1
0.27	S0.27-6C1	S0.27-10C1	S0.27-15C1	S0.27-20C1	S0.27-35C1
0.33	S0.33-6C1	S0.33-10C1	S0.33-15C1	S0.33-20C1	S0.33-35C1
0.39	S0.39-6C1	S0.39-10C1	S0.39-15C1	S0.39-20C1	S0.39-35C1
0.47	S0.47-6C1	S0.47-10C1	S0.47-15C1	S0.47-20C1	S0.47-35C1
0.56	S0.56-6C1	S0.56-10C1	S0.56-15C1	S0.56-20C1	S0.56-35C1
0.68	S0.68-6C1	S0.68-10C1	S0.68-15C1	S0.68-20C1	S0.68-35C1
0.82	S0.82-6C1	S0.82-10C1	S0.82-15C1	S0.82-20C1	S0.82-35C1
1.0	S1.0-6C1	S1.0-10C1	S1.0-15C1	S1.0-20C1	S1.0-35C1
1.2	S1.2-6C1	S1.2-10C1	S1.2-15C1	S1.2-20C1	S1.2-35C2
1.5	S1.5-6C1	S1.5-10C1	S1.5-15C1	S1.5-20C1	S1.5-35C2
1.8	S1.8-6C1	S1.8-10C1	S1.8-15C1	S1.8-20C1	S1.8-35C2
2.2	S2.2-6C1	S2.2-10C1	S2.2-15C1	S2.2-20C1	S2.2-35C2
2.7	S2.7-6C1	S2.7-10C1	S2.7-15C1	S2.7-20C2	S2.7-35C2
3.3	S3.3-6C1	S3.3-10C1	S3.3-15C1	S3.3-20C2	S3.3-35C2
3.9	S3.9-6C1	S3.9-10C1	S3.9-15C2	S3.9-20C2	S3.9-35C2
4.7	S4.7-6C1	S4.7-10C1	S4.7-15C1	S4.7-20C2	S4.7-35C2
5.6	S5.6-6C1	S5.6-10C2	S5.6-15C2	S5.6-20C2	S5.6-35C2
6.8	S6.8-6C1	S6.8-10C2	S6.8-15C2	S6.8-20C2	S6.8-35C2
8.2	S8.2-6C2	S8.2-10C1	S8.2-10C2	S8.2-20C2	S8.2-35C3
10.0	S10-6C2	S10-10C2	S10-15C2	S10-20C2	S10-35C3
12.0	S12-6C2	S12-10C2	S12-15C2	S12-20C2	S12-35C3
15.0	S15-6C2	S15-10C2	S15-15C2	S15-20C2	S15-35C3
18.0	S18-6C2	S18-15C2	S18-15C2	S18-20C3	S18-35C3
22.0	S22-6C2	S22-10C2	S22-15C2	S22-20C3	S22-35C3
27.0	S27-6C2	S27-10C2	S27-15C3	S27-20C3	S27-35C4
33.0	S33-6C2	S33-10C2	S33-15C3	S33-20C3	S33-35C4
39.0	S39-6C2	S39-10C2	S39-15C3	S39-20C3	S39-35C4
47.0	S47-6C2	S47-10C3	S47-15C3	S47-20C3	S47-35C4
56.0	S56-6C2	S56-10C3	S56-15C3	S56-20C4	xxxxxxxxx
68.0	S68-6C3	S68-10C3	S68-15C3	S68-20C4	xxxxxxxxx
82.0	S82-6C3	S82-10C3	S82-15C4	S82-20C4	xxxxxxxxx
100.0	S100-6C3	S100-10C3	S100-15C4	S100-20C4	xxxxxxxxx
120.0	S120-6C3	S120-10C3	S120-15C4	xxxxxxxxx	xxxxxxxxx
150.0	S150-6C3	S150-10C4	S150-15C4	xxxxxxxxx	xxxxxxxxx
180.0	S180-6C3	S180-10C4	xxxxxxxxx	xxxxxxxxx	xxxxxxxxx
220.0	S220-6C4	S220-10C4	xxxxxxxxx	xxxxxxxxx	xxxxxxxxx
270.0	S270-6C4	xxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxxx
330.0	S330-6C4	xxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxxx

*TO COMPLETE PART NUMBERS, ADD APPLICABLE TOLERANCE LETTER, AND IF FLEXIBLE OUTER INSULATING SLEEVE IS REQUIRED, ADD FINAL SUFFIX LETTER "I"

POLAR
CASE DIMENSIONS (Uninsulated)*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches	CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
C1	0.125 x 0.250	C3	0.279 x 0.650
C2	0.175 x 0.438	C4	0.341 x 0.750

NON-POLAR
CASE DIMENSIONS (Uninsulated)*

CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches	CASE SIZE	Dimensions (Nominal) Length x Diameter, Inches
N1	0.145 x 0.540	N3	0.304 x 1.320
N2	0.197 x 0.915	N4	0.366 x 1.520

*For dimensions of insulated units add approximately 0.063" to length, 0.015" to diameter.

STANDARD RATINGS OF TYPE S NON-POLAR SOLID ELECTROLYTE TANTALUM CAPACITORS*

Cap. Mfds.	6 Volts	10 Volts	15 Volts	20 Volts	35 Volts
0.16	S0.16-6N1	S0.16-10N1	S0.16-15N1	S0.16-20N1	S0.16-35N1
0.24	S0.24-6N1	S0.24-10N1	S0.24-15N1	S0.24-20N1	S0.24-35N1
0.34	S0.34-6N1	S0.34-10N1	S0.34-15N1	S0.34-20N1	S0.34-35N1
0.50	S0.50-6N1	S0.50-10N1	S0.50-15N1	S0.50-20N1	S0.50-35N1
0.75	S0.75-6N1	S0.75-10N1	S0.75-15N1	S0.75-20N1	S0.75-35N2
1.1	S1.1-6N1	S1.1-10N1	S1.1-15N1	S1.1-20N1	S1.1-35N2
1.6	S1.6-6N1	S1.6-10N1	S1.6-15N1	S1.6-20N2	S1.6-35N2
2.4	S2.4-6N1	S2.4-10N1	S2.4-15N2	S2.4-20N2	S2.4-35N2
3.4	S3.4-6N1	S3.4-10N2	S3.4-15N2	S3.4-20N2	S3.4-35N2
5.0	S5-6N2	S5-10N2	S5-15N2	S5-20N2	S5-35N3
7.5	S7.5-6N2	S7.5-10N2	S7.5-15N2	S7.5-20N2	S7.5-35N3
11.0	S11-6N2	S11-10N2	S11-15N2	S11-20N3	S11-35N3
16.0	S16-6N2	S16-10N2	S16-15N3	S16-20N3	S16-35N4
24.0	S24-6N2	S24-10N3	S24-15N3	S24-20N3	S24-35N4
34.0	S34-6N3	S34-10N3	S34-15N3	S34-20N4	xxxxxxxxxx
50.0	S50-6N3	S50-10N3	S50-15N4	S50-20N4	xxxxxxxxxx
75.0	S75-6N3	S75-10N4	S75-15N4	xxxxxxxxxx	xxxxxxxxxx
110.0	S110-6N4	S110-10N4	xxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxx
160.0	S160-6N4	xxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxx

*To compiete part numbers, add applicable tolerance letter, and if flexible outer insulating sleeve is required, add final suffix letter "I".
†See your Tansitor distributor for prices for 25 or more pieces.

Type S, Non-Polar Capacitors

Net Price (1-24)†

Case Size	Price (±20% tol.)
C1	$2.78
C2	3.24
C3	5.34
C4	9.70

NOTE: Add 2¢ to unit price if sleeving is required.

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CAIG LABORATORIES INC.

CRAMOLIN-ELECTRONIC CONTACT CLEANER

"THE LESS YOU USE—THE BETTER IT WORKS!"

The amazing contact cleaner with a world wide reputation for excellence in performance. Used by the professionals who want only the best — Army, Air Force, Navy, Bureau of Standards and hundreds of top known manufacturers of electronic apparatus.

FEATURES:

- CLEANER
- LUBRICANT
- PRESERVATIVE
- ANTI-CORROSIVE

THE *BREAK-THRU* FOR

HIGHER PERFORMANCE ELECTRIC CONTACTS

Reduces contact resistance and sparking by dissolving oxide film formations. Temp. operating range —34°C. to 150°C. Effective on all metals and their alloys including gold, silver, copper, etc. Stays on moving contacts. Free of acids. Safe to use. Lasts for years.

Write for Tech Facts.

CRAMOLIN: Fluid for protection & cleaning of old & new contacts.
CRAMOLIN-SPECIAL: Fluid for protection of new contacts.
CRAMOLIN-PASTE: Semi-solid for protection & cleaning High Voltage/Amperage contacts.

PRICES

DESCRIPTION	CRAMOLIN (Red Color)	CRAMOLIN-SPECIAL (Blue Color)	CRAMOLIN-PASTE	*CAEON SOLVENT #27
2 oz. Glass Bottle	$1.95	$2.25		
4 oz. Glass Bottle				$1.60
½ pint Glass Bottle	6.75	7.50		2.85
1 pint, Glass Bottle	13.00	14.50		4.00
1 quart, Glass Bottle	25.50	28.00		6.00
¼ Kg Can (½ lb)			$2.90	
6 oz. Spray	3.00	3.50		
Engineers Kit {with tech facts}	6.75	(Contains: CRAMOLIN, CR-Special & Paste.)		

CONTACT CLEANER SPRAY

"CRAMOLIN — SPRAY R"

FREE — 6" EXTENSION SPRAY TUBE

Now — for those who prefer the spray can method of application. CRAMOLIN SPRAY R has same properties as CRAMOLIN FLUID. Packaged in neat spray can with automatic valve. Equipped with a whirl spray head, which will apply CRAMOLIN — breath thin — to most remote areas. The Hygrade propellant and speedy evaporating solvent leaves only a microfilm of actual CRAMOLIN on contact area.

$3.00 6 OZ. SPRAY CAN

MOISTURE REPELLENT

"CRAMOLIN SPRAY 3S"

PROTECT — RESTORE — CLEAN

LUBRICATE

For all electric and electronic equipment • Effective as a general cleaner, hydro-repellent, dielectric sealer and lubricant • Has excellent adherence. Safe to use on metals, rubber and synthetic materials • Reduces arcing, stops sparking and creeping currents in high voltage parts, switchboards, control panels, isolators, tube sockets, etc. • Temperature consistency between —50°C to +200°C • Can be used on all electronic equipment which is constantly used in high humidity and water, dust and gas fumes • Prevents corrosion, will not evaporate, will not gum, improves lubricating and sliding properties. Contains no silicon.

Write for Bulletin C-400

$4.25 6 OZ. SPRAY CAN

ACRYLIC PLASTIC SPRAY

"CRAMOLIN — SPRAY PLASTIK"

An air drying, colorless special plastic spray coating for electronic circuits, T.V., Radio, Aerial construction, automotive and many electric applications • It seals, protects, insulates and coats • Is age and weatherproof, water repellent, will not fade, has excellent adherence properties. Tropics proof • Resists acid and alkaline solutions as well as mineral oils • Withstands temperatures up to +180°C. Assures long lasting protective coatings on all metals, alloys & chrome • Protects against creeping currents, short circuits, weakened insulation breakdowns • As a sealant it helps to eliminate corrosion.

$2.75 6 OZ. SPRAY CAN

CLEANING SOLVENT

"CAEON SOLVENT #27"

(Trichlorotrifluorethane)

A cleaning agent for removal of oil, grease, and dirt from objects without harm to metal, plastic, or elastomeric parts.

• NON-FLAMMABLE • VIRTUALLY NON-TOXIC • CHEMICALLY AND PHYSICALLY PURE • CHEMICALLY AND THERMALLY INERT • STABLE

The solvent exhibits a washing and penetrating action which aids its cleaning ability. High density and low surface tension enables Caeon #27 to wet the surface of most materials and wash away dirt and sludge.

The solvent is useful in ultrasonic and vapor degreasing equipment. Soils which are normally insoluable in any solvent can often be removed by this solvent with cavitation in ultrasonic units. Vapor rinsing is more easily accomplished without exposing object to high temperatures.

The solvent is compatible with most organic systems. It will remove soils or contaminants and leave the surface 'Residue-Free'. All standard methods of using a solvent may be employed.

Write for Tech Facts. ***See Price List on This Page**

WESCOLITE SOLDER KIT

SOLDERING SIMPLIFIED

Combines a New Wonder Flux and the finest silver solder for stronger bond. Fast and easy to use. Soldering of the difficult or impossible metals together or to each other.

$2.50 KIT

No Pre-Cleaning • No After Cleaning
Removes oxides, promotes tinning and capillary flow.

WESCOL FLUX

4 oz. dispenser	$1.70	½ gallon	$ 8.00
16 oz. dispenser	3.15	1 gallon	14.00

Wescol Solder 220 . . . Soft Silver Solder. 5/6% Silver. Balance Tin.

1/16" dia., 3/32" dia., 1/8" dia.	$19.95/lb.
1/32" dia., 3/64" dia.	21.00/lb.

Shipped in one (1) lb. reels

CHEMTRONICS

COLOR LUBE *Non-Drift Color TV Tuner Cleaner*

A tuner cleaner specially formulated with TC-5 to safely clean and lubricate all color TV tuners.

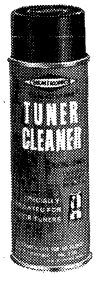
- Will not detune tuners • Safe for all plastics • Non-flammable

Cat. No.	Unit Size	Dealer Net
CL 8	8 oz.	2.39

SUPER FROST AID *Cools Faster • Leaves No Liquid Residue*

SUPER FROST AID is a faster circuit freezer designed to locate thermal intermittent components... without leaving a liquid residue.

Cat. No.	Unit Size	Dealer Net
1550	15-oz.	2.79



new New TUN-O-LUBE *Tuner Cleaner Specially Formulated for Nuvistor & Transistor Tuners*

- Leaves NO oily residual deposits
- Fast drying
- Will not detune the most critical tuners
- Safe for all plastics
- Non-flammable

Cat. No.	Unit Size	Dealer Net
800	8 oz.	1.98

FROST AID *Saves Hours in Locating Defective Components*

FROST AID is a circuit freezer used to instantly cool and pin-point suspected intermittent resistors, capacitors, coils and other components.

Cat. No.	Description	Unit Size	Dealer Net
850	8 oz. ECONOMY SIZE	8-oz.	1.39
1650	16 oz. GIANT SIZE	16-oz.	2.19

TUN-O-LUBE *Triple Action Tuner Cleaner*

Cleans • Lubricates • Protects

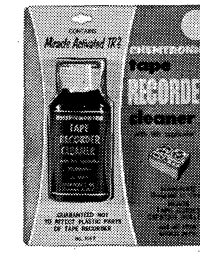
CHEMTRONICS "Non-Drift" TUN-O-LUBE is designed to clean and lubricate tuners in one simple operation.

- Will not harm plastic parts
- Non-flammable

AVAILABLE IN THREE SIZES

Cat. No.	Description	Unit Size	Dealer Net
301	Special "Caddy Size"	3 oz.	.98
810	8 oz. Economy Size	8 oz.	1.98
1610	16 oz. Giant Size	16 oz.	2.79

TAPE HEAD CLEANER *With Special Felt Applicator*



CHEMTRONICS' TAPE HEAD CLEANER is scientifically designed to clean heads, tape guides, capstan rollers and all other critical parts of TAPE RECORDERS.

- Increases the life of tape and heads
- Improves fidelity and eliminates tape squeal
- Guaranteed not to affect plastic parts of tape recorder.

Cat. No.	Unit Size	Dealer Net
504-3	2-oz.	.89

TROL AID *Activated Control-Contact Cleaner*

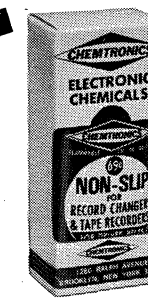
Cleans and lubricates controls, contacts, switches, relays and all other sliding contact devices...in one fast operation.

- Safe for all plastics
- Longer lasting protection against oxidation
- Non-flammable

Cat. No.	Description	Unit Size	Dealer Net
302	Special "Caddy Size"	3-oz.	.98
820	8 oz. Economy Size	8-oz.	1.98
506-5	Bottle	2-oz.	.79

NON-SLIP *For Record Changers and Tape Recorders*

new



Prevents slippage of rubber drives, belts and cords.

- Fast-drying
- Will not harm rubber
- Prevents slippage to insure uniform speed

Cat. No.	Unit Size	Dealer Net
507-7	2-oz.	.98

Will restore the gripping of old and hardened phono drives and belts.

RECORD CLEANER *With FREE "Lint-Free" Record Cleaning Cloth*

CHEMTRONICS Anti-Static RECORD CLEANER is a specially formulated cleaner that is highly effective for cleaning phonograph records and keeping them static-free!

- Provides long lasting protection for all records
- Safe to use for all records

Cat. No.	Unit Size	Dealer Net
RC 33	6-oz.	.98

MASK-N-GLAS *Anti-Static Glass & Plastic Cleaner & Polisher*

CLEANS and POLISHES Plastic TV Masks—Safety Glass—Face of Picture Tube.

MASK-N-GLAS is a non-abrasive dirt and grime remover...highly suitable for the cleaning of television masks, safety glass and the front of picture tubes.

FREE—Lint-Free Cleaning Cloth Attached!

Cat. No.	Unit Size	Dealer Net
840	6-oz.	1.79

Net

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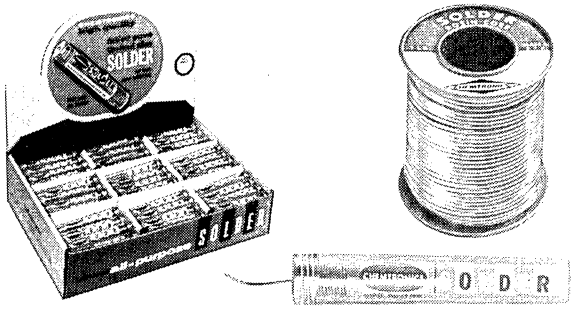


CHEMTRONICS' ACTIVATED RESIN CORE SOLDER

NEW IMPROVED! FAST FLOWING

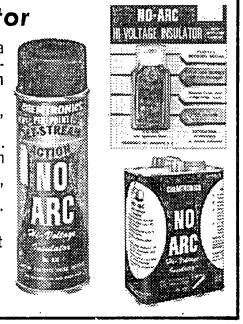
CHEMTRONICS' high quality solder is non-corrosive and non-hygroscopic. Easily solders such metals as Brass, Zinc, Copper and Ferrous Alloys. Exceeds requirements of Federal Specifications QQ-S-571d.

Composition	Diameter In Inches	Dealer Net 1 Lb.	5 Lbs.
40% Tin 60% Lead	1/16" (.062)	$1.69	$ 8.00
50% Tin 50% Lead	1/16" (.062)	2.03	9.65
60% Tin 40% Lead	1/16" (.062)	2.31	11.00
60% Tin 40% Lead	1/32" (.031)	2.98	14.25

Cat. No.	Descritpion	Unit Size	Dealer Net
S-100	60/40 Pure tin-lead alloy. A high quality activated resin core solder in a handy dispenser.	110"	$.39

Other alloys and sizes available. Prices subject to change without notice.

NO ARC *Hi-Voltage Insulator*



CHEMTRONICS' highly effective NO ARC provides a tough and protective insulating coating for hi-voltage transformers, yokes, chassis and leads in high voltage sections.

It is also recommended for printed circuits, waterproofing and exposed wiring.

- With more than 20,000 volts dielectric strength.
- Positively stops arcing and corona shorts in high voltage circuits.

NO ARC 830 is specifically designed to "jet-out" in a confined stream . . . for pin-point application. IT IS NOT A SPRAY!

Cat. No.	Unit Size	Dealer Net
501-1	2-oz.	.98
830	8-oz.	2.79

NO ARC is available in bulk quantities.

CONTACT KLEEN *Electrical Contact and Control Cleaner That Leaves No Oily Residue*

CONTACT KLEEN restores and cleans relays, attenuators, controls, switches, prongs and all other contact devices.

- Will not harm plastic parts
- Non-flammable

Cat. No.	Unit Size	Dealer Net
605	8-oz.	1.49

KLEER SPRAY *Clear Acrylic Insulating and Protective Spray*

Dries in minutes • Will not "run" • Highest insulating properties • Fungus and chemical resistant.

CHEMTRONICS' KLEER SPRAY is highly recommended for:

- Insulating exposed wiring
- Waterproofing auto ignition systems
- Prevention of rust and corrosion
- Protective coating for antennas

KLEER SPRAY leaves a high-gloss protective coating on metal, wood and paper surfaces.

Cat. No.	Unit Size	Dealer Net
890	16-oz.	1.39

TUN-O-WASH
Tuner Degreaser

for Cleaning and Degreasing the inside and outside of Tuners, Printed Circuits, etc., without removing them from the chassis.

CHEMTRONICS' TUN-O-WASH is a new breakthrough in the art of TV set servicing. TUN-O-WASH, developed originally for TV tuner degreasing and removal of heavy oils, dirt and grease, has proven to be very effective in all electronic degreasing applications such as motors, printed circuits, generators, relays, switches, controls, etc.

Compounded by the leading electronic chemical manufacturers, the ingredients have been carefully assembled to prevent any harm to plastics or components, and will leave no residue. The thoroughness of TUN-O-WASH to degrease in most cases, eliminates the need for disassembling, prevents recontamination, dissolves only grease and oil, is safe to use on operating equipment and is non-toxic and non-flammable.

Cat. No.	Unit Size	Dealer Net
2400	24 oz.	$3.25

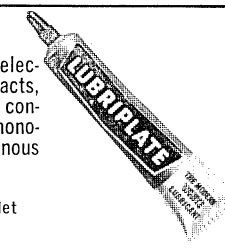
CHEM-OIL *A Very Fine All-Purpose Lubricating-Penetrating Oil*

CHEMTRONICS' CHEM-OIL is highly recommended as a lubricant on record changers, tape recorders and delicate instruments . . . and also as a "Frozen Yoke Remover".

CHEM-OIL provides superior "lubricating-penetrating" action against rust and corrosion. Non-gumming • non-drying • excellent rust-inhibiting properties.

Cat. No.	Unit Size	Dealer Net
870	8-oz.	1.79

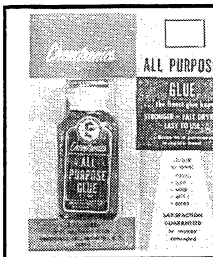
LUBRIPLATE



LUBRIPLATE—a white grease compound for electronic and electrical switches, tuners, contacts, etc. Prevents corrosion . . . prolongs life of contacts. Also excellent for record changers, phonograph motors, gears, bearings, synchronous motors, etc.

Cat. No.	Unit Size	Dealer Net
105	1¾-oz.	.75

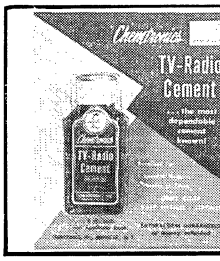
ALL-PURPOSE GLUE



CHEMTRONICS ALL-PURPOSE GLUE is the best all-purpose glue for servicemen. It is stronger, faster drying and is excellent for joining plastic, wood and metals.

Cat. No.	Unit Size	Dealer Net
503-6	2-oz.	.55

TV-RADIO CEMENT



CHEMTRONICS TV-RADIO CEMENT is an unexcelled high grade cement especially prepared for repairing speakers. It can also be used for glass or bakelite.

Cat. No.	Unit Size	Dealer Net
502-2	2-oz.	.55

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GC ELECTRONICS

CHEMICALS AND KITS

GC Chemicals (Cements, Thinners, Paints, Oils, Varnishes, etc.), are available in handy 2 oz. bottles with brush-in-cap. Also supplied in larger sizes.

G-C RADIO-TELEVISION SERVICE CEMENT—This high grade cement is specially prepared for Radio, Television and Speaker Work. Unexcelled for cementing and replacing cones on dynamic speakers, repairing rattling or torn cones, cementing voice coils, spiders, etc.
Cat. No. 30-2 GC 2 oz. Net $ .55
50-2 Walsco

G-C PLASTIC CEMENT—Excellent for cementing broken plastic cabinets, cementing grille cloth in place, cementing dial and glass crystal assemblies, cementing knots in dial, cords, etc.
Cat. No. 32-2A GC 2 oz. Net $ .55
40-02 Walsco

G-C "BAKELITE" CEMENT—This cement is especially made for cementing "BAKELITE" to "BAKELITE" and to other materials.
Cat. No. 32-2 GC 2-oz. Net $ .87
66-02 Walsco

G-C "VINYLITE" CEMENT—This new G-C Cement based upon "VINYLITE" vinyl resins, has great adhesion, high tackiness and extreme flexibility.
Cat. No. 58-2 GC 2-oz. Net $ .55
55-02 Walsco

G-C FABRIC AND GRILLE CLOTH CEMENT—For cementing grille cloth and fabrics to either metal, plastic or wood cabinets.
Cat. No. 22-2 GC 2-oz. Net $ .60
53-02 Walsco

G-C WOOD CABINET GLUE—This is the ordinary well-known wood glue that is used in repair of furniture, chairs, radio cabinets, etc.
Cat. No. 39-2 GC 2-oz. Net $ .55
78-02 Walsco

G-C No. 28 CEMENT THINNER— This thinner is made of same solvents as G-C Service Cement and makes the best thinner for G-C Service Cement.
Cat. No. 28-2 GC 2-oz Net $ .52

G-C RADIO SERVICE SOLVENT—The best solvent for loosening cement on speaker cones, frames, etc., made to dissolve all types of cements. Can also be used as a thinner for G-C Cement and other cements.
Cat. No. 31-2 GC 2-oz. Net $ .52
201-02 Walsco

G-C No. 29 LACQUER THINNER—Solvent for thinning all lacquers, lacquer enamels, telephone black and gray, touch-up lacquers.
Cat. No. 29-2 2-oz. Net $ .52

G-C No. 41 Q-DOPE THINNER—Excellent solvent for Polystyrene, Q-Dope and any other Polystyrene Coil Dopes and Cements. Will soften and disolve polystyrene rods, sheets, etc. Clear water-white solvent will not change characteristics of original materials.
Cat. No. 41-2 GC 2-oz. Net $ .52
56-02 Walsco

G-C RUBBER-TO-METAL & PHONO DRIVE CEMENT Specially prepared for cementing ruber phono and dial drives to shafts and pulleys.
Cat. No. 35-2 GC 2-oz. Net $ .60
56-02 Walsco

G-C PLIOBOND CEMENT—Bonds anything to anything—iron, steel, plastic, glass, aluminum, cotton, vinyl sheets, stainless steel, etc. A truly universal cement.
Cat. No. 43-2 GC 2-oz. Net $ .60
67-02 Walsco

G-C ACRYLIC-PLEXIGLASS CEMENT — Specially prepared for cementing Lucite, Plexiglass and other arcylic materials.
Cat. No. 40-2 GC 2-oz. Net $ .60
65-02 Walsco

G-C NE-O-PRENE CEMENT—For cementing neoprene rubber to neoprene or neoprene to other products, such as metal, wood, paper, etc.
Cat. No. 52-2 2-oz. Net $ .87

G-C LABEL CEMENT—Here's a label cement that will make labels stick to anything—metal, glass, wood, tin, etc.
Cat. No. 46-2 2-oz. Net $ .55

G-C TV HIGH VOLTAGE CORONA DOPE—Prevents corona shorts on high voltage circuits in Television sets.
Cat. No. 47-2 GC 2-oz. Net $ .78
195-02 Walsco

G-C RED-X TV CORONA DOPE—Prevents corona shorts in high voltage circuits in TV sets. Coat surfaces and sharp corners to stop corona effect.
Cat. No. 50-2 GC 2-oz. Net $ .78
198-02 Walsco

G-C TV TUBE KOAT—For recoating the outside of TV picture tubes that have become scratched or the surface is peeling.
Cat. No. 49-2 GC 2-oz. Net $ .72
199-02 Walsco

NON-SLIP COMPOUND FOR RADIO DIALS—Powder Compound for treating friction type dial drives such as cords, cabels and belts.
Cat. No. 1210 Non-Slip, 2-oz. Net $ .55

LIQUID NON-SLIP—Penetrating and fast-drying liquid dressing. Shrinks fibres, prolongs life of cables and belts and prevents slipping.
Cat. No. 1211 ½-oz. Net $ .38

G-C No. 67 PAINT THINNER—Excellent for Ruf-Koat, Krome-Koat, B-K Cement, Insulating Varnish and Rubber Cements.
Cat. No. 67-2 GC 2-oz. Net $ .52
204-02 Walsco

G-C DE-OX-ID—Cleans and prevents oxidation on sensitive circuit contacts. Use in Television, Radio, Telephone, Relays, Instruments, etc.
Cat. No. 19-1 GC 1-oz. 100-01 Walsco Net $ .70
19-2 GC 2-oz. 100-02 Walsco Net $ 1.03

G-C PHONO NON-SLIP COMPOUND—Prevents slippage of phono drives on changers, tape recorders, and all types of recorder drives.
Cat. No. 86-2-S GC 2-oz Net $ .96
144-02 Walsco

G-C RED GLYPTAL INSULATING VARNISH—Most common of all protective insulating coatings, used on all solder connections, high voltage points, anti-corona.
Cat. No. 90-2 GC 2-oz. Net $ .63
134-02 Walsco

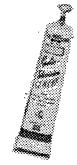
G-C CARBON TETRA-CHLORIDE—100% pure Carbon Tetra-Chloride, non-explosive and non-inflammable. For cleaning electrical controls and contacts.
Cat. No. 211-2 2-oz. Net $ .52

G-C CONTACT DOPE—Ideal contact cleaner for electronic switches, controls and contacts. Specially prepared to resist corrosion and oxidation on contacts.
Cat. No. 1214 2-oz. Net $ .48

G-C NON-CORROSIVE LIQUID SOLDERING FLUX—Best quality non-corrosive flux for all types of radio and electrical soldering, for copper, brass, steel, nickel, etc.
Cat. No. 42-2 2-oz. Net $ .55

G-C Q-DOPE (COIL DOPE)—Specially prepared for coating, doping, sealing, cementing and impregnating coils and paints in "Very High" and "Ultra High" frequency ranges.
Cat. No. 37-2 GC 2-oz. Net $ .55
57-02 Walsco

G-C LIQUIDOPE—Gives coils a tough protective film that insures firmness and prevents characteristic changes due to weather.
Cat. No. 36-2 2-oz. Net $ .60



G-C RADIO AND TELEVISION CEMENT—High grade speaker cement in a handy tube for those who prefer to use a tube. Cement can be applied directly from tube on the parts to be cemented without the use of a brush. Also used for television work, sealing nuts, bolts, etc., on antennas, rotators, etc.
Cat. No. 34-2
2-oz. tube Net $ .55

G-C INSULATING & DIPPING VARNISH—Produces a smooth, tough film that is water-proof, oil-proof and non-corrosive. Recommended for treating field coils, noisy or buzzing transformers and choke coils.
Cat. No. 56-2 GC 2-oz. Net $ .60
190-02 Walsco

G-C FUNGUS VARNISH—Used on all types of Radio, Electronics and Communication equipment to prevent moisture absorption and fungus growth, when equipment is used in hot and humid climates.
Cat. No. 57-2 GC 2-oz. Net $ .66
135-02 Walsco

G-C STRIP-X—Removes insulating enamel from wires for easy soldering. Use on magnet wire, etc.
Cat. No. 26-2 GC 2-oz. Net $ .78
251-02 Walsco

G-C MAG-NETIK RECORDING HEAD CLEANER—Cleans without injury to the recording head that gradually lose their sensitivity if oxide accumulates.
Cat. No. 53-1 1-oz. Net $ .67
53-2 2-oz. $1.03

GC MAGNETIC CEMENT--Permanently bonds iron cores, broken loopsticks, slugs, flyback and yoke cores. Renews part to original function.
Cat.No. 38-2 2-oz. Net $.80

G-C No. 14-2 PRINT-KOTE SILICONE RESIN—After repairing or replacing parts in printed circuits, protect the panel joints and parts. Fast air drying.
Cat. No. 14-2 2-oz. Net $1.40

G-C No. 13-2 PRINT-KOTE SOLVENT FOR SILICONE RESIN—The only solvent for G-C 14-2 Silicone Resin. Will dissolve and remove silicone resin from printed circuits.
Cat. No. 13-2 2-oz. Net $ .42

G-C PRINT-KOTE SOLDERING FLUX—Non-corrosive liquid flux for easy soldering and repairing of printed circuits.
Cat. No. 12-2 2-oz. Net $ .60

G-C CEMENT KIT — A kit containing a complete selection for every application. Kit includes 2-oz. samples of Service, Pli-O-Bond, Acrylic, Plastic, Bakelite, Vinylite, Grille Cloth, Model, Wood, Rubber-to-Metal, Electrical and Resistor, Neoprene, Label and Vinyl Cements. Ideal for research and development.
Cat. No. 345 Net $5.97

GC SPRAY CANS

GLASS TREATMENT COMPOUND
"For All Glass and Plastics"
- DEGREASES
- REMOVES STATIC
- WATERPROOFS

"GC 60" treatment compound makes all glass and plastics cleaner and brighter, degreases, removes static, waterproofs and keeps surfaces cleaner longer. Comes with handy spray applicator for easier application. Easy to use, just spray on and wipe clean.

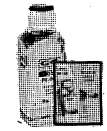
GC No.		Std. Pkg.	Net
175-6	16 oz. bottle	12	1.15
175-16	16 oz. bottle	3	2.02
175-G	1 gallon	1	12.99

SUPER FREEZE MIST
PLASTIC SPRAY EXTENSION
"COOL CIRCUITS THREE TIMES FASTER"

Instant cooling action at its best. Super Freeze Mist is a "Dry" cooler because it leaves no liquid residue. Here is a cooling agent which is non-toxic and nonflammable, has a pleasant odor, and does the job three times faster than other coolers.
Super Freeze Mist enables the Serviceman to pinpoint bad capacitors, transistors, oxidized joints, by cooling components.

GC No.	Watsco		Net
8668	216-06	6 oz. aerosol	1.25

Standard Package 24



"Most Powerful All-Purpose TV–Radio Cleaner"
The most ourstanding "All purpose" electronic contact cleaner. This is not a solvent-type cleaner but consists of active ingredients in light oil base. Use it on volume controls, tone controls, audio mixers, relays, etc. A small drop lasts for months or years.

DE-OX-ID

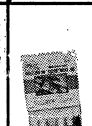
GC No.		Std. Pkg.	Net
19-1	1 oz. bottle	6	.70
19-2	2 oz. bottle	12	1.03
19-2-S	2 oz. bottle carded	12	1.03
19-6	6 oz. aerosol can	6	2.45
19-16	16 oz. bottle	3	8.50

NO-OX

Walsco		Std. Pkg.	Net
100-01	1 oz. bottle	6	.70
100-02	2 oz. bottle	12	1.03
100-02-S	2 oz. bottle carded	12	1.03
100-06	6 oz. aerosol can	6	2.45
100-16	16 oz. bottle	3	8.50
100-33	1 gallon	1	40.65

SPRA-KLEEN - eliminates noise due to dust, dirt and corrosion on contacts. Just spray, and work controls.
Cat. No. 8666....6 oz....Net $ .99
Cat. No. 8666-16.....Net $ 1.95
16 oz (sprays upside-down)

ZERO-MIST SPRA KOAT - instantly locates defective(intermittent) circuit components due to temperature change. Circuits cooled instantly. Components isolated.
Cat. No. 8667...16 oz... Net $ 2.42



GC ELECTRONIC DRY CLEANER
"Leaves Absolutely No Deposits"
Plastic Spray Extension Included FREE!
Clean contacts, relays, and other electronic devices with this "Dry" cleaner where no residual, oily deposits are desired. This product is also an excellent degreaser and general solvent for inks, gummy deposits, etc., on all electrical or mechanical devices such as typewriters, presses, etc.

No.	Std. Pkg.	Net
8669	16 oz. aerosol.....12	2.10

K-27 PRINT-KOTE - TV silicone resin for printed circuits. Insulates, protects, prevents shorts. As used by the original manufacturer.
Cat. No. 14-6 GC 6-oz. Net $2.42
120-06 Walsco

RELAY-KLEEN - contact cleaner, excellent for cleaning relays and contacts in switchboards, automatic pinball or bowling machines, rocket or satellite circuitry.
Cat. No. 8682....6 oz...Net $ 1.89
Cat. No. 8682-16..16 oz..... Net $3.49

RUF-KOAT WRINKLE VARNISH hard, durable finish.
Cat. No. 60-12.....Net $ 2.25
12 oz. Black
Cat. No. 60-13.....Net $ 2.25
12 oz. Gray

GC SILVER PRINT - for printed circuit repairs. Same Pure Silver as used by original printed circuit manufacturers
Cat. No. 21-1 GC ½ troy oz. Net 3.30
36 Walsco
Cat. No. 21-2 GC 1 troy oz. Net 5.75
36-1 Walsco
GC COPPERPRINT 2 oz bottle
Cat. No 20-2.....Net $ 1.95

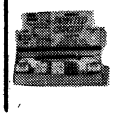
JIF - contact and control cleaner will not harm plastics. Contains no harsh solvents. Cleans, lubricates, long-lasting protection.
Cat. No. 8670-6...6 oz.. Net $ 1.79

GC DE-OX-ID - electrical contact cleaner for silver, detent and radar contacts. For TV, radio, telephone, relays, contacts, etc.
Cat. No. 19-6...6 oz.... Net $ 2.45

CREME-O-WAX POLISH
New Improved
"For Radio and TV Cabinets"
The best white non-staining polish that money can but for furniture, radio-TV cabinets, pianos, etc, Dries to hard glossy finish. Polish cabinets after service calls, results bring added sales.

GC No.	Walsco		Std. Pkg.	Net
92-2		2 oz. bottle	6	.49
92-8	230-08	8 oz. bottle	6	.70
95-16		16 oz. bottle	3	1.05
95-G		1 gallon	1	4.95

MP-5 outdoor metal protectant; provides chemisorption type bond to metal surfaces. Superior to other organic compounds. Contains - UCARSIL* silicones. *Trademark of Union Carbide Corp.
Cat. No. 8681 ...6 oz..... Net $1.79



GC STANDARD PRINTED CIRCUIT KIT - contains foil, solder washers, solder wire, solder probe tool and brush, silcone resin lacquer and solvent, tweezers and instructions.
Cat. No. 682.....Net $ 5.35

Spra-Koat
RED - X TV CORONA DOPE
Prevents Corona Shorts in High Voltage TV Circuits
New red color coats surface and corners to stop corona effect. Fast drying, silicone base. Has excellent dielectric strength Net
GC No. 50-12 16 oz. spray can 2.18
Standard Package 12

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

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CHEMICALS AND KITS

GC ELECTRONICS

GC NON-TOXIC ELECTRO-TET CLEANER

Closely parallels Carbon Tetrachloride, but much safer. Non-flammable, fast drying.
Cat. No. 10-G..1 gallon..Net $ 7.50

GC KLEEN-TEX CLEANER

Removes grease, oil, wax. Safe, slow burning, high flash, inexpensive cleaner for motors, chassis, vacuum cleaners, etc.
Cat. No. 11-G..1 gallon..Net $ 3.75

GC ELECTRONIC CONTACT CLEANER HYPODERMIC NEEDLE INJECTOR

A handy applicator using the hypodermic injection method for cleaning and lubricating around controls and tight places.
Cat. No. 8383.....Net $ .48

WALSCOLUB-B

Electrically neutral lubricant that prevents corrosion.. Makes for smooth, noise-free operation of electrical contacts, band switches, attenuators, push button tuners, remote control switches and other contacts.

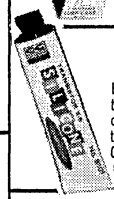
No.	Desc	Net
22-01	1-3/4-oz tube	.55

GC DE-OX-ID KIT WITH NEEDLE INJECTOR

Contains 2-ounce bottle of De-Ox-Id cleaner and hypodermic type of applicator.
Cat. No. 8460.....Net $ 1.45

GC PHONO TURNTABLE MOTOR & GEAR LUBRICANT

A specially developed lubricant for phonographs. Lubricant clings to surface of parts; eliminates future repairs.
Cat. No. 1223-S 2-ounce Net $ .55



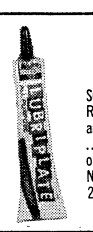
GC TRANSISTOR Z-5 SILICONE COMPOUND

Essential in maintaining efficient transfer of heat from transistor to chassis. Use whenever replacing transistors.

Cat. No.	1-ounce tube	Net
8101-S		2.17

GC SKRATCH STIK KIT

For Walnut, Mahogany and Light wood surfaces. Kit of 3 sticks.
Cat.No. 909-K ..... Net $1.35



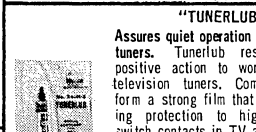
LUBRIPLATE

Super lubricant, grease type,protective. Reduces friction loss, prevents rust and corrosion. Extends bearing life 50% ...increases mechanical efficiency 20% over ordinary lubricant.

No.	Desc	Net
23-02-S	2-oz tube	.75

GC MASTER DELUXE CABINET REPAIR KIT

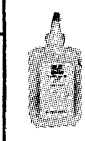
Contains varnishes, enamels, spirit stains, all of the essentials needed to make cabinet repairs like a professional. Satisfy even the most exacting customer.
Cat. No. 900.....Net $ 9.65



"TUNERLUB"

Assures quiet operation of television tuners. Tunerlub restores smooth positive action to worn and dirty television tuners. Compounded to form a strong film that gives lasting protection to high frequency switch contacts in TV and FM tuners. Free of zinc and other metal oxides which impair high frequency operation.

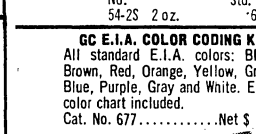
No.		Std. Pkg.	Net
26-01S	1¼ oz. tube, carded	12	.99
26-17	1 lb. Can	1	2.55



GC TUBE BASE CEMENT "Repairs CRT and Octal Type Tubes"

Tube Base Cement is ideal for repairing octal and CRT type tubes that have separated from the glass. Easy to apply in plastic squeeze bottle. Set up in approximately 2 hours under normal conditions.

No.		Std. Pkg.	Net.
54-2S	2 oz.	6	.99



GC E.I.A. COLOR CODING KIT

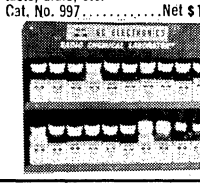
All standard E.I.A. colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray and White. E.I.A. color chart included.
Cat. No. 677.....Net $ 1.47

GC DIAL & SIGNAL LIGHT COLORING KITS

For signal systems, radio dials, decorative lighting, etc. Contains Red, Green, Blue, Amber, Purple and solvent.
Cat. No. 66-5, kit of 5, no purple Net $ 1.23
Cat. No. 66-6, kit of 6... Net $ 1.43

GC RADIO TV CHEMICAL LAB

Twenty, 2-ounce bottles in permanent bench rack. Every needed chemical and cement is included for all types of repairs on speakers, coils, contacts, dials, etc.
Cat. No. 997.....Net $ 13.75



GC DELUXE RADIO-TV CHEMICAL LAB

For service shop and industrial plant. Complete practical lab, designed for serviceman, engineer, technician. Contains solvents, cleaners, cements, etc.
Cat. No. 998..... ...Net $17.50

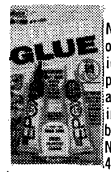
GC DC-Z9 SILICONE HEAT SINK COMPOUND

DC-Z9 increases the efficiency of electronic devices lowering overall temperature level. High heat conductive metallic oxides suspended in silicone dissipate "hot spots". DC-Z9 seals between transistors, diodes, etc., compound will not dry out or harden.

No.	Net
8109 1-oz. Tube	2.39

AIR-DRY WRINKLE VARNISH

Factory No.	like finish without baking. Desc	Net
145-06	Blk, 6-oz jar	1.87
145-12	Blk, 16-oz spray can	2.25
145-33	Blk, 1 gall. can	15.91
146-12	Gray, 16-oz spray can	2.25
146-33	Gray, 1-gall. can	16.49



SUPER GLUE

New miracle cement. Bond strength of over 3000 lbs. per square inch. Particularly suitable for cementing non-porous materials. Cures at room temperature through chemical action. Supplied in two ingredients which must be mixed before application.

No.		Std.Pkg.	Net
40-100	2 - ¾ oz. tubes	12	.99

SUPER STRONG GC EPOX CEMENT "Bond Anything to Anything"

GC Epoxy Adhesive is one of the new miracle cements with properties never before attainable. This adhesive cures at room temperature through chemical reaction. It will provide high bond strength and exceptional adhesion to many materials which are normally difficult, if not impossible, to cement. This product is supplied in two ingredients which must be mixed before application.

No.		Std. Pkg.	Net
346	Kit of two tubes (approx. 3 oz.)	1	1.95

EPOXY GLUE "SUPER GRIP"

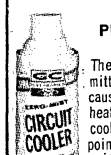
This remarkable Epoxy Glue is specified by NASA for use in it's Space Program. The selection of this particular Epoxy Glue by NASA was made because of it's outstanding properties. Epoxy Glue is dimensionally stable... it won't shrink or expand. It is chemically stable, also resisting acids, alkali, grease, gas, water, etc. High electrical resistance is yet another of it's assets. Mixed in equal amounts from two tubes, it will harden in 5 minutes under 150 degrees F. heat lamp--2 to 4 hours at room temperature.

No.		Std. Pkg.	Net
347	Kit of two tubes (approx. 4 oz.)	6	2.50

INSUL-VOLT HIGH VOLTAGE INSULATING SPRAY WITH SURE-SHOT CONFINED STREAM

Positive insulation against hi-voltage leaks, arcing and corona shorts. Recommended for use on transformers, electric motors, generators, and all electrical windings. Ideal for servicemen and manufactors of generators, motors and transformers.

GC. No.	Walsco	Std. Pkg.	Net
10-608	40-804 6 ounce spray	12	1.99



ZERO-MIST PLASTIC SPRAY EXTENSION INCLUDED FREE!

The new scientific way to locate "intermittence" in electronic equipment, caused by component failures, due to heating. The application of GC Zero-Mist cools components instantly, thereby pinpointing faulty capacitors, transistors, oxidized junctions, etc. Use of GC Flex-Sol spray can extension is recommended.

GC No.	Walsco	Net
8667	214-12 16 oz. Aerosol	2.42
	Standard Package 12	

NUVI-TRAN TUNER CLEANER

Formulated Especially for Critical Nuvistor and transistor Circuitry

A non-conductive, non-toxic cleaner for cleaning sensitive Nuvistor and Transistor Tuners. Nuvi-Tran will not affect electrical properties, and is safe for all plastics TV tuners.

GC No.		Net
5555	8 oz. spray can	2.29
	Standard Package 12	

GC PRESSURIZED LUBRICATING OIL

For complete, thorough lubrication. Reaches into smallest areas. Excellent for ball bearings, moving machinery, gears, etc. A high-grade, light machine oil. No spilling, No waste.

Cat. No. **10-916** 6 oz spray can Net .75

WALSCO ACTION

Electronic Silicone Contact Cleaner--won't harm plastics, non-flammable. Provides long-lasting protection.

No.		Net
99-06	6-ounce Spray Can	.99
99-16	16-ounce Spray Can	1.49

WALSCO ACRY-SPRAY

Prevents corrosion, rust, oxidation on all metals.

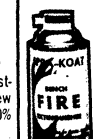
No.	Net
140-12 Clear 8665 GC	1.50
141-12 Aluminum 8660 GC	1.63

GC DRI-SPRA

FORMULA X-27
STOPS ELECTRICAL FAILURE?

Cleans and lubricates - seals out moisture - prevents rust and corrosion. New water displacement spray prevents 80% of electrical equipment failures.

Cat. No. **8678** 6 oz spray can Net 1.79



GC BENCH FIRE EXTINGUISHER

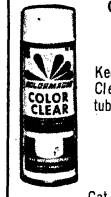
Works on all types of fires; electrical, oil, grease. Fast, low-cost method of fighting small fires - excellent supplemental fire protection. Keep one in garage shop or home.

Cat. No. **10-914** 16 oz spray can Net 1.57

COLORMAGIC SPRA LUBE COLOR TV TUNER CLEANER

Non-Drift cleaner especially formulated for cleaning and lubricating all color TV Tuners. Completely safe for plastics used in tuners. Made of highest quality chemicals. Safe to use - non-flammable.

Cat. No. **8888** ... 8oz spray can Net 1.95



COLORMAGIC COLOR CLEAR COLOR TV TUBE CLEANER & ANTI-STATIC AGENT

Keeps away unsightly dust and lint. Cleans and destaticizes color TV picture tube surface sparkling clear.

Cat. No. **8890** ... 8 oz spray can Net .99

GC PLASTIC & GLASS CLEANER

Spray on - wipe off dirt, dust and grime from all glass and plastic surfaces without streaks or dulling residue. Contains grease - cutting ammonia.

Cat. No. **9082** 16 oz spray can Net .79

AUDIO-VIDEO MAGNETIC TAPE HEAD CLEANER

GC Audio-Video Tape Head Cleaner quickly removes dirt and oxide build-up; won't harm tape, tape coating or paint finish. This cleaner will not interfere with transmission and may be used on running tape. Audio-Visual Tape Head Cleaner eliminates applying cleaner with brush or swab. 6" spray extension is furnished with each can for pinpointing spray.

No.		Std. Pkg.	Net
10-620	16 oz. aerosol	12	2.35

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

IMPERIAL SPECIALIZED LUBRICANTS-CLEANERS-GREASES

FOR COMMERCIAL, INDUSTRIAL AND AUTOMOTIVE USES

X-27 DRI-SPA-Water Displacement Spray

Seals out moisture, cleans, lubricates, prevents rust and corrosion which causes 80% of electrical equipment failures. Use wherever moisture could be a problem . . contacts, switches, motors . . leaves a dry surface on locks, hinges, tools, typewriters, business machines, and drawer slides. Does not harm paint, rubber, plastic, metal or wood. Will not freeze, melt, drip or wash off. It moisture proofs engines, ignition systems, assures fast starts, prevents electrical current leakage of batteries, wires and points.

Part No. 79-702 16 oz. can
12 per case . . . . . Net Ea. 2.85

LOOSE-ALL MECHANICAL THREAD FREE-ER

Free tight, rusted and seized parts, fast! Displaces moisture, leaves a rust and corrosion resistant film. Ideal for use on tools, dies, tight or rusted nuts, bolts, pin, hinges, linkage fasteners and valves. Effective as a lubricant and rust protector on threaded steel stock and machine shafting. Useful on automotive muffler-tailpipe connections and couplings, latches, hinges, and wiper assembly.

Part No. 79-109 16 oz. Can – 12 per case ..... Net Ea. 1.70

CUTTING AND TAPPING OIL

All purpose aerosol for all metal cutting and tapping operations. Clings to curved surfaces, even overhead. Spray tube equipped can sends oil to all those hard to lubricate places. Reduces tap breakage, increases tap life, produces cleaner threads, cuts tapping costs.

Part No. 79-105 16 oz. can – 12 per case . . . . Net Ea. 1.90

PENETRATING AND LUBRICATING OIL

A high quality penetrating oil that loosens corrosion, frees rusty nuts and bolts. With high pressure spray, oil penetrates in record time. Ideal for carrying in coverall pocket or tool kit. The aerosol method of applying a cleaner and lubricant actually saves time and money. Ideal for marine, automotive, and plant maintenance personnel.

Part No. 79-101 16 oz. can – 12 per case . . . . Net Ea. 1.65

HEAVY DUTY OPEN GEAR AND WIRE ROPE LUBRICANT

A heavy-duty lubricant with exceptionally strong adherence to teeth and gears, penetrating metal pores, forcing grease to the core of wire rope. Clings well, resists heat and pressure, will not wash off or wear away. Moisture resisting, offers excellent rust protection.

Ideal for fifth wheels on tractor, trucks & drive chains, screw threads, flexible coupling and die set leader pins, wire rope, cables, industrial and commercial wires. Excellent lubrication on all open gears . . . saves teeth . . . eliminates stripping.

Part No. 79-103 16 oz. can – 12 per case . . . Net Ea. 1.67

OPEN CHAIN LUBRICANT WITH MOLY

A light oil lubricant with Moly-Additive which resists higher pressures or temperatures. Will force water and moisture out of metal pores. Use on chain drives, hoist chains, chain saws, link and roller assemblies, linkages, hinges, sprockets, clippers, cutter bars and conveyors.

Part No. 79-106 16 oz can – 12 per case . . . . Net Ea. 1.66

ALL PURPOSE DEGREASER & ENGINE DEGREASER

1, 1, 1-Trichloroethane – A Safe, Easy-to-use Cleaner

Safe, non-flammable solvent that attacks oil, grease, inks, adhesives, fresh paint coatings with a slow evaporation rate. Will not cause dermatitis. Excellent for cleaning of silicone from molds, wax build-ups, removing resin and pitch from equipment, cleaning up polyester and epoxy equipment. Also used as an adhesive agent for styrofoam.

Part No. 79-604 16 oz. can – 12 per case . . . . Net Ea. 1.65

MOLY OIL LUBRICANT

A molybdenum disulfide, highly effective lubricant under conditions of higher pressures of temperatures. Excellent for use on conveyors, hoist chains, chain saws, chain drives, link and roller assemblies, cutter bars, hinges, clippers, linkages and sprockets.

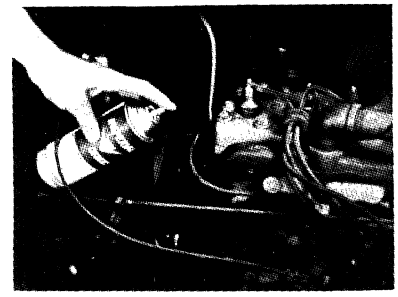
Part No. 79-107 16 oz. can – 12 per case . . . Net Ea. 1.50

ZINC CHROMATE PRIMER-AEROSOL

A high quality metal primer excellent for painting galvanized metal. Keeps paints from chipping, bubbling, peeling or cracking, protects against rust and corrosion. Ideal for touch up of equipment and machinery, provides tough bonding and adhesive qualities.

Part No. 79-5958 Yellow – 20 oz. can . . . . . Net Ea. 2.10
Part No. 79-5959 Yellow – Bulk . . . . . Contact Factory
Part No. 79-5956 Green – 20 oz. can . . . . . Net Ea. 2.10
Part No. 79-5957 Green – Bulk . . . . . Contact Factory

Meets performance requirements of government specifications MIL-P-8585A (superseding MIL-P-6889A) modified for aerosol packaging.



PROFESSIONAL TOOL AND DIE LAYOUT INK

Quick drying, provides smooth, even surface that takes scribing beautifully, no brushes or rags, will not flake or peel, scribed lines last until job is finished. Pigmented ink has firm gripping action . . . no acid in formula. Non-corrosive . . . does not clog in can, resists heat.

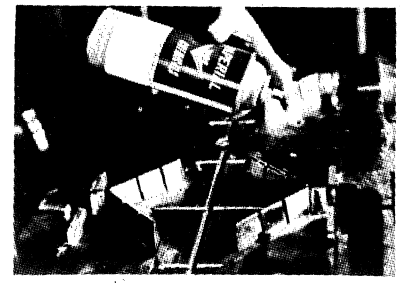
Both aerosol and bulk Imperial Tool and Die Makers Inks are readily removable by using Imperial Tool and Die Layout Ink Remover and General Solvent.

Part No. 79-457 Blue Layout Ink –
6 oz. 12 per case . . . . Net Ea. .98
Part No. 79-458 Blue Layout Ink –
16 oz. 12 per case . . . . Net Ea. 1.75
Part No. 79-460 Red Layout Ink –
16 oz. 12 per case . . . . Net Ea. 1.75

1%, 3% or 5% SILICONE MOLD RELEASES

Lets you use just the right amount of silicone for the job at hand. Ends molding problems . . . no sticking, no ripples. Will not discolor molded pieces. Hundreds of applications from one can. No more over use. Fixed percentages of Silicone sprays enables you to use just the right amount of silicone content for the job, which when sprayed into the mold every few shots, insures complete penetration and coverage.

Part No. 79-304 16 oz. spray can – 12 per case
1% Silicone Net Ea. 1.00
Part No. 79-303 16 oz. spray can – 12 per case
3% Silicone Net Ea. 1.15
Part No. 79-305 16 oz. spray can – 12 per case
5% Silicone Net Ea. 1.30



PAINTABLE MOLD RELEASE AGENT

A tested paintable mold release agent for ABS resins, acrylics, cellulosics, melamines, polyesters, polystyrenes, and rubber compounds. Will not discolor molded parts . . . produces flawless moldings and smooth release. Surfaces may be painted with any solvent-base paint after normal preparation procedures are followed. With handy spray can, you apply only what you need . . . surplus build-up may easily be removed from molded piece with a cloth dampened with solvents or other detergents.

Part No. 79-306 16 oz. spray can – 12 per case Net Ea. 1.57

FLUOROCARBON RELEASE AGENT AND LUBRICANT

Acts as excellent release agent up to a temperature of 500 degree F. A 20% dispersion of white, waxy tetrafluoroethyene telomer (chemically related to *Teflon TFE fluorocarbon resins) in *Freon solvent. Non-staining and transparent. May be used on plastics, rubber, metals, and wood, or used as a lubricant for metal cutting, rolling and drawing. As a dry lubricant, it repels water, oil, grime, etc., will not interfer with post-finishing operations. Used in dairy, baking, paper making, on machinery, in farming, painting, tooling, packaging, conveyor, electrical, electronic, automotive, musical instrument and vending machine industries.

Part No. 79-307 16 oz. aerosol
12 per case . . . . . Net Ea. 1.95

MP-5 METAL PROTECTANT

Contains Ucarsil, Silicones

MP-5 metal protectant prevents corrosion on most metals. Easily applied, air dries in 5 to 10 minutes. Cures in 15 minutes at 250 degrees F., 10 to 14 days at normal temperature. MP-5 provides a chemisorption type of bond superior to any other organic material. The effective outdoor life of treated articles is 6 to 12 months.

Part No. 79-206 16 oz. spray can – 12 per case Net Ea. 3.45

BENCH FIRE EXTINGUISHER

Works on all Types of fire.

A fast, low-cost method of fighting small fires before serious trouble develops. Good for any kind of fire, including electrical, oil, and grease fires. These chemicals remove oxygen from the fire area, smother the flame. Ideal for garage, basement, service shop, any place where highly inflammable solvents and thinners are used.

Part No. 79-10-914 16 oz. spray can –
12 per case . . . . Net Ea. 1.65

ANTI-STATIC SPRAY NON-STAINING . . . NON-TOXIC

Designed to neutralize static electricity generated by friction or atmospheric conditions. Also effective in limiting airborne dust accumulation. Tested and proven in production applications involving rollers, drive belts, conveyors, slitters, gluers, etc., in the plastics, paper, printing and packaging industries. Anti-Static treated surfaces are paintable after normal cleaning procedures are followed to remove dust and oil.

Part No. 79-503 16 oz. spray can –
12 per case . . . . Net Ea. 1.70

CARTON SAVER – "SPRA-KOAT" TAN

Restore unused imprinted cartons to like-new condition. Matches carton color. Fast drying with maximum coverage. Will not rub off, makes carton overruns a thing of the past.

Waterproofs at the same time it hides. For use on all porous and non-porous surfaces.

Part No. 79-10-912 16 oz. spray can –
12 per case . . . . Net Ea. 1.65

GLASS AND PLASTIC CLEANER

Contains grease cutting ammonia and special cleaning agent which will not streak or smear. Does not contain silicone, leaves no film. Convenient, economical to use, just spray on and wipe with clean cloth or paper towel. Excellent for windshields, windows, mirrors, porcelain and ceramic surfaces, and for cleaning and brightening aluminum reflectors in lighting fixtures.

Part No. 79-9082 16 oz. can – 12 per case. . . Net Ea. .79

SPRA-KLEEN-SWITCH AND CONTACT CONTROL CLEANER/LUBE

Eliminates noise due to dust, dirt and corrosion. Cleans and lubricates all electrical switches and contacts. Cleans and lubricates contacts, controls, relays, circuit breakers, switches, servo-mechanisms, motor starters and other sliding contact devices in one operation. Will not inhibit electrical contacts. Will not harm materials around parts to be sprayed. Equipped with plastic extended spray tube to pinpoint use in confined areas. Ideal for use in plant, office, and mobile units.

Part No. 79-8666 6 oz. can – 24 per case . . . . Net Ea. .99

WRITE FOR CATALOG #FR-075-1 FOR COMPLETE LISTINGS

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INJECTORALL CHEMICALS and TOOLS

INJECTORALL ELECTRONICS CORP.

ALIGNMENT TOOLS

IN 8606 5" HEX WRENCH — double end net $ .48

IN 8606L 11" HEX WRENCH — double end net $ .63

IN 8607 5" HEX WRENCH & SCREWDRIVER net $ .48

IN 8727 7" TUNER SCREWDRIVER — double end net $ .43

IN 8728L 12" TUNER SCREWDRIVER — double end net $ .53

IN 9300 5" MIDGET HEX WRENCH — double end net $ .48

KIT NO. 6 Six Alignment Tools. Yellow delrin alignment tools as listed above.

KIT 6 6 alignment tools net $1.95

AIR CONDITIONER

Aero-Kleen

Oil spray for air-conditioner filters, dripless and scented.

495 16 oz. spray can net $1.29

CEMENTS & GLUES

Phono Grip-Well

Non-slip compound for dial cords, and slipping phono turntables.

68-2 2 oz. glass bottle net $ .90

Speaker Cement

Vibration proof, fast drying, forms flexible bond; brush in cap, a plastic glue.

201 2 oz. glass bottle net $ .48

Stik-It Glue

All purpose glue in squeeze bottle, spreads white, dries clear, spout with attached cap.

39 2 oz. squeeze bottle net $ .24

CIRCUIT COOLERS

Chill-It

A refrigerant spray, to pin-point defective electronic components.

179-6 6 oz. spray can net $1.29

179-16 16 oz. spray can net $1.79

CLEANERS

Contact Cleaner

Superior non-toxic spray solvent, dries quickly; with 4" steel needle.

999WN 6 oz. spray can net $1.79

Degreaser No. 3

Air drying cleaning compound, excellent for ultrasonic application.

3 1 gal. can net $6.90

Drive Wheel Cleaner

Cleans and renews neoprene and rubber drive wheels.

251-2 2 oz. glass bottle net $ .90

Lens Kleen

Plastic cleaner, antistatic, for plastic TV windows and meters; with cleaning cloth.

20 6 oz. aerosol can net $ .99

CLEANERS

Fidelity Record Cleaner

Antistatic spray, cleans and protects records; with record cleaning cloth.

70WC 3 oz. spray can net $ .90

Hi-Fi Control Cleaner

Cleaner and lubricant for volume controls; with plastic needle.

799-3 3 oz. spray can net $ .90

Tape Head Cleaner

Cleans tape recorder heads, removes squeal, flutter, wow, safe to use, with cotton-covered wire brush.

250-2 2 oz. glass bottle net $ .89

250-3 3 oz. spray can with plastic needle 1.19

Super 100

Tuner cleaner and lubricant, will not affect plastics, contains ANTI-STATIC agent, for color and black & white TV tuners. NET

100-3 3 oz. spray w/plastic Needle $ .89

100-6 6 oz. spray w/steel Needle 1.95

100-8 8 oz. spray w/steel Needle 2.25

100-16 16 oz. spray w/steel Needle 2.99

Tuner Cleaner

Cleaner and lubricant for TV tuners and controls, non-toxic, non-flammable. NET

899-3WN 3 oz. spray w/plastic Needle $ .89

899-6 6 oz. spray can only without Needle 1.79

899WN 6 oz. spray w/steel Needle 1.95

899-16WN 16 oz. spray w/steel Needle 2.99

COATINGS & INSULATORS

Clear Spray

A transparent plastic spray, waterproofs, insulates metal, wood, rubber and paper surfaces.

399 16 oz. spray can net $1.29

Red Hi-Volt

Fast drying insulator, prevents arcing and corona in high voltage circuits, has high dielectric strength.

129-2 2 oz. glass bottle net $ .89

129-6 6 oz. spray can 1.29

129-16 16 oz. spray can 2.28

129G 1 gallon can 7.50

FURNITURE POLISH

Renew

Scratch cover polish for dark or light finishes; with cloth.

30WC 6 oz. aerosol can net $ .90

OILS & LUBRICANTS

Slide E-Z Grease

A Grease Gun In An Aerosol Can — contains ANTI-OXIDANT to prevent corrosion, extends part life.

666-4 4 oz. aerosol can net $1.20

Spot Lubricating Oil

Non-gumming, for tape-recorders and record players; with plastic needle.

10-3 3 oz. spray can net $ .90

10-16 16 oz. spray can net $1.79

Squeal-Stop

Dry lubricant, leaves no oily film, won't affect wires; with plastic needle.

50 3 oz. spray can net $ .90

PAINTS & VARNISHES

Anti-Fungus Varnish

Conforms to MIL 173B specifications, natural color; prevents fungus growth.

15-16 16 oz. spray can net $2.40

Injectorall Spray Paints

With FREE masking tape - 13 oz. ea. net $ .99

GLOSS

- **300-13** Gloss White
- **301-13** Appliance White
- **302-13** Gloss Black
- **303-13** Clear
- **307-13** Fire Red
- **308-13** Ribbon Blue
- **309-13** Pink
- **310-13** Rich Blue
- **311-13** Mist Green
- **312-13** Light Gray
- **313-13** Hunter Green
- **316-13** Light Yellow

FLAT & METALLIC

- **304-13** Flat White
- **305-13** Flat Black
- **306-13** Metal Primer Grey
- **314-13** Gold
- **315-13** Aluminum

Fluorescent Paints - 13 oz. spray can net $1.87

FLUORESCENT

- **325-13** Cerise Red
- **326-13** Green
- **327-13** Blue
- **328-13** Red Orange
- **329-13** Lemon Yellow

PRINTED CIRCUITS

Resist Ink Pen

Use like any felt marker pen. Black only.

195 fine tip net $1.25

196 medium tip net $1.25

Resist Ink Solvent

Removes inks, markings and surplus flux. Evaporates quickly. Non-toxic, non-flammable.

198 2 oz. glass bottle net $ .90

Etchant

Removes excess copper from printed circuit boards. Electronic grade solvent.

199 1 pint plastic bottle net $1.41

199Q 1 quart can net $2.25

199G 1 gallon can net $8.50

Poly Spray Insulator

For Coating Printed Circuits — a polyurethane resin forms a smooth, transparent coating, conforms to MIL 1-46058A specifications.

65-16 16 oz. spray can net $2.28

Copper Touch-Up

A copper-filled conductive ink for touching printed circuit boards. Will adhere to plastic, glass and ceramics.

197 2 oz. glass bottle net $1.90

Printed Circuit Kit

Consists of copper boards, resist ink pen, solvent, etchant, drill bit and a plastic case in which the boards are etched. Complete directions.

500 mounted on display card net $5.95

SERVICE AIDS

Jet Air

Removes dust, lint and dirt from electronic chassis, projectors and precision instruments. Dry air reaches hard-to-get-at places.

8 8 oz. spray can net $1.19

Heeger, Inc., as national sales administrators, present the following chemicals that have found favor with engineers, laboratory technicians and production in industry, to assist them in procuring the best proven material to enable them to arrive at the best results.

From the laboratories of
H. M. H. INDUSTRIES

PROPELLON INSTANT FREEZE

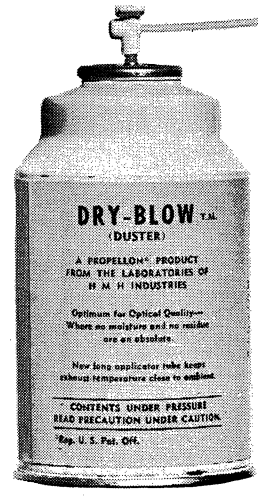
Used by electronic engineers and technicians for detecting defective electronic and electrical parts, due to thermal intermittance. Valuable in the laboratory, field testing, service bench or field work, maintenance of equipment and in the electronic and electrical analysis of trouble. Propellon "Instant Freeze" delivers the lowest temperature practical for above uses. Odorless, non-toxic and non-flammable.

The 12" extender facilitates in directing the spray directly onto the area tested. Also aids in getting into inaccessible places.

12 TO A CASE

PACKED IN 7 OZ. CANS AND 15 OZ. CANS — 12" EXTENDER FREE WITH EACH CAN

7 OZ. CAN, with 12" extender.....ea. $1.45
15 OZ. CAN, with 12" extender.....ea. $2.25



"DRY-BLOW" T.M.

(Duster)

A Propellon product for the service technician for cleaning before and after integrated circuitry repairs or replacements. For blowing dust and dirt out of chassis and between parts and tubes where it is impossible to reach with brush or cloth.

Used by electronic engineers and technicians, electronic and optical laboratories and any place where fine dust particles are a problem to eliminate.

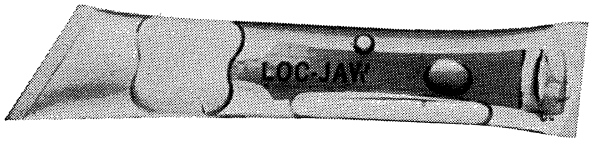
12 TO A CASE

PACKED in 15 OZ. CANS — 18" EXTENDER FREE WITH EACH CAN

15 OZ. CAN, with 18" extender.....ea. $2.25

From the laboratories of
HASCOL ENTERPRISES

LOC-JAW



A SCIENTIFICALLY COMPOUNDED ADHERENT FORMULA

"Loc-Jaw" is an "Epoxy" base compound for bonding metal to metal, glass to glass, glass to wood, wood to wood, metal to wood, etc. Properly proportioned, it hermetically seals small parts and connections. After setting, it actively resists salt water and salt air, gasoline, chemicals and solvents of all types and withstands temperatures up to 300° F. Applicable to many industrial uses. Packed in its own plastic container and applicator. Indispensable where an adherent or sealer is needed.

INDIVIDUAL PLASTIC CONTAINER .....ea. $ .98
BAG OF 10 .....per bag $7.50

From HASCOL LABORATORIES

SAL-MET

NON-CORROSIVE FLUX

- **SOLDERS COPPER TO ALUMINUM**
- **ALUMINUM TO ALUMINUM**
- **SOLDERS ALL METALS**

A scientific laboratory non-corrosive flux for soldering all metals. By using "SAL-MET," copper can be soldered to aluminum, aluminum to aluminum, copper to steel, copper to copper; in fact, any metal to metal is possible. No special preparation on material to be soldered. Use conventional solder, applied with quick heat, regular soldering iron, torch or pot.

1 oz. Tubes.....ea. $ .95
1 lb. Can.....ea. $7.88

WRITE FOR COMPLETE CATALOG

PRICES SUBJECT TO CHANGE

L M B®

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QUIETROLE

the original LUBRICANT CLEANER

SPRAY IT OR DROP IT . . .

the NEW

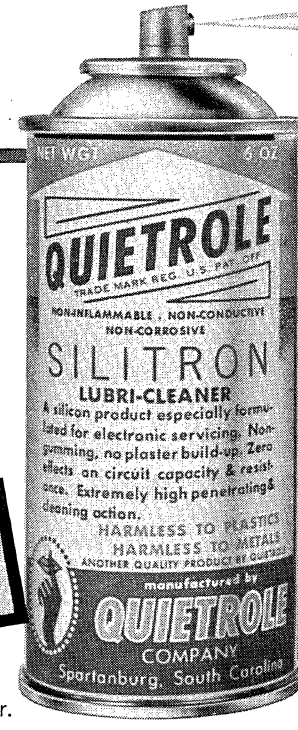
BIG THREE AEROSOLS

for Electronic Servicing

MARK-II FOR TUNERS

SPRAY-PACK FOR CONTROLS & SWITCHES

"HARMLESS TO PLASTICS"
"HARMLESS TO METAL"



SILITRON FOR GENERAL USE

OR

QUIETROLE BOTTLE with the Eye Dropper

"QUIETROLE" is the preferred, standard product of the industry! Your guarantee for quieting noisy television and radio controls, switches and other moving parts is QUIETROLE. Here is the original, non-inflammable, most reliable lubricant-cleaner on the market today — developed through years of factual and authentic research. Perfect for all servicing, including color.

NON-INFLAMMABLE — NON-CONDUCTIVE — NON-CORROSIVE

There is no substitute for QUALITY . . . get QUIETROLE TODAY

A First of the Industry. . . . A 21 Year Plus Record of Proven Superiority. Built to Meet a Demand, Not a Price.

QUIETROLE BOTTLE

Cat. No.	Size	Min. Order	Min. Re-order	Distr. Net Resale price
10-2	2 oz.	24	24	$1.69
10-3	4 oz.	16	8	2.54
10-4	8 oz.	8	6	5.07
QUIETROLE BOTTLE WITH BRUSH-N-CAP				
10-3A	4 oz.	16	8	2.64

FOR COLOR & BLACK & WHITE TV

QUIETROLE AEROSOLS

All include free plastic extender . . . HARMLESS TO PLASTICS . . . ZERO EFFECTS ON CAPACITY & RESISTANCE . . . Non-Inflammable . . . Non-Conductive . . . Non-Corrosive.

Cat. No.	Size	Order Min.	Min. Re-order	Distr. Net Resale price
10-5	6 oz.	12	12	2.89 Spray-Pack
10-7	6 oz.	12	12	2.89 Mark II
10-8	6 oz.	12	12	1.98 Silitron

QUIETROLE COMPANY

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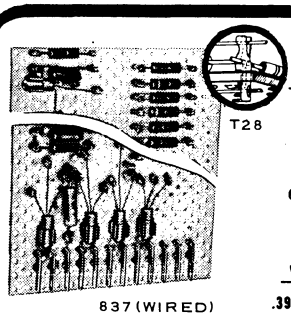
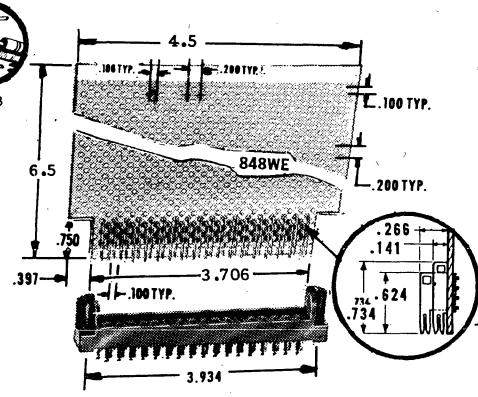
Net

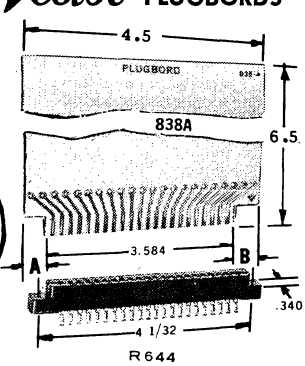


R612-1

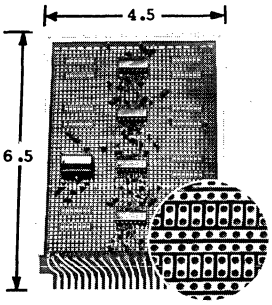


R635

Vector PLUGBORDS



R644



VECTOR D.I.P. PLUGBORDS

VECTOR PLUGBORDS speed plug-in circuit construction because the pre punched holes accept push-in terminals, eyelets or turned terminals and the contacts are already on the board. Epoxy paper boards meet requirements of MIL-P-22323, Type PEE; Epoxy glass is G-10 grade per MIL-P-18177; copper clad Epoxy paper meets MIL-P-13949 Type PX, and copper clad Epoxy glass meets MIL-P-13949.

838 SERIES same as above, except with 2 oz. copper etched contacts on .156″ centers. 838PWE has TO-5 transistor base pad network one side. "GN" types have nickel plated gold flashed contacts.

812, 837, 848 SERIES furnished with attached Elco Varicon contacts have .062″ holes on alternate 0.1″ centers.

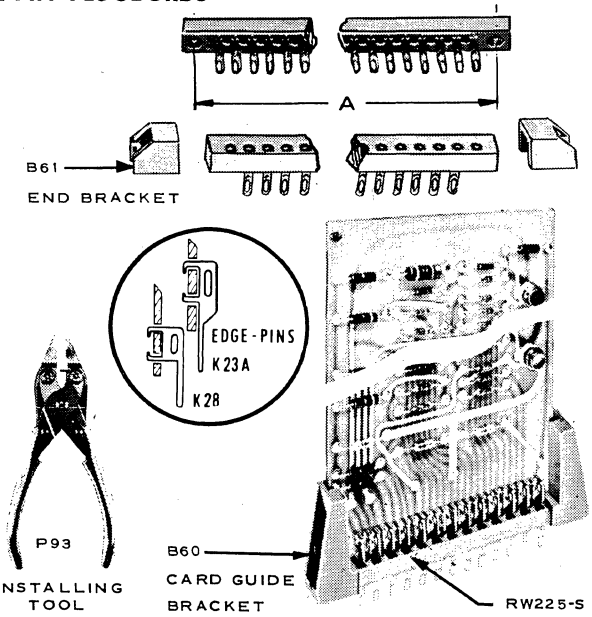
VECTOR D.I.P. PLUGBORDS permit quick hookup of integrated circuits. Boards are punched with .041″ holes on 0.1″ centers and have mounting pad areas for twelve D.I.P.s. Etched lines .070″ wide spaced on .1″ centers run horizontally on front side and vertically on rear side of board to reduce hand wiring. Listed boards have: (A) 44 etched contacts (total front and back) spaced on 0.156″ centers; (B) 35 Elco Varicon contacts on 0.1″ centers; (C) 39 Vector Edge-pin contacts on 0.1″ centers; (D) 78 etched contacts (total front and back) on 0.1″ centers. Patchcords are available.

Receptacles listed are glass filled diallyl phthalate.

Ordering Information

Cat. No.	Description	A	B	Net Price 1-19
812	4½″ x 6½″ Epoxy Paper, 16 Varicon Contacts			$2.87
812WE	4½″ x 6½″ Epoxy Glass, 16 Varicon Contacts			3.39
R616-1	Molded Receptacle for 812, 812WE			2.24
837	3″ x 4½″ Epoxy Paper, 12 Varicon Contacts			2.24
837WE	3″ x 4½″ Epoxy Glass, 12 Varicon Contacts			2.48
R612-1	Molded Receptacle for 837, 837WE			1.80
838	4½″ x 6½″ Epoxy Paper, 43 Etched Contacts, 2 Sides	.408″	.508″	3.74
838-1	4½″ x 6½″ Epoxy Paper, 43 Etched Contacts, 2 Sides	.453″	.453″	3.74
838A	4½″ x 6½″ Epoxy Paper, 22 Etched Contacts, 1 Side	.408″	.508″	2.70
838A-1	4½″ x 6½″ Epoxy Paper, 22 Etched Contacts, 1 Side	.453″	.453″	2.70
838AWE	4½″ x 6½″ Epoxy Glass, 22 Etched Contacts, 1 Side	.408″	.508″	3.05
838AWE-1GN	4½″ x 6½″ Epoxy Glass, 22 Etched Contacts, 1 Side	.453″	.453″	4.52
838PWE	4½″ x 6½″ Epoxy Glass, Etched Pads, 1 side	.408″	.508″	3.51
838WE	4½″ x 6½″ Epoxy Glass, 43 Etched Contacts, 2 Sides	.408″	.508″	3.71
838WE-1GN	4½″ x 6½″ Epoxy Glass, 43 Etched Contacts, 2 Sides	.453″	.453″	5.59
R644	Receptacle for above (fits all above etched boards)			2.62
848WE	4½″ x 6½″ Epoxy Glass, 35 Varicon Contacts			5.86
R635	Receptacle for 848WE			4.91
D.I.P. PLUGBORDS	and Accessories—All boards 4½″ W. by 6½″ L.			
3474	44 Etched Contacts (Mate w/R644 Listed Above)			10.50
3475	39 Vector Edge-pins (Mate w/RW241-S w/B-60 Guides)			10.57
B60	Card Guide Brackets for RW241-S Receptacle Pkg. of 5 pr.	Any Quantity		1.50
RW241-S	Receptacle for D.I.P. Plugbord 3475			2.80
3476	35 Elco Contacts (Mate w/R635 Listed Above)			11.40
3477-7	72 Etched Contacts (Mate w/R636 Receptacle)			9.94
K24C	Terminal Pin for D.I.P. Plugbord, Tin Plated	.83/50		$10.78/M
P139	Hand Line Cutter Tool—Breaks D.I.P. Plugbord Copper Lines	Any Quantity		1.50

VECTORCONN CONNECTORS WITH EDGE-PIN PLUGBORDS



VERSATILE NEW VECTORCONN CONNECTORS

(For .040″ diameter round pins)

Contact Reliability ● Large Variety of Sizes ● Top, Bottom, or Side Mounting Styles ● Solder Tab or Printed Circuit Tab ● Optional Card Guide Ends

VECTORCONNS employ wrap around contacts with outstanding time proven reliability in the tube socket industry. Receptacles accept available Vector Edge-pins and Inbord pins or any .040″ diameter round pins. Receptacle can also be used as: Multiple test points on printed circuit boards. Front panel test points, in-out jacks, patch points.

EDGE-PIN PLUGBORDS are ready-to-wire and plug into VECTORCONN receptacles. Plugbords are provided with an overall pattern of .062″ holes on alternate 0.1″ centers, Vector Pattern "G".

Castings, end pieces and card guides are Diallyl Phthalate, glass filled per MIL-M-14 type SDG. Contacts are beryllium copper or phosphor bronze, nickel and gold plated.

Vectorconn Ordering Information

Cat. No.	Description	A	Net Price 1-49
	.296″ Wide Casting		
R112-S	12 Contact Single Row Solder Tab	2.742	$1.50
R225-S	25 Contact Double Row Solder Tab	2.742	1.86
	.450 Wide Casting		
RW120-S	20 Contact Single Row Solder Tab	4.350	1.81
RW241-S	41 Contact Double Row Solder Tab	4.350	2.80
K-23A	Lower Row Edge Pin—Bags of 50 any Quantity		1.93
K-28	Upper Row Edge Pin—Bags of 50 any Quantity		1.93
	Accessories		
P-93A	Staking Pliers for K-23A, K-28		26.00
B-61	End Brackets, Small for side mounting— and cut down VECTORCONNS—Pkg. 10 any Quantity		1.30
B-60	Card Guide Brackets, Pkg. of 5 Pr. any Quantity		1.50

• Additional VECTORCONN Connectors listed in Vector's General Catalog.

Plugbord Ordering Information

PLUGBORD CAT. NO.	DESCRIPTION MATERIAL	WIDTH		LENGTH (With Pins)	CONTACTS Lower	CONTACTS Upper	NET PRICE 1-19	USE WITH
842-120	Epoxy-Paper	4.5″	x	6.5″	20	—	$2.90	RW-120-S
842-120WE	Epoxy-Glass	4.5″	x	6.5″	20	—	3.20	RW-120-S
842-241WE	Epoxy-Glass	4.5″	x	6.5″	20	21	4.75	RW-241-S
856-112	Epoxy-Paper	3″	x	4.5″	12	—	1.80	R-112-S
856-112WE	Epoxy-Glass	3″	x	4.5″	12	—	2.00	R-112-S
856-225WE	Epoxy-Glass	3″	x	4.5″	12	13	3.00	R-225-S

VECTOR ELECTRONIC CO., INC.

Net

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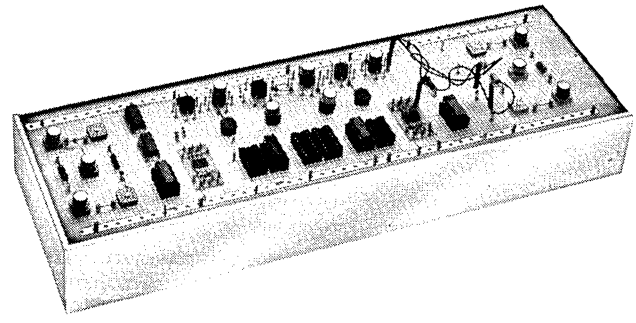
29X INTEGRATED CIRCUIT EXPERIMENTER'S KIT

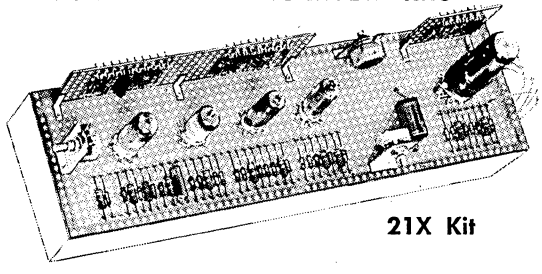
NEW



The 29X Kit is a special group of new Vector products especially designed for fast, easy hookups of nearly all package configurations of integrated circuits. The mounting surface is a pre-punched Micro-Vectorbord* having .042" diameter holes on 1/10" grid spacings supported on Vector Frame-Loc Rails 2" high. Dual-in-line packages may be fastened directly to the breadboard with the tails extending through the holes; or special sockets supplied may be used which have square tails which also push into the board. Integrated circuits of the TO-5 type may also be mounted with wafers, which are supplied, or in sockets supplied with leads formed to plug into the board. Transistor sockets whose leads also fit the board are supplied. Supplied T42-1 Micro-Klip push-in terminals fit board holes and are ideal for mounting discrete components of various types. Inbord Pins of .040" diameter also push into the holes for tie points or plug points. Wiring of these leads may be done by use of supplied polyurethane coated solderable wire which may be wrapped around the terminals and soldered through the insulation or by "Daisy Chain" patch cords which will connect directly to the wire-wrap tabs or the round pins, thus facilitating quick experimental connection. Flatpacks with .05" spaced leads may also be mounted by use of furnished adapter plates which plug into the holes of the breadboard. These will normally be soldered to the adapter plate terminals.

KIT CONTENTS
14- and 16- pin DIP Sockets, TO-5 ICP Sockets, Transistor Sockets, Flatpack Adapter Plates, T42-1 ZIP Terminals, K24C Inbord Pins, Adapter Wafers, "Daisy Chain" Patchcords, DIP Extractor Tool, P149A Insertion Tool for T42-1 Terminals, Bus Strips, Layout Paper, Special Contacts, assorted wire, miscellaneous mounting hardware and P pattern Micro-Vectorbord.*
* T.M.

20 AND 21X BASIC MODEL KITS

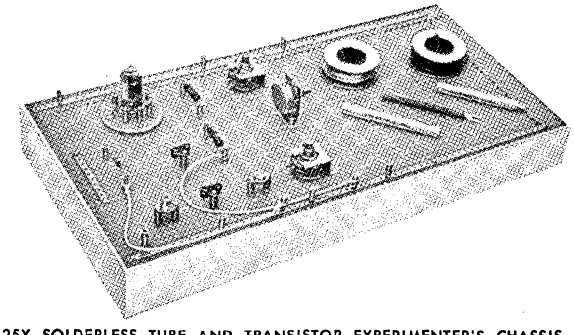


21X Kit

21X KIT BASIC MODEL FOR LABS—Large 4.8" x 17" x 2" new extruded aluminum Frame-Loc Rail chassis with 3/32" Vectorbord deck. Besides main deck, includes 2 extra Vectorbord pieces, more terminals and sockets. Detailed contents follow: 6 Transistor sockets include 2 power and 4 universal type; 3 each 7 and 9 pin skt. and 2 octal, 100 "Zip" Push-In Terminals, 50 solderless Springclips, 8 hookup patchcords, bus strip, terminal installing tools, grid layout paper, 4 pot and switch brackets, bare and insulated hookup wires, assorted screws, nuts, brackets, spacers. **$16.75**

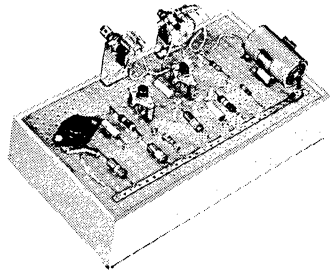
20X STARTER ASSORTMENT — 4.8"x 8½"x 2" extruded aluminum Frame-Loc Chassis with 3/32" thick Vectorbord deck plus many other parts including: 3 each 7 and 9 pin tube sockets and 2 octal sockets with mounting hardware; 75 patented T9.4 Zip Push-In Terminals; 20 new T30N-2 Solderless Springclip with hand insertion tool; 3 sheets layout paper; 54 assorted screws, nuts, spacers. Ideal for beginners or simple circuits. **$ 6.75**

25X SOLDERLESS EXPERIMENTER'S KIT



25X SOLDERLESS TUBE AND TRANSISTOR EXPERIMENTER'S CHASSIS KIT- **$21.45** Dual type solderless kit with full complement of tube and transistor sockets. Belongs in every electronics lab. Differs from other Vector kits because it includes large number of Solderless U-Clip terminals and special solderless connectors for pots and switches, plus more of all other components. Detail of contents: 8½" x 17" x 2" Extruded Aluminum chassis frame with 3/32" Vectorbord deck, 2 power and 6 universal transistor sockets with pigtails, 3 each 7 and 9 pin tube sockets, 2-8 pin octal; 100 Zip Push-In Terminals, 90 Solderless Springclip terminals, 10 Solderless U-Clips, 10 hookup patchcords, bus strip, 8 wafers to make solderless sockets, terminal installing tools, bare and insulated wire, grid layout paper, 4 pot and switch brackets, 204 assorted screws, nuts, brackets.

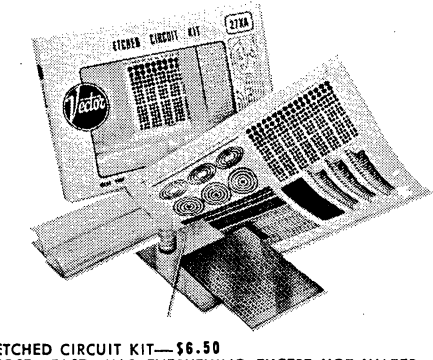
22X, 22XA TRANSISTOR CIRCUITRY KIT



22X KIT FOR TRANSISTOR CIRCUITRY—Special parts assortment for transistor circuitry. 4.8" x 8½" x 2" extruded aluminum Frame-Loc Chassis rail with 3/32" Vectorbord deck. Transistor sockets include 2 power type, 6 universal type, 75 Zip Push In Terminals, 20 Solderless Springclip terminals, 6 hookup patchcords, bus strip, terminal installing tools, bare and insulated hookup wire, 4 pot and switch brackets, 134 assorted screws, nuts, spacers, brackets. **$11.50**

22XA– **$28.00** (Not illustrated)—Larger professional sized version of 22X above. Chassis extruded Aluminum Frame-Loc type 17" x 8½" x 2" with Vectorbord deck. Includes 2 power transistor sockets, 6 universal type transistor sockets with pigtail leads, 124 Zip Push-In Terminals, 100 Solderless Springclips, 18 Solderless U-Clips, 14 hookup patchcords, bus strip, terminal installing tools, bare and insulated wire, layout paper, 4 pot and switch brackets, 160 assorted brackets, screws, nuts.

27XA ETCHED CIRCUIT KIT



27XA ETCHED CIRCUIT KIT— **$6.50**
LOW COST—FAST—HAS EVERYTHING EXCEPT HOT WATER. Specially designed for lab use in making uncomplicated etched circuits. Kit built around Vectoresist, Vector's rub-on resist transfer sheet. Resist lines, dots, or connector pattern transfer by rubbing to furnished 2 oz. copper clad prepunched boards in minutes. Then etch in etchant furnished in heavy plastic bag with special activator in as little as 30 minutes. Kit includes 2 copper clad boards, 4½" x 6½", .2 centers, 2 bags of etchant, 8½" x 11" sheet rub-on Vectoresist, layout paper, complete instructions. See Kit Accessories page for Vectoresist details.

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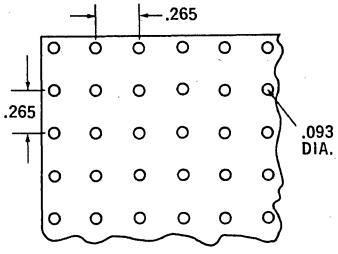
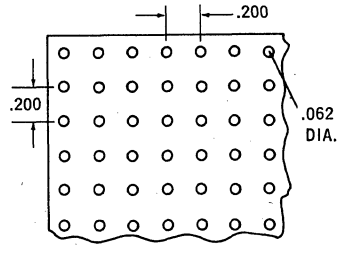
CIRCUIT DEVELOPMENT BOARDS

"Wizardbord" Phenolic, Epoxy Paper, Glass Epoxy

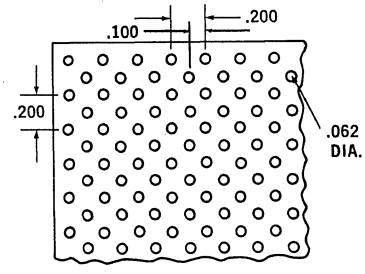
Punched board as shown below consists of the more popular patterns and are precut to the more asked for sizes. We will be happy to quote prices on sizes to meet your specifications.



"A" PATTERN PUNCHED BOARD with .093 diameter holes on .265 grid centers.



"F" PATTERN PUNCHED BOARD with .062 diameter holes on .200 grid centers.



"G" PATTERN PUNCHED BOARD with .062 diameter holes on .100 alternate grid centers.

"A," "F," & "G" PATTERN PUNCHED BOARDS

PATTERN	SIZE Width x Length	THICKNESS Inches	SEE NOTE	NO. OF HOLES Width x Length	PART NO. MAT'L XXXP PHENOLIC	PRICE EACH 1-19	20-99	100-199	PART NO. MAT'L EPOXY PAPER	PRICE EACH 1-19	20-99	100-199	PART NO. MAT'L GLASS EPOXY	PRICE EACH 1-19	20-99	100-199
A	4.77 x 4.77	1/16		18 x 18	18P18	.43	.39	.36	18E18P	.72	.65	.60	18E18G	1.44	1.30	1.19
	1.06 x 8.48	1/16		3 x 32	3P32	.30	.27	.25	3E32P	.40	.36	.34	3E32G	.44	.40	.36
	1.88 x 8.48	1/16		7 x 32	7P32	.39	.35	.33	7E32P	.66	.61	.55	7E32G	.72	.65	.63
	2.41 x 8.48	1/16		9 x 32	9P32	.45	.41	.38	9E32P	.78	.71	.67	9E32G	.98	.89	.81
	3.25 x 8.48	1/16		13 x 32	13P32	.60	.56	.52	13E32P	.95	.88	.74	13E32G	1.48	1.39	1.32
	4.77 x 8.48	1/16	1	18 x 32	18P32	.72	.65	.59	18E32P	1.25	1.13	1.06	18E32G	1.89	1.70	1.59
	4.77 x 16.96	1/16	2	18 x 64	18P64	1.25	1.15	1.10	18E64P	2.06	1.85	1.74	18E64G	3.72	3.37	3.12
	8.48 x 16.96	1/16	4	32 x 64	32P64	2.13	1.91	1.79	32E64P	3.17	2.86	2.67	32E64G	5.86	5.32	5.00
	8.48 x 11.92	1/16	3	32 x 45	32P45	1.60	1.44	1.34	32E45P	2.12	1.90	1.70	32E45G	3.91	3.55	3.40
	4.77 x 4.77	3/32		18 xx 18	18PP18	.43	.39	.36	18EE18P	.80	.72	.65				
	1.06 x 8.48	3/32		3 xx 32	3PP32	.46	.42	.39	3EE32P	.40	.36	.34				
	1.38 x 8.48	3/32		5 xx 32	5PP32	.48	.43	.40	5EE32P	.74	.67	.59				
	1.88 x 8.48	3/32		7 xx 32	7PP32	.60	.55	.51	7EE32P	.95	.88	.83				
	3.25 x 8.48	3/32		13 xx 32	13PP32	.74	.69	.63	13EE32P	1.15	1.06	1.00				
	4.77 x 8.48	3/32	1	18 xx 32	18PP32	.84	.76	.71	18EE32P	1.40	1.26	1.18				
	4.77 x 16.96	3/32	2	18 xx 64	18PP64	1.60	1.44	1.34	18EE64P	2.73	2.46	2.29				
	8.48 x 16.96	3/32	4	32 xx 64	32PP64	2.45	2.20	2.05	32EE64P	4.35	3.95	3.65				
	8.48 x 11.92	3/32	3	32 xx 45	32PP45	1.99	1.80	1.62	32EE45P	2.83	2.55	2.30				
F	1.25 x 8.50	1/16		8 x 42	F8P42	.33	.30	.27	F8E42P	.44	.40	.36	F8E42G	.48	.44	.40
	2.25 x 8.50	1/16		11 x 42	F11P42	.55	.50	.45	F11E42P	.80	.72	.65	F11E42G	1.16	1.03	.94
	3.63 x 8.50	1/16		18 x 42	F18P42	.62	.56	.50	F18E42P	.95	.85	.80	F18E42G	1.75	1.57	1.48
	4.88 x 8.50	1/16	1	24 x 42	F24P42	.72	.65	.58	F24E42P	1.42	1.27	1.12	F24E42G	1.89	1.71	1.57
	4.88 x 17.00	1/16	2	24 x 85	F24P85	1.20	1.10	1.05	F24E85P	2.06	1.85	1.73	F24E85G	3.60	3.24	3.06
	8.50 x 12.00	1/16	3	42 x 59	F42P59	1.45	1.30	1.17	F42E59P	2.10	1.90	1.70	F42E59G	3.75	3.40	3.10
	8.50 x 17.00	1/16	4	42 x 85	F42P85	1.90	1.68	1.58	F42E85P	3.17	2.85	2.66	F42E85G	5.44	4.90	4.59
G	1.25 x 8.50	1/16		(8 x 42) 2	G16P84	.33	.30	.27	G16E84P	.44	.40	.36	G16E84G	.48	.44	.40
	2.25 x 8.50	1/16		(11 x 42) 2	G22P84	.55	.51	.46	G22E84P	.80	.75	.70	G22E84G	1.16	1.03	.94
	3.63 x 8.50	1/16		(18 x 42) 2	G36P84	.62	.56	.50	G36E84P	.95	.85	.76	G36E84G	1.75	1.57	1.48
	4.88 x 8.50	1/16	1	(24 x 42) 2	G48P84	.72	.65	.59	G48E84P	1.42	1.30	1.22	G48E84G	1.89	1.71	1.57
	4.88 x 17.00	1/16	2	(24 x 85) 2	G48P170	1.20	1.10	1.05	G48E170P	2.06	1.85	1.73	G48E170G	3.60	3.24	3.06
	8.50 x 12.00	1/16	3	(42 x 59) 2	G84P158	1.45	1.30	1.17	G84E158P	2.10	1.90	1.70	G84E158G	3.75	3.40	3.10
	8.50 x 17.00	1/16	4	(42 x 85) 2	G84P170	1.90	1.65	1.58	G84E170P	3.17	2.85	2.66	G84E170G	5.40	4.85	4.40

Notes:
1. This size punched board can be used with our 20001 and 20010 metal bases.
2. This size punched board can be used with our 20002 and 20011 metal bases.
3. This size punched board can be used with our 20003 metal base.
4. This size punched board can be used with our 20004 metal base.
5. XXXP Phenolic Type PBE is per Mil-P-3115C and withstands temperatures to 250°F.
6. Epoxy Paper Type PEE is per Mil-P-22324 and withstands temperatures to 250°F.
7. Glass Epoxy G-10 Type GEE is per Mil-P-18177 and withstands temperatures to 300°F.

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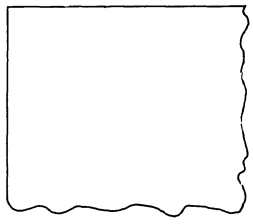
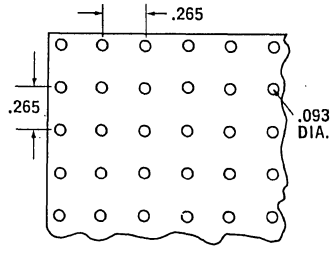
CIRCUIT DEVELOPMENT BOARDS

"Wizardbord" Copper Clad

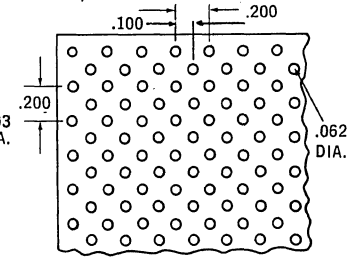
All copper clad boards are sealed in poly bags to minimize deterioration from handling and exposure to chemicals and erosive material in air. Your copper clad board is etching fresh at shipment and remains so until you open the sealed poly bag.



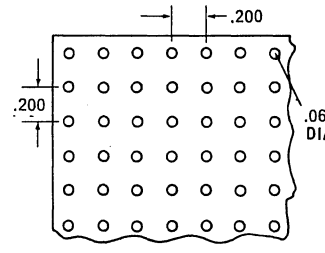
UNPUNCHED COPPER CLAD BOARD pre-cut to the more popular sizes ready for etching. Consult the factory for sizes and materials not shown.



"A" PATTERN PUNCHED COPPER CLAD BOARD with .093 diameter holes on .265 grid centers.



"G" PATTERN PUNCHED COPPER CLAD BOARD with .062 diameter holes on .100 alternate grid centers.



"F" PATTERN PUNCHED COPPER CLAD BOARD with .062 diameter holes on .200 grid centers.

1/16" THICK COPPER CLAD BOARD

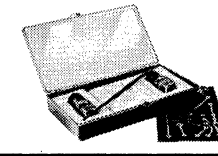
PATTERN	SIZE Width x Length	NO. OF HOLES Width x Length	PART NO. COPPER CLAD ONE SIDE PHENOLIC XXXP	PRICE EACH 1-19	20-99	100-199	PART NO. COPPER CLAD TWO SIDES PHENOLIC XXXP	PRICE EACH 1-19	20-99	100-199	PART NO. COPPER CLAD ONE SIDE GLASS EPOXY	PRICE EACH 1-19	20-99	100-199	PART NO. COPPER CLAD TWO SIDES GLASS EPOXY	PRICE EACH 1-19	20-99	100-199
UNPUNCHED	2.0 x 4.5	None	CP100	.35	.32	.30	CCP100	.40	.36	.33	CG100	.55	.50	.45	CCG100	.60	.54	.49
	2.25 x 3.0	None	CP101	.30	.27	.24	CCP101	.35	.32	.29	CG101	.50	.45	.41	CCG101	.55	.50	.45
	3.0 x 4.5	None	CP102	.40	.36	.33	CCP102	.55	.50	.45	CG102	.85	.77	.70	CCG102	.90	.81	.73
	4.5 x 6.5	None	CP103	.65	.59	.53	CCP103	1.00	.90	.81	CG103	1.50	1.35	1.22	CCG103	1.60	1.44	1.30
	3.62 x 6.87	None	CP104	.60	.54	.49	CCP104	.85	.77	.70	CG104	1.30	1.17	1.06	CCG104	1.40	1.26	1.14
	4.5 x 8.5	None	CP105	.80	.72	.66	CCP105	1.15	1.04	.94	CG105	1.90	1.71	1.54	CCG105	2.15	1.94	1.75
	9.0 x 12.0	None	CP106	2.15	1.94	1.76	CCP106	2.95	2.66	2.39	CG106	4.95	4.46	4.00	CCG106	5.60	5.04	4.54
	6.12 x 9.87	None	CP107	1.45	1.31	1.18	CCP107	1.65	1.49	1.34	CG107	2.80	2.52	2.27	CCG107	3.20	2.88	2.59
	8.5 x 17.0	None	CP108	2.75	2.48	2.23	CCP108	3.85	3.47	3.12	CG108	6.95	6.26	5.63	CCG108	7.95	7.15	6.44
A	3.45 x 5.03	13 x 19	HCP10	.70	.63	.57	HCCP10	.80	.72	.66	HCG10	1.10	.99	.90	HCCG10	1.15	1.04	.94
	3.71 x 6.89	14 x 26	HCP20	.80	.72	.66	HCCP20	.95	.86	.78	HCG20	1.35	1.22	1.10	HCCG20	1.45	1.31	1.18
	5.03 x 6.89	19 x 26	HCP30	1.10	.99	.90	HCCP30	1.35	1.22	1.10	HCG30	1.95	1.76	1.58	HCCG30	2.15	1.94	1.75
	6.89 x 9.81	26 x 37	HCP40	1.95	1.76	1.58	HCCP40	2.25	2.03	1.83	HCG40	3.45	3.11	2.80	HCCG40	3.75	3.38	3.04
	8.48 x 16.96	32 x 64	HCP50	3.95	3.56	3.20	HCCP50	4.60	4.14	3.73	HCG50	7.15	6.44	5.80	HCCG50	7.55	6.80	6.12
G	1.75 x 4.00	(8 x 19) 2	G16P38-1	.40	.36	.33	G16P38-2	.45	.41	.37	G16G38-1	.95	.86	.78	G16G38-2	1.05	.95	.86
	2.25 x 8.50	(11 x 42) 2	G22P84-1	.80	.72	.66	G22P84-2	.90	.81	.73	G22G84-1	1.40	1.26	1.14	G22G84-2	1.65	1.49	1.34
	3.50 x 4.00	(17 x 19) 2	G34P38-1	.60	.54	.49	G34P38-2	.75	.68	.62	G34G38-1	1.30	1.17	1.06	G34G38-2	1.40	1.26	1.13
	3.50 x 8.50	(17 x 42) 2	G34P84-1	1.25	1.13	1.02	G34P84-2	1.70	1.53	1.38	G34G84-1	2.15	1.94	1.75	G34G84-2	2.50	2.25	2.03
	4.50 x 6.50	(22 x 32) 2	G44P64-1	1.05	.95	.86	G44P64-2	1.25	1.13	1.02	G44G64-1	2.05	1.85	1.67	G44G64-2	2.40	2.16	1.94
	4.88 x 8.50	(24 x 42) 2	G48P84-1	1.95	1.76	1.58	G48P84-2	2.55	2.30	2.07	G48G84-1	2.70	2.43	2.19	G48G84-2	3.35	3.02	2.72
	4.88 x 17.00	(24 x 85) 2	G48P170-1	3.75	3.38	3.04	G48P170-2	4.65	4.19	3.77	G48G170-1	5.20	4.68	4.21	G48G170-2	6.10	5.49	4.94
	8.50 x 17.00	(42 x 85) 2	G84P170-1	5.50	4.95	4.46	G84P170-2	6.75	6.08	5.47	G84G170-1	9.75	8.78	7.90	G84G170-2	10.50	9.45	8.50
F	1.25 x 8.50	8 x 42	F8P42-1	.70	.63	.57	F8P42-2	1.00	.90	.81	F8G42-1	1.25	1.13	1.02	F8G42-2	1.60	1.44	1.30
	4.50 x 6.50	22 x 30	F22P30-1	.95	.86	.78	F22P30-2	1.20	1.08	.98	F22G30-1	2.20	1.98	1.78	F22G30 2	2.40	2.16	1.94
	3.00 x 4.50	14 x 20	F14P20-1	.55	.51	.47	F14P20-2	.65	.59	.54	F14G20-1	1.15	1.04	.94	F14G20-2	1.30	1.17	1.05
	3.63 x 8.50	18 x 42	F18P42-1	1.25	1.13	1.02	F18P42-2	1.65	1.49	1.34	F18G42-1	2.15	1.94	1.75	F18G42-2	2.50	2.25	2.03
	4.88 x 8.50	24 x 42	F24P42-1	1.95	1.76	1.58	F24P42-2	2.45	2.21	2.00	F24G42-1	2.70	2.43	2.19	F24G42-2	3.40	3.06	2.75
	4.88 x 17.00	24 x 85	F24P85-1	3.75	3.38	3.04	F24P85-2	4.75	4.28	3.85	F24G85-1	5.25	4.73	4.26	F24G85-2	6.25	5.63	5.07
	8.50 x 17.00	42 x 85	F42P85-1	5.50	4.95	4.46	F42P85-2	6.75	6.08	5.47	F42G85-1	9.75	8.78	7.90	F42G85-2	10.50	9.45	8.50

Notes: 1. XXXP is Type PP Copper Clad per Mil-P-13949 and withstands temperatures to 250°F.

2. Glass Epoxy Copper Clad is per Mil-P-13949B and withstands temperatures to 300°F.

WALDOM PRINTED CIRCUIT ETCHING KIT

A prototype circuit etching kit which will develop printed circuit boards in 3 to 6 minutes. Kits are packaged in a plastic box which can be used as an etching tray. Contents of kit include: etching salts, catalyst, paint resist and an artist brush. Tape and pad are also included. Complete instructions on how to use this fast and economical kit are furnished. **Cat. No. EK-100 Price Each** **$2.75**

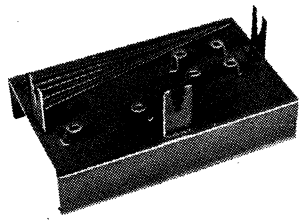


waldom BREADBOARDING KITS

"ECONOMY LINE" MODELS

The economy line breadboarding kits listed below have the same high quality and workmanship in the components supplied as found in the most expensive professional kits. They are designed for use in setting up basic types of circuits and therefore, differ only in that they contain lesser quantities of the various parts.

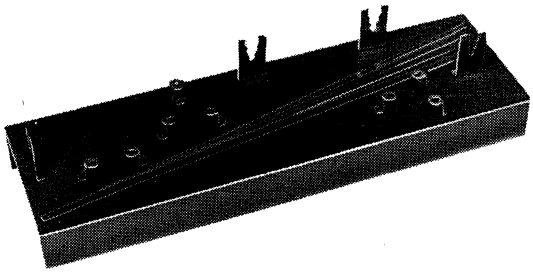
MODEL NO. 10001 (8½" Long x 4 13/16" Wide x 2⅛" High) ..... **$6.25 ea. net**



Description	Qty.	Part No.	Description	Qty.	Part No.
Two Piece Metal Base	1	20010	Component Mounting Brackets	6	20041
"A" Pattern (.093" Holes on .265" Grid Ctrs.) XXXP Phenolic Board — 4.77" x 8.48" x .062"	1	18X32	Control Mounting Brackets	2	20051
Terminal Board, "A" Pattern — 1.88" x 4.24"	1	30001	#3-48 x ¾" Round Hd. Machine Screws	20	F-464
Solder-Type, Self Locking, Feed-Thru Terminals	50	20021	#3-48 x 3/16" x 1/16" Hex Nuts	20	F-555
Right Angle Brackets	2	20061	No. 4 x 9/32 Washer	2	MW-401
			Wire Leads (Bus) (No. 18 A.W.G., Solid, Tinned, 8" Long	4	20080
			Grid Paper (4 13/16 x 8½"	6	20090
			Plastic Small Parts Container	1	PB-90

Phenolic Deckboards with other grid spacings are available for this size base. See punched boards listed on page 2.

MODEL NO. 10002 (17" Long x 4 13/16" Wide x 2⅛" High) ..... **$9.95 ea. net**



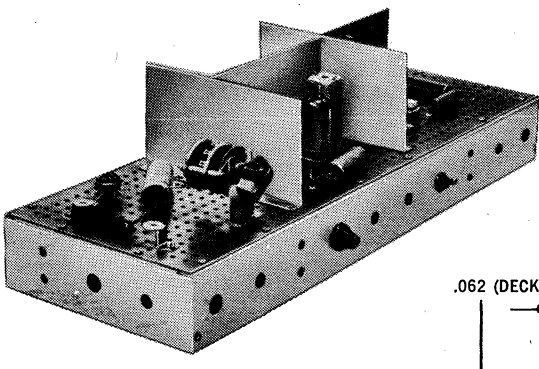
Description	Qty.	Part No.	Description	Qty.	Part No.
Two Piece Metal Base	1	20011	Right Angle Brackets	4	20061
"A" Pattern (.093 Holes on .265 Grid Ctrs.) XXXP Phenolic Board —4.77" x 17" x .062"	1	18X64	Component Mounting Bracket	8	20041
Terminal Board, "A" Pattern — 1.88" x 4.24"	1	30001	Control Mounting Bracket	3	20051
Large Terminal Board "A" Pattern 1.35" x 8.48"	1	30004	#3-48 x ¾" Round Head Machine Screws	32	F-464
Solder Type, Self Locking, Feed-Thru Terminals	75	20021	#3-48 x 3/16" x 1/16" Hex Nuts	32	F-555
			#4 x 9/32" Washer	3	MW-401
			Wire Leads (Bus) No. 18 A.W.G., Solid, Tinned, 16" Long	4	20082
			Grid Paper (4 13/16" x 17"	6	20092
			Plastic Small Parts Container	1	PB-90

Phenolic Deckboards with other grid spacings are available for this size base. See punched boards listed on page 2.

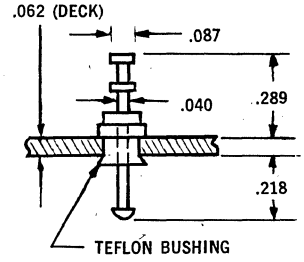
RF MODEL

Specifically designed for use in the development of critical RF circuits involving problems of shielding and/or isolation. This model gives the choice of either aluminum or two-sided copper clad deck (both furnished). Contains special teflon insulated brass feed-through terminals, and aluminum shielding separators for isolation purposes. Above or below deck separators can easily be cut. This RF kit is the only one of its type on the market.

MODEL NO. 10003 (17" Long x 6" Wide x 2 1/16" High) ..... **$29.95 ea. net**



Description	Qty.	Part No.	Description	Qty.	Part No.
Four Piece Metal Base	1	20012	Brass Feed-Thru Terminals	25	20025
Aluminum Deck—⅛" holes, 1/16" thick	1	20013	Teflon Insulating Bushings for above	25	20026
Two-Sided Copper Clad, XXXP Phenolic Deck ⅛" holes, 1/16" thick	1	40001	Component Mounting Brackets	10	20041
Aluminum Separator with Mounting Flange 5⅛" long x 2⅞" high (For Top Deck Mounting)	5	20086	Control Mounting Brackets	5	20051
Aluminum Separator with Mounting Flange 5⅛" long x 1⅞" high (For Underside Mounting)	5	20085	#3-48 x ¾" Round Head Machine Screws	52	F-464
			#3-48 x 3/16" x 1/16" Hex Nuts	52	F-555
			Plastic Small Parts Container	1	PB-90



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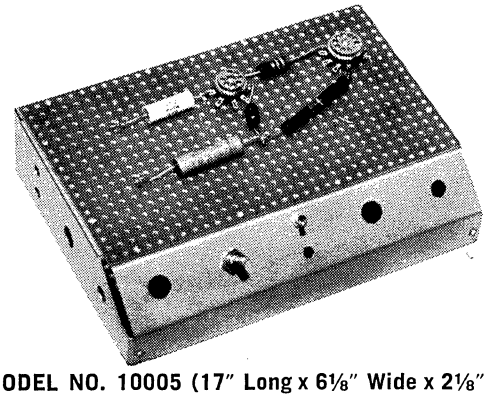
SLANTING BASE MODELS

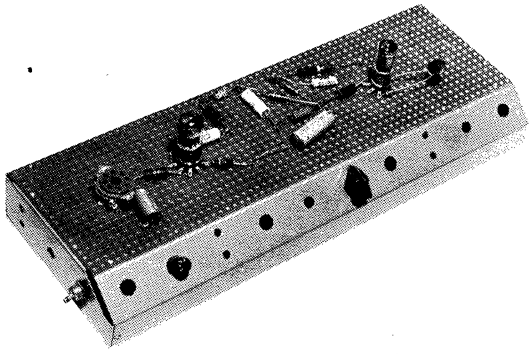
These kits, in a variety of sizes and with slanted-front bases for mounting switches and controls, are the final answer to breadboarding applications. Each model allows the user to incorporate every mechanical or electrical component necessary to have a self-contained working unit. This "total-circuit" concept has enabled engineers and experimentors to not only design and develop, but to actually use the finalized version as a working model having characteristics of a production unit. Such features as breadboarding on either top-side or under-side by the use of self-locking feed-through terminals and universal mounting brackets, allows extremely short lead lengths on such parts as capacitors, resistors, controls, sockets, transistors, etc. The four-sided metal base enables choice of location for fuse holders, switches, potentiometers, indicator lights, test jacks, and similar items. Each metal side will accommodate ¼", ⅜" and ½" control shafts. Slanted front panel provides for excellent visibility for critical control adjustments.

MODEL NO. 10004 (8½" Long x 6⅛" Wide x 2⅛" High) ..... **$10.50 ea. net**



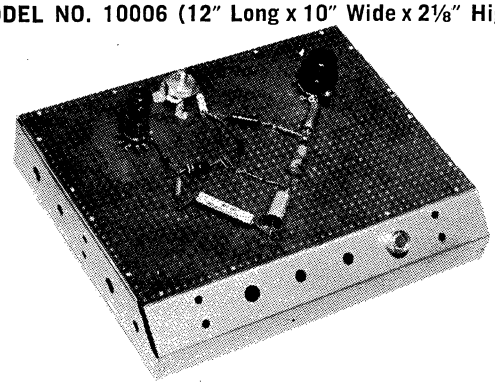
Description	Qty.	Part No.	Description	Qty.	Part No.
Four-Piece Metal Base	1	20001	Right Angle Bracket	2	20061
"A" Pattern (.093" Holes on .265" Grid Centers) XXXP Phenolic Board—4.77"x8.48"x.093"	1	18XX32	Component Mounting Bracket	4	20041
Terminal Board, "A" Pattern — 1.88" x 4.24"	1	30001	Control Mounting Bracket	2	20051
Solder-Type, Self-Locking Feed-Thru Terminals	50	20021	#3-48 x ¾" Round Head Machine Screws	22	F-464
Terminal Insertion Tool (for above)	1	20022	#3-48 x 3/16" x 1/16" Hex Nut	22	F-555
"Wizard Spring" Solderless Connector	10	20030	Wire Leads (Bus) No. 18 A.W.G., Solid, Tinned, 8" Long	4	20080
#4 x ½" Pan Head Sheet Metal Screws (for Mounting "Wizard Springs")	10	F-596	Grid Paper (4¾6" x 8½")	6	20090
			Plastic Small Parts Container	1	PB-90

MODEL NO. 10005 (17" Long x 6⅛" Wide x 2⅛" High) ..... **$15.25 ea. net**



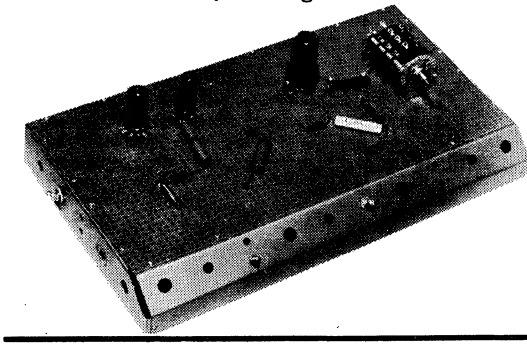
Description	Qty.	Part No.	Description	Qty.	Part No.
Four-Piece Metal Base	1	20002	#4 x ½" Pan Head Sheet Metal Screws (for mounting "Wizard Springs")	15	F-596
"A" Pattern (.093" Holes on .265" Grid Centers) XXXP Phenolic Board—4.77" x 17" x .093"	1	18XX64	Right Angle Bracket	4	20061
Terminal Board, "A" Pattern — 1.88" x 4.24"	1	30001	Component Mounting Bracket	8	20041
Terminal Board, "A" Pattern — 1.35" x 8.48"	1	30004	Control Mounting Bracket	3	20051
Solder-Type, Self-Locking, Feed-Thru Terminals	75	20021	#3-48 x ¾" Round Head Machine Screws	35	F-464
Terminal Insertion Tool (for above)	1	20022	#3-48 x 1/16" Hex Nut	35	F-555
"Wizard Spring" Solderless Connector	15	20030	Wire Leads (Bus) No. 18 A.W.G., Solid, Tinned, 16" Long	4	20082
			Grid Paper, (4 13/16" x 16")	6	20092
			Plastic Small Parts Container	1	PB-90

MODEL NO. 10006 (12" Long x 10" Wide x 2⅛" High) ..... **$16.95 ea. net**



Description	Qty.	Part No.	Description	Qty.	Part No.
Four-Piece Metal Base	1	20003	#4 x ½" Pan Head Sheet Metal Screws (for Mounting "Wizard Springs")	15	F-596
"A" Pattern (.093" Holes on .265" Grid Centers) XXXP Phenolic Board 8.48"x11.92"x.093"	1	32XX45	Right Angle Brackets	6	20061
Terminal Board, "A" Pattern — 1.88" x 4.24"	2	30001	Component Mounting Brackets	10	20041
Terminal Board, "A" Pattern — 1.35" x 8.48"	1	30004	Control Mounting Brackets	3	20051
Solder-Type, Self-Locking, Feed-Thru Terminals	100	20021	#3-48 x ¾" Round Head Machine Screws	44	F-464
Terminal Insertion Tool (for above)	1	20022	#3-48 x ¾" x 1/16" Hex Nuts	44	F-555
"Wizard Spring" Solderless Connector	15	20030	Wire Leads (Bus) No. 18 A.W.G., Solid, Tinned, 11" Long	4	20081
			Grid Paper (8½" x 12")	6	20091
			Plastic Small Parts Container	1	PB-90

MODEL NO. 10007 (17" Long x 10" WIDE x 2⅛" High) ..... **$19.50 ea. net**



Description	Qty.	Part No.	Description	Qty.	Part No.
Four-Piece Metal Base	1	20004	#4 x ½" Pan Head Sheet Metal Screws (for Mounting "Wizard Springs")	15	F-596
"A" Pattern (.093" Holes on .265" Grid Centers) XXXP Phenolic Board 8.48" x 17" x .093"	1	32XX64	Right Angle Brackets	6	20061
Terminal Board, "A" Pattern — 1.88" x 4.24"	2	30001	Component Mounting Brackets	10	20041
Terminal Board, "A" Pattern — 1.35" x 8.48"	1	30004	Control Mounting Brackets	3	20051
Solder-Type, Self-Locking, Feed-Thru Terminals	100	20021	#3-48 x ¾" Round Head Machine Screws	44	F-464
Terminal Insertion Tool (for above)	1	20022	#3-48 x 3/16" x 1/16" Hex Nuts	44	F-555
"Wizard Spring" Solderless Connector	15	20030	Wire Leads (Bus) No. 18 A.W.G., Solid, Tinned, 16" Long	4	20082
			Grid Paper (8½" x 17")	6	20093
			Plastic Small Parts Container	1	PB-90

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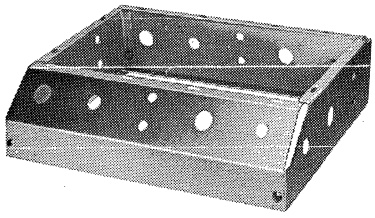
waldom BREADBOARDING ACCESSORIES

BREADBOARDING COMPONENTS

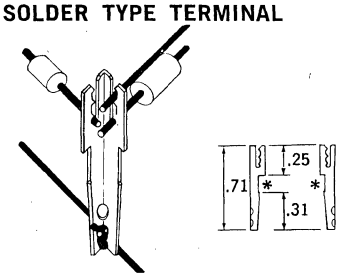
FOUR-SIDED METAL BREADBOARDING BASES, SLANTED FRONT



These metal bases are made from .032" aluminum per mil. Spec. QQA-250-C, ¼", ⅜", and ½" control mounting holes available on each side. Slotted holes on top flanges accept punched board of any size hole pattern. See listings of punched boards for specific reference to the four sizes of bases listed here. A generous amount of screws and nuts are included.

Part No.	Size Length x Width x Height	Price Each 1-99	100-249	250 or More
20001	6⅛"x8½"x2⅛"	$3.25	$3.10	$2.90
20002	6⅛"x17"x2⅛"	3.75	3.50	3.30
20003	10"x12"x2⅛"	4.40	4.00	3.70
20004	10"x17"x2⅛"	4.70	4.40	4.15

SOLDER TYPE TERMINAL

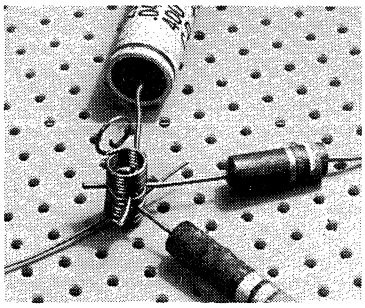


A feed-through terminal for "A" pattern punched board made of half-hard brass, tin plated. Two serrated slots of .032" will accommodate three or more wires per slot, while two .062" holes at bottom allow additional connections. Insertion or extraction is accomplished with part 20022 tool or long-nose pliers. Locking notch (*) insures terminal from falling out of punched board. Its great feature is that wires are held securely before soldering. Request quotation for gold or silver plating.

Part No.	Qty. Per Pkg.	Price Per Pkg.
20021/25	25	$ .65
20021/C	100	2.25
20021/M	1000*	18.25
Insertion/Extraction Tool 20022	1	.50

*Includes one 20022 insertion/extraction tool.

"WIZARD SPRING" SOLDERLESS CONNECTOR



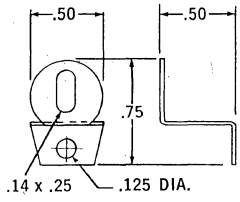
"Wizard Spring" is a plated solderless connector designed to hold many wires from any direction, and may be mounted either top-side or under-side. It may be secured to "A" pattern boards quickly by the use of a 20021 terminal as the holding device. Before insertion both parts are held with tool No. 20022. Otherwise, they are easily secured with the use of sheet metal screws. Finger loop (illustrated) is a unique feature for quick, easy usage. The "Wizard Spring" costs less than any similar device.

Part No.	Qty. Per Pkg.	Price Per Pkg.
20031/25	25*	$1.50
20031/C	100*	4.95
20031/M	1000*	39.75
20032/25	25**	1.50
20032/C	100**	4.95
20032/M	1000**	39.75

*Pkg. includes, at no additional cost, same quantity of No. 4 x ½" (Part No. F-596) Sheet Metal Screws for mounting in "A" Pattern (.093 hole) punched boards.

**Pkg. includes, at no additional cost, same quantity of No. 2 x ⅜" (Part No. F-701) Sheet Metal Screws for Mounting in "F" or "G" Pattern (.062" Hole) punched boards.

COMPONENT MOUNTING BRACKET

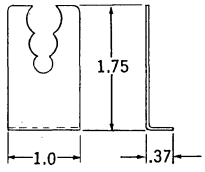


This mounting bracket is universally used to mount components such as: transformers, sockets, relays, and terminal boards on the breadboarding deck. Slotted hole enables easy mounting of a component requiring two or more brackets. Material is plated steel.

Part No.	Qty.* Per Pkg.	Price Per Pkg.
20041/10	10	$ .70
20041/C	100	5.75
20041/M	1000	54.00

*Pkg. includes, at no additional cost, same quantity of No. 3-48 x ¾" Round Head Machine Screws (Part No. F-464) and No. 3-48 Hex Nuts (Part No. F-555).

CONTROL MOUNTING BRACKET

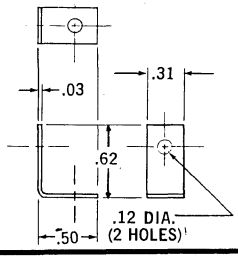


An all purpose bracket with ¼", ⅜", and ½" holes for deck mounting of switches, potentiometers, and similar components. Positive retention eliminates possibility of shafts falling out. Material is plated steel.

Part No.	Qty.* Per Pkg.	Price Per Pkg.
20051/10	10	$1.00
20051/C	100	8.50
20051/M	1000	79.50

*Pkg. includes, at no additional cost, same quantity of No. 3-48 x ¾" Round Head Machine Screws (Part No. F-464) and No. 3-48 Hex Nuts (Part No. F-555).

RIGHT ANGLE BRACKET



This right-angle bracket has many useful applications. It may be used above or below breadboarding deck to mount terminal boards, connectors, tube sockets, switches and all types of smaller components. Material is plated steel.

Part No.	Qty.* Per Pkg.	Price Per Pkg.
20061/10	10	$ .95
20061/C	100	8.50
20061/M	1000	75.00

*Pkg. includes, at no additional cost, double quantity (bracket has two mtg. holes) of No. 3-48 x ¾" Round Head Machine Screws (Part No. F-464) and No. 3-48 Hex Nuts (Part No. F-555).

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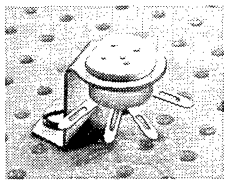
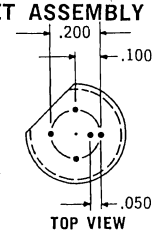
BREADBOARDING COMPONENTS

TRANSISTOR SOCKET ASSEMBLY





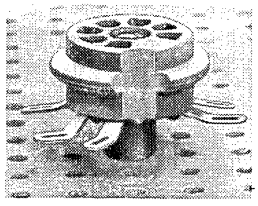
TOP VIEW

This transistor socket assembly is composed of a universal five-contact transistor socket, mounting bracket and hardware for mounting. Socket is molded of polysulfone heat-resistant material, and has tin plated hole-type solder lugs which can accommodate two or more wires. The socket has complete wiring accessibility for TO-9, TO-11, TO-12, TO-33, TO-39, TO-40, and many others.

Part No.	Qty.* Per Pkg.	Price Per Pkg.
20071/5	5	$2.25
20071/C	100	35.00
20071/M	1000	318.00

*Pkg. includes, at no additional cost, same quantity of No. 3-48 x ¾" Round Head Machine Screws (Part No. F-464) and No. 3-48 Hex Nuts (Part No. F-555).

7 PIN MINIATURE TUBE SOCKET

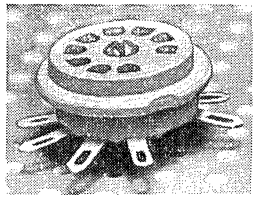


This 7-pin miniature tube socket is made of low loss, mica-filled material, and has brass contacts, cadmium plated. Other 7 pin sockets are available. See Waldom General Catalogue for details.

Part No.	Qty.* Per Pkg.	Price Per Pkg.
20072/5	5	$ .75
20072/C	100	12.75
20072/M	1000	108.35

*Pkg. includes, at no additional cost, same quantity of No. 3-48 x ¾" Round Head Machine Screws (Part No. F-464) and No. 3-48 Hex Nuts (Part No. F-555), and ¼" Fibre Spacers (Part No. FS-614) to mount socket to deck through center hole.

9 PIN MINIATURE TUBE SOCKET



This 9 pin miniature tube socket is made of low loss mica-filled material, and has brass contacts, cadmium plated. Other 9 pin sockets are available. See Waldom General Catalogue for details.

Part No.	Qty.* Per Pkg.	Price Per Pkg.
20073/5	5	$ .85
20073/C	100	14.45
20073/M	1000	122.80

*Pkg. includes, at no additional cost, same quantity of No. 3-48 x ¾" Round Head Machine Screws (Part No. F-464), No. 3-48 Hex Nuts (Part No. F-555) and ¼" Fibre Spacers (Part No. FS-614) to mount socket to deck through center hole.

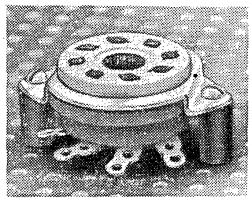
9 PIN SHIELD BASE MINIATURE TUBE SOCKET

This 9 pin shield base miniature tube socket is made of low loss, mica-filled material and has brass contacts, cadmium plated. Others are available. See Waldom General Catalogue for details.

Part No.	Qty.* Per Pkg.	Price Per Pkg.
20074/5	5	$1.70
20074/C	100	28.90
20074/M	1000	246.50

*Pkg. includes, at no additional cost, same quantity of No. 3-48 x ¾" Round Head Machine Screws (Part No. F-464), No. 3-48 Hex Nuts (Part No. F-555), and ¼" Fibre Spacers (Type No. FS-614) to mount socket to deck through center hole.

OCTAL SOCKET

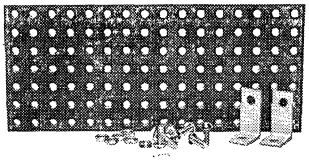


Octal socket, with saddle mount, is made of low loss, mica-filled material.

Part No.	Qty.* Per Pkg.	Price Per Pkg.
20075/5	5	$1.35
20075/C	100	22.95
20075/M	1000	195.00

*Pkg. includes, at no additional cost, double quantity of No. 3-48 x ¾" Round Head Machine Screws (Part No. F-464), No. 3-48 Hex Nuts (Part No. F-555), No. 4 x 9/32" Flat Washers (Part No. MW-401) and ½" Fibre Spacers (Part No. FS-612) to mount socket to each end of saddle.

TERMINAL BOARDS



These terminal boards are made of XXXP phenolic and measure 1⅞" by 4½". They are generally used with angle brackets to mount in any position or location. Screws and brackets are not included in package.

Part No.	Description	Qty. Per Pkg.	Price Per Pkg.
30001	"A" Pattern Terminal Board	2	$.85
30002	"F" Pattern Terminal Board	2	.85
30003	"G" Pattern Terminal Board	2	.85

MISCELLANEOUS HARDWARE

Part No.	Description	Qty. Per Pkg.	Price Per Pkg.
F-464	#3-48 x ¾" Round Head Machine Screws, Plated	100	$ .67
F-555	#3-48 Hex Nuts, Plated	100	.79
F-596	#4 x ½" Sheet Metal Screws, Plated	100	.89
F-701	#2 x ⅜" Sheet Metal Screws, Plated	100	.64
FS-614	¼" Fibre Spacers	100	4.50
FS-612	½" Fibre Spacers	100	6.95
MW-401	#4 x 9/16" Flat Steel Washer, Plated	100	.38

GRID PAPER

Part No.	Description	Qty. Per Pkg.	Price Per Pkg.
20090/10	4 13/16" x 8½", "A" Pattern	10	$.40
20091/10	8½" x 12", "A" Pattern	10	.50
20092/10	9 13/16" x 16", "A" Pattern	10	.60
20093/10	8½" x 17", "A" Pattern	10	.70

JEFFERS MOLDED INDUCTORS

JEFFERS inductors are for use at radio frequencies and in pulse circuitry. The listed standard inductors, in values from 0.1 μh through 10,000 μh, are designed to meet the requirements of MIL-C-15305 Revision C.

Important features of JEFFERS standard inductors.

- High Reliability, proven by over 253,470,000 unit test hours.
- High Q and SRF.
- Maximum protection with minimum dimension as a result of full encapsulation in a thermosetting mineral filled plastic jacket.
- Assured uniformity of product, a result of stringent Quality Control and Inspection procedures at every production stage.

Suffix letter on part number denotes standard tolerance. J = 5%, K = 10%, M = 20%.

These inductors, in standard tolerances, are available for immediate delivery from your local Airco Speer Distributor.

TYPE 09 — Dia. .095 ± .005 - Length .250 ± .010

Jeffers P/N	Lμh	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
4416-1K	0.10	125°	25.0	34	680	0.08	1315
4416-2K	0.12	125°	25.0	34	640	0.09	1240
4416-3K	0.15	125°	25.0	34	600	0.10	1170
4416-4K	0.18	125°	25.0	34	550	0.12	1070
4416-5K	0.22	125°	25.0	32	510	0.14	990
4416-6K	0.27	125°	25.0	30	460	0.16	925
4416-7K	0.33	125°	25.0	28	410	0.22	790
4426-1K	0.39	125°	25.0	35	355	0.30	675
4426-2K	0.47	125°	25.0	35	325	0.34	635
4426-3K	0.56	125°	25.0	34	310	0.40	585
4426-4K	0.68	125°	25.0	33	280	0.54	500
4426-5K	0.82	125°	25.0	32	260	0.63	465
4426-6K	1.00	125°	25.0	32	240	0.74	430
4436-1K	1.20	105°	7.9	32	150	0.18	875
4436-2K	1.50	105°	7.9	32	140	0.22	790
4436-3K	1.80	105°	7.9	32	125	0 28	700
4436-4K	2.20	105°	7.9	32	115	0.38	600
4436-5K	2.70	105°	7.9	40	100	0.55	500
4436-6K	3.30	105°	7.9	45	90	0.80	415
4436-7K	3.90	105°	7.9	45	82	1.00	370
4436-8K	4.70	105°	7.9	45	75	1.20	340
4446-1K	5.60	105°	7.9	50	67	1.50	300
4446-2K	6.80	105°	7.9	50	60	1.80	275
4446-3K	8.20	105°	7.9	60	55	2.40	240
4446-4K	10.0	105°	7.9	60	50	3.10	210
1316-1K	12.0	105°	2.5	40	40	2.40	240
1316-2K	15.0	105°	2.5	40	36	2.75	225
1316-3K	18.0	105°	2.5	50	32	3.00	215
1316-4K	22.0	105°	2.5	50	28	3.30	205
1316-5K	27.0	105°	2.5	50	24	3.60	195
1326-1K	33.0	105°	2.5	45	29	2.80	225
1326-2K	39.0	105°	2.5	45	26	3.10	210
1326-3K	47.0	105°	2.5	45	24	4.30	180
1326-4K	56.0	105°	2.5	45	22	5.30	160
1326-5K	68.0	105°	2.5	50	19	6.00	152
1326-6K	82.0	105°	2.5	50	17	6.70	144
1326-7K	100.0	105°	2.5	50	14	7.50	135

TYPE 15 — Dia. .156 ± .010 - Length .375 ± .010

Jeffers P/N	Lμh	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
4415-1M	0.15	125°	25.0	50	525	0.03	2450
4415-2M	0.22	125°	25.0	50	450	0.055	1900
4425-1M	0.33	125°	25.0	45	360	0.09	1400
4425-2M	0.47	125°	25.0	45	310	0.12	1225
4425-3K	0.56	125°	25.0	50	280	0.135	1220
4425-4K	0.68	105°	25.0	50	250	0.15	1100
4425-5K	0.82	125°	25.0	50	220	0.22	900
4425-6K	1.00	125°	25.0	50	200	0.29	830
4425-7K	1.20	125°	7.9	33	180	0.42	650
4425-8K	1.50	125°	7.9	33	160	0.50	600
4425-9K	1.80	125°	7.9	33	150	0.65	525
4425-10K	2.20	125°	7.9	33	135	0.95	435
4425-11K	2.70	125°	7.9	33	120	1.20	385
4425-12K	3.30	125°	7.9	33	110	2.00	300
4425-13K	3.90	125°	7.9	33	100	2.30	280
4425-14K	4.70	125°	7.9	33	90	2.60	260
4435-1K	5.60	125°	7.9	45	60	0.32	750
4435-2K	6.80	125°	7.9	50	55	0.50	600
4445-1K	8.20	125°	7.9	50	50	0.60	545
4445-2K	10.0	125°	7.9	55	45	0.90	445
4445-3K	12.0	125°	2.5	65	42	1.10	404
4445-4K	15.0	125°	2.5	65	40	1.40	370
4445-5J	18.0	125°	2.5	75	34	2.25	280
4445-6J	20.0	125°	2.5	80	34	2.30	275
4445-7J	22.0	125°	2.5	75	30	2.50	265
4455-1J	24.0	125°	2.5	65	27	2.20	265
4455-2J	27.0	125°	2.5	60	25	2.60	260
4465-1J	30.0	125°	2.5	70	20	2.80	255
4465-2J	33.0	125°	2.5	65	19	3.00	250
1315-1J	36.0	105°	2.5	60	15.5	2.50	180
1315-2J	39.0	105°	2.5	60	14.5	2.60	176
1315-3J	43.0	105°	2.5	60	13.7	2.70	172
1315-4J	47.0	105°	2.5	55	13.0	2.75	170
1315-5J	51.0	105°	2.5	55	12.7	2.85	167
1315-6J	56.0	105°	2.5	55	12.0	3.00	164
1315-7J	62.0	105°	2.5	55	11.5	3.15	160
1315-8J	68.0	105°	2.5	55	11.0	3.30	156
1315-9J	75.0	105°	2.5	55	10.5	3.70	147
1315-10J	82.0	105°	2.5	50	10.3	3.90	143
1315-11J	91.0	105°	2.5	50	10.0	4.30	136
1315-12J	100.0	105°	2.5	50	9.5	4.50	133
1315-13J	110.0	105°	.790	60	8.9	4.90	128
1315-14J	120.0	105°	.790	65	8.7	5.20	124
1315-15J	130.0	105°	.790	65	8.5	5.45	121
1315-16J	150.0	105°	.790	65	8.0	6.05	114
1315-17J	160.0	105°	.790	65	7.5	6.40	111
1315-18J	180.0	105°	.790	65	7.0	6.75	108
1315-19J	200.0	105°	.790	65	6.5	7.10	106
1315-20J	220.0	105°	.790	65	6.2	7.45	103
1315-21J	240.0	105°	.790	65	5.9	7.80	101

TYPE 19 — Dia. .190 ± .010 - Length .440 ± .010

Jeffers P/N	Lμh	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
4411-1M	0.15	125°	25.0	55	510	0.030	3000
4411-2M	0.22	125°	25.0	50	415	0.035	2800
4411-3M	0.33	125°	25.0	50	350	0.065	2000
4411-4M	0.47	125°	25.0	50	300	0.085	1700
4411-5K	0.56	125°	25.0	50	270	0.125	1450
4411-6K	0.68	125°	25.0	45	250	0.150	1300
4411-7K	0.82	125°	25.0	40	210	0.205	1100
4411-8K	1.00	125°	25.0	40	200	0.290	930
4411-9K	1.20	125°	7.9	30	180	0.400	785
4411-10K	1.50	125°	7.9	30	170	0.485	700
4411-11K	1.80	125°	7.9	30	150	0.740	580
4411-12K	2.20	125°	7.9	30	140	0.970	505
4411-13K	2.70	125°	7.9	30	120	1.200	460
4421-1K	3.30	125°	7.9	30	70	0.140	1350
4421-2K	3.90	125°	7.9	30	65	0.155	1250
4421-3K	4.70	125°	7.9	30	60	0.210	1100
4421-4K	5.60	125°	7.9	30	50	0.280	935
4421-5K	6.80	125°	7.9	30	50	0.375	810
4421-6K	8.20	125°	7.9	30	48	0.440	750
4421-7K	10.0	125°	7.9	30	42	0.605	640
4421-8K	12.0	125°	2.5	50	36	1.050	490
4421-9K	15.0	125°	2.5	55	30	1.200	460
4421-10K	18.0	125°	2.5	60	30	1.950	360
4421-11K	22.0	125°	2.5	60	24	2.200	335
4421-12K	27.0	125°	2.5	65	22	2.750	300
1331-21J	270.0	125°	.790	65	5.6	8.2	110
1331-22J	300.0	125°	.790	65	5.3	8.7	107
1331-23J	330.0	125°	.790	65	5.0	9.1	105
1331-24J	360.0	125°	.790	65	4.7	9.6	102
1331-25J	390.0	125°	.790	65	4.5	10.0	100
1331-26J	430.0	125°	.790	65	4.3	10.6	97
1331-27J	470.0	125°	.790	65	4.0	11.1	95
1331-28J	510.0	125°	.790	65	3.8	11.6	93
1331-29J	560.0	125°	.790	65	3.6	12.3	91
1331-30J	620.0	125°	.790	60	3.5	13.0	88
1331-31J	680.0	125°	.790	60	3.4	13.7	85
1331-32J	750.0	125°	.790	60	3.3	14.4	83
1331-33J	820.0	125°	.790	60	3.1	15.1	81
1331-34J	910.0	125°	.790	60	2.9	15.8	79
1331-35J	1000.0	125°	.790	60	2.8	16.5	78

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TYPE 22 — Dia. .220 ± .010 - Length .560 ± .010

Jeffers P/N	Lμh	Max. Oper. Temp, °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
4412-1K	0.47	125°	25.0	65	300	0.06	1970
4412-2K	0.56	125°	25.0	65	270	0.08	1850
4412-3K	0.68	125°	25.0	65	240	0.07	1700
4412-4K	0.82	125°	25.0	65	220	0.11	1480
4412-5K	1.00	125°	25.0	65	200	0.14	1290
4412-6K	1.20	125°	7.9	40	180	0.19	1120
4412-7K	1.50	125°	7.9	40	160	0.28	925
4412-8K	1.80	125°	7.9	40	150	0.37	790
4412-9K	2.20	125°	7.9	40	135	0.50	680
4412-10K	2.70	125°	7.9	40	120	0.65	600
4412-11K	3.30	125°	7.9	40	105	1.00	480
4412-12K	3.90	125°	7.9	40	100	1.20	440
4412-13K	4.70	125°	7.9	40	90	1.80	360
4422-1K	5.60	125°	7.9	35	55	0.13	1340
4422-2K	6.80	125°	7.9	35	50	0.20	1080
4422-3K	8.20	125°	7.9	35	44	0.22	1030
4422-4K	10.0	125°	7.9	35	42	0.26	950
4422-5K	12.0	125°	2.5	45	34	0.45	720
4422-6K	15.0	125°	2.5	45	32	0.52	670
4422-7K	18.0	125°	2.5	50	28	0.70	580
4422-8K	22.0	125°	2.5	60	24	1.00	480
4422-9K	27.0	125°	2.5	65	22	1.30	420
4422-10K	33.0	125°	2.5	65	20	1.50	390
4422-11K	39.0	125°	2.5	70	18	2.00	340
1312-20J	1100	105°	.250	60	2.8	21.0	78
1312-21J	1200	105°	.250	60	2.7	22.0	76
1312-22J	1300	105°	.250	60	2.6	23.0	75
1312-23J	1500	105°	.250	65	2.4	25.0	72
1312-24J	1600	105°	.250	65	2.3	26.0	70
1312-25J	1800	105°	.250	65	2.2	28.0	68
1312-26J	2000	105°	.250	65	2.1	29.0	67
1312-27J	2200	105°	.250	70	2.0	30.0	66
1312-28J	2400	105°	.250	70	1.9	31.0	64
1312-29J	2700	105°	.250	70	1.8	33.0	62
1312-30J	3000	105°	.250	70	1.7	35.0	61
1312-31J	3300	105°	.250	70	1.6	38.0	58
1312-32J	3600	105°	.250	70	1.5	40.0	57

TYPE 24 — Dia. .240 ± .010 - Length .740 ± .010

Jeffers P/N	Lμh	Max. Oper. Temp, °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
1313-20J	3900	105°	.250	80	1.45	44	61
1313-21J	4300	105°	.250	80	1.40	46	59
1313-22J	4700	105°	.250	80	1.35	48	58
1313-23J	5100	105°	.250	80	1.30	50	57
1313-24J	5600	105°	.250	80	1.25	53	56
1313-25J	6200	105°	.250	80	1.20	56	54
1313-26J	6800	105°	.250	80	1.15	59	52
1313-27J	7500	105°	.250	80	1.10	62	51
1313-28J	8200	105°	.250	80	1.05	65	50
1313-29J	9100	105°	.250	80	1.00	68	49
1313-30J	10000	105°	.250	80	0.95	72	47

TYPE 25 — Dia. .250 ± .010 - Length .560 ± .010

Jeffers P/N	Lμh	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms at 25°C	Direct Current (MA)
25-A-470K	47	125°	2.5	18	13.5	5.9	195
25-A-560K	56	125°	2.5	18	13.0	6.4	185
25-A-680K	68	125°	2.5	70	13.0	3.3	255
25-A-820K	82	125°	2.5	65	11.7	3.5	245
25-A-101K	100	125°	2.5	65	10.7	3.8	235
25-A-121K	120	125°	.790	75	9.3	4.7	215
25-A-151K	150	125°	.790	75	8.3	5.3	200

TYPE 28 — Dia. .280 ± .010 - Length .940 ± .010

Jeffers P/N	Lμh	Max. Oper. Temp, °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms	Direct Current (MA)
4414-1K	1.20	125°	7.9	60	170	0.075	2400
4414-2K	1.50	125°	7.9	60	160	0.090	2150
4414-3K	1.80	125°	7.9	60	140	0.135	1750
4414-4K	2.20	125°	7.9	60	125	0.160	1600
4414-5K	2.70	125°	7.9	60	115	0.220	1350
1414-6K	3.30	125°	7.9	60	100	0.305	1150
4414-7K	3.90	125°	7.9	60	95	0.450	955
4414-8K	4.70	125°	7.9	60	90	0.560	860
4414-9K	5.60	125°	7.9	60	80	0.745	745
4414-10K	6.80	125°	7.9	60	75	1.050	635
4414-11K	8.20	125°	7.9	60	68	1.400	550
4414-12K	10.0	125°	7.9	60	60	1.900	460
4414-13K	12.0	125°	2.5	40	53	2.650	395
4414-14K	15.0	125°	2.5	40	50	3.250	355
4414-15K	18.0	125°	2.5	40	45	4.150	315
4424-1K	22.0	125°	2.5	50	24	0.295	1150
4424-2K	27.0	125°	2.5	50	22	0.295	1050
4424-3K	33.0	125°	2.5	60	19	0.550	865
4424-4K	39.0	125°	2.5	55	18	0.650	810
4424-5K	47.0	125°	2.5	65	16	1.000	640
4424-6K	56.0	125°	2.5	65	14	1.150	610
4424-7K	68.0	125°	2.5	75	13	1.850	470
4424-8K	82.0	125°	2.5	75	12	2.100	440
4424-9K	100.0	125°	2.5	75	12	2.500	405
4424-10K	120.0	125°	.790	95	10	4.100	315

TYPE 31 — Dia. .310 ± .010 - Length .560 ± .010

Jeffers P/N	Lμh	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms at 25°C	Direct Current (MA)
31-A-181K	180	125°	.790	80	6.0	5.5	225
31-A-221K	220	125°	.790	80	5.5	5.9	220
31-A-271K	270	125°	.790	80	5.1	6.6	210
31-A-331K	330	125°	.790	75	4.2	7.8	185
31-A-391K	390	125°	.790	75	3.9	8.7	180

TYPE 37 — Dia. .375 ± .010 - Length .625 ± .010

Jeffers P/N	Lμh	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms at 25°C	Direct Current (MA)
37-A-471K	470	125°	.790	80	3.7	9.0	190
37-A-561K	560	125°	.790	80	3.5	10.0	180
37-A-681K	680	125°	.790	75	3.2	11.2	170
37-A-821K	820	125°	.790	75	3.0	13.0	155
37-A-102K	1000	125°	.790	70	2.7	14.5	145

TYPE 46 — Dia. .468 ± .010 - Length .687 ± .010

Jeffers P/N	Lμh	Max. Oper. Temp. °C	Test Freq. (MC)	Q Min	SRF Min (MC)	DCR Max Ohms at 25°C	Direct Current (MA)
46-A-152K	1500	125°	.250	85	2.2	22.0	127
46-A-222K	2200	125°	.250	85	1.8	27.0	115
46-A-272K	2700	125°	.250	85	1.6	32.0	105
46-A-512K	5100	125°	.250	70	1.0	66.0	73
46-A-103K	10000	125°	.250	70	0.8	70.0	71

INDUCTOR LEAD MATERIAL

Standard All leads are 1 5/16" minimum length.

The leads of standard sizes cataloged, are 99.9% oxygen free copper. Before manufacturing, the coating is pure tin hot dipped to a minimum thickness of 0.0006 inch. After manufacturing into molded inductors the leads are hot dip coated with 60/40 tin-lead solder with a minimum thickness of 0.0006 inch.

AIRCO Speer Electronic Components

Formerly Jeffers Electronics Division Speer Carbon Co.

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PRICE LIST

CATALOG NUMBER	NET PRICE	CATALOG NUMBER	NET PRICE	CATALOG NUMBER	NET PRICE	CATALOG NUMBER	NET PRICE	CATALOG NUMBER	NET PRICE	CATALOG NUMBER	NET PRICE
20A000-0	.78	22A155RBI	1.38	25A014-0	.72	46A825CPC	1.80	60A022-2	1.50	70F226AI	.60
20A000-1	.96	22A222RBI	1.71	25A014-1	.90	46A826CPC	1.77	60A022-3	1.50	70F227AP	.60
20A000-2	.96	22A223RBI	1.50	25A014-2	.90	46A827CPC	1.71	60A022-4	1.50	70F252AF	1.08
20A000-3	.96	22A224RBI	1.47	25A014-3	.90	47A024-0	1.56	60A022-5	1.71	70F253AI	.84
20A000-4	.96	22A225RBI	1.47	25A014-4	.90	47A024-1	1.62	60A022-6	1.50	70F254AI	.69
20A000-5	1.17	22A332RBI	1.74	25A014-5	1.20	47A024-2	1.62	60A022-7	1.50	70F255AI	.69
20A000-6	.96	22A333RBI	1.56	25A014-6	.90	47A024-3	1.62	60A024-0	1.29	70F272AF	1.08
20A000-7	.96	22A334RBI	1.50	25A014-7	.90	47A024-4	1.62	60A024-1	1.50	70F273AI	.84
20A103RBI	1.29	22A335RBI	1.50	26A024-0	1.05	47A024-5	1.86	60A024-2	1.50	70F274AI	.69
20A104RBI	1.26	22A472RBI	1.77	26A024-1	1.17	47A024-6	1.62	60A024-3	1.50	70F275AI	.69
20A105RBI	1.26	22A473RBI	1.56	26A024-2	1.17	47A024-7	1.62	60A024-4	1.50	70F276AI	.60
20A106RBI	1.14	22A474RBI	1.50	26A024-3	1.17	47A103CPC	2.76	60A024-5	1.71	70F304AI	.69
20A107RBI	1.08	22A475RBI	1.50	26A024-4	1.17	47A104CPC	2.67	60A024-6	1.50	70F332AF	1.11
20A154RBI	1.29	22A682RBI	1.80	26A024-5	1.50	47A105CPC	2.58	60A024-7	1.50	70F333AI	.84
20A155RBI	1.26	22A683RBI	1.56	26A024-6	1.17	47A106CPC	2.52	62A022-0	1.44	70F334AI	.69
20A156RBI	1.14	22A684RBI	1.50	26A024-7	1.17	47A107CPC	2.49	62A022-1	1.62	70F335AI	.69
20A157RBI	1.08	22A685RBI	1.50	27A013-0	.72	47A124CPC	2.67	62A022-2	1.62	70F336AI	.60
20A224RBI	1.29	22A822RBI	1.89	27A013-1	.90	47A125CPC	2.58	62A022-3	1.62	70F337AP	.60
20A225RBI	1.14	22A823RBI	1.59	27A013-2	.90	47A126CPC	2.52	62A022-4	1.62	70F354AI	.69
20A226RBI	1.14	22A824RBI	1.50	27A013-3	.90	47A127CPC	2.49	62A022-5	1.86	70F392AF	1.14
20A227RBI	1.08	22A825RBI	1.50	27A013-4	.90	47A154CPC	2.67	62A022-6	1.62	70F393AI	.84
20A334RBI	1.29	23A013-0	.75	27A013-5	1.20	47A155CPC	2.58	62A022-7	1.62	70F394AI	.75
20A335RBI	1.26	23A013-1	.90	27A013-6	.90	47A156CPC	2.55	62A024-0	1.44	70F395AI	.69
20A336RBI	1.14	23A013-2	.90	27A013-7	.90	47A157CPC	2.49	62A024-1	1.62	70F396AI	.60
20A337RBI	1.14	23A013-3	.90	27A014-0	.72	47A184CPC	2.67	62A024-2	1.62	70F472AF	1.17
20A474RBI	1.29	23A013-4	.90	27A014-1	.90	47A185CPC	2.58	62A024-3	1.62	70F473AI	.84
20A475RBI	1.26	23A013-5	1.17	27A014-2	.90	47A186CPC	2.55	62A024-4	1.62	70F474AI	.75
20A476RBI	1.14	23A013-6	.90	27A014-3	.90	47A187CPC	2.49	62A024-5	1.86	70F475AI	.69
20A477RBI	1.14	23A013-7	.90	27A014-4	.90	47A224CPC	2.67	62A024-6	1.62	70F476AI	.60
20A684RBI	1.29	23A013-8	.90	27A014-5	1.20	47A225CPC	2.58	62A024-7	1.62	70F477AP	.60
20A685RBI	1.26	23A014-0	.75	27A014-6	.90	47A226CPC	2.55	64A022-0	1.74	70F502AF	1.20
20A686RBI	1.14	23A014-1	.96	27A014-7	.90	47A227CPC	2.52	64A022-1	1.89	70F504AI	.75
20A687RBI	1.14	23A014-2	.96	46A013-0	.75	47A274CPC	2.67	64A022-2	1.89	70F562AF	1.26
20A824RBI	1.29	23A014-3	.96	46A013-1	.90	47A275CPC	2.61	64A022-3	1.89	70F563AI	.84
20A825RBI	1.26	23A014-4	.96	46A013-2	.90	47A276CPC	2.55	64A022-4	1.89	70F564AI	.75
20A826RBI	1.14	23A014-5	1.17	36A013-3	.90	47A277CPC	2.52	64A022-5	2.04	70F565AI	.69
20A827RBI	1.14	23A014-6	.96	46A013-4	.90	47A334CPC	2.76	64A022-6	1.89	70F566AI	.60
21A000-0	.78	23A014-7	.96	46A013-5	1.17	47A335CPC	2.61	64A022-7	1.89	70F682AF	1.35
21A000-1	.96	23A014-8	.96	46A013-6	.90	47A336CPC	2.55	64A024-0	1.74	70F683AI	.84
21A000-2	.96	23A101RPC	1.38	46A013-7	.90	47A337CPC	2.52	64A024-1	1.89	70F684AI	.75
21A000-3	.96	23A102RPC	1.32	46A014-0	.84	47A394CPC	2.76	64A024-2	1.89	70F685AI	.69
21A000-4	.96	23A103RPC	1.32	46A014-1	1.05	47A395CPC	2.61	64A024-3	1.89	70F686AI	.60
21A000-5	1.17	23A104RPC	1.23	46A014-2	1.05	47A396CPC	2.55	64A024-4	1.89	70F687AP	.60
21A000-6	.96	23A105RPC	1.14	46A014-3	1.05	47A397CPC	2.52	64A024-5	2.04	70F752AF	1.44
21A000-7	.96	23A106RPC	1.05	46A014-4	1.05	47A474CPC	2.76	64A024-6	1.89	70F753AI	.84
21A102RBI	1.59	23A107RPC	1.05	46A014-5	1.23	47A475CPC	2.61	64A024-7	1.89	70F754AI	.75
21A103RBI	1.44	23A152RPC	1.32	46A014-6	1.05	47A476CPC	2.58	66A022-0	1.89	70F755AI	.69
21A104RBI	1.35	23A153RPC	1.32	46A014-7	1.05	47A477CPC	2.52	66A022-1	2.10	70F756AI	.60
21A105RBI	1.29	23A154RPC	1.23	46A103CPC	1.89	47A564CPC	2.76	66A022-2	2.10	70F757AP	.60
21A106RBI	1.17	23A155RPC	1.23	46A104CPC	1.83	47A565CPC	2.61	66A022-3	2.10	70F822AF	1.44
21A153RBI	1.44	23A156RPC	1.05	46A105CPC	1.77	47A566CPC	2.58	66A022-4	2.10	70F823AI	.99
21A154RBI	1.35	23A157RPC	1.05	46A106CPC	1.71	47A567CPC	2.52	66A022-5	2.28	70F824AI	.75
21A155RBI	1.29	23A222RPC	1.38	46A107CPC	1.68	47A684CPC	2.76	66A022-6	2.10	70F825AI	.69
21A156RBI	1.17	23A223RPC	1.32	46A124CPC	1.83	47A685CPC	2.61	66A022-7	2.10	70F826AI	.60
21A223RBI	1.44	23A224RPC	1.23	46A125CPC	1.77	47A686CPC	2.58	66A024-0	1.89	70F827AP	.60
21A224RBI	1.35	23A225RPC	1.23	46A126CPC	1.71	47A687CPC	2.52	66A024-1	2.10	70F912AF	1.47
21A225RBI	1.29	23A226RPC	1.14	46A127CPC	1.68	47A824CPC	2.76	66A024-2	2.10	70F913AI	.99
21A226RBI	1.17	23A227RPC	1.05	46A154CPC	1.83	47A825CPC	2.61	66A024-3	2.10	70F914AI	.75
21A333RBI	1.44	23A332RPC	1.38	46A155CPC	1.77	47A826CPC	2.58	66A024-4	2.10	70F915AI	.69
21A334RBI	1.35	23A333RPC	1.32	46A156CPC	1.74	47A827CPC	2.52	66A024-5	2.28	70F916AI	.60
21A335RBI	1.29	23A334RPC	1.23	46A157CPC	1.68	50A103EBI	4.35	66A024-6	2.10	73F102AF	1.05
21A336RBI	1.17	23A335RPC	1.23	46A184CPC	1.83	50A104EBI	4.23	66A024-7	2.10	73F103AF	.81
21A473RBI	1.50	23A336RPC	1.14	46A185CPC	1.77	50A105EBI	3.69	70F101AF	1.50	73F104AF	.75
21A474RBI	1.35	23A337RPC	1.05	46A186CPC	1.74	50A106EBI	3.60	70F102AI	.99	73F123AF	.81
21A475RBI	1.29	23A472RPC	1.38	46A187CPC	1.68	50A153EBI	4.35	70F103AI	.75	73F124AF	.75
21A476RBI	1.17	23A473RPC	1.32	46A224CPC	1.83	50A154EBI	4.26	70F104AI	.69	73F153AF	.81
21A683RBI	1.50	23A474RPC	1.23	46A225CPC	1.77	50A155EBI	3.69	70F105AI	.69	73F154AF	.75
21A684RBI	1.35	23A475RPC	1.23	46A226CPC	1.74	50A156EBI	3.60	70F106AI	.60	73F183AF	.81
21A685RBI	1.29	23A476RPC	1.14	46A227CPC	1.71	50A223EBI	4.38	70F107AP	.60	73F184AF	.75
21A686RBI	1.17	23A477RPC	1.05	46A274CPC	1.83	50A224EBI	4.26	70F122AI	1.08	73F223AF	.81
21A823RBI	1.50	23A682RPC	1.38	46A275CPC	1.80	50A225EBI	3.78	70F123AI	.75	73F224AF	.75
21A824RBI	1.44	23A683RPC	1.32	46A276CPC	1.74	50A226EBI	3.60	70F124AI	.69	73F273AF	.81
21A825RBI	1.29	23A684RPC	1.23	46A277CPC	1.71	50A333EBI	4.38	70F125AI	.69	73F274AF	.75
21A826RBI	1.17	23A685RPC	1.23	46A334CPC	1.86	50A334EBI	4.29	70F126AI	.60	73F333AF	.90
22A000-0	1.29	23A686RPC	1.14	46A335CPC	1.80	50A335EBI	3.78	70F152AI	1.08	73F334AF	.75
22A000-1	1.44	23A687RPC	1.05	46A336CPC	1.74	50A336EBI	3.63	70F153AI	.75	73F393AF	.90
22A000-2	1.44	23A822RPC	1.38	46A337CPC	1.71	50A473EBI	4.44	70F154AI	.69	73F394AF	.75
22A000-3	1.44	23A823RPC	1.32	46A394CPC	1.86	50A474EBI	4.29	70F155AI	.69	73F473AF	.90
22A000-4	1.44	23A824RPC	1.32	46A395CPC	1.80	50A475EBI	3.81	70F156AI	.60	73F474AF	.75
22A000-5	1.68	23A825RPC	1.23	46A396CPC	1.74	50A476EBI	3.63	70F157AP	.60	73F563AF	.99
22A000-6	1.44	23A826RPC	1.14	46A397CPC	1.71	50A683EBI	4.44	70F182AI	1.08	73F564AF	.75
22A000-7	1.44	23A827RPC	1.05	46A474CPC	1.86	50A684EBI	4.32	70F183AI	.75	73F683AF	.99
22A101RBI	2.10	24A024-0	1.05	46A475CPC	1.80	50A685EBI	3.81	70F184AI	.69	73F684AF	.81
22A102RBI	1.59	24A024-1	1.17	46A476CPC	1.77	50A686EBI	3.63	70F185AI	.69	73F823AF	1.05
22A103RBI	1.50	24A024-2	1.17	46A477CPC	1.71	50A823EBI	4.44	70F186AI	.60	73F824AF	.81
22A104RBI	1.47	24A024-3	1.17	46A684CPC	1.89	50A824EBI	4.32	70F204AI	.69	74F104AI	.60
22A105RBI	1.38	24A024-4	1.17	46A685CPC	1.80	50A825EBI	3.84	70F222AI	1.17	74F105AP	.48
22A152RBI	1.71	24A024-5	1.50	46A686CPC	1.77	50A826EBI	3.63	70F223AI	.81	74F106AP	.45
22A153RBI	1.50	24A024-6	1.17	46A687CPC	1.71	60A022-0	1.35	70F224AI	.69	74F125AP	.48
22A154RBI	1.47	24A024-7	1.17	46A824CPC	1.89	60A022-1	1.50	70F225AI	.69	74F126AP	.45

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CATALOG NUMBER	NET PRICE	CATALOG NUMBER	NET PRICE	CATALOG NUMBER	NET PRICE	CATALOG NUMBER	NET PRICE	CATALOG NUMBER	NET PRICE	CATALOG NUMBER	NET PRICE
74F155AP	.48	4400-6	1.38	4612-E	1.47	9220-12	1.05	9240-715	2.97	9320-35	.66
74F156AP	.45	4400-7	1.38	4622-E	1.53	9220-14	1.05	9240-716	2.97	9320-36	.66
74F185AP	.51	4403	1.83	4624-E	1.53	9220-15	1.05	9240-717	2.97	9320-38	.66
74F186AP	.45	4404	1.86	4626-E	1.53	9220-16	1.05	9240-718	2.97	9330-00	.66
74F225AI	.51	4405	1.89	4628-E	1.53	9220-18	1.14	9240-719	2.97	9330-01	.66
								9240-720	2.97		
74F226AP	.45	4406	1.95	4629-E	1.53	9220-20	1.14	9240-721	2.97	9330-02	.66
74F275AI	.54	4407	2.01	4630-E	1.53	9220-22	1.14	9240-722	3.12	9330-03	.66
74F276AP	.45	4408	2.10	4631-E	1.53	9220-24	1.14	9240-723	3.12	9330-04	.66
74F335AI	.54	4409	2.16	4632-E	1.53	9220-26	1.14	9240-724	3.12	9330-05	.66
74F336AP	.45	4410	2.19	4642-E	1.59	9220-28	1.14	9240-725	3.12	9330-06	.66
								9240-726	3.12		
74F395AI	.57	4411	2.22	4644-E	1.59	9220-30	1.35	9240-727	3.12	9330-07	.66
74F396AP	.45	4412	2.25	4646-E	1.59	9220-32	1.35	9240-728	3.12	9330-08	.66
74F475AI	.60	4413	2.28	4648-E	1.74	9220-34	1.35	9240-729	3.12	9330-10	.66
74F476AP	.45	4414	2.28	4649-E	2.07	9220-36	1.35	9240-730	3.12	9330-12	.66
74F565AI	.60	4500-0	1.08	4650-E	2.07	9220-38	1.35	9240-731	3.12	9330-14	.66
								9240-732	3.12		
74F566AP	.45	4500-1	1.23	4651-E	2.07	9220-40	1.35	9240-733	3.48	9330-16	.66
74F685AI	.60	4500-2	1.23	4652-E	2.07	9220-42	1.35	9240-734	3.48	9330-18	.75
74F686AP	.45	4500-3	1.23	4662-E	2.10	9220-44	1.35	9240-735	3.48	9330-20	.75
74F825AI	.60	4500-4	1.23	4664-E	2.13	9220-46	1.35	9240-736	3.48	9330-22	.75
74F826AP	.45	4500-5	1.41	4666-E	2.22	9220-48	1.35	9240-737	3.48	9330-24	.75
								9240-738	3.48		
970	.78	4500-6	1.23	4668-E	2.28	9220-50	1.35	9240-739	3.48	9330-26	.75
971	.78	4500-7	1.23	4669-E	2.40	9220-52	1.35	9240-740	3.48	9330-28	.75
972	.78	4501	1.68	4670-E	2.40	9220-54	1.35	9240-741	3.48	9330-30	.75
973	.84	4502	1.68	4671-E	2.43	9220-56	1.50	9240-742	3.48	9330-32	.75
974	.84	4503	1.68	4672-E	2.82	9220-58	1.50	9240-744	3.48	9330-34	.75
								9240-745	3.48		
975	.84	4504	1.68	6302	.99	9220-60	1.50	9240-746	3.48	9330-36	.75
976	.87	4505	1.74	6302-E	2.40	9220-62	1.50	9240-747	3.48	9330-38	.75
977	.87	4506	1.80	6304	1.14	9220-64	1.50	9240-748	3.48	9340-00	.78
978	.87	4507	1.86	6304-E	2.49	9220-66	1.50	9240-749	3.75	9340-02	.78
979	.87	4508	1.89	6306	1.26	9220-68	1.50	9240-750	3.75	9340-03	.78
								9240-751	3.75		
980	.90	4509	1.92	6306-E	2.64	9220-70	1.50	9240-752	3.96	9340-04	.78
981	.90	4511	1.95	6308	1.26	9220-72	1.50	9240-753	3.96	9340-06	.78
982	.90	4512	1.98	6308-E	2.82	9220-74	1.50	9240-754	3.96	9340-08	.78
983	.90	4513	2.01	6310	1.50	9220-76	1.50	9240-755	3.96	9340-10	.78
984	.96	4514	2.04	6310-E	3.00	9230-00	1.02	9240-756	3.96	9340-12	.78
		4514-1	2.10								
985	.96	4580	.54	9001	1.32	9230-02	1.02	9240-770	2.76	9340-14	.78
986	.99	4582	.54	9002	1.50	9230-04	1.02	9240-771	2.76	9340-16	.78
987	1.02	4584	.54	9003	1.80	9230-06	1.02	9240-772	2.76	9340-18	.78
988	1.08	4586	.54	9004	2.10	9230-08	1.02	9240-773	2.76	9340-20	.78
989	1.11	4588	.54	9005	2.37	9230-10	1.02	9240-774	2.76	9340-22	.78
				9006	2.76						
990	1.14	4590	.54	9007	2.85	9230-12	1.02	9310-00	.60	9340-24	.78
991	1.20	4592	.54	9008	2.88	9230-14	1.02	9310-02	.60	9340-26	.78
992	1.26	4594	.54	9009	2.97	9230-16	1.02	9310-04	.60	9340-28	.84
993	1.32	4602	.54	9011	1.62	9230-18	1.02	9310-06	.60	9340-30	.84
994	1.38	4604	.54	9012	1.80	9230-20	1.02	9310-07	.60	9340-32	.84
				9013	2.10						
4200-0	.69	4606	.54	9014	2.40	9230-22	1.08	9310-08	.60	9340-34	.84
4200-1	.78	4608	.54	9015	2.67	9230-24	1.08	9310-10	.60	9340-36	.84
4200-2	.78	4609	.54	9016	2.76	9230-26	1.08	9310-12	.60	9340-38	.84
4200-3	.78	4610	.57	9017	2.82	9230-28	1.08	9310-14	.60	9340-39	.84
4200-4	.78	4611	.57	9018	3.18	9230-30	1.08	9310-16	.60	9340-40	.84
4200-5	1.05										
4200-6	.75	4612	.57	9019	3.27	9230-32	1.08	9310-18	.60	9340-42	.84
4200-7	.75	4622	.63	9050	1.89	9230-34	1.08	9310-20	.60	9340-44	.84
4200-8	.75	4624	.63	9051	1.89	9230-36	1.08	9310-22	.60	9350-00	1.02
4201	1.02	4626	.66	9052	1.92	9230-38	1.23	9310-24	.60	9350-02	1.02
4201-A	1.02	4628	.66	9053	1.92	9230-40	1.23	9310-26	.60	9350-04	1.08
4202	1.02										
4203	1.05	4629	.69	9054	1.95	9230-42	1.23	9310-28	.60	9350-06	1.08
4204	1.08	4630	.69	9055	1.95	9230-44	1.23	9310-30	.66	9350-08	1.08
4205	1.11	4631	.69	9056	1.95	9230-46	1.32	9310-32	.66	9350-10	1.08
4206	1.20	4632	.69	9057	2.04	9230-48	1.32	9310-34	.66	9350-12	1.08
4207	1.23	4642	.69	9058	2.04	9230-50	1.32	9310-36	.66	9350-14	1.08
4208	1.26					9230-52	1.32				
4209	1.29	4644	.69	9059	2.04	9230-54	1.32	9310-38	.66	9350-16	1.08
4300-0	.99	4646	.69	9060	2.19	9230-56	1.41	9310-40	.66	9350-18	1.08
4300-1	1.14	4648	.75	9061	2.19	9230-58	1.65	9310-42	.66	9350-20	1.08
4300-2	1.14	4649	.75	9062	2.19	9230-60	1.65	9310-44	.66	9350-22	1.08
4300-3	1.14	4650	.75	9063	2.28	9230-62	1.65	9310-46	.75	9350-24	1.11
						9230-64	1.65				
4300-4	1.14	4651	.75	9210-54	.90	9230-66	1.65	9310-48	.75	9350-26	1.11
4300-5	1.32	4652	.75	9210-56	.90	9230-68	1.65	9310-50	.75	9350-28	1.11
4300-6	1.14	4662	.78	9210-58	.90	9230-70	2.25	9310-52	.75	9350-30	1.11
4300-7	1.14	4664	.81	9210-60	.90	9230-72	2.25	9320-00	.60	9350-32	1.14
4301	1.62	4666	.87	9210-62	.90	9230-74	2.25	9320-02	.60	9350-34	1.14
				9210-64	.90	9230-76	2.25				
4302	1.62	4668	.99	9210-66	.90	9230-78	2.25	9320-04	.60	9350-36	1.14
4303	1.65	4669	1.11	9210-68	.90	9230-80	2.25	9320-06	.60	9350-37	1.20
4304	1.68	4670	1.11	9210-70	.90	9230-82	2.25	9320-07	.60	9350-38	1.20
4305	1.74	4671	1.11	9210-72	.90	9230-84	2.25	9320-08	.60	9350-39	1.20
4306	1.80	4672	1.35	9210-74	.90	9230-86	2.25	9320-09	.60	9350-40	1.20
				9210-76	.99	9230-88	2.25				
4307	1.86	4580-E	1.44	9210-78	.99	9230-90	2.25	9320-10	.60	9350-41	1.20
4308	1.89	4582-E	1.44	9210-80	.99	9230-92	2.25	9320-11	.60	9350-44	1.20
4309	1.92	4584-E	1.44	9210-82	.99	9230-94	1.02	9320-12	.60	9360-01	1.26
4310	1.95	4586-E	1.44	9210-84	.99	9230-96	1.02	9320-13	.60	9360-02	1.26
4311	1.98	4588-E	1.44	9210-86	.99	9240-701	2.79	9320-14	.60	9360-03	1.26
						9240-702	2.79				
4312	2.01	4590-E	1.44	9210-88	.99	9240-703	2.79	9320-16	.60	9360-04	1.26
4313	2.04	4592-E	1.44	9210-90	.99	9240-704	2.79	9320-18		9360-05	1.26
4314	2.04	4594-E	1.44	9210-92	.99	9240-705	2.79	9320-20	.66	9360-06	1.26
4315	2.04	4602-E	1.44	9210-94	.99	9240-706	2.79	9320-22	.66	9360-07	1.26
4400-0	1.23	4604-E	1.44	9220-00	1.05	9240-707	2.79	9320-24	.66	9360-08	1.35
						9240-708	2.97				
4400-1	1.38	4606-E	1.44	9220-02	1.05	9240-709	2.97	9320-26	.66	9360-09	1.35
4400-2	1.38	4608-E	1.44	9220-04	1.05	9240-710	2.97	9320-28	.66	9360-10	1.35
4400-3	1.38	4609-E	1.47	9220-06	1.05	9240-711	2.97	9320-30	.66	9360-11	1.35
4400-4	1.38	4610-E	1.47	9220-08	1.05	9240-712	2.97	9320-32	.66	9360-12	1.35
4400-5	1.56	4611-E	1.47	9220-10	1.05	9240-713	2.97	9320-34	.66	9360-13	1.35
						9240-714	2.97				

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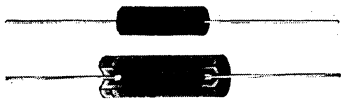

Nicknamed the "Micro-Mite", these rugged coils exhibit high Q and very low distributed capacity, all concentrated into an amazingly small package. They are ideal for use where weight, space and high Q considerations are involved. Size reduction ranges up to 80% of equivalent standard molded chokes. The construction of these coils permits miniaturization without the use of ferrite materials, thus maintaining temperature stability. This series of molded coils conforms to MIL-C-15305.

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9210-54	90538-01	36 ± 5%	60	2.5 MHz	15.5	2.50	180	IRON
9210-56	90538-02	39 ± 5%	60	2.5 MHz	14.5	2.60	176	IRON
9210-58	90538-03	43 ± 5%	60	2.5 MHz	13.7	2.70	172	IRON
9210-60	90538-04	47 ± 5%	55	2.5 MHz	13.0	2.75	170	IRON
9210-62	90538-05	51 ± 5%	55	2.5 MHz	12.7	2.85	167	IRON
9210-64	90538-06	56 ± 5%	55	2.5 MHz	12.0	3.00	164	IRON
9210-66	90538-07	62 ± 5%	55	2.5 MHz	11.5	3.15	160	IRON
9210-68	90538-08	68 ± 5%	55	2.5 MHz	11.0	3.30	156	IRON
9210-70	90538-09	75 ± 5%	55	2.5 MHz	10.5	3.70	147	IRON
9210-72	90538-10	82 ± 5%	50	2.5 MHz	10.3	3.90	143	IRON
9210-74	90538-11	91 ± 5%	50	2.5 MHz	10.0	4.30	136	IRON
9210-76	90538-12	100 ± 5%	50	2.5 MHz	9.5	4.50	133	IRON
9210-78	90538-13	110 ± 5%	60	.790 MHz	8.9	4.90	128	IRON
9210-80	90538-14	120 ± 5%	65	.790 MHz	8.7	5.20	124	IRON
9210-82	90538-15	130 ± 5%	65	.790 MHz	8.5	5.45	121	IRON
9210-84	90538-16	150 ± 5%	65	.790 MHz	8.0	6.05	114	IRON
9210-86	90538-17	160 ± 5%	65	.790 MHz	7.5	6.40	111	IRON
9210-88	90538-18	180 ± 5%	65	.790 MHz	7.0	6.75	108	IRON
9210-90	90538-19	200 ± 5%	65	.790 MHz	6.5	7.10	106	IRON
9210-92	90538-20	220 ± 5%	65	.790 MHz	6.2	7.45	103	IRON
9210-94	90538-21	240 ± 5%	65	.790 MHz	5.9	7.80	101	IRON

Mold Size: .155 ± .010 diameter; .375 ± .010 length. Leads: AWG #22 TCW; 1.44 ± .125 length. Power Rating: .22 Watt Max. at 90° C.
*Current based on (1) Temperature rise not to exceed 15°C at 90° ambient. (2) Overload not to exceed 1½ times rated current.

Miller Part Number	M S Type	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Mold Size	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency					
9220-00	90539-01	270 ± 5%	65	.790 MHz	5.6	8.2	110	A	IRON
9220-02	90539-02	300 ± 5%	65	.790 MHz	5.3	8.7	107	A	IRON
9220-04	90539-03	330 ± 5%	65	.790 MHz	5.0	9.1	105	A	IRON
9220-06	90539-04	360 ± 5%	65	.790 MHz	4.7	9.6	102	A	IRON
9220-08	90539-05	390 ± 5%	65	.790 MHz	4.5	10.0	100	A	IRON
9220-10	90539-06	430 ± 5%	65	.790 MHz	4.3	10.6	97	A	IRON
9220-12	90539-07	470 ± 5%	65	.790 MHz	4.0	11.1	95	A	IRON
9220-14		500 ± 5%	65	.790 MHz	3.8	11.6	93	A	IRON
9220-15	90539-08	510 ± 5%	65	.790 MHz	3.8	11.6	92	A	IRON
9220-16	90539-09	560 ± 5%	65	.790 MHz	3.6	12.3	91	A	IRON
9220-18	90539-10	620 ± 5%	60	.790 MHz	3.5	13.0	88	A	IRON
9220-20	90539-11	680 ± 5%	60	.790 MHz	3.4	13.7	85	A	IRON
9220-22	90539-12	750 ± 5%	60	.790 MHz	3.3	14.4	83	A	IRON
9220-24	90539-13	820 ± 5%	60	.790 MHz	3.1	15.1	81	A	IRON
9220-26	90539-14	910 ± 5%	60	.790 MHz	2.9	15.8	79	A	IRON
9220-28	90539-15	1000 ± 5%	60	.790 MHz	2.8	16.5	78	A	IRON
9220-30	90540-01	1100 ± 5%	60	.250 MHz	2.8	21.0	78	B	IRON
9220-32	90540-02	1200 ± 5%	60	.250 MHz	2.7	22.0	76	B	IRON
9220-34	90540-03	1300 ± 5%	60	.250 MHz	2.6	23.0	75	B	IRON
9220-36	90540-04	1500 ± 5%	65	.250 MHz	2.4	25.0	72	B	IRON
9220-38	90540-05	1600 ± 5%	65	.250 MHz	2.3	26.0	70	B	IRON
9220-40	90540-06	1800 ± 5%	65	.250 MHz	2.2	28.0	68	B	IRON
9220-42	90540-07	2000 ± 5%	65	.250 MHz	2.1	29.0	67	B	IRON
9220-44	90540-08	2200 ± 5%	70	.250 MHz	2.0	30.0	66	B	IRON
9220-46	90540-09	2400 ± 5%	70	.250 MHz	1.9	31.0	64	B	IRON
9220-48	90540-10	2700 ± 5%	70	.250 MHz	1.8	33.0	62	B	IRON
9220-50	90540-11	3000 ± 5%	70	.250 MHz	1.7	35.0	61	B	IRON
9220-52	90540-12	3300 ± 5%	70	.250 MHz	1.6	38.0	58	B	IRON
9220-54	90540-13	3600 ± 5%	70	.250 MHz	1.5	40.0	57	B	IRON
9220-56	90541-01	3900 ± 5%	80	.250 MHz	1.45	44.0	61	C	IRON
9220-58	90541-02	4300 ± 5%	80	.250 MHz	1.40	46.0	59	C	IRON
9220-60	90541-03	4700 ± 5%	80	.250 MHz	1.35	48.0	58	C	IRON
9220-62	90541-04	5000 ± 5%	80	.250 MHz	1.30	50.0	57	C	IRON
9220-64	90541-05	5600 ± 5%	80	.250 MHz	1.25	53.0	56	C	IRON
9220-66	90541-06	6200 ± 5%	80	.250 MHz	1.20	56.0	54	C	IRON
9220-68	90541-07	6800 ± 5%	80	.250 MHz	1.15	59.0	52	C	IRON
9220-70	90541-08	7500 ± 5%	80	.250 MHz	1.10	62.0	51	C	IRON
9220-72	90541-09	8200 ± 5%	80	.250 MHz	1.05	65.0	50	C	IRON
9220-74	90541-10	9100 ± 5%	80	.250 MHz	1.00	68.0	49	C	IRON
9220-76	90541-11	10000 ± 5%	80	.250 MHz	.95	72.0	47	C	IRON

*Current based on (1) Temperature rise not to exceed 15°C at 90° ambient. (2) Overload not to exceed 1½ times rated current.

Mold Size	Mold Diameter	Mold Length	Lead Size	Lead Length	Max. Watt at 90° C.
A	.190 ± .010	.440 ± .010	AWG #22	1.44 ± .125	.25
B	.215 ± .010	.560 ± .010	AWG #21	1.44 ± .125	.40
C	.240 ± .010	.740 ± .010	AWG #20	1.44 ± .125	.45

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Miller Part Number	MS Type	Measured on Model 260A Q-Meter: Inductance Microhenries	Q Minimum	Testing Frequency	Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
9310-00	18130-1	.15 ± 20%	50	25 MHz	525	.03	2450	PHENOLIC
9310-02	18130-2	.22 ± 20%	50	25 MHz	450	.055	1900	PHENOLIC
9310-04	18130-3	.33 ± 20%	45	25 MHz	360	.09	1400	PHENOLIC
9310-06	18130-4	.47 ± 20%	45	25 MHz	310	.12	1225	PHENOLIC
9310-07	18130-5	.56 ± 10%	50	25 MHz	280	.135	1220	PHENOLIC
9310-08	18130-6	.68 ± 10%	50	25 MHz	250	.15	1100	PHENOLIC
9310-10	18130-7	.82 ± 10%	50	25 MHz	220	.22	900	PHENOLIC
9310-12	18130-8	1.00 ± 10%	50	25 MHz	200	.29	830	PHENOLIC
9310-14	18130-9	1.20 ± 10%	33	7.9 MHz	180	.42	650	PHENOLIC
9310-16	18130-10	1.50 ± 10%	33	7.9 MHz	160	.50	600	PHENOLIC
9310-18	18130-11	1.80 ± 10%	33	7.9 MHz	150	.65	525	PHENOLIC
9310-20	18130-12	2.20 ± 10%	33	7.9 MHz	135	.95	435	PHENOLIC
9310-22	18130-13	2.70 ± 10%	33	7.9 MHz	120	1.20	385	PHENOLIC
9310-24	18130-14	3.30 ± 10%	33	7.9 MHz	110	2.00	300	PHENOLIC
9310-26	18130-15	3.90 ± 10%	33	7.9 MHz	100	2.30	280	PHENOLIC
9310-28	18130-16	4.70 ± 10%	33	7.9 MHz	90	2.60	260	PHENOLIC
9310-30	18130-17	5.60 ± 10%	45	7.9 MHz	60	.32	750	IRON
9310-32	18130-18	6.80 ± 10%	50	7.9 MHz	55	.50	600	IRON
9310-34	18130-19	8.20 ± 10%	50	7.9 MHz	50	.60	545	IRON
9310-36	18130-20	10.0 ± 10%	55	7.9 MHz	45	.90	445	IRON
9310-38	18130-21	12.0 ± 10%	65	2.5 MHz	42	1.10	404	IRON
9310-40	18130-22	15.0 ± 10%	65	2.5 MHz	40	1.40	370	IRON
9310-42	18130-23	18.0 ± 10%	75	2.5 MHz	34	2.25	280	IRON
9310-44	18130-24	22.0 ± 10%	75	2.5 MHz	30	2.50	265	IRON
9310-46		24.0 ± 10%	60	2.5 MHz	26	2.50	265	IRON
9310-48	18130-25	27.0 ± 10%	60	2.5 MHz	25	2.60	260	IRON
9310-50		30.0 ± 10%	65	2.5 MHz	19	2.80	255	IRON
9310-52	18130-26	33.0 ± 10%	65	2.5 MHz	19	3.00	250	IRON

Mold Size .155 ± .010 diameter; .375 ± .010 length. Leads: AWG #22 TCW; 1.437 ± .125 length. Power Rating: .25 Watt Max. at 90° C.

Miller Part Number	MS Type	Measured on Model 260A Q-Meter: Inductance Microhenries	Q Minimum	Testing Frequency	Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
9320-00	75008-21	.15 ± 20%	55	25 MHz	510	.030	3000	PHENOLIC
9320-02	75008-22	.22 ± 20%	50	25 MHz	415	.035	2800	PHENOLIC
9320-04	75008-23	.33 ± 20%	50	25 MHz	350	.065	2000	PHENOLIC
9320-06	75008-24	.47 ± 20%	50	25 MHz	300	.085	1700	PHENOLIC
9320-07	75008-25	.56 ± 10%	50	25 MHz	270	.125	1450	PHENOLIC
9320-08	75008-26	.68 ± 10%	45	25 MHz	250	.150	1300	PHENOLIC
9320-09	75008-27	.82 ± 10%	40	25 MHz	210	.205	1100	PHENOLIC
9320-10	75008-28	1.00 ± 10%	40	25 MHz	200	.290	930	PHENOLIC
9320-11	75008-29	1.20 ± 10%	30	7.9 MHz	180	.400	785	PHENOLIC
9320-12	75008-30	1.50 ± 10%	30	7.9 MHz	170	.485	700	PHENOLIC
9320-13	75008-31	1.80 ± 10%	30	7.9 MHz	150	.740	580	PHENOLIC
9320-14	75008-32	2.20 ± 10%	30	7.9 MHz	140	.970	505	PHENOLIC
9320-16	75008-33	2.70 ± 10%	30	7.9 MHz	120	1.20	460	PHENOLIC
9320-18	75008-34	3.30 ± 10%	30	7.9 MHz	70	.140	1350	IRON
9320-20	75008-35	3.90 ± 10%	30	7.9 MHz	65	.155	1250	IRON
9320-22	75008-36	4.70 ± 10%	30	7.9 MHz	60	.210	1100	IRON
9320-24	75008-37	5.60 ± 10%	30	7.9 MHz	50	.280	935	IRON
9320-26	75008-38	6.80 ± 10%	30	7.9 MHz	50	.375	810	IRON
9320-28	75008-39	8.20 ± 10%	30	7.9 MHz	48	.440	750	IRON
9320-30	75008-40	10.0 ± 10%	30	7.9 MHz	42	.605	640	IRON
9320-32	75008-41	12.0 ± 10%	50	2.5 MHz	36	1.05	490	IRON
9320-34	75008-42	15.0 ± 10%	55	2.5 MHz	30	1.20	460	IRON
9320-35	75008-43	18.0 ± 10%	60	2.5 MHz	30	1.95	360	IRON
9320-36	75008-44	22.0 ± 10%	60	2.5 MHz	24	2.20	335	IRON
9320-38	75008-45	27.0 ± 10%	65	2.5 MHz	22	2.75	300	IRON

Mold Size: 0.185 ± .031 diameter; 0.437 ± .031 length. Leads: AWG #22 TCW; 1.437 ± .125 length. Power Rating: .25 Watt Max. at 90° C.

Miller Part Number	MS Type	Measured on Model 260A Q-Meter: Inductance Microhenries	Q Minimum	Testing Frequency	Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
9330-00	90542-01	.47 ± 10%	65	25 MHz	300	.06	1970	PHENOLIC
9330-01	90542-02	.56 ± 10%	65	25 MHz	270	.08	1850	PHENOLIC
9330-02	90542-03	.68 ± 10%	65	25 MHz	240	.08	1700	PHENOLIC
9330-03	90542-04	.82 ± 10%	65	25 MHz	220	.11	1520	PHENOLIC
9330-04	90542-05	1.00 ± 10%	65	25 MHz	200	.14	1290	PHENOLIC
9330-05	90542-06	1.20 ± 10%	40	7.9 MHz	180	.19	1120	PHENOLIC
9330-06	90542-07	1.50 ± 10%	40	7.9 MHz	160	.28	925	PHENOLIC
9330-07	90542-08	1.80 ± 10%	40	7.9 MHz	150	.37	790	PHENOLIC
9330-08	90542-09	2.20 ± 10%	40	7.9 MHz	135	.50	680	PHENOLIC
9330-10	90542-10	2.70 ± 10%	40	7.9 MHz	120	.65	600	PHENOLIC
9330-12	90542-11	3.30 ± 10%	40	7.9 MHz	105	1.00	480	PHENOLIC
9330-14	90542-12	3.90 ± 10%	40	7.9 MHz	100	1.20	440	PHENOLIC
9330-16	90542-13	4.70 ± 10%	40	7.9 MHz	90	1.80	360	PHENOLIC
9330-18	90542-14	5.60 ± 10%	35	7.9 MHz	55	.13	1340	IRON
9330-20	90542-15	6.80 ± 10%	35	7.9 MHz	50	.20	1080	IRON
9330-22	90542-16	8.20 ± 10%	35	7.9 MHz	44	.22	1030	IRON
9330-24	90542-17	10.0 ± 10%	35	7.9 MHz	42	.26	950	IRON
9330-26	90542-18	12.0 ± 10%	45	2.5 MHz	34	.45	720	IRON
9330-28	90542-19	15.0 ± 10%	45	2.5 MHz	32	.52	670	IRON
9330-30	90542-20	18.0 ± 10%	50	2.5 MHz	28	.70	580	IRON
9330-32	90542-21	22.0 ± 10%	60	2.5 MHz	24	1.00	480	IRON
9330-34	90542-22	27.0 ± 10%	60	2.5 MHz	22	1.30	420	IRON
9330-36	90542-23	33.0 ± 10%	60	2.5 MHz	20	1.50	390	IRON
9330-38	90542-24	39.0 ± 10%	70	2.5 MHz	18	2.00	340	IRON

Mold Size: 0.215 ± .010 diameter; 0.560 ± .010 length. Leads: AWG #22 TCW; 1.437 ± .125 length. Power Rating: .33 Watt Max. at 90° C.

*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1½ times rated current.

Refer to Pages 1-2 for Prices

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Miller Part Number	MS Type	Measured on Model 260A Q-Meter: Inductance Microhenries	Q Minimum	Testing Frequency	Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
9340-00	91189-14	1.2 ± 10%	60	7.9 MHz	170	.075	2400	PHENOLIC
9340-02	91189-15	1.5 ± 10%	60	7.9 MHz	160	.090	2150	PHENOLIC
9340-03	91189-16	1.8 ± 10%	60	7.9 MHz	140	.135	1750	PHENOLIC
9340-04	91189-17	2.2 ± 10%	60	7.9 MHz	125	.160	1600	PHENOLIC
9340-06	91189-18	2.7 ± 10%	60	7.9 MHz	115	.220	1350	PHENOLIC
9340-08	91189-19	3.3 ± 10%	60	7.9 MHz	100	.305	1150	PHENOLIC
9340-10	91189-20	3.9 ± 10%	60	7.9 MHz	95	.45	955	PHENOLIC
9340-12	91189-21	4.7 ± 10%	60	7.9 MHz	90	.560	860	PHENOLIC
9340-14	91189-22	5.6 ± 10%	60	7.9 MHz	80	.745	745	PHENOLIC
9340-16	91189-23	6.8 ± 10%	60	7.9 MHz	75	1.05	635	PHENOLIC
9340-18	91189-24	8.2 ± 10%	60	7.9 MHz	68	1.4	550	PHENOLIC
9340-20	91189-25	10.0 ± 10%	60	7.9 MHz	60	1.9	460	PHENOLIC
9340-22	91189-26	12.0 ± 10%	40	2.5 MHz	53	2.65	395	PHENOLIC
9340-24	91189-27	15.0 ± 10%	40	2.5 MHz	50	3.25	355	PHENOLIC
9340-26	91189-28	18.0 ± 10%	40	2.5 MHz	45	4.15	315	PHENOLIC
9340-28	91189-29	22.0 ± 10%	50	2.5 MHz	25	.295	1150	IRON
9340-30	91189-30	27.0 ± 10%	45	2.5 MHz	22	.350	1050	IRON
9340-32	91189-31	33.0 ± 10%	60	2.5 MHz	20	.550	865	IRON
9340-34	91189-32	39.0 ± 10%	55	2.5 MHz	18	.65	810	IRON
9340-36	91189-33	47.0 ± 10%	65	2.5 MHz	16	1.0	640	IRON
9340-38	91189-34	56.0 ± 10%	65	2.5 MHz	14	1.15	620	IRON
9340-39	91189-35	68.0 ± 10%	75	2.5 MHz	13	1.85	470	IRON
9340-40	91189-36	82.0 ± 10%	75	2.5 MHz	13	2.10	440	IRON
9340-42	91189-37	100.0 ± 10%	75	2.5 MHz	12	2.50	405	IRON
9340-44	91189-38	120.0 ± 10%	95	.79 MHz	10	4.00	315	IRON

Mold Size: 0.280 ± .010 diameter; 0.900 ± .010 length. Leads: AWG #21 TCW; 1.437 ± .125 length. Power Rating: 3/8 Watt Max. at 90° C.
*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1½ times rated current.

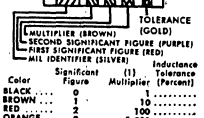
Miller Part Number	MS Type	Measured on Model 260A Q-Meter: Inductance Microhenries	Q Minimum	Testing Frequency	Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	Milliamp Rating Maximum*	Mold Size	Core Material
9350-00	75052-1	47 ± 10%	18	2.5 MHz	13.5	5.9	195	A	PHENOLIC
9350-02	75052-2	56 ± 10%	18	2.5 MHz	13	6.4	185	A	PHENOLIC
9350-04	75052-3	68 ± 10%	70	2.5 MHz	13	3.3	255	A	IRON
9350-06	75052-4	82 ± 10%	65	2.5 MHz	11.7	3.5	245	A	IRON
9350-08	75052-5	100 ± 10%	65	2.5 MHz	10.7	3.8	235	A	IRON
9350-10	75052-6	120 ± 10%	75	.79 MHz	9.3	4.7	215	A	IRON
9350-12	75052-7	150 ± 10%	75	.79 MHz	8.3	5.3	200	A	IRON
9350-14	75053-1	180 ± 10%	80	.79 MHz	6.0	5.5	225	B	IRON
9350-16	75053-2	220 ± 10%	80	.79 MHz	5.5	5.9	220	B	IRON
9350-18	75053-3	270 ± 10%	80	.79 MHz	5.1	6.6	210	B	IRON
9350-20	75053-4	330 ± 10%	75	.79 MHz	4.2	7.8	185	B	IRON
9350-22	75053-5	390 ± 10%	75	.79 MHz	3.9	8.7	180	B	IRON
9350-24	75054-1	470 ± 10%	80	.79 MHz	3.7	9.0	190	C	IRON
9350-26	75054-2	560 ± 10%	80	.79 MHz	3.5	10.0	180	C	IRON
9350-28	75054-3	680 ± 10%	75	.79 MHz	3.2	11.2	170	C	IRON
9350-30	75054-4	820 ± 10%	75	.79 MHz	3.0	13.0	155	C	IRON
9350-32	75054-5	1000 ± 10%	70	.79 MHz	2.7	14.5	145	C	IRON
9350-34	75055-1	1500 ± 10%	85	.25 MHz	2.2	22.0	127	D	IRON
9350-36		2000 ± 10%	85	.25 MHz	1.9	26.0	125	D	IRON
9350-37	75055-2	2200 ± 10%	85	.25 MHz	1.8	27.0	115	D	IRON
9350-38		2500 ± 10%	85	.25 MHz	1.7	30.0	115	D	IRON
9350-39	75055-3	2700 ± 10%	85	.25 MHz	1.6	32.0	105	D	IRON
9350-40		5000 ± 10%	70	.25 MHz	1.2	65.0	78	D	IRON
9350-41	75055-4	5100 ± 10%	70	.25 MHz	1.0	66.0	73	D	IRON
9350-44	75055-5	10000 ± 10%	70	.25 MHz	0.8	70.0	71	D	FERRITE

*Current based on (1) Temperature rise not to exceed 35°C at 90° ambient. (2) Overload not to exceed 1½ times rated current.

COIL DIMENSIONS	A	B	C	D	LEAD DIMENSIONS
DIAMETER ± .010	.250	.310	.375	.468	AWG 20, 21, 22 TCW
LENGTH ± .010	.560	.560	.625	.687	1.437 ± .125
MAX. WATT. AT 90° C.	.30	.40	.45	.55	

FIGURE 1.
REFERENCE TO MIL-C-15305C
6.8 MICROHENRIES ± 10 PERCENT

270 MICROHENRIES ± 5 PERCENT



Color	Significant Figure	(1) Multiplier	Inductance Tolerance (Percent)
BLACK	0	1	
BROWN	1	10	
RED	2	100	
ORANGE	3	1,000	
YELLOW	4		
GREEN	5		
BLUE	6		
VIOLET	7		
GRAY	8		
WHITE	9		
NONE (2)			± 20
SILVER			± 10
GOLD	DECIMAL POINT		± 5

(1) The multiplier is the factor by which the two significant figures are multiplied to yield the nominal inductance value.
(2) Indicates body color.

Molded Choke Coils Color Coding

For cylindrical choke coils. Cylindrical choke coils shall be marked with five colored bands. A silver band MIL identifier of double the width of the other four bands, located near one end of the coil, identifies military radiofrequency coils; four other bands of equal width, three indicating the inductance in microhenries and the fourth band indicating the tolerance in percent. Color coding shall be in accordance with the color code of table II. When either the first or second band of the three bands is gold, this band shall represent the decimal point for inductance values less than 10, and the other two bands shall represent significant figures. For inductance values of 10 or more, the first two bands shall represent significant figures, and the third band shall represent the multiplier. For small units, dots may be used instead of bands, when specified. The diameter of the MIL-identifier dot shall be larger than the other dots. The colors used shall be in accordance with MIL-STD-174. Typical color coding for units with inductance values less than 10 and for 10 or greater is shown on figure 1.

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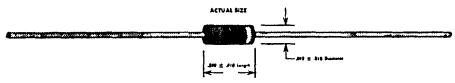
Molded R.F. Chokes

This series of molded chokes conforms to the requirements of Mil type LT8K.
Mold Size: .281 ± .031 Diameter; .937 ± .0625 Length.
Leads: 1.500 ± .125.

Miller Part Number	MS Type	Measured on Model 260A Q-Meter			Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Core Material
		Inductance Microhenries	Q Minimum	Testing Frequency				
9360-01	91189-1	1.1 ±20%	60	10.0 MHz	200	0.09	2800	PHENOLIC
9360-02	91189-2	2.2 ±20%	65	10.0 MHz	165	.20	1800	PHENOLIC
9360-03	91189-3	3.3 ±10%	50	6.0 MHz	130	.32	1500	PHENOLIC
9360-04	91189-4	4.7 ±10%	45	5.0 MHz	100	.60	1100	PHENOLIC
9360-05	91189-5	6.8 ±10%	40	4.0 MHz	90	1.10	800	PHENOLIC
9360-06	91189-6	10.0 ±10%	40	3.5 MHz	70	1.80	600	PHENOLIC
9360-07	91189-7	15.0 ±10%	40	3.0 MHz	55	3.00	500	PHENOLIC
9360-08	91189-8	22.0 ±10%	30	2.5 MHz	27	.30	1500	IRON
9360-09	91189-9	33.0 ±10%	45	2.0 MHz	21	.60	1100	IRON
9360-10	91189-10	47.0 ±10%	70	1.5 MHz	16	1.20	700	IRON
9360-11	91189-11	82.0 ±10%	85	1.2 MHz	14	2.20	600	IRON
9360-12	91189-12	100.0 ±10%	85	1.0 MHz	14	2.80	500	IRON
9360-13	91189-13	120.0 ±10%	85	1.0 MHz	13	4.00	400	IRON



Micro Miniature Molded R.F. Chokes

We are pleased to offer the following series of molded R.F. chokes. They represent what we believe to be the smallest package for the current rating specified. Color Coding is per MIL-C-15305.

Miller Part Number	Measured on Model 260A Q-Meter			Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum*	Core Material
	Inductance Microhenries	Q Minimum	Test Frequency				
9230-94	.10 ± 10%	40	25.0 MHz	690	.07	1100	PHENOLIC
9230-96	.12 ± 10%	40	25.0 MHz	650	.08	1100	PHENOLIC
9230-00	.15 ± 10%	38	25.0 MHz	600	.10	1100	PHENOLIC
9230-02	.18 ± 10%	35	25.0 MHz	550	.12	1010	PHENOLIC
9230-04	.22 ± 10%	33	25.0 MHz	510	.14	935	PHENOLIC
9230-06	.27 ± 10%	33	25.0 MHz	430	.16	875	PHENOLIC
9230-08	.33 ± 10%	30	25.0 MHz	410	.20	780	PHENOLIC
9230-10	.39 ± 10%	30	25.0 MHz	380	.30	640	PHENOLIC
9230-12	.47 ± 10%	30	25.0 MHz	340	.35	590	PHENOLIC
9230-14	.56 ± 10%	30	25.0 MHz	300	.50	495	PHENOLIC
9230-16	.68 ± 10%	28	25.0 MHz	275	.60	450	PHENOLIC
9230-18	.82 ± 10%	28	25.0 MHz	250	.85	380	PHENOLIC
9230-20	1.00 ± 10%	25	25.0 MHz	230	1.00	350	PHENOLIC
9230-22	1.20 ± 10%	25	7.9 MHz	150	.18	825	IRON
9230-24	1.50 ± 10%	28	7.9 MHz	140	.22	745	IRON
9230-26	1.80 ± 10%	30	7.9 MHz	125	.30	640	IRON
9230-28	2.20 ± 10%	30	7.9 MHz	115	.40	550	IRON
9230-30	2.70 ± 10%	37	7.9 MHz	100	.50	495	IRON
9230-32	3.30 ± 10%	45	7.9 MHz	90	.85	380	IRON
9230-34	3.90 ± 10%	45	7.9 MHz	82	1.00	350	IRON
9230-36	4.70 ± 10%	45	7.9 MHz	75	1.20	320	IRON
9230-38	5.60 ± 10%	50	7.9 MHz	68	1.80	260	IRON
9230-40	6.80 ± 10%	50	7.9 MHz	60	2.00	245	IRON
9230-42	8.20 ± 10%	55	7.9 MHz	55	2.70	210	IRON
9230-44	10.0 ± 10%	55	7.9 MHz	50	3.70	180	IRON
9230-46	12.0 ± 10%	45	2.5 MHz	40	2.70	210	IRON
9230-48	15.0 ± 10%	45	2.5 MHz	35	2.80	205	IRON
9230-50	18.0 ± 10%	50	2.5 MHz	32	3.10	195	IRON
9230-52	22.0 ± 10%	50	2.5 MHz	25	3.30	190	IRON
9230-54	27.0 ± 10%	50	2.5 MHz	22	3.50	185	IRON
9230-56	33.0 ± 10%	45	2.5 MHz	24	3.40	187	FERRITE
9230-58	39.0 ± 10%	45	2.5 MHz	22	3.60	180	FERRITE
9230-60	47.0 ± 10%	45	2.5 MHz	20	4.50	165	FERRITE
9230-62	56.0 ± 10%	45	2.5 MHz	18	5.70	145	FERRITE
9230-64	68.0 ± 10%	50	2.5 MHz	15	6.70	135	FERRITE
9230-66	82.0 ± 10%	50	2.5 MHz	14	7.30	130	FERRITE
9230-68	100.0 ± 10%	50	2.5 MHz	13	8.00	125	FERRITE
9230-70	120.0 ± 10%	30	.79 MHz	12	13.00	97	FERRITE
9230-72	150.0 ± 10%	30	.79 MHz	11	15.00	85	FERRITE
9230-74	180.0 ± 10%	30	.79 MHz	10	17.00	79	FERRITE
9230-76	220.0 ± 10%	30	.79 MHz	9	21.00	73	FERRITE
9230-78	270.0 ± 10%	30	.79 MHz	8	25.00	65	FERRITE
9230-80	330.0 ± 10%	30	.79 MHz	7	28.00	62	FERRITE
9230-82	390.0 ± 10%	30	.79 MHz	6.5	35.00	55	FERRITE
9230-84	470.0 ± 10%	30	.79 MHz	6	42.00	50	FERRITE
9230-86	560.0 ± 10%	30	.79 MHz	5	46.00	48	FERRITE
9230-88	680.0 ± 10%	30	.79 MHz	4.2	60.00	42	FERRITE
9230-90	820.0 ± 10%	30	.79 MHz	3.8	65.00	40	FERRITE
9230-92	1000.0 ± 10%	30	.79 MHz	3.4	72.00	38	FERRITE

Mold Size: .095 ± .010 Diameter; .250 ± .010 Length. Leads AWG #24 TCW; 1.500 ± .125 Length.
Power Rating: .17 Watt Max. at 90°C. For —00 thru —70, 94 and 96
.15 Watt Max. at 90°C. For —72 thru —92.
*Current based on (1) Temperature rise not to exceed 35° C at 90° C ambient. (2) Overload not to exceed 1½ times rated current.

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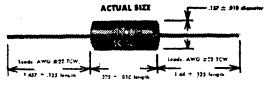
MOLDED SHIELDED MINIATURE R.F. CHOKES



This is the first major development in R.F. Choke design for many years.
The electromagnetic shielding is fully effective at the ends of the coil as well as along the body.
Molded construction assures top performance under severe conditions.

Size: 0.157" Diameter, 0.375" Length
Shielding: Less than 2% coupling
Inductance: 0.1 uh thru 10,000 uh (61 values)
Environment: Grade 1, Class B, MIL-C-15305

Power Rating: .20 watts @ 90° ambient and rated current flow
***Current based on (1) Temperature rise not to exceed 35°C at 90°C ambient**
(2) Overload not to exceed 1½ times rated current
****Current required to decrease inductance 5%**

Miller Part Number	Measured on Model 260A Q-Meter: Inductance ± 10%	Q Minimum	Testing Frequency	Self Resonant Frequency Minimum (MHz)	D. C. Resistance Maximum	*Milliamp Rating Maximum	**Incremental Current Milliamps Approx.
9240-770	.10uh.	50	25 MHz	250	.015	3100	3100
9240-771	.12uh.	50	25 MHz	250	.020	2650	2650
9240-701	.15uh.	50	25 MHz	250	.025	2400	2400
9240-772	.18uh.	50	25 MHz	250	.030	2190	2190
9240-702	.22uh.	50	25 MHz	250	.035	2030	2030
9240-773	.27uh.	50	25 MHz	250	.045	1790	1790
9240-703	.33uh.	45	25 MHz	250	.075	1380	1380
9240-774	.39uh.	45	25 MHz	250	.085	1300	1300
9240-704	.47uh.	45	25 MHz	235	.100	1200	1200
9240-705	.56uh.	45	25 MHz	210	.180	890	890
9240-706	.68uh.	45	25 MHz	190	.200	850	850
9240-707	.82uh.	45	25 MHz	180	.280	710	710
9240-708	1.0 uh.	45	25 MHz	150	.070	1430	1430
9240-709	1.2 uh.	45	7.9 MHz	145	.080	1340	1340
9240-710	1.5 uh.	45	7.9 MHz	130	.100	1200	1200
9240-711	1.8 uh.	50	7.9 MHz	120	.120	1090	1090
9240-712	2.2 uh.	50	7.9 MHz	110	.150	980	980
9240-713	2.7 uh.	50	7.9 MHz	105	.220	800	800
9240-714	3.3 uh.	50	7.9 MHz	90	.270	730	730
9240-715	3.9 uh.	50	7.9 MHz	85	.290	700	700
9240-716	4.7 uh.	55	7.9 MHz	82	.320	670	670
9240-717	5.6 uh.	55	7.9 MHz	80	.560	500	500
9240-718	6.8 uh.	55	7.9 MHz	75	.700	450	450
9240-719	8.2 uh.	55	7.9 MHz	70	.820	410	410
9240-720	10.0 uh.	50	7.9 MHz	60	.900	400	400
9240-721	12 uh.	55	2.5 MHz	50	.950	380	380
9240-722	15 uh.	45	2.5 MHz	45	.750	430	225
9240-723	18 uh.	45	2.5 MHz	42	.850	410	190
9240-724	22 uh.	50	2.5 MHz	40	.950	380	170
9240-725	27 uh.	50	2.5 MHz	35	1.10	360	150
9240-726	33 uh.	45	2.5 MHz	33	1.30	330	130
9240-727	39 uh.	50	2.5 MHz	29	1.80	280	115
9240-728	47 uh.	50	2.5 MHz	27	2.00	260	110
9240-729	56 uh.	50	2.5 MHz	25	2.20	250	100
9240-730	68 uh.	50	2.5 MHz	20	2.50	240	87
9240-731	82 uh.	50	2.5 MHz	15	3.50	215	85
9240-732	100 uh.	50	2.5 MHz	11	2.20	200	80
9240-733	120 uh.	60	.79 MHz	10	2.50	265	74
9240-734	150 uh.	60	.79 MHz	9	2.80	240	68
9240-735	180 uh.	60	.79 MHz	9	3.20	215	50
9240-736	220 uh.	60	.79 MHz	8	3.70	205	46
9240-737	270 uh.	60	.79 MHz	7	4.60	200	40
9240-738	330 uh.	60	.79 MHz	7	5.00	195	37
9240-739	390 uh.	60	.79 MHz	6	5.50	190	34
9240-740	470 uh.	60	.79 MHz	5.8	6.00	180	32
9240-741	560 uh.	60	.79 MHz	5.5	7.50	160	32
9240-742	680 uh.	60	.79 MHz	5	8.50	145	30
9240-743	820 uh.	60	.79 MHz	4.3	12.00	135	26
9240-744	1000 uh.	65	.79 MHz	4.2	13.00	105	24
9240-745	1.2 mh.	50	.25 MHz	4	16.50	100	22
9240-746	1.5 mh.	50	.25 MHz	3.8	20	90	20
9240-747	1.8 mh.	50	.25 MHz	3.2	25	80	18
9240-748	2.2 mh.	50	.25 MHz	2.6	27	75	15
9240-749	2.7 mh.	50	.25 MHz	2.1	35	65	13
9240-750	3.3 mh.	45	.25 MHz	2	40	60	13
9240-751	3.9 mh.	45	.25 MHz	1.8	44	55	12
9240-752	4.7 mh.	45	.25 MHz	1.4	58	50	11
9240-753	5.6 mh.	45	.25 MHz	2.1	72	45	10
9240-754	6.8 mh.	45	.25 MHz	1.5	80	42	8.0
9240-755	8.2 mh.	40	.25 MHz	1.4	107	40	7.0
9240-756	10.0 mh.	40	.25 MHz	1.3	137	38	6.5

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R.F. Chokes with Axial Leads

These chokes cover an inductance range from .1 microhenry to 10 millihenries or 5 decades with 8 coils per decade. Inductance values are increasing in steps of appr. 50%. Either single layer or 3-pi universal winding is used to insure low distributed capacity. Chokes are wound on low-loss molded phenolic or powdered iron core forms and are impregnated with a moisture and fungus-resistant varnish.

Phenolic Core Single Layer Windings

Dimensions of core: 3/16" diameter x 3/4" long. Leads are 1 1/2" long.

Miller Part Number	Measured on Model 260A Q-Meter: Inductance Nominal *	Q Minimum	Test Frequency	Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
4580	.10 uh	68	25.0 MHz	500	.017	3000	.270	3
4582	.15 uh	73	25.0 MHz	410	.018	2900	.270	4
4584	.22 uh	77	25.0 MHz	340	.020	2800	.270	7
4586	.33 uh	80	25.0 MHz	288	.024	2600	.270	10
4588	.47 uh	90	25.0 MHz	243	.034	2500	.270	13
4590	.68 uh	83	25.0 MHz	208	.036	2400	.270	18
4592	.75 uh	81	25.0 MHz	204	.040	2200	.270	21
4594	.82 uh	88	25.0 MHz	200	.043	2100	.270	22
4602	1.0 uh	60	7.9 MHz	190	.050	2000	.270	28
4604	1.5 uh	58	7.9 MHz	149	.093	1800	.270	34
4606	2.4 uh	56	7.9 MHz	120	.190	1500	.270	44
4608	3.9 uh	60	7.9 MHz	93	.450	1000	.270	50
4609	5.5 uh	57	7.9 MHz	80	.670	850	.270	64
4610	6.2 uh	57	7.9 MHz	76	.830	700	.270	66
4611	8.2 uh	57	7.9 MHz	65	1.20	600	.270	77
4612	10.0 uh	36	2.5 MHz	61	1.50	500	.270	96

*TOLERANCE 0.1 TO 1.0 UH ± 20%, 1.1 TO 10 UH ± 10%

Iron Core Single Layer Windings

Dimensions of core: 7/32" diameter x 7/8" long. Leads are 1 1/2" long.

Miller Part Number	Measured on Model 260A Q-Meter: Inductance Nominal	Q Minimum	Test Frequency	Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
4622	10 uh ±5%	69	2.5 MHz	40	.11	1500	.29	32
4624	15 uh ±5%	62	2.5 MHz	33	.17	1000	.29	36
4626	24 uh ±5%	65	2.5 MHz	25	.34	800	.29	50
4628	39 uh ±5%	70	2.5 MHz	20	.65	600	.29	63
4629	55 uh ±5%	72	2.5 MHz	17	1.0	500	.29	83
4630	62 uh ±5%	83	2.5 MHz	16	1.2	475	.29	77
4631	82 uh ±5%	85	2.5 MHz	13	1.9	450	.29	92
4632	100 uh ±5%	107	.79 MHz	12	3.0	400	.29	96

Phenolic Core 3-Section Windings

Dimensions of core: 3/16" diameter x 3/4" long. Leads are 1 1/2" long.

Miller Part Number	Measured on Model 260A Q-Meter: Inductance Nominal	Q Minimum	Test Frequency	Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
4642	.10 mh ±5%	49	.79 MHz	11	5.4	160	.406	219
4644	.15 mh ±5%	53	.79 MHz	8.8	6.5	160	.406	258
4646	.24 mh ±5%	56	.79 MHz	7.2	8.5	160	.438	321
4648	.39 mh ±5%	57	.79 MHz	5.6	11	160	.500	396
4649	.55 mh ±5%	58	.79 MHz	4.8	13	160	.500	420
4650	.62 mh ±5%	59	.79 MHz	4.5	15	160	.531	477
4651	.75 mh ±5%	56	.79 MHz	4.0	16	160	.531	495
4652	1.0 mh ±5%	59	.25 MHz	3.7	19	160	.563	574

Iron Core 3-Section Windings

Dimensions of core: 7/32" diameter x 7/8" long. Leads are 1 1/2" long.

Miller Part Number	Measured on General Radio Inductance Bridge Type 1632-A: Inductance @ 1000 Hertz	Q Minimum	Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
4662	1.0 mh ±5%	83 @ 250 kHz	2.6	8.6	160	.469	300
4664	1.5 mh ±5%	82 @ 250 kHz	2.1	11	160	.469	366
4666	2.4 mh ±5%	80 @ 250 kHz	1.7	15	160	.531	471
4668	3.9 mh ±5%	73 @ 250 kHz	1.4	20	160	.563	585
4669	5.5 mh ±5%	69 @ 250 kHz	1.1	25	160	.594	600
4670	6.2 mh ±5%	89 @ 250 kHz	1.0	37	100	.531	750
4671	8.2 mh ±5%	83 @ 250 kHz	.94	46	100	.563	900
4672	10 mh ±5%	68 @ 79 kHz	.82	50	100	.594	948

Ferrite Core 3-Section Windings

Dimensions of core: 1/4" diameter x 7/8" long. Leads are 1 1/2" long.

Miller Part Number	Measured on General Radio Inductance Bridge Type 1632-A: Inductance @ 1000 Hertz	Q Minimum	Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
6302	2.5 mh ±5%	106 @ 250 kHz	1.3	9.0	160	.469	300
6304	5.0 mh ±5%	91 @ 250 kHz	1.0	14	160	.531	432
6306	10 mh ±5%	108 @ 79 kHz	.71	31	100	.531	615
6308	25 mh ±5%	102 @ 79 kHz	.47	82	65	.531	969
6310	50 mh ±5%	113 @ 79 kHz	.33	127	65	.625	1392

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Sub-Miniature R.F. Chokes

An extremely versatile series of iron core R.F. chokes designed to meet the industries' demand for high reliability, ultra-miniature components. The coils are ideally suited to network and filter design, delay lines, and computer applications. Rated at 50 miliamperes maximum D.C. current they are more than satisfactory for most applications. The coils are impregnated with a moisture resistant lacquer and on special order they can be fungus-proofed per JAN-T-152 using varnish per MIL-V-173A. They can also be encapsulated in epoxy resin to conform to Grade 1, Class B of MIL-C-15305.

Miller Part Number	Measured on Model 260A Q-Meter			Resonant Frequency Minimum MHz	D.C. Resistance Maximum	Milliamp Rating Maximum	Maximum Winding Diameter	Form Length ± 1/32
	Inductance Nominal*	Q Minimum	Test Frequency					
70F107AP★★	.10 uh★	49	25 MHz	600	.013	3200	.156	5/16
70F157AP★★	.15 uh★	52	25 MHz	490	.025	1600	.141	5/16
70F227AP★★	.22 uh★	48	25 MHz	400	.038	1280	.141	5/16
70F337AP★★	.33 uh★	47	25 MHz	330	.070	800	.125	5/16
70F477AP★★	.47 uh★	46	25 MHz	280	.125	510	.125	5/16
70F687AP★★	.68 uh★	48	25 MHz	240	.200	400	.125	5/16
70F757AP★★	.75 uh★	48	25 MHz	224	.264	320	.125	5/16
70F827AP★★	.82 uh★	48	25 MHz	216	.290	300	.125	5/16
70F106AI	1.0 uh	41	25 MHz	118	.048	636	.165	1/4
70F126AI	1.2 uh	45	7.9 MHz	118	.072	400	.160	1/4
70F156AI	1.5 uh	42	7.9 MHz	102	.096	316	.160	1/4
70F186AI	1.8 uh	31	7.9 MHz	89	.096	400	.160	1/4
70F226AI	2.2 uh	43	7.9 MHz	87	.156	202	.160	1/4
70F276AI	2.7 uh	34	7.9 MHz	74	.168	256	.160	1/4
70F336AI	3.3 uh	40	7.9 MHz	66	.240	159	.150	1/4
70F396AI	3.9 uh	35	7.9 MHz	61	.264	159	.150	1/4
70F476AI	4.7 uh	43	7.9 MHz	53	.457	100	.150	1/4
70F566AI	5.6 uh	41	7.9 MHz	49	.492	100	.150	1/4
70F686AI	6.8 uh	40	7.9 MHz	49	.624	100	.150	1/4
70F756AI	7.5 uh	32	7.9 MHz	44	.624	100	.150	1/4
70F826AI	8.2 uh	37	7.9 MHz	41	.744	100	.150	1/4
70F916AI	9.1 uh	41	7.9 MHz	21	1.44	75	.160	1/4
70F105AI	10 uh	36	7.9 MHz	19	1.56	75	.160	1/4
70F125AI	12 uh	52	2.5 MHz	19	1.68	75	.160	1/4
70F155AI	15 uh	52	2.5 MHz	16	1.92	75	.165	1/4
70F185AI	18 uh	52	2.5 MHz	15	2.28	75	.165	1/4
70F225AI	22 uh	51	2.5 MHz	13	2.28	75	.165	1/4
70F255AI	25 uh	48	2.5 MHz	13	2.64	75	.170	1/4
70F275AI	27 uh	49	2.5 MHz	12	2.64	75	.170	1/4
70F335AI	33 uh	50	2.5 MHz	10	2.76	75	.170	1/4
70F395AI	39 uh	48	2.5 MHz	9.3	3.36	75	.175	1/4
70F475AI	47 uh	44	2.5 MHz	9.1	3.36	75	.175	1/4
70F565AI	56 uh	45	2.5 MHz	8.6	3.84	75	.180	1/4
70F685AI	68 uh	42	2.5 MHz	8.1	4.20	75	.180	1/4
70F755AI	75 uh	38	2.5 MHz	7.2	4.56	75	.185	1/4
70F825AI	82 uh	41	2.5 MHz	6.7	4.80	75	.185	1/4
70F915AI	91 uh	41	2.5 MHz	6.7	4.92	75	.185	1/4
70F104AI	100 uh	25	2.5 MHz	3.6	7.68	75	.165	1/4
70F124AI	120 uh	40	790 kHz	3.2	8.16	75	.165	1/4
70F154AI	150 uh	47	790 kHz	3.0	8.16	75	.165	1/4
70F184AI	180 uh	48	790 kHz	2.8	8.16	75	.170	1/4
70F204AI	200 uh	47	790 kHz	2.7	10.3	75	.170	1/4
70F224AI	220 uh	46	790 kHz	2.5	11.5	75	.170	1/4
70F254AI	250 uh	49	790 kHz	2.5	12.1	75	.170	1/4
70F274AI	270 uh	46	790 kHz	2.5	13.2	75	.175	1/4
70F304AI	300 uh	46	790 kHz	2.2	13.2	75	.175	1/4
70F334AI	330 uh	41	790 kHz	2.0	13.9	75	.175	1/4
70F354AI	350 uh	46	790 kHz	2.0	14.4	75	.180	1/4
70F394AI	390 uh	45	790 kHz	2.0	15.8	75	.180	1/4
70F474AI	470 uh	35	790 kHz	1.8	16.3	75	.185	1/4
70F504AI	500 uh	49	790 kHz	1.8	18.0	75	.195	1/4
70F564AI	560 uh	41	790 kHz	1.7	19.2	75	.195	1/4
70F684AI	680 uh	37	790 kHz	1.6	19.8	75	.200	1/4
70F754AI	750 uh	40	790 kHz	1.6	22.9	75	.210	1/4
70F824AI	820 uh	33	790 kHz	1.6	22.9	75	.210	1/4
70F914AI	910 uh	32	790 kHz	1.4	24.0	75	.220	1/4

*Tolerance 0.1 to 1.0 UH ± 20%, 1.1 to 15 UH ± 10%, over 15 UH ± 5%

★Measured with leads 1/4" long from Q Meter binding posts.

Continued on following page

Refer to Page 1-2 for Prices ★★ *Stars Indicate New Items*

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Sub-Miniature R.F. Chokes

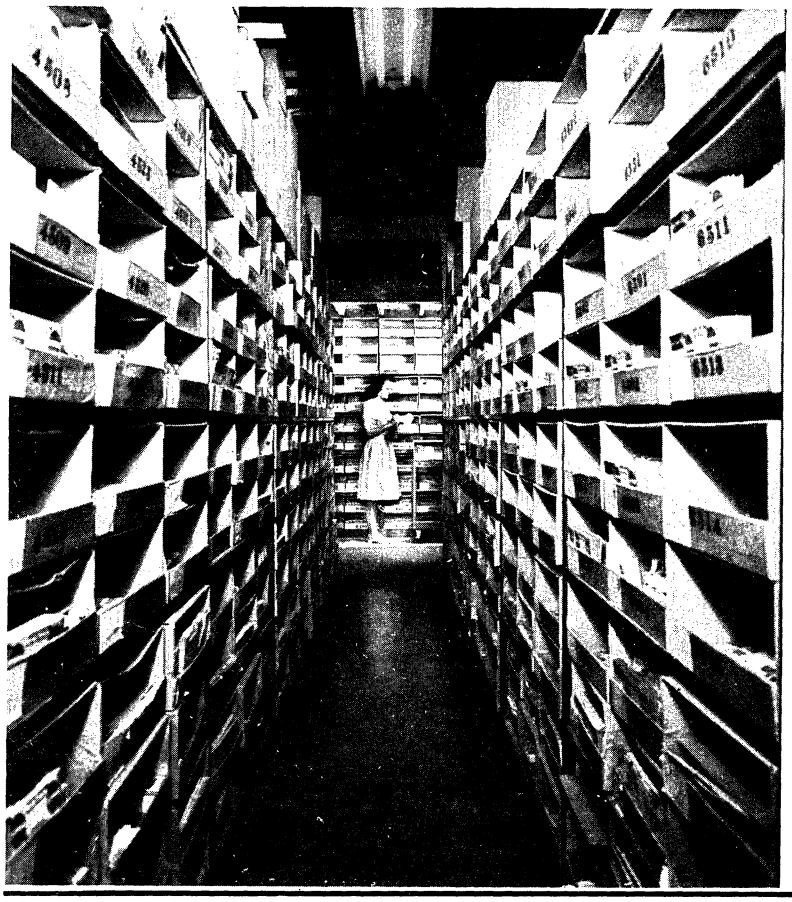
Continued from previous page

Miller Part Number	Measured on Model 260A Q-Meter: Inductance Nominal*	Q Minimum	Test Frequency	Resonant Frequency Minimum MHz	D.C. Resistance Maximum	Milliamp Rating Maximum	Maximum Winding Diameter	Form Length ± 1/32
70F103AI	1.00 mh	30	790 kHz	1.4	24.0	75	.225	1/4
70F123AI	1.20 mh	34	250 kHz	1.2	33.6	75	.220	1/4
70F153AI	1.50 mh	40	250 kHz	1.1	37.2	75	.225	1/4
70F183AI	1.80 mh	40	250 kHz	.96	42.0	75	.235	1/4
70F223AI	2.20 mh	40	250 kHz	.96	45.6	75	.240	1/4
70F253AI	2.50 mh	48	250 kHz	.96	45.6	75	.260	3/8
70F273AI	2.70 mh	50	250 kHz	.88	45.6	75	.260	3/8
70F333AI	3.30 mh	52	250 kHz	.80	51.6	75	.260	3/8
70F393AI	3.90 mh	53	250 kHz	.76	57.6	75	.275	3/8
70F473AI	4.70 mh	49	250 kHz	.68	64.8	75	.285	3/8
70F563AI	5.60 mh	53	250 kHz	.68	69.6	75	.300	3/8
70F683AI	6.80 mh	51	250 kHz	.64	78.0	75	.310	3/8
70F753AI	7.50 mh	49	250 kHz	.60	85.2	75	.310	3/8
70F823AI	8.20 mh	48	250 kHz	.60	92.4	75	.330	3/8
70F913AI	9.10 mh	52	250 kHz	.56	98.4	75	.330	3/8
70F102AI	10.0 mh	41	250 kHz	.52	101	75	.335	3/8
70F122AI	12 mh	46	79 kHz	.36	100	75	.300	1/2
70F152AI	15 mh	50	79 kHz	.32	113	75	.300	1/2
70F182AI	18 mh	49	79 kHz	.29	128	75	.325	1/2
70F222AI	22 mh	50	79 kHz	.27	144	75	.330	1/2
70F252AF ★★	25 mh	59	79 kHz	.250	115	60	.300	5/8
70F272AF ★★	27 mh	61	79 kHz	.244	120	60	.313	5/8
70F332AF ★★	33 mh	61	79 kHz	.232	134	60	.313	5/8
70F392AF ★★	39 mh	59	79 kHz	.220	147	60	.330	5/8
70F472AF ★★	47 mh	57	79 kHz	.206	168	60	.344	5/8
70F502AF ★★	50 mh	57	79 kHz	.196	175	60	.360	5/8
70F562AF ★★	56 mh	57	79 kHz	.188	189	60	.360	5/8
70F682AF ★★	68 mh	57	79 kHz	.180	215	60	.375	5/8
70F752AF ★★	75 mh	53	79 kHz	.174	222	60	.390	5/8
70F822AF ★★	82 mh	50	79 kHz	.168	238	60	.390	5/8
70F912AF ★★	91 mh	51	79 kHz	.166	250	60	.390	5/8
70F101AF ★★	100 mh	48	79 kHz	.157	278	60	.406	5/8

*Tolerance 0.1 to 1.0 UH ± 20%, 1.1 to 15 UH ± 10%, over 15 UH ± 5%

★★ *Stars Indicate New Items*

Refer to Pages 1-2 for Prices



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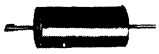
Encapsulated Radio Frequency Chokes



The following series of R.F. chokes range in value from 0.1 uh to 50 mh. These coils are encapsulated in epoxy resin and conform to MIL-C-15305. Min. lead length 1".

Miller Part Number	Measured on Model 260A Q-Meter			Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	*Milliamp Rating Maximum	Diameter and Length	Total Turns
	Inductance Nominal*	Q Minimum	Test Frequency					
4580-E	.10 uh	68	25 MHz	400	.017	3000	.312 x 1.000	3
4582-E	.15 uh	73	25 MHz	328	.018	2900	.312 x 1.000	4
4584-E	.22 uh	77	25 MHz	272	.020	2800	.312 x 1.000	7
4586-E	.33 uh	80	25 MHz	230	.024	2600	.312 x 1.000	10
4588-E	.47 uh	90	25 MHz	194	.034	2500	.312 x 1.000	13
4590-E	.68 uh	83	25 MHz	166	.036	2400	.312 x 1.000	18
4592-E	.75 uh	81	25 MHz	163	.040	2200	.312 x 1.000	21
4594-E	.82 uh	88	25 MHz	160	.043	2100	.312 x 1.000	22
4602-E	1.0 uh	60	7.9 MHz	152	.050	2000	.312 x 1.000	28
4604-E	1.5 uh	58	7.9 MHz	119	.093	1800	.312 x 1.000	34
4606-E	2.4 uh	56	7.9 MHz	96	.190	1500	.312 x 1.000	44
4608-E	3.9 uh	60	7.9 MHz	74	.450	1000	.312 x 1.000	50
4609-E	5.5 uh	57	7.9 MHz	64	.670	850	.312 x 1.000	64
4610-E	6.2 uh	57	7.9 MHz	61	.830	700	.312 x 1.000	66
4611-E	8.2 uh	57	7.9 MHz	52	1.20	600	.312 x 1.000	77
4612-E	10 uh	36	2.5 MHz	49	1.50	500	.312 x 1.000	96
4622-E	10 uh	69	2.5 MHz	32	.110	1500	.375 x 1.125	32
4624-E	15 uh	62	2.5 MHz	26	.170	1000	.375 x 1.125	36
4626-E	24 uh	65	2.5 MHz	20	.340	800	.375 x 1.125	50
4628-E	39 uh	70	2.5 MHz	16	.650	600	.375 x 1.125	63
4629-E	55 uh	72	2.5 MHz	13	1.00	500	.375 x 1.125	83
4630-E	62 uh	83	2.5 MHz	12	1.20	475	.375 x 1.125	77
4631-E	82 uh	85	2.5 MHz	10	1.90	450	.375 x 1.125	92
4632-E	100 uh	107	.79 MHz	9.6	3.00	400	.375 x 1.125	96
4642-E	.10 mh	49	.79 MHz	8.8	5.40	160	.500 x 1.000	219
4644-E	.15 mh	53	.79 MHz	7.0	6.50	160	.500 x 1.000	258
4646-E	.24 mh	56	.79 MHz	5.7	8.50	160	.500 x 1.000	321
4648-E	.39 mh	57	.79 MHz	4.5	11.0	160	.500 x 1.000	396
4649-E	.55 mh	58	.79 MHz	3.8	13.0	160	.625 x 1.000	420
4650-E	.62 mh	59	.79 MHz	3.6	15.0	160	.625 x 1.000	477
4651-E	.75 mh	56	.79 MHz	3.2	16.0	160	.625 x 1.000	495
4652-E	1.0 mh	59	.25 MHz	2.9	19.0	160	.625 x 1.000	574
4662-E	1.0 mh	83	.25 MHz	2.1	8.6	160	.625 x 1.125	300
4664-E	1.5 mh	82	.25 MHz	1.7	11.0	160	.625 x 1.125	366
4666-E	2.4 mh	80	.25 MHz	1.3	15.0	160	.625 x 1.125	471
4668-E	3.9 mh	73	.25 MHz	1.1	20.0	160	.625 x 1.125	585
4669-E	5.5 mh	69	.25 MHz	.88	25.0	160	.625 x 1.125	600
4670-E	6.2 mh	89	.25 MHz	.80	37.0	100	.625 x 1.125	750
4671-E	8.2 mh	83	.25 MHz	.75	46.0	100	.625 x 1.125	900
4672-E	10 mh	68	79 kHz	.65	50.0	100	.625 x 1.125	948
6302-E	2.5 mh	106	250 kHz	1.00	9.0	160	.625 x 1.125	300
6304-E	5.0 mh	91	250 kHz	.80	14.0	160	.625 x 1.125	432
6306-E	10 mh	108	79 kHz	.57	31.0	100	.625 x 1.125	615
6308-E	25 mh	102	79 kHz	.37	82.0	65	.625 x 1.125	969
6310-E	50 mh	113	79 kHz	.26	127	65	.625 x 1.125	1392

*TOLERANCE 0.1 TO 1.0 UH ± 20%, 1.1 TO 15 UH ± 10%, OVER 15 UH ± 5%

Air Core Printed Circuit R.F. Chokes

The following R.F. Chokes have been designed to offer a wide range of inductance values for use in printed circuit applications. Our standard stock of these coils is impregnated with a high grade coil varnish to prevent moisture absorption. On special orders we can supply these items treated with fungus resistant material, or encapsulated in epoxy resin to meet MIL-C-15305.

Coil length: 7/8" on all items. Diameter as tabulated.

Miller Part Number	Measured on General Radio Inductance Bridge Type 1632-A		Self Resonant Frequency Minimum MHz	D. C. Resistance Maximum	Milliamp Rating Maximum	Diameter over Winding	Total Turns
	Inductance @ 1000 Hertz	Q Minimum					
970	1.0 mh. ±5%	45 @ 250 kHz	1.57	20.6	125	.700	251
971	1.2 mh. ±5%	47 @ 250 kHz	1.46	23.8	125	.720	278
972	1.5 mh. ±5%	49 @ 250 kHz	1.38	26.4	125	.740	305
973	1.8 mh. ±5%	50 @ 250 kHz	1.24	29.6	125	.750	335
974	2.2 mh. ±5%	51 @ 250 kHz	1.04	32.9	125	.770	373
975	2.7 mh. ±5%	52 @ 250 kHz	1.06	37.4	125	.800	410
976	3.3 mh. ±5%	52 @ 250 kHz	.985	41.8	125	.820	450
977	3.9 mh. ±5%	52 @ 250 kHz	.900	46.7	125	.850	490
978	4.7 mh. ±5%	52 @ 250 kHz	.848	51.8	125	.875	533
979	5.6 mh. ±5%	51 @ 250 kHz	.760	57.6	125	.910	580
980	6.8 mh. ±5%	51 @ 250 kHz	.716	64.4	125	.950	635
981	8.2 mh. ±5%	38 @ 250 kHz	.520	73.0	100	.850	785
982	10.0 mh. ±5%	43 @ 79 kHz	.480	81.6	100	.880	850
983	12.0 mh. ±5%	46 @ 79 kHz	.424	92.4	100	.910	940
984	15.0 mh. ±5%	48 @ 79 kHz	.398	105	100	.950	1050
985	18.0 mh. ±5%	51 @ 79 kHz	.370	117	100	.985	1130
986	22.0 mh. ±5%	51 @ 79 kHz	.320	130	75	.985	1347
987	27.0 mh. ±5%	51 @ 79 kHz	.294	145	75	1.045	1367
988	33.0 mh. ±5%	44 @ 79 kHz	.288	251	75	1.000	1527
989	39.0 mh. ±5%	44 @ 79 kHz	.264	277	75	1.050	1647
990	47.0 mh. ±5%	40 @ 79 kHz	.190	316	50	.910	1995
991	56.0 mh. ±5%	39 @ 79 kHz	.177	351	50	.950	2160
992	68.0 mh. ±5%	33 @ 79 kHz	.160	391	50	1.000	2390
993	82.0 mh. ±5%	31 @ 79 kHz	.145	442	50	1.025	2590
994	100.0 mh. ±5%	29 @ 79 kHz	.138	473	50	1.075	2720

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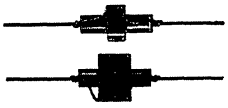

Single Pi Ferrite Core R.F. Chokes

This series of single pi R.F. Chokes affords maximum Q with minimum resistance through the use of ferrite core material. The coils are impregnated in a fungus resistant lacquer. Form Dimensions .187 x 5/8"

Part Number	L ± 5%	Min. Q at Freq. kc.	Min. fo Mc	Max. R Ohms	Approx. Coil Dia.	Max. Ma.
73F104AF	100 uh	140 @ 790	7.7	2.0	17/64	250
73F124AF	120 uh	140 @ 790	7.0	2.2	17/64	250
73F154AF	150 uh	160 @ 790	6.3	2.5	17/64	250
73F184AF	180 uh	160 @ 790	6.0	2.9	9/32	250
73F224AF	220 uh	160 @ 790	5.6	3.2	19/64	250
73F274AF	270 uh	160 @ 790	5.1	3.6	19/64	250
73F334AF	330 uh	160 @ 790	4.8	3.8	5/16	250
73F394AF	390 uh	160 @ 790	4.4	4.2	21/64	225
73F474AF	470 uh	160 @ 790	3.9	4.8	21/64	200
73F564AF	560 uh	160 @ 790	3.6	5.3	11/32	200
73F684AF	680 uh	160 @ 790	3.4	6.0	23/64	200
73F824AF	820 uh	150 @ 790	3.1	6.8	3/8	200
73F103AF	1.0 mh	140 @ 790	2.6	7.5	13/32	150
73F123AF	1.2 mh	140 @ 250	2.2	7.8	31/64	150
73F153AF	1.5 mh	140 @ 250	2.0	8.8	33/64	150
73F183AF	1.8 mh	140 @ 250	1.8	11.0	35/64	150
73F223AF	2.2 mh	100 @ 250	1.5	12.0	3/8	150
73F273AF	2.7 mh	100 @ 250	1.4	13.5	13/32	125
73F333AF	3.3 mh	100 @ 250	1.3	15.1	7/16	125
73F393AF	3.9 mh	95 @ 250	1.2	18:0	29/64	125
73F473AF	4.7 mh	95 @ 250	1.0	21.5	15/32	100
73F563AF	5.6 mh	95 @ 250	1.0	25.0	1/2	80
73F683AF	6.8 mh	95 @ 250	.90	29.0	17/32	80
73F823AF	8.2 mh	70 @ 250	.91	30.0	31/64	80
73F102AF	10.0 mh	65 @ 250	.85	34.0	33/64	80

Single Layer Color Coded R.F. Chokes

The following solenoid wound R.F. Chokes are impregnated with a thermosetting varnish and are color coded to EIA standards. Form Dimensions .156 x 1/2"

Part No.	L*	Min. Q @ F	Min. Fo. Mc.	R Ohms Max.	I Ma. Max.	Core Material
74F106AP	1.0 uh	45 @ 7.9 Mc	238	.20	1000	Phenolic
74F126AP	1.2 uh	45 @ 7.9 Mc	218	.22	950	Phenolic
74F156AP	1.5 uh	45 @ 7.9 Mc	200	.25	900	Phenolic
74F186AP	1.8 uh	45 @ 7.9 Mc	180	.28	850	Phenolic
74F226AP	2.2 uh	45 @ 7.9 Mc	165	.30	800	Phenolic
74F276AP	2.7 uh	45 @ 7.9 Mc	149	.50	700	Phenolic
74F336AP	3.3 uh	45 @ 7.9 Mc	136	.70	600	Phenolic
74F396AP	3.9 uh	45 @ 7.9 Mc	127	.80	500	Phenolic
74F476AP	4.7 uh	50 @ 7.9 Mc	114	1.00	400	Phenolic
74F566AP	5.6 uh	50 @ 7.9 Mc	104	1.80	350	Phenolic
74F686AP	6.8 uh	50 @ 7.9 Mc	94.8	1.85	300	Phenolic
74F826AP	8.2 uh	50 @ 7.9 Mc	86.1	1.90	275	Phenolic
74F105AP	10 uh	50 @ 7.9 Mc	78.5	3.00	250	Phenolic
74F125AP	12 uh	30 @ 2.5 Mc	71.6	3.60	200	Phenolic
74F155AP	15 uh	30 @ 2.5 Mc	63.9	6.00	150	Phenolic
74F185AP	18 uh	30 @ 2.5 Mc	57.5	7.50	100	Phenolic
74F225AI	22 uh	85 @ 2.5 Mc	36.1	2.00	500	Iron
74F275AI	27 uh	80 @ 2.5 Mc	33.2	1.85	450	Iron
74F335AI	33 uh	80 @ 2.5 Mc	30.6	2.00	450	Iron
74F395AI	39 uh	90 @ 2.5 Mc	26.6	2.60	400	Iron
74F475AI	47 uh	90 @ 2.5 Mc	24.9	3.50	350	Iron
74F565AI	56 uh	90 @ 2.5 Mc	23.6	3.75	300	Iron
74F685AI	68 uh	90 @ 2.5 Mc	21.6	4.00	250	Iron
74F825AI	82 uh	100 @ 2.5 Mc	19.0	5.10	200	Iron
74F104AI	100 uh	100 @ 2.5 Mc	17.8	6.00	150	Iron

Inductance in Micro-H	Color Code	Inductance in Micro-H	Color Code	Inductance in Micro-H	Color Code
1.0	Brown—Black—Gold	5.6	Green—Blue—Gold	27.0	Red—Violet—Black
1.2	Brown—Red—Gold	6.8	Blue—Gray—Gold	33.0	Orange—Orange—Black
1.5	Brown—Green—Gold	8.2	Gray—Red—Gold	39.0	Orange—White—Black
1.8	Brown—Gray—Gold	10.0	Brown—Black—Black	47.0	Yellow—Violet—Black
2.2	Red—Red—Gold	12.0	Brown—Red—Black	56.0	Green—Blue—Black
2.7	Red—Violet—Gold	15.0	Brown—Green—Black	68.0	Blue—Gray—Black
3.3	Orange—Orange—Gold	18.0	Brown—Gray—Black	82.0	Gray—Red—Black
3.9	Orange—White—Gold	22.0	Red—Red—Black	100.0	Brown—Black—Brown
4.7	Yellow—Violet—Gold				

*Tolerance 1.0 to 2.2 uh ± 20%, 2.7 to 100 uh ± 10%

Refer to Pages 1-2 for Prices

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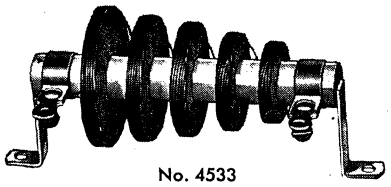
Transmitter R.F. Chokes



No. 4533

A series of transmitter chokes designed particularly for the constructor of amateur and commercial equipment. The mounting brackets may be removed to permit end mounting by means of the tapped holes in ends of ceramic forms.

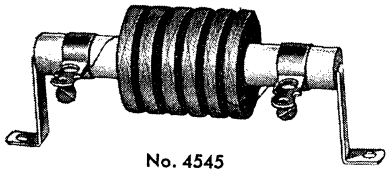
Dimensions: (form) ½" diameter by 3½" long.

Part No.	mh.	Ohms Max.	ma	Schematic	Net Price
4534	1.0	3.00	1000	1	$2.07
4535	1.5	4.32	1000	1	2.37
4533	2.5	5.40	750	1	2.61
4536	4.0	6.60	750	1	3.03
2881	7.0	8.60	750	1	4.14

Dimensions: (form) ½" diameter by 2½" long.

Part No.	mh.	Ohms Max.	ma	Schematic	Net Price
4550	2.0	7.80	400	1	$2.04
4551	4.0	12.0	400	1	2.58

High Inductance Chokes

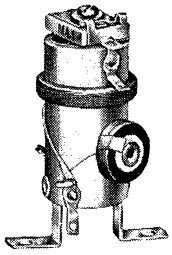


No. 4545

Miller High Inductance Chokes are particularly useful in the construction of special electronic equipment where inductance requirements are out-of-the ordinary for the usual air-core choke.

Dimensions: (form) ½" diameter by 2½" long.

Part No.	mh.	Ohms Max.	Fo. Min.	ma.	Q Min.	Net Price
4542	50	266	344 kc.	100	65 @ 79 kc.	$2.37
4543	75	348	312 kc.	100	66 @ 79 kc.	2.58
4544	100	420	256 kc.	100	60 @ 79 kc.	2.82
Dimensions: (form) ½" diameter by 3½" long.						
4545	150	576	196 kc.	75	75 @ 50 kc.	4.02
4546	200	636	168 kc.	75	75 @ 50 kc.	4.41
4547	250	828	160 kc.	75	80 @ 50 kc.	4.74

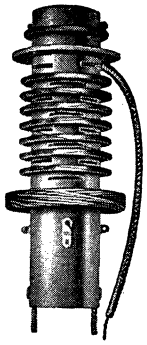


Capacity Relay Coil

This coil may be used for almost all types of capacity operated electronic devices such as alarm systems, show windows, counter displays, novelties, etc. The coil is a center-tapped oscillator winding with an adjustable grid coupling condenser and an r.f. choke, all assembled on a bakelite form. A typical wiring diagram is supplied.

Dimensions: ⅞" diameter (form) x 2¼" high.

Cat. No.	Use	Schematic	Net Price
695	Capacity Relay Coil	78	$2.49



R.F. Transformer for HV Power Supply

These R.F. power supply transformers for use with television receivers and cathode ray oscilloscopes make it possible to construct an inexpensive source of high voltage DC. Two types are available, the #4525 for voltage to 5000 DC and the #4526 for voltages to 10,000 DC (or 30,000 DC in a voltage rectifier tripler circuit). Type 1B3-GT tubes are used as rectifiers and the R.F. oscillator circuit uses one or more type 6V6 or 6Y6 tubes connected in parallel. The high frequency AC source permits use of simple and inexpensive resistive capacitive filters with low ripple content in the output.

Cat. No.	Item	Schematic	Net Price
4525	H.V. R.F. Trans. (to 5 KV)	52	$6.30
Dimensions: 1¼" diameter x 3¾" high.			(Not Illustrated)
4526	H.V. R.F. Trans. (to 30 KV)	52	$9.45
Dimensions: 2¼" diameter x 6" high.			(Illustrated)

Heavy Duty Hash Chokes

Through the use of a molded powdered iron form we are able to offer a series of relatively high inductance, high current hash filter chokes.

Dimensions: 5/16" diameter x 1¼" long.

Part No.	Uh. ± 20%	Ohms Max.	Amperes	Schematic	Net Price
5218	3.35	.010	13	3	$1.41
5219	4.9	.016	8	3	1.41
5220	8.8	.021	5	3	1.41
5230	4.0	.012	2	3	1.05
5240	40.0	.082	2	3	1.11
5248	68.0	.054	2	3	1.29
5250	100.0	.216	2	3	1.29

Filament Choke

Designed to prevent ignition and generator interference noise pick-up from battery wiring systems and from vibrator and motor-generator plate supply systems.

Dimensions: ¾" diameter by 2" long.

Part No.	Uh. ± 20%	Ohms Max.	Amperes	Schematic	Net Price
5221	4	.024	6	1	$1.05

Plate Supply Choke

A companion choke to the #5221 filament choke for use in the power supply of battery and generator or vibrator "B" supply packs for portable or mobile radio and electronic equipment. Will prevent interference and r.f. "hash" present in the power source from interfering with normal operation of the equipment. Unit is a duo-lateral wound coil enclosed in a sealed Kraft container and provided with convenient axial wire leads. Insulated enclosure permits mounting in out-of-the-way corners of the chassis.

Dimensions: ¾" diameter by 1⅛" long.

Part No.	Mh. ± 10%	Ohms Max.	MA	Schematic	Net Price
5222	2.5	33.6	200	1	$1.23

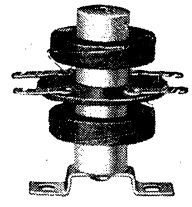
Rectifier Hash Filter Chokes

Duo-lateral wound chokes for use in series with the plate leads of mercury vapor rectifiers to prevent r.f. hash feed-back. The chokes are wound on Alsimag forms and have solder type lugs for connection. Two hole mounting brackets prevent the choke from turning. The terminal lugs are eyeleted to a canvas base bakelite strip and provide a spacing of 1½" between connections. The insulation to ground will withstand in excess of 10,000 volts.

Dimensions: 2" diameter x 2⅜" high.

Part No.	Mh. ± 10%	Ohms Max.	MA	Schematic	Net Price
7867	4.50	5.40	500	1	$2.37
7868	2.75	2.76	1000	1	2.64

Twin Rectifier Filter Chokes



These chokes are similar to those listed above except that two duo-lateral wound coils are assembled on a single ceramic form with a bakelite terminal plate. They are for use with full wave mercury vapor rectifier tubes or with separate tubes having a maximum plate current of less than 300 MA. A two-hole mounting clip is provided. Insulation is adequate for peak voltages up to 2500. The entire assembly is thoroughly impregnated in tropicalized Q-Max lacquer.

Dimensions: 1¼" diameter x 1¾" high. Mounting centers: 1".

Part No.	Mh.	Ohms	MA	Net Price
7865	3.25 (per coil)	15.	300	$2.04
9501	1 mh. (per coil)	1.72	1,000	1.89

Stud Mounted Low-Capacity R.F. Chokes

Single stud mounted resistor-type r.f. chokes for use in transmitters and receivers. Pi-wound for very low distributed capacity. Constructed on moulded bakelite forms and equipped with Miller "Sta-On" terminal clips which will not work loose. Co-axial #6-32 thread mounting stud.

Dimensions: ⅝" o.d. by 1¼" high (plus 7/16" stud)

Part No.	mh*	Ohms	ma	Schematic	Net Price
4527	1.0	16.8	200	1	$1.08
4530	2.5	27.6	200	1	1.26

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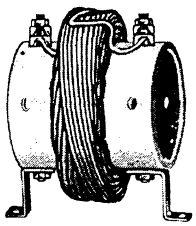
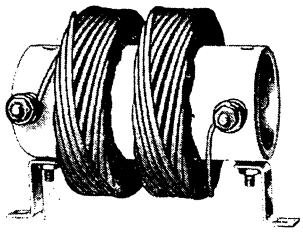
Medium Duty Duo-Lateral Line Filter Chokes



Miller Duo-Lateral wound chokes combine small physical size with low distributed capacity—an essential requirement for radio interference filter chokes—and are characteristics found in no other type of radio interference filter choke. These chokes are particularly recommended to manufacturers of farm lighting plants, sign flashers, signal systems, oil burners, diathermy equipment and all types of intermittent switching systems. Miller Duo-Lateral wound filter chokes are specially designed for technicians and electricians who find it desirable to construct their own filters as a part of the equipment being manufactured. When used with amateur and commercial transmitters, filters constructed with Miller Duo-Lateral wound chokes will prevent feed-back into the power line, thus eliminating carrier radiation within the electrical wiring system. Miller Duo-Lateral wound chokes are wound on ceramic forms with suitable brass terminals.

Cat. No.	Amperes	Ohms	Uh.	Dimensions	Schematic	Net Price
7826	5	.28	570	2½" x 4"	1	$6.15
7827	10	.15	370	2½" x 4"	1	6.90
7828	15	.085	200	2½" x 4"	1	7.17
7829	20	.05	135	2½" x 4"	1	7.50

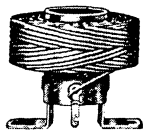
Dual Line Filter Chokes



Miller Dual Duo-Lateral Line Filter Chokes are wound with two coils on one form, giving the advantage of small physical size in cases where space requirements are stringent and two single coils would occupy too much area. Identical in specifications, except for dimensions, to our single type Duo-Lateral chokes. They are wound on white ceramic forms 2" in diameter by 4½" long.

Cat. No.	Amperes	Ohms	Uh.	Dimensions	Net Price
D-7826	5	.28	570	4½" x 4"	$ 9.00
D-7827	10	.15	370	4½" x 4"	10.80
D-7828	15	.085	200	4½" x 4"	12.75
D-7829	20	.05	135	4½" x 4"	15.60

Light Duty Duo-Lateral Line Filter Chokes



Single Line Filter Chokes

Dimensions: 1⅞" x 1¾".

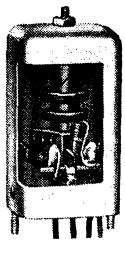
Cat. No.	Amperes	Ohms	Uh.	Schematic	Net Price
7825	2	.7	600	1	$2.40
7825-3	3	.25	250	1	2.40
7825-5	5	.1	100	1	2.40
7825-8	8	.05	50	1	2.61

Dual Line Filter Chokes

Dimensions: 3¼" x 2⅛".

Cat. No.	Amperes	Ohms	Uh.	Net Price
D-7825	2	.7	600	$5.58
D-7825-3	3	.25	250	5.58
D-7825-5	5	.1	100	5.58
D-7825-8	8	.05	50	5.88

Phono-Oscillator Coil

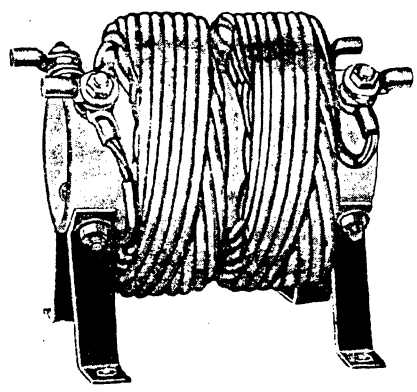


The Miller Phono-Oscillator coil is used in the construction of radio operated phonograph players. The coils are permeability tuned and are assembled in an aluminum shield. The frequency range as provided by the adjustable iron core is from 540 to 700 KC. The windings are of the sectional duo-lateral type. The oscillator grid leak and grid coupling condenser are included in the coil assembly. A typical circuit diagram is supplied with each coil.

Dimensions: 1⅞" square x 2½" high.

Cat. No.	Use	Range	Net Price
522	Phono-Oscillator	540-700 KC	$3.12

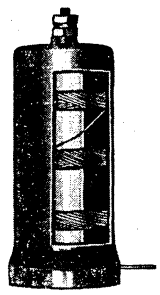
Heavy Duty Line Filter Chokes



Miller Heavy Duty Line Filter Chokes are wound on electrical porcelain forms measuring 4" in diameter by 8" long. All windings are of the duo-lateral type and use double cotton covered stranded cable expressly made for this purpose. Copper terminal lugs and brass bolts are used on all current-carrying parts. Four sturdy steel mounting brackets are provided with each choke. Windings are thoroughly impregnated with glyptal varnish and baked. In addition to their use for radio interference filter applications, these chokes find wide application in power circuits and high voltage rectifier circuits to reduce the peak value of transient surges and thus protect valuable equipment and switch gear. (Available from Los Angeles stock only.) (D-7830 is a dual type—two chokes on one form. Illustrated.)

Cat. No.	Amperes	Ohms	Uh.	Dimensions	Schematic	Net Price
7830	40	.036	250	8" x 10"	1	$34.80
D-7830	40	.036	250	8" x 10"		59.40
7831	60	.023	215	8" x 10"	1	52.50
7832	75	.010	175	8" x 12½"	1	53.70

High Tension Filter Choke



Through extensive research, Miller has developed what is believed to be the only satisfactory filter choke for the elimination of radio interference generated by high-tension (secondary circuit) neon sign animators and tubing. Chokes are sectional wound on ½" diameter by 2½" long ceramic forms and are enclosed in a weatherproof bakelite shell. All windings are impregnated against moisture absorption and all hardware is cadmium plated. The #7875 choke is insulated for 15,000 volts and for continuous operation at currents up to 100 milliamperes. The filter chokes are easily installed in existing installations and they are fully guaranteed. Many cities and communities have radio interference ordinances and these chokes are an indispensable part of every neon sign installation. Each installation requires one choke per circuit, plus one for the common circuit of the transformer and one for the common circuit of the animator. A complete circuit diagram is supplied with each choke.

Dimensions: 1⅜" diameter x 3¼" high.

Cat. No.	Volts	Amperes	Schematic	Net Price
7875	15,000	.1	1	$3.12

Radio Interference Filter Condenser

Highest quality mylar dielectric condenser especially developed for radio interference filter use. While rated at 220 volts AC-DC, this condenser is designed to withstand transient surges up to 1000 volts. Extremely low reactance to all interference frequencies is obtained by non-inductive construction. It will give a lifetime of trouble-free service and we give an unqualified guarantee against breakdown when used with interference filters on circuits having a maximum RMS voltage not exceeding 220.

Cat. No.	Capacity	Volts	Dimensions	Net Price
7804	2.0 mfd.	220 AC	⅞" x 1" x 2½"	$5.34

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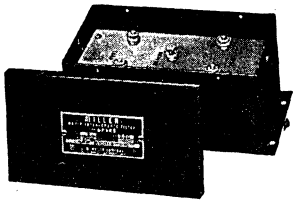
TV High-Pass Filters

This TV High-Pass Filter will eliminate or greatly reduce annoying interference which may be picked up by the intermediate-frequency amplifier section of your television receiver. Improves picture clarity by rejecting interference from short wave stations, amateur transmitters, X-Ray and diathermy equipment, industrial r.f. heating units, electric appliances, etc. Clear, steady pictures insured with a minimum of noise streaks, sound bars or herringbone. Filter is designed to attenuate all signals from zero frequency to 40 megacycles. All television channels passed with minimum loss. No tuning required. Installed easily in antenna lead-in receiver. In aluminum shield with convenient "L"-type bracket for mounting.

Dimensions: 1 7/16" by 1 7/8" by 3 1/2" high.

Cat. No.	Use	Schematic	Net Price
6167	TV High-Pass Filter— 72-ohm line	46	$3.90
6168	TV High-Pass Filter—300-ohm line	47	3.90

Cash Register Filter

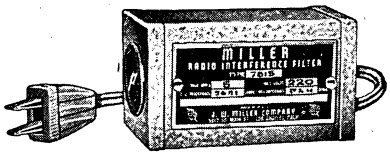


The radio interference produced by most cash registers and business machines, such as comptometers and billing machines, is, in many cases, quite severe and the general purpose type of filter does not always give adequate protection. The Miller Cash Register Filter has been expressly designed to meet the requirements of this type of equipment and will provide positive elimination of radio interference feed-back into the power supply line. The filter is of the two-section type and consists of four duo-lateral wound chokes and four .5 mfd. condensers.

Dimensions: 3 1/4" x 4" x 7" long.

Part No.	Volts	Amperes	Schematic	Net Price
7814	230	5	17	$29.70

TV and Appliance Filter



Similar in construction to the Cat. No. 7818, the Cat. No. 7815 is designed for use with larger household appliances and commutator-type motors as well as communications-type receivers and recording equipment. Useful for elimination of TV interference in radio receivers when inserted in television receiver line cord. The #7815 filter uses larger capacitors and heavier capacity inductors to handle load requirements up to 550 watts. It is assembled in a gray Hammertone finished case.

Dimensions: 2 1/4" square x 4 1/2" long.

Cat. No.	Volts	Watts	Schematic	Net Price
7815	115	550	11	$11.10

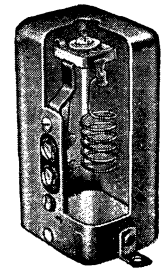
Electric Shaver Filter

This filter contains an inductive - capacitive circuit consisting of two duo-lateral wound chokes and a non-inductive condenser, giving complete freedom from radio interference. No ground connection is needed for the filter and the danger of accidental shock is avoided through the use of shock-proof, unbreakable moulded rubber construction.

Dimensions: 1 1/8" diameter x 3" long.

Cat. No.	Volts	Watts	Finish	Schematic	Net Price
7817	115	50	Black	14	$4.50

TV and FM Wave Traps

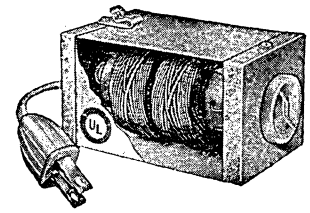


These new high-Q series-resonant wave traps may completely eliminate interference and undesirable images in television and FM receivers. When tuned to the frequency of interfering signal, they are very effective in reducing sound bars and herringbone patterns, or streaks and tearing in the television picture. Superimposed pictures from two different stations also may be prevented. For FM receiver use, cross-talk from interfering station is greatly diminished. Use of one of these traps generally will reduce interference caused by a near-by transmitter to a degree which will permit satisfactory reception from a weaker station.

Dimensions: 1 3/8" by 1 7/8" by 3 1/2" high.

Cat. No.	Frequency Range	Schematic	Net Price
6163	150-250 MC	45	$3.30
6164	75-150 MC	45	3.30
6165	40- 80 MC	45	3.30
6166	20- 40 MC	79	3.30

All-Wave Interference Filter

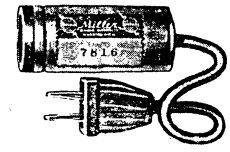


Designed to eliminate radio noises caused by small household appliances such as food mixers, sewing machines, vacuum cleaners, etc. When connected between the radio receiver and the power outlet, the filter will prevent pick-up of interference and unwanted signals through the house wiring system. When used with household appliances the filter prevents the interference energy from getting into the house wiring circuit and disturbing receivers throughout the neighborhood.

Dimensions: 2 1/4" square x 4 1/2" long.

Cat. No.	Volts	Watts	Schematic	Net Price
7818	115	220	13	$10.80

Capacity Type Line Filter

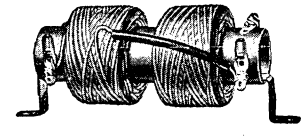


The Miller Capacity Line filter is an all purpose filter for the elimination of radio interference caused by the operation of household appliances such as electric razors, heating pads, hair dryers, food mixers, vacuum cleaners and practically all common household devices and fractional horsepower motors. This filter will provide adequate filtering in less severe cases of interference and in instances where the cost of Miller Inductive-Capacitive type filters is not warranted. A bakelite receptacle at one end and one foot long cord with plug at the other end makes installation simple.

Dimensions: 1 1/8" diameter x 2 5/8" long.

Cat. No.	Volts	Watts	Schematic	Net Price
7816	115	660	15	$2.61

Un-Cased Interference Filters



These filters utilize two duo-lateral wound chokes and a dual .2 mfd. non-inductive wound, oil impregnated condenser. The filters are assembled on 1" diameter bakelite tubes and are provided with solder-type terminals and brass mounting brackets. While designed primarily for use with traffic signals, its usefulness is by no means limited to this application. These filters may be used for built-in application with any type of radio interference producing electronic device whose voltage and current requirements are within the rating limits of the filters.

Dimensions: #7880—2 1/4" diameter x 5" long; 90 uh; .125 ohms; dual .2 mfd. condenser.
#7881—3 1/4" diameter x 5" long; 125 uh; .065 ohms; dual .2 mfd. condenser.

Cat. No.	Volts	Amperes	Schematic	Net Price
7880	220	5.	10	$6.60
7881	220	10.	10	8.70

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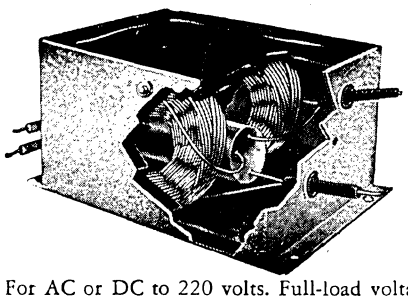
Industrial Filters

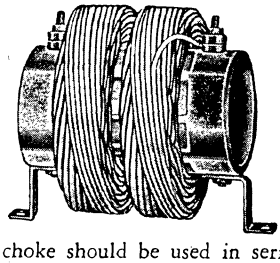


Miller industrial filters are designed for all types of radio interference producing devices and are highly effective at broadcast and short wave frequencies. The unique filter circuit, consisting of **two duo-lateral wound chokes and two single layer solenoid chokes combined with two 2. mfd. non-inductive wound paper dielectric condensers.** For AC or DC to 220 volts. Full-load voltage drop is approximately 2 volts.

Dimensions: 9¾" x 6½" x 5" high. Weight: Approx. 14 lbs.

Cat. No.	Volts	Amps.	Schematic	Net Price
7841	220	5	12	$45.00
7842	220	10	12	46.50
7843	220	20	12	48.00
7844	220	30	12	52.20
7845	220	40	12	53.40

Tower Lighting Chokes



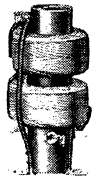
Duo-lateral wound chokes designed for use in the tower lighting circuits of broadcast and commercial transmitter antenna towers. These chokes offer high impedance to radio frequency and have extremely low distributed capacity. Low power-frequency reactance and DC resistance insure minimum lighting power loss. The chokes are wound on ceramic forms and the windings are of the two-pi sectional type and are protected by a baked glyptal varnish. One choke should be used in series with each line of the tower lighting circuit. A suitable weatherproof cabinet should be used to house the chokes and is preferably mounted at the base of the tower.

By-pass condensers from line-to-ground are NOT used with these chokes.

Dimensions: 4" diameter x 4½" long.

Cat. No.	Amps.	Ohms	Mh.	Schematic	Net Price
7870	5	.56	1.20	1	$ 9.90
7871	10	.30	.75	1	11.55
7872	20	.17	.45	1	13.20

Teletype Radio Interference Filter



A compact skeleton type filter using both inductance and capacity for maximum effectiveness in suppressing the interference generated by the small brush-type universal motors used on teletype printers. The filter is constructed for fastening directly to the motor terminals and is easily installed. The two duo-lateral chokes are wound on bakelite tubing and the dual condenser is fastened inside of the tube. A ground terminal is provided for connection to the motor frame. May be used on AC or DC circuits up to 120 volts and at a maximum current of .5 ampere.

Dimensions: 1⅜" diameter x 3" high.

Cat. No.	Volts	Amperes	Schematic	Net Price
7812	120	.5	10	$4.50

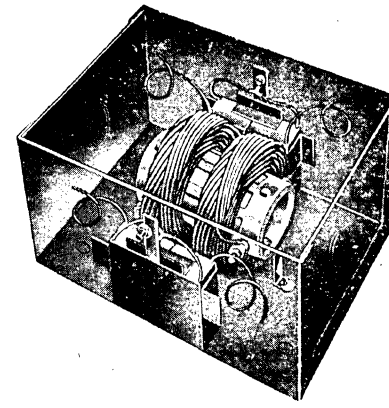
Loop Antenna Wave Traps

They are to be connected between the grid terminal of the loop antenna and the ground or grid return circuit of the receiver. When tuned to resonance these traps offer extremely low impedance to the interfering signal.

Dimensions: 1⅜" square by 1¾" high.

Cat. No.	Band	KC Range	Schematic	Net Price
816-X1	I.F. & Commercial	250-500	81	$2.04
816-X2	I.F. & Commercial	125-250	81	2.04
816-BC1	Broadcast	900-1800	81	2.04
816-BC2	Broadcast	500-900	81	2.04
816-A	Amateur	1500-2500	81	2.04
816-B	Amateur	2000-4500	81	2.04

Miller Uni-Filters

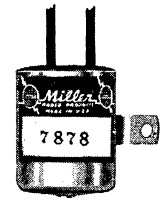


Universal type filters adaptable to any filter application through the simple process of making the necessary internal connections. They are designed for preventing feedback into the power lines from interference producing devices such as—farm lighting plants, electric refrigerators, diathermy and electrocautery devices, oil burner ignition systems, sign flashers, rotary converters, vibrator type converters, portable gas-electric plants and electric motors. Two capacitor blocks, each consisting of dual condensers, are included with each Uni-Filter. The condensers are rated at 220 volts AC or DC. Complete data and circuit diagram supplied with each filter.

Dimensions: 8" long x 6¼" wide x 4¾" high.

Cat. No.	Amperes	Ohms	Inductance	Schematic	Net Price
7819	5	.28	.570 mh	16	$29.70
7820	10	.15	.370 mh	16	33.00
7821	20	.085	.200 mh	16	34.50
7822	30	.05	.135 mh	16	34.50

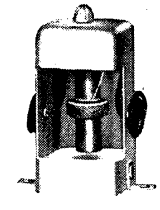
Fluorescent Lighting Filter Chokes



The interference energy which is fed back into the AC lines may often affect the operation of radio and television receivers within a radius of several hundred feet. This interference energy may be absorbed by the use of suitable filter chokes and condensers. Miller Fluorescent filter chokes effectively block line interference feed-back and may be simply installed in the lighting fixture. The chokes are assembled in aluminum shields 1¼" in diameter by 1½" long, provided with a single hole mounting bracket, and flexible approved wire leads. Installation instructions supplied with each choke. Normally, two chokes should be used per fixture, each choke having a rating equal to the total wattage of all lamps in the fixture.

Cat. No.	Volts	Watts	Schematic	Net Price
7876	220	20	1	$2.07
7877	220	40	1	2.07
7878	220	80	1	2.07
7879	220	160	1	2.19

Shielded Wave Traps



Miller 812 Series Wave Traps reaches a new high of performance in the elimination of interference from CW and amateur phone stations and from commercial transmitters. A completely shielded high "Q" parallel resonant circuit. The units are easily installed, simply connect them in series with the antenna. In order to eliminate interference from more than one station connect several of these units in series. The traps will not interfere with the operation of the receiver at frequencies other than that to which the traps are tuned.

Dimensions: 1 7/16" square x 2½" high.

Cat. No.	Band	KC Range	Schematic	Net Price
812-X1	I.F. & Commercial	425-525	80	$2.04
812-X2	I.F. & Commercial	225-325	80	2.04
812-X3	I.F. & Commercial	150-225	80	2.04
812-BC1	Broadcast	1200-1600	80	2.04
812-BC2	Broadcast	800-1200	80	2.04
812-BC3	Broadcast	500-800	80	2.04
812-A	Amateur	1500-2500	80	2.04
812-B	Amateur	2000-4500	80	2.04
812-C	Amateur	5000-8500	80	2.04
812-D	Amateur	12000-18000	80	2.04
812-E	Amateur	25000-35000	80	2.04

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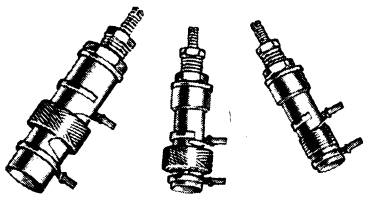

Resinite Adjustable R.F. Coils

Resinite is a phenolic impregnated tubing which combines the mechanical and dielectric advantages of phenolics with the high dielectric strength, moisture resistance, and non-corrosive properties of cellulose acetate. Resinite can be certified to MIL-P-79B Type PBG. This series features an extremely wide choice of inductance ranges and utilizes only the highest quality commerical materials throughout. They find application where the severe moisture resistant characteristics of the encapsulated units and the mechanical properties of the ceramics are not required.

Miniature Adjustable R.F. Coils

COILS WOUND ON FORM NO. 20A000

Dimensions (form): 1/4" Diameter x 13/16" long. Mounting hole 13/64".

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Maximum	Maximum Current Milliamperes	Diameter over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency				
20A107RBI	.088 uh	56	25. MHz	.120 uh	51	25. MHz	.041	1600	.343	3
20A157RBI	.108 uh	77	25. MHz	.180 uh	72	25. MHz	.044	1600	.343	4
20A227RBI	.162 uh	77	25. MHz	.264 uh	68	25. MHz	.051	1600	.343	5
20A337RBI	.238 uh	64	25. MHz	.396 uh	68	25. MHz	.054	1000	.343	6
20A477RBI	.356 uh	66	25. MHz	.564 uh	60	25. MHz	.078	1000	.343	7
20A687RBI	.508 uh	72	25. MHz	.816 uh	50	25. MHz	.082	635	.343	8
20A827RBI	.735 uh	57	25. MHz	.984 uh	41	25. MHz	.090	635	.343	9
20A106RBI	.885 uh	53	25. MHz	1.20 uh	42	7.9 MHz	.135	400	.343	10
20A156RBI	1.08 uh	44	7.9 MHz	1.80 uh	44	7.9 MHz	.205	400	.343	12
20A226RBI	1.62 uh	39	7.9 MHz	2.64 uh	44	7.9 MHz	.522	100	.343	13
20A336RBI	2.38 uh	40	7.9 MHz	3.96 uh	42	7.9 MHz	.640	100	.343	17
20A476RBI	3.56 uh	44	7.9 MHz	5.64 uh	42	7.9 MHz	.770	100	.343	20
20A686RBI	5.08 uh	43	7.9 MHz	8.16 uh	40	7.9 MHz	.950	100	.343	24
20A826RBI	7.35 uh	45	7.9 MHz	9.84 uh	38	7.9 MHz	1.00	100	.343	28
20A105RBI	8.85 uh	37	7.9 MHz	12.0 uh	45	2.5 MHz	1.45	100	.343	31
20A155RBI	10.8 uh	32	2.5 MHz	18.0 uh	52	2.5 MHz	1.70	100	.343	37
20A225RBI	16.2 uh	39	2.5 MHz	26.4 uh	42	2.5 MHz	2.10	100	.343	48
20A335RBI	23.8 uh	40	2.5 MHz	39.6 uh	40	2.5 MHz	2.59	100	.343	57
20A475RBI	35.6 uh	42	2.5 MHz	56.4 uh	37	2.5 MHz	3.10	100	.343	68
20A685RBI	50.8 uh	36	2.5 MHz	81.6 uh	32	2.5 MHz	3.84	100	.343	80
20A825RBI	73.5 uh	38	2.5 MHz	98.4 uh	36	2.5 MHz	4.71	100	.375	94
20A104RBI	88.5 uh	32	2.5 MHz	120. uh	37	.79 MHz	5.00	100	.406	105
20A154RBI	108. uh	28	.79 MHz	180. uh	40	.79 MHz	5.95	100	.406	125
20A224RBI	162. uh	40	.79 MHz	264. uh	38	.79 MHz	7.50	100	.406	154
20A334RBI	238. uh	43	.79 MHz	396. uh	44	.79 MHz	9.50	100	.437	187
20A474RBI	356. uh	43	.79 MHz	564. uh	38	.79 MHz	12.0	100	.500	224
20A684RBI	508. uh	40	.79 MHz	816. uh	32	.79 MHz	14.5	100	.500	266
20A824RBI	735. uh	39	.79 MHz	984. uh	32	.79 MHz	17.0	100	.562	308
20A103RBI	885. uh	40	.79 MHz	1.20 mh	24	.25 MHz	21.0	100	.594	341

Standard Adjustable R.F. Coils

COILS WOUND ON FORM NO. 21A000

Dimensions (form): 3/8" Diameter x 1 1/8" long. Mounting hole 1/4".

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Maximum	Maximum Current Milliamperes	Diameter over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency				
21A106RBI	.885 uh	64	25. MHz	1.20 uh	52	7.9 MHz	.121	635	.437	7
21A156RBI	1.08 uh	55	7.9 MHz	1.80 uh	52	7.9 MHz	.135	635	.437	9
21A226RBI	1.62 uh	56	7.9 MHz	2.64 uh	44	7.9 MHz	.160	635	.437	11
21A336RBI	2.38 uh	65	7.9 MHz	3.96 uh	35	7.9 MHz	.184	635	.437	15
21A476RBI	3.56 uh	60	7.9 MHz	5.64 uh	44	7.9 MHz	.210	635	.437	17
21A686RBI	5.08 uh	57	7.9 MHz	8.16 uh	41	7.9 MHz	.468	255	.437	18
21A826RBI	7.35 uh	53	7.9 MHz	9.84 uh	44	7.9 MHz	.780	255	.437	20
21A105RBI	8.85 uh	47	7.9 MHz	12.0 uh	51	2.5 MHz	1.46	100	.437	21
21A155RBI	10.8 uh	40	2.5 MHz	18.0 uh	49	2.5 MHz	1.76	100	.437	26
21A225RBI	16.2 uh	36	2.5 MHz	26.4 uh	41	2.5 MHz	2.08	100	.437	31
21A335RBI	23.8 uh	36	2.5 MHz	39.6 uh	32	2.5 MHz	2.56	100	.468	38
21A475RBI	35.6 uh	36	2.5 MHz	56.4 uh	38	2.5 MHz	3.50	100	.468	47
21A685RBI	50.8 uh	32	2.5 MHz	81.6 uh	32	2.5 MHz	3.50	100	.468	54
21A825RBI	73.5 uh	27	2.5 MHz	98.4 uh	36	2.5 MHz	3.94	100	.500	59
21A104RBI	88.5 uh	27	2.5 MHz	120. uh	40	.79 MHz	4.43	100	.500	65
21A154RBI	108. uh	20	.79 MHz	180. uh	40	.79 MHz	5.88	100	.531	86
21A224RBI	162. uh	33	.79 MHz	264. uh	39	.79 MHz	7.20	100	.531	103
21A334RBI	238. uh	34	.79 MHz	396. uh	38	.79 MHz	9.20	100	.562	128
21A474RBI	356. uh	33	.79 MHz	564. uh	35	.79 MHz	10.7	100	.562	155
21A684RBI	508. uh	32	.79 MHz	816. uh	32	.79 MHz	12.8	100	.625	180
21A824RBI	735. uh	26	.79 MHz	984. uh	26	.79 MHz	15.0	100	.625	200
21A103RBI	885. uh	26	.79 MHz	1.20 mh	28	.25 MHz	17.6	100	.687	235
21A153RBI	1.08 mh	32	.25 MHz	1.80 mh	32	.25 MHz	22.8	100	.687	291
21A223RBI	1.62 mh	36	.25 MHz	2.64 mh	35	.25 MHz	28.6	100	.781	350
21A333RBI	2.38 mh	32	.25 MHz	3.96 mh	31	.25 MHz	49.8	65	.687	422
21A473RBI	3.56 mh	37	.25 MHz	5.64 mh	32	.25 MHz	64.7	65	.750	507
21A683RBI	5.08 mh	36	.25 MHz	8.16 mh	32	.25 MHz	76.1	65	.812	591
21A823RBI	7.35 mh	36	.25 MHz	9.84 mh	20	.25 MHz	91.0	65	.843	694
21A102RBI	8.85 mh	36	.25 MHz	12.0 mh	18	79. kHz	104.	65	.950	774

Refer to Pages 1-2 for Prices

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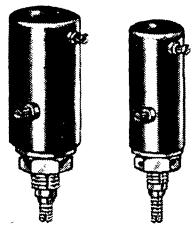
Jumbo Adjustable R.F. Coils

COILS WOUND ON FORM NO. 22A000

Dimensions (form): ½" Diameter x 1⅞" long. Mounting hole ¼".

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Maximum	Maximum Current Milliamperes	Diameter over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency				
22A105RBI	8.85 uh	72	7.9 MHz	12.0 uh	59	2.5 MHz	.348	1000	.563	22
22A155RBI	10.8 uh	66	2.5 MHz	18.0 uh	49	2.5 MHz	.400	1000	.563	29
22A225RBI	16.2 uh	63	2.5 MHz	26.4 uh	52	2.5 MHz	.552	400	.563	31
22A335RBI	23.8 uh	68	2.5 MHz	39.6 uh	44	2.5 MHz	.798	400	.563	42
22A475RBI	35.6 uh	66	2.5 MHz	56.4 uh	56	2.5 MHz	1.85	160	.563	45
22A685RBI	50.8 uh	64	2.5 MHz	81.6 uh	48	2.5 MHz	2.33	160	.563	59
22A825RBI	73.5 uh	68	2.5 MHz	98.4 uh	76	2.5 MHz	3.48	160	.563	63
22A104RBI	88.5 uh	26	2.5 MHz	120. uh	56	790. kHz	4.56	100	.563	56
22A154RBI	108. uh	24	790. kHz	180. uh	60	790. kHz	5.60	100	.594	72
22A224RBI	162. uh	43	790. kHz	264. uh	49	790. kHz	7.02	100	.625	88
22A334RBI	238. uh	41	790. kHz	396. uh	45	790. kHz	8.25	100	.625	105
22A474RBI	356. uh	40	790. kHz	564. uh	44	790. kHz	9.70	100	.625	125
22A684RBI	508. uh	35	790. kHz	816. uh	36	790. kHz	12.1	100	.656	150
22A824RBI	735. uh	32	790. kHz	984. uh	53	790. kHz	14.7	100	.688	175
22A103RBI	885. uh	29	790. kHz	1.20 mh	56	250. kHz	17.1	100	.688	195
22A153RBI	1.08 mh	42	250. kHz	1.80 mh	56	250. kHz	21.0	100	.718	240
22A223RBI	1.62 mh	45	250. kHz	2.64 mh	63	250. kHz	27.6	100	.781	295
22A333RBI	2.38 mh	45	250. kHz	3.96 mh	57	250. kHz	33.7	100	.843	385
22A473RBI	3.56 mh	48	250. kHz	5.64 mh	54	250. kHz	41.1	100	.875	425
22A683RBI	5.08 mh	43	250. kHz	8.16 mh	61	250. kHz	51.6	100	.938	510
22A823RBI	7.35 mh	50	250. kHz	9.84 mh	39	250. kHz	78.0	65	.688	609
22A102RBI	8.85 mh	51	250. kHz	12.0 mh	42	79. kHz	87.6	65	.718	699
22A152RBI	10.8 mh	56	79. kHz	18.0 mh	47	79. kHz	122.	65	.718	837
22A222RBI	16.2 mh	33	79. kHz	26.4 mh	56	79. kHz	150.	65	.750	1035
22A332RBI	23.8 mh	35	79. kHz	39.6 mh	52	79. kHz	195.	65	.781	1260
22A472RBI	35.6 mh	41	79. kHz	56.4 mh	60	79. kHz	210.	65	.843	1485
22A682RBI	50.8 mh	48	79. kHz	81.6 mh	64	79. kHz	290.	65	.968	1800
22A822RBI	73.5 mh	48	79. kHz	98.4 mh	65	79. kHz	300.	65	.984	1950
22A101RBI	88.5 mh	49	79. kHz	120. mh	60	79. kHz	340.	65	1.00	2142

Encapsulated Adjustable R.F. Coils



"UNISEAL," a recent development of the J. W. Miller Co., has successfully been applied to the production of encapsulated adjustable R.F. inductors. The primary difficulty encountered in the encapsulation of adjustable inductors is the prevention of moisture entering the coil form around the threaded stud. The moisture being subsequently absorbed by the coil form resulting in deterioration of coil efficiency. The open end is filled with silicone grease and bonded to the brass bushing which holds the adjustable core. The grease in this case is not intended to prevent moisture absorption since the coil is completely sealed by the use of the epoxy form. It does serve to provide a smoother turning core. The coil assembly is next inserted into another epoxy shell and the entire assembly filled with epoxy resin. This forms one solid mass of epoxy from the inner coil form to the outer shell. The unit is impervious to moisture and is extremely shock and vibration resistant.

FORM LENGTH: 1.000

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Maximum	Maximum Current Milliamperes	Diameter Inches	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency				
50A106EBI	.73 uh	100	25. MHz	1.02 uh	90	7.9 MHz	.07	636	.437	9
50A156EBI	1.15 uh	90	7.9 MHz	1.65 uh	86	7.9 MHz	.11	636	.437	12
50A226EBI	1.88 uh	83	7.9 MHz	2.40 uh	82	7.9 MHz	.12	636	.437	16
50A336EBI	2.32 uh	64	7.9 MHz	3.20 uh	73	7.9 MHz	.22	400	.437	19
50A476EBI	3.20 uh	62	7.9 MHz	4.95 uh	49	7.9 MHz	.24	400	.437	25
50A686EBI	4.80 uh	60	7.9 MHz	7.05 uh	64	7.9 MHz	.69	160	.437	27
50A826EBI	5.41 uh	63	7.9 MHz	7.83 uh	66	7.9 MHz	.75	160	.437	31
50A105EBI	6.25 uh	56	7.9 MHz	10.0 uh	58	7.9 MHz	1.2	100	.437	32
50A155EBI	9.25 uh	64	7.9 MHz	15.0 uh	58	2.5 MHz	1.5	100	.437	43
50A225EBI	16.2 uh	44	2.5 MHz	24.4 uh	72	2.5 MHz	3.2	65	.437	51
50A335EBI	22.3 uh	34	2.5 MHz	33.0 uh	51	2.5 MHz	2.4	100	.437	61
50A475EBI	31.2 uh	31	2.5 MHz	46.5 uh	46	2.5 MHz	2.7	100	.437	75
50A685EBI	46.7 uh	32	2.5 MHz	70.0 uh	42	2.5 MHz	3.5	100	.437	98
50A825EBI	54.0 uh	42	2.5 MHz	83.5 uh	58	2.5 MHz	6.0	65	.437	104
50A104EBI	76.8 uh	30	2.5 MHz	99.2 uh	51	2.5 MHz	6.7	65	.625	102
50A154EBI	108. uh	30	2.5 MHz	142. uh	45	.79 MHz	9.0	65	.625	100
50A224EBI	169. uh	36	.79 MHz	232. uh	52	.79 MHz	12.	65	.625	120
50A334EBI	258. uh	36	.79 MHz	346. uh	50	.79 MHz	15.	65	.625	148
50A474EBI	344. uh	38	.79 MHz	460. uh	50	.79 MHz	17.	65	.625	172
50A684EBI	505. uh	37	.79 MHz	655. uh	50	.79 MHz	21.	65	.625	206
50A824EBI	650. uh	37	.79 MHz	855. uh	44	.79 MHz	23.	65	.625	234
50A103EBI	860. uh	34	.25 MHz	1.10 mh	46	.79 MHz	26.	65	.625	270
50A153EBI	1.2 mh	32	.25 MHz	1.56 mh	46	.25 MHz	34.	65	.625	320
50A223EBI	2.0 mh	36	.25 MHz	2.40 mh	49	.25 MHz	44.	65	.625	400
50A333EBI	3.0 mh	40	.25 MHz	3.44 mh	52	.25 MHz	53.	65	.625	476
50A473EBI	4.2 mh	41	.25 MHz	4.81 mh	48	.25 MHz	66.	60	.625	560
50A683EBI	6.1 mh	41	.25 MHz	6.88 mh	45	.25 MHz	83.	60	.625	660
50A823EBI	6.9 mh	34	.25 MHz	8.75 mh	36	.25 MHz	83.	60	.625	990

Refer to Pages 1-2 for Prices

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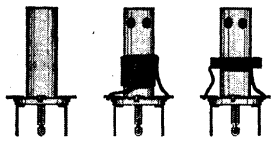


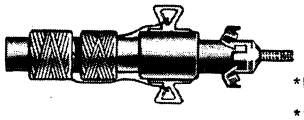
Vertical Mounted Printed Circuit Ceramic Adjustable R.F. Coils

COILS WOUND ON FORM NO. 46A013

*Self resonant frequency measured at maximum inductance.

For use where mechanical and electrical stability is of paramount importance. This series features a silicone impregnated ceramic form and a silicone-fiberglas terminal collar. A Kel-F locking insert is provided with each coil to prevent accidental core movement under conditions of shock and vibration.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min* Fo. MHz.	Dia. over Winding	Color Code	
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					1	2
46A107CPC	.095 uh	70	25.0 MHz	.105 uh	74	25.0 MHz	.02	2500	370.	.343	Brown	—
46A127CPC	.114 uh	55	25.0 MHz	.126 uh	75	25.0 MHz	.04	2000	340.	.343	Red	—
46A157CPC	.142 uh	70	25.0 MHz	.158 uh	90	25.0 MHz	.03	2500	300.	.343	Orange	—
46A187CPC	.171 uh	80	25.0 MHz	.189 uh	90	25.0 MHz	.03	2000	280.	.343	Yellow	—
46A227CPC	.209 uh	70	25.0 MHz	.231 uh	90	25.0 MHz	.04	1300	245.	.343	Green	—
46A277CPC	.256 uh	85	25.0 MHz	.284 uh	90	25.0 MHz	.06	635	220.	.343	Blue	—
46A337CPC	.314 uh	85	25.0 MHz	.347 uh	90	25.0 MHz	.07	810	200.	.343	Violet	—
46A397CPC	.370 uh	85	25.0 MHz	.410 uh	90	25.0 MHz	.08	635	185.	.343	Grey	—
46A477CPC	.446 uh	85	25.0 MHz	.495 uh	85	25.0 MHz	.08	400	175.	.343	White	—
46A567CPC	.532 uh	85	25.0 MHz	.590 uh	85	25.0 MHz	.09	400	160.	.343	Brown	Black
46A687CPC	.645 uh	85	25.0 MHz	.715 uh	85	25.0 MHz	.10	400	142.	.343	Brown	Brown
46A827CPC	.770 uh	85	25.0 MHz	.850 uh	85	25.0 MHz	.11	400	130.	.343	Brown	Red
46A106CPC	.950 uh	85	25.0 MHz	1.05 uh	85	25.0 MHz	.13	400	119.	.343	Brown	Orange
46A126CPC	1.14 uh	67	7.9 MHz	1.26 uh	67	7.9 MHz	.14	635	108.	.343	Brown	Yellow
46A156CPC	1.42 uh	71	7.9 MHz	1.58 uh	70	7.9 MHz	.16	635	97.	.343	Brown	Green
46A186CPC	1.62 uh	71	7.9 MHz	1.98 uh	68	7.9 MHz	.16	400	86.	.343	Brown	Blue
46A226CPC	1.99 uh	76	7.9 MHz	2.42 uh	73	7.9 MHz	.17	400	78.	.343	Brown	Violet
46A276CPC	2.42 uh	76	7.9 MHz	2.96 uh	75	7.9 MHz	.19	400	70.	.343	Brown	Grey
46A336CPC	2.96 uh	76	7.9 MHz	3.64 uh	75	7.9 MHz	.21	400	64.	.343	Brown	White
46A396CPC	3.50 uh	61	7.9 MHz	4.27 uh	52	7.9 MHz	.24	400	59.	.343	Red	Black
46A476CPC	4.24 uh	65	7.9 MHz	5.20 uh	51	7.9 MHz	.38	400	53.	.343	Red	Brown
46A566CPC	5.00 uh	65	7.9 MHz	6.30 uh	51	7.9 MHz	1.0	100	23.	.343	Red	Red
46A686CPC	6.10 uh	52	7.9 MHz	7.50 uh	52	7.9 MHz	1.1	100	21.	.343	Red	Orange
46A826CPC	7.30 uh	48	7.9 MHz	8.90 uh	56	7.9 MHz	1.2	100	20.	.343	Red	Yellow
46A105CPC	8.50 uh	48	7.9 MHz	11.5 uh	52	7.9 MHz	1.3	100	18.	.343	Red	Green
46A125CPC	10.8 uh	48	2.5 MHz	13.2 uh	56	2.5 MHz	1.4	100	16.	.343	Red	Blue
46A155CPC	13.2 uh	60	2.5 MHz	16.5 uh	56	2.5 MHz	1.6	100	14.	.343	Red	Violet
46A185CPC	16.2 uh	59	2.5 MHz	19.5 uh	56	2.5 MHz	1.8	100	12.	.343	Red	Grey
46A225CPC	19.5 uh	63	2.5 MHz	24.3 uh	56	2.5 MHz	2.0	100	11.	.375	Red	White
46A275CPC	24.2 uh	61	2.5 MHz	29.5 uh	68	2.5 MHz	2.2	100	10.	.375	Orange	Black
46A335CPC	29.5 uh	59	2.5 MHz	36.5 uh	67	2.5 MHz	2.7	100	9.2	.375	Orange	Brown
46A395CPC	35.0 uh	58	2.5 MHz	43.0 uh	64	2.5 MHz	2.9	100	8.0	.375	Orange	Red
46A475CPC	42.0 uh	56	2.5 MHz	51.5 uh	56	2.5 MHz	2.9	100	6.8	.406	Orange	Orange
46A565CPC	50.0 uh	56	2.5 MHz	62.0 uh	60	2.5 MHz	3.2	100	5.8	.406	Orange	Yellow
46A685CPC	61.0 uh	52	2.5 MHz	75.0 uh	59	2.5 MHz	3.5	100	5.3	.406	Orange	Green
46A825CPC	74.0 uh	56	2.5 MHz	90.0 uh	55	2.5 MHz	3.9	100	4.8	.406	Orange	Blue
46A104CPC	90.0 uh	48	2.5 MHz	110.0 uh	52	2.5 MHz	4.1	100	4.4	.406	Orange	Violet
46A124CPC	108.0 uh	65	.79 MHz	132.0 uh	62	.79 MHz	4.5	100	4.1	.406	Orange	Grey
46A154CPC	132.0 uh	64	.79 MHz	165.0 uh	72	.79 MHz	5.0	100	3.7	.406	Orange	White
46A184CPC	162.0 uh	59	.79 MHz	198.0 uh	62	.79 MHz	5.5	100	3.5	.406	Yellow	Black
46A224CPC	197.0 uh	64	.79 MHz	243.0 uh	63	.79 MHz	6.0	100	3.2	.437	Yellow	Brown
46A274CPC	242.0 uh	68	.79 MHz	295.0 uh	68	.79 MHz	6.6	100	3.0	.437	Yellow	Red
46A334CPC	295.0 uh	67	.79 MHz	365.0 uh	60	.79 MHz	7.3	100	2.8	.437	Yellow	Orange
46A394CPC	350.0 uh	64	.79 MHz	430.0 uh	64	.79 MHz	8.0	100	2.5	.468	Yellow	Yellow
46A474CPC	420.0 uh	67	.79 MHz	515.0 uh	64	.79 MHz	10.	100	2.3	.468	Yellow	Green
46A564CPC	500.0 uh	65	.79 MHz	620.0 uh	62	.79 MHz	12.	100	2.2	.500	Yellow	Blue
46A684CPC	610.0 uh	64	.79 MHz	750.0 uh	60	.79 MHz	13.	100	2.1	.500	Yellow	Violet
46A824CPC	740.0 uh	60	.79 MHz	900.0 uh	58	.79 MHz	15.	100	2.0	.531	Yellow	Grey
46A103CPC	900.0 uh	61	.79 MHz	1100.0 uh	58	.79 MHz	18.	100	1.9	.531	Yellow	White



Adjustable Wide Range Inductors

Dimensions: Max. dia. 7/8"x2 1/4" long. Mtg. hole 5/16"

*Inductance calculated at frequency shown.

**Minimum self resonant frequency measured at maximum inductance.

Due to the wide range of these coils they will find immediate application in many prototype designs where the exact value of the required inductance is not known.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.** Fo. MHz.	Dia. over Winding	Total Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					
9001	40. uh	85	2.5 MHz	.240 mh	220	790. kHz	2.04	250	6.0	.40	102
9002	.180 mh	80	790. kHz	.800 mh	170	790. kHz	4.08	250	4.0	.45	204
9003	.570 mh	73	790. kHz	2.80 mh	110	250. kHz	8.52	250	.90	.58	376
9004	2.10 mh	72	250. kHz	8.00 mh	88	250. kHz	15.4	250	.62	.68	608
9005	6.00 mh	69	250. kHz	16.0 mh	105	79. kHz	33.6	200	.40	.80	1000
9006	12.0 mh	43	79. kHz	40.0 mh	72	79. kHz	91.2	125	.26	.75	1480
9007	30.0 mh	43	79. kHz	105. mh	76	50 kHz*	148.	75	.14	.68	2480
9008	78.0 mh	36	79. kHz	240. mh	61	20 kHz*	264.	75	.10	.75	3860
9009	180. mh	20	20. kHz*	750. mh	41	20 kHz*	620.	50	.03	.75	6100

Refer to Pages 1-2 for Prices

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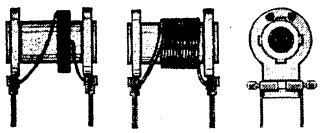


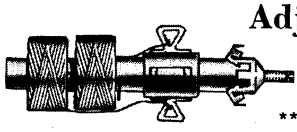
Horizontal Mounted Printed Circuit Ceramic Adjustable R.F. Coils

COILS WOUND ON FORM NO. 47A024

*Self resonant frequency measured at maximum inductance

Fundamentally equivalent to the 46A series in electrical characteristics, this series provides the designer with the choice of a horizontally mounted coil for use where height is a problem or access to the top of the P.C. board is restricted.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz.	Dia. over Winding	Color Code	
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					1	2
47A107CPC	.095 uh	70	25.0 MHz	.105 uh	90	25.0 MHz	.02	2500	500.0	.312	Brown	———
47A127CPC	.114 uh	55	25.0 MHz	.126 uh	85	25.0 MHz	.04	2000	500.0	.312	Red	———
47A157CPC	.142 uh	70	25.0 MHz	.158 uh	90	25.0 MHz	.03	2500	450.0	.312	Orange	———
47A187CPC	.171 uh	80	25.0 MHz	.189 uh	90	25.0 MHz	.03	2000	450.0	.312	Yellow	———
47A227CPC	.209 uh	70	25.0 MHz	.231 uh	90	25.0 MHz	.04	1300	450.0	.312	Green	———
47A277CPC	.256 uh	85	25.0 MHz	.284 uh	90	25.0 MHz	.06	635	400.0	.312	Blue	———
47A337CPC	.314 uh	85	25.0 MHz	.347 uh	90	25.0 MHz	.07	810	380.0	.312	Violet	———
47A397CPC	.370 uh	85	25.0 MHz	.410 uh	90	25.0 MHz	.08	635	330.0	.312	Grey	———
47A477CPC	.446 uh	85	25.0 MHz	.495 uh	90	25.0 MHz	.08	400	280.0	.312	White	———
47A567CPC	.532 uh	85	25.0 MHz	.590 uh	90	25.0 MHz	.09	400	240.0	.312	Brown	Black
47A687CPC	.645 uh	85	25.0 MHz	.715 uh	90	25.0 MHz	.10	400	220.0	.312	Brown	Brown
47A827CPC	.770 uh	90	25.0 MHz	.850 uh	90	25.0 MHz	.11	400	200.0	.312	Brown	Red
47A106CPC	.950 uh	90	25.0 MHz	1.05 uh	90	25.0 MHz	.13	400	180.0	.312	Brown	Orange
47A126CPC	1.14 uh	90	7.9 MHz	1.26 uh	80	7.9 MHz	.14	400	170.0	.312	Brown	Yellow
47A156CPC	1.42 uh	75	7.9 MHz	1.58 uh	80	7.9 MHz	.16	400	140.0	.312	Brown	Green
47A186CPC	1.62 uh	75	7.9 MHz	1.98 uh	85	7.9 MHz	.16	400	130.0	.312	Brown	Blue
47A226CPC	1.99 uh	75	7.9 MHz	2.42 uh	80	7.9 MHz	.17	400	110.0	.312	Brown	Violet
47A276CPC	2.42 uh	80	7.9 MHz	2.96 uh	80	7.9 MHz	.19	400	90.0	.312	Brown	Grey
47A336CPC	2.96 uh	80	7.9 MHz	3.64 uh	75	7.9 MHz	.21	400	90.0	.312	Brown	White
47A396CPC	3.50 uh	80	7.9 MHz	4.27 uh	65	7.9 MHz	.24	400	80.0	.312	Red	Black
47A476CPC	4.24 uh	80	7.9 MHz	5.20 uh	60	7.9 MHz	.38	400	70.0	.312	Red	Brown
47A566CPC	5.00 uh	65	7.9 MHz	6.30 uh	65	7.9 MHz	1.0	100	29.0	.343	Red	Red
47A686CPC	6.10 uh	65	7.9 MHz	7.50 uh	70	7.9 MHz	1.1	100	27.0	.343	Red	Orange
47A826CPC	7.30 uh	60	7.9 MHz	8.90 uh	70	7.9 MHz	1.2	100	25.0	.343	Red	Yellow
47A105CPC	8.50 uh	60	7.9 MHz	11.5 uh	70	7.9 MHz	1.3	100	23.0	.343	Red	Green
47A125CPC	10.8 uh	60	2.5 MHz	13.2 uh	70	2.5 MHz	1.4	100	20.0	.343	Red	Blue
47A155CPC	13.2 uh	65	2.5 MHz	16.5 uh	70	2.5 MHz	1.6	100	18.0	.343	Red	Violet
47A185CPC	16.2 uh	65	2.5 MHz	19.5 uh	70	2.5 MHz	1.8	100	16.0	.343	Red	Grey
47A225CPC	19.5 uh	65	2.5 MHz	24.3 uh	70	2.5 MHz	2.0	100	14.5	.375	Red	White
47A275CPC	24.2 uh	65	2.5 MHz	29.5 uh	70	2.5 MHz	2.2	100	13.0	.375	Orange	Black
47A335CPC	29.5 uh	65	2.5 MHz	36.5 uh	70	2.5 MHz	2.7	100	11.5	.375	Orange	Brown
47A395CPC	35.0 uh	65	2.5 MHz	43.0 uh	70	2.5 MHz	2.9	100	10.0	.375	Orange	Red
47A475CPC	42.0 uh	70	2.5 MHz	51.5 uh	70	2.5 MHz	2.9	100	8.5	.375	Orange	Orange
47A565CPC	50.0 uh	70	2.5 MHz	62.0 uh	70	2.5 MHz	3.2	100	7.3	.406	Orange	Yellow
47A685CPC	61.0 uh	65	2.5 MHz	75.0 uh	70	2.5 MHz	3.5	100	6.7	.406	Orange	Green
47A825CPC	74.0 uh	65	2.5 MHz	90.0 uh	65	2.5 MHz	3.9	100	6.1	.406	Orange	Blue
47A104CPC	90.0 uh	65	2.5 MHz	110.0 uh	65	2.5 MHz	4.1	100	5.5	.406	Orange	Violet
47A124CPC	108.0 uh	60	.79 MHz	132.0 uh	65	.79 MHz	4.5	100	5.2	.406	Orange	Grey
47A154CPC	132.0 uh	65	.79 MHz	165.0 uh	65	.79 MHz	5.0	100	4.8	.406	Orange	White
47A184CPC	162.0 uh	70	.79 MHz	198.0 uh	70	.79 MHz	5.5	100	4.4	.406	Yellow	Black
47A224CPC	197.0 uh	70	.79 MHz	243.0 uh	70	.79 MHz	6.0	100	4.1	.437	Yellow	Brown
47A274CPC	242.0 uh	70	.79 MHz	295.0 uh	70	.79 MHz	6.6	100	3.8	.437	Yellow	Red
47A334CPC	295.0 uh	75	.79 MHz	365.0 uh	75	.79 MHz	7.3	100	3.5	.468	Yellow	Orange
47A394CPC	350.0 uh	75	.79 MHz	430.0 uh	75	.79 MHz	8.0	100	3.2	.468	Yellow	Yellow
47A474CPC	420.0 uh	75	.79 MHz	515.0 uh	75	.79 MHz	10.0	100	2.9	.468	Yellow	Green
47A564CPC	500.0 uh	75	.79 MHz	620.0 uh	75	.79 MHz	12.0	100	2.75	.500	Yellow	Blue
47A684CPC	610.0 uh	70	.79 MHz	750.0 uh	70	.79 MHz	13.0	100	2.65	.500	Yellow	Violet
47A824CPC	740.0 uh	65	.79 MHz	900.0 uh	65	.79 MHz	14.5	100	2.5	.531	Yellow	Grey
47A103CPC	900.0 uh	65	.79 MHz	1100.0 uh	65		17.5	100	2.4	.562	Yellow	White



Adjustable Wide Range Tapped Inductors

Dimensions: Max. dia. 7/8" x 2 1/4" long. Mtg. hole 5/16"

*Inductance calculated at frequency shown.

**Minimum self resonant frequency measured at maximum inductance.

An inexpensive series of adjustable inductors that feature large inductance change, excellent Q, and a tap at one third the total turns. These coils should find application in many prototype designs.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz.	Dia. over Winding	Total Turns	Turns to Tap
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency						
9011	40. uh	85	2.5 MHz	.240 mh	220	790 kHz	2.04	250	6.0	.40	102	34
9012	.180 mh	80	790. kHz	.800 mh	170	790 kHz	4.08	250	4.0	.45	204	68
9013	.570 mh	73	790. kHz	2.80 mh	110	250 kHz	8.52	250	.90	.58	376	128
9014	2.10 mh	72	250. kHz	8.00 mh	88	250 kHz	15.4	250	.62	.68	608	203
9015	6.00 mh	69	250. kHz	16.0 mh	105	79 kHz	33.6	200	.40	.80	1000	333
9016	12.0 mh	43	79. kHz	40.0 mh	72	79 kHz	91.2	125	.26	.75	1480	493
9017	30.0 mh	43	79. kHz	105. mh	76	50 kHz*	148.	75	.14	.68	2480	827
9018	78.0 mh	36	79. kHz	240. mh	61	20 kHz*	264.	75	.10	.75	3860	1286
9019	180. mh	20	20. kHz*	750. mh	41	20 kHz*	620.	50	.03	.75	6100	2030

Refer to Pages 1-2 for Prices

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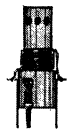

Vertical Mounted Printed Circuit Velvetork Adjustable R.F. Coils

COILS WOUND ON FORM NO. 23A013

Dimensions (form only) Over Collar 3/8" Dia. x 3/4" long.

*Minimum self resonant frequency measured at maximum inductance

The coil form is Polyester impregnated Alpha-Cellulose tubing with internally bonded resilient ribs which provide both thread and torque control. Coils may be adjusted from either end of form.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz.	Dia. over Winding	Color Code		
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					1	2	3
23A107RPC	.095 uh	77	25.0 MHz	.125 uh	94	25.0 MHz	.02	4100	350.	.40	Brown	Black	Silver
23A157RPC	.130 uh	68	25.0 MHz	.170 uh	92	25.0 MHz	.02	1600	300.	.37	Brown	Green	Silver
23A227RPC	.185 uh	88	25.0 MHz	.265 uh	100	25.0 MHz	.02	1600	230.	.37	Red	Red	Silver
23A337RPC	.285 uh	88	25.0 MHz	.410 uh	93	25.0 MHz	.03	1000	198.	.37	Orange	Orange	Silver
23A477RPC	.420 uh	100	25.0 MHz	.580 uh	80	25.0 MHz	.03	2500	150.	.37	Yellow	Violet	Silver
23A687RPC	.540 uh	101	25.0 MHz	.850 uh	89	25.0 MHz	.03	1600	136.	.37	Blue	Grey	Silver
23A827RPC	.640 uh	101	25.0 MHz	1.00 uh	78	25.0 MHz	.03	1600	118.	.37	Grey	Red	Silver
23A106RPC	.760 uh	98	25.0 MHz	1.25 uh	70	7.9 MHz	.04	1600	114.	.37	Brown	Black	Gold
23A156RPC	1.20 uh	65	7.9 MHz	1.87 uh	70	7.9 MHz	.06	1000	89.	.37	Brown	Green	Gold
23A226RPC	1.65 uh	61	7.9 MHz	2.75 uh	65	7.9 MHz	.14	400	77.	.37	Red	Red	Gold
23A336RPC	2.40 uh	64	7.9 MHz	4.10 uh	60	7.9 MHz	.17	400	62.	.37	Orange	Orange	Gold
23A476RPC	3.40 uh	68	7.9 MHz	5.80 uh	60	7.9 MHz	.24	400	53.	.37	Yellow	Violet	Gold
23A686RPC	4.60 uh	64	7.9 MHz	8.50 uh	56	7.9 MHz	.39	250	45.	.37	Blue	Grey	Gold
23A826RPC	5.60 uh	64	7.9 MHz	10.0 uh	57	2.5 MHz	.64	160	40.	.37	Grey	Red	Gold
23A105RPC	7.10 uh	68	7.9 MHz	12.5 uh	55	2.5 MHz	.77	160	38.	.37	Brown	Black	Black
23A155RPC	10.0 uh	58	2.5 MHz	18.7 uh	95	2.5 MHz	1.68	100	11.7	.37	Brown	Green	Black
23A225RPC	14.8 uh	61	2.5 MHz	27.5 uh	90	2.5 MHz	1.91	100	8.4	.37	Red	Red	Black
23A335RPC	22.0 uh	60	2.5 MHz	41.0 uh	75	2.5 MHz	2.34	100	6.7	.37	Orange	Orange	Black
23A475RPC	31.0 uh	58	2.5 MHz	58.0 uh	68	2.5 MHz	2.72	100	5.6	.40	Yellow	Violet	Black
23A685RPC	43.5 uh	56	2.5 MHz	85.0 uh	55	2.5 MHz	3.30	100	4.6	.40	Blue	Grey	Black
23A825RPC	61.0 uh	48	2.5 MHz	100.0 uh	88	790. kHz	3.89	100	4.3	.40	Grey	Red	Black
23A104RPC	76.0 uh	52	2.5 MHz	125.0 uh	90	790. kHz	4.39	100	3.8	.40	Brown	Black	Brown
23A154RPC	105.0 uh	57	790. kHz	187.0 uh	92	790. kHz	5.46	100	3.3	.40	Brown	Green	Brown
23A224RPC	160.0 uh	63	790. kHz	275.0 uh	90	790. kHz	6.70	100	2.9	.44	Red	Red	Brown
23A334RPC	240.0 uh	66	790. kHz	410.0 uh	90	790. kHz	8.30	100	2.5	.44	Orange	Orange	Brown
23A474RPC	360.0 uh	68	790. kHz	580.0 uh	81	790. kHz	10.50	100	2.1	.48	Yellow	Violet	Brown
23A684RPC	530.0 uh	66	790. kHz	850.0 uh	75	790. kHz	12.90	100	1.75	.48	Blue	Grey	Brown
23A824RPC	700.0 uh	64	790. kHz	1.00 mh	80	250. kHz	14.90	100	1.70	.53	Grey	Red	Brown
23A103RPC	910.0 uh	66	790. kHz	1.25 mh	85	250. kHz	17.10	100	1.61	.58	Brown	Black	Red
23A153RPC	990.0 uh	35	250. kHz	1.87 mh	60	250. kHz	28.20	65	.73	.45	Brown	Green	Red
23A223RPC	1.60 mh	39	250. kHz	2.75 mh	62	250. kHz	34.80	65	.62	.45	Red	Red	Red
23A333RPC	2.40 mh	41	250. kHz	4.10 mh	60	250. kHz	42.90	65	.60	.48	Orange	Orange	Red
23A473RPC	3.40 mh	42	250. kHz	5.80 mh	57	250. kHz	51.60	65	.53	.48	Yellow	Violet	Red
23A683RPC	5.15 mh	42	250. kHz	8.50 mh	50	250. kHz	63.60	65	.50	.55	Blue	Grey	Red
23A823RPC	7.40 mh	42	250. kHz	10.00 mh	50	79. kHz	75.60	65	.40	.55	Grey	Red	Red
23A102RPC	9.80 mh	40	250. kHz	12.50 mh	52	79. kHz	87.30	65	.38	.55	Brown	Black	Orange
23A152RPC	12.00 mh	39	79. kHz	18.70 mh	55	79. kHz	111.0	65	.32	.60	Brown	Green	Orange
23A222RPC	12.10 mh	20	79. kHz	27.50 mh	51	79. kHz	197.0	33	.26	.60	Red	Red	Orange
23A332RPC	18.20 mh	24	79. kHz	41.00 mh	54	79. kHz	244.0	33	.21	.60	Orange	Orange	Orange
23A472RPC	27.50 mh	28	79. kHz	58.00 mh	56	79. kHz	302.0	33	.20	.60	Yellow	Violet	Orange
23A682RPC	40.00 mh	32	79. kHz	85.00 mh	56	79. kHz	378.0	33	.16	.58	Blue	Grey	Orange
23A822RPC	50.00 mh	34	79. kHz	100.00 mh	58	79. kHz	423.0	33	.15	.58	Grey	Red	Orange
23A101RPC	62.00 mh	35	79. kHz	125.00 mh	56	79. kHz	468.0	33	.14	.60	Brown	Black	Yellow

Shielded Subminiature Adjustable R.F. Coils

These compact adjustable coils offer a minimum two-to-one inductance range with relatively small changes in Q. The tuning adjustment is accessible from either the top or bottom of the coil assembly. Magnetic shielding is achieved through the use of cup cores while the metal shield offers effective electrostatic shielding. Printed circuit terminals on base and shield.

Dimension: 1/2" sq. x 5/8" high. *Minimum self resonant frequency measured at maximum inductance.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency			
9050	1.5 uh	40	7.9 MHz	3.0 uh	41	7.9 MHz	.66	80	39.
9051	3.0 uh	46	7.9 MHz	7.0 uh	45	7.9 MHz	.85	125	23.
9052	7.0 uh	40	7.9 MHz	14.0 uh	62	2.5 MHz	1.38	80	12.
9053	14.0 uh	48	2.5 MHz	28.0 uh	66	2.5 MHz	2.10	80	7.2
9054	28.0 uh	48	2.5 MHz	60.0 uh	45	2.5 MHz	3.00	100	4.9
9055	60.0 uh	40	2.5 MHz	120. uh	69	790. kHz	4.00	100	3.6
9056	120. uh	52	790. kHz	280. uh	68	790. kHz	5.75	80	2.5
9057	280. uh	52	790. kHz	650. uh	62	790. kHz	12.0	80	1.7
9058	650. uh	36	790. kHz	1.3 mh	68	250. kHz	15.0	100	1.2
9059	1.3 mh	43	250. kHz	3.0 mh	53	250. kHz	23.0	100	.57
9060	3.0 mh	32	250. kHz	10.0 mh	32	79. kHz	76.0	30	.48
9061	8.0 mh	35	250. kHz	20.0 mh	38	79. kHz	110.	30	.33
9062	15.0 mh	25	79. kHz	40.0 mh	40	79. kHz	150.	30	.24
9063	20.0 mh	36	79. kHz	60.0 mh	60	79. kHz	175.	25	.09

Refer to Pages 1-2 for Prices

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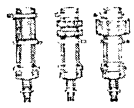
Sub-Miniature Adjustable R.F. Coils



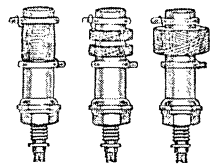
The following permeability tuned coils wound on silicone impregnated ceramic forms will find many applications where space restrictions rule out the use of the larger size coils in the 4400 and 4500 series. These coils mount by means of a bushing which requires an 11/64" hole.

Dimensions (form): 3/16" diameter x 5/8" long.

*Minimum self resonant frequency measured at maximum inductance.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz.	Dia. over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					
4301	.190 uh	64	25. MHz	.250 uh	53	25. MHz	.014	1600	288.	.312	5¼
4302	.300 uh	57	25. MHz	.390 uh	44	25. MHz	.017	1600	212.	.312	7¼
4303	.440 uh	61	25. MHz	.620 uh	44	25. MHz	.031	1000	184.	.312	9¼
4304	.770 uh	62	25. MHz	.900 uh	41	25. MHz	.054	636	148.	.312	11¼
4305	1.00 uh	40	7.9 MHz	1.40 uh	37	7.9 MHz	.15	256	114.	.312	13¼
4306	1.60 uh	40	7.9 MHz	2.40 uh	36	7.9 MHz	.25	202	92.	.312	17¼
4307	2.70 uh	40	7.9 MHz	4.20 uh	36	7.9 MHz	.62	100	69.	.312	21¼
4308	4.70 uh	42	7.9 MHz	6.80 uh	33	7.9 MHz	.91	100	60.	.312	30¼
4309	7.80 uh	30	7.9 MHz	12.0 uh	42	2.5 MHz	1.4	100	18.	.312	34
4310	14.0 uh	34	2.5 MHz	19.0 uh	37	2.5 MHz	1.9	100	13.	.312	47
4311	22.0 uh	33	2.5 MHz	31.0 uh	38	2.5 MHz	2.2	100	12.	.343	73
4312	36.0 uh	32	2.5 MHz	49.0 uh	33	2.5 MHz	3.1	100	9.6	.375	75
4313	56.0 uh	23	2.5 MHz	97.0 uh	24	2.5 MHz	5.6	64	7.3	.375	91
4314	111 uh	26	.79 MHz	171. uh	26	.79 MHz	7.9	64	6.0	.406	134
4315	196. uh	25	.79 MHz	285. uh	24	.79 MHz	11.	64	4.4	.437	164

Standard Adjustable R.F. Coils



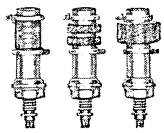
This series of variable inductors offers a higher Q coil with a slightly larger inductance range than can be obtained in either of the two smaller series. The same high grade silicone-impregnated ceramic forms are used in their construction to insure a product of high quality. These coils mount by means of a bushing that requires a 1/4" diameter mounting hole. Hardware consisting of nut, lock washer, and spring clip is supplied.

Dimensions (form): 3/8" diameter x 1 1/16" long.

*Minimum self resonant frequency measured at maximum inductance.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz.	Dia. over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					
4403	.990 uh	18	25. MHz	1.50 uh	57	7.9 MHz	.04	1600	75.	.500	9¼
4404	1.60 uh	67	7.9 MHz	3.10 uh	52	7.9 MHz	.08	1000	51.	.500	12¼
4405	3.30 uh	70	7.9 MHz	6.50 uh	44	7.9 MHz	.17	636	41.	.500	18¼
4406	7.30 uh	50	7.9 MHz	14.0 uh	35	2.5 MHz	.57	256	26.	.500	26¼
4407	16.0 uh	52	2.5 MHz	29.0 uh	56	2.5 MHz	2.2	100	7.6	.500	34
4408	33.0 uh	51	2.5 MHz	66.0 uh	37	.79 MHz	3.1	100	4.9	.500	49
4409	74.0 uh	42	2.5 MHz	124 uh	44	.79 MHz	4.5	100	3.7	.500	73
4410	138 uh	47	2.5 MHz	238 uh	44	.79 MHz	6.6	100	3.0	.531	103
4411	270 uh	57	.79 MHz	451 uh	43	.79 MHz	8.9	100	2.2	.562	138
4412	495 uh	56	.79 MHz	760 uh	41	.79 MHz	12.	100	2.0	.625	180
4413	825 uh	41	.79 MHz	1.30 mh	27	.25 MHz	20.	100	1.7	.593	268
4414	1.40 mh	40	.25 MHz	2.00 mh	33	.25 MHz	25.	100	1.6	.656	346

Miniature Adjustable R.F. Coils



A new series of small adjustable coils designed for the most exacting requirements. Wound on silicone impregnated high grade ceramic forms. Tuning is by means of a powdered iron core. These coils require little space and are for mounting in a 3/16" diameter hole.

Dimensions (form): 1/4" diameter x 7/8" long.

*Minimum self resonant frequency measured at maximum inductance.

Miller Part Number	Minimum Core Position			Maximum Core Position			R Ohms Max.	Max. Current Ma.	Min.* Fo. MHz.	Dia. over Winding	Turns
	Inductance Maximum	Q Min.	Test Frequency	Inductance Minimum	Q Min.	Test Frequency					
4501	.440 uh	80	25. MHz	.760 uh	52	25. MHz	.03	1600	142.	.406	8¼
4502	1.10 uh	72	25. MHz	1.50 uh	40	7.9 MHz	.06	1000	96.	.406	12¾
4503	1.70 uh	51	7.9 MHz	2.70 uh	36	7.9 MHz	.11	636	80.	.406	17¼
4504	3.10 uh	56	7.9 MHz	4.80 uh	33	7.9 MHz	.23	400	58.	.406	23¼
4505	5.50 uh	60	7.9 MHz	8.60 uh	33	7.9 MHz	.49	256	45.	.406	33
4506	9.90 uh	52	7.9 MHz	15.0 uh	41	2.5 MHz	1.5	100	32.	.406	40
4507	17.0 uh	47	2.5 MHz	23.0 uh	53	2.5 MHz	2.3	100	19.	.406	50
4508	26.0 uh	48	2.5 MHz	33.0 uh	51	2.5 MHz	2.9	100	16.	.406	62
4509	38.0 uh	50	2.5 MHz	57.0 uh	48	2.5 MHz	3.4	100	12.	.406	76
4511	66.0 uh	44	2.5 MHz	114. uh	40	.79 MHz	4.1	100	5.2	.406	88
4512	120. uh	46	.79 MHz	190. uh	40	.79 MHz	5.7	100	4.1	.437	117
4513	209. uh	45	.79 MHz	314. uh	32	.79 MHz	7.7	100	3.2	.468	157
4514	350. uh	53	.79 MHz	475. uh	41	.79 MHz	10.	100	2.9	.500	193
4514-1	528. uh	44	.79 MHz	760. uh	40	.79 MHz	14.	100	2.5	.562	234

Refer to Pages 1-2 *for Prices*

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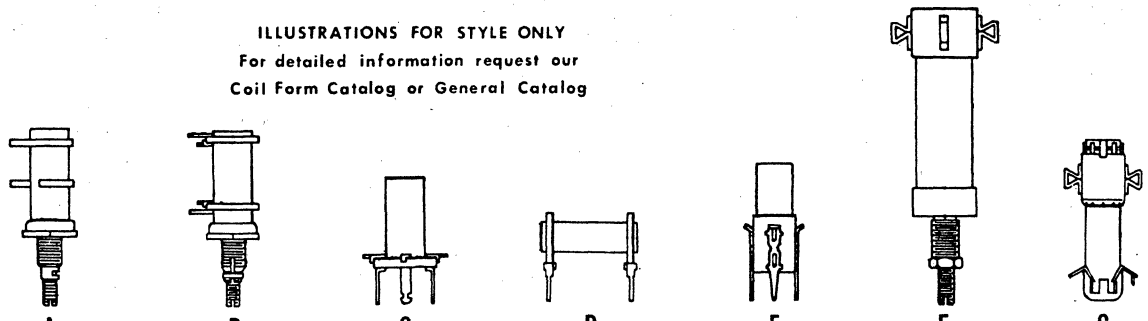
Ceramic, Phenolic, Nylon and Alpha Cellulose Coil Forms
Printed Circuit and Bushing Mount

This short form listing of our adjustable coils forms tabulates the major parameters and available cores. All metal parts are plated for protection against corrosion and the powdered iron core materials are moisture proofed. For detailed information, request our Coil Form Catalog.

ILLUSTRATIONS FOR STYLE ONLY
For detailed information request our
Coil Form Catalog or General Catalog



Miller Part Number	Style	Form Material	Form Dimensions	Mounting	Terminals
4300	A	Ceramic	.205 x .593	Bushing	2 Wire rings
60A022	B	Ceramic	.205 x .593	Bushing	2 Collars with 1 Terminal on each
60A024	B	Ceramic	.205 x .593	Bushing	2 Collars with 2 Terminals on each
4500	A	Ceramic	.260 x .858	Bushing	2 Wire rings
62A022	B	Ceramic	.260 x .858	Bushing	2 Collars with 1 Terminal on each
62A024	B	Ceramic	.260 x .858	Bushing	2 Collars with 2 Terminals on each
4400	A	Ceramic	.375 x 1.060	Bushing	2 Wire rings
64A022	B	Ceramic	.375 x 1.060	Bushing	2 Collars with 1 Terminal on each
64A024	B	Ceramic	.375 x 1.060	Bushing	2 Collars with 2 Terminals on each
66A022	B	Ceramic	.500 x 1.249	Bushing	2 Collars with 1 Terminal on each
66A024	B	Ceramic	.500 x 1.249	Bushing	2 Collars with 2 Terminals on each
20A000	A	Phenolic (PBG)	.250 x .860	Bushing	2 Wire rings
21A000	A	Phenolic (PBG)	.375 x 1.125	Bushing	2 Wire rings
22A000	F	Phenolic (PBG)	.500 x 1.937	Bushing	4 Terminals
27A013 (1)	C	Alpha Cellulose	.162 x .400	Printed Circuit	3 Terminals
27A014 (1)	C	Alpha Cellulose	.162 x .400	Printed Circuit	4 Terminals
26A024 (1)	D	Alpha Cellulose	.162 x .520	Printed Circuit	2 Collars with 2 Terminals on each
25A014 (1)	C	Alpha Cellulose	.211 x .625	Printed Circuit	4 Terminals
24A024 (1)	D	Alpha Cellulose	.211 x .680	Printed Circuit	2 Collars with 2 Terminals on each
46A013	C	Ceramic	.260 x .625	Printed Circuit	3 Terminals
★ 46A014	C	Ceramic	.260 x .625	Printed Circuit	4 Terminals
47A024	D	Ceramic	.260 x .625	Printed Circuit	2 Collars with 2 Terminals on each
23A013*	E	Alpha Cellulose	.281 x .750	Printed Circuit	3 Terminals
23A014*	E	Alpha Cellulose	.281 x .750	Printed Circuit	4 Terminals
4200*	G	Nylon	.285 x 1.250	Clip	2 Terminals

The following cores are available for all listed coil forms. Add the Core Dash No. after the Miller Part No., i.e. 4500-4.

Core Dash No.	Recommended Frequency Range	Material	Color Code
—0	Form only		
—1	0.2 — 1.5 MHz	Powdered Iron	Yellow
—2	1.0 — 20 MHz	Powdered Iron	Red
—3	20 — 50 MHz	Powdered Iron	Green
—4	50 — 200 MHz	Powdered Iron	White
—5	100 and up MHz	Brass	None
—6	2.0 — 25 MHz	Powdered Iron	Purple
—7	25 and up MHz	Powdered Iron	Blue
—8*	Under 25 MHz	Ferrite	None

(1) —6 and —7 cores are ferrite for these coil forms *Available for 23A013, 23A014 and 4200 forms only
Mounting hardware supplied where required

★ *Star Indicates New Items* *Refer to Pages* 1-2 *for Prices*

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10.7 MC Transistor Transformers

A complete series of I.F. Transformers specifically designed for operation with transistors in intermediate frequency stages operating at 10.7 megacycles. Proper impedance matching is assured when these transformers are used with the specified transistor shown on our data sheet. Through the use of a Discriminator, maximum efficiency, and good limiting of the F.M. signal are assured.

Miniature Double Tuned

Dimensions: 3/4" Sq. x 2" High.

Cat. No.	Item	Schematic	List Price
1601	10.7 Mc. Transistor First I.F.	114	$4.00
1602	10.7 Mc. Transistor Second I.F.	114	4.15
1603	10.7 Mc. Transistor Third I.F.	114	4.15
1604	10.7 Mc. Discriminator	20	4.45
1605	10.7 Mc. Ratio Detector with diodes	94	8.40
1606	10.7 Mc. Ratio Detector	95	4.45

Miniature Printed Circuit Double Tuned

Electrically the same as part numbers 1601, 1602, 1603 and 1605, these items have printed circuit terminals and shield lugs.

Dimensions: 3/4" sq. x 2 1/8" high.

Cat. No.	Item	Schematic	List Price
1601-PC	10.7 Mc. Transistor First I.F.	114	$5.00
1602-PC	10.7 Mc. Transistor Second I.F.	114	5.15
1603-PC	10.7 Mc. Transistor Third I.F.	114	4.45
1605-PC	10.7 Mc. Ratio Detector with Diodes	94	9.95

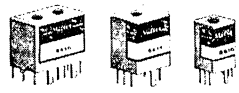
Sub Miniature Style

Single Tuned I.F.'s and Double Tuned Ratio Detector

Dimensions: I.F. Transformers 13/32" sq. x 1/2" high
Ratio Detector 13/32" length x 3/4" width x 1/2" high.

Cat. No.	Description	List Price
2070	First I.F. 10.7 Mc.	$3.95
2071	Second I.F. 10.7 Mc.	3.95
2072	Third I.F. 10.7 Mc.	3.95
2073	Ratio Detector 10.7 Mc.	4.70

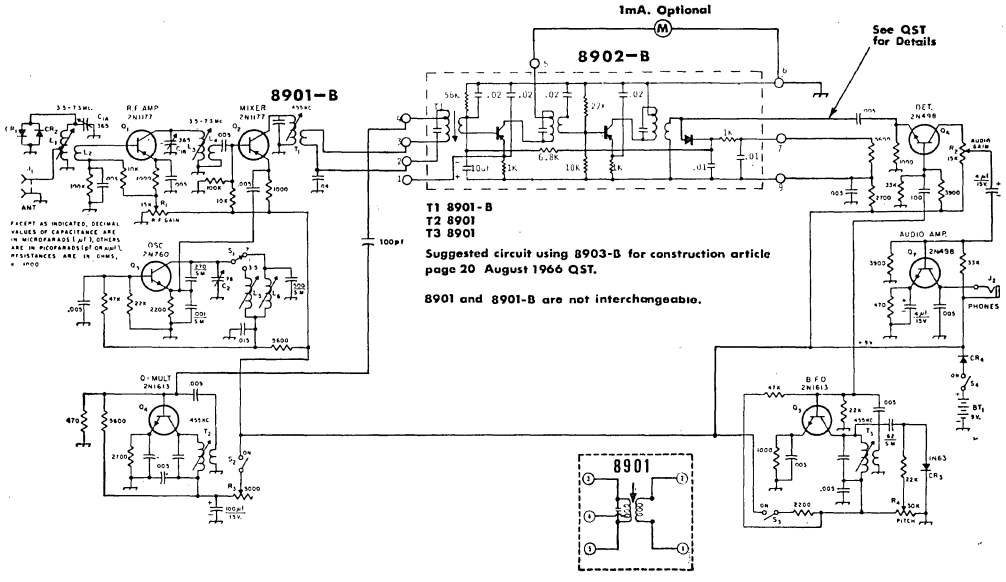
I.F. Components Sub Miniature

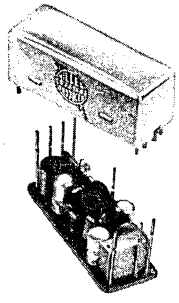


The transformers in this series represents the state of the art, as it relates to a commercial product. In both the 455 kc. and 10.7 Mc. groups there are a complete set of I.F. transformers as well as Ratio Detector and Discriminator transformers. Part No. 8814 incorporates a single section mechanical filter that sharpens the I.F. passband appreciably 4 kc. @ 6 db and 12 kc. @ 20 db. The physical dimensions of this unit are .415 wide .460 deep and .600 high.

Dimensions: 8849, 8850, 8851, 8805, 8806 & 8807—25/32" x 7/16" x 1/2" high.
8852, 8853 & 8854—13/32" sq. x 5/8" high.
8808* & 8809*—1/4" sq. x 7/16" high.
***To be used as a pair.**
8810, 8811, 8812 & 8813—9/32" sq. x 15/32" high.
8814—13/32" x 15/32" x 9/16".

Cat. No.	Specs.	Description	Schematic	List Price
		10.7 Mc. Transistor Transformers		
8849	500 kc. P/P	10.7 Mc. Ratio Detector		$4.50
8850	300 kc. P/P	10.7 Mc. Discriminator		4.50
8851-A	6 db 300 kc.	10.7 Mc. Double Tuned I.F.		3.50
8852	100K-300	10.7 Mc. Single Tuned I.F.	27	3.00
8853	20K-500	10.7 Mc. Single Tuned I.F.	27	3.00
8854	25K-500	10.7 Mc. Single Tuned I.F.	27	3.00
		455 Kc. Transistor Transformers		
8805	20 kc. P/P	455 kc. Ratio Detector		3.50
8806	20 kc. P/P	455 kc. Discriminator		3.50
8807	6 db 15 kc.	455 kc. Double Tuned I.F.		3.50
8808	100K Input	455 kc. Discriminator Pri.*	101	2.75
8809	20 kc. P/P	455 kc. Discriminator Sec.*	44	2.75
8810	50K - 800	455 kc. Single Tuned I.F.	72	2.50
8811	30K - 500	455 kc. Single Tuned I.F.	72	2.50
8812	20K - 5K	455 kc. Single Tuned I.F.	72	2.50
8813	Oscillator (455 kc. I.F.), (Tuning Cap. 78 to 110 pf. Max.)		101	2.50
8814	70K - 800	455 kc. Single Tuned I.F. with Single Section Mechanical Filter		4.50





455 kc I.F. Amplifier

A pre-packaged, pre-tuned IF strip that simplifies the construction of many projects.

Gain	45 db average
Selectivity	8 kc @ 6 db

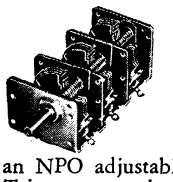
By purchasing Cat. No. 8903-B, which consists of one 8901-B input matching transformer and one 8902-B IF strip, a substantial savings can be realized.

Dimensions 8901-B: 13/32" sq.x5/8"
8902-B: 1.5"x.55"x.51"

Cat. No.	Net Price
8901	$2.10
8901-B	2.10
8902-B	4.75
8903-B	5.75

Prices Subject to Change or Withdrawal Without Notice

FM Variable Capacitors

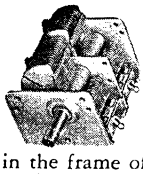


These two- and three-gang variable capacitors feature wide plate spacing (.042 Air Gap) along with a rigid construction to assure the highest stability. The plate contour results in an almost linear frequency versus rotation characteristic. Trimmers are supplied on each section. However, it is recommended that the oscillator trimmer be replaced with an NPO adjustable ceramic. Capacity range 6.6-22.7 pf per section. Trimmer capacity 2-20 pf. Shaft .250 diameter, one inch long.

Dimensions: 1461-BS 3 3/16"x1 13/16"x1 5/8"
1461-2 2 3/16"x1 13/16"x1 5/8

Cat. No.	Item	Net Price
1461-BS	3-Gang FM Tuning Capacitor	$4.44
1461-2	2-Gang FM Tuning Capacitor	2.91

Midget Variable Condensers

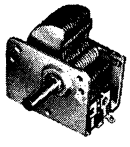


These midget variable condensers have the same precision construction as our standard series and will find ready application in the construction of portable and compact receivers of all types. Split outer plates on the rotors permit accurate alignment. High frequency trimmers are provided on the short side of the condenser. Mounting is provided by tapped holes in the frame of the condenser. Maximum rotor swing is 1". Counter-clock rotation for capacity increase. Shaft is 1/4"

Capacity range—10 to 365 mmf.

Cat. No.	Sections	Dimensions	Net Price
2111	1	1 3/16" x 1 3/8" x 1 5/16"	$2.31
2112	2	2 3/16" x 1 13/16" x 1 5/8"	2.79
2113	3	3 3/16" x 1 13/16" x 1 5/8"	3.90

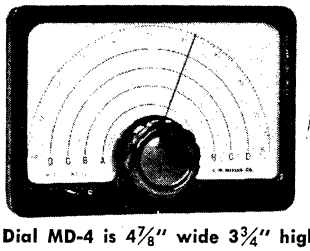
Variable Condensers



A miniature 2-gang variable condenser. The antenna section has a range of 10-130 mmf. The oscillator section has a range of 10-78 mmf. Trimmer capacitors are self-contained and have a range of approximately 12 mmf. Tapped mounting holes provided on front of condenser. Counter clockwise rotation. Shaft is 1/4" dia. x 3/4" long.

Cat. No.	Sections	Dimensions	Net Price
2110	2	15/16" x 1 3/8" x 1 5/16"	$2.31

Front Panel Dials

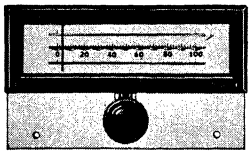


High quality panel dials with black crackle finish on the exterior metal work while the calibration plate is finished in a light grey color with the calibration scale 0-100 printed in red. The self calibration scales are in black and a supply of numerals for use on these scales are included to give a professional finish.

Dial MD-4 is 4 7/8" wide 3 3/4" high 1/8" deep
Dials MD-5 and MD-7 are 6 1/4" wide 4 1/8" high 1/2" deep
Dials MD-6 and MD-8 are 7 1/32" wide 4 7/8" high 1/2" deep

Cat No.	Scales	Turns Ratio	Net Price
MD-4	3	6:1 and 36:1	$ 7.50
MD-5	4	9:1	8.25
MD-6	6	9:1	9.00
MD-7	6	6:1 and 36:1	15.00
MD-8	6	6:1 and 36:1	15.00

Slide Rule Dial

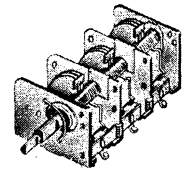


A top quality slide rule dial for use on projects where this feature would add to the appearance of the completed assembly. The dial face opening is 6 1/4" wide by 1 5/8" high and requires a slightly larger opening in the metal panel.

This dial has a 10:1 turns ratio.

Cat. No.	Description	Net Price
SL-16	Slide Rule Dial	$6.00

FM Three Gang Variable with Planetary Drive



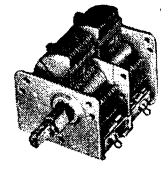
A commercial quality FM variable having a delta C of 10 picofarads and intended for use in circuits having a minimum amount of stray capacitance. Capacitor is an ideal unit for use as a bandspread variable in short wave receivers.

This capacitor features a planetary drive that has a 6:1 turning ratio, and can be used with knobs #565-24 and 565-26.

Capacitance range 7.0 to 17.7pf per section
Trimmers on all three sections 2-15pf

Cat. No.	Dimensions	Net Price
777-VC	3 3/16x1 13/16x1 5/8	$4.86

Two Section Variable Capacitor with Planetary Drive

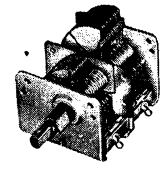


A two section variable capacitor having equal values of capacitance for use in tuned radio frequency circuits or in superhet circuits where a series padder is used in the oscillator circuit. This capacitor features a planetary drive that has a 6:1 turning ratio and can be used with knobs #565-24 and 565-26.

Capacitance range 10 to 365pf. per section
Trimmers on both sections 2-15pf.

Cat. No.	Dimensions	Net Price
565-8	2 3/16x1 13/16x1 5/8	$3.30

Cut Section Two Gang with Planetary Drive



A two section variable capacitor for use in broadcast band (535 to 1650 kc) receivers. The special design of the oscillator plate makes the use of a padding capacitor unnecessary. This capacitor features a planetary drive that has a 6:1 turning ratio and can be used with knobs #555-20 and 555-21.

Capacitance range RF section 10 to 365pf
Osc section 8.6 to 170.6pf
Trimmers on both sections 2-15pf

Cat. No.	Dimensions	Net Price
555-27	2 3/16x1 13/16x1 5/8	$3.27

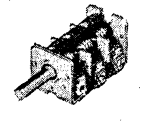
Planetary Drive Knobs

A two piece knob that has been specifically designed for use with the planetary drives used on the above variable capacitors. The larger knob #555-20 has a gold stamped calibration covering 550 to 1600 kc while #565-24 has a gold marker for use with a self calibrated scale on the front panel of a piece of equipment. The two drive knobs have a metalic inlaid insert.

Diameter of larger knob 2 1/2 inches
Diameter of drive knob 1 1/4 inches

Cat. No.	Description	Net Price
555-20	Calibrated knob	$1.26
555-21	Drive knob	.57
565-24	Marker knob	1.08
565-26	Drive knob	.54

Sub-Miniature Three Gang Variable Cap.



An extremely small but stable air dielectric variable capacitor. Each section is composed of 4 stator and 5 rotor plates. Trimmer capacitors are mounted on the antenna and R.F. sections only. Capacitor range: 5.7-20.7 mmfd.; Trimmer range: 2.0-12 mmfd. Shaft .250" diameter and 15/16" long.

Send for detailed literature.

Dimensions: 1 1/16" wide x 1 3/16" high x 2" deep.

Cat. No.	Item	Net Price
1460	3-Gang Variable Capacitor	$4.32
1460-1	3-Gang Variable Capacitor	4.32

Prices Subject to Change or Withdrawal Without Notice

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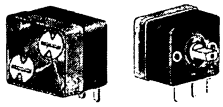
Micro Miniature B.C. Variable Capacitor

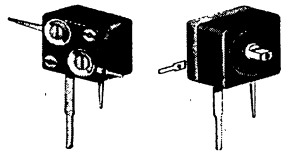


To our knowledge this unit represents the smallest two section Broadcast Band variable capacitor generally available. The capacitor is manufactured by evaporating silver on the ceramic plates, which are lapped to insure perfect mechanical register. This construction assures against shock and vibration with a complete absence of microphonics.

Ant. Section 6.5 to 145 pf. use JWM#2009
Osc. Section 6.5 to 69.7 pf. use JWM#2069
Trimmers on both sections 1.5 to 6.5 pf.
Dimensions .60" sq. by .43" deep

Cat. No.	Description	Net Price
2108	2 Section Variable	$3.48
2069	Companion Osc. Coil	2.22

Micro Miniature F.M. Variable Capacitor

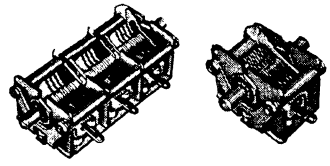


A companion variable capacitor to our part No. 2108 ceramic variable. The ceramic material has a temperature coefficient of −120 parts per million per degree C over the range of −20 to +70°C. The use of silvered ceramic rotor and stator assemblies results in a capacitor that is completely free of microphonics. This is very important in the design of small F.M. receivers that are subject to shock and vibration.

Size .51" sq. x .39" deep
Ant. Section 3.0 to 19.0 pf.
Osc. Section 3.0 to 19.0 pf.
Trimmers both sections 1.5 to 5.0 pf.

Cat. No.	Net Price
1401-A	$3.00

Precision Variable Capacitors

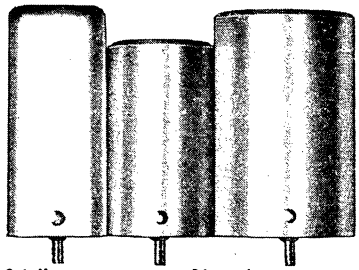


The capacitors we list in this group represent the highest standards that can be achieved in a commercial product. The rotor shaft revolves in a ball race at both front and back, with the torque controlled very closely. Each section has its own wipers grounded to the frame to assure that the rotor does not present ground loops. The stator in each section is supported on four ceramic pillars to assure excellent mechanical stability as well as insulation resistance better than 1000 megohms. The complete mechanical assembly is silver plated to keep R.F. losses to a minimum.

Dimensions 2101 1.5" x 1.26" x 1.0"
2102 1.5" x 1.26" x 3.0"

Cat. No.	Sections	Capacitance pf.	Net Price
2101	1	10.5 to 104	$6.65
2102	3	5 to 22.5	9.75
2103	3	10.5 to 104	9.75

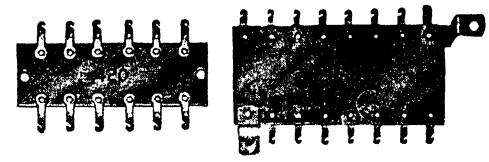
Aluminum Coil Shields



All Miller coil shields are of the finest quality drawn aluminum and have a satin finish which will not show finger marks and does not tarnish. Two #6-32 threaded spade bolts are riveted to the shield for easy attachment to the chassis.

Cat. No.	Dimensions	Mounting Center	List Price
S-21	2 1/16" diameter x 3 1/2"	2"	$1.00
S-31	1 5/8" diameter x 3"	1 11/16"	1.00
S-32	1 1/8" square x 2 1/8"	1 1/16"	1.00
S-33	1 1/8" square x 2 1/8"	1 1/16"	1.00
S-34	1" square x 1 1/4" high		1.00
S-41	2" diameter x 3"	1 15/16"	1.00
S-42	2" diameter x 3" high	No spadebolts	.95
S-42-C	Cover for S-42		.80
S-51	1 3/8" square x 3 1/4"	1 5/16"	1.00
S-74	1 1/4" diameter x 2"	1 5/16"	1.00
L-110	2" square x 4 1/4"	1 15/16"	1.40
S-727	2 1/16" diameter x 2 1/2"	2"	1.00
L-727	2 1/16" diameter x 4"	2"	1.40

Bakelite Terminal Plates

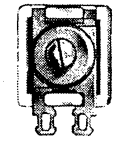


These terminal plates, provided with securely riveted solder type terminal lugs, are particularly adaptable to the assembly of groups of resistors and by-pass condensers. They will facilitate wiring of the chassis and provide rigid mounting of parts which cannot be properly assembled by point-to-point wiring. Lugs are on 1/16" thick bakelite sheet stock and the terminal spacing is 7/16".

Cat. No.	Dimensions	Lugs per Side	List Price
420	1" x 3"	6	$ .80
430	1 3/4" x 2 1/2"	5	.90
440	1" x 5 3/4"	14	1.15
450	1 3/4" x 3 3/4"	8	1.40
460	1 3/4" x 5 1/4"	11	1.80
470	1 3/4" x 8 3/8"	19	2.00

Special types available on order. Please supply sketch and indicate quantity desired.

Adjustable Padding Condensers



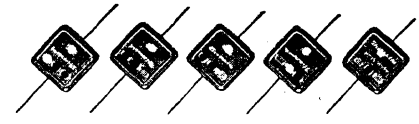
These adjustable oscillator padder condensers are of the finest quality mica-compression type with ceramic body. Capacity adjustable from both top and bottom of condenser. Single hole mounting by means of a 1/4" threaded stud, supplied with nut. Plates may be removed for lower capacity ranges, or shunt mica condensers may be used for higher capacity.

Used as adjustable oscillator padding condenser in super-het receivers to insure proper three-point tracking. They also find application as the horizontal drive control in television receivers.

Cat. No.	Capacity Range	List Price
160-A	360-1000 mmfd.	$1.65
160-B	50-400 mmfd.	1.40
160-C	200-600 mmfd.	1.65
160-D	10-160 mmfd.	1.25
160-E	25-280 mmfd.	1.35

Oscillator Padding Condensers

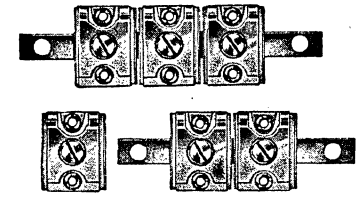
Accurate Molded Mica Type



For your convenience, we carry a complete stock of the more commonly used capacities of mica tracking condensers for use in oscillator circuits. The condensers are of the familiar molded bakelite mica dielectric type with wire leads. Capacities are guaranteed to be within the specified tolerance. Condensers having wider tolerance ratings should not be used in oscillator circuits as series padding condensers.

Cat. No.	Capacity	Accuracy	List Price
160	.00012 mfd.	3%	$ .60
161	.0004 mfd.	3%	.65
162	.0005 mfd.	3%	.65
163	.0006 mfd.	3%	.65
164	.001 mfd.	3%	.80
165	.0016 mfd.	3%	.90
166	.003 mfd.	3%	1.15
168	.005 mfd.	5%	1.40
167	.01 mfd.	5%	2.30

H.F. Trimmer Condensers



Ideal for trimming the high frequency end of multi-band circuits, these trimmers are available in single to quadruple section types. Ceramic insulation and mica plate spacer insures low-loss operation. The dimensions per section are 5/8" wide by 3/4" long. Terminals are plated for easy soldering.

Cat. No.	Range (mmfd.)	No. of Sections	List Price
MA-1	3-40	1	$1.00
MA-2	3-40	2	1.55
MA-3	3-40	3	1.95

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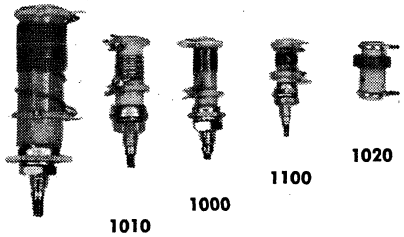
NORTH HILLS ELECTRONICS, INC.

COILS

HIGH PERFORMANCE SERIES, ADJUSTABLE AND FIXED
To Cover All Frequency Ranges from Audio to 200 MHz

COILS ON CERAMIC FORMS PER MIL-I-10



Series No.	Dimensions (Inches) Dia.	Length	Mtg. Hole Dia. (Inches)
1000	.50	.88	.196
1020	.50	.63	.050, .500 Apart
1100	.33	.63	.166
1300	.70	1.80	.252
1010	.43	.88	.196

Miniature 1000 Series

Part No.	Range Microhenries	Average Q
1000-A	1.0- 1.6	70 @ 7.9 MHz
1000-B	1.6- 2.7	80 @ 7.9 MHz
1000-C	2.7- 4.5	85 @ 7.9 MHz
1000-D	4.5- 8.5	85 @ 7.9 MHz
1000-E	8.5-14.5	75 @ 2.5 MHz
1000-F	14.5-22	65 @ 2.5 MHz
1000-G	22-29	65 @ 2.5 MHz
1000-H	29-55	85 @ 2.5 MHz
1000-I	55-110	80 @ 2.5 MHz
1000-J	110-185	85 @ .79 MHz
1000-K	185-305	85 @ .79 MHz
1000-L	305-515	85 @ .79 MHz
1000-M	515-820	85 @ .79 MHz
1000-N	820-1100	75 @ .79 MHz

RF Printed Circuit Coils

1020-A	0.41- 0.53	75 @ 25 MHz
1020-B	0.85- 1.15	65 @ 7.9 MHz
1020-C	1.87- 2.50	65 @ 7.9 MHz
1020-D	4.0 - 5.4	70 @ 7.9 MHz
1020-E	0.75- 1.25	70 @ 2.5 MHz
1020-F	20 -29	80 @ 2.5 MHz
1020-G	33 -61	80 @ 2.5 MHz
1020-H	80 -120	60 @ 0.79 MHz
1020-I	170 -260	70 @ 0.79 MHz

Subminiature 1100 Series

1100-A	0.9- 1.4	60 @ 7.9 MHz
1100-B	1.4- 1.9	70 @ 7.9 MHz
1100-C	1.9- 2.6	65 @ 7.9 MHz
1100-D	2.6- 3.7	65 @ 7.9 MHz
1100-E	3.7- 5.5	65 @ 7.9 MHz
1100-F	5.5- 7.4	60 @ 7.9 MHz
1100-G	7.4-12.5	70 @ 7.9 MHz
1100-H	12.5-18.0	65 @ 2.5 MHz
1100-I	18.0-28.0	70 @ 2.5 MHz
1100-J	28.0-38.0	70 @ 2.5 MHz
1100-K	38.0-55.0	70 @ 2.5 MHz

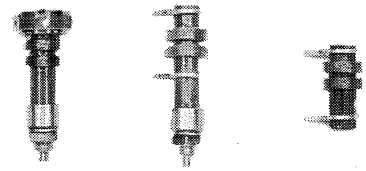
Transmitter 1300 Series

1300-A	For use from 90-200 MHz	
1300-B	For use from 40-90 MHz	
1300-C	For use from 20-40 MHz	
1300-D	0.7- 1.1	170 @ 25 MHz
1300-E	1.1- 1.7	130 @ 7.9 MHz
1300-F	1.7- 2.7	140 @ 7.9 MHz
1300-G	2.7- 4.5	140 @ 7.9 MHz
1300-H	4.5- 6.8	140 @ 7.9 MHz
1300-I	6.8-10.8	140 @ 7.9 MHz
1300-J	10.8-17.0	110 @ 2.5 MHz
1300-K	17.0-29.0	95 @ 2.5 MHz
1300-L	29.0-45.0	100 @ 2.5 MHz
1300-M	45.0-75.0	100 @ 2.5 MHz

HF Coils, Variable Approx. ±15%

1010-A	0.118	115 @ 50 MHz
1010-B	0.225	125 @ 25 MHz
1010-C	0.315	130 @ 25 MHz

WIDE ADJUSTMENT RANGE 120 SERIES



120 Series Mica-filled form .75" O.D. x 1.3" H. .196" dia. mtg. hole

PCS-120 Series Phenolic form

PC-120 Series Phenolic form .5" O.D. x 1.25" L. .05" Pins, .70" Apart

Part No.	Range Microhenries	Average Q
120-A	2-3	70 @ 7.9 MHz
120-B	3-5	80 @ 7.9 MHz
120-C	5-9	85 @ 7.9 MHz
120-D	9-18	65 @ 2.5 MHz
120-E	18-36	70 @ 2.5 MHz
120-F	36-64	65 @ 2.5 MHz
120-G	64-105	85 @ 2.5 MHz
120-H	105-200	80 @ .79 MHz
120-I	200-500	75 @ .79 MHz
120-J	500-1000	85 @ .79 MHz
120-K	1000-2000	50 @ .25 MHz

Subminiature 600 Series

- Variable ±10%
- Shielded
- 0.3" O.D. x 0.4" H
- .020" Leads .30" Apart

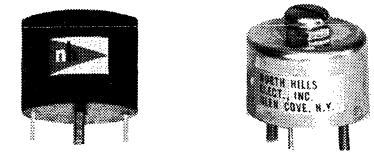
Part No.	Nominal Microhenries	Average Q
600U1X0	1.0	120 @ 7.9 MHz
600U1X5	1.5	120 @ 7.9 MHz
600U2X2	2.2	120 @ 7.9 MHz
600U3X3	3.3	130 @ 7.9 MHz
600U4X7	4.7	125 @ 7.9 MHz
600U6X8	6.8	140 @ 7.9 MHz
600U10X	10	135 @ 7.9 MHz
600U15X	15	130 @ 2.5 MHz
600U22X	22	135 @ 2.5 MHz
600U33X	33	130 @ 2.5 MHz
600U47X	47	130 @ 2.5 MHz
600U68X	68	120 @ 2.5 MHz
600MX10	100	100 @ 2.5 MHz
600MX15	150	125 @ .79 MHz
600MX22	220	130 @ .79 MHz
600MX33	330	125 @ .79 MHz
600MX47	470	120 @ .79 MHz
600MX68	680	100 @ .79 MHz
600M1X0	1000	100 @ .79 MHz

High Q RF Coils, Fixed

- .75" O.D. x .63" H
- Hermetically sealed
- Complete shielding
- For printed circuitry
- For standard circuitry

Part No.	Nominal Microhenries		Average Q
1219-A	0.47	± 5%	170 @ 20 MHz
1219-B	1.0	± 5%	170 @ 10 MHz
1219-C	2.2	± 5%	170 @ 8 MHz
1219-D	4.7	± 5%	170 @ 5 MHz
1219-E	10	± 5%	170 @ 3 MHz
1219-F	22	± 2%	170 @ 1.5 MHz
1219-G	47	± 2%	170 @ 1 MHz
1219-H	100	± 2%	170 @ 0.8 MHz
1219-I	220	± 2%	170 @ 0.7 MHz
1219-J	470	± 2%	170 @ 0.6 MHz
1219-K	1000	± 2%	170 @ 0.5 MHz
1219-L	2200	± 2%	150 @ 0.25 MHz

Hi Q 801, 802 Series, Adjustable ±10%

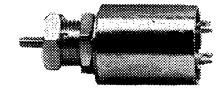


Industrial 801, 802 Series 1.13" O.D. x .88" H

Hermetically Sealed MS801, MS802 Series 1.25" O.D. x 1.25" H

Part No.	Nominal Millihenries	Peak Q
801M1X0	1.0	100 @ 10 kHz
801M1X5	1.5	100 @ 10 kHz
801M2X2	2.2	100 @ 10 kHz
801M3X3	3.3	100 @ 10 kHz
801M4X7	4.7	100 @ 10 kHz
801M6X8	6.8	100 @ 10 kHz
801M10X	10	200 @ 20 kHz
801M15X	15	200 @ 20 kHz
801M22X	22	200 @ 20 kHz
801M33X	33	200 @ 20 kHz
801M47X	47	200 @ 20 kHz
801M68X	68	200 @ 20 kHz
801HX10	100	300 @ 30 kHz
801HX15	150	300 @ 30 kHz
801HX22	220	300 @ 30 kHz
801HX33	330	250 @ 20 kHz
801HX47	470	250 @ 20 kHz
801HX68	680	250 @ 20 kHz
801H1X0	1000	150 @ 15 kHz
802M1X0	1.0	400 @ 100 kHz
802M1X5	1.5	400 @ 100 kHz
802M2X2	2.2	400 @ 100 kHz
802M3X3	3.3	400 @ 100 kHz
802M4X7	4.7	400 @ 100 kHz
802M6X8	6.8	400 @ 100 kHz
802M10X	10	400 @ 70 kHz
802M15X	15	400 @ 70 kHz
802M22X	22	400 @ 70 kHz
802M33X	33	400 @ 70 kHz
802M47X	47	400 @ 40 kHz

SHIELDED COILS



- Shielded
- Encapsulated

- .44" Diameter **900 Series**

Part No.	Range Microhenries	Average Q
900-A	0.5- 0.8	80 @ 25 MHz
900-B	0.8- 1.3	70 @ 18 MHz
900-C	1.3- 2.0	60 @ 15 MHz
900-D	2.0- 4.0	70 @ 8 MHz
900-E	4.0- 7.0	70 @ 5 MHz
900-F	7.0-12.0	70 @ 4 MHz
900-G	12.0-20.0	70 @ 3 MHz
900-H	20.0-35.0	70 @ 2.5 MHz
900-I	35.0-60.0	70 @ 2.0 MHz
900-J	60.0-100.0	70 @ 1.0 MHz

- .63" Diameter **1500 Series**

Part No.	Range Millihenries	Average Q
1500-A	.100- .175	80 @ 790 kHz
1500-B	.175- .300	80 @ 790 kHz
1500-C	.300- .500	80 @ 790 kHz
1500-D	.500- .800	75 @ 790 kHz
1500-E	.800-1.15	55 @ 500 kHz
1500-F	1.15-1.50	55 @ 250 kHz
1500-G	1.50-2.30	55 @ 250 kHz
1500-H	2.30-3.50	50 @ 250 kHz
1500-I	3.50-7.50	40 @ 250 kHz

SEE SECTION 5600 FOR WIDEBAND TRANSFORMERS

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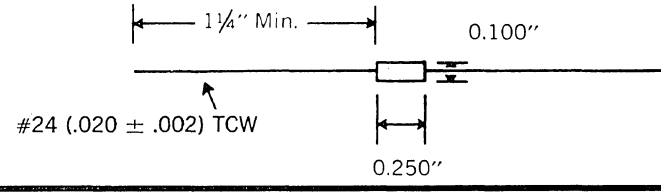
NYTRONICS, INC.® Inductors

ESSEX ELECTRONICS DIVISION

DECI-DUCTOR

New Subminiature Inductor 0.10uH to 1000uH Range
0.100" diameter by 0.250" length 49 STANDARD VALUES

The **DECI-DUCTOR** offers the design engineer epoxy-molded reliability and uniformity in a subminiature R.F. Inductor. This smallest of Nytronics growing R.F. Inductor line is designed to meet all the environmental specifications of MIL-C-15305C, Grade 1, Class B.



ELECTRICAL CHARACTERISTICS

Inductance Tolerance: ±10% over entire range.
Dielectric Strength: 700 volts RMS at sea level.
Self-Resonant Frequency: Measured per MIL-C-15305C.
Rating: Maximum Current based on 35°C rise in 90°C ambient.

DENSITY CHARACTERISTICS

Volume: 0.002 cubic inches **Weight:** 0.35 grams

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C

Terminal Strength: Meets three pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.

Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS. (body mounted)

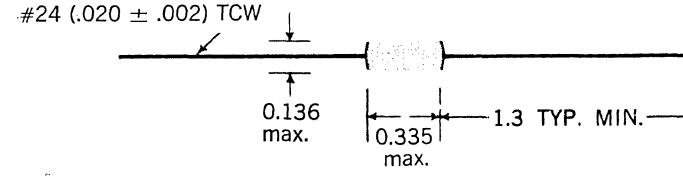
NYTRONICS CATALOG NO.	L	Q Min.		Min. Fo	Max. DCR at 25°C	Max. I
	uH		MC	MC	OHMS	mA
DD-0.10	0.10	40	25	690	0.07	2000
DD-0.12	0.12	40	25	650	0.08	1900
DD-0.15	0.15	38	25	600	0.09	1750
DD-0.18	0.18	38	25	550	0.10	1600
DD-0.22	0.22	35	25	510	0.11	1550
DD-0.27	0.27	35	25	470	0.15	1350
DD-0.33	0.33	32	25	410	0.21	1150
DD-0.39	0.39	32	25	370	0.29	970
DD-0.47	0.47	32	25	340	0.35	820
DD-0.56	0.56	32	25	310	0.48	700
DD-0.68	0.68	33	25	280	0.65	600
DD-0.82	0.82	30	25	255	0.82	500
DD-1.00	1.00	30	25	240	1.10	475
DD-1.20	1.20	30	7.9	155	0.16	1200
DD-1.50	1.50	32	7.9	140	0.20	1100
DD-1.80	1.80	35	7.9	130	0.32	900
DD-2.20	2.20	35	7.9	120	0.37	760
DD-2.70	2.70	37	7.9	105	0.49	700
DD-3.30	3.30	45	7.9	95	0.67	575
DD-3.90	3.90	45	7.9	87	0.95	500
DD-4.70	4.70	45	7.9	80	1.10	475
DD-5.60	5.60	52	7.9	75	1.60	380
DD-6.80	6.80	52	7.9	65	1.80	350
DD-8.20	8.20	60	7.9	62	2.40	300
DD-10.0	10.0	60	7.9	52	3.40	265

NYTRONICS CATALOG NO.	L	Q Min.		Min. Fo	Max. DCR at 25°C	Max. I
	uH		MC	MC	OHMS	mA
DD-12.0	12.0	45	2.5	42	2.40	300
DD-15.0	15.0	47	2.5	36	2.70	275
DD-18.0	18.0	50	2.5	32	3.00	260
DD-22.0	22.0	50	2.5	28	3.30	250
DD-27.0	27.0	50	2.5	25	3.80	240
DD-33.0	33.0	50	2.5	30	3.80	260
DD-39.0	39.0	50	2.5	26	4.10	240
DD-47.0	47.0	50	2.5	24	4.40	210
DD-56.0	56.0	50	2.5	22	5.70	205
DD-68.0	68.0	52	2.5	19	6.50	180
DD-82.0	82.0	52	2.5	17	7.30	175
DD-100	100	50	2.5	15	8.20	165
DD-120	120	28	0.79	14	14	110
DD-150	150	28	0.79	13	16	105
DD-180	180	28	0.79	12	18	100
DD-220	220	26	0.79	11	25	90
DD-270	270	26	0.79	10	33	75
DD-330	330	26	0.79	9.0	37	70
DD-390	390	25	0.79	8.0	51	60
DD-470	470	27	0.79	7.0	56	58
DD-560	560	27	0.79	6.5	61	55
DD-680	680	28	0.79	6.0	70	50
DD-820	820	28	0.79	5.5	91	45
DD-1000	1000	28	0.79	5.2	102	40

SUPER WEE-WEE-DUCTOR

Molded shielded inductor. Subminiature size for high density circuits. Great Inductance-to-size ratio. .10 uH to 10,000 uH. 0.136" diameter x 0.335" length. 61 stock values.

The **SUPER WEE-WEE-DUCTOR,** a shielded miniaturized inductor, provides a greater inductance-to-size ratio in a molded epoxy envelope. Use of unique "T" lead construction on all values from .10 uH to 10,000 uH assures exceptional reliability in ranges where fine wire sizes are used. Designed to meet the stringent requirements of MIL-C-15305C, Grade 1, Class B. This provides the design engineer with utmost reliability, electrical performance, and minimum coupling in high density packaging.



ELECTRICAL CHARACTERISTICS

Inductance Tolerance: ±10% (Q-Meter).
Dielectric Strength: 700 volts RMS at sea level.
Self-Resonant Frequency: Measured with full length leads on Q-Meter.
Q and Rp Values: Measured on Q-Meter.
Rating: 1 maximum based on ⅓ watt dissipation.

DENSITY CHARACTERISTICS

Volume: 0.0041 cubic inches.
Weight: 0.50 grams maximum.
Shielding: Less than 3% coupling with two units mounted side by side at 1000 cycles.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: −55°C to + 125°C.
Terminal Strength: Meets five pounds pull test; five 360° rotations in alternate directions per MIL-C-15305C.
Moisture, Vibration and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High Frequency: 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.
Marking: Color coded per MIL-C-15305C.

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NYTRONICS, INC.® ESSEX ELECTRONICS DIVISION **Inductors**

SUPER WEE WEE-DUCTOR STANDARD VALUES

NYTRONICS PART NO.	L	Q min.		min. Fo	approx. Cd	min. Rp		min. Rp		Max. DCR at 25°C	Max. I	Incr.* I
	μH		MC	MC	Pf	KΩ	MC	KΩ	MC	Ω	mA	mA
SW-W- 0.10	0.10	42	25	480	.70	5	125	10	230	.087	1650	>1650
SW-W- 0.12	0.12	42	25	460	.63	5	125	10	230	.090	1630	>1630
SW-W- 0.15	0.15	42	25	400	.66	6	100	10	230	.098	1550	>1550
SW-W- 0.18	0.18	42	25	360	.62	6	100	10	230	.117	1420	>1420
SW-W- 0.22	0.22	42	25	340	.63	8	100	12	230	.141	1330	>1330
SW-W- 0.27	0.27	42	25	320	.59	10	100	12	230	.157	1230	>1230
SW-W- 0.33	0.33	42	25	295	.55	10	100	12	230	.178	1140	>1140
SW-W- 0.39	0.39	42	25	275	.55	12	100	12	230	.208	1060	>1060
SW-W- 0.47	0.47	41	25	250	.56	12	75	15	230	.257	960	> 960
SW-W- 0.56	0.56	39	25	238	.52	15	75	15	230	.283	915	> 915
SW-W- 0.68	0.68	36	25	224	.50	15	75	20	230	.337	840	> 840
SW-W- 0.82	0.82	35	25	205	.50	15	75	20	230	.470	720	> 720
SW-W- 1.0	1.0	38	25	135	.87	10	75	10	170	.170	1180	>1180
SW-W- 1.2	1.2	38	7.9	124	.87	10	50	10	150	.177	1150	>1150
SW-W- 1.5	1.5	38	7.9	114	.87	12	50	12	140	.212	1050	>1050
SW-W- 1.8	1.8	38	7.9	105	.89	12	50	12	130	.242	990	> 990
SW-W- 2.2	2.2	38	7.9	95	.88	15	40	15	118	.263	950	> 950
SW-W- 2.7	2.7	38	7.9	85	.83	20	40	20	105	.300	880	> 880
SW-W- 3.3	3.3	38	7.9	78	.81	20	30	20	100	.345	820	> 820
SW-W- 3.9	3.9	42	7.9	74	.76	20	30	20	90	.411	755	> 755
SW-W- 4.7	4.7	42	7.9	68	.75	25	25	20	80	.562	650	> 650
SW-W- 5.6	5.6	42	7.9	62	.77	25	25	25	75	.742	565	> 565
SW-W- 6.8	6.8	45	7.9	55	.80	25	20	37	65	1.00	485	> 485
SW-W- 8.2	8.2	47	7.9	51	.78	29	20	38	60	1.20	440	> 440
SW-W- 10	10	51	7.9	45	.78	38	20	39	55	1.84	355	> 355
SW-W- 12	12	51	2.5	41	.85	9	15	9	50	2.60	300	> 300
SW-W- 15	15	45	2.5	48	.55	9	15	9	50	.635	610	200
SW-W- 18	18	45	2.5	44	.55	10	15	10	50	.728	570	175
SW-W- 22	22	45	2.5	37	.60	16	10	11	45	.825	530	160
SW-W- 27	27	45	2.5	32	.65	17	10	13	40	.950	500	155
SW-W- 33	33	46	2.5	30	.65	22	10	13	37	1.26	430	150
SW-W- 39	39	46	2.5	27	.66	27	5	18	33	1.42	405	145
SW-W- 47	47	46	2.5	23	.66	34	5	21	29	1.72	370	140
SW-W- 56	56	48	2.5	21	.75	37	5	24	27	2.03	340	130
SW-W- 68	68	48	2.5	18.5	.75	57	5	31	23	2.29	320	120
SW-W- 82	82	46	2.5	17.0	.75	62	4	33	21	2.55	305	115
SW-W- 100	100	46	2.5	15.5	.78	68	4	47	19	2.92	280	100
SW-W- 120	120	53	0.79	14.5	.72	100	4	60	16	3.30	235	80
SW-W- 150	130	53	0.79	13.0	.70	100	3	75	15	3.90	215	68
SW-W- 180	180	53	0.79	11.5	.70	125	3	90	14	5.40	200	64
SW-W- 220	220	55	0.79	10.0	.84	150	3	150	12	6.65	150	60
SW-W- 270	270	57	0.79	9.50	.74	175	3	175	11	7.60	140	58
SW-W- 330	330	57	0.79	8.50	.75	200	3	200	10	8.50	130	56
SW-W- 390	390	57	0.79	8.00	.74	220	2.5	270	10	10.0	120	54
SW-W- 470	470	57	0.79	7.20	.70	340	2.0	320	8.9	13.5	100	52
SW-W- 560	560	61	0.79	6.40	.70	340	2.0	320	7.5	14.5	95	50
SW-W- 680	680	61	0.79	5.80	.78	320	1.5	320	7.0	16.0	90	48
SW-W- 820	820	58	0.79	5.30	.78	320	1.5	320	6.5	19.0	85	47
SW-W- 1000	1000	58	0.79	4.80	.78	320	1.5	320	6.0	21.5	80	45
SW-W- 1200	1200	55	0.25	2.90	1.9	500	3.4	400	1.0	23	100	40
SW-W- 1500	1500	55	0.25	2.80	1.6	600	3.3	500	1.0	30	90	35
SW-W- 1800	1800	55	0.25	2.60	1.5	700	3.1	600	1.0	33	86	32
SW-W- 2200	2200	55	0.25	2.55	1.3	800	3.0	700	0.8	40	78	30
SW-W- 2700	2700	55	0.25	2.40	1.2	900	2.8	800	0.8	43	74	28
SW-W- 3300	3300	55	0.25	2.00	1.1	1000	2.7	900	0.8	58	65	26
SW-W- 3900	3900	55	0.25	1.95	1.1	1200	2.25	800	0.6	76	56	23
SW-W- 4700	4700	55	0.25	1.85	1.1	1600	2.2	1000	0.6	85	53	20
SW-W- 5600	5600	55	0.25	1.75	1.0	2000	2.1	1100	0.6	100	48	18
SW-W- 6800	6800	50	0.25	1.58	1.0	2100	1.85	1200	0.5	127	43	15
SW-W- 8200	8200	50	0.25	1.55	1.0	2200	1.80	1400	0.5	150	40	12
SW-W- 10,000	10,000	50	0.25	1.45	1.0	2000	1.60	1400	0.5	190	37	10

*Incremental Current: The D.C. current required to cause a maximum reduction of 5 percent from nominal inductance value.

NYTRONICS, INC.

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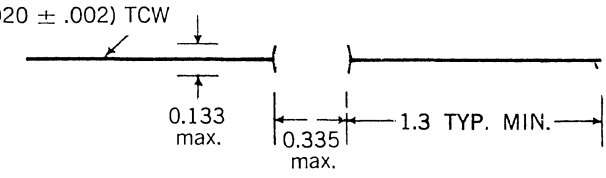
NYTRONICS, INC.® Inductors

WEE WEE-DUCTOR

The smallest shielded inductor for high density circuits 0.10 to 10,000uH 0.133" diameter x 0.335" length 61 stock values

The **WEE WEE-DUCTOR** offers the Design Engineer a subminiature shielded inductor to solve special problems in density circuit application. This shielded inductor has great inductance-to-size ratio and is designed to meet the stringent requirements of MIL-C-15305C, Grade 1, Class B. Unique "T" lead construction used on all values from 1200uH to 10,000uH provides excellent reliability in ranges where fine wire sizes are used.



ELECTRICAL CHARACTERISTICS

Inductance Tolerance: ±10% (Q-Meter).
Dielectric Strength: 700 volts RMS at sea level.
Self-Resonant Frequency: Minimum f_0 to be not less than 80% of published data, and measured with full length leads on Q-Meter.
Q and Rp Values: Measured on Q-Meter.
Rating: I maximum based on ⅓ watt dissipation.

DENSITY CHARACTERISTICS

Volume: 0.0041 cubic inches **Weight:** 0.50 grams maximum
Shielding: Less than 3% coupling with two units mounted side by side at 1000 cycles.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C.

Terminal Strength: Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.

Moisture, Vibration and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High Frequency: 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.

Marking: Color coded per MIL-C-15305C.

WEE WEE-DUCTOR STANDARD VALUES

NYTRONICS PART NO.	L	Q min.		approx. Fo	approx. Cd	min. Rp		min. Rp		Max. DCR at 125°C	Max. I	Incr.* I
	µH		MC	MC	µµF	KΩ	MC	KΩ	MC	Ω	mA	mA
WEE-WEE- 0.10	0.10	42	25	500	0.67	9	125	15	230	.112	1720	1720
WEE-WEE- 0.12	0.12	42	25	500	0.67	10	125	16	230	.126	1630	1630
WEE-WEE- 0.15	0.15	42	25	500	0.67	10	100	18	230	.138	1550	1550
WEE-WEE- 0.18	0.18	42	25	458	0.67	10	100	20	230	.165	1420	1420
WEE-WEE- 0.22	0.22	42	25	414	0.67	12	100	23	230	.198	1330	1330
WEE-WEE- 0.27	0.27	42	25	373	0.67	14	100	25	230	.220	1230	1230
WEE-WEE- 0.33	0.33	42	25	360	0.66	15	100	27	230	.258	1140	1140
WEE-WEE- 0.39	0.39	42	25	339	0.57	19	100	29	230	.292	1060	1060
WEE-WEE- 0.47	0.47	41	25	309	0.57	18	75	31	230	.360	960	960
WEE-WEE- 0.56	0.56	39	25	295	0.52	19	75	36	230	.397	915	915
WEE-WEE- 0.68	0.68	36	25	270	0.52	20	75	39	230	.472	840	840
WEE-WEE- 0.82	0.82	35	25	250	0.52	25	75	41	230	.638	720	720
WEE-WEE- 1.0	1.0	42	25	170	0.87	14	75	11	170	.208	1260	1260
WEE-WEE- 1.2	1.2	38	7.9	150	0.94	13	50	13	150	.225	1210	1210
WEE-WEE- 1.5	1.5	38	7.9	139	0.87	16	50	14	139	.265	1120	1120
WEE-WEE- 1.8	1.8	38	7.9	129	0.85	18	50	16	129	.285	1080	1080
WEE-WEE- 2.2	2.2	36	7.9	118	0.83	20	40	22	118	.330	1000	1000
WEE-WEE- 2.7	2.7	38	7.9	106	0.83	24	40	23	106	.381	935	935
WEE-WEE- 3.3	3.3	38	7.9	98	0.81	27	30	28	98	.432	875	875
WEE-WEE- 3.9	3.9	40	7.9	91	0.79	29	30	29	91	.576	755	755
WEE-WEE- 4.7	4.7	42	7.9	83	0.79	26	25	32	83	.787	650	650
WEE-WEE- 5.6	5.6	42	7.9	77	0.79	31	25	33	77	1.04	565	565
WEE-WEE- 6.8	6.8	45	7.9	67	0.83	28	20	37	67	1.40	485	485
WEE-WEE- 8.2	8.2	47	7.9	62	0.81	29	20	38	62	1.68	440	440
WEE-WEE- 10	10	51	7.9	55	0.83	38	20	39	55	2.58	355	355
WEE-WEE- 12	12	51	2.5	49	0.88	42	15	40	49	3.65	300	300
WEE-WEE- 15	15	45	2.5	55	0.56	9	15	9	55	.862	620	200
WEE-WEE- 18	18	43	2.5	50	0.57	10	15	10	50	1.02	570	175
WEE-WEE- 22	22	42	2.5	45	0.57	16	10	11	45	1.12	545	160
WEE-WEE- 27	27	37	2.5	41	0.58	17	10	13	41	1.28	510	155
WEE-WEE- 33	33	46	2.5	37	0.57	22	10	15	37	1.70	440	150
WEE-WEE- 39	39	38	2.5	33	0.59	27	5	18	33	1.99	405	145
WEE-WEE- 47	47	42	2.5	29	0.64	34	5	21	29	2.41	370	140
WEE-WEE- 56	56	41	2.5	27	0.54	37	5	24	27	2.85	340	130
WEE-WEE- 68	68	46	2.5	23	0.71	57	5	31	23	3.21	320	120
WEE-WEE- 82	82	46	2.5	21	0.71	62	4	33	21	3.57	305	115
WEE-WEE- 100	100	43	2.5	19	0.71	68	4	47	19	4.10	280	100
WEE-WEE- 120	120	50	0.79	16	0.79	100	4	54	16	5.97	235	80
WEE-WEE- 150	150	49	0.79	15	0.75	130	3	78	15	7.05	215	68
WEE-WEE- 180	180	56	0.79	14	0.72	153	3	99	14	8.12	200	64
WEE-WEE- 220	220	53	0.79	12	0.79	256	3	164	12	14.8	150	60
WEE-WEE- 270	270	57	0.79	11.5	0.72	300	3	196	11.5	16.8	140	58
WEE-WEE- 330	330	57	0.79	10.5	0.70	340	3	270	10.5	18.6	130	56
WEE-WEE- 390	390	57	0.79	10.0	0.65	340	2.5	270	10	21.1	120	54
WEE-WEE- 470	470	50	0.79	8.5	0.75	340	2.0	320	8.5	32.2	100	52
WEE-WEE- 560	560	50	0.79	7.5	0.80	340	2.0	320	7.5	36.4	95	50
WEE-WEE- 680	680	56	0.79	7.0	0.77	320	1.5	320	7.0	41.1	90	48
WEE-WEE- 820	820	49	0.79	6.5	0.74	320	1.5	320	6.5	45.0	85	47
WEE-WEE- 1000	1000	49	0.79	6.0	0.74	320	1.5	320	6.0	52.0	80	45
WEE-WEE- 1200	1200	55	0.25	3.4	1.9	500	3.4	400	1.0	31	100	40
WEE-WEE- 1500	1500	55	0.25	3.3	1.6	600	3.3	500	1.0	41	90	35
WEE-WEE- 1800	1800	55	0.25	3.1	1.5	700	3.1	600	1.0	45	86	32
WEE-WEE- 2200	2200	55	0.25	3.0	1.3	800	3.0	700	0.8	55	78	30
WEE-WEE- 2700	2700	55	0.25	2.8	1.2	900	2.8	800	0.8	60	74	28
WEE-WEE- 3300	3300	55	0.25	2.7	1.1	1000	2.7	900	0.8	80	65	26
WEE-WEE- 3900	3900	55	0.25	2.25	1.1	1200	2.25	800	0.6	105	56	23
WEE-WEE- 4700	4700	55	0.25	2.2	1.1	1600	2.2	1000	0.6	118	53	20
WEE-WEE- 5600	5600	55	0.25	2.1	1.0	2000	2.1	1100	0.6	140	48	18
WEE-WEE- 6800	6800	50	0.25	1.85	1.0	2100	1.85	1200	0.5	177	43	15
WEE-WEE- 8200	8200	50	0.25	1.80	1.0	2200	1.80	1400	0.5	202	40	12
WEE-WEE-10,000	10,000	50	0.25	1.60	1.0	2000	1.6	1400	0.5	231	37	10

*Incremental Current: The D.C. current required to cause a maximum reduction of 5 percent from nominal inductance value.

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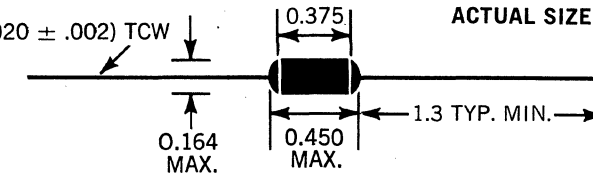
NYTRONICS, INC. Inductors

ESSEX ELECTRONICS DIVISION

WEE-DUCTOR

Subminiature Shielded Inductor with high inductance-to-size ratio.
0.10uH to 180,000uH in 76 values
Designed to meet MIL-C-15305C.

The **WEE-DUCTOR** was the first miniature shielded inductor that Nytronics standardized for stock delivery. This encapsulated non-flammable shielded unit in a 0.164" diameter by 0.450" long envelope offers the design engineer extremely high inductance for density packaging. The WEE-DUCTOR is designed to meet the environmental requirements of MIL-C-15305C, Grade 1, Class B.



ELECTRICAL CHARACTERISTICS

Inductance Tolerance: 0.1 to 22uH ±10% (Q-Meter); 27uH to 1,000 ±5% (1KC Bridge); 1,200uH to 56,000uH ±10% (1KC Bridge) 68,000uH to 180,000uH ±20% (1KC Bridge) measured at point on leads ½ inch from body.

Dielectric Strength: 700 volts RMS at sea level.

Self-Resonant Frequency: Minimum f_0 to be not less than 80% of published data, and measured with full length leads on Q-Meter.

Q and Rp Values: Measured on Q-Meter. Minimum Rp values on published data sheet are conservative.

Maximum Current: Based on temperature rise not to exceed 40°C at 85°C ambient.

DENSITY CHARACTERISTICS

Volume: 0.0087 cubic inches **Weight:** 0.75 grams maximum
Shielding: Less than 3% coupling with two units measured side by side at 1000 cycles.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C.
Terminal Strength: Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.
Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. Low frequency 10 to 55 cps @ .06" maximum total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.
Marking: Printed with pertinent data.

NYTRONICS PART NO.	L	Q min		approx. Fo	approx. Cd	min. Rp		min. Rp		Max. DCR at 125°C	Max. I	Incr* I
	uH		MC	MC	uuF	KΩ	MC	KΩ	MC	Ω	mA	mA
WEE- 0.10	0.10	63	25	>500	0.67	6	100	11	230	0.020	4000	>4000
WEE- 0.12	0.12	61	25	>500	0.67	7	100	13	230	0.029	3350	>3350
WEE- 0.15	0.15	59	25	>500	0.67	8	100	16	230	0.032	3000	>3000
WEE- 0.18	0.18	57	25	458	0.67	10	100	20	230	0.040	2850	>2850
WEE- 0.22	0.22	56	25	414	0.67	13	100	28	230	0.045	2700	>2700
WEE- 0.27	0.27	50	25	373	0.67	15	100	32	230	0.08	2000	>2000
WEE- 0.33	0.33	48	25	337	0.67	18	100	37	230	0.09	1900	>1900
WEE- 0.39	0.39	48	25	310	0.67	21	100	41	230	0.16	1420	>1420
WEE- 0.47	0.47	48	25	283	0.67	27	100	51	230	0.17	1400	>1400
WEE- 0.56	0.56	45	25	258	0.67	32	100	56	230	0.36	960	> 960
WEE- 0.68	0.68	45	25	235	0.67	40	100	65	230	0.37	940	> 940
WEE- 0.82	0.82	41	25	214	0.67	47	100	72	230	0.46	870	> 870
WEE- 1.0	1.0	42	7.9	164	0.92	12	75.0	13	164	0.062	2300	>2300
WEE- 1.2	1.2	43	7.9	150	0.92	13	75.0	14	150	0.067	2200	>2200
WEE- 1.5	1.5	41	7.9	135	0.92	16	50.0	17	135	0.16	1420	>1420
WEE- 1.8	1.8	42	7.9	124	0.92	18	50.0	20	124	0.17	1370	>1370
WEE- 2.2	2.2	42	7.9	112	0.92	21	40.0	23	112	0.19	1300	>1300
WEE- 2.7	2.7	41	7.9	107	0.92	24	40.0	26	107	0.20	1270	>1270
WEE- 3.3	3.3	40	7.9	91.5	0.92	23	30.0	31	91.5	0.31	1030	>1030
WEE- 3.9	3.9	40	7.9	84.5	0.92	26	30.0	34	84.5	0.33	1000	>1000
WEE- 4.7	4.7	40	7.9	76.5	0.92	28	25.0	41	76.5	0.58	750	> 750
WEE- 5.6	5.6	40	7.9	69.5	0.92	32	25.0	45	69.5	0.64	710	> 710
WEE- 6.8	6.8	40	7.9	63.5	0.92	29	20.0	51	63.5	0.68	680	> 680
WEE- 8.2	8.2	45	7.9	57.5	0.92	33	20.0	57	57.5	1.3	500	> 500
WEE- 10	10	46	2.5	52.5	0.92	33	15.0	59	52.5	1.4	480	> 480
WEE- 12	12	47	2.5	47.5	0.92	37	15.0	61	47.5	1.5	460	> 460
WEE- 15	15	47	2.5	42.5	0.92	43	15.0	64	42.5	1.7	440	> 440
WEE- 18	18	45	2.5	53.5	0.49	12	20.0	14	53.5	0.88	610	235
WEE- 22	22	47	2.5	47.0	0.50	13	15.0	17	47.0	0.95	590	220
WEE- 27	27	42	2.5	44.0	0.48	17	15.0	20	44.0	1.15	530	200
WEE- 33	33	43	2.5	40.0	0.48	23	12.0	23	40.0	1.2	520	193
WEE- 39	39	45	2.5	36.5	0.48	27	12.0	27	36.5	1.6	450	183
WEE- 47	47	46	2.5	33.0	0.49	31	12.0	31	33.0	1.8	420	177
WEE- 56	56	40	2.5	30.0	0.49	33	10.0	33	30.0	2.2	390	170
WEE- 68	68	40	2.5	27.0	0.50	35	10.0	35	27.0	2.3	375	165
WEE- 82	82	42	2.5	17.5	1.0	44	8.0	44	17.5	2.4	360	160
WEE- 100	100	63	.79	15.0	1.0	62	5.0	62	15.0	2.6	345	157
WEE- 120	120	62	.79	14.0	1 0	75	5.0	75	14.0	2.9	330	145

NYTRONICS PART NO.	L	Q min		approx. Fo	approx. Cd	min. Rp		min. Rp		Max. DCR at 125°C	Max. I	Incr* I
	uH		MC	MC	uuF	KΩ	MC	KΩ	MC	Ω	mA	mA
WEE- 150	150	63	.79	12.5	1.0	84	4.0	84	12.5	3.3	315	126
WEE- 180	180	60	.79	11.5	1.0	95	4.0	95	11.5	3.6	300	110
WEE- 220	220	57	.79	11.0	0.94	98	4.0	106	11.0	4.1	280	105
WEE- 270	270	52	.79	10.0	0.92	115	3.0	117	10.0	4.8	260	91
WEE- 330	330	50	.79	9.0	0.92	125	3.0	130	9.0	5.6	240	87
WEE- 390	390	43	.79	8.5	0.87	130	3.0	132	8.5	6.2	230	72
WEE- 470	470	66	.79	8.0	0.83	220	1.5	230	8.0	10.0	180	67
WEE- 560	560	64	.79	7.5	0.82	269	1.5	275	7.5	11.5	170	65
WEE- 680	680	71	.79	6.5	0.87	320	1.5	340	6.5	12.0	160	60
WEE- 820	820	67	.79	6.0	0.87	355	1.5	420	6.0	13.8	150	55
WEE- 1000	1000	62	.79	5.6	0.87	430	1.5	450	5.6	16.0	140	52
WEE- 1200	1200	52	.250	1.490	9.0	225	.500	290	1.490	18.2	135	50
WEE- 1500	1500	51	.250	1.460	8.0	280	.500	425	1.460	23.7	118	48
WEE- 1800	1800	51	.250	1.420	6.5	340	.500	540	1.420	30.2	105	42
WEE- 2200	2200	50	.250	1.300	6.8	380	.500	560	1.300	33.7	99	37
WEE- 2700	2700	51	.250	1.180	6.8	510	.500	700	1.180	43.1	87	33
WEE- 3300	3300	52	.250	1.050	7.0	640	.500	830	1.050	48.7	82	30
WEE- 3900	3900	48	.250	.960	7.0	600	.500	850	.960	62.7	72	29
WEE- 4700	4700	48	.250	.840	7.4	560	.400	860	.840	70.5	68	28
WEE- 5600	5600	48	.250	.810	6.8	610	.350	940	.810	104	56	24
WEE- 6800	6800	45	.250	.740	6.8	690	.350	960	.740	118	53	20
WEE- 8200	8200	38	.250	.580	9.2	710	.300	1000	.580	146	47	18
WEE- 10,000	10,000	36	.079	.470	11.5	520	.200	670	.470	76.6	66	15
WEE- 12,000	12,000	36	.079	.370	15.0	580	.200	710	.370	109	55	14
WEE- 15,000	15,000	38	.079	.330	15.0	610	.150	780	.330	119	52	13
WEE- 18,000	18,000	38	.079	.305	15.0	630	.150	850	.305	138	49	13
WEE- 22,000	22,000	32	.079	.295	13.0	720	.150	970	.295	219	39	12
WEE- 27,000	27,000	32	.079	.270	13.0	810	.150	1000	.270	259	35	12
WEE- 33,000	33,000	32	.079	.250	12.5	1070	.150	1040	.250	296	33	11
WEE- 39,000	39,000	30	.079	.215	14.0	690	.100	1050	.215	395	29	10
WEE- 47,000	47,000	25	.079	.210	12.5	850	.100	1310	.209	452	27	9
WEE- 56,000	56,000	25	.079	.195	12.0	1050	.100	1450	.195	499	26	8
WEE- 68,000	68,000	20	.079	.130	18.4	860	.079	1300	.130	395	29	1.1
WEE- 82,000	82,000	20	.079	.125	16.5	900	.079	1340	.125	452	27	1.1
WEE-100,000	100,000	20	.079	.115	16.2	940	.060	1450	.115	499	26	1.1
WEE-120,000	120,000	20	.070	.105	16.8	1000	.055	1560	.105	540	23	1.1
WEE-150,000	150,000	20	.060	.098	13.4	1175	.055	1600	.098	750	20	1.0
WEE-180,000	180,000	20	.050	.094	13.4	1100	.050	1650	.094	880	18	0.8

*Incremental Current: The D.C. current required to cause a maximum reduction of 5 percent from nominal inductance value.

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NYTRONICS, INC.® Inductors

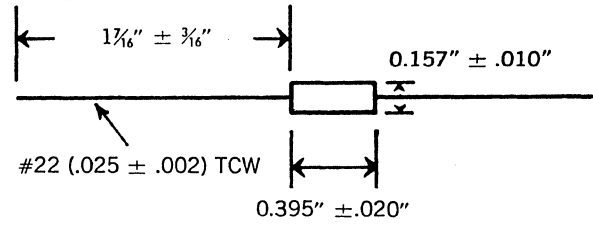
ESSEX ELECTRONICS DIVISION

SUPER WEE-DUCTOR/90537 MOLDED SHIELDED INDUCTOR

Manufactured per MS-90537

New Ultra-Reliable Molded Shielded Miniature Inductor.
Inductance Range: 0.1uH to 100,000uH.
Unique "T" design eliminates Fine Wire considerations.

The new **SUPER WEE-DUCTOR** is an R.F. Inductor specifically designed to meet the demanding requirements of MIL-C-15305C, Grade 1, Class B. The unique "T" design eliminates fine wire consideration that has previously concerned design engineers on critical circuitry. The SUPER WEE-DUCTOR epoxy molded envelope and shielding offers the design engineer reliability, electrical performance, and minimum coupling in high density packaging.



ELECTRICAL CHARACTERISTICS

Inductance Tolerance: ±10% over the entire inductance range.
Dielectric Strength: 700 volts RMS at sea level.
Self-Resonant Frequency: Measured per MIL-C-15305C.
Q and Rp Values: Measured on a Q-Meter. Minimum Rp values at listed frequencies are all conservative.
Maximum Current: Based on temperature rise not to exceed 35°C at 90°C ambient.

DENSITY CHARACTERISTICS

Volume: 0.0076 cubic inches **Weight:** 0.75 grams maximum
Shielding: At 1000 cycles two units assembled side by side exhibit less than 3% coupling.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: —55°C to +125°C.

Terminal Strength: Meets five pound pull test; five 360° rotations in alternate directions per MIL-C-15305C.

Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High frequency 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithmic swings each of 20 minute duration repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS.

Marking: Color coded per MIL-C-15305C.

NYTRONICS CATALOG NO.	L	Q min		min. Fo	approx. Cd*	min. Rp*		min. Rp*		Max DCR at 125°C*	Max. I	Incr.** I
	µH		MC	MC	µµF	KΩ	MC	KΩ	MC	Ω	mA	mA
90537- 1 SWD- 0.10	0.10	50	25	500	0.67	6	100	15	230	0.025	2900	>2900
90537- 2 SWD- 0.12	0.12	51	25	450	0.67	7	100	19	230	0.034	2800	>2800
90537- 3 SWD- 0.15	0.15	51	25	400	0.67	8	100	20	230	0.037	2750	>2750
90537- 4 SWD- 0.18	0.18	50	25	375	0.67	10	100	27	230	0.047	2200	>2200
90537- 5 SWD- 0.22	0.22	49	25	330	0.67	12	100	29	230	0.067	1700	>1700
90537- 6 SWD- 0.27	0.27	47	25	290	0.67	16	100	31	230	0.11	1500	>1500
90537- 7 SWD- 0.33	0.33	46	25	280	0.67	19	100	33	230	0.13	1300	>1300
90537- 8 SWD- 0.39	0.39	44	25	255	0.67	23	100	34	230	0.18	1100	>1100
90537- 9 SWD- 0.47	0.47	44	25	235	.067	27	100	35	230	0.25	1000	>1000
90537-10 SWD- 0.56	0.56	43	25	210	0.67	33	100	37	230	0.33	900	> 900
90537-11 SWD- 0.68	0.68	42	25	190	0.67	43	100	38	230	0.45	750	> 750
90537-12 SWD- 0.82	0.82	40	25	180	0.67	30	100	40	230	0.59	600	> 600
90537-13 SWD- 1.0	1.0	47	25	140	0.84	13	75	12	164	0.070	1900	>1900
90537-14 SWD- 1.2	1.2	46	7.9	130	0.83	15	75	15	150	0.093	1600	>1600
90537-15 SWD- 1.5	1.5	45	7.9	115	0.83	17	50	17	135	0.12	1300	>1300
90537-16 SWD- 1.8	1.8	43	7.9	105	0.83	19	50	19	124	0.14	1200	>1200
90537-17 SWD- 2.2	2.2	45	7.9	100	0.73	21	40	25	112	0.19	1100	>1100
90537-18 SWD- 2.7	2.7	46	7.9	92	0.73	26	40	27	107	0.28	950	> 950
90537-19 SWD- 3.3	3.3	44	7.9	85	0.76	31	30	30	91	0.35	800	> 800
90537-20 SWD- 3.9	3.9	44	7.9	75	0.73	33	30	32	84	0.40	750	> 750
90537-21 SWD- 4.7	4.7	44	7.9	70	0.73	34	25	42	76	0.55	650	> 650
90537-22 SWD- 5.6	5.6	47	7.9	65	0.73	38	25	44	69	0.72	550	> 550
90537-23 SWD- 6.8	6.8	50	7.9	55	0.78	42	20	46	63	1.02	500	> 500
90537-24 SWD- 8.2	8.2	50	7.9	50	0.78	45	20	48	57	1.32	475	> 475
90537-25 SWD- 10	10	49	7.9	46	0.84	40	15	50	55	1.62	450	> 450
90537-26 SWD- 12	12	55	2.5	44	0.73	44	15	65	54	2.00	400	> 400
90537-27 SWD- 15	15	44	2.5	49	0.48	7	15	10	62	0.80	620	250
90537-28 SWD- 18	18	45	2.5	45	0.48	8	15	12	57	0.89	610	235
90537-29 SWD- 22	22	46	2.5	41	0.48	9	15	10	52	0.96	600	220
90537-30 SWD- 27	27	49	2.5	38	0.48	10	15	11	48	1.19	500	200
90537-31 SWD- 33	33	45	2.5	34	0.48	14	12	13	40	1.37	490	190
90537-32 SWD- 39	39	53	2.5	29	0.48	16	12	15	37	1.93	410	180
90537-33 SWD- 47	47	52	2.5	27	0.48	19	12	16	34	2.11	400	175
90537-34 SWD- 56	56	49	2.5	25	0.48	25	10	20	33	2.23	380	160
90537-35 SWD- 68	68	51	2.5	21	0.50	28	10	22	27	2.70	370	150
90537-36 SWD- 82	82	45	2.5	10.5	1.70	42	8	29	13.5	2.44	360	140

NYTRONICS CATALOG NO.	L	Q min		min. Fo	approx. Cd*	min. Rp*		min. Rp*		Max DCR at 125°C*	Max. I	Incr.** I
	µH		MC	MC	µµF	KΩ	MC	KΩ	MC	Ω	mA	mA
90537-37 SWD- 100	100	52	2.5	10.0	1.70	62	5	44	12.5	3.12	325	120
90537-38 SWD- 120	120	57	.79	9.7	1.40	82	5	48	12.2	3.60	290	95
90537-39 SWD- 150	150	56	.79	8.5	1.50	90	4	61	10.7	4.10	275	90
90537-40 SWD- 180	180	60	.79	8.0	1.40	100	4	71	10.1	4.40	260	85
90537-41 SWD- 220	220	58	.79	7.5	1.30	106	4	78	9.5	5.00	250	80
90537-42 SWD- 270	270	60	.79	7.0	1.30	136	3	115	8.8	5.80	240	70
90537-43 SWD- 330	330	54	.79	6.5	1.10	151	3	127	8.4	6.40	225	65
90537-44 SWD- 390	390	67	.79	6.2	1.00	164	3	139	8.2	7.40	200	60
90537-45 SWD- 470	470	60	.79	5.7	1.00	183	1.5	203	7.2	9.50	180	58
90537-46 SWD- 560	560	60	.79	4.7	1.30	202	1.5	227	5.9	10.5	174	55
90537-47 SWD- 680	680	60	.79	4.5	1.10	233	1.5	276	5.7	11.8	168	50
90537-48 SWD- 820	820	57	.79	4.2	1.10	311	1.5	307	5.3	13.0	152	45
90537-49 SWD- 1000	1000	65	.79	3.8	1.10	407	1.5	435	4.8	17.5	135	40
90537-50 SWD- 1200	1200	45	.25	1.5	6.20	166	0.5	274	1.8	22.1	115	35
90537-51 SWD- 1500	1500	49	.25	1.2	8.20	298	0.5	355	1.4	26.5	110	33
90537-52 SWD- 1800	1800	47	.25	1.0	8.70	258	0.5	360	1.25	29.9	105	30
90537-53 SWD- 2200	2200	50	.25	0.97	8.00	276	0.5	365	1.20	33.8	99	27
90537-54 SWD- 2700	2700	47	.25	0.92	7.00	360	0.5	440	1.15	47.3	83	25
90537-55 SWD- 3300	3300	43	.25	0.84	7.20	400	0.5	458	1.10	53.0	80	22
90537-56 SWD- 3900	3900	43	.25	0.80	6.50	440	0.5	520	1.00	73.8	67	20
90537-57 SWD- 4700	4700	44	.25	0.74	6.40	440	0.4	592	0.92	81.6	63	19
90537-58 SWD- 5600	5600	45	.25	0.73	5.50	445	0.35	800	0.90	98.9	56	17
90537-59 SWD- 6800	6800	43	.25	0.66	5.50	457	0.30	840	0.83	111.0	54	16
90537-60 SWD- 8200	8200	42	.25	0.54	6.70	600	0.30	880	0.68	119.0	52	15
90537-61 SWD- 10,000	10,000	39	.25	0.47	7.30	320	0.20	900	0.59	137.0	49	14
90537-62 SWD- 12,000	12,000	31	.079	0.33	12.0	446	0.20	620	0.43	143.0	46	13
90537-63 SWD- 15,000	15,000	31	.079	0.29	12.7	450	0.15	670	0.36	157.0	45	12
90537-64 SWD- 18,000	18,000	31	.079	0.28	11.2	510	0.15	690	0.35	175.0	41	10
90537-65 SWD- 22,000	22,000	27	.079	0.25	11.6	536	0.15	710	0.31	274.0	33	9
90537-66 SWD- 27,000	27,000	27	.079	0.21	12.9	607	0.15	740	0.27	308.0	31	8
90537-67 SWD- 33,000	33,000	27	.079	0.19	13.3	780	0.15	850	0.24	343.0	30	7.5
90537-68 SWD- 39,000	39,000	27	.079	0.17	14.1	607	0.10	940	0.21	376.0	27	6.0
90537-69 SWD- 47,000	47,000	23	.079	0.16	13.5	623	0.10	980	0.20	473.0	26	5.5
90537-70 SWD- 56,000	56,000	23	.079	0.14	13.2	708	0.10	1000	0.18	512.0	25	5.0
90537-71 SWD- 68,000	68,000	23	.079	0.13	13.2	675	0.079	1020	0.16	580.0	24	4.0
90537-72 SWD- 82,000	82,000	21	.079	0.12	12.9	704	0.079	1050	0.15	618.0	23	3.5
90537-73 SWD-100,000	100,000	18	.079	0.11	12.2	918	0.060	1140	0.14	678.0	22	3.0

*Applies to SWD only.
**INCREMENTAL CURRENT The D.C. current required to cause a 5% reduction in the nominal inductance value.

NYTRONICS, INC.

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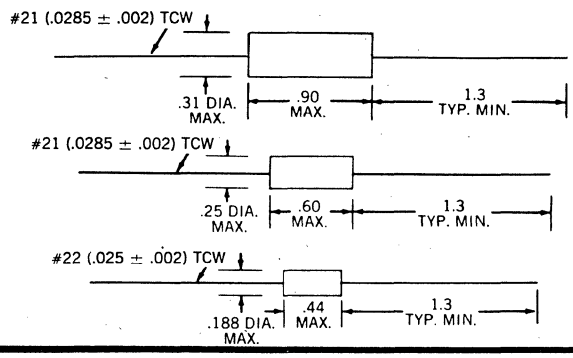
NYTRONICS, INC.® Inductors

ESSEX ELECTRONICS DIVISION

MOLDED NON-SHIELDED S, M, and L INDUCTORS

Proven reliability molded inductors designed to meet MIL-C-15305A. Inductance 0.10 to 10,000 uH in three envelopes.



These units offer the design engineer a rugged, molded inductor that has been recognized for years throughout the industry for exceptional reliability in critical circuitry applications.

ELECTRICAL CHARACTERISTICS

Inductance Tolerance: 0.1 to 22uH ±10% on Q-Meter
27uH to 10,000 ±5% 1,000 cps bridge

Dielectric Strength: 700 volts RMS at sea level.

Self-Resonant Frequency: Minimum f_o to be not less than 80% of published data and measured with full length leads on Grid-Dip Meter.

Q and Rp Values: Measured on Q-Meter.

Rating: ⅓ watt dissipation for series S and M and ½ watt dissipation for L series.

DENSITY CHARACTERISTICS

Volume:
S Type — 0.012 cu. in.
M Type — 0.029 cu. in.
L Type — 0.068 cu. in.

Weight:
S Type — 0.90 grams
M Type — 2.00 grams
L Type — 4.10 grams

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Operating Temperature: −55°C to +125°C.

Terminal Strength: Meets five pound pull test per MIL-C-15305C.

Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305C, Grade 1, Class B. High frequency 10 cps to 2000 cps @ 15G ±10% maximum for 12 logarithemic swings, each of 20 minute duration repeated for each of three mutually perpendicular planes. (body mounted)

NYTRONICS PART NO.	L	Q min		approx. Fo	approx. Cd	min. Rp		min. Rp		max DCR at 125°C	max. I
	µH		MC	MC	µµF	KΩ	MC	KΩ	MC	Ω	mA
RFC-S- 0.10	0.10	85	50	>500	0.4	2.7	50	15	200	.02	4000
RFC-S- 0.12	0.12	85	50	500	0.4	3.2	50	20	200	.025	3500
RFC-S- 0.15	0.15	85	50	>500	0.4	4.1	50	25	200	.03	3000
RFC-S- 0.18	0.18	75	50	500	0.4	4.2	50	27	200	.03	3000
RFC-S- 0.22	0.22	75	50	500	0.4	5.2	50	30	200	.03	3000
RFC-S- 0.27	0.27	70	45	470	0.4	5.3	45	40	200	.04	2700
RFC-S- 0.33	0.33	70	40	440	0.4	6.0	40	50	200	.05	2500
RFC-S- 0.39	0.39	65	40	400	0.4	6.3	40	55	200	.08	2000
RFC-S- 0.47	0.47	60	25	360	0.4	4.5	25	60	200	.08	2000
RFC-S- 0.56	0.56	55	25	330	0.4	4.8	25	80	200	.10	1700
RFC-S- 0.68	0.68	55	25	300	0.4	6.0	25	120	200	.12	1500
RFC-S- 0.82	0.82	50	25	275	0.4	6.2	25	120	200	.18	1300
RFC-S- 1.0	1.0	50	20	250	0.4	6.5	20	120	200	.24	1100
RFC-S- 1.2	1.2	45	20	220	0.4	6.5	20	120	200	.35	1000
RFC-S- 1.5	1.5	45	15	200	0.4	6.5	15	120	200	.43	850
RFC-S- 1.8	1.8	45	15	180	0.4	7.6	15	120	180	.65	720
RFC-S- 2.2	2.2	45	15	165	0.4	9.5	15	120	165	.80	610
RFC-S- 2.7	2.7	55	10	110	0.7	9	10	20	110	.12	1600
RFC-S- 3.3	3.3	55	10	100	0.7	11	10	25	100	.15	1400
RFC-S- 3.9	3.9	60	10	95	0.7	14	10	27	95	.23	1200
RFC-S- 4.7	4.7	70	7.9	90	0.7	17	8	30	90	.30	1000
RFC-S- 5.6	5.6	65	7.9	80	0.7	18	8	35	80	.45	900
RFC-S- 6.8	6.8	65	7.9	70	0.7	22	8	45	70	.55	800
RFC-S- 8.2	8.2	60	7.9	65	0.7	24	8	47	65	.65	720
RFC-S- 10	10	60	5	60	0.7	19	5	50	60	.73	650
RFC-S- 12	12	65	5	53	0.7	24	5	60	53	1.1	590
RFC-S- 15	15	80	2.5	47	0.7	19	2.5	70	47	1.4	500
RFC-S- 18	18	75	2.5	43	0.7	18	2.5	72	43	1.6	460
RFC-S- 22	22	75	2.5	40	0.7	26	2.5	75	40	1.8	430
RFC-S- 27	27	75	2.5	36	0.7	30	2.5	75	36	2.7	360
RFC-S- 33	33	85	2.5	32	0.7	44	2.5	80	32	3.5	300
RFC-S- 39	39	80	2.5	26	0.9	48	2.5	80	26	3.8	290
RFC-S- 47	47	80	2.5	22	1.1	60	2.5	80	22	4.0	275
RFC-S- 56	56	75	2.5	19	1.3	66	2.5	80	19	4.4	265
RFC-S- 68	68	75	2.5	16	1.5	83	2.5	80	14	4.7	250
RFC-S- 82	82	75	2.5	13	2.0	96	2.5	80	13	5.3	235
RFC-S- 100	100	75	1.5	10	2.5	72	1.5	80	9.5	6.0	220
RFC-M- 120	120	95	1.5	14	1.1	100	1.5	150	14	7.5	200
RFC-M- 150	150	90	1.0	11	1.3	85	1.0	150	11	8	190
RFC-M- 180	180	85	1.0	9	1.8	96	1.0	150	9	9	185
RFC-M- 220	220	85	1.0	7	2.2	112	1.0	150	7	10	180
RFC-M- 270	270	80	1.0	5.5	3.0	135	1.0	135	5.5	11	172
RFC-M- 330	330	80	.8	4.5	3.8	136	.8	120	4.5	12	165
RFC-M- 390	390	75	.8	4.0	4.1	147	.8	120	4.0	13	157
RFC-M- 470	470	75	.8	3.5	4.4	180	.8	120	3.5	14	150
RFC-M- 560	560	65	.8	3.1	4.7	183	.8	135	3.1	16	145
RFC-M- 680	680	65	.8	2.7	5.0	225	.8	150	2.7	17	140
RFC-M- 820	820	65	.8	2.5	5.0	225	.8	150	2.5	19	132
RFC-M-1000	1000	70	.5	2.3	5.0	225	.5	150	2.3	21	125
RFC-L- 1200	1200	75	.5	2.1	4.4	250	.5	160	2.1	27	137
RFC-L- 1500	1500	75	.4	1.9	4.5	290	.4	200	1.9	29	130
RFC-L- 1800	1800	65	.4	1.7	4.6	290	.4	200	1.7	32	125
RFC-L 2200	2200	65	.25	1.5	4.7	230	.25	200	1.5	35	120
RFC-L- 2700	2700	65	.25	1.3	5.0	277	.25	200	1.3	40	112
RFC-L- 3300	3300	65	.25	1.2	5.3	330	.25	200	1.2	45	105
RFC-L- 3900	3900	65	.25	1.05	5.6	395	.25	200	1.05	49	100
RFC-L- 4700	4700	65	.25	.95	6.2	470	.25	300	.95	53	95
RFC-L- 5600	5600	65	.25	.85	6.3	570	.25	300	.95	60	90
RFC-L- 6800	6800	65	.25	.75	6.3	700	.25	300	.75	67	85
RFC-L- 8200	8200	65	.25	.65	7.2	835	.25	400	.65	75	82
RFC-L-10000	10000	65	.15	.58	7.8	1040	.15	400	.58	80	80

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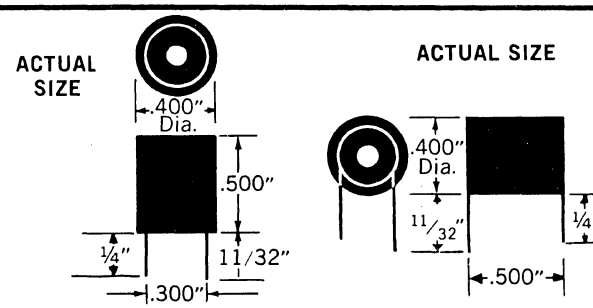
NYTRONICS, INC.® Inductors

ESSEX ELECTRONICS DIVISION

VARIABLE INDUCTOR

Miniature with inductance range of 0.10 to 4700uH in 29 values.
Encapsulated in epoxy resin for reliability.
Designed to meet MIL-C-15305A.



Terminal Leads #22 (.025 ± .002) TCW

VERTICAL STYLE HORIZONTAL STYLE

The **VARIABLE INDUCTOR** offers high reliability and exceptional stability over extreme temperature variations. This small lightweight unit is furnished in vertical and horizontal styles to facilitate mounting on printed circuit boards. The unit is designed to meet the requirements of MIL-C-15305A, Grade 1, Class B.

ELECTRICAL CHARACTERISTICS

Inductance Range: 0.33 to 4700uH Tunable Range ±20%
0.15 to 0.22uH Tunable Range ±15%
0.1 Tunable Range ±10%
All measurements at 25°C on Q-Meter using miniature alligator clips mounted 1/32" from body.
Q values ±20%

Self-Resonant Frequency: Minimum f_o to be not less than 80% of published data as measured with Grid-Dip Meter

DENSITY CHARACTERISTICS

Volume: 0.063 cubic inches

Weight: 2.6 grams

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Torque: 0.75 to 5.0 inch-ounces
Use Nytronics Tuning Tool No. B-305 or equal.

Operating Temperature: −55°C to +125°C

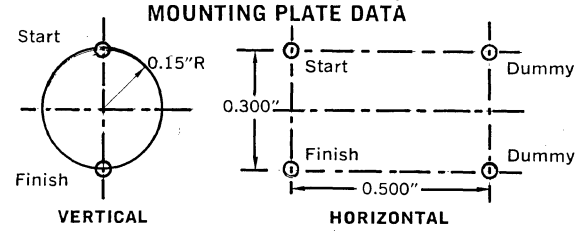
Terminal Strength: Meets five pound pull tests.

Moisture, Vibration, and Shock Resistance: Meets requirements of MIL-C-15305A, Grade 1, Class B. Low frequency 10 cps to 55 cps @ .06" total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of 3 mutually perpendicular planes. Shock: 50G, 11ms.

Marking: Manufacturer data printed.

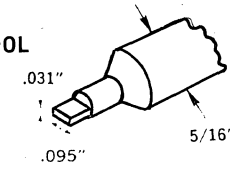
NYTRONICS PART NO.		L nom	Q at L nom		Approx. Fo, L nom	max DCR at 25°C
VIV	VIH	uH		MC	MC	Ω
VIV- 0.10	VIH- 0.10	0.10	85	25.	>500.	0.02
VIV- 0.15	VIH- 0.15	0.15	100	25.	>500.	0.035
VIV- 0.22	VIH- 0.22	0.22	100	25.	>500.	0.04
VIV- 0.33	VIH- 0.33	0.33	100	25.	334.	0.04
VIV- 0.47	VIH- 0.47	0.47	100	25.	285.	0.05
VIV- 0.68	VIH- 0.68	0.68	100	25.	237.	0.07
VIV- 1.00	VIH- 1.00	1.00	90	25.	205.	0.13
VIV- 1.50	VIH- 1.50	1.50	70	7.9	168.	0.24
VIV- 2.20	VIH- 2.20	2.20	73	7.9	135.	0.30
VIV- 3.30	VIH- 3.30	3.30	80	7.9	112.	0.45
VIV- 4.70	VIH- 4.70	4.70	75	7.9	100.0	0.80
VIV- 6.80	VIH- 6.80	6.80	80	7.9	80.0	1.1
VIV- 10.0	VIH- 10.0	10.0	82	7.9	67.0	1.9
VIV- 15.0	VIH- 15.0	15.0	65	2.5	54.2	3.2
VIV- 22.0	VIH- 22.0	22.0	55	2.5	17.5	3.4
VIV- 33.0	VIH- 33.0	33.0	54	2.5	15.0	3.6
VIV- 47.0	VIH- 47.0	47.0	51	2.5	13.2	4.5
VIV- 68.0	VIH- 68.0	68.0	55	2.5	12.0	5.5
VIV- 100	VIH- 100	100.0	50	2.5	10.5	6.7
VIV- 150	VIH- 150	150.	50	.79	3.0	11.0
VIV- 220	VIH- 220	220.	50	.79	2.70	13.0
VIV- 330	VIH- 330	330.	48	.79	2.24	16.0
VIV- 470	VIH- 470	470.	45	.79	1.90	18.0
VIV- 680	VIH- 680	680.	42	.79	1.70	21.0
VIV-1000	VIH-1000	1000.	40	.79	1.40	38.0
VIV-1500	VIH-1500	1500.	40	.25	1.14	54.0
VIV-2200	VIH-2200	2200.	44	.25	0.96	66.0
VIV-3300	VIH-3300	3300.	46	.25	0.86	85.0
VIV-4700	VIH-4700	4700.	48	.25	0.76	99.0

MOUNTING PLATE DATA



TYPICAL ALIGNING TOOL

B-305



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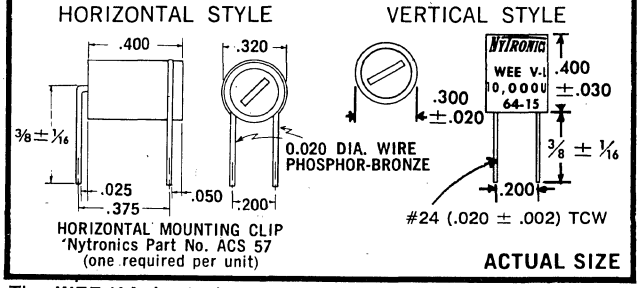
NYTRONICS, INC.® Inductors

ESSEX ELECTRONICS DIVISION

WEE V-L

Subminiature Shielded Adjustable Inductor
High Q Values
Vertical or Horizontal* Mounting
Unitized Epoxy-Molded Construction
0.400" by 0.300"
0.10 to 100,000uH



The **WEE V-L** is designed to accommodate close inductance adjustments in high-density circuits that demand exceptional stability and high "Q" in the smallest size available.
The **WEE V-L** is designed to meet MIL-C-15305C, Grade 1, Class B. Printed board mounting is facilitated by 0.200 grid spacing and unit has shield construction to allow maximum density packaging. Standardized in 73 stock values.

ELECTRICAL CHARACTERISTICS

Adjustable Inductance Range: ±10%** over entire range as measured per MIL-C-15305C

Q and f_o Values: Minimum not less than 80% of specified value at L nominal.

Dielectric Strength: 840 Volts R.M.S. at sea level.

Working Voltage: 300 Volts D.C.

Maximum Current: Based on temperature rise not to exceed 35°C at 90°C ambient.

Incremental Current: Defined as the DC current required to cause a five percent reduction in the nominal inductance value.

DENSITY CHARACTERISTICS

Weight: 1.5 grams maximum

Volume: .0346 cubic inches

Shielding: 3% coupling maximum when two units are tested side by side.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Use Nytronics Tuning Tool No. B-469 or equal.

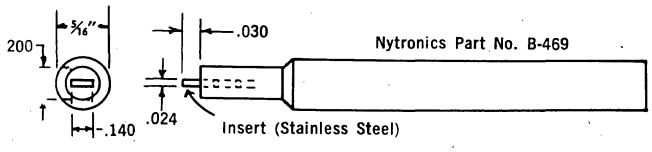
Torque: 0.75 to 6.0 inch-oz.

Operating Temperature: −55°C to +125°C.

Moisture, Vibration, and Shock Resistance: Meet requirements of MIL-C-15305C, Grade 1, Class B. Low frequency 10 to 55 cps @ .06" maximum total excursion at rate of 1 linear sweep per minute for 2 hours repeated for each of three mutually perpendicular planes. Shock: 50G, 11 MS. (body mounted)

Marking: Manufacturer data printed.

Terminal Pull: Three pounds.



NYTRONICS CATALOG NO.	L nom.	f	Q nom.	Fo nom.	D.C.R. 25°C Max.	Max. I	Incr. I
	uh	MC		MC	ohms	m.a.	m.a.
**WEE V-L 0.10	.10	25	70	>250	0.030	2500	2500
**WEE V-L 0.12	.12	25	70	>250	0.030	2500	2500
WEE V-L 0.15	.15	25	70	>250	0.030	2500	2500
WEE V-L 0.18	.18	25	70	>250	0.035	2400	2400
WEE V-L 0.22	.22	25	70	>250	0.038	2300	2300
WEE V-L 0.27	.27	25	80	>250	0.040	2200	2200
WEE V-L 0.33	.33	25	80	>250	0.040	2200	2200
WEE V-L 0.39	.39	25	80	250	0.045	2100	2100
WEE V-L 0.47	.47	25	80	230	0.045	2100	2100
WEE V-L 0.56	.56	25	80	220	0.050	2000	2000
WEE V-L 0.68	.68	25	80	190	0.055	1900	1900
WEE V-L 0.82	.82	25	85	180	0.060	1800	1800
WEE V-L 1.00	1.00	25	85	160	0.070	1700	1700
WEE V-L 1.2	1.2	7.9	90	170	0.085	1670	1670
WEE V-L 1.5	1.5	7.9	100	155	0.100	1540	1540
WEE V-L 1.8	1.8	7.9	115	135	0.110	1470	1470
WEE V-L 2.2	2.2	7.9	110	120	0.120	1410	1410
WEE V-L 2.7	2.7	7.9	110	104	0.125	1380	1380
WEE V-L 3.3	3.3	7.9	90	93.0	0.165	1200	1200
WEE V-L 3.9	3.9	7.9	90	87.0	0.180	1135	1135
WEE V-L 4.7	4.7	7.9	95	79.0	0.245	985	985
WEE V-L 5.6	5.6	7.9	95	72.0	0.265	950	950
WEE V-L 6.8	6.8	7.9	85	63.0	0.330	853	853
WEE V-L 8.2	8.2	7.9	95	60.0	0.460	720	720
WEE V-L 10	10	7.9	90	54.0	0.640	620	620
WEE V-L 12	12	2.5	120	37.0	0.800	545	545
WEE V-L 15	15	2.5	120	28.8	0.865	520	520
WEE V-L 18	18	2.5	115	23.8	0.940	504	504
WEE V-L 22	22	2.5	125	21.3	1.03	460	460
WEE V-L 27	27	2.5	115	20.6	1.18	418	418
WEE V-L 33	33	2.5	120	18.6	1.30	398	398
WEE V-L 39	39	2.5	120	17.7	1.41	385	385
WEE V-L 47	47	2.5	110	14.9	1.61	350	350
WEE V-L 56	56	2.5	115	13.9	2.08	330	330
WEE V-L 68	68	2.5	105	12.9	2.20	320	320
WEE V-L 82	82	2.5	105	11.7	2.42	300	300
WEE V-L 100	100	2.5	95	10.5	2.15	333	333
WEE V-L 120	120	0.790	95	5.60	2.38	316	190
WEE V-L 150	150	0.790	90	5.20	2.52	306	175
WEE V-L 180	180	0.790	95	4.90	2.88	288	150
WEE V-L 220	220	0.790	95	4.60	3.18	273	125
WEE V-L 270	270	0.790	100	4.20	3.50	260	120
WEE V-L 330	330	0.790	100	3.55	4.80	222	110
WEE V-L 390	390	0.790	100	3.45	5.44	209	105
WEE V-L 470	470	0.790	100	3.20	5.90	201	100
WEE V-L 560	560	0.790	95	2.90	6.30	194	90
WEE V-L 680	680	0.790	100	2.70	7.20	181	80
WEE V-L 820	820	0.790	90	2.50	8.00	172	70
WEE V-L 1,000	1,000	0.790	100	2.35	12.0	141	65
WEE V-L 1,200	1,200	0.250	95	2.20	13.5	132	60
WEE V-L 1,500	1,500	0.250	90	1.90	16.5	119	55
WEE V-L 1,800	1,800	0.250	100	1.80	18.0	114	47
WEE V-L 2,200	2,200	0.250	100	1.70	20.5	107	43
WEE V-L 2,700	2,700	0.250	95	1.50	22.5	102	39
WEE V-L 3,300	3,300	0.250	90	1.40	42.0	76	36
WEE V-L 3,900	3,900	0.250	85	1.27	47.5	71	35
WEE V-L 4,700	4,700	0.250	85	1.24	53.0	67	34
WEE V-L 5,600	5,600	0.250	85	0.93	62.5	65	31
WEE V-L 6,800	6,800	0.250	75	0.79	69.5	58	27
WEE V-L 8,200	8,200	0.250	80	0.75	75.0	56	26
WEE V-L 10,000	10,000	0.250	70	0.70	100.0	49	24
WEE V-L 12,000	12,000	0.079	70	.50	64	60	40
WEE V-L 15,000	15,000	0.079	70	.38	84	52	34
WEE V-L 18,000	18,000	0.079	70	.36	93	50	30
WEE V-L 22,000	22,000	0.079	70	.32	104	45	28
WEE V-L 27,000	27,000	0.079	70	.30	173	35	26
WEE V-L 33,000	33,000	0.079	70	.27	187	32	24
WEE V-L 39,000	39,000	0.079	70	.26	220	30	22
WEE V-L 47,000	47,000	0.079	70	.25	253	28	20
WEE V L 56,000	56,000	0.079	70	.24	285	26	19
WEE V-L 68,000	68,000	0.079	60	.20	311	24	18
WEE V-L 82,000	82,000	0.079	60	.19	385	22	16
WEE V-L 100,000	100,000	0.079	60	.17	420	20	15

*For Horizontal mounting use Nytronics mounting clip No. ACS-57 or order with prefix H (i.e. H WEE V-L 0.10).

**Tunable range ±5.0% on 0.10uH & 0.12uH

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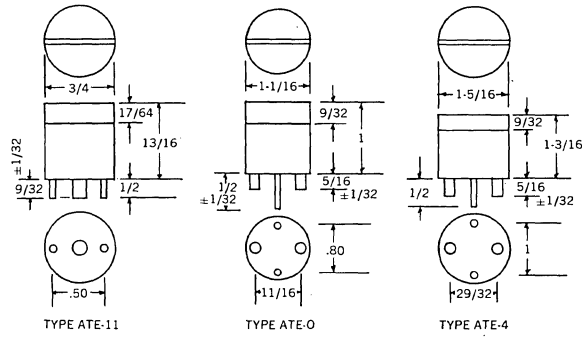
NYTRONICS, INC.® Inductors

ESSEX ELECTRONICS DIVISION

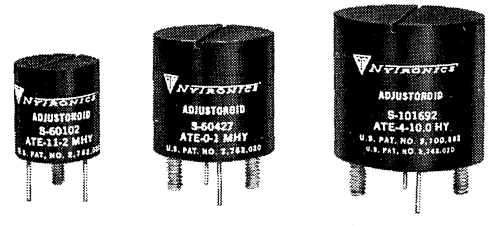
ADJUSTOROID

(U.S. Patent Numbers 2,762,020 and 3,100,882)

Miniature Variable Toroid
Stepless Adjustment
Very High "Q"
Available to 12 Henries
Completely Hermetically Sealed
Fully Shielded



This radically new development in the toroidal coil field offers a miniature variable toroid in one of three case sizes as shown above. The **ADJUSTOROID** was developed especially for printed circuit and similar lightweight applications. This unit is hermetically sealed, and there is no physical contact between the adjusting screw and the toroidal winding.



ELECTRICAL CHARACTERISTICS:

Adjustable Inductance Range: Not less than ±5% from nominal

Q and fo values: Minimum not less than 80% of specified value at nominal inductance.

Incremental Current: Defined as the D.C. current required to cause a 5% reduction in the nominal inductance value.

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS:

Weight: Type ATE-11: 0.83 oz.
Type ATE-0: 2.0 oz.
Type ATE-4: 4.0 oz.

Moisture Resistance: Hermetically sealed to meet MIL-C-15305A.

Nytronics Catalog No.	L nom. (Hy)	Q Nom.	Freq. (KC)	Fo Nom. (KC)	DCR Nom. (Ω)	Incr. I (Ma.)
ATE-11-0.010	.010	75	15	350	6	55
ATE-11-0.012	.012	75	15	300	8	51
ATE-11-0.015	.015	75	15	250	9	45
ATE-11-0.018	.018	75	15	250	10	41
ATE-11-0.022	.022	75	15	200	13	37
ATE-11-0.027	.027	75	15	200	14	34
ATE-11-0.033	.033	70	15	150	20	30
ATE-11-0.039	.039	70	15	150	22	28
ATE-11-0.047	.047	70	15	150	29	25
ATE-11-0.056	.056	70	15	100	32	23
ATE-11-0.068	.068	65	10	100	35	21
ATE-11-0.082	.082	65	10	100	48	19
ATE-11-0.100	.100	60	10	95	53	17
ATE-11-0.120	.120	60	10	90	58	16
ATE-11-0.150	.150	55	10	80	85	14
ATE-11-0.180	.180	55	10	70	92	13
ATE- 0-0.220	.220	95	7	45	55	21
ATE- 0-0.270	.270	95	7	40	76	19
ATE- 0-0.330	.330	95	7	35	83	17
ATE- 0-0.390	.390	90	6	35	111	16
ATE- 0-0.470	.470	90	6	30	122	14
ATE- 0-0.560	.560	90	6	25	181	12
ATE- 0-0.680	.680	85	6	20	185	12
ATE- 0-0.820	.820	85	6	20	202	11
ATE- 0-1.00	1.00	85	5	20	291	10
ATE- 0-1.20	1.20	80	5	20	320	9
ATE- 0-1.50	1.50	80	5	15	358	8
ATE- 4-1.80	1.80	100	4	13	198	14
ATE- 4-2.20	2.20	90	3	12	220	13
ATE- 4-2.70	2.70	90	3	11	300	11
ATE- 4-3.30	3.30	90	3	9	331	10
ATE- 4-3.90	3.90	80	2	8	455	9
ATE- 4-4.70	4.70	80	2	7	500	8
ATE- 4-5.60	5.60	80	2	7	545	8
ATE- 4-6.80	6.80	60	1.5	6	785	7
ATE- 4-8.20	8.20	60	1.5	5	862	6
ATE- 4-10.0	10.0	40	1	5	1207	6
ATE- 4-12.0	12.0	40	1	4	1323	5

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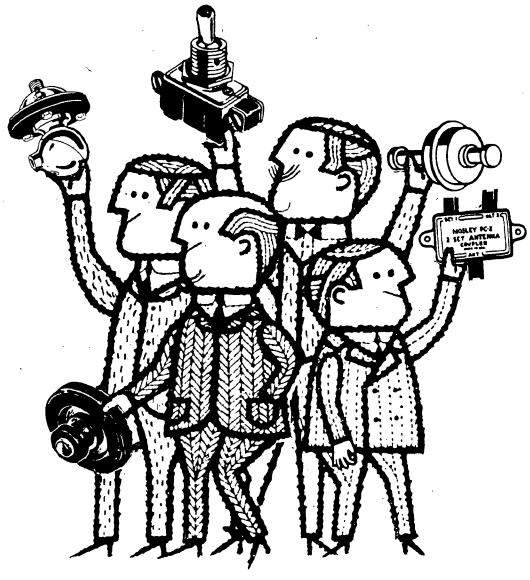

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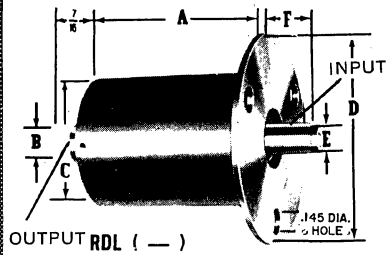
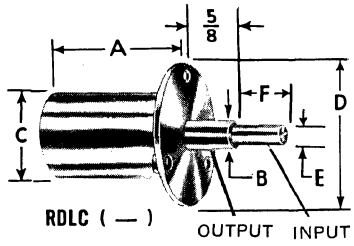
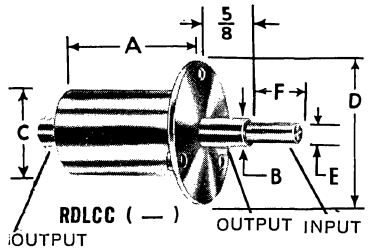
JAN HARDWARE MANUFACTURING COMPANY, INC.



OUTPUT **RDL (—)**



RDLC (—) OUTPUT INPUT



RDLCC (—) OUTPUT INPUT OUTPUT

RATIO DRIVES

for FINE INSTRUMENT AND MACHINE CONTROLS

Ball Bearing Type **Compact, durable, exceptionally smooth action**

These unique ratio drives employ precision ball bearings. Used for rotary control of components in instruments, they provide unexcelled smooth motion. Ruggedly built, permanently sealed and lubricated, JAN Ratio Drives accommodate applications where miniaturization is essential.

Input and output shafts of these units operate in the SAME DIRECTION. Type "RDL" provides "in-line" input-output shafts. Type "RDLC" is supplied with **concentric** shafts whereby the output envelopes the input shaft. An added feature of type RDLCC is the output shaft in the rear.

CAT. No.	RATIO	A	B O.D.	B I.D.	C	D	Input Shaft E	F	Bolt-Mtg. Dia.
RDL-1	2.6-1	1	3/8	1/4	1 1/8	1 13/16	1/4	3/4	1 15/32
RDL-2	7.0-1	1 13/32	3/8	1/4	1 1/8	1 13/16	1/4	3/4	1 15/32
RDL-3	17.0-1	1 13/16	3/8	1/4	1 1/8	1 13/16	1/4	3/4	1 15/32
RDLC-1	2.6-1	1	3/8	1/4	1 1/8	1 13/16	1/4	1 1/2	1 15/32
RDLC-2	7.0-1	1 13/32	3/8	1/4	1 1/8	1 13/16	1/4	1 5/64	1 15/32
RDLC-3	17.0-1	1 13/16	3/8	1/4	1 1/8	1 13/16	1/4	23/32	1 15/32
RDLCC-1	2.6-1	1 13/32	3/8	1/4	1 1/8	1 13/16	1/4	1 5/64	1 15/32
RDLCC-3	17.0-1	2 43/64	3/8	1/4	1 3/16	1 55/64	1/4	11/16	1 15/32

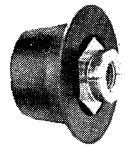
ALL RATIOS ARE ±10%

KNOB RATIO DRIVE

9 to 1 ratio (to dial skirt). 1:1 to potentiometer.

Cat. No. KRD-11
(plain gripping surface)

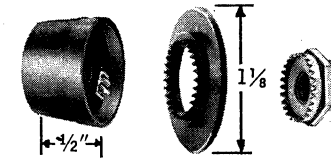
Cat. No. KRD-12
(knurled gripping surface)



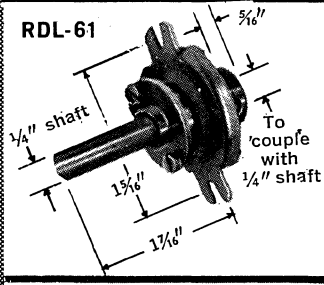
Exploded view shows engineered miniature gear system, to permit precise, fine tuning of controls. As shown, 9 to 1 ratio (to dial skirt). 1:1 to potentiometer. Other ratios designed to specifications.

Brass gears; black anodized aluminum knob and dial. Available with knurled or non-knurled outside knob.

Available for 1/8" shafts. 1/4" on special order.



RDL-61



IN-LINE RATIO DRIVE

6.3 : 1

Variations available to customers specifications.

For smooth rotary control of components requiring Vernier adjustments. Suitable for use where panel space is at a premium. Durable, ruggedized ball bearing mechanism.

LIMIT STOP COMPONENTS

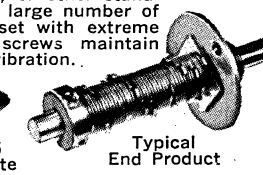
Designers can now consider the limit stop as a component to design with, such as potentiometers, capacitors, or other standard units. The simplicity of adjustment and the large number of available turns enables the stop range to be set with extreme precision. Conveniently located dual locking screws maintain settings under all conditions of shock and vibration.

Available for 1/4" and 3/16" shafts.
Specify — (3) for 3/16"
— (4) for 1/4"

LS 552 Washer

LS 554 Collar

LS 556 Stop Plate

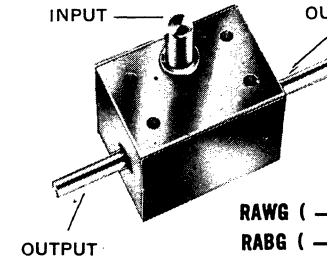

Typical End Product

RIGHT ANGLE RATIO DRIVES

Versatile, miniaturized, right angle rotary controls.

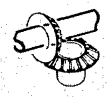
Featuring dual output stainless steel shafts at right angles to input, these engineered drives provide an ideal type of instrument control. Available with matched bevel or worm gears covering a wide range of ratios.

JAN'S RIGHT ANGLE DRIVES are especially useful for handling spring or gravity-loaded components since the output shaft automatically locks in any desired position yet remains free for smooth adjustment by the input shaft. Assembled in dust-proof housings, the gears are permanently pinned in place on stainless-steel shafts mounted in oilite bearings and held under constant pressure.



RAWG (—)
RABG (—)

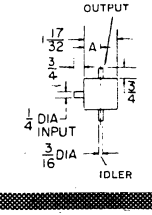
BEVEL GEAR RIGHT ANGLE DRIVES

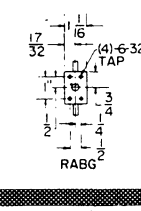


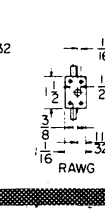
CAT. No.	RATIO	"A"
RABG-1	1:1	7/8
RABG-2	2:1	7/8
RABG-3	3:1	7/8

WORM GEAR RIGHT ANGLE DRIVES

CAT. No.	RATIO	"A"
RAWG-1	5:1	3/4
RAWG-2	10:1	3/4
RAWG-22	12:1	3/4
RAWG-3	20:1	3/4







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JAN HARDWARE MANUFACTURING COMPANY, INC.

U.S. PATENT NO. 2,681,378

HI-VOLTAGE INSULATED COUPLINGS

MEETS MIL SPECS: TEMPERATURE - HUMIDITY - SHOCK - VIBRATION - FUNGUS

HI-VOLTAGE INSULATED COUPLINGS

15 KV Breakdown 10 inch pounds torque

Series No. AK-5079 & No. AK-5164

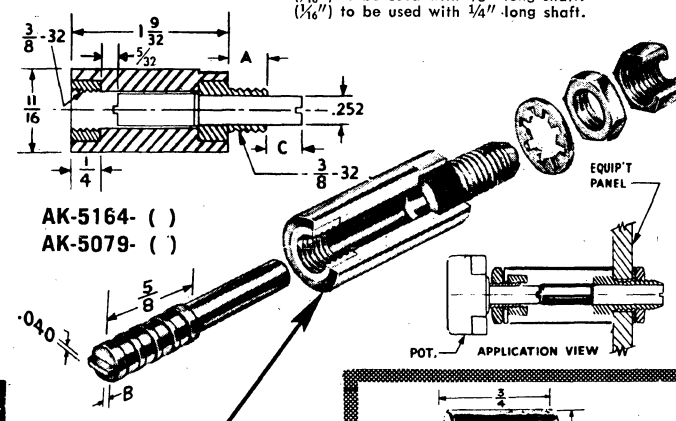
Engineered with stainless steel shaft and precision, screw-driver tip molded integrally with Diallyl Phthalate Material in accordance with Military Specifications. Completely shock, vibration and fungus proof, they operate with ease over an ambient temperature range of —75 to +175° C. Supplied complete with nickel plated mounting hardware.

Stainless steel screw driver tip fits all standard slotted shafts (potentiometer, etc.) without need for further machining. Ideally suited to adjust high voltage controls thus protecting operating personnel against danger. They are also used to reduce ground capacitance on other types of sensitive instrument controls.

For Commercial Instrument Applications . . .
These couplings are available in general Purpose Black Bakelite.
Cat. No. 6164-(X or B)-( ) For Standard Type
Cat. No. 6079-(X or B)-( ) with Locking Type Bushing.
Dimensions are identical with 5000 series, in chart above.

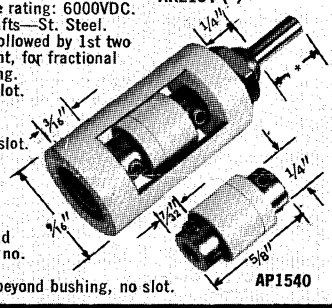
	CAT No.	"A"	"B" *	SHAFT	"C"
STANDARD TYPE	AK-5164-X-1	3/8"	3/16"	Slotted	5/16"
	AK-5164-B-1	3/8"	1/16"	Slotted	5/16"
	AK-5164-X-2	3/8"	3/16"	Slotted	15/32"
	AK-5164-B-2	3/8"	1/16"	Slotted	15/32"
	AK-5164-X-3	3/8"	3/16"	No Slot	15/16"
	AK-5164-B-3	3/8"	1/16"	No Slot	15/16"
	AK-5164-X-4	3/8"	3/16"	No Slot	1 7/16"
	AK-5164-B-4	3/8"	1/16"	No Slot	1 7/16"
	AK-5164-X-5	3/8"	3/16"	Slotted	Minus 1/16"
	AK-5164-B-5	3/8"	1/16"	Slotted	Minus 1/16"
WITH LOCKING TYPE BUSHING	AK-5079-X-1	9/16"	3/16"	Slotted	1/8"
	AK-5079-B-1	9/16"	1/16"	Slotted	1/8"
	AK-5079-X-2	9/16"	3/16"	Slotted	9/32"
	AK-5079-B-2	9/16"	1/16"	Slotted	9/32"

*(3/16") to be used with 1/8" long shaft.
(1/16") to be used with 1/4" long shaft.



Hi-Voltage Insulated Couplings for 1/8" shafts. AK2164-(*)
White Cycalac material. Voltage rating: 6000VDC.
Hubs—Brass, Nickel Pltd.; Shafts—St. Steel.
*Insert letter "S" or "N" followed by 1st two numbers of decimal equivalent, for fractional length of shaft beyond bushing.
"S" = with slot. "N" = no slot.

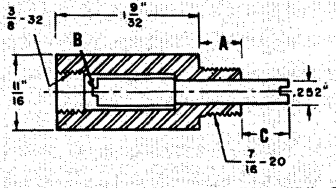
Typical part number:
AK2164-N31 = 5/16" long shaft beyond bushing (standard), no slot.
If length is 1" use "X"
Typical part numbers:
AK2164-SX = 1" long shaft beyond bushing, slotted.
If length exceeds 1", use "X" and decimal equivalent for balance of no.
Typical part numbers:
AK2164-NX31 = 1 5/16" long shaft beyond bushing, no slot.

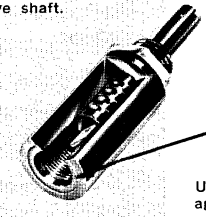


COMMERCIAL INSULATED COUPLINGS

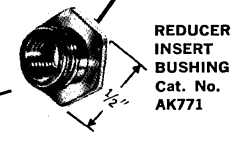
30 KV Breakdown **Series No. AK-4160**
10 inch pounds torque **For TV and Industrial Applications**

These handy couplings, capable of withstanding 30 KV, are made of high grade Bakelite throughout except for the stainless steel screwdriver tip molded within the drive shaft. Mounting hardware supplied.



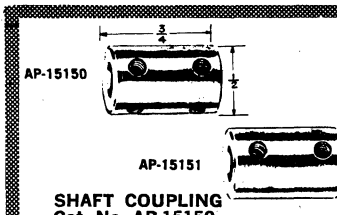


	CAT No.	"A"	"B"	SHAFT	"C"
STANDARD TYPE	AK-4160-X-1	3/8"	3/8"	Slotted	1/8"
	AK-4160-B-1	3/8"	3/16"	Slotted	1/8"
	AK-4160-X-2	3/8"	3/8"	No Slot	1/2"
	AK-4160-B-2	3/8"	3/16"	No Slot	1/2"



REDUCER INSERT BUSHING Cat. No. AK771

Used as an adapter with high voltage insulated couplings to accommodate miniature (1/8" shaft) potentiometers. External thread 3/8x32. Internal thread 5/4x32.

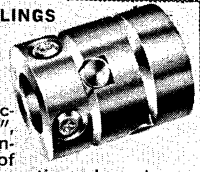


SHAFT COUPLING
Cat. No. AP-15150
A rugged, nickel plated brass coupling for joining two 1/4" shafts. Supplied with 4 set screws for firm attachment to shafts.

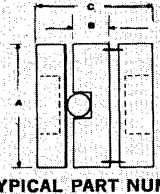
CAT. NO. AP-15151
Same as above, 2 set screws.

AUTOLINEAR (INSULATED) SHAFT COUPLINGS

2.5 - 5KV BREAKDOWN
Universal, miniature, self-aligning
Cat. No. AP-1530 & AP-1538



A unique series of shaft couplers that accommodate either similar or disimilar 1/8", 3/16" or 1/4" shafts. Permits offset misalignment to 1/16" and 5° angle. Operates free of backlash. Self-extinguishing low water absorption characteristic plastic insulator between precision cast aluminum hubs. Each hub has 2 set screws for firm attachment. Alodine finish.



PART NO.		DIA. HOLE "A"	"B"	"C"
AP-1530	-2	1/8"	1/2"	13/64"	5/64" ± 1/32"
	-3	3/16"			
	-4	1/4"			
AP-1538	-2	1/8"	1/2"	27/64"	17/64" ± 1/32"
	-3	3/16"			
	-4	1/4"			

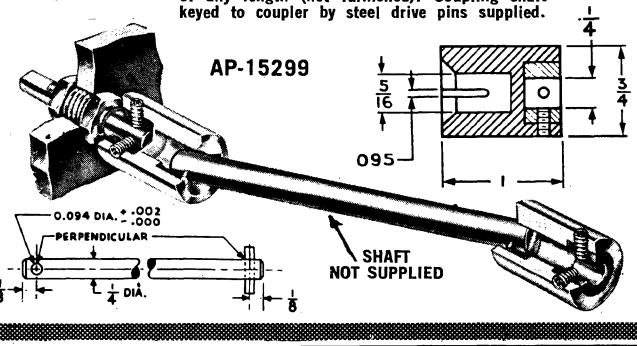
TYPICAL PART NUMBERS: VOLTAGE RATING:
AP-1530-34 **AP-1530 — 2500 VOLTS**
AP-1538-22 **AP-1538 — 5000 VOLTS**

OFFSET-SHAFT (INSULATED) COUPLINGS

10 KV Breakdown—±30° Offset
Cat. No. AP-15299

Highly versatile, durable insulated couplings made with single-unit, molded Nylon-to-metal insert construction. Application requires two couplings—permits smooth control for two parallel shafts offset from each other up to 30 degrees at separations greater than 3 inches. Secured to component and control shafts by 2 set screws.

Note: Coupling is accomplished with a 1/4" shaft of any length (not furnished). Coupling shaft keyed to coupler by steel drive pins supplied.



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JAN HARDWARE MANUFACTURING COMPANY, INC.

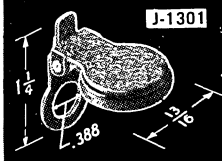
JACK COVERS (TRIMMER COVERS)

These sturdy Jack Covers fit jack or panel bushings and are used to keep out dust and moisture as well as to prevent inadvertent disturbance of control settings. Outer surfaces are finished in standard colors of baked enamel.

To Order Colors: Specify:
(-1) Black Wrinkle; (-2) Smooth Gray; (-3) Smooth Olive; (-4) Smooth Black. Other colors on request.

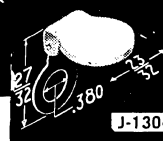
Example: Jack cover, color black wrinkle, order as J-1301 (-1)

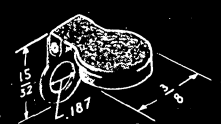
J-1301 ( ) STANDARD JACK COVER



J-1303 ( ) WATERPROOF JACK COVER Gasket & Nut

J-1304 ( ) MINI-JACK COVER





J-1305 ( ) SUB-MINI JACK COVER

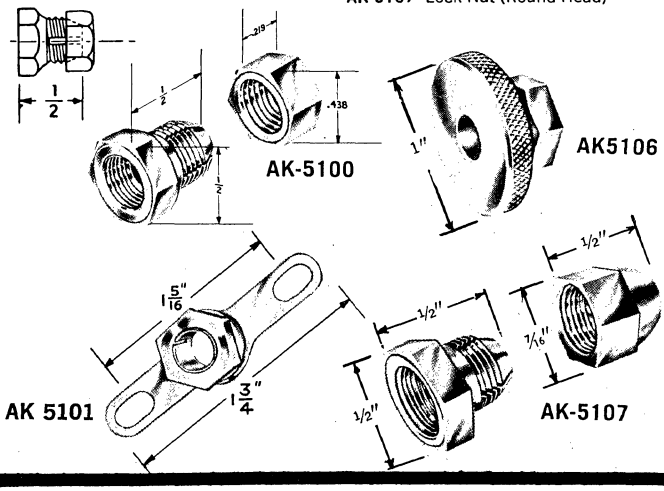
SHAFT LOCKS

Cat. No. AK-5100 thru No. AK-5107
Split-bushing, collet type locks.

Used to securely hold the shaft of volume controls, capacitors, switches, etc. in position. Body and lock nut are brass—nickel plated. Supplied with nickel plated internal tooth lock washers, upon request.

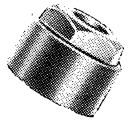
SPLIT BUSHING TYPE For 1/4" shafts

AK-5100 Standard Lock Nut
AK-5101 Panel Mount Type
AK-5106 Knurled Shaft Lock (1" O.D. Knurl)
AK-5107 Lock Nut (Round Head)



NYLON SHAFT LOCK

Cat. No. AK-1050

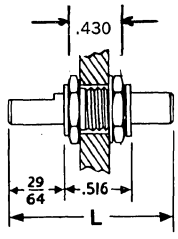


One-piece, black nylon; fits standard 3/8"-32 thread of shaft bushing. Friction grip holds 1/4" shaft to prevent accidental or vibrational disturbance of control settings. Adjustment for semi-permanent locking, provided.

PANEL BEARING & SHAFT ASSEMBLIES

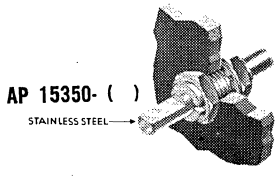
Cat. No. AP-15350 series

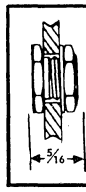
Used for rotary control of components. Passivated stainless steel shaft is 1/4" dia. with one end flattened for attaching to knob control by set screws. Supplied completely assembled with two retaining rings, jam nut with lock washer and nickel plated, brass panel bearing. Fits panels up to 3/16" thick; mounts in 13/32" dia. hole.



AP 15350

AP 15350- ( )
STAINLESS STEEL →

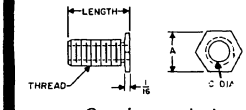




Cat. No. AK 5511 Panel Bearing Assembly.
Shafts available on special order

Cat. No.	Item	"L" Shaft Length
AP 15350	Panel Bearing	—
AP 15350-1	Panel Bearing & Shaft Assembly	1 5/16"
AP 15350-2		3"
AP 15350-3		6"

PANEL BUSHING FOR 1/4 & 3/8 SHAFT
TOL. ±.005



LENGTH	A=3/8 1/4-28 THREAD	A=1/2 3/8-32 THREAD
3/8	PB 60614	PB 80638
7/16	PB 60714	PB 80738
1/2	PB 60814	PB 80838
5/8	PB 61014	PB 81038
3/4	PB 61214	PB 81238

THREAD	"C" DIA.
1/4-28	.127
3/8-32	.252

EXAMPLE (TO ORDER)
PT. NO. PB 60814-B= 1/4-28 TH'D., 1/2 LG. PANEL BUSHING - BRASS W/.127 HOLE.

BUSHING SUPPLIED WITH MTG. NUT & INT. TOOTH LOCKWASHER.

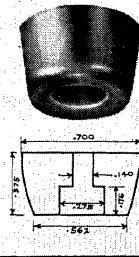
Can be made to order with special nylon bearings.

CHASSIS & CABINET BUMPERS

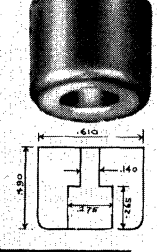
Durable, low-friction polyethylene. Guards against scuffing. Supplied in either black or russet brown, with recessed hole for screw or bolt usage.

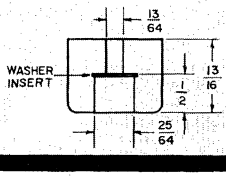
To Order Colors:
Black, specify (4);
Brown specify (7).
Other colors on request.

Cat. No. AK575 ( )



Cat. No. AK574 ( )





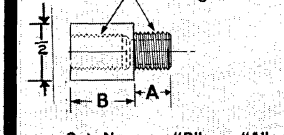
No. AK 576-4 HEAVY DUTY CHASSIS & CABINET BUMPER.
(with steel washer insert).
Molded neoprene. 1" Diameter, 13/16" high. Configuration similar to AK 574 above. Color. Black. Other colors on request.

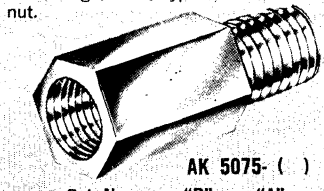
BUSHING EXTENDERS

Cat. No. AK-5075-1 thru No. AK-5075-11

Permit staggered mounting of components having 1/4" shafts, behind a panel. Useful in meeting problems of space economy. Supplied in nickel plated brass.

Note: Extender No. AK-5075-9 is a locking (collet) type and is supplied by JAN with lock nut.





AK 5075- ( )

Cat. No.	"B"	"A"
AK5075-1	5/8"	3/8"
AK5075-2	5/8"	1/4"
AK5075-3	5/8"	3/16"
AK5075-4	3/4"	1/4"
AK5075-5	2 1/4"	1/4"
AK5075-6	1 3/8"	1/4"
AK5075-7	1 7/16"	3/16"
AK5075-8	1 1/16"	1/4"
AK5075-9	1 1/16"	1/2"
AK5075-10	1 21/64"	3/16"
AK5075-11	55/64"	7/16"

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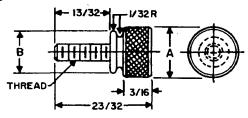
JAN HARDWARE
MANUFACTURING COMPANY, INC.

New Items

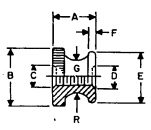
THUMB SCREW
TOL. ±.005



THREAD	A DIA.	B DIA.	PT. NO.
6-32	3/8	5/16	TS 6056
	7/16	3/8	TS 7066
	1/2	7/16	TS 8076
8-32	3/8	5/16	TS 6058
	7/16	3/8	TS 7068
	1/2	7/16	TS 8078
10-32	3/8	5/16	TS 60510
	7/16	3/8	TS 70610
	1/2	7/16	TS 80710

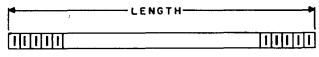
EXAMPLE (TO ORDER)
PT. NO. TS6058-B = 8-32 X 13/32 LG. THREAD, THUMB SCREW-BRASS

THUMB NUT KNURLED
TOL. ±.005



THREAD SIZE	A	B DIA.	C DIA.	D DIA.	E DIA.	F	G	R RAD.	PART NO.
4-36	1/4	3/8	1/8	.147	5/16	3/64	7/32	3/64	KN436
4-40	1/4	3/8	1/8	.147	5/16	3/64	7/32	3/64	KN440
6-32	1/4	3/8	9/64	.169	5/16	3/64	7/32	3/64	KN632
6-32	9/32	13/32	9/64	13/64	11/32	3/64	7/32	1/16	KN6321
8-32	5/16	7/16	11/64	15/64	3/8	1/16	1/4	1/16	KN832
10-24	21/64	1/2	13/64	17/64	7/16	1/16	9/32	.070	KN124
10-32	21/64	1/2	13/64	17/64	7/16	1/16	9/32	.070	KN132
12-24	11/32	9/16	7/32	19/64	1/2	1/16	21/64	.070	KN224
1/4-20	3/8	5/8	17/64	21/64	9/16	1/16	23/64	5/64	KN420

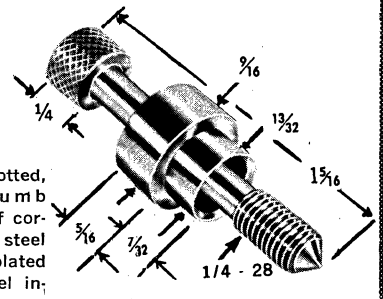
THREADED ROD
1/4-20 THREAD
2" EACH END



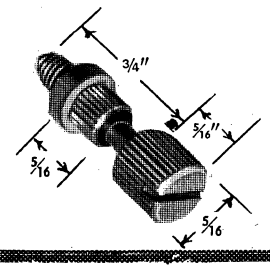
LENGTH		LENGTH		LENGTH		LENGTH		LENGTH		LENGTH	
4-1/2	TR 1445	7	TR 1470	9-1/2	TR 1495	12	TR 14120	14-1/2	TR 14145	17-1/2	TR 14175
5	TR 1450	7-1/2	TR 1475	10	TR 14100	12-1/2	TR 14125	15	TR 14150	18	TR 14180
5-1/2	TR 1455	8	TR 1480	10-1/2	TR 14105	13	TR 14130	15-1/2	TR 14155	18-1/2	TR 14185
6	TR 1460	8-1/2	TR 1485	11	TR 14110	13-1/2	TR 14135	16	TR 14160	19	TR 14190
6-1/2	TR 1465	9	TR 1490	11-1/2	TR 14115	14	TR 14140	16-1/2	TR 14165	19-1/2	TR 14195
								17	TR 14170	20	TR 14200

MATERIALS B = BRASS, A = ALUMINUM, SS = STAINLESS STEEL.

CAPTIVE SCREW & NUT ASSEMBLIES



Cat. No. Ap-711
Consists of slotted, knurled thumb screws made of corrosion resistant steel bar, and nickle-plated (on brass) panel inserts.

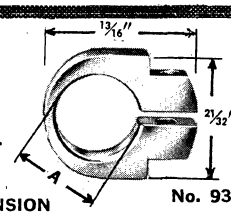


Cat. No. AP1039
Insert, Captive

Cat. No. AP1040
Screw, Captive

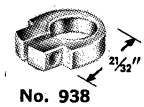
"NO-MAR" CLAMPS

Set screw does not touch shaft.
Ideal for knob and gear applications.
Variety of sizes available.



A DIMENSION

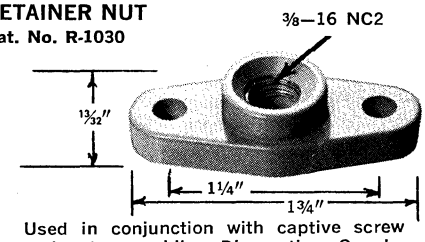
No. 937



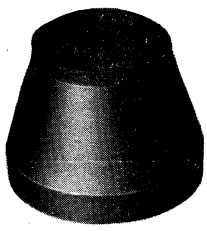
No. 938

Cat. No.	–2	–3	–4	–5	–6	–7	–8
937	1/8"	3/16"	1/4"	5/16"	3/8"	13/32"	1/16"
938	1/8"	3/16"	1/4"	5/16"	3/8"	13/32"	

RETAINER NUT
Cat. No. R-1030



Used in conjunction with captive screw and nut assemblies. Die casting. Can be painted. Other thread sizes available upon special order.



Cat. No. H 465
VIEWING HOOD
and/or ADAPTER

Can be used as viewing hood, on 2¾" dia. bezels. (#1427; 1428; 1429). Also serves as adapter to permit use of face-fitting neoprene rubber viewing hoods. (see above). All aluminum. Dull black enamel finish.

VIEWING HOOD
No. H-689-1 (5⅝" I.D.)

Black neoprene rubber. contour-molded, fits shape of face. Keeps out ambient light when viewing scope.

Used with following Jan Bezels: 19636; 19495; 13584; 1465

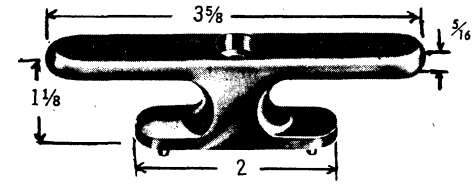
No. H-689-2 (4⅞" I.D.)

Used with Jan Bezel #545

VIEWING HOOD
to fit rectangular bezels
Cat. No. H-1008

Black, contour molded neoprene rubber. Keeps ambient light out, when viewing scope. Fits shape of face. Can be adapted for smaller I.D.'S.

Used with Jan Bezel #1328. Can be adapted for #1533-P



HANDLE, CORD **Cat. No. H-692-1**

This durable, die-cast aluminum handle is designed for use on small instrument panels. Single integral hole accepts No. 10 screw.

Colors:
(-1) Grey.
Special colors on request.

The service of JAN's design engineers is available to assist you with your Component requirements.

JAN will design and manufacture special Components to customers' specifications.

Complete facilities for prototype work.

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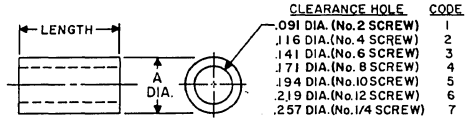
New Items

SPACER-THRU HOLE

TOL. ±.005



CLEARANCE HOLE	CODE
.091 DIA. (No.2 SCREW)	1
.116 DIA.(No.4 SCREW)	2
.141 DIA.(No.6 SCREW)	3
.171 DIA.(No.8 SCREW)	4
.194 DIA.(No.10SCREW)	5
.219 DIA.(No.12 SCREW)	6
.257 DIA.(No.1/4 SCREW)	7

LENGTH	A=1/8	A=3/16	A=1/4	LENGTH	A=3/16	A=1/4
1/16	SP021	SP031		11/16	SP0311	SP0411
1/8	SP022	SP032	SP042	3/4	SP0312	SP0412
3/16	SP023	SP033	SP043	7/8	SP0314	SP0414
1/4	SP024	SP034	SP044	15/16	SP0315	SP0415
5/16	SP025	SP035	SP045	1	SP0316	SP0416
3/8	SP026	SP036	SP046	1-1/8		SP0418
7/16	SP027	SP037	SP047	1-1/4		SP0420
1/2	SP028	SP038	SP048	1-3/8		SP0422
9/16	SP029	SP039	SP049	1-1/2		SP0424
5/8		SP0310	SP0410			

EXAMPLE (TO ORDER)

PT. NO. SP035-2-B= 3/16 DIA. X 5/16 LG. SPACER-BRASS
W/.116 CLEARANCE HOLE FOR #4 SCREW

LENGTH	A=5/16	A=3/8	A=1/2	LENGTH	A=5/16	A=3/8	A=1/2
1/8	SP052	SP062	SP082	7/8	SP0514	SP0614	SP0814
3/16	SP053	SP063	SP083	15/16	SP0515	SP0614	SP0815
1/4	SP054	SP064	SP084	1	SP0516	SP0616	SP0816
5/16	SP055	SP065	SP085	1-1/8	SP0518	SP0618	SP0818
3/8	SP056	SP066	SP086	1-1/4	SP0520	SP0620	SP0820
7/16	SP057	SP067	SP087	1-3/8	SP0522	SP0622	SP0822
1/2	SP058	SP068	SP088	1-1/2	SP0524	SP0624	SP0824
9/16	SP059	SP069	SP089	1-5/8		SP0626	SP0826
5/8	SP0510	SP0610	SP0810	1-3/4		SP0628	SP0828
11/16	SP0511	SP0611	SP0811	1-7/8		SP0630	SP0830
3/4	SP0512	SP0612	SP0812	2		SP0632	SP0832

EXAMPLE (TO ORDER)

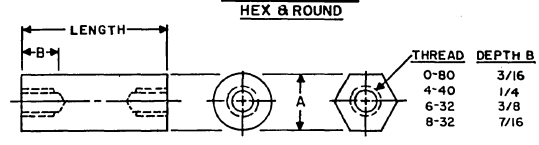
PT. NO. SP064-3-PH= 3/8 DIA. X 1/4 LG. SPACER-PHENOLIC
W/.141 CLEARANCE HOLE FOR #6 SCREW

MATERIALS

B = BRASS A = ALUMINUM SS = STAINLESS STEEL PH = PHENOLIC

STANDOFF THREADED ENDS HEX & ROUND

TOL. ±.005



THREAD	DEPTH B
0-80	3/16
4-40	1/4
6-32	3/8
8-32	7/16

LENGTH	A=1/8 DIA 0-80 THREAD		A=1/4 DIA. 4-40 THREAD		A=1/4 DIA. 6-32 THREAD		A=1/4 DIA 8-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1-1/16	DR217	DH217	DR4174	DH4174	DR4176	DH4176	DR4178	DH4178
1-1/8	DR218	DH218	DR4184	DH4184	DR4186	DH4186	DR4188	DH4188
1-3/16	DR219	DH219	DR4194	DH4194	DR4196	DH4196	DR4198	DH4198
1-1/4	DR220	DH220	DR4204	DH4204	DR4206	DH4206	DR4208	DH4208
1-5/16	DR221	DH221	DR4214	DH4214	DR4216	DH4216	DR4218	DH4218
1-3/8	DR222	DH222	DR4224	DH4224	DR4226	DH4226	DR4228	DH4228
1-7/16	DR223	DH223	DR4234	DH4234	DR4236	DH4236	DR4238	DH4238
1-1/2	DR224	DH224	DR4244	DH4244	DR4246	DH4246	DR4248	DH4248
2			DR4324	DH4324	DR4326	DH4326	DR4328	DH4328
2-1/8			DR4344	DH4344	DR4346	DH4346	DR4348	DH4348
2-3/4			DR4444	DH4444	DR4446	DH4446	DR4448	DH4448
3			DR4484	DH4484	DR4486	DH4486	DR4488	DH4488

EXAMPLE (TO ORDER)

PT. NO. DH219-B = 1/8 DIA. X 1-3/16 LG. HEX STANDOFF-TAPPED BOTH ENDS
BRASS W/0-80 X 3/16 HOLE.

LENGTH	A=5/16 DIA. 6-32 THREAD		A=3/8 DIA. 6-32 THREAD		A=3/8 DIA. 8-32 THREAD		A=1/2 DIA. 8-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1-1/16	DR5176	DH5176	DR6176	DR6176	DR6178	DH6178	DR8178	DH8178
1-1/8	DR5186	DH5186	DR6186	DH6186	DR6188	DH6188	DR8188	DH8188
1-3/16	DR5196	DH5196	DR6196	DH6196	DR6198	DH6198	DR8198	DH8198
1-1/4	DR5206	DH5206	DR6206	DH6206	DR6208	DH6208	DR8208	DH8208
1-5/16	DR5216	DH5216	DR6216	DH6216	DR6218	DH6218	DR8218	DH8218
1-3/8	DR5226	DH5226	DR6226	DH6226	DR6228	DH6228	DR8228	DH8228
1-7/16	DR5236	DH5236	DR6236	DH6236	DR6238	DH6238	DR8238	DH8238
1-1/2	DR5246	DH5246	DR6246	DH6246	DR6248	DH6248	DR8248	DH8248
1-3/4	DR5286	DH5286	DR6286	DH6286	DR6288	DH6288	DR8288	DH8288
2	DR5326	DH5326	DR6326	DH6326	DR6328	DH6328	DR8328	DH8328
2-1/4	DR5366	DH5366	DR6366	DH6366	DR6368	DH6368	DR8368	DH8368
2-1/2	DR5406	DH5406	DR6406	DH6406	DR6408	DH6408	DR8408	DH8408
3	DR5486	DH5486	DR6486	DH6486	DR6488	DH6488	DR8488	DH8488
3-1/2	DR5566	DH5566	DR6566	DH6566	DR6568	DH6568	DR8568	DH8568
4	DR5646	DH5646	DR6646	DH6646	DR6648	DH6648	DR8648	DH8648

EXAMPLE (TO ORDER)

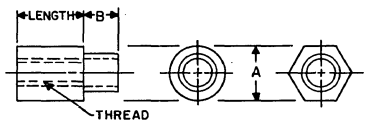
PT. NO. DR6186-A= 3/8 DIA. X 1-1/8 LG. ROUND STANDOFF-ALUMINUM-TAPPED
BOTH ENDS W/6-32 X 3/8 TH'D.

MATERIALS

B = BRASS A = ALUMINUM SS = STAINLESS STEEL PH = PHENOLIC

STANDOFF-RIVET HEX & ROUND

TOL. ±.005



CODE	BOARD THICKNESS	SHANK B
1	1/32	.075
2	1/16	.105
3	3/32	.135
4	1/8	.165
5	3/16	.230
6	1/4	.290

LENGTH	A=1/8 DIA. 0-80 THREAD		A=1/4 DIA. 2-56 THREAD		A=5/16 DIA. 4-40 THREAD		A=3/8 DIA. 6-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/8	RR202	RH202	RR4022	RH4022	RR5024	RH5024	RR6026	RH6026
3/16	RR203	RH203	RR4032	RH4032	RR5034	RH5034	RR6036	RH6036
1/4	RR204	RH204	RR4042	RH4042	RR5044	RH5044	RR6046	RH6046
5/16	RR205	RH205	RR4052	RH4052	RR5054	RH5054	RR6056	RH6056
3/8	RR206	RH206	RR4062	RH4062	RR5064	RH5064	RR6066	RH6066
7/16	RR207	RH207	RR4072	RH4072	RR5074	RH5074	RR6076	RH6076
1/2	RR208	RH208	RR4082	RH4082	RR5084	RH5084	RR6086	RH6086
9/16	RR209	RH209	RR4092	RH4092	RR5094	RH5094	RR6096	RH6096
5/8	RR210	RH210	RR4102	RH4102	RR5104	RH5104	RR6106	RH6106
11/16	RR211	RH211	RR4112	RH4112	RR5114	RH5114	RR6116	RH6116
3/4	RR212	RH212	RR4122	RH4122	RR5124	RH5124	RR6126	RH6126
7/8	RR214	RH214	RR4142	RH4142	RR5144	RH5144	RR6146	RH6146
1	RR216	RH216	RR4162	RH4162	RR5164	RH5164	RR6166	RH6166

EXAMPLE (TO ORDER)

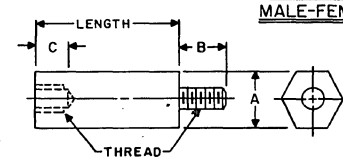
PT. NO. RR4052-2-B= 1/4 DIA. X 5/16 LG. ROUND, RIVET STANDOFF-BRASS
W/2-56 THREAD. SHANK=.105 FOR 1/16 BOARD.

MATERIALS

B = BRASS A = ALUMINUM SS = STAINLESS STEEL PH = PHENOLIC

STANDOFF MALE-FEMALE

TOL. ±.005



THREAD	B	C
4-40	3/16	1/4
6-32	1/4	3/8
8-32	3/8	7/16
10-32	3/8	1/2

LENGTH	A=1/4 AC. FLTS.				A=3/8 AC. FLTS.			
	4-40	6-32	8-32	10-32	4-40	6-32	8-32	10-32
1/4	MF4044	MF4046	MF4048	MF40410	MF6044	MF6046	MF6048	MF60410
3/8	MF4064	MF4066	MF4068	MF40610	MF6064	MF6066	MF6068	MF60610
1/2	MF4084	MF4086	MF4088	MF40810	MF6084	MF6086	MF6088	MF60810
5/8	MF4104	MF4106	MF4108	MF41010	MF6104	MF6106	MF6108	MF61010
3/4	MF4124	MF4126	MF4128	MF41010	MF6124	MF6126	MF6128	MF61210
7/8	MF4144	MF4146	MF4148	MF41410	MF6144	MF6146	MF6148	MF61410
1	MF4164	MF4166	MF4168	MF41610	MF6164	MF6166	MF6168	MF61610
1-1/8	MF4184	MF4186	MF4188	MF41810	MF6184	MF6186	MF6188	MF61810
1-1/4	MF4204	MF4206	MF4208	MF42010	MF6204	MF6206	MF6208	MF62010
1-3/8	MF4224	MF4226	MF4228	MF42210	MF6224	MF6226	MF6228	MF62210
1-1/2	MF4244	MF4246	MF4248	MF42410	MF6244	MF6246	MF6248	MF62410
1-5/8	MF4264	MF4266	MF4268	MF42610	MF6264	MF6266	MF6268	MF62610
1-3/4	MF4284	MF4286	MF4288	MF42810	MF6284	MF6286	MF6288	MF62810
2	MF4324	MF4326	MF4328	MF43210	MF6324	MF6326	MF6328	MF63210
2-1/2	MF4404	MF4406	MF4408	MF44010	MF6404	MF6406	MF6408	MF64010
3	MF4484	MF4486	MF4488	MF44810	MF6484	MF6486	MF6488	MF64810

EXAMPLE (TO ORDER)

PT. NO. MF4146-B = 1/4 AC. FLTS. STANDOFF-BRASS
6-32 MALE-FEMALE THREADS.

MATERIALS

B = BRASS
A = ALUMINUM
SS = STAINLESS STEEL

SPECIAL SIZES AND MATERIALS MANUFACTURED TO ORDER

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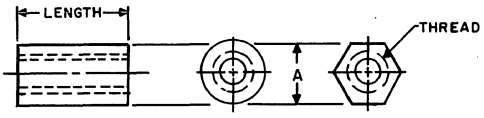
New Items

STANDOFF-THREADED

HEX & ROUND

TOL. ±.005



LENGTH	A=1/8 DIA. 0-80 THREAD		A=3/16 DIA. 2-56 THREAD		A=3/16 DIA. 4-40 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/16	SR201	SH201	SR3012	SH3012	SR3014	SH3014
1/8	SR202	SH202	SR3022	SH3022	SR3024	SH3024
3/16	SR203	SH203	SR3032	SH3032	SR3034	SH3034
1/4	SR204	SH204	SR3042	SH3042	SR3044	SH3044
5/16	SR205	SH205	SR3052	SH3052	SR3054	SH3054
3/8	SR206	SH206	SR3062	SH3062	SR3064	SH3064
7/16	SR207	SH207	SR3072	SH3072	SR3074	SH3074
1/2	SR208	SH208	SR3082	SH3082	SR3084	SH3084
9/16	SR209	SH209	SR3092	SH3092	SR3094	SH3094
5/8	SR210	SH210	SR3102	SH3102	SR3104	SH3104
3/4	SR212	SH212	SR3122	SH3122	SR3124	SH3124
1			SR3162	SH3162	SR3164	SH3164

EXAMPLE (TO ORDER)

PT. NO. SR3032-A = 3/16 DIA. X 3/16 LG. ROUND STANDOFF - ALUMINUM W/2-56 THREADED HOLE

LENGTH	A=1/4 DIA. 4-40 THREAD		6-32 THREAD		8-32 THREAD		10-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/8	SR4024	SH4024	SR4026	SH4026	SR4028	SH4028	SR40210	SH40210
3/16	SR4034	SH4034	SR4036	SH4036	SR4038	SH4038	SR40310	SH40310
1/4	SR4044	SH4044	SR4046	SH4046	SR4048	SH4048	SR40410	SH40410
5/16	SR4054	SH4054	SR4056	SH4056	SR4058	SH4058	SR40510	SH40510
3/8	SR4064	SH4064	SR4066	SH4066	SR4068	SH4068	SR40610	SH40610
7/16	SR4074	SH4074	SR4076	SH4076	SR4078	SH4078	SR40710	SH40710
1/2	SR4084	SH4084	SR4086	SH4086	SR4088	SH4088	SR40810	SH40810
9/16	SR4094	SH4094	SR4096	SH4096	SR4098	SH4098	SR40910	SH40910
5/8	SR4104	SH4104	SR4106	SH4106	SR4108	SH4108	SR41010	SH41010
3/4	SR4124	SH4124	SR4126	SH4126	SR4128	SH4128	SR41210	SH41210
7/8	SR4144	SH4144	SR4146	SH4146	SR4148	SH4148	SR41410	SH41410
1	SR4164	SH4164	SR4166	SH4166	SR4168	SH4168	SR41610	SH41610

EXAMPLE (TO ORDER)

PT. NO. SH4086-B = 1/4 DIA. X 1/2 LG. HEX STANDOFF-BRASS W/6-32 THREADED HOLE.

LENGTH	A=5/16 DIA. 4-40 THREAD		6-32 THREAD		8-32 THREAD		10-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/8	SR5024	SH5024	SR5026	SH5026	SR5028	SH5028	SR50210	SH50210
3/16	SR5034	SH5034	SR5036	SH5036	SR5038	SH5038	SR50310	SH50310
1/4	SR5044	SH5044	SR5046	SH5046	SR5048	SH5048	SR50410	SH50410
5/16	SR5054	SH5054	SR5056	SH5056	SR5058	SH5058	SR50510	SH50510
3/8	SR5064	SH5064	SR5066	SH5066	SR5068	SH5068	SR50610	SH50610
7/16	SR5074	SH5074	SR5076	SH5076	SR5078	SH5078	SR50710	SH50710
1/2	SR5084	SH5084	SR5086	SH5086	SR5088	SH5088	SR50810	SH50810
9/16	SR5094	SH5094	SR5096	SH5096	SR5098	SH5098	SR50910	SH50910
5/8	SR5104	SH5104	SR5106	SH5106	SR5108	SH5108	SR51010	SH51010
3/4	SR5124	SH5124	SR5126	SH5126	SR5128	SH5128	SR51210	SH51210
7/8	SR5144	SH5144	SR5146	SH5146	SR5148	SH5148	SR51410	SH51410
1	SR5164	SH5164	SR5166	SH5166	SR5168	SH5168	SR51610	SH51610

EXAMPLE (TO ORDER)

PT. NO. SR5146-PH=5/16 DIA. X 7/8 LG. ROUND STANDOFF - PHENOLIC W/6-32 THREADED HOLE.

LENGTH	3/8 DIA. 6-32 THREAD		8-32 THREAD		10-32 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/8	SR6026	SH6026	SR6028	SH6028	SR60210	SH60210
3/16	SR6036	SH6036	SR6038	SH6038	SR60310	SH60310
1/4	SR6046	SH6046	SR6048	SH6048	SR60410	SH60410
5/16	SR6056	SH6056	SR6058	SH6058	SR60510	SH60510
3/8	SR6066	SH6066	SR6068	SH6068	SR60610	SH60610
7/16	SR6076	SH6076	SR6078	SH6078	SR60710	SH60710
1/2	SR6086	SH6086	SR6088	SH6088	SR60810	SH60810
9/16	SR6096	SH6096	SR6098	SH6098	SR60910	SH60910
5/8	SR6106	SH6106	SR6108	SH6108	SR61010	SH61010
3/4	SR6126	SH6126	SR6128	SH6128	SR61210	SH61210
7/8	SR6146	SH6146	SR6148	SH6148	SR61410	SH61410
1	SR6166	SH6166	SR6168	SH6168	SR61610	SH61610

EXAMPLE (TO ORDER)

PT. NO. SH6068-B = 3/8 DIA. X 3/8 LG. HEX STANDOFF-BRASS W/8-32 THREADED HOLE.

LENGTH	A=1/2 DIA. 8-32 THREAD		10-32 THREAD		12-24 THREAD		1/4-20 THREAD	
	ROUND	HEX	ROUND	HEX	ROUND	HEX	ROUND	HEX
1/8	SR8028	SH8028	SR80210	SH80210	SR80212	SH80212	SR80214	SH80214
3/16	SR8038	SH8038	SR80310	SH80310	SR80312	SH80312	SR80314	SH80314
1/4	SR8048	SH8048	SR80410	SH80410	SR80412	SH80412	SR80414	SH80414
5/16	SR8058	SH8058	SR80510	SH80510	SR80512	SH80512	SR80514	SH80514
3/8	SR8068	SH8068	SR80610	SH80610	SR80612	SH80612	SR80614	SH80614
7/16	SR8078	SH8078	SR80710	SH80710	SR80712	SH80712	SR80714	SH80714
1/2	SR8088	SH8088	SR80810	SH80810	SR80812	SH80812	SR80814	SH80814
9/16	SR8098	SH8098	SR80910	SH80910	SR80912	SH80912	SR80914	SH80914
5/8	SR8108	SH8108	SR81010	SH81010	SR81012	SH81012	SR81014	SH81014
3/4	SR8128	SH8128	SR81210	SH81210	SR81012	SH81212	SR81214	SH81214
7/8	SR8148	SH8148	SR81410	SH81410	SR81412	SH81412	SR81414	SH81414
1	SR8168	SH8168	SR81610	SH81610	SR81612	SH81612	SR81614	SH81614

EXAMPLE (TO ORDER)

PT. NO. SR80910-A = 1/2 DIA. X 9/16 LG. ROUND STANDOFF-ALUMINUM W/10-32 THREADED HOLE.

SPECIAL SIZES AND MATERIALS MANUFACTURED TO ORDER

MATERIALS

B = BRASS

A = ALUMINUM

SS = STAINLESS STEEL

PH = PHENOLIC

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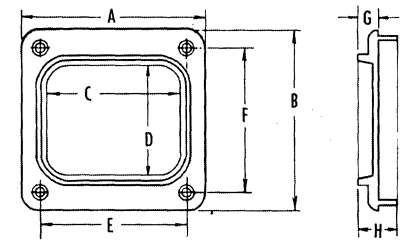
JAN HARDWARE MANUFACTURING COMPANY, INC.

JAN's Bezels enhance the appearance of the instruments on which they are used. These units are functionally designed to provide OPTIMUM UTILIZATION OF THE CRT SCREEN, as well as safety against tube breakage and danger to operating personnel.

JAN Bezel Assemblies are supplied with a **bezel, calibrated graticule,** (where applicable) **light filter** and **CRT cushion.** Bezels are finished in a smooth dull **black** non-reflecting surface. These units **fit** JAN Mu-Metal Shields.

Edge-lit Bezels (E.L.B.A.)** These Bezels are designed to provide edge lighting of the engraved scale-calibrated graticule by means of pilot lights.

Camera Mount Bezel These units provide an integral cast mounting flange that fits all standard 3", 5" and 7" CRT cameras.

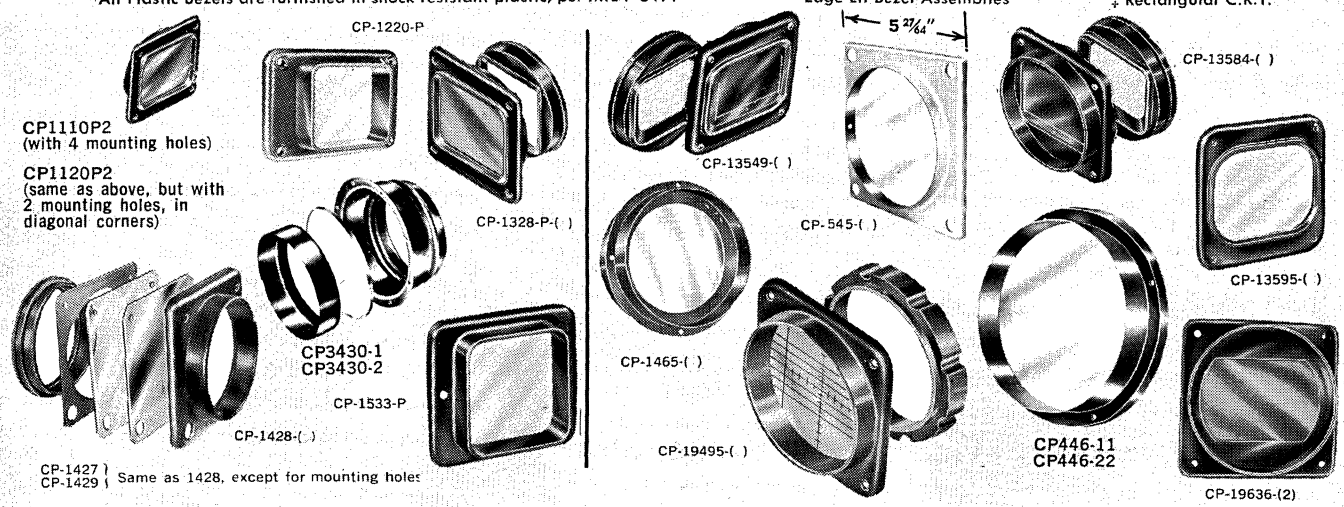


Catalog No.	CRT Face	Material	Type	Panel Opening	A Overall Width	B Overall Height	C D Visible Area (Bezel) Width	Height	E Mounting Holes Width	Height	G- Thickness (Face Only)	H- Thickness (Incl. Flange)	Visible Area (Cushion) Height	Width
BEZELS FOR 2" C.R.T.														
CP-1110-P-2	Flat	Plastic*	Standard	2 3/16"	2 5/8"	2 5/8"	1 1/4"	1 1/4"	2"	2"	5/16"	7/16"	1 3/4"	1 3/4"
BEZELS FOR 3" C.R.T.														
CP-1220-P‡	Curved or Flat	Plastic*	Camera Mount	—	4 7/8"	3 1/4"	2 3/4"	2 1/4"	4"	2 1/2"	5/16"	1 1/16"	—	
CP-1328-P-1 CP-1328-P-2	Curved Flat	Plastic*	Standard	3 33/64"	3 3/4"	3 3/4"	2 5/8"	2 3/16"	3"	3"	3/8"	45/64	2 1/2"	2 1/16"
CP-1427-1 CP-1427-2	Curved Flat	Aluminum	Camera Mount	3 17/64"	4"	4"	2 3/4" Dia.		3"	3"	5/16"	27/32"	2 25/32" Dia.	
CP-1428-1** CP-1428-2**	Curved Flat	Aluminum	Camera Mount E.L.B.A.**	3 17/64"	4"	4"	2 3/4" Dia.		3"	3"	5/16"	27/32"	2 25/32" Dia.	
CP-1429-1 CP-1429-2	Curved Flat	Aluminum	Camera Mount	3 17/64"	4"	4"	2 3/4" Dia.		3"	3"	5/16"	27/32"	2 25/32" Dia.	
CP-3430-1 CP-3430-2	Curved Flat	Steel	Standard	—	4 1/16" Dia.		3 3/8" Dia.		3 3/4"	3 3/4"	1 41/64"	1 41/64"	2 25/32" Dia.	
BEZELS FOR 4" C.R.T.														
CP-1533-P‡		Plastic*	Camera Mount	3 1/32"	4 37/64"	3 61/64"	3"	3"	4"		1 3/32"	1 3/32"	No Cushion	
BEZELS FOR 5" C.R.T.														
CP-13549-1 CP-13549-2	Curved Flat	Aluminum	Standard	6.0"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 15/16"	4 15/16"	17/32"	1 3/32"	4 1/4"	3 3/16"
CP-13584-1 CP-13584-2	Curved Flat	Aluminum	Camera Mount	6.0"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 15/16"	4 15/16"	1 3/32"	1 23/32"	4 1/4"	3 3/16"
CP-13595-1** CP-13595-2**	Curved Flat	Aluminum	Standard E.L.B.A.**	5 7/16"	6 1/4"	6 1/4"	4 7/8"	3 3/4"	4 15/16"	4 15/16"	17/32"	—	4 3/4" Dia.	
CP-1465 CP-1465-2	Curved or Flat Flat	Steel	Camera Mount	5 9/16" 5 17/32"	6 3/8" Dia.		5 35/64" Dia.		6"	6"	7/8"	7/8"	No Cushion 4 1/2" Dia.	
CP-19495-1** CP-19495-2**	Curved Flat	Aluminum	Camera Mount E.L.B.A.**	5 7/16"	6 1/4"	6 1/4"	5 1/4" Dia.		4 15/16"	4 15/16"	1 3/32"	—	4 3/4" Dia.	
CP-19636-2**	Flat	Aluminum	Camera Mount E.L.B.A.**	5 5/16"	5 7/8"	5 7/8"	4 1/2" Dia.	3"	4 7/8"	4 7/8"	1 1/4"	—	4 1/2" Dia.	
CP-446-11 CP-446-22	Flat	Steel	Camera Mount	—	6 9/16" Dia.		5 9/16" Dia.		6 5/32" 6 1/8"	6 5/32" 6 1/8"	1"	1 19/64" 1 3/16"	4 1/2" Dia.	
CP-545	Curved or Flat	Aluminum	Camera Mount	5"	5 27/32"	5 27/32"	4 25/32"		5"	5"	25/32"	—	—	

* All Plastic Bezels are furnished in shock resistant plastic, per MIL P-3414

** Edge Lit Bezel Assemblies

‡ Rectangular C.R.T.



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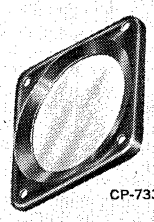
Catalog No.	CRT Face	Material	Type	Panel Opening	A Overall Width	B Overall Height	C D Visible Area (Bezel) Width	C D Visible Area (Bezel) Height	E F Mounting Holes Width	E F Mounting Holes Height	G- Thickness (Face Only)	H- Thickness (Incl. Flange)	Visible Area (Cushion) Height	Visible Area (Cushion) Width
BEZELS FOR 7" C.R.T.														
CP-7330-1 CP-7331-2**	Curved Flat	Aluminum	Standard E.L.B.A.**	7 13/32"	7 13/16"	7 13/16"	6 5/16" Dia.		6 3/16"	6 3/16"	3/4"	3/4"	6 3/8" Dia.	
CP-7375-1** -2**	Curved Flat	Aluminum	E.L.B.A.**	7 13/32"	8"	8"	4 1/2"	4 1/2"	6 3/16"	6 3/16"	1 17/32"	2 29/32"	4 1/2"	4 1/2"
CP-7420-1** -2**	Curved Flat	Aluminum	Camera Mount	7 13/32"	7 13/16"	7 13/16"	6 15/16" Dia.		6 3/16"	6 3/16"	3/4"	1 3/8"	6 3/8" Dia.	
CP-7550	Curved or Flat	Aluminum	Camera Mount	4 25/32"	7 3/8"	6 1/4"	4 3/4"	4 3/4"	6 1/4"	5 1/8"	1 3/16"	1 3/16"	No Cushion	
BEZEL FOR 10" C.R.T.														
CP-10860	Curved or Flat	Aluminum	Standard	11 1/32"	12 1/4" Dia.		8 1/16"	6 1/4"	11 1/2" B.C		1 1/16"	1 3/16"	No Cushion	

** Edge Lit Bezel Assemblies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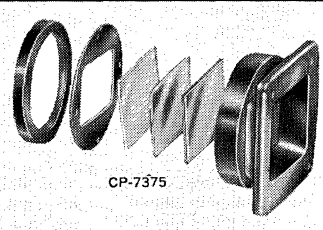
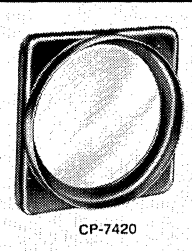

CP-7375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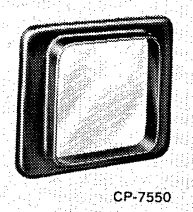
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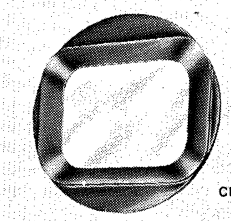

CP-10860

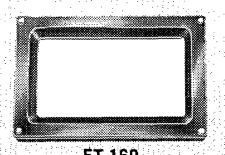
DISTINCTIVE FEATURES

- Engineered for 2", 3", 4", 5", 7", 8" and 10" CRT
- Maximum display area
- Precision engraved, scale-calibrated graticules; standard or to customer's specifications
- Materials and finish to "Mil Spec"
- Heavy buna-S shock cushion
- Models for edge-lighting
- Phosphor-matched light filters
- Non-reflecting matte surfaces
- Rugged camera mounts
- Models for curved and flat-faced CRT

ESCUTCHEON PLATES For Elegant Framing of Panel Openings

ET-120

ET-150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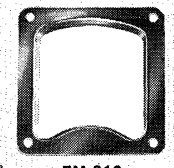
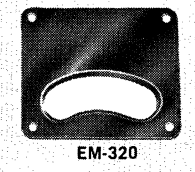
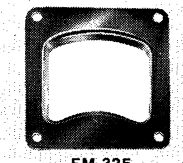

EM-310


EM-320


EM-325

ET-125

ET-165

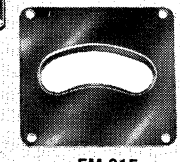
ET-140

ET-155

ET-135

ET-130

ET-145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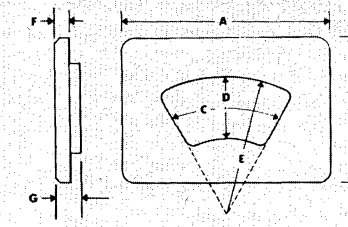

SPECIFICATIONS — JAN ESCUTCHEONS

Escutcheon Cat. No.	A Overall Width	B Overall Height	C Window Width	D Window Height	E Effective Outer Dial Radius	Thickness F=Face Only	Thickness G=Incl. Flange	Panel Opening Width	Panel Opening Height	Mounting Holes Width	Mounting Holes Height	Type of Dial	Material
ET-120	2 27/32	1 7/8	1 3/4	1"	1 27/32	3/16	3/16	2 11/32	1 3/16	2 9/16 top 2 1/16 bottom	1 5/16		Injection
ET-125	3 3/8	2 15/16	2 7/8	1"	3 1/4	3/16	3/16	3 1/2	1 1/2	3 1/2	1 15/16		Molded
ET-135	2 3/4	1 7/8	1 1/2	7/8	1 7/8	3/16	1/4	1 31/32	1 7/32	2 1/4	1 3/8	Circular	Tenite II,
ET-150	3 7/8	2 5/16	2 7/8	3/4	3 1/8	3/16	5/16	3 5/32	1 7/32	3 1/2	1 15/16		Black Matte
ET-165	2 5/8	1 7/8	1 49/64	5/16	2 5/32	1/8	1/4	2 7/16	1 1/2	2 1/16	1 1/16		Finish
ET-130	4	1 13/16	2 1/4	13/16	—	3/16	1/4	2 13/32	1 11/32	3 1/2	1 5/16	Flexible Tape,	Injection
ET-140	2 1/2	1 1/2	1 1/4	5/8	—	1/8	5/16	1 17/32	1 1/32	2	1	Digital	Molded
ET-145	3 1/4	2 1/16	1 13/16	3/4	—	5/32	5/32	2 13/32	1 5/32	2 3/4	1 5/16	Counter,	Tenite II,
ET-155	2 1/2	1 3/16	1 1/16	1/2	—	5/32		2 1/32	2 9/32	2 1/4	15/16	Cylinder	Black Matte
ET-160	3 5/8	2 1/2	2 15/16	1 5/8	—	1/8	1/8	3	2 1/32	3 5/8	2 1/4	or Drum	Finish
EM-310	3	3	2 1/16	1 13/16	2 5/16	1/32	1/4	3 11/32	2 1/2	2 1/2	2 1/2	Helical	Soft Aluminum
EM-315	3 1/4	3	2 1/4	5/8	2 1/16	1/32	1/4	2 15/32	1 3/4	2 3/4	2 3/8	Circular	with Black
EM-320	3 1/4	2 3/4	2 1/4	5/8	2 1/16	1/32	1/8	2 29/64	1 3/4	2 3/4	2 1/4	Circular	Matte Enamel
EM-325	3	3	2 1/16	1 1/2	2 5/16	1/32	1/4	2 11/32	1 49/64	2 1/2	2 1/2	Helical	Finish

* To Order specify: (1) frame only; (2) frame with clear window; (3) frame with clear window scribed with a center line.

JAN'S molded, black, shock-resistant plastic escutcheons are available in an exceptionally wide variety of different types and sizes. They provide a pleasing window to frame dial plates mounted behind the panel.
Plastic escutcheons are available in the following ways: frame only; frame with clear windows; frame with clear window scribed with a center line.
For especially large working areas, stamped aluminum escutcheons, finished in dull black are available to meet the needs for space economy.
Withstands temperature shock —65° to +85° C.
NON INFLAMMABLE

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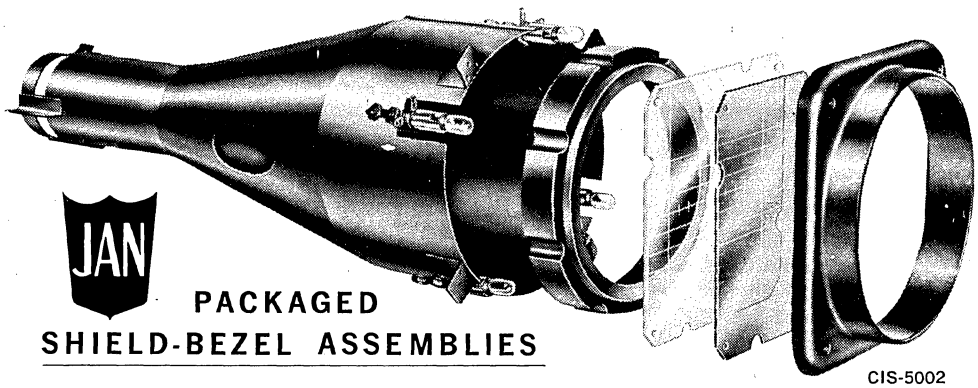


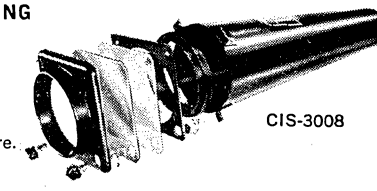
CIS-5002

PACKAGED SHIELD-BEZEL ASSEMBLIES

SAVES TIME / MONEY **ELIMINATES** MULTIPLE PURCHASING / COMPLEX ENGINEERING

All necessary items for CRT Magnetic Shield and Bezel applications are packaged in one unit.

EACH ASSEMBLY CONTAINS } Shield, JAN Bezel, CRT Rubber Cushion, Graticule, Filter, Light Sockets, Pilot Lamps (for edge-lit bezel-shield assemblies) plus Hardware.

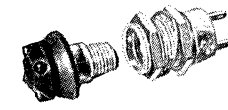


CIS-3008

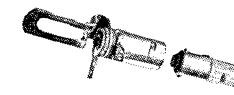
When ordering specify:

"JAN PACKAGED UNIT" giving JAN shield No., JAN bezel No. and CRT tube type with which it is to be used.

PILOT LIGHT ASSEMBLIES FOR EDGE LIGHTING



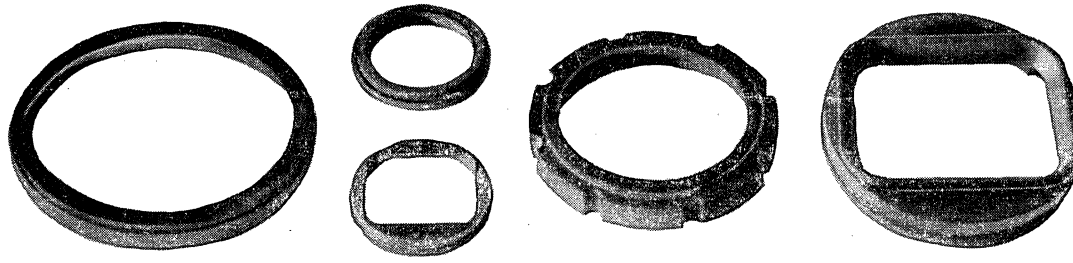
Cat. No. 100306

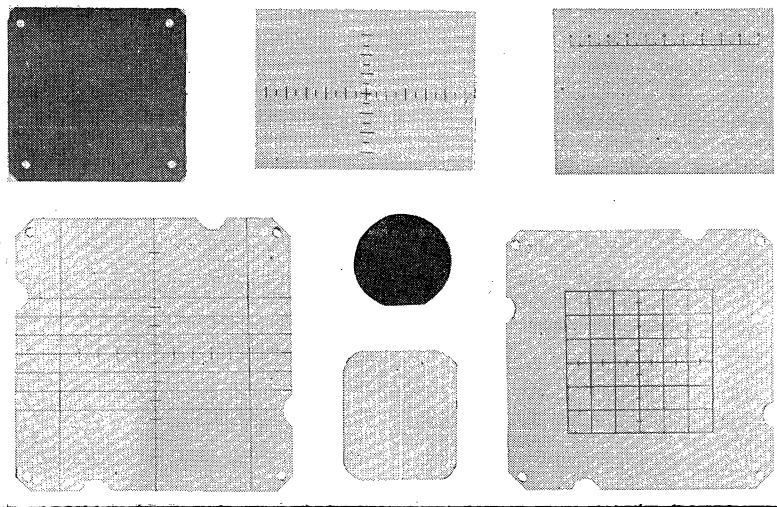


Cat. No. 100232

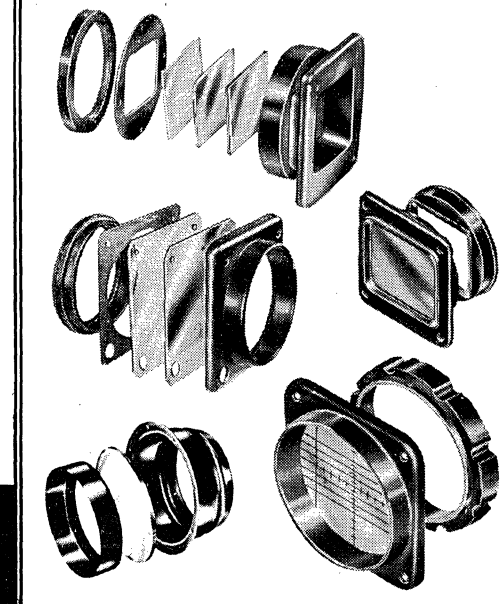
CUSHIONS — GRATICULES — FILTERS — SHIELD/BEZEL ASSEMBLIES

Available in Assorted Sizes and Shapes





New! Non-reflective filter material.
Minimizes light reflection. Matte 1 side.
Grey or Blue. Other colors on special order.



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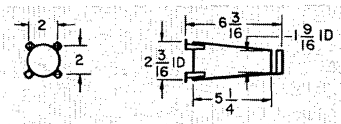
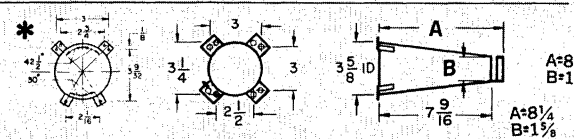
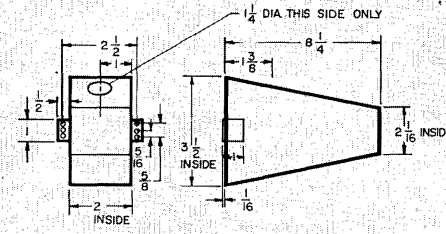
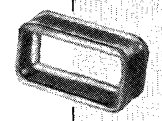
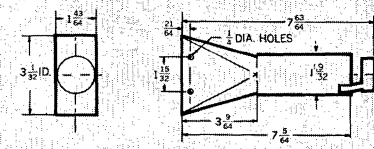
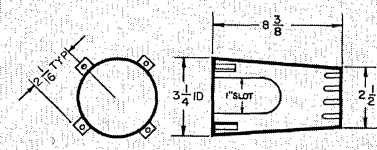
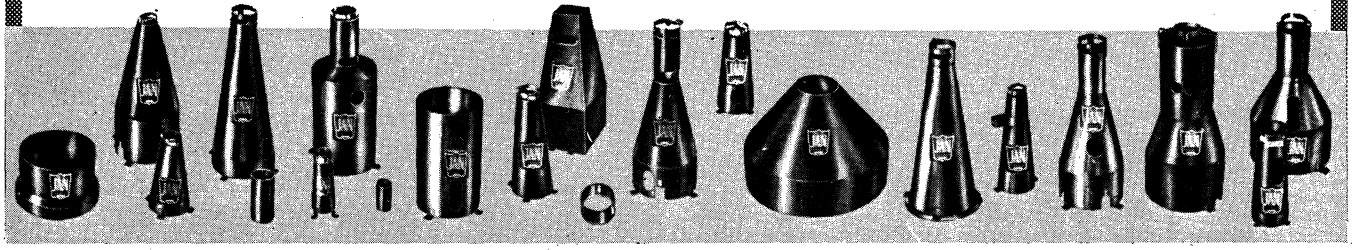
JAN'S MAGNETIC SHIELDS are made of MU-Metal or equal and are hydrogen annealed by a special process to assure optimum orientation of the molecular structure of the alloy for best magnetic shielding. JAN'S MAGNETIC SHIELDS prevent distortion and intensity modulation of the electron beam due to stray magnetic fields.

In addition, the use of these shields protect personnel against the dangers of accidental tube breakage. Mounting holes are tapped for No. 6-32 screws as shown. These shields are designed to fit JAN'S standard bezels as listed below. See preceding pages for specifications on JAN'S BEZEL ASSEMBLIES.

SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	
S2001 S2001-1	902 2AP 2BP	CP1110P2 CP1120P2	
S3001 adaptable for edge-lighting graticule using S3010 with Bezel CP1428*	3RP 3RPA	CP1328-P-1 CP1427-1 CP1429-1 CP1328-P2 CP1427-2 CP1429-2 CP3430-1 CP3430-2	*  A=8¼ B=1⅝ A=8¼ B=1⅝
S3003 S3003-1	3KP 908A 3AP	CP1328-P1 CP1427-1 CP1429-1	Same type as S-3001, except A=10⅛ B=2
S3004—12 (less anode hole) S3004—22 (with anode hole) adaptable for edge-lighting graticule using S3012 with Bezel CP1428*	3BP 3JP 3ACP	Same as S3003 Same as S3005	Same type as S-3001, except A=8⅝ B=2⅜
S3005 adaptable for edge-lighting graticule using S3008 with Bezel CP1428*	3WP	CP1328-P2 CP1427-2 CP1429-2	Same type as S-3001, except A=10⅝ B=1⅞
S3016	3ASP		
S3019	3XP	CP-725 	
S3031	3BFP		

ALL SHIELDS ARE FABRICATED WITH OVERLAPPED AND SPOT WELDED CONSTRUCTION

*See mounting hole arrangement illustrated with S3001 edge-lit dimension drawing.



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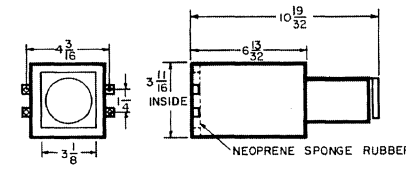
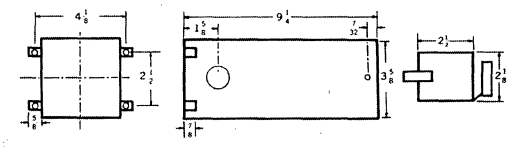
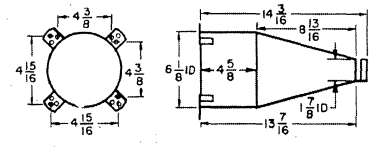
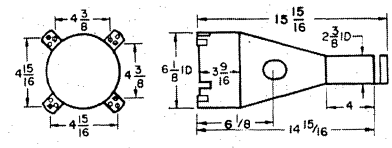
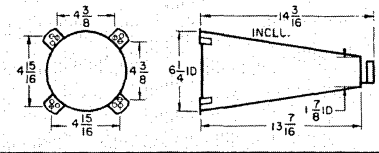
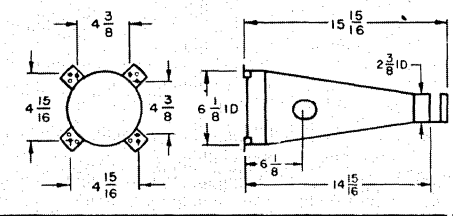
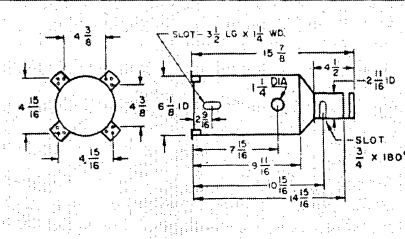
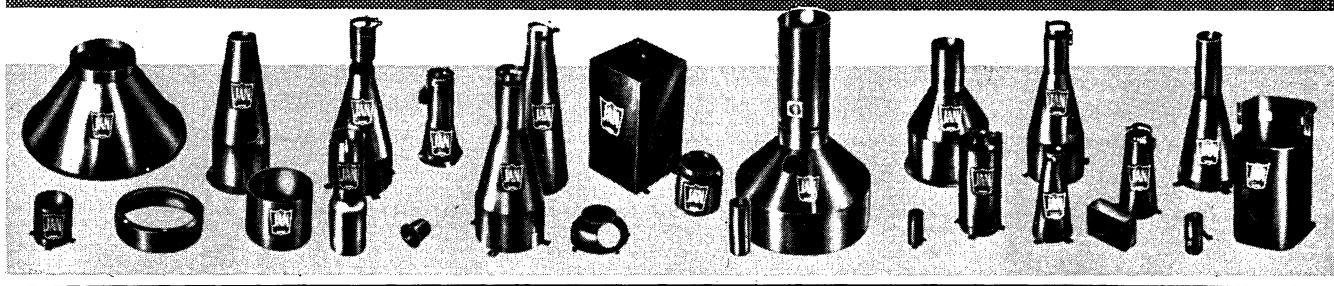
SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	
S3027	4KP 4ER	CP1533P	
S4001	SC3511 4MP	CP-1533P	
S5001	5UP	**CP1465** **CP13584-1** **CP13549-1** **CP13595-1** **CP19495-1** **CP446-11** **CP446-22**	
S5002 adaptable for edge-lighting	5BP 5CP 5ABP 5ADP	Same as S5001 Same as S5006	
S5003	5UP	CP1465 CP13584-1 CP13549-1 CP13595-1 CP19495-1	
S5005 adaptable for edge-lighting	5AQP 5ABP 5ADP	**CP1465-2** **CP13549-2** **CP13584-2** **CP13595-2** **CP19495-2** **CP446-11** **CP446-22**	
S5006 adaptable for edge-lighting	5RPA 5 AWP	CP1465-2 CP13549-2 CP13584-2 CP13595-2 CP19495-2	



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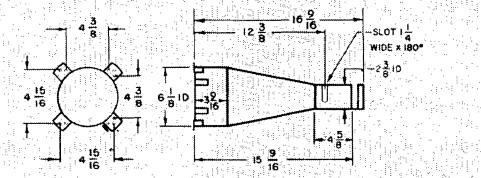
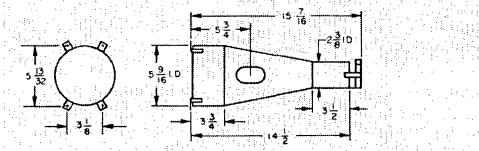
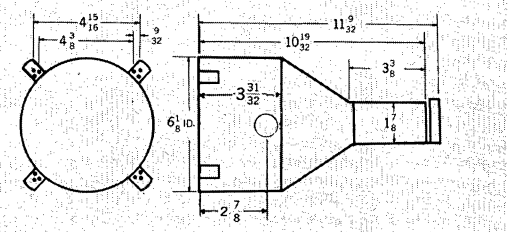
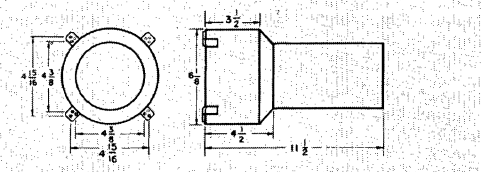
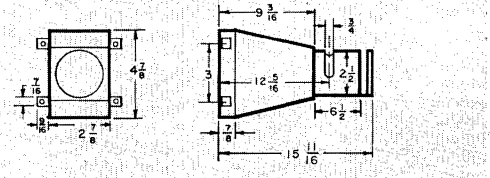
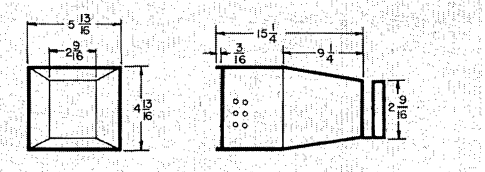
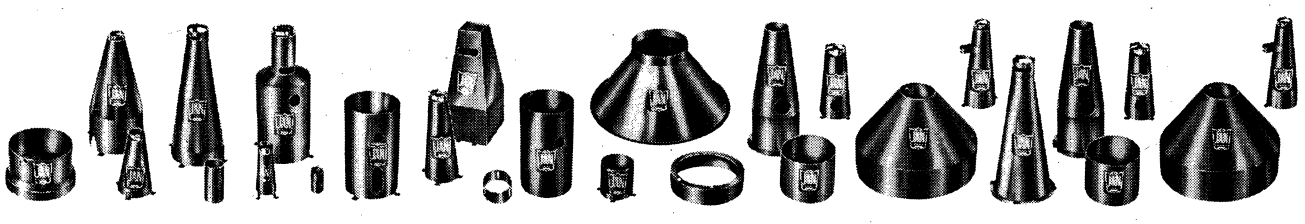
SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	
S5008 adaptable for edge-lighting	5AMP	CP1465-2 CP13549-2 CP13584-2 CP13595-2 CP19495-2	
S5017 adaptable for edge-lighting	5ABP 5ADP	CP1465-2 CP19636-2	
S5027	5BTP	CP19495-2	
S5032	5CEP	CP19495-2	
S5500	5BXP		
S6600	6E17P		

ALL SHIELDS ARE FABRICATED WITH OVERLAPPED AND SPOT WELDED CONSTRUCTION

The service of JAN's design engineers is available to assist you with your Shield & Bezel requirements. We will design and manufacture special Shields & Bezels to customers specifications. Complete facilities for prototype work.



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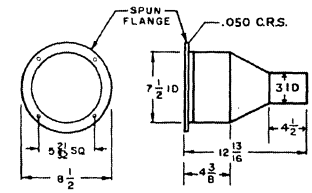
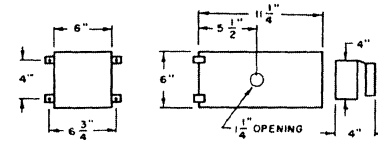
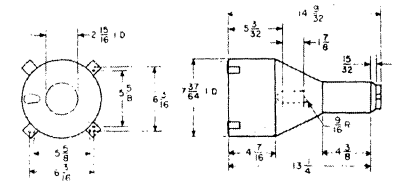
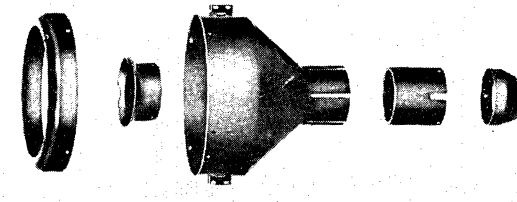
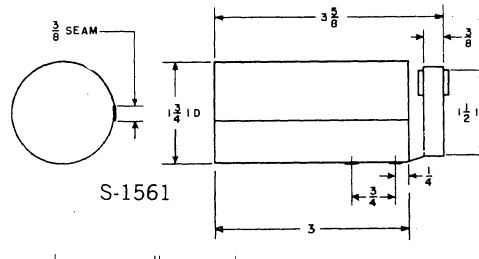
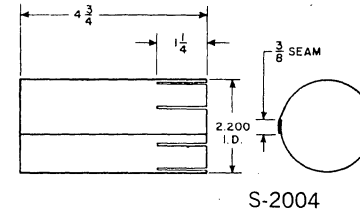
SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	
S7001	7GP 7JP 7VP	CP7330 CP7445 CP7331 CP7550 CP7420	
S7003 (Shield supplied as two separate sections)	7YP3	CP-7550	
S7006	7AEP	CP7330 CP7445 CP7331 CP7550 CP7420	
S10002	10KP 10WP		

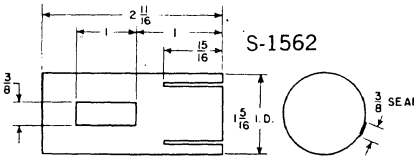
When ordering, be sure to specify CRT type number. Anode openings provided, where required.

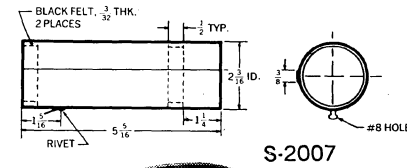
MAGNETIC SHIELDS FOR PHOTO-MULTIPLIER & SPECIAL PURPOSE TUBES

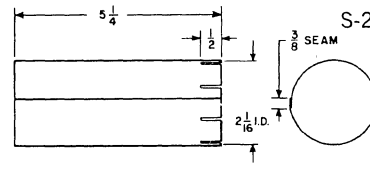
SHIELD	TUBE
S-1091	ICP1
S-1181	929 930 5581 5653 IP39 IP40
S-1500	6291
S-1561	6199 7102
S-1562	931 6323 6328 IP21 IP22 IP28
S-1563	1EP1
S-2002	6810 7264
S-2003	6903
S-2004	5819 6292 6342 6571 6655
S-2005	6372
S-2007	7850
S-2008	6217
S-3015	1197 6363
S-5013	1112
S-5018	1198 6364
S-7009	1238 1287

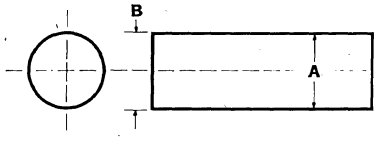












Seamless Tubing.
Can be supplied cut to your length, with holes and/or cut-outs to your specifications.

Available in these Dimensions	A	B
	1.010	1.050
	.632	.663

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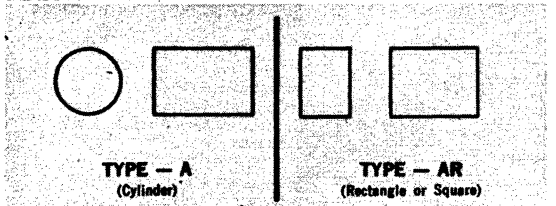
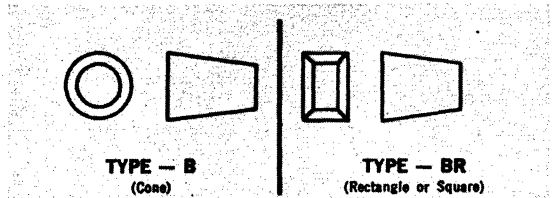
DESIGN ENGINEER'S SHIELD SELECTOR GUIDE

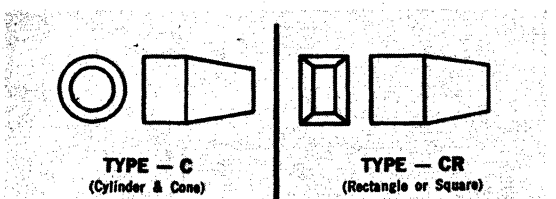
For Magnetic Shielding Cathode Ray Tubes



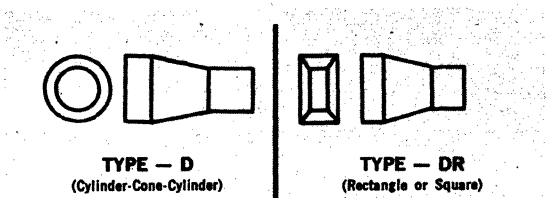
TYPE — A (Cylinder)
TYPE — AR (Rectangle or Square)



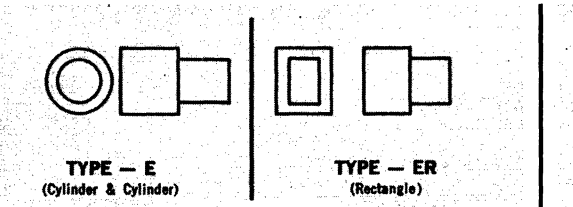
TYPE — B (Cone)
TYPE — BR (Rectangle or Square)



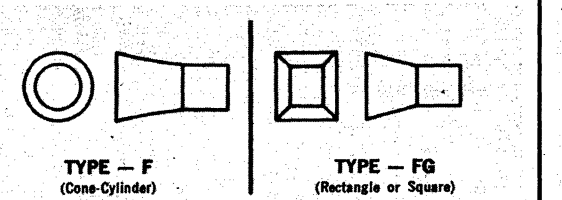
TYPE — C (Cylinder & Cone)
TYPE — CR (Rectangle or Square)



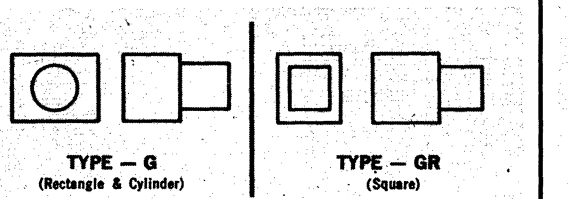
TYPE — D (Cylinder-Cone-Cylinder)
TYPE — DR (Rectangle or Square)



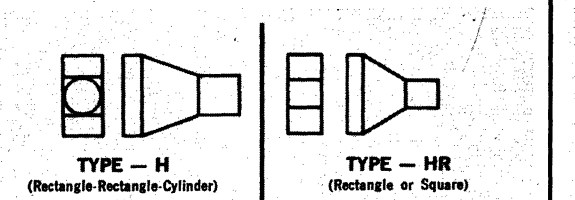
TYPE — E (Cylinder & Cylinder)
TYPE — ER (Rectangle)



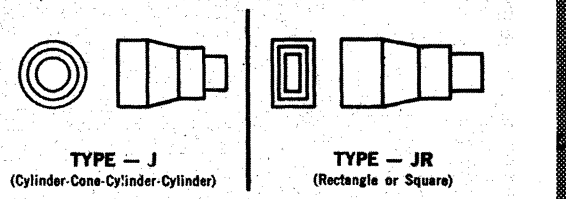
TYPE — F (Cone-Cylinder)
TYPE — FG (Rectangle or Square)



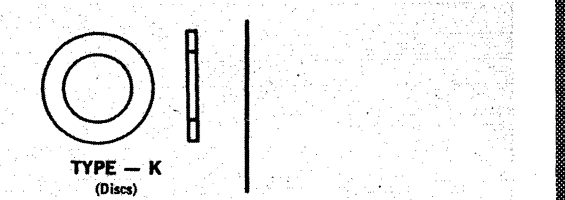
TYPE — G (Rectangle & Cylinder)
TYPE — GR (Square)



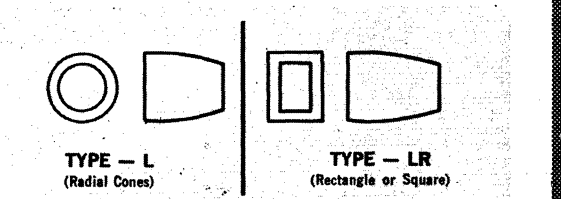
TYPE — H (Rectangle-Rectangle-Cylinder)
TYPE — HR (Rectangle or Square)



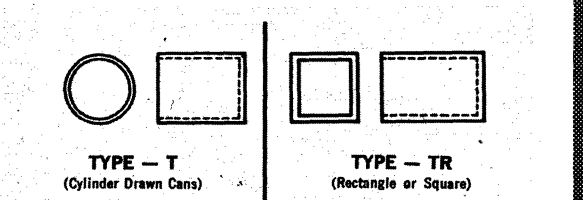
TYPE — J (Cylinder-Cone-Cylinder-Cylinder)
TYPE — JR (Rectangle or Square)



TYPE — K (Discs)



TYPE — L (Radial Cones)
TYPE — LR (Rectangle or Square)



TYPE — T (Cylinder Drawn Cans)
TYPE — TR (Rectangle or Square)

HOW TO DESIGNATE SHIELD SIZE AND SHAPE

This "Shield Selector Guide" has been created as an aid to shield designers. Properly used, it will eliminate (or minimize) your design time, and facilitate the ordering of the correct size and shape shield. There is no longer a need to draw your own prints. We probably have made shields the same, or similar to your needs.

Shown are representative configurations of shields that we feel cover most applications. However, other combinations of these shapes can easily be created, to meet your specifications. Just let us know dimensions.

Typical P/N and ordering information is shown to the right.

TYP P/N

3.6 — FRONT I.D. OF SHIELD
B — CONTOUR OF SHIELD
2.3 — REAR I.D. OF SHIELD
L.3 — SHIELD LENGTH IN INCREMENTS OF 1″
Using alphabet starting with 'A' = 1″; 'B' = 2″; 'C' = 3″; etc.
Do not use letters 'I' or 'O'
(In Typ P/N above, L.3 = 11.3″)

JAN's Design Engineers are available to assist you with your shield requirements. • We will design and manufacture shields to your specifications.

COMPLETE FACILITIES FOR PROTOTYPE WORK.

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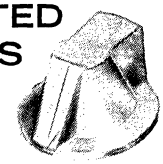
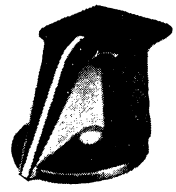
TRANSILLUMINATED POINTER KNOBS

NAS 539-1B



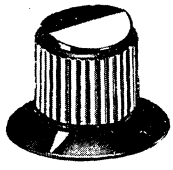
MS25165-1



USAF 61D 404 74

NAS 539-1C

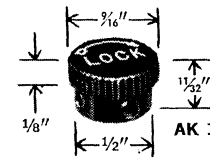
MS91528



Precision molded of JAN's transparent plastic material, to NAS specs, with dull finish. Transilluminated pointers permit easy reading under subdued lighting conditions. For use on instrument panels, switchboards, electrical and electronic apparatus.

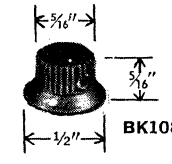
NEW METAL MINIATURE KNOBS

AK 1326
For ¼" Shaft



AK 1326

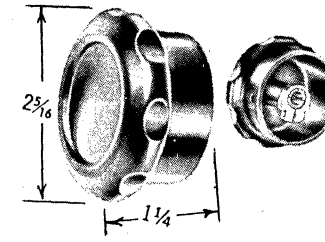
BK 1080
For ⅛" Flatted Shaft



BK1080

TUNING KNOB
Cat. No. K243

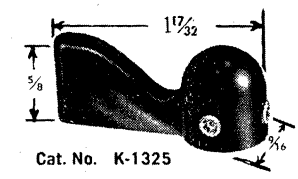
For 5/16" shaft. Die cast aluminum. Made to Fed. Spec. QQ-A-591 and MIL-F-14072. Use no-mar clamp Cat. No. 937-7 for mounting. (Not supplied).



BAR-KNOB

Cat. No. AK-1325

Precision cast aluminum for ¼" shafts. Furnished with twin 8-32 set screws for shaft attachment. Provides a 1.0" integrally cast lever arm for heavy-load switching. Finished to specifications.



Cat. No. K-1325

Cat. No. K936-5

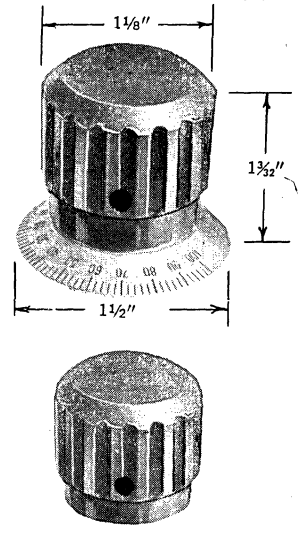
Black phenolic molded knob, with beveled satin aluminum skirt, anodized finish.

Deeply etched and filled contrasting markings.

Accurately centered brass insert, for 5/16" shafts.

Cat. No. K936-4 (¼" shaft)

Variations on shaft sizes and markings available in production quantities.



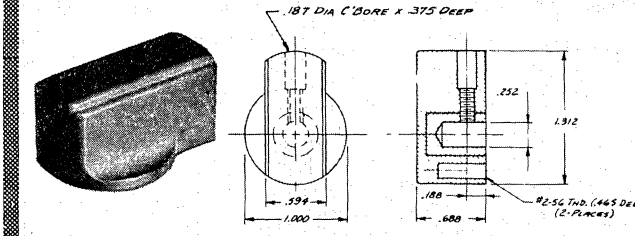
KNOB ONLY

Cat. No. K 929-5 (5/16" shaft)
Same as above, less skirt

Cat. No. K-929-4 (¼" shaft)

BAR KNOB Cat. No. K783

Phenolic molded knob, with metal insert. Set screw at back, for shaft attachment. Finished to specifications.

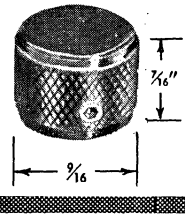


POINTER KNOB Cat. No. K-706

Molded thermosetting phenolic. Type CFG per MIL-P-14. Designed for square shaft, providing positive action.

KNOB Cat. No. K-897

Machined knurled edge for easy turning. Has set screw for firm attachment to ¼" shafts. Height 7/16" x 9/16" diam.

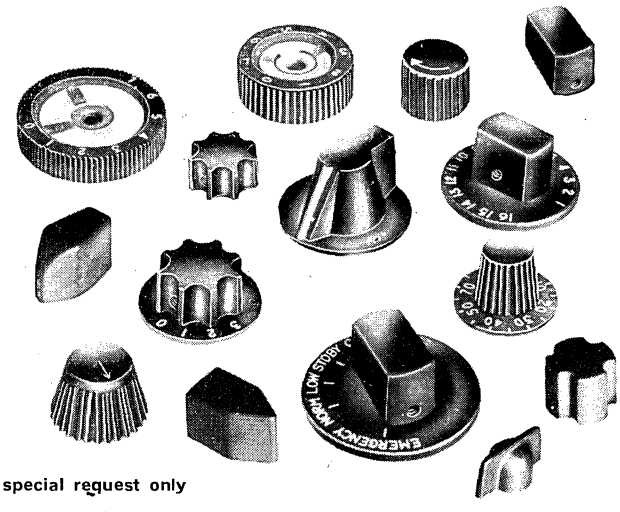


STANDARD PLASTIC KNOBS

Knobs to satisfy almost any design or demand. Can be produced in any color or finish, either illuminated or non-illuminated.

Knobs shown are only part of our stock.

Let us quote on your specifications.



Knobs Back Lighted on special request only

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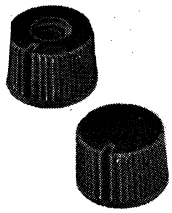
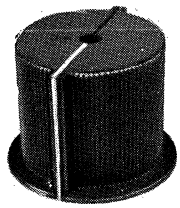
JAN HARDWARE MANUFACTURING COMPANY, INC.

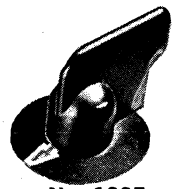
KNOBS TO MILITARY SPECIFICATIONS

One of the largest assortment of Military Knobs in the country.

NEW CAST KNOBS







No. 1005
Available with or without skirt

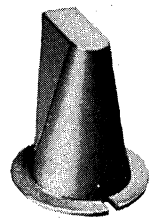
No. 1006 **No. 1007**
MACHINED KNOBS

No. 1020

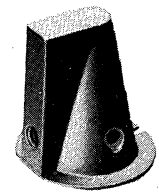
No. 1021

CAST ALUMINUM KNOBS

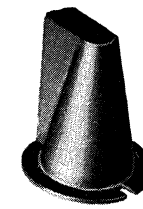
Available in black. Other colors on request. Specify shaft hole size required.

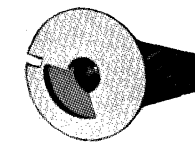


No. 1022
Full Round Skirt



No. 1023
Flat Back Round Skirt



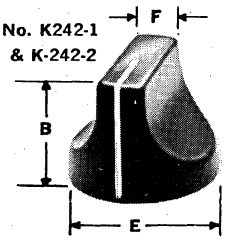


No. 1024
With Cam Shape Cut-out.

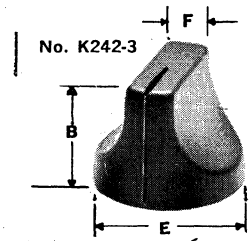
SIGNAL CORPS DIE CAST KNOBS

ZINC ALLOY — ALUMINUM

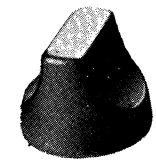
No. K242-1 & K-242-2



No. K242-3



Cat. No.	B	E	F	Marking
242-1	3/4"	15/16"	5/16"	White
242-2	7/8"	1 1/8"	3/8"	White
242-3	3/4"	15/16"	5/16"	None

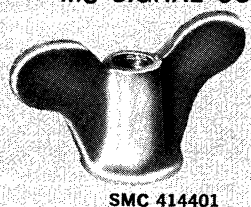


Cat. No. 984
Dimensions as per 242-3
No markings. Aluminum.

Manufactured in accordance with applicable military specifications.

MS SIGNAL CORPS DIE-CAST ALUMINUM & ZINC ALLOY CONTROL KNOBS

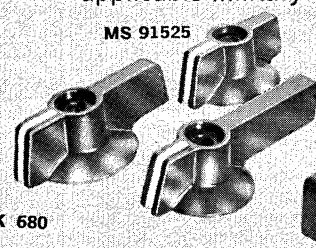
Manufactured in accordance with applicable Military Specifications



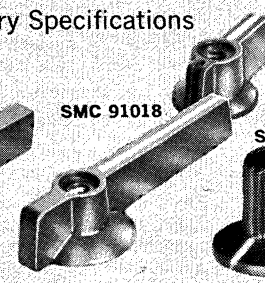
SMC 414401

MS 91524

K 680

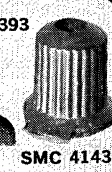


MS 91525

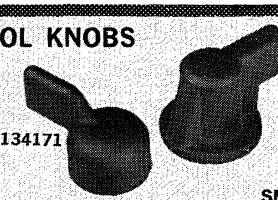


SMC 91018

SMC 414393



SMC 414399



SMB 134171

SMB 134094

SMB 134884

SMC 414680-1 Thru 10

(Many sizes available. Lengths from 1 3/16" to 2 5/16").

PARTIAL LIST OF GOV'T KNOBS MFG'D BY JAN

SMC 100446
SCB 104717
SMC 108874
SMC 108875
SMC 108876
SMC 108951
SMB 134093
SMB 134094
SMB 134171
SMB 134884
SMB 134957
SMB 143975
SMB 144318
SMB 144319
SMB 144358
SMB 144517
SMB 16505
SMB 16552
SMB 180288A2
SMB 180465A1
MS 25165
SMC 328371
SMC 344847
SMC 345389
SCB 35862
SCB 35863
SCB 40771
SCB 40859
SCB 40860
SCB 41848
SMC 414393
SMC 414399
SMC 414401
SMC 414680-1 thru -10
SMD 415160
SMD 415161
SMD 415223
BU ORD 416956 PT2
SMC 447052
SMC 447226
SMB 456374
SMC 500407
SMC 502491
NAS 539 1B
NAS 539 1C
USAF 61D40474
SCB 16532
SCB 65884
SCB 72585
SCB 72687
NAV ORD 814528
SCB 82716
SMB 902574-1
SMC 91018
MS 91524
MS 91525-1 thru -4
MS 91528
MS 91522

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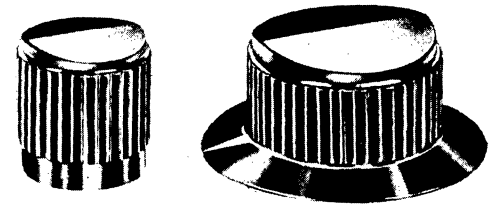
JAN HARDWARE
MANUFACTURING COMPANY, INC.

SAFETY KNOBS
"PRESS-TO-TURN" KNOBS.
For Low Torque Applications

Knobs spin freely... and **MUST BE PRESSED-IN** while making changes.

Developed specifically to prevent inadvertent changing of settings.



For basic dimensions, see our "De-luxe Instrument Knobs", (90, 125, 175 and 225 series).

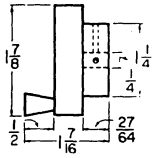
SLIP-CLUTCH With Fixed or Retractable Spinners

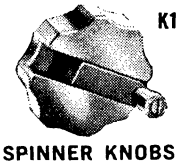
Cat. Nos. K-1375 & K-1376 (For ¼" shafts)

Designed for driving devices such as variable capacitors, inductors, potentiometers, etc., these knobs are based upon the principle of the "slip-clutch";* automatically disengaging and slipping when a pre-determined torque has been exceeded. JAN'S SLIP-CLUTCH SAFETY KNOBS are fluted to aid in sensitive adjustments and are equipped with either a fixed or retractable spinner for fast turning. Insert-molded-to-Bakelite construction provide durable, backlash-free units to safeguard delicate and costly instruments against careless or inadvertent cranking beyond their normal stops.

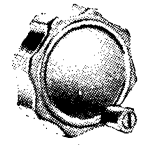
**Normally set for 3-6" lbs. Can be modified for other requirements.*

Model No. K-1376 is identical with No. K-1375 but has the additional feature of a retractable spinner. Spring loading provides positive, toggle-type action to lock spinner in either open or closed position. Model No. K-1376 is designed for use where economy of space is essential.





K1376



K1375

SPINNER KNOBS

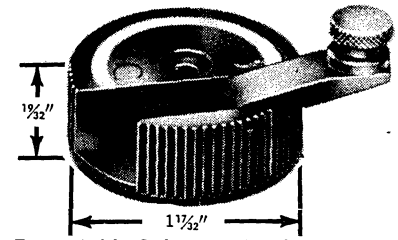
With Fixed or Retractable Spinners

Standard: glossy finish. (Matte finish available on special order).

Cat. Nos. K-1275 & K-1276 (For ¼" shafts)

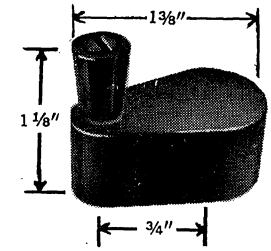
In appearance, these knobs are identical with No. K-1375 and No. K-1376 but without JAN'S Slip-Clutch mechanism. Made with single-unit, molded Bakelite-to-metal-insert construction, with two set screws for firm attachment to shafts.

SAFETY CRANK KNOB
Cat. No. MS 91522-1

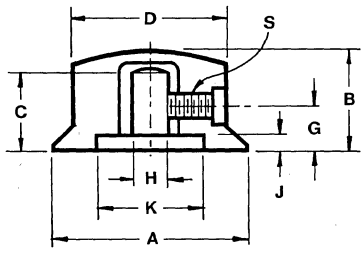


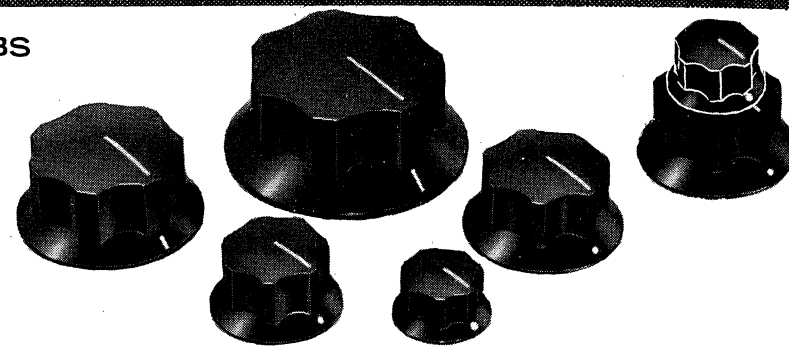
Retractable Spinner. Aluminum Olive Drab. Other colors on request. For ¼" shaft. Other shaft diameters on request.

Cat. No. K 1125
SPINNER KNOB
For limited space applications.
For 3/16" shaft.



INSTRUMENT KNOBS





DIMENSIONS, INCHES

PART NO.				A	B	C	D	G	H	J	K	S
6	1	C	SPECIFY AS REQUIRED	3/4	7/16	3/8	5/8	7/32	1/4	1/16	9/16	6-32
8	1	C		1	19/32	1/2	13/16	9/32	1/4	3/32	11/16	8-32
10	1	C		1-1/4	21/32	1/2	1	9/32	1/4	3/32	11/16	8-32
13	1	C		1-1/2	3/4	9/16	1-1/4	11/32	1/4	5/32	31/32	8-32
16	1	C		2	7/8	21/32	1-5/8	13/32	1/4	3/32	13/16	8-32

New Items

BODY DIA.
6=5/8"
8=13/16"
10=1"
13=1 1/4"
16=1 5/8"

BODY STYLE
1=ROUND
2=POINTER

SKIRT
A=NONE
C=SKIRT W/ INDICATOR MARKER

SHAFT HOLE DIA.
2=1/8"
4=1/4"
(Other Shaft Holes To Order)

FINISH
G=GLOSSY (Standard)
M=MATTE

COLOR
A=BLACK
B=RED
C=GREY
D=GREEN
E=YELLOW
F=PURPLE
G=BLUE
H=WHITE
J=ORANGE

TYPICAL PART NUMBERS

81C4GB=13/16" Dia./Round/Skirt w/indicator marker/¼" Shaft Hole dia./Glossy/Red
101C4MA=1" Dia./Round/Skirt w/indicator marker/¼" Shaft Hole dia./Matte/Black

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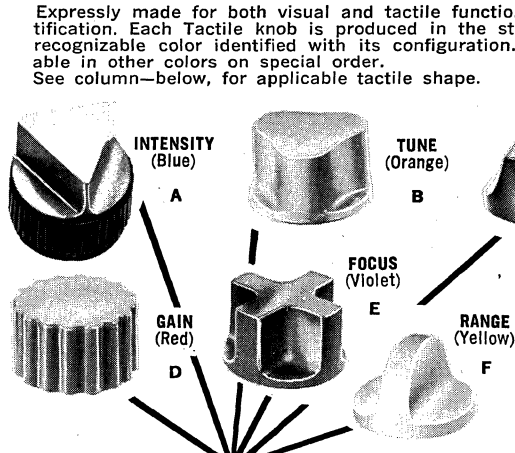
DELUXE INSTRUMENT KNOBS

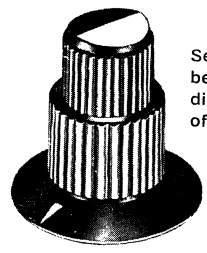
MEETS PERFORMANCE OF MIL-STD-242D (SHIPS) AND MS 91528C

JAN's Standard Instrument Control Knobs for use with electronic equipment. Molded of polycarbonate, these knobs will withstand the extreme environmental conditions of MIL-E-16400. Either knob-cap or entire knob is available in a variety of colors, in MATTE (M) or GLOSSY (G) finish. Complete range of sizes . . . send for catalog.

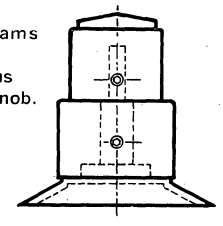
TACTILE SHAPE CONTROL KNOBS

Expressly made for both visual and tactile function identification. Each Tactile knob is produced in the standard recognizable color identified with its configuration. Available in other colors on special order.
See column—below, for applicable tactile shape.





See diagrams below for dimensions of each knob.



SUPER DELUXE Aluminum Anodized Top.
(Numbering as below)

DUAL KNOBS FOR CONCENTRIC CONTROLS

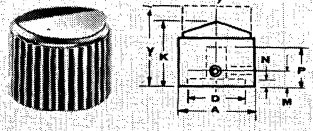
APPROVED FOR USE MIL STD 242D and MS 91528C

Molded of polycarbonate plastic, these "piggy-back" knobs are used with dual concentric potentiometers and in other similar applications. Meet performance of military specs above.

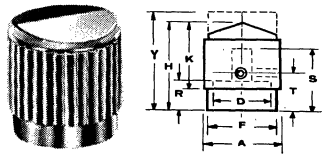
DIMENSIONS

PART NO.	A	D	F	G	H	K	M	N	P	R	S	T	Y
5 1 A	.505	.302				.509	.158	.026	.408				
7 1 A	.708	.486				.626	.158	.026	.406				.915
9 1 A	.911	.645				.798	.255	.114	.521				1.171
12 1 A	1.255	.974				.703	.260	.115	.458				1.220
17 1 A	1.755	1.465				.854	.255	.114	.521				
22 1 A	2.255	1.870				.885	.255	.114	.521				
5 1 B	.505	.302	.450		.660	.509				181	.563	.324	
7 1 B	.708	.486	.670		.805	.626				.188	.568	.340	1.100
9 1 B	.911	.654	.826		1.027	.798				.323	.730	.484	1.399
12 1 B	1.255	.974	1.155		.870	.703				.262	.605	.427	1.399
17 1 B	1.755	1.465	1.666		1.088	.854				.333	.740	.489	
22 1 B	2.255	1.870	2.153		1.114	.885				.333	.740	.489	
5 1 C	.505	.302		.885	.660	.509				.181	.563	.324	
7 1 C	.708	.486		1.135	.805	.626				.188	.568	.340	1.100
9 1 C	.911	.645		1.510	1.027	.798				.323	.730	.484	1.399
12 1 C	1.255	.974		1.822	.870	.703				.262	.605	.427	1.399
17 1 C	1.755	1.465		2.453	1.088	.854				.333	.740	.489	
22 1 C	2.255	1.870		3.005	1.114	.885				.333	.740	.489	

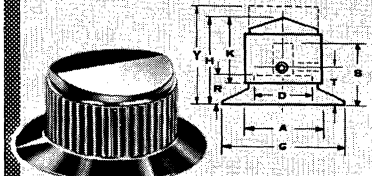
SPECIFY AS REQUIRED



NO SKIRT



PLAIN SKIRT



DIAL SKIRT

1 TOP (Color or Tactile)
0=NO TOP—Shaft Hole Drilled Thru.
*T=STANDARD
A=(INTENSITY—Blue)
B=(TUNE—Orange)
C=(DIMMER-White)
D=(GAIN—Red)
E=(FOCUS—Violet)
F=(RANGE—Yellow)
M=ALUMINUM ANODIZED TOP

2 BODY DIA.
5=.51
7=.72
9=.90
12=1.25
17=1.75
22=2.25

3 BODY STYLE
1=ROUND
2=POINTER

4 SKIRT
A=NONE
B=PLAIN
C=DIAL W/ POINTER
D=DIAL W/O POINTER

5 SHAFT HOLE DIA.
2=.128
3=.190
4=.253
5=.312
6=.375
7=.268
"D" FLAT SHAFT HOLES
B=.107 (3/32")
D=.222 (1/4")

6 FINISH
M=MATTE
G=GLOSSY

7 COLOR
A=BLACK
B=RED
C=GREY
D=GREEN
E=YELLOW
F=PURPLE
G=BLUE
H=WHITE
J=ORANGE

TYPICAL PART NUMBERS

91C4GA=.90 Dia./Round/Dial/1/4"/Glossy/Black
A71B4MA=Triangle Top Blue/.72/Round/Plain/1/4"/Matte/Black
BA71B4MA=Triangle Top Red/.72/Round/Plain/1/4"/Matte/Black
BT71B4MA=Standard Top Red/.72/Round/Plain/1/4"/Matte/Black
** **071B4MA**=No Top, Shaft hole drilled thru/.72/Round /Plain/1/4"/Matte/Black

**—Specify if .127, .190, .250 hole is required for dual mounting*

*NOTE: *T—Preceded by color code (BT—would mean Standard RED top)*

IF WHITE DOTS ARE REQUIRED—ADD SUFFIX WD TO CATALOG NO.
FOR SPECIAL KNOBS—GIVE FULL DESCRIPTION OR SKETCH WITH ORDER.

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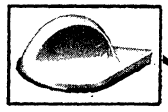
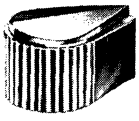
DELUXE INSTRUMENT KNOBS

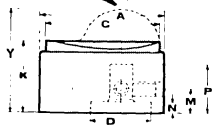
MEETS PERFORMANCE OF MIL-STD-242D (SHIPS) AND MS 91528C

JAN's Standard Instrument Control Knobs for use with electronic equipment. Molded of polycarbonate, these knobs will withstand the extreme environmental conditions of MIL-E-16400. Either knob-cap or entire knob is available in a variety of colors, in MATTE (M) or GLOSSY (G) finish. Complete range of sizes . . . send for catalog.

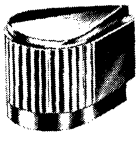
POINTER KNOBS

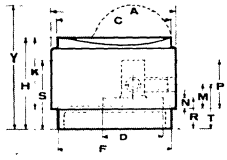






POINTER





POINTER WITH SKIRT

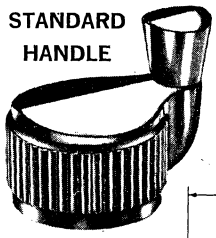
DIMENSIONS

PART NO.	A	D	F	H	K	M	N	P	R	S	T	Y
5 2 A	.750	.406			.505	.158	.026	.402				
7 2 A	1.038	.486			.619	.187	.026	.406				.918
9 2 A	1.344	.645			.796	.255	.114	.555				1.171
5 2 B	.750	.406	.669	.655	.505			.402	.177	.563	.324	
7 2 B	1.038	.486	.940	.791	.619			.406	.193	.573	.364	1.100
9 2 B	1.344	.645	1.251	1.015	.796			.555	.328	.796	.479	1.400

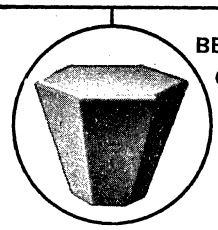
SPECIFY AS REQUIRED

1 TOP (Color or Tactile)	2 BODY DIA.	3 BODY STYLE	4 SKIRT	5 SHAFT HOLE DIA.	6 FINISH	7 COLOR
G=(RANGE—Yellow)	5=.51 7=.72 9=.90	2=POINTER	A=NONE B=PLAIN C=DIAL W/ POINTER D=DIAL W/O POINTER	2=.128 3=.190 4=.253 5=.312 6=.375 7=.268 "D" FLAT SHAFT HOLES B=.107 (⅛″) D=.222 (¼″)	M=MATTE G=GLOSSY	A=BLACK B=RED C=GREY D=GREEN E=YELLOW F=PURPLE G=BLUE H=WHITE J=ORANGE

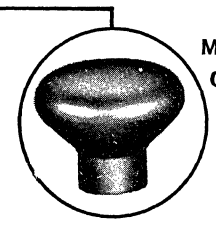
TYPICAL PART NUMBERS
72B4MA=Regular Top
G72A4MA=Tactile Top



STANDARD HANDLE

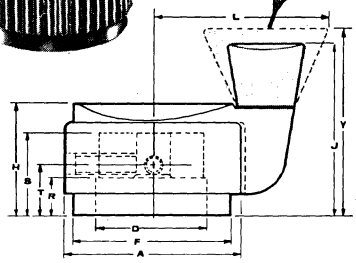


BEARING GREY



MARKER GREEN

CRANK KNOBS



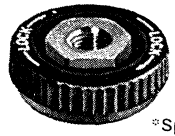
PART NO.	A	D	F	H	J	L	P	R	S	T	Y
12 4 B	1.250	0.685	1.185	.850	1.350	1.275		.250	.605	.427	1.475
17 4 B	1.750	0.685	1.690	1.070	1.758	1.735		.320	.740	.489	1.940
22 4 B	2.250	0.685	2.185	1.095	1.782	1.970		.320	.740	.489	1.970

SPECIFY AS REQUIRED

1 HANDLE (Color or Tactile)	2 BODY DIA.	3 BODY STYLE	4 SKIRT	5 SHAFT HOLE DIA.	6 FINISH	7 COLOR
H=GREEN J=GREY	12=1.25 17=1.75 22=2.25	4=SPINNER	B=PLAIN	4=253	M=MATTE G=GLOSSY	A=BLACK B=RED C=GREY D=GREEN E=YELLOW F=PURPLE G=BLUE H=WHITE J=ORANGE

TYPICAL PART NUMBERS
J174B4MA=Grey Tactile Handle
124B4MA=Standard Handle

SHAFT KNOB LOCK



Cat. No. AK 1057-2 (*) (⅛″ shaft)
AK 1057-4 (*) (¼″ shaft)
(Used with 71 Series Knob)
Cat. No. AK 1059-4 (*) (¼″ shaft)
(Used with 91 Series Knob)

*Specify "M" or "G" for matte or glossy finish

Prevents movement of controls due to shock . . . vibration . . . or accidental manual contact. Available in matte or glossy finish, for commercial or military applications.

Typical Part Nos.
AK 1057-2MA=For ⅛″ Shaft/matte finish/Black
AK 1059-4GA=For ¼″ Shaft/glossy finish/Black

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JAN HARDWARE MANUFACTURING COMPANY, INC.

JOLTA SHOCK TEST MACHINES

For reproducible impact-shock test pulses

Four models engineered to reproduce the entire spectrum of all significant impact shock waves.

Designed for laboratory and production testing of light to medium weight components as well as complete instrumentation. Produced to meet practically all requirements of common Mil. Spec. qualification tests. Each JOLTA is electronically calibrated to certify compliance with test specifications.

JOLTA – Bench Model No. 1001 – Produced to meet JAN-S-44 & Mil-Std. 202 (202A). Standard model range-30-120G. Accessory plate springs available for test pulses to 500 G.

JOLTA – Bench Model No. M-500 – Produced to meet Mil-T-12679A (Sig. C) and Mil. T-19500A. Standard model range –200 to 1000 G at 1.0 millisecs. Alternate anvil and pad kits available to order.

JOLTA—Floor Model Nos. F-3003-C1, C2, C-3—Designed for high impact shock testing for small and moderate-sized components. Precision-machined magnesium casting utilized for higher shock amplitudes. Typical tests with these units 50 to 5000 G at .2 to 11.0 millisecs. For high impact testing, accessory springs and twin anvil combinations yield impulses of 0.2 millisecs to 5000 G.

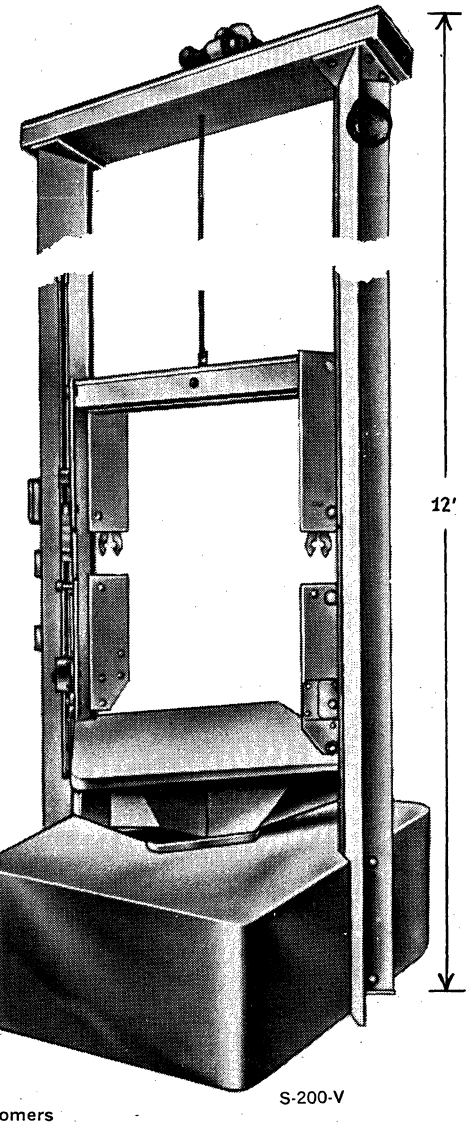
Note: New design allows for quick changeovers of accessories.

FEATURES

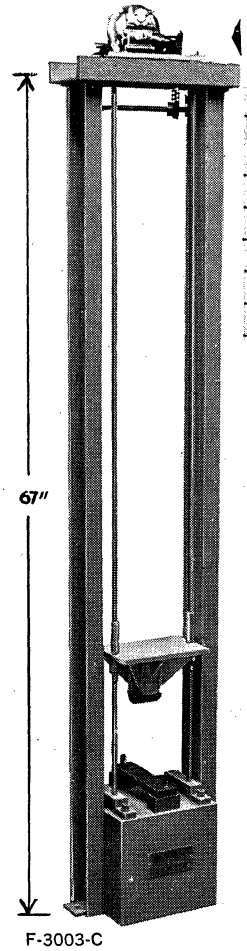
- Economical
- Simple to operate
- Rugged
- Uniformly accurate

JOLTA UNIVERSAL SHOCK TESTERS
No. S-200-V

A functionally engineered test machine for large components and complete instrumentation. Accepts specimens up to 200 lbs. and volume of 2 cubic feet. Standard model provides pulses of from 20 to 250 G at 3.0 to over 30.0 millisecs.



S-200-V



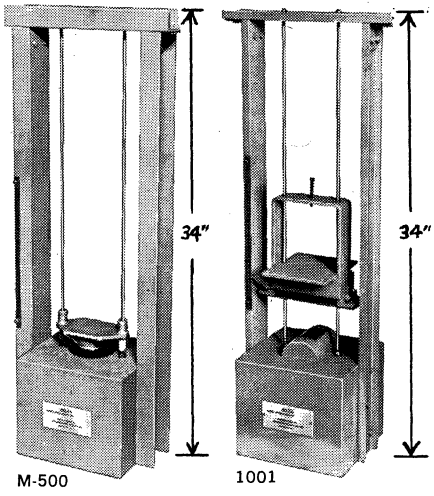
F-3003-C

NEW! Plastic impact pad for clean ½ MS-2000 G impact shock.

For Production Testing, JAN's Jolta Shock Test Machines can be automated for continuous operation.

SPECIFICATIONS – JOLTA SHOCK TESTERS

Model No.	Carriage Volume	Test Weight	"G" Ranges
1001	4" x 4" x 5"	0-12 lbs.	25-500
M-500	3" cube	0-2.0 lbs.	100-1000
F-3003-C-1	5" cube	0-12 lbs.	50-1500
F-3003-C-2	5" cube	0-4.0 lbs.	350-5000
S-200-V	2 Foot cube	0-200 lbs.	20-250



M-500 1001

Free engineering services available to customers where adaptation or conversion of standard machines are needed to meet Mil. Spec. changes or other special needs.

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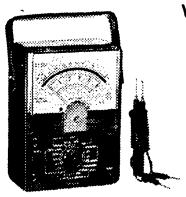
Philmore Guaranteed ELECTRONIC COMPONENTS

100,000 OHMS PER VOLT MULTITESTER
WITH MIRRORED SCALE



Sensitive VOM, accuracy of AC ± 4% and DC ± 3% of full scale with a 9.5 μA movement. Single selector switch for all 18 positions; rotated in either direction. 100,000 ohm VOM has dual silicon diodes for overload protection. 1% temperature stabilized resistors. Mirrored scale. 4½" two color wide angle scale. Metal handle (with leather covering) to position meter as desired. Ohms zero adjust.

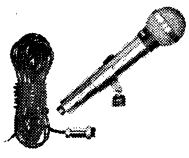
SPECIFICATIONS:

DC Voltage:	0.5 - 2.5 - 10 - 50 - 250 - 500 - 1,000 - 2,500 (100,000 ohms per volt).
AC Voltage:	2.5 - 10 - 50 - 250 - 1,000 (12,500 ohms per volt).
DC Amps:	10 μA, 250 μA, 2.5 mA, 25 mA, 250 mA, 10 A (150 mV).
Resistance:	0 - 20,000 ohms, 0 - 200,000 ohms,
Range:	0 - 2 MEG ohms, 0 - 20 MEG ohms.
Center:	160 ohms, 1.6k ohms, 16k ohms, 160k ohms.
Db:	−20 to +63db.

This meter is housed in an acrylic case; the entire VOM is packaged in a protective styro foam box. Includes test leads and batteries. Dimensions: 5¼" x 6⅞" x 2⅝".

No. PNH 400 **Net Price $37.98 ea.**

CARDIOID UNIDIRECTIONAL MICROPHONE
Dual Hi-Z and Lo-Z Impedance



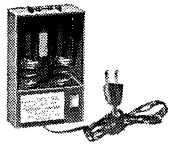
Model DC95 Sphere-Top is unidirectional and dynamic, featuring a built-in wire mesh screen with special filters that provide protection from wind and "pop" (explosive breath sounds). Eliminates feedback, prevents echoing. For use with orchestras, small combos, swinging groups, singers and all public-address applications.

FEATURES AND SPECIFICATIONS:

- Separate built-in switch for high or low impedance (changing of the cable is not necessary)
- Separate built-in on/off switch
- Completely adjustable die-cast swivel adaptor
- 20 feet detachable cable
- Satin chrome finish
- Frequency Response: 100-10,000 Hz
- Output: −62db at 1,000 Hz
- Impedance: High 50 K ohms
  Low 150-250 ohms

Comes in box with clear plastic "see-thru" top.

No. DC95 **Net Price $16.50 ea.**



MULTI-DUTY BATTERY CHARGER

Builds up the voltage to its original state after only a few hours of recharging.

Any combination of 3 different batteries can be charged at the same time; charges the following types of batteries: regular carbon zinc, nickel cadmium and alkaline.

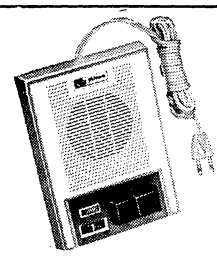
Although compact in size, it is capable of restoring life into 4 types of batteries: AA cell, C cell, D cell (1½ volts) and 9 volts.

Electrical specs: 1.5 volts at 30 Ma and 9 volts at 8 to 19 Ma.

Input: 110/120 volts AC 50/60 cycles — 1 watt. Output: 1.5 — 9 volt DC at 30 Ma.

Pilot light indicates when charger is on. Handsomely packaged for peg-rack sales.

No. BC4 **Net Price $3.95 ea.**



"THE MASTER" SOLID STATE WIRELESS TWO CHANNEL INTERCOM SYSTEM

Three of these up-dated wireless communicators assure private conversation on any three desired combinations. Additional intercoms can be used by simply plugging into any 110 volt AC outlet using the same side of the transformer line. Although each channel is clearly marked on the smartly designed high-impact cabinet — when switching to channel 1, the pilot light is a different color (red or white) from channel 2 — thus making these intercoms ideally suited for selecting a channel in the dark, as the colored lights indicate the channel you are on. Features that assure crisp-clear 2 channel communication: Semi-conductors: (5 transistors, 1 diode) resulting in instantaneous communication, extremely low current assures long, dependable performance. Adjustable squelch.

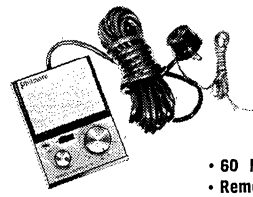
Push-to-talk bar switch for fast to-the-point conversations — separate lock bar where long one-sided conversations are necessary. A combined on-off power switch with volume control for far off distance compensation.

SPECIFICATONS:

Frequencies:	Channel 1 is 160 KC Channel 2 is 200 KC
Power Source:	AC, 110V. 50/60 Hz
Output:	Maximum (AF) 200MW Maximum (RF) 1.4 VRMS

Each "MASTER" is BLISTER PACKED on a colorful self-selling display card.

No. TW7 **Net Price $25.50 ea.**



REMOTE CONTROL CENTER

Including

- **60 Minute Timer Switch**
- **Remote Speaker**
- **Private Listening Earphone with Earholder**

Turns audio device on or off with power switch. Following combinations can happen — main speaker is on simultaneously with the remote speaker, only one or the other can be heard — you decide. If complete quiet is required — the lightweight earphone can be used for personal listening. Control the volume on all three speakers and phone combinations. Fall asleep with knowledge that your TV set (or any other audio device) will be completely shut off within the hour while you are asleep!

Includes lightweight earphone and earholder. The Timer Switch which can be regulated at any position up to 60 minutes handles a capacity of 600 watts. Supplied with 15 feet of 5 conductor cable and simple hook-up instructions.

Comes in box with clear plastic "see-thru" top.

No. TR60 **Net Price Each $9.95**

INSTANT SELF-ADHESIVE KRAFT PAPER PACKAGING TAPE

This self-stick tape does not require water and is completely waterproof. Its strong tensile strength makes it ideal for sealing anything from small boxes to heavy cartons permanently. As the tape rolls out, it can be cut to any desired length as the dispenser has a built-in cutter knife. This dispenser can be hung for peg-rack sales.
Width of tape: 1½ inches.
Length of roll: 25 yards.

No. PT3 **Net Price $.98 per package**

80 WATT SOLID STATE STEREO AMPLIFIER

Model TA-1600

NEWLY developed circuitry incorporating 18 latest type transistors and 4 silicon diodes.
Custom oiled walnut wood cabinet and knurled metal knobs on etched aluminum front panel.

Rear Panel Inputs:

- **Tape Head**
- **Phono & Mag.**
- **Tuner**
- **Aux.**
- **Tape in**
- **Tape out**
- **Switched AC receptacle**

Front Panel:

- **Selector Switch:** Tape head — phono — Tuner Aux.
- **Controls:** Volume, Bass, Treble, Balance.
- **5 position mode:** Left, Right, Mono, Stereo, Reverse.
- **Rocker Switch Selections:** Tape monitor — Loudness — Rumble — Speaker Muting — Power.
- Stereo Headphone Jack

SPECIFICATIONS:

Power Output:	40 watts per channel IHFM music power
Frequency Response:	±1db, from 20 to 20,000 cps
Harmonic Distortion:	Less than 1%
Hum and Noise:	−70db
mag:	−56db
Voltage:	110-120 volts 50/60 cps — double-fused
Size:	13¾" w x 4⅛" H x 10" D

Model No. TA-1600 .....Audiophile Net $99.95

"SUPERTONE" STEREO HEADPHONES
(with retractable coil cable)

Sturdy, but comfortable fitting light-weight (15 oz.) phones that transform your listening senses into the realm of spatial Hi-Fi music that becomes alive all around you. Responsible for this musical delight are two perfect acoustically balanced 3½" speaker enclosures. Full stereo separation. Has adjustable head band with foam rubber cushioned ear cups, fitting snugly over the ears.

SPECIFICATIONS:

Frequency Response:	20 - 17,000 Hz.
Impedance:	8 ohms.
Cable and Plug:	2 feet retracted, 8 feet fully extended.
Allowable Input:	30 mw .5 watts.

No. SP8 **Net Price $14.95 ea.**

"E-Z" MOUNT SLIM 6¼" SPEAKER

To give full bodied sound the entire cone of this speaker is actually the heavy-duty magnet. When true hi-fi is required but shallowness and depth are a major factor, this speaker is the perfect answer because of its unique construction.

All it takes to mount it are four screws (that are supplied with speaker). This dust proof speaker is self contained, as the smart looking chrome grille with triangular openings is part of the speaker itself. Its many useful applications are for car or home stereo, boats, flush wall mount, patio and other locations too numerous to mention.

Beautifully BLISTER PACKED in colorful display board.

SPECIFICATIONS:

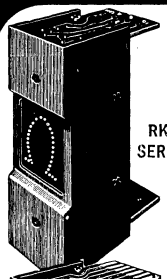
Frequency Response:	50 - 4,000 Hz.
Music Power Rating:	10 Watts.
Impedance:	8 ohms.
Resonant Frequency:	110 Hz ± 15 Hz at 0.1 V.
Sensitivity:	93db.
Flux Density:	7,500 Gauss.

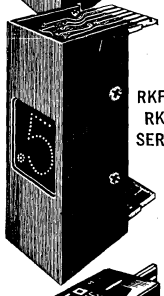
No. TS40 **Net Price $4.98 ea.**

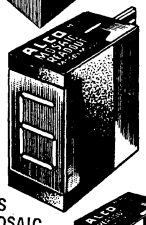
PHILMORE MANUFACTURING CO. INC.

We will be pleased to send our latest Catalog upon request.

READOUT INDICATORS • PILOT LIGHTS


RK SERIES


RKF & RKP SERIES


MS MOSAIC

MSM MOSAIC

READOUT INDICATORS

RK Series — precision machined from 1-piece aluminum which also serves as a heat sink for the bulbs. Front and rear tapped holes for mounting on a panel or on RKA-2-8 brackets. The RK-FLV violet filter is available to reduce reflected lighting effects resulting in a better contrast.

Unique in-line design provides clear displays without focusing problems thereby allowing equally clear viewing from any angle. Compact size assures a neat fit in a limited space. Long life bulbs — 20,000 to 50,000 hrs. Engraved acrylic plates are of a non-yellowing quality are mounted in a tightly-packed stack and edge-lit.

RKP Series—plug-in readout indicators are designed for ease of use.

RKF Series—has a larger 1-piece aluminum body with 1" high numerals, along with 2 long-life bulbs per numeral for increased brightness, and acts as safety alarm should a bulb be inoperative.

SPECIFICATIONS

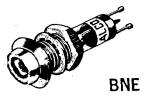
Numerals: 0 to 9 and a period
Numeral Size: .55" high (RK, RKP)
1.0" high (RKF)
Standard Voltages: 6, 14, 24 volts
Bulbs Used (T-1-¾): #2181 (6.3V), 2182 (14V), A-24 (24V)
Current Drain: 6.3V @ 200 ma., 14V @ 80 ma., 24V @ 50 ma. (RK, RKP)
6.3V @ 400 ma., 14V @ 160 ma., 24V @ 100 ma. (RKF)
Body Size: 2.56 x .78 x .83" (RK, RKP)
3.30 x 1.18 x 1.18" (RKF)
Bracket: Holds 2 to 8 readouts. (RK, RKP)

MS Series Mosaic — 0-9 and some alphabet is displayed through diode-matrix (not supplied). Decimal points used as colon. High illumination. Figures 25/32" high. 20,000 hr. bulb life. Body size: .827" w. x 1.73" h. x 1.69" d. Available 6 or 14V.

MSM Series Mosaic (Miniature) — as above, except smaller. Figures .472" high, 100,000 hr. bulb life. Body size: .433" w. x 1.15" h. x 1.18" d. Available as 5V.

Model	Volt	Description	One-9	10-24	25-49	50-99
RK-6	6.3	Numeric	9.95	7.95	6.95	6.35
RK-14	14.	Numeric	9.95	7.95	6.95	6.35
RK-24	24.	Numeric	10.45	8.34	7.29	6.66
RK-6S	6.3	Symbol	9.95	7.95	6.95	6.35
RK-14S	14.	Symbol	9.95	7.95	6.95	6.35
RK-24S	24.	Symbol	10.45	8.34	7.29	6.66
RKP-6	6.3	Numeric	10.45	8.34	7.29	6.66
RKP-14	14.	Numeric	10.45	8.34	7.29	6.66
RKP-24	24.	Numeric	10.95	8.74	7.64	6.98
RKP-6S	6.3	Symbol	10.45	8.34	7.29	6.66
RKP-14S	14.	Symbol	10.45	8.34	7.29	6.66
RKP-24S	24.	Symbol	10.95	8.74	7.64	6.98
RKF-6	6.3	Numeric	18.95	15.16	13.26	12.13
RKF-14	14.	Numeric	18.95	15.16	13.26	12.13
RKF-24	24.	Numeric	19.95	15.96	13.97	12.77
RKF-6S	6.3	Symbol	18.95	15.16	13.26	12.13
RKF-14S	14.	Symbol	18.95	15.16	13.26	12.13
RKF-24S	24.	Symbol	19.95	15.96	13.97	12.77
RKA-2-8		Bracket (RK, RKP)	1.95	1.56	1.36	1.24
RK-FLV		Filter (RK, RKP)	.40	.32	.28	.25
RKF-FLV		Filter (RKF)	.50	.40	.35	.31
RK-SKT		Pr. Sockets (RKP, RKF)	1.95	1.56	1.36	1.24
RK-SKT-C		Pr. Sockets w/cover (RKP, RKF)	2.95	2.36	2.06	1.92
MS-6A	6.3	Numeric	9.95	7.95	6.95	6.35
MS-14A	14.	Numeric	9.95	7.95	6.95	6.35
MS-6S*	6.3	Symbol	9.95	7.95	6.95	6.35
MS-14S*	14.	Symbol	9.95	7.95	6.95	6.35
MSM-5A	5.	Miniature Numeric	10.95	8.74	7.64	6.98
MSM-5S*	5.	Miniature Numeric	10.95	8.74	7.64	6.98
MS-SKT		Socket (MS)	1.15	1.06	1.01	.92
MS-FLV		Filter, violet	.40	.32	.28	.25
MS-FLR		Filter, red	.40	.32	.28	.25
MS-FLG		Filter, green	.40	.32	.28	.25
MS-MTX		Matrix	14.95	11.96	10.46	9.42
MS-SK-R		Right Angle Socket (MS)	1.55	1.43	1.36	1.24
MSM-SK		Socket (MSM)	.85	.78	.75	.68
MS-MTX-S		Matrix and socket	16.50	13.20	11.55	10.40

Symbol indicators (+ − V Ω %) can be used with numeric readouts.
* Symbol indicators (+ −)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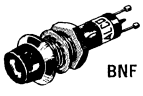
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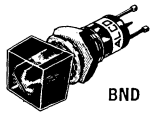

BND

PILOT LIGHT ASSEMBLIES

BNE Series — featuring a 1-piece body construction, this miniature neon pilot is ideally suited to indicate toggle switch positions, or for other display configurations with space limitations. A particular characteristic of this model is the compact lens system protruding slightly above the panel. Operating voltage, 75 VAC without resistor; for 115 VAC operations use external resistors (150K for standard intensity, 33K for high intensity) not supplied. Single 5/16-32 mounting.

BNF Series — similar to the BNE Series except that the lens system extends a greater distance beyond the panel for a bright illumination. This model has a permanent built-in neon and operates on 75 VAC. An external resistor required for 115 VAC. Turret type lugs are used for simplified hookup. Single 5/16-32 mounting.

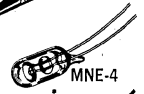
BND Series—combines an entirely new look in a space-saving pilot assembly. The neon protrudes beyond the panel to provide maximum light intensity. This model is available with or without built-in series resistor for 75V or 115V operation, and is also available as standard or high intensity. Single 3/8-32 mounting.

Model	Color	Description	One-24	25-99	100-499	500-999
BNE-2	Red	Standard, less resistor	.49	.33	.29	.24
BNE-2	Amber	Standard, less resistor	.49	.33	.29	.24
BNE-2	Clear	Standard, less resistor	.49	.33	.29	.24
BNE-2	White	Standard, less resistor	.49	.33	.29	.24
BNE-3	Red	Hi-Intensity, less res.	.59	.39	.35	.29
BNE-3	Amber	Hi-Intensity, less res.	.59	.39	.35	.29
BNE-3	Clear	Hi-Intensity, less res.	.59	.39	.35	.29
BNE-3	White	Hi-Intensity, less res.	.59	.39	.35	.29
BNF-2	Red	Standard, less resistor	.49	.33	.29	.24
BNF-2	Amber	Standard, less resistor	.49	.33	.29	.24
BNF-2	Clear	Standard, less resistor	.49	.33	.29	.24
BNF-2	White	Standard, less resistor	.49	.33	.29	.24
BNF-3	Red	Hi-Intensity, less res.	.59	.39	.35	.29
BNF-3	Amber	Hi-Intensity, less res.	.59	.39	.35	.29
BNF-3	Clear	Hi-Intensity, less res.	.59	.39	.35	.29
BNF-3	White	Hi-Intensity, less res.	.59	.39	.35	.29
BND-2	Red	Standard, less resistor	.49	.33	.29	.24
BND-2	Amber	Standard, less resistor	.49	.33	.29	.24
BND-2	Clear	Standard, less resistor	.49	.33	.29	.24
BND-2	White	Standard, less resistor	.49	.33	.29	.24
BND-2R	Red	Std., with 150K res.	.59	.39	.35	.29
BND-2R	Amber	Std., with 150K res.	.59	.39	.35	.29
BND-2R	Clear	Std., with 150K res.	.59	.39	.35	.29
BND-2R	White	Std., with 150K res.	.59	.39	.35	.29
BND-3	Red	Hi-Intensity, less res.	.59	.39	.35	.29
BND-3	Amber	Hi-Intensity, less res.	.59	.39	.35	.29
BND-3	Clear	Hi-Intensity, less res.	.59	.39	.35	.29
BND-3	White	Hi-Intensity, less res.	.59	.39	.35	.29
BND-3R	Red	Hi-Int., with 33K res.	.69	.46	.41	.35
BND-3R	Amber	Hi-Int., with 33K res.	.69	.46	.41	.35
BND-3R	Clear	Hi-Int., with 33K res.	.69	.46	.41	.35
BND-3R	White	Hi-Int., with 33K res.	.69	.46	.41	.35

BRITE-GLO[T] NEON LAMPS

Extremely small size lamp (equivalent to T-1¾). Smallest neon in the industry. Bullseye appearance gives the largest glow where needed on top. Rounded top places the illuminated area closer to the viewing point. Metal base (Model MNE-4SL) increases light output and protects lamp from damage.

[T]Trademark


MNE-4

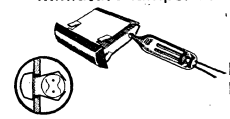
MNE-4L

MNE-4SL

Model	Description	One-24	25-99	100-499	500-999
MNE-4	With Short Bare Leads	.49	.33	.29	.24
MNE-4L	With 10" Insulated Leads	.53	.35	.31	.27
MNE-4SL	With 10" Insulated Leads and Metal Base	.59	.39	.35	.29

BNG SERIES LAMP HOLDERS

Alco offers a simplified, low-cost, snap-type lamp holder for miniature lamps. Various types are available, each adaptable to particular panel thickness, and can be ordered in red, amber, clear. Detailed information supplied on request. Less lamp.



Model	100-over	500-over	1000-over
BNG	.09 ea.	.08 ea.	.07 ea.

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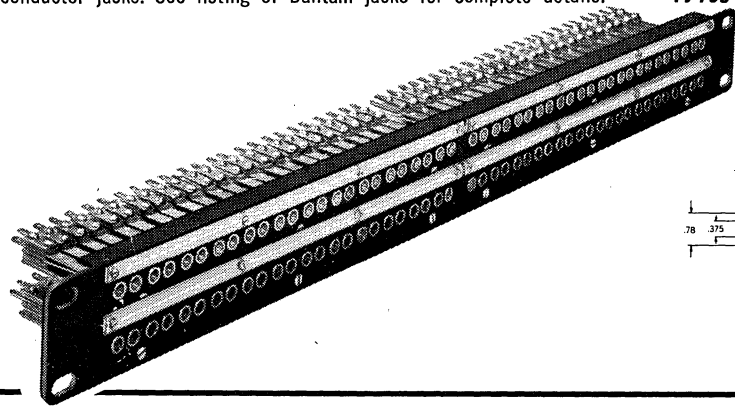
(ADC) bantam jack panels

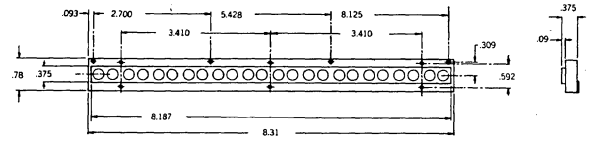
Bantam Jack Panels are designed to satisfy the increasing demand for more compact patchfields in modern electronic and communication equipment. Bantam Jack Panels, with miniaturized jacks, provide twice the number of jacks in a standard size panel. They require only ½ the rack space previously used by conventional panels. The new panel assemblies weigh 65% less when compared to an assembly using an equivalent number of jacks on a conventional jack panel. ■ Bantam Jack Panels are compact, lightweight, and yet provide the same dependable service as the long established telephone types. This new design offers 96 jacks (48 pairs) in a 1¾ inch x 19 inch standard sized panel. The jacks on this panel are spaced to prevent the cross patching of adjacent circuits when using double plugs.

specifications

1. **Panel:** Aluminum alloy, extruded. Finished black anodized per Mil-A-8625A. Overall dimensions 1¾"x19"—Standard EIA mounting centers.
2. **Jack Mounting:** Four moulded plastic inserts, each provides for 24 jacks. Pairs of jacks on 5/16 inch centers. Double-row panel provides 96 jacks total. Blank inserts can be furnished where only single row of jacks is required.
3. **Designation Strip:** Extruded clear plastic.
4. Panel assemblies are available with a wide variety of two and three-conductor jacks. See listing of Bantam jacks for complete details.

PJ-731 Double row panel, assembly less jacks, holds 96 jacks.
PJ-737 Double row panel, with 48 pair (96 total) PJ-818 jacks.
PJ-739 Double row panel, with 48 pair (96 total) PJ-839 jacks.
PJ-724 Panel inserts, less jacks, 24 holes.
PJ-700 Panel inserts, blank (same as PJ-724 without holes).
PJ-736 Double row panel, with 104 PJ-818 jacks.
PJ-738 Double row panel, with 104 PJ-839 jacks.

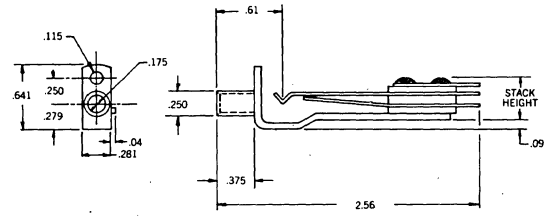




PJ-724 PANEL INSERT

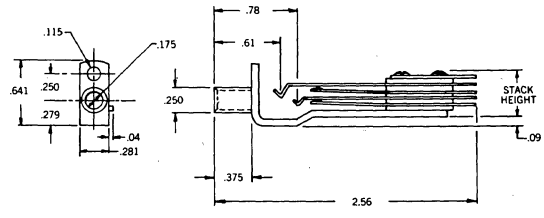
(ADC) bantam jacks

Bantam Jacks will meet the electrical, mechanical and environmental requirements of the military specification for long frame telephone jacks. Although reduced in size these jacks will provide the same reliable service equal to that expected from regular size telephone jacks. These jacks are available in a variety of two and three conductor types, with isolated circuit contacts as well as normalling contacts.



2 CONDUCTOR JACK

3 CONDUCTOR JACK



SCHEMATIC DIAGRAM	PART NO.	STACK HEIGHT (Inches)
	PJ-803	13/32
	PJ-808	43/64
	PJ-815	35/64
	PJ-816	35/64
	PJ-818	13/32
	PJ-823	27/64
	PJ-836	5/8
	PJ-805	43/64
	PJ-824	43/64
	PJ-838	35/64
	PJ-839	17/32
	PJ-841	43/64
	PJ-880	3/4

specifications

Frame: Steel, Cadmium plate with chromate conversion coating to withstand 50 hours of salt spray.
Springs: Nickel silver.
Contacts: Palladium, cross-bar contacts are welded to springs.
Insulation: Spacers, Phenolic Type PBE-P per Mil-P-3115B.
Bushing: Brass, silver soldered to frame. Finish same as frame.

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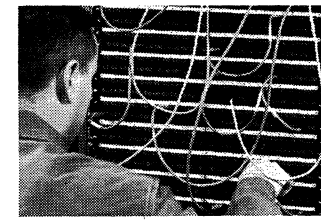
ADC bantam patch cords

Bantam Patch Cords are plastic jacketed, shielded cords complete with molded-on plugs. The plugs are made with molded insulation between conductors. Bantam Patch Cords are available with single and double two and three conductor plugs. A cord strain relief feature is included in the plug construction.



specifications

Cord: Plastic jacketed, stranded copper conductors, braided shield. Jacket color — gray.

Plugs: Conductor parts are brass, finished to 32 microinch finish maximum.

Plug Insulation: Molded polystyrene.

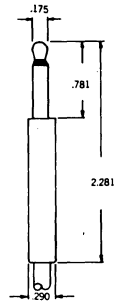
Internal Connections: Soldered.

Plug Shell: Plastic, black, rigid thermoplastic.

NOTE 1: Length is measured from the rear of the plug shell to rear of plug shell on opposite end.

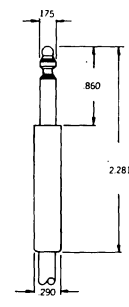
2 CONDUCTOR SINGLE PLUG

Length (see Note 1)	Single (2) Conductor Plug
6 inch	PJ-701
12 inch	PJ-702
18 inch	PJ-703
24 inch	PJ-704
30 inch	PJ-705
36 inch	PJ-706
48 inch	PJ-708
60 inch	PJ-710



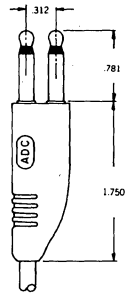
3 CONDUCTOR SINGLE PLUG

Length (see Note 1)	Single (3) Conductor Plug
6 inch	PJ-711
12 inch	PJ-712
18 inch	PJ-713
24 inch	PJ-714
30 inch	PJ-715
36 inch	PJ-716
48 inch	PJ-718
60 inch	PJ-720



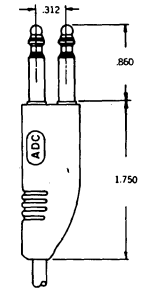
2 CONDUCTOR (DOUBLE)

Length	Double (2) Conductor Plug
6 inch	PJ-751
12 inch	PJ-752
18 inch	PJ-753
24 inch	PJ-754
30 inch	PJ-755
36 inch	PJ-756
48 inch	PJ-758
60 inch	PJ-760



3 CONDUCTOR (DOUBLE)

Length	Double (3) Conductor Plug
6 inch	PJ-761
12 inch	PJ-762
18 inch	PJ-763
24 inch	PJ-764
30 inch	PJ-765
36 inch	PJ-766
48 inch	PJ-768
60 inch	PJ-770



specifications

Cord: Plastic jacketed, stranded copper conductors, braided shield. Jacket color — gray.

Plugs: Conductor parts are brass, finished to 32 microinch finish maximum.

Plug Insulation: Molded polystyrene.

Internal Connections: Soldered.

Plug Shell: Plastic, gray, flexible thermoplastic.

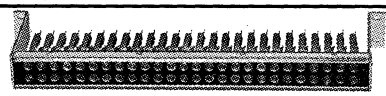
ADC jack panels

ADC offers the most complete assortment of jack panels available today. ADC panels are used in television and broadcasting stations, recording studios, industrial paging systems, and communication equipment of all kinds where there is a need to efficiently switch and distribute audio signals. Molded of solid phenolic, reinforced with steel to provide maximum rigidity and strength. Jacks are spaced to permit use of any standard double plug with 5/8" spacing. Mounting brackets and designation strips furnished with each panel. All panels designed to fit standard 19" relay rack. Consult ADC for your standard and special jack panel requirements.

PJ-30
Double Panel. Holds 52 jacks — requires 1¾" panel space. Double designation strip. Brackets for flush rack mounting. All jack mounting holes on 5/8" centers.

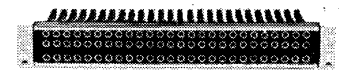
PJ-31
Double Panel. Holds 48 jacks. Holes spaced to prevent patching adjacent circuits. Requires 2⅛" panel space.

PJ-33
Single Panel. Holds 24 jacks. Holes spaced to prevent patching adjacent circuits. Requires 1¾" panel space.

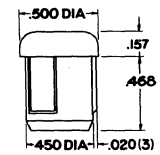


PJ-35
Same as PJ-30, except has 7" standoff mounting brackets.

PJ-36
Single Panel. Holds 26 jacks — requires 1¾" panel space. Brackets for flush rack mounting. All jack mounting holes on 5/8" centers.



PJ-37
Triple-Row Panel. Holds 78 jacks. Requires 2⅝" panel space (1½" standard rack spaces). Provided with brackets for flush rack mounting and PJ-901 designation strips top and bottom.



HOLE PLUG

Molded of black polyethylene plastic. Fits all ADC standard jack panels. Made to plug unused jack mounting holes in jack panels. **PJ-29**

Panel Less Jacks	Panel With PJ-318	Panel With PJ-339	Panel Less Jacks	Panel With PJ-318	Panel With PJ-339
PJ-30	PJ-340	PJ-390	PJ-35	PJ-350	PJ-395
PJ-31	PJ-341	PJ-391	PJ-36	PJ-360	PJ-396
PJ-33	PJ-343	PJ-393	PJ-37	PJ-370	PJ-397

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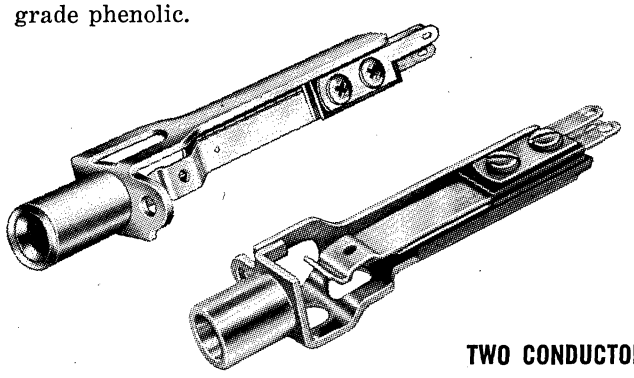
jacks

ADC

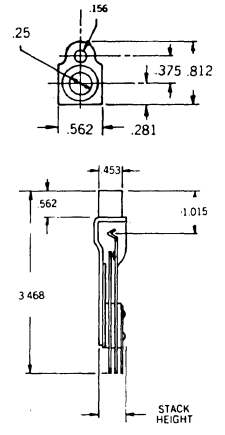
TELEPHONE TYPE

ADC is recognized as a leading supplier of long frame, telephone type jacks. As evidence of their outstanding quality, ADC jacks are used by the country's foremost manufacturers of communication equipment. The unique, ADC one-piece frame is strong, dimensionally stable and readily interchangeable both mechanically and electrically with commonly used jacks. Plating withstands 50-hour salt spray tests. Coin silver contacts are welded to nickel silver springs. Lugs are hot tin dipped. Insulation is high grade phenolic.

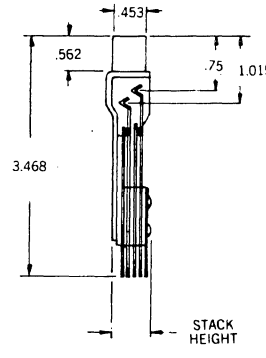


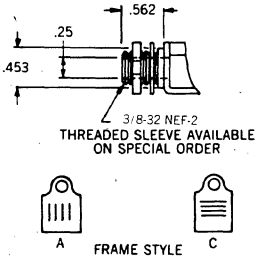
Schematic Diagram	Jacks	WE Equiv.	Frame Style	Stack Height (Inches)
	PJ-115	215-A	A	5/8
	PJ-116	216-A	A	5/8
	PJ-117	217-A	A	9/16
	PJ-123	223-A	A	7/16
	PJ-125	225-A	A	21/32
	PJ-202	None	C	3/4
	PJ-203	303-A	A	9/16
	PJ-204**	None	A	3/4
	PJ-205**	240-A	A	3/4
	PJ-206**	242-A	A	3/4
	PJ-207**	285-A	A	27/32
	PJ-208**	284-A	A	63/64
	PJ-209**	411-A	A	27/32
	PJ-226	226-A	A	5/8
	PJ-237	237-A	A	15/32
	PJ-238	238-A	A	9/16
	PJ-240	240-C	C	3/4
	PJ-241**	241-A	A	3/4
	PJ-242	242-C	C	3/4
	PJ-280	280-C	C	23/32
	PJ-318	218-A	A	1/2
	PJ-336	236-C	C	19/32
	PJ-338	438-C	C	13/16
	PJ-339	239-A	A	9/16
	PJ-418	218-C	C	1/2
	PJ-246*	246-A	A	9/16
	PJ-248*	248-A	A	9/16
	PJ-249*	249-A	A	9/16

TWO CONDUCTOR



THREE CONDUCTOR





MILITARY JACKS

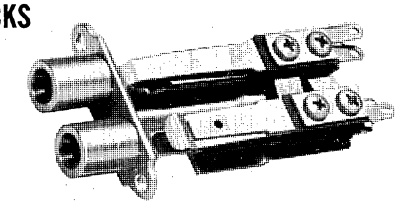
Designed to meet the rugged, exacting requirements of military applications. These ADC jacks are made in accordance with Mil-J-641B specifications. Highest quality materials and closely held tolerances on dimensions conform with military specifications.

Schematic Diagram	MIL Jacks	Frame Style	Stack Height (Inches)	Schematic Diagram	MIL Jacks	Frame Style	Stack Height (Inches)
	JJ-015	C	3/4		JJ-073**	A	3/4
	JJ-016	A	9/16		JJ-074	A	3/4
	JJ-017**	A	3/4		JJ-075**	A	3/4
	JJ-019	C	11/16		JJ-077	A	27/32
	JJ-022	A	9/16		JJ-078**	A	63/64
	JJ-024	A	1/2		JJ-084	A	5/8
	JJ-035	A	5/8		JJ-085	A	9/16
	JJ-042	A	9/16		JJ-086	A	7/16
	JJ-072	A	5/8		JJ-087**	A	27/32

*For use with PJ-309 or other similar type plugs having .207" diameter sleeves.

**Caution — Because of Stack Height these "A" frame jacks cannot be installed on 5/8" centers. "C" Frame version if not listed can be furnished on special order.

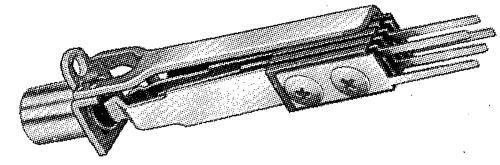
TWIN JACKS



ADC Twin Jacks are essentially two jacks with a common mounting frame. Jack sleeves are on 5/8" centers for vertical mounting in standard jack panels. Normal springs are cross-connected or strapped. Jack sleeves are brass, nickel plated. Die formed springs are nickel silver. Frame and hardware are steel, cadmium-chromate plated to withstand 50 hours salt spray.

Part No.	WE Equivalent	No. Conductors	Use With Plug
PJ-410	410A	2	PJ-047, PJ-1 and PJ-327
PJ-482	482A	3	PJ-051, PJ-7

WRAPID JACKS (For Wrapped Solderless Connections)



ADC offers a variety of Wrapid Jacks with .032" by .062" rectangular terminals for wrapped wire connections. These jacks feature cross-bar contacts. Overall length is 3.825" maximum, otherwise, dimensionally the same as telephone jacks.

Schematic Diagram	Wrapid Jack	Frame Style
	PJ-238W	A
	PJ-240W	C
	PJ-241W	A
	PJ-242W	C
	PJ-339W	A

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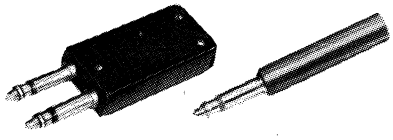
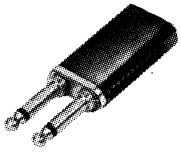
(ADC) plugs



TWO CONDUCTOR



PJ-1 — Equivalent WE-241. Heavy duty die cast frame. Black phenolic shell. Has self-aligning plug sleeves on 5/8" centers for use with all standard jack panels. Two tip conductors, plus sleeve connection common to both sleeves.

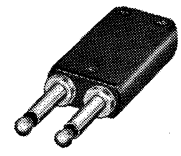
PJ-047R — Equivalent WE-347. Designed for use with tip and sleeve jacks. Molded insulation, red plastic handle, design and construction in accordance with MIL-P-642B specifications.

PJ-047B — Same as above except black plastic handle.

PJ-055B — Formerly ADC PJ-5, fits 1/4" phone jacks. Black plastic shell. Screw terminals, designed and manufactured in accordance with MIL-P-642B.

PJ-055M — Same as above except has metal handle, brass, nickel plated.

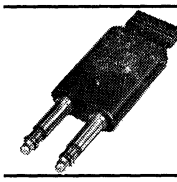
PJ-055R — Same as above except has red plastic handle.



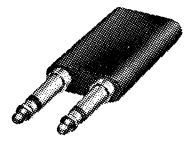
PJ-327 — Equivalent WE-327. Twin plug provides two electrically independent 2 conductor plugs in a black phenolic shell which is notched to indicate polarity. Self-aligning plug sleeves are on 5/8" centers. Designed and constructed in accordance with specification MIL-P-642B.

THREE CONDUCTOR

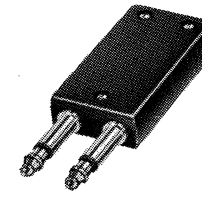
PJ-2—Equivalent WE-291A. Designed for use with 1/4" diameter tip, ring and sleeve jacks. Especially designed cone-shaped tip to prevent momentary shorting of tip and ring conductors when used with ADC PJ-339, WE-239A or similar three circuit jacks.



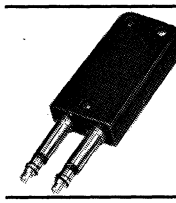
PJ-4 — Looping plug, dual three conductor type. Same conductor configuration as PJ-051 except has conductors wired internally, tip to tip, ring to ring and sleeve to sleeve. Black plastic shell.



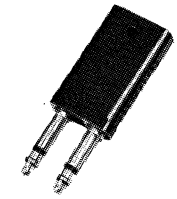
PJ-6 — Equivalent WE-213. Designed for applications requiring two separate 3 conductor circuits. Popularly used with operator's intercom / monitor headsets. Black shell notched for polarity identification. Self-aligning plug on 1 1/16" centers. (**Note:** Not intended for use with standard jack panels where jacks are mounted on 5/8" centers.)



PJ-7 — Equivalent WE-425. Twin type plug with tip, ring and sleeve conductors on 5/8" centers for use with all standard jack panels. Designed to mate with three conductor jacks having 1/4" diameter sleeves. Molded insulation. Black phenolic shell is notched to indicate polarity.



PJ-8 — Dual three conductor type with same conductor configuration as PJ-2, designed for non-shorting of tip and ring circuits when used with PJ-339, WE-239A or similar jacks. Black plastic handle notched to indicate polarity.



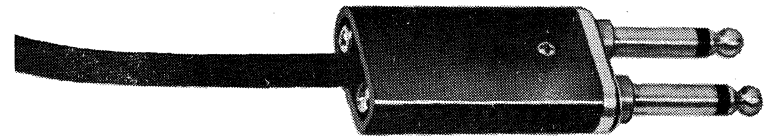
PJ-9 — Equivalent WE-338. Designed for applications requiring two separate 3 conductor circuits. Will mate with three-conductor jacks having 1/4" diameter sleeves. Molded insulation, black plastic handle notched to indicate polarity. Self-aligning plug sleeves on 5/8" centers. Has two separate cord entry holes and requires "Y" type cord or two separate cords.

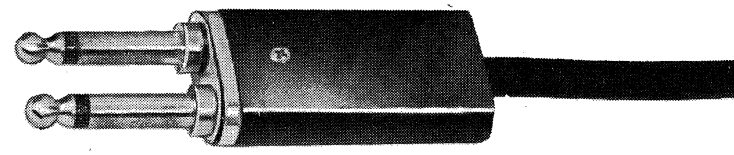
PJ-051R — Equivalent WE-310. Formerly ADC PJ-3. Designed for use with 1/4" tip, ring and sleeve jacks. Molded insulation, red plastic shell, three conductor. Is in accordance with MIL-P-642B.

PJ-051B — Same as above except black plastic handle.

(ADC) patch cords

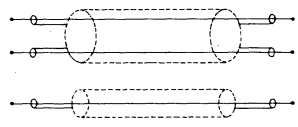
ADC Patch Cords have become standards in the communications industry. The heavy Nylon braided jacket excels in abrasion resistance. All cords have been designed to give the ultimate combination of durability, flexibility and reliability. ADC has numerous combinations of special cord assemblies using virtually every plug combination required. You are invited to submit your requests or requirements for quotations.





2 CONDUCTOR SHIELDED, CORD ASSEMBLIES

Length	Cord w/ PJ-1 Plugs	Cord w/ PJ-055B Plugs	Replacement Cords Only
6 inch	PJ-10½	PJ-50½	PJ-20½
1 foot	PJ-11	PJ-51	PJ-21
2 feet	PJ-12	PJ-52	PJ-22
3 feet	PJ-13	PJ-53	PJ-23
4 feet	PJ-14	PJ-54	PJ-24
5 feet	PJ-15	PJ-55	PJ-25
6 feet	PJ-16	PJ-56	PJ-26
10 feet	PJ-10	PJ-50	PJ-20



These cords provide two tinsel wire conductors plus a braided shield. The overall jacket is braided nylon. Black nylon is standard, also available in slate, green and red on special order.

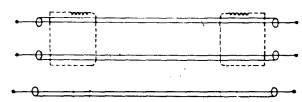
3 CONDUCTOR SHIELDED, CORD ASSEMBLIES

Length	Cord w/ PJ-2 Plugs	Cord w/ PJ-051R Plugs	Replacement Cords Only
1 foot	PJ-71	PJ-81	PJ-61
2 feet	PJ-72	PJ-82	PJ-62
3 feet	PJ-73	PJ-83	PJ-63
4 feet	PJ-74	PJ-84	PJ-64
5 feet	PJ-75	PJ-85	PJ-65
6 feet	PJ-76	PJ-86	PJ-66

These cords provide two tinsel wire conductors plus a braided shield. Overall jacket is braided nylon. Black nylon is standard with slate colored jacket also stocked. Green and red are available on special order.

2 CONDUCTOR UNSHIELDED, CORD ASSEMBLIES

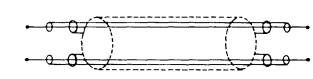
Patch Cords Length	Cord w/ PJ-327 Plugs	Cord w/ PJ-047R Plugs
1 foot	PJ-181	PJ-471
2 feet	PJ-182	PJ-472
3 feet	PJ-183	PJ-473
4 feet	PJ-184	PJ-474
5 feet	PJ-185	PJ-475
6 feet	PJ-186	PJ-476



The PJ-180 and PJ-470 series cords offer tinsel wire conductors, thermo plastic insulated. Standard color for PJ-180 series patch cords is slate. The standard color for the PJ-470 series cords is red. Other colors are available on special order.

3 CONDUCTOR SHIELDED, CORD ASSEMBLIES

Length	Cord w/ PJ-7 Plugs	Cord w/ PJ-8 Plugs
1 foot	PJ-171	PJ-91
2 feet	PJ-172	PJ-92
3 feet	PJ-173	PJ-93
4 feet	PJ-174	PJ-94
5 feet	PJ-175	PJ-95
6 feet	PJ-176	PJ-96



The PJ-90 and PJ-170 series cords provide four tinsel wire conductors, plus a shield common to both sleeves on the plugs. Standard color for these cords is black. They are also available in slate, green or red on special order.

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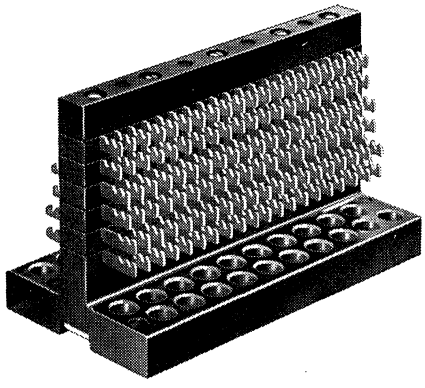
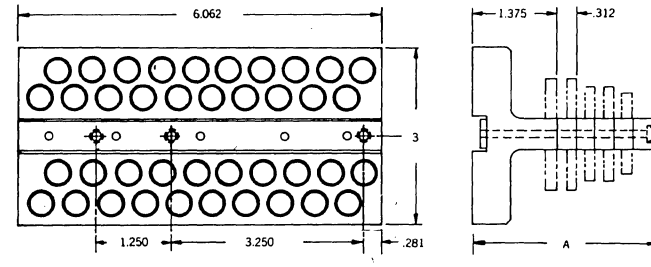
(ADC) molded terminal blocks—20 pin

Known for their ruggedness, ADC "Christmas Tree" Terminal Blocks have become standards in the Broadcast and Telecommunications Industries. The ADC 20-Pin Terminal Blocks are molded of durable, black, thermo-set plastic per Military specifications MIL-F-14F. Terminals are brass with a tin alloy plating for lasting solderability (see specifications below for details on solderability). The PJ-101 series blocks have terminals graduated in length for ease of wiring. The Figure 2 solderless terminals as furnished on the PJ-161 series blocks are designed to accommodate AMP No. 60197-1 Connectors as supplied by American Pamcor, Inc. or may be used as regular solder terminals. All Terminal Blocks are numbered along the top row for easy terminal identification.





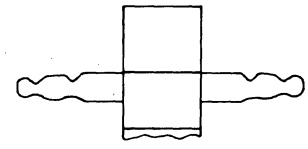


FIG. 1
Solder Type
Mat'l. .040 Thick

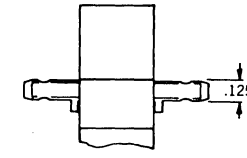


FIG. 2
Solderless or Solder
Mat'l. .032 Thick

specifications

Terminals: Brass, Tin alloy plated.
Insulating Strips and Base: Black Thermoset plastic per MIL-M-14F, Type CFG.
Mounting Strip: Steel, Cadmium-Chromate per MIL-F-14072, #M262, Type II.
Current Carrying Capacity: 5 Amperes.
Insulation Resistance: 1000 Megohms Min.
Dielectric Strength: 2500 V RMS 60 Hz. between terminals.
Solderability: Per MIL-STD-202C, Method 203A
Initial: Excellent (over 95% coverage).
After 49 hour salt spray per MIL-STD-202C, Method 1013: good (90% coverage).
After 240 hours conditioning at +150 F and 95-98%. Relative Humidity: excellent.
After 90 day storage at room temperature: excellent.

Catalog No.				
Fig. 1 Terminal	Fig. 2 Terminal	No. Rows	No. Terminals	Dim. A
PJ-101	PJ-161	1	20	1.453
PJ-102	PJ-162	2	40	2.250
PJ-103	PJ-163	3	60	2.593
PJ-104	PJ-164	4	80	2.937
PJ-105	PJ-165	5	100	3.281
PJ-106	PJ-166	6	120	3.625
PJ-107	PJ-167	7	140	3.968
PJ-108	PJ-168	8	160	4.312
PJ-109		9	180	4.656
PJ-110		10	200	4.968
PJ-111		11	220	5.281
PJ-112		12	240	5.593

(ADC) "wrapid" terminal blocks FOR WRAPPED WIRE CONNECTIONS

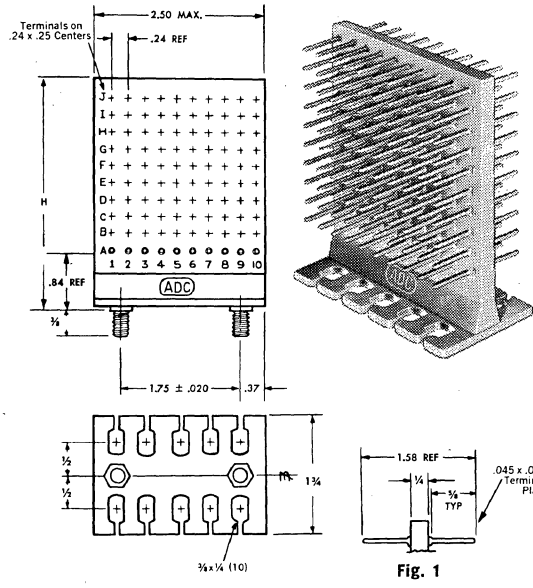


Fig. 1

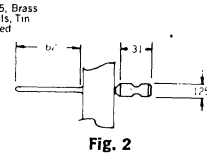


Fig. 2

ADC's Wrapid Terminal Blocks provide for up to 100 connections in a space of 2½" wide by 3⅜" high. ADC offers a variety of Wrapid Terminal Blocks designed for specific wiring applications. The Wrapid Terminal Blocks can be used for wrapped solderless connections, wrapped and soldered connections, or in applications requiring wrap to solder or solderless connectors. Wrapped wire terminations can be accomplished with any commercially available wrapping tool. Behind the development of these terminal blocks is 30 years of experience in meeting rigid commercial and military specifications on a wide variety of devices. This is your assurance of top performance and long dependable service life.

specifications

Terminals: Brass, Electro-Tin Plated.
Block and Fanning Strip: PJ-600 Series — High impact ACRYLIC, Molded, Color — Blue.
PJ-620 and 640 Series — Glass-filled NYLON (high temperature). Color — Natural (White). Heat Distortion — 442°F with 264 P.S.I.
Mounting Studs: (2) 8-32 Steel, Cadmium-Chromate Plating per MIL-F-14072 No. M262 II.

No. of Terminals	Wrapped Solderless Application Fig. 1 Terminal	Wrapped and Solder Application Fig. 1 Terminal	Wrapped to Solder or Solderless Application Fig. 2 Terminal	H. Dim.
40	PJ-604	PJ-624	PJ-644	1.75
60	PJ-606	PJ-626	PJ-646	2.25
80	PJ-608	PJ-628	PJ-648	2.75
100	PJ-610	PJ-630	PJ-650	3.25

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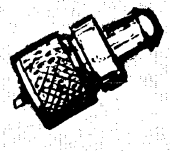
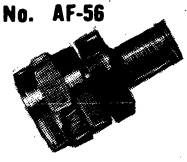
AVA Electronics & Machine Corp.

No. AC-52



No. AC-52 — "C" type cable connector for RG/59/U cable. **Net $.36 ea.**

No. AF-56

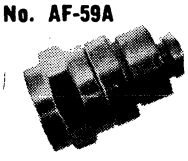


No. AF-56 — "F" male cable connector for RG6/U foam cable **Net $.45 ea.**

No. AF-59

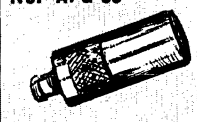
No. AF-59 — "F" male RG-59/U cable connector. **Net $.30 ea.**

No. AF-59A



No. AF-59A — "F" male RG-59/U cable connector, ferrule built on. **Net $.30 ea.**

No. APG-59

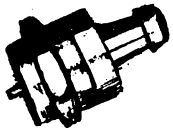


No. APG-59 — "F" male pushon connector with pin for RG-59/U cable. **Net $1.25 ea.**

No. AG-59

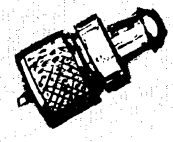
No. AG-59 — "F" male pushon connector for RG-59/U cable. **Net $.50 ea.**

No. AF-59-TS



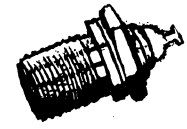
No. AF-59-TS — "F" terminating male connector. **Net .75 ea.**

No. AC-52-TS



No. AC-52-TS — "C" terminating male connector. **Nt $.75 ea.**

No. AF-61A



No. AF-61A — "F" Female spring contact chassis connector. **Net $.50 ea.**

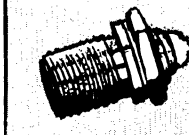
No. AF-61-ABM

No. AF-61-ABM — "F" female back mount chassis connector spring contact. **Net $.50 ea.**

No. AF61-APO

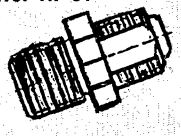
No. AF61-APO — "F" female spring contact push-on chassis connector. **Net $.75 ea.**

No. AF61-AP



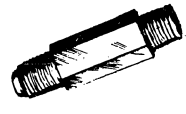
No. AF61-AP — "F" female pressurized spring contact chassis connector. **Net $.90 ea.**

No. AF-81



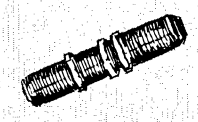
No. AF-81 — "F" female adaptor, mates with F-59 and F-59A male connector. **Net $.50 ea.**

No. AF81-A



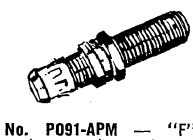
No. AF81-A — "F" female adaptor, with spring contact, fits all "F" male connectors. **Net $.95 ea.**

No. AF81-AB



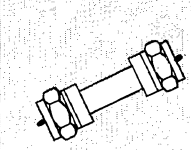
No. AF81-AB — "F" bulk head spring contact connector 1¾" long **Net $1.25 ea.**

No. P091-APM



No. P091-APM — "F" pushon panel mount connector, spring contacts front and rear. **Net $2.95 ea.**

No. AF-71

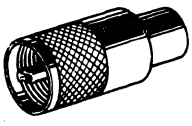


No. AF-71 — "F" male adaptor. **Net $1.25 ea.**

Crimping Ring for RG-59 cable, ACR-59-10 (10 per bag). **Net $.30 bag;** ACR-59-100 (100 bag) **Net $2.50 bag.**

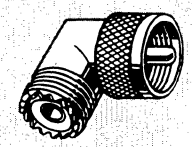
Crimping Ring for RG-6 foam cable, ACR-6-10 (10 per bag). **Net $.50 bag;** ACR-6-100 (100 per bag). **Net $3.50 bag.**

No. PL-259



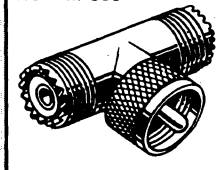
No. PL-259 — Male UHF cable connector. **Net $.50 ea.**

No. M-359



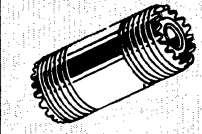
No. M-359 — Right angle UHF adaptor. **Net $1.25 ea.**

No. M-358



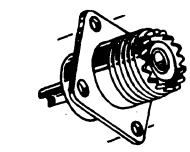
No. M-358 — "T" UHF adaptor. **Net $1.95 ea.**

No. PL-258



No. PL-258 — Female UHF adaptor. **Net $1.15 ea.**

No. SO-239

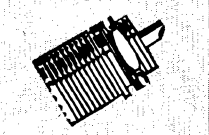


No. SO-239 — Female chassis UHF connector. **Net $.45 ea.**

No. UG-175/U — Adaptor for RG-58/U cable. **Net $.15 ea.**

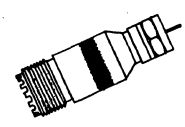
No. UG-176/U — Adaptor for RG-59/U cable. **Net $.15 ea.**

No. 5804



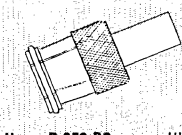
No. 5804 — Female UHF chassis connector, ½" demounting. **Net $1.15 ea.**

No. A56-5804

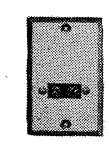


No. A56-5804 — UHF male to "F" female adaptor. **Net $3.50 ea.**

No. B-259-PO

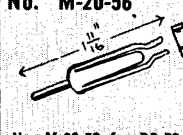


No. B-259-PO — UHF pushon male connector for RG-59/U cable. **Net $1.95 ea.**



WALL PLATES
all types
TV - CATV - MATV

No. M-20-59
No. M-20-56

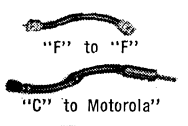


No. M-20-59 for RG-59/U, No. M-20-56 for RG-6/U — RF and shielded connectors. **Net $.20 ea.**

No. AF-61-APSO

No. AF-61-APSO — "F" female pushon chassis connector, staked or soldered body to chassis. **Net $.75 ea.**

CABLE ASSEMBLIES
all types



"F" to "F"

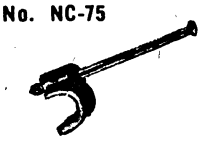
"C" to Motorola"

"C" to transformers.

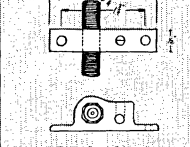
No. CT-5911

No. CT-5911 — Crimping tool — crimps ferrules on RG-6, RG-59 and RG-11/U cables. **Net $2.95 ea.**

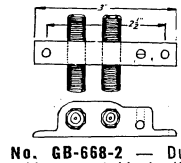
No. NC-75



No. NC-75 — Cable clip — for installing RG-59/U and other cables, up to .0250 OD, to wood or brick. **Net $2.00 C**



No. GB-568—Single cable ground block "F" female spring contact on each end of connector SS hardware. **Net $2.50 ea.**



No. GB-668-2 — Dual cable ground block, "F" female spring contacts on each end of connector, SS hardware. **Net $3.95 ea.**

No. FK-36 — Kits — assorted "F" connectors — Contents: 6 ea. — AC-52, AF-56, AF-59, AF-59A, AF-61A, AF-81. **Net $12.95 per kit**

AVA FOR ALL YOUR CONNECTOR NEEDS

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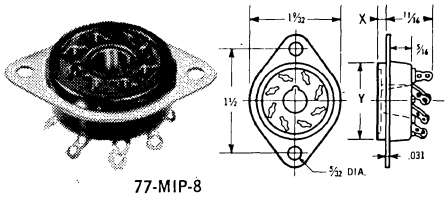
Tube Sockets

"MIP" Molded-in-Plate

Steel mounting plate molded directly into solid phenolic body.

Two holes in each contact provide wiring and anchoring points for resistors, capacitors, chokes, and other components.

All sockets are designed for above-chassis mounting in round holes 1 3/16" diameter except 77-MIP-7L (1 19/32" dia.) and 77-MIP-20 (1 5/16" dia.).



77-MIP-8

X=3/32 on MIP-4-5-6-7S & 7L
X=.145 on MIP 8-9-11-12
X=.145 on 77-MIP-8FK & 59-103
Y=1 7/64 on MIP-4-5-6-7S
Y=1 5/64 on MIP-7L-20
Y=1 3/64 on MIP-11-12
Y=1 7/64 on 77-MIP-8FX
Y=1.110 on 59-103
Z=1/2 on 77-MIP-8FX
Z=.490 on 59-103

Part No.	Contacts	Pin Circle Diameter	Voltage Rating (RMs)	Current Rating (Amps)	Mating Plug (Page 5)
77-MIP-4	4	.640	2000	5	86-CP4
77-MIP-5	5	.750	1250	5	86-CP5
77-MIP-6	6	.750	1250	5	86-CP6
77-MIP-7L	7 Large	.855	1250	5	86-CP7L
77-MIP-7S	7 Std.	.750	1250	5	86-CP7S
77-MIP-8	8 Octal	.687	1250	3	86-CP8
77-MIP-9	9	.687	1250	3	86-CP9
77-MIP-11	11	.750	500	3	86-CP11
77-MIP-12	12	.750	500	3	86-CP12
77-MIP-20	20	1.000 Outer .687 Inner	500	3	70-20

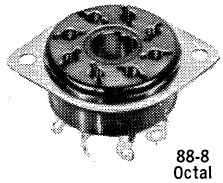
DEVIATIONS — When no deviations are specified, mounting plate is steel, contacts are cadmium plated brass, contact tails are not tinned, and dielectric is black phenolic. To specify any of the following deviations add the designation at the end of the part number.

T — Mica-filled phenolic **M** — Phosphor bronze, silver plated contacts and stainless steel mounting plate **1** — Contact tails tinned

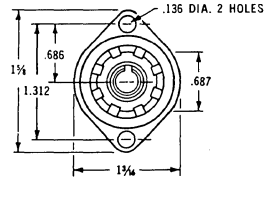
Compact "MIP" Sockets

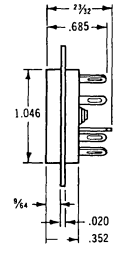
Similar to standard "MIP" types except smaller. They mount in 1 1/8" diameter round hole, have two .136" diameter mounting plate holes on 15/16" centers.

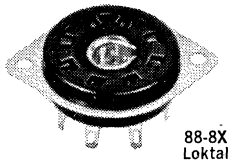
Loktal style has center ground contact.



88-8 Octal





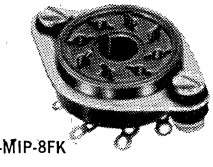


88-8X Loktal

Part No.	Pin Circle Diameter	Voltage Rating (RMS)	Current Rating (Amps)
88-8	.687	1250	3
88-8X	.687	1250	3

Floating Octal

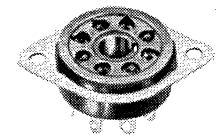
Floating octal are like standard "MIP" octal sockets but have live rubber grommets that fit into mounting holes to cushion socket for vibration-free operation; may be mounted above or below chassis.



77-MIP-8FK

Part No.	Description	Pin Circle Dia.
77-MIP-8FK	Octal. Complete with 4 rubber grommets, 2 mounting screws, nuts and washers.	.687
77-3K	Kit for making any "MIP" into floating socket. 4 grommets, 2 mounting screws, nuts and washers.	.687

Octal WITH CLOVER LEAF CONTACTS



This socket is like the standard "MIP" octal but has exclusive, patented Clover Leaf contacts. Body is mica-filled phenolic, mounting plate is stainless steel, contacts are silver plated phosphor bronze, contact tails are hot tin dipped. Rated 1250 V at 5 Amps.

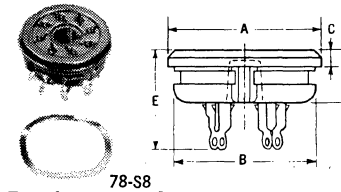
Part Number: 59-103

"S" Type WITH RETAINER RING MOUNTING

These quick-mounting sockets use no screws or rivets; they are securely held by the retainer ring and can be easily mounted with a screwdriver or AMPHENOL hand tool 51-3.

"S" type sockets may also be used with plug caps to make up high quality, low cost cable connections.

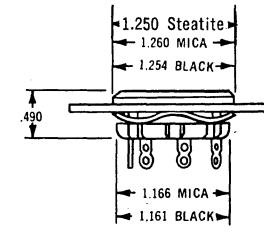
SPECIFY CHASSIS THICKNESS. Unless otherwise specified, "S" type sockets are grooved to fit 22 gauge (.031") to 18 gauge (.050") panels or chassis. This standard grooving also fits plug caps. They can be grooved to fit up to 13 gauge (.093").



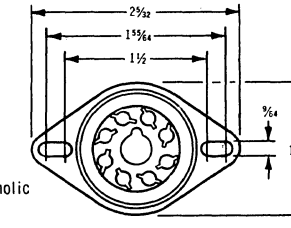
78-S8

Replacement Sockets

These sockets are regular "S" type sockets, assembled with a retainer ring holding a sturdy nickel-plated steel mounting plate.



78-RS8—Black Phenolic
78-RSS8—Steatite



Black Phenolic Part No.	Steatite Part No.	Contacts	Pin Circle Dia.	Voltage Rating (RMS)	Current Rating	Mating Plug
78-S4	49-SS4	4	.640	2000	5	86-CP4
78-S5	49-SS5	5	.750	1250	5	86-CP5
78-S6	49-SS6	6	.750	1250	5	86-CP6
78-S7L	49-SS7L	7 Large	.855	1250	5	86-CP7L
78-S7S	49-SS7S	7 Std.	.750	1250	5	86-CP7S
78-S8	49-SS8	8 Octal	.687	1250	3	86-CP8
78-S8L	—	8 Loktal	.750	1250	3	86-CP11
78-S9	—	9	.687	1250	3	86-CP9
78-S11	—	11	.750	1250	3	86-CP11
78-S16	—	16	† §	500	3	86-CP16
78-B	—	Blank	—	—	—	—

Black Phenolic Part No.	Steatite Part No.	DIMENSIONS A	B	C	D	E
78-S4	49-SS4	1 1/4	1 5/32	.135	.420	27/32
78-S5	49-SS5	1 1/4	1 5/32	.135	.420	27/32
78-S6	49-SS6	1 1/4	1 5/32	.135	.420	27/32
78-S7L	49-SS7L	1 3/8	1 11/64	.135	.420	27/32
78-S7S	49-SS7S	1 1/4	1 5/32	.135	.420	27/32
78-S8	49-SS8	1 1/4	1 5/32	.145	.490	7/8
78-S8L	—	1 1/4	1 5/32	3/32	23/64	29/32
78-S9	—	1 1/4	1 5/32	.145	.490	7/8
78-S11	—	1 1/4	1 5/32	.145	.490	7/8
78-S16	—	1 1/4	1 5/32	.145	.490	7/8
78-B	—	1 1/4	1 5/32	.145	.490	7/8

† *Outer .750* § *Inner Eccentric*

* *To order replacement socket, insert "R" before "S" in applicable part number; for example 78-RS4 is replacement socket comparable to 78-S4.*

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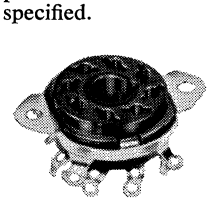
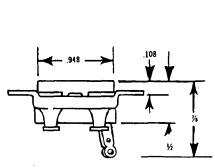
Tube Sockets "S" Type (continued)

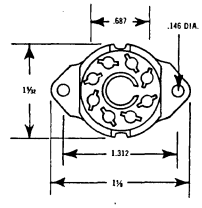
Saddle Type Octal

High quality economical sockets with 4 lugs for below-chassis mounting. Choice of wrap around or tuning fork contacts. Socket mounts in 1" diameter round hole. Dielectric is black phenolic. Mica-filled phenolic sockets are available when specified.



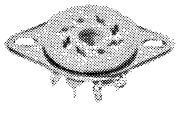
168-015





Part No.	Contacts No.	Contacts Material	Pin Circle Diameter	Voltage Rating (RMS at Sea Level)	Current Rating (Amps)
168-001	8	Brass	.687	1250	3
168-015	8	Lubaloy	.687	1250	3

Steatite Replacement Type

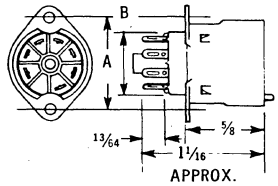


49-RSS8

Black Phenolic Part No.	Steatite Part No.	Contacts No.	Pin Circle Dia.	Voltage Rating (RMS Sea Level)	Current Rating (Amps)
78-RS4	49-RSS4	4	.640	2000	5
78-RS5	49-RSS5	5	.750	1250	5
78-RS6	49-RSS6	6	.750	1250	5
78-RS7L	49-RSS7L	7 Large	.855	1250	5
78-RS7S	49-RSS7S	7 Std.	.750	1250	5
78-RS8	49-RSS8	8	.687	1250	3

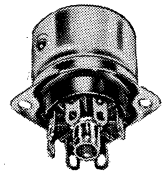
7 & 9 Contact Miniature

147 and 59 Series sockets, suitable for any miniature application, may be ordered with or without tube shield base or center shield, for top or below-chassis mounting.

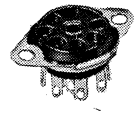


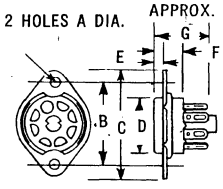
Part	A	B
147 Series	.175	.615
59 Series	1.125	47/64

7 Pin
147-905
(Shown)
9 Pin
59-407



7 Pin
147-500
(Shown)
9 Pin
59-409





Part	A	B	C	D	E	F	G
147 Series	.125	.875	1 1/8	.610	.113	.306	7/16
59 Series	.095	1.125	—	47/64	.062	.295	19/32

147 Series — 7 Contacts

Insulator Material	Part Number: Phosphor Bronze, Cadmium Plated Contacts	Part Number: Beryllium Copper, Silver Plated Contacts	Mtg. Hole Dia. Saddle	Center Shield
SHIELDED BASE TYPE				
Black	147-905	*	.095	Large
Mica	147-913	*	.095	Small
Mica	—	147-916	.125	Small
SADDLE TYPE — Bottom Mounting (Top mounting available when specified).				
Mica	147-170-20	*	.125	No
Black	147-500	*	.125	Large
Black	147-504	*	.125	No
Mica	147-505	*	.125	Small
Mica	—	147-840	.125	No

* *Must be specified.*

For tube shields, see page 518, for mating plugs see page 517.

59 Series — 9 Contacts

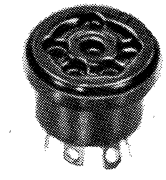
Insulator Material	Part Number: Phosphor Bronze, Cadmium Plated Contacts	Part Number: Beryllium Copper, Silver Plated Contacts	Mtg. Hole Dia. Saddle	Center Shield
SHIELDED BASE TYPE				
Mica	*	59-403	.125	Large
Mica	59-405	*	.095	No
Black	59-406	*	.095	Large
Mica	59-407	*	.095	Large
Black	59-461	*	.125	Large
SADDLE TYPE — Bottom Mounting				
Black	59-409	*	095	Large
Mica	59-410	*	.095	Large
Mica	59-411	*	.095	No
Mica	*	59-412	.125	Large
Mica	59-424	*	.125	Large
Black	59-446	*	.125	No

* *Must be specified.*

For tube shields, see page 6; for mating plugs see page 5.

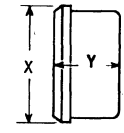
Tube and Chassis Sockets

Miniature WITH RETAINER RING MOUNTING

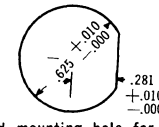


Sockets are easily mounted without screws or rivets in 5/8" round or "D" shaped hole. sockets is easily assembled which assures a Correct size retainer ring supplied with all tight and secure mounting. Body is black phenolic but is also available in mica-filled phenolic when specified.

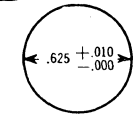
78-S6S
78-7P



Part	X	Y
78-7P 78-S3S 78-S4S	45/64	15/32
78-SS5	3/4	1/2



Size and mounting hole for No. 78-7P. 78-S3S and 78-S4S.



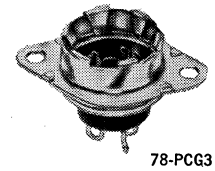
Size and mounting hole for No. 78-S5S and 78-S6S.

Part No.	Contacts No.	Pin Circle Diameter	Voltage Rating (RMS)	Current Rating (Amps)	Mating Plugs (Pages 4 & 5): Unshielded	Mating Plugs (Pages 4 & 5): Shielded
78-S3S	3	.344	500	3	71-3S	91-MPM31
78-S4S	4	.406	500	3	71-4S	91-MPM4L
78-S5S	5	.406	500	3	71-5S	91-MPM5L
78-S6S	6	.406	500	3	71-6S	91-MPM6L
78-7P	7	.375	500	3	86-896	86-895

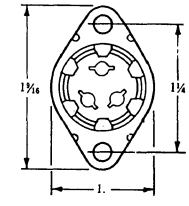
Shielded Chassis Type

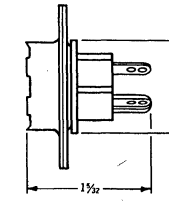
Mount on surface or behind chassis or panel in 7/8" diameter hole on 1 1/4" centers.

For a fully shielded connection, mate with 91 Series Long Shell Shielded Plugs.



78-PCG3





Part No.	Contacts No.	Pin Circle Diameter	Current Rating (Amps)	Mating Plugs: Unshielded	Mating Plugs: Shielded
78-PCG3	3	.344	3	71-3S	91-MPM3L
78-PCG4	4	.406	3	71-4S	91-MPM4L
78-PCG5	5	.406	3	71-5S	91-MPM5L
78-PCG6	6	.406	3	71-6S	91-MPM6L

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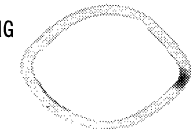
CONNECTORS

AMPHENOL

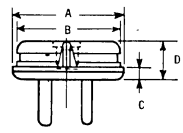
Plugs

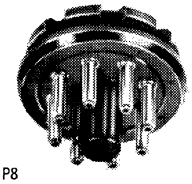
"CP" Type WITH RETAINER RING MOUNTING



Plugs with 4, 5, 6, and 7 contacts do not have center guide post but are polarized for correct insertion by use of two pins of larger diameter than others.

Molded-in contacts are nickel plated brass. Standard dielectric is black phenolic, but all sizes are available also in mica-filled phenolic. To order, just add T to the part number — for example, 86-CP8T.



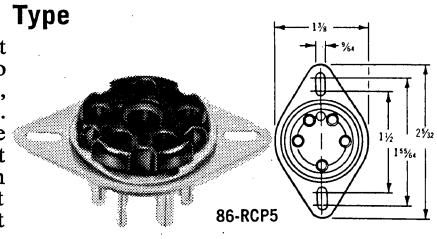


86-CP8

Part No.	Contacts	Pin Circle Dia.	Volt. Rating (RMS)	Curr. Rating (Amps)	Mating Sockets: Ret.Ring Type (Pg. 3)	Mating Sockets: "MIP" Type (Pg. 3)	Dimensions: A	B	C	D
86-CP4	4	.640	2000	5	78-S4	77-MIP4	1¼	15/32	5/32	7/16
86-CP5	5	.750	1250	5	78-S5	77-MIP5	1¼	15/32	5/32	7/16
86-CP6	6	.750	1250	5	78-S6	77-MIP6	1¼	15/32	5/32	7/16
86-CP7L	7 Large	.855	1250	5	78-S7L	77-MIP7L	1⅜	1 19/32	5/32	7/16
86-CP7S	7 Std.	.750	1250	5	78-S7S	77-MIP7S	1⅜	1 19/32	5/32	7/16
86-CP8	8 Octal	.687	1250	5	78-S8	77-MIP8	1¼	15/32	.145	7/16
86-CP9	9	.687	1250	5	78-S9	77-MIP9	1¼	15/32	.145	7/16
86-CP11	11	.750	500	5	78-S11	77-MIP11	1¼	15/32	.145	7/16
86-CP12	12	.750	500	3	78-S12	77-MIP12	1¼	15/32	.145	7/16
80-CP16	16	Outer: .750 Inner: Eccentric	500	5	78-S16	—	1¼	15/32	.145	7/16

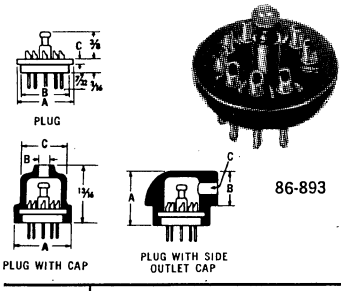
"CP" Replacement Type

To order replacement type plugs add "R" to regular part number, for example, 86-RCP5. Replacement plugs are of black phenolic but are available also in mica-filled phenolic; just add "T" to the part number.



86-RCP5

Miniature "CP" Type



86-893

Molded from diallyl phthalate. Feature a molded-in strain relief post. Gold-over-silver plated contacts.

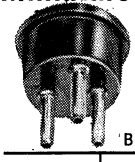
Styles with rubber plug caps in end and cable outlet on side also available.

ELECTRICAL & MECHANICAL CHARACTERISTICS
Voltage Rating: 1500 V RMS Sea Level
Current Rating: 5 Amps.
Insulation Resistance (Min): 10,000 Megohms
Contact Pins: .040 dia. S.A.E. #72 Brass

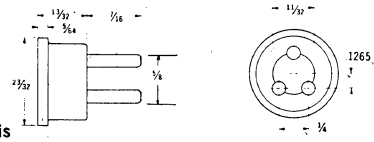
Part No.	Description	A	B	C	Pin Circle Diameter
86-896	7-Pin Plug	.685	.575	.070	.375
86-893	9-Pin Plug	.778	.668	.070	.468
86-895	7-Pin Plug with Cap	.781	171	.625	.375
86-897	9-Pin Plug with Cap	.875	.285	.718	.468
86-894	7-Pin Plug with Side Outlet Cap	.750	.468	.171	.375

Mate with 147 and 59 Series miniature sockets.

Miniature Unshielded

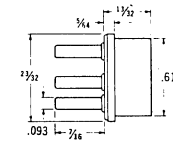


71-3S
Below Chassis



Part No.	Contacts	Pin Circle Dia.	Voltage Rating (RMS)	Current Rating (Amps)	Mating Sockets: Unshielded (Page 4)	Mating Sockets: Shielded (Page 4)
71-3S	3	.343	500	5	78-S3S	78-PCG3
71-4S	3	.343	500	5	78-S4S	78-PCG4
71-5S	5	.406	500	5	78-S5S	78-PCG5
71-6S	6	.406	500	5	78-S6S	78-PCG6

86-CP-4S
Above Chassis



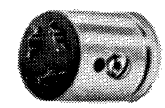
Part No.	Contacts	Pin Circle Dia.	Voltage Rating (RMS)	Current Rating (Amps)	Mating Sockets: Unshielded (Page 4)	Mating Sockets: Shielded (Below)
86-CP-3S	3	.343	500	5	78-S3S	91-MPF3S
86-CP-4S	4	.406	500	5	78-S4S	91-MPF4S
86-CP-5S	5	.406	500	5	78-S5S	91-MPF5S
86-CP-6S	6	.406	500	5	78-S6S	91-MPF6S

Molded Speaker Type

71-5

Part No.	Contacts	Mating Sockets: "S" Type (Page 3)	Mating Sockets: "MIP" Type (Page 3)
71-4	4	78-S4	77-MIP-4
71-5	5	78-S5	77-MIP-5
71-6	6	78-S6	77-MIP-6
71-7	7	78-S7S	77-MIP-7S
70-8	8	78-S8	77-MIP-8
70-9	9	78-S9	77-MIP-9
70-12	12	78-S12	77-MIP-12
70-20	20	—	77-MIP-20

Miniature Cable Connectors



91-MPF3S

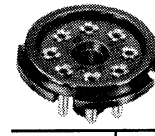
91-MPM3L

High quality compact connectors for shielded or unshielded cables. Make ideal battery or antenna connectors. Can also serve as inexpensive microphone connectors.

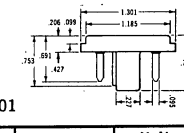
Black phenolic elements, housed in cadmium plated brass shells and held in place by set screws in side. Polarized contact spacing prevents incorrect insertion. Accommodate cables up to ¼" diameter. Rated 3 amps., 500 volts.

Cable Sockets: Short Shell 13/16" Long	Cable Sockets: Long Shell 13/16" Long	Cable Sockets: Flared End Shell 13/16"	Cable Sockets: Chassis Shielded	Cable Sockets: Chassis Unshielded	Mating Plugs: Cable Plug Short 13/16"	Mating Plugs: Cable Plug Long 13/16"	Mating Plugs: Chassis Shielded	Mating Plugs: Chassis Unshielded
91-MPF3S	91-MPF3L	91-MPF3	78-PCG3	78-S3S	91-MPM3S	91-MPM3L	86-PCG3	86-CP3S
91-MPF4S	91-MPF4L	91-MPF4	78-PCG4	78-S4S	91-MPM4S	91-MPM4L	86-PCG4	86-CP4S
91-MPF5S	91-MPF5L	91-MPF5	78-PCG5	78-S5S	91-MPM5S	91-MPM5L	86-PCG5	86-CP5S
91-MPF6S	91-MPF6L	91-MPF6	78-PCG6	78-S6S	91-MPM6S	91-MPM6L	86-PCG6	86-CP6S

Relay & Tube Bases



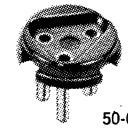
50-801



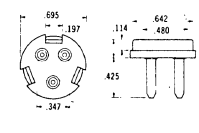
Four notches allow quick staking of a relay plate to either 8 or 11-pin plug base.

Part No.	Contacts	Pin Circle Diameter	Voltage Rating (RMS Sea Level)	Current Rating (Amps)	Mating Socket (Page 4)
50-801	8	.687	1250	5	77-MIP-8
50-820	11	.750	1250	5	77-MIP-11

Miniature Tube Bases



50-035



For photo cells or miniature tubes, 3 and 4-contact bases are available on special order.

Part No.	Contacts	Pin Circle Diameter	Voltage Rating (RMS Sea Level)	Current Rating (Amps)	Mating Socket (Page 10)
50-821*	4	.406	1250	5	78-S4S
50-034*	3	.343	1250	5	78-S3S
50-035	3	.343	1250	5	78-S3S

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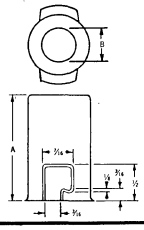
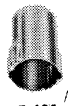
CONNECTORS

AMPHENOL

Hardware and Accessories

Tube Shields





5-401

Made of cold rolled steel, cadmium plated. Spiral spring assembly holds tube firmly to prevent movement.

Part No.	A	B	Application
5-401	1⅜"	½"	7-Contact Miniature Sockets
5-402	1¾"	½"	7-Contact Miniature Sockets
5-405	1½"	19/32"	9-Contact Miniature Sockets
5-408	1 15/16"	19/32"	9-Contact Miniature Sockets
5-409	2⅜"	19/32"	9-Contact Miniature Sockets

Plug Caps

3-13

3-17

3-24

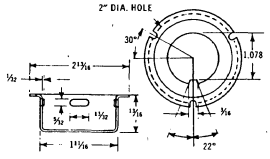
79-CC4

Sturdy drawn steel plug caps. Provide protected, attractive cable terminations when assembled with retainer ring type plugs and sockets.

Part No.	Cable Outlet	Finish	Insltr.	Lgth.
3-10	None	Blk. Japan	No	1"
3-10-1000	None	Cadmium	No	1"
3-12	End Metal Grommet 5/16" I.D.	Blk. Japan	Yes	1"
3-13	End Metal Grommet 7/16" I.D.	Blk. Japan	Yes	1"
3-17	Side Rubber Grommet 7/16" I.D.	Blk. Japan	Yes	1"
3-24	Cable Clamp for Cables to ⅜"	Blk. Japan	Yes	1 7/16"
3-856	Cable Clamp for Cables to ⅜"	Cadmium	Yes	1 7/16"
3-857	End Rubber Grommet 7/16" I.D.	Cadmium	Yes	1"
79-CC4	Cable Clamp only as used on 3-24	Cadmium	—	—

All the above caps can be easily assembled to the following standard grooved connector series: 49SS, 60, 61, 78S, 86CP, and 160.

Receptacle Shells



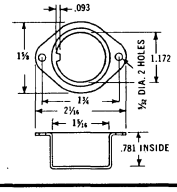
Aluminum shells extend "S" sockets, "CP" plugs, and outlet type connectors 13/16" above or below surface. Knockouts on 4 sides of shell provide wire entrances from any angle. Mount in 1¾" hole; have 3 notched holes for No. 6 screws.

Part Number to Order: 23-1S — For standard "S" sockets (Page 6) or "CP" Plugs (Page 5).

Recessed Mounting Shells

Cadmium plated steel shells lower S sockets, CP plugs, and outlet type connectors 1 3/16" below surface. Mount in 1 7/16" hole; have two 5/32" dia. screw holes on 1¾" centers.

Part Number to Order: 61-61.



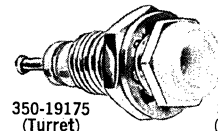
Tip Jacks—Commercial or Military (MS16108)

Complete selection of tip jacks in different terminal styles, variety of contact and mounting shell platings, wide range of colors, and other options.

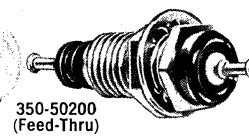
Specifications

INSULATORS—Nylon (Zytel 101) per MIL-P-17091; or teflon.
MOUNTING SHELLS—Brass per Q-4-B-746 Comp. A. Nickel or cadmium plated.
HEX NUTS—Standard thickness .062" brass per QQ-B-626, Comp. 22. Nickel or cadmium plated.
LOCKWASHERS—Phosphor bronze per QQ-B-746 Comp. A. Nickel or cadmium plated.
CONTACTS—Beryllium copper per QQ-C-530, Cond. H. Silver, gold or nickel plated or electro-tinned.
FEED THRU TERMINAL—Brass per QQ-B-611 Comp. B.
RATED CURRENT—5 amps.
MILLIVOLT DROP—20 Mv. maximum at rated current.
MAXIMUM OPERATING VOLTAGE—1000 volts rms.
INSULATION RESISTANCE—5000 megohms min.
MAXIMUM OPERATING TEMPERATURE—256°F.
All jacks mount through a ¼" hole.

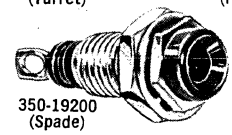
Part No. 350-	Dimensions A	B
14400	5/64	9/64
16175	5/64	9/64
19175	5/64	9/64
29175	5/64	9/64
39175	5/64	9/64
60000	5/64	9/64
61000	5/64	9/64
19100	5/16	3/32
19200	1 1/32	9/64
29200	1 15/16	9/64
50200	1⅛	9/64



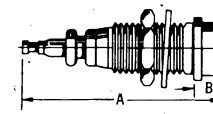
350-19175 (Turret)



350-50200 (Feed-Thru)



350-19200 (Spade)

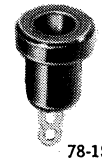


Colors Available

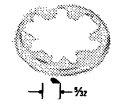
(Add suffix for desired color at end of part number.)

-1 Red -9 Pink
-2 Black -10 Lt. Blue
-3 Brown -11 Lt. Green
-4 Green -12 Buff
-5 Orange -13 Yellow
-6 White -14 Natural
-7 Blue -15 Violet
-8 Gray

Test Jacks

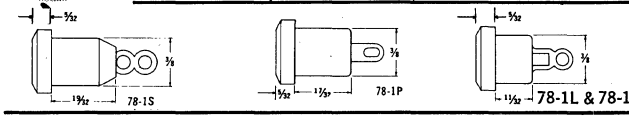


78-1S



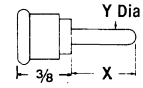
Mount in .375" —.000 +.010 hole with retainer ring (furnished). Contacts recessed ⅛" below top of insulator to prevent accidental shorts from contact tip to chassis. Contact-to-panel breakdown voltage (with plug inserted) is over 10,000 VAC.

Part Number		Application
Black Phenolic	Red Phenolic	(Single Prong Plugs Below)
78-1S	78-1S-1000	For 3/32" Plug
78-1L	78-1L-1000	For 3/32" Plug
78-1M	78-1M-1000	For ⅛" Plug
78-1P	78-1P-1000	For .080" Phone Tip



Single Prong Plugs

Black or red phenolic. For use with Test Jacks.

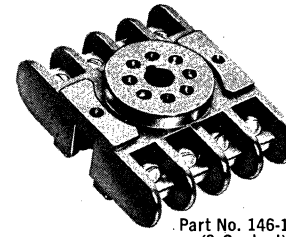


71-1S

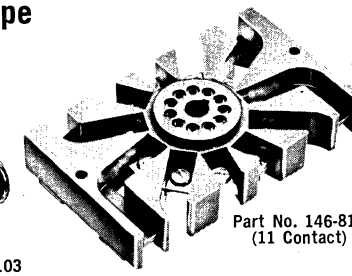
Part Number		Application	Dimensions	
Black Phenolic	Red Phenolic	(Test Jacks Above)	X	Y
71-1M	71-1S-1000	For 3/32" Socket	7/16	3/32
71-1S	71-1M-1000	For ⅛" Socket	5/16	⅛
71-1L	71-1L-1000	For 5/32" Socket	5/16	5/32

Industrial Tube and Relay Sockets

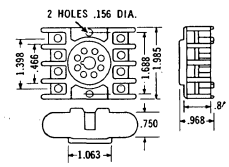
Industrial Relay Type

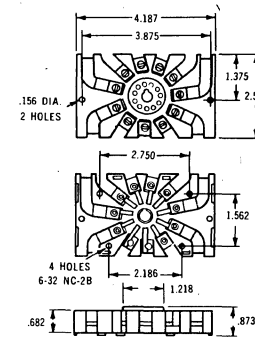


Part No. 146-103 (8 Contact)



Part No. 146-817 (11 Contact)





11 Contact/Type

Rated 10 amps., 600 volts. May be gang mounted, either above or below chassis. High, thick insulating barriers provide long creepage paths between contacts.

Socket-type contacts assure firm, smooth mating action and excellent relay retention even after repeated matings.

RETMA-numbered solderless, reversible screw terminals. 4 molded-in threaded-brass insert tie points. Replaceable contacts.

(continued)

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Industrial Tube and Relay Sockets

Industrial Relay Type (continued)

Electrical and Mechanical Characteristics

Dielectric: Melamine
Threaded insert: Brass
Contacts: Phosphor bronze Grade A, plated .0002-.0004" nickel per QQN-290
Part Number to Order: 146-817

8 Contact Type

Molded in one piece of melamine. Rugged insulating barriers provide long creepage paths between contacts and to ground. Patented "Clover Leaf" contacts offer minimum contact resistance. Removable contacts. RETMA-numbered reversible screw type terminals simplify wiring and permit use of wiring harness and terminal lug type connections. Above or below chassis mounting. May be gang mounted. Voltage rating is 1250V RMS at 5 amps.

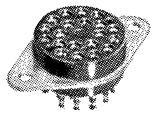
Part No.	Description
146-103	Standard Socket Without Tie Point Inserts — Top Mounted
146-104	Socket With Four Molded-in Threaded Inserts for Tie Points — Top Mounted
146-203	Same As 146-103 Except For Bottom Mounting
146-204	Same As 146-104 Except For Bottom Mounting

14 Contact Type

Part No. 59-106

Cadmium plated steel mounting plate with two .125" dia. holes on 1.125" centers. Mounting hole is .750" minimum diameter. Wrap around type contacts of silver plated phosphor bronze with hot tin dipped tails. Dielectric is mica-filled phenolic. Mates with 14-contact relay plugs.

20 Contact Relay Socket

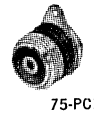


Part No. 59-470

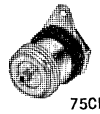
Molded of diallyl phthalate. Contacts are heat-treated, half-hard beryllium copper, hooded and with turret type terminals. Mounting plate is passivated stainless steel with two .144" dia. holes on 1.406" centers. Mounting hole is 1.000" diameter. Mates with 20-contact relay plugs.

Microphone Connectors

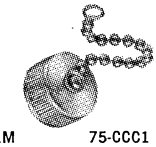
75 Series



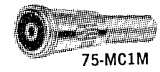
75-PC1M



75CL-PC1M

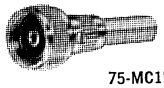


75-CCC1

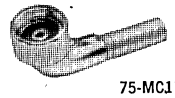


75-MC1M

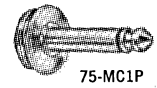
75-MC1S



75-MC1F



75-MC1FA



75-MC1P

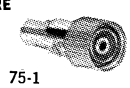
Single Contact

Standard with leading manufacturers for many years. Widely used also on amplifiers, transmitters, phono-electric devices, home recorders, PM speakers, headphones, theft alarms and coin operated devices.

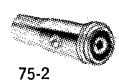
Part No.	Description
75-PC1M	Locknut Receptacle
75CL-PC1M	Locknut Receptacle w/Spring Loaded Contact
75-MC1M	Cable Jack
75-MC1F	Straight Plug
75-MC1FA	Angle Plug
75-CCC1	Cap and Chain
75-MC1P	Phone Plug Adapter
75-MC1S	Microphone Switch

Unbreakable shielded cable type connectors of chrome plated, machined brass. The threaded ends engage with the coupling rings to make a positive, noise-free, leak-proof connection by pressing the center contacts firmly together. Spring cord protectors accommodate cables up to ¼" diameter. Receptacles mount in .385" holes when grounding to chassis; mount in .500" holes for ungrounded two-circuit applications. Can be screwed into housing or stand with standard ⅜"-24 tapped hole.

MINIATURE



75-1



75-2

75-3

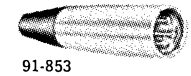
(continued)

Miniature (continued)

Designed for transistor audio equipment, they have the same simplicity of connection and reliability of operation as the world-recognized AMPHENOL regular microphone connectors, but only about half their size and weight.

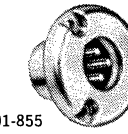
Part No.	Description	Length	Weight
75-1	Plug	1 11/64"	.011 lb.
75-2	Jack	1"	.009 lb.
75-3	Receptacle Locknut	5/8"	.008 lb.

91 Series

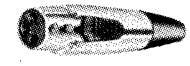


91-853

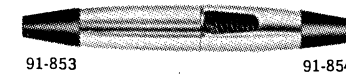
91-856



91-855



91-854



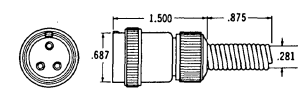
91-853 91-854

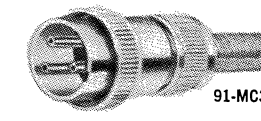
Qwiks

Efficient, easy-to-operate, quick-disconnect microphone connectors. Disconnect by means of a button, slid forward in the jack, depressed in the female receptacle. Connect by simply clicking-in plug or jack. Plug and jack also mate.

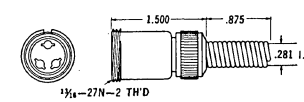
Qwiks are finished in attractive corrosion-resistant satin nickel, with bodies of high grade zinc alloy. Contacts are bronze, gold-plated over silver for high conductivity. Dielectric is diallyl phthalate.

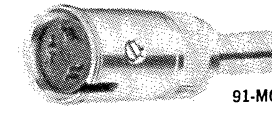
Part Number 3 Contacts	Part Number 4 Contacts	Description
91-853	91-857	Male Plug
91-854	91-858	Female jack
91-855	91-859	Male chassis receptacle
91-856	91-860	Female chassis receptacle



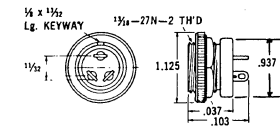


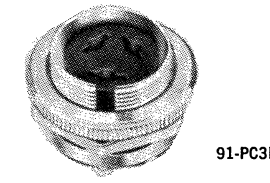
91-MC3M





91-MC3F





91-PC3F

These are 3, 4, and 6-contact connectors designed for audio equipment but used extensively on all types of portable equipment.

Dielectric is molded from black phenolic. Shell is of brass, finished in bright nickel plating. Also available in chrome finish.

Electrical and Mechanical Characteristics

	3-Contact Female	3-Contact Male	4-Contact Female	4-Contact Male	6-Contact Female	6-Contact Male
Voltage Rating (RMS) Sea Level	600 V	800 V	600 V	600 V	600 V	600 V
Current Rating	3 Amps	5 Amps	3 Amps	5 Amps	3 Amps	5 Amps
Voltage Breakdown (RMS) Between Terminal and Ground	2000 V	2000 V	2000 V	2000 V	2000 V	2000 V

(Part number below is for chrome plating. To get nickel plating, substitute "N" for "C" in part number, for example, 91-MN3M.)

Plugs		Jacks		Receptacles	
Part No.	Contacts	Parts No.	Contacts	Part No.	Contacts
91-MC3M	3 Male	91-MC3F	3 Female	91-PC3F	3 Female
91-MC3F1	3 Female	91-MC3M1	3 Male	91-PC3M	3 Male
91-MC4M	4 Male	91-MC4F	4 Female	91-PC4M	4 Female
91-MC4F1	4 Female	91-MC4M1	4 Male	91-PC4M	4 Male
91-MC6M	6 Male	91-MC6F	6 Female	91-PC6F	6 Female

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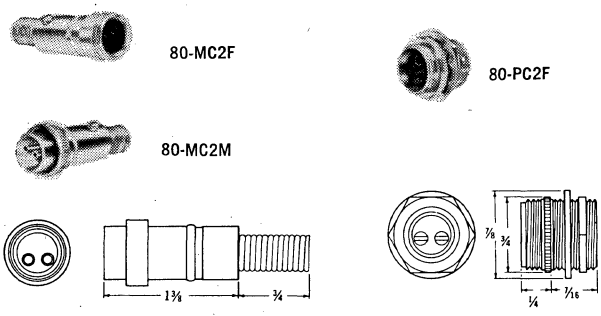
CONNECTORS

AMPHENOL

80 Series Single and Double Contact



Single and double-contact connectors.

Element is black phenolic; shell is machined from solid brass and finished in polished chrome.

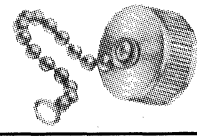
All mounts in ⅝" holes. Maximum chassis thickness for lock-nut type receptacles is 11/32".

Electrical and Mechanical Characteristics

	Single Contact		Double Contact	
	Male	Female	Male	Female
Voltage Rating (RMS Sea Level)	1250 V	100 V	600 V	600 V
Current Rating	5 Amps	3 Amps	3 Amps	3 Amps
Voltage Breakdown Between Terminals and Ground (RMS)	3000 V	4000 V	2000 V	2000 V

Plugs		Jacks		Receptacles	
Part No.	Contacts	Part No.	Contacts	Part No.	Contacts
80-M	1 Male	80-F	1 Female	80-C	1 Female
80-F1	1 Female	80-M1	1 Male	80-C1	1 Male
80-MC2M	2 Male	80-MC2F	2 Female	80-PC2F	2 Female
80-MC2F1	2 Female	80-MC2M1	2 Male	80-PC2M	2 Male

Protective Cap & Chain



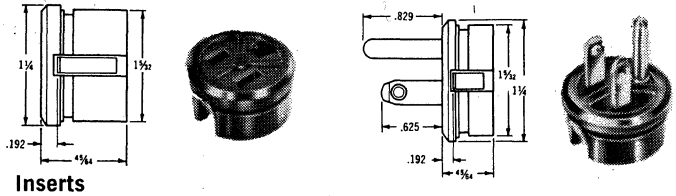
For sealing power plugs and radio connectors against dirt and tampering.

Part Number to Order: 91-CCC3.

Plugs and Receptacles

125 Volt Home and Industrial Type

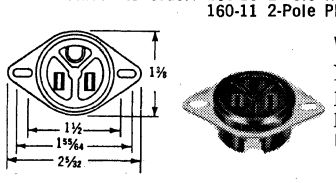
Heavy duty outlet plugs and receptacles that meet Underwriters' Laboratories requirements for grounding home appliances and tools. All have UL approval except the 160-10 and 160-11 which requires grounding after mounting. Rated at 15 amp 125 volt or 10 amp 250 volt.



Inserts

General purpose phenolic bodies meet MIL-M-14-F requirements.

Part Number to Order: 160-10 2-Pole Receptacle Insert
160-11 2-Pole Plug Insert

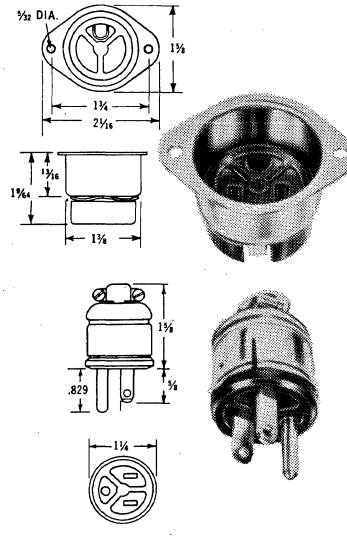


With Mounting Plate

Nickel plated steel mounting plate assembled to general purpose phenolic body.

Part Number to Order:
160-2 2-Pole Receptacle
160-3 2-Pole Plug

125 Volt Home and Industrial Type (Cont.)



Flush Motor Type

Consist of 160-10 and 160-11 inserts assembled in cadmium plated steel shells for below-surface mounting.

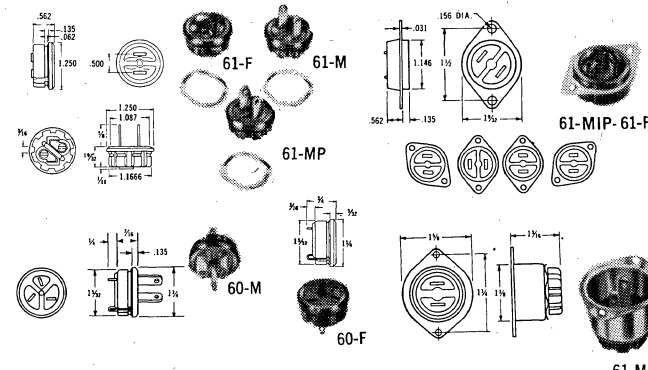
Part Number to Order:
160-4 2-Pole Flush Motor Receptacle
160-5 2-Pole Flush Motor Plug

Shielded

Consists of inserts 160-10 and 160-11 assembled in sturdy steel plug caps finished in cadmium plate. Also available in black japan on special request.

Part Number to Order:
160-6 2-Pole Shielded Receptacle with Rubber Grommet
160-7 2-Pole Shielded Plug with Rubber Grommet
160-8 2-Pole Shielded Receptacle with cable clamp
160-9 2-Pole Shielded Plug with Cable Clamp

110 Volt Home and Industrial Type



Inserts

Compact black phenolic units built to Underwriters' Laboratories standards. Rated at 15 amp, 110 volt or 10 amp, 250 volt. Available in either retainer ring or mounting plate style.

Assemble retainer ring style with plug caps listed on page 16 for required type. Mounts in 1 11/64" keyed hole on chassis up to .125" thick. Mounting plate style requires 1 9/32" dia. hole. Mounts on 1½" to 1 55/64" centers.

61-M plug has standard ¼" blades spread ½". 61-MP has one 5/16" blade spread ½". 60-M has three ¼" blades staggered spaced. Binding screws for connecting cables are used on both plugs and receptacles.

Part Number		Description
Retainer Ring Type	Mounting Plate Type	
PLUGS		
61-M	61-M1	2-pole, Standard
61-MP	61-MP1	2-pole, Polarized
60-M	60-M1	3-pole, Polarized
RECEPTACLES		
61-F	61-F1	2-pole, Universal
60-F	60-F1	3-pole, Polarized

Molded-In-Plate Receptacle

High quality 110-volt receptacle identical to 61-F except for steel mounting plate molded into phenolic body. Mounts in 1 3/16" dia. hole on 1½" centers. Mounting hole, 5/32" dia.

Flush Motor Plug & Receptacle

Compact plug or receptacle assembled in No. 61-61 steel shell for below-surface mounting. Mounts in 1 7/16" hole; two 5/32" screw holes on 1¾" centers.

Part No.	Description
60-F10	3-pole Polarized Receptacle
60-M10	3-pole Polarized Plug
61-F10	2-pole Universal Receptacle
61-M10	2-pole Standard Plug
61-MP10	2-pole Polarized Plug

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AMPHENOL RF COAXIAL CONNECTORS

AMPHENOL

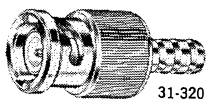
BNC & TNC

CHARACTERISTICS (Typical)

ELECTRICAL	
impedance	unimproved BNC: non-constant; all others: 50 ohms
frequency range	0-10 GHz
voltage rating	500 volts peak
dielectric withstanding voltage	1500 volts rms
SWR	improved: 1.3; MIL-Crimps: 1.2 (solder), 1.3 per spec
Other	contact resistance: 2.1 mv; RF leakage: −55 db; insertion loss: .04 db; insulation resistance: 5000 megohms
ENVIRONMENTAL	
thermal limits	Teflon insulators: −67° to 390°F (−55° to 199°C); Rexolite insulators: −67° to 185°F (−55° to 85°C)
weatherproof	standards with clamp gaskets; MIL-Crimps with heat-shrink tubing
hermetic seals	pass helium leak test of 2 x 10^{-8} cc/sec.
shock	MIL-Std-202 method 202
vibration	MIL-Std-202 method 204 (test cond. D)
moisture resistance	MIL-Std-202 method 106
corrosion	MIL-Std-202 method 101 (test cond. B)
temperature cycling	MIL-Std-202 method 102 (test cond. D)
altitude	MIL-Std-202 method 105 (test cond. C)
MECHANICAL	
mating	BNC: 2-stud bayonet lock; TNC: 7/16-28 thread cplg.
cable affixment (braid or jacket)	standards: screw-thread nut and braid clamp; MIL-crimps: hex braid crimp
cable affixment (center conductor)	MIL-Crimps: 4 indent crimp or solder; others: solder only
captivated contact	all MIL-Crimps; others: where specified
cable retention	standards: 20 to 50 lbs; crimps: 80 to 100 lbs.
MATERIAL	
contacts (center)	male: brass; female: beryllium copper or phopshor bronze (all MIL-Crimps)
contacts (outer)	MIL-Crimps: phosphor bronze; others: brass or beryllium copper where specified
other metal parts	brass
plating	center contacts, MIL-Crimps: .0001″ gold over .0001″ copper; all others: .0002″ silver
insulators	Teflon (all crimps); Rexolite; glass-Teflon (hermetically sealed)
clamp gaskets	synthetic rubber; silicone rubber
heat-shrink tubing	MIL-Crimps: Thermofit plastic
crimp ferrule	copper

MILITARY SPECIFICATIONS
MIL-Crimps: MIL-C-23329A; Standard BNC: MIL-C-3608

MIL-CRIMP BNC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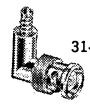

31-334

PLUGS

male contacts • captivated center contact weatherproof

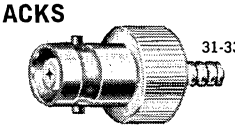
STRAIGHT

For RG-/U Cable	MIL. No. M23329/	No.	Ins.	Notes	Lgth.
55, 142, 223	3-02-04	31-326	T	GC	1 13/64
58, 141	3-01-03	31-320	T	GC	1 13/64
59, 62, 140, 210	3-05	31-321	T	GC	1 13/64
71	—	31-322	T	GC	1 13/64
122	3-06	31-324	T	GC	1 13/64
174, 188	—	31-315	T	GC	1 13/64
179, 187	—	31-242	T	GC	1 13/64
180, 195	3-07	31-323	T	GC	1 13/64
21-597	—	31-325	T	GC	1 13/64

ANGLE

55, 142, 223	—	31-334	T	GC	13/16
58, 141	—	31-335	T	GC	13/16
59, 62, 140, 210	—	31-336	T	GC	13/16
71	—	31-337	T	GC	13/16
122	—	31-339	T	GC	13/16
179, 187	—	31-243	T	GC	13/16
174, 188	—	31-316	T	GC	13/16
180, 195	—	31-338	T	GC	13/16
Amphenol 21-597	—	31-340	T	GC	13/16

JACKS


31-333

female contacts
captivated center contact
weatherproof

STRAIGHT

For RG-/U Cable	MIL. No. M23329/	No.	Ins.	Notes	Lgth.
55, 142, 223	3-09	31-333	T	GC	1 3/8
58, 141	3-08	31-327	T	GC	1 3/8
59, 62, 140, 210	3-12	31-328	T	GC	1 3/8
71	—	31-329	T	GC	1 3/8
122	3-13	31-331	T	GC	1 3/8
179, 187	—	31-244	T	GC	1 3/8
174, 188	—	31-317	T	GC	1 3/8
180, 195	3-14	31-330	T	GC	1 3/8
Amphenol 21-597	—	31-332	T	GC	1 3/8

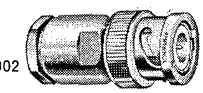
BULKHEAD

55, 142, 223	3-16	31-341	T	GC	1 3/8
58, 141	3-15	31-342	T	GC	1 3/8
59, 62, 140, 210	3-19	31-343	T	GC	1 3/8
71	—	31-344	T	GC	1 3/8
122	3-20	31-346	T	GC	1 3/8
179, 187	—	31-245	T	GC	1 3/8
174, 188	—	31-318	T	GC	1 3/8
180, 195	3-21	31-345	T	GC	1 3/8
Aphenol 21-597	—	31-347	T	GC	1 3/8

BNC FIELD SERVICEABLE

Part No.	UG No.	MIL No.	Plug for
31-3301	88G/U	39012/16-0001	RG-58
31-3302	260F/U	39012/16-0002	RG-59
31-3303	1033G/U	39012/16-0003	RG-122

STANDARD TYPE BNC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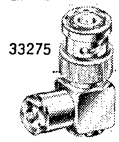

33275

PLUGS

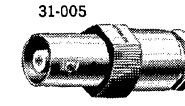
50 ohm impedance • male contacts • weatherproof

STRAIGHT

For RG-/U Cable	UG-/U No.	No.	Ins.	Notes	Lgth.
6	—	9350	R		1 1/4
8, 9	959	6775	T		1 21/32
55, 58, 141, 142	88	31-002	T		31/32
	—	14625	T	PF	1
	88A	14525	T		1
	88B	31-018	T	NW	31/32
55, 58, 141, 142, 223	88C	31-202	T	I	1 1/16
	88D	31-2202	T	I, BOC	1 3/32
	88E	31-3202	T	I, BOC	1 3/32
	—	14625	T	PF	1
	—	31-301	T	I, CC	1 5/32
	—	84800	T	I, CC	1 1/16
59, 62, 71, 140, 210	260	31-012	R		31/32
	260A	31-021	R	NW	1
	260B	31-212	T	I	1 1/16
	260C	31-2212	T	I, BOC	1 3/32
	260D	31-3212	T	I, BOC	1 3/32
	—	70000	T	PF	1
	—	86475	T	I, 75	1 1/16
	—	31-304	T	I, CC	1 5/32
114A	—	17400	T		1 21/32
122, 195, 21-597	1033	84975	T	I	1 1/16
	—	12000	T		1
178, 196	—	15875	T		1
180	—	16300	T		1
174, 179, 187, 188	—	69475	T	I	1 1/16
#18, 20, 22 H. V. Wire	—	13925	T		1

ANGLE

55, 58, 141, 142, 223	913	31-204	T		1 3/32
	913A	31-2204	T	I, BOC	1 1/16
55, 58, 141, 142	—	38250	T		29/32
	—	8525	T		1 1/4
59, 62, 71, 140, 210	—	31-850	R		1 1/4
	—	33750	T		29/32
	—	86225	T		1 1/16
	—	8575	T		1 1/4
122, 195, 21-597	—	33775	T		1 1/4
178, 196	—	21975	T		1 1/4
174, 179, 187, 188	—	33275	T		1 1/4
180	—	16975	T		1 1/4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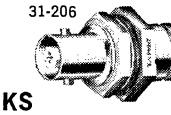

31-206

JACKS

50 ohm impedance • female contacts • weatherproof

STRAIGHT

For RG-/U Cable	UG-/U No.	No.	Ins.	Notes	Lgth.
55, 58, 141, 142	89	31-005	T		1 1/8
	89A	31-019	T	NW	1 5/64
55, 58, 141, 142, 223	89B	31-205	T	I	1 5/64
	89C	31-2205	T	I	1 5/64
	—	31-302	T	I, CC	1 5/64
59, 62, 71,140, 210	261	31-015	R	70	1 1/8
	261A	31-022	R	NW, 70	1 5/64
	261B	31-215	T	I	1 5/64
	261C	31-2215	T	I	1 5/64
	—	31-305	T	I, CC	1 5/64
122, 195, 21-597	1056	84650	T	I	1 5/64
180	—	16925	T		1 5/64

ANGLE

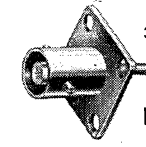
55, 58, 141, 142, 223		14325	T	AN	1 5/32
59, 62, 71, 140, 210		14225	T	AN	1 11/32

PANEL

8	—	6750	T		1 5/32
55, 58, 141, 142	90	1300	T		1 5/64
	291	31-001	T		1 1/8
	291A	31-020	T	NW	1 5/64
	291B	31-201	T	I	1 5/64
55, 58, 141, 142, 223	291C	31-2201	T	I	1 5/64
	—	31-300	T	I, CC	1 5/64
59, 62,71, 140, 210	262	31-011	R		1 1/8
	262A	31-023	R	NW	1 5/64
	262B	31-211	T	I	1 5/64
	262C	31-2211	T	I	1 5/64
	—	31-303	T	I, CC	1 5/64
	—	71000	T	PM	1 5/64
122, 180, 195, A21-597	—	16475	R		1 5/64
	—	86400	T	I	1 5/64
174, 179, 187, 188	—	86425	T	I	1 5/64

BULKHEAD

55, 58, 141, 142	909	31-206	T	I	1 1/8
	—	2475	T	FM	1 1/16
	—	2575	T		1 5/64
55, 58, 141, 142, 223	909A	31-2206	T	I	1 5/64
	909B	31-3206	T	I	1 5/64
	—	17725	T	I	1 5/64
59, 62, 71, 140, 210	910	31-207	T	I	1 1/8
	910A	31-2207	T	I	1 5/64
	910B	31-3207	T	I	1 5/64
	624	2075	R	FM	1 1/16
	—	2675	R		1 5/64
122, 180, 195, 21-597	—	84725	T	I	1 5/64
178, 196	—	86850	T	I	1 5/64
179	—	17825	T	FM	1 5/64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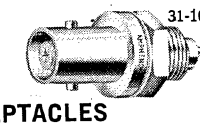
31-102

RECEPTACLES

50 ohm impedance
female contacts • weatherproof

PANEL

UG-/U No.	No.	Ins.	Notes	Lgth.
185	4500	R	TT	1 5/64
290	31-003	R		1 1/32
290A	31-203	T	I	1 1/16
447	31-817	R		1 1/32
928	1100	R		29/32
—	31-105	R		1 1/32
—	31-842	T		1 1/32
—	2775	T	TT	1 1/16
—	3150	T	PM	1 1/4
—	14275	R		1 1/32
—	14375	R		1 1/32
—	18225	T	PC	25/32
—	13550	T	TT	1 5/64
—	31-104	PST		1 5/32

NOTES: AC—Armor Clamp, AK—Adapter Kit, AN—Angle Body, BOC—Beryl. Outer Contact, CC—Captivated Contact, FM—Front Mounting, FS—Field Serviceable, GC—Gold-plated Contact, H—Hermetically Sealed, HOC—Hooded Outer Contact, I—Improved Const., LB—Large Body, MLC—Male Contact, NW—Non-weatherproof, P—Pressurized, PC—For Printed Circuit Bds., PF—Polarized Female Contact, PI—Plug-in, PM—Polarized Male Contact, QC—Quick Crimp, RC—Radial Crimp, RM—Rear Mounting, .SBC—Solderless Braid Clamp, SC—Solderless Contact, SFC—Shorting Female Contact, SL—Solder Lug, SMC—Shorting Male Contact, SW—Holes for Safety Wiring, TT—Turret Terminal, W—Weatherproof, 75—75 ohm impedance, 4000—4000 volts peak. **INSULATION:** B—Bakelite, C—Ceramic, FB—Filled Bakelite, G—Glass, K—Kel-F, PST—Polystyrene, R—Rexolite, T—Teflon. **ADAPTER ENDS:** C—Cable, J—Jack, P—Plug. **For additional specifications request Amphenol Coaxial Connectors Catalog CC-6.**

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AMPHENOL RF COAXIAL CONNECTORS

AMPHENOL

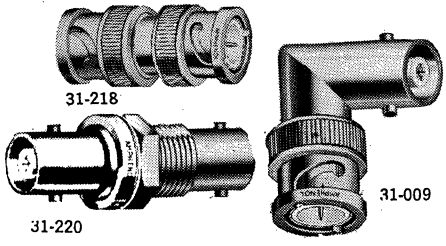
STANDARD TYPE BNC (Cont'd.)

ANGLE

UG-/U No.	No.	Ins.	Notes	Lgth.
535	5675	T		1 1/32
1098	31-222	T		2 9/32
1098A	31-2222	T	I	2 9/32
—	5075	T		1 1/16

BULKHEAD

254A	31-016	R	P, RM	1 15/32
625	5575	R	FM	1 1/32
625B	31-236	T	I, FM	1 1/16
657	31-102	R	P, FM	1 1/64
657A	31-239	T	P, FM	1 1/64
911A	31-237	GT	I, H, RM	1 13/64
912	31-238	GT	I, H, FM	1 13/64
912A	31-2238	GT	I, H, FM	1 13/64
1094	31-221	T	I, FM	1 1/16
1094A	31-2221	T	I, FM	1 3/16
—	11300	T	FM	1 1/32
—	11325	T	PM, FM	1 1/32
—	78725	GT	I, H, FM	1 1/32
—	86250	GT	H, FM	1 13/32
—	87225	GT	H, FM	1 13/32



ADAPTERS

50 ohm impedance • weatherproof

STRAIGHT

UG-/U No.	No.	Ins.	Notes	Adapter Ends	Lgth.
491	8425	T		PP	1 1/4
491A	31-218	T		PP	1 1/4
491B	31-2218	T	BOC	PP	1 1/4
914	31-219	T		JJ	1 9/32
—	21925	T		PJ	1 17/32
—	75000	T		JJ	1 9/32

ANGLE

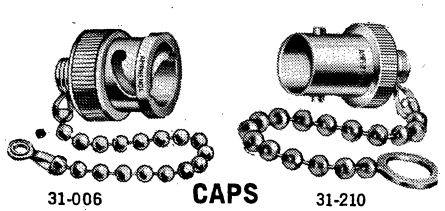
306	31-009	T		JP	1
306A	31-209	T	BOC	JP	1 1/16
306B	31-2209	T	BOC	JP	1 1/16

TEE

274	31-008	R		JPJ	1 9/32
274A	31-208	T	BOC	JPJ	1 9/32
274B	31-2208	T	BOC	JPJ	1 9/32
—	4725	T		PPP	1 13/16
—	17450	R		JJJ	1 9/32
—	21900	T		PJJ	1 17/32
—	27750	T		PJP	1 13/16
—	33725	T	RG-58/U	CPC	1 3/4

BULKHEAD

414	4700	T		JJ	1 9/32
414A	47025	T	I	JJ	1 9/32
492A	31-220	GT	H	JJ	1 13/32
492B	31-2220	GT	H	JJ	1 25/64
492D	31-3220	GT	H	JJ	1 17/32
—	4525	GT		JJ	1 13/32
—	75500	T	H	PP	1 11/16



CAPS

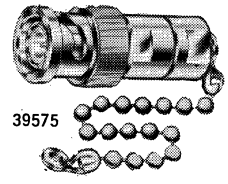
weatherproof

MALE

CW No.	No.	Ins.	Notes	Lgth.
123	31-006			1 1/16
123A	31-026		I	45/64
155	31-007			37/64
155A	31-027		I	37/64
159	31-017	T	SMC	1 1/16
—	900			23/32
—	5275	T	SMC	1 9/32
—	87300		SL	23/32

FEMALE

CW No.	No.	Ins.	Notes	Lgth.
282	31-210		I	1 1/16
—	1550	T	SFC	5/8
—	1750			25/32
—	2025			23/32
—	15300	T	SFC	23/32



RESISTOR TERMINATED CAPS

male contacts • weatherproof

MX No.	No.	Ins.	Notes	Lgth.
554	4700	R	100 ohm	1 1/4
554A	39575	T	100 ohm	1 1/4
—	35650	T	*	1 1/4
—	4750	R	*	1 1/64
—	35725	T	*	1 1/2
—	46650	T	*	1 1/2

*Add resistor value (ohms) to part no. when ordering: 47, 51, 68, 75, 82, 91, 100, 120, 130, 150, 180, 240, 270, 300, 470, 510, 560, 680, 750, 820, 1000, 1500, 3900, 4700, 10000, 100000, 150000.

HOODS

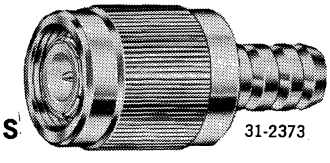
non-weatherproof

For RG-/U Cable	MX No.	No.	Notes	Lgth.
58	195	10900		7/8
58, 59, 62	195A	87175	PI	13/16
58	367	10925		7/8

NUT STRAP

No.	MX No.	Notes	Lgth.
1600	MT-412	4 Holes with No. 4-40 NC-2B Thds.	3/4 sq.

MIL-CRIMP TNC



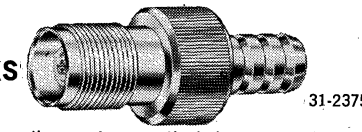
weatherproof • captivated center contact
add-1000 suffix to part number for safety wiring holes
50 ohm impedance • male contacts

STRAIGHT

For RG-/U Cable	No.	MIL. No. M23329/	Ins.	Notes	Lgth.
55, 142, 223	31-2373	4-02-04	T	GC	1 7/32
58, 141	31-2367	4-01-03	T	GC	1 7/32
59, 62, 140, 210	31-2368	4-05	T	GC	1 7/32
71	31-2369	—	T	GC	1 7/32
122	31-2371	—	T	GC	1 7/32
174, 188	31-2315	—	T	GC	1 7/32
179, 187	31-2242	—	T	GC	1 7/32
180, 195	31-2370	4-06	T	GC	1 7/32
A 21-597	31-2372	—	T	GC	1 7/32

ANGLE

For RG-/U Cable	No.	MIL. No. M23329/	Ins.	Notes	Lgth.
55, 142, 223	31-2381	—	T	GC	1 3/16
58, 141	31-2382	—	T	GC	1 3/16
59, 62, 140, 210	31-2383	—	T	GC	1 3/16
71	31-2384	—	T	GC	1 3/16
122	31-2386	—	T	GC	1 3/16
179, 187	31-2243	—	T	GC	1 3/16
174, 188	31-2316	—	T	GC	1 3/16
180, 195	31-2385	—	T	GC	1 3/16
A 21-597	31-2387	—		GC	1 3/16



non-weatherproof • captivated center contact
50 ohm impedance • female contacts

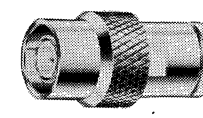
STRAIGHT

For RG-/U Cable	No.	MIL. No. M23329/	Ins.	Notes	Lgth.
55, 142, 223	31-2380	4-08	T	GC	1 3/8
58, 141	31-2374	4-07	T	GC	1 3/8
59, 62, 140, 210	31-2375	4-11	T	GC	1 3/8
71	31-2376	—	T	GC	1 3/8
122	31-2378	—	T	GC	1 3/8
179, 187	31-2244	—	T	GC	1 3/8
174, 188	31-2317	—	T	GC	1 3/8
180, 195	31-2377	4-12	T	GC	1 3/8
A 21-597	31-2379	—	T	GC	1 3/8

BULKHEAD

55, 142, 223	31-2388	4-14	T	GC	1 5/16
58, 141	31-2389	4-13	T	GC	1 5/16
59, 62, 140, 210	31-2390	4-17	T	GC	1 5/16
71	31-2391	—	T	GC	1 5/16
122	31-2393	—	T	GC	1 5/16
179, 187	31-2245	—	T	GC	1 5/16
174, 188	31-2318	—	T	GC	1 5/16
180, 195	31-2392	4-18	T	GC	1 5/16
A 21-597	31-2394	—	T	GC	1 5/16

STANDARD TYPE TNC



PLUGS

50 ohm impedance • male contacts • weatherproof

STRAIGHT

For RG-/U Cable	No.*	Ins.	Notes	Lgth.
55, 58, 141, 142, 223	77175	T	BOC	1 1/8
	79050	T	PF, BOC	1 1/8
	79875	T		1 1/16
	76175	T	GC, SW, BOC	1 1/8
59, 62, 71, 140, 210	79475	T	PF, BOC	1 1/8
	79525	T		1 1/8
122, 180, 195, 21-597	79725	T	BOC	1 1/8
180	78625	T		1
	79375	T	BOC	1 1/8
174, 179, 187, 188	73475	T		1 1/16

ANGLE

55, 58, 141, 142, 223	79075	T	BOC	1 1/8
	79550	T	BOC	1 3/16
59, 62, 71, 140, 210	79400	T	BOC	1 3/32

*Add—1000 to part number to order connectors with safety wiring holes.

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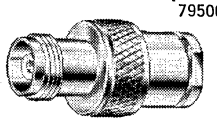
AMPHENOL RF COAXIAL CONNECTORS

AMPHENOL™

STANDARD TYPE TNC (Cont'd.)

79500



JACKS

- 50 ohm impedance
- female contacts
- non-weatherproof

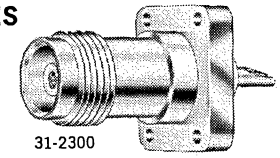
STRAIGHT

For RG-/U Cable	No.	Ins.	Notes	Lgth.
55, 58, 141, 142, 223	79600	T	GC	1¼
59, 62, 71, 140, 210	79450	T	PM	1¾₄
180, 195	7705C	T		1¾₄

BULKHEAD

55, 58, 141, 142, 223	77425	T	GC	1¾₄
59, 62, 71, 140, 210	77350	GT	H	1²⁷⁄₃₂
180	77100	T		1²⁷⁄₃₂

RECEPTACLES



31-2300

- 50 ohm impedance
- female contacts
- non-weatherproof

PANEL

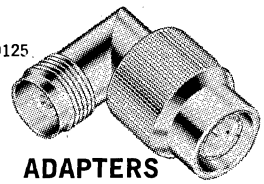
No.	Ins.	Notes	Lgth.
31-2300	T	GC	1¹⁄₁₆
78200	T	GC, PM	1¹⁄₁₆
79650	T	GC	1⁵⁄₃₂
79750	GT	GC, H	¾

BULKHEAD

31-2301	T	GC, FM	1¹⁄₁₆
77300	T	GC, *FM	2¹⁄₃₂
79775	T	GC, FM	2¹⁄₃₂
79800	GT	H, FM	1¹⁄₁₆

* Gold Plated

79125



50 ohm impedance non-weatherproof

ADAPTERS

ANGLE

No.	Ins.	Adapter Ends	Lgth.
79125	T	PJ	1³⁄₃₂

BULKHEAD (Hermetically Sealed)

79100	GT	JJ	1¹³⁄₃₂

TEE

79700	T	JPJ	1⁹⁄₃₂

CAPS non-weatherproof

MALE

No.	Lgth.
78750	⅜

FEMALE

78400	³⁷⁄₆₄

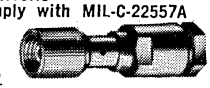
SUBMINAX® Series 27

CHARACTERISTICS (Typical)

ELECTRICAL	
impedance	50 ohm, 75 ohm
frequency range	0-10 GHz
voltage rating	500 volts peak
dielectric withstanding voltage	1,500 volts rms
SWR (50 ohm)	1.2 (0-4 GHz) 1.5 (4-10 GHz) 1.3 (UG's) (0-6 GHz) 1.5 (UG's) (6-10 GHz)
other	multivolt drop 6 MV. insulation resistance 1,000 megohms
ENVIRONMETAL	
thermal limits	—67° to 390°F (—55° to 199°C)
weatherproof	all 27 series are non-weatherproof, radial crimp have plastic boot or optional heat shrink tubing.
hermetic seals	pass helium leakage test of 2 x 10^{-8} cc/sec
thermal shock	Mil. Std. 202 Method 107
shock	Mil. Std. 202 Method 202
vibration	Mil. Std. 202 Method 204 (test cond. D)
moisture resistance	Mil. Std. 202 Method 106A
corrosion	Mil. Std. 202 Method 101 (test cond. B)
MECHANICAL	
contacts	radial crimp, not captivated; quick crimp, full captivated; field serviceable, semi-captivated
mating	push-on (snap-on) and screw-on, (50 ohm have 10-32 threaded coupling; 75 ohms, ⅝-32).
cable affixment braid/jacket	radial crimp: Quick-Crimp (hex crimp); field serviceable clamp mechanism
cable affixment-center conductor	solder only
coupling nut	recommended torque (hex nuts); 50 inch-ounces. Axial pull-off force: withstand up to 50 lbs.
MATERIAL	
contacts	male and outer (push-on): brass female: beryllium copper
other metal parts	brass
plating (all metal parts)	.000050 gold over copper, (UG's .0001" gold over copper)
insulators	Teflon, Kel-F-Teflon, glass Teflon (hermetically sealed)

MILITARY SPECIFICATIONS
UG items fully comply with MIL-C-22557A

27-1



27-34

STRAIGHT PLUGS

female contacts • Teflon Ins. • non-weatherproof

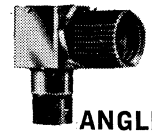
PUSH-ON

For RG-/U Cable	No.	Imp. Ohms	Notes	Lgth.
174, 179, 187, 188	27-841	50	QC, CC	1
	27-1	50	RC	¹⁹⁄₃₂
180, 195, A 21-597	27-828	75	QC, CC	1⁵⁄₆₄
	27-13	75	RC	⅝
178, 196	27-30	50	FS, CC	²⁵⁄₃₂

SCREW-ON

For RG-/U Cable	No.	Imp. Ohms	Notes	Lgth.
174, 179, 187, 188	27-844	50	QC, CC	1³⁄₃₂
	27-7	50	RC	¹⁹⁄₃₂
	†27-106	50	FS, CC	²⁷⁄₃₂
180, 195, A 21-597	27-835	75	QC, CC	1⁵⁄₆₄
	27-19	75	RC	¹⁹⁄₃₂
178, 196	27-34	50	FS, CC	²⁵⁄₃₂
	*27-104	50	FS, CC	²⁷⁄₃₂

* UG-1460
† UG-1465



27-26

ANGLE PLUGS

female contacts • Teflon-Kel-F Ins. non-weatherproof

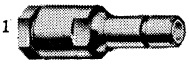
PUSH-ON

For RG-/U Cable	No.	Imp. Ohms	Notes	Lgth.
174, 179, 187, 188	27-843	50	QC, CC	41⁄64
	27-6	50	RC	⅜
180, 195, 21-597	27-834	75	QC, CC	41⁄64
	27-18	75	RC	33⁄64
178, 196	27-33	50	FS, CC	⅝
	27-823	50	FS, CC, HOC	1⁹⁄₃₂

SCREW-ON

174, 179, 187, 188	27-846	50	QC, CC	1⁹⁄₃₂
	27-26	50	RC	33⁄64
180, 195, 21-597	27-836	75	QC, CC	41⁄64
	27-25	75	RC	⅝
178, 196	27-37	50	FS, CC	33⁄64

27-31



27-8

STRAIGHT JACKS

male contacts • Teflon Ins. non-weatherproof

PUSH-ON

For RG-/U Cable	No.	Imp. Ohms	Notes	Lgth.
174, 179, 187, 188	27-849	50	QC, CC	1
	27-2	50	RC	³⁵⁄₆₄
180, 195, 21-597	27-837	75	QC, CC	1
	27-14	75	RC	⅝
178, 196	27-31	50	FS, CC	47⁄64

SCREW-ON

174, 179, 187, 188	27-8	50	RC	1⁹⁄₃₂
	*27-105	50	FS, CC	¾
178, 196	27-35	50	FS, CC	¾
	†27-107	50	FS, CC	¾
180, 195, 21-597	27-20	75	RC	1⁹⁄₃₂

* UG-1467 † UG-1462

27-4

27-839

BULKHEAD JACKS

male contacts • Teflon Ins. • non-weatherproof

PUSH-ON

For RG-/U Cable	No.	Imp. Ohms	Notes	Lgth.
174, 179, 187, 188	27-842	50	QC, CC	1¹⁄₁₆
	27-4	50	RC	47⁄64
180, 195, 21-597	27-838	75	QC, CC	1¹⁄₆₄
	27-16	75	RC	41⁄64
178, 196	27-32	50	FS, CC	1³⁄₁₆

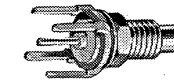
SCREW-ON

174, 179, 187, 188	27-845	50	QC, CC	1¼
	27-10	50	RC	2¹⁄₃₂
	†27-103	50	FS, CC	⅞
180, 195, 21-597	27-839	75	QC, CC	1⅛
	27-22	75	RC	2¹⁄₃₂
178, 196	27-36	50	FS, CC	53⁄64
	*27-102	50	FS, CC	⅞

* UG-1463 † UG-1468

27-3

27-800



BULKHEAD RECEPTACLES

male contacts non-weatherproof

PUSH-ON

UG-/U No.	No.	Imp. Ohms	Ins.	Notes	Lgth.
—	27-3	50	T	—	³⁷⁄₆₄
—	27-15	75	T	—	³⁷⁄₆₄
—	27-27	50	GT	H	45⁄64
—	27-45	75	GT	H	23⁄32
—	27-72	50	T	GC	31⁄64

SCREW-ON

—	27-9	50	I	—	1⁹⁄₃₂
—	27-12	50	GT	H	41⁄64
—	27-21	75	T	—	1⁹⁄₃₂
—	27-24	75	GT	H	1¹⁄₁₆
—	27-800	50	T	PC	43⁄64
1619	27-101	50	T	RM, FS, CC	⅝
1464	27-108	50	T	FM, FS, CC	47⁄64

27-5

27-11

BULKHEAD ADAPTERS

Teflon Ins. non-weatherproof

PUSH-ON

No.	Imp. Ohms	Adapter Ends	Lgth.
27-5	50	JJ	⅝
27-17	75	JJ	⅝

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AMPHENOL RF COAXIAL CONNECTORS

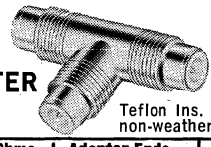
AMPHENOL

SUBMINAX® SERIES 27 (Cont'd.)

SCREW-ON

No.	Imp. Ohms	Adapter Ends	Lgth.
27-11	50	JJ	21/32
27-23	75	JJ	21/32

27-70



TEE ADAPTER

Teflon Ins.
non-weatherproof

SCREW-ON

No.	Imp. Ohms	Adapter Ends	Lgth.
27-70	75	JJJ	1.050

SERIES C

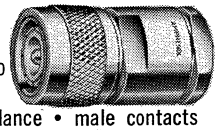
CHARACTERISTICS (Typical)

ELECTRICAL	
impedance	50 ohm constant
frequency range	0-10 GHz, 1,500 volt type 0-2 GHz, 4,000 volt type
voltage rating	1,500 volts peak — standard; 4,000 volts peak as noted
dielectric withstanding voltage	3,000 volts RMS, 1,500 volt type; 6,000 volts RMS, 4,000 volt type
SWR	1.25
ENVIRNMENTAL	
thermal limits	−67° to 390°F (−55° to 199°C)
weatherproof	except as noted, all C Series connectors are weatherproof
hermetic seals	pass Helium leak test of 2 x 10-8 cc/sec
pressurized	compression seal
MECHANICAL	
mating	2-stud bayonet lock
cable affixment	Improved: screw-thread nut and braid clamp
MATERIAL	
contacts	male: brass; female and outer: beryllium copper
other metal parts	brass
plating	.0002" silver min
insulators	Teflon, glass-Teflon (herm. sealed)
weatherproof gaskets	silicone rubber

MILITARY SPECIFICATIONS
Meet applicable sections of MIL-C-3989.

PLUGS

82-530



50 ohm impedance • male contacts
weatherproof

STRAIGHT

For RG-/U Cable	UG-/U No.	No.	Ins.	Notes	Lght.
5, 21, 143, 212, 222	626A	80025	T		1 31/64
8, 9, 87, 213, 214, 225	573A	82-530	T	AK	1 31/64
	573B	28650	T	AK	1 31/64
	628A	82-532	T	4000, AK	1 3/4
	—	79150	T	4000, PF	1 3/4
10, 12, 116, 215, 227	943A	82-538	T	AC, AK	2 1/8
14, 217	707A	82-533	T		1 9/16
17, 218	708A	80075	T		2 5/32
55, 58, 141, 142, 223	709A	82-534	T		1 3/8
59, 62, 71, 140, 210	—	81650	T	4000	1 9/16
	—	80375	T	4000	1 9/16
	627A	82-548	T		1 11/32
63, 114	—	80300	T		1 31/64
117, 118	711A	80200	T		2 5/32

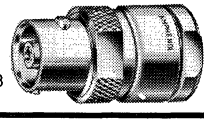
ANGLE

8, 9, 87, 213, 214, 225	710A	82-531	T		1 3/8
55, 58, 141 142, 223	—	80775	T		1 5/16

JACKS

50 ohm impedance
female contacts
weatherproof

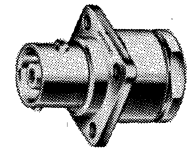
82-503



STRAIGHT

For RG-/U Cable	UG-/U No.	No.	Ins.	Notes	Lght.
8, 9, 87, 213, 214, 225	572	82-503	T		1 13/32
55, 58, 141, 142, 223	—	81575	T		1 1/4
59, 62, 71, 140,210	—	81550	T		1 1/4

82-501



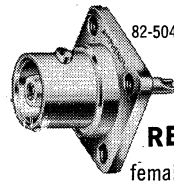
PANEL

8, 9, 87, 213, 214, 225	571	82-501	T	AK	1 13/32
10, 12, 116, 215, 227	938	82-523	T	AC, AK	2
14,217	—	81275	T		2
55, 58, 141, 142	—	74675	T	FM	1 1/4
	—	81150	T		1 1/4
59, 62, 71, 140, 210	—	81100	T	FM	1 1/4

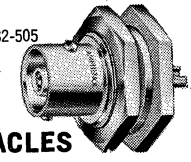
BULKHEAD

8, 9, 87, 213, 214, 225	570	82-502	T	AK	1 13/32
	570A	82-614	T		1 13/32
	632	82-521	T	4000, AK	1 11/16
10, 12, 116, 215, 227	937	82-522	T		2
55, 58, 141, 142	704	81175	T		1 1/4
	704A	74475	T	FM	1 1/4
	—	81425	gT	H	1 3/8
	—	81400	T		1 1/4
59, 62, 71, 140, 210	—	81600	T	FM, 4000	1 15/32

82-504



82-505



RECEPTACLES

female contacts
50 ohm impedance • weatherproof

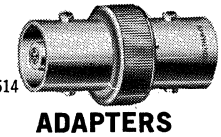
PANEL

UG-/U No.	No.	Ins.	Notes	Lgth.
568	82-504	T		1 3/32
—	82275	T		1 5/16

BULKHEAD

569	82-505	T		1 3/32
634	82-515	T	4000	1 5/16
705	82-511	GT	H	1 7/16
706	82125	T	FM	1 5/32

82-514



ADAPTERS

50 ohm impedance • weatherproof

STRAIGHT

UG-/U No.	No.	Ins.	Adapter Ends	Notes	Lgth.
642A	83150	T	PP		1 29/64
643	82-514	T	JJ	NW	1 5/32

ANGLE

567A	82-535	T	JP	NW	1 1/4

TEE

566A	82-536	T	JPJ		1 33/64
—	83525	T	CJC	RG-13/U	2 3/4

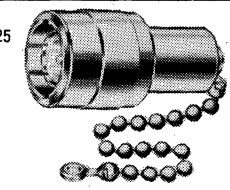
BULKHEAD

701	83050	GT	JJ	H	1 9/16
—	82250	GT	JJ	H, 4000	2 1/32

RESISTOR TERMINATED CAP

male contact
weatherproof

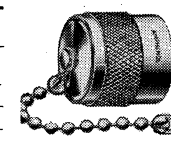
83925



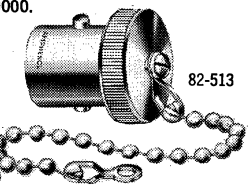
No.	Notes	Lgth.
83925	*	1 5/16

*Add resistor value (ohms) to part no. when ordering: 47, 51, 75, 82, 91, 100, 120, 130, 150, 180, 240, 270, 300, 470, 510, 560, 680, 750, 820. 1000, 1500, 3900, 4700, 10000, 150000.

82-512



82-513



CAPS weatherproof

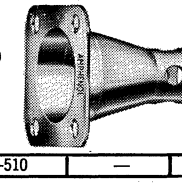
MALE

MX No.	No.	Notes	Lgth.
1142	82-512		5/64
—	83675	SMC	7/8

FEMALE

1143	82-513		27/32
—	83700	SFC	13/16

82-510

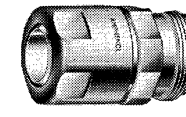


HOODS

non-weatherproof

—	82-510	—	3/4

82-517



ARMOR CLAMPS

weatherproof • improved N type

For RG-/U Cable	MX No.	No.	Lgth.
10, 12, 79, 116, 215, 227	1286	82-517	1 1/8
18,219	1441	92100	1 3/8
74, 224	1462	16850	1 13/16

SERIES N

CHARACTERISTICS (Typical)

ELECTRICAL	
impedance	as noted, 50 or 70 ohms
frequency range	0-10 GHz
voltage rating	1,500 volts peak (1,000 v ■)
dielectric withstanding voltage	3,500 volts rms (2,500 and 1500 vrms at 50 MHz■)
SWR	MIL-Crimp/MIL-Clamp: 1-15 (solder) 1.35 per spec; others: 1.25
other	contact resistance 1.0 mv, RF leakage −90 db, insertion loss :15 db, insulation resistance 5,000 megohms
ENVIRNMENTAL	
thermal limits	Teflon: −67°F to 390°F (−55° to 199°C) Rexolite: −67°F to 185°F (−55° to 85°C)
weatherproof	all Series N with gaskets are weatherproof
hermetic seals	pass Helium leak test of 2 x'10-8 cc/sec
pressurized	compression seal
shock	MIL-Std. 202 method 202
vibration	MIL-Std. 202 method 204 (test cond. B)
moisture resistance	MIL-Std. 202 method 106
corrosion	MIL-Std. 202 method 101 (test cond. B)
temperature	MIL-Std. 202 method 102 (test cond. C)
altitude	MIL-Std. 202 method 105 (test cond. C)

Net

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AMPHENOL RF COAXIAL CONNECTORS

AMPHENOL

SERIES N (Cont'd.)

'ON n/-9n

MECHANICAL

mating	5/8-24 threaded coupling
cable affixment (braid/jacket)	MIL-Crimp: hex crimp; all others: screw-thread nut and braid clamp
cable affixment (center conductor)	MIL-Crimp/MIL-Clamp: 4 indent crimp, hex crimp or solder. All others: solder
captivated contact	all MIL-Crimp/MIL-Clamp Others, where specified
cable retention	MIL-Crimp/MIL-Clamp 90-120 lbs. (70 lb. per MIL-Spec). All others 30-70 lbs.

MATERIAL

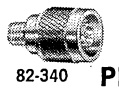
contacts	Male:brass; Female: MIL-Crimp/MIL-Clamp-Phosphor Bronze, all others-Beryllium Copper; Outer: MIL-Crimp/MIL-Clamp. Improved Phosphor Bronze, all others: brass or phosphor bronze.
other metal parts	brass
plating	center contacts, MIL-Crimp/MIL-Clamp: .0001" gold over .0001" copper. all other: .0002" silver
insulators	Teflon (all MIL-Crimp/MIL-Clamp) Rexolite, glass-Teflon (herm. seal)
weatherproof gaskets	silicone rubber (all MIL-Clamp)
crimp ferrule	copper

MILITARY SPECIFICATIONS

MIL-Crimp/MIL-Clamp:	MIL-C-39012; Standards: MIL-C-71B

■ Per MIL-C-39012 Spec. (applies to MIL-Crimp/MIL-Clamp connectors).

MIL-CRIMP N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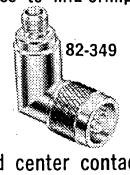

82-349

PLUGS

weatherproof • captivated center contact
50 ohm impedance • male contacts

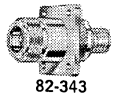
STRAIGHT

For RG-/U Cable	No.	MIL. No. M39012/	UG-/U No.	Ins.	Lgth.
5, 21, 143, 212, 222	82-341	01-0006	1680	T	1 31/64
8, 213	82-340	01-0007	1681	T	1 31/64
9, 214	82-332	01-0008	1682	T	1 31/64
11, 149	82-342	01-0013	1695	T	1 31/64
55, 142, 223	82-5370	—	—	T	1 31/64
58, 141	82-5375	—	—	T	1 31/64
59, 62, 71, 140, 210	82-5380	—	—	T	—

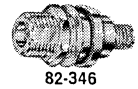
ANGLE

5, 21, 143, 212, 222	82-5350	—	—	T	1 9/16
8, 213	82-349	05-0002	1707	T	1 9/16
9, 214	82-336	05-0003	1708	T	1 9/16
11, 149	82-5351	—	—	T	1 9/16
55, 142, 223	82-5374	—	—	T	1 9/16
58, 141	82-5379	—	—	T	1 9/16

JACKS


82-343

82-337


82-346

weatherproof • captivated center contact
50 ohm impedance • female contacts

STRAIGHT

For RG-/U Cable	No.	MIL. No. M39012/	UG-/U No.	Ins.	Lgth.
5, 21, 143, 212, 222	82-338	02-0007	1687	T	1 9/16
8, 213	82-337	02-0008	1688	T	1 9/16
9, 214	82-333	02-0009	1689	T	1 9/16
11, 149	82-339	02-0014	1694	T	1 9/16
55, 142, 223	82-5371	—	—	T	1 9/16
58, 141	82-5376	—	—	T	1 9/16

PANEL

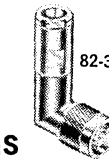
5, 21, 143, 212, 222	82-344	02-0015	1696	T	1 9/16
8, 213	82-343	02-0016	1697	T	1 9/16
9, 214	82-334	02-0017	1698	T	1 9/16
11, 149	82-5345	—	—	T	1 9/16
55, 142, 223	82-5372	—	—	T	1 9/16
58, 141	82-5377	—	—	T	1 9/16

BULKHEAD

5, 21, 143, 212, 222	82-347	03-0003	1699	T	1 27/32
8, 213	82-346	03-0004	1700	T	1 27/32
9, 214	82-335	03-0005	1701	T	1 27/32
11, 149	82-348	03-0010	1706	T	1 27/32
55, 142, 223	82-5373	—	—	T	1 27/32
58, 141	82-5378	—	—	T	1 27/32

MIL-CLAMP N

82-352


82-357

PLUGS

weatherproof • captivated center contact
50 ohm impedance • male contacts

STRAIGHT

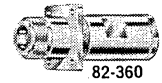
For RG-/U Cable	No.	MIL. No. M39012/	UG-/U No.	Ins.	Lgth.
5, 21, 143, 212, 222	82-354	01-0001	18F	T	1 25/32
8, 9, 213, 214	82-352	01-0005	1185B	T	1 25/32
	82-352-1	01-0002	21H	T	1 25/32
11, 13, 149, 216	82-5355	—	—	T	1 25/32
55, 58, 141, 142, 223	82-5381	—	—	T	1 25/32
59, 62, 71, 140, 210	82-5386	—	—	T	1 25/32

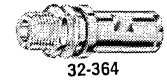
ANGLE

5, 21, 143, 212, 222	82-5361	—	—	T	1 1/2
8, 9, 213, 214	82-357	05-0001	594C	T	1 1/2
11, 13, 149, 216	82-5353	—	—	T	1 1/2
55, 58, 141, 142, 223	82-5385	—	—	T	1 1/2

JACKS

82-356


82-360


32-364

weatherproof • captivated center contact
50 ohm impedance • female contacts

STRAIGHT

For RG-/U Cable	No.	MIL. No. M39012/	UG-/U No.	Ins.	Lgth.
5, 21, 143, 212, 222	82-358	02-0001	20F	T	1 7/8
8, 9, 213, 214	82-356	02-0003	1186B	T	1 7/8
	82-356-1	02-0002	23G	T	1 7/8
11, 13, 149, 216	82-5359	—	—	T	1 7/8
55, 58, 141, 142, 223	82-5382	—	—	T	1 7/8

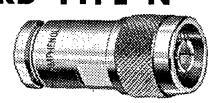
PANEL

5, 21, 143, 212, 222	82-362	02-0004	19F	T	1 17/32
8, 9, 213, 214	82-360	02-0006	1187B	T	1 17/32
	82-360-1	02-0005	22G	T	1 17/32
11, 13, 149, 216	82-5363	—	—	T	1 17/32
55, 58, 141, 142, 223	82-5383	—	—	T	1 17/32

BULKHEAD

5, 21, 143, 212, 222	82-366	03-0001	159D	T	1 51/64
8, 9, 213, 214	82-364	03-0002	160E	T	1 51/64
11, 13, 149, 216	82-5365	—	—	T	1 51/64
55, 58, 141, 142, 223	82-5384	—	—	T	1 51/64

STANDARD TYPE N


82-86

PLUGS

male contacts • weatherproof

STRAIGHT

For RG-/U Cable		No.	Imp. Ohms		Notes	Lgth.
5, 21, 143 212, 222	18	3400	50	R	NW	2
	18B	82-86	50	T		1 7/8
	18C	82-203	50	T	I	1 1/2
	18D	82-3203	50	T	I, SW	1 1/2
6	91A	7200	70	T		1 3/4
8, 9, 213, 214	21	3900	50	R		2
8, 9, 87, 213, 214, 225	21B	82-61	50	T	AK	1 7/8
	21C	82-96	50	T	AK	1 7/8
	21D	82-202	50	T	I, SW, AK	1 1/2
	21E	82-3202	50	T	I, SW, AK	1 1/2
	1185	82-312	50	T	I, CC, AK	1 1/2
	1185A	82-3312	50	T	I, CC, AK	1 1/2
10, 12, 116, 215, 227	941A	82-204	50	T	I, AC, AK	2 1/8
	941B	82-3204	50	T	I, AC, AK	2 1/8
11, 13, 149, 216	94A	82-84	70	T	AK	1 7/8
	—	91150	75	T	I	1 1/2
14, 217	204A	82-105	50	R		2
	204C	82-214	50	T	I	1 21/32
17, 218	167A	82-104	50	T		2 3/8
	167D	82-215	50	T	I, SW	2 1/8
	167F	82-3215	50	T	I, SW	2 1/8
18, 219	982	92125	50	T	I	3
55, 58, 141, 142	188	23250	50	R	NW	1 3/4
	536	34000	50	R		2 1/8
	536B	34025	50	T	I	1 3/8
35	—	82-113	70	T		2 3/8
59, 62, 71, 140, 210	603	34500	50	R		1 25/32
	603A	34525	50	T	I	1 3/8
	—	34750	70	T	I	1 5/8
	—	91300	70	T	I	1 3/8
63, 114	1003	12400	50	T		1 3/4

ANGLE

5, 21, 143, 212, 222	—	15950	50	T	I	1 3/8
8, 9, 87, 213, 214, 225	594A	15425	50	T		1 7/16
	—	82-326	50	T	I, CC	1 13/64
	—	82-835	50	T		1 7/16
	—	6875	50	T		1 5/8
	—	15975	50	T	I	1 9/32
11, 13, 149, 216	—	17025	70	T		1 5/8
55, 58, 141, 142	—	18750	50	T		1 5/8
59, 62, 71, 140, 210	—	19250	50	T		1 5/8

JACKS female contacts • weatherproof

STRAIGHT

For RG-/U Cable	UG-/U No.	No.	Imp. Ohms	Ins.	Notes	Lgth.
5, 21, 143, 212, 222	20	42000	50	R		2
	20B	82-88	50	T		1 15/16
	20C	82-210	50	T	I	1 9/16
	20D	82-3210	50	T	I	1 9/16
6	92A	7700	70	T		1 7/8
	—	91225	75	T	I	1 9/16
8, 9, 213, 214	23	48000	50	R	NW	2
8, 9, 87, 213, 214, 225	23A	7600	50	R		1 7/8
	23B	82-63	50	T		1 15/16
	23C	82-94	50	T	I	1 13/16
	23D	82-209	50	T	I	1 9/16
	23E	82-3209	50	T	I	1 9/16
	1186	82-313	50	T	I, CC	1 9/16
10, 12, 116, 215, 227	940A	82-212	50	T	I, AC	2 1/4
	940B	82-3212	50	T	I, AC	2 1/4
11, 13, 149, 216	95A	82-89	70	T		1 15/16
17	—	14850	50	T		2 3/16
55, 58, 141 142	—	35000	50	R		1 13/16
	—	35025	50	T	I	1 1/2
59, 62, 71, 140, 210	602	36500	50	R		1 5/8

PANEL

5, 21, 143, 212, 222	19	3500	50	R		2
	19B	82-87	50	T		1 13/16
	19C	82-207	50	T		1 9/16
	19D	82-3207	50	T	I	1 9/16
6	93A	7800	70	T		1 7/8
8, 9, 87, 213, 214, 225	22B	82-62	50	T		1 13/16
	22C	82-95	50	T		1 13/16
	22D	82-208	50	T		1 9/16
	22E		50	T	I	1 9/16
	1187	82-314	50	T	I, CC	1 9/16

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AMPHENOL RF COAXIAL CONNECTORS

AMPHENOL

STANDARD TYPE N (Cont'd.)

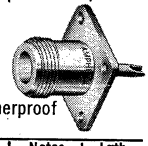
PANEL

For RG-/U Cable	UG-/U No.	No.	Imp. Ohms	Ins.	Notes	Lgth.
10, 12, 116, 215, 227	935A	82-211	50	T	I	2¼
	935B	82-3211	50	T	I	2¼
11, 13, 149, 216	96A	82-90	70	T		1 13/16
55, 58, 141, 142	1052	36000	50	R		1 13/16
55, 58,, 141, 142, 223	1095A	36250	50	T	I	1½
59, 62, 71, 140, 210	593	35500	50	R		1 13/16
	—	35550	70	T		1 13/16
	—	91250	70	T	I	1½

BULKHEAD

5, 21, 143, 212. 222	159B	15550	50	T	I	1¾
8, 9, 87, 213, 214, 225	160A	82-67	50	T		1 13/16
	160B	82-93	50	T		1 13/16
	160D	91025	50	T	I	1¾
8, 9, 213, 214	—	23025	50	gT	H	2 5/32
55, 58, 141, 142	556	35250	50	T		1 13/16
55, 58, 141, 142, 223	556B	35275	50	T	I	1 43/64
59, 62,,71, 140, 210	—	18250	50	R		1 27/32

82-97



RECEPTACLES

male • male contact • weatherproof

PANEL

UG-/U No.	No.	Imp. Ohms	Ins.	Notes	Lgth.
—	49000	50	R	FM	1 3/32

female • female contacts • weatherproof

58	82-24	50	T		1 7/64
58A	82-97	50	T		1 7/64
58B	82-368	50	T	M39012/ 04-0002	1 7/64
231	2750	50	R	RG-58/U	1¾
—	82-112	70	T		1 7/64
—	9575	50	T		1 7/64

BULKHEAD

male • male contact

—	19550	50	GT	H, FM	1 7/16

female • female contacts

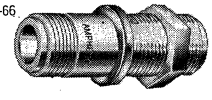
680	82-811	50	GT	H, FM	1 37/64
680B	82-369	50	G	M39012/ 04-0001	1 37/64
—	13275	50	gT	H, FM	1⅜
—	31150	50	T	W, FM	1 15/32

ANGLE

female • female contacts

997A	8975	50	T		1 7/16
—	23775	50	T		1 7/16

82-66



ADAPTERS

weatherproof

STRAIGHT

UG-/U No.	No.	Imp. Ohms	Ins.	Notes	Adapter Ends	Lgth.
29	15000	50	R		JJ	1¾
29A	82-65	50	T		JJ	1¾
29B	82-101	50	T		JJ	1¾
57A	45250	50	T		PP	1 15/32
57B	82-100	50	T		PP	1 15/32
—	17075	70	T		PP	1 15/32
—	21650	70	T		JJ	1¾

ANGLE

27A	82-64	50	T		JP	1 7/16
27B	82-98	50	T		JP	1 13/32
27C	82-213	50	T		JP	1 5/16

BULKHEAD

30	82-66	50	R	P	JJ	1⅝
30C	82-201	50	G	H	JJ	1¾
30D	91100	50	G	H	JJ	1 17/32
—	82-849	50	T	P	JJ	1⅝
—	90950	50	G	H	JJ	1 5/16

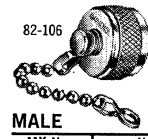
TEE

UG-/U No.	No.	Imp. Ohms	Ins.	Notes	Adapter Ends	Lgth.
28A	82-99	50	T		JJJ	1¾
107	4800	50	R		JPJ	3
107A	82-36	50	T		JPJ	2
107B	82-102	50	T		JPJ	1¾
—	4850	50	R		PPP	3 1/32

CROSS

—	17125	50	T		JJJJ	2¼

82-106



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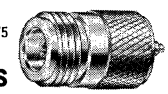


CAPS

weatherproof

MALE

MX No.	No.	Notes	Length
913	82-106		9/16
—	9225		3/16
—	13700	SMC	27/32
—	18575		9/16

FEMALE

—	6950		3 1/32
—	13675	SFC	1

ARMOR CLAMPS

non-weatherproof

For RG-/U Cable	MX No.	No.	Notes	Lgth.
10, 12, 79	564	82-48	N or HN	⅞
116, 215, 227	564A	82-109	N or HN	1 1/16
	1286	82-517	I	1⅛
18, 219	1441	92100	I	1⅜
74, 224	1462	16850	I, W	1 3/16

SERIES UHF

CHARACTERISTICS (Typical)

ELECTRICAL
impedance — non-constant
frequency range — 0-300 MHz
voltage rating* — 500 v. peak

ENVIRONMENTAL
thermal limits — Teflon: —67°F to 390°F
Rexolite: —67°F to 185°F
polystyrene: —67°F to 185°F
mica-filled Bakelite: —67°F to 300°F
weatherproof — no, except as noted

MECHANICAL
mating — 5/8-24 thrd. coupling (small body)
1-20 thrd. coupling (large body)
cable affixment — braid solder, Quick Crimp or Solderless

MATERIAL
contacts — male: brass
female: beryllium copper
bodies — die-cast zinc or brass
plating — .0002" silver min.
insulators — Teflon, Rexolite, polystyrene or mica-filled Bakelite

OTHER DATA — small and large body types do not intermate

83-1SP

PLUGS

non-constant impedance • male contacts
non-weatherproof

STRAIGHT small body, except as noted

For RG-/U Cable	MIL No.	No.	Ins.	Notes	Lgth.
8, 9, 11, 13, 63, 87, 149, 213, 214, 216, 225	PL-259	83-822	T		1½
	PL-259	83-1SP	FB		1½
	PL-259A	83-756	T		1 5/16
	PL-259A	83-1SPN	FB		1 5/16
	—	83-1SP-1002	FB		1½
	—	83-851	FB	SBC	1 43/64
8, 11, 149, 213	—	83-87	B	QC	1 23/32
11, 149	—	83-850	FB	SC, SBC	1 43/64
17, 218	—	83-86	T		2⅛
	—	10450	R		2⅛
34	UG-358/U	83-21SP	FB	LB, W	1 13/16
55, 142, 223	—	83-90	B	QC	1 23/32
58, 141	UG-203/U	83-776	FB		1 5/16
	—	83-89	B	QC	1 23/32
59, 62, 71, 140, 210	UG-111/U	83-750	FB		1 1/16
	—	83-88	B	QC	1 23/32

ANGLE small body

For RG-/U Cable	MIL No.	No.	Ins.	Notes	Lgth.
8, 9, 11, 13, 63	—	83-67	T		1⅜
87, 149, 213, 214, 216, 225	—	83-59	PST		1⅜

RECEPTACLES non-constant impedance

female contacts • non-weatherproof

PANEL small body, except as noted

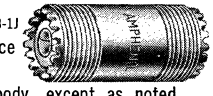
MIL No.	No.	Ins.	Notes	Lgth.
SO-239	83-1R	FB		1 1/16
SO-239A	83-798	T		1 1/16
UG-357/U	83-21R	FB	LB	1 5/64
—	83-716	C	P	1 5/16
—	83-876	B	—	1 1/16

BULKHEAD small body

UG-266/U	4575	R	P	1 13/32
—	83-875	R, T	FM	1 3/32
—	74525	GT	H, RM	1 13/32
—	83-875-1002	RT	FM	1 3/32

ADAPTERS

83-1J



non-constant impedance
non-weatherproof

STRAIGHT small body, except as noted adapter ends are Jack-Jack.

UG-/U No.	No.	Ins.	Notes	Lgth.
224	29500	R		1⅜
PL-258	83-1J	PST		1⅛
360	83-21J	PST	LB	1⅛
363	83-1F	PST		2
—	11850	T		1⅛
—	13725	T		1⅜

ANGLE small body

MIL No.	No.	Ins.	Adapter Ends	Lgth.
M-359A	83-58	PST	JP	1 27/32
UG-646/U	83-1AP	PST	PJ	1 3/32

TEE small body

M-358	83-1T	PST	JPJ	1⅝

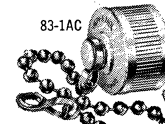
REDUCING small body

For RG-/U Cable	UG-/U No.	No.	Length
55, 58, 141, 142	175	83-185	1
59, 62, 71, 140, 210	176	83-168	1

HOODS non-weatherproof • small body

For RG-/U Cable	MIL No.	No.	Lgth.
8, 9, 10, 11, 12, 63, 79, 87, 115, 149, 213, 215	MX-543	5475	1
	UG-106/U	83-1H	¾
	UG-372/U	83-1HP	⅞
58, 141	UG-177/U	83-765	¾
55, 59, 140, 142, 223	MX-539	5375	1

83-1AC



83-1BC

CAPS

weatherproof • small body

MALE

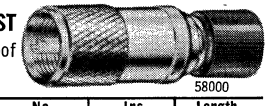
No.	Length
83-1AC	15/32

FEMALE

83-1BC	1 1/16

BINDING POST

non-weatherproof
male contact



58000

UG-/U No.	No.	Ins.	Length
332	58000	R	1⅞

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AMPHENOL RF COAXIAL CONNECTORS

AMPHENOL

BETWEEN SERIES ADAPTERS

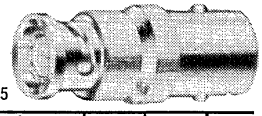
CHARACTERISTICS (Typical)

ELECTRICAL	
impedance	non-constant
frequency	per cable used
voltage	per cable used
ENVIRONMENTAL	
thermal limits	Teflon: —67°F to 390°F Rexolite: —67°F to 185°F Kel-F: —67°F to 390°F mica-filled Bakelite: —67°F to 300°F polyethylene: —67°F to 185°F
weatherproof	except as noted
hermetic seals	pass helium leakage test of 2×10^{-8} cc/sec.
MECHANICAL	
mating	per series
MATERIAL	
contacts	male: brass female: beryllium copper
other metal parts	brass
plating	.0002" silver min.
insulators	Teflon, Rexolite, Kel-F, mica-filled Bakelite, polyethylene or glass-Teflon

BNC to C

weatherproof

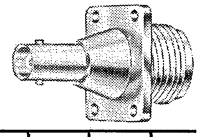
83175



UG-/U No.	No.	Ins.	Imp. Ohms/Notes	BNC	C	Lgth.
635	83175	T	50	Plug	Jack	1 3/32
636A	83200	T	50	Jack	Plug	1 15/64

BNC to HN

weatherproof

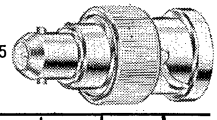


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	BNC	HN	Lgth.
309	8900	T	50	Jack	Plug	1 1/2
559	17750	R	50/AN	Plug	Jack	1 1/2
—	32750	T-R	—	Plug	Jack	1 3/8
—	35050	T	50	Jack	Jack	1 3/8

BNC to MB

weatherproof

47275

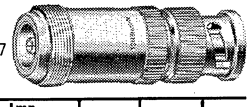


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	BNC	MB	Lgth.
—	33200	T-K	50	Jack	Jack	1 5/32
—	47200	GT	50/H	Jack	Jack	1 1/8
—	47250	T-K	50	Jack	Plug	15/16
—	47275	T-K	50	Plug	Jack	1

BNC to N

weatherproof

31-217



UG-/U No.	No.	Ins.	Imp. Ohms/Notes	BNC	N	Lgth.
201	31-830	T	—	Jack	Plug	1 15/32
201A	31-216	T	—/I	Jack	Plug	1 5/16
335	3025	T-R	50	Plug	Jack	1 3/4
349	2975	T-R	50	Plug	Jack	1 3/4
349A	31-217	T	—/I	Plug	Jack	1 9/16
1034	5225	T	50	Plug	Plug	1 1/2
—	2800	T	50/AN	Jack	Jack	1 7/16
—	4250	T	70	Jack	Plug	1 9/16
—	4900	T	50	Plug	Plug	1 1/2
—	5850	T-R	50/P	Jack	Jack	1 27/32
—	21850	R	50	Jack	Jack	1 1/2
—	93075	GT	—/H	Jack	Jack	1 11/16

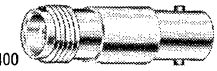
BNC to SM non-weatherproof

UG-/U No.	No.	Ins.	Imp. Ohms/Notes	BNC	SM	Lgth.
691	89250	GT	—/H	Jack	Jack	1 1/8

BNC to TNC

non-weatherproof

76400



UG-/U No.	No.	Ins.	Imp. Ohms/Notes	BNC	TNC	Lgth.
—	76400	T	50	Jack	Jack	1 3/32
—	79025	T	50	Plug	Jack	1 1/4
—	79675	T	50	Jack	Plug	1 1/4

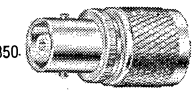
BNC to UHF non-weatherproof

UG-/U No.	No.	Ins.	Imp. Ohms/Notes	BNC	UHF	Lgth.
255	2900	R	50	Plug	Jack	1 3/16
273	31-028	R	—	Jack	Plug	1 3/16
—	2925	T	50	Plug	Jack	1 5/16
—	12025	T	50	Jack	Plug	1 3/32

C to HN

non-weatherproof

83350

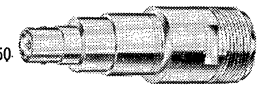


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	C	HN	Lgth.
702	83350	T	—	Jack	Plug	1 1/2
703A	83400	T	—	Plug	Jack	1 1/2

C to LC

weatherproof

82350

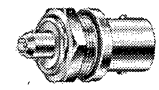


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	C	LC	Lgth.
—	82350	T	—	Jack	Jack	3 29/64

C to MB

weatherproof

83950

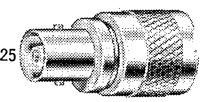


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	C	MB	Lgth.
—	83950	gT	—/H	Jack	Jack	1 7/32

C to UHF

non-weatherproof

83225

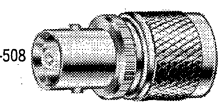


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	C	UHF	Lgth.
637	83225	T	—	Jack	Plug	1 3/8

C to N

weatherproof

82-508

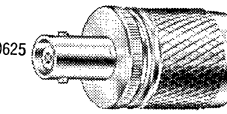


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	C	N	Lgth.
564	82-508	T	50	Jack	Plug	1 3/8
565A	82-540	T	50	Plug	Jack	1 17/32
—	83875	T	50/AN	Jack	Plug	1 3/32

HN to MHV

weatherproof

20625

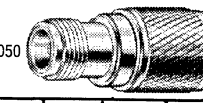


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	HN	MHV	Lgth.
—	20625	T	50	Plug	Jack	1 1/2

HN to N

weatherproof

16050

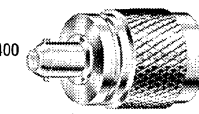


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	HN	N	Lgth.
—	16050	T	50	Plug	Jack	1 9/16
—	16075	T	50	Jack	Plug	1 9/16
—	16100	T-R	50	Jack	Jack	1 49/64

MB to UHF

non-weatherproof

47400



UG-/U No.	No.	Ins.	Imp. Ohms/Notes	MB	UHF	Lgth.
—	47400	T	—	Jack	Plug	1 11/32

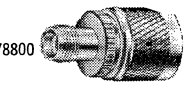
MHV to UHF weatherproof

UG-/U No.	No.	Ins.	Imp. Ohms/Notes	MHV	UHF	Lgth.
—	28050	T	—	Jack	Plug	1 3/32
—	28075	T	—	Plug	Jack	1 3/8

N to TNC

non-weatherproof

78800

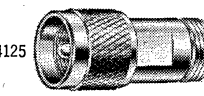


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	N	TNC	Lgth.
—	78800	T	50	Plug	Jack	1 5/16
—	78825	T	50	Jack	Jack	1 25/64
—	78875	T	50/W	Plug	Plug	1 3/32
—	79825	T	50	Jack	Plug	1 3/32
—	79850	T	50	Plug	Plug	1 3/32

N to UHF

weatherproof

34125

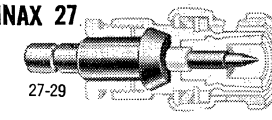


UG-/U No.	No.	Ins.	Imp. Ohms/Notes	N	UHF	Lgth.
83	14000	T-R	—	Jack	Plug	1 9/16
83B	34125	T	—	Jack	Plug	1 13/16
146	4400	R	—/NW	Plug	Jack	1 13/32
318	26700	R	—	Plug	Plug	1 47/64
—	14650	T	—/NW	Plug	Jack	1 13/32

BNC to SUBMINAX 27

non-weatherproof

27-29



No.	Ins.	Imp. Ohms/ Notes	Mates With Sub. 27 Plug	Used In BNC UG-/U	Lgth.
27-28	T	50	50 ohm, Screw-On	88	1 5/16
27-29	T	50	50 ohm, Push-On	88	1 5/16
27-40	T	50/GC	50 ohm, Screw-on	89, 291	1 5/16
27-41	T	75	75 ohm, Push-On	260B	1 1/4
27-42	T	75	75 ohm, Screw-On	261B, 262B	1.355
27-805	T	75	75 ohm, Screw-On	260B	1 17/64

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BEAUCHAINE & SONS INC. | *Subsidiary of* VERNITRON CORPORATION

BEAUPLUG 3300 SERIES PLUGS & SOCKETS

The 3300 Series BEAUCHAINE ELECTRICAL CONNECTOR line has been developed to fulfill the Industry need for a reasonably priced, reliable and versatile connector for chassis, cable and modular use where space is not a prime consideration. The 3300 Series is made in 2, 3, 4, 6, 8, 10, 12, 15, 18, 21, 24, 27, 30 & 33 contact configurations.

Male contacts are brass, cadmium plated. Female contacts are phosphor bronze, also cadmium plated and are covered by U. S. Patents # 3,271,728 & 3,311,867 For greater dielectric strength, protection and economy, we have developed the molded POLYPROPYLENE and the new POLYCARBONATE backshells (or caps) which are described on the following page.

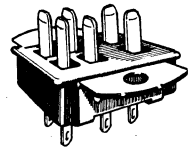
BEAUPLUGS meet or exceed UL Std. #498, all contacts carrying "rated" current simultaneously.

Current (2-12 Contacts) -- 7.5 amperes & 1875 watts
Current (15-33 Contacts) -- 4.5 amperes & 1125 watts

CHASSIS MOUNTED CONNECTORS

Plug, Angle Bracket Mounted, (-AB) End Bracket (-EB), Snap C Clip (-SCC)

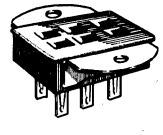
Part Number	Price Each Net 1-49	50-99	100-249	250-499
P-3302-AB, -SCC	.21	.175	.14	.133
03	.246	.205	.164	.156
04	.252	.21	.168	.16
06	.306	.255	.204	.194
06-8	.366	.305	.244	.232
08	.366	.305	.244	.232
10	.414	.345	.276	.262
12	.462	.385	.308	.293
P-3315-AB (or -EB)	.63	.525	.42	.399
18	.78	.65	.52	.494
21	.99	.825	.66	.627
24	1.20	1.00	.80	.76
27	1.41	1.175	.94	.893
30	1.62	1.35	1.08	1.026
33	1.83	1.525	1.22	1.159



P-3306-8-AB (for positive orientation)

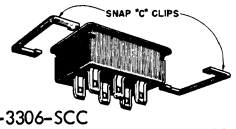
Socket, Angle Bracket Mounted (-AB) End Bracket (-EB), Snap C Clip (-SCC)

S-3302-AB, -SCC	.228	.19	.152	.144
03	.258	.215	.172	.163
04	.264	.22	.176	.167
06	.33	.275	.22	.209
06-8	.414	.345	.276	.262
08	.414	.345	.276	.262
10	.492	.41	.328	.312
12	.57	.475	.38	.361
S-3315-AB (or -EB)	.72	.60	.48	.456
18	.87	.725	.58	.551
21	1.08	.90	.72	.684
24	1.29	1.075	.86	.817
27	1.50	1.25	1.00	.95
30	1.74	1.45	1.16	1.102
33	1.92	1.60	1.28	1.216



S-3306-AB

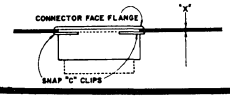
3300 SERIES
3-12 CONTACTS
SNAP "C" CLIP *BEAUPLUGS* (SCC)
FOR PANEL MOUNTING



S-3306-SCC

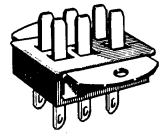
IMPORTANT - - -

Customer must advise the Factory as to the chassis thickness "X" from which we will determine the location of the milled slot.



Plug, Angle Bracket Mounted w/ Tapped Holes (-ABT) End Bracket w/ Tapped Holes (-EBT)

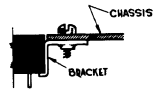
P-3303-ABT	.288	.24	.192	.182
04	.312	.26	.208	.198
06	.366	.305	.244	.232
06-8	.426	.355	.284	.27
08	.426	.355	.284	.27
10	.474	.395	.316	.30
12	.522	.435	.348	.331
P-3315-ABT (or -EBT)	.69	.575	.46	.437
18	.90	.75	.60	.57
21	1.11	.925	.74	.703
24	1.32	1.10	.88	.836
27	1.53	1.275	1.02	.969
30	1.746	1.455	1.164	1.106
33	1.95	1.625	1.30	1.235



P-3306-ABT

Socket, Angle Bracket Mounted w/ Tapped Holes (-ABT End Bracket w/ Tapped Holes (-EBT)

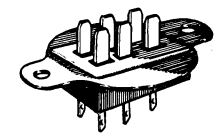
S-3303-ABT	.30	.25	.20	.19
04	.324	.27	.216	.205
06	.39	.325	.26	.247
06-8	.474	.395	.316	.30
08	.474	.395	.316	.30
10	.552	.46	.368	.35
12	.63	.525	.42	.399
S-3315-ABT (or -EBT)	.78	.65	.52	.494
18	.99	.825	.66	.627
21	1.20	1.00	.80	.76
24	1.41	1.175	.94	.893
27	1.62	1.35	1.08	1.026
30	1.86	1.55	1.24	1.178
33	2.04	1.70	1.36	1.292



-ABT & -EBT detail

Plug, Flat Plate Mounted (-FP)

P-3302-FP	.366	.305	.244	.232
03	.378	.315	.252	.239
04	.384	.32	.256	.243
06	.426	.355	.284	.27
06-8	.486	.405	.324	.308
08	.486	.405	.324	.308
10	.54	.45	.36	.342
12	.582	.485	.388	.369
S-3302-FP	.372	.31	.248	.236
03	.39	.325	.26	.247
04	.396	.33	.264	.251
06	.45	.375	.30	.285
06-8	.534	.445	.356	.338
08	.534	.445	.356	.338
10	.618	.515	.412	.391
12	.69	.575	.46	.437



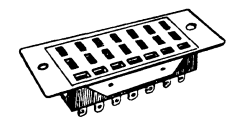
P-3306-FP

Plug, Shallow Bracket Mounted (-SB)

P-3315-SB	.828	.69	.552	.524
18	1.02	.85	.68	.646
21	1.242	1.035	.828	.787
24	1.50	1.25	1.00	.95
27	1.68	1.40	1.12	1.064
30	1.92	1.60	1.28	1.216
33	2.13	1.775	1.42	1.349

Socket, Shallow Bracket Mounted (-SB)

S-3315-SB	.948	.79	.632	.60
18	1.14	.95	.76	.722
21	1.35	1.125	.90	.855
24	1.602	1.335	1.068	1.015
27	1.80	1.50	1.20	1.14
30	2.04	1.70	1.36	1.292
33	2.25	1.875	1.50	1.425



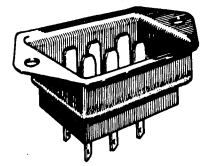
S-3321-SB

Plug, Deep Bracket Mounted (-DB)

P-3302-DB	.522	.435	.348	.331
03	.528	.44	.352	.334
04	.534	.445	.356	.338
06	.60	.50	.40	.38
06-8	.648	.54	.432	.41
08	.648	.54	.432	.41
10	--	--	--	--
12	.78	.65	.52	.494
15	.93	.775	.62	.589
18	1.146	.955	.764	.726
21	1.35	1.125	.90	.855
24	1.602	1.335	1.068	1.015
27	1.80	1.50	1.20	1.14
30	2.07	1.725	1.38	1.311
33	2.274	1.895	1.516	1.44

Socket, Deep Bracket Mounted (-DB)

S-3302-DB	.546	.455	.364	.346
03	.558	.465	.372	.353
04	.564	.47	.376	.357
06	.636	.53	.424	.403
06-8	.714	.595	.476	.452
08	.714	.595	.476	.452
10	--	--	--	--
12	.90	.75	.60	.57
15	1.044	.87	.696	.661
18	1.242	1.035	.828	.787
21	1.452	1.21	.968	.92
24	1.716	1.43	1.144	1.087
27	1.914	1.595	1.276	1.212
30	2.178	1.815	1.452	1.379
33	2.382	1.985	1.588	1.509



P-3306-DB

SERIES CROSS REFERENCE

BEAUCHAINE	3300	Series	--------	C-J 300 Series
BEAUCHAINE	4400	Series	--------	C-J 400 Series
BEAUCHAINE	5400	Series	--------	C-J 2400 Series

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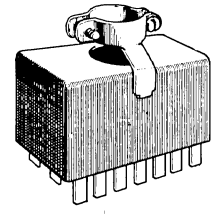
BEAUPLUG 3300 SERIES

All connectors in the 3300 & 5400 Series are available in the -FHT (Flared Hole, Top) and -FHE (Flared Hole, End) configurations. We have not listed them here because of space considerations.

Plug, Cable Clamp Top (-CCT) Cable Clamp End (-CCE).
Also for P-3303 - 12-CCT-63A-AB

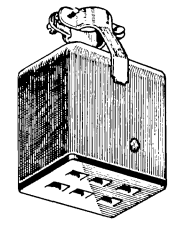
Number	1-49	50-99	100-249	250-499
P-3302-CCT etc.	.48	.40	.32	.304
03	.492	.41	.328	.312
04	.498	.415	.332	.315
06	.552	.46	.368	.35
06-8	.594	.495	.396	.376
08	.594	.495	.396	.376
10	.666	.555	.444	.422
12	.732	.61	.488	.464
15	.936	.78	.624	.593
18	1.098	.915	.732	.695
21	1.32	1.10	.88	.836
24	1.536	1.28	1.024	.973
27	1.752	1.46	1.168	1.11
30	2.016	1.68	1.344	1.277
33	2.25	1.875	1.50	1.425



S-3321-CCT

Socket, Cable Clamp Top (-CCT) Cable Clamp End (-CCE)
Also for S-3303-12-CCT-63A-AB

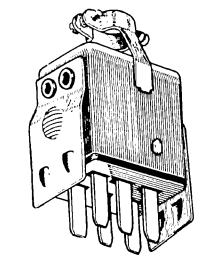
Number	1-49	50-99	100-249	250-499
S-3302-CCT etc.	.486	.405	.324	.308
03	.498	.415	.332	.315
04	.504	.42	.336	.319
06	.57	.475	.38	.361
06-8	.666	.555	.444	.422
08	.666	.555	.444	.422
10	.738	.615	.492	.467
12	.852	.71	.568	.54
15	1.032	.86	.688	.654
18	1.20	1.00	.80	.76
21	1.38	1.15	.92	.874
24	1.632	.136	1.088	1.034
27	1.836	1.53	1.224	1.163
30	2.136	1.78	1.424	1.353
33	2.298	1.915	1.532	1.455



S-3306-CCT

Plug, Cable Clamp Top-Latch (-CCT-L) Cable Clamp Top-Keeper (-CCT-K)
also P-3315-33-CCT-63A-SB or -CCT-63A-DB

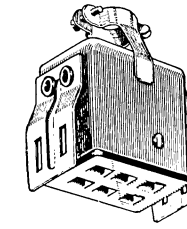
Number	1-49	50-99	100-249	250-499
P-3302-CCT-L etc.	.588	.49	.392	.372
03	.594	.495	.396	.376
04	.612	.51	.408	.388
06	.66	.55	.44	.418
06-8	.708	.59	.472	.448
08	.708	.59	.472	.448
10	.774	.645	.516	.49
12	.858	.715	.572	.543
15	1.062	.885	.708	.673
18	1.296	1.08	.864	.821
21	1.50	1.25	1.00	.95
24	1.776	1.48	1.184	1.125
27	1.992	1.66	1.328	1.262
30	2.208	1.84	1.472	1.398
33	2.43	2.025	1.62	1.539



P-3306-CCT-L

Socket, Cable Clamp Top, Keeper (-CCT-K) Cable Clamp Top, Latch (-CCT-L)
also S-3315-33-CCT-63A-SB or -CCT-63A-DB

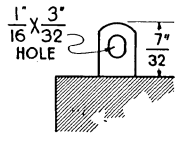
Number	1-49	50-99	100-249	250-499
S-3302-CCT-K etc.	.606	.505	.404	.384
03	.612	.51	.408	.388
04	.618	.515	.412	.391
06	.684	.57	.456	.433
06-8	.768	.64	.512	.486
08	.768	.64	.512	.486
10	.858	.715	.572	.543
12	.948	.79	.632	.60
15	1.182	.985	.788	.749
18	1.38	1.15	.92	.874
21	1.566	1.305	1.044	.992
24	1.80	1.50	1.20	1.14
27	2.04	1.70	1.36	1.292
30	2.28	1.90	1.52	1.444
33	2.502	2.085	1.668	1.585



S-3306-CCT-K

BEAUCHAINE BACKSHELLS (or Caps) are molded of UL and CSA approved black POLYPROPYLENE which has excellent dielectric qualities, resists scuffing and abrasion, most acids and alkalies, and won't rust. One of the most interesting features from the standpoint of your Design, Engineering and Purchasing people, is that a wide variety of cable hole sizes and shapes are available from stock tooling. (We also supply these in the -BBS or "Blank Backshell" form, which have no cable openings.) Please refer to Pages 3300.14 and 3300.15 in our B-5 Catalog.

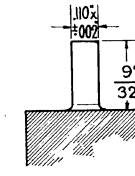
As some of our customers have extreme requirements for connectors using backshells, we now offer, at a slight premium, all of our cable-mounted connectors with POLYCARBONATE (Lexan) molded backshells. These are on Factory Order only and are not stocked by Distributors. However, your Distributor can order them for you.



CONTACT TAIL configurations offered in the 3300 Series

1. Standard Solder Type in both male and female. (P-3300 & S-3300)

2. Solderless spade type for use with "faston" type .120" receptacles, such as Amp #41960 or similar. (P_1-3300 & S_1-3300)



4400 SERIES PLUGS & SOCKETS

Plug, Less Angle Bracket (-LAB)

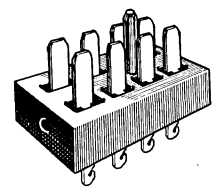
P-4404-LAB	.432	.36	.288	.274
06	.516	.43	.344	.327
08	.612	.51	.408	.388
10	.756	.63	.504	.479
12	.876	.73	.584	.555

Socket, Less Angle Bracket (-LAB)

S-4404-LAB	.48	.40	.32	.304
06	.75	.625	.50	.475
08	.84.	.70	.56	.532
10	.96	.80	.64	.608
12	1.152	.96	.768	.73

Plug, Angle Bracket Mounted (-AB)

P-4404-AB	.618	.515	.412	.391
06	.75	.625	.50	.475
08	.858	.715	.572	.543
10	.978	.815	.652	.619
12	1.074	.895	.716	.68



P-4408-LAB

Socket, Angle Bracket Mounted (-AB)

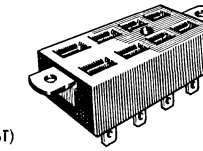
S-4404-AB	.762	.635	.508	.483
06	.894	.745	.596	.566
08	1.062	.885	.708	.673
10	1.20	1.00	.80	.76
12	1.338	1.115	.892	.847

Plug, Angle Bracket (with Tapped Hole) Mounted (-ABT)

P-4404-ABT	.702	.585	.468	.445
06	.834	.695	.556	.528
08	.942	.785	.628	.597
10	1.062	.885	.708	.673
12	1.158	.965	.772	.733

Socket, Angle Bracket (with Tapped Hole) Mounted (-ABT)

S-4404-ABT	.846	.705	.564	.536
06	.978	.815	.652	.619
08	1.146	.955	.764	.726
10	1.284	1.07	.856	.813
12	1.422	1.185	.948	.901



S-4408-ABT

The 4400 Series BEAUPLUGS are chassis mounted only and are used where the connectors have been pre-wired for installation from the rear of the panel. Many of our customers are using the Tapped Angle Bracket (-ABT) types, which save on parts inventory and installation time.

For mating cable connectors using backshells (or caps), use the 5400 Series, which are listed on the following page. Electrical ratings are identical.

BEAUCHAINE & SONS INC.

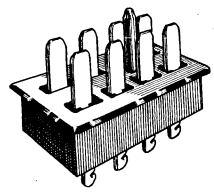
Subsidiary of VERNITRON CORPORATION

BEAUPLUG 5400 SERIES PLUGS & SOCKETS

5400 Series Plugs and Sockets mate with our 4400 Series, as well as C-J 400 and 2400 Series. Electrical Ratings: 15 Amps @ 250 Volts, UL Lising No. E 34742 and CSA No. 22156, both of which include the 3300 Series.

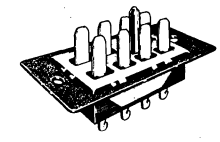
Male contacts are of 1/4" x 1/16"brass and are cadmium plated: gold, silver and rhodium are available on special order. The double-wiping action female contacts are made of phosphor bronze and are also cadmium plated.

Number	1-49	50-99	100-249	250-499
Plug, Less Angle Bracket (-LAB)				
P-5404-LAB	.48	.40	.32	.304
06	.57	.475	.38	.361
08	.66	.55	.44	.418
10	.846	.705	.564	.536
12	.966	.805	.644	.612
Socket, Less Angle Bracket (-LAB)				
S-5404-LAB	.552	.46	.368	.35
06	.666	.555	.444	.422
08	.804	.67	.536	.509
10	.93	.775	.62	.589
12	1.068	.89	.712	.676



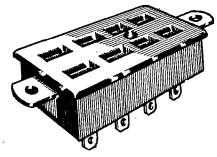
P-5408-LAB

Number	1-49	50-99	100-249	250-499
Plug, Shallow Bracket Mounted (-SB)				
P-5404-SB	.756	.63	.504	.479
06	.882	.735	.588	.559
08	.96	.80	.64	.608
10	1.158	.965	.772	.733
12	1.266	1.055	.844	.802
Socket, Shallow Bracket Mounted (-SB)				
S-5404-SB	.828	.69	.552	.524
06	.966	.805	.644	.612
08	1.122	.935	.748	.711
10	1.248	1.04	.832	.79
12	1.38	1.15	.92	.874



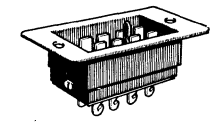
P-5408-SB

Number	1-49	50-99	100-249	250-499
Plug, Angle Bracket Mounted (-AB)				
P-5404-AB	.672	.56	.448	.426
06	.762	.635	.508	.483
08	.87	.725	.58	.551
10	1.056	.88	.704	.669
12	1.188	.99	.792	.752
Socket, Angle Bracket Mounted (-AB)				
S-5404-AB	.762	.635	.508	.483
06	.876	.73	.584	.555
08	1.02	.85	.68	.646
10	1.14	.95	.76	.722
12	1.272	1.06	.848	.806



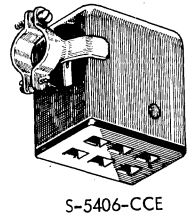
S-5408-AB

Number	1-49	50-99	100-249	250-499
Plug, Deep Bracket Mounted (-DB)				
P-5404-DB	.81	.675	.54	.513
06	.93	.775	.62	.589
08	1.056	.88	.704	.669
10	1.20	1.00	.80	.76
12	1.332	1.11	.888	.844
Socket, Deep Bracket Mounted (-DB)				
S-5404-DB	.888	.74	.592	.562
06	.996	.83	.664	.631
08	1.158	.965	.772	.733
10	1.302	1.085	.868	.825
12	1.434	1.195	.956	.908



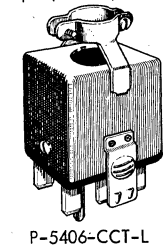
P-5408-DB

Number	1-49	50-99	100-249	250-499
Plug, Cable Clamp Top (-CCT) Cable Clamp End (-CCE)				
P-5404-CCT or CCE	1.02	.85	.68	.646
06	1.158	.965	.772	.733
08	1.224	1.02	.816	.775
10	1.41	1.175	.94	.893
12	1.554	1.295	1.036	.984
Socket, Cable Clamp Top (-CCT) Cable Clamp End (-CCE)				
S-5404-CCT or CCE	1.122	.935	.748	.711
06	1.212	1.01	.808	.768
08	1.368	1.14	.912	.866
10	1.506	1.255	1.004	.954
12	1.65	1.375	1.10	1.045



S-5406-CCE

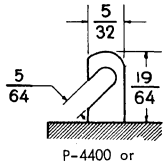
Number	1-49	50-99	100-249	250-499
Plug, Cable Clamp Top, Latch (-CCT-L) Cable Clamp Top, Keeper (-CCT-K)				
P-5404-CCT-L or -K	1.422	1.185	.948	.901
06	1.56	1.30	1.04	.988
08	1.626	1.355	1.084	1.03
10	1.812	1.51	1.208	1.148
12	1.956	1.63	1.304	1.239
Socket, Cable Clamp Top, Latch (-CCT-L Cable Clamp Top, Keeper (-CCT-K)				
S-5404-CCT-L or -K	1.524	1.27	1.016	.965
06	1.614	1.345	1.076	1.022
08	1.77	1.475	1.18	1.121
10	1.908	1.59	1.272	1.208
12	2.052	1.71	1.368	1.30



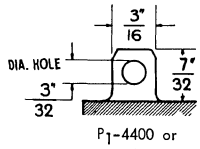
P-5406-CCT-L

All connectors in the 3300 & 5400 Series are available in the -FHT (Flared Hole, Top) and -FHE (Flared Hole, End)configurations. We have not listed them here because of space considerations.

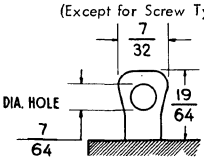
4400 & 5400 Series CONTACT TAILS AVAILABLE at no extra charge
(Except for Screw Type Terminals, on application)



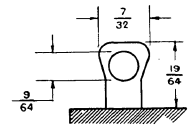
P-4400 or P-5400



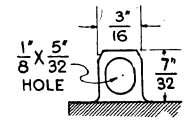
P_1-4400 or P_1-5400



S- & S_1-4400 or S- & S_1-5400

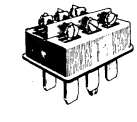


P_3-4400 or P_3-5400

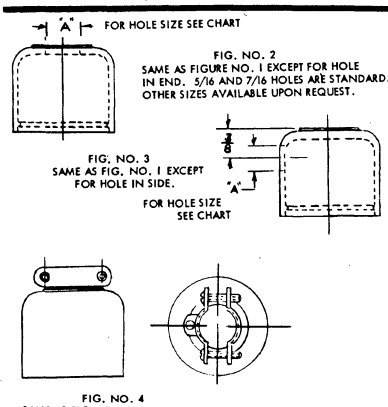


S_3-4400 or S_3-5400

(Screw Type)



P_5- & S_5-4400 or P_5- & S_5-5400



2001 SERIES BEAUCAPS

Molded of rugged Linear Polyethylene, the single piece 2001 Series "BEAUCAP" replaces the metal cap with rubber grommet and fishpaper insulation.

PRICE LIST

Number	1-49	50-99	100-249	250-499
2001-1	.09	.075	.06	.057
2001-2	.102	.085	.068	.065
2001-3	.102	.085	.068	.065
2001-4	.162	.135	.108	.103

HOW TO ORDER:

PART NO.	FIG. NO.	COLOR	HOLE SIZE
2001 - 1	1	Add Suffix B-Black, R-Red, G-Green, BL-Blue	Add Suffix -5 5/16 Dia. Hole -7 7/16 Dia. Hole
2001 - 2	2		
2001 - 3	3		
2001 - 4	4		

EXAMPLE:

A cap with opening in end 5/16 dia., green color would be ordered as shown below.

(2001 - 2) (G) (-5)

Part No. and Style — Color — 5/16 Dia. Hole Opening

1968 Beauchaine Catalog B-5 is Available for Complete Information and Engineering Data

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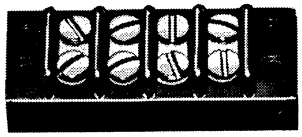
BEAUCHAINE & SONS INC. | Subsidiary of VERNITRON CORPORATION

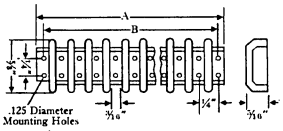
TERMINAL STRIPS

BARRIER TERMINAL STRIPS

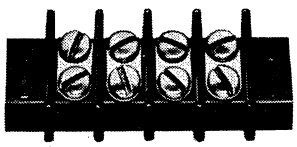


SERIES 10000 — 10 AMP

Wire size #26 to #22. Stand screw 2-56 x 3/16" brass, nickel-plated.

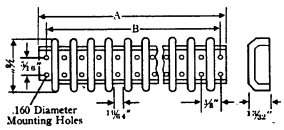


No. Circuits	A	B	No. Circuits	A	B
10001	¾	½	10011	3¼	3
10002	1	¾	10012	3½	3¼
10003	1¼	1	10013	3¾	3½
10004	1½	1¼	10014	4	3¾
10005	1¾	1½	10015	4¼	4
10006	2	1¾	10016	4½	4¼
10007	2¼	2	10017	4¾	4½
10008	2½	2¼	10018	5	4¾
10009	2¾	2½	10019	5¼	5
10010	3	2¾	10020	5½	5¼

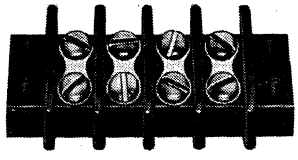


SERIES 14000 — 15 AMP

Wire size #22 to #16. Stand screws 5-40 x 1/4" brass, nickel-plated.

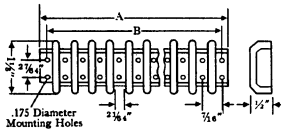


No. Circuits	A	B	No. Circuits	A	B
14001	1 1/32	¾	14014	5 29/32	5 5/8
14002	1 13/32	1 1/8	14015	6 9/32	6
14003	1 29/32	1 1/2	14016	6 17/32	6 3/8
14004	2 5/32	1 7/8	14017	7 1/32	6 3/4
14005	2 17/32	2 1/4	14018	7 13/32	7 1/8
14006	2 29/32	2 5/8	14019	7 25/32	7 1/2
14007	3 1/32	3	14020	8 5/32	7 7/8
14008	3 21/32	3 3/8	14021	8 17/32	8 1/4
14009	4 1/32	3 3/4	14022	8 29/32	8 5/8
14010	4 13/32	4 1/8	14023	9 5/32	9
14011	4 25/32	4 1/2	14024	9 21/32	9 3/8
14012	5 5/32	4 7/8	14025	10 5/32	9 3/4
14013	5 17/32	5 1/4	14026	10 13/32	10 1/8

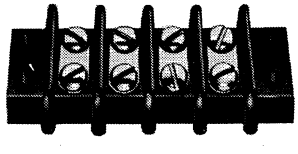


SERIES 18000 — 20 AMP

Wire size #16 to #14. Stand screw 6-32 x 1/4" brass, nickel-plated.

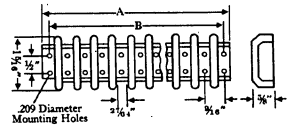


No. Circuits	A	B	No. Circuits	A	B
18001	1 3/16	7/8	18014	6 7/8	6 9/16
18002	1 5/8	1 5/16	18015	7 5/16	7
18003	2 1/16	1 3/4	18016	7 3/4	7 1/16
18004	2 1/2	2 1/16	18017	8 1/16	7 1/8
18005	2 15/16	2 3/8	18018	8 3/8	8 1/16
18006	3 3/8	3 1/16	18019	9 1/16	8 3/4
18007	3 13/16	3 1/2	18020	9 1/2	9 1/16
18008	4 1/4	3 15/16	18021	9 15/16	9 3/8
18009	4 11/16	4 3/8	18022	10 3/8	10 1/16
18010	5 1/8	4 13/16	18023	10 13/16	10 1/2
18011	5 9/16	5 1/4	18024	11 1/4	10 15/16
18012	6	5 11/16	18025	11 11/16	11 3/8
18013	6 7/16	6 1/8	18026	12 1/8	11 13/16



SERIES 21000 — 30 AMP

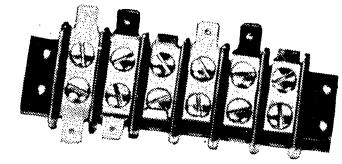
Wire size #14 to #12. Stand screw 8-32 x 5/16" brass, nickel-plated.



No. Circuits	A	B	No. Circuits	A	B
21001	1 17/32	1 1/8	21014	8 27/32	8 1/16
21002	2 5/32	1 11/16	21015	9 3/32	9
21003	2 21/32	2 1/4	21016	9 31/32	9 9/16
21004	3 1/32	2 13/16	21017	10 17/32	10 1/8
21005	3 25/32	3 3/8	21018	11 5/32	10 11/16
21006	4 13/32	3 15/16	21019	11 21/32	11 1/4
21007	4 29/32	4 1/2	21020	12 1/32	11 13/16
21008	5 17/32	5 1/16	21021	12 5/32	12 3/8
21009	6 1/32	5 5/8	21022	13 1/32	12 15/16
21010	6 17/32	6 1/16	21023	13 29/32	13 1/2
21011	7 5/32	6 3/4	21024	14 13/32	14 1/16
21012	7 29/32	7 1/16	21025	15 1/32	14 5/8
21013	8 5/32	7 7/8			

FAST-TAB BARRIER TERMINAL STRIPS

Modified versions of standard Barrier Terminal Strips designed to save time and labor. 6 different terminal variations. Fastening can be made by riveting, eyeletting or with standard screws. All parts are of 1/32 brass, cadmium plated.

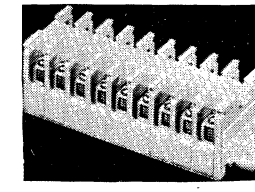


DIMENSIONS	DESCRIPTION	PART NO.	A	B	C	D	E	F	G
	TWO SIDED TAB FLAT	1410	1 5/8	.187	9/32	1/4	5/16	.136	—
		1810	1 5/8	.250	5/16	5/16	2 7/64	.144	—
		2110	1 19/64	.250	13/32	5/16	1/2	.171	—
	TWO SIDED TAB 45° ANGLE	1411	1 5/16	.187	9/32	1/4	5/16	.136	1 1/16
		1811	1 27/64	.250	5/16	5/16	2 7/64	.144	0 59/64
		2111	1 15/64	.250	13/32	5/16	1/2	.171	1 1/32
	TWO SIDED TAB 90° ANGLE	1412	—	.187	9/32	1/4	5/16	.136	1 1/16
		1812	—	.250	5/16	5/16	2 7/64	.144	0 59/64
		2112	—	.250	13/32	5/16	1/2	.171	1 1/32
	ONE SIDED TAB FLAT	1413	1 5/16	.187	9/32	1/4	5/16	.136	—
		1813	1 5/32	.250	5/16	5/16	2 7/64	.144	—
		2113	1 3/8	.250	13/32	5/16	1/2	.171	—
	ONE SIDED TAB 45° ANGLE	1414	—	.187	9/32	1/4	5/16	.136	1 9/32
		1814	—	.250	5/16	5/16	2 7/64	.144	3/4
		2114	—	.250	13/32	5/16	1/2	.171	1 1/32
	ONE SIDED TAB 90° ANGLE	1415	—	.187	13/32	1/4	5/16	.136	1 9/32
		1815	—	.250	5/16	5/16	2 7/64	.144	3/4
		2115	—	.250	13/32	5/16	1/2	.171	1 1/32

ADD-A-POINT TERMINAL BLOCKS

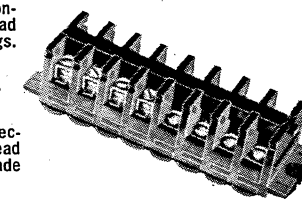
SUB SERIES — 300 VOLT

Insulated moldings are of tough durable nylon. Brass screw type connector with 4/40 pan head screws. Screw-type strap plate mounted high for easy accessibility. Takes 3/16" ring or spade lugs. Box type and pressure type connectors made of pure electrolytic copper. Features "Sure-Grip" pressure pad.



MEDIUM SERIES — 600 VOLT

Insulated moldings are of thermosetting phenolic material, type CFG general purpose. Blocks are available in other types of materials per MIL-M-14F and MIL-M-19833. Brass screw type connector provided with 6/32 pan head screws. Takes 5/16" ring or spade lugs.



HEAVY SERIES — 600 VOLT

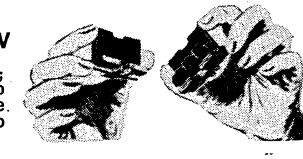
Insulated moldings. screw type connector provided with 10/32 pan head screws. Takes 11/32" ring or spade lugs.

MINIATURE SM SERIES 300 V

Insulated moldings are of thermosetting phenolic material, type CFG general purpose. Brass screw type connector with 5/40 pan head screws.

HEAVY DUTY P SERIES 600 V

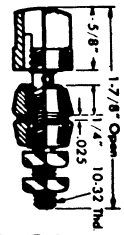
Screw Type 60 amp 600V up to #6 wire; Box Type (without pressure pad) 60 amp 600V up to #4 wire; Pressure Type (with pressure pad) 60 amp 600V up to #6 wire.



BINDING POSTS

BINDING POST

"Standard" Type

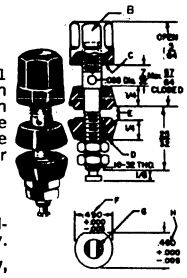


DESCRIPTION: Banana Plug Receptacle, .161 I.D.; Head non-removable from Stud; Molded in Brass Bushing in Head; Molded in Brass Bushing in Washers; For Panels 1/16" to 1/4" thick; Drill 1/2" hole for mounting washers; Wire Hole is at right angle to Flat on insulated Washers; Production Punch for keyed Slot for mounting Washers.

Cat. No. 274 Standard Brass Red or Black

BINDING POST

30 Amp. 2000 VDC



Molded Nylon Body Banana Plug Receptacle, .161 I.D.; Head non-removable from Stud; Molded in Brass Bushing in Head; Molded in Brass Bushing in Washers; For Panels 1/16" to 1/4" thick; Drill 1/2" hole for mounting washers; Wire Hole is at right angle to Flat on Insulated Washers; Production Punch for keyed Slot for mounting Washers.

WRAP AROUND TYPE COLORS

Cat. No. 275 Brass, Nickel Plated, Red, Black, Yellow, Green, White, Blue, Brown, Grey.

Cat. No. 275A Brass Plated, Red, Black, Yellow, Green, White, Blue, Brown, Grey.

TIP JACK TYPE

Similar to 275A, Plated, Brass, except with Tip Jack receptacle.

Cat. No. 277 Red, Black

BINDING POST FLUTED HEAD

New fluted nut design is attractive and functional molded nylon body per MIL-P-20693A completely insulates panel from binding post. Makes ideal connection for electrical and electronic equipment. Brass nickel plated "Wrap Around Type" solder connection to stud rated 30 amp. 2000 VAC test capacitance 5.0 mmfd. Similar construction as our No. 275.

Cat. No. 273 Nickel plated Red, Black

BINDING POST

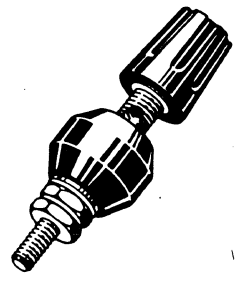
NEW! BIRNBACH "Multi-Use" Binding Posts
Safe-Positive-Heavy Duty

Rugged, versatile "Multi-Use" binding post made of molded nylon with molded-in brass inserts in head and washer for complete insulation from panel. For use on panels 1/16" to 1/4" thick. Mounting hole 1/2". Current Capacity: 30 Amps. Voltage: 2000 VAC. RMS Test. **No. 276 can be soldered directly to stud. Will permit six different methods of connection above panel and three below panel.**

Cat. No. 276 Nickel Plated; Red, Black, Yellow, Green, White, Blue, Brown, Grey.

BINDING POST

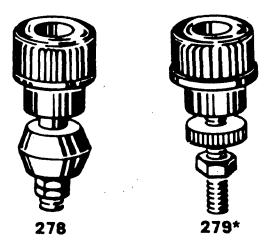
Wrap Around Type



Designed to accept phone tip plug, spade lug, banana plug, alligator clip and wire strand. Direct solder connection. Molded nylon head (non-removable from stud) and washer completely insulates post from panel. Mounts in 1/2" or keyed hole for panels 1/16-1/4" thick. Nickel-plated brass metal parts. Molded-in brass bushings in head and washers. Rated 2,000 volts AC RMS test. 30 amp safe current-carrying capacity.

Cat. No. 271 Red, Black

STANDARD DUTY 5-WAY BINDING POST



Molded-in brass bushings for complete insulation. Useful for standard duty work. Available in Red or Black. Specify color. Body is brass nickel plated.

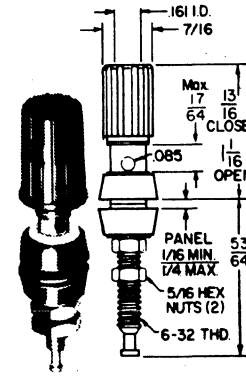
6 AMPS

Cat. No. 278 Red, Black
Cat. No. 279* Red, Black

* Same as above, but normally grounded. (Without bottom insulating section.)

278 279*

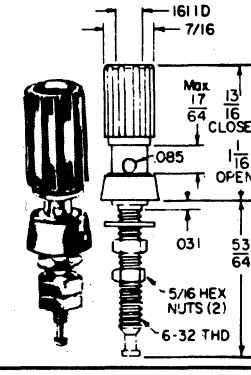
NYLON BINDING POST



Head: MOLDED NYLON, with brass plated insert. **Body:** Brass Plated. **Washers:** MOLDED NYLON, brass plated inserts. **Accepts:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **Rating:** 15 Amps AC for 10°C Temp. rise, continuous duty. 1 KV Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd., Molded washers completely insulate post from panel. Miniature washers and narrow fluted head require minimum panel space. Mounts in 5/16" round or "D" hole in panel as indicated. Wrap-around solder terminal on stud for direct connection.

Cat. No. 280 Red, Black, Yellow, Green.

METAL BINDING POST

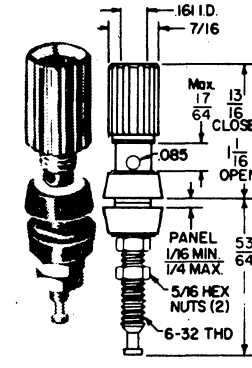


Head: Fluted Brass, Plated. **Body:** Brass, Plated. **Washer:** MOLDED BLACK NYLON, with brass plated insert. **Accepts:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **Rating:** 15 Amps AC for 10°C temp. rise, continuous duty, Fluted-head metal post to match our No. 280. For use where direct ground connection is made to panel or chassis. Supplied with brass, gold-plated flat metal washer for grounding.

Cat. No. 281

METAL BINDING POST

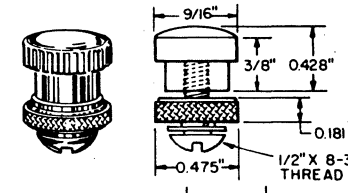
Insulated



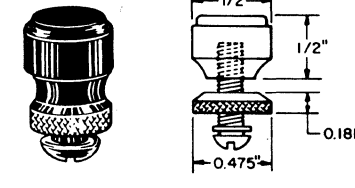
Head: Fluted Brass, plated. **Body:** Brass plated. **Washer:** MOLDED BLACK NYLON, with brass plated insert. **Accepts:** Phone tip plug, spade lug, banana plug, alligator clip, or wire strand. **Rating:** 15 Amps AC for 10°C temp. rise, continuous duty. 1 K Volts, 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd, Fluted-head metal post to match our No. 280. Molded washers insulate post from panel for use where internal ground circuit is isolated from chassis or panel.

Cat. No. 282

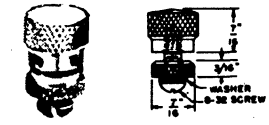
INSULATED BINDING POST



Molded bakelite head with brass insert molded-in. Supplied complete with 8/32 x 1/2" screw, lock washer. Has brass insert molded-in. Supplied with washer. Available in black. **Cat. No. 184**



Binding Post Molded bakelite head with brass insert molded-in. Supplied complete with 8/32 x 1/2" screw, lock washer. Has brass nickel-plated retaining washer. Red, Black. **Cat. No. 185**



Binding Post Brass, heavily nickel-plated overall. Complete with screw and lock washer. Designed for high amperage, low resistance connections.

Cat. No. 186
Metal Binding Post

BIRNBACH

COMPANY INC. **FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.**

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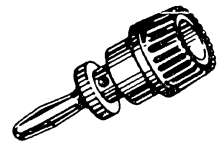
BINDING POSTS

COMBINATION POST-PLUG

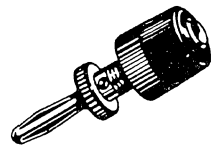
Head: CAPTIVE, Molded Butyrate. **Body:** Brass, nickel plated. **Spring:** Four-leaved phosphor bronze, nickel plated. **Rating:** 15 Amps AC for 10°C Temp. rise, continuous duty. Converts any panel-mounted banana jack into a five-way binding post termination. Accepts phone tip, spade lug, banana plug, alligator clip, or solid or stranded wire.



Cat. No. 283 Red, Black

Head: Molded Nylon, SPECIFY COLOR. **Body:** Brass, nickel plated. **Spring:** Four - leaved phosphor bronze, nickel plated. **Rating:** 15 Amps AC for 10°C Temp. rise, continuous duty.

Converts any panel-mounted banana jack into a nylon five-way binding post terminatiion. Accepts phone tips, spade lugs, banana plug, alligator clips, or solid or stranded wires.

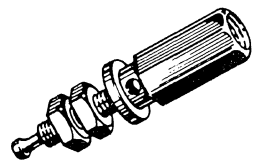


Cat. No. 284 Red, Black, Yellow, Green, Blue, White.

BINDING POST

Metal Five-Way

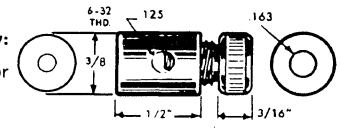
Head: CAPTIVE, Hex brass nickel plated. **Body:** Brass, nickel plated. **Accepts:** Phone tip, spade lug, banana plug, alligator clip or wire strand.



Cat. No. 285 Wrap-around

METAL BINDING POST

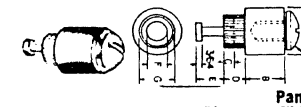
Head: BRASS nickel plated. **Body:** Brass nickel plated. Accepts standard phone tips or banana plugs.



Cat. No. 286

COMBINATION TERMINALS

Material: BRASS, nickel plated. Combination Screw and Turret Terminal. Knurled shank prevents turning.

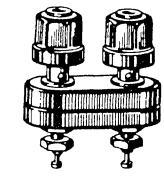


Cat. No.	A	B	C	D	E	F	G	Bhms	Panel Thk.
187	5/16	1/4	1/16	9/64	11/64	1/8	.220	6-32	3/32
188	3/8	3/8	3/32	15/64	13/64	5/32	.257	10-32	1/16

DUAL ASSEMBLY

Nylon

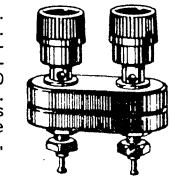
MOLDED black STYRENE, cross slotted (+) to accept standard phone tips in post either forward or sideways. **Body:** Brass, nickel plated. **Head:** Captive: MOLDED NYLON, with molded in brass insert. **Rating:** 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel. Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.



Cat. No. 188BB Two Black Heads
Cat. No. 188RR Two Red Heads
Cat. No. 188RB One Red, One Black Head

DUAL BINDING POST

MOLDED black STYRENE, cross slotted (+) to accept standard phone tips in post either forward or sideways. **Body:** Brass, nickel plated. **Head:** Captive: MOLDED BUTYRATE, Red, Black. **Rating:** 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel. Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.



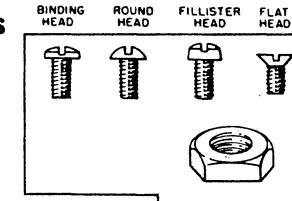
Cat. No. 189BB Two Black Heads
Cat. No. 189RR Two Red Heads
Cat. No. 189RB One Red, One Black Head

BLACK STYRENE INSULATOR

Insul: STYRENE. **Rating:** 2 K Volts 60 cycle AC continuous working voltage.
Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick.

Cat. No. 190

ALL-NYLON FASTENINGS — Screws and Nuts - Washers - Standoffs



Zytel 101 per MIL P 20693 Spec., MIL S 7742 Spec. Birnbach All-Nylon Fastenings are made of Zytel 101*, a Polymide plastic of the Nylon 6.6 Type. They offer outstanding insulating properties plus resistance to heat, shock, vibration and chemical solvents plus lightness elasticity and superior torque strength. In most cases, because of their high dielectric strength, they eliminate the need of bushings, washers or other insulation. They are corrosion resistant, non-magnetic and good torque strength thru a wide temperature range. Continuous service temperature to 300°F (150°C). Stock color: Natural. Additional colors & types available to order. Zytel 101 per MIL-D-7019B. — All parts are manufactured to American Thread Standards to a class 2A or 2B fit. B 18.2 (hex nuts), B 18.6 (machine screws), B 1.1 (thread specs.)

*Reg. T.M. of DuPont

ALL NYLON MACHINE SCREWS

STANDARD PKG.: 100, 1000

Cat. No.	Size	Type
6640	2-56x1/4"	Round Head
6640A	2-56x1/4"	Fillister Head
6640B	2-56x1/4"	Binding Head
6641	2-56x3/8"	Round Head
6641A	2-56x3/8"	Fillister Head
6641B	2-56x3/8"	Binding Head
6550	2-56x1/2"	Round Head
6551	2-56x1/2"	Fillister Head
6551A	2-56x1/2"	Binding Head
6643	4-40x1/4"	Round Head
6643A	4-40x1/4"	Fillister Head
6643B	4-40x1/4"	Binding Head
6644	4-40x3/8"	Round Head
6644A	4-40x3/8"	Fillister Head
6644B	4-40x3/8"	Binding Head
6552	4-40x1/2"	Round Head
6552A	4-40x1/2"	Fillister Head
6552B	4-40x1/2"	Binding Head
6646	6-32x1/4"	Round Head
6646A	6-32x1/4"	Fillister Head
6646B	6-32x1/4"	Binding Head
6553	6-32x3/8"	Round Head
6554	6-32x3/8"	Binding Head
6555	6-32x"3/8	Fillister Head
6556	6-32x3/8"	Flat Head
6557	6-32x1/2"	Round Head
6558	6-32x1/2"	Binding Head

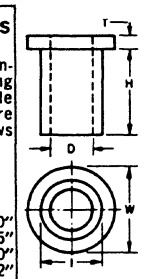
ALL NYLON MACHINE SCREWS

STANDARD PKG.: 100, 1000

Cat. No.	Size	Type
6559	6-32x1/2"	Fillister Head
6560	6-32x1/2"	Flat Head
6648	6-32x3/4"	Round Head
6648A	6-32x3/4"	Fillister Head
6648B	6-32x3/4"	Binding Head
6561	6-32x 1"	Round Head
6561C	6-32x 1"	Flat Head
6650	8-32x1/4"	Round Head
6650A	8-32x1/4"	Fillister Head
6650B	8-32x1/4"	Binding Head
6562	8-32x3/8"	Round Head
6563	8-32x3/8"	Binding Head
6564	8-32x3/8"	Flat Head
6565	8-32x3/8"	Fillister Head
6566	8-32x1/2"	Round Head
6567	8-32x1/2"	Binding Head
6568	8-32x1/2"	Flat Head
6569	8-32x1/2"	Fillister Head
6570	8-32x5/8"	Round Head
6571	8-32x5/8"	Fillister Head
6572	8-32x3/4"	Round Head
6572A	8-32x3/4"	Fillister Head
6572B	8-32x3/4"	Binding Head
6573	8-32x 1"	Flat Head
6573A	8-32x 1"	Fillister Head
6574	10-32x3/8"	Round Head
6575	10-32x1/2"	Round Head
6576	10-32x1/2"	Flat Head
6577	10-32x5/8"	Round Head
6578	10-32x 1"	Round Head
6579	10-32x 1"	Flat Head

BIRNBACH NYLON BUSHINGS AND SPACERS

Designed with wide flanges to completely isolate screw from mounting surface, useful where hi tensile and torque requirements require high strength non-insulating screws Natural color.

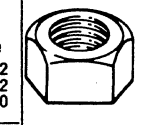


Cat. No.	Used with Screw Size	Dimensions I	W	T	H	D
6549A	#6	.140"	.290"	3/64"	1/4"	.170"
6549B	#8	.173"	.344"	1/16"	3/4"	.205"
6549C	#10	.200"	.399"	1/16"	3/4"	.260"
6549D	1/4"	.260"	.513"	1/16"	3/4"	.312"
6549	#4	.115"	.235"	3/64"	1/4"	.146"

Birnbach All-Nylon Hex Nuts

STANDARD PKG.: 100, 1000

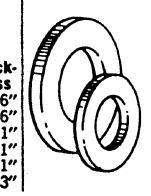
Cat. No.	Size	Cat. No.	Size
6585	2-56	6588	8-32
6586	4-40	6589	10-32
6587	6-32	6590	1/4-20



Birnbach All-Nylon Washers

STANDARD PKG.: 100, 1000

Cat. No.	Fits Screw No.	O.D.	I.D.	Thickness
6592	2	1/4"	3/32"	.016"
6593	4	1/4"	1/8"	.016"
6594	6	5/16"	3/32"	.031"
6595	8	5/16"	.170"	.031"
6596	10	3/8"	.195"	.031"
6597	1/4"	5/8"	9/32"	.063"



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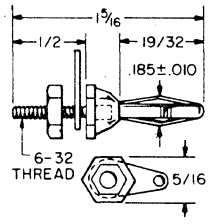
NON-INSULATED BANANA PLUGS

Variations of Standard Plugs Available to Order. Plated to Gov't. Specs.

BANANA PLUG No. 400

Hexed brass nickel plated. Fits all standard banana plugs. Complete with hex brass n.pl. nut and tinned copper lug. Spring is four-leaved nickel plated. Rated at 5 amps.

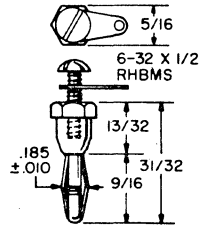
Cat. No.	Spring	Dim. "A"
400	Phos. Bronze	1/2"
400A	Phos. Bronze	3/8"
400B	Beryl. Copper	1/2"



BANANA PLUG No. 401

Hexed brass nickel plated. One-piece four-leaved spring. Complete with brass n.pl. screw and tinned copper lug. Rated at 5 amps. Fits all standard banana jacks.

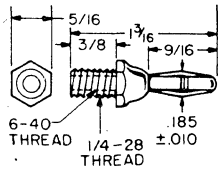
Cat. No.	Spring
401	Phos. Bronze
401B	Beryl. Copper



BANANA PLUG No. 404A

Hexed brass and four-leaved phosphor bronze spring all nickel plated. Rated at 5 amps. Fits all standard banana jacks.

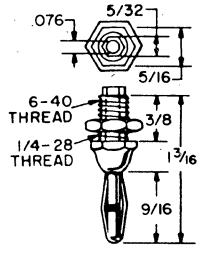
Cat. No.	Spring
404A	Banana Plug



BANANA PLUG No. 404S

Hexed brass nickel pl. Complete with hex brass n.pl. nut. Has solderless Scrulok connection. Fits all standard banana plugs. Spring is four-leaved phosphor bronze nickel plated. Rated at 5 amps.

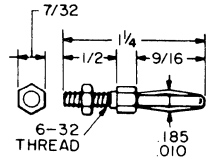
Cat. No.	Spring
404S	Phos. Bronze
404SB	Beryl. Copper
	Scrulok Banana Plug



BANANA PLUG No. 414

Hexed brass, nickel plated. One-piece construction. Four-leaved phosphor bronze spring. Complete with brass hexed nut n.pl. Rated at 5 amps. Fits all standard banana jacks.

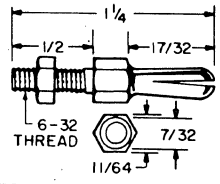
Cat. No.	Spring
414	Phos. Bronze



BANANA PLUG No. 416

Hexed brass nickel plated. Cross slotted for positive contact. One-piece construction. Fits all standard banana jacks. Complete with hexed brass n.pl. nut.

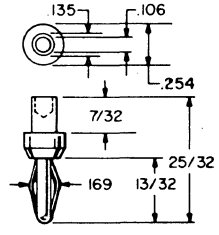
Cat. No.	
416	Banana Plug



MIDGET BANANA PLUG
Rivet Type — No. 426

Brass silver plated body. One-piece four-leaved phosphor bronze spring silver plated. Also made to Rigid Jan specs.

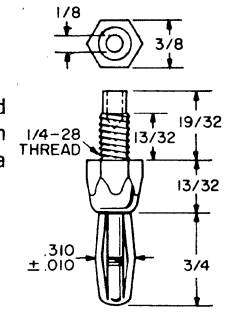
Cat. No.	"A"
426	7/32"
426A	5/32"
Midget Banana Plug	Rivet Type



GIANT PLUG No. 392A

Body is hexed brass nickel plated. Rated at 25 amps. Has large soldering well in threaded shank. Fits all Giant Banana Jacks.

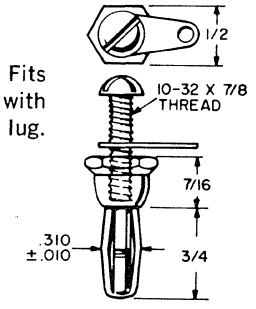
Cat. No.	Spring
392A	Phos. Bronze



GIANT PLUG No. 396

Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Rated at 25 amps.

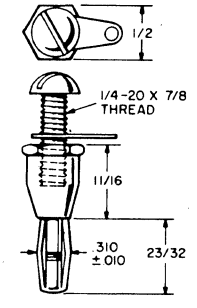
Cat. No.	Spring
396	Phos. Bronze
396B	Beryl. Copper



GIANT PLUG No. 397

Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Heavy duty, 25 amp. rating.

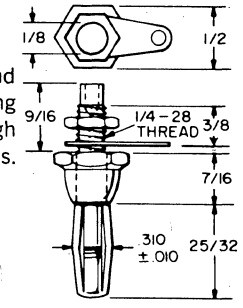
Cat. No.	Spring
397	Phos. Bronze
397B	Beryl. Copper



GIANT PLUG No. 398

Body is hexed brass, n.pl. nut and tinned copper lug. Has large soldering well in threaded shank. Used in high amperage circuits rated at 25 amps. Fits all giant banana jacks.

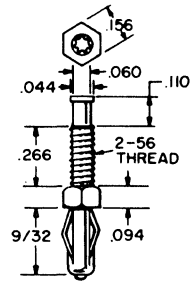
Cat. No.	Spring
398	Phos. Bronze
398B	Beryl. Copper



SUB MINIATURE BANANA PLUGS

One piece beryllium copper springs insure positive and lasting contact. Silver plated overall.

Cat. No.	Description
590	Rivet Type Plug
591	Screw Type Plug



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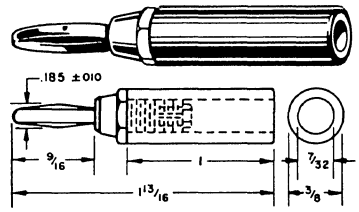
INSULATED BANANA PLUGS

INSULATED BANANA PLUG

Hexed brass n.pl. spring type. Fits standard banana jacks. Scrulok solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Spring	Plating
404	Phos. Brz.	Nickel
404CB	Beryl. Cop.	Nickel
404SP	Phos. Brz.	Silver
404CB-SP	Beryl. Cop.	Silver

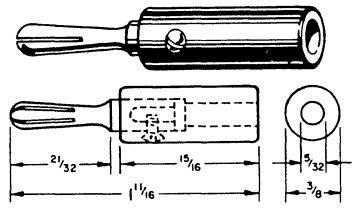


INSULATED BANANA PLUG

Split type plug brass n.pl. fits standard banana jacks. Set screw. Solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	
604	Banana Plug

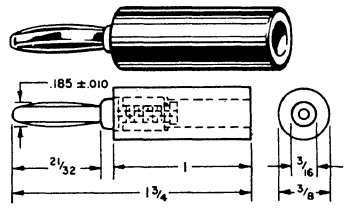


INSULATED BANANA PLUG

Brass n.pl. plug. Fits standard banana jacks. Spring type. Scrulok solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Spring	Plating
465	Phos. Brz.	Nickel
465B	Beryl. Cop.	Nickel
465SP	Phos. Brz.	Silver
465B-SP	Beryl. Cop.	Silver

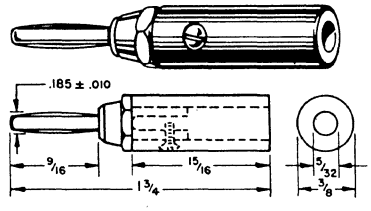


SPRING BANANA PLUG

Hexed brass n.pl. plug. Set screw solderless connection 404BC Beryllium springs, highly resilient. Molded handle.

Colors: Red, Black Yellow, Blue, Green, White.

Cat. No.	Spring
404B	Phos. Brz.
404BC	Beryl. Cop.

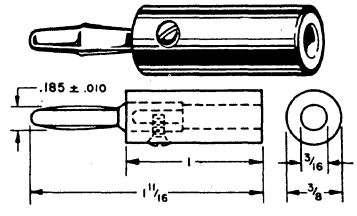


INSULATED BANANA PLUG

Plug brass n.pl. set screw solderless connection. Spring type. Fits standard banana jacks. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	Hdl.	Spring
466	1"	Ph. Brz.
466A	1½"	Ph. Brz.

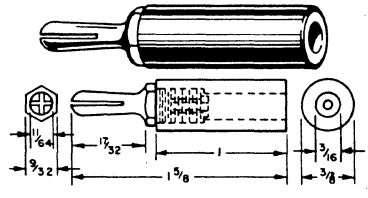


INSULATED BANANA PLUG

Split type, brass n.pl. Scrulok solderless connection. Fits standard jacks. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No.	
606	Banana Plug

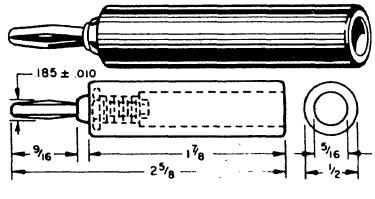


INSULATED BANANA PLUG

Plug brass n.pl. Scrulok solderless connection. Spring type. Fits standard jacks. Plastic handle.

Colors: Red, Black.

Cat. No.	Spring
341	Phos. Brz.
341B	Beryl. Cop.

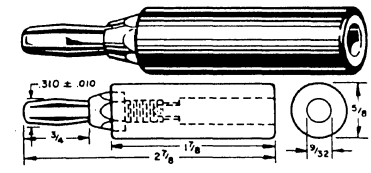


INSULATED GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Plastic handle.

Colors: Red, Black.

Cat. No.	Spring
392	Phos. Brz.
392B	Beryl. Cop.

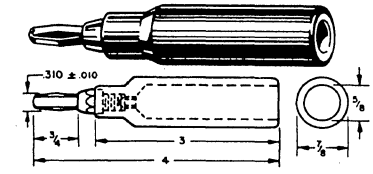


INSULATED GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Polished giant hard rubber handle.

Colors: Red, Black.

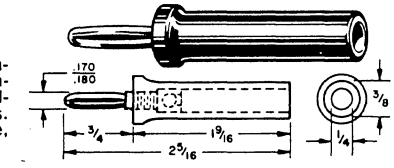
Cat. No.	Spring
342	Phos. Brz.
342B	Beryl. Cop.



Long Shoulder Handle INSULATED BANANA PLUG

Long shoulder handle insulated banana plug. Handle made of bakelite. Available in various colors. Red, Black, Yellow, Blue, Green, White.

Cat. No. 424

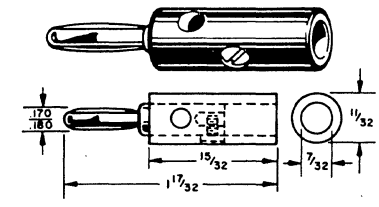


STACK BANANA PLUG Solderless

Brass, nickel plated, solderless connection. Accepts standard banana plugs in top and side. Interconnects unlimited amount of multiple circuits.

Colors: Red, Black, Yellow, Green.

Cat. No.	Spring
425	Phos. Brz.
425A	Bery. Cop.

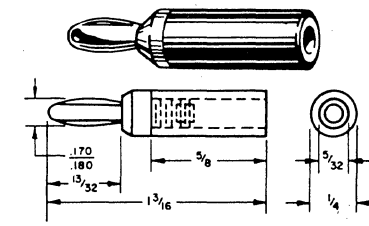


INSULATED MIDGET BANANA PLUG

Spring type. Fits all standard Banana jacks. Beryllium spring retains resiliency after thousands of insertions. Wire soldered directly into plug.

Colors: Red, Black.

Cat. No.	Spring	Plating
455	Phos. Brz.	Nickel
455BC	Beryl. Cop.	Silver
455A	Phos. Brz.	Silver
455A-BC	Beryl. Cop.	Nickel

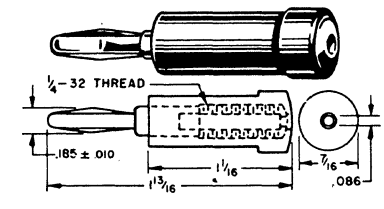


TIP PLUG TO BANANA PLUG ADAPTER

Fits standard banana jacks. Adapter for phone tip to banana plug. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

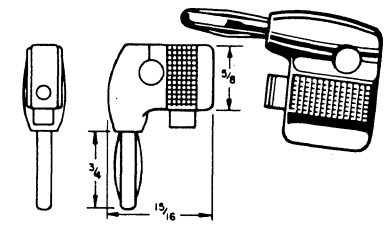
Cat. No.	Spring
467	Phos. Brz.
467B	Beryl. Cop.



PUSH BUTTON BANANA PLUG

Wire is fastened easily, speedily, and securely without soldering. Simply by pressing the push buttons the bare wire can be inserted into the opening of the plug.

Cat. No. 122 Push Button Banana Plug, Red, Black, Yellow, Green, White.
No. 122 Banana Plug will fit all Standard Banana Jacks.



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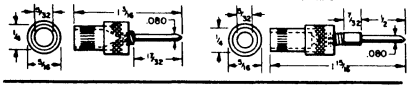
INSULATED PHONE TIPS, TEST PRODS

SOLDERLESS PHONE TIPS

Brass, nickel plated. Wire fits thru body of tip, tightened around screw with nickel plated knurled nut. Fits all standard phone tip jacks.

Cat. No.
23 Junior Solderless Phone Tip
24 Senior Solderless Phone Tip

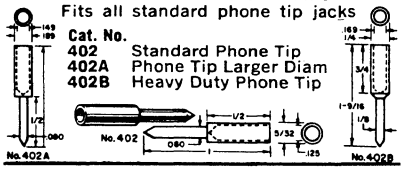
No. 23 **No. 24**



BRASS NICKEL PLATED TIPS

Fits all standard phone tip jacks

Cat. No.
402 Standard Phone Tip
402A Phone Tip Larger Diam
402B Heavy Duty Phone Tip

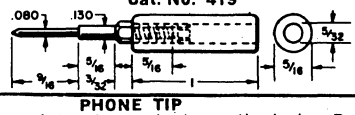


SCRULOK PHONE TIP

Fits standard phone tip jacks. Plug is brass, nickel plated. Has Scrulok solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No. 419

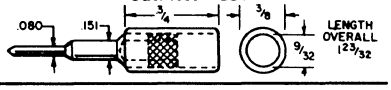


PHONE TIP

Plugs into standard phone tip jacks. Brass nickel plated plug. Accommodates standard banana plug in molded plastic handle.

Colors: Red, Black, Yellow, Blue, Green, White.

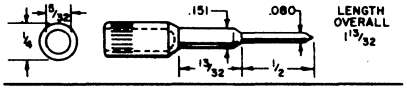
Cat. No. 331



PHONE TIP PLUG No. 331A

Plugs into all standard phone tip jacks. Barrel of plug accommodates all standard banana jacks. Brass, nickel plated.

Cat. No. 331A Phone Tip Plug

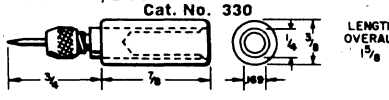


NEEDLE POINT PLUG

Brass nickel plated body. Needle point tip. Accommodates standard banana plug in molded plastic handle.

Colors: Red, Black.

Cat. No. 330

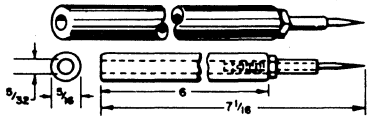


BAKELITE PENCIL TEST PROD

Body is brass nickel plated with steel n.pl. needle. Has Scrulok solderless connection. Bakelite handle.

Colors: Red, Black.

Cat. No. 411 Bakelite Pencil Test Prod

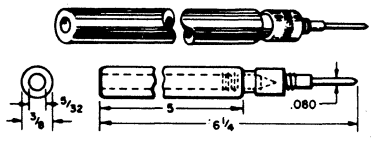


SOLDERLESS TEST PRODS

Body is brass nickel plated with solderless knurled nut connection. Heavy duty needle-point, nickel plated.

Colors: Red, Black.

Cat. No.	(A) Overall	(B) Handle Length
410	5⅛"	4"
343	6¼"	5"

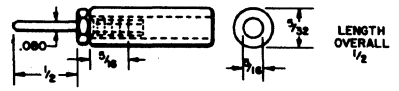


SCRULOK PHONE TIP

Brass nickel plated. Fits standard phone tip jacks. Scrulok solderless connection. Molded handle.

Colors: Red, Black, Yellow, Blue, Green, White.

Cat. No. 412

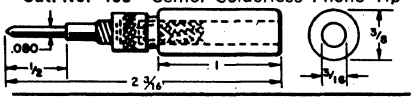


INSULATED SOLDERLESS PHONE TIPS No. 409

Insulated handles, fitted to solderless phone tips. Made of Brass, Nickel Plated. Wire easily attached by threading through hole in handle and tightening knurled nut.

Colors: Red, Black, Yellow, Blue, Green, White

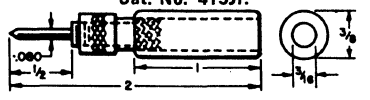
Cat. No. 409 Senior Solderless Phone Tip



JUNIOR SOLDERLESS PHONE TIP

Same as above except 2" overall length. Specify colors.

Cat. No. 415Jr.

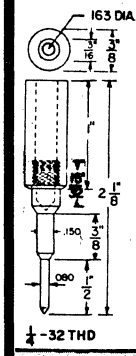


HEAVY DUTY TIP PLUG
Threaded

BODY: Brass, nickel plated.

DESCR.: Extra large well for soldering. Rear of plug accepts standard banana plugs. Fits standard phone tip jacks. Threaded for easy assembly in plastic handle.

No. 349A



INSULATED TIP PLUG
Heavy Duty Type

HANDLE: plastic, Red Yellow, Green, Blue, White and Black

SPECIFY COLOR

PLUG: Brass, nickel plated.

DESCR.: Large diameter well enables soldering of heavy duty wire directly into plug. Fits standard phone tip jacks

No. 349

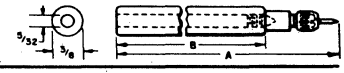
TEST PRODS

NEEDLEPOINT TEST PRODS

Brass nickel plated body with steel nickel plated needle. Chuck threaded in end of handle is removable for replacing needles. Polished cast phenolic handle.

Cat. No.	(A) Overall	(B) Handle Length
344	4 1⅝"	4"
345	5 1⅝"	5"

Colors: Red, Black.

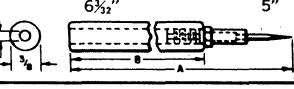


SCRULOK NEEDLEPOINT TEST PRODS

Phenolic insulated prod, has Scrulok solderless connection. Body is brass nickel plated with steel n.pl. needle.

Colors: Red, Black.

Cat. No.	(A) Overall	(B) Handle Length
417	5 3/32"	4"
418	6 3/32"	5"

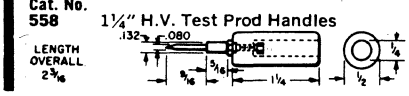


HEAVY DUTY HIGH VOLTAGE TEST PROD HANDLES No. 558

These bakelite prods are the same as used on the meter end of high voltage test leads Cat. No. 562. Tips are heavy brass with nickel plating.

Colors: Red, Black.

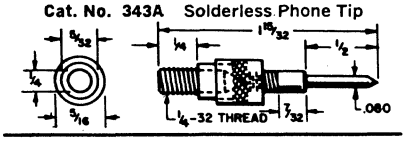
Cat. No.
558 1¼" H.V. Test Prod Handles



SOLDERLESS PHONE TIP No. 343A

Brass, nickel plated. Wire easily attached by threading thru hole provided, and tightening knurled nut. Threaded to take plastic handle.

Cat. No. 343A Solderless Phone Tip

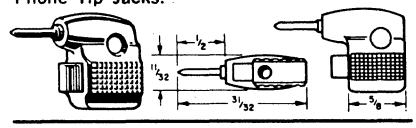


PUSH BUTTON PHONE TIP PLUGS

Wire is fastened easily, speedily, and securely without soldering. Simply by pressing the push buttons the bare wire can be inserted into the opening of the plug.

Colors: Red, Black.

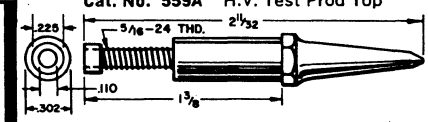
Cat. No. 121 Push Button Phone Tip Plug No. 121 Phone Tip Plug will fit all Standard Phone Tip Jacks.



HIGH VOLTAGE TEST PROD TIP No. 559A

Heavy brass, nickel plated. Large solder well accommodates heavy wires. As used on Birnbach High Voltage Test prod Handle. No. 559 and 562 Test Leads.

Cat. No. 559A H.V. Test Prod Top

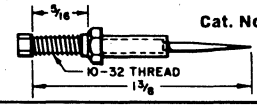


NEEDLE POINT PROD TIP No. 439

Extra heavy needle point for piercing insulations or plating. Solderless Scrulok wire connection. Brass, nickel plated body; needle point, steel, nickel plated. Replacement tip for No. 408 Leads.

Replacement Needle Point Prod Tip

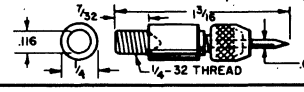
Cat. No. 439



NEEDLE POINT PLUG No. 345A

Has a brass, nickel plated body, steel nickel plated needle. Sharp point will pierce insulation or plating. Has removable chuck for replacing needle. Threaded to take handle.

Cat. No. 345A Needlepoint Plug

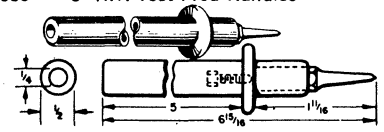


HEAVY DUTY HI-VOLTAGE TEST PROD HANDLE

Tip is heavy brass nickel plated. Bakelite finger guard. Accommodates IN-34 diode and condenser for use as RF Probe.

Colors: Red, Black.

Cat. No.
559 6" H.V. Test Prod Handles

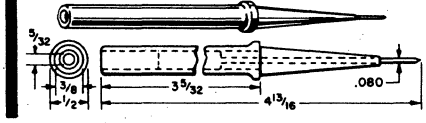


TEST PROD No. 424A

Shouldered insulated handle made of bake lite. Tip made of nickel-plated brass has set screw in side for securing conductor and thus making a solderless connection. Tip screw into handle. Available in Red and Black. Indicate color.

TEST PROD No. 424B with Banana Plug Adapter

Same as No. 424A except with a banana plug adapter in back of handle.



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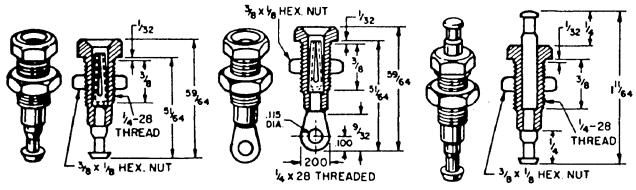
NYLON TIP JACKS AND PLUGS

ALL NYLON TIP JACKS



No. 1180 No. 1182 No. 1184

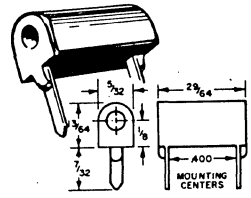
Completely Molded Nylon Jack. Fits all standard phone tip plugs. Contact recessed in head for safe contact. Hexagon head for grip in tightening. Mounts in ¼" hole in panels up to ¼" thick. Meets following requirements:

• Salt Spray Test — Withstands 100 hours • Rated Voltage & Current — 1000 volts peak at 5 amps max. • Test Voltage — 9000 volts DC peak • Insulation Resistance — 5000 megohms • Operating Temperature — 55 to +150C • Nominal Capacity — 2.0 mmf. • Material Specifications — A. Body: Nylon Grade FM 10001; A. Center Contact: Numbers 1180 and 1182 Heat Treated Beryllium Copper Silver plated per Spec 72-53. Number 1184 Brass Tin Pl.; Hex Nut: Brass Nickel Pl.

• **Colors:** Red, Black, Orange, Green, Blue, White, Brown, Yellow, Grey & Purple. Specify Color.

Cat. No. 1180 Wrap Around **Cat. No. 1182** Spade Terminal
Cat. No. 1184 Feed Through

PRINTED CIRCUIT TEST JACKS

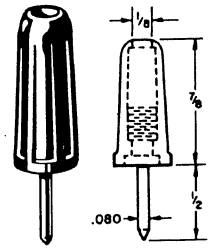


Designed for permanent, soldered assembly to printed circuit boards. Nylon bodies. Has gold over silver plated Beryllium copper contacts which provide low resistance contact. Takes standard .080" diameter test probes.

Colors: Red, Black, Green, Brown, Yellow, Blue, Purple, Grey, Orange, White.

Cat. No. 1177 Printed Circuit Jack
PER MIL-F-14072, M301

NYLON INSULATED PLUG

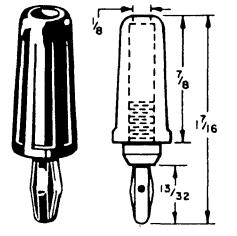


Molded of tough low-loss Nylon — provides high voltage insulation. Withstands extreme temperature changes without chipping or cracking. This series fits all standard Banana Jacks and standard Phone Tip Jacks.

Nylon Solderless Short Tip Plug. Molded nylon handle, recessed metal head provides flush contact without metal exposure in any standard tip jack brass nickel plated plug. Solderless wire fits thru handle.

NYLON PER MIL-P-20693A
Cat. No. 1169
Specify color as indicated below.

NYLON BANANA PLUG — MIDGET



NYLON PER MIL-P-20693A

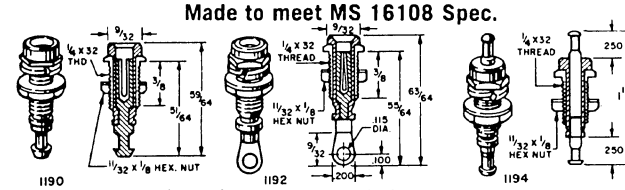
Molded Nylon Handle Brass N.Pl. Wire can be soldered directly into stud. Fits all Standard Banana Jacks.

Cat. No.	Spring Material	Plating
1172	Phospor Nickel Bronze	
1173	Phospor Silver Bronze	
1174	Berylium Nickel Copper	
1175	Berylium Silver	

Specify color as indicated in Color Code below.

NYLON TIP JACK WITH METAL SHELL

Made to meet MS 16108 Spec.



Molded Nylon Tip Jack. Metal shell eliminates possibility of stripping threads during assembly. Meets following requirements: • Salt Spray Test—Withstands 100 hours. • Rated Voltage & Current—1000 volt peak @ 5 amps. maximum.

• Test Voltage—2500 peak. • Insulation Resistance—5000 megohms.

• Operating Conditions—A. Continuous; 23 hours on, 1 hour off; B. Elevation: Up to 15,000 feet; C. Temperature: —55 to +85 C; D. Humidity: Up to 95%.

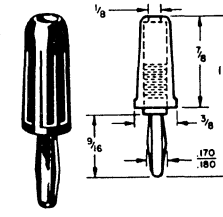
• Material Specifications—A. Insulator: Nylon, Grade FM 10001; B. Shell & Nut: Brass Nickel Plated Per Spec 72-53; C. Lockwasher: Phosphor Bronze Nickel Plated Per Spec 72-53; D. Center Contact. Numbers 1190 and 1192 Heat Treated Bery. Copper Silver Plated per Spec 72-53. Number 1194 Brass, Tin Plated.

• Non-Operating Conditions—A. Elevation: Up to 50,000 feet; B. Temperature: Continuous exposure for 72 hours @ +160 F and 240 hours @ —80 F; C. Humidity: Up to 100%.

• **Colors:** Red, Black, Orange, Green, Blue, White, Brown, Yellow, Grey and Purple. Specify Color.

Cat. No. 1190 Wrap Around **Cat. No. 1192** Spade Terminal
Cat. No. 1194 Feed Through

NYLON BANANA PLUG



Molded Nylon handle, Brass N.Pl. plug. Springs Phosphor Bronze or Berylium Copper. Nickel or Silver plated. Wire can be soldered into plug or brass stud.

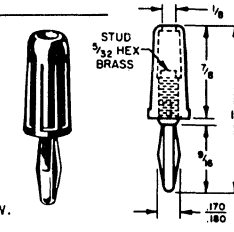
NYLON PER MIL-P-20693A

Cat. No.	Spring	Plating
1160	Phos. Brz.	Nickel
1161	Phos. Brz.	Silver
1162	Beryl. Cop.	Nickel
1163	Beryl. Cop.	Silver

Specify color as indicated in color code below.

Same as above with Solderless Scrulock Connection

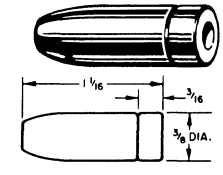
MIL-P-20693A



Cat. No.	Spring	Plating
1164	Phos. Brz.	Nickel
1165	Phos. Brz.	Silver
1166	Beryl. Cop.	Nickel
1167	Beryl. Cop.	Silver

Specify color as indicated in color code below.

NYLON HANDLE JACK

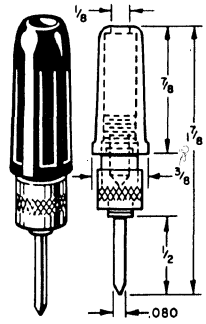


Made with our Nylon Tip Jack #1180 without mounting nut inside of threaded molded nylon insulated sleeve.

Cat. No.
1179 Nylon Handle Jack

Specify color as indicated below.
NYLON PER MIL-P-20693A

NYLON SOLDERLESS TIP PLUG

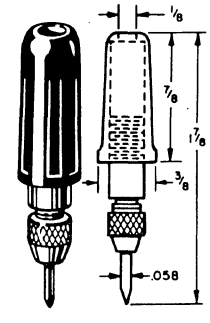


Molded Nylon handle, Brass N.Pl. Solderless plug. Wire fits thru body of tip and is wrapped around screw portion and then tightened. Fits all standard tip jacks.

Cat. No. 1170

Specify color as indicated above.

PHONE NEEDLE TIP PLUG

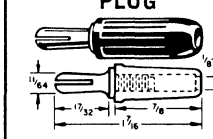


Molded Nylon Handle, Brass N.Pl. Plug. Has removable chuck for easy replacement of needles. Needle makes positive contact thru insulation or corrosion.

Cat. No. 1171
NYLON PER MIL-P-20693A

Specify color as indicated above.

NYLON BANANA PLUG



NYLON PER MIL-P-20693A

Molded Nylon handle, brass N.P. plug, split type with solderless scrulock connection.

Cat. No. 1168
Specify color as indicated above.

Color Code For NYLON HANDLE PLUGS

Add to Catalog Numbers

—01 White
—02 Red
—03 Black
—04 Dk. Green
—05 Lt. Blue
—06 Orange
—07 Yellow
—08 Brown
—09 Lt. Green
—10 Dk. Blue
—11 Ivory
—12 Violet (Purple)
—13 Grey

BIRNBACH COMPANY INC. **FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.**

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THE ORIGINAL AC POWER CONTROL UNITS

"Much more than an outlet box"

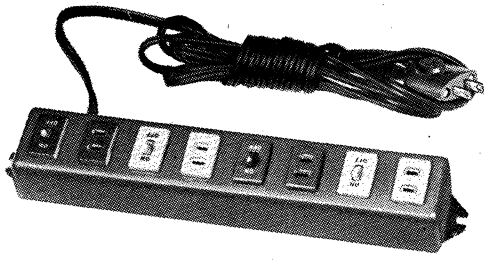
FEATURES

- PROTECTION BY FUSE OR CIRCUIT BREAKER
- U L APPROVED COMPONENTS
- PORTABLE OR STATIONARY
- SELF CONTAINED POWER SWITCHES
- RUGGED CONSTRUCTION
- REQUIRES LITTLE SPACE & EASY TO STORE
- LIFETIME NEON INDICATOR
- 2 PRONG & "U" GROUND OUTLETS
- EASY TO KEEP CLEAN
- FINISH OF BROWN HAMMERTONE OR CHROME
- RATED FOR 15 AMPS 130 VOLTS
- HEAVY DUTY LINE CORD

SS-GD Series — All models contain four colored sets of power switches and heavy duty "U" type outlets, paired for easy identification. Choice of fuse or circuit breaker protection. Dimension 13⅛" x 2¼" x 1½".

Model SS-GD (Fuse type, 10 Ft. cord)	**$ 8.95**
Model SS-GD-15 (Fuse type, 15 Ft. cord)	**9.95**
Model SS-GD-CB (Circuit breaker, 10 Ft. cord)	**10.75**
Model SS-GD-CB-15 (Circuit breaker, 15 Ft. cord)	**11.75**

Add suffix CR to model number for chrome plating plus an additional $1.50 to the net price.



SS Series — Provides four independently controlled 2 prong outlets, each set in a contrasting color for easy recognition. Choice of fuse or circuit breaker protection. Dimensions 13⅛" x 2¼" x 1½".

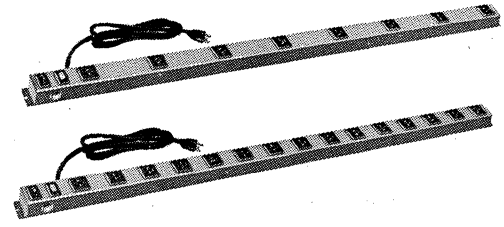
Model SS (Fused plug 10 Ft. cord)	**$ 6.75**
Model SS-F (Same as SS but with one fuse)	**6.25**
Model SS-CB (Circuit breaker 10 Ft. cord)	**8.75**

Add suffix CR to the model number for chrome plating plus an additional $1.50 to the net price.

Model SS-2 — Provides two independently controlled 2 prong outlets, each set in a contrasting color for easy recognition. Dimensions 5" x 2" x 1¼".

(Fused plug 6 Ft. cord)	**$ 4.15**

Add suffix CR to the model number for chrome plating plus an additional $1.00 to the net price.



LL-GD Series — 4' HEAVY DUTY LONG LINE — Each unit has a switch and pilot light. With "U" type grounded outlets. Choice of fuse or circuit breaker protection. Dimensions 49" x 2" x 1½".

8 OUTLETS	
LL-GD-8-10 (Fuse type, 10 Ft. cord)	**$14.95**
LL-GD-8-15 (Fuse type, 15 Ft. cord)	**15.95**
LL-GD-CB-8-10 (Circuit breaker, 10 Ft. cord)	**15.95**
LL-GD-CB-8-15 (Circuit breaker, 15 Ft. cord)	**16.95**
15 OUTLETS	
LL-GD-15-10 (Fuse type, 10 Ft. cord)	**18.95**
LL-GD-15-15 (Fuse type, 15 Ft. cord)	**19.95**
LL-GD-CB-15-10 (Circuit breaker 10 Ft. cord)	**19.95**
LL-GD-CB-15-15 (Circuit breaker 15 Ft. cord)	**20.95**

All prices are net and subject to change without notice.

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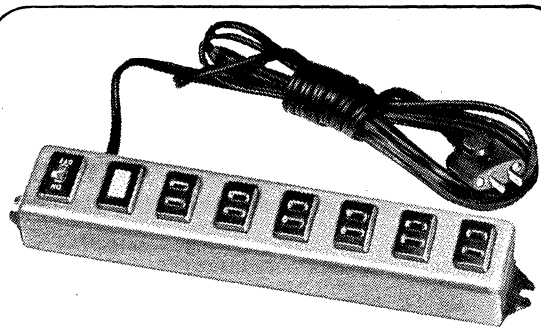


MO Series — One switch controls six 2 prong outlets. Pilot light indicates when power is on. Choice of fuse or circuit breaker protection. Dimensions 13⅛" x 2¼" x 1½"

Model MO (Fused plug 10 Ft. cord)	**$ 6.75**
Model MO-F (Same as MO but with one fuse)	**6.25**
Model MO-CB (Circuit breaker 10 Ft. cord)	**8.75**

Add suffix CR to model number for chrome plating plus an additional $1.50 to the net price.

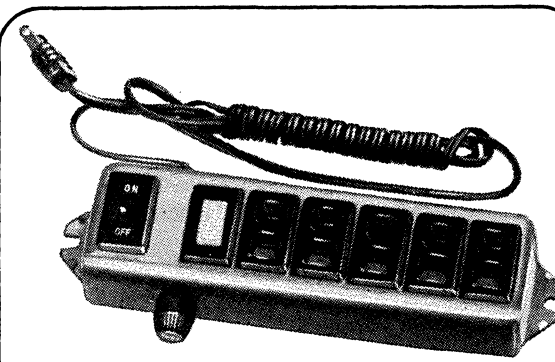
Model MO-4 — Four 2 prong outlets where just additional outlets are required. No switch. Dimensions 5" x 2" x 1¼".

(Fused plug, 6 Ft. cord) ..... $ 3.75

Model MO-3 — One switch controls three 2 prong outlets. Dimensions 5" x 2" x 1¼".

(Fused plug, 6 Ft. cord) ..... $ 3.90

Add suffix CR to the model numbers for chrome plating plus an additional $1.00 to the net price.



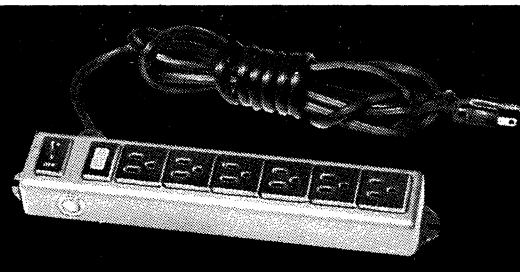
MO-5 Series — One switch controls five 2 prong outlets. Pilot light shows when power is on. Choice of fuse or circuit breaker protection. Dimensions 8⅝" x 2¼" x 1½".

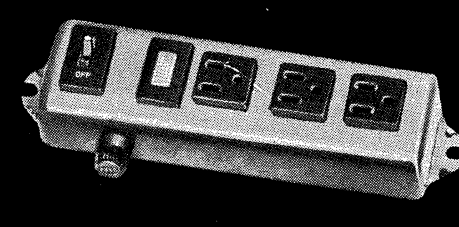
Model MO-5-10 (Fused type, 10 Ft. cord)	**$ 5.95**
Model MO-5-15 (Fused type, 15 Ft. cord)	**6.95**
Model MO-CB-5-10 (Circuit breaker 10 Ft. cord)	**6.95**
Model MO-CB-5-15 (Circuit breaker 15 Ft. cord)	**7.95**

Add suffix CR to model number for chrome plating plus an additional $1.25 to the net price.

APPROVED UNITS FOR MILITARY APPLICATION

Model MO-GD-4 — 7 "U" type grounding outlets, 3 ten foot leads, grey housing.
Model MO-GD-5 — 3 "U" type grounding outlets, 3 ten foot leads, grey housing.
Used in Missile Ground Support Equipment ..... $15.00 Each





MO-GD Series — Six 3-wire "U" type ground outlets, switch and pilot light. Choice of fuse or circuit breaker protection. Dimensions 13⅛" x 2¼" x 1½".

Model MO-GD (Fuse type, 10 Ft. cord)	**$ 8.50**
Model MO-GD-15 (Fuse type, 15 Ft. cord)	**9.50**
Model MO-GD-CB-10 (Circuit breaker, 10 Ft. cord)	**10.50**
Model MO-GD-CB-15 (Circuit breaker, 15 Ft. cord)	**10.95**

Add suffix CR to model number for chrome plating plus an additional $1.50 to the net price.

MO-GD-3 Series — Three 3-wire "U" type ground outlets, switch and pilot light. Choice of fuse or circuit breaker protection. Dimensions 8⅝" x 2¼" x 1½".

Model MO-GD-3-10 (Fuse type, 10 Ft. cord)	**$ 5.95**
Model MO-GD-3-15 (Fuse type, 15 Ft. cord)	**6.95**
Model MO-GD-CB-3-10 (Circuit breaker, 10 Ft. cord)	**6.95**
Model MO-GD-CB-3-15 (Circuit breaker, 15 Ft. cord)	**7.95**

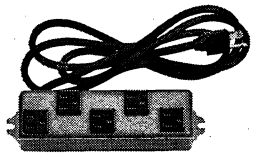
Add suffix CR to the model number for chrome plating plus an additional $1.25 to the net price.

All prices are net and subject to change without notice.

SEE FOLLOWING PAGE FOR ADDITIONAL CONTROL UNITS

CBC *Industries Inc.*

NEW! NOISE LIMITER —
Line Filter available in any CBC power control. Shielded filter network prevents R.F. feedback into line. Add prefix "NL" to Power Control model number ..... $2.25 additional

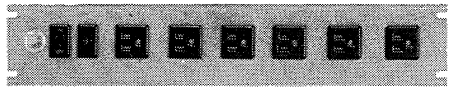


NEW! COMPACT POWER CENTER

Model C-MO-GD-15 — A convenient outlet box with 5 "U" type grounded outlets. Includes 15 ft., heavy-duty line cord. Dimensions 8⅝" x 2¼" x 1½" $5.80

NEW!

19" RACK-MOUNT CONTROL PANELS

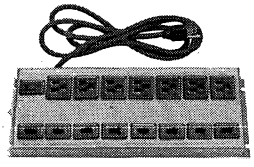


TR-MO-GD Series—One master switch controls power to six "U" type grounded outlets. Pilot light shows when power is on. Choice of fuse or circuit breaker protection. Dimensions 3½" x 19".

Model TR-MO-GD-10 (Fuse type, 10 Ft. cord).....$10.95
Model TR-MO-GD-15 (Fuse type, 15 Ft. cord)..... 11.95
Model TR-MO-GD-CB-10 (Circuit breaker, 10 Ft. cord)..... 11.95
Model TR-MO-GD-CB-15 (Circuit breaker, 15 Ft. cord)..... 12.95

TR-MO-GD-R Series—Same as above except that two outlets are on front of panel; four in rear.

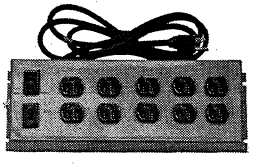
Model TR-MO-GD-R-10 (Fuse type, 10 Ft. cord).....$12.95
Model TR-MO-GD-R-15 (Fuse type, 15 Ft. cord)..... 13.95
Model TR-MO-GD-R-CB-10 (Circuit breaker, 10 Ft. cord)..... 13.95
Model TR-MO-GD-R-CB-15 (Circuit breaker, 15 Ft. cord)..... 14.95



ML-SS-GD Series

One master switch controls power to seven color-coded "U" type ground outlets with color-matched sub-switches. Pilot light shows when master power switch is on. Choice of fuse or circuit breaker protection. Dimensions 13⅛" x 4¾" x 1⅝".

7 OUTLETS
Model ML-SS-GD-10 (Fuse type, 10 Ft. cord).....$15.50
Model ML-SS-GD-15 (Fuse type, 15 Ft. cord)..... 16.50
Model ML-SS-GD-CB-10 (Circuit breaker, 10 Ft. cord)..... 16.50
Model ML-SS-GD-CB-15 (Circuit breaker, 15 Ft. cord)..... 17.50



ML-MO-GD Series

Same as above except with 10 "U" type grounded outlets and without individual switches for each outlet.

10 OUTLETS
Model ML-MO-GD-10 (Fuse type, 10 Ft. cord).....$13.50
Model ML-MO-GD-15 (Fuse type, 15 Ft. cord)..... 14.50
Model ML-MO-GD-CB-10 (Circuit breaker, 10 Ft. cord)..... 14.50
Model ML-MO-GD-CB-15 (Circuit breaker, 15 Ft. cord)..... 15.50

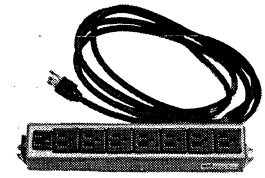
CBC INDUSTRIES INC.

NEW!

Economy Long-Line Power Control

Model E-LL-GD-CB

One master switch controls 14 "U" type grounded outlets. Pilot light indicates when power is on. Circuit breaker protection. 10 Ft. line cord. Dimensions 49" x 2" x 1½" $16.75

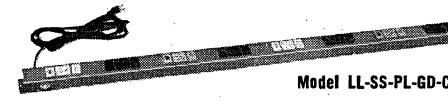


POPULAR EXTENSION OUTLETS

MO-GD-S Series—Lets you series string from the end of one unit to the cord at the beginning of the next. Seven "U" type grounded outlets with an 8th and 9th "U" type grounded outlet for series stringing. Dimensions 13⅛" x 2¼" x 1½".

Model MO-GD-S-10 (10 Ft. cord).....$6.75
Model MO-GD-S-15 (15 Ft. cord)..... 7.75

Model LL-SS-GD-CB

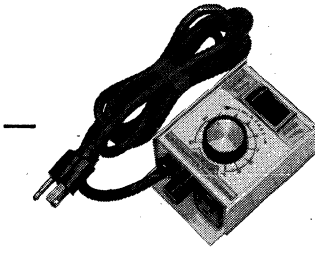


Model LL-SS-PL-GD-CB

LL-SS-GD-CB Series —4 Ft., Heavy-Duty, Long-Line. Eight pairs of individually color-matched switches and "U" type grounded outlets. Individually colored pilot lights available on LL-SS-PL-GD Series. Circuit breaker protection on all models. Dimensions 49" x 2" x 1½".

Model LL-SS-GD-CB-8-10 (10 Ft. cord).....$19.95
Model LL-SS-GD-CB-8-15 (15 Ft. cord)..... 20.95
Model LL-SS-PL-GD-CB-8-10 (with Pilot Lights, 10 Ft. cord).. 20.95
Model LL-SS-PL-GD-CB-8-15 (with Pilot Lights, 15 Ft. cord).. 21.95

SPEEDTROL —



Solid-State Motor Speed Control

MODEL SC-2000—For use with any standard AC-DC universal motor. Handles up to 800 watts. Constant motor torque at all speed control settings. Precise speed adjustment from 3% to 50%. Speed can also be increased to 100%. Fused for circuit protection. Grounding type line cord and receptacle for maximum safety. Industrial quality for use with power tools and other heavy-duty applications... $11.95

CBC INDUSTRIES INC.

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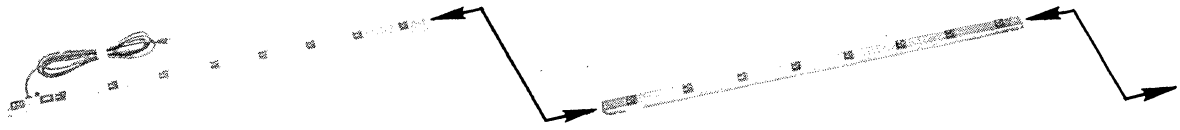
ADD-A-STRIP Long-Line Power Controls

Interlocking ends let you add as many lengths as needed... makes one continuous power strip...any length.



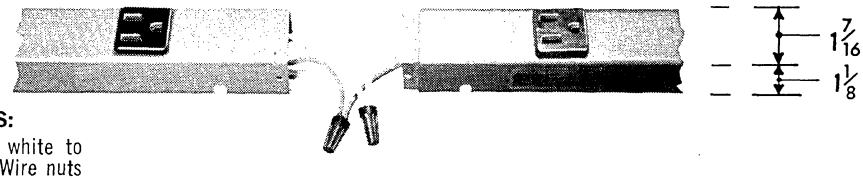
MASTER SECTION

Master section, complete with ground type outlets, line cord, power switch, power-on indicator light, and 15 A, 125 V fuse or circuit breaker, as desired. End cap on **master section** removes for adding **auxiliary section** described at right. Hardware for adding sections is self-contained in each section.

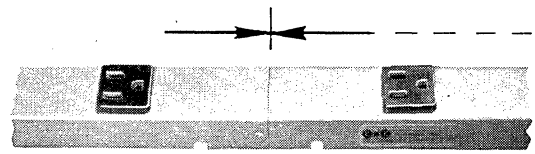
AUXILIARY SECTIONS

Auxiliary sections have a mating end that interlocks into end of master section (or other auxiliary section) . . . forms a smooth, flush, mechanical connection. Two self-tapping screws secure connected sections. As many auxiliary sections as desired can be added end-to-end to form one continuous power strip of any length.

HERE'S ALL YOU DO TO CONNECT SECTIONS



❶ CONNECT WIRES:
Connect black to black, white to white between sections. Wire nuts are supplied inside every section.



❷ PUSH ENDS TOGETHER:
End of one section slides easily into mating end of add-on section. Fasten connection with two retaining screws.

A great idea from CBC...the leader in Power Controls...

Use ADD-A-STRIP units in factories, schools, workshops . . . anywhere that you want plenty of outlets without high cost . . . but where safety, appearance, and ease of installation are important. Ideal for other uses too—garages, basements, and other areas where behind-the-wall wiring is impossible or undesirable. Saves dollars of rewiring costs in expanding facilities.

SPECIFICATIONS

LENGTHS: 12", 24", 36", and 48".
OUTLETS: One grounded outlet for each 6" of length.
LINE CORD: 6', 10', and 15', three-wire with grounded plug (master section).
PROTECTION: Choice of fuse or circuit breaker (15 A, 125 V).
FINISH: Tough, scuff-resistant vinyl. Attractive, brown, stipple-tone finish.

MODELS AND PRICES

MASTER SECTIONS

MODEL NO.*	CASE LENGTH	CORD LENGTH	NET WITH FUSE	NET WITH CIRCUIT BREAKER
MS-12-6	12"	6'	$ 9.40	$10.40
MS-12-10	12"	10'	9.95	10.95
MS-12-15	12"	15'	10.95	11.95
MS-24-6	24"	6'	10.95	11.95
MS-24-10	24"	10'	11.50	12.50
MS-24-15	24"	15'	12.50	13.50
MS-36-6	36"	6'	12.40	13.40
MS-36-10	36"	10'	12.95	13.95
MS-36-15	36"	15'	13.95	14.95
MS-48-6	48"	6'	14.40	15.40
MS-48-10	48"	10'	14.95	15.95
MS-48-15	48"	15'	15.95	16.95

* Add suffix letters CB to model number for circuit breaker.

AUXILIARY SECTIONS

MODEL NO.	CASE LENGTH	QUANTITY OF OUTLETS	NET
AS-12	12"	2	$ 7.95
AS-24	24"	4	8.95
AS-36	36"	6	10.50
AS-48	48"	8	11.95

CBC *Industries, Inc.*

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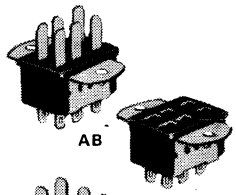
"Jones" Type Plugs, Sockets

300 SERIES CONNECTORS are from the famous line of "Jones" plugs and sockets which have been a standard of the electrical and electronic industry for over a generation. For medium duty applications, they are small in size with good separation between contacts.

Molded bakelite insulator has 2 to 33 cadmium-plated phosphor-bronze contacts, for cap or panel mounting. All plugs and sockets are polarized so that plugs of one size cannot fit into sockets of another size. "Knife-switch" type socket contacts engage both sides of flat plug contacts, providing double contact area. Rated Voltage...730 Volts rms. Contact Resistance....016 Ohms max. Rated Current...10A max.

In accordance with UL Standard #498, (all contacts carrying "rated" current simultaneously) as follows: Current (2-12 contacts).....7.5 amperes (15-33 contacts).....4.5 amperes Wattage (2-12 contacts).....1875 watts (15-33 contacts).....1125 watts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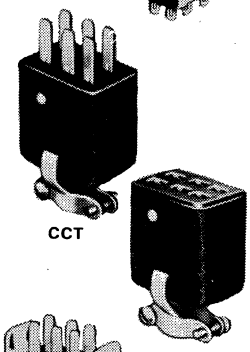
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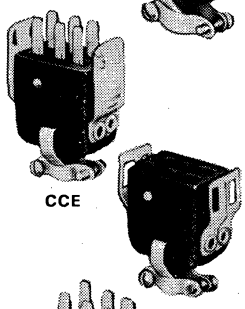
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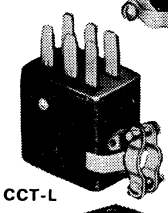
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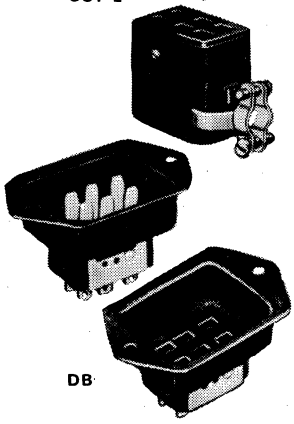
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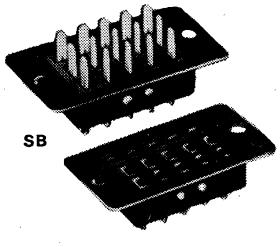
SB

PLUGS WITH ANGLE BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-302-AB	2	0.29	0.23	0.20	0.16	0.15
P-303-AB	3	.33	.26	.22	.18	.17
P-304-AB	4	.37	.29	.25	.20	.19
P-306-AB	6	.46	.37	.31	.24	.23
P-308-AB	8	.53	.42	.35	.28	.27
P-310-AB	10	.59	.47	.40	.32	.30
P-312-AB	12	.66	.53	.44	.35	.33
P-315-AB	15	.89	.71	.59	.47	.45
P-318-AB	18	1.07	.85	.71	.57	.54
P-321-AB	21	1.34	1.07	.89	.71	.68
P-324-AB	24	1.62	1.30	1.08	.86	.82
P-327-AB	27	1.90	1.52	1.27	1.01	.96
P-330-AB	30	2.18	1.74	1.45	1.16	1.10
P-333-AB	33	2.45	1.96	1.63	1.30	1.24

PLUGS WITH CABLE CLAMPS/TOP

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-302-CCT	2	0.60	0.48	0.40	0.32	0.30
P-303-CCT	3	.66	.53	.44	.35	.33
P-304-CCT	4	.70	.56	.47	.37	.35
P-306-CCT	6	.80	.64	.53	.42	.40
P-308-CCT	8	.86	.69	.58	.46	.44
P-310-CCT	10	.95	.76	.64	.51	.46
P-312-CCT	12	1.03	.82	.69	.55	.52
P-315-CCT	15	1.37	1.10	.92	.73	.70
P-318-CCT	18	1.60	1.28	1.07	.85	.81
P-321-CCT	21	1.91	1.53	1.28	1.02	.97
P-324-CCT	24	2.24	1.79	1.50	1.20	1.14
P-327-CCT	27	2.57	2.05	1.71	1.37	1.30
P-330-CCT	30	2.89	2.31	1.93	1.54	1.46
P-333-CCT	33	3.20	2.56	2.14	1.71	1.62

PLUGS WITH CABLE CLAMPS/TOP & LOCKS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-302-CCT-L	2	0.75	0.60	0.50	0.40	0.38
P-303-CCT-L	3	.81	.65	.54	.43	.41
P-304-CCT-L	4	.85	.68	.57	.45	.43
P-306-CCT-L	6	.95	.76	.63	.50	.48
P-308-CCT-L	8	1.01	.81	.68	.54	.51
P-310-CCT-L	10	1.10	.88	.74	.59	.56
P-312-CCT-L	12	1.18	.94	.79	.63	.60
P-315-CCT-L	15	1.52	1.22	1.02	.81	.77
P-318-CCT-L	18	1.75	1.40	1.17	.93	.89
P-321-CCT-L	21	2.06	1.65	1.38	1.10	1.05
P-324-CCT-L	24	2.39	1.91	1.60	1.28	1.21
P-327-CCT-L	27	2.72	2.17	1.81	1.45	1.38
P-330-CCT-L	30	3.04	2.43	2.03	1.62	1.54
P-333-CCT-L	33	3.35	2.68	2.24	1.79	1.70

PLUGS WITH CABLE CLAMPS/END

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-306-CCE	6	0.83	0.67	0.56	0.44	0.42
P-308-CCE	8	.90	.72	.60	.48	.46
P-310-CCE	10	.99	.79	.66	.53	.50
P-312-CCE	12	1.07	.85	.71	.57	.54
P-315-CCE	15	1.41	1.13	.94	.75	.71
P-318-CCE	18	1.64	1.31	1.09	.87	.83
P-321-CCE	21	1.95	1.56	1.30	1.04	.99
P-324-CCE	24	2.28	1.82	1.52	1.22	1.16
P-327-CCE	27	2.60	2.08	1.74	1.39	1.32
P-330-CCE	30	2.93	2.34	1.95	1.56	1.48
P-333-CCE	33	3.24	2.59	2.16	1.73	1.64

PLUGS WITH DEEP BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-302-DB	2	0.72	0.58	0.48	0.38	0.37
P-303-DB	3	.73	.58	.49	.39	.37
P-304-DB	4	.77	.61	.51	.41	.39
P-306-DB	6	.86	.68	.57	.46	.43
P-308-DB	8	.92	.74	.62	.49	.47
P-312-DB	12	1.06	.85	.71	.56	.54
P-315-DB	15	1.30	1.04	.87	.69	.66
P-318-DB	18	1.55	1.24	1.04	.83	.79
P-321-DB	21	1.86	1.49	1.24	.99	.94
P-324-DB	24	2.18	1.75	1.46	1.16	1.11
P-327-DB	27	2.50	2.00	1.67	1.33	1.27
P-330-DB	30	2.81	2.25	1.88	1.50	1.43
P-333-DB	33	3.12	2.50	2.08	1.66	1.58

PLUGS WITH SHALLOW BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-315-SB	15	1.30	1.04	0.87	0.69	0.66
P-318-SB	18	1.55	1.24	1.04	.83	.79
P-321-SB	21	1.86	1.49	1.24	.99	.94
P-324-SB	24	2.18	1.75	1.46	1.16	1.11
P-327-SB	27	2.50	2.00	1.67	1.33	1.27
P-330-SB	30	2.81	2.25	1.88	1.50	1.43
P-333-SB	33	3.12	2.50	2.08	1.66	1.58

SOCKETS WITH ANGLE BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-302-AB	2	0.31	0.25	0.21	0.16	0.16
S-303-AB	3	.35	.28	.23	.18	.18
S-304-AB	4	.39	.31	.26	.21	.20
S-306-AB	6	.49	.39	.33	.26	.25
S-308-AB	8	.59	.47	.40	.32	.30
S-310-AB	10	.69	.55	.46	.37	.35
S-312-AB	12	.82	.65	.55	.44	.41
S-315-AB	15	1.04	.83	.69	.55	.52
S-318-AB	18	1.19	.95	.80	.64	.60
S-321-AB	21	1.47	1.18	.98	.78	.75
S-324-AB	24	1.75	1.40	1.17	.93	.89
S-327-AB	27	2.03	1.62	1.35	1.08	1.03
S-330-AB	30	2.33	1.86	1.55	1.24	1.18
S-333-AB	33	2.60	2.08	1.73	1.38	1.32

SOCKETS WITH CABLE CLAMPS/TOP

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-302-CCT	2	0.62	0.50	0.42	0.33	0.32
S-303-CCT	3	.68	.54	.45	.36	.34
S-304-CCT	4	.72	.58	.48	.38	.37
S-306-CCT	6	.83	.66	.55	.44	.42
S-308-CCT	8	.93	.74	.62	.50	.47
S-310-CCT	10	1.05	.84	.70	.56	.53
S-312-CCT	12	1.19	.95	.79	.63	.60
S-315-CCT	15	1.52	1.22	1.02	.81	.77
S-318-CCT	18	1.73	1.38	1.15	.92	.87
S-321-CCT	21	2.05	1.64	1.37	1.09	1.04
S-324-CCT	24	2.37	1.90	1.58	1.26	1.14
S-327-CCT	27	2.69	2.15	1.80	1.44	1.36
S-330-CCT	30	3.04	2.43	2.03	1.62	1.54
S-333-CCT	33	3.35	2.68	2.24	1.79	1.70

SOCKETS WITH CABLE CLAMPS/TOP & KEEPERS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-302-CCT-K	2	0.77	0.62	0.52	0.41	0.39
S-303-CCT-K	3	.83	.66	.55	.44	.42
S-304-CCT-K	4	.87	.70	.58	.46	.44
S-306-CCT-K	6	.98	.78	.65	.52	.49
S-308-CCT-K	8	1.08	.86	.72	.58	.55
S-310-CCT-K	10	1.20	.96	.80	.64	.61
S-312-CCT-K	12	1.34	1.07	.89	.71	.68
S-315-CCT-K	15	1.67	1.34	1.12	.89	.85
S-318-CCT-K	18	1.88	1.50	1.25	1.00	.95
S-321-CCT-K	21	2.20	1.76	1.47	1.17	1.11
S-324-CCT-K	24	2.52	2.02	1.68	1.34	1.28
S-327-CCT-K	27	2.84	2.27	1.90	1.52	1.44
S-330-CCT-K	30	3.19	2.55	2.13	1.70	1.62
S-333-CCT-K	33	3.50	2.80	2.34	1.87	1.78

SOCKETS WITH CABLE CLAMPS/END

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-306-CCE	6	0.86	0.69	0.58	0.46	0.44
S-308-CCE	8	.97	.77	.65	.52	.49
S-310-CCE	10	1.09	.87	.73	.58	.55
S-312-CCE	12	1.22	.98	.82	.65	.62
S-315-CCE	15	1.56	1.25	1.04	.83	.79
S-318-CCE	18	1.76	1.41	1.18	.94	.89
S-321-CCE	21	2.09	1.67	1.39	1.11	1.06
S-324-CCE	24	2.41	1.93	1.61	1.28	1.22
S-327-CCE	27	2.73	2.18	1.82	1.46	1.38
S-330-CCE	30	3.07	2.45	2.05	1.64	1.55
S-333-CCE	33	3.39	2.71	2.26	1.81	1.72

SOCKETS WITH DEEP BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-302-DB	2	0.74	0.59	0.50	0.40	0.38
S-303-DB	3	.74	.59	.50	.40	.38
S-304-DB	4	.79	.63	.53	.42	.40
S-306-DB	6	.89	.71	.59	.47	.45
S-308-DB	8	.99	.79	.66	.53	.50
S-312-DB	12	1.22	.97	.81	.65	.62
S-315-DB	15	1.45	1.16	.97	.77	.73
S-318-DB	18	1.68	1.34	1.12	.90	.85
S-321-DB	21	2.00	1.60	1.33	1.06	1.01
S-324-DB	24	2.32	1.85	1.55	1.24	1.17
S-327-DB	27	2.63	2.10	1.75	1.40	1.33
S-330-DB	30	2.96	2.37	1.98	1.58	1.50
S-333-DB	33	3.27	2.62	2.18	1.74	1.66

SOCKETS WITH SHALLOW BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-315-SB	15	1.45	1.16	0.97	0.77	0.73
S-318-SB	18	1.68	1.34	1.12	.90	.85
S-321-SB	21	2.00	1.60	1.33	1.06	1.01
S-324-SB	24	2.32	1.85	1.55	1.24	1.17
S-327-SB	27	2.63	2.10	1.75	1.40	1.33
S-330-SB	30	2.96	2.37	1.98	1.58	1.51
S-333-SB	33	3.27	2.62	2.18	1.74	1.66

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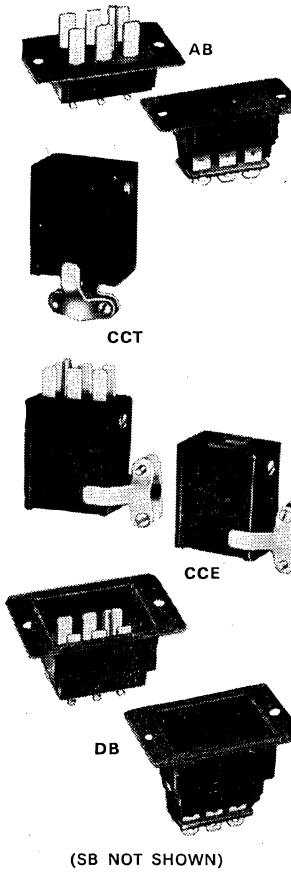
"Jones" Type Plugs, Sockets

400 SERIES PLUGS AND SOCKETS are rated for duty beyond the range of the 300 series. Maximum rating is 1200 volts r.m.s. at 15 amperes. Average contact resistance is .001 ohms.

2, 4, 6, 8, 10 and 12 contact sizes are available, each size being polarized and suitable for either cap or panel mounting. "Knife-switch" type socket contacts are made of cadmium-plated phosphor bronze. These contacts engage both sides of the flat plug contacts, providing double the contact area.

Plug prongs are made of cadmium-plated brass ¼" wide by 1/16" thick. Caps are finished in black wrinkle and equipped with fibre lining.



(SB NOT SHOWN)

PLUGS WITH ANGLE BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-402-AB	2	0.71	0.57	0.48	0.38	0.36
P-404-AB	4	.87	.70	.58	.46	.44
P-406-AB	6	1.03	.82	.69	.55	.49
P-408-AB	8	1.19	.95	.79	.63	.60
P-410-AB	10	1.34	1.07	.90	.72	.68
P-412-AB	12	1.50	1.20	1.00	.80	.76

SOCKETS WITH ANGLE BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-402-AB	2	0.83	0.66	0.55	0.44	0.42
S-404-AB	4	1.07	.85	.71	.57	.54
S-406-AB	6	1.31	1.04	.87	.70	.66
S-408-AB	8	1.55	1.24	1.03	.82	.78
S-410-AB	10	1.79	1.43	1.19	.95	.86
S-412-AB	12	2.03	1.62	1.35	1.08	1.03

PLUGS WITH CABLE CLAMPS/TOP

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-402-CCT	2	1.19	0.95	0.79	0.63	0.60
P-404-CCT	4	1.35	1.08	.90	.72	.68
P-406-CCT	6	1.55	1.24	1.04	.83	.79
P-408-CCT	8	1.72	1.37	1.15	.92	.87
P-410-CCT	10	1.98	1.58	1.32	1.06	1.00
P-412-CCT	12	2.16	1.73	1.44	1.15	1.09

SOCKETS WITH CABLE CLAMPS/TOP

C-J No.	Contacts	Net Each, Lots of 1-24	35-49	50-99	100-249	250-499
S-402-CCT	2	1.34	1.07	0.89	0.71	0.68
S-404-CCT	4	1.60	1.28	1.07	.85	.81
S-406-CCT	6	1.86	1.49	1.24	.99	.94
S-408-CCT	8	2.12	1.70	1.42	1.13	1.08
S-410-CCT	10	2.39	1.91	1.60	1.28	1.21
S-412-CCT	12	2.66	2.12	1.77	1.42	1.35

PLUGS WITH CABLE CLAMPS/END

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-402-CCE	2	1.22	0.98	0.82	0.65	0.62
P-404-CCE	4	1.39	1.11	.93	.74	.70
P-406-CCE	6	1.59	1.27	1.06	.85	.81
P-408-CCE	8	1.76	1.40	1.17	.94	.89
P-410-CCE	10	2.02	1.61	1.35	1.08	1.02
P-412-CCE	12	2.20	1.76	1.47	1.17	1.11

SOCKETS WITH CABLE CLAMPS/END

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-402-CCE	2	1.38	1.10	0.92	0.74	0.70
S-404-CCE	4	1.64	1.31	1.10	.88	.83
S-406-CCE	6	1.91	1.52	1.27	1.02	.97
S-408-CCE	8	2.17	1.73	1.45	1.15	1.10
S-410-CCE	10	2.43	1.94	1.62	1.30	1.23
S-412-CCE	12	2.69	2.15	1.80	1.44	1.36

PLUGS WITH DEEP BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-402-DB	2	0.95	0.76	0.63	0.50	0.48
P-404-DB	4	1.15	.92	.77	.61	.58
P-406-DB	6	1.35	1.08	.90	.72	.68
P-408-DB	8	1.55	1.24	1.04	.83	.79
P-410-DB	10	1.76	1.40	1.17	.94	.89
P-412-DB	12	1.96	1.57	1.31	1.04	.99

SOCKETS WITH DEEP BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-402-DB	2	1.07	0.85	0.71	0.57	0.54
S-404-DB	4	1.35	1.08	.90	.72	.68
S-406-DB	6	1.64	1.31	1.09	.87	.83
S-408-DB	8	1.92	1.54	1.28	1.02	.97
S-410-DB	10	2.21	1.76	1.47	1.18	1.12
S-412-DB	12	2.49	1.99	1.66	1.33	1.26

PLUGS WITH SHALLOW BRACKETS

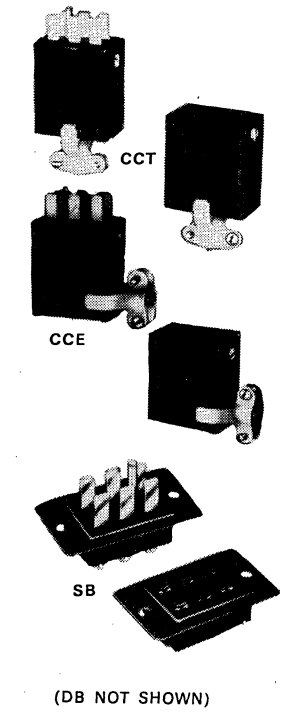
C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-402-SB	2	0.91	0.73	0.61	0.48	0.46
P-404-SB	4	1.11	.89	.74	.59	.56
P-406-SB	6	1.31	1.05	.88	.70	.67
P-408-SB	8	1.52	1.21	1.01	.81	.77
P-410-SB	10	1.72	1.37	1.15	.92	.87
P-412-SB	12	1.92	1.54	1.28	1.02	.97

SOCKETS WITH SHALLOW BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-402-SB	2	1.03	0.82	0.69	0.66	0.52
S-404-SB	4	1.31	1.05	.88	.70	.67
S-406-SB	6	1.60	1.28	1.07	.85	.81
S-408-SB	8	1.88	1.51	1.26	1.00	.95
S-410-SB	10	2.17	1.73	1.45	1.16	1.10
S-412-SB	12	2.45	1.96	1.64	1.31	1.24

2400 SERIES PLUGS AND SOCKETS are designed for excellent electrical and mechanical performance. Ratings for the 2400 Series are the same as for the 400 Series except for a higher voltage rating (1700 volts).

All units of the 2400 series are interchangeable with corresponding units of the 400 series.



(DB NOT SHOWN)

PLUGS WITH CABLE CLAMPS/TOP

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-2402-CCT	2	1.25	1.00	0.83	0.66	0.63
P-2404-CCT	4	1.42	1.13	.95	.76	.72
P-2406-CCT	6	1.59	1.27	1.06	.85	.81
P-2408-CCT	8	1.76	1.41	1.12	.94	.89
P-2410-CCT	10	1.94	1.55	1.29	1.03	.98
P-2412-CCT	12	2.03	1.63	1.36	1.08	1.03

SOCKETS WITH CABLE CLAMPS/TOP

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-2402-CCT	2	1.36	1.09	0.91	0.72	0.69
S-2404-CCT	4	1.50	1.20	1.00	.80	.76
S-2406-CCT	6	1.68	1.34	1.12	.90	.85
S-2408-CCT	8	1.86	1.49	1.24	.99	.94
S-2410-CCT	10	2.04	1.63	1.36	1.09	1.03
S-2412-CCT	12	2.22	1.78	1.48	1.18	1.13

PLUGS WITH CABLE CLAMPS/END

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-2402-CCE	2	1.28	1.03	0.86	0.68	0.65
P-2404-CCE	4	1.46	1.16	.97	.78	.74
P-2406-CCE	6	1.63	1.30	1.09	.87	.83
P-2408-CCE	8	1.80	1.44	1.20	.96	.91
P-2410-CCE	10	1.97	1.58	1.32	1.05	1.00
P-2412-CCE	12	2.15	1.72	1.43	1.14	1.09

SOCKETS WITH CABLE CLAMPS/END

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-2402-CCE	2	1.40	1.12	0.93	0.74	0.71
S-2404-CCE	4	1.54	1.23	1.03	.82	.78
S-2406-CCE	6	1.72	1.37	1.15	.92	.87
S-2408-CCE	8	1.90	1.52	1.27	1.01	.96
S-2410-CCE	10	2.08	1.66	1.39	1.11	1.05
S-2412-CCE	12	2.26	1.81	1.51	1.20	1.14

PLUGS WITH DEEP BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-2402-DB	2	0.98	0.78	0.65	0.52	0.49
P-2404-DB	4	1.14	.91	.76	.61	.58
P-2406-DB	6	1.31	1.04	.87	.70	.66
P-2408-DB	8	1.47	1.18	.98	.78	.75
P-2410-DB	10	1.64	1.31	1.09	.87	.83
P-2412-DB	12	1.80	1.44	1.50	.96	.91

SOCKETS WITH DEEP BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-2402-DB	2	1.05	0.84	0.70	0.56	0.53
S-2404-DB	4	1.22	.98	.82	.65	.62
S-2406-DB	6	1.40	1.12	.93	.74	.71
S-2408-DB	8	1.57	1.25	1.05	.84	.79
S-2410-DB	10	1.74	1.39	1.16	.93	.84
S-2412-DB	12	1.91	1.53	1.28	1.02	.97

PLUGS WITH SHALLOW BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-2402-SB	2	0.90	0.72	0.60	0.48	0.46
P-2404-SB	4	1.07	.85	.71	.57	.54
P-2406-SB	6	1.23	.98	.82	.66	.62
P-2408-SB	8	1.40	1.12	.93	.74	.71
P-2410-SB	10	1.56	1.25	1.04	.83	.79
P-2412-SB	12	1.73	1.38	1.15	.92	.87

SOCKETS WITH SHALLOW BRACKETS

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-2402-SB	2	0.98	0.78	0.65	0.52	0.49
S-2404-SB	4	1.15	.92	.77	.61	.58
S-2406-SB	6	1.32	1.06	.88	.70	.67
S-2408-SB	8	1.49	1.19	1.00	.80	.76
S-2410-SB	10	1.67	1.33	1.11	.89	.84
S-2412-SB	12	1.84	1.47	1.23	.98	.93

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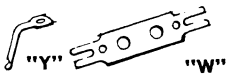
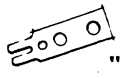
Barrier Terminal Blocks

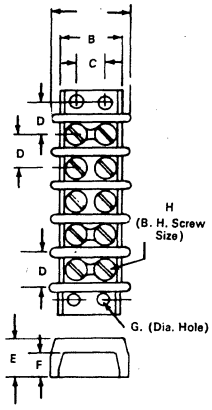
Interposed barriers between terminal positions in Jones Barrier Terminal Blocks produce higher voltage ratings and protection from frayed wire faults. Bakelite base has eyelets and binder screws of nickel plated brass.





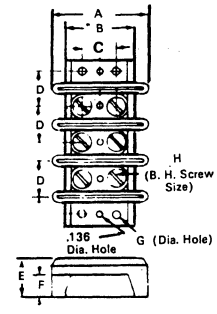
TERMINALS

Barrier type terminal blocks are also available where indicated with "Y", "W" or "¾ W" terminals. Made of hot-solder-dipped brass. For blocks with "W" terminals, change suffix "Y" to "W", for blocks with "¾ W" terminals, change suffix "Y" to "¾ W" (2-172-W, 2-172-¾ W, etc.); same price.



SERIES DIMENSIONS

	140	141	142	164
A	⅞"	1⅛"	1 5/16"	⅞"
B	1 1/16"	⅞"	1 1/16"	1 1/16"
C	5/16"	27/64"	½"	5/16"
D	⅜"	7/16"	9/16"	⅜"
E	13/32"	½"	⅝"	13/32"
F	¼"	5/16"	⅜"	¼"
G	.160"	.175/.185"	.209"	.171/.175"
H	5/40 x 3/16	6/32 x ¼	8/32 x 5/16	6/32 x ¼



SERIES DIMENSIONS

	150	151	152
A	1 13/16"	2"	2½"
B	1 5/16"	1½"	1 13/16"
C	⅝"	¾"	⅞"
D	1 1/16"	⅞"	1⅛"
E	¾"	15/16"	1⅛"
F	7/16"	½"	⅝"
G	.160"	.180"	.209"
H	10/32 x 5/16	12/32 x ⅜	¼/28 x ½

140 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1-140	1	0.19	0.15	0.13	0.11	0.10
2-140	2	.23	.19	.16	.13	.12
3-140	3	.27	.22	.18	.15	.14
4-140	4	.33	.26	.22	.18	.17
5-140	5	.41	.32	.27	.22	.21
6-140	6	.47	.37	.31	.25	.24
7-140	7	.53	.43	.36	.28	.27
8-140	8	.61	.49	.41	.32	.31
9-140	9	.68	.54	.45	.36	.34
10-140	10	.75	.60	.50	.40	.38
11-140	11	.81	.65	.54	.43	.41
12-140	12	.89	.71	.59	.47	.45
13-140	13	.95	.76	.64	.51	.48
14-140	14	1.03	.82	.69	.55	.52
15-140	15	1.10	.88	.73	.58	.56
16-140	16	1.16	.93	.78	.62	.59
17-140	17	1.23	.98	.82	.66	.62
18-140	18	1.30	1.04	.87	.69	.66
19-140	19	1.37	1.09	.91	.73	.69
20-140	20	1.43	1.15	.96	.76	.73
21-140	21	1.51	1.21	1.01	.80	.76

141 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	24-49	50-99	100-249	250-499
1-141	1	0.23	0.19	0.16	0.13	0.12
2-141	2	.26	.20	.17	.14	.13
3-141	3	.34	.27	.23	.18	.17
4-141	4	.43	.34	.29	.23	.22
5-141	5	.52	.41	.35	.28	.26
6-141	6	.59	.47	.40	.32	.30
7-141	7	.70	.56	.47	.37	.35
8-141	8	.78	.62	.52	.42	.40
9-141	9	.86	.69	.58	.46	.44
10-141	10	.96	.77	.64	.51	.49
11-141	11	1.04	.83	.70	.56	.53
12-141	12	1.13	.90	.75	.60	.57
13-141	13	1.22	.97	.81	.65	.62
14-141	14	1.31	1.04	.87	.70	.66
15-141	15	1.39	1.11	.93	.74	.70
16-141	16	1.48	1.18	.99	.79	.75
17-141	17	1.57	1.25	1.05	.84	.79
18-141	18	1.66	1.33	1.11	.88	.84
19-141	19	1.75	1.40	1.17	.93	.89
20-141	20	1.84	1.47	1.23	.98	.93

142 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1-142	1	0.26	0.20	0.17	0.14	0.13
2-142	2	.30	.24	.20	.16	.15
3-142	3	.41	.32	.27	.22	.21
4-142	4	.51	.41	.34	.27	.26
5-142	5	.62	.49	.41	.33	.31
6-142	6	.73	.58	.49	.39	.37
7-142	7	.84	.67	.56	.45	.43
8-142	8	.95	.76	.63	.50	.48
9-142	9	1.05	.84	.70	.56	.53
10-142	10	1.17	.94	.78	.62	.59
11-142	11	1.28	1.02	.85	.68	.65
12-142	12	1.39	1.11	.93	.74	.70
13-142	13	1.50	1.20	1.00	.80	.76
14-142	14	1.61	1.29	1.08	.86	.82
15-142	15	1.73	1.38	1.15	.92	.87
16-142	16	1.84	1.47	1.23	.98	.93
17-142	17	1.95	1.56	1.30	1.04	.99

150 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1-150	1	0.56	0.45	0.38	0.30	0.29
2-150	2	.75	.60	.50	.40	.38
3-150	3	1.05	.84	.70	.56	.53
4-150	4	1.36	1.09	.91	.72	.69
5-150	5	1.67	1.33	1.11	.89	.84
6-150	6	1.97	1.58	1.32	1.05	1.00
7-150	7	2.28	1.82	1.52	1.21	1.16
8-150	8	2.59	2.07	1.73	1.38	1.31
9-150	9	2.90	2.32	1.93	1.54	1.47
10-150	10	3.20	2.56	2.14	1.71	1.62

151 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1-151	1	0.83	0.66	0.55	0.44	0.42
2-151	2	1.35	1.08	.90	.72	.68
3-151	3	1.95	1.56	1.30	1.04	.99
4-151	4	2.55	2.04	1.70	1.36	1.29
5-151	5	3.15	2.52	2.10	1.68	1.59
6-151	6	3.75	3.00	2.50	2.00	1.90
7-151	7	4.35	3.48	2.90	2.32	2.20
8-151	8	4.95	3.96	3.30	2.64	2.51

152 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1-152	1	1.58	1.26	1.05	0.84	0.80
2-152	2	2.25	1.80	1.50	1.20	1.14
3-152	3	3.08	2.46	2.05	1.64	1.56
4-152	4	3.90	3.12	2.60	2.08	1.98
5-152	5	4.73	3.78	3.15	2.52	2.39
6-152	6	5.55	4.44	3.70	2.96	2.81

140-Y, W SERIES

C-J No.*	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1-140-Y	1	0.23	0.19	0.16	0.13	0.12
2-140-Y	2	.29	.23	.20	.16	.15
3-140-Y	3	.36	.29	.24	.19	.18
4-140-Y	4	.46	.37	.31	.24	.23
5-140-Y	5	.56	.45	.38	.30	.29
6-140-Y	6	.66	.53	.44	.35	.33
7-140-Y	7	.76	.61	.51	.40	.38
8-140-Y	8	.86	.69	.58	.46	.44
9-140-Y	9	.97	.77	.65	.52	.49
10-140-Y	10	1.07	.86	.72	.57	.54
11-140-Y	11	1.16	.93	.78	.62	.59
12-140-Y	12	1.27	1.01	.85	.68	.64
13-140-Y	13	1.37	1.10	.92	.73	.70
14-140-Y	14	1.48	1.18	.99	.79	.75
15-140-Y	15	1.58	1.26	1.05	.84	.80
16-140-Y	16	1.67	1.34	1.12	.89	.85
17-140-Y	17	1.78	1.42	1.19	.95	.90
18-140-Y	18	1.88	1.50	1.25	1.00	.95
19-140-Y	19	1.97	1.58	1.32	1.05	1.00
20-140-Y	20	2.07	1.66	1.38	1.10	1.05
21-140-Y	21	2.18	1.75	1.46	1.16	1.11

*For 3/4W or W Series, substitute for Y such as 1-140-3/4W. Mounting Centers and Overall Lengths same as 140 Series. See Distributor for exact prices which are slightly higher than for Y Series.

141-Y, W SERIES

C-J No.*	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1-141-Y	1	0.28	0.22	0.19	0.15	0.14
2-141-Y	2	.35	.28	.23	.18	.18
3-141-Y	3	.47	.38	.32	.25	.24
4-141-Y	4	.61	.49	.41	.32	.31
5-141-Y	5	.74	.59	.49	.39	.37
6-141-Y	6	.85	.68	.57	.45	.43
7-141-Y	7	1.00	.80	.67	.53	.51
8-141-Y	8	1.12	.89	.75	.60	.57
9-141-Y	9	1.24	.99	.83	.66	.63
10-141-Y	10	1.38	1.10	.92	.74	.70
11-141-Y	11	1.51	1.21	1.01	.80	.76
12-141-Y	12	1.64	1.31	1.09	.87	.83
13-141-Y	13	1.78	1.42	1.19	.95	.90
14-141-Y	14	1.91	1.53	1.28	1.02	.97
15-141-Y	15	2.04	1.63	1.36	1.09	1.03
16-141-Y	16	2.18	1.75	1.46	1.16	1.11
17-141-Y	17	2.32	1.85	1.55	1.24	1.17
18-141-Y	18	2.45	1.96	1.64	1.31	1.24
19-141-Y	19	2.60	2.08	1.73	1.38	1.32
20-141-Y	20	2.73	2.18	1.82	1.46	1.38

*For 3/4W or W Series, substitute for Y, such as 1-141-3/4W. Mounting Centers and Overall Lengths same as 141 Series. See Distributor for exact prices which are slightly higher than for Y Series.

142-Y, W SERIES

C-J No.*	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1-142-Y	1	0.31	0.25	0.21	0.16	0.16
2-142-Y	2	.42	.34	.28	.22	.21
3-142-Y	3	.57	.46	.38	.30	.29
4-142-Y	4	.74	.59	.49	.39	.37
5-142-Y	5	.89	.71	.60	.48	.45
6-142-Y	6	1.07	.85	.71	.57	.54
7-142-Y	7	1.23	.98	.82	.66	.62
8-142-Y	8	1.39	1.11	.93	.74	.70
9-142-Y	9	1.55	1.24	1.03	.82	.78
10-142-Y	10	1.73	1.38	1.15	.92	.87
11-142-Y	11	1.88	1.51	1.26	1.00	.95
12-142-Y	12	2.05	1.64	1.37	1.09	1.04
13-242-Y	13	2.22	1.78	1.48	1.18	1.13
14-142-Y	14	2.38	1.90	1.59	1.27	1.21
15-142-Y	15	2.55	2.04	1.70	1.36	1.29
16-142-Y	16	2.72	2.18	1.82	1.45	1.38
17-142-Y	17	2.88	2.30	1.92	1.54	1.46

*For 3/4W or W Series, substitute for Y, such as 1-142-3/4W. Mounting Centers and Overall Lengths same as 142 Series. See Distributor for exact prices which are slightly higher than for Y Series.

164 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1-164	1	0.21	0.17	0.14	0.12	0.11
2-164	2	.26	.20	.17	.14	.13
3-164	3	.32	.25	.21	.17	.16
4-164	4	.40	.32	.27	.21	.20
5-164	5	.47	.38	.32	.25	.24
6-164	6	.56	.44	.37	.30	.28
7-164	7	.63	.50	.42	.34	.32
8-164	8	.71	.57	.48	.38	.36
9-164	9	.79	.63	.53	.42	.40
10-164	10	.87	.70	.58	.46	.44
11-164	11	.95	.76	.63	.50	.48
12-164	12	1.03	.82	.69	.55	.52
13-164	13	1.11	.89	.74	.59	.56
14-164	14	1.20	.96	.80	.64	.61
15-164	15	1.28	1.02	.85	.68	.65
16-164	16	1.37	1.09	.91	.73	.69
17-164	17	1.43	1.15	.96	.76	.73
18-164	18	1.52	1.22	1.02	.81	.77
19-164	19	1.60	1.28	1.07	.85	.81
20-164	20	1.69	1.35	1.13	.90	.86
21-164	21	1.77	1.42	1.18	.94	.90

Mounting Centers and Overall Lengths same as 140 Series.

Net

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Barrier Terminal Blocks

The new 500 series Jones Barrier Terminal Blocks are designed for applications where electrical and mechanical performance requirements are especially critical. Bottoms are closed so that insulating strips are not required. Knockouts are molded into the base so that Y terminals can be accommodated if desired. The heavy construction adds strength to the block, minimizing warpage and shrinkage. A top-mounted marker strip can be furnished.

ELECTRICAL RATINGS

Series	Max. Volts r.m.s. Without Marker Strip	Max. Volts r.m.s. With Marker Strip	Max. Current In Amps.	Max. Watts per terminal
140	1100	1200	15	3,750
141	1100	1600	20	5,000
142	1600	2500	30	7,500
150	1700	2600	50	12,500
151	1800	3400	70	17,500
152	2100	3800	90	54,000
164	1100	1200	15	3,750
171				
174	1000	2000	5	625
540	2300	—	15	—
541	2800	—	20	—
542	4000	—	30	—

*No marker strip available for Series 174.

171 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-171	2	.27	.22	.18	.14	.14
3-171	3	.34	.27	.23	.18	.17
4-171	4	.40	.32	.27	.21	.20
5-171	5	.46	.37	.31	.24	.23
6-171	6	.53	.42	.35	.28	.27
7-171	7	.59	.47	.39	.31	.30
8-171	8	.65	.52	.43	.34	.33

172 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-172	2	.47	.37	.31	.25	.24
3-172	3	.59	.47	.40	.32	.30
4-172	4	.72	.58	.48	.38	.37
5-172	5	.84	.67	.56	.45	.43
6-172	6	.97	.77	.65	.52	.49
7-172	7	1.10	.88	.73	.58	.56
8-172	8	1.22	.97	.81	.65	.62
9-172	9	1.34	1.07	.90	.72	.68
10-172	10	1.47	1.18	.98	.78	.75
11-172	11	1.59	1.27	1.06	.85	.81
12-172	12	1.72	1.37	1.15	.92	.87
13-172	13	1.89	1.47	1.23	.98	.93
14-172	14	1.97	1.57	1.31	1.05	1.00

172-Y, 3/4W, W SERIES

C-J No.*	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-172-Y	2	0.53	0.43	0.36	0.28	0.27
3-172-Y	3	.69	.55	.46	.37	.35
4-172-Y	4	.84	.67	.56	.45	.43
5-172-Y	5	1.00	.80	.67	.53	.51
6-172-Y	6	1.16	.92	.77	.62	.59
7-172-Y	7	1.31	1.05	.88	.70	.67
8-172-Y	8	1.47	1.18	.98	.78	.75
9-172-Y	9	1.62	1.30	1.08	.86	.82
10-172-Y	10	1.78	1.42	1.19	.95	.90
11-172-Y	11	1.94	1.55	1.29	1.03	.98
12-172-Y	12	2.09	1.67	1.40	1.12	1.06
13-172-Y	13	2.25	1.80	1.50	1.20	1.14
14-172-Y	14	2.40	1.92	1.60	1.28	1.22

*For 3/4W and W Series, substitute for Y, such as 2-172-3/4W
Mounting Centers and Overall Lengths same as 172 Series.

173 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-173	2	0.28	.22	.19	.15	.14
3-173	3	.38	.30	.25	.20	.19
4-173	4	.47	.38	.32	.25	.24
5-173	5	.57	.46	.38	.30	.29
6-173	6	.67	.53	.45	.36	.34
7-173	7	.77	.61	.51	.41	.39
8-173	8	.86	.68	.57	.46	.43
9-173	9	.95	.76	.64	.51	.48
10-173	10	1.05	.84	.70	.56	.53

174 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-174	2	.23	.18	.15	.12	.11
3-174	3	.30	.24	.20	.16	.15
4-174	4	.38	.30	.25	.20	.19
5-174	5	.44	.35	.30	.24	.20
6-174	6	.52	.41	.35	.28	.26
7-174	7	.59	.47	.40	.32	.30
8-174	8	.67	.53	.45	.36	.34
9-174	9	.74	.59	.49	.39	.37
10-174	10	.81	.65	.54	.43	.41

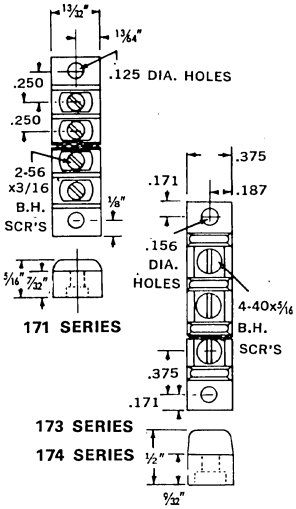
Mounting Centers and Overall Lengths same as 173 Series.

JUMPERS

C-J No.	Use With Series	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
95B	142	15c	12c	10c	9c	8c
140J-1	140	7c	6c	5c	4c	3c
141J	141	8c	7c	6c	5c	4c
141J-1	141	9c	8c	7c	6c	5c
142J-1	142	9c	8c	7c	6c	5c
142J-2	142	8c	7c	6c	5c	4c
540J	540	29c	23c	20c	16c	15c
541J	541	32c	25c	21c	17c	16c
542J	542	34c	27c	23c	18c	17c

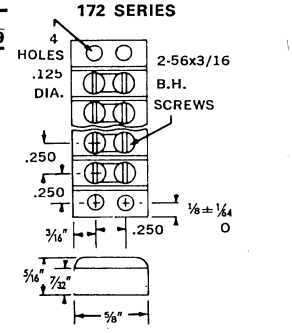
540 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-540	2	$0.50	$0.40	$0.34	$0.27	$0.26
3-540	3	.62	.50	.42	.33	.32
4-540	4	.75	.60	.50	.40	.38
5-540	5	.88	.70	.59	.47	.45
6-540	6	1.00	.80	.67	.53	.51
7-540	7	1.13	.90	.75	.60	.57
8-540	8	1.25	1.00	.84	.67	.64
9-540	9	1.37	1.10	.92	.73	.70
10-540	10	1.50	1.20	1.00	.80	.76
11-540	11	1.63	1.30	1.09	.87	.83
12-540	12	1.67	1.34	1.12	.89	.85
13-540	13	1.88	1.50	1.24	1.00	.95
14-540	14	2.00	1.60	1.34	1.07	1.02
15-540	15	2.12	1.70	1.42	1.13	1.08
16-540	16	2.25	1.80	1.50	1.20	1.14
17-540	17	2.38	1.90	1.59	1.27	1.21
18-540	18	2.50	2.00	1.67	1.33	1.27
19-540	19	2.63	2.10	1.75	1.40	1.33
20-540	20	2.75	2.20	1.84	1.47	1.40
21-540	21	2.87	2.30	1.91	1.53	1.46
22-540	22	3.00	2.40	2.00	1.60	1.52
23-540	23	3.13	2.50	2.09	1.67	1.59
24-540	24	3.25	2.60	2.17	1.73	1.65
25-540	25	3.38	2.70	2.25	1.80	1.71
26-540	26	3.50	2.80	2.34	1.87	1.78
27-540	27	3.62	2.90	2.41	1.93	1.84
28-540	28	3.75	3.00	2.50	2.00	1.90
29-540	29	3.88	3.10	2.59	2.07	1.97
30-540	30	4.00	3.20	2.67	2.13	2.03
31-540	31	4.13	3.30	2.75	2.20	2.09



541 SERIES

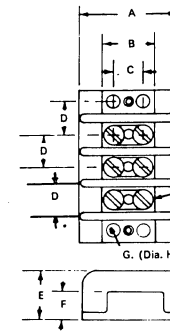
C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-541	2	$0.62	$0.50	$0.42	$0.33	$0.32
3-541	3	.75	.60	.50	.40	.38
4-541	4	.88	.70	.59	.47	.45
5-541	5	1.00	.80	.67	.53	.51
6-541	6	1.13	.90	.75	.60	.57
7-541	7	1.28	1.02	.85	.68	.65
8-541	8	1.40	1.12	.93	.74	.71
9-541	9	1.52	1.22	1.02	.81	.77
10-541	10	1.65	1.32	1.10	.88	.84
11-541	11	1.77	1.42	1.18	.94	.90
12-541	12	1.92	1.54	1.28	1.02	.97
13-541	13	2.04	1.63	1.36	1.09	1.03
14-541	14	2.17	1.73	1.45	1.16	1.10
15-541	15	2.30	1.84	1.52	1.22	1.16
16-541	16	2.42	1.93	1.61	1.29	1.22
17-541	17	2.57	2.05	1.71	1.37	1.30
18-541	18	2.68	2.14	1.79	1.43	1.36
19-541	19	2.81	2.25	1.88	1.50	1.43
20-541	20	2.94	2.35	1.96	1.57	1.49
21-541	21	3.06	2.45	2.04	1.63	1.55
22-541	22	3.21	2.56	2.14	1.71	1.63
23-541	23	3.34	2.67	2.23	1.78	1.69
24-541	24	3.46	2.77	2.31	1.84	1.75
25-541	25	3.59	2.87	2.39	1.91	1.82
26-541	26	3.71	2.97	2.48	1.98	1.88
27-541	27	3.86	3.08	2.57	2.06	1.95
28-541	28	3.98	3.19	2.66	2.12	2.02
29-541	29	4.10	3.28	2.74	2.19	2.08
30-541	30	4.23	3.38	2.82	2.26	2.14



*173 Series has screws with lock washers.
174 Series has screws without lock washers.

542 SERIES

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-542	2	$0.67	$0.53	$0.45	$0.36	$0.34
3-542	3	.83	.67	.56	.44	.42
4-542	4	1.00	.80	.67	.53	.51
5-542	5	1.16	.93	.78	.62	.59
6-542	6	1.33	1.06	.89	.71	.67
7-542	7	1.50	1.20	1.00	.80	.76
8-542	8	1.67	1.33	1.11	.89	.84
9-542	9	1.83	1.46	1.22	.98	.93
10-542	10	2.00	1.60	1.33	1.06	1.01
11-542	11	2.17	1.73	1.45	1.16	1.10
12-542	12	2.33	1.86	1.55	1.24	1.18
13-542	13	2.50	2.00	1.67	1.33	1.27
14-542	14	2.66	2.13	1.78	1.42	1.35
15-542	15	2.82	2.26	1.89	1.51	1.43
16-542	16	3.00	2.40	2.00	1.60	1.52
17-542	17	3.17	2.53	2.11	1.69	1.60
18-542	18	3.33	2.66	2.22	1.78	1.69
19-542	19	3.50	2.80	2.33	1.86	1.77
20-542	20	3.67	2.93	2.45	1.96	1.86
21-542	21	3.83	3.07	2.56	2.04	1.94
22-542	22	4.00	3.20	2.67	2.13	2.03
23-542	23	4.16	3.33	2.78	2.22	2.11
24-542	24	4.33	3.46	2.89	2.31	2.19
25-542	25	4.50	3.60	3.00	2.40	2.28
26-542	26	4.67	3.73	3.11	2.49	2.36



SOLDER TERMINALS

C-J No. W-Type	C-J No. ¾ W-Type	C-J No. Y-Type	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
W-140	¾ W-140	Y-140	9c	8c	7c	6c	5c
W-141	¾ W-141	Y-141	9c	8c	7c	6c	5c
W-142	¾ W-142	Y-142	10c	9c	8c	7c	6c
W-150	.....	.....	16c	13c	11c	10c	9c
W-151	.....	.....	22c	18c	15c	13c	12c
W-152	.....	.....	40c	32c	26c	21c	20c

SERIES DIMENSIONS

	540	541	542
A	1¼"	1⅜"	1⅝"
B	13/32"	¾"	⅞"
C	5/16"	27/64"	½"
D	⅜"	7/16"	9/16"
E	39/64"	11/16"	⅞"
F	21/64"	⅜"	½"
G	.160"	.175/.185"	.209"
H	5/40 x 3/16	6/32 x ¼	8/32 x 5/16

Barrier Block Fanning Strips

Fanning strips serve as a convenient means for rapidly making and removing connections from barrier terminal blocks. They facilitate cable or harness wiring and minimize the possibility of subsequent wiring errors. Both straight and angle type fanning strips are available. Terminals are made of .032" brass, cadmium-plated. The 3/32" thick, ½" wide XP black phenolic mounts are furnished with a hole, in either the right or left side, for securing the cable with lacing twine. For larger sizes, use of a cable clamp is recommended.

STRAIGHT TYPE—160 SERIES

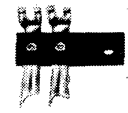
160 SERIES

Fits 140 Series Barrier Blocks ⅜" Terminal Centers

No. of Term.	C-J Number C. C. Hole on Left	C-J Number C. C. Hole on Right	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2	2-160-L	2-160-R	$0.22	$0.17	$0.15	$0.13	$0.12
3	3-160-L	3-160-R	.26	.22	.18	.15	.14
4	4-160-L	4-160-R	.33	.26	.23	.18	.17
5	5-160-L	5-160-R	.39	.31	.26	.21	.20
6	6-160-L	6-160-R	.44	.35	.29	.23	.22
7	7-160-L	7-160-R	.51	.40	.33	.26	.25
8	8-160-L	8-160-R	.55	.44	.37	.30	.28
9	9-160-L	9-160-R	.63	.51	.43	.33	.32
10	10-160-L	10-160-R	.70	.56	.47	.37	.36
11	11-160-L	11-160-R	.77	.61	.52	.41	.39
12	12-160-L	12-160-R	.86	.69	.58	.46	.44
13	13-160-L	13-160-R	.94	.75	.63	.51	.47
14	14-160-L	14-160-R	.99	.78	.66	.53	.49
15	15-160-L	15-160-R	1.04	.83	.69	.55	.53
16	16-160-L	16-160-R	1.12	.89	.75	.60	.56
17	17-160-L	17-160-R	1.15	.92	.77	.61	.59
18	18-160-L	18-160-R	1.20	.95	.81	.64	.61
19	19-160-L	19-160-R	1.27	1.01	.85	.68	.64
20	20-160-L	20-160-R	1.32	1.06	.89	.70	.67
21	21-160-L	21-160-R	1.39	1.12	.93	.74	.70

ANGLE TYPE—160A SERIES

160A SERIES



Fits 140 Series Barrier Blocks ⅜" Terminal Centers

No. of Term.	C-J Number C. C. Hole on Left	C-J Number C. C. Hole on Right	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2	2-160A-L	2-160A-R	$0.26	$0.22	$0.18	$0.15	$0.14
3	3-160A-L	3-160A-R	.33	.26	.23	.18	.17
4	4-160A-L	4-160A-R	.44	.35	.29	.23	.22
5	5-160A-L	5-160A-R	.53	.43	.36	.28	.26
6	6-160A-L	6-160A-R	.63	.51	.43	.33	.32
7	7-160A-L	7-160A-R	.70	.56	.47	.37	.36
8	8-160A-L	8-160A-R	.86	.69	.58	.46	.44
9	9-160A-L	9-160A-R	.95	.77	.64	.51	.48
10	10-160A-L	10-160A-R	1.04	.83	.69	.55	.53
11	11-160A-L	11-160A-R	1.15	.92	.77	.61	.59
12	12-160A-L	12-160A-R	1.20	.95	.81	.64	.61
13	13-160A-L	13-160A-R	1.32	1.06	.89	.70	.67
14	14-160A-L	14-160A-R	1.44	1.15	.97	.77	.74
15	15-160A-L	15-160A-R	1.54	1.23	1.02	.82	.78
16	16-160A-L	16-160A-R	1.63	1.30	1.09	.87	.83
17	17-160A-L	17-160A-R	1.73	1.38	1.15	.92	.87
18	18-160A-L	18-160A-R	1.85	1.47	1.23	.99	.93
19	19-160A-L	19-160A-R	1.97	1.58	1.31	1.05	1.00
20	20-160A-L	20-160A-R	2.04	1.63	1.36	1.08	1.04
21	21-160A-L	21-160A-R	2.13	1.70	1.43	1.14	1.08

STRAIGHT TYPE—160B SERIES

160B SERIES

Fits 140 Series Barrier Blocks ⅜" Terminal Centers

No. of Term.	C-J Number C. C. Hole on Left	C-J Number C. C. Hole on Right	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2	2-160B-L	2-160B-R	$0.26	$0.22	$0.18	$0.15	$0.14
3	3-160B-L	3-160B-R	.33	.26	.23	.18	.17
4	4-160B-L	4-160B-R	.44	.35	.29	.23	.22
5	5-160B-L	5-160B-R	.53	.43	.36	.28	.26
6	6-160B-L	6-160B-R	.63	.51	.43	.33	.32
7	7-160B-L	7-160B-R	.70	.56	.47	.37	.36
8	8-160B-L	8-160B-R	.86	.69	.58	.46	.44
9	9-160B-L	9-160B-R	.95	.77	.64	.51	.48
10	10-160B-L	10-160B-R	1.04	.83	.69	.55	.53
11	11-160B-L	11-160B-R	1.15	.92	.77	.61	.59
12	12-160B-L	12-160B-R	1.20	.95	.81	.64	.61
13	13-160B-L	13-160B-R	1.32	1.06	.89	.70	.67
14	14-160B-L	14-160B-R	1.44	1.15	.97	.77	.74
15	15-160B-L	15-160B-R	1.54	1.23	1.02	.82	.78
16	16-160B-L	16-160B-R	1.63	1.30	1.09	.87	.83
17	17-160B-L	17-160B-R	1.73	1.38	1.15	.92	.87
18	18-160B-L	18-160B-R	1.85	1.47	1.23	.99	.93
19	19-160B-L	19-160B-R	1.97	1.58	1.31	1.05	1.00
20	20-160B-L	20-160B-R	2.04	1.63	1.36	1.08	1.04
21	21-160B-L	21-160B-R	2.13	1.70	1.43	1.14	1.08

ANGLE TYPE—160BA SERIES

160BA SERIES

Fits 140 Series Barrier Blocks ⅜" Terminal Centers

No. of Term.	C-J Number C. C. Hole on Left	C-J Number C. C. Hole on Right	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2	2-160BA-L	2-160BA-R	$0.26	$0.22	$0.18	$0.15	$0.14
3	3-160BA-L	3-160BA-R	.33	.26	.23	.18	.17
4	4-160BA-L	4-160BA-R	.44	.35	.29	.23	.22
5	5-160BA-L	5-160BA-R	.53	.43	.36	.28	.26
6	6-160BA-L	6-160BA-R	.63	.51	.43	.33	.32
7	7-160BA-L	7-160BA-R	.70	.56	.47	.37	.36
8	8-160BA-L	8-160BA-R	.86	.69	.58	.46	.44
9	9-160BA-L	9-160BA-R	.95	.77	.64	.51	.48
10	10-160BA-L	10-160BA-R	1.04	.83	.69	.55	.53
11	11-160BA-L	11-160BA-R	1.15	.92	.77	.61	.59
12	12-160BA-L	12-160BA-R	1.20	.95	.81	.64	.61
13	13-160BA-L	13-160BA-R	1.32	1.06	.89	.70	.67
14	14-160BA-L	14-160BA-R	1.44	1.15	.97	.77	.74
15	15-160BA-L	15-160BA-R	1.54	1.23	1.02	.82	.78
16	16-160BA-L	16-160BA-R	1.63	1.30	1.09	.87	.83
17	17-160BA-L	17-160BA-R	1.73	1.38	1.15	.92	.87
18	18-160BA-L	18-160BA-R	1.85	1.47	1.23	.99	.93
19	19-160BA-L	19-160BA-R	1.97	1.58	1.31	1.05	1.00
20	20-160BA-L	20-160BA-R	2.04	1.63	1.36	1.08	1.04
21	21-160BA-L	21-160BA-R	2.13	1.70	1.43	1.14	1.08

STRAIGHT TYPE—161 SERIES

No. of Term.	C-J Number C. C. Hole on Left	C-J Number C. C. Hole on Right	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2	2-161-L	2-161-R	$0.24	$0.20	$0.16	$0.14	$0.13
3	3-161-L	3-161-R	.30	.23	.20	.16	.15
4	4-161-L	4-161-R	.33	.26	.23	.18	.17
5	5-161-L	5-161-R	.40	.32	.28	.22	.21
6	6-161-L	6-161-R	.46	.37	.31	.24	.23
7	7-161-L	7-161-R	.53	.43	.36	.28	.26
8	8-161-L	8-161-R	.58	.46	.39	.31	.30
9	9-161-L	9-161-R	.63	.51	.43	.33	.32
10	10-161-L	10-161-R	.72	.58	.48	.39	.37
11	11-161-L	11-161-R	.82	.66	.55	.44	.41
12	12-161-L	12-161-R	.89	.71	.60	.47	.45
13	13-161-L	13-161-R	.95	.77	.64	.51	.48
14	14-161-L	14-161-R	1.01	.81	.68	.54	.52
15	15-161-L	15-161-R	1.06	.84	.70	.56	.53
16	16-161-L	16-161-R	1.13	.91	.76	.60	.58
17	17-161-L	17-161-R	1.17	.94	.78	.62	.60
18	18-161-L	18-161-R	1.27	1.01	.84	.67	.63
19	19-161-L	19-161-R	1.30	1.04	.86	.69	.65
20	20-161-L	20-161-R	1.37	1.09	.91	.72	.69

ANGLE TYPE—161A SERIES

No. of Term.	C-J Number C. C. Hole on Left	C-J Number C. C. Hole on Right	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2	2-161A-L	2-161A-R	$0.26	$0.22	$0.18	$0.15	$0.14
3	3-161A-L	3-161A-R	.33	.26	.23	.18	.17
4	4-161A-L	4-161A-R	.44	.35	.29	.23	.22
5	5-161A-L	5-161A-R	.53	.43	.36	.28	.26
6	6-161A-L	6-161A-R	.63	.51	.43	.33	.32
7	7-161A-L	7-161A-R	.70	.56	.47	.37	.36
8	8-161A-L	8-161A-R	.86	.69	.58	.46	.44
9	9-161A-L	9-161A-R	.95	.77	.64	.51	.48
10	10-161A-L	10-161A-R	1.04	.83	.69	.55	.53
11	11-161A-L	11-161A-R	1.15	.92	.77	.61	.59
12	12-161A-L	12-161A-R	1.20	.95	.81	.64	.61
13	13-161A-L	13-161A-R	1.32	1.06	.89	.70	.67
14	14-161A-L	14-161A-R	1.44	1.15	.97	.77	.74
15	15-161A-L	15-161A-R	1.54	1.23	1.02	.82	.78
16	16-161A-L	16-161A-R	1.63	1.30	1.09	.87	.83
17	17-161A-L	17-161A-R	1.73	1.38	1.15	.92	.87
18	18-161A-L	18-161A-R	1.85	1.47	1.23	.99	.93
19	19-161A-L	19-161A-R	1.97	1.58	1.31	1.05	1.00
20	20-161A-L	20-161A-R	2.04	1.63	1.36	1.08	1.04

STRAIGHT TYPE—162 SERIES

No. of Term.	C-J Number C. C. Hole on Left	C-J Number C. C. Hole on Right	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2	2-162-L	2-162-R	$0.26	$0.22	$0.18	$0.15	$0.14
3	3-162-L	3-162-R	.31	.25	.21	.17	.16
4	4-162-L	4-162-R	.39	.31	.26	.21	.20
5	5-162-L	5-162-R	.44	.35	.29	.23	.22
6	6-162-L	6-162-R	.51	.44	.37	.30	.28
7	7-162-L	7-162-R	.55	.44	.37	.30	.28
8	8-162-L	8-162-R	.63	.51	.43	.33	.32
9	9-162-L	9-162-R	.68	.54	.45	.36	.35
10	10-162-L	10-162-R	.75	.60	.51	.40	.38
11	11-162-L	11-162-R	.84	.67	.56	.45	.43
12	12-162-L	12-162-R	.94	.75	.63	.51	.47
13	13-162-L	13-162-R	.99	.78	.66	.53	.49
14	14-162-L	14-162-R	1.04	.83	.69	.55	.53
15	15-162-L	15-162-R	1.10	.89	.74	.59	.56
16	16-162-L	16-162-R	1.15	.92	.77	.61	.59
17	17-162-L	17-162-R	1.20	.95	.81	.64	.61

ANGLE TYPE—162A SERIES

No. of Term.	C-J Number C. C. Hole on Left	C-J Number C. C. Hole on Right	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2	2-162A-L	2-162A-R	$0.31	$0.25	$0.21	$0.17	$0.16
3	3-162A-L	3-162A-R	.39	.31	.26	.21	.20
4	4-162A-L	4-162A-R	.51	.40	.33	.26	.25
5	5-162A-L	5-162A-R	.58	.46	.39	.31	.30
6	6-162A-L	6-162A-R	.68	.54	.45	.36	.35
7	7-162A-L	7-162A-R	.75	.60	.51	.40	.38
8	8-162A-L	8-162A-R	.94	.75	.63	.51	.47
9	9-162A-L	9-162A-R	1.01	.81	.68	.54	.52
10	10-162A-L	10-162A-R	1.10	.89	.74	.59	.56
11	11-162A-L	11-162A-R	1.20	.95	.81	.64	.61
12	12-162A-L	12-162A-R	1.32	1.06	.89	.70	.67
13	13-162A-L	13-162A-R	1.41	1.13	.94	.76	.71
14	14-162A-L	14-162A-R	1.48	1.18	.99	.79	.75
15	15-162A-L	15-162A-R	1.58	1.27	1.06	.84	.81
16	16-162A-L	16-162A-R	1.70	1.36	1.14	.91	.86
17	17-162A-L	17-162A-R	1.79	1.44	1.20	.95	.91

Net

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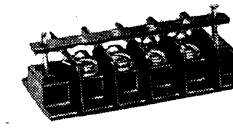
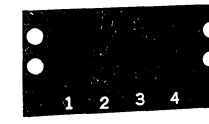
Marker Strips

Marker strips are used for the purpose of labelling terminal positions on barrier terminal blocks and insulating exposed portions of terminals from metallic mounting surface. Marker strip mounting holes correspond with those on appropriate barrier terminal block. Made of 1/32" vulcanized fibre and numbered sequentially from 1 with legible white numerals. Part number indicates number of terminal positions accommodated.

"500" series marker strips are made of 1/16" XP Bakelite, ¼" wide and numbered sequentially from 1 with ⅛" legible white numerals. Mounted on top of terminal strip as illustrated, with mounting screws furnished.





FOR 140 AND 164 SERIES TERMINAL BLOCKS (MARKER STRIPS)

C-J No.	Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
MS-2-140	2	0.13	0.10	0.09	0.08	0.07
MS-3-140	3	.13	.10	.09	.08	.07
MS-4-140	4	.13	.10	.09	.08	.07
MS-5-140	5	.13	.10	.09	.08	.07
MS-6-140	6	.13	.10	.09	.08	.07
MS-7-140	7	.15	.12	.10	.09	.08
MS-8-140	8	.15	.12	.10	.09	.08
MS-9-140	9	.15	.12	.10	.09	.08
MS-10-140	10	.17	.13	.11	.10	.09
MS-11-140	11	.17	.13	.11	.10	.09
MS-12-140	12	.17	.13	.11	.10	.09
MS-13-140	13	.19	.15	.13	.11	.10
MS-14-140	14	.19	.15	.13	.11	.10
MS-15-140	15	.19	.15	.13	.11	.10
MS-16-140	16	.21	.17	.14	.12	.11
MS-17-140	17	.21	.17	.14	.12	.11
MS-18-140	18	.21	.17	.14	.12	.11
MS-19-140	19	.23	.19	.16	.13	.12
MS-20-140	20	.23	.19	.16	.13	.12
MS-21-140	21	.23	.19	.16	.13	.12

FOR 141 SERIES TERMINAL BLOCKS

C-J No.	Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
MS-2-141	2	0.13	0.10	0.09	0.08	0.07
MS-3-141	3	.13	.10	.09	.08	.07
MS-4-141	4	.13	.10	.09	.08	.07
MS-5-141	5	.15	.12	.10	.09	.08
MS-6-141	6	.15	.12	.10	.09	.08
MS-7-141	7	.15	.12	.10	.09	.08
MS-8-141	8	.17	.13	.11	.10	.09
MS-9-141	9	.17	.13	.11	.10	.09
MS-10-141	10	.17	.13	.11	.10	.09
MS-11-141	11	.19	.15	.13	.11	.10
MS-12-141	12	.19	.15	.13	.11	.10
MS-13-141	13	.21	.17	.14	.12	.11
MS-14-141	14	.21	.17	.14	.12	.11
MS-15-141	15	.23	.19	.16	.13	.12
MS-16-141	16	.23	.19	.16	.13	.12
MS-17-141	17	.26	.20	.17	.14	.13
MS-18-141	18	.26	.20	.17	.14	.13
MS-19-141	19	.27	.22	.18	.15	.14
MS-20-141	20	.27	.22	.18	.15	.14

FOR 142 SERIES TERMINAL BLOCKS

C-J No.	Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
MS-2-142	2	0.13	0.10	0.09	0.08	0.07
MS-3-142	3	.13	.10	.09	.08	.07
MS-4-142	4	.15	.12	.10	.09	.08
MS-5-142	5	.15	.12	.10	.09	.08
MS-6-142	6	.15	.12	.10	.09	.08
MS-7-142	7	.17	.13	.11	.10	.09
MS-8-142	8	.17	.13	.11	.10	.09
MS-9-142	9	.19	.15	.13	.11	.10
MS-10-142	10	.21	.17	.14	.12	.11
MS-11-142	11	.21	.17	.14	.12	.11
MS-12-142	12	.23	.19	.16	.13	.12
MS-13-142	13	.23	.19	.16	.13	.12
MS-14-142	14	.26	.20	.17	.14	.13
MS-15-142	15	.26	.20	.17	.14	.13
MS-16-142	16	.29	.23	.20	.16	.15
MS-17-142	17	.32	.25	.21	.17	.16

FOR 540 SERIES TERMINAL BLOCKS

C-J No.	Term.	Net Each, Lots of 1-24	25-49	50-99	100-249
MSX-2-540	2	0.17	0.13	0.11	0.10
MSX-3-540	3	.17	.13	.11	.10
MSX-4-540	4	.17	.13	.11	.10
MSX-5-540	5	.17	.13	.11	.10
MSX-6-540	6	.17	.13	.11	.10
MSX-7-540	7	.17	.13	.11	.10
MSX-8-540	8	.17	.13	.11	.10
MSX-9-540	9	.17	.13	.11	.10
MSX-10-540	10	.17	.13	.11	.10
MSX-11-540	11	.19	.15	.13	.11
MSX-12-540	12	.19	.15	.13	.11
MSX-13-540	13	.19	.15	.13	.11
MSX-14-540	14	.19	.15	.13	.11
MSX-15-540	15	.19	.15	.13	.11
MSX-16-540	16	.19	.15	.13	.11
MSX-17-540	17	.21	.17	.14	.12
MSX-18-540	18	.21	.17	.14	.12
MSX-19-540	19	.21	.17	.14	.12
MSX-20-540	20	.21	.17	.14	.12
MSX-21-540	21	.21	.17	.14	.12
MSX-22-540	22	.23	.19	.16	.13
MSX-23-540	23	.23	.19	.16	.13
MSX-24-540	24	.27	.22	.18	.15
MSX-25-540	25	.27	.22	.18	.15
MSX-26-540	26	.27	.22	.18	.15
MSX-27-540	27	.27	.22	.18	.15
MSX-28-540	28	.27	.22	.18	.15
MSX-29-540	29	.29	.23	.20	.16
MSX-30-540	30	.29	.23	.20	.16
MSX-31-540	31	.29	.23	.20	.16

FOR 541 SERIES TERMINAL BLOCKS

C-J No.	Term.	Net Each, Lots of 1-24	25-49	50-99	100-249
MSX-2-541	2	0.17	0.13	0.11	0.10
MSX-3-541	3	.17	.13	.11	.10
MSX-4-541	4	.17	.13	.11	.10
MSX-5-541	5	.17	.13	.11	.10
MSX-6-541	6	.17	.13	.11	.10
MSX-7-541	7	.17	.13	.11	.10
MSX-8-541	8	.17	.13	.11	.10
MSX-9-541	9	.17	.13	.11	.10
MSX-10-541	10	.17	.13	.11	.10
MSX-11-541	11	.19	.15	.13	.11
MSX-12-541	12	.19	.15	.13	.11
MSX-13-541	13	.19	.15	.13	.11
MSX-14-541	14	.19	.15	.13	.11
MSX-15-541	15	.19	.15	.13	.11
MSX-16-541	16	.21	.17	.14	.12
MSX-17-541	17	.21	.17	.14	.12
MSX-18-541	18	.21	.17	.14	.12
MSX-19-541	19	.21	.17	.14	.12
MSX-20-541	20	.21	.17	.14	.12
MSX-21-541	21	.26	.20	.17	.14
MSX-22-541	22	.26	.20	.17	.14
MSX-23-541	23	.27	.22	.18	.15
MSX-24-541	24	.27	.22	.18	.15
MSX-25-541	25	.27	.22	.18	.15
MSX-26-541	26	.27	.22	.18	.15
MSX-27-541	27	.27	.22	.18	.15
MSX-28-541	28	.29	.23	.20	.16
MSX-29-541	29	.29	.23	.20	.16
MSX-30-541	30	.29	.23	.20	.16

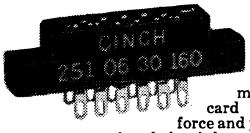
FOR 542 SERIES TERMINAL BLOCKS

C-J No.	Term.	Net Each, Lots of 1-24	25-49	50-99	100-249
MSX-2-542	2	0.17	0.13	0.11	0.10
MSX-3-542	3	.17	.13	.11	.10
MSX-4-542	4	.17	.13	.11	.10
MSX-5-542	5	.17	.13	.11	.10
MSX-6-542	6	.17	.13	.11	.10
MSX-7-542	7	.19	.15	.13	.11
MSX-8-542	8	.19	.15	.13	.11
MSX-9-542	9	.19	.15	.13	.11
MSX-10-542	10	.19	.15	.13	.11
MSX-11-542	11	.19	.15	.13	.11
MSX-12-542	12	.21	.17	.14	.12
MSX-13-542	13	.21	.17	.14	.12
MSX-14-542	14	.21	.17	.14	.12
MSX-15-542	15	.21	.17	.14	.12
MSX-16-542	16	.26	.20	.17	.14
MSX-17-542	17	.26	.20	.17	.14
MSX-18-542	18	.26	.20	.17	.14
MSX-19-542	19	.27	.22	.18	.15
MSX-20-542	20	.27	.22	.18	.15
MSX-21-542	21	.27	.22	.18	.15
MSX-22-542	22	.27	.22	.18	.15
MSX-23-542	23	.27	.22	.18	.15
MSX-24-542	24	.29	.23	.20	.16
MSX-25-542	25	.29	.23	.20	.16
MSX-26-542	26	.29	.23	.20	.16

"Y" TYPE AVAILABLE AT SLIGHT EXTRA COST

Printed Circuit Edge Connectors

BIFURCATED CONTACT EDGE CONNECTORS



Designed for minimum printed circuit card wear, low insertion force and positive contact with printed circuit board. Insulation is glass-filled diallyl phthalate, type SDG-F per MIL-M-14. Contacts are of phosphor bronze with .00003" minimum gold plated. Types 250, 251 and 252 utilize bifurcated contacts, permitting two flexing surfaces instead of one for positive contact.

Bifurcated contacts are especially recommended for added contact reliability where vibration or printed circuit board irregularities would otherwise cause trouble. Connectors meet requirements of MIL-C-21097A (Ships) where applicable. One plastic polarizing key furnished unassembled. Rating: 830 v. AC rms.

TYPE 250

C-J No.	Cont. Pos.	No. of Cont.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
50- 6A-20	6	6	1.23	0.98	0.82	0.66	0.62
50-10A-20	10	10	1.65	1.32	1.10	.88	.84
50-12A-20	12	12	1.86	1.49	1.24	.99	.94
50-15A-20	15	15	2.18	1.74	1.45	1.16	1.10
50-18A-20	18	18	2.49	1.99	1.66	1.33	1.26
50-22A-20	22	22	2.91	2.33	1.94	1.55	1.47
50-25A-20	25	25	3.47	2.77	2.31	1.85	1.76

TYPE 251

C-J No.	Cont. Pos.	No. of Cont.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
50-12A-30	6	12	1.23	0.98	0.82	0.66	0.62
50-20A-30	10	20	1.65	1.32	1.10	.88	.84
50-24A-30	12	24	1.86	1.49	1.24	.99	.94
50-30A-30	15	30	2.18	1.74	1.45	1.16	1.10
50-36A-30	18	36	2.49	1.99	1.66	1.33	1.27
50-44A-30	22	44	2.91	2.33	1.94	1.55	1.47
50-50A-30	25	50	3.47	2.77	2.31	1.85	1.76

TYPE 252

C-J No.	Cont. Pos.	No. of Cont.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
50-12B-10	6	12	1.23	0.98	0.82	0.66	0.62
50-20B-10	10	20	1.65	1.32	1.10	.88	.84
50-24B-10	12	24	1.86	1.49	1.24	.99	.94
50-30B-10	15	30	2.18	1.74	1.45	1.16	1.10
50-36B-10	18	36	2.49	1.99	1.66	1.33	1.26
50-44B-10	22	44	2.91	2.33	1.94	1.55	1.47

TYPE 253

C-J No.	Cont. Pos.	No. of Cont.	Net Each, Lots of 1-24	25-49	50-99
50-12B-20	6	12	3.00	2.40	2.00
50-20B-20	10	20	3.75	3.00	2.50
50-24B-20	12	24	4.13	3.30	2.75
50-30B-20	15	30	4.69	3.75	3.13
50-36B-20	18	36	5.25	4.20	3.50

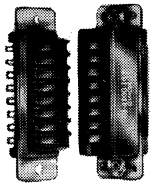
TYKON EDGE CONNECTORS

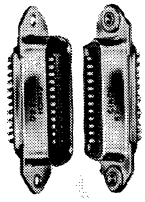
High density edge connectors with .050" centers for use with double-sided .062" printed circuit boards. Conventional wiring tails. Insulator is diallyl phthalate, type SDG-F per MIL-M-14. Contacts are phosphor bronze with .00003" gold plate. Carbon steel mounting for use in semi-flush printed circuit mounting, and cellulose acetate polarizing key available as separate items.

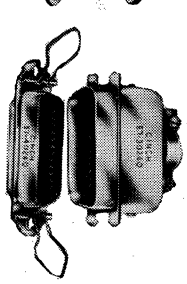
C-J No.	Cont. Pos.	No. of Cont.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
50-12A-40	6	12	3.35	2.68	2.23	1.78	1.70
50-20A-40	10	20	4.13	3.30	2.75	2.20	2.09
50-30A-40	15	30	5.10	4.09	3.41	2.72	2.59
50-40A-40	20	40	6.08	4.86	4.05	3.24	3.08
50-50A-40	25	50	7.05	5.64	4.70	3.76	3.57
50-MC	(Mounting Clip)		.15	.12	.10	.09	.08
50-PK	(Polarizing Key)		.15	.12	.10	.09	.08

Rack and Panel Connectors

BLUE Ribbon CONNECTORS







Ideal and used universally in a wide variety of applications. Proven reliability combines with smooth, easy insertion action. Self-wiping and self-cleaning contacts available in linear arrays up to 32 per unit. Barrier-type polarization and interlocking mating of dielectric bodies gives easy alignment without visual aid. Ribbon contacts can't bend. Rectangular body for easy layout. Corrosion resistant, passivated stainless steel mounting plates are molded in. **Current:** 5 amps. **Voltage:** 800 VDC at sea level; 300 VDC at 70,000 ft. **Insulator:** Diallyl phthalate per MIL-M-14F, Type MDG. **Plug Contacts:** Gold per MIL-G-14204 over silver per QQ-S-365 on copper per ASTM-B-152, Type ETP. **Receptacle Contacts:** Gold per MIL-G-14202 over silver per QQ-S-365 on phosphor bronze per ASTM-B-103-51, MIL-B-892, Grade A. **Size:** (Other than shown in table below): Body ¼" w. x ⅜" d. below mtg. plate, socket; 25/64" d., plug Mtg. plate ⅛" wide. Plug mtg. holes .125" dia.; socket, in bushing .116" dia. **Code:** Suffix indicates number of contacts (**-8, -16,** etc.); **S,** socket; **P,** plug.

C-J No.	Dimensions, Inches: Plate Lgth.	Mtg. Ctrs.	Body Lgth.	Net Each, Lots of: 1-9	10-49	50-99	100-249
26-4100-8P	1 33/64	1.375	1 1/64	$1.06	$0.89	$0.72	$0.65
26-4200-8S	1 33/64	1.375	1 1/64	1.73	1.46	1.19	1.07
26-4100-16P	2 15/64	2.125	1 49/64	1.98	1.67	1.35	1.22
26-4200-16S	2 15/64	2.125	1 49/64	2.52	2.12	1.72	1.55
26-4100-24P	3 1/64	2.875	2 17/64	2.38	2.01	1.63	1.46
26-4200-24S	3 1/64	2.875	2 17/64	2.98	2.51	2.04	1.83
26-4100-32P	3 31/64	3.625	3 1/64	2.77	2.33	1.89	1.70
26-4200-32S	3 31/64	3.625	3 1/64	3.56	2.99	2.43	2.18

MicroRIBBON RACK and PANEL PLUGS and RECEPTACLES

Extremely small, ribbon-contact connectors suited for airborne and computer applications with high reliability. Shell type polarization; easily inserted or withdrawn without visual aid; self-wiping, self-cleaning contacts in units up to 50 per connector Float-mounted receptacle prevents mis-alignment. **Current:** 5 amps. **Voltage:** 700 VDC at sea level; 200 VDC at 70,000 ft. **Insulator:** Diallyl phthalate per MIL-M-14F, Type MDG. **Contacts:** Gold plate per MIL-G-14204 over silver plate per QQ-S-365 on cadmium bronze, ASTM-B-105. **Shells:** Cadmium-plated brass (ASTM-B-36, Alloy 6) with clear chromate finish. **Size:** Dimensions on request. Cable plugs come with hoods; chassis-mounted sockets come with spring latches.

C-J No.	Type	No. of Contacts	Net Each, Lots of: 1-9	10-49	50-99	100-249
57-10140	R & P Plug	14	$1.85	$1.55	$1.26	$1.14
57-10240	R & P Plug	24	2.47	2.08	1.79	1.51
57-10360	R & P Plug	36	2.83	2.38	1.93	1.74
57-10500	R & P Plug	50	3.73	3.15	2.55	2.28
57-20140	R & P Sckt.	14	1.90	1.60	1.29	1.17
57-20240	R & P Sckt.	24	2.52	2.12	1.73	1.55
57-20360	R & P Sckt.	36	2.90	2.44	1.98	1.78
57-20500	R & P Sckt.	50	3.77	3.19	2.58	2.32
57-30140	Cable Plug	14	3.55	2.98	2.42	2.19
57-30240	Cable Plug	24	3.90	3.28	2.65	2.40
57-30360	Cable Plug	36	4.77	4.02	3.25	2.94
57-30500	Cable Plug	50	5.23	4.40	3.58	3.22
57-40140	Chassis Skt.	14	2.33	1.97	1.60	1.44
57-40240	Chassis Skt.	24	2.78	2.33	1.90	1.71
57-40360	Chassis Skt.	36	3.00	2.52	2.04	1.83
57-40500	Chassis Skt.	50	3.92	3.30	2.67	2.40

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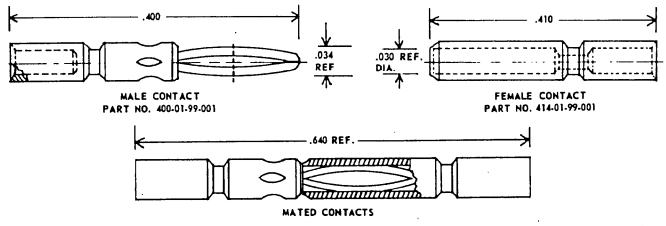
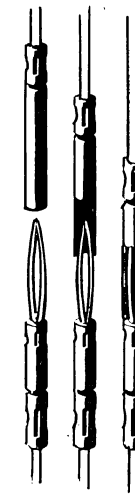
"BOW-PIN" CONTACT AND CONNECTOR STRIPS





For both miniaturization and a high degree of reliability, the Cinch "Bow-Pin" is the answer. This versatile little contact can be utilized in strip connectors (as shown), circular connectors or rack and panel connectors.

The unique "Bow-Pin" principle provides distinct advantages over conventional miniature contact devices.

Positive contact is assured by the flexing action of the bowed spring wire (unattached at the front end) that results when the contact is inserted into a tube having an ID smaller than the widest dimension of the bow.

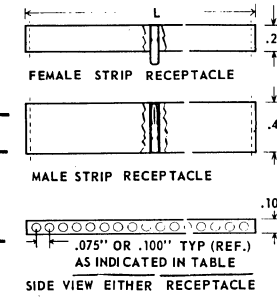
Rugged construction—the flexing members are of relatively large cross-section to withstand abuse. No welding is used in the assembly, eliminating the possibility of heat change in spring characteristics.

The female contact is made of copper while the male contact has a copper barrel and phosphor bronze blades. Both contacts have a finish of 30 micro-inches of gold. Contact terminations will accommodate the following wire sizes: AWG 22-24-26 solid or AWG-24-26 stranded.

CONTACT PERFORMANCE DATA—Individual contact insertion/withdrawal force: 2-12 ounces; Durability: 500 cycles; Current: 3 amperes; Contact resistance: .003 ohms average; Low level contact resistance: current flowed with applied voltage of .1 microvolt. Contact resistance did not vary more than ±25% from the contact resistance measured at rated current. Shock: 9 blows of 50G per MIL-STD. 202C, Method 202B. Salt Spray: 48 hours per MIL-STD. 202C, Method 101B, Test condition B. Vibration: 5 to 2,000 cps at .5 inch displacement and 30G units.

CONNECTOR STRIPS

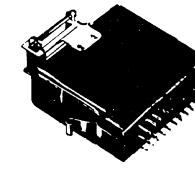
Cinch "Bow-Pin" connector strips provide a relatively inexpensive yet highly reliable method of interconnection for a variety of ultraminiature applications. Strips are currently available with either .075″ or .100″ center spacing. Molded of polycarbonate resin, these strips are furnished in approximately 6″ lengths and can be cut to the desired length and number of contacts.



C-J No.	Description	Centers	Length (Dimen. L)	No. of Contact Positions	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
28-MC	Male contact	.....	.....	.....	11c	9c	8c	7c	6c
28-FC	Female contact	.....	.....	.....	9c	8c	7c	6c	5c
28-M60	Male strip	.100″	6.000″	60	75c	60c	50c	40c	38c
28-F60	Female strip	.100″	6.000″	60	68c	54c	45c	36c	34c
28-M80	Male strip	.075″	6.025″	80	75c	60c	50c	40c	38c
28-F80	Female strip	.075″	6.025″	80	68c	54c	45c	36c	34c

HINGE CONNECTORS

No contact damage due to insertion and extraction. Maximum contact in minimum space; engaged with normal pressure. Simple locking device insures positive contact. Spring action contacts separate units after releasing the lock. Wiping contact action for clean contacts at all times. Castings are of black Bakelite, type CFG. Contacts are of phosphor bronze, cadmium plated (.0001). Current rating is 4.5 amps. **Alternate Lock:** For more secure locking, order Alternate Lock No. 37AL separately. It has a special device to prevent accidental unlocking. **Caps:** Furnished with formed fiber liners, nickel-plated cable clamps. Designed to take the alternate lock when required. Black wrinkle finish.



PLUG WITH LOCK

C-J No.	Contacts	Mtg. Ctrs., In.	Over-all Size, In.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
37-M20L	20	1.375	1.750	$2.76	$2.20	$1.84	$1.47	$1.40
37-M30L	30	1.812	2.187	3.26	2.60	2.17	1.74	1.65
37-M40L	40	2.250	2.625	3.74	2.99	2.50	2.00	1.90
37-M50L	50	2.687	3.026	4.25	3.39	2.83	2.27	2.15
37-M60L	60	3.125	3.500	4.73	3.78	3.16	2.53	2.40
37-M70L	70	3.562	3.937	5.24	4.18	3.49	2.79	2.65
37-M80L	80	4.000	4.375	5.72	4.58	3.82	3.06	2.89
37-M90L	90	4.438	4.812	6.23	4.97	4.15	3.32	3.16
37-M100L	100	4.875	5.250	6.72	5.37	4.48	3.59	3.40

SOCKET WITH LOCK

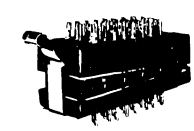
37-F20L	20	1.375	1.750	$2.76	$2.20	$1.84	$1.47	$1.40
37-F30L	30	1.812	2.187	3.26	2.60	2.17	1.74	1.65
37-F40L	40	2.250	2.625	3.75	2.99	2.50	2.00	1.90
37-F50L	50	2.687	3.062	4.25	3.39	2.83	2.27	2.15
37-F60L	60	3.125	3.500	4.74	3.78	3.16	2.53	2.40
37-F70L	70	3.562	3.937	5.24	4.18	3.49	2.79	2.65
37-F80L	80	4.000	4.375	5.73	4.58	3.82	3.06	2.89
37-F90L	90	4.438	4.812	6.23	4.97	4.15	3.32	3.16
37-F100L	100	4.875	5.250	6.72	5.37	4.48	3.59	3.40

PLUG WITHOUT LOCK

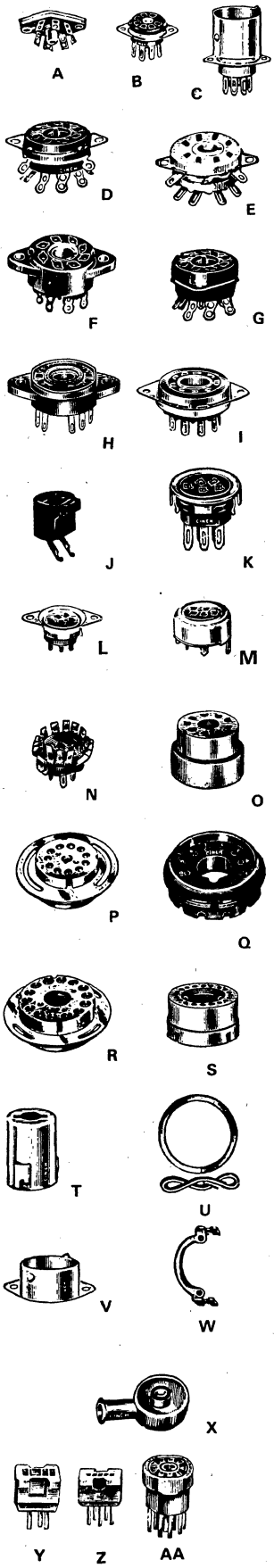
C-J No.	Contacts	Mtg. Ctrs., In.	Over-all Size, In.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
37-M20	20	1.375	1.750	$2.48	$1.98	$1.65	$1.32	$1.25
37-M30	30	1.812	2.187	2.97	2.38	1.98	1.58	1.51
37-M40	40	2.250	2.625	3.47	2.77	2.31	1.85	1.76
37-M50	50	2.687	3.062	3.96	3.17	2.64	2.11	2.00
37-M60	60	3.125	3.500	4.46	3.56	2.97	2.38	2.26
37-M70	70	3.562	3.937	4.95	3.96	3.30	2.64	2.51
37-M80	80	4.000	4.375	5.45	4.36	3.63	2.90	2.76
37-M90	90	4.438	4.812	5.94	4.75	3.96	3.17	3.01
37-M100	100	4.875	5.250	6.44	5.15	4.29	3.43	3.26

SOCKET WITHOUT LOCK

37-F20	20	1.375	1.750	$2.48	$1.98	$1.65	$1.32	$1.25
37-F30	30	1.812	2.187	2.97	2.38	1.98	1.58	1.51
37-F40	40	2.250	2.625	3.47	2.77	2.31	1.85	1.76
37-F50	50	2.687	3.062	3.96	3.17	2.64	2.11	2.00
37-F60	60	3.125	3.500	4.46	3.56	2.97	2.38	2.26
37-F70	70	3.562	3.937	4.95	3.96	3.30	2.64	2.51
37-F80	80	4.000	4.375	5.45	4.36	3.63	2.90	2.76
37-F90	90	4.438	4.812	5.94	4.75	3.96	3.17	3.01
37-F100	100	4.875	5.250	6.44	5.15	4.29	3.43	3.26



Tube Sockets



C-J No.	Fig.	No. of Contacts and Tube Group	Description	Construction Materials: Insulator*	Construction Materials: Contacts†	Top or Bottom Mount	Mtg. Ctrs.	MIL-S-12883A No.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
7W2A	A	7 miniature	Wafer	A	A	Bottom	7/8"	.....	$0.12	$0.10	$0.09	$0.08	$0.07
7WL2	A	7 miniature	Wafer	A	A	Bottom	1"	.....	.10	.09	.08	.07	.06
7WL4	A	7 miniature	Wafer	A	A	Both	1 5/16"	.....	.17	.13	.11	.10	.09
7EB	B	7 miniature	Saddle	B	A	Bottom	7/8"	.....	.12	.10	.09	.08	.07
7EC	B	7 miniature	Saddle	D	A	Bottom	7/8"	.....	.46	.37	.31	.24	.23
7EM	B	7 miniature	Saddle	C	A	Bottom	7/8"	.....	.14	.11	.10	.09	.08
7AB1	B	7 miniature	Saddle	B	A	Top	7/8"	.....	.14	.11	.10	.09	.08
7AM1	B	7 miniature	Saddle	C	A	Top	7/8"	.....	.17	.13	.11	.10	.09
7JM-3	B	7 miniature	Saddle	C	B	Bottom	7/8"	TS102P03	.23	.19	.15	.13	.12
7JC-3	B	7 miniature	Saddle	D	B	Bottom	7/8"	TS102C03	.37	.30	.25	.20	.19
7JMN-1	B	7 miniature	Saddle	C	B	Top	7/8"	TS102P02	.23	.19	.15	.13	.12
7JMN-2	B	7 miniature	Saddle	C	B	Top	7/8"	TS102P02	.23	.19	.15	.13	.12
7JCN-1	B	7 miniature	Saddle	D	B	Top	7/8"	TS102C02	.37	.30	.25	.20	.19
7JCN-2	B	7 miniature	Saddle	D	B	Top	7/8"	TS102C02	.37	.30	.25	.20	.19
7JM-2	C	7 miniature	Shield base	C	B	Top	7/8"	TS102P01	.29	.22	.19	.15	.14
7XB1	C	7 miniature	Shield base	B	A	Top	7/8"	.....	.17	.13	.11	.10	.09
7XM1	C	7 miniature	Shield base	C	A	Top	7/8"	.....	.21	.17	.14	.12	.11
7XC	C	7 miniature	Shield base.	D	A	Top	7/8"	.....	.44	.35	.30	.23	.22
7JC-2	C	7 miniature	Shield base	D	B	Top	7/8"	TS102C01	.39	.31	.26	.21	.20
8AB	D	8 octal	Saddle	F	A	Bottom	1 5/16"	.....	.14	.11	.10	.09	.08
8AM	D	8 octal	Saddle	C	A	Bottom	1 5/16"	.....	.17	.13	.11	.10	.09
8EB	E	8 octal	Saddle	E	A	Bottom	1 1/2"	.....	.14	.11	.10	.09	.08
8EM	E	8 octal	Saddle	C	A	Bottom	1 1/2"	.....	.17	.13	.11	.10	.09
8XM	F	8 octal	All-molded	C	A	Both	1 5/16"	.....	.14	.11	.10	.09	.08
8XB	F	8 octal	All-molded	B	A	Both	1 5/16"	.....	.12	.10	.09	.08	.07
8R1	G	8 octal	Ring mount•	E	A	Top	1/16" #	.....	.21	.17	.14	.12	.11
8R2	G	8 octal	Ring mount•	E	A	Top	1/8" #	.....	.35	.28	.23	.19	.18
8R3	G	8 octal	Ring mount•	C	A	Top	1/16" #	.....	.25	.21	.18	.14	.13
8R4	G	8 octal	Ring mount•	E	A	Top	5/32" #	.....	.35	.28	.23	.19	.18
8R5	G	8 octal	Ring mount•	C	A	Top	5/32" #	.....	.48	.39	.32	.25	.24
8R6	G	8 octal	Ring mount•	C	A	Top	1/8" #	.....	.48	.39	.32	.25	.24
8CS-B	H	8 compactron	All-molded	E	A	Both	1 5/16"	.....	.46	.37	.30	.24	.23
8CS-M	H	8 compactron	All-molded	C	A	Both	1 5/16"	.....	.44	.40	.34	.27	.25
9NS-B	I	9 novar	Saddle	E	A	Bottom	1 1/2"	.....	.16	.12	.11	.10	.09
9NS-B1	I	9 novar	Saddle	E	A	Top	1 1/2"	.....	.24	.20	.17	.14	.13
9NS-M	I	9 novar	Saddle	C	A	Bottom	1 1/2"	.....	.18	.14	.12	.11	.10
9NS-M1	I	9 novar	Saddle	C	A	Top	1 1/2"	.....	.27	.21	.18	.15	.14
9W1	A	9 noval	Wafer	A	A	Bottom	1 1/2"	.....	.14	.11	.10	.09	.08
9W2	A	9 noval	Wafer	A	A	Both	1 5/16"	.....	.14	.11	.10	.09	.08
9AB	B	9 noval	Saddle	B	A	Top	1 1/8"	.....	.14	.11	.10	.09	.08
9AM	B	9 noval	Saddle	C	A	Top	1 1/8"	.....	.17	.13	.11	.10	.09
9EB	B	9 noval	Saddle	B	A	Bottom	1 1/8"	.....	.14	.11	.10	.09	.08
9EM	B	9 noval	Saddle	C	A	Bottom	1 1/8"	.....	.17	.13	.11	.10	.09
9JM-3	B	9 noval	Saddle	C	B	Bottom	1 1/8"	TS103P03	.29	.22	.19	.15	.14
9JM-4	B	9 noval	Saddle	C	B	Bottom	1 1/8"	TS103P03	.29	.22	.19	.15	.14
9JC-3	B	9 noval	Saddle	D	B	Bottom	1 1/8"	TS103C03	.44	.35	.30	.23	.22
9JCN-1	B	9 noval	Saddle	D	B	Top	1 1/8"	TS103C02	.44	.35	.30	.23	.22
9JMN-1	B	9 noval	Saddle	C	B	Top	1 1/8"	TS103P02	.29	.22	.19	.15	.14
9JMN-2	B	9 noval	Saddle	C	B	Top	1 1/8"	TS103P02	.29	.22	.19	.15	.14
9XB	C	9 noval	Shield base	B	A	Top	1 1/8"	.....	.21	.17	.14	.12	.11
9XM	C	9 noval	Shield base	C	A	Top	1 1/8"	.....	.23	.19	.15	.13	.12
9XC	C	9 noval	Shield base	D	A	Top	1 1/8"	.....	.35	.28	.23	.19	.18
9JM-2	C	9 noval	Shield base	C	B	Top	1 1/8"	TS103P01	.39	.24	.20	.17	.15
9JC-2	C	9 noval	Shield base	D	B	Top	1 1/8"	TS103C01	.42	.33	.28	.22	.21
12CS-B	H	12 compactron	All-molded	E	A	Both	1 5/16"	.....	.16	.13	.11	.10	.09
12CS-M	H	12 compactron	All-molded	C	A	Both	1 5/16"	.....	.62	.49	.41	.33	.32

*Insulator material: A indicates chocolate phenolic; B, black phenolic; C, MFE plastic; D, ceramic; E, high-dielectric black phenolic (CFG); F, MAI-60 Alkyd Glass Fiber (JETEC No. 20-120). †Contact material; A indicates cadmium-plated brass; B, silver-plated phosphor bronze; C, silver-plated beryllium copper. #Max. chassis thickness. •Crimped retainer ring furnished.

SPECIAL PURPOSE TUBE SOCKETS

C-J No.	Fig.	No. of Contacts and Tube Group	Description	Construction Materials: Insulator*	Construction Materials: Contacts†	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
2B2	J	2 cetron	For CE701, CE702	B	A	$0.75	$0.60	$0.50	$0.40	$0.38
2M2	J	2 cetron	For CE701, CE702	C	A	1.10	.88	.74	.59	.56
5NS	K	5 nuvistor	Crimp tab mount	C	A	.17	.13	.11	.10	.09
5NS-1	L	5 nuvistor	Saddle	C	A	.26	.20	.17	.14	.13
5NS-2	M	5 nuvistor	PC standoff	C	A	.42	.34	.28	.22	.21
5NS-3	N	5 nuvistor	Heat dissipating	C	A	.23	.19	.16	.13	.12
7-VT#	O	7 vidicon	For RCA vidicon	C	B	2.38	1.90	1.59	1.27	1.21
8-VT#	O	8 vidicon	For RCA vidicon	C	B	2.38	1.90	1.59	1.27	1.21
3M11	P	11 magnal	For 5BP1, etc.	C	C	4.50	3.60	3.00	2.40	2.28
3B12	Q	12 duodecal	For 10BP4, etc.	B	C	.61	.49	.41	.32	.31
3M12	Q	12 duodecal	Same as 3B12	C	C	1.82	1.45	1.21	.97	.92
3B14	R	14 diheptal	CRT	B	C	1.58	1.27	1.06	.84	.80
3M14	R	14 diheptal	CRT	C	C	1.67	1.33	1.11	.89	.84
20-PM	S	20 photomult	For RCA 6810, etc.	F	A	5.00	4.00	3.34	2.67	2.54

*Insulator material: A indicates chocolate phenolic; B, black phenolic; C, MFE plastic; D, ceramic; E, high-dielectric black phenolic (CFG); F, MAI-60 Alkyd Glass Fiber (JETEC No. 20-120). †Contact material; A indicates cadmium-plated brass; B, silver-plated phosphor bronze; C, silver-plated beryllium copper. #JETEC No. E8-11. •Crimped retainer ring furnished; mounting centers dimensions column lists chassis thickness accommodated.

J-SLOT TUBE SHIELDS (FIG. T)

C-J No.	Description	Length, Inches	Net Each, Lots of: 1-24	15-49	50-99	100-249	250-499
7S2	Steel	1 3/16	$0.17	$0.13	$0.11	$0.10	$0.09
7S3	Steel	1 3/4	.19	.14	.12	.11	.10
7S4	Steel	2 1/4	.25	.21	.18	.14	.13
7SJ2-1	MIL*, brass	1 3/16	.25	.21	.18	.14	.13
7SJ3-1	MIL*, brass	1 3/4	.29	.22	.19	.15	.14
7SJ4-1	MIL*, brass	2 1/4	.32	.25	.22	.18	.17
9S1	Steel	1 1/2	.35	.28	.23	.19	.18
9S2	Steel	1 15/16	.23	.19	.15	.13	.12
9S3	Steel	2 3/8	.44	.35	.30	.23	.22
9SJ1-1	MIL*, brass	1 1/2	.30	.24	.20	.17	.15
9SJ2-1	MIL*, brass	1 15/16	.35	.28	.23	.19	.18
9SJ3-1	MIL*, brass	2 3/8	.37	.30	.25	.20	.19

*JAN-S-28A.

SUBMINIATURE TUBE SOCKETS

Use extensively for hearing aids, radios and other electronic apparatus. Molded from mica-filled low loss Bakelite with silver-plated beryllium copper contacts. No. 2H5 can be used for four prong tube or as a transistor socket. No. 5PC for printed circuits. No. 5WC for wired circuits.

C-J No.	Pin	Fig.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
2H3	3	Y	$0.23	$0.19	$0.16	$0.13	$0.12
2H5	5	Z	.19	.15	.13	.11	.10
2H6	6	....	.90	.72	.60	.48	.46
2H7	7	....	.34	.27	.23	.18	.17
8SM	8	AA	.50	.40	.34	.27	.26
8SM-P*	8	....	.63	.50	.42	.34	.32

*Has mounting plate; all others include mounting ring.

MODEL 8RO RETAINER RING (FIG. U)

A crimped retaining ring formed of .020" spring steel. Will securely anchor sockets. Standard finish is cadmium.
C-J No. 8RO—Net Each, Lots 1-24.....**9¢**; 25-49.....**8¢**
Lots 50-99.....**7¢**; 100-249.....**6¢**; 250-499.....**5¢**

SHIELD BASES (FIG. V)

Material: 7SB2, brass; others, steel.

C-J No.	Dimensions, In. H.	Mtg. Hole	Mtg. Ctrs.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
7SB1	3/8	.125 dia.	7/8	$0.12	$0.10	$0.09	$0.08	$0.07
7SB2	3/8	.125 dia.	7/8	.17	.13	.11	.10	.09
9SB1	....	3/16 dia.	1 1/8	.14	.11	.10	.09	.08

STRAP NUTS (FIG. W)

C-J No. 7SN—Cadmium-plated brass strap nuts for use in mounting sockets with saddles or shield bases. One strap nut takes the place of two conventional type nuts. Mounting centers, 7/8". For 7-contact sockets. Ground lugs are hot-solder-dipped.
Net Each, Lots of 1-24.....**29¢**; 25-49.....**22¢**
Lots 50-99.....**19¢**; 100-249.....**15¢**; 250-499.....**14¢**

C-J No. 9SN—Same as Model 7SN except mounting centers are 1 1/8" and are for 9-contact sockets.
Net Each, Lots of 1-24.....**30¢**; 25-49.....**24¢**
Lots 50-99.....**20¢**; 100-249.....**17¢**; 250-499.....**15¢**

MODEL 3A1 SECOND ANODE CONNECTOR (FIG. X)

Snap over .096" dia. prong on side of diheptal tubes. Cadmium-plated brass contact surrounded by rubber insulator. Size, 3/4" w. x 1 1/16 lg.
C-J No. 3A1—Net Each, Lots 1-24.....**$1.09**; 25-49.....**87¢**
Lots 50-99.....**74¢**; 100-249.....**59¢**; 250-499.....**56¢**

MOUNTING RINGS

C-J No. 3R11—Steel mounting ring for No. 3M11.
Net Each, Lots 1-24.....**61¢**; 25-49.....**48¢**; 50-99.....**40¢**
Net Each, Lots 100-249.....**32¢**; 250-499.....**31¢**

C-J No. 3R14—Steel mounting ring for Nos. 3B14 and 3M14.
Net Each, Lots 1-24.....**68¢**; 25-49.....**47¢**; 50-99.....**45¢**
Net Each, Lots 100-249.....**36¢**; 250-499.....**35¢**

Net
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PRINTED CIRCUIT TUBE SOCKETS

Center-shield types have special tabs to prevent the tube shields from contacting the printed wire chassis.

C-J No.	Fig.	No. of Contacts and Tube Group	Description	Materials		Net Each, Lots of				
				Insulator*	Contacts†	1-24	25-49	50-99	100-249	250-499
7PC-B	A	7 miniature	Center shield and tabs	A	A	$0.12	$0.10	$0.09	$0.08	$0.07
7PC-B1	A	7 miniature	No shield or tabs	A	A	.10	.09	.08	.07	.06
7PC-B4	B	7 miniature	Snap in; no shield or tabs	A	A	.12	.10	.09	.08	.07
7PC-M4	B	7 miniature	Snap in; no shield or tabs	B	A	.12	.10	.09	.08	.07
7PC-B5	B	7 miniature	Snap in; center shield	A	A	.12	.10	.09	.08	.07
7PC-M5	B	7 miniature	Snap in; center shield	B	A	.12	.10	.09	.08	.07
7PC-M2	E	7 miniature	Shield base, center shield and tabs	B	B	.99	.79	.66	.53	.51
9PC-B	C	9 noval	Center shield and tabs	A	A	.14	.11	.10	.09	.08
9PC-B1	C	9 noval	No shield or tabs	A	A	.14	.11	.10	.09	.08
9PC-B4	D	9 noval	Snap in; no shield or tabs	A	A	.14	.11	.10	.09	.08
9PC-M4	D	9 noval	Snap in; no shield or tabs	B	A	.14	.11	.10	.09	.08
9PC-B5	D	9 noval	Snap in; center shield	A	A	.14	.11	.10	.09	.08
9PC-M5	D	9 noval	Snap in; center shield	B	A	.14	.11	.10	.09	.08
9PC-M2	F	9 noval	Shield base, center shield and tabs	B	B	1.05	.84	.70	.56	.54

*Insulator material: A indicates black phenolic; B, mica-filled phenolic. †Contact material: A indicates hot solder-coated brass; B, hot tinned-phosphor bronze.

A

B

C

D

E

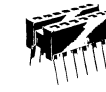
INTEGRATED CIRCUIT SOCKETS

D.I.P. SOCKETS (FIG. H)

These new sockets for dual inline integrated circuit packages have high contact retention, low contact resistance and high environmental stability. Leads are on .1100" centers and the sockets will accept any standard round or flat lead D.I.P. Sockets measure .424" wide by .230" high. 14 lead units are .770" long, 16 lead—.870" long. Diallyl phthalate types (Type SDG per MIL M 14) have gold plated leads. The GP Black phenolic (per MIL M-14) have cadmium plated leads. All leads are beryllium copper.

C-J Part No.	Factory Part No.	No. leads	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
14-DIP	133-51-02-003	14*	$0.82	65c	55c	44c	41c
14-DIP-1	133-51-02-005	14**	1.07	85c	71c	57c	54c
16-DIP	133-51-92-006	16*	0.91	73c	61c	48c	46c
16-DIP-1	133-51-92-008	16**	1.17	94c	78c	62c	59c

*GP phenolic insulator. **Diallyl phthalate insulator.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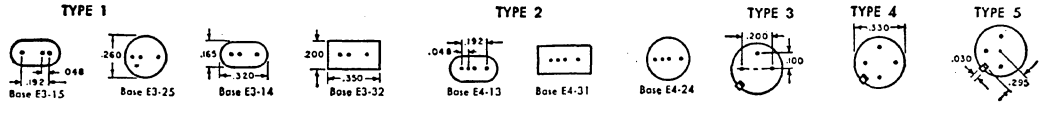
TO-5 CASE INTEGRATED CIRCUIT SOCKETS (FIG. I)

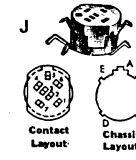
Designed especially for the interconnection of integrated circuits mounted in TO-5 cases with six, eight or ten leads. Molded of diallyl phthalate Type SDG per MIL-M-18794 specifications. Contacts are gold plated beryllium copper.

C-J No.	No. of Contacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
6-ICS	6	54c	43c	36c	29c	28c
8-ICS	8	65c	52c	44c	34c	33c
10-ICS	10	72c	57c	48c	39c	36c

I

Transistor Sockets & Accessories





UNIVERSAL TRANSISTOR SOCKETS (FIG. J)

Universal transistor socket that can be used with all transistor bases shown in illustration above. Casting is of mica-filled phenolic (MFE). Contacts are beryllium copper and are gold plated. Contacts may be used with either one or two-sided 1/16" printed circuit boards.

C-J No.	Base Types	Tabs Used (See Diag.)	Cont. Pos. Used	Net Each, Lots of				
				1-24	25-49	50-99	100-249	250-499
7UTS	All	A-E	1, 3, 4, 7	$0.94	$0.75	$0.63	$0.50	$0.48
7UTS-1	1, 3	C, D, E	1, 3, 4, 7	.54	.43	.36	.29	.28
7UTS-3	3	C, D, E	1, 4, 7	.49	.40	.33	.26	.25
7UTS-4	4	A-E	1, 4, 5, 6, 7	.74	.59	.49	.40	.37
7UTS-5	5	B, D, E	1, 6, 7	.49	.40	.33	.26	.25
7UTS-6	1, 3	C, D, E	1, 3, 4, 7	.54	.43	.36	.29	.28

GENERAL PURPOSE TRANSISTOR SOCKET (FIG. K)

This new transistor socket was originally designed for an all-transistor television set; however, its future applications are many. This socket may be used in industrial communications, test equipment, ham gear, etc. Socket has a triangular base layout with 0.2" by 0.1" (JETEC-30) contact centers, as well as three contacts in line (.048" by .192" contact centers). Casting is molded of general purpose Bakelite; contacts are phosphor bronze, cadmium plated. May be used with the following EIA base designations: E3-14, E3-15, E3-25, E3-32, E3-38, E3-39, E3-42, E3-43, E3-44, E3-51, E3-53, E4-13, E4-24, E4-31, E4-43, E4-52, ET-103-D.

C-J No. 2TS-4—Net Each, Lots 1–24.....**16c**; 25-49....**13c**
Lots 50-99.....**11c**; 100-249.....**10c**; 250-499.....**9c**

POWER TRANSISTOR SOCKETS LAMINATED TYPE

C-J No. 2TS-1 (Fig. A)—Top and bottom plates are of natural XP Bakelite*, vacuum wax impregnated. Contacts are of brass, cadmium plated. Formed thread for 6-20 screw. Has .104/.110" dia. hole in CR steel plate. Provides easy attachment to a heat sink.
Net Each, Lots 1–24.....**12c**; 25-49.....**10c**
Lots 50-99.....**9c**; 100-249.....**8c**; 250-499.....**7c**

C-J No. 2TS-2 (Fig. M)—Identical with above except equipped with integral eyelets for easy assembly to chassis.
Net Each, Lots 1–24.....**12c**; 25-49.....**10c**
Lots 50-99.....**9c**; 100-249.....**8c**; 250-499.....**7c**
*Bakelite Corp. trademark.

MODEL 2TS-3 MOLDED TYPE (FIG. N)

Molded power transistor socket. Casting is molded of general purpose Bakelite. Contacts are phosphor bronze, cadmium plated. Mounting holes are .098" dia.; mounting centers are .425/.435".

C-J No. 2TS-3—Net Each, Lots 1–24.....**12c**; 25-49....**10c**
Lots 50-99.....**9c**; 100-249.....**8c**; 250-499.....**7c**

K

L

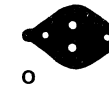
M

N

POWER TRANSISTOR HEAT SINKS

Hard anodized aluminum insulator wafers for use with power transistors. Feature high thermal conductivity, high dielectric resistance, high abrasion resistance and high corrosion resistance.

C-J No.	Fig.	For Transistor	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
2W-1	O	Motorola 2N179, 2N176, 2N554	$0.54	$0.43	$0.36	$0.29	$0.27
2W-2	P	Delco 2N174	.42	.34	.28	.22	.21
2W-3	Q	Texas Instr. 2N389	.65	.52	.43	.34	.33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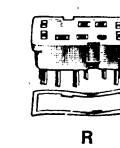
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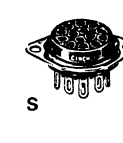
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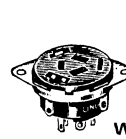
RELAY AND CAPACITOR SOCKETS

C-J No.	Relay or Cap.	Fig.	No. of Contacts and Shape	Materials		Socket Type	Top or Bottom Mount	Mtg. Ctrs. or Size	Net Each, Lots of				
				Insulator*	Contacts†				1-24	25-49	50-99	100-249	250-499
8RS	Relay	J	8 rectangular	A	A	Clip mt.	Top	‡	$0.54	$0.43	$0.36	$0.29	$0.28
14RS	Relay	G	14 round	A	A	Saddle	Bottom	1 1/8"	.82	.66	.56	.44	.42
14RS-2	Relay	G	14 round	A	A	Saddle	Top	1 1/8"	.82	.66	.56	.44	.42
20RS	Relay	H	20 round	A	A	Saddle	Top	1 1/4"	2.08	1.66	1.38	1.10	1.05
20RS-1	Relay	I	20 round	A	A	Saddle	Bottom	1 1/4"	2.08	1.66	1.38	1.10	1.05
14RS-1	Relay	I	14 round§	A	A	Saddle	Bottom	1 1/8"	1.38	1.10	.92	.74	.70
16RS-1	Relay	I	16 round§	A	A	Saddle	Bottom	1 1/2"	1.67	1.34	1.11	.89	.85
16RS-2	Relay	....	16 rectangular	B	B	Top mt.	Top	1 1/2" x 1 1/4"	.96	.77	.64	.51	.49
16RS-3	Relay	....	16 rectangular	B	C	Top mt.	Top	1 1/2" x 1 1/4"	1.17	.93	.78	.62	.59
28RS	Relay	....	28 rectangular	B	B	Top mt.	Top	1 1/8" x 1.960"	1.44	1.16	.96	.77	.73
2C5#	Cap.	E	3 center, 2 outer	B	B	Saddle	Bottom	1 1/2"	.52	.42	.35	.28	.27
2C7#	Cap.	F	4 center, 3 outer	B	B	Saddle	Bottom	1 21/32"	.76	.61	.51	.41	.39

*Insulator material: A indicates low mica-filled phenolic; B, high dielectric phenolic. †Contact material: A indicates silver-plated beryllium copper; B, cadmium plated; C, gold plated. ‡Fits following relays: Advance MV-2C, AEMCO 95-3274, Brubaker K110A, Filtors P.26.A1.P.6A, G.E. D300A and G-203A, P&B SL and Ace 50-6-A (single-contact type); C-J No. 20731 clip included. §Same as No. 20RS-1 with contacts removed. #No. 2C5 for 1" and No. 2C7 for 1 5/8" Mallory and Magnavox Type FP capacitors; four ground lugs on saddle.

T

V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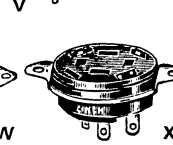
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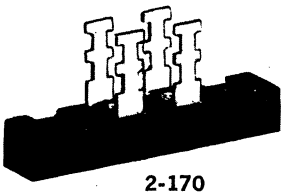
Terminal Strips



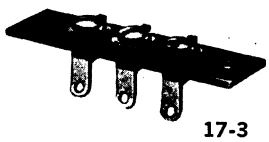
2-170

NO. 170 TERMINAL STRIPS

A heavy-duty solder-type terminal of .032" brass, hot solder coated.

Insulation: Black molded Bakelite, $^{3}/_{16}$" wide, $^{1}/_{4}$" thick. Terminals mounted on $^{3}/_{8}$" centers. Mounting holes are $^{3}/_{8}$" from center of end terminals. Mounting hole size is .128.

C-J No.	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1-170	1	$0.23	$0.18	$0.16	$0.13	$0.12
2-170	2	.28	.23	.19	.16	.15
3-170	3	.36	.28	.24	.19	.18
4-170	4	.40	.32	.26	.21	.20
5-170	5	.45	.36	.30	.24	.23
6-170	6	.50	.40	.34	.27	.25
7-170	7	.57	.45	.38	.30	.28
8-170	8	.62	.49	.42	.34	.32
9-170	9	.68	.55	.45	.36	.35
10-170	10	.75	.59	.49	.40	.38



17-3

SCREW-TYPE TERMINAL STRIPS

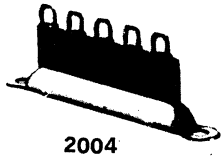
These strips are ideal for chassis or breadboard layouts. Strips with 1 to 6 lugs are of $^{1}/_{16}$" bakelite; those with 7 to 10 terminals are of $^{3}/_{64}$" bakelite. Ends of screws are captivated to prevent removal.

Terminals: Cadmium-plated brass. Spaced on $^{7}/_{16}$" centers.

Mounting Holes: 0.136" diameter.

Screws: Cadmium-plated steel.

C-J No.	Mtg. Ctrs.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
17-1	$^{7}/_{8}$"	$0.09	$0.08	$0.07	$0.06	$0.05
17-2	$1^{5}/_{16}$"	.10	.09	.08	.07	.06
17-3	$1^{3}/_{4}$"	.12	.10	.09	.08	.07
17-4	$2^{3}/_{16}$"	.16	.13	.11	.10	.09
17-5	$2^{5}/_{8}$"	.18	.14	.12	.11	.10
17-6	$3^{1}/_{16}$"	.22	.18	.15	.13	.12
17-7	$3^{1}/_{2}$"	.27	.21	.18	.15	.14
17-8	$3^{15}/_{16}$"	.28	.23	.19	.16	.15
17-9	$3^{3}/_{8}$"	.34	.26	.22	.18	.17
17-10	$4^{13}/_{16}$"	.36	.28	.24	.19	.18



2004

NO. 2000 TERMINAL STRIPS

These compact and sturdy junction terminal strips are useful in assembling radio chassis, wiring, etc.

Terminals: .019" brass, pre tin plate spaced on $^{3}/_{16}$" centers.

Insulation: Bakelite.

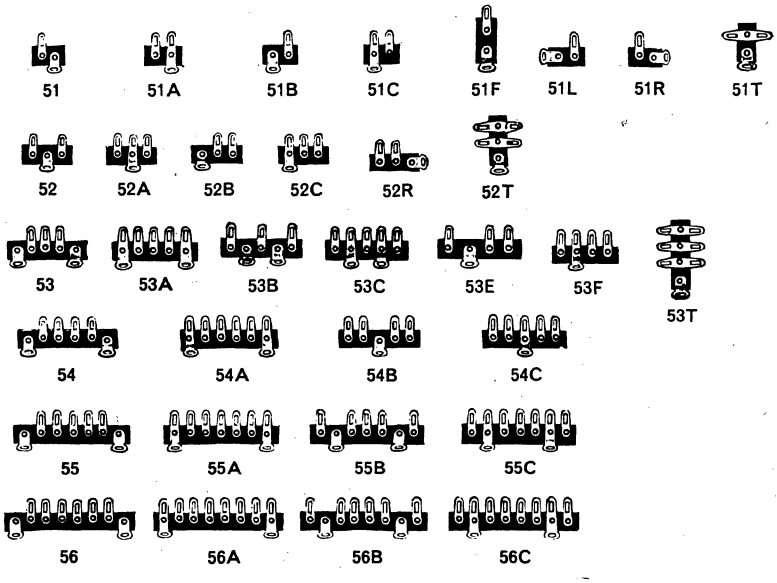
Brackets: Cadmium-plated: steel.

Mounting holes: .140 diameter.

Center of mounting hole to end of bracket: $^{3}/_{32}$".

C-J No.	No. of Terminal Positions	Mtg. Hole Centers	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2002	2	1"	.10	.09	.08	.07	.06
2003	3	$1^{3}/_{16}$"	.11	.10	.08	.07	.06
2004	4	$1^{3}/_{8}$"	.12	.10	.09	.08	.07
2005	5	$1^{15}/_{16}$"	.13	.11	.09	.08	.07
2006	6	$2^{1}/_{4}$"	.14	.11	.10	.09	.08
2007	7	$2^{7}/_{16}$"	.15	.12	.10	.09	.08
2008	8	$2^{7}/_{8}$"	.17	.13	.11	.10	.09
2009	9	$3^{5}/_{16}$"	.18	.14	.12	.11	.10
2010	10	$3^{1}/_{2}$"	.19	.15	.13	.11	.10
2011	11	$3^{13}/_{16}$"	.20	.16	.14	.12	.11
2012	12	$4^{1}/_{8}$"	.21	.17	.14	.12	.11
2013	13	$4^{7}/_{16}$"	.23	.19	.16	.13	.12

LUG-TYPE TERMINAL STRIPS



These terminal strips are handy for neatly supporting resistors, capacitors, etc. in circuit wiring. Cadmium-plated steel lugs are spaced on $^{3}/_{8}$" centers with 0.140" dia. mounting holes. Chocolate-colored phenolic is used. Strips are $^{1}/_{16}$" thick and $^{3}/_{8}$" wide.

C-J No.	Description	Mtg. Centers	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
51	1L	.....	.06	.05	.04	.03	.02
51A	2L; 1G	.....	.06	.05	.04	.03	.02
51B	1 L	.....	.06	.05	.04	.03	.02
51C	2L; 1G	.....	.06	.05	.04	.03	.02
51F	1L	.....	.06	.05	.04	.03	.02
51T	D L	.....	.07	.06	.05	.04	.03
52	2L	.....	.06	.05	.04	.03	.02
52A	3L; 1G	.....	.06	.05	.04	.03	.02
52B	2L	.....	.06	.05	.04	.03	.02
52C	3L; 1G	.....	.06	.05	.04	.03	.02
52T	2D L	.....	.08	.07	.06	.05	.04
53	3L	1 ½"	.07	.06	.05	.04	.03
53E	3L	.....	.07	.06	.05	.04	.03
53F	4L; 1G	.....	.07	.06	.05	.04	.03
53T	3 D L	.....	.09	.08	.07	.06	.05
54	4L	1 ⅞"	.07	.06	.05	.04	.03
54A	6L; 2G	1 ⅞"	.07	.06	.05	.04	.03
54B	4L	.....	.07	.06	.05	.04	.03
54C	5L; 1G	.....	.07	.06	.05	.04	.03
55	5L	2 ¼"	.08	.07	.06	.05	.04
55A	7L; 2G	2 ¼"	.08	.07	.06	.05	.04
55C	7L; 2G	1 ½"	.08	.07	.06	.05	.04
56	6L	2 ⅝"	.08	.07	.06	.05	.04
56A	8L; 2G	2 ⅝"	.08	.07	.06	.05	.04
56C	8L; 2G	1 ⅞"	.08	.07	.06	.05	.04

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CANNON® AUDIO CONNECTORS for low level circuit applications

CANNON PLUGS

ITT Cannon Audio Connectors are designed for use on audio/video and other low level circuit applications in the electronic/industrial fields where reliability, quiet operation and the elimination of mechanical interference are necessary. Some common uses are: microphones, tape recorders, hi-fi equipment, medical instruments, cameras, test instrumentation and computers.

XLR CONNECTOR SERIES

The XLR incorporates the most advanced audio/electronic design concepts. Small and compact, it features resilient insulators on the socket side plus resilient ribs for shock protection and quiet operation.

Shells are aluminum alloy (receptacles), or steel or aluminum alloy (plugs), with satin nickel finish. Insulators are rigid molded plastic (pin side), or resilient polychloroprene (socket side). Contacts are brass, silver plated. Coupling is by the latch-lock method.

FEATURES

• QUIET OPERATION

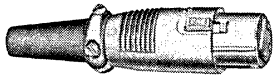
Thick aluminum cross sections for shell strength, plus resilient insulators and resilient ribs on the socket side, insure elimination of mechanical interference from shock.

• EASY TO WORK WITH

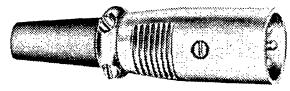
Finger grips for positive handling.

Integral cable clamp with two clamping positions for positive grip on cable sizes from 7/32 to 5/16 of an inch.

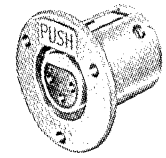
Large internal space for ease of wiring.



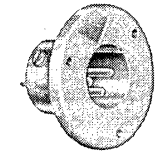
XLR-*-11C
XLR-*-11SC (steel shell)
SOCKET
Straight Cord Plug



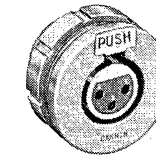
XLR-*-12C
XLR-*-12SC (steel shell)
PIN
Straight Cord Plug



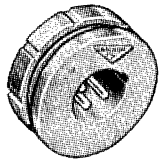
XLR-*-13
SOCKET
Wall Mounting Receptacle



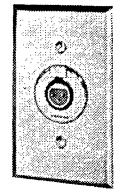
XLR-*-14
PIN
Wall Mounting Receptacle



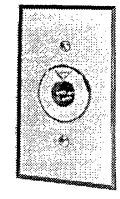
XLR-*-13N
SOCKET
Panel Mounting Receptacle



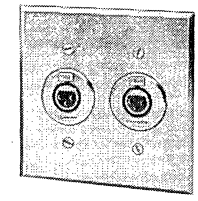
XLR-*-14N
PIN
Panel Mounting Receptacle



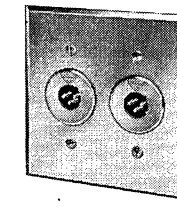
XLR-*-35
SOCKET
Wall Mounting Receptacle



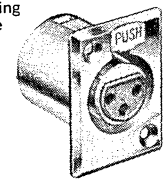
XLR-*-36
PIN
Wall Mounting Receptacle



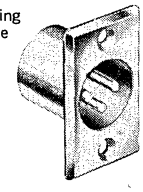
XLR-*-35-2G
SOCKET
Wall Mounting Receptacle



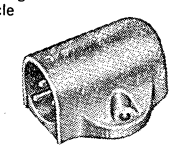
XLR-*-36-2G
PIN
Wall Mounting Receptacle



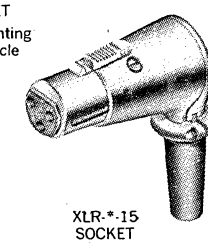
XLR-*-31
SOCKET
Wall Mounting Receptacle



XLR-*-32
PIN
Wall Mounting Receptacle

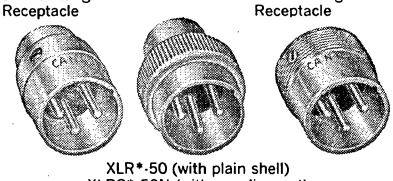


XLR-*-42
PIN
90° Wall or Microphone Receptacle



XLR-*-15
SOCKET
90° Cord Plug

Adapter Receptacles

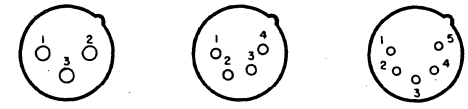


XLR*-50 (with plain shell)
XLRC*-50N (with coupling nut)
XLR*-50T (with threaded barrel)

*Add contact arrangement to complete part number. Example XLR-4-12C

CONTACT ARRANGEMENTS

FACE VIEW OF PIN INSERTS



3
3-15 AMP CONTACTS

4
4-10 AMP CONTACTS

5
5-7½ AMP CONTACTS

P CONNECTOR SERIES

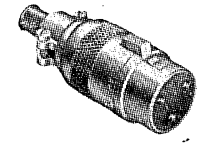
The ITT Cannon P is a versatile connector in terms of the wide range of contact arrangements offered. It is a proven connector and has been the standard of quality in the audio field for many years. Socket contacts are full floating and precision-made from milled bar stock.

Shells are zinc (receptacles), or steel or zinc (plugs), with satin chrome finish. Insulators are phenolic. Contacts are brass, silver plated. Coupling is by the latch-lock method.

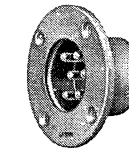
Other P Series connectors not shown.

P*-CG-12S	Straight cord plug. (Pin)
P*-13	Flush panel receptacle. (Socket)
P*-CG-15	90° angle cord plug. (Socket)
P*-CG-16	90° angle cord plug. (Pin)
P*-17	Surface panel receptacle. (Socket)
P*-18	Surface panel receptacle. (Pin)
P*-23	Straight cord plug. (Socket)
P*-24	Straight cord plug. (Pin)
P*-35-2G	Two gang wall receptacle. (Socket)
P*-36-2G	Two gang wall receptacle. (Pin)
P*-41	Microphone mounting receptacle. (Socket)
P*-42	Microphone mounting receptacle. (Pin)

*Add contact arrangement to complete part number. Example P2-CG-12S



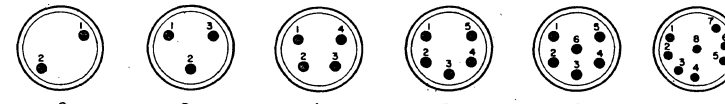
P-*-CG-11S
SOCKET
Straight Cord Plug



P-*-14
PIN
Wall Mounting Receptacle

CONTACT ARRANGEMENTS

FACE VIEW OF PIN INSERTS



2
2-30 AMP CONTACTS

3
3-30 AMP CONTACTS

4
4-30 AMP CONTACTS

5
5-30 AMP CONTACTS

6
6-30 AMP CONTACTS

8
8-15 AMP CONTACTS

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CANNON ITT

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AVAILABLE FROM STOCK

OUR COMPLETE LINE OF

STANDARD SOLDER-TYPE & TEFLON INSULATED TERMINALS & HARDWARE

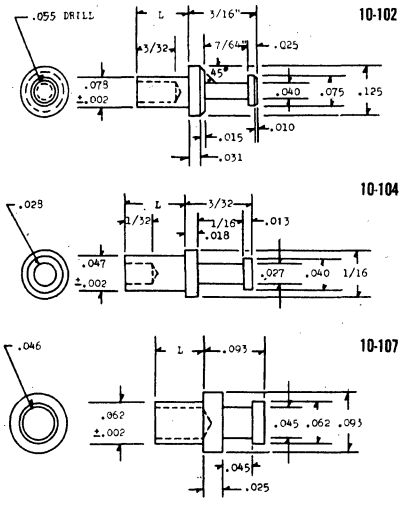
WE MAINTAIN THE MOST PRECISE, UP-TO-DATE HIGH SPEED SWISS AUTOMATIC SCREW MACHINERY AVAILABLE

MIL Spec. Platings Available: Silver: MIL-F-14072, QQ-S-365 • Electro-Tin: MIL-T-10727, Type 1 • Electro-Tin-Lead (Electro-Solder): MIL-F-14072 • Hot-Solder-Dip: MIL-F-14072, Type 221 • Hot-Tin-Dip: MIL-T-10727 • Gold: MIL-G-45204, Type II • Nickel: QQ-N-290, Type VI • Cadmium: QQ-P-416A, Type II, Class B, Clear Chromate • Bright Alloy: MIL Spec. • Copper: MIL Spec.

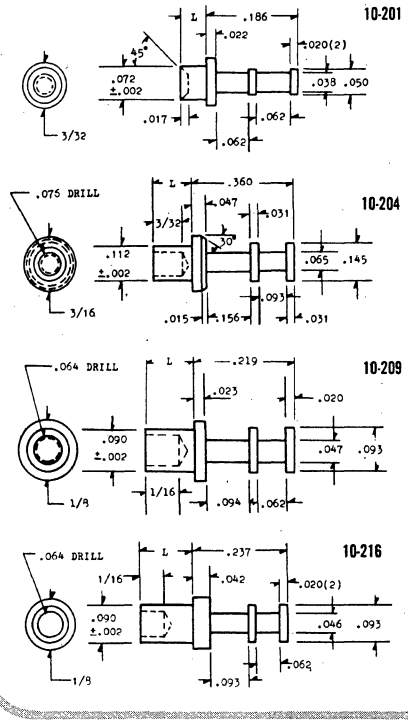
ALL STANDARD PANEL AND CHASSIS HARDWARE AVAILABLE

THESE ARE ONLY 36 OF THE HUNDREDS OF STYLES OF TERMINALS WE PRODUCE

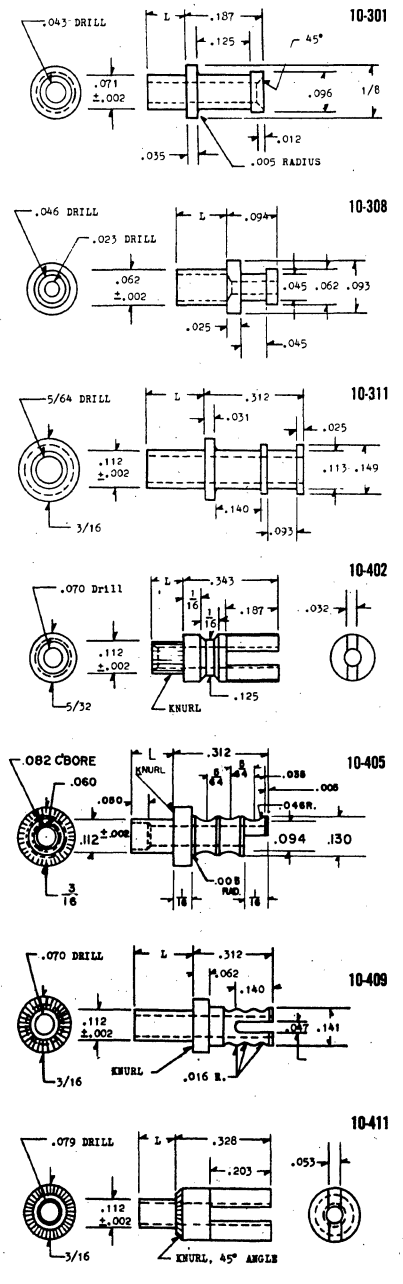
SINGLE TURRET TERMINALS, SERIES 10-100

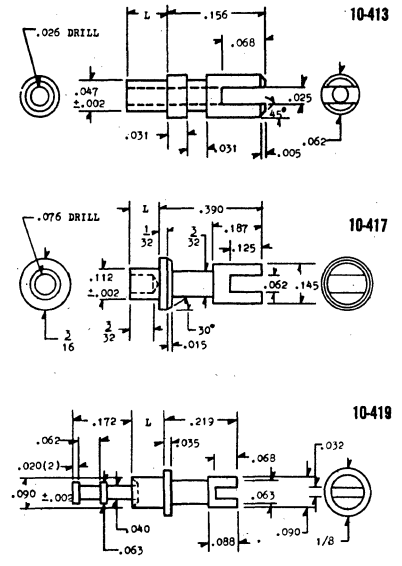


DOUBLE TURRET TERMINALS, SERIES 10-200

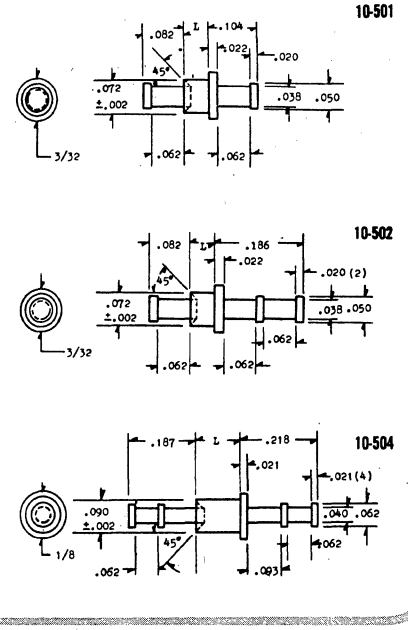


TUBULAR TERMINALS, SERIES 10-300





DOUBLE END TERMINALS, SERIES 10-500



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AVAILABLE FROM STOCK

OUR COMPLETE LINE OF

STANDARD SOLDER-TYPE & TEFLON INSULATED TERMINALS & HARDWARE

WE MAINTAIN THE MOST PRECISE, UP-TO-DATE HIGH SPEED SWISS AUTOMATIC SCREW MACHINERY AVAILABLE

QUOTATIONS GIVEN ON CUSTOM DESIGNS

TERMINAL MATERIALS:

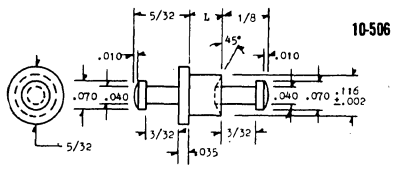
- **BRASS** QQ-B-626, Comp. 22, ½ hard. Brass tubing for hollow terminals is ASTM-B 135 grade.
- **BRONZE** to ASTM-B 140-58, Alloy B (leaded commercial bronze).

TERMINALS TO THE FOLLOWING SPECIFICATIONS:

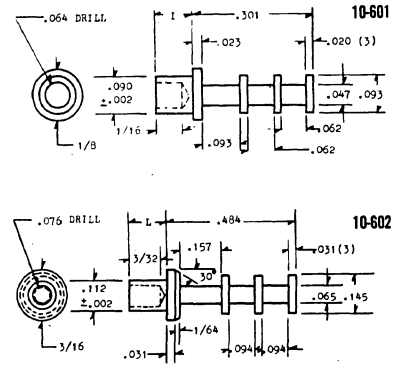
- NASA
- NATIONAL AEROSPACE
- MIL-T-55155
- FEDERAL SPEC. NUMBERS
- MS MILITARY STANDARDS

THESE ARE ONLY 36 OF THE HUNDREDS OF STYLES OF TERMINALS WE PRODUCE

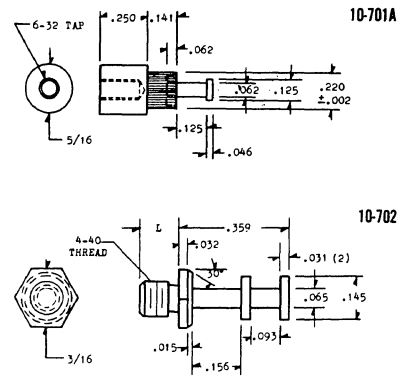
DOUBLE END TERMINALS, SERIES 10-500



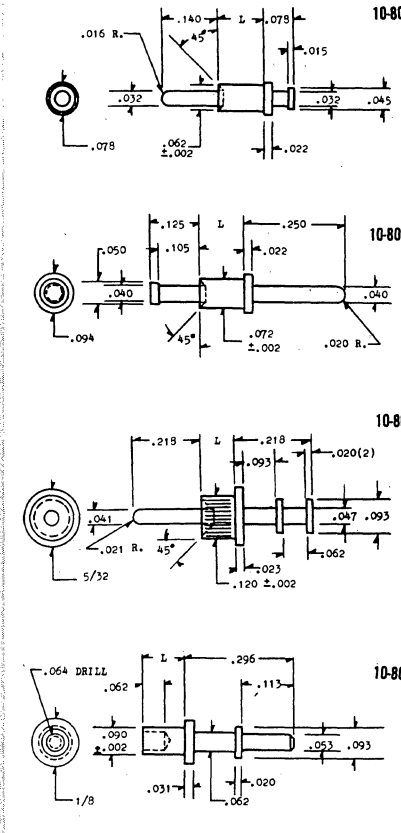
TRIPLE TURRET TERMINALS, SERIES 10-600



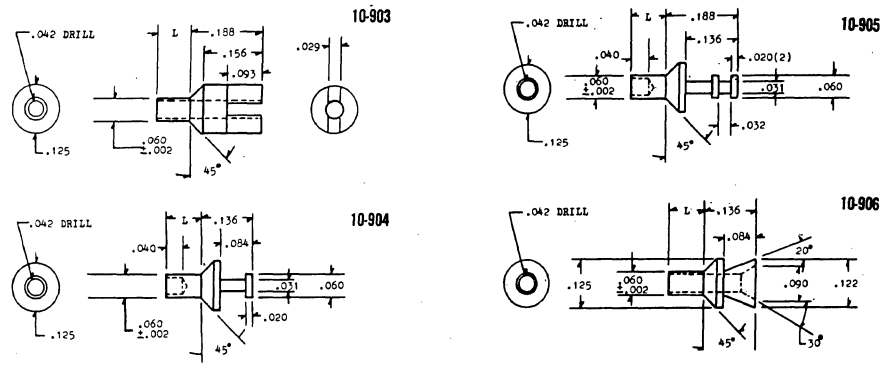
THREADED TERMINALS, SERIES 10-700



PIN TYPE TERMINALS, SERIES 10-800



PRINTED CIRCUIT TERMINALS SERIES 10-900



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DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

DABURN SOLDERLESS TERMINALS

Material is pure electrolytic copper with heavy cadmium plating, chromate finish resists corrosion and assures long shelf life — one piece design for maximum conductivity and strength. Beveled edges to facilitate wire insertion, barrels are full ¼" length, "V" grooves for wire protection.

NON INSULATED • QUICK DISCONNECT TERMINALS

COLOR CODE: For matching to wire sizes.
RED: For 22-16 wire, .160" I.D. **BLUE:** For 16-14 wire, .185" I.D.
YELLOW: For 12-10 wire, .260" I.D.

Female disconnect terminals are .020" brass, cadmium plated. Male disconnect terminals are .032" copper, cadmium plated. Beveled mouth and "V" grooves plus full ¼" length barrels for all.

INSULATED TERMINALS • QUICK DISCONNECT TERMINALS

The insulated terminals have strong, permanently attached rigid vinyl insulating sleeves for increased vibration resistance.

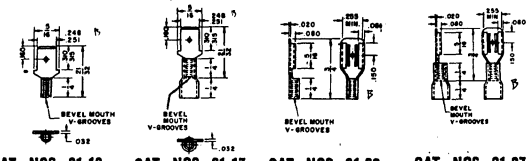
QUICK DISCONNECT TERMINALS

NON-INSULATED

Wire Size Range	Male Catalog No.	Female Catalog No.	Standard Package
22-16	21-12	21-22	100
16-14	21-13	21-23	100
12-10	21-14	21-24	100

INSULATED

Wire Size Range	Male Catalog No.	Female Catalog No.	Standard Package
22-16	21-17	21-27	100
16-14	21-18	21-28	100
12-10	21-19	21-29	100



CAT. NOS. 21-12, 21-13, 21-14 | CAT. NOS. 21-17, 21-18, 21-19 | CAT. NOS. 21-22, 21-23, 21-24 | CAT. NOS. 21-27, 21-28, 21-29

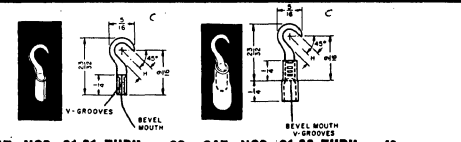
SOLDERLESS TERMINALS

NON-INSULATED — HOOK TONGUE

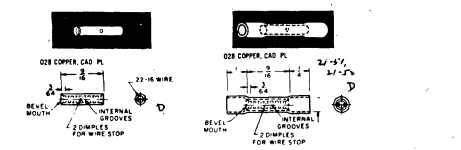
Wire Size Range	Stud Size	Catalog No.	Standard Package
22-16	6	21-31	100
	8	21-32	100
16-14	6	21-34	100
	8	21-35	100
	10	21-36	100

INSULATED

Wire Size Range	Stud Size	Catalog No.	Standard Package
22-16	6	21-38	100
	8	21-39	100
16-14	6	21-41	100
	8	21-42	100
	10	21-43	100



CAT. NOS. 21-31 THRU — 36 | CAT. NOS. 21-38 THRU — 43



CAT. NOS. 21-47, 21-48 | CAT. NOS. 21-51, 21-52

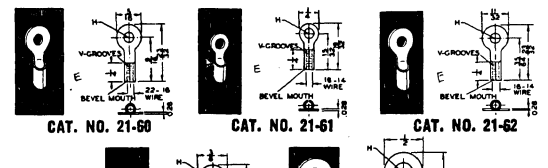
BUTT CONNECTORS

NON-INSULATED

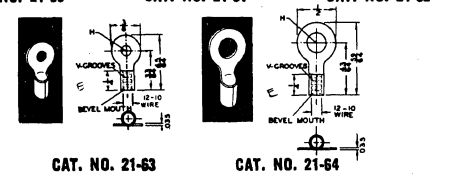
Wire Size Range	Catalog No.	I.D.	Stub Clearance	Standard Package
22-16	21-47	.140"	37/64	100
16-14	21-48	.170"	37/64	100

INSULATED

22-16	21-51	.140"	37/64	100
16-14	21-52	.170"	37/64	100



CAT. NO. 21-60 | CAT. NO. 21-61 | CAT. NO. 21-62



CAT. NO. 21-63 | CAT. NO. 21-64

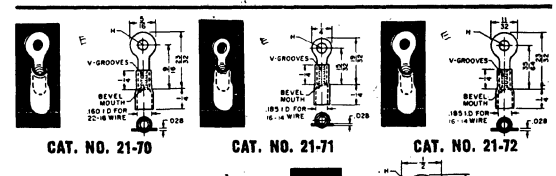
RING TONGUE

NON-INSULATED

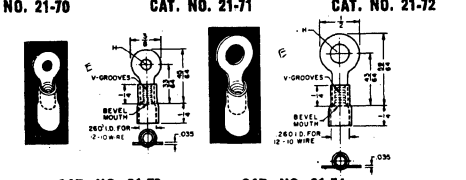
Wire Size Range	Specify Stud Sizes	Catalog No.	Standard Package
22-16	4, 6, 8, 10	21-60	100
16-14	4, 6	21-61	100
16-14	6, 8, 10	21-62	100
12-10	6, 8, 10	21-63	100
12-10	¼	21-64	100

INSULATED

22-16	4, 6, 8, 10	21-70	100
16-14	4, 6	21-71	100
16-14	6, 8, 10	21-72	100
12-10	6, 8, 10	21-73	100
12-10	¼	21-74	100



CAT. NO. 21-70 | CAT. NO. 21-71 | CAT. NO. 21-72



CAT. NO. 21-73 | CAT. NO. 21-74

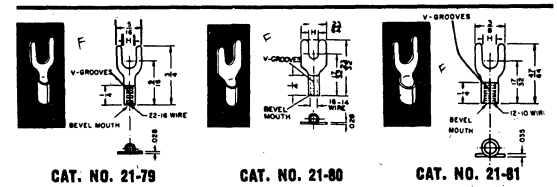
SPADE TONGUE

NON-INSULATED

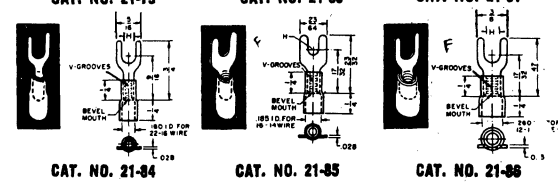
Wire Size Range	"H" Stud Sizes Specify	Catalog No.	Standard Package
22-16	4, 6, 8, 10	21-79	100
16-14	4, 6, 8, 10	21-80	100
12-10	6, 8, 10	21-81	100

INSULATED

22-16	4, 6, 8, 10	21-84	100
16-14	4, 6, 8, 10	21-85	100
12-10	6, 8, 10	21-86	100



CAT. NO. 21-79 | CAT. NO. 21-80 | CAT. NO. 21-81



CAT. NO. 21-84 | CAT. NO. 21-85 | CAT. NO. 21-86

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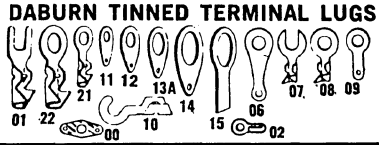
DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

LUGS — TERMINAL BOARDS, STRIPS BEARINGS • BUSHINGS • SPACERS

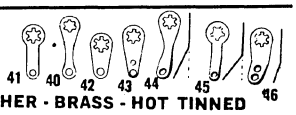
DABURN TINNED TERMINAL LUGS



Daburn No.	Hole Size	Material	L'gth	Thick-ness
101-11	6	Tinned Copper	17/32"	.015"
101-12	10	Tinned Copper	5/8"	.016"
101-13	.252	Tinned Copper	17/32"	.015"
101-13A	1/4	Tinned Copper	13/16"	.015"
101-14	3/8	Tinned Copper	7/8"	.016"
101-15	1/2	Hot Tin. Copper	1 3/16"	.024"
101-21	10	Hot Tin. Copper	3/16"	.020"
101-22	1/4	Hot Tin. Copper	1 1/16"	.025"
101-00	8	Brass Hot Tin.	"7/8	.015"
101-01	10	Brass Hot Tin.	25/32"	.020"
101-02	6	Brass Hot Tin.	5/8"	.020"
101-06	4-6-8-10	Brass Hot Tin.	7/8"	.020"
101-07	8	Tinned Copper	5/8"	.016"
101-08	4-6-8-10	Brass Hot Tin.	11/16"	.020"
101-09	4-6-8-10	Brass Hot Tin.	11/16"	.020"
101-10	10	Brass Hot Tin.	7/8"	.020"

Std. Pkg. 1000

TERMINAL LUGS

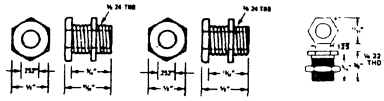


LOCKWASHER - BRASS - HOT TINNED

Daburn No.	Hole	Thickness	Length
101-40-4	4	.018"	7/8"
101-40-6	6	.018"	7/8"
101-40-8	8	.018"	7/8"
101-40-10	10	.018"	57/64"
101-40-14	1/4"	.018"	13/16"
101-41-4	4	.018"	47/64"
101-41-6	6	.018"	47/64"
101-41-8	8	.018"	47/64"
101-42-4	4	.018"	5/8"
101-42-6	6	.018"	5/8"
101-42-8	8	.018"	5/8"
101-43-4	4	.018"	23/32"
101-43-6	6	.018"	23/32"
101-43-8	8	.018"	23/32"
101-44-4	4	.018"	13/16"
101-44-6	6	.018"	13/16"
101-44-8	8	.018"	13/16"
101-44-10	10	.018"	53/64"
101-45-4	4	.018"	23/32"
101-45-6	6	.018"	23/32"
101-45-8	8	.018"	23/32"
101-46-4	4	.018"	41/64"
101-46-6	6	.018"	41/64"
101-46-8	8	.018"	41/64"

Std. Pkg. 1000

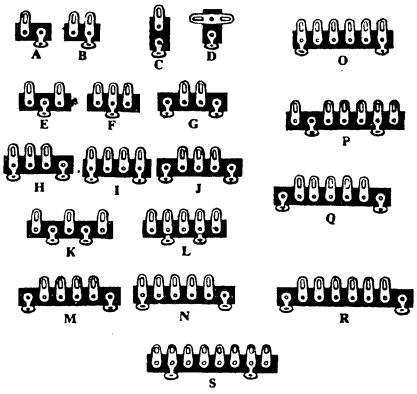
PANEL BEARINGS



Brass nickel plated. Same as used on the above bearing assemblies.

Daburn No.	Description	Std. Pkg.
14-370	5/16" Threaded Length	50
14-370A	13/32" Threaded Length	50
14-370B	3/8-32 Thread, 7/16" Threaded Length, 21/32" O.L.	50
14-370C	Miniature — 1/4-32 Thd., Threaded L'gth. 5/16", 3/8" O.L., .125" 11/32" Hex.	50

LUG TERMINAL STRIPS



STANDARD TYPE

Lugs are 3/8" centers with .140 diam. mounting holes. Lugs are 1/16" (.062") thick XP bakelite by 3/8" wide lugs. Special combinations available. Mount: .140 I.D. for no.6 screw.

MINIATURE TYPE

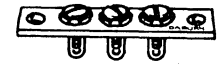
Lugs are 1/4" centers. Lugs are .062" thick XP bakelite x 5/16" wide. Steel cadmium plated. Mount: .096 I.D. for 3/32" rivet or No. 3 screw.

Std. Pkg. 100

Daburn No.	Illus-tration	Daburn No.
15-82	A	15-52
15-82A	B	15-52A
15-82B	C	15-52B
15-82C	D	15-52C
15-83	E	15-53
15-83A	F	15-53A
15-84	G	15-54
15-84A	H	15-54A
15-84B	I	15-54B
15-85	J	15-55
15-85A	K	15-55A
15-85B	L	15-55B
15-86	M	15-56
15-86A	N	15-56A
15-86B	O	15-56B
15-87	P	15-57
15-88	Q	15-58
15-89	R	15-59
15-90	S	15-60

BAKELITE TERMINAL BOARD
Screw Type

Terminals made of brass hot tinnned, mounted on X.P. Bakelite 5/8" wide x 1/16" thick, spaced 7/16" centers. Screws are 6-32 x 3/8" steel, cadmium plated.



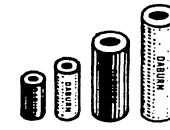
Daburn No.	Termi-nals	Mtg. Center	Std. Pkg.
15-72	2	1 1/16"	50
15-73	3	1 3/4"	50
15-74	4	2 3/16"	50
15-75	5	2 5/8"	50
15-76	6	3 1/16"	50
15-77	7	3 1/2"	50
15-81	SHORTING LINK		100

DABURN TERMINAL BOARD
Heavy Duty

Terminals made of brass, cadmium plated .042" thick, spaced 1/2" centers. Mounted on XP bakelite 7/8" wide x 3/32" thick. Screws are 8-32 x 5/16" brass, nickel plated.

Daburn No.	Termi-nals	Mtg. Center	Std. Pkg.
15-61A	2	1 1/2"	25
15-61	3	2"	25
15-62	4	2 1/2"	25
15-63	5	3"	25
15-64	6	3 1/2"	25
15-65	7	4"	25
15-66	8	4 1/2"	25
15-67	9	5"	25
15-68	10	5 1/2"	25
15-69	11	6"	25
15-70	12	6 1/2"	25

DABURN BRASS BUSHINGS AND SPACERS



Suitable for raising sub panels, condensers, transformers, chassis, etc. Bushing hole accommodates a No. 4, No. 6 or No. 8 screw.

1/4" O.D.

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-320	14-315	14-310
3/8"	14-321	14-316	14-311
1/2"	14-322	14-317	14-312
3/4"	14-323	14-318	14-313
1"	14-324	14-319	14-314

Std. Pkg. 100

3/8" O.D.

1/4"	14-330	14-325	14-305
3/8"	14-331	14-326	14-306
1/2"	14-322	14-327	14-307
3/4"	14-333	14-328	14-308
1"	14-334	14-329	14-309

Std. Pkg. 100

THREADED BRASS SPACERS

Threaded spacers for 4-40, 6-32 and 8-32 application.

1/4" O.D.

Length	For 8-32 Cat. No.	For 6-32 Cat. No.	For 4-40 Cat. No.
1/4"	14-340	14-335	14-300
3/8"	14-341	14-336	14-301
1/2"	14-342	14-337	14-302
3/4"	14-343	14-338	14-303
1"	14-344	14-339	14-304

Std. Pkg. 100

DABURN FIBRE SPACERS

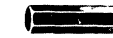
Fibre material per MIL-F-1148A, Grade CH.

1/4" O.D.

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-365	14-360	14-355
3/8"	14-366	14-361	14-356
1/2"	14-367	14-362	14-357
3/4"	14-368	14-363	14-358
1"	14-369	14-364	14-359

Std. Pkg. 100

DABURN HEX SPACERS
Brass Cadmium Plated



1/4" Hex

Length	For No. 8 Screw Cat. No.	For No. 6 Screw Cat. No.	For No. 4 Screw Cat. No.
1/4"	14-410	14-405	14-400
3/8"	14-411	14-406	14-401
1/2"	14-412	14-407	14-402
3/4"	14-413	14-408	14-403
1"	14-414	14-409	14-404

Std. Pkg. 100

3/8" Hex

1/4"	14-430	14-425	14-420
3/8"	14-431	14-426	14-421
1/2"	14-432	14-427	14-422
3/4"	14-433	14-428	14-423
1"	14-434	14-429	14-424

Std. Pkg. 100

THREADED BRASS HEX SPACERS
1/4" Hex

Length	Thread For 8-32 Cat. No.	Thread For 6-32 Cat. No.	Thread For 4-40 Cat. No.
1/4"	14-450	14-445	14-440
3/8"	14-451	14-446	14-441
1/2"	14-452	14-447	14-442
3/4"	14-453	14-448	14-443
1"	14-454	14-449	14-444

Std. Pkg. 100

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DABURN

DABURN ELECTRONICS & CABLE CORP.

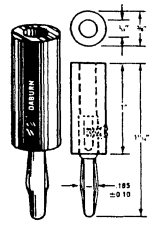
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

BANANA, PHONE PLUGS & TIPS

INSULATED BANANA PLUG
SOLDERLESS

Fits standard banana jacks. Plug is brass nickel plated. Spring is four leaf phosphor bronze, nickel plated. Side set screw holds wire without soldering. Molded plastic handle.

COLORS
Red, Black, Yellow, Green, Blue (Specify)

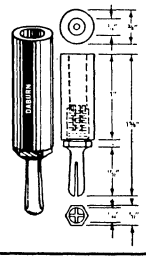


DABURN No.	SPRING	Std. Pkg.
19-46	Phosphor Bronze N.P.	50
19-46A	Beryllium Copper N.P.	50

INSULATED BANANA PLUG
SOLDERLESS

This split plug, brass N. PL., has internal brass N. PL., stud for solderless connection. Fits standard banana jacks. Molded plastic handle.

COLORS
Red, Black, Yellow, Green, Blue. (Specify)



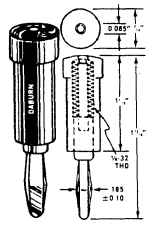
DABURN No.	Std. Pkg.
19-47	50

BANANA PLUG

ADAPTER
TIP PLUG TO BANANA PLUG

Fits standard banana jacks, accepts standard phone tips. Plug is brass nickel plated. Spring is four leaf phosphor bronze, nickel plated. Phone tip jack is phosphor bronze molded plastic handle and cap.

COLORS
Red, Black (Specify)



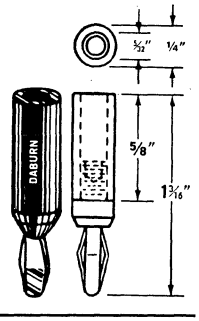
DABURN No.	Std. Pkg.
19-67	50

ADAPTER

INSULATED MIDGET BANANA PLUG
SOLDERLESS

Spring is four leaf phosphor bronze, or beryllium copper, nickel plated. Wire can be soldered directly into plug. Molded plastic handle. Fits standard banana jacks.

COLORS
Red, Black. (Specify)



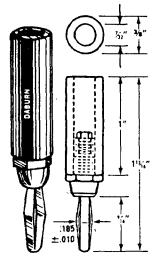
SPRING

DABURN No.	Std. Pkg.
19-55 Phosphor Bronze N.P.	50
19-55B Beryllium Copper S.P.	50

INSULATED BANANA PLUG
SOLDERLESS

Fits standard banana jacks. Plug is hex brass, Nickel plated. Spring is four leaf phosphor bronze nickel plated. Molded plastic handle.
For solderless connection: wire can be passed thru hex brass N.P. stud and spread, which locks wire to plug. Wire can also be soldered directly to plug.

COLORS
Red, Black, Yellow, Green, Blue. (Specify)

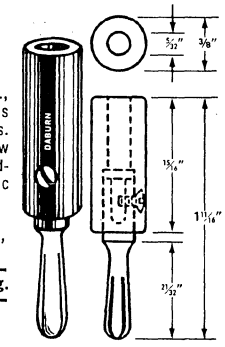


DABURN No.	SPRING	Std. Pkg.
19-04	Phosphor Bronze N.P.	50
19-04B	Beryllium Copper S.P.	50

INSULATED BANANA PLUG
SOLDERLESS

Split plug, brass N. PL., with side screw fits standard banana jacks. Plug is slotted, set screw holds wire without soldering. Molded plastic handles.

COLORS
Red, Black, Yellow, Green, Blue. (Specify)



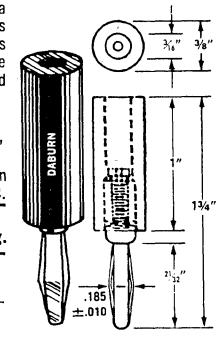
DABURN No.	Std. Pkg.
19-44	50

BANANA PLUG

INSULATED BANANA PLUG
SOLDERLESS

Fits standard banana jacks. Plug is brass nickel plated. Spring is four leaf phosphor bronze nickel plated. Molded plastic handle.

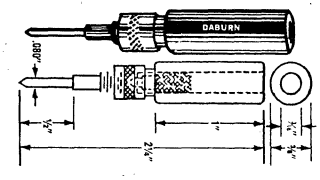
COLORS
Red, Black, Yellow, Green, Blue. (Specify)
For solderless connection same as our No. 19-04.



SPRING

DABURN No.	Std. Pkg.
19-65 Phos. Bronze N.P.	50
19-65B Beryllium Copper S.P.	50

INSULATED PHONE TIP
SOLDERLESS — SENIOR

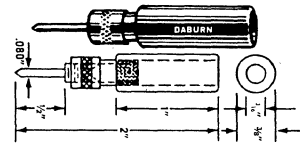


Fits standard phone tip jacks. Brass nickel plated. Solderless connection for wire which fits thru body of tip and fastens under knurled nut. Molded plastic handle.

COLORS: Red, Black, Yellow, Green, Blue. (Specify)

Daburn No.		Std. Pkg.
19-09	Senior	50

INSULATED PHONE TIP
SOLDERLESS — JUNIOR

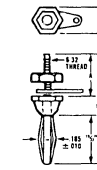


Fits standard phone tip jacks. Brass nickel plated. Solderless connection for wire which fits thru body of tip and fastens under knurled nut. Molded plastic handle.

COLORS: Red, Black, Yellow, Green, Blue. (Specify)

Daburn No.		Std. Pkg.
19-15	Junior	50

BANANA PLUG — No. 17-40

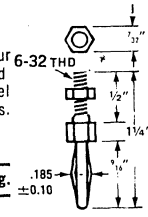


Fits all standard banana jacks. Hex brass, nickel plated. Comes thru with hex N. PL. nut and tinned copper lug. Spring is four leaf phosphor bronze, nickel plated.

RATED: 15 Amps. AC.

DABURN No.	Spring	Dim. A	Std. Pkg.
17-40	Phosphor Bronze	½"	100
17-40A	Phosphor Bronze	⅜"	100
17-40B	Beryllium Copper	½"	100

BANANA PLUG — No. 17-14

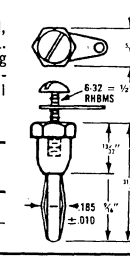


Nickel plated hex brass; spring is four leaf phosphor bronze, nickel plated Comes thru with hex nut, nickel plated. Fits all standard banana jacks.

RATED: 15 Amps. AC.

DABURN No.	Spring	Std. Pkg.
17-14	Phosphor Bronze	100

BANANA PLUG — No. 17-41



Body is hex brass, nickel plated, comes thru complete with N. PL. screw and tinned copper lug; spring is four leaf phosphor bronze or beryllium copper, nickel plated. Fits all standard banana jacks.

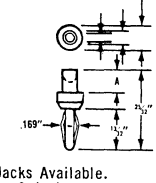
RATED: 15 Amps. AC.

DABURN No.	Spring	Std. Pkg.
17-41	Phosphor Bronze	100
17-41B	Beryllium Copper	100

MIDGET BANANA PLUG
RIVET TYPE

Brass silver plated body. Spring is four leaf phosphor bronze, silver plated.

RATED: 10 Amps. AC.

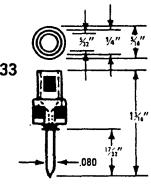


DABURN No.	Std. Pkg.
17-26 Rivet Type Midget Plug	100

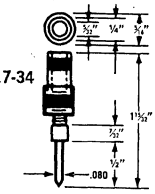
Additional Midget Plugs & Jacks Available.
Also Sub-Miniature Plugs & Jacks.

SOLDERLESS PHONE TIP PLUG

17-33



17-34



Brass nickel plated. Both fit all standard phone tip jacks. Slipping the wire thru body of tip, then wrapping same around screw, is tightened by knurled collar.

DABURN No.	Description Type	Std. Pkg.
17-33	Junior	100
17-34	Senior	100

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DABURN

DABURN ELECTRONICS & CABLE CORP.

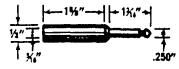
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

TELEPHONE PLUGS • JACKS • PRINTED CIRCUIT JACK

TELEPHONE TYPE PLUGS

Fits all standard phone jacks. Body tip, sleeve is brass, nickel plated. 5 amp. AC rating, continuous duty. 750V. 60 cycle AC. Specify red or black bakelite barrel.

DABURN Cat. No.	Circuit	Terminals	Std. Pkg.
19-81	2	Solder	100
19-81A	2	Screw	100
19-83	3	Solder	100
19-83A	3	Screw	100

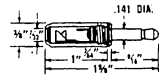


Additional types available.

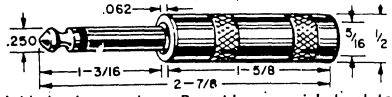
MINIATURE PHONE PLUGS

Insulated, molded plastic handle; brass nickel plated body; solder terminals; 5 amp. rating continuous duty.

DABURN Cat. No.		Standard Package
19-130	Solder Term.	50
19-131	Shielded	50



SHIELDED PHONE PLUG



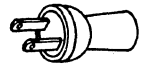
Shielded phone plug. Barrel-brass, nickel plated with tubular insulator.

DABURN Cat. No.	Circuit	Terminals	Standard Package
19-82	2	Solder	100
19-82A	2	Screw	100
19-84	3	Solder	100
19-84A	3	Screw	100

RUBBER MALE PLUG

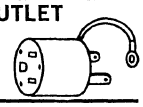
DABURN Cat. No.		Standard Package
9-30	2 Prong Male Plug — Brass	100

Rated: 15 Amps, 125V.



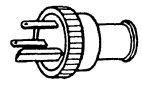
ADAPTER FOR 3 PRONG PLUG FOR STANDARD OUTLET

DABURN Cat. No.		Standard Package
9-19	Adapter	50



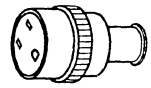
3 PRONG MALE PLUG

DABURN Cat. No.		Standard Package
9-17	3 Parallel Blades and Ground Pin	50



FEMALE CONNECTOR

DABURN Cat. No.		Standard Package
9-31	Mate to 9-17	50



PHONO PLUGS

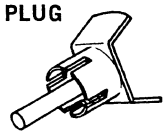
STANDARD PHONO PLUGS

RCA Type — useful with record players, recording equipment. Extra large hole in cap .175" for coaxial cable.

DABURN Cat. No.		Standard Package
9-148	Long Pin 1" Overall	100
9-148S	Short Pin 13/16" Overall	100

NEW RCA TYPE PHONO PLUG

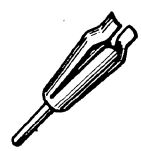
DABURN Cat. No.		Standard Package
9-147	Long Pin 1" Overall	100
9-147S	hort Pin 13/16" Overall	100



MOTOROLA TYPE PLUGS

Nickel plated 1/8" tube pin extends from split brass shell cadmium plated.

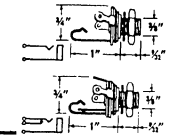
DABURN Cat. No.		Standard Package
9-146		100
9-146S	For Smaller Cable	100



TELEPHONE TYPE JACK

Body is brass nickel plated. Designed for long life. Nickel Silver alloy spring. Rated 10 amp. AC continuous duty. Mounts in 3/8" hole in panels up to 5/32" thick.

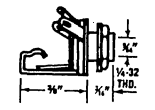
DABURN Cat. No.		Standard Package
19-157	2 Cond., Open	50
19-158	2 Cond., Closed	50
19-159	3 Cond., Open	50
19-160	3 Cond., Closed	50



MINIATURE TELEPHONE JACKS

Brass, nickel plated, mounts in 1/4" hole in panels up to 1/8" thick.

DABURN Cat. No.		Standard Package
19-132	2 Cond., Open	50
19-133	2 Cond., Closed	50

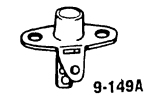


PHONO JACKS

Female for our Nos. 9-148, 9-147. Positive grip, single prong 1/16" bakelite, 11/16" mounting center.

DABURN Cat. No.		Standard Package
9-149		100
9-149-1	Insulating Washer	100

9-149



9-149A

Miniature Phono Jack

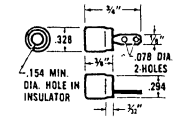
Small, compact 11/16" mounting centers.

9-149A	100

Phono Input Jack

Where space is at a premium. Mounts in 19/64" hole. Rivets and grounds to chassis.

9-149B	100

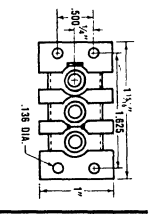


9-149B

PHONO JACKS

Used on recording equipment, phonographs, etc.

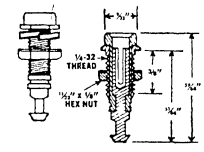
DABURN Cat. No.		Standard Package
9-150	Double Phono Jack	50
9-150A	Triple Phono Jack	50
9-150B	Quadruple Phono Jack	50
9-150-1	Insulating Washer for 9-150	50



NYLON TIP JACK WITH METAL SHELL

MADE TO MEET MS-16108 Spec — WRAP AROUND

Molded nylon tip jack with metal shell eliminates possibility of threads stripping during assembly. Made to meet the requirements of MS-16108 specification. Contact recessed in head for safety. Nylon, grade FM 10001, brass N.P. Shell and nut per Spec. 72-53. Tough and rugged. Fits all standard phone tip plugs.



CENTER CONTACT: Heat treated beryllium copper, silver plated.

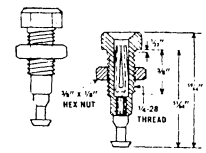
COLORS: Red, Black, Yellow, Green, Blue, White. (Specify Color)

Daburn No.		Std. Pkg.
19-90	Wrap Around	25

ALL NYLON TIP JACK

WRAP AROUND

All nylon molded tip jack. Takes all standard phone tip plugs. Contact recessed in head for safety. Hex head for ease in tightening. Mounts in 1/4" hole in panels up to 1/4". Body is nylon, grade FM 10001. Tough and rugged. Complete with brass nickel plated hex nut. Center contact. Heat treated beryllium copper, silver plated.



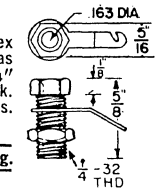
COLORS: Red, Black, Yellow, Green, Blue, White. (Specify Color)

Daburn No.		Std. Pkg.
19-80	Wrap Around	25

BANANA JACK

Hexed brass nickel plated hex nut and tinned copper lug. Has recessed head. Mounts in 1/4" hole in panels up to 5/16" thick. Fits all standard banana plugs.

Rated: 15 amps AC.

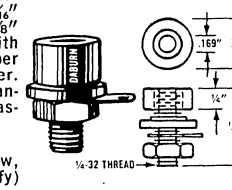


Daburn No.		Std. Pkg.
17-03	Banana Jack	100

INSULATED BANANA JACK

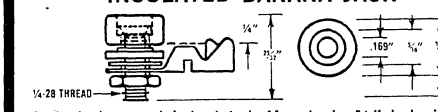
Body is brass nickel plated, mounts in 5/16" hole in panels up to 3/8" thick. Comes thru with hex nut, tinned copper lug and fibre washer. Takes all standard banana plugs. Molded plastic head.

COLORS
Red, Black, Yellow, Green, Blue, (Specify)



DABURN No.	Description	Std. Pkg.
19-06	Insulated Jack	50

INSULATED BANANA JACK



Body is brass nickel plated. Mounts in 5/16" hole in panels up to 3/8" thick. Comes thru with hex nut, tinned copper lug, lockwasher, fibre washer. Takes all standard banana plugs. Jack body is recessed for tight contact. Molded plastic head.

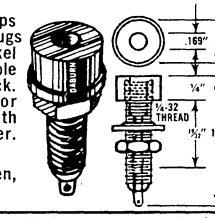
COLORS: Red, Black, Yellow, Green, Blue. (Specify)

DABURN No.	Description	Std. Pkg.
19-91	Insulated Jack	50

INSULATED JACK COMBINATION

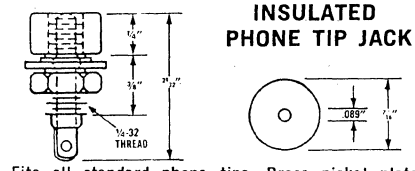
Will take senior phone tips or standard banana plugs Body is brass, nickel plated. Mounts in 5/16" hole in panels up to 1/2" thick. Springs are phosphor bronze. Comes thru with hex nut and fibre washer.

COLORS:
Red, Black, Yellow, Green, Blue. (Specify)



DABURN No.	Description	Std. Pkg.
19-33	Insulated Combination Jack	50

INSULATED PHONE TIP JACK



Fits all standard phone tips. Brass nickel plated body. Phosphor bronze spring provides positive contact. Comes thru complete with hex nut and fibre washer. Molded plastic head.

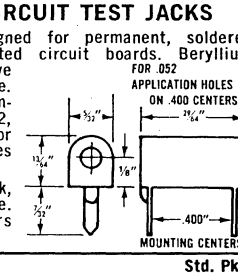
COLORS: Red, Black, Yellow, Green, Blue. (Specify)

DABURN No.	Std. Pkg.
19-07	50

PRINTED CIRCUIT TEST JACKS

Nylon bodies, designed for permanent, soldered connection to printed circuit boards. Beryllium copper contacts have gold over silver plate. Accepts .080" diameter per MIL F-14072, M301 test probes. For .052 application holes on .400 centers.

COLORS: Red, Black, Green, Yellow, Blue. Additional colors available.



DABURN No.		Std. Pkg.
19-77	Printed Circuit Jacket	25

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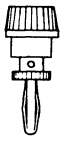
DABURN ELECTRONICS & CABLE CORP.
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

POSTS • PRODS • CAPTIVE HARDWARE

COMBINATION POST — BANANA PLUG



Molded fluted nylon captive head rated at 15 amps AC. Body is brass nickel plated: spring — N.P.L. phosphor bronze. Converts a standard banana jack into a five way binding post.

Cat. No.		Std. Pkg.
18-40	Combination plug	100

COLORS: Red, Black.

COMBINATION POST — BANANA PLUG

Molded hex head nylon captive head. Rated at 15 amps AC. Body is brass nickel plated; spring — N.P.L. Phosphor bronze. Converts a standard banana jack into a five way binding post.

Cat. No.		Std. Pkg.
18-42	Combination plug	100

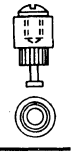
COLORS: Red, Black.

COMBINATION TERMINAL METAL BINDING POST

Brass nickel plated turret terminal screw head. Knurled shank. Knurled end. For 3/16" thick panel. 10-32 x 1/4" long BHM screw.

Cat. No.		Std. Pkg.
18-30	Combination terminal	100

COMBINATION TERMINAL METAL BINDING POST

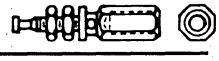


Brass nickel plated turret terminal screw head. Knurled shank. Knurled end. 8-32 x 1/4" long BHM screw. For 1/8" thick panel.

Cat. No.		Std. Pkg.
18-32	Combination terminal	100

METAL BINDING POST — 5 WAY

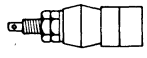
Hex brass, nickel plated. Wrap around terminal. Captive head.



Cat. No.		Std. Pkg.
18-34	Binding post	100

BINDING POST — 5 WAY

Hex head molded nylon with spade lug. Brass nickel plated.



COLORS: Red, Black.

Cat. No.		Std. Pkg.
18-77	Binding post	100

STANDARD DUTY BINDING POST

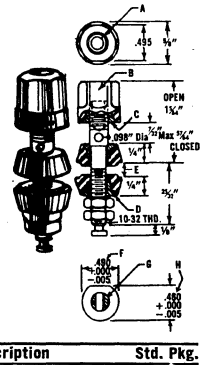
Colors: Red, black.

Molded-in brass bushings similar as above. Rated at 15 Amps. AC, capacitance 3.0 MMFD. Body is brass nickel plated. Mounts in 5/16" hole for locking. Has milled slot complete with two hex nuts.

DABURN No.	Description	Std. Pkg.
18-78	All Insulated Type	100
18-79	Grounding Type	100

BINDING POSTS — MULTI-PURPOSE Wrap Around Type

Molded nylon body. Accepts tip plug, spade lug, banana plug, wire alligator clip and direct solder connection. Has molded-in brass insetrs in head and washer. Rated at 30 amps. AC. capacitance 5.0 MMFD. Banana plug receptacle .161" I.D. head non-removable from stud and washer completely insulates post from panel. For panels 1/16" to 1/4" thick; drill 1/2" hole for mounting washers. Wire hole is at right angle to flat on insulated washer.

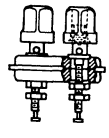


COLORS: Red Black, (Specify)

DABURN No.	Description	Std. Pkg.
18-72	Nylon Fluted Head Post	100
18-75	Nylon Binding Post	100

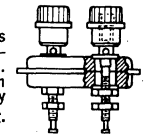
DUAL BINDING POSTS NYLON — 5 WAYS

Hex nylon captive head. Brass nickel plated. Turret terminals wrap around 15 amp rating AC. Mounts in 3/4" centers. Available in red or black combinations. Specify.



Cat. No.		Std. Pkg.
18-50	Dual Binding Post	100

DUAL BINDING POSTS NYLON — 5 WAYS



Fluted nylon captive head. Brass nickel plated. Turret terminals — wrap around. 15 amp rating AC. Mounts in 3/4" centers. Available in red or black combinations. Specify

Cat. No.		Std. Pkg.
18-52	Dual Binding Post	100

INSULATED SPADE LUG

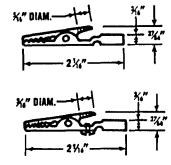
Molded plastic handle lug is steel hot tinned. Rated at 25 amps. AC. Rear barrel accommodates all standard banana plugs.

COLORS — Insulated Spade: Red, Black.

DABURN No.		Std. Pkg.
19-32	Insulated Spade Lug	50
19-32A	Spade Lug Only	50

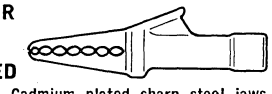
ALLIGATOR CLIPS

Steel, cadmium plated. 5 amp continuous duty. 1/2" jaw opening. Jaws match accurately, grips securely. Accepts standard banana plugs.



DABURN Cat. No.		Std. Pkg.
20-3	Clip (no screw)	50
20-3S	Clip (with screw)	50

ALLIGATOR CLIP ALL INSULATED

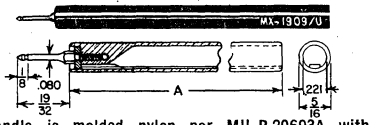


Fully insulated. Cadmium plated sharp steel jaws. Accepts banana plug in rear.

COLORS: Red, Black.

Cat. No.		Std. Pkg.
20-25	Insulated Clip	100

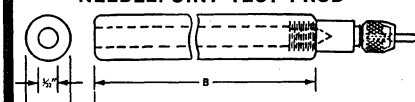
NYLON HANDLE PRODS AND TIPS



Handle is molded nylon per MIL-P-20693A with brass, silver plated tip. Solderless prods made to meet Signal Corps Drawing SC-C-82761.
Rated at 10 amps AC for 10° temperature rise, continuous duty.

DABURN Cat. No.	Sig. Corps. Drawing & Part No.	Size "A"	Color	Std. Pkg.
19-57	MX-1906/U	1"	Red	25
19-58	MX-1907/U	1"	Black	25
19-59	MX-1909/U	4"	Red	25
19-60	MX-1910/U	4"	Black	25

NEEDLEPOINT TEST PROD

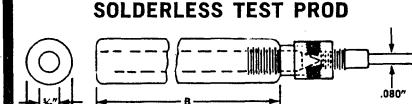


Brass ricket plated plug, chuck is removable for replacement of broken needles. Sharp needle pierbes insulation or corrosion for testing purposes. Molded plastic handle.

COLORS: Red, Black. (Specify)

DABURN No.	Handle (B)	Overall L'gth (A)	Std. Pkg.
19-20	4"	47/8"	50
19-21	5"	63/8"	50

SOLDERLESS TEST PROD

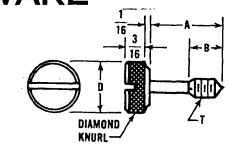


Body is brass nickel plated with molded plastic handle. Solderless connection, for wire fits thru handle and plug body and wraps under knurled nut.

COLORS: Red, Black. (Specify)

DABURN No.	Handle (B)	Overall L'gth (A)	Std. Pkg.
19-10	4"	5 3/16"	50
19-43	5"	6 1/2"	50

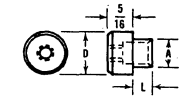
CAPTIVE SCREW



Cat. No.	A	B	D	T	Material
14-555	3/4	5/16	7/16	6-32	Brass
14-555SS	3/4	5/16	7/16	6-32	St. St.
14-556	3/4	3/8	7/16	8-32	Brass
14-556SS	3/4	3/8	7/16	8-32	St. St.
14-557	7/8	3/8	5/8	10-32	Brass
14-557SS	7/8	3/8	7/16	10-32	St. St.
14-558	7/8	3/8	5/8	1/4-20	Brass
14-558SS	7/8	3/8	1/2	1/4-20	St. St.

MATERIAL: Brass per QQB-626A, Comp. 22, 1/2 Hard.
FINISH: Nickel Plate and Polish per MIL-QQN-290, Type VI.
Stainless Steel per QQS-763, Class 7, Type A available
Standard Package 100

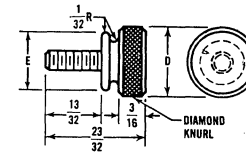
CAPTIVE BUSHING



Cat. No.	D	A	L	T	Panel Thickness
14-560	3/8	5/16	5/32	6-32	1/8
14-561	3/8	5/16	5/32	8-32	1/8
14-562	9/16	13/32	5/32	10-32	1/8
14-563	9/16	13/32	5/32	1/4-20	1/8
14-564	3/8	5/16	7/32	6-32	3/16
14-565	3/8	5/16	7/32	8-32	3/16
14-566	9/16	13/32	7/32	10-32	3/16
14-567	9/16	13/32	7/32	1/4-20	3/16
14-568	3/8	5/16	9/32	6-32	1/4
14-569	3/8	5/16	9/32	8-32	1/4
14-570	9/16	13/32	9/32	10-32	1/4
14-571	9/16	13/32	9/32	1/4-20	1/4

MATERIAL: Brass per QQB-626A, Comp. 22, 1/2 Hard.
FINISH: Nickel Plate per MIL-QQN-290, Type VI.
Available in Stainless Steel, add suffix -S to part number.
Special Sizes Also Available. **Standard Package 100**

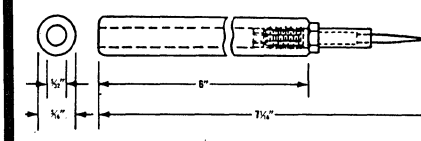
THUMB SCREW



Cat. No.	D	E	Thread
14-501	3/8	5/16	6-32
14-502	3/8	5/16	8-32
14-503	3/8	5/16	10-32
14-504	7/16	3/8	6-32
14-505	7/16	3/8	8-32
14-506	7/16	3/8	10-32
14-507	1/2	7/16	6-32
14-508	1/2	7/16	8-32
14-509	1/2	7/16	10-32

MATERIAL: Brass per QQB-626A, Comp. 22, 1/2 Hard.
FINISH: Nickel Plate per MIL-QQN-290, Type VI.
Standard Package 100

BAKELITE PENCILTYPE TEST PROD



Body is brass nickel plated with heavy steel phono needle in tip. Handle is XX bakelite per MIL-P-79 Spec. Wire threaded thru stud and tightened allows for solderless connection.

COLOR: Red, Black. (Specify)

DABURN No.		Std. Pkg.
19-11	Bakelite Pencil Type Prod	25

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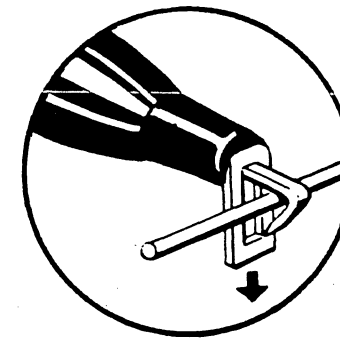
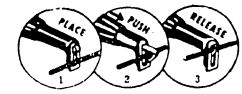
E-Z-HOOK

TEST AND PRODUCTION CONNECTORS

• CLIPS • ADAPTERS • TEST LEADS • PROBES



- **Instantly connects anywhere — Won't cut or nick.**
- **Won't short or jump off — Leaves your hands free.**
- **Saves time and temper — Money back guarantee.**



Patented hook tip connects anywhere. 1. Push to connect. 2. Push again to remove.

U.S. PATENT No. 2702892

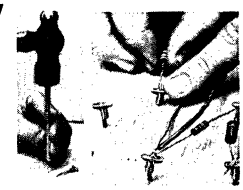
HARNESS BOARD CLIPS

- **Save Up to 30% in Board Construction Time!**
- **Speeds wiring... Improves Quality**

No need to waste valuable time drilling holes, placing screws, nuts, & washers. The "Nail" Clip drives into wood like a nail! Pulls out as easy. Make Eng. Changes in seconds. Use them to speed Processing—Save Construction & Production time.

Easy finger-tip operation speeds wire placing—makes it easier. Patented E-Z-HOOK holds firmly—won't cut nick or damage wire ends. L. 1 3-16". Made of tough Stainless Steel and Durable Nylon.

...Over 62,000 used by Company X...



E-Z-HOOK "Nail" Clips

No. 81-1	E-Z-HOOK "Nail" Clip (Use T-20 Tool) 24¢ ea.	10 for 1.98	
No. K8150T-1	"Nail" Clip Kit (50 Clips, Tool & Instr.) Wt. 2 oz.	ea.	8.95
No. T-20	E-Z-HOOK "Nail" Clip Driving Tool Wt. 1-3 oz.	ea.	.35

TEST PROD TIP ADAPTERS

- **For testing as you like it**
- **Sharp point to an E-Z-HOOK in seconds**

Handiest, most trouble-free adapter you can get. Convenient E-Z-HOOK Tip slips easily on, or off, — in seconds! Doubles regular test prod utility, 1. as a sharp point for probing, 2. as an extra hand when needed.

Slips Easily On—Off

Safer, tool... remote connections made easily while your hand stays out in the clear — safe from shock.

A smart investment in trouble-free design. Exclusive spring chuck eliminates loose, wobbly fit on Prod... insures pleasant, irritation-free performance.

...Over 12,300 used by Company Y...

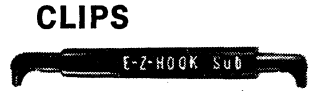
Trouble Eliminator
4 springs insure firm grip

Made of rust-proof Stainless Steel, Brass, and tough Zytel Nylon in Red, Black, Blue, Green, Orange, and Yellow. Lgth. 2 1-16", O.D. 19-64", Wt. 1-8 oz.

No. 55-0	E-Z-HOOK	Tip	(Needle—.060")	ea.	.69
No. 56-1	E-Z-HOOK	Tip	(Standard—.080")	ea.	.69
No. 57-10	E-Z-HOOK	Tip	(Tec—10-32 female thread)	ea.	.69
No. 59-4	E-Z-HOOK	Tip	(Banana—Standard.)	ea.	.69

CLIPS

- **Eliminate Guessing**



You can be sure!—when you substitute, and this E-Z-H Sub is just the thing to use... quick, easy, temporary connections in seconds... no lead twisting or solder tacking to damage parts or wiring. Speeds trouble-shooting, makes it easier... saves hours and dollars in valuable production time and material.

Solderless Clips
Eliminate Broken Lugs

Long-lasting Zytel Nylon and tough Stainless Steel. In colors for easy lead identification: Red, Black, Blue, Green, Orange, and Yellow. Length 2 1-2", O.D. 19-64", Weight. 1-12th oz.

No. 71-1	E-Z-HOOK	Sub		ea.	.49

JUMPER - METER CLIPS

- **Convert needless delays... to pleasant productive checks**

Let carefree E-Z-HOOK Clips help speed your checks... make it easier. They quickly pay for themselves in savings.

Easy slip-on design saves in assembly and maintenance... safe solder connection and strain relief assures longer trouble-free lead life.

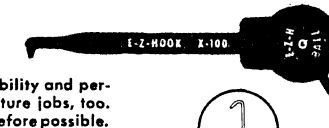
...Over 37,000 used by Company Z...

Made of tough Stainless, durable Nylon in colors for easy lead identification: Red, Black, Blue, Green, Orange, Yellow. Lgth. 2 1-8", OD 5-8", Wt. 1-13 oz.

No. 61-1	E-Z-HOOK	Clip	(Standard)	ea.	.39
No. 61-2	E-Z-HOOK	Clip	(Gold Plated)	ea.	.59

Miniature CLIP & LEADS

- **Make Impossible Connections . . . Easy**



Now enjoy famous E-Z-HOOK reliability and performance on your small, sub-miniature jobs, too. Easily make test connections never before possible.

Tiny E-Z-HOOK with the new "Hypo Action" gives you the small size and positive control needed to make such tedious work easier, more efficient, pleasant and profitable.

FULL SIZE

Use "Q" Balls two ways—1, as a versatile low voltage test connector, 2. as a tiny mechanical hand to handle small parts. Will save you hours of unnecessary delays and aggravation.

Durably constructed of the finest materials—Red Nylon insulation, Stainless Steel spring, & Beryllium Copper conductor to assure reliable performance.

Also available on 32" —Ready-to-Plug-In—Test Leads of flexible Red and Black striped, 24 AWG (19-36) thermoplastic wire—Standard or Banana Tip.

Over all length 2 1-4". Maximum width at hook only .079". Wt. 1-6th oz.

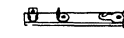
No. X-100	E-Z-HOOK 'Q' Ball Mini-HOOK	(No lead)		ea.	.49
No. AX-1	E-Z-HOOK 'Q' Ball Test Lead	(32"—Std. Tip)		ea.	.89
No. BX-1	E-Z-HOOK 'Q' Ball Test Lead	(32"—Ban. Tip)		ea.	.94

SCOPE - METER PROBES

- **Now—Special Probes assembled in minutes**

Custom PROBE

Never before such efficiency and convenience in a replacement probe... SPECIAL TERMINALS speeds assembly, makes it easier... E-Z-HOOK for easy time-saving care-free connections... SCREW-ON COVER for ready access and repair... STRAIN-RELIEF prolongs life of single or shielded leads.



Built-In Terminals
For easy assembly

For Professional or Production use. Finest streamlined feather-weight construction of rust proof Stainless, durable Zytel Nylon (slide), tough Tenite (body) in Red, Black, Blue, Green, Orange, & Silver. Lgth. 4 3-4", O.D. 15-32", Wt. 1-3 oz.

No. 54-1	E-Z-HOOK	Custom PROBE		ea.	.89
No. 54-2	E-Z-HOOK	Custom PROBE	(Gold Plated)	ea.	1.09

LET THEM HELP YOU CUT YOUR COSTS

To Order:- Order E-Z-HOOKs from your convenient Parts Distributor.
Factory Delivery:- Usually shipped -via Parcel Post- within 10 days.
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Prices:- All Prices Net U.S.A., and Subject to Change Without Notice. All Patent Rights Reserved.
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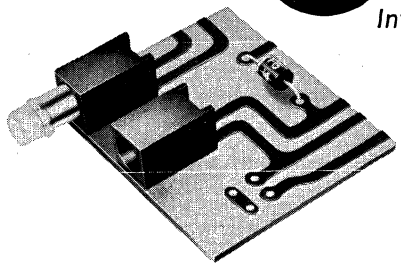
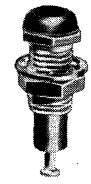
E-Z-HOOK Test Products

E-Z-HOOK TEST PRODUCTS

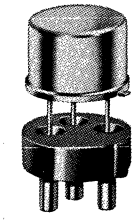
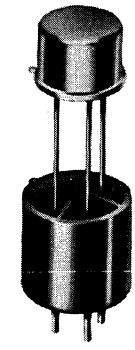
EMC
Interconnection Specialists

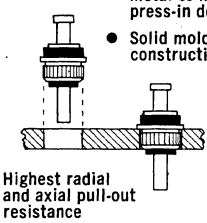
BINDING POSTS


LAMP SOCKETS


TEST JACKS

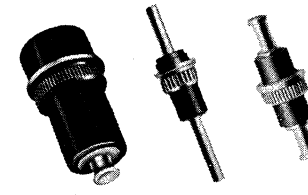
TERMINALS



TRANSISTOR AND IC SOCKETS



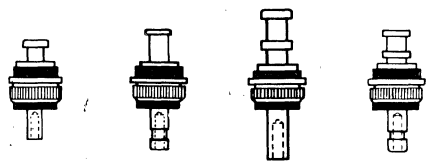
NURL-LOC DESIGN – TERMINALS AND TEST JACKS

Electronic Molding offers the largest variety of molded insulated terminals and test jacks available anywhere. The metal inserts are molded into high-temperature Diallyl Phthalate, (500°F) forming a strong integral unit that will not crack while soldering. The metal to metal Nurl-Loc press-in feature (shown left) assures highest radial and axial pullout resistance of any terminal of this type. Ten colors are available, in a wide range of types for various applications, many designed to meet military specifications, plus mounting tools.



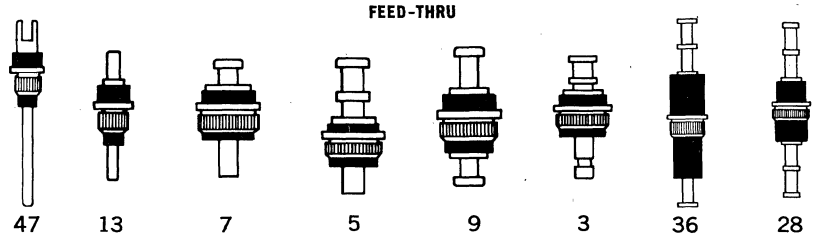
WRITE FOR COMPLETE CATALOG

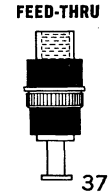
TERMINALS

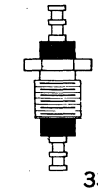

FEED-THRU END HOLE: 8, 50, 6, 4

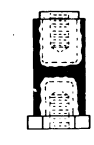
STANDOFF TERMINALS: 11, 1, 12

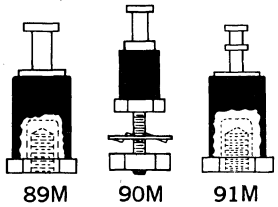
FEED-THRU THRU HOLE: 10, 2, 49


FEED-THRU: 47, 13, 7, 5, 9, 3, 36, 28

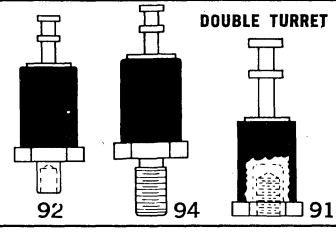

THREADED NURL-LOC FEED-THRU: 37

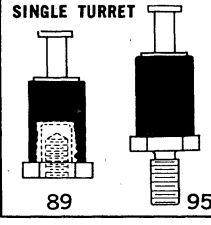

THREADED FEED-THRU: 33

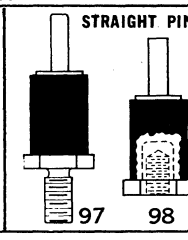

INSULATED SPACER: 84

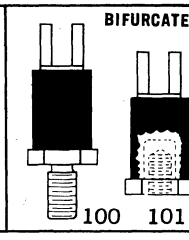

MIL-T-55155 TERMINALS: 89M, 90M, 91M

STANDOFF TERMINALS

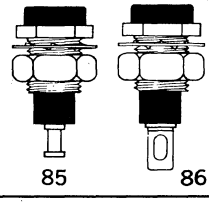

DOUBLE TURRET: 92, 94, 91

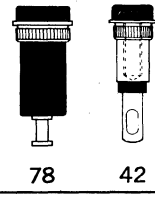

SINGLE TURRET: 89, 95

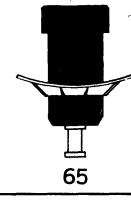

STRAIGHT PIN: 97, 98

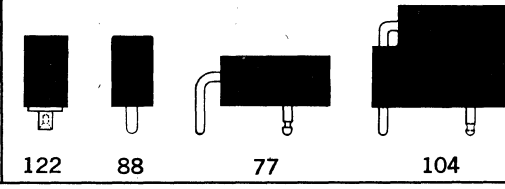

BIFURCATED: 100, 101

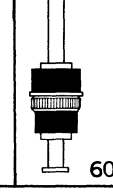
TEST JACKS


MS-16108 & MIL-C-39024 TEST JACKS: 85, 86


MIL-C-39024 NURL-LOC TEST JACKS: 78, 42


PUSH-ON TEST JACKS: 65


MIL-C-39024 PRINTED CIRCUIT TEST JACKS: 122, 88, 77, 104


NURL-LOC PROBE: 60

ELECTRONIC MOLDING CORPORATION

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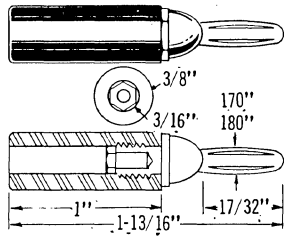
ELECTROCRAFT ELECTRONIC COMPONENTS

BANANA PLUGS

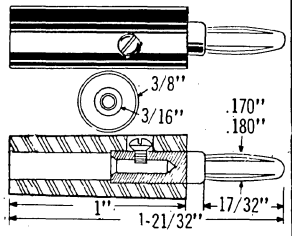
BANANA PLUG*



DESC: Hex brass body, separate internal brass stud for solderless or soldered connection.
RATING: 15 amps AC for 10 degrees C Temp. rise continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved, phosphor bronze nickel plated spring.

		Net per C 23.00	
No.	Color	No.	Color
33-000-BU	Red	33-002-BU	Blk

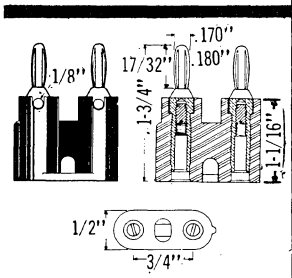
BANANA PLUG*



DESC: Lead wire connection with set screw through plastic handle.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved, phosphor bronze nickel plated spring.

		Net per C 19.00	
No.	Color	No.	Color
33-006-BU	Red	33-008-BU	Blk

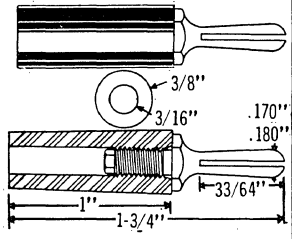
DUAL BANANA PLUG



DESC: Brass, nickel plated plug. Mates with standard dual binding posts.
RATING: 15 amps AC for 10 degrees C Temp. rise, continuous duty.
BODY: Molded cycoloc plastic, per MIL-M-22544, type 4.
TIPS: Four leaved, phosphor bronze nickel plated springs.

	Net per C 72.00
No.	
33-010-BU	

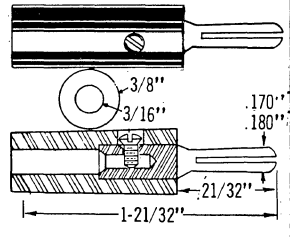
BANANA PLUG*



DESC: Separate internal brass stud for solderless or soldered connection.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Cross slotted, nickel plated brass.

		Net per C 19.00	
No.	Color	No.	Color
33-012-BU	Red	33-014-BU	Blk

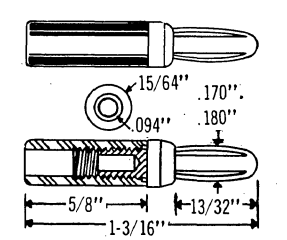
BANANA PLUG*



DESC: Lead wire connection with set screw through plastic handle.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Cross slotted, nickel plated brass..

		Net per C 18.00	
No.	Color	No.	Color
33-018-BU	Red	33-020-BU	Blk

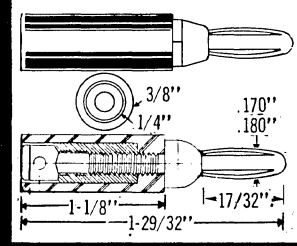
BANANA PLUG



DESC: Midget type; lead wire connection solders to drilled body.
RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved, phosphor bronze, nickel plated spring.

		Net per C 19.00	
No.	Color	No.	Color
33-024-BU	Red	33-026-BU	Blk

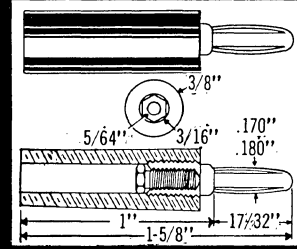
BANANA PLUG



DESC: Lead wire connection with set screw through plastic handle.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved, nickel plated phosphor bronze spring.

		Net per C 35.00	
No.	Color	No.	Color
33-028-1BU	Red	33-028-2BU	Blk

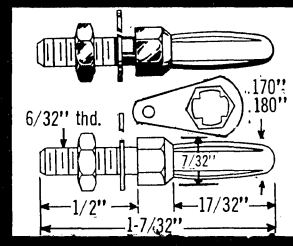
BANANA PLUG*



DESC: Wire solders to stud; or brass stud locks wire in place for solderless connection.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved, nickel plated, phosphor bronze spring.

		Net per C 19.00	
No.	Color	No.	Color
33-032-1BU	Red	33-032-2BU	Blk

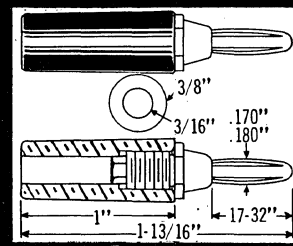
BANANA PLUG



DESC: Threaded shank type, supplied with terminal lug and hex nut.
BODY: Brass, nickel plated.
TIP: Four leaved, phosphor bronze nickel plated spring.

	Net per C 20.00
No.	
33-034-BU	

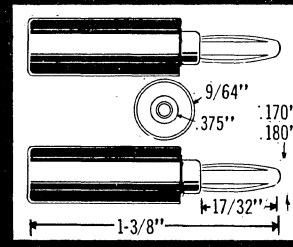
.NSULATED BANANA PLUG



DESC: Nickel plated brass plug, fits standard Banana Jack.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved beryllium copper, nickel plated spring.

		Net per C 32.00	
No.	Color	No.	Color
33-036-1BU	Red	33-036-2BU	Blk

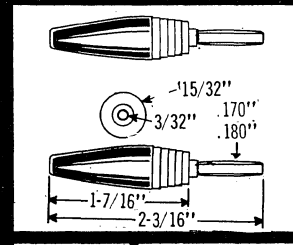
INSULATED BANANA PLUG*



DESC: Solderless connection, nickel plated brass plug. Fits standard Banana Jack.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Nylon, per MIL-P-20693A.
TIP: Four leaved beryllium copper nickel plated spring.

		Net per C 27.00	
No.	Color	No.	Color
33-037-1BU	Red	33-037-2BU	Blk

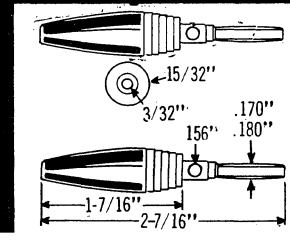
BANANA PLUG



DESC: Flexible handle type.
HANDLE: Unbreakable, shockproof plastic.
TIP: Phosphor bronze, nickel plated spring.

		Net per C 21.00	
No.	Color	No.	Color
33-040-1BU	Red	33-040-2BU	Blk

BANANA PLUG



DESC: Flexible handle, stack type.
HANDLE: Unbreakable, shockproof plastic
TIP: Phosphor bronze, nickel plated spring.

		Net per C 23.00	
No..	Color	No.	Color
33-042-1BU	Red	33-042-2BU	Blk

Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

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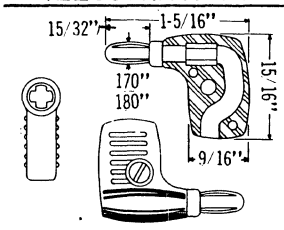
ELECTROCRAFT ELECTRONIC COMPONENTS

BANANA PLUGS

ILLUSTRATIONS	DESCRIPTION

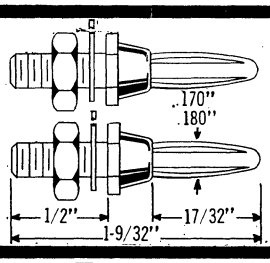


BANANA PLUG

DESC: Right angle "Gun" Tip (meter plug), lead wire solders to body.
RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded plastic, per MIL-P-14 CFG.
TIP: Four leaved, phosphor bronze, nickel plated springs.

Net per C 36.00

No.	Color	No.	Color
33-046-BU	Red	33-048-BU	Blk

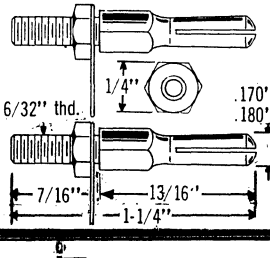


BANANA PLUG

DESC: All metal, threaded shank type, with terminal lug and hex nut.
BODY: Brass, nickel plated.
TIP: Four leaved, nickel plated phosphor bronze spring.

Net per C 18.00

No.
33-058-BU

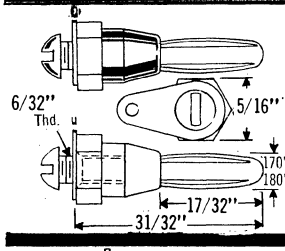


BANANA PLUG

DESC: Threaded shank type, supplied with terminal lug and hex nut.
BODY: Brass, nickel plated.
TIP: Cross slotted, brass, nickel plated.

Net per C 14.00

No.
33-060-BU

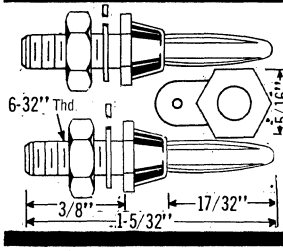


BANANA PLUG

DESC: Panel mounting type, number 6-32 tapped body; with screw and terminal lug.
BODY: Brass, nickel plated.
TIP: Four leaved, phosphor bronze, nickel plated spring.

Net per C 18.00

No.
33-062-BU

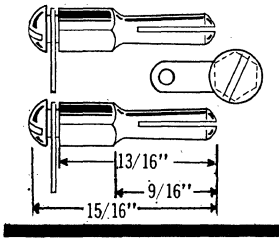


BANANA PLUG

DESC: Threaded shank type, with terminal lug and hex nut.
BODY: Brass, nickel plated.
TIP: Four leaved, phosphor bronze, nickel plated spring.

Net per C 20.00

No.
33-064-BU

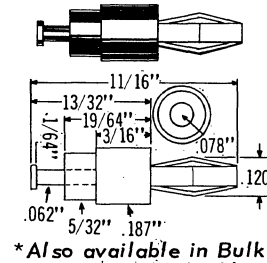


BANANA PLUG

DESC: Panel mounting type, tapped number 6-32, with screw and terminal lug.
BODY: Brass, nickel plated.
TIP: Cross slotted, brass, nickel plated.

Net per C 15.00

No.
33-066-BU



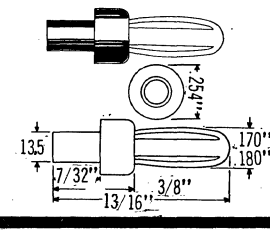
BANANA PLUG

DESC: Printed circuit, sub-miniature rivet type, solder connection, fits jacks with .104 I.D.
TIP: Four leaved, beryllium copper, silver plated spring.

Net per C 15.00

No.
33-068-BU

ILLUSTRATIONS	DESCRIPTION

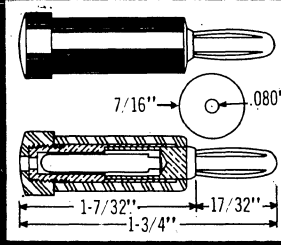


MIDGET BANANA PLUG

DESC: Rivet type, fits all standard Banana Jacks.
TIP: Four leaved phosphor bronze silver plated spring.

Net per C 16.20

No.
33-069-BU

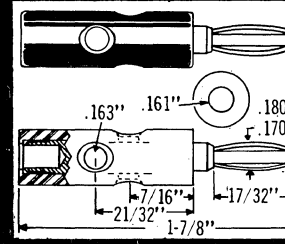


BANANA PLUG ADAPTOR

DESC: Adapts tip plug to banana plug, ends are standard tip jack and banana plug.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Standard tip jack one end; other end four leaved banana plug.

Net per C 30.00

No.	Color	No.	Color
33-072-BU	Red	33-074-BU	Blk

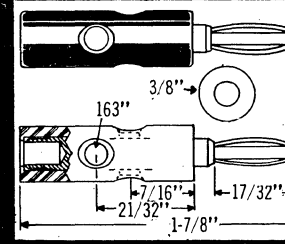


STACK BANANA PLUG

DESC: Stack type, fits standard banana plugs in top and side.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved phosphor bronze, nickel plated spring.

Net per C 33.00

No.	Color	No.	Color
33-084-1BU	Red	33-084-2BU	Blk



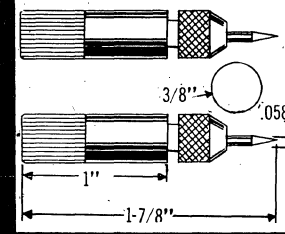
STACK BANANA PLUG

DESC: Stack type, fits standard banana plugs in top and side.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Four leaved beryllium copper, nickel plated spring.

Net per C 36.00

No.	Color	No.	Color
33-086-1BU	Red	33-086-2BU	Blk

TIP PLUGS

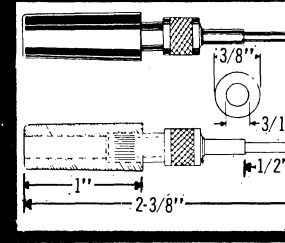


PHONO NEEDLE TIP PLUG

DESC: Nickel plated brass body, chuck design to hold .058 replaceable phono needle. Wire solders to body.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Phono needle, brass alloy.

Net per C 20.00

No.	Color	No.	Color
33-100-BU	Red	33-102-BU	Blk

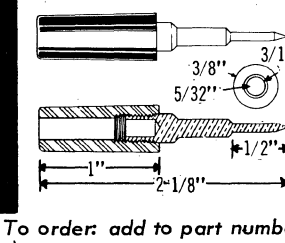


INSULATED TIP PLUG*

DESC: Solderless type, wire tightens under knurled collar; machined brass body, nickel plated.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Phono needle, brass alloy.

Net per C 15.00

No.	Color	No.	Color
33-106-BU	Red	33-108-BU	Blk



HEAVY DUTY PHONE TIP PLUG*

DESC: Standard tip, large diameter body for accepting heavy duty wire solder type.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate. per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Brass, nickel plated phono needle.

Net per C 15.00

No.	Color	No.	Color
33-110-1BU	Red	33-110-2BU	Blk

Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

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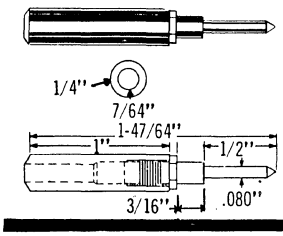
GC ELECTRONICS ELECTROCRAFT ELECTRONIC COMPONENTS

TIP PLUGS

ILLUSTRATIONS | DESCRIPTION

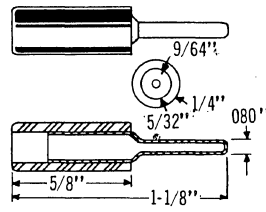


SUBMINIATURE PHONE TIP PLUG

DESC: Standard tip, extra-small diameter, nickel plated, brass body. Solder-type.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Fibre, Per MIL-F-1148-A type BH.
TIP: Brass, nickel plated

Net per C 18.00

No.	Color	No.	Color
33-112-BU	Red	33-114-BU	Blk

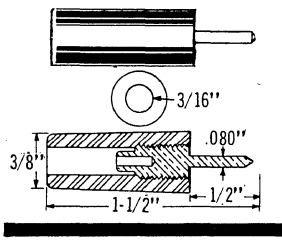


INSULATED HOLLOW PHONETIP

DESC: Drawn brass, nickel plated, solder type.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Hollow, brass, nickel plated.

Net per C 11.00

No.	Color	No.	Color
33-116-1BU	Red	33-116-2BU	Blk

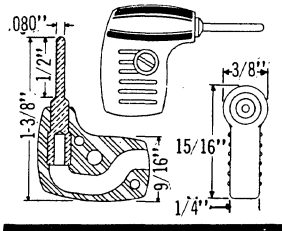


INSULATED SHORT TIP PLUG*

DESC: Specially designed where minimum amount of metal can be exposed. Solder type..
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Brass, nickel plated,

Net per C 12.00

No.	Color	No.	Color
33-118-BU	Red	33-120-BU	Blk

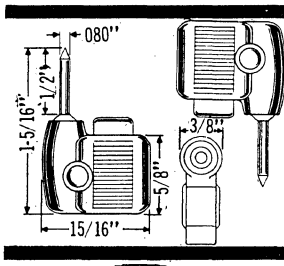


RIGHT ANGLE TIP PLUG

DESC: Right angle "gun" tip (meter plug). Lead wire solders to body.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Plastic, per MIL-P-14 CFG.
TIP: Brass, nickel plated.

Net per C 27.00

No.	Color	No.	Color
33-128-BU	Red	33-130-BU	Blk

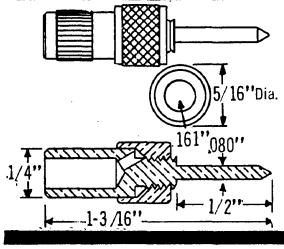


"TRIGGER-QUIK" TIP PLUG

DESC: Right angle plug, spring loaded solderless wire connection.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Plastic, per MIL-P-14 CFG.
TIP: Brass, nickel plated

Net per C 39.00

No.	Color	No.	Color
33-132-BU	Red	33-134-BU	Blk

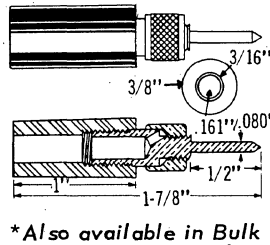


"JR." SOLDERLESS PHONE TIP

DESC: Press fit, nickel plated brass body; wire fastens under knurled collar.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
TIP: Brass, nickel plated..

Net per C 12.00

No.			
33-142-BU			



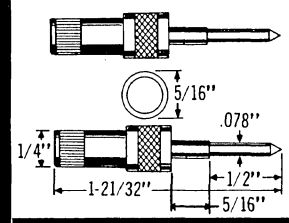
"JR." SOLDERLESS PHONE TIP*

DESC: Threaded nickel plated brass body. Wire fastens under knurled collar.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
TIP: Brass, nickel plated.

Net per C 15.00

No.	Color	No.	Color
33-144-1BU	Red	33-144-2BU	Blk

ILLUSTRATIONS | DESCRIPTION

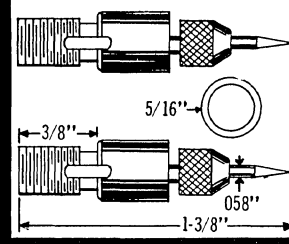


SOLDERLESS TIP PLUG

DESC: All metal;wire fastens under knurled collar.
BODY: Precision machined brass, nickel plated.
TIP: Brass, nickel plated.

Net per C 12.00

No.		
33-146-BU		

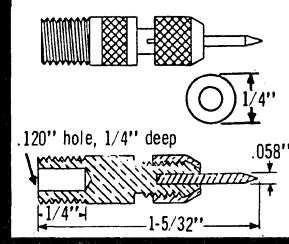


PHONO NEEDLE TIP PLUG

DESC: Threaded shank type with ¼-20 thread; chuck to hold phono needle.
BODY: Brass, nickel plated.
TIP: Steel, nickel plated phono needle.

Net per C 14.00

No.		
33-148-BU		

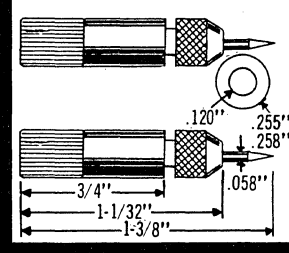


NEEDLE TIP AND CHUCK

DESC: Threaded shank type. Tip is removable for quick replacement.
BODY: Brass, nickel plated
TIP: Steel, nickel plated phono needle.

Net per C 19.00

No.		
33-149-BU		

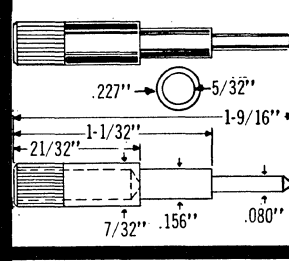


PUSH-ON NEEDLE CHUCK

DESC: Knurled body for press fit into Test Prod handles drilled with ¼" hole.
BODY: Brass, nickel plated, solder connection.
TIP: Steel, nickel plated phono needle.

Net per C 13.20

No.		
33-150-BU		

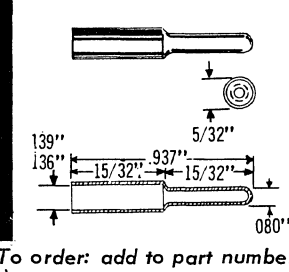


HEAVY DUTY PHONE TIP PLUG

DESC: Knurled shank for press fit into Test Prod handles, drilled with 7/32" hole; extra large well for lead wires up to No. 10 gauge; solder connection.
BODY: Brass, nickel plated.
TIP: Brass, nickel plated phone tip.

Net per C 11.00

No.		
33-152-BU		



STANDARD HOLLOW PHONE TIP

DESC: Solder type, hollow design.
BODY: Drawn brass, nickel plated.
TIP: Hollow, brass, nickel plated.

Net per C 1.50

No.		
33-154-BU		

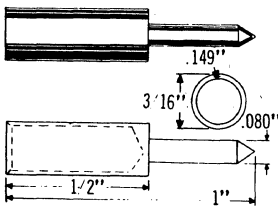
Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue.. Example: No. 33-000-3BU (for yellow).

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

ELECTROCRAFT ELECTRONIC COMPONENTS

TIP PLUGS

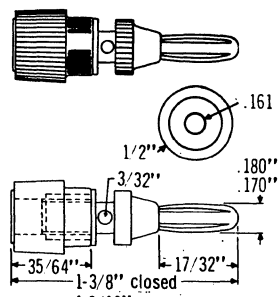
ILLUSTRATIONS | DESCRIPTION



HEAVY DUTY PHONE TIP PLUG

DESC: Solder type. Solid metal tip for heavy duty applications.
BODY: Brass, nickel plated.
TIP: Solid, brass, nickel plated.

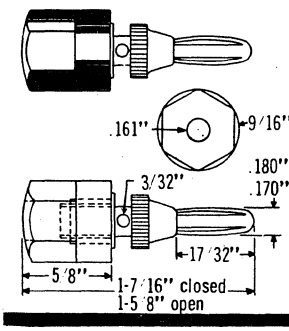
	Net per C 2.70
No.	
33-158-BU	



COMBINATION POST-PLUG

DESC: Captive head, type; for converting panel-mounted banana jack to 5-way binding post termination. Accepts solid or standard wire, spade lug, phone tip, banana plug or alligator clip. Brass, nickel plated body.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Nylon - Dupont Zytel No. 101, per MIL-M-20693A.
TIP: Four leaved, phosphor bronze, nickel plated spring.

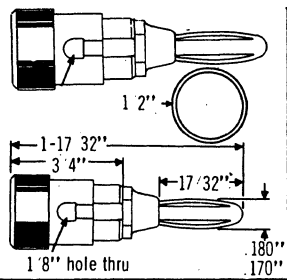
		Net per C 30.00	
No.	Color	No.	Color
33-165-1BU	Red	33-165-2BU	Blk



COMBINATION POST-PLUG*

DESC: Captive head, type; for converting panel-mounted banana jack to 5-way binding post termination. Accepts solid or standard wire, spade lug, phone tip, banana plug or alligator clip. Brass, nickel plated body.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded nylon, per MIL-M-20693A.
TIP: Four leaved, phosphor bronze, nickel plated spring.

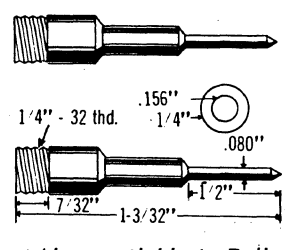
		Net per C 30.00	
No.	Color	No.	Color
33-166-1BU	Red	33-166-2BU	Blk



COMBINATION POST-PLUG

DESC: Captive head type. For converting panel-mounted banana jack to a spring-loaded push post. Accepts solid or stranded wire, standard phone tip which locks in place upon release of pressure on cap. Brass, nickel plated body.
HEAD: Molded styrene cap per MIL-L-416, type 1.
TIP: Four leaved phosphor bronze, nickel plated spring.

	Net per C 42.00
No.	
33-167-BU	

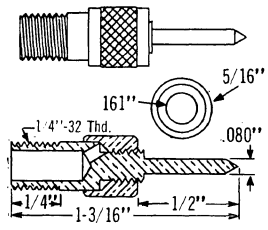


HEAVY DUTY PHONE TIP PLUG

DESC: All metal, nickel plated brass body is large enough to accept standard banana plug. Body is threaded to fit into plastic handle.

	Net per C 12.00
No.	
33-170-BU	

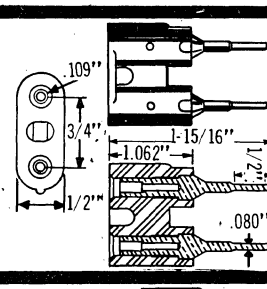
ILLUSTRATIONS | DESCRIPTION



"JR" SOLDERLESS PHONE TIP "THREADED"

DESC: Threaded shank type. Wire fastens under knurled collar.
BODY: Brass, nickel plated.
RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty.
TIP: Brass, nickel plated phone tip.

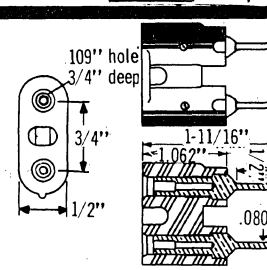
	Net per C 12.00
No.	
33-172-BU	



DUAL STANDARD TIP PLUG

DESC: Solderless type; brass, nickel plated bodv Designed mates with No. 33-206.
BODY: Molded Cycolac plastic, per MIL-M-22544, type 4.
TIPS: 2 brass, nickel plated tips on ¾" centers.

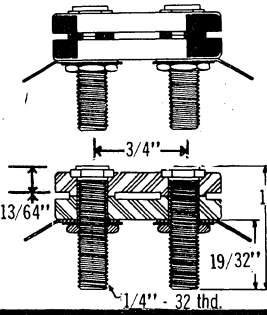
	Net per C 74.00
No.	
33-174-BU	



DUAL SHORT TIP PLUG SOLDERLESS TYPE

DESC: Brass, nickel plated body. Mates with No. 33-206.
BODY: Molded Cycolac plastic, per MIL-M-22544, type 4.
TIPS: 2 brass, nickel plated tips on ¾" centers.

	Net per C 72.00
No.	
33-176-BU	

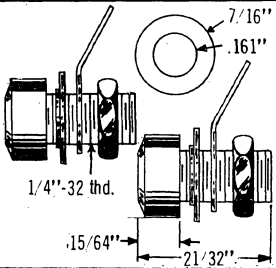


DUAL BANANA JACK

DESC: Mounts in 2 - 3/8" holes on 3/4" centers in panel up 1/4" thick. Accepts standard and dual banana plugs. Solder connection.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. Capacitance 2.0 mmfd. between conductors, 4.0 mmfd. to panel.
HEAD: Insulated, molded black styrene, per MIL L-P416, type 1.
BODY: Brass, nickel plated.

	Net per C 50.00
No.	
33-179-BU	

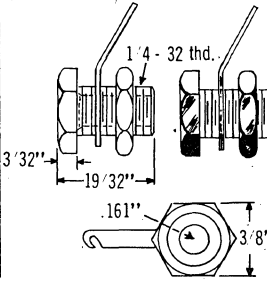
BANANA & TIP PLUG JACKS



BANANA JACK *

DESC: Mounts in 5/16" hole. Fits panel up to 3/8" thick. Accepts Standard Banana Plug.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Melamine MIL-14F, type CMC.
BODY: Brass, nickel plated; with tinned solder lug.

		Net per C 14.00	
No.	Color	No.	Color
33-180-BU	Red	33-182-BU	Blk



BANANA JACK

DESC: Mounts in 1/4" hole and fits panel up to 3/8" thick. Accepts standard banana plugs.
BODY: Brass, nickel plated; with tinned solder lug.

	Net per C 12.00
No.	
33-184-BU	

Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

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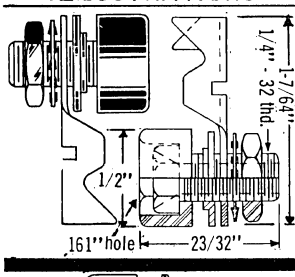
GC ELECTRONICS — ELECTROCRAFT ELECTRONIC COMPONENTS

BANANA & TIP PLUG JACKS

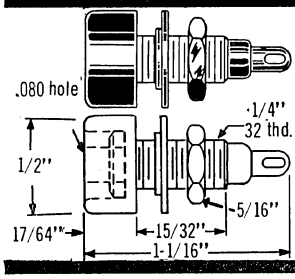
HEAVY DUTY BANANA JACK*



DESC: Exclusive hex design prevents turning in assembly; with fibre insulating washer.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded plastic per MIL-P-14 CFG.
BODY: Brass, nickel plated; with heavy duty solder lug.

		Net per C 16.00	
No.	Color	No.	Color
33-186-BU	Red	33-188-BU	Blk

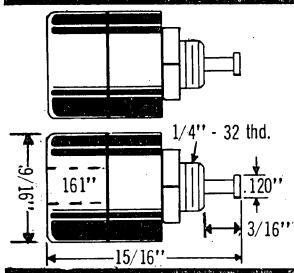
TIP JACK *



DESC: Positive-hold hex lock between molded head and jack body. Exclusive hex design prevents turning in assembly. Insulated.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded plastic, per MIL-P-14 CFG.
BODY: Brass, nickel plated.

		Net per C 17.00	
No.	Color	No.	Color
33-190-1BU	Red	33-190-2BU	Blk

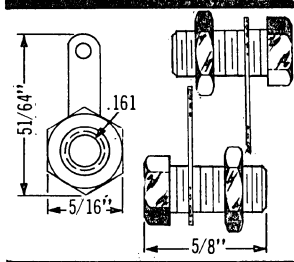
HIGH VOLTAGE NYLON BANANA JACK*



DESC: High voltage flashover to panel prevented by heavy molded nylon body and cup washer.
HANDLE: Molded nylon per MIL-P-20693A.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty. 5KV 60 cycle continuous working voltage. Millivolt drop per MIL-J-6751.
BODY: Brass, bright nickel plated per QQ-N-290, type V(FC).

		Net per C 45.00	
No.	Color	No.	Color
33-191-1BU	Red	33-191-2BU	Blk

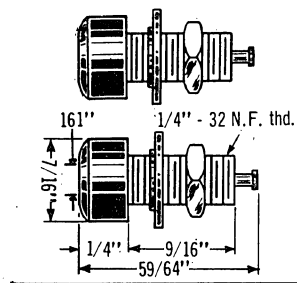
BANANA JACK



DESC: All metal body, with hex mounting nut. Mounts in 1/4" hole; fits panel up to 3/8".
BODY: Brass, nickel plated with tinned solder lug.

	Net per C12.00
No.	
33-192-BU	

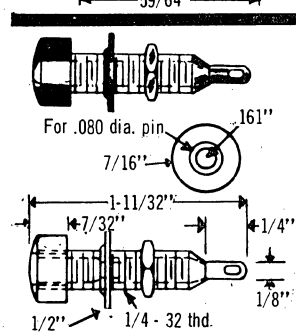
INSULATED BANANA JACK*



DESC: Mounts in 5/16" hole in panels up to 3/8" thick, solder direct to turret terminal. Supplied with hex nut and fibre washer. Accepts standard banana plugs.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: TB-30 Melamine-MIL-14F type CMG - red and black. Urea - LU-671 type 1 - colors.
BODY: Brass, nickel plated.

		Net per C 15.00	
No.	Color	No.	Color
33-193-1BU	Red	33-193-2BU	Blk

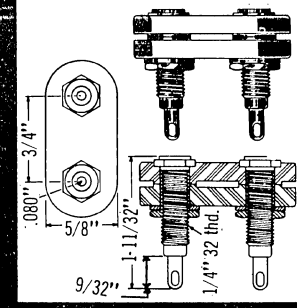
BANANA-TIP JACK COMBINATION*



DESC: Accepts both Banana Plug and Standard Tip Plug; with extruded fibre washer and mounting nut. Mounts in 5/16" hole; fits panel up to 5/8" thick.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: TB-30 Melamine-MIL-14F type CMG - red and black. Urea - LU-671 type 1 - colors.
BODY: Brass, nickel plated; phosphor bronze contact..

		Net per C 17.00	
No.	Color	No.	Color
33-194-BU	Red	33-196-BU	Blk

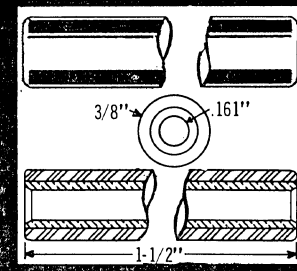
DUAL BANANA AND STANDARD TIP PLUG



DESC: Mounts in two 3/8" holes on 3/4" centers on panels up to 5/16" thick. Mates with dual banana plug No. 33-010 and dual tip plug 33-174; with two hex nuts and washers.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded black styrene body, per MIL-L-P 416, type 1.
BODY: Brass, nickel plated; phosphor bronze contacts.

	Net per C 73.00
No.	
33-197-BU	

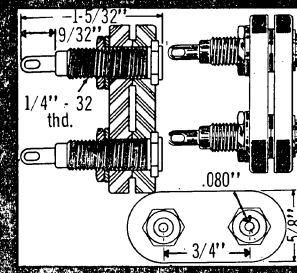
BANANA PLUG SPLICE



DESC: For coupling 2 standard Banana Plugs. For extending test leads, etc.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.
BODY: Brass

		Net per C 24.00	
No.	Color	No.	Color
33-200-BU	Red	33-202-BU	Blk

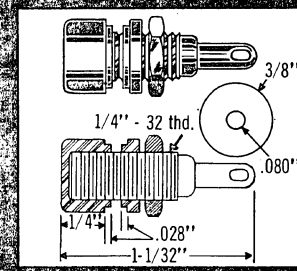
DUAL TIP JACK ASSEMBLY



DESC: Mounts in two 3/8" holes on 3/4" centers in panels up to 1/4" thick. Accepts phone tip plugs; with two hex nuts..
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD AND WASHER: Molded black styrene body, per MIL-L-P416, type 1..

	Net per C 55.00
No.	
33-206-BU	

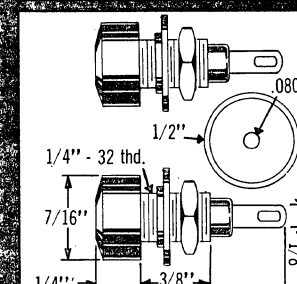
INSULATED TIP JACK*



DESC: Requires 5/16" hole; fits panels up to 1/4" thick; with hex nut.
HEAD: Dupont Nylon, per MIL-M-20693A.
BODY: Brass, nickel plated.

		Net per C 25.00	
No.	Color	No.	Color
33-208-1BU	Red	33-208-2BU	Blk

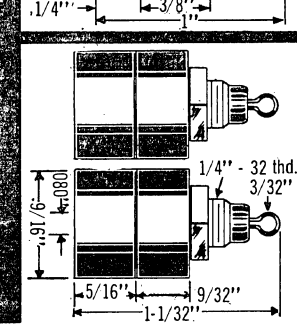
STANDARD TIP JACK*



DESC: Requires 5/16" mounting hole; fits panels up to 1/4" thick with insulating washer & hex nut.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded plastic, red and black per MIL-M-14F type CMG. Yellow, green and blue per LU-671 type 1.
BODY: Brass, nickel plated; phosphor bronze contact.

		Net per C 14.00	
No.	Color	No.	Color
33-210-BU	Red	33-212-BU	Blk

HIGH VOLTAGE NYLON PHONE TIP JACK*



DESC: High voltage flashover to panel prevented by heavy molded nylon body and cup washer. Colors conform to Federal Standard 595. Hex nuts and insert shell are nickel plated brass per QQ-N-290 type V (FC). Phosphor bronze contact, silver plated per QQ-S-365, overall gold plated. Withstands 100 hours salt spray test.
HANDLE: Molded nylon body per MIL-P-20693A.

		Net per C 45.00	
No.	Color	No.	Color
33-214-1BU	Red	33-214-2BU	Blk

Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

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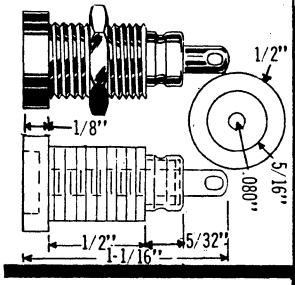
GC ELECTRONICS — ELECTROCRAFT ELECTRONIC COMPONENTS

BANANA & TIP PLUG JACKS

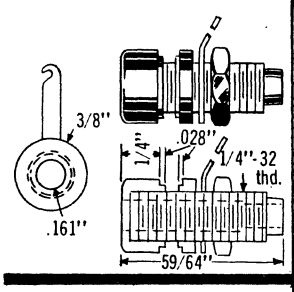
ILLUSTRATIONS	DESCRIPTION



TIP JACK, ALL-INSULATED*

DESC: Mounts in 3/8" hole; fits panel up to 5/16" thick; with mounting nut.
RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 5K Volts 60 cycle AC continuous working voltage. Capacitance 3.0 mmfd.
BODY: Molded of nylon per MIL-M-20693A.
CONTACT: Phosphor bronze.

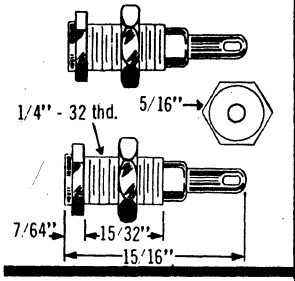
		Net per C 18.00	
No.	Color	No.	Color
33-216-BU	Red	33-218-BU	Blk



MINIATURE BANANA JACK*

DESC: Insulating washer provides isolation from panel. Fits 5/16" mounting hole; for panels up to 1/4" thick.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.
BODY: Brass, nickel plated body; tinned solder lug.

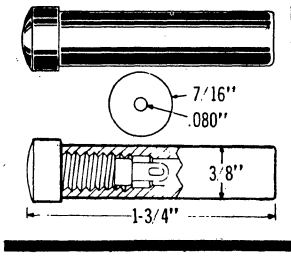
		Net per C 24.00	
No.	Color	No.	Color
33-220-1BU	Red	33-220-2BU	Blk



TIP JACK, ALL-METAL

DESC: Brass nickel plated body; mounts in 1/4" hole; fits panels up to 3/8" thick.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
TIP: Phosphor bronze contact.

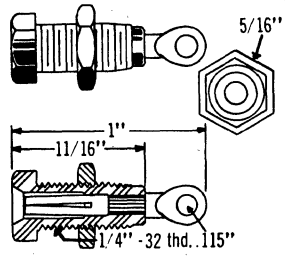
		Net per C 12.00	
No.			
33-226-BU			



TIP JACK, IN-LINE STYLE

DESC: Brass nickel plated body; mounts on end of cords. For test lead extensions, etc.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349-A and ASESA letter, QUD4-59-4820 type 3.
CONTACT: Phosphor bronze.

		Net per C 21.00	
No.	Color	No.	Color
33-228-BU	Red	33-230-BU	Blk

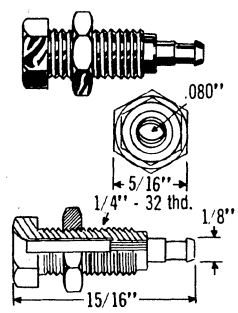


NYLON TIP JACK WITH SPADE TERMINAL*

DESC: Fits phone tip plugs. Mounts in 1/4" hole in panel up to 1/4" thick with hex nut.
BODY: Insulated molded nylon per MIL-M-20693A.
CONTACT: Spade terminal..

		Net per C 30.00	
No.	Color	No.	Color
33-245-1BU	Red	33-245-2BU	Blk

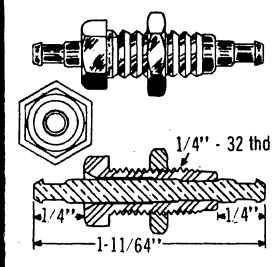
ILLUSTRATIONS	DESCRIPTION



NYLON TIP JACK (WRAP AROUND TYPE)*

DESC: Hex head for sure grip tightening. Mounts in 1/4" hole in panels up to 1/4" thickness.
SALT SPRAY TEST: 100 hours.
INSULATION RESISTANCE: 5000 Meg. Resistance Ohms.
RATED VOLTAGE & CURRENT: 1000 volts peak at 5 amp max.
OPERATING TEMPERATURE: -55 degree to + 150C
NOMINAL CAPACITY: -2.0 mmf
TEST VOLTAGE: 9000 volts DC peak.
BODY: Nylon per MIL-M-20693A.

		Net per C 21.00	
No.	Color	No.	Color
33-240-BU	Red	33-242-BU	Blk

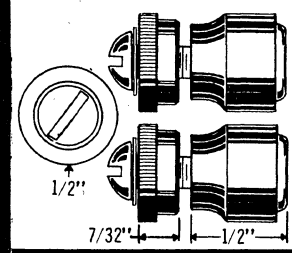


NYLON FEED-THRU JACK*

DESC: Feed-thru type. Fits all standard phone tip plugs. Mounts in 1/4" hole in panel up to 1/4" thick with hex nut.
BODY: Insulated nylon per MIL-M-20693A.
CONTACT: Brass, silver plated.

		Net per C 28.20	
No.	Color	No.	Color
33-247-1BU	Red	33-247-2BU	Blk

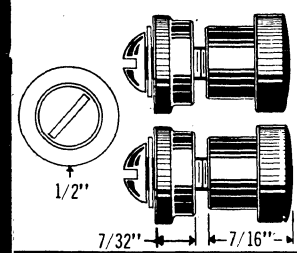
BINDING POSTS



BINDING POST

DESC: Brass nickel plated body, supplied with 8-32 mounting screw and lock washer.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded plastic.

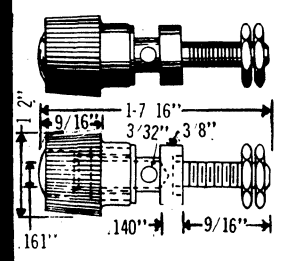
		Net per C 18.00	
No.	Color	No.	Color
33-250-BU	Red	33-252-BU	Blk



BINDING POST

DESC: Brass, nickel plated body, comes complete with 8-32 threaded screw- 1/2" long, nickel plated, brass lockwasher. Head diameter 1/2"
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded bakelite.

		Net per C 18.00	
No.	Color	No.	Color
33-254-BU	Red	33-255-BU	Blk



BINDING POST COMBINATION TYPE

DESC: Brass nickel plated body. Accepts banana plug, tip plug, bare wire, or spade lug. Threaded No. 8-32 mounting stud 1/2" long; supplied with 2 hex nuts.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

		Net per C 22.00	
No.	Color	No.	Color
33-256-BU	Red	33-258-BU	Blk

Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

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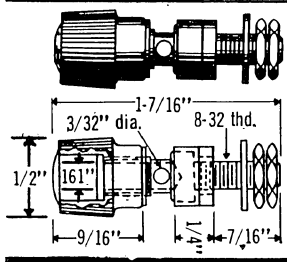
GC ELECTRONICS ELECTROCRAFT ELECTRONIC COMPONENTS

BINDING POSTS

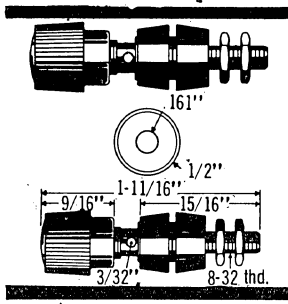
ILLUSTRATIONS | DESCRIPTION



BINDING POST COMBINATION TYPE

DESC: Similar in design and construction as 33-256/8, except, supplied with molded shoulder-type plastic washers to insulate post from chassis.
RATING: 15 amps AC for 10 degree C Temp..rise, continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

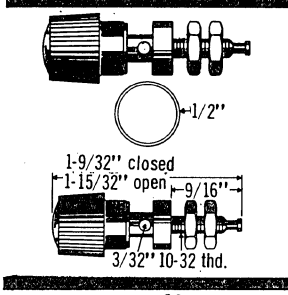
		Net per C 25.00	
No.	Color	No.	Color
33-260-BU	Red	33-262-BU	Blk



BINDING POST INSULATED UNIVERSAL TYPE

DESC: Brass, nickel-plated body with threaded No.8-32 mounting stud; accepts banana plug, tip plug, needle tip, spade lug, alligator clip or bare wire. Heavy duty spacers insulate post from chassis. Mounts in 5/16" hole.
RATING: 15 amps AC for 10 degree C Temp. rise continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

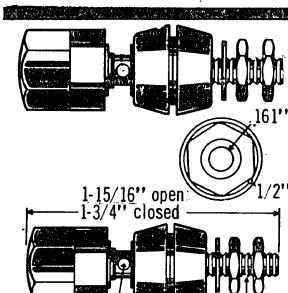
		Net per C 40.00	
No.	Color	No.	Color
33-264-BU	Red	33-266-BU	Blk



BINDING POST

DESC: Brass, nickel plated body with insulating washer and two hex nuts. 8-32 threaded stud. Accepts phone tip plug, spade lug, alligator clip, banana plug or stranded wire.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

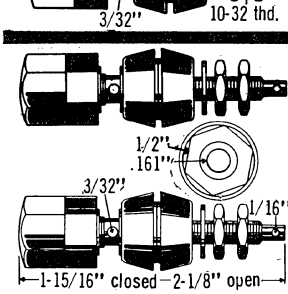
		Net per C 25.00	
No.	Color	No.	Color
33-265-BU	Red	33-267-BU	Blk



HEAVY DUTY BINDING POST*

DESC: Brass, nickel plated body; accepts standard banana or tip plug, spade lug alligator clip or bare wire; supplied with a thick molded insulating spacer; punched, keyed slot for mounting washers; spacer has "D" shaped shoulder; shoulder keys into chassis mounting hole and prevents post from turning; supplied with two hex nuts.
RATING: (Maximum) 30 amps...2000 RMS Volt.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

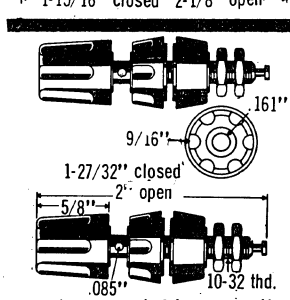
		Net per C 42.00	
No.	Color	No.	Color
33-268-BU	Red	33-270-BU	Blk



HEAVY DUTY BINDING POST*

DESC: Identical in design to binding post No. 33-268/270, except, that end of stud is milled flat and drilled for solder connection.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

		Net per C 42.00	
No.	Color	No.	Color
33-272-BU	Red	33-274-BU	Blk

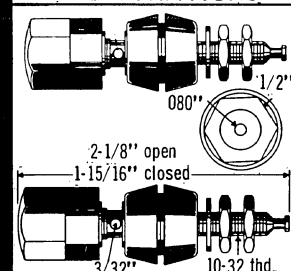


BINDING POST

DESC: 5-way, nylon. Fluted style, insulated, Banana adapter type. Wrap around tips, brass nickel plated.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

		Net per C 42.00	
No.	Color	No.	Color
33-279-1BU	Red	33-279-2BU	Blk

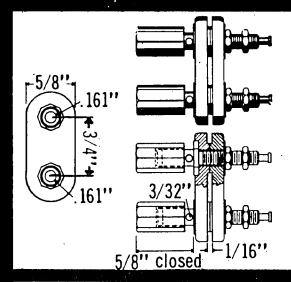
ILLUSTRATIONS | DESCRIPTION



NYLON BINDING POST*

DESC: Tip plug receptacle .080" I.D. Wire hole at right angle to flat on insulated washers. Punched keyed slot for mounting washers. Mounts in 3/8" hole in panels up to 1/4" thick. Solder connection to stud. Body and inserts are brass, bright nickel plated.
HEAD AND WASHER: Molded nylon per MIL-M 20693A.

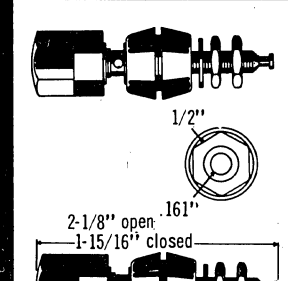
		Net per C 42.00	
No.	Color	No.	Color
33-275-1BU	Red	33-275-2BU	Blk



DUAL BINDING POST

DESC: Accepts standard dual banana plug and wire, etc. Mounts in two 3/8" holes on 3/4" centers in 1/16" to 1/4" panels. With wrap-around solder studs.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
BODY: Black plastic.

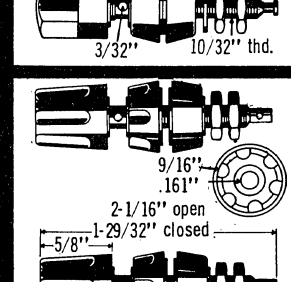
		Net per C 75.00	
No.			
33-276-BU			



HEAVY DUTY BINDING POST*

DESC: Brass nickel plated body; accepts banana or tip plug, spade lug, alligator clip or bare wire; supplied with a thick molded insulating spacer with "D" shaped shoulder; shoulder keys into chassis mounting hole and prevents post from turning; maximum rating 30 amps...2000 RMS volts; with 2 hex nuts.
RATING: 30 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

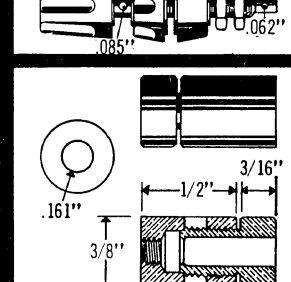
		Net per C 36.00	
No.	Color	No.	Color
33-278-BU	Red	33-280-BU	Blk.



BINDING POST

DESC: 5-way, nylon. Fluted style, insulated, banana adapter type. Spade type tip...brass nickel plated.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

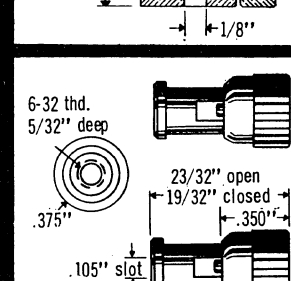
		Net per C 45.00	
No.	Color	No.	Color
33-281-1BU	Red	33-281-2BU	Blk



BINDING POST, ALL METAL

DESC: Knurled cap; accepts banana plug, phone tip or wire. Mounts to panel with No. 6-32 screw (not supplied).
BODY: Brass, nickel plated..

		Net per C 21.00	
No.			
33-282-BU			



BINDING POST

DESC: Compression type, captive brass, nickel plated knurled head. Screw head down to tighten wire between body and sliding contact. Threaded internally for No.6-32 mounting screw.
BODY: Brass, nickel plated.

		Net per C 21.00	
No.			
33-283-BU			

Also available in Bulk quantities in yellow, green, or blue. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

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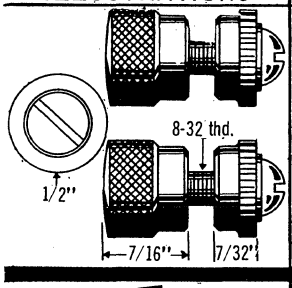
GC ELECTRONICS — ELECTROCRAFT ELECTRONIC COMPONENTS

BINDING POSTS

BINDING POST, ALL METAL

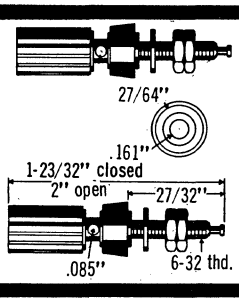


DESC: Knurled cap; designed for connection of bare wires or spade lugs; No. 8-32 x 1/2" mounting screw and lock washer supplied.
BODY: Heavy brass, nickel plated.

Net per C 24.00

No.	
33-284-BU	

METAL BINDING POST

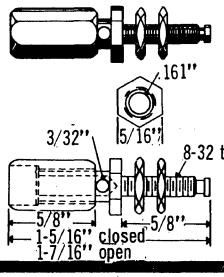


DESC: Gold plated, fluted brass, captive head. Molded black nylon washer with gold plated brass insert. Use where direct ground connection is made to panel or chassis. Complete with gold plated brass flat washer for grounding. Accepts phone tip plug, spade lug, banana plug, alligator clip or stranded wire.

Net per C 45.00

No.	
33-285-BU	

BINDING POST

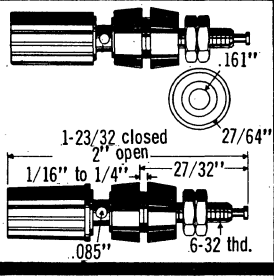


DESC: 5-way metal binding post. Can accept banana plug. Mounts in .171" hole in 1/16" to 3/8" panels. Has wrap-around solder stud 8-32 thread.

Net per C 33.00

No.	
33-286-BU	

METAL BINDING POST

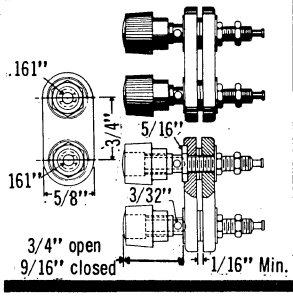


DESC: Gold plated, fluted brass, captive head, molded black nylon washer with gold plated brass insert. Use where internal ground circuit is isolated from chassis or panel. Accepts phone tip plug, spade lug, banana plug, alligator clip or wire strand.

Net per C 50.00

No.	
33-287-BU	

DUAL BINDING POST INSULATED

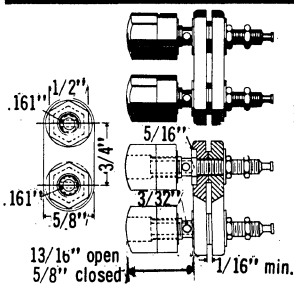


DESC: 5-way binding post with fluted heads. Accepts Dual Banana Plug. Mounts in two 3/8" holes, on 3/4" centers in panels from 1/16" to 1/4". Has soldered studs. With four hex nuts, black styrene washers.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

Net per C 54.00

No.	
33-288-BU	

DUAL BINDING POST

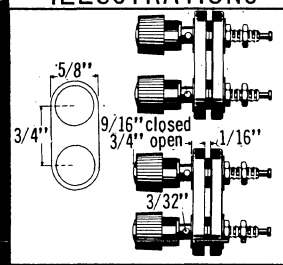


DESC: Accepts standard phone tips, forward or sideways. Brass, nickel plated body. Mounts in two 3/8" holes on 3/4" centers in panels up to 1/4" thick. Accommodates single or dual banana plugs.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

Net per C 70.00

No.	Color	No.	Color
33-290-BU	Blk	33-299-BU	Red

DUAL BINDING POST

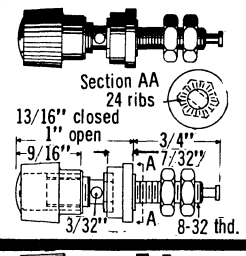


DESC: Brass, nickel plated body. Molded styrene washer; cross slot accommodates phone tip forward, back or sideways. With hex nuts and washers. Mounts in two 3/8" holes on 3/4" centers on panels up to 1/4" thick.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Nylon heads per MIL-M-20693A.

Net per C 65.00

No.	Color	No.	Color
33-291-BU	Blk	33-293-BU	Red

NYLON BINDING POST

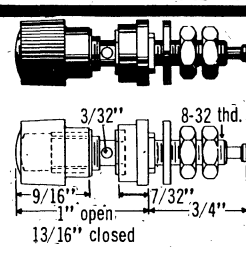


DESC: Grounding type, with molded nylon, non-removable head takes direct dolder connection to stud.
RATING: 15 amps AC for 10 desgree C Temp. rise, continuous duty.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

Net per C 35.00

No.	Color	No.	Color
33-294-1BU	Red	33-294-2BU	Blk

NYLON BINDING POST

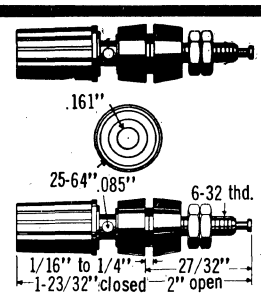


DESC: Brass, nickel plated body. Takes direct solder connection to stud.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD AND WASHER: Molded nylon per MIL-M-20693A.

Net per C 35.00

No.	Color	No.	Color
33-296-1BU	Red	33-296-2BU	Blk

NYLON BINDING POST*

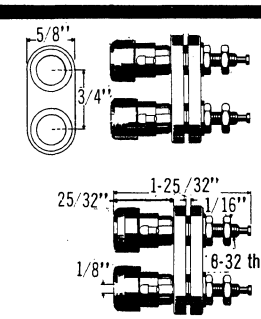


DESC: Gold plated body. Miniature washers and narrow head require minimum mounting space.. Requires 5/16" round or "D" hole in panel. Wrap around solder terminal. Accepts phone tip plug banana plug, spade lug, alligator clip or stranded wire.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty.
HEAD: Molded nylon per MIL-M-20693A.

Net per C 40.00

No.	Color	No.	Color
33-297-1BU	Red	33-297-2BU	Blk

DUAL SPRING LOADED BINDING POST



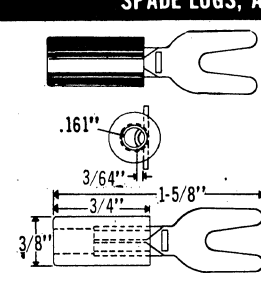
DESC: Cross-slotted to accept standard phone tips or wire either forward or sideways. Molded black styrene cap; nickel plated brass body. Requires 2-3/8" holes on 3/4" centers for mounting on panels up to 1/4" thick. Accommodates phone tips or wires in side holes and secures them when pressure on cap is released. With hex nuts and flat washers.
RATING: 15 amps AC for 10 degree C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage.

Net per C 120.00

No.	
33-298-BU	

SPADE LUGS, ALLIGATOR & BATTERY CLIPS

SPADE LUG, INSULATED



DESC: Tapered "fork" fits binding posts and terminal screws up to No. 10 size. Accepts soldered wire or banana plug.
RATING: 25 amps AC for 10 degree C Temp. rise, continuous duty.
HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3.
LUG: Brass, nickel plated.

Net per C 10.80

No.	Color	No.	Color
33-300-BU	Red	33-302-BU	Blk

Also available in Bulk quantities in yellow, green, or blue.. To order: add to part number, "-3BU" for yellow, "-4BU" for green, "-5BU" for blue. Example: No. 33-000-3BU (for yellow).

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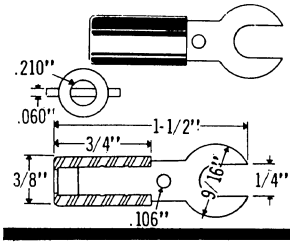
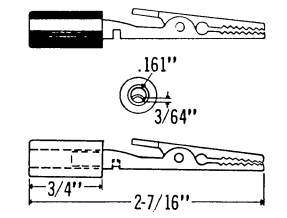
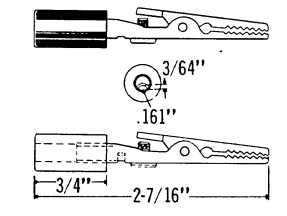
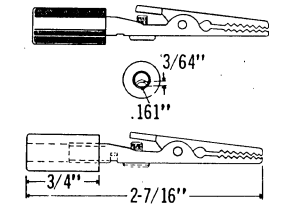
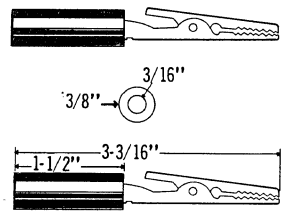
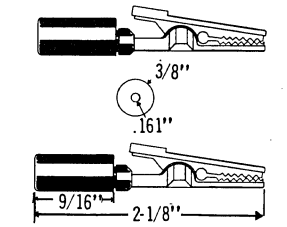
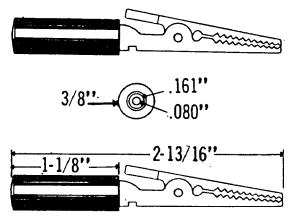
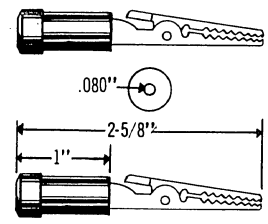
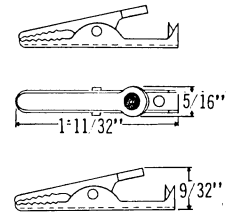
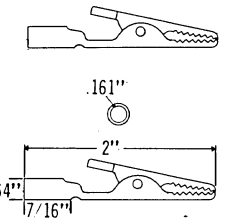
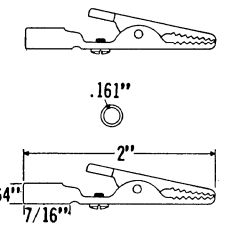
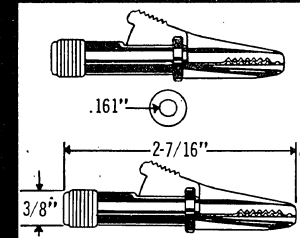
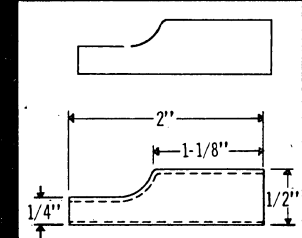
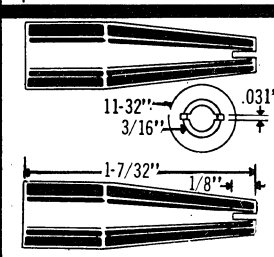
SPADE LUGS, ALLIGATOR & BATTERY CLIPS

ILLUSTRATIONS	DESCRIPTION
	**INSULATED SPADE LUG** DESC: Fits all standard multi-purpose binding posts. Wire up to No. 10 solders in front hole. RATING: 30 amps AC for 10 degree C Temp. rise, continuous duty. HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3. LUG: Brass, nickel plated. Net per C 12.00 No. 33-304-1BU Color Red — No. 33-304-2BU Color Blk
	DESC: 3/8" jaw opening; made of cadmium plated steel, accepts banana plug or wires. May be soldered to clip. RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3. Net per C 8.50 No. 33-310-BU Color Red — No. 33-312-BU Color Blk
	DESC: Molded plastic handle; cadmium plated steel jaws with 3/8" opening. Wire fastens with screw or soldered to clip. RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3. Net per C 9.50 No. .33-314-BU Color Red — No. 33-316-BU Color Blk
	**ALLIGATOR CLIP SOLID COPPER** DESC: Identical to No. 33-314/16, except, made of solid copper for higher current carrying capacity. RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3. Net per C 13.67 No. 33-318-BU Color Red — No. 33-320-BU Color Blk
	**ALLIGATOR CLIP** DESC: With extra long insulated handle; cadmium plated steel jaws; 3/8" opening, wire solders to clip. HANDLE: Molded Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3. Net per C 12.50 No. 33-322-BU Color Red — No. 33-324-BU Color Blk
	DESC: Completely insulated with black molded plastic to insure against shock or grounding. Accepts banana plug in receptacle end. Net per C 24.00 No. 33-326-1BU Color Red — No. 33-326-BU Color Blk Accepts tip plug in receptacle end. Net per C 36.00 No. 33-328-1BU Color Red — No. 33-328-BU Color Blk
	**ALLIGATOR CLIP ADAPTOR** DESC: Accommodates standard tip plug, or banana plug; steel cadmium plated jaws. RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty.. HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3. Net per C 39.00 No. 33-330-BU Color Red — No. 33-332-BU Color Blk

ILLUSTRATIONS	DESCRIPTION
	**ALLIGATOR CLIP ADAPTOR** DESC: Adapts standard tip plug to alligator clips; steel cadmium plated jaws. RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3. Net per C 33.00 No. 33-334-BU Color Red — No. 33-336-BU Color Blk
	**MINI-GATOR CLIP (MUELLER)** DESC: Miniature alligator clip. For use where space is a factor; wires solder to clip. Net per C 5.00 No. 33-342-BU Steel Net per C 6.80 No. 33-344-BU Copper
	**ALLIGATOR CLIP ALL METAL** DESC: Cadmium plated jaws with 3/8" opening accepts standard banana plug or wires may be soldered directly onto clip. Net per C 5.00 No. 33-346-BU
	**ALLIGATOR CLIP-ALL METAL** DESC: For solderless connection of wire by means of a No. 6-32 binding head screw; also accepts banana plug. Net per C 7.00 No. 33-348-BU Steel Net per C 11.00 No. 33-350-BU Copper
	**ALLIGATOR CLIP** DESC: All insulated with standard Banana Plug adaptor. Molded plastic over steel jaws and clips. Net per C 41.00 No. 33-352-1BU Color Red — No. 33-352-2BU Color Blk
	**ALLIGATOR CLIP INSULATOR** DESC: Flexible molded vinyl insulator which fits over most standard alligator clips. It completely insulates. Permits maximum jaw opening. Net per C 4.80 No. 33-360-BU Color Red — No. 33-362-BU Color Blk
	**MINIATURE ALLIGATOR CLIP BOOTS** DESC: Molded vinyl plastic; allow maximum jaw opening of clip while still insulating clip. Miniature size. Net per C 4.00 No. 33-363-1BU Color Red — No. 33-363-2BU Color Blk.

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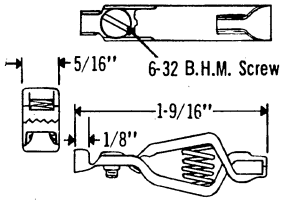
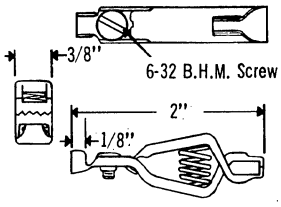
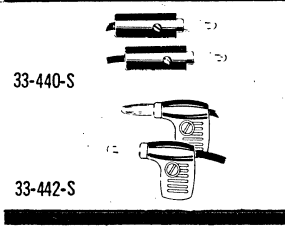
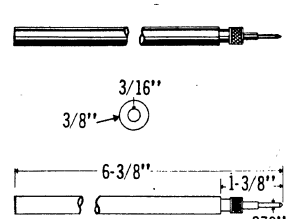
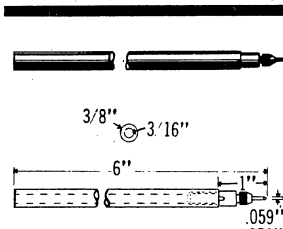
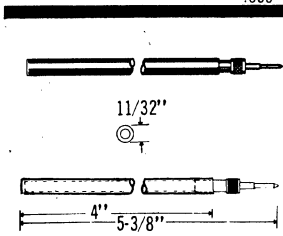
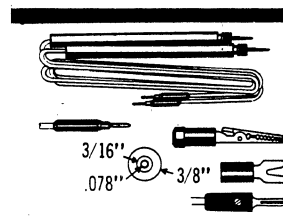
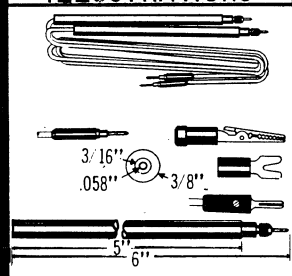
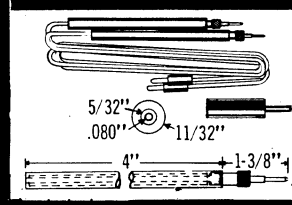
SPADE LUGS, ALLIGATOR & BATTERY CLIPS

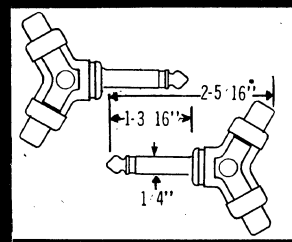
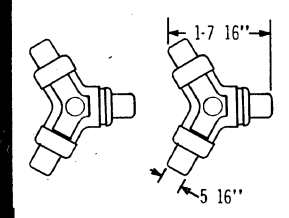
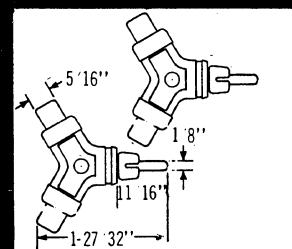
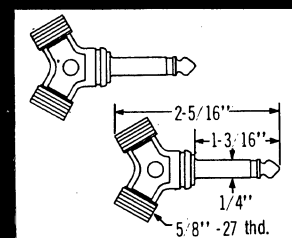
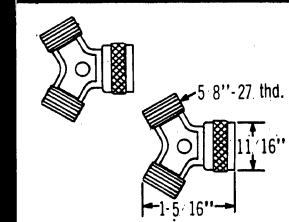
ILLUSTRATIONS	DESCRIPTION
	**BATTERY CONNECTING & TESTING CLIP** DESC: Steel cadmium plated jaws with 1/2" spread. RATING: 5 amps Net per C 6.50 No. 33-370-BU
	**BATTERY CONNECTING & TESTING CLIP** DESC: Steel cadmium plated jaws with 9/16" spread. RATING: 10 amps Net per C 6.50 No. 33-372-BU

TEST PRODS, LEADS & ADAPTORS

	**HEAVY DUTY TEST LEAD SETS** DESC: 2 New heavy duty Test Lead sets. Both sets have 5" long solderless Phone Tip Test Prods - other ends have right angle or straight Banana Plugs. Net per pair 1.50 No. 33-440-S Straight Banana Plugs Net per pair 1.50 No. 33-442-S Right Angle Banana Plugs
	**DELUXE TEST PROD** DESC: Solderless design; wire fits through handle and is fastened to tip with knurled collar. 6-3/8" long. RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty. HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3. TIP: Brass, nickel plated. Net per C 25.50 No. 33-380-BU Color Red; No. 33-382-BU Color Blk
	**NEEDLE POINT TEST PROD** DESC: Extra safe, long handle; wire solders to nickel plated brass chuck. RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty. HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 2. TIP: Replaceable Phono Needle. Net per C 31.50 No. 33-384-BU Color Red; No. 33-386-BU Color Blk
	**THIN HANDLE TEST PROD** DESC: Solderless wire connection; slim type for hard-to-reach places. Ideal for portable testers. RATING: 12 amps AC for 10 degree C Temp. rise, continuous duty. HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3. TIP: Brass, nickel plated. Net per C 21.00 No. 33-392-BU Color Red; No. 33-394-BU Color Blk
	**UNIVERSAL TEST LEADS** DESC: Interchangeable tips; one end solderless tip plug; other end banana plug; includes alligator clips, spade lugs and phono tip plugs, which fit on banana plug end. HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3. CABLE: 50" flexible Net per pair 1.88 No. 33-450-S One pair, red and black

ILLUSTRATIONS	DESCRIPTION
	**UNIVERSAL "NEEDLEPOINT" TEST LEADS** DESC: Interchangeable tips, one end interchangeable Phono needle type test prod,other end banana plug; includes spade lugs, alligator clips and phono tip plugs, which fit on banana plug end. HANDLE: Butyrate, per MIL-LP-349A and ASESA letter QUD4-59-4820 type 3. CABLE: 50" flexible Net per pair 1.88 No. 33-452-S One pair, red and black
	**"THRIFTY" TEST LEADS** DESC: One end 4" test prods, other end terminated in standard phone tip. HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3. CABLE: 50" flexible Net per pair .75 No. 33-454-S One pair, red and black

SPECIAL CONNECTORS & ADAPTORS

	**"Y" ADAPTOR** DESC: Input - 2 phono jacks (in parallel); output phone plug. Net per C 98.50 No. 33-880-BU
	**"Y" ADAPTOR** DESC: Input - 2 phono jacks (in parallel); output - single phono jack. Net per C 94.50 No. 33-882-BU
	**"Y" ADAPTOR** DESC: Input - 2 phono jacks (in parallel); output standard phono pin plug. Net per C 94.50 No. 33-884-BU
	**"Y" ADAPTOR** DESC: Input - 2 male microphone connectors (in parallel); output standard phone plug. Net per C 102.60 No. 33-886-BU
	**"Y" ADAPTOR** DESC: Input - 2 male microphone connectors (in parallel); output - female microphone connector. Net per C 89.63 No. 33-888-BU

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Net

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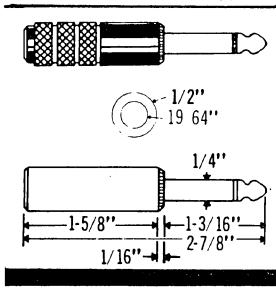
GC ELECTRONICS ELECTROCRAFT ELECTRONIC COMPONENTS

PHONE PLUGS

2-COND., SCREW TERMINALS

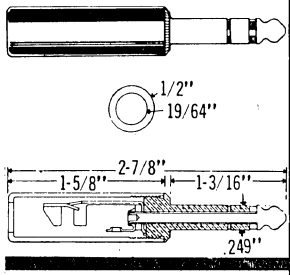


RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 750 volts 60 cycle AC continuous working voltage.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

Net per C 44.83

No.	
33-600-BU	with black plastic handle. Net per C 44.83
33-602-BU	with red plastic handle. Net per C 62.89
33-604-BU	with metal (shielded) handle.

2-COND., CLAMP OR SOLDER,

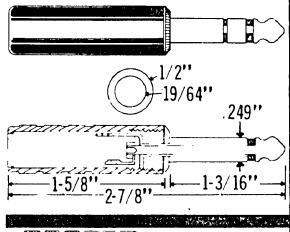


DESC: Standard size plug, with large "grounding" terminals which clamps around cable insulation or shield, and acts as strain relief.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

Net per C 39.90

No.	
33-606-BU	With black plastic handle. Net per C 39.90
33-608-BU	with red plastic handle. Net per C 57.50
33-610-BU	with metal (shielded) handle.

TWO-CONDUCTOR PHONE PLUG, PLAIN SOLDER LUGS

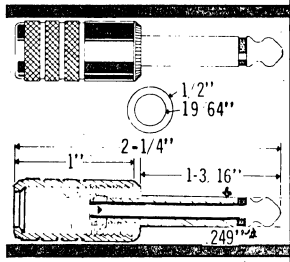


DESC: Standard size plug.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

Net per C 39.17

No.	Color	No.	Color
33-612-1BU	Red	33-612-2BU	Black

"STUBBY" SHIELDED TWO-CONDUCTOR PHONE PLUG

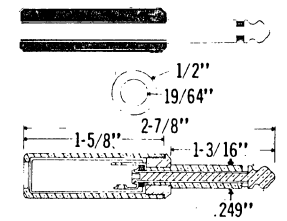


DESC: Standard phone plug with special, short metal handle; plain solder lugs.

Net per C 51.30

No.	
33-614-BU	

STANDARD SHIELD TWO-CONDUCTOR PHONE PLUG

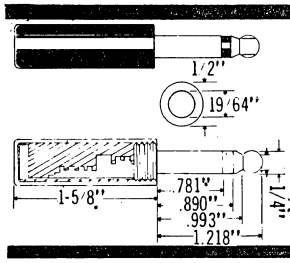


DESC: Regular plug with metal (shielded) handle, plain solder lugs.

Net per C 57.00

No.	
33-616-BU	

TWO-CONDUCTOR PHONE PLUG TYPE PJ-055B

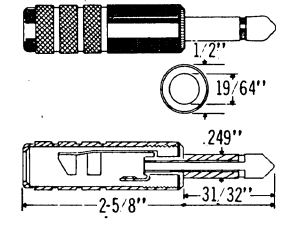


DESC: Solder terminal and screw connection; supplied with black, break-resistant molded shell.

Net per C 80.63

No.	
33-618-BU	

SHORT FINGER, 2-COND. PHONE PLUG



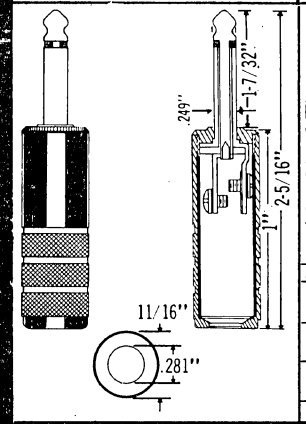
DESC: Special short finger (barrel) type plug to connect microphone or telephone pickup to Revere Wollensack tape recorders. Combination clamp and solder lug connection; metal shielded handle.

Net per C 63.30

No.	
33-620-BU	

ILLUSTRATIONS / DESCRIPTION

LARGE HANDLE 2-COND. PHONE PLUG

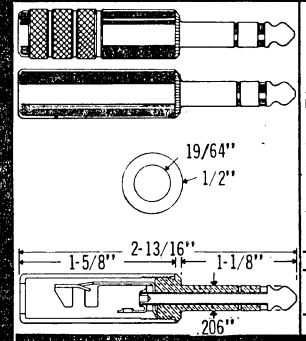


DESC: Standard size plugs with sturdy large handles where space is no factor; all supplied with screw type terminals.
RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 750 volts 60 cycles AC working voltage.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

Net per C 42.30

No.	
33-622-BU	with black plastic handle, 1-1/2" long Net per C 42.30
33-624-BU	with red plastic handle, 1-1/2" long. Net per C 63.00
33-626-BU	with metal (shielded) handle, 1" long Net per C 69.00
33-628-BU	with metal (shielded) handle, 2-1/16"

"THIN-FINGER" 2-COND. PHONE PLUGS



DESC: Special plugs, with undersize barrel diameter of .206", for applications where polarized input is desired to distinguish between different connections. Plugs have combination clamp and solder lug connection and mate with jacks No. 33-700/2.
HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

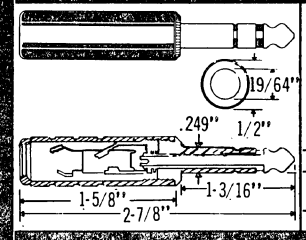
Net per C 41.40

No.	Color	No.	Color
33-630-1BU	Red	33-630-2BU	Blk

Net per C 51.00

33-632-BU	with metal (shielded) handle.

3-CONDUCTOR PHONE PLUG: COMB. CLAMP AND SOLDER LUG TERMINALS



HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

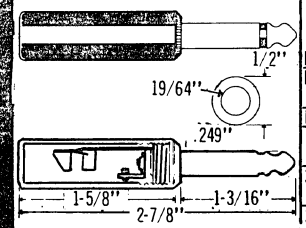
Net per C 58.35

No.	Color	No.	Color
33-640-1BU	Red	33-640-2BU	Blk

Net per C 73.35

33-642-BU	Metal

SCREW TERMINALS 3-CONDUCTOR PHONE PLUG

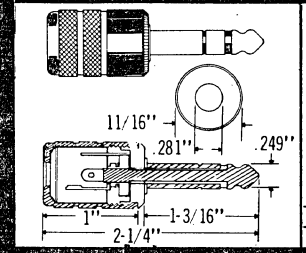


HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3.

Net per C 70.83

No.	
33-644-BU	with black plastic handle Net per C 70.83
33-646-BU	with red plastic handle Net per C 83.17
33-648-BU	with metal (shielded) handle

LARGE HANDLE 3-CONDUCTOR PHONE PLUG

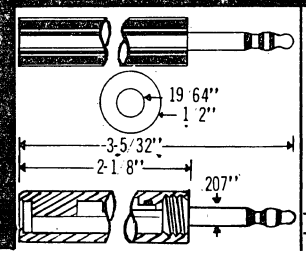


DESC: For heavy duty applicator; can accommodate large diameter cables, with room in handle for wired-in resistors or capacitors; with 1" long metal (shielded) handle.

Net per C 72.00

No.	
33-650-BU	

3-CONDUCTOR PHONE PLUG, TYPE PJ-068B



DESC: With solder terminal and screw connection; made in accordance with military specifications.

Net per C 209.99

No.	
33-654-BU	

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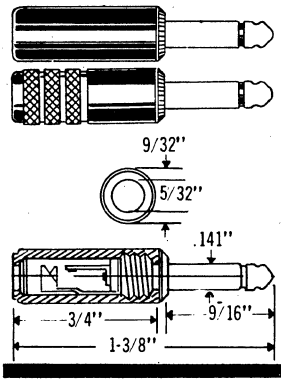
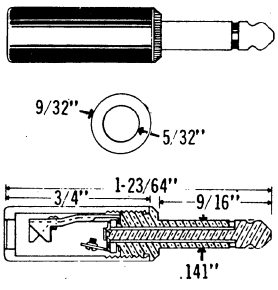
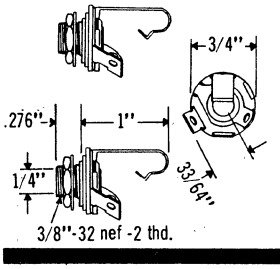
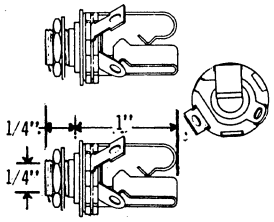
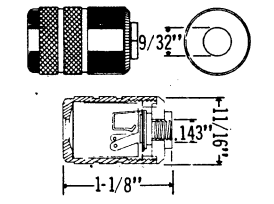
GC ELECTRONICS — ELECTROCRAFT ELECTRONIC COMPONENTS

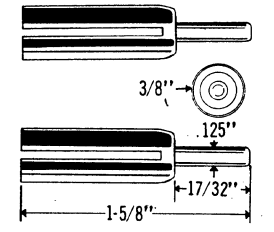
PHONE PLUGS

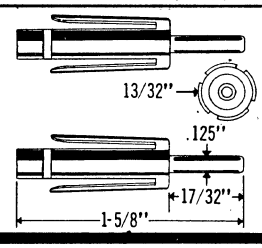
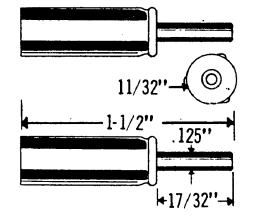
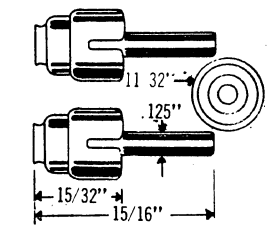
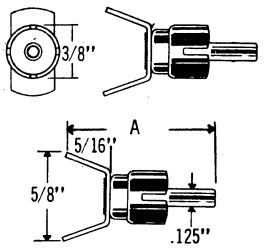
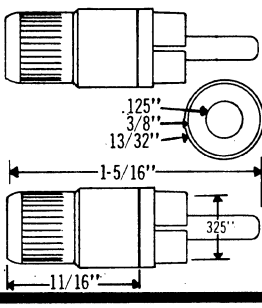
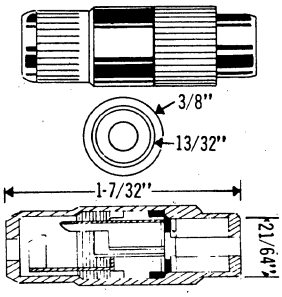
ILLUSTRATIONS	DESCRIPTION
	**MIN. PHONE PLUGS COMB. CLAMP & SOLDER TER.** DESC: These small plugs are designed for use with hearing aids, pocket radios, portable recorders, etc. Two-conductor style; tested for 500 V breakdown. RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3. Net per C 51.66 No. 33-660-BU with metal (shielded) handle Net per C 40.02 33-662-BU with black plastic handle Net per C 40.02 33-664-BU with red plastic handle
	**MIN. PHONE PLUGS COMB. CLAMP & SOLDER TER.** DESC: Same plug as 33-660 except for different style terminals. HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3. Net per C 59.85 No. 33-666-BU with metal (shielded) handle. Net per C 42.51 33-668-BU with black plastic handle. Net per C 42.51 33-670-BU with red plastic handle.

PHONE JACKS

	**PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS** DESC: Open circuit, 2-conductor. RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage. WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1. Net per C 27.00 No. 33-690-BU
	**PANEL MOUNTING TWO- CONDUCTOR PHONE JACKS** DESC: Panel mounting - two conductor Phone Jack. Use with Revere/Wollensach type. Will accommodate 33-620 phone plug. Net per C 29.83 No. 33-691-BU
	**MINIATURE CORD MOUNTED JACKS** DESC: Miniature type, mates with plugs No.33-660 through 33-670, with solder lugs and metal (shielded) handle. Net per C 70.00 No. 33-746-BU

PHONO PIN PLUGS & JACKS

	**PHONO PLUGS** DESC: Motorola type, tube pin nickel plated-1/8" Pin extends from split brass, cadmium plated shell. Provides positive ground connection when inserted into connector. Net per C 10.35 No. 33-765-BU

ILLUSTRATIONS	DESCRIPTION
	**PHONO PLUG** DESC: Motorola type, tube pin nickel plated-1/8" Pin extends from split brass shell, designed for use with small dismeter cable. Shell is cadmium plated. Net per C 10.35 No. 33-766-BU
	**PHONO PLUG** DESC: Motorola type 1/8" tube pin extends from solid brase, cadmium plated shell, small ribbed. Net per C 10.35 No. 33-767-BU
	**PHONO PLUG** DESC: Solder type. Net per C 5.80 No. 33-768-BU 15/16" overall Net per C 4.80 No. 33-770-BU 13/16" overall
	**PHONO PLUG** DESC: New RCA type, 1/8" tube pin, nickel plated, brass, cadmium plated shell. Eliminates damaging shielded cable when connecting. Short Pin (13/16" overall) Long Pin (1" overall) Net per C 7.50 No. A 33-769-BU short 1-1/16"
	**PHONO PLUG** DESC: Combination clamp, solder type, wtih removable metal (shielded) handle. Much easier to attach than the standard phono plug, and provides "finished" appearance. Mates with 33-774. Net per C 28.50 No.. 33-772-BU
	**PHONO JACK, CORD MOUNTED** DESC: Also known as "extension" or "inline" jacks. Combination clamp and solder terminal; removable metal (shielded) handle.. Mates with 33-772. Net per C 34.17 No. 33-774-BU

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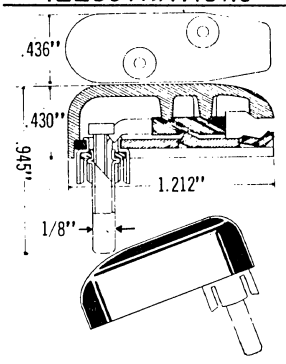
PHONO PIN PLUGS & JACKS

ILLUSTRATIONS	DESCRIPTION



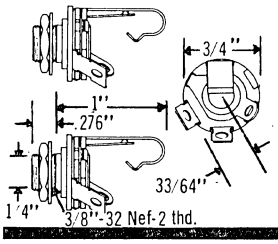
SOLDERLESS PHONO PLUGS

DESC: Completely new design, requires only stripping of cable, inserting in plastic shell, and tightening of assembly with 2 screws. Positive, noise-free pressure connection without soldering. Right angle style, designed for regular shielded cable with approximately 3/16" OD.

Net per C 23.40

No.	
33-776-BU	grey plastic shell
33-778-BU	black plastic shell
33-780-BU	red plastic shell
33-782-BU	yellow plastic shell
33-784-BU	blue plastic shell

PHONE JACKS

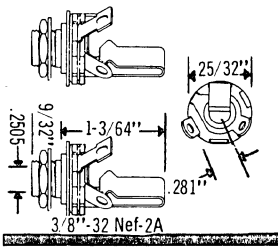


PANEL MOUNTING 2-CONDUCTOR PHONE JACKS

DESC: Closed circuit, 2-conductor.
RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage.
WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1.

Net per C 29.83

No.	
33-692-BU	

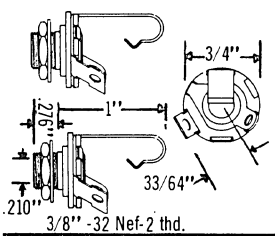


PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS

DESC: Open circuit, 2-conductor.
WASHER: Per MIL type, JJ-034.

Net per C 34.17

No.	
33-694-BU	

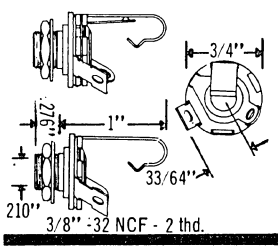


PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS

DESC: Open circuit, 2-conductor .210" I.D. sleeve fit plugs No. 33-630/2.
WASHER: Phenolic, per MIL-LL-31 and ASTMD-709, Washers type 1.

Net per C 24.98

No..	
33-700-BU	

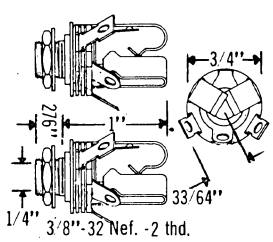


PANEL MOUNTING TWO-CONDUCTOR PHONE JACKS

DESC: Closed circuit, 2-conductor .210" I.D. sleeve...fits plugs No. 33-630/2.
WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1.

Net per C 26.67

No.	
33-702-BU	



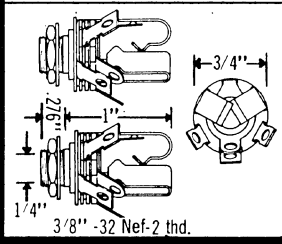
PANEL MOUNTING 3-COND. PHONE JACKS

DESC: Open circuit, 3-conductor..
RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage.
WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1.

Net per C 36.00

No.	
33-708-BU	

ILLUSTRATIONS	DESCRIPTION

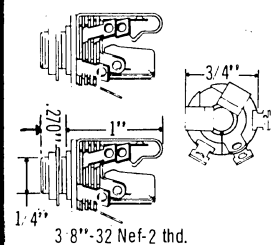


PANEL MOUNTING 3-COND. PHONE JACKS

DESC: Single closed circuit, 3-conductor.
RATING: 10 amps AC for 10 degree C Temp. rise, continuous duty. 1.2 K Volts 60 cycle AC continuous working voltage.
WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1.

Net per C 44.32

No.	
33-710-BU	

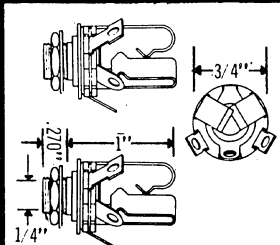


STEREO TELEPHONE JACK

DESC: New Jack designed for switching out speakers when connecting stereo headphones and for switching three stereo input circuits. Normally closed dual switch contacts open both stereo circuits separately when three circuit plug is inserted.
WASHER: Phenolic per MIL-LL-31 and ASTMD-709 type 1.

Net per C 54.00

No.	
33-711-BU	

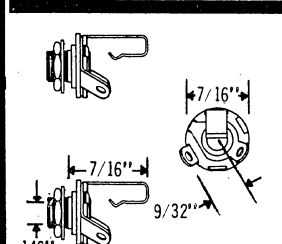


STEREO TELEPHONE JACK

DESC: New jack designed for switching out speakers when connecting stereo headphones and for switching three wire stereo input circuits. Open circuit, 3-conductor, MIL-type JJ-033.
WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1.

Net per C 39.98

No.	
33-712-BU	

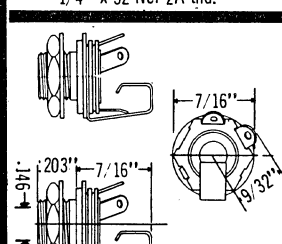


MINIATURE PANEL MOUNTING JACKS

DESC: These jacks mate with plugs No. 33-660 through 33-670. Open circuit, 2-conductor.
RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage.
WASHER: Phenolic, per MIL-LL-31 and ASTMD-709 type 1.

Net per C 23.32

No.	
33-720-BU	

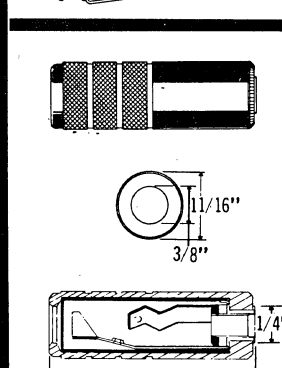


MINIATURE PANEL MOUNTING JACKS

DESC: These jacks mate with plugs No. 33-660 through 33-670- Closed circuit, 2-conductor.
RATING: 5 amps AC for 10 degree C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage.
WASHER: Phenolic per MIL-LL-31 and ASTMD-709 type 1.

Net per C 26.66

No.	
33-722-BU	



CORD MOUNTED JACKS

DESC: Often referred to as "extension jacks" or "inline jacks"; available in 2 or 3 conductor types.

No.		Net per C
2-conductor, open circuit style, with solder lug terminals.		
33-730-BU	metal	77.51
33-732-BU	plastic	55.83
2-conductor, open circuit style, with screw type terminals.		
33-734-BU	metal	90.00
33-736-BU	plastic	66.60
3-conductor, open circuit style, with screw or solder type terminals, and metal (shielded) handle.		
33-740-BU	solder	99.90
33-742-BU	screw	110.01

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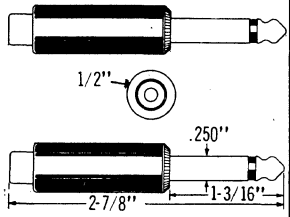
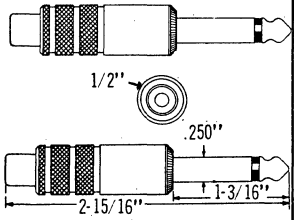
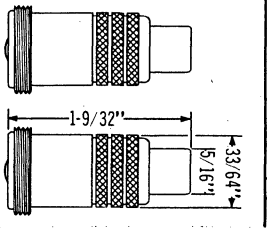
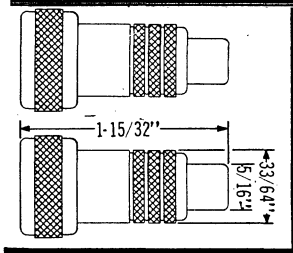
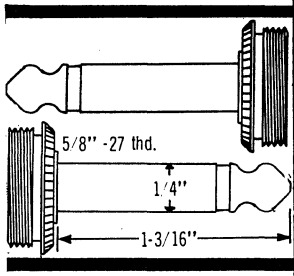
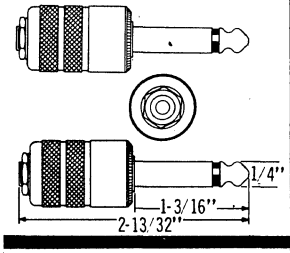
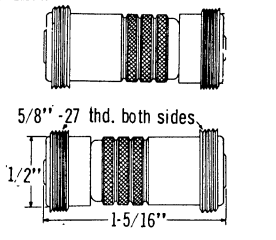
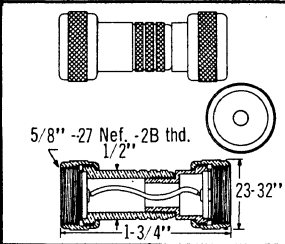
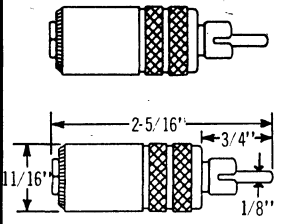
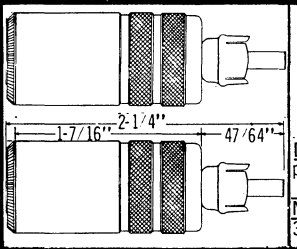
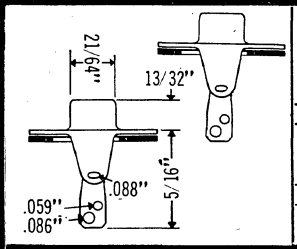
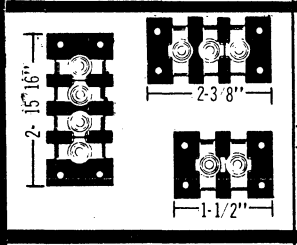
ELECTROCRAFT ELECTRONIC COMPONENTS

SPECIAL CONNECTORS & ADAPTORS

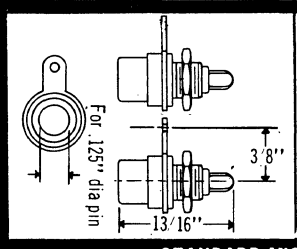
ILLUSTRATIONS	DESCRIPTION
	**ADAPTOR** DESC: Phono jack input, standard phone plug output. HANDLE: Butyrate, per MIL-LP-349-A and ASESA letter QUD4-59-4820 type 3. Net per C 67.50 No. 33-850-BU
	**ADAPTOR** DESC: Phono jack input, standard phone plug output, heavy duty metal shielded type. Net per C 78.30 No. 33-852-BU
	**MALE ADAPTOR** DESC: Phone jack input, microphone connector output. Net per C 59.40 No. 33-854-BU
	**FEMALE ADAPTOR** DESC: Phono jack input, microphone connector output. Net per C 67.50 No. 33-856-BU
	**MALE ADAPTOR** DESC: Microphone connector input, standard phone plug output. Net per C 30.00 No. 33-858-BU
	**ADAPTOR** DESC: Miniature phone jack input, standard phone plug output. Net per C 78.30 No. 33-860-BU
	**MALE CONNECTOR** DESC: Connects 2 female microphone connectors. Net per C 40.00 No. 33-862-BU

ILLUSTRATIONS	DESCRIPTION
	**FEMALE CONNECTOR** DESC: Connects 2 male microphone connectors. Net per C 44.17 No. 33-864-BU
	**ADAPTOR** DESC: Miniature phone jack input, standard phono plug output. Net per C 78.30 No. 33-865-BU
	**ADAPTOR** DESC: Standard phone jack input, phono plug output. Net per C 105.84 No. 33-866-BU

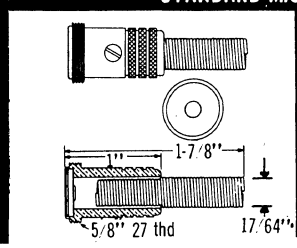
PHONO PIN PLUGS & JACKS

	**PHONO JACKS** DESC: Fastens to chassis with 2 rivets or 2 screws. Net per C 7.33 No. 33-792-BU W/oval, space saving metal mounting plate. Net per C 7.50 No. 33-796-BU W/regular, round mounting plate.
	**PHONO PIN JACKS**

No.		Net per C
33-798-BU	single phono pin jack	7.50
33-800-BU	double phono pin jack	12.00
33-802-BU	triple phono pin jack	15.00
33-803-BU	quadruple phono pin jack	24.00

	**SINGLE HOLE PANEL PHONO JACK** DESC: Mounts in 9/32" hole, requires only one hole drilled. Comes equipped with nut, washer and solder lug for ground. Net per C 16.20 No. 33-804-BU

STANDARD MICROPHONE CONNECTORS

	**CORD MOUNTED MALE MICROPHONF CONNECTOR** DESC: With flexible spring to protect cable; center conductor solders to contact; braid is clamped securely by set screw. Net per C 24.00 No. 33-810-BU

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Net

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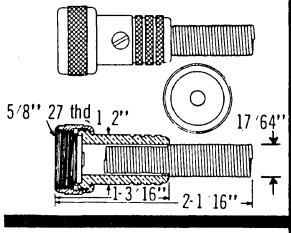
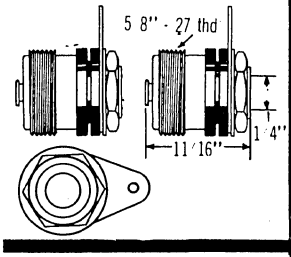
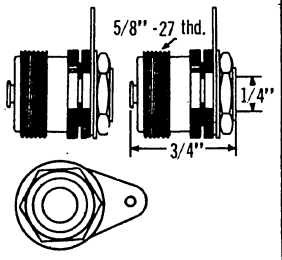
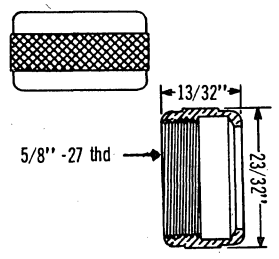
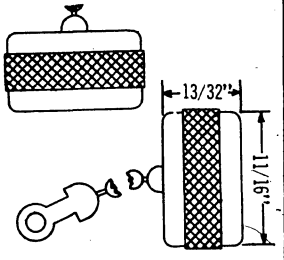
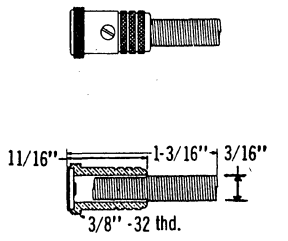
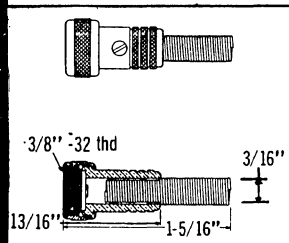
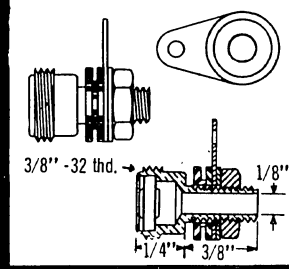
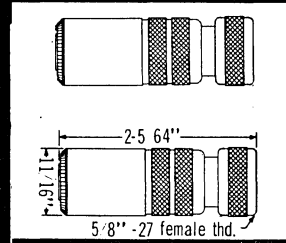
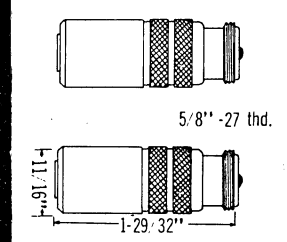
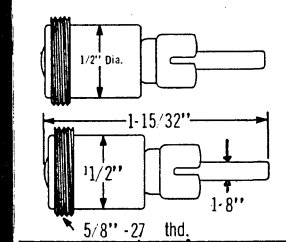
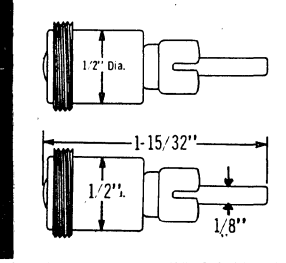
ELECTROCRAFT ELECTRONIC COMPONENTS

STANDARD MICROPHONE CONNECTORS

ILLUSTRATIONS	DESCRIPTION
	**CORD MOUNTED FEMALE MICROPHONE CONNECTOR** DESC: With flexible spring to protect cable; center conductor solders to contact; braid is clamped securely by set screw. Net per C 31.50 No. 33-812-BU
	**PANEL MOUNTED MICROPHONE CONNECTOR** DESC: Requires 3/8" hole when grounded to chassis; or 7/16" hole if insulated with fibre washers; mates with No. 33-812 connector. Single contact connector. Net per C 19.38 No. 33-814-BU
	**MICROPHONE AND CHASSIS CONNECTOR** DESC: Closed circuit type which grounds center contact when cable connector removed, thus eliminating noise. Net per C 26.50 No. 33-816-BU
	**COUPLING NUT** DESC: Converts No. 33-810 male connector to No. 33-812 female type, and No. 33-872 adapter to female No. 33-874. Net per C 8.33 No. 33-818-BU
	**CAP FOR PANEL CONNECTORS** DESC: Protects unused connectors from mechanical damage and dust. Net per C 42.48 No. 33-820-BU
	**MINIATURE MALE MICROPHONE CONNECTOR** DESC: These connectors are only about one-half the size of the standard microphone connectors. Particularly useful for portable equipment, lapel microphone, musical instruments, recorders, etc. Made to the same specifications and of same materials as standard size connectors. Net per C 26.00 No. 33-826-BU

ILLUSTRATIONS	DESCRIPTION
	**MINIATURE FEMALE MICROPHONE CONNECTOR** DESC: These connectors are only about one-half the size of the standard microphone connectors. Particularly useful for portable equipment, lapel microphone, musical instruments, recorders, etc. Made to the same specifications and of same materials as standard size connectors. Net per C 33.15 No. 33-828-BU
	**MINIATURE MIKE CONNECTOR** DESC: These connectors are only about one-half the size of the standard microphone connectors. Particularly useful for portable equipment, lapel microphones, musical instruments, recorders, etc. Made to the same specifications and of same materials as standard size connectors. Panel mounted connector. Net per C 20.33 No. 33-830-BU

SPECIAL CONNECTORS & ADAPTORS

	**FEMALE ADAPTOR** DESC: Standard phone jack input, microphone connector output. Net per C 99.17 No. 33-868-BU
	**MALE ADAPTOR** DESC: Standard phone jack input, microphone connector output. Net per C 89.10 No. 33-870-BU
	**MALE ADAPTOR** DESC: Microphone connector input, phono plug output. Net per C 67.50 No. 33-872-BU
	**FEMALE ADAPTOR** DESC: Microphone connector input, phono plug output. Net per C 99.17 No. 33-872-1BU

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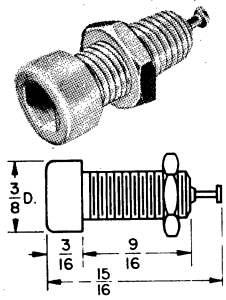
E. F. JOHNSON COMPANY

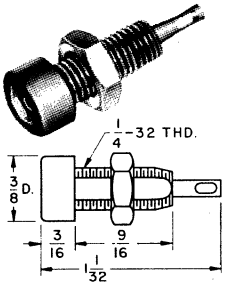
Tip jacks



DELUXE TIP JACK
(U.S. Patent No. 2,704,357)

Molded body with recessed closed entry design contact. Silver-plated beryllium copper contact spring. Brass solder terminal is hot tin dipped. Current rating: 10 amps. Voltage breakdown: 11,000 VDC. Capacity to ⅛" panel: 2.0 pf. ¼-32 nut furnished.

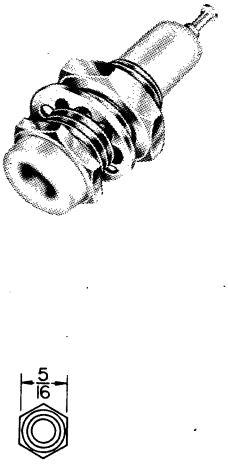
Cat. No. 105-600 . . . . . Net Price $0.15
(See color chart below)



STANDARD TIP JACK

Molded body with recessed, cadmium-plated formed phosphor bronze contact. Current rating: 10 amps. Voltage breakdown: 9,000 volts DC. Capacity to ⅛" panels: 2.0 mmf. ¼"-32 nut furnished.

Cat. No. 105-800 . . . . . Net Price $0.13
(See color chart below)

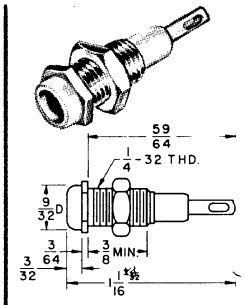


METAL-CLAD TIP JACKS—MILITARY

High reliability tip jack for military use or demanding industrial applications. Highest quality materials — withstand severe environmental temperature, vibration and salt spray conditions. Complies with MS-16108, Rev. F of MIL-STD-242A. Closed entry contact design prohibits entry of tip plug .085" or larger—prevents accidental contact damage by careless probe insertion. Heavy nickel-plated brass jacket. Gold-plated beryllium copper contact spring greatly exceeds minimum insertion/withdrawal cycle requirements of MS-16108. Current rating: 5 amps. Voltage breakdown: 8,000 volts DC. Capacity to ⅛" panel: 3.8 pf. ¼"-32 nut and lock washer furnished. Terminal Style: "A". (Terminal Style "C" per MS-16108 available on special order in production quantities.) Brass solder terminal is gold-plated.

Cat. No. 105-200-200 . . . Net Price $0.30

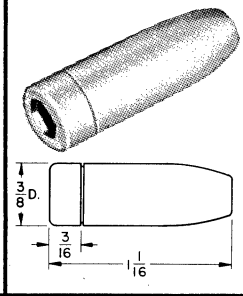
Mil. Std. Number	Color	E. F. Johnson Number
MS16108-1A	White	105-201-200
MS16108-2A	Red	105-202-200
MS16108-3A	Black	105-203-200
MS16108-4A	Brown	105-208-200
MS16108-5A	Green	105-204-200
MS16108-6A	Orange	105-206-200
MS16108-7A	Blue	105-210-200
MS16108-8A	Yellow	105-207-200
MS16108-9A	Gray	105-213-200
MS16108-10A	Violet	105-212-200



METAL-CLAD TIP JACKS—STANDARD

Molded body, nickel-plated machined brass jacket. Formed, silver-plated phosphor bronze contact. Current rating: 10 amps. Voltage breakdown: 7,000 volts DC. Capacity to ⅛" panel: 3.8 pf. ¼"-32 nut furnished.

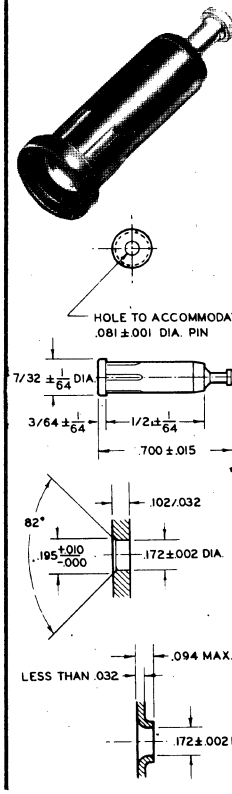
Cat. No. 105-250 . . . . Net Price $0.18
(See color chart below)



JACK AND SLEEVE ASSEMBLY
(U.S. Pat. No. 2,704,357)

Includes Deluxe Tip Jack (105-601 to 105-613), less mounting nut, with inside threaded molded sleeve. Ideal for patch cords, or insulated rear connection of panel mounted tip jack.

Cat. No. 105-700 . . . . . Net Price $0.20
(See color chart below)



RIB-LOC PRESS-IN TIP JACKS

Johnson Rib-Loc design permits substantial production line savings—no mounting hardware to handle and assemble. Rib-Loc tip jacks install by pressing into proper size chassis hole. Accept .080" tip plug in recessed, closed-entry type contact that rejects plugs .085" or larger to prevent accidental contact damage. Silver-plated beryllium copper contact spring. Brass solder terminal silver-plated and Iridited for good solderability. Insulating body molded of low-loss polyamide. Current rating: 10 amps. Voltage breakdown: 5,000 VDC. Capacity to ⅛" panel: 1.4 pf nominal.

Cat. No. 105-1040 . . . . . Net Price $0.12
(See color chart below)

Note: Connectors, unless otherwise specified, are available in 6 molded colors to Federal Standard 595. Other colors listed are available as specials. Catalog number for color desired is determined by adding color numbers on chart below to 5th and 6th digits of catalog number listed for series. Example: 105-800 in Violet, add color number for Violet (12) to 5th and 6th digits of series number, and order 105-812. To order 105-1040 in Violet, add 12 to 5th and 6th digits of series number and order 105-1052.

Color	No.	Color	No.	Color	No.
White*	01	Orange	06	Violet	12
Red*	02	Yellow*	07	Grey	13
Black*	03	Brown	08		
Green*	04	Blue*	10		

*Indicates colors available from stock. Other colors listed are, for some items, available as specials.

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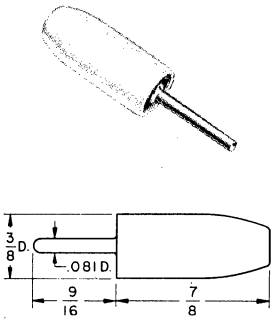
E. F. JOHNSON COMPANY

Tip plugs

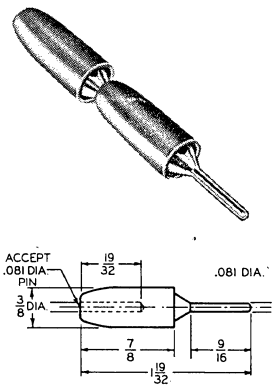


SOLDERLESS TIP PLUG

Completely insulated, molded sleeve. Recessed metal head prevents exposure of metal surfaces when engaged in any standard tip jack. All metal parts are nickel-plated brass. Designed for solderless connection of up to 16 gauge stranded wire. Fits all standard tip jacks. Current rating: 10 amps.

Cat. No. 105-300 Net Price $0.15

(See Color Chart under tip jacks)

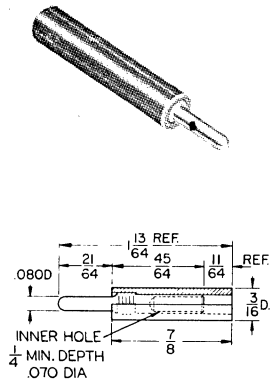


STACKING TYPE TIP PLUG

Stacking feature provides flexibility by permitting several tip plugs to be terminated in the same .080" diameter jack. Designed for solderless connection of up to 16 gauge stranded wire. Body containing both jack and plug machined from solid brass, nickel plated. Insulating sleeve. Current rating: 10 amps.

Cat. No. 105-900 Net Price $0.40

(See Color Chart under tip jacks)



SUB-MINIATURE TIP PLUG

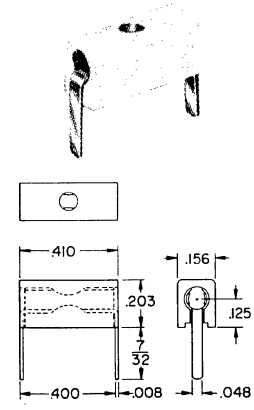
For use with miniature jack, .080" dia. tip. Nickel-plated machined brass body, solder type lead connection.

Cat. No. 105-770 Net Price $0.18

(See Color Chart under tip jacks)

Printed circuit connectors

These tiny sub-miniature Tip Jacks and Tip Plugs described below are ideally suited for use in printed circuit or limited space applications! Extremely compact, tip jacks are available in horizontal or vertical contact types—both occupy a minimum amount of board area, yet provide easy access and positive electrical contact. Rated at 5 amperes maximum current capacity. Operating voltage is 1500 volts RMS at sea level and 350 volts RMS at 50,000 feet. Contact resistance is less than 2 milliohms; capacitance between two adjacent jacks less than one pf. at 1 MC. Body material is made of tough, low-loss polyamide per MIL-M-20693A; able to stand extremely hard usage. Tip Plugs have a one-piece machined contact which provides maximum reliability and achieves minimum contact resistance—jacks equipped with beryllium copper contacts, designed for firm, positive contact as well as fast, easy insertion and withdrawal. Jack contacts and terminals are silver-plated.



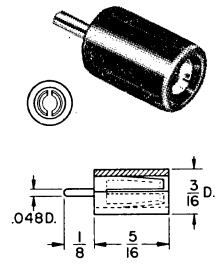
HORIZONTAL JACK
(U.S. Patent No. 3,208,027)

Unique design accepts .080" dia. tip plug in either end, or from top or bottom! Silver-plated beryllium copper formed contact. Two terminals.

Note: Available as a special in production quantities without cross hole.

Cat. No. 105-750 Net Price $0.07

(See Color Chart under tip jacks)

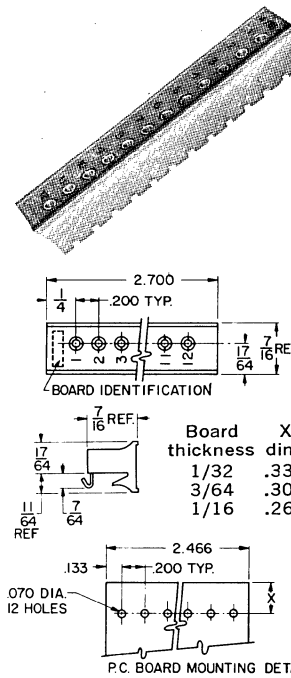


VERTICAL JACK

Mounts through single .052" hole, requires minimum mounting area. Silver-plated, machined beryllium copper contact.

Cat. No. 105-850 Net Price $0.13

(See Color Chart under tip jacks)



TEST POINT STRIP HANDLE

This unique component offers ready access to desired portions of the circuit, without the use of jumper cables, for fast, efficient testing and trouble shooting. Rapid mounting accomplished by manual positioning; secured permanently in the wave solder operation.

Low-loss polyamide body provides insulation resistance greater than 200 megohms after MIL-T-5422B humidity test. Individual test points rated at 5 amperes maximum current capacity. Operating voltage 1500 volts RMS at sea level and 350 volts RMS at 50,000 feet. Contact resistance less than 2 milliohms. Capacitance between two adjacent jacks less than 1 pf. at 1 mc.

Standard model has 12 contacts. Available as specials in production quantities with up to 24 contacts.

Cat. No. 266-402 Net Price $1.05

(Red)

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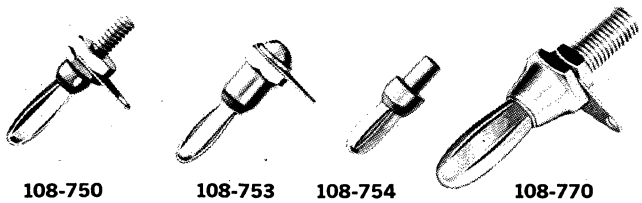
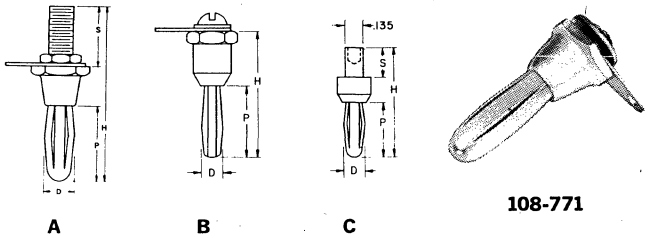
Banana jacks and plugs

E. F. JOHNSON CO.



108-750 108-753 108-754 108-770



A B C

108-771

STANDARD BANANA PLUGS

This group of standard banana plugs has accurately machined brass studs which extend the full length of the plugs, providing extra strength. Springs are nickel-silver—highly resistant to corrosion. Bodies and hardware .0001 nickel-plated. All banana plugs listed below are available with beryllium copper springs and nickel, cadmium, or silver plating, when desired. A wide selection of miniature solder-type plugs is also available on special order—however, quantities in special platings or plugs should be sufficiently large for economical production runs. Solder terminal and nut or screw furnished.

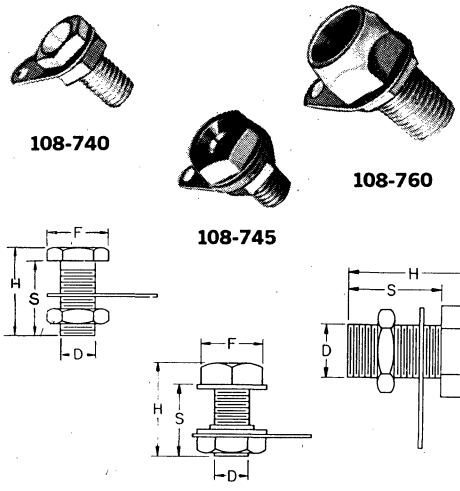
Cat. No.	Dwg.	S	P	D	H	Thread	Net Price
108-750	A	3/8"	17/32"	.175"	1 1/8"	6-32	$0.15
108-750-2	A	3/4"	17/32"	.175"	1 1/2"	6-32	.16
108-753	B	—	17/32"	.175"	1 5/16"	6-32	.16

This banana plug is similar to the standard types listed above, except that it is designed for riveting. Springs are beryllium copper, cadmium-plated.

108-754	C	7/32"	13/32"	.155"	1 3/16"	—	$0.13

Jumbo type banana plugs with accurately machined brass studs extending full length of the pins. Nickel-silver springs. Bodies and hardware .0001 nickel-plated. With solder lug and nut or screw.

108-770	A	5/8"	3/4"	.300"	1 25/32"	1/4"-28	$0.35
108-771	B	—	3/4"	.300"	1 1/8"	10-32	.50



108-740 108-760 108-745 108-900

STANDARD BANANA JACKS

High quality, machined brass banana jack. Nickel-plated. Furnished complete with solder terminal and nut.

Cat. No.	F	D	S	H	Hole Dia.	Thread	Net Price
108-740	3/8"	1/4"	17/32"	5/8"	.166"	1/4"-28	$0.13

High quality machined brass banana jacks with plastic head molded to body. Nickel-plated. Furnished complete with solder terminal and nut. The 108-745-1 is equipped with red plastic head—the 108-745-2 is equipped with black plastic head.

108-745-1	7/16"	1/4"	32/64"	21/32"	.166"	1/4"-28	$0.28
108-745-2	7/16"	1/4"	32/64"	21/32"	.166"	1/4"-28	.28

This jumbo banana jack will accommodate plugs such as the 108-770 and the 108-771 listed above. Machined brass, nickel-plated. Furnished complete with solder terminal and nut.

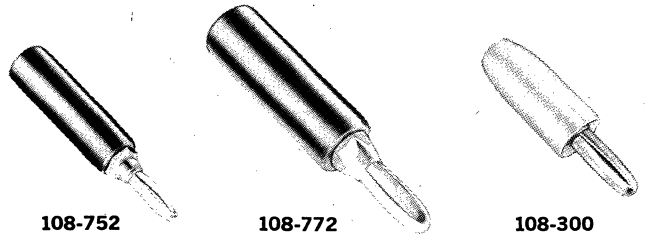
108-760	9/16"	3/8"	21/32"	1"	.277"	3/8"-32	$0.45

BANANA JACK

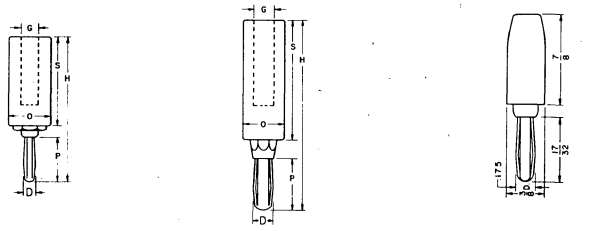
Completely insulated molded body with cadmium-plated insert. Accommodates banana plugs of nominal .175" diameter. Voltage breakdown: 10,000 volts DC. Capacity to 1/16" panel: 2.4 mmf. nominal. Mounts in 21/64" diameter circular, "D", or double flat hole (1/4" across flats). Single nut furnished for mounting—no other mounting hardware needed.

Cat. No. 108-900 ..... **Net Price $0.10**

(See Color Chart under tip jacks)



108-752 108-772 108-300



STANDARD INSULATED BANANA PLUGS

These standard insulated banana plugs are equipped with plastic handles, brass nickel-plated bodies, and nickel-silver springs. The 108-752-1 has a black plastic handle—the 108-752-2 has a red plastic handle.

Cat. No.	S	P	D	H	G	O	Net Price
108-752-1	1 3/8"	17/32"	.175"	2 1/8"	7/32"	7/16"	$0.30
108-752-2	1 3/8"	17/32"	.175"	2 1/8"	7/32"	7/16"	.30

JUMBO INSULATED BANANA PLUGS

These jumbo size insulated banana plugs are similar in design to the standard types listed above, but are somewhat larger in size. With brass nickel-plated bodies, and nickel-silver springs. The 108-772-1 has a black plastic handle—the 108-772-2 has a red plastic handle.

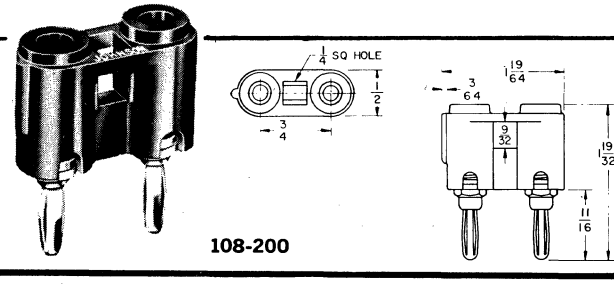
Cat. No.	S	P	D	H	G	O	Net Price
108-772-1	1 3/4"	3/4"	.300"	2 25/32"	3/8"	5/8"	$0.60
108-772-2	1 3/4"	3/4"	.300"	2 25/32"	3/8"	5/8"	.60

SOLDERLESS BANANA PLUGS

Compact, high voltage insulated plug for a wide variety of applications. Designed for fast, solderless connection of up to 16 gauge stranded wire. Body and pin are constructed of one-piece, nickel-plated brass with high grade nickel-silver springs. Sleeve is molded. Current rating: 15 amps.

Cat. No. 108-300 ..... **Net Price $0.19**

(See Color Chart under tip jacks)



108-200

DUAL BANANA PLUGS

Extremely versatile dual banana plug available for either solderless or set screw connection. Molded body incorporates polarity indication and strain relief hole for wire leads. Springs are high quality nickel-silver—bodies are nickel plated. Accurately machined brass studs extend full length of pins for extra strength. Voltage breakdown: 10,000 VDC. Capacity plug to plug: 1.3 pf. Current rating: 15 amps.

Cat. No. 108-200 (solderless) ..... **Net Price $0.70**

Cat. No. 108-250 (with set screws) ..... **Net Price .72**

(See Color Chart under tip jacks)

Net

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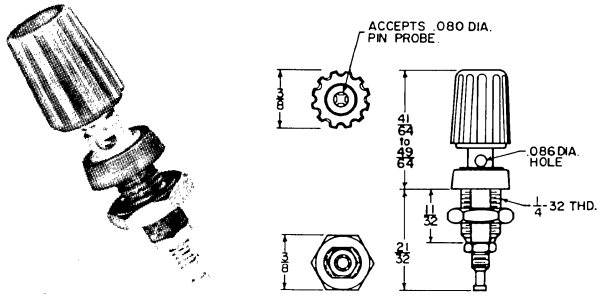
E. F. JOHNSON CO.

Binding posts

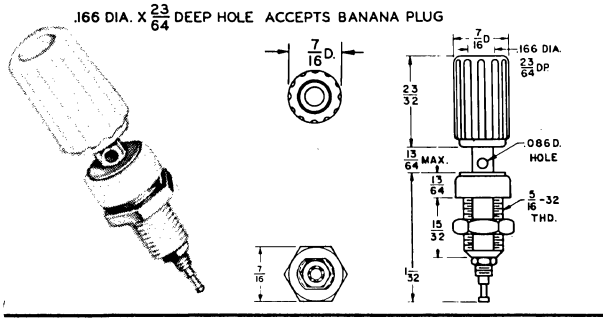
Compact, insulated, pre-assembled binding posts with molded body and silver-plated shank. Fluted thumb nut self-captivated. Connection made at solder stud, or lug may be slipped over threaded portion and secured with a nut. Single tip plug fits hole in top of miniature binding post; banana plug accepted by two larger binding posts. Insulation resistance greater than 200 meg. after MIL-T-5422B humidity test. (U.S. Pat. No. 2,806,999.)



New miniature binding post designed for compact test equipment applications. Rated at 15 amps. thumb nut to terminal, 5 amps. tip jack to terminal. Voltage breakdown: 5,000 volts DC. Capacitance to 1/8" panel; 3 pf. Mounts in 17/64" diameter circular hole; "D" or double flat hole—.219" across flats. Equipped with single 1/4"-32 nut for fast mounting—no time-consuming spacers or mounting hardware required.

Available in 6 colors: white, red, black, green, yellow, and blue.

Cat. No. 111-200 ..... **Net Price $0.25**

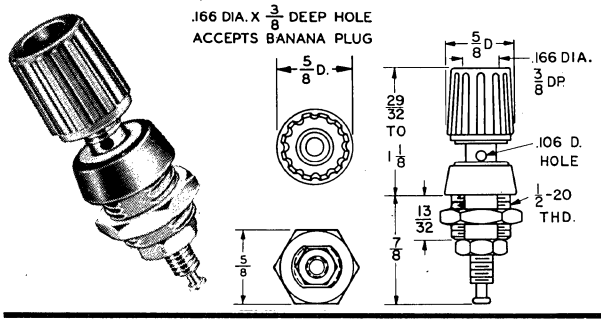


Rated at 15 amps. Current carrying capacity. Voltage breakdown: 8,000 volts DC. Capacitance to 1/8 panel: 3.3 pf. Mounts in 21/64" diameter circular hole; "D" or double flat hole—1/4" across flats. Single 5/16-32 mounting nut furnished—no other hardware required.

Cat. No. 111-100 ..... **Net Price $0.30**
(10 colors available—see color chart)

Mounting plate—Pre-punched, etched aluminum mounting plate for accurate mounting of two 111-100 binding posts, or 108-900 banana jacks 21/64" diameter holes on exact 3/4" centers.

Cat. No. 111-20 ..... **Net Price $0.03**



Rated at 40 amps. current carrying capacity. Voltage breakdown: 7,000 volts DC. Capacitance to 1/8" panel: 3.5 pf. Mounts in 1/2" diameter circular hole; "D" or double flat hole—.422 across flats. Single 1/2-20 mounting nut furnished—no other hardware needed. Available in six colors: white, red, black, green, yellow, and blue.

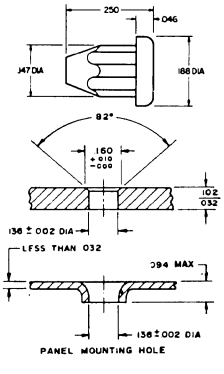
Cat No. 111-300 ..... **Net Price $0.40**

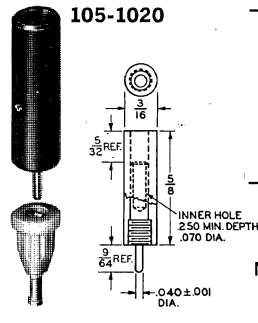
Rib-Loc terminals and jacks

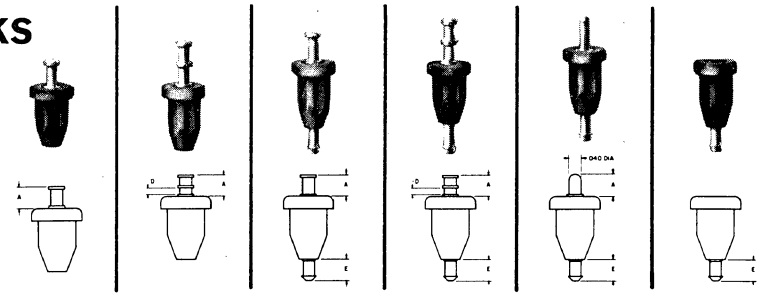
®

Johnson "Rib-Loc" insulated components offer advantages over TFE insulated types at a substantially lower price. Now your commercial equipment designs can reflect size reductions formerly limited to military equipment applications because of high cost considerations. Once installed, "Rib-Loc" design offers excellent retention—considerably better than the most widely used TFE insulated types.

Terminals are brass, silver-plated and Iridited for good solderability. "Rib-Loc" components are available in six attractive colors to Federal Standard 595: white, red, black, green, yellow and blue.







Specifications, all "Rib-Loc" components:

Pullout force 21 lbs.; turning torque 18 oz. in.; capacitance, .050" thick panel at 1 mc., 1.00 pf.; flashover voltage (DC) 5300; max. service temperature 250° F.; leakage current at 3500 VDC, .01 ua. These are typical test measurements, not necessarily limit values.

Series Number	Description	A	D	E	Net Price
260-000	Single turret stand-off	0.125			$0.05
260-100	Double turret stand-off	0.187	0.068		0.05
260-200	Single turret feed-thru	0.125		0.140	0.06
260-300	Double turret feed-thru	0.187	0.068	0.140	0.06
260-400	Tip plug, 0.040" dia.	0.140		0.140	0.06
264-000	Tip jack for 0.040" dia. plug			0.140	0.08

Color	No.	Color	No.
White	01	Green	04
Red	02	Yellow	07
Black	03	Blue	10

Note: Part number for color desired is determined by adding color number to 5th and 6th digits of part number listed for each item above.

TIP PLUG FOR .040" RIB-LOC TIP JACK

Cat. No. 105-1020 ..... **Net Price $0.18**

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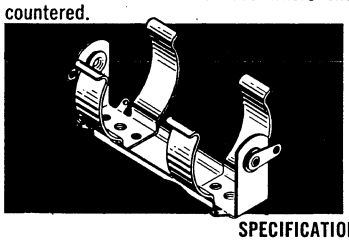
KEYSTONE ALL STEEL BATTERY HOLDERS

STANDARDIZED ALL STEEL BATTERY HOLDERS

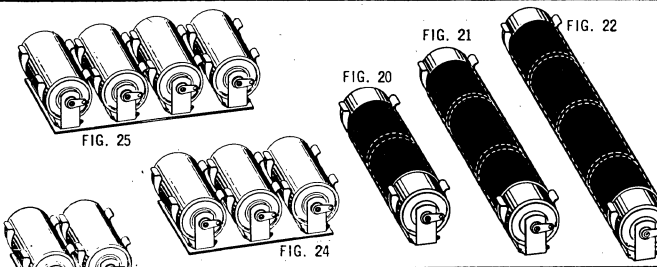
An important advance in design that has gained wide acceptance for military and commercial usage. Battery when installed is held under spring tension at a constant pressure assuring low resistance contact will hold up to 4 cells in series in sturdy insulating tube. Retainer clips available to lock battery securely. This prevents shifting or loosening of battery in holder. Recommended for use where shock or severe vibration is encountered.



- CORROSION RESISTANT NICKEL PLATED
- STAINLESS STEEL CONTACTS
- MOISTURE PROOF INSULATING WASHERS
- IDEAL FOR NI-CAD AND ALKALINE CELLS

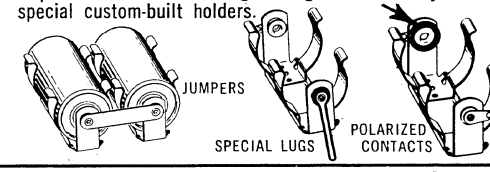
SPECIFICATIONS

Made of SAE 1065 Carbon Steel to MIL Spec. 17919, heat treated to spring temper and nickel plated .0002 thick. Contact assembly consists of a stainless steel eyelet, moisture proof vulcoid washers and a coated copper solder lug. Ribbed carbon steel base for added support is nickel plated and has 2 mounting holes for ease in mounting.

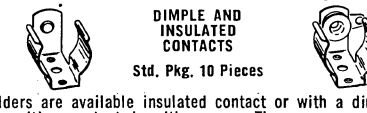


MODIFICATIONS AVAILABLE

Variety of stock parts permits fast delivery on special requirements. Use our engineering service for your special custom-built holders.



SPACE SAVER BATTERY CLIPS



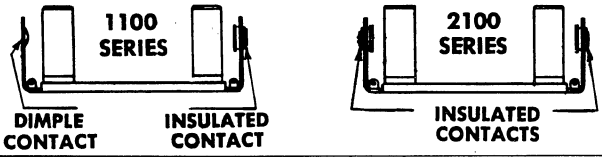
DIMPLE AND INSULATED CONTACTS

Std. Pkg. 10 Pieces

These holders are available insulated contact or with a dimple contact. Provides positive contact in either case. They are compact and economical. The "AA", "C", "D", Mercury and Ni-Cad batteries are accommodated. Made of SAE 1065 steel heat treated to spring temper and nickel plated. Insulated type has steel nickel plated eyelet and resin impregnated vulcanized fibre insulation. Snap-on washer for polarization will be supplied upon request.

Cat. No.	Battery Types	Min. to max. Diameter	Net Each 5-19	Net Each 20-99
92*	AA	.531- .660	.05	.04
99*	AA	.531- .660	.05	.04
100†	AA	.531- .660	.08	.07
86*	C	.875-1.125	.08	.08
87†	C	.875-1.125	.12	.11
88†	D	1.187-1.375	.13	.12
89*	D	1.187-1.375	.10	.09

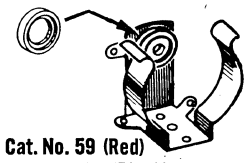
*Non-Insulated †Insulated



One Insulated Contact	Net Each 5-19	Net Each 20-99	All Contacts Insulated	Net Each 5-19	Net Each 20-99	Fig. No.	Holds No. of Cells	All Batteries in the Group are of Similar Size and Fit Holders Listed Burgess	Eveready	RCA
PENCELL HOLDERS										
Cat. No.			Cat. No.							
1139	.25	.23	2139	.30	.26	19	1	Z, HG9	E9, E12	VS034A
	—	—	2140*	.45	.43	23	2	CD6, 9R	E91, E133	VS144
	—	—	2171*	.70	.68	24	3	HG12R	E502, N46	VS149
	—	—	2182*	.80	.75	25	4	H133	515, 915	VS313A
1189	.40	.38	2189	.40	.38	20	2	HG502R	1015	VS334
1191	.45	.41	2191	.45	.40	21	3	920		
1194	.50	.48	2194	.55	.51	22	4	930		
"C" CELL HOLDERS										
1173	.35	.30	2173	.35	.33	19	1	1		VS035A
	—	—	2174*	.60	.59	23	2	P6	E233	VS300
	—	—	2187*	.80	.75	24	3	120	635	VS335
	—	—	2188*	1.05	.95	25	4	130	935	VS400
1185	.50	.45	2185	.50	.49	20	2	H233		
1195	.50	.48	2195	.55	.51	21	3	302599		
1198	.55	.51	2198	.60	.57	22	4			
"D" CELL HOLDERS										
1175	.35	.30	2175	.35	.33	19	1	2	E42	VS036
	—	—	2176*	.60	.59	23	2	2R	N56	VS036A
	—	—	2190*	.85	.80	24	3	CD7	E95	VS336
	—	—	2192*	1.05	.95	25	4	210	D99	
1186	.48	.44	2186	.50	.49	20	2	230	A100	
1199	.55	.51	2199	.60	.56	21	3		950	
1162	.60	.54	2162	.65	.62	22	4		1050	
1179	.35	.30	2179	.35	.34	19	1		E94	

*Clips mounted on phenolic 1/16" thick Mil Spec 3115B

INSULATED POLARIZING WASHERS

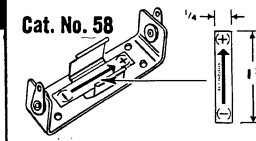


Cat. No. 59 (Red)
Cat. No. 60 (Black)

Molded Insulated Polarizing Washers. The washers hold securely when snapped over the eyelets used on our standardized battery holders.

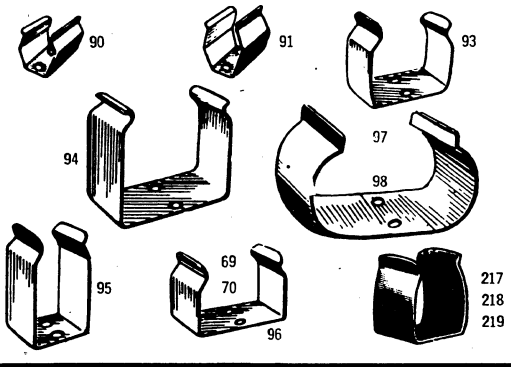
POLARITY LABELS

Cat. No. 58



- PRESSURE SENSITIVE
- WILL ADHERE TO ANY SURFACE
- NO GLUE OR DAMPING REQUIRED
- ECONOMICAL

Wherever circuit polarity is to to be shown labels colored Blue and Red.



BATTERY AND COMPONENT HOLDERS

Cat. No.	Battery Types	Min. to Max. Diameters	NET EACH 5-19	NET EACH 20-99	Cat. No.	Battery Types	Min. to Max. Diameters	NET EACH 5-19	NET EACH 20-99
69	2U6 or (2) AA	5/8 x 1 1/8	.07	.06	96	(1) K 20	5/8 x 1 13/64	.08	.07
70	(2) RM 12	5/8 x 1 5/16	.09	.08	97	(2) "C"	(2) 1 1/64 Dia.	.09	.08
90	#7	3/8 to 2 9/64	.06	.04	98	(2) D	(2) 1 21/64 Dia.	.11	.10
91	(1) AA	17/32 to 21/32	.07	.05	217	1 3/8 Dia.	1 3/8 Dia.	.18	.14
93	(1) C	7/8 to 1 1/8	.07	.06	218	1 1/2 Dia.	1 1/2 Dia.	.20	.15
94	(1) D	1 3/16 to 1 3/8	.08	.07	219	2" Dia.	2" Dia.	.22	.16
95	(1) U-15	5/8 x 1 1/32	.07	.06					

Clips are made of Aluminum except Nos. 69, 217, 218, 219 are made of Steel.

KEYSTONE ELECTRONICS CORP.

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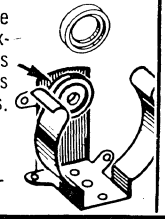
KEYSTONE BATTERY HOLDERS

Cat. No.	NET EACH 5-19	NET EACH 20-99	Holds No. of Cells	Fig. No.	ALL BATTERIES LISTED WITHIN BOXES ARE IN THE SAME SIZE GROUP BATTERY CROSS REFERENCE Burgess	Eveready	RCA
MINIATURE CELL HOLDERS							
137	.23	.21	1	1	7	912	VS074
138	.38	.34	2	2			
169	.49	.44	3	3			
170	.64	.57	4	4			
PENCELL HOLDERS							
139	.23	.21	1	1	CD6	E9, E12	VS034A
140	.38	.34	2	2	9R, Z	E91	VS144
171	.49	.44	3	3	HC9	E133	VS149
182	.64	.57	4	4	HG12R	333	VS313A
189	.45	.36	2	5	H133	E502	VS334
191	.49	.44	3	6	HC502R	515	
192	.64	.54	4	7	920	915, 1015	
193	.93	.81	6	8	930	N46	
"C" CELL HOLDERS							
173	.30	.26	1	1	1	226	VS035A
174	.38	.34	2	2	P6	E233	VS300
187	.45	.36	3	3	120	635	VS335
185	.45	.36	2	5	130	935	VS400
195	.49	.44	3	6	H233		
196	.64	.54	4	7	302599		
197	.93	.81	6	8			
"D" CELL HOLDERS							
175	.30	.26	1	1	2	E42	VS036A
176	.38	.34	2	2	2R	N56	VS036
190	.49	.44	3	3	CD7	E95	VS336
186	.46	.37	2	5	210	D99	
199	.50	.45	3	6	230	A100	
200	.65	.55	4	7		950	
201	.95	.85	6	8		1050	
205	.95	.85	6	12			
1½ VOLT CELL HOLDERS							
154	.21	.20	1	1	N	E340	VS073
155	.35	.32	2	2		E400	
156	.49	.44	3	3		E401	
160	.49	.44	1	1	21R	964	VS236
179	.30	.26	1	1		E94	
4½ VOLT CELL HOLDERS							
139	.23	.21	1	1		333	VS1149
9 VOLT CELL HOLDERS							
139A	.26	.24	1	1		206	VS327
203P	.44	.30	1	14	2U6	216	VS323
173P	.30	.29	1	1	P6M	226	VS300A
15 VOLT CELL HOLDERS							
163	.30	.26	1	11	K10	417	
161	.30	.26	1	11	U10	411	VS083
166	.30	.26	1	9			
167	.38	.34	2	10			
225	.21	.20	1	1	Y10	504	
226	.35	.32	2	2			
22½ VOLT CELL HOLDERS							
164	.30	.26	1	11	K15		
168	.30	.26	1	11		420	
177	.30	.26	1	9	U15	412	VS084
178	.38	.34	2	10			
139A	.26	.24	1	1	Y15	505	
140A	.41	.37	2	2			
171A	.52	.47	3	3			
182A	.67	.60	4	4			
30 VOLT CELL HOLDERS							
157	.30	.26	1	14	Y20	506	
165	.30	.26	1	11	K20	430	
183	.30	.26	1	9	U20	413	VS085
184	.38	.34	2	10			
134	.38	.34	1	1	Y20S	507	

INSULATED POLARIZING WASHERS

Insulated Polarizing Washers eliminate the danger of damage and short circuit to expensive transistor equipment. The washers hold securely when snapped over the eyelets used on our standardized battery holders.

Material: Precision molded of plastic.



Cat. No.	NET COST EACH 5-19	20-99
59	.04	.03

A standard line of battery holders available for immediate shipment from stock. Low cost, lightweight and sturdily constructed of quality materials. Good electrical contact, low leakage current and snap-fit clips are the outstanding features.

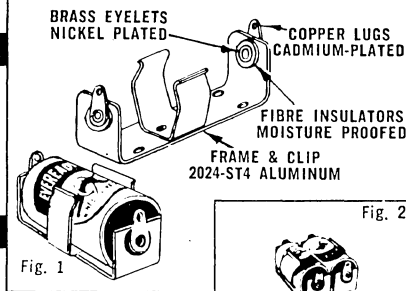


Fig. 1

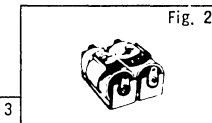


Fig. 2

Fig. 3

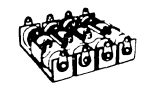


Fig. 4

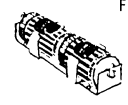


Fig. 5

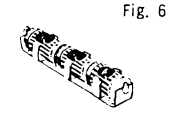


Fig. 6

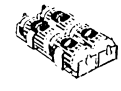


Fig. 7

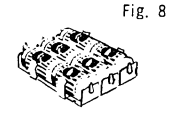


Fig. 8

Fig. 9

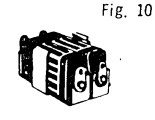


Fig. 10

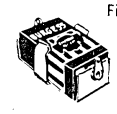


Fig. 11

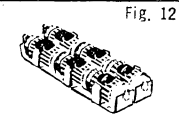


Fig. 12

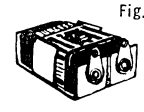


Fig. 14

RETAINER CLIPS

These retainers prevent the battery from shifting or loosening in the holder. Made of high carbon steel, heat treated to spring temper and nickel plated.

Cat. No. 61—Retainer for "A" or Mercury cells with diameters of 1/32" to 9/16" when used with Keystone #91, 92, 99 or 100 clips also clip #95 for rectangular battery.

Cat. No. 62—Retainer for C cells or other batteries with maximum diameter of 1 1/32" when used with Keystone #93, 86 or 87 clips.

Cat. No. 63—Retainer for D cells or other batteries with maximum diameter of 1 1/32" when used with Keystone #94, 88 or 89 clips.

Cat. No. 66—Retainer for mercury cells with .650 dia. when used with our #91 clips.

Any above, Net Each (5-19) .05; (20-99) .04

MERCURY BATTERY HOLDERS

FIG. 13

FIG. 15

FIG. 16

FIG 17

FIG 18

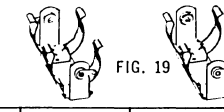


FIG. 19

Mallory Mercury Battery Listing	Aluminum and Phenolic Base Holders Cat. No.	Fig. No.	All Steel Holders One Insulated Contact Cat. No.	Fig. No.	All Steel Holders All Contacts Insulated Cat. No.	Fig. No.
RM1R	101*	13	1101	15	2101	16
RM3R	103*	13	1103	15	2103	16
RM4R	104*	13	1104	15	2104	16
ZM9	139	1	1139	19	2139	19
RM12R	139	1	1139	19	2139	19
RM42	175	1	1175	19	2175	19
TR113			1113	15	2113	16
TR114			1114	15	2114	16
TR115	132	1	1132	15	2132	16
TR132	132	1	1132	15	2132	16
TR133	139	1	1139	19	2139	19
TR134	134	1	1134	19	2134	19
TR135	135	5	1135	19	2135	19
TR136	189	5	1189	19	2189	19
TR137			1125	19	2125	19
TR145			1145	15	2145	16
TR152	124**	1				
TR153	106**	1				
TR162			1113	15	2113	16
TR163	132	1	1132	15	2132	16
TR164	109	1	1109	19	2109	19
TR165	110	1	1110	19	2110	19
TR169	189	5	1189	19	2189	19
TR175	124**	1				
TR177			1142	19	2142	19
TR233	173	1	1173	19	2173	19
TR234			1144	19	2144	19
RM400	111*	18				
RM401	124**	1				
RM411	166**	9				
RM412	177**	9				
RM413	183**	9				
RM450	112*	17				
RM502	139	1	1139	19	2139	19
RM601			1116	15	2116	16
RM625	117*	17				
RM630	126*	18				
RM640	118*	13				
RM675	127*	18				
302351	119	1	1119	19	2119	19
302478	120	5	1120	19	2120	19
302642	121	1	1121	19	2121	19
302435	122**	1				
302437	139	1	1139	19	2139	19
302599	173	1	1173	19	2173	19

*Bakelite Base Holders
**Available Only in Aluminum

NET EACH PRICE LIST
MERCURY BATTERY HOLDERS

No.	5-19	20-99	No.	5-19	20-99	No.	5-19	20-99
101	.35	.31	175	.30	.26	1175	.35	.30
103	.37	.33	177	.30	.26	1189	.40	.38
104	.38	.34	183	.30	.26	2101	.35	.34
106	.30	.26	189	.45	.36	2103	.35	.34
109	.30	.26	1101	.35	.30	2104	.35	.34
110	.38	.34	1103	.35	.30	2109	.35	.34
111	.35	.31	1104	.35	.30	2110	.35	.34
112	.35	.31	1109	.35	.30	2113	.35	.34
117	.35	.31	1110	.35	.30	2114	.35	.34
118	.35	.31	1113	.35	.30	2116	.35	.34
119	.38	.34	1114	.35	.30	2119	.35	.34
120	.38	.34	1116	.35	.30	2120	.45	.41
121	.38	.34	1119	.35	.30	2121	.45	.41
122	.38	.34	1120	.40	.38	2125	.35	.34
124	.23	.21	1121	.40	.38	2132	.35	.34
126	.35	.31	1125	.35	.30	2134	.35	.34
127	.35	.31	1132	.35	.30	2135	.40	.37
132	.30	.26	1134	.35	.30	2139	.30	.26
134	.38	.34	1135	.35	.30	2142	.30	.26
135	.38	.34	1139	.25	.23	2144	.30	.26
139	.23	.21	1142	.25	.23	2145	.35	.34
166	.30	.26	1144	.25	.23	2173	.35	.33
173	.30	.26	1145	.35	.30	2175	.35	.33
			1173	.35	.30	2189	.40	.38

KEYSTONE ELECTRONICS CORP.

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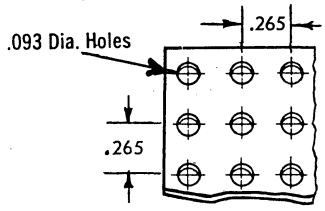
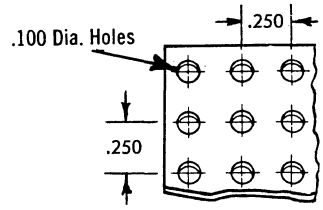
PRE-PUNCHED TERMINAL BOARDS

KEYBOARDS

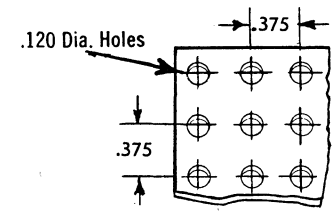
- COMPLETE RANGE OF SIZES AND SUITABLE HARDWARE
- "DO IT YOURSELF" STAKING TOOLS
- COPPER CLAD FOR PRINTED CIRCUITS
- UNCLAD TYPE FOR WIRED CIRCUITS
- STANDARD AND CUSTOM-MADE



"A" PATTERN .093 DIA. HOLES



"E" PATTERN .100 DIA. HOLES



"H" PATTERN .120 DIA. HOLES

"A" PATTERN .093 DIA. HOLES .265 x .265 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural	Glass Epoxy	Paper Base Epoxy
	1/16" THICK			
		Cat. No.	Cat. No.	Cat. No.
.82 x 8.50	3 x 32	1731	1790	1796EP
1.88 x 8.50	7 x 32	1737	1791	1797EP
2.44 x 8.50	9 x 32	1738	1788	1798EP
3.25 x 8.50	13 x 32	1785	1789	1801EP
3.25 x 17.00	13 x 64	1786	1787	1802EP
4.88 x 4.88	18 x 18	1806	1807	1803EP
4.88 x 8.50	18 x 32	1784	1792	1804EP
4.88 x 17.00	18 x 64	1739	1793	1805EP
8.50 x 8.50	32 x 32	1732	1794	1808EP
8.50 x 17.00	32 x 64	1733	1795	1809EP
	3/32" THICK			
1.38 x 1.88	5 x 7	1758	—	1758EP
1.38 x 4.00	5 x 15	1760	—	1760EP
1.38 x 8.50	5 x 32	1749	—	1749EP
1.88 x 2.94	7 x 11	1759	—	1759EP
1.88 x 8.50	7 x 32	1740	—	1740EP
2.44 x 8.50	9 x 32	1741	—	1741EP
3.25 x 8.50	13 x 32	1814	—	1814EP
3.25 x 17.00	13 x 64	1816	—	1816EP
4.88 x 8.50	18 x 32	1756	—	1756EP
4.88 x 17.00	18 x 64	1742	—	1742EP
8.50 x 8.50	32 x 32	1817	—	1817EP
8.50 x 17.00	32 x 64	1757	—	1757EP

"E" PATTERN .100 DIA. HOLES .250 x .250 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural
	1/16" THICK	
		Cat. No.
2.13 x 4.00	8 x 16	1750
2.13 x 8.50	8 x 34	1765
3.63 x 8.50	14 x 34	1766
8.50 x 8.50	34 x 34	1767
8.50 x 17.00	34 x 68	1768
	3/32" THICK	
2.13 x 8.50	8 x 34	1770
8.50 x 8.50	34 x 34	1771
8.50 x 17.00	34 x 68	1772

"H" PATTERN .120 DIA. HOLES .375 x .375 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural	Paper Base Epoxy
	1/16" THICK		
		Cat. No.	Cat. No.
1.88 x 8.25	5 x 22	1743	—
2.25 x 8.25	6 x 22	1744	—
4.13 x 8.25	11 x 22	1782	—
4.13 x 16.50	11 x 44	1745	—
	3/32" THICK		
1.88 x 8.25	5 x 22	1746	1746EP
2.25 x 8.25	6 x 22	1747	1747EP
4.13 x 8.25	11 x 22	1783	1783EP
4.13 x 16.50	11 x 44	1748	1748EP
6.00 x 8.25	16 x 22	1941	1941EP
6.00 x 16.50	16 x 44	1942	1942EP
8.25 x 8.25	22 x 22	1943	1943EP
8.25 x 16.50	22 x 44	1939	1939EP

TERMINALS AND EYELETS For Boards with .093-.100 dia. Holes

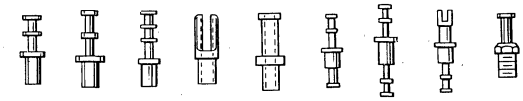
TERMINALS

Brass (Mil Spec QQ626) and Silver Plated.

NOTE: When ordering Turret Terminals **BE SURE TO SPECIFY Cat. No. of Terminal** and add **—2 for 1/16" thick Board** and **—3 for 3/32" thick Board**

I.E. **1598-2** for 1/16" thick Board and **1598-3** for 3/32" thick Board

ALL TERMINAL DRAWINGS ARE ACTUAL SIZE.

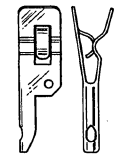


1502 1514 1598 1511 1540 1530 1512 1634 1595

PUSH-IN TERMINAL

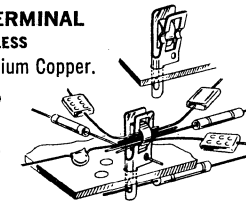
SOLDERLESS

Made of Beryllium Copper.



Cat. No. 1498-CP (cadmium plate)

Cat. No. 1498-SP (silver plate)



PRECISION MADE EYELETS

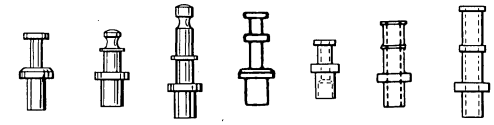
Made of Brass and Hot Tinned for easy solderability

Specify **Cat. No. 33** for 1/16" thick Board
Cat. No. 34 for 3/32" thick Board

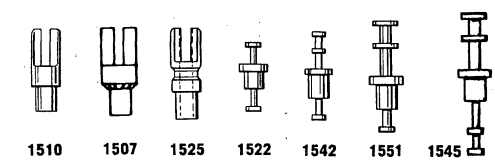
TERMINALS AND EYELETS For Boards with .120 dia. Holes

TERMINALS

ALL TERMINAL DRAWINGS ARE ACTUAL SIZE.



1532 1504 1505 1503 1553 1509 1541



1510 1507 1525 1522 1542 1551 1545

PRECISION MADE EYELETS

Specify **Cat. No. 43** eyelet for 1/16" thick Board
Cat. No. 44 eyelet for 3/32" thick Board

KEYSTONE ELECTRONICS CORP.

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KEYBOARDS

PRE-PUNCHED TERMINAL BOARDS

KEYSTONE ELECTRONICS CORP. DESIGNERS & MANUFACTURERS

THE PRACTICAL APPROACH TO SIMPLE OR COMPLEX CIRCUITRY

LOW COST — IMMEDIATE DELIVERY — CHOICE OF SIX POPULAR PATTERNS AND MATERIALS

STANDARDIZED KEYBOARDS: Permits time saving, low cost, assembly of components. Used extensively in development of prototype breadboarding, test design or production runs. A large selection of sizes and materials offers the designer the flexibility and convenience needed to create special circuitry on short notice.

ELECTRONIC HARDWARE: A large selection of turret, push-in and stamped terminals, brackets, eyelets, etc. available from stock.

STAKING TOOLS: Inexpensive tooling supplied for staking eyelets, bushings, turret terminals, etc. You can do an entire assembly at your bench with ease, using our impact tool. Other tools for arbor, kickpress, drill press. See Staking Tool page

SPECIAL SERVICES: We will install eyelets or terminals to suit your application. We invite inquiries for special sizes or additional holes drilled. Prompt quotations rendered at no cost to you.

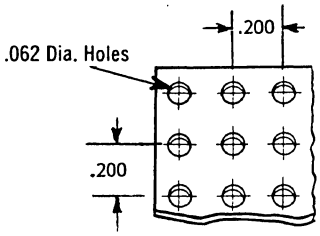
MATERIAL SPECIFICATIONS & TOLERANCES

XXXP Type PBE (Paper Base Elect.) Mil-P-3115C Temp. 250° F Max.
XXXPC Type PP Copper Clad Mil-P-13949 Temp. 250° F Max.
PAPER BASE EPOXY Mil-P-22324 (Type PEE) Temp. 250° F Max.
GLASS EPOXY UNCLAD Mil-P-18177 G-10 (GEE) Temp. 300° F. Max.
GLASS EPOXY Copper Clad Mil-P-13949B (GE) Temp. 300° F Max.

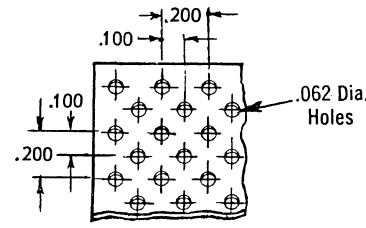
TOLERANCE: Length and width overall dimension after fabrication Plus or Minus .015.

HOLE SIZE: Plus or Minus .003.

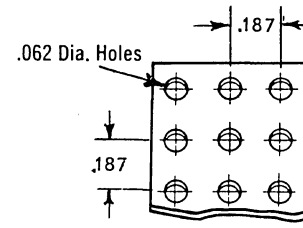
Thickness of standard sheet varies Plus or Minus .008 for 1/16 or .010 for 3/32" thick.



"F" PATTERN .062 DIA. HOLES



"G" PATTERN .062 DIA. HOLES



"B" PATTERN .062 DIA. HOLES

"F" PATTERN .062 DIA. HOLES .200 x .200 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural	Glass Epoxy	Paper Base Epoxy	Glass Epoxy Cop. Clad (1 Side)	Glass Epoxy Cop. Clad (2 Sides)	XXXP Cop. Clad (1 Side)	XXXP Cop. Clad (2 Sides)
		1/16" THICK						
		Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
1.25 x 8.50	8 x 42	1730	1844	1730EP	1846	1847	1848	1853
3.00 x 4.50	14 x 20	1835	1845	1835EP	1836	1837	1838	1839
3.63 x 8.50	18 x 42	1773	1854	1773EP	1855	1856	1857	1858
3.63 x 17.00	18 x 85	1775	1859	1775EP	1864	1865	1866	1867
4.50 x 6.50	22 x 30	1868	1870	1868EP	1876	1877	1878	1879
4.50 x 8.50	22 x 42	1869	1871	1869EP	1881	1886	1887	1888
4.88 x 8.50	24 x 42	1774	1872	1774EP	1882	1889	1894	1899
4.88 x 17.00	24 x 85	1776	1873	1776EP	1883	1891	1895	1902
8.50 x 8.50	42 x 42	1777	1874	1777EP	1884	1892	1896	1903
8.50 x 17.00	42 x 85	1778	1875	1778EP	1885	1893	1897	1904

"G" PATTERN .062 DIA. HOLES .100 GRID ALTERNATES

Size Width & Length	No. of Holes W & L	XXXP Natural	Glass Epoxy	Paper Base Epoxy	Glass Epoxy Copper Clad (1 Side)	Glass Epoxy Copper Clad (2 Sides)
		1/16" THICK				
		Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
1.75 x 4.00	(8 x 19) x 2	1752	1909	1752EP	1919	1920
2.25 x 8.50	(11 x 42) x 2	1754	1910	1754EP	1921	1922
3.50 x 4.00	(17 x 19) x 2	1753	1911	1753EP	1923	1924
3.50 x 8.50	(17 x 42) x 2	1905	1912	1905EP	1925	1926
3.50 x 17.00	(17 x 85) x 2	1906	1913	1906EP	1927	1928
3.88 x 8.50	(19 x 42) x 2	1907	1914	1907EP	1929	1930
4.88 x 8.50	(24 x 42) x 2	1908	1915	1908EP	1931	1932
4.88 x 17.00	(24 x 85) x 2	1779	1916	1779EP	1933	1934
8.50 x 8.50	(42 x 42) x 2	1780	1917	1780EP	1935	1936
8.50 x 17.00	(42 x 85) x 2	1781	1918	1781EP	1937	1938

"B" PATTERN .062 DIA. HOLES .187 x .187 C to C

Size Width & Length	No. of Holes W & L	XXXP Natural	XXXP Copper Clad (1 Side)
	1/16" THICK		
		Cat. No.	Cat. No.
1.38 x 8.50	6 x 45	1761	1818
1.88 x 8.50	8 x 45	1734	1819
2.44 x 3.38	12 x 17	1812	1813
2.84 x 8.50	15 x 45	1735	1820
3.66 x 6.75	19 x 35	1824	1825
5.69 x 8.50	30 x 45	1762	1834
5.69 x 17.00	30 x 90	1736	1831
6.75 x 7.31	19 x 35	1826	1827
7.31 x 10.50	38 x 56	1828	1829
7.31 x 18.00	38 x 95	1832	1830
8.50 x 17.00	45 x 90	1763	1833

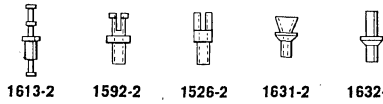
TERMINALS AND EYELETS For Boards with .062 dia. Holes

TERMINALS

Brass, (Mil Spec QQ626) and Silver Plated.

ALL TERMINAL DRAWINGS ARE ACTUAL SIZE.

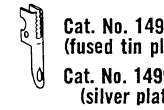
1508-2 1593-2 1584-2 1562-2 1633-2



1613-2 1592-2 1526-2 1631-2 1632-2

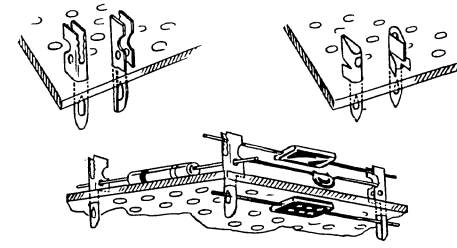
PUSH-IN TERMINALS

Made of Beryllium Copper.



Cat. No. 1499-FT (fused tin plate)
Cat. No. 1499-SP (silver plate)

Cat. No. 1500 (silver plate)



PRECISION MADE EYELETS

Made of Brass and Hot Tinned for easy solderability.

Cat. No. 23 For 1/16" thick Board

We welcome your inquiries for special boards and assemblies.

KEYSTONE ELECTRONICS CORP.

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STANDARDIZED TERMINAL BOARDS

STANDARDIZED TURRET TERMINAL BOARDS

Cut your production cost by eliminating the tooling and setup charge usually applied to nonstandardized boards. Terminals are securely riveted and hot tinned for easy soldering.

TERMINALS: Your choice of most popular types.
Made of Brass: QQ-626, comp. 22, ½ hard.
Hot Dip Solder finish: Mil-F-14072 Type 221.

Material: Your choice of either PBE or GEE Phenolic.

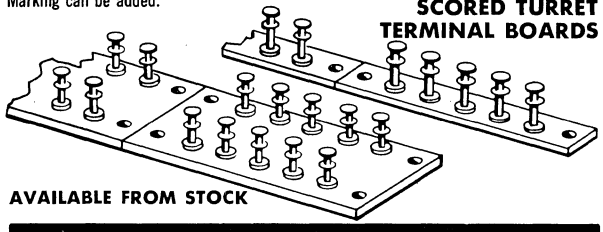
PBE: Paper base electrical, Mil-P-3115C, Temp. 250° F max. Type XXXP.

GEE: Glass Epoxy, Mil-P-18177, Temp. 300° F max. Type G-10.

Five sections **SCORED** for easy **separation** M'tg. holes in each section.

These boards **CAN BE MODIFIED** with terminals staked in all holes, scoring eliminated. Marking can be added.

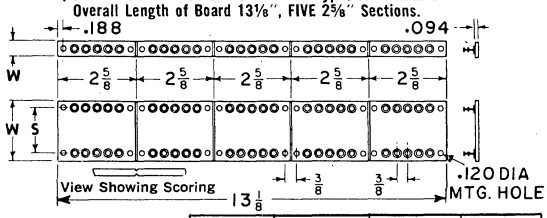
SCORED TURRET TERMINAL BOARDS



AVAILABLE FROM STOCK

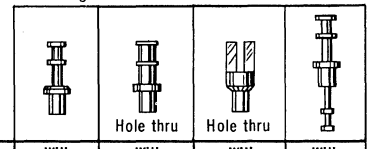
3/8" SPACING AND SCORED

3/32" THICK PHENOLIC — Choice of 4 Types of Terminals
Overall Length of Board 13⅛", FIVE 2⅝" Sections.



Five sections **SCORED** for easy operation.
M'tg. holes in each section.

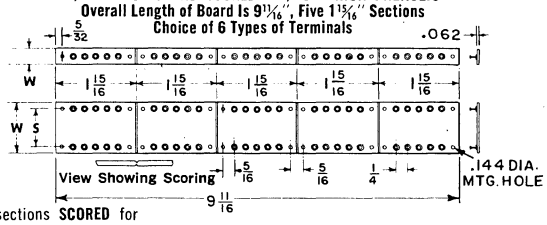
CHOICE OF TERMINALS ▶



W	S	No. of Terms.	Material	With 1503 Term. Cat. No.	With 1509 Term. Cat. No.	With 1507 Term. Cat. No.	With 1545 Term. Cat. No.
½	Single Row	25	PBE	15031	15091	15071	15041
			GEE	15231	15291	15271	15241
1½	1	50	PBE	15032	15092	15072	15042
			GEE	15232	15292	15272	15242
1½	1 3/16	50	PBE	15036	15096	15076	15046
			GEE	15236	15296	15276	15246
2	1½	50	PBE	15033	15093	15073	15043
			GEE	15233	15293	15273	15243
2½	2	50	PBE	15034	15094	15074	15044
			GEE	15234	15294	15274	15244
3	2½	50	PBE	15035	15095	15075	15045
			GEE	15235	15295	15275	15245

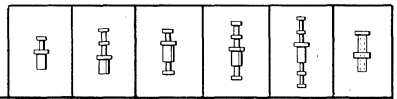
MINIATURE TURRET TERMINAL BOARDS

1/4" SPACING AND SCORED — 1/16" THICK PHENOLIC
Overall Length of Board Is 9 11/16", Five 1 15/16" Sections
Choice of 6 Types of Terminals



Five sections **SCORED** for easy operation.
M'tg. holes in each section.

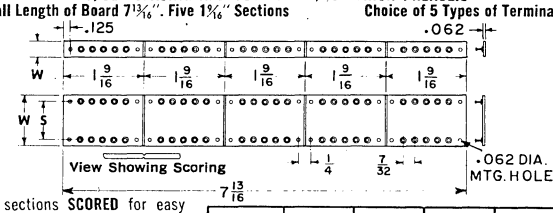
CHOICE OF TERMINALS ▶



W	S	No. of Terms.	Material	With 1572 Term. Cat. No.	With 1573 Term. Cat. No.	With 1574 Term. Cat. No.	With 1575 Term. Cat. No.	With 1583 Term. Cat. No.	With 1559 Term. Cat. No.
5/16	Single Row	25	PBE	15047	15057	15067	15077	15087	15097
			GEE	15247	15257	15267	15277	15287	15297
7/8	9/16	50	PBE	15048	15058	15068	15078	15088	15098
			GEE	15248	15258	15268	15278	15288	15298
1⅛	13/16	50	PBE	15049	15059	15069	15079	15089	15099
			GEE	15249	15259	15269	15279	15289	15299

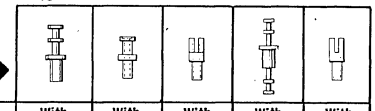
MINIATURE TURRET TERMINAL BOARDS

7/32" SPACING AND SCORED — 1/16" THICK PHENOLIC
Overall Length of Board 7 13/16". Five 1 9/16" Sections
Choice of 5 Types of Terminals



Five sections **SCORED** for easy operation.
M'tg. holes in each section

CHOICE OF TERMINALS ▶



W	S	No. of Terms.	Material	With 1502 Term. Cat. No.	With 1562 Term. Cat. No.	With 1526 Term. Cat. No.	With 1512 Term. Cat. No.	With 1533 Term Cat. No.
5/16	Single Row	25	PBE	15021	15023	15025	15063	15053
			GEE	15221	15223	15225	15263	15253
3/4	½	50	PBE	15028	15029	15026	15064	15054
			GEE	15228	15229	15226	15264	15254
1	3/4	50	PBE	15022	15024	15030	15065	15056
			GEE	15222	15224	15230	15265	15256

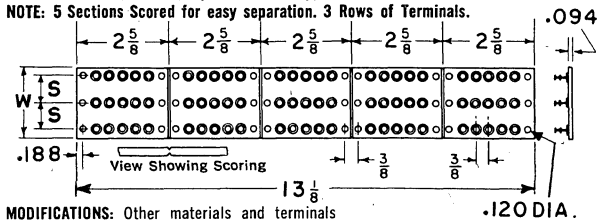
UNIVERSAL TERMINAL BOARDS

Designed for production or experimental use, these **standardized boards** are well suited for any electronic application requiring a sturdy mounting surface for resistors, condensers and components.

TERMINAL: 1503-3 HOT TIN DIP finish for easier soldering and infinite shelf life.

MATERIALS: **PBE** (Paper Base Elect. Mil-P-3115C type XXXP) or
GEE (Glass Epoxy Mil-P-18177 type G-10)

NOTE: 5 Sections Scored for easy separation. 3 Rows of Terminals.



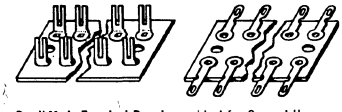
MODIFICATIONS: Other materials and terminals of your choice supplied. Marking may be added.

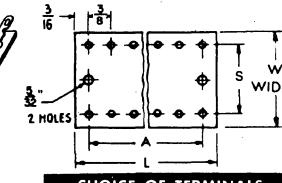
Assembled. with **TERMINAL** 1503-3

W	S	Total No. of Terms.	Material	Cat. No.
2½	1	75	PBE	15332
			GEE	15342
3½	1½	75	PBE	15333
			GEE	15343

READI-MADE TERMINAL BOARDS

• **ECONOMICAL** • **SAVE TOOLING COST**
• **DELIVERY FROM STOCK** • **RANGE OF SIZES** • **APPROVED MATERIALS**





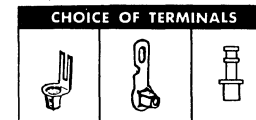
Readi-Made Terminal Boards are ideal for General Use. Excellent for mounting resistors, condensers, etc. Choice of Terminals.

MATERIAL: 1/16" thick Bakelite (Mil Spec 3115C-Pbe-P grade).

TERMINALS: 1204 and 1268 are stamped from .023 thick brass. 1539 is turned from 3/16" dia. brass rod.

PLATING: 1204 is Cadmium plated. 1268 and 1539 are Hot Tinned for easy soldering.

CHOICE OF TERMINALS



W	L	S	A	Terminals Each Side	With 1268 Term. Cat. No.	With 1204 Term. Cat. No.	With 1539 Term. Cat. No.
1	1⅛	11/16	1½	5	1268-10	1204-10	1239-10
1	2¼	11/16	1⅛	6	1268-12	1204-12	1239-12
1	5¼	11/16	4⅜	14	1268-28	1204-28	1239-28
1¾	3¾	1⅛	3⅜	10	1268-20	1204-20	1239-20
1¾	4⅛	1⅛	3¾	11	1268-22	1204-22	1239-22
1¾	7⅛	1⅛	6¾	19	1268-38	1204-38	1239-38
½	7⅛	Single Row	6¾	19	1268-19	1204-19	1239-19

KEYSTONE ELECTRONICS CORP.

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STANDARDIZED TERMINAL BOARDS AND BRACKETS

STANDARDIZED TURRET TERMINAL BOARDS

1503
ACTUAL SIZE

- SAVE TOOLING
- COMPLETE RANGE OF SIZES
- ECONOMICAL
- DELIVERY FROM STOCK

READI-MADE TERMINAL BOARDS are low cost and meet commercial and military specifications. They are produced in large quantities, making it possible to eliminate tooling and setup charges usually applied to non-standardized boards.

TERMINALS: Made of BRASS, QQ-B-626, COMP. 22, ½ HARD. Terminals are staked in all holes except end mounting holes.

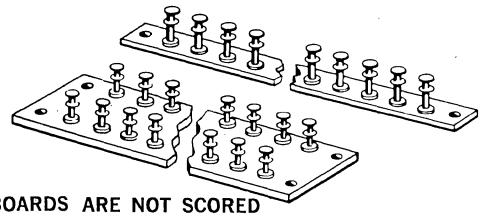
PLATING: HOT DIP SOLDER finish, MIL-F-14072. Recommended for longer shelf life and better solderability. Other platings can be furnished.

MATERIAL: Your choice of either PBE or GEE phenolic.

PBE: Paper base electrical, MIL-P-3115C, Type XXXP natural, Temp. 250 deg. F max.

GEE: Glass epoxy, MIL-P-18177, Type G-10, Temp. 300 deg. F max.

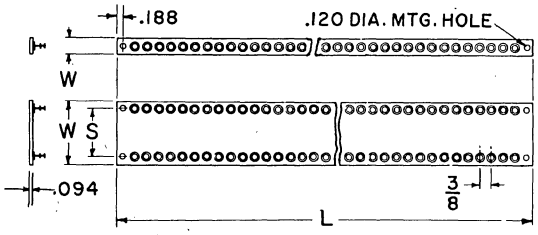
MODIFICATIONS: Other materials and terminals of your choice supplied. Marking may be added.



BOARDS ARE NOT SCORED

TERMINAL: 1503-3 HTD* used on these boards. Height above board 23/64" (MIL-T-55155 — SE12-X-C-08 style SE12-8).

MATERIAL: Choice of **PBE** or **GEE 3/32" thick.**

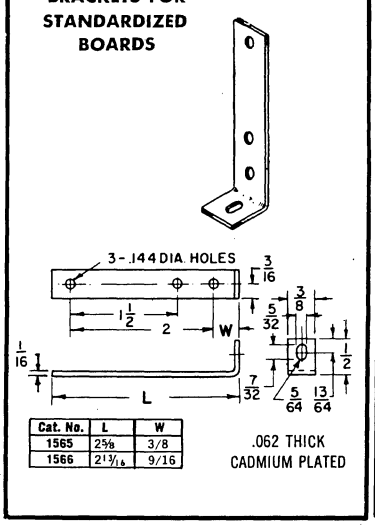


3/8" SPACING

Terminals are staked in all holes except end mounting holes.

W	S	L	No. of Terms. Each Side	Material PBE Cat. No.	Material GEE Cat. No.
½	Single Row	2⅝	5	15101	15301
		5¼	12	15102	15302
		7⅞	19	15103	15303
		10½	26	15104	15304
		13⅛	33	15105	15305
13/16	¾	2⅝	5	15106	15306
		5¼	12	15107	15307
		7⅞	19	15108	15308
		10½	26	15109	15309
		13⅛	33	15110	15310
1½	1	2⅝	5	15111	15311
		5¼	12	15112	15312
		7⅞	19	15113	15313
		10½	26	15114	15314
		13⅛	33	15115	15315
2	1½	2⅝	5	15116	15316
		5¼	12	15117	15317
		7⅞	19	15118	15318
		10½	26	15119	15319
		13⅛	33	15120	15320
2½	2	2⅝	5	15121	15321
		5¼	12	15122	15322
		7⅞	19	15123	15323
		10½	26	15124	15324
		13⅛	33	15125	15325
3	2½	2⅝	5	15126	15326
		5¼	12	15127	15327
		7⅞	19	15128	15328
		10½	26	15129	15329
		13⅛	33	15130	15330

BRACKETS FOR STANDARDIZED BOARDS



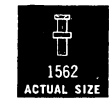
Cat. No.	L	W
1565	2⅝	3/8
1566	2 1/16	9/16

.062 THICK CADMIUM PLATED

MINIATURE TURRET TERMINAL BOARDS

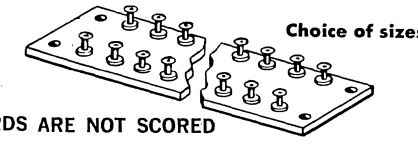
7/32" SPACING

These **GENERAL USE TERMINAL BOARDS** are made of certified materials to **JAN** and **MIL** specs. can be supplied in other grades of materials and with terminals of your choice; also marking when requested.


1562
ACTUAL SIZE

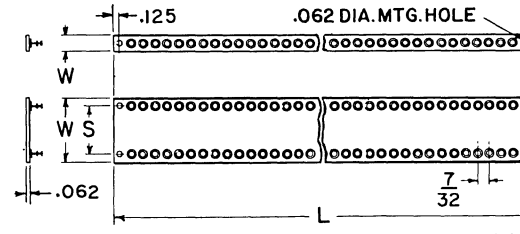
TERMINAL: Made of BRASS, QQ-B-626, COMP. 22, ½ Hard. HOT DIP SOLDER finish MIL-F-14072. Mounting holes in board at each end.

The **1562** terminal is often specified for support and connection of transistors, resistors and small component parts. There is a .043 dia. hole thru the terminal and it stands 5/32" above the board.



BOARDS ARE NOT SCORED

MATERIAL: Choice of **PBE** or **GEE 1/16" thick.**

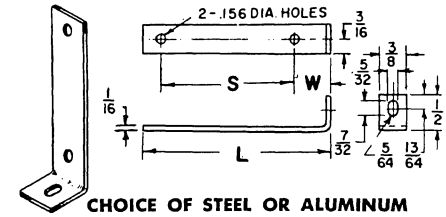


Terminals are staked in all holes except end mounting holes.

W	S	L	No. of Terms. Each Side	Material PBE Cat. No.	Material GEE Cat. No.
5/16	Single Row	1 1/16	5	15401	15501
		3 3/32	12	15402	15502
		4⅝	19	15403	15503
		6 5/32	26	15404	15504
		7 11/16	33	15405	15505
3/4	1/2	1 1/16	5	15406	15506
		3 3/32	12	15407	15507
		4⅝	19	15408	15508
		6 5/32	26	15409	15509
		7 11/16	33	15410	15510
1	3/4	1 1/16	5	15411	15511
		3 3/32	12	15412	15512
		4⅝	19	15413	15513
		6 5/32	26	15414	15514
		7 11/16	33	15415	15515

BRACKETS FOR STANDARDIZED BOARDS

Originally designed for our line of standardized terminal boards; these brackets will find many uses for a variety of applications. Available in both steel with cad. plate finish or aluminum.



CHOICE OF STEEL OR ALUMINUM

.062 thick Steel — Per Mil Spec. QQ-S 633 B Grade FS-1010 cadmium plated per QQ P-416 A Type II, Class B.
.062 thick Aluminum — Per QQ-A-318.

Cat. No. Steel	Cat. No. Alum.	W	L	S	FOR BOARDS Cat. Nos.		
1556	622	3/8	1⅜	1	15032	15072	15092
1567	623	3/8	2⅛	1½	15033	15073	15093
1568	624	3/8	2⅝	2	15034	15074	15094
1569	625	3/8	3⅛	2½	15035	15075	15095
1570	626	9/32	1 3/16	¾	15022	15024	15030
1571	627	9/32	1⅝	1 1/16	15036	15076	15096

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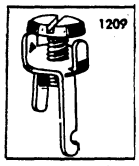
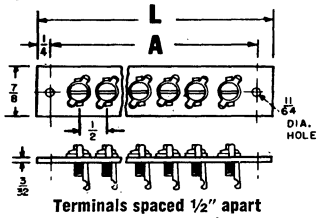
KEYSTONE TERMINAL BOARDS

BINDING POST STRIPS

YOUR CHOICE OF GLASS EPOXY OR FIBERGLASS MATERIALS

Terminal supplied on these boards is **No. 1209**





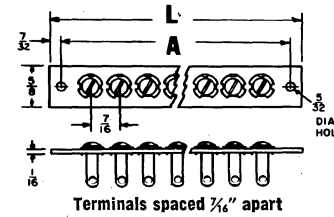
- Available from Stock
- Eliminate Costly Setup Charges

MATERIAL SPECIFICATIONS:

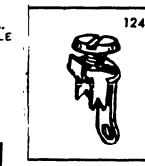
LOW COST TAN COLORED FIBERGLASS — Nema Grade GPO-1 a glass polyester rated for 300°F.

OR

GEE:
GLASS EPOXY: MIL-P-18177 temp., 300°F. MAX. Type G-10.

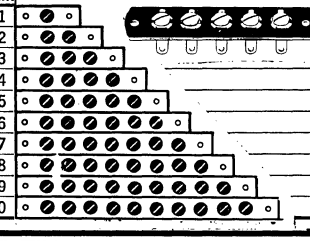


Terminal supplied on these boards is **No. 1248**



HEAVY DUTY 3/32" THICK MATERIAL 7/8" WIDE

Glass Epoxy Cat. No.	Fiberglass Cat. No.	L Length	A Mtg. C'trs	No. Term.
4147	4157	1½	1	1
4148	4158	2	1½	2
4149	4159	2½	2	3
4150	4160	3	2½	4
4151	4161	3½	3	5
4152	4162	4	3½	6
4153	4163	4½	4	7
4154	4164	5	4½	8
4155	4165	5½	5	9
4156	4166	6	5½	10



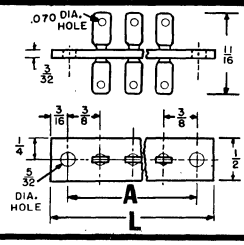
STANDARD 1/16" THICK MATERIAL 5/8" WIDE

Glass Epoxy Cat. No.	Fiberglass Cat. No.	L Length	A Mtg. C'trs	No. Term.
4177	4167	1¼	⅞	1
4178	4168	1 11/16	1 5/16	2
4179	4169	2⅛	1¾	3
4180	4170	2 5/16	2 3/16	4
4181	4171	3	2⅝	5
4182	4172	3 1/16	3 1/16	6
4183	4173	3⅞	3½	7
4184	4174	4 5/16	3 13/16	8
4185	4175	4¾	4⅜	9
4186	4176	5 5/16	4 13/16	10

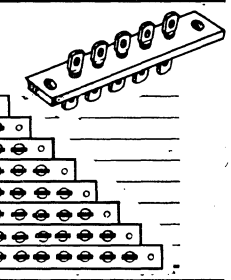
FEED-THRU TERMINAL BOARDS

- **Low Cost Feed-Thru Terminations**
- **For Light or Heavy Duty Applications**

Copper pins are forced into hole of the phenolic, then flattened and pierced. Terminals are hot tin dipped for good solderability.



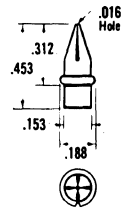
Cat. No.	No. Lugs	A Mtg. Ctr.	L Length
1220-1	1	¾	1⅛
1220-2	2	1⅛	1½
1220-3	3	1½	1⅞
1220-4	4	1⅞	2¼
1220-5	5	2¼	2⅝
1220-6	6	2⅝	3
1220-7	7	3	3⅜
1220-8	8	3⅜	3¾
1220-9	9	3¾	4⅛
1220-10	10	4⅛	4½



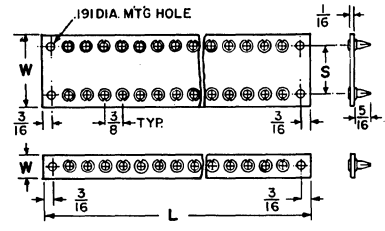
CONICAL GRIP BOARDS

W	S	L	No. of Term. Each Side	Cat. No.
½	Single Row	2⅝	5	4500
		5¼	12	4501
		7⅞	19	4502
		10½	26	4503
		13⅛	33	4504
1½	1	2⅝	5	4505
		5¼	12	4506
		7⅞	19	4507
		10½	33	4509
		13⅛	33	4509
2	1½	2⅝	5	4510
		5¼	12	4511
		7⅞	19	4512
		10½	26	4513
		13⅛	33	4514

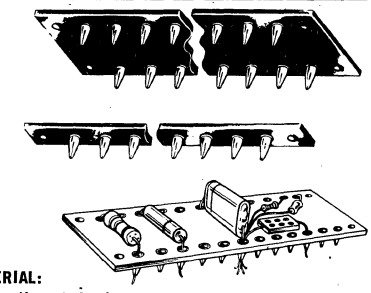
- **Spring Action Fingers Hold Leads**
- **Eliminates Time-consuming Wrapping of Wires**



CAT. NO. 1641



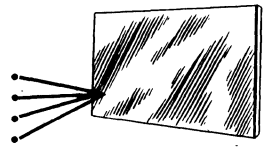
- **More Reliable**
- **Less Costly**
- **Time Saving**
- **Easily Serviced**



MATERIAL:
Brass, tinned Conical Terminals are firmly staked to 1/16" **thick fiberglass insulator** that will withstand temperatures to 300 degrees F. Wire leads are retained until ready to multiple dip solder.

STANDARD LAMINATED PHENOLIC MATERIAL

- **RANGE OF SIZES**
- **CERTIFIED MATERIAL**
- **CHOICE OF —**
  - **XXXP**
  - **GLASS EPOXY**
  - **COPPER CLAD**
  - **FIBERGLASS**



The finest grade laminated phenolic sheets we use in our production fabrication are available to you in a range of standard sizes or special sizes cut to order; and in a variety of types.

NEMA GRADE XXXP-MIL-P-3115C, paper base electrical-color natural. Most commonly used for panels and terminal boards. Excellent electrical grade and dimensional stability. Max. operating temp. continuous 250 deg. F.

NEMA GRADE G-10, MIL-P-18177B-GEE, color green **GLASS CLOTH EPOXY.** Superior chemical resistance, excellent mechanical and electrical properties. Max. operating temp. continuous 300 deg. F.

COPPER CLAD LAMINATES, XXXP MIL-P-13949 TYPE PP and **GLASS EPOXY MIL-P-13949B TYPE FL-GE,** are used mainly for printed circuitry. The copper foil serves as the conductor and the laminate provides the insulating support. 2-ounce copper foil is laminated to one or both sides of the insulator. **We catalog both types in XXXP and G-10.**

FIBERGLASS REINFORCED POLYESTER NEMA GRADE GPO-1 with a class 155C (300°F) rating. Color is Tan. Excellent mechanical and electrical properties. Fabricates similar to Phenolic and can be punched cold.

- **SPECIFIED SIZES CUT TO ORDER**

Size Width & Length	XXXP Natural	Glass Epoxy	XXXP Cop. Clad (1 Side)	XXXP Cop. Clad (2 Sides)	Glass Epoxy Cop. Clad (1 Side)	Glass Epoxy Cop. Clad (2 Sides)	Fiberglass Polyester
1/16 THICK MATERIALS							
	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
5/16 x 7 13/16	2006	2022	—	—	—	—	2304
¾ x 7 13/16	2020	2023	—	—	—	—	2305
1 x 7 13/16	2021	2024	—	—	—	—	2306
2 x 4½	1970	1978	1985	1992	1999	2013	2307
2¼ x 3	1971	1979	1986	1993	2007	2014	2308
3 x 4½	1972	1980	1987	1994	2008	2015	2309
4½ x 6½	1973	1981	1988	1995	2009	2016	2310
4½ x 8½	1974	1982	1989	1996	2010	2017	2311
8½ x 17	1975	1983	1990	1997	2011	2018	2312
9 x 12	1976	1984	1991	1998	2012	2019	2313
3/32 THICK MATERIALS							
	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
½ x 13⅛	2025	2031					2314
1 13/16 x 13⅛	2026	2032					2315
1½ x 13⅛	2027	2033	NOT SUPPLIED IN THESE TYPES				2316
2 x 13⅛	2028	2034					2317
2½ x 13⅛	2029	2035					2318
3 x 13⅛	2030	2036					2319

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STANDARDIZED PLUG-IN HOUSINGS

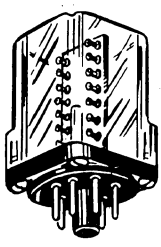
PLUG IN HOUSINGS

Enhance the appearance and give that professional look to your products using these molded housings. Ideally suited for packaging relays, logic packages, networks and miniature circuitry. Durable, lightweight covers that will withstand vibrations and rough usage. A most popular size metal cover is included in this listing of stock items.

HEADERS: Molded of G.P. black phenolic and fit standard sockets.

Pins are Brass, Nickel Plated. Guide hole tapped 8-32 for terminal board mounting stud.

- VARIETY OF MOLDED MATERIALS
- GOOD CHEMICAL RESISTANCE
- LOW WATER ABSORPTION



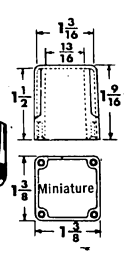


FIG. 1

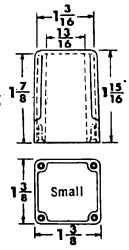


FIG. 2

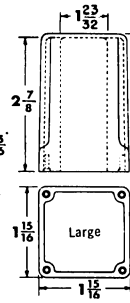


FIG. 3

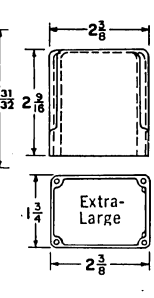


FIG. 4

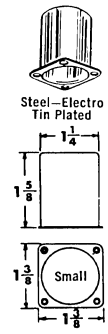


FIG. 5

MATERIAL CHARACTERISTICS:

POLYSTYRENE: For general purpose use where high impact strength is not required and temperature would not exceed 170°F.

BUTYRATE: 3 times the impact strength of Polystyrene and excellent electrical properties, use wherever temperatures of 210°F exist.

NYLON: Impact strength slightly less than Butyrate but recommended for use where temperatures are as high as 300°F.

Housing with Octal Header & 4 Screws CAT. NO.	Housing Only CAT. NO.	Fig. No.	Type	Material	Color
660	670	1	Mini	Butyrate	Clear
661	671	1	Mini	Nylon	White
662	672	1	Mini	Polystyrene	Clear
641	645	1	Mini	Polystyrene	Opaque Black
642	646	1	Mini	Polystyrene	Transp. Red
663	673	2	Small	Butyrate	Clear
664	674	2	Small	Nylon	White
665	676	2	Small	Polystyrene	Clear
643	647	2	Small	Polystyrene	Opaque Black
644	648	2	Small	Polystyrene	Transp. Red
650	649	3	Large	Butyrate	Clear
668	679	3	Large	Polystyrene	Clear
677	666	3	Large	Polystyrene	Opaque Black
678	667	3	Large	Polystyrene	Transp. Red
639	640	4	Extra-Large	Polystyrene	Clear
669	680	5	Small	Steel	Electro Tin Plate

HEADERS

HEADERS: Headers are available in two sizes and a variety of pin configurations that fit standard sockets. Molded of general purpose phenolic with brass nickel plated pins sturdily staked. Guide hole tapped 8-32 for terminal board mounting stud.

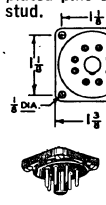


FIG. 1

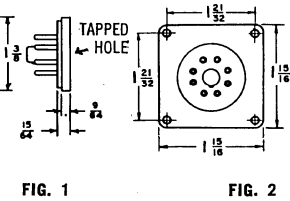


FIG. 2

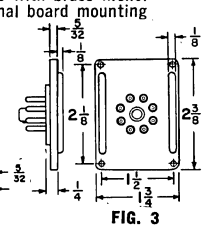


FIG. 3

1⅜ Sq. Headers for Mini & Small Housing (FIG. 1) CAT. NO.	Pin Configuration	1 15/16 Sq. Headers for Large Housing (FIG. 2) CAT. NO.	1¾ x 2⅜ Headers for Extra Large Housing (FIG. 3) CAT. NO.
681	Octal	685	690
682	Nine Pin	Not Available	Not Available
683	Eleven Pin	686	Not Available
684	Twenty Pin	687	691

SELF-TAPPING SCREWS

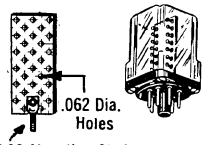
CAT. NO. 688 — For miniature & small covers #4 x ⅜"

CAT. NO. 689 — For large covers #4 x ½"

TERMINAL BOARDS

(FOR USE WITH ABOVE HOUSINGS)

THESE BOARDS ARE STOCKED IN XXXP PAPERBASE AND GLASS EPOXY MATERIAL. SPACING OF HOLES IS .100 and .200 ALTERNATES. AN 8-32 THREADED STUD IS FIRMLY EYELETTED TO THE BOARD AND IS EASILY ASSEMBLED INTO THE TAPPED HOLE OF THE HEADERS.

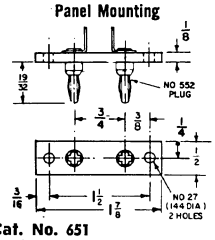


XXX PBE MIL-P-3115C Bakelite Cat. No.	Glass Epoxy G-10, GEE MIL-P-18177B Cat. No.	Size of Board with Stud	For Covers Listed Above
692	696	1 x 1 5/16	Miniature
693	697	1⅛ x 1¾	Small
694	698	1½ x 2¾	Large
695	699	1⅛ x 1 7/16	Metal Case
637	638	1 5/16 x 2⅜	Xtra Large

BANANA PLUG AND JACK STRIP

3/4" Centers — Mate with all Stack-Up Plugs

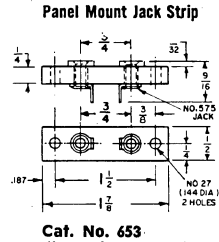
BANANA PLUG STRIP
Panel Mounting



Cat. No. 651

A much needed accessory for patchcord boards and stack-up plugs. Low resistance banana plugs are spaced on ¾" centers, staked into ⅛" thick black bakelite and solder plugs.

JACK STRIP
Panel Mount Jack Strip



Cat. No. 653

These panel mounting strips mate with any ¾" spaced stack-up plug or individual patchcords. Silver plated jacks are staked into ¼" thick black bakelite with solder lugs. Multiples can be supplied in most instances without tooling or setup charges.

BANANA PLUG IN MODULES

- Suitable for test adaptors, modules, filters, etc.
- Low resistance Beryllium Copper spring plugs
- Shielded or molded hi-impact Butyrate cover
- Mates with all standard patch board plugs

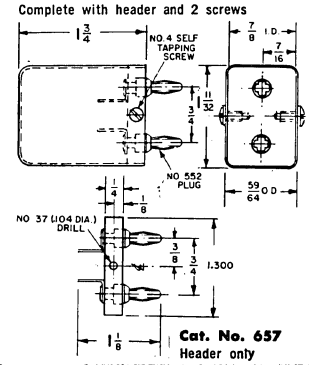
BANANA PLUG SPRINGS: One piece Beryllium Copper per QQ-C-533 and heat treated to 15N, 73-79.

PLUG BODY: Brass QQ-626 Comp. 22½ H; silver plated, MIL-P-14072 per QQ S-365.

ALUMINUM SHELL

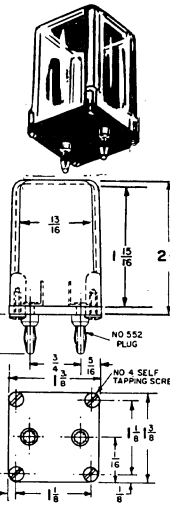
Cat. No. 659

Complete with header and 2 screws



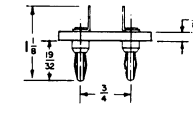
Cat. No. 657
Header only

PLASTIC HOUSING



Cat. No. 658

Complete with header and 4 screws



Cat. No. 656
Header only

KEYSTONE ELECTRONICS CORP.

KEYBOARDS, STANDOFFS & SPACERS

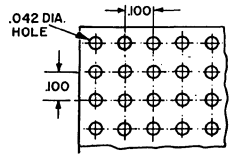
MICRO-MINIATURE KEYBOARDS

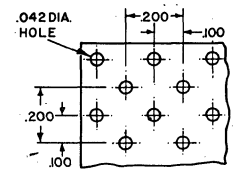
WITH .042 DIA. HOLES

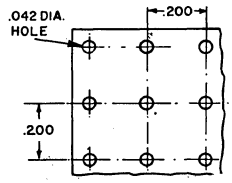
- PERMITS HIGHER COMPONENT DENSITY FOR SUBMINIATURE CIRCUITRY
- FOR MODULE STACKS
- SMALLER PLUG-IN CARDS POSSIBLE

Material:
GLASS EPOXY UNCLAD Mil-P-18177 G-10 (GEE) Temp. 300°F. Max.
GLASS EPOXY Copper Clad Mil-P-13949B (GE) Temp. 300°F. Max.

Tolerance: Length and width overall dimension after fabrication Plus or Minus .015



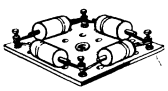




"P" PATTERN .042 HOLES .100 x .100				"M" PATTERN .042 HOLES .100 x .200				"J" PATTERN .042 HOLES .200 x .200			
Width & Length	No. Holes W & L	Glass Epoxy	Glass Epoxy Cop. Clad (1 Side)	Width & Length	No. Holes W & L	Glass Epoxy	Glass Epoxy Cop. Clad (1 Side)	Width & Length	No. Holes W & L	Glass Epoxy	Glass Epoxy Cop. Clad (1 Side)
1/32" Thick Material		Cat. No.	Cat. No.	1/32" Thick Material		Cat. No.	Cat. No.	1/32" Thick Material		Cat. No.	Cat. No.
2x4½	19x44	4225	4234	2x4½	9x22x2	4242	4250	2x4½	9x22	4258	4266
2x6	19x59	4226	4235	2x6	9x29x2	4243	4251	2x6	9x29	4259	4267
4½x6	44x59	4227	4236	4½x6	22x29x2	4244	4252	4½x6	22x29	4260	4268
6x17	59x169	4228	4237	6x17	29x84x2	4245	4253	6x17	29x84	4261	4269
3/64" Thick Material		Cat. No.	Cat. No.	3/64" Thick Material		Cat. No.	Cat. No.	3/64" Thick Material		Cat. No.	Cat. No.
2x4½	19x44	4229	4238	2x4½	9x22x2	4246	4254	2x4½	9x22	4262	4270
2x6	19x59	4230	4239	2x6	9x29x2	4247	4255	2x6	9x29	4263	4271
4½x6	44x59	4231	4240	4½x6	22x29x2	4248	4256	4½x6	22x29	4264	4272
6x17	59x169	4232	4241	6x17	29x84x2	4249	4257	6x17	29x84	4265	4273

EYELET KEYBOARDS

An essential building block that will assist the designer and engineer in planning and layout of electronic circuitry. Eyelets are tinned for each soldering. Boards can be stored indefinitely and will retain soldering characteristics.



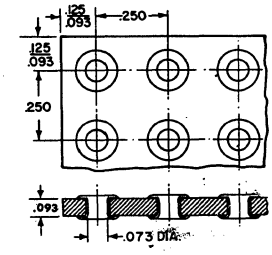
- Replaces Costly Terminal Board Assemblies
- For Lab or Production Use

Material: PBE XXXP Phenolic MIL-P-3115C.
Eyelets: Brass QQ626 Comp. 22 — ¼" Spacing in Both Directions
Finish: Tinned, Mil-P-14072, Type 221.

FOR MINIATURE CIRCUITRY

- Available from Stock
- Construct Modules—Bridge Circuits—Printed Circuit Layout

Cat. No.	No. of Holes W & L	Width	Length	No. of Eyelets
4283	5x5	1¼	1¼	25
4284	6x10	1½	2½	60
4285	10x13	2½	3¼	130
4286	13x18	3¼	4½	234
4287	14x16	3½	4	224
4288	16x24	4	6	384



Eyelets Installed in all Holes

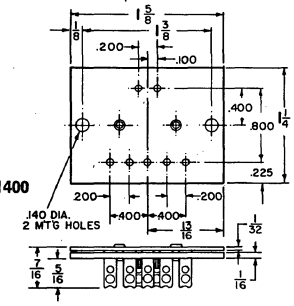
MODULE WAFER SOCKETS FOR .040 PINS

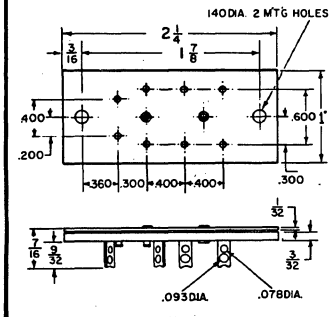
Precision drilled wafers hold contacts in perfect alignment. Insertion is easy and pins are grasped firmly.

Most Standard Encapsulated Operational Amplifiers and Module Circuits

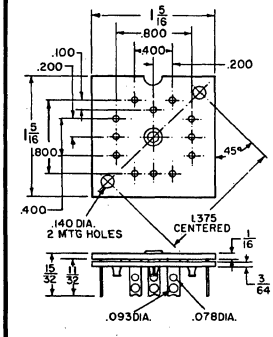
Material:
1400 and 1401 made with G-10 Glass Epoxy Bakelite
1402 is made with PBE Phenolic Natural color

Cat. No. 1400





Cat. No. 1401

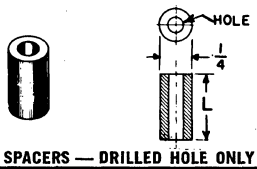


Cat. No. 1402

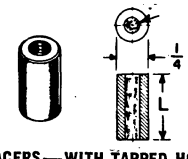
PHENOLIC SPACERS

- Good Mechanical Strength
- Resists Abrasions & Chemicals
- Excellent Dielectric
- Low Moisture Absorption

Material: PBE Grade MIL-P-79A Natural Color Phenolic — Special Sizes Made to Order — Promptly Quoted



SPACERS — DRILLED HOLE ONLY



SPACERS—WITH TAPPED HOLE

Length Inches	For #4 Screw .120 Hole Cat. No.	For #6 Screw .140 Hole Cat. No.	For #8 Screw .171 Hole Cat. No.	4-40 Thread Cat. No.	6-32 Thread Cat. No.	8-32 Thread Cat. No.
¼ (250)	360	367	1490	376	383	390
⅜ (.375)	361	368	1491	377	384	391
½ (.500)	362	369	1492	378	385	392
¾ (.750)	363	370	1493	379	386	393
1 (1.000)	364	371	1494	380	387	394
1½ (1.500)	365	372	374	381	389	395
2 (2.000)	366	373	375	382	389	396

1.500 and 2" are tapped ⅜ deep each end

ALUMINUM ECONOMY SPACERS

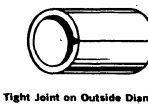
FOR No. 4, 6 or 8 SCREWS

- Precision Formed
- No Burrs

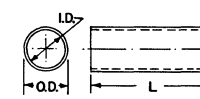
Made of flat strip aluminum and rolled on precision equipment. Assures maximum bearing surface, square ends.

Description and Tol.

Spacer For	I.D. ±.005	D.D. ±.007
#4	.125	.167
#6	.151	.193
#8	.178	.232



Tight Joint on Outside Diameter



L Length Inches	For #4 Cat. No.	For #6 Cat. No.	For #8 Cat. No.	L Length Inches	For #4 Cat. No.	For #6 Cat. No.	For #8 Cat. No.
3/16	397	—	—	¾	418	425	432
¼	398	405	412	⅞	419	426	433
5/16	399	406	413	1	420	427	434
⅜	400	407	414	1¼	421	428	435
7/16	401	408	415	1½	422	429	436
½	402	409	416	1¾	—	430	437
5/8	403	410	417	2	—	—	438

KEYSTONE ELECTRONICS CORP.

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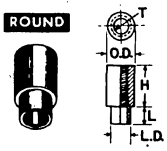
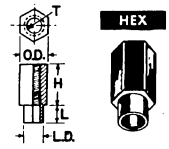
STANDOFFS & SPACERS

SWAGE TYPE THREADED STANDOFFS

MATERIAL: ALL HARDWARE ON THIS PAGE IS MADE OF: BRASS MIL SPEC. QQ-B-626A COMP. 22—½ HARD.



Nickel Plate Mil-F-14072
QQ-N-290 Type V

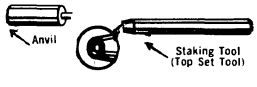


Cadmium plate per QQ-P-416 Type 2
Class B and clear chromate.

ROUND Nickel Plated Cat. No.	H Height Above Panel	L	For Panel Thickness	LD	OD	T Thread	HEX Cadmium Plated Cat. No.
1589-2	1/8	.109	1/16	.125	3/32	2-56	—
1589-3	1/8	.140	3/32	.125	3/32	2-56	—
1590-2	3/16	.109	1/16	.125	3/32	2-56	—
1590-3	3/16	.140	3/32	.125	3/32	2-56	—
1591-2	1/4	.109	1/16	.125	3/32	2-56	—
1591-3	1/4	.140	3/32	.125	3/32	2-56	—
1596-2	3/8	.109	1/16	.125	3/32	2-56	—
1596-3	3/8	.140	3/32	.125	3/32	2-56	—
1560 A	1/8	.109	1/16	.187	1/4	4-40	1653-2
1560 F	1/8	.140	3/32	.187	1/4	4-40	1653-3
1650-2	1/4	.109	1/16	.187	1/4	4-40	1627-2
1650-3	1/4	.140	3/32	.187	1/4	4-40	1627-3
1651-2	3/8	.109	1/16	.187	1/4	4-40	1628-2
1651-3	3/8	.140	3/32	.187	1/4	4-40	1628-3
1623-2	1/2	.109	1/16	.187	1/4	4-40	1629-2
1623-3	1/2	.140	3/32	.187	1/4	4-40	1629-3
1624-2	5/8	.109	1/16	.187	1/4	4-40	1654-2
1624-3	5/8	.140	3/32	.187	1/4	4-40	1654-3
1625-2	3/4	.109	1/16	.187	1/4	4-40	1655-2
1625-3	3/4	.140	3/32	.187	1/4	4-40	1655-3
1652-2	1	.109	1/16	.187	1/4	4-40	1630-2
1652-3	1	.140	3/32	.187	1/4	4-40	1630-3
1560 B	1/8	.109	1/16	.187	1/4	6-32	1620-2
1560 C	1/8	.140	3/32	.187	1/4	6-32	1620-3
1560 D	1/8	.171	1/8	.187	1/4	6-32	1620-4
1612-2	3/16	.109	1/16	.187	1/4	6-32	—
1612-3	3/16	.140	3/32	.187	1/4	6-32	—
1612-4	3/16	.171	1/8	.187	1/4	6-32	—
1546	1/4	.109	1/16	.187	1/4	6-32	1621-2
1546 B	1/4	.140	3/32	.187	1/4	6-32	1621-3
1546 D	1/4	.171	1/8	.187	1/4	6-32	1621-4
1561 B	3/8	.109	1/16	.187	1/4	6-32	1622-2
1561 C	3/8	.140	3/32	.187	1/4	6-32	1622-3
1561 D	3/8	.171	1/8	.187	1/4	6-32	1622-4
1604-2	1/2	.109	1/16	.187	1/4	6-32	—
1604-3	1/2	.140	3/32	.187	1/4	6-32	—
1604-4	1/2	.171	1/8	.187	1/4	6-32	—
1605-2	5/8	.109	1/16	.187	1/4	6-32	—
1605-3	5/8	.140	3/32	.187	1/4	6-32	—
1605-4	5/8	.171	1/8	.187	1/4	6-32	—
1608-2	3/4	.109	1/16	.187	1/4	6-32	—
1608-3	3/4	.140	3/32	.187	1/4	6-32	—
1608-4	3/4	.171	1/8	.187	1/4	6-32	—
1609-2	1	.109	1/16	.187	1/4	6-32	—
1609-3	1	.140	3/32	.187	1/4	6-32	—
1609-4	1	.171	1/8	.187	1/4	6-32	—

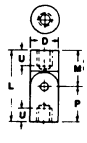
STAKING TOOLS FOR ABOVE STAND-OFFS

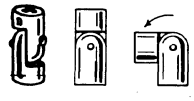
Precision made tools—heat treated and plated. Will give your job the professional appearance. Set of tools consist of: Top Staking Tool and Anvil.



Cat. No.	
TL-19	For Bushing 5/32 OD with 2-56 Thd.
TL-20	For Bushing 1/4 OD with 4-40 Thd.
TL-21	For Bushing 1/4 OD with 6-32 Thd.

CUT COST OF SERVICING • SPACE SAVER
INTERCONNECT CIRCUITS OR SERVICES
WITHOUT DANGER OF SHORTING
WIRING EXPOSED FOR EASY TEST





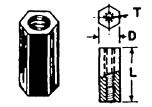
Material: Made of Brass
Finish: Nickel Plate

These standoffs mount at front of the board.

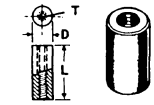
Hinge Cat. No.	T Thread	D Diam.	L Length	U	M	P	Standoff Only Cat. No.
351	4-40	.187	3/4	.172	.375	.375	1657A
352	4-40	.187	1	.250	.375	.625	1657B
353	6-32	.250	3/4	.172	.375	.375	1548E
354	6-32	.250	1	.250	.375	.625	1548F
355	8-32	.250	3/4	.172	.375	.375	1692D
356	8-32	.250	1	.250	.375	.625	1692E

THREADED SPACERS

THREADED SPACERS 1/4" O.D. THREADED 4-40, 6-32, 8-32 AVAILABLE EITHER IN ROUND OR HEX. ROUND TYPE IS NICKEL PLATED, HEX TYPE IS CADMIUM.



Cadmium plate per QQ-P-416 Type 2
Class B and clear chromate.

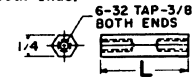


Nickel Plate Mil-F-14072
QQ-N-290 Type V

HEX Cadmium Plated Cat. No.	D	L	T Thread	ROUND Nickel Plated Cat. No.
1450	3/16	1/4	4-40	1547
1656	3/16	1/2	4-40	1657
1656A	3/16	3/4	4-40	1657A
1656B	3/16	1	4-40	1657B
1450A	1/4	1/4	4-40	1547A
1450B	1/4	3/8	4-40	1547B
1450C	1/4	1/2	4-40	1547C
1450D	1/4	3/4	4-40	1547D
1450E	1/4	1	4-40	1547E
1451A	1/4	1/4	6-32	1548A
1451B	1/4	3/8	6-32	1548B
1451C	1/4	1/2	6-32	1548C
1451D	1/4	5/8	6-32	1548D
1451E	1/4	3/4	6-32	1548E
1635	1/4	1	6-32	1548F
1474A	1/4	1/4	8-32	1692A
1474B	1/4	3/8	8-32	1692B
1474C	1/4	1/2	8-32	1692C
1474D	1/4	3/4	8-32	1692D
1474E	1/4	1	8-32	1692E
1452A	3/8	3/8	8-32	1549A
1452B	3/8	1/2	8-32	1549B
1452C	3/8	5/8	8-32	1549C
1452D	3/8	3/4	8-32	1549D
1452E	3/8	1	8-32	1549E

HEX SPACERS 6-32 TAPPED BOTH ENDS

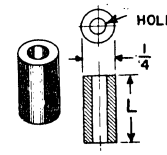
Extra long length spacers ideal as standoff legs for Keystone pre-punched boards or your special application. Brass cad. plated and chromate. 1/4" O.D. with 6-32 x 3/8" deep tapped holes both ends.



Cat. No.	Length
1635	1
1636	1 1/4
1637	1 1/2
1638	1 3/4
1639	2
1642	2 1/4
1643	2 1/2

ROUND BRASS SPACERS

Made of Brass MIL Spec. QQ-2-626A Comb. 22 ½ Hard.
Finishes: Nickel Plate Mil-F-14072 QQ-N-233 Type V.

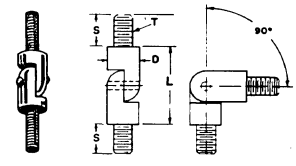


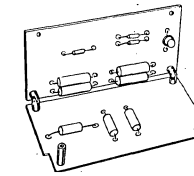
Length Inches	For #4 Sc'R .120 I.D. Cat. No.	For #6 Sc'R .140 I.D. Cat. No.	For #8 Sc'R .171 I.D. Cat. No.
1/4	1454A	1457A	1480
3/8	1454B	1457B	1481
1/2	1454C	1457C	1482
3/4	1457D	1457D	1483
1	1454E	1457E	1484

HINGED STANDOFFS FOR TERMINAL BOARDS

- **APPLICATIONS UNLIMITED**
- **TIME SAVING**

Only 2 screws used to fasten board in place or open the hinged board.





Hinge Cat. No.	T Thread	L Length	D Diam.	S	P	Standoff Only For Front of Board Cat. No.
357	4-40	1/2	.187	1/4	1/4	1657
—	—	—	—	—	—	—
358	6-32	1/2	.250	5/16	1/4	1548C
—	—	—	—	—	—	—
359	8-32	1/2	.250	5/16	1/4	1692C
—	—	—	—	—	—	—

KEYSTONE ELECTRONICS CORP.

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mueller clips

a complete line of

ALLIGATOR TEST & BATTERY CLIPS

Mueller Electric Co.

"60 SERIES" ALLIGATOR CLIPS

U.S. Patent No. 3,321,736

No. 60—CONVENTIONAL TYPE

New slim design with full-meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering lip. Strong spring with a hard bite. Cadmium plated. 2" long.

EACH NET.....$0.08 **LOTS OF 10**.....$0.054

No. 60-S—SCREW CONNECTION

Eliminates necessity for soldering. Otherwise same as No. 60.

EACH NET....$0.09 **LOTS OF 10**....$0.063

No. 60-CS—COPPER ALLIGATOR CLIP

Solid copper version of No. 60-S. Screw connection. 2" long. 10 per box.

EACH NET.....$0.14 **LOTS OF 10**.....$0.096

No. 60PR-2—SPECIAL BARREL FOR TEST PROD OR PHONE TIP

Barrel crimped to provide friction fit on standard test prod or phone tip. Holds prod on test, frees hand for other work.

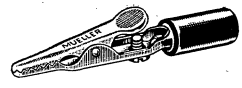
EACH NET.....$0.11 **LOTS OF 10**.....$0.078

No. 62 FLEXIBLE VINYL INSULATOR

Red and black insulators for Alligator Clips 60, 60-S, 60-CS, 60PR-2.

EACH NET.....$0.06 **LOTS OF 10**.....$0.04

No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE



Same as No. 60-S except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Cadmium plated. $2\frac{1}{32}$" long. Shipped half red, half black.

EACH NET.....$0.13 **LOTS OF 10**.....$0.089

No. 60-CHS—COPPER ALLIGATOR CLIP, INSULATED HANDLE

Solid copper version of No. 60-HS. Screw connection. Shipped with half red, half black insulating sleeves. 10 per box.

EACH NET.....$0.17 **LOTS OF 10**.....$0.118

"70 SERIES" ALLIGATOR CLIPS

U.S. Patent No. 2,762,028

A trim, modern Alligator Clip.
Features simplified design, fast connection of wire with cord strain relief ears, patented hinge construction and lower cost.
Mueller's traditionally snappy spring, full jaw spread, fine meshing teeth, round thumb grip and trim shape give most wanted features for test work in close quarters.

No. 70—FOR SOLDERED CONNECTION

Steel, cadmium plated. $1\frac{1}{16}$" long.

EACH NET.....$0.07 **LOTS OF 10**.....$0.045

No. 70-S—SCREW CONNECTION

Otherwise same as No. 70.

EACH NET.....$0.08 **LOTS OF 10**.....$0.054

No. 70-CS—COPPER SCREW CONNECTION

Solid copper version of No. 70-S.

EACH NET.....$0.12 **LOTS OF 10**.....$0.085

No. 72— SKIN-TIGHT INSULATOR FOR 70 SERIES ALLIGATOR CLIPS!

For the first time complete, skin-tight, one-piece insulation for a standard size Alligator Clip! Covers entire clip right down to nose. Special tip slot permits full jaw opening without exposing teeth.

EACH NET.....$0.06 **LOTS OF 10**.....$0.04

MICRO-GATOR CLIP

(Smallest Insulated Clip Ever Made)

U.S. Patent No. 2,762,028 Trademark Reg.

Micro-Gator

Micro-Gator with Insulator

The alligator clip with the microscopic tip! This is the alligator clip you now can use where no other clip will do . . . on printed circuits, in tight spots and on tiny terminals too crowded for anything but its microscopic tip. Including separate skin-tight insulator the tip is no bigger than the head of a pin! Yet the Micro-gator has ample thumb grip, and plenty of bite to stand up straight on the smallest terminals. Ample $\frac{7}{32}$" jaw spread. $1\frac{3}{32}$" long. Solder connection. Skin-tight flexible vinyl insulator (sold separately) has "lip-action" tip slot so that jaws stay covered whether open or closed.

No. 34 (Steel, cadmium plated)

EACH NET.....$0.06 **LOTS OF 10**.....$0.041

No. 34-C (Solid Copper)

EACH NET.....$0.08 **LOTS OF 10**.....$0.053

No. 36 (Insulator for Nos. 34 and 34-C)

EACH NET.....$0.05 **LOTS OF 10**.....$0.033

MINI-GATOR CLIP

U.S. Patent No. 3,321,736
Trademark Reg.

Mini-gator

Mini-gator with Insulator

Indispensable for testing or incorporation into miniaturized equipment. New design features rivet hinge for greater strength, full-meshing teeth to grip finest wires. Skin-tight flexible Vinyl insulator (sold separately) covers completely — has slotted "lip action" tip. Clip weighs 1/20th oz., has tiny $\frac{1}{64}$" O.D. nose, but ample $\frac{3}{16}$" jaw spread $1\frac{1}{16}$" long. Crimping ears. Solder connection. Surprisingly strong bite penetrates corrosion and coatings.

No. 30 (Steel, cadmium plated)

EACH NET.....$0.07 **LOTS OF 10**.....$0.05

No. 30-C (Solid Copper)

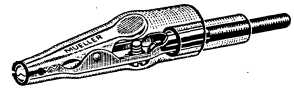
EACH NET.....$0.09 **LOTS OF 10**.....$0.061

No. 32 (Insulator for Nos. 30 and 30-C)

EACH NET.....$0.05 **LOTS OF 10**.....$0.033

COMPLETELY INSULATED ALLIGATOR CLIPS

Patent Pending



No. 63 or 63-C Clip

Sold only as a unit, with factory-applied insulators.

Completely insulated right down to the nose. Flexible 2-piece skin-type vinyl insulator of high dielectric strength, with "lip action" slotted tip that permits opening of clip without exposing metal. Insulator nose is only 13/64" O.D. The tight fitting sheath preserves all the slimness of the Alligator Clip, still giving complete protection against shorts in even the tightest spots. Screw connection easily made by slipping insulator forward. $2\frac{1}{8}$" long.

No. 63—INSULATED ALLIGATOR CLIP (STEEL)

Composed of Mueller No. 60-S Alligator Clip steel, cadmium plated, screw connection, complete with 2-piece vinyl insulator. Shipped half with red insulators, half black. 10 per box.

EACH NET.....$0.19 **LOTS OF 10**.....$0.13

No. 63-C—INSULATED ALLIGATOR CLIP (COPPER)

Composed of Mueller No. 60-CS Alligator Clip, solid copper, screw connection. Shipped half with red insulators, half black. 10 per box.

EACH NET.....$0.22 **LOTS OF 10**.....$0.15

CROCODILE CLIPS

No. 85 or 85-C Clip with No. 87 Insulator

No. 85-T Clip

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Screw connection. $2\frac{1}{8}$" long.

EACH NET.....$0.11 **LOTS OF 10**.....$0.076

No. 85-C—Same as No. 85,, except solid copper with phosphor bronze spring, brass screw. A radio frequency, entirely non-ferrous test clip. 10 per box.

EACH NET.....$0.21 **LOTS OF 10**.....$0.148

No. 85-T—Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod, for ordinary clip connections and for connections to insulated binding posts having non-removale heads. $2\frac{5}{8}$" long. 10 per box.

EACH NET.....$0.27 **LOTS OF 10**.....$0.187

Use No. 87 Insulators for clips 85, 85-C and 85-T. Red and Black. Cover entire clip except nose. Protect against short and shock. Help to distinguish leads.

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mueller clips

a complete line of

ALLIGATOR TEST & BATTERY CLIPS

Mueller Electric Co.

TEST CLIPS

No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1½" long. Jaw spread ⅛". Steel, cadmium plated.

EACH NET.....$0.09 LOTS OF 10.....$0.061

No. 45-C Clip
No. 47 Insulator

No. 45-C
Solid Copper R.F. Test Clip

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous. 1½" long. 10 per box.

EACH NET.....$0.15 LOTS OF 10.....$0.107

Use No. 47 Insulator for clips 45 and 45-C.

No. 48-B

A small test and battery clip for radio use and general testing purposes. 2" long. Jaw spread ½". Steel, cadmium plated. 10 per box.

EACH NET.....$0.13 LOTS OF 10.....$0.09

No. 48C—Solid Copper. Same size as 48-B.

EACH NET.....$0.20 LOTS OF 10.....$0.139

No. 50-C Needle Clip

Solid bronze. Needle pierces insulation of wire for quick test contact. 2¼" long. 10 per box.

EACH NET....$0.32 LOTS OF 10....$0.22

No. 51-C—Large crocodile clip. Same as 50-C but without needle. 10 per box.

EACH NET....$0.22 LOTS OF 10..$0.153

Use No. 49 insulator for Clips 48-B, 48-C, 50-C and 51-C.

No. 27

A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work 2 7/16" long. Jaw spread ⅝". Steel, cadmium plated. 10 per box.

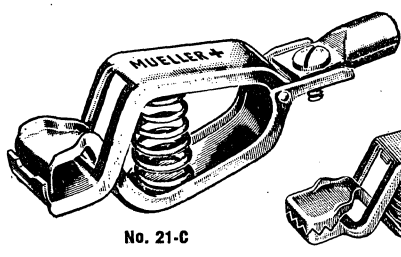
EACH NET.....$0.16 LOTS OF 10.....$0.107

No. 27-C—Solid copper. Same size as No. 27. 10 per box.

EACH NET.....$0.27 LOTS OF 10.....$0.187

Use No. 29 Insulator for clips 27 and 27-C.

LARGER SIZES OF CLIPS



No. 21-C

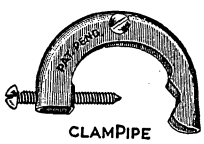
No. 25-C

All packed 10 per box.

		Each Net	Lots of 10
No. 24-A	— 25 Amp. Steel, lead plated, 2⅞" long	$0.26	$0.177
No. 25	— 40 Amp. Steel, cadmium plated, 3" long	.24	.165
No. 25-C	— 75 Amp. Solid Copper, 3" long	.49	.34
No. 21-A	— 50 Amp. Steel, lead plated, 4" long	.46	.32
No. 21-C*	—100 Amp. Solid Copper, 4½" long	1.20	.84
No. 11-A*	—100 Amp. Steel, lead plated, 6" long	1.27	.89
No. 11-C*	—200 Amp. Solid Copper, 6" long	2.34	1.64
No. 33-C*	—300 Amp. Solid Copper, 7¾" long	4.48	3.14

(*Furnished with detachable lug connection for easy securing to large cables.)

GROUND CLAMP

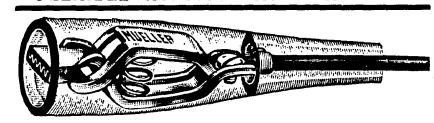


CLAMPIPE
No. 58

The ClamPipe will not spread, bend or lop over when applied. Point of large screw bites through corrosion into clean metal to insure good contact. Applicable to pipe ⅜" to 1⅜" O.D. The best ground clamp on the market!

EACH NET....$0.22 LOTS OF 10....$0.153

FLEXIBLE INSULATORS FOR CLIPS



A convenient protection against short circuit and electric shock. Colors help to distinguish leads. Packed half red and half black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly. NOW AVAILABLE also in blue, white, yellow and green at 10% above regular price are insulators marked * below.

Insulator No.	For Use with Clip No.	Each Net	Lots of 10
13*	11-A, 11-C	$0.81	$0.57
23*	21-A, 21-C	.41	.287
26*	24-A, 25, 25-C	.23	.16
29*	27, 27-C	.17	.12
32*	30, 30-C	.05	.033
35	33-C	3.48	2.43
36*	34, 34-C	.05	.033
47*	45, 45-C	.07	.05
49*	48-B, 48-C, 50-C, 51-C	.10	.069
62*	60, 60-S, 60-CS, 60PR-2 (also 70 Series)	.06	.04
72*	70, 70-S, 70-CS	.06	.04
87*	85, 85-C, 85-T	.07	.05

*Also available in blue, white, yellow and green.

MUELLER *QUALITY* BATTERY BOOSTER CABLES

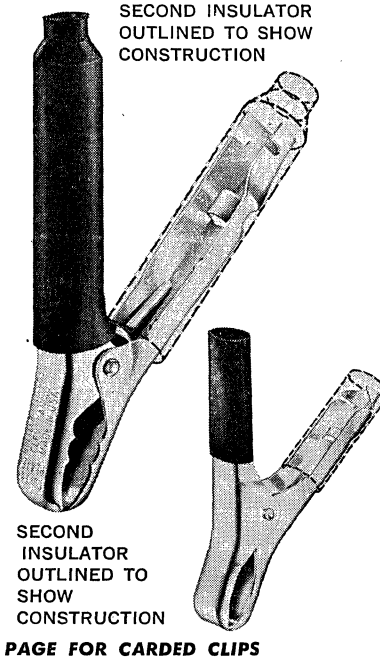
Highest quality cables, equipped with famous Hippo-Clips, for boosting "dead" 6 or 12-volt vehicle batteries with an external battery. Cables are pure copper, finely stranded for high flexibility and covered with rubber insulation which stays flexible in the coldest weather and resists oil, grease and acid. 413 strands of No. 30 wire in the 4-gauge cable and 259 strands of No. 30 wire in the 6-gauge cable. The many fine features of the Hippo-Clips alone are listed elsewhere on this page. The clips are both soldered to the cable and clinched around the cable insulation by means of clinching ears.

Packaged: pair of cables with clips in a bright, attractive display carton. Standard shipping container 10 cartons.

No. 8A6—8 ft., 6-gauge, with No. 41A Hippo-Clips (Steel, bright copper plated)
NET PRICE PER PAIR.....$7.20

No. 12A6—12 ft., 6-gauge, with No. 41A Hippo-Clips (Steel, bright copper plated)
NET PRICE PER PAIR.....$9.60

No. 12C4—12 ft., 4-gauge, with No. 41C Hippo-Clips (Solid Copper)
NET PRICE PER PAIR.....$14.70



HIPPO-CLIP

HIPPO-CLIP—For battery booster cables and fast chargers. Proved higher quality and superior design. Built-in solder strap and clinching ears for fast, sure cable connection. Supplied with vinyl handle insulators in red or black. Full 1-9/16" jaw spread. 6" long.

	Net price ea.
No. 41-A Steel, bright copper plated, 100 amp.	$ .51
No. 41-C Solid Copper, 200 amp.	1.35

PIGMY HIPPO-CLIP

PIGMY HIPPO-CLIP—A new small plier clip for battery operated equipment and automotive test. Flat, wide handle allows positive grip. Won't "squirt away". Built-in solder strap and wire clinching ears. Supplied with vinyl handle insulators in red or black. Ample 1⅛" jaw spread. 3" long.

	Net price ea.
No. 46-A Steel, bright copper plated, 50 amp.	$ .17
No. 46-C Solid Copper, 75 amp.	.27

SEE FOLLOWING PAGE FOR CARDED CLIPS

mueller clips

a complete line of

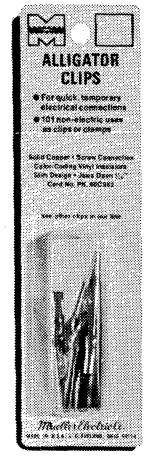
ALLIGATOR TEST & BATTERY CLIPS

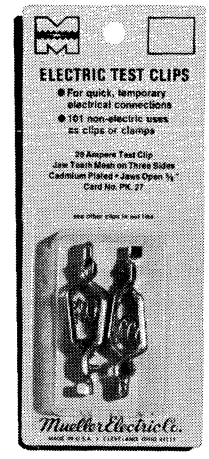
MuellerElectricCo.

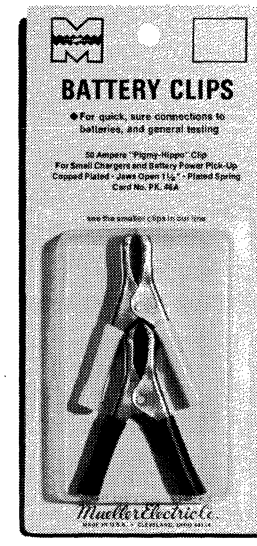
BUBBLE PACKED CLIPS AND INSULATORS

The most popular Mueller clips and insulators attractively packaged on display cards. Clean design and concise copy invite attention. Bright pumpkin colored background makes these cards an eye-catching standout on pegboard or similar display panels.

Only three card sizes. Most items packaged on smallest card (2″ x 7″). Where included, insulators are half red, half black. Standard package ten cards.







Card No.	Description and Quantity of Merchandise on Each Card (See Preceding Pages for Additional Information)	Length of Clip	Clip Jaws Open	Amp. Capacity	Clips Made Of	CARD PRICE Suggested USA List
	ALLIGATOR CLIPS					
PK60S	4 No. 60-S Clips, Screw Connection	2″	5/16″	5	Steel	$ .65
PK60S62	2 No. 60-S Clips and 2 No. 62 Insulators	2″	5/16″	5	Steel	.56
PK60CS	4 No. 60-CS Clips, Screw Connection	2″	5/16″	5	Copper	.78
PK60CS62	2 No. 60-CS Clips and 2 No. 62 Insulators	2″	5/16″	5	Copper	.63
PK60HS	4 No. 60-HS Clips with Insulated Handles 2 Red, 2 Black. Screw Connection	2-11/32″	5/16″	5	Steel	.79
PK60CHS	4 No. 60-CHS Clips with Insulated Handles 2 Red, 2 Black. Screw Connection	2-11/32″	5/16″	5	Copper	.93
PK63	2 No. 63 Completely Insulated Clips, 1 Red, 1 Black. Screw Connection	2-1/8″	5/16″	5	Steel	.58
	MINI-GATOR CLIPS (Very Small Alligators)					
PK30	4 No. 30 Clips	1-1/16″	3/16″	5	Steel	.58
PK3032	2 No. 30 Clips and 2 No. 32 Insulators	1-1/16″	3/16″	5	Steel	.51
PK30C	4 No. 30-C Clips	1-1/16″	3/16″	5	Copper	.65
PK30C32	2 No. 30-C Clips and 2 No. 32 Insulators	1-1/16″	3/16″	5	Copper	.54
	MICRO-GATOR CLIPS (Very Small Alligators with Tiny, Flat Jaws)					
PK34	4 No. 34 Clips	1-3/32″	7/32″	5	Steel	.53
PK3436	2 No. 34 Clips and 2 No. 36 Insulators	1-3/32″	7/32″	5	Steel	.48
PK34C	4 No. 34-C Clips	1-3/32″	7/32″	5	Copper	.60
PK34C36	2 No. 34-C Clips and 2 No. 36 Insulators	1-3/32″	7/32″	5	Copper	.52
	CROCODILE CLIPS (Long Jaws With Nesting Teeth)					
PK85	4 No. 85 Clips	2-1/8″	5/16″	5	Steel	.73
PK8587	2 No. 85 Clips and 2 No. 87 Insulators	2-1/8″	5/16″	5	Steel	.63
	GENERAL PURPOSE TEST CLIPS					
PK45	4 No. 45 Clips	1-1/2″	5/16″	5	Steel	.64
PK4547	2 No. 45 Clips and 2 No. 47 Insulators	1-1/2″	5/16″	5	Steel	.59
PK48B	4 No. 48-B Clips	2″	1/2″	10	Steel	.79
PK27	2 No. 27 Clips	2-7/16″	5/8″	20	Steel	.56
	NEEDLE CLIP (Piercing Contact Thru Wire Insulation)					
PK50C49	2 No. 50-C Clips and 2 No. 49 Insulators	2-1/4″	1/2″	20	Copper	1.08
	BATTERY CLIPS					
PK24A	2 No. 24-A Clips, Lead Plated	2-7/8″	3/4″	25	Steel	.77
PK21A	2 No. 21-A Clips, Lead Plated	4″	1-1/16″	50	Steel	1.28
PK46A	2 No. 46-A Plier-Type Clips, Bright Copper Plated, 1 Red, 1 Black.	3″	1-1/8″	50	Steel	.80
	BATTERY BOOSTER CLIPS (In Poly Bags)					
PK41A	2 No. 41-A Plier-Type Clips, Bright Copper Plated, 1 Red, 1 Black.	6″	1-9/16″	100	Steel	2.08
PK41C	2 No. 41-C Plier-Type Clips, Solid Copper, 1 Red, 1 Black.	6″	1-9/16″	200	Copper	4.88

SEE FULL LINE ON PRECEDING PAGES.

Trade Discount Applies To List Prices Only

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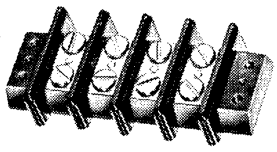
Kulka TERMINAL BOARDS

STANDARD

410, 600, 600A, 601, 602 Series. Current range 5 thru 30 Amps; Voltage Range 1000 thru; 600 RMS; Wire sizes 20-14 Ga.; 1 thru 26 Terminals.

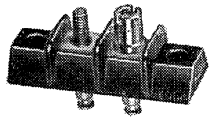


HEAVY DUTY

603, 604, 605 Series, Current range 50 thru 90 Amps, Voltage 1700 thru 2100 RMS; Wire Sizes #6 to 2 ga.; 1 thru 12 terminals.

SINGLE ROW

599, 699, 812 Series. Current range 15 thru 30 Amps; Voltage range 1100 thru 1600 RMS; Wire sizes: #22 to #12 ga.; 1 thru 23 terminals.

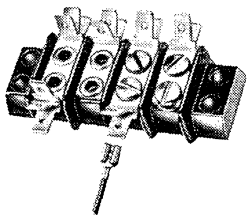


STUD and TURRET

For greater wiring convenience. Choice of terminals:

- Regular Screw Type
- Solder Turret
- Feedthru
- Threaded Stud, etc.

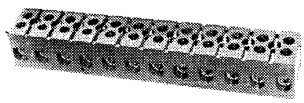
Also, choice of finishes: electro-tinned, silver-plated, even gold over silver. Our design facilities are available for your special requirements.



"KLIPTITE"

For fast connect and disconnect. Available on Kulka's full line of terminal boards.

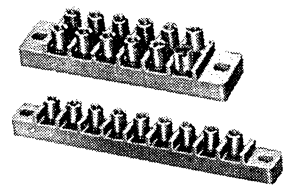
- Just clip on wire terminal fast for tight connection.
- Up to 6 connections per stage.
- Vari-angled tabs.
- Available rivetted to terminal hardware or with screw assembly.



PRESSURE CONTACT

9-85 SERIES

Ideal for power equipment. One-piece molded plastic for industrial or military use. Extra-safe, completely enclosed. 2 to 12 terminals. Rated at 85 Amps, 8000 Volts.

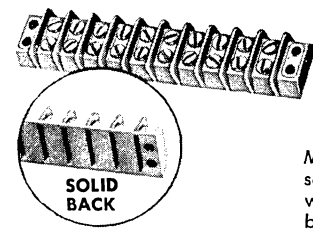


MILITARY BOARDS

Per MIL-T-16784B

Designed by the Bureau of Ships according to MIL-T-16784B, superseding MIL-T-16784A (Ships). They are made to BUSHIPS 9000-S6505-73214 drawings, with the latest revisions, and BUORD S64101.

MOLDED MATERIAL: MAI-60, in accordance with MIL-M-14F.



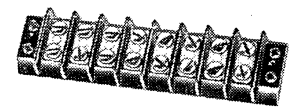
MILITARY BOARDS

SOLID BACK

MADE to MEET or EXCEED

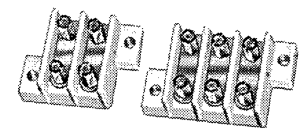
MIL-T-55164

Molded-in Terminals. Equal molded sections. Kulka improved design, for weight saving, greater strength, flexibility. All sizes available, classes 37TB thru 42TB.



CLOSED BACK TERMINAL BOARDS

670, 670A, 671, 672 Series. Current range 15 to 30 Amps, Voltage range 2500 to 3300 Volts RMS. Wire sizes #22 thru #12 ga.; 1 thru 30 terminals.

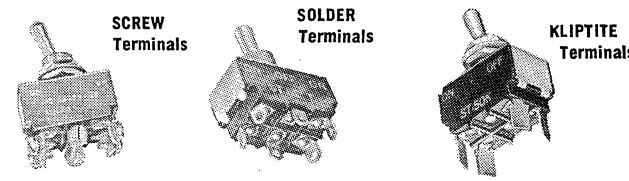


HIGH HEAT

1215 SERIES

For temperatures up to 850°. Made in two and three terminal units with incremental configuration. Stainless steel stud type terminals.

TOGGLE SWITCHES



Made to Military Specifications: JAN-S-23, MIL-S-21195, MIL-S-6745 and MIL-S-3950B. Available in SPST, SPDT, DPST and DPDT types. DA and AC up to 1600 cps. Your choice of terminals: Screw, solder or tab.

Also, MINIATURE, SUBMINIATURE, TAPER PIN, PRINTED CIRCUIT, WIRE-WRAP, SCREW CLAMP TERMINAL BOARDS AND ACCESSORIES. Available in a variety of Military and Commercial Grade materials.

Manufacturers of Wiring Devices for more than a Quarter Century

Available thru Nationwide Network of Authorized Industrial Distributors

Kulka Electric Corporation

"THE FRANCHISE LINE"

KULKA COMPLETE TERMINAL BOARD CATALOG 17A ON REQUEST

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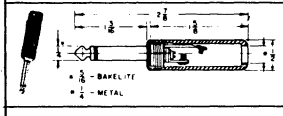
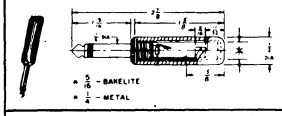
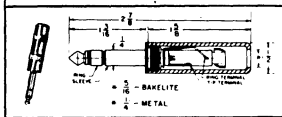
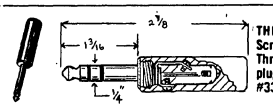
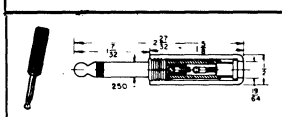
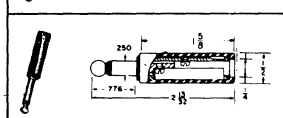
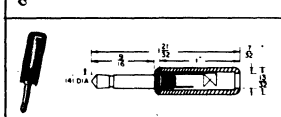
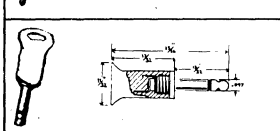
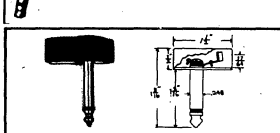
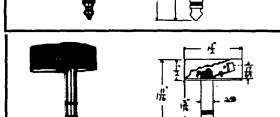
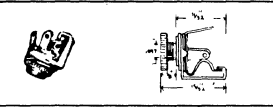
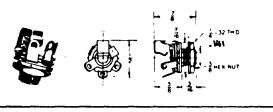
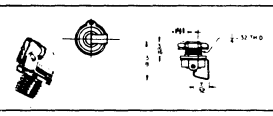
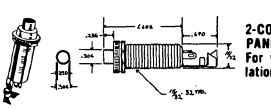
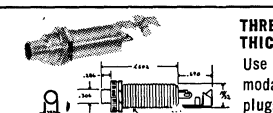
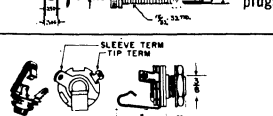
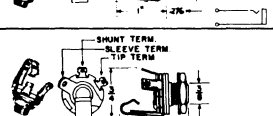
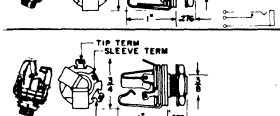
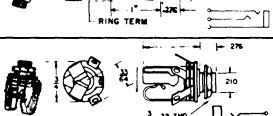
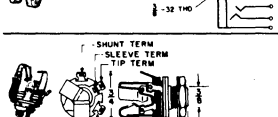
PHONE PLUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**TWO CONDUCTOR** Screw Type Two conductor screw type, accommodates two conductor jacks #336 and #337.	300B 300R 300M	Black Red Metal	.45 .45 .63
		**TWO CONDUCTOR** Solder Type Two conductor solder type, accommodates two conductor jacks #336 and #337.	301B 301R 301M	Black Red Metal	.39 .39 .60
		**THREE CONDUCTOR** Solder Type Three conductor solder type, accommodates three conductor jacks #338 and #339.	302B 302R 302M	Black Red Metal	.63 .63 .78
		**THREE CONDUCTOR** Screw Type Three conductor screw terminal phone plug. Accommodates jacks #338 and #339.	303-B 303-R 303-M	Black Red Metal	.72 .72 .84
		**TWO CONDUCTOR** Type PJ055 Two conductor solder type, made to military specifications. Solder terminals are silver plated to facilitate soldering.	304B 304R	Black Red	.81 .81
		**TWO CONDUCTOR** Type PJ054 Two conductor solder type, made to military specifications. Solder terminals are silver plated to facilitate soldering.	305B 305R	Black Red	.81 .81
		**MINIATURE TWO CONDUCTOR** Solder Type Two conductor solder type, accommodates sub-miniature jacks #311 and #313.	307B 307R 307M	Black Red Metal	.42 .42 .63
		**ULTRA-MINIATURE, TWO CONDUCTOR** Solder Type Two conductor solder type, accommodates ultra-miniature jack #310. Utilized on many tape recorders and transistor radios.	308B 308R 308T	Black Red Beige	.45 .45 .45
		**RIGHT ANGLE PHONE PLUGS** 2-conductor. Screw type. Accommodates two conductor jacks #336 and 337.	309B 309R 309M	Black Red Metal	.54 .54 .63
		**RIGHT ANGLE PHONE PLUGS - SOLDERLESS** 3-conductor. Screw type. Accommodates three conductor jacks 338 Series, 339.	306B 306R 306M	Black Red Metal	.78 .78 .90

PHONE JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**ULTRA-MINIATURE JACK** Two conductor closed circuit jack for miniaturized applications. Used on many transistor radios. Accommodates plug #308.	310	Metal	.27
		**SUB-MINIATURE JACKS** Subminiature phone jack, two conductor closed circuit will accommodate plug #307.	311	Metal	.27
		**SUB-MINIATURE JACKS** Subminiature jacks, two conductor open circuit will accommodate plug #307.	313	Metal	.24
		**2-CONDUCTOR THICK PANEL JACK** For walls, floor or thick panel installation. 2-1/4" length.	345	Metal	.81
		**THREE CONDUCTOR THICK PANEL JACK** Use same as 345. Can accommodate stereo plugs. Use with plugs 302. 303, and 306.	346	Metal	.90
		**TWO CONDUCTOR** Open Circuit Two conductor, open circuit; will accommodate plugs #300, 301 and 304.	336	Metal	.24
		**TWO CONDUCTOR** Closed Circuit Two conductor, closed circuit; will accommodate plugs #300, 301 and 304.	337	Metal	.27
		**THREE CONDUCTOR** Open Circuit Three conductor, open circuit; will accommodate plug #302. Three conductor open circuit with bright brass bushing. Will accommodate plug #302.	338 338-B	Metal Metal	.33 .36
		**THREE CONDUCTOR** Open Circuit Three conductor, open circuit with .210 I.D. Will accommodate plug #PJ068.	338-A	Metal	.42
		**THREE CONDUCTOR** Closed Circuit Three conductor closed circuit; will accommodate plug #302.	339	Metal	.45

PHONO PLUGS

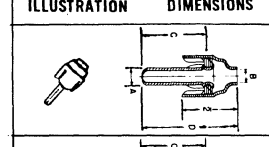
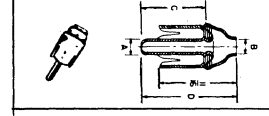
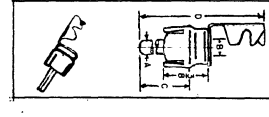
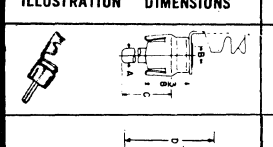
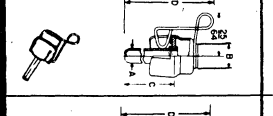
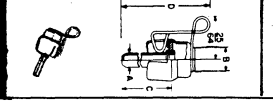
ILLUSTRATION	DIMENSIONS	A	B	C	D	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		1/8	.175	11/16	15/16	36A	Metal	.06
		1/8	.175	3/8	5/8	36B	Metal	.06
		1/8	.145	11/16	1- 7/16	44A	Metal	.09

ILLUSTRATION	DIMENSIONS	A	B	C	D	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		1/8	.145	3/8	1- 1/8	44B	Metal	.09
		1/8	.145	11/16	1- 3/32	42A	Metal	.17
		1/8	.145	3/8	25/32	42B	Metal	.17

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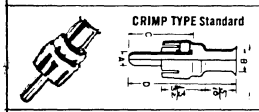
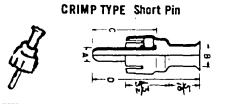
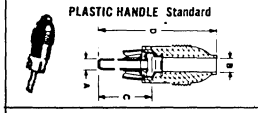
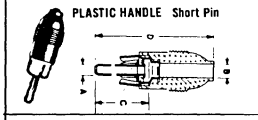
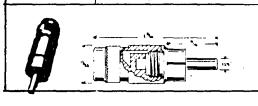
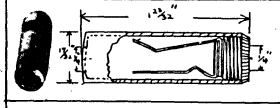
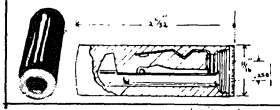
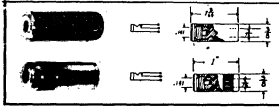
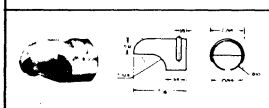
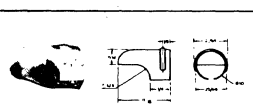
PHONO PLUGS

ILLUSTRATION	DIMENSIONS	A	B	C	D	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	CRIMP TYPE Standard	1/8	.175	11/16	1- 7/32	46A	Metal	.09
	CRIMP TYPE Short Pin	1/8	.175	3/8	29/32	46B	Metal	.09
	PLASTIC HANDLE Standard	1/8	.175	11/16	1-5/8	60A-R	Red	.18
		1/8	.175	11/16	1-5/8	60A-B	Black	.18
		1/8	.175	11/16	1-5/8	60A-G	Gray	.18
		1/8	.175	11/16	1-5/8	60A-W	White	.18
	PLASTIC HANDLE Short Pin	1/8	.175	3/8	1-5/16	60B-R	Red	.18
		1/8	.175	3/8	1-5/16	60B-B	Black	.18
		1/8	.175	3/8	1-5/16	60B-G	Gray	.18
		1/8	.175	3/8	1-5/16	60B-W	White	.18
	SHIELDED HANDLE PLUG Extremely easy to solder. Has a neat appearance and provides finger grip for easy removal.					5-005	Metal	.30

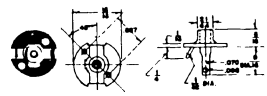
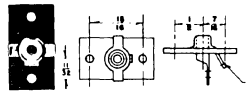
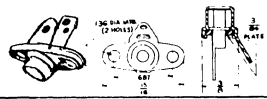
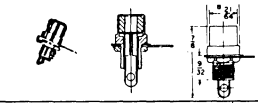
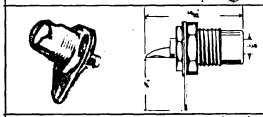
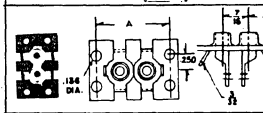
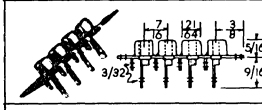
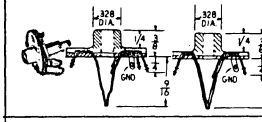
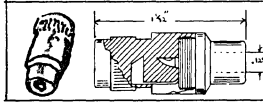
EXTENSION JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		TWO CONDUCTOR JACK Accommodates plug types 300,301, and 309. Has numerous audio applications.	6-100 6-101	Black Metal	.54 .75
		THREE CONDUCTOR JACK Accommodates plug type 302. Utilized in many audio and stereo applications.	6-102 6-103	Black Metal	.75 .87
		TWO CONDUCTOR EXTENSION, IN-LINE JACK MINIATURE Accommodates plug 307. Smal sizes.	6-104 6-105	Metal Plastic	.66 .75

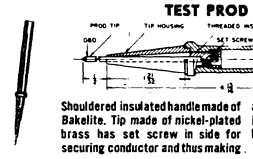
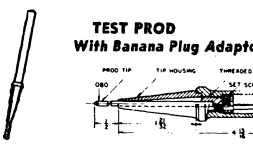
PILOT LIGHT SHIELDS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		LIGHT SHIELD Brass, cadmium plated shield intended for use in television, on radio receivers, meters, and all electronics equipment. Prevents glare and directs the light to the desired position.	3110	Metal	.036
		LIGHT SHIELD Bright brass dip shield intended for use in television, on radio receivers, meters, and all electronic equipment. Prevents glare and directs the light to the desired position.	3111	Metal	.033

PHONO JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		ROUND TYPE JACK Single contact jack providing sure grip on all phono pin plugs.	318	---	.042
		RECTANGULAR JACK Single contact jack for replacement applications and use on new equipment.	319	---	.072
		OVAL TYPE JACK For smaller areas use this compact phono jack. .687 mounting centers.	326	---	.072
		SINGLE HOLE JACK Front Mount Mounts in 3/8" hole. Supplied with nut, washer, and solder lug. Mounts through front of panel.	340	Metal	.30
		SINGLE HOLE JACK Rear Mount Mounts in 3/8" hole. Supplied with nut, washer, and solder lug. Mounts through rear of panel.	342	Metal	.33
		DUAL PHONO JACK Ideal for stereo applications; replacement and new projects.	352	---	.096
		QUADRUPLE PHONO JACK Versatile jack for all audio applications such as tuner, amplifier, and multiplex inputs.	384	---	.171
		SWITCHING JACKS 317 is two conductor closed and 316 is a three conductor closed jack. Used as stereo, phonograph, or amplifier input.	316 317	--- ---	.27 .21
		INLINE PHONO JACK Combination clamp and solder type shielded handle jack. Mates with all phono pin plugs.	5-006	Metal	.36

TEST PRODS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		TEST PROD No. 891 Shouldered insulated handle made of Bakelite. Tip made of nickel-plated brass has set screw in side for securing conductor and thus making a solderless connection. Tip screw into handle. Available in red and black. Indicate color.	891-B 891-R	Black Red	.60 .60
		TEST PROD *With Banana Plug Adaptor* Same as No. 891 except with a banana plug adaptor in back of handle.	892-B 892-R	Black Red	.66 .66

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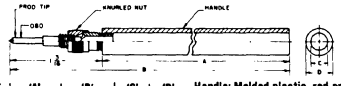
TEST PRODS

TEST PROD; SOLDERLESS THREADED TYPE

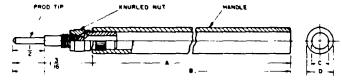


PART NO.	'A' HANDLE	'B' OVERALL	'C' I.D.	'D' O.D.
894	4	5¼	3/16	⅜
895	4	5¼	¼	⅜
991	5½	6⅞	3/16	⅜
992	5½	6⅞	¼	⅜

Handle: Molded plastic, red or black #805 solderless tip; nickel plated brass solderless tip plug. Wire fits through body and is then wrapped around threaded portion and knurled collar tightened. Fits standard phone tip jacks and is threaded for easier assembly into handle.

Catalog Number	Color	USA Net Each
894-B	Black	.30
894-R	Red	.30
895-B	Black	.24
895-R	Red	.24
991-B	Black	.33
991-R	Red	.33
992-B	Black	.27
992-R	Red	.27

SOLDERLESS TEST PROD — *Force Fit Type*

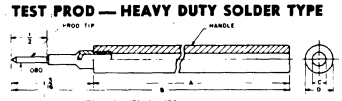


PART NO.	'A' HANDLE	'B' OVERALL	'C' I.D.	'D' O.D.
896	4	5¼	3/16	⅜
904	4	5¼	¼	⅜
993	5½	6⅞	3/16	⅜
994	5½	6⅞	¼	⅜

Handle: Molded plastic, red or black #806 solderless tip; force fit nickel plated brass tip plug. Fits standard phone tip jacks. Solderless wire fits through tip body and then wraps around screw portion. Knurled collar for tightening.

Catalog Number	Color	USA Net Each
896-B	Black	.24
896-R	Red	.24
904-B	Black	.24
904-R	Red	.24
993-B	Black	.27
993-R	Red	.27
994-B	Black	.27
994-R	Red	.27

TEST PROD — HEAVY DUTY SOLDER TYPE

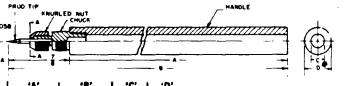


PART NO.	'A' HANDLE	'B' OVERALL	'C' I.D.	'D' O.D.
897	4	5 3/16	3/16	⅜
898	4	5 3/16	¼	⅜
995	5½	6 1/16	3/16	⅜
996	5½	6 1/16	¼	⅜

Handle: Molded plastic, red or black #802 solder tip; heavy duty nickel plated brass with exceptionally large well for soldering, threaded for easy assembly in handle. Fits standard phone tip jack.

Catalog Number	Color	USA Net Each
897-B	Black	.30
897-R	Red	.30
898-B	Black	.30
898-R	Red	.30
995-B	Black	.33
995-R	Red	.33
996-B	Black	.33
996-R	Red	.33

TEST PROD — PHONO NEEDLE TYPE

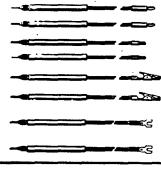


PART NO.	'A' HANDLE	'B' OVERALL	'C' I.D.	'D' O.D.
901	4	4⅞	3/16	⅜
902	4	4⅞	¼	⅜
997	5½	6⅜	3/16	⅜
998	5½	6⅜	¼	⅜

Handle: Molded plastic, red or black #866 tip; phono needle type with nickel plated steel needle. Chuck is removable for easy replacement. Needle pierces plating or corrosion for positive reading.

Catalog Number	Color	USA Net Each
901-B	Black	.30
901-R	Red	.30
902-B	Black	.30
902-R	Red	.30
997-B	Black	.33
997-R	Red	.33
998-B	Black	.33
998-R	Red	.33

TEST LEAD SETS

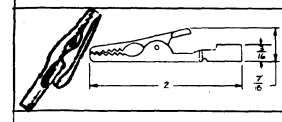
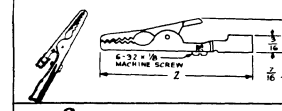
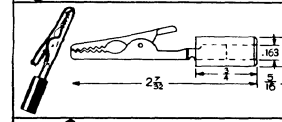
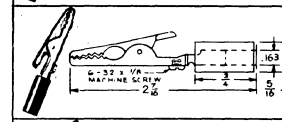
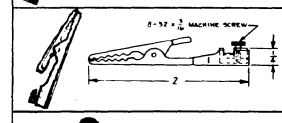
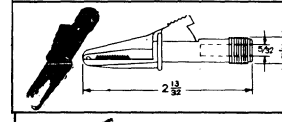
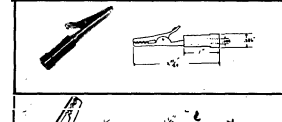
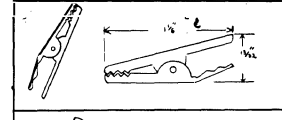
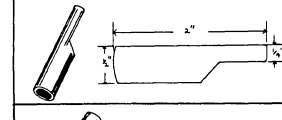
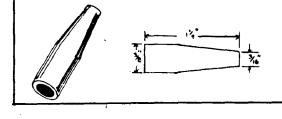


TEST LEAD SETS

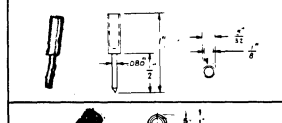
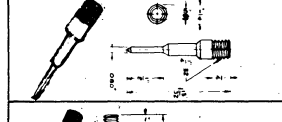
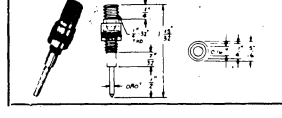
4 types: 8401=894 prods to 801 tip plugs; 8440=894 prods to 740 alligator clips; 8451=894 prods to 851 banana plugs; 8470=894 prods to 870 spade lugs. 50 inches long. 5000 volts dielectric strength. Rubber covered.

Catalog Number	Color	USA Net Each
8401	One	.87
8440	Red.	.93
8451	One	1.50
8470	Black	.87

ALLIGATOR CLIPS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**ALLIGATOR CLIP** Solder Type. Cadmium-plated steel with 3/8" jaw opening. Accurately matched jaws grip securely.	740 740C	Steel Copper	.08 .12
		**ALLIGATOR CLIP** Screw Type. Screw supplied for solderless connection. Accurately matched, cadmium-plated steel jaws with 3/8" opening provide secure grip.	741 741C	Steel Copper	.09 .135
		**INSULATED ALLIGATOR CLIP** Solder Type. Accurately matched, cadmium-plated steel jaws, with 3/8" opening provide secure grip. Red and black molded plastic handles. Accepts standard banana plug in back.	742-B 742-R	Black Red	.12 .12
		**INSULATED ALLIGATOR CLIP** Screw Type. Supplied with screw for solderless connection. All other features the same as clip #742.	743-B 743-R	Black Red	.15 .15
		**ALLIGATOR CLIP** Special Screw Type. Jaws of cadmium-plated steel open to 3/8" and grip securely. Supplied with screw for solderless connection.	744	Metal	.144
		**ALLIGATOR CLIP** Fully Insulated Type. Cadmium-plated steel jaws open to 3/8" and grips securely. Accepts standard banana plug in back. Can be supplied in red or black.	745-B 745-R	Black Red	.48 .48
		**ALLIGATOR CLIP ADAPTER** Insulated handle. Flanged. Accepts tip jack in rear. Cadmium plated steel or copper. Handles in red and black.	746 746C	Steel. Copper	.33 .36
				Red or Black Handles	
		**MINIATURE CLIP** Solder type clip where space is a factor. Excellent for all labs, shops, and hobbyists.	748 748C	Metal Copper	.06 .09
		**STANDARD INSULATORS** Insulators for clips #740 and #741. Made of flexible polyvinyl and allows for full jaw opening. Completely insulates clips.	749-B 749-R	Black Red	.05 .05
		**MINIATURE INSULATORS** Insulators for clips #748. Made of flexible polyvinyl which allow for full jaw opening. Completely insulates clips.	750-B 750-R	Black Red	.05 .05

TIP PLUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**PHONE TIPS** Solder Type. A nickel-plated brass solder type phone tip 1" long.	801	Metal	.021
		**TIP PLUG** Threaded, Heavy Duty. Nickel-plated brass with exceptionally large well for soldering. Threaded for easy assembly in plastic handle. Accepts standard phone tip jacks. Rear of plug accepts standard banana plugs.	802	Metal	.12
		**SOLDERLESS TIP PLUG** Large, Threaded. A nickel-plated brass solderless tip plug. Wire fits through body of tip and is then wrapped around threaded portion and knurled collar tightened. Fits standard phone tip jacks and is threaded for easier assembly in plastic handle.	805	Metal	.12

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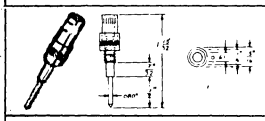
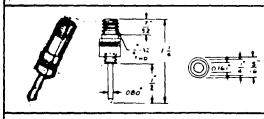
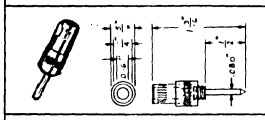
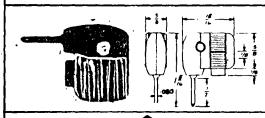
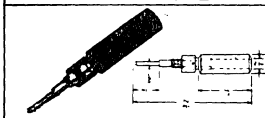
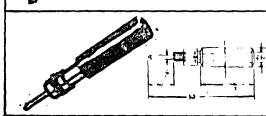
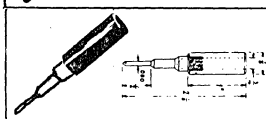
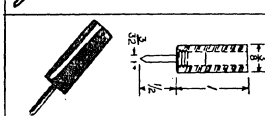
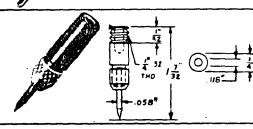
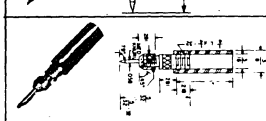
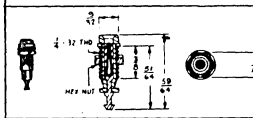
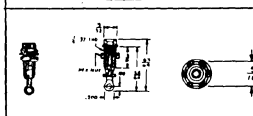
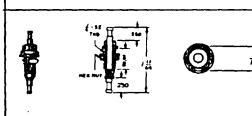
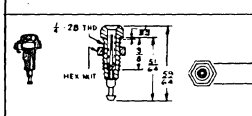
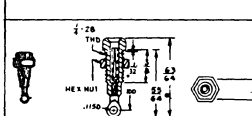
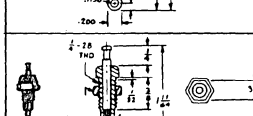
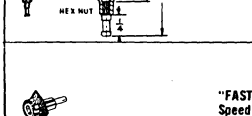
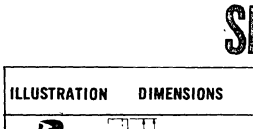
TIP PLUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**SOLDERLESS TIP PLUG** Large, Knurled A force-fit type nickel-plated brass tip plug. Fits standard phone tip jacks. Solderless, wire fits through tip body and then wrapped around screw portion. Knurled collar for tightening.	806	Metal	.11
		**SOLDERLESS TIP PLUG** Small, Threaded Manufactured exactly like No. 805 Solderless Tip Plug except shorter, nickel-plated brass with wire going through tip, then wrapped around screw portion and held firmly by tightening knurled collar.	807	Metal	.12
		**SOLDERLESS TIP PLUG** Small, Knurled A solderless, nickel-plated brass Tip Plug which fits standard phone tip jacks. Made exactly like No. 806 except shorter length. Wire fits through body tip, raps around screw portion and then tightened with knurled collar.	808	Metal	.11
		**INSULATED TIP PLUG** Meter Type, Push Button Tip is brass, nickel-plated, with Molded Bakelite in Red or Black. (Indicate color desired.) Push button, then feed conductor through hole. Release button, conductor is held firmly in position. Fits standard phone tip jacks.	837B 837R	Black Red	.36 .36
		**SOLDERLESS TIP PLUG** Large Type Handles of Molded Bakelite in choice of Red, Black, Yellow, White, Green, Blue. Indicate color desired. Nickel-plated brass body. Wire fits through body tip, wraps around screw portion and tightened with knurled collar. Fits standard phone tip jacks.	855B 855BL 855GR 855Y 855R 855W	Black Blue Green Yellow Red White	.15 .15 .15 .15 .15 .15
		**SOLDERLESS TIP PLUG** Small Type Molded Bakelite handles indicate desired color. Nickel-plated brass body. Knurled collar when tightened holds wire which has been passed through body tip and wrapped around screw portion. Fits standard phone tip jacks.	856B 856BL 856GR 856Y 856R 856W	Black Blue Green Yellow Red White	.15 .15 .15 .15 .15 .15
		**TIP PLUG** Heavy Duty, Insulated Nickel-plated brass plug with molded Bakelite handles. Large diameter well permits soldering of heavy duty wire directly into plug. Accepts standard phone tip jacks. Choice of Blue, Black, Red, Green, Yellow and White handle. Indicate color.	857B 857BL 857GR 857R 857Y 857W	Black Blue Green Red Yellow White	.15 .15 .15 .15 .15 .15
		**INSULATED TIP PLUG** Plastic handle. Available in red or black. Nickel plated brass body.	858B 858R	Black Red	.12 .12
		**NEEDLE TIP AND CHUCK** Nickel-plated brass body, nickel-plated steel needle. Chuck is removable for easy replacement. Needle pierces plating or corrosion for positive reading.	866	Metal	.14
		**INSULATED NEEDLE TIP PLUG** Molded Bakelite handles in Red, Black, Yellow, White, Green and Blue. Indicate color desired. Nickel-plated brass, body, nickel-plated steel needle. (Chuck is removable for easy replacement. Needle pierces plating or corrosion for positive reading.	868B 868BL 868GR 868R 868Y 868W	Black Blue Green Red Yellow White	.18 .18 .18 .18 .18 .18

NYLON TIP JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**NYLON TIP JACK** Wrap-Around Type with Metal Shell Molded nylon tip jack with metal shell eliminates the possibility of threads stripping during assembly. Indicate color desired	883B 883BL 883GR 883OR 883Y 883R 883W	Black Blue Green Orange Yellow Red White	.288 .288 .288 .288 .288 .288 .288
		**NYLON TIP JACK** Spade Terminal Type with Metal Shell Metal shell eliminates the possibility of threads stripping during assembly. Indicate color desired	884B 884BL 884GR 884OR 884Y 884R 884W	Black Blue Green Orange Yellow Red White	.42 .42 .42 .42 .42 .42 .42
		**NYLON TIP JACK** Feed-Through Type with Metal Shell Thread stripping during assembly is eliminated with metal shell. Indicate color desired	885B 885BL 885GR 885OR 885Y 885R 885W	Black Blue Green Orange Yellow Red White	.39 .39 .39 .39 .39 .39 .39
		**ALL NYLTON TIP JACK** Wrap-Around Type Completely molded. Accepts all standard phone tip plugs. Contact recessed in hexagon head for safe contact and for grip in tightening. Mounts in panels up to 1/4" thick in 1/4" hole. Nylon Grade FM 10001 is used for body. Nickel-plated brass hex nut. Indicate color desired	886B 886BL 886GR 886OR 886Y 886R 886W	Black Blue Green Orange Yellow Red White	.21 .21 .21 .21 .21 .21 .21
		**ALL NYLON TIP JACK** Spade Terminal Type Completely molded. Accepts all standard phone tip plugs. Contact recessed in hexagon head for safe contact and for grip in tightening. Mounts in panels up to 1/4" thick in 1/4" hole. Nylon Grade FM 10001 is used for body. Center contact is heat treated silver-plated phosphor bronze. Nickel-plated brass hex nut.	887B 887BL 887GR 887OR 887Y 887R 887W	Black Blue Green Orange Yellow Red White	.30 .30 .30 .30 .30 .30 .30
		**ALL NYLON TIP JACK** Feed-Through Type Completely molded. Contact recessed in hexagon head for both safe contact and grip in tightening. Mounts in panels up to 1/4" thick, in 1/2" hole. Nylon Grade FM 10001 for body. Center contact is tin-plated brass. Nickel-plated brass hex nut.	888B 888BL 888GR 888OR 888Y 888R 888W	Black Blue Green Orange Yellow Red White	.282 .282 .282 .282 .282 .282 .282
		**"FAST-FASTEN" TIP JACKS** Speed clip fastener speeds installation	889R 889B	Red Black	.66 .66

SPADE LUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**INSULATED SPADE LUG** Red or Black case in handle. Indicate color desired. Hot-tinned steel lug is .030 thick. Banana plug can be inserted in spade lug through back of handle.	870-B 870-R	Black Red	.108 .108

TIP JACKS

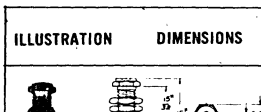
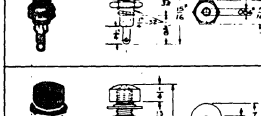
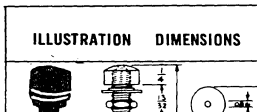
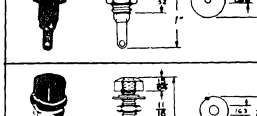
ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**PHONE TIP JACK** Non-Insulated Type A nickel-plated brass body with a phosphor bronze spring, this phone tip jack provides positive contact with standard phone tip plug. Mounts in 1/4" hole in any panel, up to 3/8" thick. Supplied with hex nut.	810	Metal	.11
		**PHONE TIP JACK** Insulated Type Nickel-plated brass body jack has Molded Bakelite head in choice of colors. Spring of phosphor bronze assures good contact. Mounts in 5/16" hole in panels up to 3/8" thickness. Supplied with hex nut and fibre washer. 7/16" diameter head.	842B 842BL 842GR 842R 842Y 842W	Black Blue Green Red Yellow White	.14 .14 .14 .14 .14 .14

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**1/2" DIAMETER HEAD** This nickel-plated brass body Phone Tip, Jack has Molded Bakelite head in choice of colors: Black or Red. (Indicate color desired.) Spring of phosphor bronze. Positive contact with end accepts standard phone tip plugs. Mounts in 5/16" hole in any panel up to 3/8" thick. Supplied complete with hex nut and fibre washer.	843B 843R	Black Red	.21 .21
		**INSULATED JACK** Combination Type Accepts standard phone tip plugs or standard banana plugs. Molded Bakelite head in Red, Blue, Black, Yellow, Green, White. Indicate color desired. Nickel-plated brass body, with phosphor bronze spring. Supplied with hex nut and fibre washer.	848B 848BL 848GR 848R 848Y 848W	Black Blue Green Red Yellow White	.17 .17 .17 .17 .17 .17

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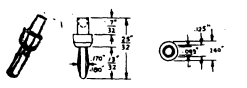
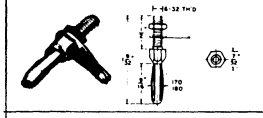
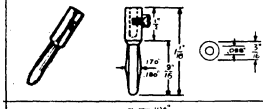
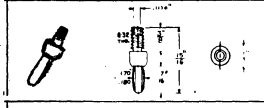
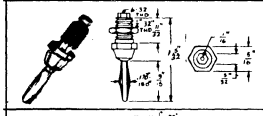
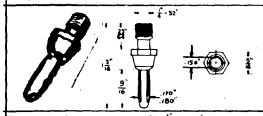
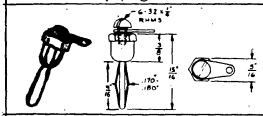
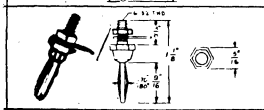
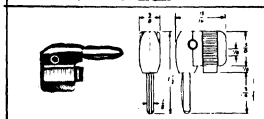
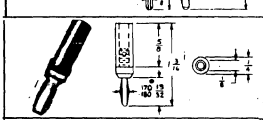
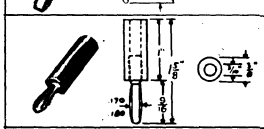
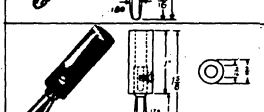
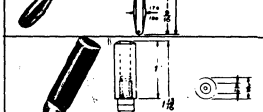
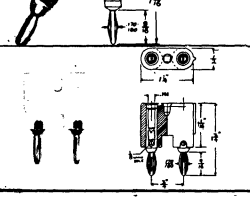
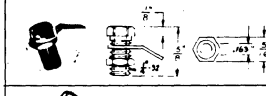
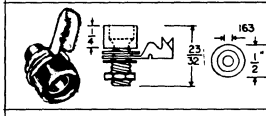
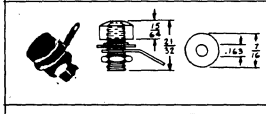
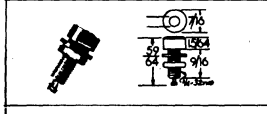
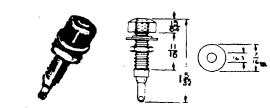
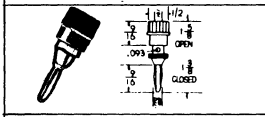
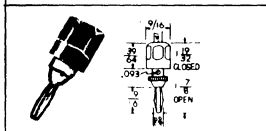
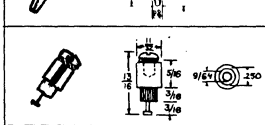
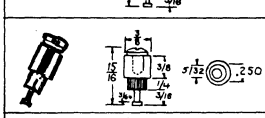
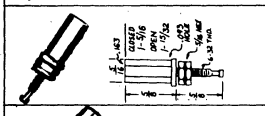
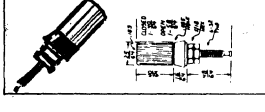
BANANA PLUGS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**MIDGET BANANA PLUG** Rivet Type Nickel or silver-plated brass body with phosphor bronze spring. Fits all standard banana jacks.	809	Metal	.162
		**BANANA PLUGS** Nickel plated hex brass body with phosphor bronze spring supplied with or without soldering lug and nut. Threaded stud for panel mounting.	811	Metal	.18
		**BANANA PLUG** Solderless Nickel-plated phosphor bronze spring. Side screw holds wire eliminating soldering. Accepts standard bananajacks. Threaded shank to fit plastic handle.	812	Metal	.18
		**MIDGET BANANA PLUG** Threaded Type Nickel or silver-plated brass body with phosphor bronze spring.	814	Metal	.162
		**BANANA PLUG** Phosphor Bronze Nickel-plated hex brass body with phosphor bronze spring. Wire can be directly soldered to brass stud or directly to plug. Solderless connection is made possible because stud locks wire to plug.	815	Metal	.18
		**BANANA PLUGS** Nickel plated hex brass body with phosphor bronze spring. Wire can be fed through side hole or can be soldered to brass stud. Threaded to facilitate the use of an insulated handle.	816	Metal	.18
		**BANANA PLUG** Threaded Hole Nickel-plated brass bananaplug fitting standard banana jacks. Four-leaf phosphor bronze spring. Threaded male enables it to be used on all size panels. Supplied with screw and tinned-brass lug.	819	Metal	.18
		**BANANA PLUG** 6-32 Thread, Lug, Nut Nickel-plated brass banana plug which fits standard banana jack. Four-leaf, nickel-plated phosphor bronze spring. A hex nut and phosphor bronze lug are supplied. Stud is threaded for panel mounting.	821	Metal	.18
		**INSULATED BANANA PLUG** Meter-Type, Push Button Nickel-plated brass body with nickel-phosphor bronze, slotted spring. Molded Bakelite handle in Red or Black. (Indicate color desired.) Push button, then feed conductor through hole. Release button, conductor is locked in position. Fits standard bananajacks.	836B 836R	Black Red	.54 .54
		**INSULATED BANANA PLUG** Miniature Type Fits standard banana jacks with Wire soldered directly into stud. Machined Plastic handle in Red or Black. Indicate color desired. Nickel-plated brass plug with nickel-plated phosphor bronze spring.	840-B 840-R	Black Red	.19 .19
		**INSULATED BANANA PLUG** Fits all standard banana jacks. Molded bakelite handle can be furnished in Red, Black and Blue. Four-leveled spring is made of phosphor bronze and in nickel-plated.	851-B 851-BL 851-R	Black Blue Red	.19 .19 .19
		**INSULATED BANANA PLUG** With Side Screw Fitting standard banana jacks, set screw holds wire without soldering. This Banana Plug has Molded Bakelite handle in Red, White, Black, Blue, Yellow or Green. Indicate color desired. Plug is nickel-plated brass with four-leaved phosphor bronze spring.	852-B 852-BL 852-GR 852-Y 852-R 852-W	Black Blue Green Yellow Red White	.19 .19 .19 .19 .19 .19
		**INSULATED BANANA PLUG** Molded Bakelite handles in Red, White, Blue, Black, Yellow, Green. Indicate desired color. Nickel-plated brass body. Knurled collar when tightened holds wire which has been passed through body tip and wrapped around screw portion. Fits standard phone tip jacks.	853-B 853-BL 853-GR 853-Y 853-R 853-W	Black Blue Green Yellow Red White	.22 .22 .22 .22 .22 .22
		**DUAL BANANA PLUGS** Molded polystyrene. Brass, nickel plated. 4-leaf phosphor bronze springs. Mates with standard dual binding post with 3/4" centers. Polarity indicated on top and side. Can be stacked for multiple connections.	841B 841R	Black Red	.72 .72

BANANA JACKS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**BANANA JACK** Non-Insulated Type Mounting in 1/4" hole in any panel up to 3/8" thick. It will accept standard banana plug. Its body is HEX Brass, nickel-plated and is supplied with hex nut and tinned brass lug.	813	Metal	.11
		**BANANA JACK** Insulated Type Nickel-plated brass body. Accepts standard banana plug. Mounts in any panel up to 3/8" thick in 5/16" hole. Supplied with hex nut, fibre washer lock washer and tinned brass lug.	844-B 844-BL 844-R	Black Blue Red	.16 .16 .16
		**BANANA JACK** Insulated Type Molded Bakelite head. Nickel-plated brass body. Accepts standard bananaplugs. Mounts in any panel up to 3/8" thick, in 5/16" hole. Supplied with hex nut, fibre washer and tinned brass lug.	845-B 845-BL 845-GR 845-R 845-Y 845-W	Black Blue Green Red Yellow White	.14 .14 .14 .14 .14 .14
		**BANANA JACK** Insulated Type With wrap-around terminal. Molded bakelite. Available in red, white, blue, green, yellow, black. Brass, nickel plated.	846-B 846-BL 846-GR 846-R 846-Y 846-W	Black Blue Green Red Yellow White	.15 .15 .15 .15 .15 .15
		**INSULATED JACK** Combination Type Accepts standard phone tip plugs or standard banana plugs. Molded Bakelite head in Red, Blue, Black, Yellow, Green, White. Indicate color desired. Nickel-plated brass body with phosphor bronze spring. Supplied with hex nut and fibre washer.	848-B 848-BL 848-GR 848-R 848-Y 848-W	Black Blue Green Red Yellow White	.17 .17 .17 .17 .17 .17

BINDING POSTS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		**COMBINATION BINDING POST AND BANANA PLUG** Converts any standard jack into 5-way binding post. Molded fluted captive nylon head. Phosphor Bronze, nickel plated spring. Available in red or black.	863-B 863-R	Black Red	.30 .30
		**COMBINATION BINDING POST AND BANANA PLUG** Molded captive nylon hex head. Converts any standard jack into 5-way binding post. Phosphor Bronze, nickel plated spring. Available in red or black.	864-B 864-R	Black Red	.30 .30
		**METAL BINDING POST** Combination Terminal Stake-In Binding Post Similar to 1-872 but smaller in size. Screwhead, turret terminal. Knurled shank. Lockwasher. Brass nickel plated. Knurled end. 8-32 x 1/4" BHS. For 1/8 thick panel.	872	Metal	.114
		**METAL BINDING POST** Combination Terminal Stake-In Binding Post Screw head, brass, nickel plated, furret terminal. Knurled shank. Knurled end, 10-32 x 1/4" long BHS. For 9/16 thick panel.	1-872	Metal	.114
		**METAL BINDING POST** Captive head. Wrap-around terminal. Hex shape. Brass, nickel plated. Accepts phone tip, spade lug, banana plug, alligator clip, or wire.	873	Metal	.25
		**METAL BINDING POST** Gold plated. Fluted brass. Molded black nylong insulator. 5-way will accept phone tip, spade lug, banana, plug, alligator clip, or wire.	1-873	Metal	.30

Net

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BINDING POSTS

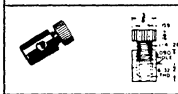
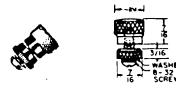
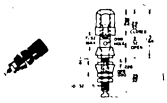
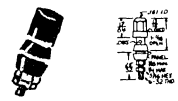
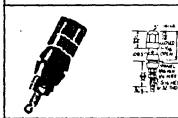
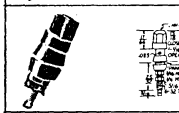
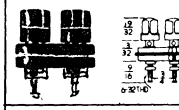
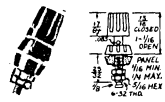
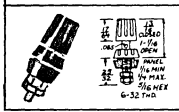
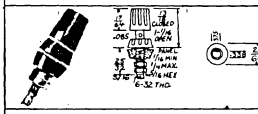
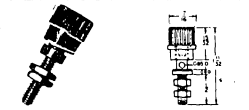
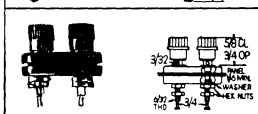
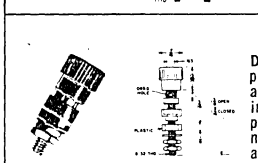
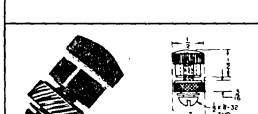
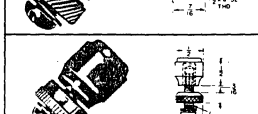
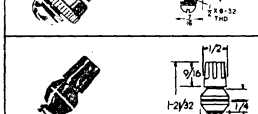
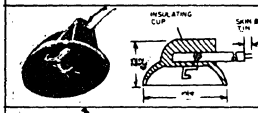
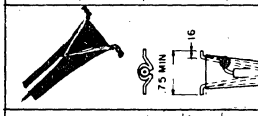
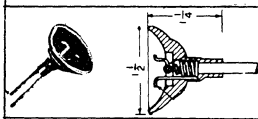
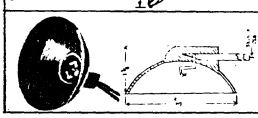
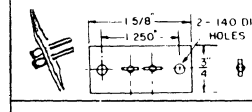
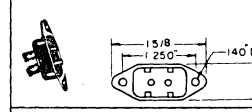
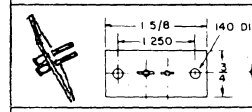
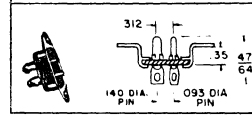
ILLUSTRATION DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	**METAL BINDING POST** Brass nickel plated. Accepts standard phone tips or banana plugs.	874	Metal	.15
	**METAL BINDING POST** Brass nickel plated. Supplied complete with screw and lockwasher.	875	Metal	.18
	**5-WAY BINDING POST** Accepts tip and banana plugs, spade lugs, alligator clips, and wire strands. Direct solder connection. Molded nylon head and washer completely insulated post from panel. Mounts in 1/2" or keyed hole for panels 1-1/16 to 1-1/4" thick. Nickel-plated brass metal parts. Molded-in brass bushings in head and washer.	876-B 876-BL 876-GR 876-Y 876-R 876-W	Black Blue Green Yellow Red White	.36 .36 .36 .36 .36 .36
	**5-WAY BINDING POST** Molded nylon. Hexagonal head. Screw-end. Accepts phone, tip, spade, lug, banana plug, alligator clip, or wire connections. Available in red or black.	1-876-B 1-876-R	Black Red	.40 .40
	**5-WAY BINDING POST** Molded nylon. Hexagonal head. Spade lug. Accepts phone tip, spade lug, banana plug, alligator clip, or wire connections. Available in red or black.	2-876-B 2-876-R	Black Red	.42 .42
	**5-WAY BINDING POST** Molded nylon. Gold plated. Hexagonal head. Wrap-around lug. Accepts phone tip in head or shaft hole. Also alligator, spade, or wire connection. Available in red and black.	3-876-B 3-876-R	Black Red	.42 .42
	**DUAL 5-WAY BINDING POST** Nylon hexagonal captive head. Brass nickel plated. Wrap-around type. Accepts phone, spade, banana, or wire connections. Available in red or black combination.	4-876-B 4-876-R 4-876-BR	Black Red Black/Red	.66 .66 .66
	**5-WAY BINDING POST** Molded nylon. Fluted head. Wrap-around end. Accepts phone tip, spade lug, banana plug, alligator clip, or wire connections. Available in red or black.	877-B 877-R	Black Red	.49 .49
	**5-WAY BINDING POST** Molded nylon. Fluted head. Screw end. Accepts phone tips, spade lug, banana plug, alligator clip, or wire connections. Available in red or black.	1-877-B 1-877-R	Black Red	.45 .45

ILLUSTRATION DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	**5-WAY BINDING POST** Molded nylon. Fluted head. Spade end. Accepts phone tip, spade lug, banana plug, alligator clip, or a wire connection. Available in red or black.	2-877B 2-877R	Black Red	.52 .52
	**5-WAY GROUNDING TYPE** Designed to accept phone tip plug, banana plug, spade lug, alligator clip, wire strand. Indicate color desired or molded plastic, captive head: Red, black, 8-32 threaded stud. Nickel-plated brass body and insert in head.	878-B 878-R	Black Red	.18 .18
	**DUAL 5-WAY BINDING POST** Nylon fluted, captive head. Brass, nickel plated. Wrap-around type. Accepts phone tip, spade lug, banana plug, alligator clip, or wire connections. Available in red or black combinations.	2-878-B 2-878-R 2-878B/R	Black Red Black/Red	.54 .54 .54
	**FULLY INSULATED TYPE** Designed to accept phone tip plugs, spade lugs, banana plugs, alligator clips or wires. Mounts in 1/4" hole in panel. Molded plastic head and washer with nickel plated brass body. Available in black and red.	879-B 879-R	Black Red	.25 .25
	**BINDING POST** Molded Bakelite with molded-in brass threaded insert. Available in red or black. Brass, nickel plated. Supplied complete with screw and lockwasher.	880-B 880-R	Black Red	.18 .18
	**BINDING POST** Molded Bakelite with molded-in brass threaded insert. Available in red or black. Brass, nickel plated. Supplied complete with screw and lockwasher.	881-B 881-R	Black Red	.18 .18
	**5-WAY BINDING POST** Self-locking. Molded nylon. Fluted head. Screw end. Accepts phone, spade, banana, alligator or wire connection. Available in red and black.	882-B 882-R	Black Red	.27 .27

ANODE CONNECTORS

ILLUSTRATION DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	**COLOR CONNECTOR** For use on color cathode ray tubes.	239-18"	—	.42
	**STANDARD CONNECTOR**	242-18"	—	.33
	**STANDARD CONNECTOR**	246-18"	—	.37
	**COLOR CONNECTOR** Large rubber cup for color tubes.	250-27"	—	.57

INTERLOCK RECEPTACLES

ILLUSTRATION DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	**FLUSH RECEPTACLE** Standard	714	—	.054
	**RECESSED RECEPTACLE** Standard	718	—	.078
	**FLUSH RECEPTACLE** Polarized	731	—	.054
	**RECESSED RECEPTACLE** Polarized	733	—	.078

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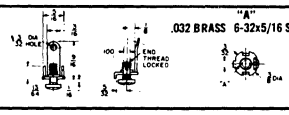
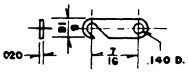
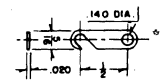
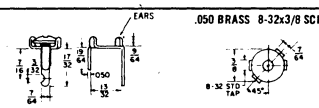
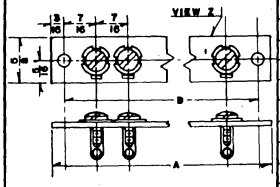
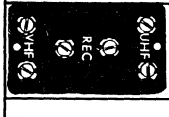
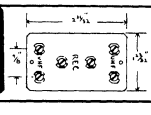
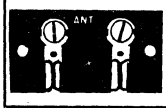
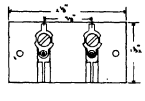
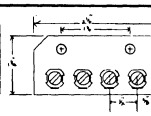
BINDING POST TERMINALS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		"A" .032 BRASS 6-32x5/16 SCREW	4403	Metal	.0396
		SHORTING LINK 7/16" Centers	4515	Metal	.018
		SHORTING LINK 1/2" Centers	4516	Metal	.018
		.050 BRASS 8-32x3/8 SCREW	4418	Metal	.054

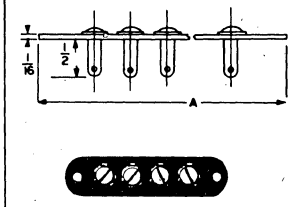
BINDING POST BOARDS

ILLUSTRATION	DIMENSIONS			Cat. #	Std. 10 Pack USA Net Each
	A	B	LUG POSITIONS (As Per View "Z") 1 2 3 4 5 6 7 8 9 10 11 12		
	1-1/4"	7/8"	● ● ●	2401	.04
	1-11/16"	1-5/16"	● ● ● ●	2402	.06
	2-1/8"	1-3/4"	● ● ● ● ●	2403	.09
	2-9/16"	2-3/16"	● ● ● ● ● ●	2404	.114
	3"	2-5/8"	● ● ● ● ● ● ●	2405	.132
	3-7/16"	3-1/16"	● ● ● ● ● ● ● ●	2406	.168
	3-7/8"	3-1/2"	● ● ● ● ● ● ● ● ●	2407	.21
	4-5/16"	3-15/16"	● ● ● ● ● ● ● ● ● ●	2408	.234
	4-3/4"	4-3/8"	● ● ● ● ● ● ● ● ● ● ●	2409	.246
	5-3/16"	4-13/16"	● ● ● ● ● ● ● ● ● ● ● ●	2410	.262
	5-5/8"	5-1/4"	● ● ● ● ● ● ● ● ● ● ● ● ●	2411	.286
	6-1/16"	5-11/16"	● ● ● ● ● ● ● ● ● ● ● ● ● ●	2412	.32

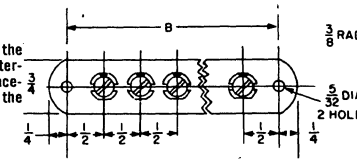
ANTENNA BINDING POSTS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		UHF CONVERTER STRIP Replacement on many UHF converters on the market today.	001-3	—	.36
		STANDARD STRIP Used on many receivers providing only VHF reception. Tuner antenna wire plugs into strip allowing fast disconnect.	001-4	—	.18
		UHF-VHF STRIP Used on many of the new receivers with combination UHF-VHF tuners.	001-12	—	.28

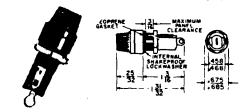
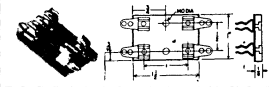
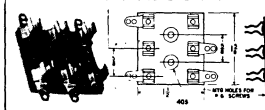
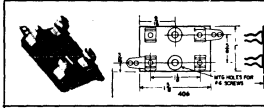
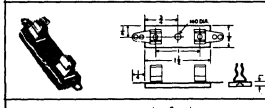
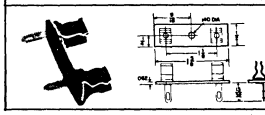
BINDING POST BOARDS

ILLUSTRATION	DIMENSIONS			Cat. #	Std. 10 Pk USA Net Each
	A	B	TERMINAL POSITIONS 1 2 3 4 5 6 7 8 9 10 11		
	1-1/2"	1"	● ● ●	2551	.042
	2"	1-1/2"	● ● ● ●	2552	.066
	2-1/2"	2"	● ● ● ● ●	2553	.09
	3"	2-1/2"	● ● ● ● ● ●	2554	.114
	3-1/2"	3"	● ● ● ● ● ● ●	2555	.132
	4"	3-1/2"	● ● ● ● ● ● ● ●	2556	.174
	4-1/2"	4"	● ● ● ● ● ● ● ● ●	2557	.216
	5"	4-1/2"	● ● ● ● ● ● ● ● ● ●	2558	.234
	5-1/2"	5"	● ● ● ● ● ● ● ● ● ● ●	2559	.252
	6"	5-1/2"	● ● ● ● ● ● ● ● ● ● ● ●	2560	.270

Utilized as replacements for antenna terminals on the rear of many television receivers, and as speaker terminals on many amplifiers. Makes an excellent replacement and is ideal for the engineer or hobbyist in the construction of new equipment.



FUSE MOUNTING BASES

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		PANEL MOUNTED HOLDERS 3AG Type Fuses Molded from black, general purpose phenolic powder. All metal parts are plated to resist corrosion and solder lugs are plated to facilitate soldering. Rated at 15 amps., 250 volts and is Underwriter Laboratories approved.	450	Black	.43
		Bases are manufactured from XP laminated phenolic, clips are made from .020 spring brass, cadmium or silver plated. Two .140 diameter mounting holes.	403	Black	.24
		Bases are manufactured from XP laminated phenolic, clips are made from .020 spring brass, cadmium or silver plated. Three pole unit with mounting holes for #6 screws.	405	Black	.48
		Bases are manufactured from XP laminated phenolic, clips are made from .020 spring brass, cadmium or silver plated. Two pole unit with mounting holes for #6 screws.	406	Black	.36
		Bases are manufactured from XP laminated phenolic, clips are made from .020 spring brass, cadmium or silver plated. Single pole with .140 diameter mounting holes.	408	Black	.13
		Bases are manufactured from XP laminated phenolic, clips are made from .020 spring brass, cadmium or silver plated. Single pole with solder connector below base.	410	Black	.13

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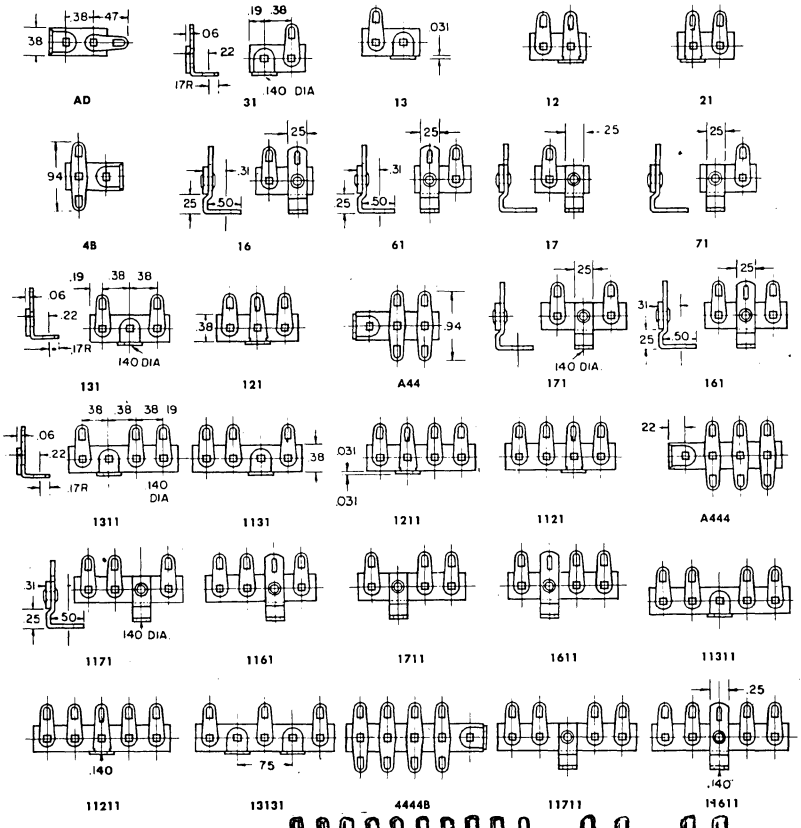
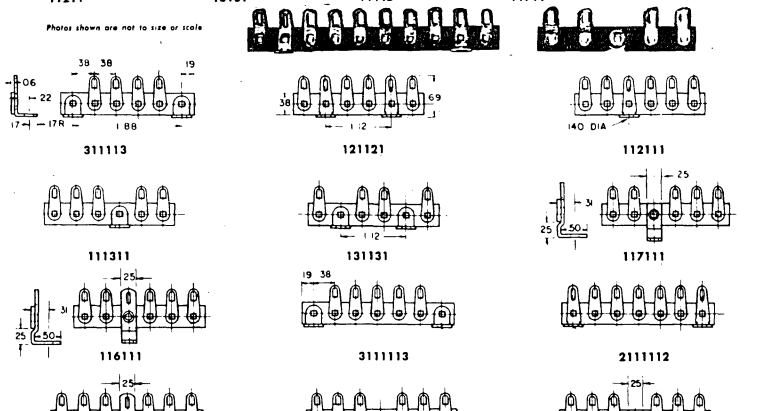
TERMINAL STRIPS

Strips are 1/16" by 3/8" NEMA grade XP laminated phenolic with brass or steel lugs. All are securely eyeletted in position. Lug spacing is .38". NT•T's vast assortment of strips allows for the most complete coverage and applications.

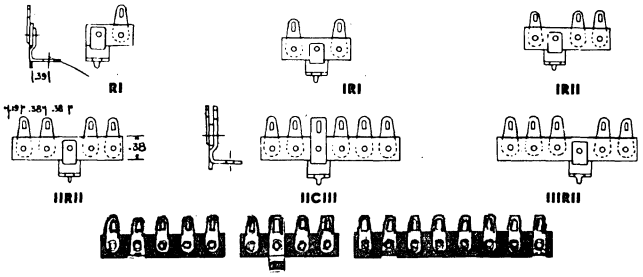
ILLUSTRATIONS



Photos shown are not to size or scale

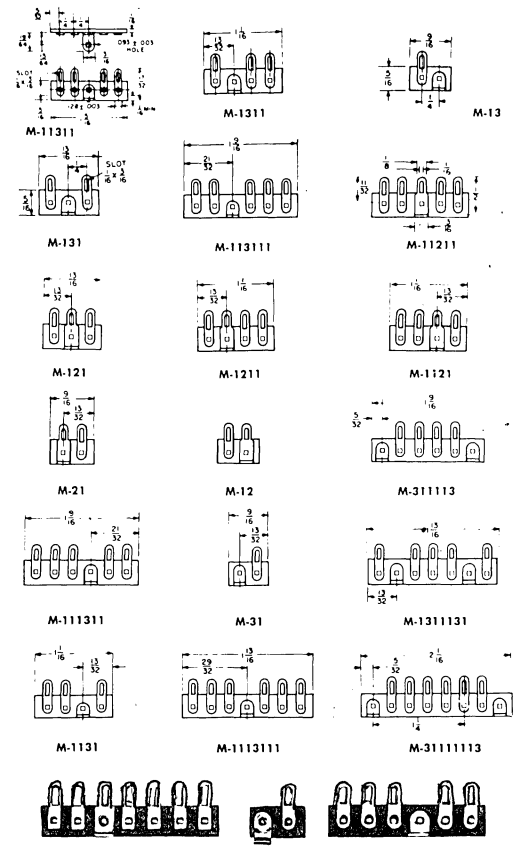


COLOR TV TERMINAL STRIPS



MINIATURE TERMINAL STRIPS

ILLUSTRATIONS



TERMINAL STRIPS PRICE LIST

Catalog Number	Std. 10 Pack USA Net Each
AD	.0246
4B	.0246
12	.0216
13	.0216
16	.0246
17	.0246
21	.0216
31	.0216
A44	.031
61	.0246
71	.0246
121	.0246
131	.0246
161	.0246
171	.0246
A444	.0499
1121	.0369
1131	.0369
1161	.0369
1171	.0369
1211	.0369
1311	.0369
1611	.0369
1711	.0369
4444B	.0669
11211	.0429
11311	.0429
11611	.0369
11711	.0369
13131	.0429
111311	.0451
112111	.0451
116111	.0451
117111	.0451
121121	.0515

Catalog Number	Std. 10 Pack USA Net Each
131131	.0515
311113	.0515
1113111	.0491
1116111	.0491
1117111	.0491
2111112	.0521
3111113	.0521
12111121	.061
13111131	.061
31111113	.061
M-12	.0246
M-13	.0246
M-21	.0246
M-31	.0246
M-121	.0338
M-131	.0338
M-1121	.04
M-1131	.04
M-1211	.04
M-1311	.04
M-11211	.0554
M-11311	.0554
M-111311	.0615
M-113111	.0615
M-311113	.063
M-1113111	.0677
M-1311131	.0702
M31111113	.08
R-1	.0238
1R1	.0271
1R11	.0406
11R11	.0472
11C111	.0496
111R11	.0496

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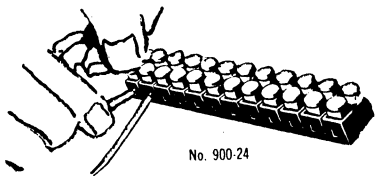
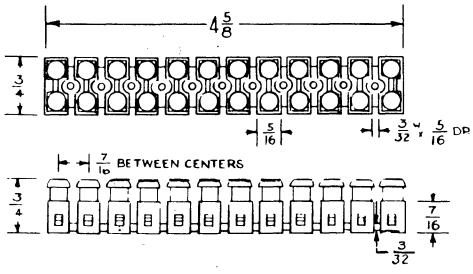
MOLDED TERMINAL BLOCKS

No. 900-10



No. 900-24

Catalog Number	Color	Std. 10 Pack USA Net Each	Qty.	Bulk Pack* USA Net Each
900-4	Black	.52	100	.468
900-6	Black	.75	100	.675
900-8	Black	.98	100	.882
900-10	Black	1.28	100	1.08
900-12	Black	1.49	100	1.34
900-14	Black	1.64	100	1.48
900-16	Black	1.88	100	1.69
900-18	Black	2.11	100	1.90
900-20	Black	2.33	100	2.10
900-24	Black	2.79	100	2.51

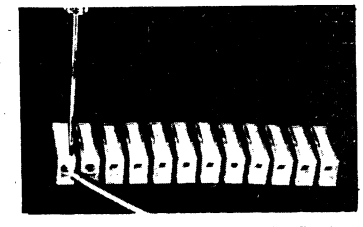


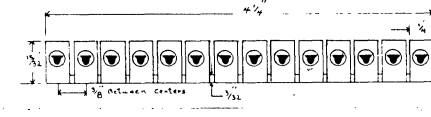
Like Type No. 905, the No. 900 terminal block is solderless, and is molded of hard black polyvinylchloride. Push buttons are molded of red polyvinylchloride.

These terminal blocks have extremely high dielectric properties and are approved to resist 440 volts or 500 volts when mounted on insulated surface. Maximum current 27 amperes, maximum heat capacity 70° C. Maximum wire size applicable AWG #12. Maximum contact pressure: 13.22 lbs. Connection of conductor is extremely fast. Press the red button and insert the wire. Release pressure for locking. The beryllium copper contacts are molded into the block. Type 900 is available for 24 connectors. It may be cut to smaller size if required.

910 SERIES PUSH TYPE RELEASE

Catalog Number	Color	Std. 10 Pack USA Net Each	Qty.	Bulk Pack* USA Net Each
910-4	Clear	.25	100	.225
910-6	Clear	.48	100	.432
910-8	Clear	.71	100	.639
910-10	Clear	.94	100	.846
910-12	Clear	1.17	100	1.05
910-14	Clear	1.40	100	1.26
910-16	Clear	1.63	100	1.47
910-18	Clear	1.86	100	1.67
910-20	Clear	2.09	100	1.88
910-24	Clear	2.55	100	2.30



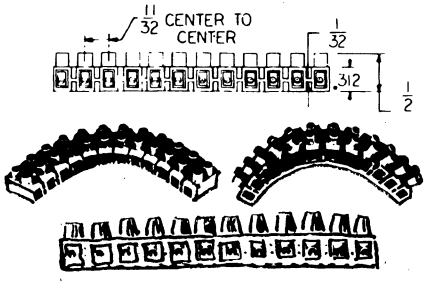


Solderless, flexible, Thermoplastic Terminal Block. Accepts stranded tinned or solid wire to 13 AWG. Just press wire into opening. No wrapping, no soldering. Place small blade screw driver in top slot and press to release wire. Contacts are Copper nickel-plated. Maximum operating temperature 212° F. Transit resistance 0.7 Ohms. Units are rated at 380-440 Volts D.C. Ideal for labs, schools, and hobbyists. Type 910 is available up to 24 connectors and may be cut down as desired.

No. 910-4 —Four-connector terminal block
No. 910-6 —Six-connector terminal block
No. 910-8 —Eight-connector terminal block
No. 910-10—Ten-connector terminal block
No. 910-12—Twelve-connector terminal block
No. 910-14—Fourteen-connector terminal block
No. 910-16—Sixteen-connector terminal block
No. 910-18—Eighteen-connector terminal block
No. 910-20—Twenty-connector terminal block
No. 910-24—Twenty-four-connector terminal block

905 SERIES • FLEXIBLE

Catalog Number	Color	Std. 10 Pack USA Net Each
905	Gray	1.95



Type No. 905 Solderless Terminal Blocks are specially designed for applications where space and weight conservation are important factors. Because they are molded of flexible polyvinylchloride material they may be bent in any direction to fit contours and sharp angles. Typical applications for these terminal blocks include missile guidance systems, computers, aircraft communications, underwater detecting equipment, etc.

The shortest distance between the live parts of Type No. 905 Terminal Block is 3/8". Its brass terminals will accommodate a #10 wire as a maximum. The polyester material of which the blocks are made is rated at max. of 30 amps, 380 volts, or 440 volts if mounted on insulated surface. Maximum heat capacity: 60° C. Insert conductor in block and tighten the set screw.

Flexible Terminal Block No. 905 measures 3-3/4" long, 5/8" wide, 1/2" high and 11/32" between terminal centers. It may be cut to smaller sizes as required.

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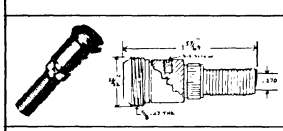
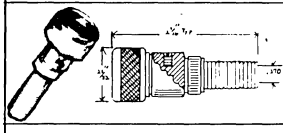
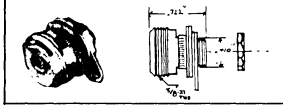
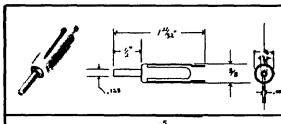
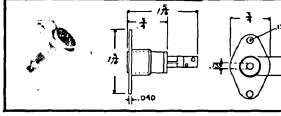
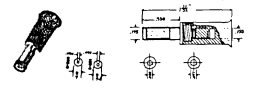
MICROPHONE CONNECTORS

ILLUSTRATION	DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
		CORD MOUNTED Male Flexible spring gives strain relief to cable. Shield is held securely by set screw. Used extensively for microphone, apmplifier applications.	101	Metal	.30
		CORD MOUNTED Female Flexible spring gives strain relief to cable. Collar secures connector firmly to jack. Used extensively for microphone, amplifier applications.	102	Metal	.39
		PANEL MOUNT Single Conductor Mates with #102 connector. Mounts in 3/8" hole and may be isolated from chassis by insulation washer.	103	Metal	.30

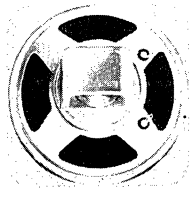
COAXIAL ANTENNA PLUGS AND JACKS

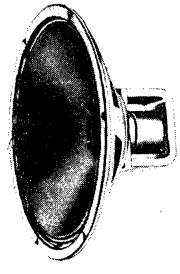
	COAXIAL ANTENNA PLUG Used extensively in automotive, CATV, MATV, and CCTV systems. Hot tinned brass for strength and solderability. Ceramic insulator for low losses.	6-70	Metal	.102
	COAXIAL ANTENNA JACK Used extensively in automotive, CATV, MATV, and CCTV systems. Hot tinned brass for strength and solderability. Ceramic insulator for low losses.	6-71	Metal	.18

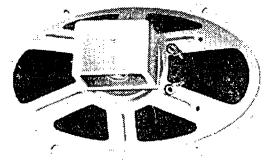
COAXIAL JACKS

	COAXIAL JACKS Used extensively on A.C. adapters, and battery chargers for transistorized tape recorders, television receivers, and radios.	6-200 6-201 6-202 6-203	Green Red Blue Tan	.39 .39 .45 .45

SPEAKERS





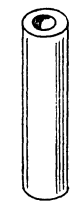


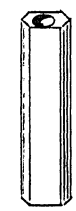
A complete line of hi-fidelity speakers and speakers systems in all sizes and shapes are available. The speakers, NT•T/Peerless are made in Denmark to the finest specifications and materials.

SPACERS AND STANDOFFS

CODE: The first letter indicates the shape: H=Hex, R=Round. First two digits indicate length decimally, eq. 25=1/4 inch. Second two digits indicate outside diameter. Number after dash indicates center hole clearance in screw size or thread size.

MODEL CODE NUMBER	PRICE
R2525-4	3.30/C
R2525-6	3.30/C
R2525-8	3.30/C
R2537-4	4.35/C
R2537-6	4.35/C
R2537-8	4.35/C
R2550-4	5.28/C
R2550-6	5.28/C
R2550-8	5.28/C
R2575-4	6.30/C
R2575-6	6.30/C
R2575-8	6.30/C
R2510-4	7.20/C
R2510-6	7.20/C
R2510-8	7.20/C
R3750-8	8.00/C
R3775-8	10.90/C
R2525-440	3.90/C
R2525-632	3.90/C
R2525-832	3.90/C
R2537-440	4.95/C
R2537-632	4.95/C
R2537-832	4.95/C
R2550-440	6.00/C
R2550-632	6.00/C
R2550-832	6.00/C
R2575-440	8.40/C
R2575-632	8.40/C
R2575-832	8.40/C
R2510-440	10.40/C
R2510-632	10.40/C
R2510-832	10.40/C
H2525-440	4.20/C
H2525-632	4.20/C
H2525-832	4.20/C
H2537-440	5.25/C
H2537-632	5.25/C
H2537-832	5.25/C
H2550-440	6.30/C
H2550-632	6.30/C
H2550-832	6.30/C
H2575-440	9.20/C
H2575-632	9.20/C
H2575-832	9.20/C
H2510-440	11.20/C
H2510-632	11.20/C
H2510-832	11.20/C





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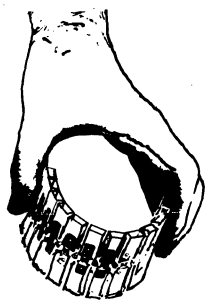
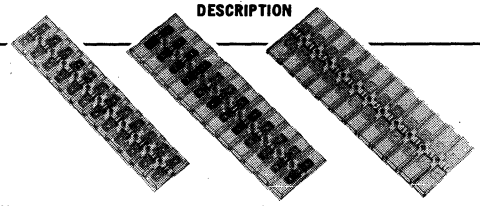
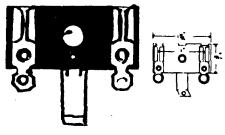
TERMINAL BLOCKS





DESCRIPTION	Catalog No.	Size	Standard 10 Pack Color	Standard 10 Pack U.S.A. Net Ea.
Unique terminal block for use with quick-disconnect type terminals. Ideal for breadboarding, test strips, simplifying installations. Solderless, exceptionally flexible. Available in 6 and 12 cell (12 and 24 connectors) that may be easily cut to match and in three overall and connector sizes. Molded from transparent Polyvinyl chloride. Rated at 250 VDC, 20A, 80°C.	915-12	5-5/8 × 1-3/32 × 1/4	CLEAR	$ .68
	915-24		CLEAR	1.23
	920-12	5-21/32 L × 1-21/32 × 1/4	CLEAR	$ .71
	920-24		CLEAR	1.28
	925-12	5-21/32 L × 1-3/4 × 1/4	CLEAR	$ .73
	925-24		CLEAR	1.33

CONTACT CONNECTORS

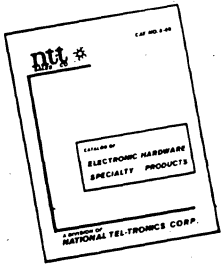
ILLUSTRATION DIMENSIONS	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	**TWO CONTACT STRIP**—Used on many television receivers for speaker hook-up or on the tuners to connect such circuits as AGC, pilot lights, or other voltage sources.	002-5	—	.066*

CHEMICALS

ILLUSTRATION	DESCRIPTION	Catalog Number	Standard Pack	USA Net Each
	LECTRO-KLEEN Tuner-Contact Cleaner—There is no longer a need to stock contact cleaner for controls and another type for tuners. **LECTRO-KLEEN** will do all of your electronic cleaning jobs. **LECTRO-KLEEN** cleans, lubricates, and protects at the same time. Due to the low viscosity, UHF and VHF tuners will not drift. One swish shows the difference. Most important, **LECTRO-KLEEN** will not harm plastic . . . and it's non-toxic . . . safe for you, too. Insist on **LECTRO-KLEEN**.	7-001	24-6 oz. Cans	1.17

MAGNETIC MICROPHONE HOLDER

ILLUSTRATION	DESCRIPTION	Catalog Number	Std. 10 Pack Color	Std. 10 Pack USA Net Each
	Ideal for mobile communication. No more fumbling to find the microphone holder. NT • T's Magnetic-Microphone holder will adhere to most metal surfaces such as dash boards, and the sides of set. This holder was designed not only for standard CB type applications, but also for heavy two-way radio work such as cat ambulances, and industrial communication. This convenience allows the driver to keep his eye on the road and avoid accidents. Fits most microphones.	3-006	Metal	.99

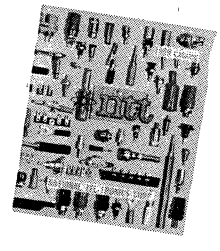


TERMINAL BOARDS

To your custom design or N.T.T. standard. Under-one-roof fabrication from any material, with any type terminals. Paper; cloth; glass; nylon laminates bonded with phenolic resins, silicon or melamine resins. MIL, Jan, Commercial Specs. Lacquered, varnished or plain. Imprinted all ways.

FABRICATED PARTS

Terminal boards (without terminals), Jack panels boards, front panel plates, etc., all the above terminal board materials as well as aluminum, brass, copper, and steel. Metal parts may be finished in cadmium, anodized, iridite, lacquer, etc. All types of printing.



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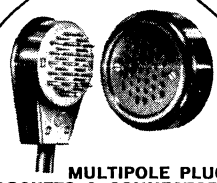
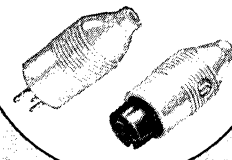
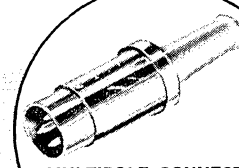


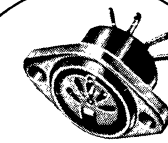
MULTIPOLE PLUGS SOCKETS & CONNECTORS UP TO 36 POLES

MULTIPOLE CONNECTORS UNSHIELDED

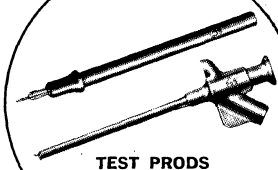




MULTIPOLE CONNECTORS DOUBLE-SHIELDED SHIELDED, UNSHIELDED



MINIATURE SOCKETS SHIELDED AND UNSHIELDED

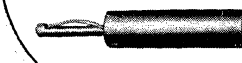


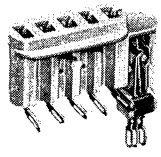
TEST PRODS THIRD HAND PROBES

PHONO PLUGS, SOCKETS AND ADAPTERS

BANANA PLUGS & JACKS
More than a hundred configurations. Bunch pin, transverse slot, leaf spring, rigid handles, unbreakable handles, quick-acting, with or without strain-relief. Available in over 20 colors.

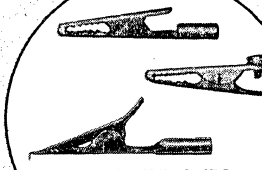
BANANA PLUGS & JACKS





I.E.C. CONNECTORS

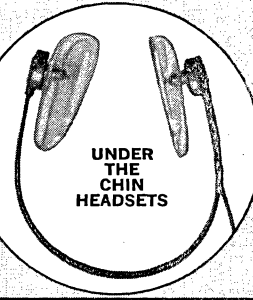
MULTI-WAY BINDING POSTS AND TERMINALS



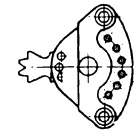
ALLIGATOR CLIPS STAINLESS OR PLATED

ULTRA-MINIATURE AND MICRO-MESH ALLIGATOR CLIPS

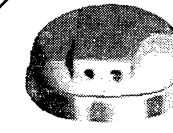
ALLIGATOR CLIPS INSULATED, QUICK-ACTING



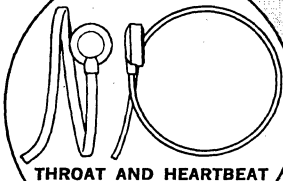
UNDER THE CHIN HEADSETS



MINIATURE SWITCHES
Ball bearing detent.

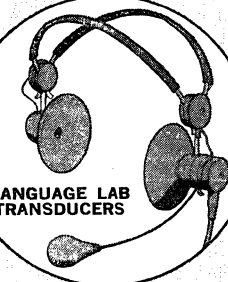


HIGH PERFORMANCE MINIATURE EARPHONES



THROAT AND HEARTBEAT MICROPHONES

rye INDUSTRIES



LANGUAGE LAB TRANSDUCERS

COMMUNICATION MICROPHONES

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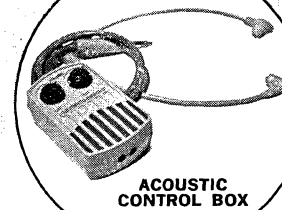
☐ Plug, socket connector, test prod catalog. ☐ General catalog, including miniature switches. ☐ Professional and consumer microphones, headsets, transformers.



ACOUSTIC CONTROL BOX

Sound control boxes. Complete with volume control and driver units. With acoustical headset. As engineered and manufactured for a major American airline.

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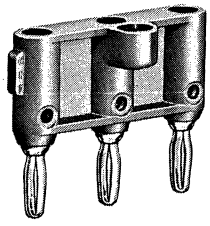
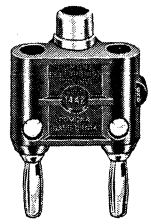
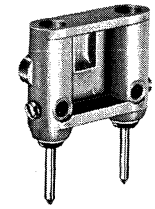


TRIPLE BANANA PLUG
PAGE 608

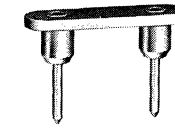


ADAPTER — PHONO JACK TO DOUBLE PLUG — PAGE 613

ADAPTER — BNC RECEPTACLE TO BANANA PLUG
PAGE 613

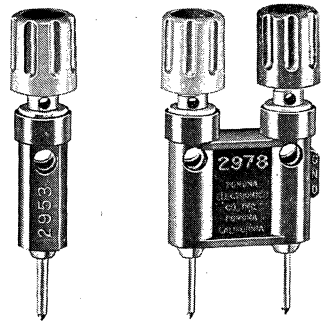


COMPONENT MOUNTING DOUBLE PIN TIP PLUG — PAGE 619



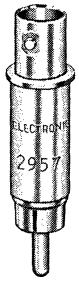
PIN TIP SHORTING BAR
PAGE 619

BINDING POST TO BANANA PLUG
PAGE 609

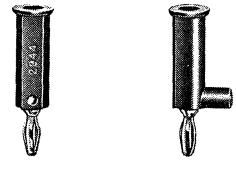


BINDING POSTS TO PIN TIP PLUGS — PAGE 619

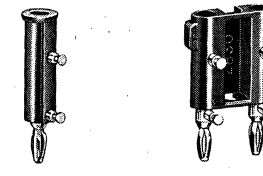
PAGE 615 PAGE 613
ADAPTERS BNC RECEPTACLE TO PHONE PLUGS



ADAPTER — BNC RECEPTACLE TO PHONO PLUG
PAGE 613

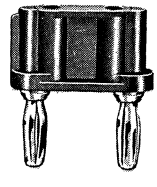


MINIATURE — SOLDERLESS BANANA PLUGS — PAGE 620

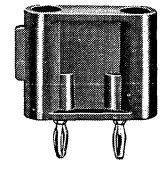


MINIATURE — ISOLATION PLUGS
PAGE 622

MINIATURE SHORTING BAR
PAGE 622



ADAPTER — MINIATURE JACKS TO STANDARD PLUGS — PAGE 622



ADAPTER — STANDARD JACKS TO MINIATURE PLUGS — PAGE 622

MINIATURE BANANA PLUG PATCH CORD — PAGE 622

MINIATURE RIGHT ANGLE STACK-UP PATCH CORD — PAGE 622

MINIATURE TEST CABLE WITH CLIPS — PAGE 623

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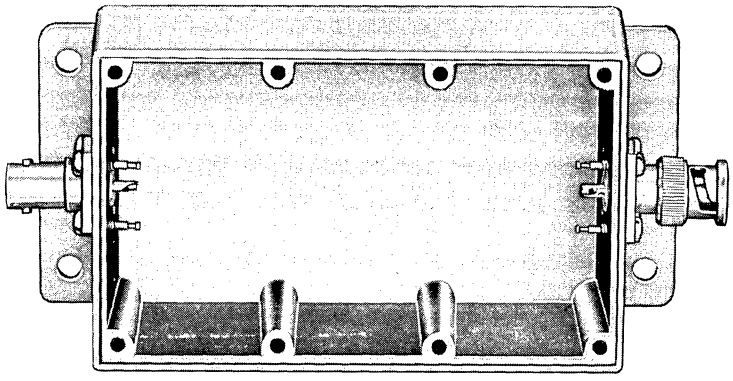
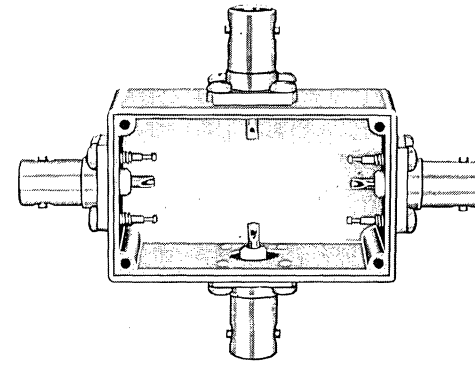
POMONA ELECTRONICS

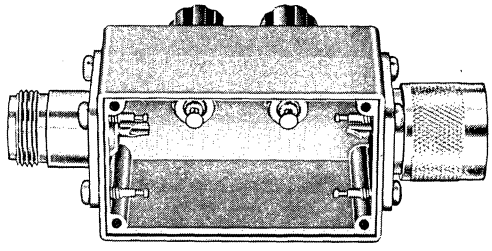
NEW ITEMS



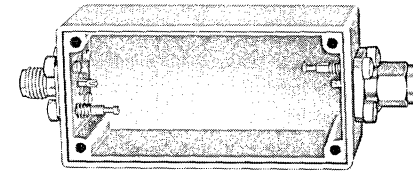
LARGER "SHIELDED BOXES" — PAGE 627



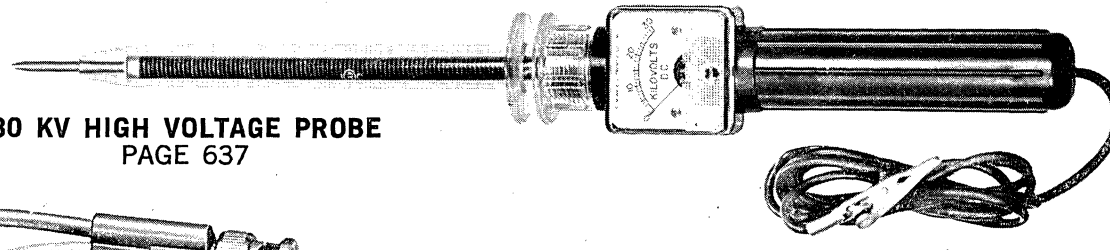
SHIELDED "BLACK BOXES" CROSS SECTIONS
PAGE 626



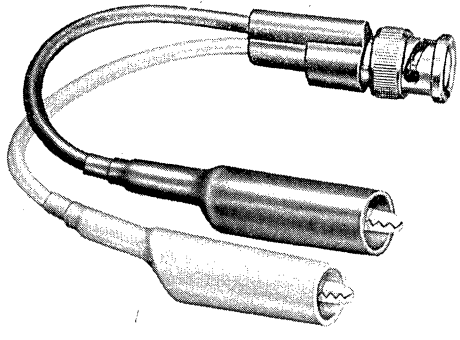
SHIELDED "BLACK BOXES" WITH BINDING POSTS — PAGE 626



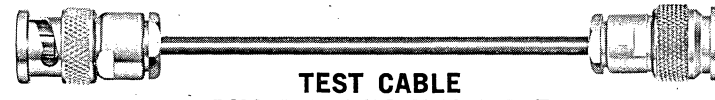
SHIELDED "BLACK BOXES" WITH OSM CONNECTORS — PAGE 626



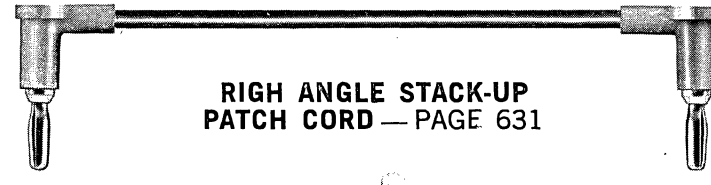
30 KV HIGH VOLTAGE PROBE
PAGE 637



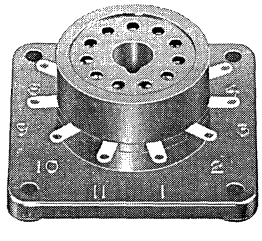
BNC PLUG TO TEST CLIPS
PAGE 635



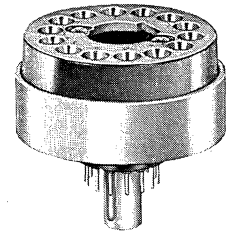
TEST CABLE BNC MALE TO TNC MALE
PAGE 640



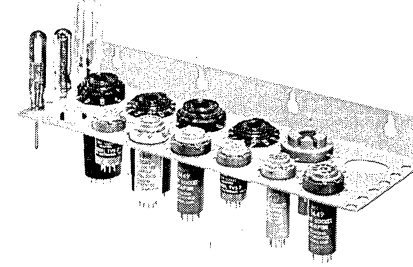
RIGH ANGLE STACK-UP PATCH CORD — PAGE 631



11 CONTACT RELAY SOCKET
PAGE 645



CRT CONVERSION ADAPTER — PAGE 644



TEST SOCKET ADAPTER HOLDER
PAGE 643

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POMONA ELECTRONICS

¾" SPACED MOLDED BANANA PLUGS

Pomona Banana Plug and stack-up accessories are of the highest quality — tough thermoplastic — molded directly on to the metal body of plugs and connectors for maximum strength, moisture resistance and insulative properties:

General Specifications listed below apply to items using banana plugs in this catalog.

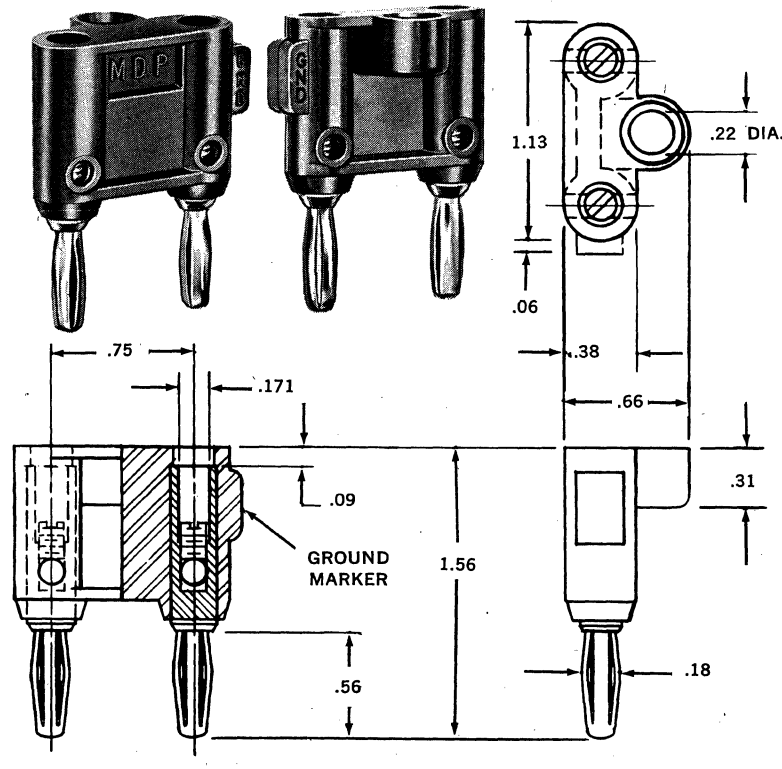
FEATURES . . .

- One piece beryllium copper heat treated spring for maximum long life.
- Rounded spring design results in maximum contact area.
- STACK-UP feature allows an unlimited number of connections at the same electrical point.

SPECIFICATIONS . . .

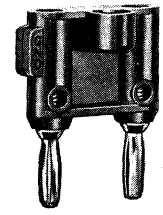
- Fits standard 0.166 dia. banana jacks.
- Spring, beryllium copper alloy 170 per QQ-C-533.
- Plug body, Brass per QQ-B-626. Comp. 22.
- Nickel plated per QQ-N-290, Class 2.
- Contact resistance less than 0.001 ohms per banana plug.

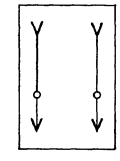
ACTUAL SIZE



RATINGS	Models: MDP; MDP-ST; 1330; 1330-ST; 2970
■ Capacity :	0.8 pf to 10 MC
■ Current :	15 Amps. Cont., 30 Amps. Int.
■ Voltage :	5000 W.V. D.C.
■ Temperature :	—25°C to +85°C, operating temp.

DOUBLE BANANA PLUG





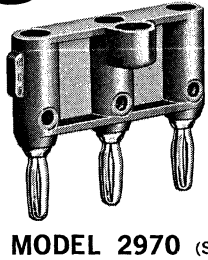
Double banana plug on ¾" centers; set screws secure leads; simplifies cable construction or component mounting; banana jacks permit top Stack-Up for multiple connections.

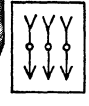
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL MDP (Specify Color) QUANTITY DISC. CODE **A** **NET .75**

NEW

TRIPLE BANANA PLUG



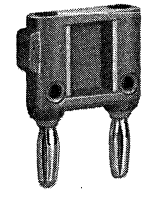


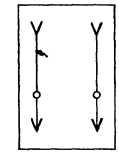
Triple banana plug on ¾" centers; set screws secure leads. Ideal for balanced line 2 conductor shielded cable assemblies. Banana jacks permit top Stack-up for multiple connections.

COLORS: Black, Red.

MODEL 2970 (Specify Color) QUANTITY DISC. CODE **A** **NET 1.25**

COMPONENT MOUNTING DOUBLE BANANA PLUG



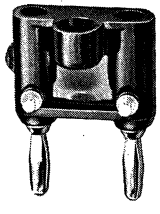


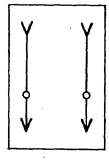
Double banana plug on ¾" centers; set screws secure leads; features recess for mounting small components; banana jacks permit top Stack-Up for multiple connections.

COLORS: Black, Red

MODEL 1330 (Specify Color) QUANTITY DISC. CODE **A** **NET .75**

DOUBLE BANANA PLUG WITH SOLDER TURRET TERMINALS



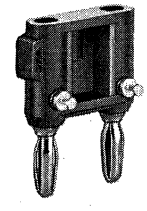


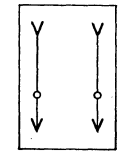
Similar to Model MDP, except has solder turret terminals for permanent noise-free connections of cables and components. Double banana plug on ¾" centers; banana jacks permit top Stack-Up for multiple connections.

COLOR: Black

MODEL MDP-ST QUANTITY DISC. CODE **A** **NET .85**

COMPONENT PLUG WITH SOLDER TURRET TERMINALS





Similar to Model 1330, except has solder turret terminals for permanent noise-free connections of components, etc. Double banana plug on ¾" centers: Banana jacks permit top Stack-Up for multiple connections.

COLORS: Black, Red.

QUANTITY DISC. CODE **A**

MODEL 1330-ST (Specify Color) **NET .85**

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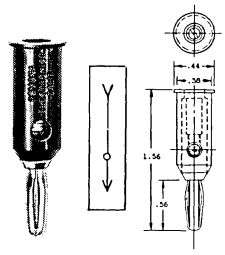
POMONA ELECTRONICS

BANANA PLUG ACCESSORIES

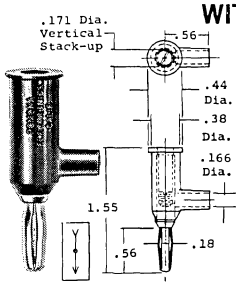
SOLDERLESS BANANA PLUG — STACK-UP



Wire firmly held in place with internal set screw, eliminating soldering. Assembly of test leads simplified.
UPPER: Banana jack, .166 dia.; Brass, nickel plated.
LOWER: Banana plug, one piece nickel plated beryllium copper spring for use with standard 0.166 dia. banana jack.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL 1325 (Specify color) QUANTITY DISC. CODE **A** **NET .50**

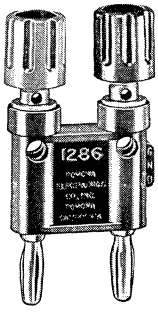
SOLDERLESS BANANA PLUG WITH SAFETY COLLAR — STACK-UP

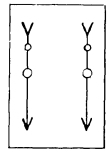


Features: Integral safety collar insulates exposed wire leads. Wire firmly held in place with internal set screw, eliminating soldering. Assembly of test leads simplified.
UPPER: Banana jack, .166 dia.; Brass, nickel plated.
LOWER: Banana plug, one piece nickel plated beryllium copper spring for use with standard 0.166 dia. banana jack.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL 1825 (Specify Color) QUANTITY DISC. CODE **A** **NET .50**

BINDING POSTS TO DOUBLE BANANA PLUG

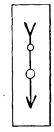




Features insulated binding posts on ¾" centers for rapid mounting and interchangeability of components. Binding posts allow top Stack-Up for multiple connections. Side Stack-Up provided by thru-holes in plug body.
UPPER: Insulated double binding posts, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: Double banana plug, on ¾" centers.
COLORS: Body, Black. Binding Posts, Black/Red.

MODEL 1286 QUANTITY DISC. CODE **A** **NET 2.50**

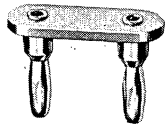
NEW BINDING POST TO SINGLE BANANA PLUG

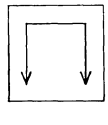


Features insulated binding post. Binding post allows top Stack-Up for multiple connections. Side Stack-Up provided by thru-hole in plug body.
UPPER: Insulated binding post. Cross hole (.166 dia.) in body provides side Stack-Up connections.
LOWER: Single banana plug, one piece nickel plated beryllium copper spring for use with standard 0.166 dia. banana jack.
COLORS: Black, Red.

MODEL 2894 (Specify color) QUANTITY DISC. CODE **A** **NET 1.50**

METAL SHORTING BAR

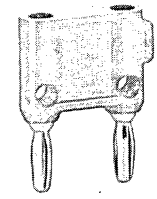


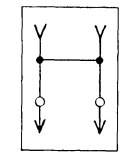


Low profile, nickel plated brass shorting bar. Double banana plugs on ¾" centers swaged to 3/32" thick brass bar. Resistance, less than 1.5 milliohms installed. Current rating: 15 Amps. Cont., 30 Amps. Int.

MODEL 1855 QUANTITY DISC. CODE **A** **NET .75**

INSULATED SHORTING BAR

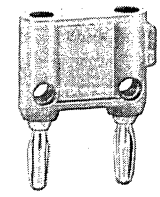


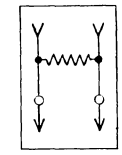


Ideal as a connecting link for use with ¾" spaced banana jacks. Banana plugs internally solder-bonded with #14 AWG wire. Banana jacks provide top Stack-Up. Cross holes (.166 dia.) in body provide side Stack-Up connections. Resistance less than 1.5 milliohms installed. Current rating 15 Amps. Cont., 30 Amps. Int. "Shorting Bar" marked on top of plug.
COLORS: Natural, Black, Red.

MODEL MDP-S (Specify Color) QUANTITY DISC. CODE **A** **NET .95**

MOLDED PRECISION RESISTOR



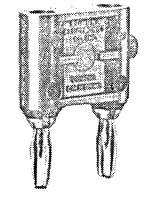


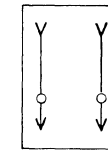
Ideal where rapid interchange of resistance values is required. Used in breadboarding, R & D labs., Standards, Terminations, etc. Deposited carbon 1% resistor, ½ watt, molded internally. Resistor soldered to double banana plug, on ¾" centers. Top Stack-Up provided for multiple connections. Cross holes (.166 dia.) in body provide side Stack-Up connections. Resistance value stamped on top of plug.

(OHMS)				
50	200	1K	100K	1 Meg.
75	250	5K	200K	2 Meg.
120	500	10K	250K	5 Meg.
130	600	20K	500K	10 Meg.
150	900	50K		

MODEL MDP-R (Specify Value) QUANTITY DISC. CODE **A** **NET 2.75**

ADAPTER — .080 TIP JACKS TO DOUBLE BANANA PLUG

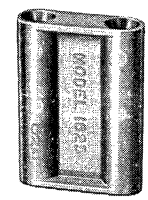


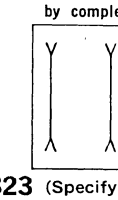


Permits .080 Tip plugs to be used with equipment having banana jacks.
UPPER: Tip jacks, beryllium copper, gold flashed; spaced on ¾" centers to accept .080 dia. pin tip plugs.
LOWER: Double banana plug, on ¾" centers, nickel plated. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLOR: Black.

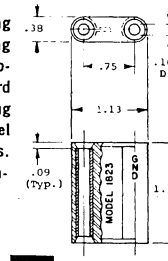
MODEL 1845 QUANTITY DISC. CODE **A** **NET .85**

DOUBLE BANANA PLUG SPLICE





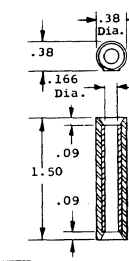
Provides rapid method for splicing cables. Reduces necessity of storing extra long cables. Molded thermo-plastic body eliminates shock hazard by completely enclosing banana plug contact. Brass, nickel plated banana jacks. .166 dia., on ¾" centers.
COLORS: Black, Red.



MODEL 1823 (Specify color) QUANTITY DISC. CODE **A** **NET .50**

SINGLE BANANA PLUG SPLICE

Provides rapid method for splicing single banana plug patch cords. Reduces the necessity of storing extra long patch cords. Molded thermo-plastic body eliminates shock hazard by completely enclosing banana plug contact. Brass, nickel plated banana jack, .166 dia.
COLORS: Black, Red.
Standard Package: 10 (per color)



MODEL 1829 (Specify color) QUANTITY DISC. CODE **A** **NET .25 ea.**

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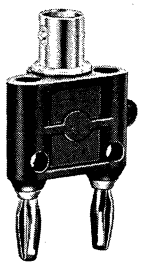
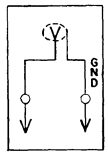
POMONA ELECTRONICS

BNC ADAPTERS

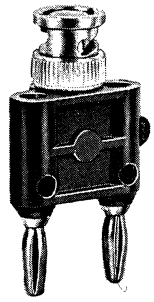


ADAPTER — BNC RECEPTACLE TO DOUBLE BANANA PLUG

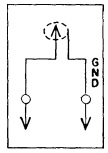


Permits BNC plug to be used with equipment having banana jacks. Excellent for adapting laboratory VTVM, oscilloscopes and signal generator inputs to readily available coaxial cables.
UPPER: BNC receptacle.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLOR: Black.

MODEL 1269 QUANTITY DISC. CODE **A** **NET 2.85**



ADAPTER — BNC PLUG TO DOUBLE BANANA PLUG



Permits BNC receptacle to be used with equipment having banana jacks. Minimizes number of coaxial connections for maximum efficiency.
UPPER: BNC plug.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLOR: Black.

MODEL 1270 QUANTITY DISC. CODE **A** **NET 3.85**

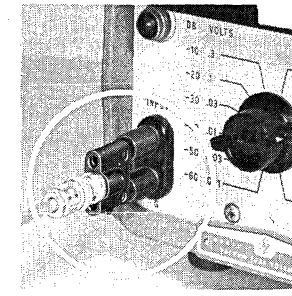
Now! Increase the flexibility of your laboratory with the use of POMONA molded test accessories.

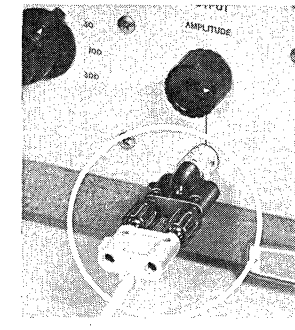
Minimize the necessity of stocking a large quantity and variety of coaxial cables by using POMONA molded adapters.

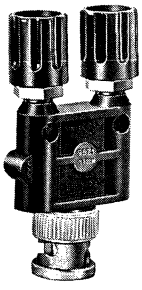
Tough thermo-plastic material molded to plug body or connectors insures maximum strength, moisture resistance and excellent insulative properties.

POMONA ELECTRONICS adapters are designed and engineered with you in mind, from the selection of the best in materials, incorporated with a quality control program that enables us to offer to you, products that are unequalled in reliability and quality.

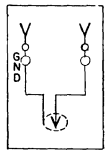
Complete engineering facilities are offered to our customers for special adapter problems that may arise.





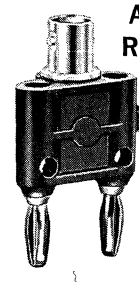


ADAPTER — BINDING POSTS TO BNC PLUG

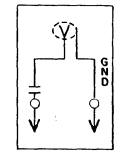


Permits single or double banana plugs to be used with equipment having BNC receptacle. Excellent for use with laboratory oscilloscopes.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: BNC plug.
COLOR: Body, Black. Binding Posts: Black/Red.

MODEL 1296 QUANTITY DISC. CODE **A** **NET 4.85**

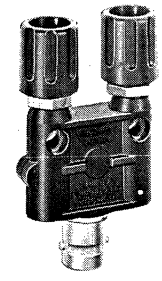


ADAPTER — SIGNAL ISOLATOR — BNC RECEPTACLE TO DOUBLE BANANA PLUG

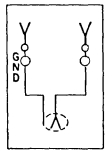


Permits BNC male connector to be used with equipment having banana jacks. General purpose ceramic capacitor molded internally. Rated @ .01 mfd ±20%, 200 WVDC. Insulation resistance 10,000 megohms min. Ideal for isolating DC signals from VTVM inputs and signal generator outputs.
UPPER: BNC receptacle.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLOR: Blue.

MODEL 1868 QUANTITY DISC. CODE **A** **NET 7.85**

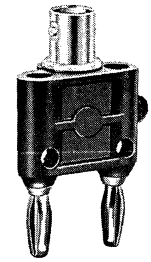


ADAPTER — BINDING POSTS TO BNC RECEPTACLE

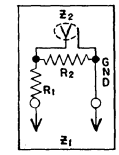


Permits single or double banana plugs to be used with equipment having BNC plug.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: BNC receptacle.
COLOR: Body, Black. Binding Posts: Black/Red.

MODEL 1452 QUANTITY DISC. CODE **A** **NET 4.85**

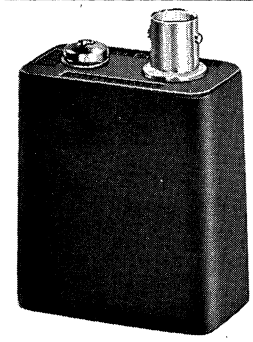


ADAPTER — BNC MATCHING PAD

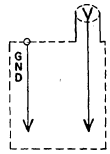


Adapts 600 OHM sources to 50, 75 or 93 OHM cables. Excellent for matching signal generators and VTVM's to standard coaxial cables. Ideal for receiver alignment. Molded in deposited carbon resistors 1%, ¼W.
UPPER: BNC receptacle.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.

MODEL	COLOR	RANGE — OHMS	NET	QUANTITY DISC. CODE
1656-1	Yellow	600 to 50	10.85	A
1656-2	Red	600 to 75	10.85	
1656-3	White	600 to 93	10.85	



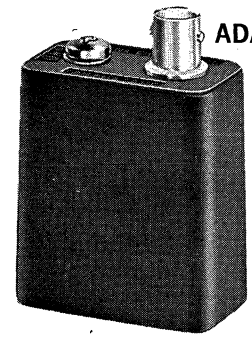
ADAPTER — BNC RECEPTACLE TO SHIELDED BANANA PLUGS



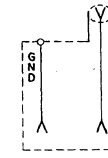
Permits BNC plug to be used with equipment having banana jack binding posts. Black anodized aluminum shield reduces noise Pick-up more than 70 DB. Ideal for low level inputs to oscilloscopes, wave analyzers, etc.
UPPER: BNC receptacle.
LOWER: Shielded double banana plug, on ¾" centers.

QUANTITY DISC. CODE **A**

MODEL 1645 **NET 3.45**



ADAPTER — BNC RECEPTACLE TO SHIELDED BANANA JACKS



Permits BNC plug to be used with equipment having banana plugs. Black anodized aluminum shield reduces noise pick-up more than 70 DB. Ideal for low level inputs to oscilloscopes, wave analyzers, etc.
UPPER: BNC receptacle.
LOWER: Shielded double banana jacks, on ¾" centers.
COLOR: Black.

QUANTITY DISC. CODE **A** **NET 3.45**

MODEL 1681

Net

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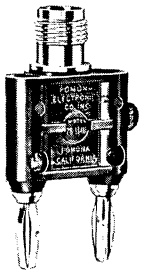
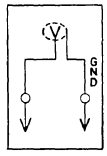
POMONA ELECTRONICS

TNC & "N" ADAPTERS

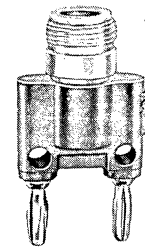


ADAPTER — TNC RECEPTACLE TO DOUBLE BANANA PLUG

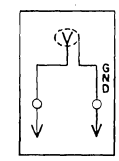


Permits TNC plug to be used with equipment having banana jacks. Perfect for connecting modern control systems to laboratory test equipment.
UPPER: TNC receptacle.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLOR: Black.

MODEL 1340 QUANTITY DISC. CODE **A** **NET 5.85**

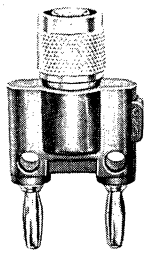


ADAPTER — TYPE "N" RECEPTACLE TO DOUBLE BANANA PLUG

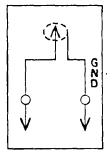


Permits Type "N" plug to be used with equipment having banana jacks. Ideal for connecting R.F. equipment to conventional test equipment.
UPPER: Type "N" receptacle.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLOR: Black.

MODEL 1740 QUANTITY DISC. CODE **A** **NET 5.85**

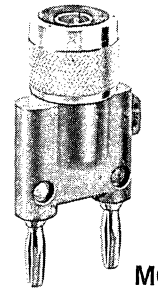


ADAPTER — TNC PLUG TO DOUBLE BANANA PLUG

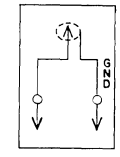


Permits TNC receptacle to be used with equipment having banana jacks. Minimizes your stock of coaxial cables.
UPPER: TNC plug.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLOR: Black.

MODEL 1981 QUANTITY DISC. CODE **A** **NET 6.85**

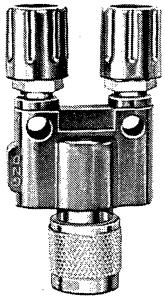


ADAPTER — TYPE "N" PLUG TO DOUBLE BANANA PLUG

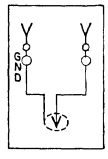


Permits type "N" receptacle to be used with equipment having banana jacks.
UPPER: Type "N" plug.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLOR: Black.

MODEL 1770 QUANTITY DISC. CODE **A** **NET 5.85**

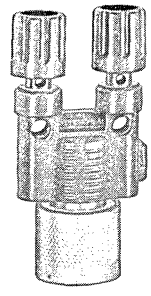


ADAPTER — BINDING POSTS TO TNC PLUG

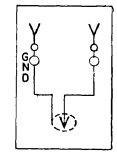


Permits single or double banana plugs to be used with equipment having a TNC receptacle. Exceptional for signal insertion with rapid interchangeability of terminations.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: TNC plug.
COLOR: Body, Black. Binding Posts: Black/Red.

MODEL 1982 QUANTITY DISC. CODE **A** **NET 6.85**

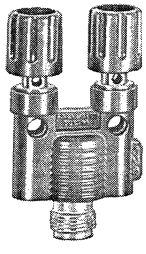


ADAPTER — BINDING POSTS TO TYPE "N" PLUG

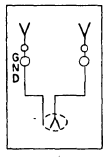


Permits single or double banana plugs to be used with equipment having Type "N" receptacle. Binding posts allow component insertion.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: Type "N" plug.
COLOR: Black. Binding Posts: Black/Red.

MODEL 1796 QUANTITY DISC. CODE **A** **NET 5.85**

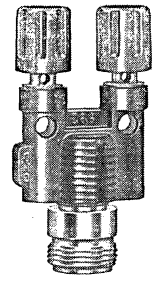


ADAPTER — BINDING POSTS TO TNC RECEPTACLE

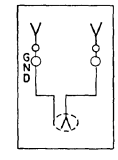


Permits single or double banana plugs to be used with equipment having TNC plug. Useful for rapid interconnection of systems and components.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: TNC receptacle.
COLOR: Body, Black. Binding Posts: Black/Red.

MODEL 1976 QUANTITY DISC. CODE **A** **NET 5.85**

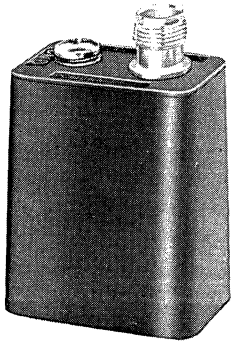


ADAPTER — BINDING POSTS TO TYPE "N" RECEPTACLE

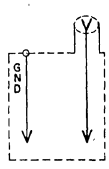


Permits single or double banana plugs to be used with equipment having type "N" plug. Useful for rapid interconnection of systems and components.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: Type "N" receptacle.
COLOR: Body, Black. Binding Posts: Black/Red.

MODEL 1992 QUANTITY DISC. CODE **A** **NET 5.85**



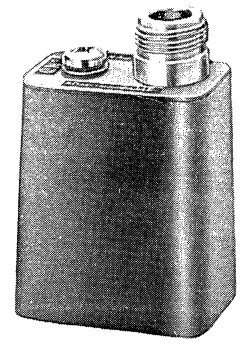
ADAPTER — TNC RECEPTACLE TO SHIELDED BANANA PLUGS



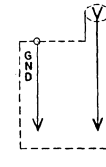
Permits TNC plug to be used with equipment having banana jack binding posts. Black anodized aluminum shield reduces noise pick-up more than 70 DB.
UPPER: TNC receptacle.
LOWER: Double banana plug, on ¾" centers.
COLOR: Black.

QUANTITY DISC. CODE **A**
NET 4.85

MODEL 1975



ADAPTER — TYPE "N" RECEPTACLE TO SHIELDED BANANA PLUGS



Permits type "N" plug to be used with equipment having banana jack binding posts. Black Anodized aluminum shield reduces noise pick-up more than 70 DB.
UPPER: Type "N" receptacle.
LOWER: Double banana plug, on ¾" centers.
COLOR: Black.

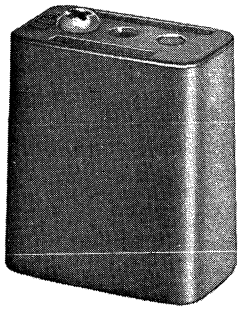
QUANTITY DISC. CODE **A** **NET 4.85**

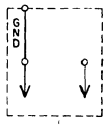
MODEL 1983

POMONA ELECTRONICS

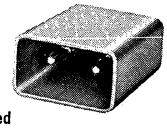
SHIELDED BANANA PLUGS UHF ADAPTERS

SHIELDED DOUBLE BANANA PLUG IN-LINE CABLE ENTRY

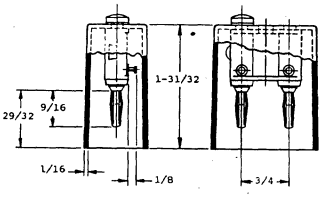




RATED: 15A CONTINUOUS
1200 WVDC
3400 VDC BREAKDOWN
2.5 PF @ 1 MC



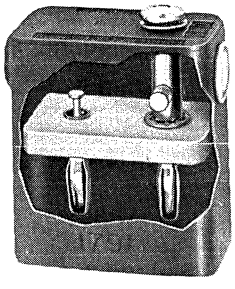
- Shielded double plug ¾" spaced
- Die cast aluminum shell, black anodized
- Noise pick-up reduced 70 DB
- Gold flashed solder turret terminals for positive reliable cable connections
- One piece nickel plated beryllium copper springs for use with standard 0.166 dia. banana jack binding posts.
- Rounded banana spring design results in maximum contact area and minimum contact resistance
- GND clearly molded in shell
- Cable opening, 7/32" diameter



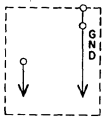
MODEL 1433

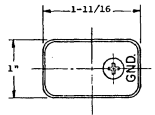
QUANTITY DISC. CODE **A** **NET 2.25**

SHIELDED DOUBLE BANANA PLUG RIGHT ANGLE CABLE ENTRY

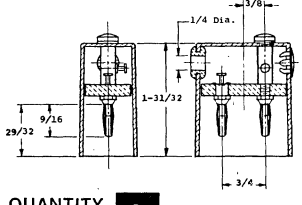


RATED: 15A CONTINUOUS
2800 PEAK WV
5000 VDC BREAKDOWN
2.0 PF @ 1 MC.





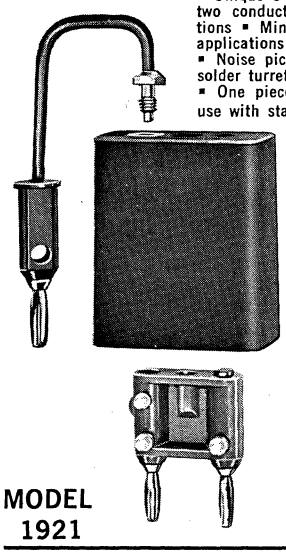
- Shielded double plug, ¾" spaced
- Ceramic insulating base
- Die cast aluminum shell, black anodized
- GND clearly molded in shell
- Noise pick-up reduced 70 DB
- One piece nickel plated beryllium copper springs for use with 0.166 diameter banana jack binding posts.
- Rounded banana spring design results in maximum contact area and minimum contact resistance
- Vinyl grommet and nickel plated snap button supplied



MODEL 1791

QUANTITY DISC. CODE **A** **NET 2.95**

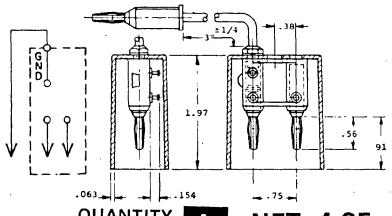
BALANCED LINE SHIELDED DOUBLE BANANA PLUG



- Unique 3 terminal design allows connection to shielded two conductor cable while maintaining balanced conditions
- Minimizes ground loop errors in low signal level applications
- Die cast aluminum shell, black anodized
- Noise pick-up reduced at least 70 DB
- Gold flashed solder turret terminals for reliable noise free connections
- One piece nickel plated beryllium copper springs for use with standard 0.166 dia. banana jack binding posts.

RATED:

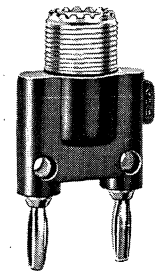
15A Continuous
1000 WV Peak; line to shield
2000 WV peak; line to line
2500 V peak breakdown; line to shield
5000 V peak breakdown, line to line
2.0 pf @ 1 MC Capacity; line to line
3.0 pf @ 1 MC. capacity; both lines to shield.

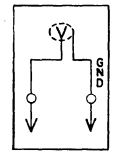


MODEL 1921

QUANTITY DISC. CODE **A** **NET 4.85**

ADAPTER — UHF RECEPTACLE TO DOUBLE BANANA PLUG



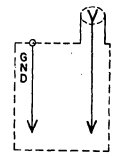


Permits UHF plug to be used with equipment having banana jacks.
UPPER: UHF receptacle, ⅝" dia.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up cannections.
COLOR: Black.

MODEL 1707

QUANTITY DISC. CODE **A** **NET 4.85**

ADAPTER — UHF RECEPTACLE TO SHIELDED BANANA PLUGS

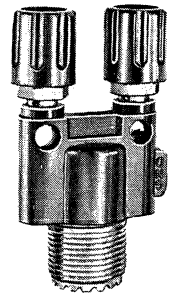


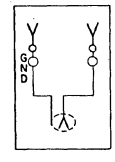
Permits UHF plug to be used with equipment having banana binding posts. Black anodized shield reduces noise pick-up at least 70 DB.
UPPER: UHF receptacle, ⅝" dia.
LOWER: Double banana plug on ¾" centers.
COLOR: Black.

MODEL 1708

QUANTITY DISC. CODE **A** **NET 4.85**

ADAPTER — BINDING POSTS TO UHF RECEPTACLE



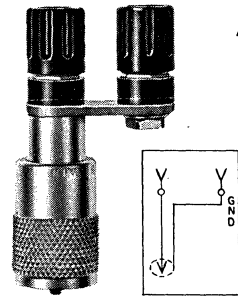


Permits single or double banana plugs to be used with equipment having UHF plug.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: UHF receptacle, ⅝" dia.
COLOR: Body, Black. Binding posts: Black/Red.

MODEL 1792

QUANTITY DISC. CODE **A** **NET 5.85**

ADAPTER — BINDING POSTS TO UHF PLUG

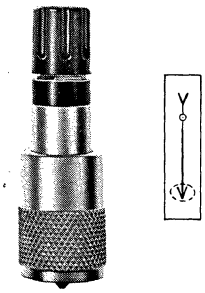


Permits single or double banana plugs to be used with equipment having a UHF receptacle, ⅝" dia. Convenient for use with modern oscilloscopes. Center conductor binding post Red; Ground, Black.
UPPER: Insulated binding posts, on ¾" centers with .166 dia. jacks.
LOWER: UHF plug.

MODEL 1699

QUANTITY DISC. CODE **A** **NET 4.85**

ADAPTER — BINDING POST TO UHF PLUG



Permits single banana plug to be used with equipment having a UHF receptacle, ⅝" dia. Adds flexibility to your oscilloscope.
UPPER: Insulated binding post with .166 dia. banana jack.
LOWER: UHF plug.

MODEL 1698

QUANTITY DISC. CODE **A** **NET 3.85**

Net

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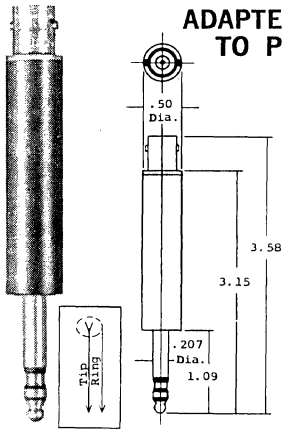
POMONA ELECTRONICS

MISCELLANEOUS ADAPTERS

ADAPTER — BNC RECEPTACLE TO PJ-068 PHONE PLUG



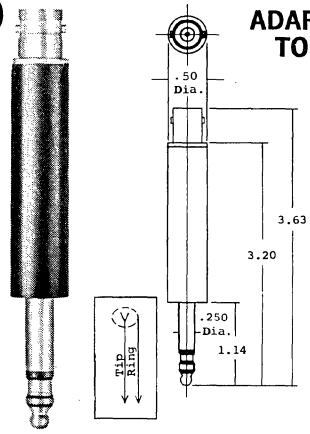
Permits BNC plug to be used with equipment having three circuit phone jacks for .206 dia. phone plugs. Readily adapts equipment to available BNC coaxial cables. Tip connected to inner contact of connector and Ring connected to shell. Sleeve, no connection.

UPPER: BNC receptacle, UG1094/U.
LOWER: Phone Plug, PJ-068.
COLOR: Black.

MODEL 1794 QUANTITY DISC. CODE **A** **NET 6.85**

NEW

ADAPTER — BNC RECEPTACLE TO PJ-051* PHONE PLUG

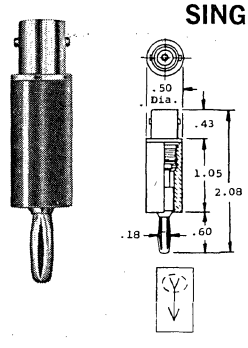


Permits BNC plug to be used with equipment having three circuit phone jacks for .250 dia. phone plugs. Readily adapts equipment to available BNC coaxial cables. Tip connected to inner contact of connector and Ring connected to shell. Sleeve, no connection.

UPPER: BNC receptacle, UG1094/U.
LOWER: Phone Plug, PJ-051*
*PJ-051 Interchangeable with WE 310

MODEL 2798 QUANTITY DISC. CODE **A** **NET 6.85**

ADAPTER — BNC RECEPTACLE TO SINGLE BANANA PLUG



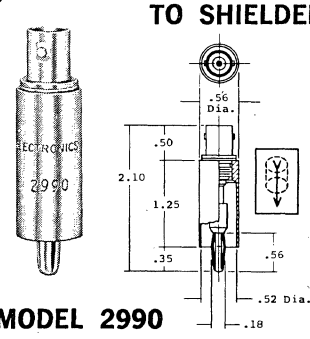
Permits BNC plug to be used with equipment having banana jacks. Inner conductor connected only Excellent for adapting laboratory VTVM, oscilloscopes and signal generator inputs to readily available coaxial cables.

UPPER: BNC receptacle, UG1094/U.
LOWER: Single Banana Plug.
COLOR: Black.

MODEL 1894 QUANTITY DISC. CODE **A** **NET 2.50**

NEW

ADAPTER — BNC RECEPTACLE TO SHIELDED BANANA PLUG

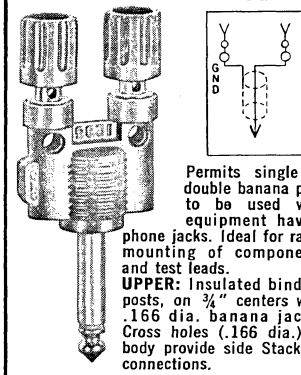


Permits BNC plug to be used with equipment having banana jacks or binding posts. Ideal for use when shielding of single banana jacks is needed. Nickel plated brass shield reduces pick-up more than 70 DB.

UPPER: BNC Receptacle, UG1094/U.
LOWER: Shielded single banana plug.

MODEL 2990 QUANTITY DISC. CODE **A** **NET 2.50**

ADAPTER — BINDING POSTS TO PHONE PLUG



Permits single or double banana plug to be used with equipment having phone jacks. Ideal for rapid mounting of components and test leads.

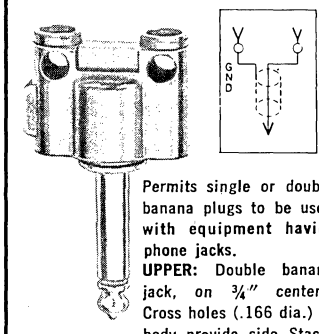
UPPER: Insulated binding posts, on ¾" centers with .166 dia. banana jacks. Cross holes (.166 dia.) in body provide side Stack-Up connections.

LOWER: ¼" dia. phone plug, 1-3/16" long.
COLOR: Body, Black. Binding Posts: Black/Red.

QUANTITY DISC. CODE **A**

MODEL 1285 NET 4.85

ADAPTER — BANANA JACKS TO PHONE PLUG



Permits single or double banana plugs to be used with equipment having phone jacks.

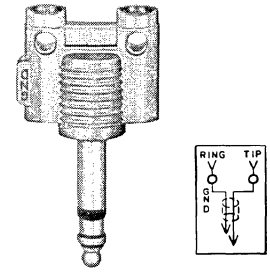
UPPER: Double banana jack, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.

LOWER: Standard ¼" dia. phone plug, 1-3/16" long.
COLOR: Black.

QUANTITY DISC. CODE **A**

MODEL 1980 NET 2.85

ADAPTER-BANANA JACKS TO PJ-051* PHONE PLUG



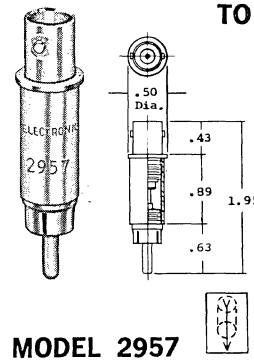
Permits single or double banana plugs to be used with equipment having three circuit phone jacks for .250 dia. phone plugs. Tip connected to hot side of adapter and Ring connected to ground side. Sleeve, no connection.

UPPER: Double banana jack, on ¾" centers. Crossholes (.166 dia.) in body provide side Stack-up connection.
LOWER: Phone Plug, PJ-051*
COLOR: Black
*PJ-051 Interchangeable with WE310

MODEL 2112 QUANTITY DISC. CODE **A** **NET 5.85**

ADAPTER — BNC RECEPTACLE TO PHONO PLUG

NEW



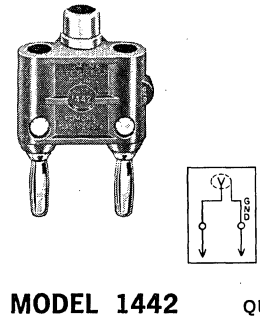
Permits BNC plug to be used with equipment having phono jacks. Readily adapts equipment to available BNC coaxial cables. All metal construction reduces pick-up more than 70 DB. to insure proper shielding.

UPPER: BNC receptacle UG1094/U.
LOWER: Phono plug.

MODEL 2957 QUANTITY DISC. CODE **A** **NET 2.50**

NEW

ADAPTER — PHONO JACK TO DOUBLE BANANA PLUG



Permits Phono plug to be used with equipment having banana jacks or binding posts. Quickly converts a cable with a phono plug to a double banana plug.

UPPER: Phono jack.
LOWER: Double Banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide Side Stack-Up connections.
COLOR: Black.

MODEL 1442 QUANTITY DISC. CODE **A** **NET 2.85**

POMONA ELECTRONICS

ISOLATION PLUGS — COMPONENT MOUNTINGS

CREATE passive and active networks, voltage dividers, isolation networks or attenuators with the Split-Terminal isolation plugs described below.

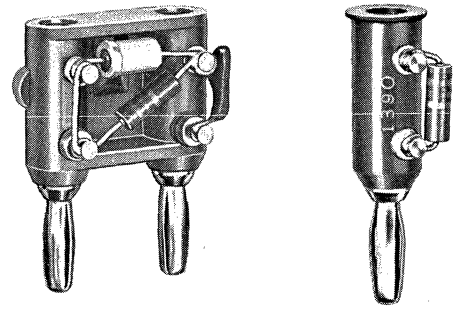
Gold flashed solder turret terminals provide permanent, reliable noise-free connections for component mounting.

Tough thermo-plastic material molded to plug body and connectors insures maximum strength, moisture resistance and excellent insulative properties.

Specifications for MDP-X, 1390, 1837, 1468:

- Fits standard 0.166 dia. banana jack.
- Spring, heat treated beryllium copper alloy 25 per QQ-C-533.
- Plug body, Brass per QQ-B-626 Comp. 22.
- Nickel plated per QQ-N-290, Class 2.
- Contact resistance less than 0.001 ohms per banana plug.

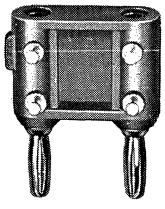
TYPICAL APPLICATION

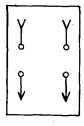


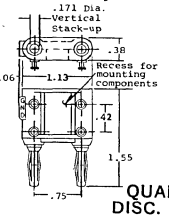
ACTUAL SIZE

MODEL MDP-X **MODEL 1390**

DOUBLE BANANA PLUG, FOUR TERMINAL ISOLATION







Provides four terminal isolation. Top Stack-Up receptacles isolated from lower plugs. Ideal for insertion of matching networks in laboratory VTVM's, signal generators, etc. Gold flashed solder turret terminals for permanent noise-free connections.

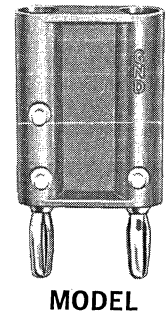
UPPER: Double banana jacks, .166 dia., on ¾" centers.

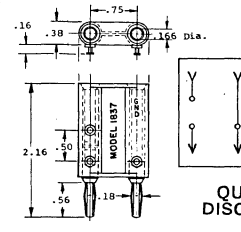
LOWER: Double banana plug on ¾" centers.

COLOR: Red.

MODEL MDP-X QUANTITY DISC. CODE **A** **NET 3.25**

DOUBLE BANANA PLUG, THREE TERMINAL ISOLATION





Provides three terminal isolation. Excellent for "L" and "Pi" networks. Plug and receptacle nickel plated. Gold flashed solder turret terminals for permanent noise-free connections. "Ground" is straight feed-thru. Hot side isolated.

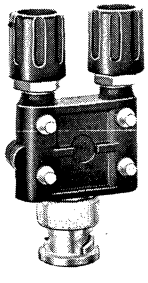
UPPER: Banana jacks, .166 dia. on ¾" centers.

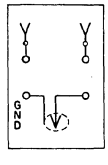
LOWER: Double banana plug on ¾" centers.

COLOR: Blue.

MODEL 1837 QUANTITY DISC. CODE **A** **NET 2.50**

ADAPTER — BINDING POSTS TO BNC PLUG, ISOLATION





Permits single or double banana plugs to be used with equipment having BNC receptacle. Provides isolation for a four terminal network. Binding posts facilitate connections of test leads or additional components. Gold flashed solder turret terminals provide permanent noise-free connections.

UPPER: Insulated binding posts, on ¾" centers with .166 dia. jacks.

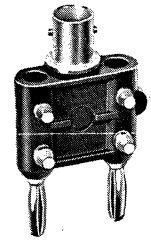
LOWER: BNC plug.

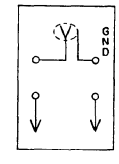
COLOR: Body, Black.

Binding Posts: Black/Red.

MODEL 1469 QUANTITY DISC. CODE **A** **NET 10.85**

ADAPTER — BNC RECEPTACLE TO DOUBLE BANANA PLUG, ISOLATION





Permits BNC plug to be used with equipment having banana jacks. Provides isolation for a four terminal network. Excellent for matching pad networks. Gold flashed solder turret terminals for permanent noise-free connnections.

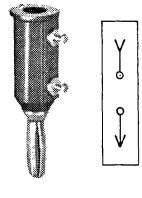
UPPER: BNC receptacle.

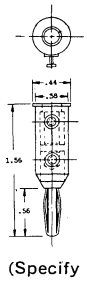
LOWER: Double banana plug, on ¾" centers.

COLOR: Black.

MODEL 1468 QUANTITY DISC. CODE **A** **NET 9.85**

PLUG — SINGLE BANANA, ISOLATION





Provides two terminal isolation. Top Stack-Up receptacle is isolated from lower plug to permit addition of series resistors, diodes, etc. Ideal for computers, lab. circuit design and testing. Gold flashed solder turret terminals for permanent noise-free connections.

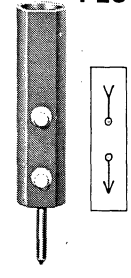
UPPER: Banana jack, .166 dia.

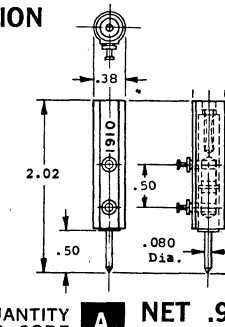
LOWER: Banana plug.

COLORS: Black, Red.

MODEL 1390 (Specify color) QUANTITY DISC. CODE **A** **NET .95**

PLUG — PIN TIP, ISOLATION





Pin tip jack is isolated from .080 pin tip plug. Provides for addition of series components. Ideal for use with computer boards, lab circuit designs, etc. Gold flashed solder turret terminals for permanent noise-free connections.

UPPER: Tip jack, beryllium copper, gold flashed; accepts .080 dia. pin.

LOWER: Pin tip, .080 dia. Brass, nickel plated.

COLORS: Black Red.

MODEL 1910 (Specify color) QUANTITY DISC. CODE **A** **NET .95**

Net

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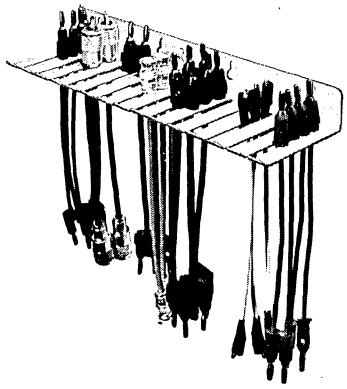
POMONA ELECTRONICS

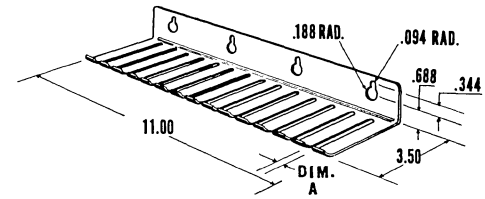
MISCELLANEOUS ACCESSORIES



TEST LEAD HOLDER

No need to spend time searching for a particular test lead. With this new rack, all of your patch cords and cable assemblies can be conveniently filed for instant selection — within easy reach. Holder mounts quickly on any vertical surface. Test leads are easy to store, easy to remove. Two models to choose from for different size cables.

MATERIAL: Cold Rolled Steel.
FINISH: Baked Enamel.

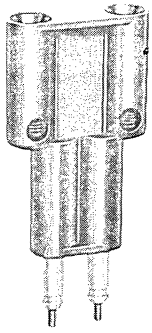


	MAX. CABLE DIA. (DIM. A)	COLOR	NET
MODEL 1508	.210"	Orange	2.95
MODEL 2708	.450"	Blue	2.95

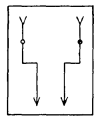
QUANTITY DISC. CODE **A**

SEE PAGE 41 FOR TEST SOCKET ADAPTER HOLDER

ADAPTER — AMP PROGRAM BOARD



Permits single or double banana plugs to be used with AMP program boards having ¼" or ⅜" center to center spacing. Ideal for mounting components. Internal set screws secure leads. Useful in analog computer applications, etc.

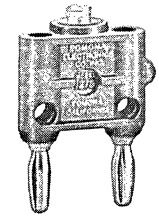


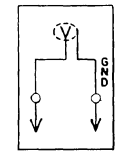
UPPER: Banana jacks, on ¾" centers. Brass, nickel plated.
LOWER: Dual AMP pins, on ¼" or ⅜" centers.

QUANTITY DISC. CODE **A**

MODEL	PIN SPACING	COLOR	NET
1977	⅜"	Black	3.85
1991	¼"	Gray	3.85

ADAPTER — MICRODOT RECEPTACLE TO DOUBLE BANANA PLUG

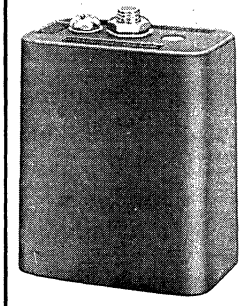




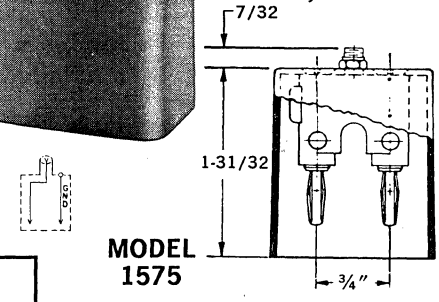
Permits Microdot miniature coaxial plug to be used with equipment having banana jacks. Cross holes in body provide side Stack-Up connections.
UPPER: Microdot receptacle, Screw-On Type.
LOWER: Double banana plug, on ¾" centers. Cross holes (.166 dia.) in body provide side Stack-Up connections.

MODEL	TYPE (Ohms)	BODY COLOR	RECEPTACLE TYPE	NET	QUANTITY DISC. CODE
1275	50	Green	10-32 thread	6.85	A
1276	50	Black	Slide-on	9.85	
1277	70	Violet	12-32 thread	9.85	
1279	93	White	¼-32 thread	9.85	

ADAPTER—MICRODOT RECEPTACLE TO SHIELDED BANANA PLUGS



Permits Microdot miniature coaxial plug, 50 ohm, to be used with equipment having banana jack binding posts. Black anodized aluminum shield reduces noise pick-up more than 70 DB. Ideal for noise reduction in low level acceleration systems.



UPPER: Microdot Receptacle, Screw-On Type, Receptacle Thread 10-32.
LOWER: Shielded Double banana plug, on ¾" centers.
COLOR: Black.

QUANTITY DISC. CODE **A**

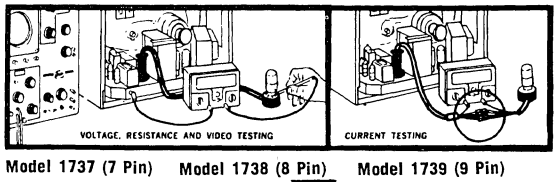
MODEL 1575 **NET 6.85**

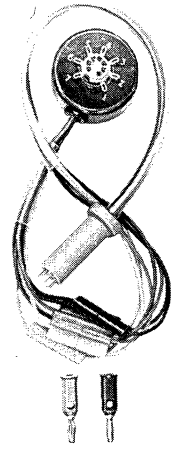
Universal Harness

TESTING ADAPTER

Takes the Trouble out of Trouble Shooting!

TEST SOCKET: Extended test tabs, phosphor bronze contacts, heavy duty molded phenolic base with easy-to-read socket connections. **CURRENT MEASUREMENT CONNECTIONS:** Fully insulated, molded .080 phone tip plugs. **INSULATED PLUG:** Fits either shielded or unshielded tube sockets.



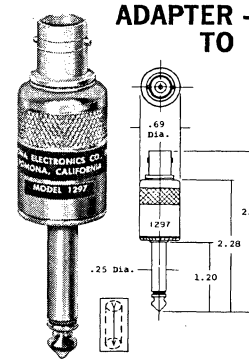


Model 1737 (7 Pin) Model 1738 (8 Pin) Model 1739 (9 Pin)

QUANTITY DISC. CODE **D** **NET 9.95**

ADAPTER — BNC RECEPTACLE TO PHONE PLUG

NEW



Permits BNC plug to be used with equipment having standard ¼" dia. phone jacks. Readily adapts equipment to available BNC coaxial cables. All metal construction to insure proper shielding.
UPPER: BNC receptacle, UG1094/U.
LOWER: Standard ¼" dia. phone plug, 1 3/16" Long.

MODEL 1297 QUANTITY DISC. CODE **A** **NET 5.85**

★ Various lengths may be aggregated for best quantity price.

POMONA ELECTRONICS

"BLACK BOXES"

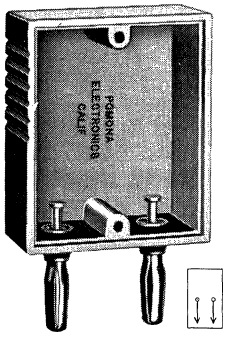
CREATE passive and active networks, voltage dividers, isolation networks or attenuators with these units. Solder turret terminals for permanent noise-free connection of components, etc. Entire unit may be potted or encapsulated.

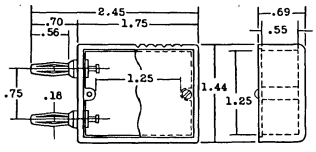
Housing molded of thermosetting electrical grade phenolic. Cover, punched XXP laminated paper base phenolic. Color, housing and cover, BLACK. Cover plate and 2 each #2-56 cover screws included.

APPLICABLE SPECIFICATIONS:

Operating Temp: —25°C to +125°C. Working Voltage: 5000 VDC. Current: 15 Amps Cont., 30 Amps Int.

COMPONENT MOUNTING—ACROSS BANANA PLUGS



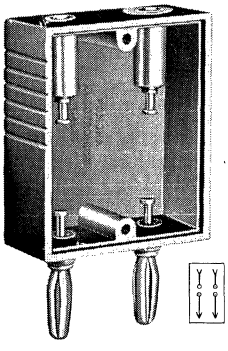


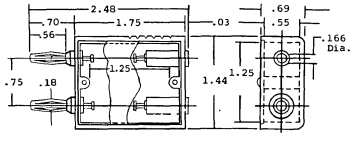
UPPER: No Connection.

LOWER: Banana plugs on ¾" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2096 QUANTITY DISC. CODE **A** **NET 1.95**

COMPONENT MOUNTING—BANANA JACKS TO DOUBLE BANANA PLUG—JUNIOR SIZE



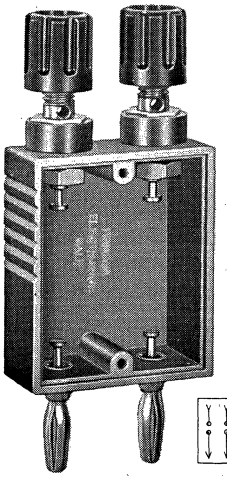


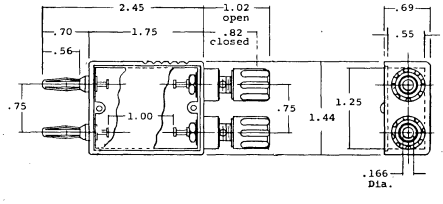
UPPER: Banana jacks, .166" dia. and solder turret terminals on ¾" centers. Brass, nickel plated. Polarity indicator on top, color, RED.

LOWER: Banana plugs on ¾" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2098 QUANTITY DISC. CODE **A** **NET 3.45**

COMPONENT MOUNTING—BINDING POSTS TO DOUBLE BANANA PLUG—JUNIOR SIZE

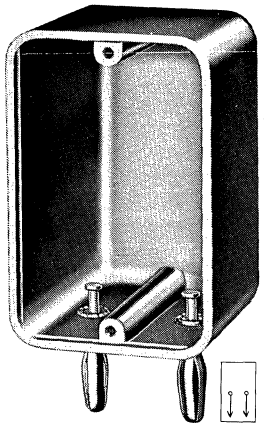




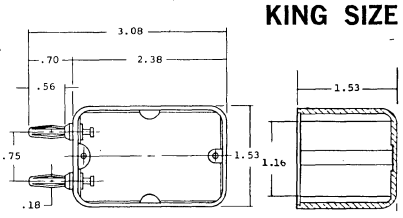
UPPER: Banana jack binding posts with solder turret terminals, on ¾" centers. Red and Black.

LOWER: Banana plugs on ¾" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2259 QUANTITY DISC. CODE **A** **NET 4.85**



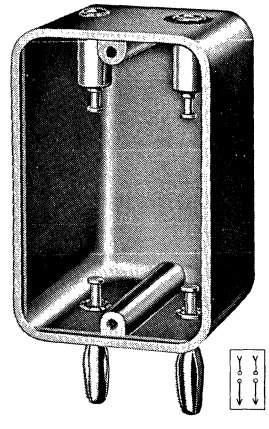
COMPONENT MOUNTING — ACROSS BANANA PLUGS — KING SIZE



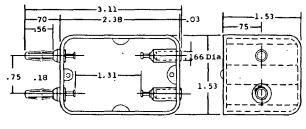
UPPER: No Connection.

LOWER: Banana plugs on ¾" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 1177 QUANTITY DISC. CODE **A** **NET 1.95**



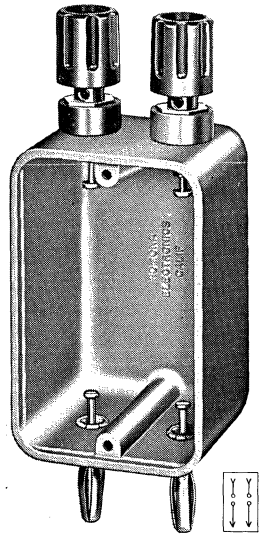
COMPONENT MOUNTING—BANANA JACKS TO DOUBLE BANANA PLUG— KING SIZE



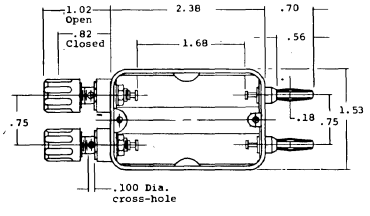
UPPER: Banana jacks, .166" dia. and solder turret terminals on ¾" centers. Brass, nickel plated. Polarity indicator on top, color, RED.

LOWER: Banana plugs on ¾" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2224 QUANTITY DISC. CODE **A** **NET 3.45**



COMPONENT MOUNTING—BINDING POSTS TO DOUBLE BANANA PLUG—KING SIZE



UPPER: Banana jack binding posts with solder turret terminals, on ¾" centers. Red and Black.

LOWER: Banana plugs on ¾" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

MODEL 2262 QUANTITY DISC. CODE **A** **NET 4.85**

Net

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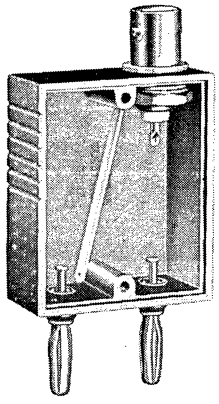
POMONA ELECTRONICS

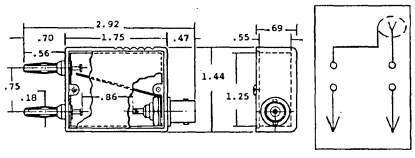
"BLACK BOXES"

CREATE passive and active networks, voltage dividers, isolation networks or attenuators with these units. Solder turret terminals for permanent noise-free connection of components, etc. Entire unit may be potted or encapsulated.

Housing molded of thermosetting electrical grade phenolic. Cover, punched XXP laminated paper base phenolic. Color, housing and cover, BLACK. Cover plate and 2 each #2-56 cover screws included.

COMPONENT MOUNTING—BNC RECEPTACLE TO DOUBLE BANANA PLUG





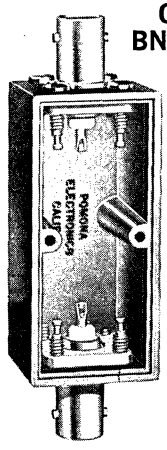
UPPER: BNC Receptacle UG1094/U

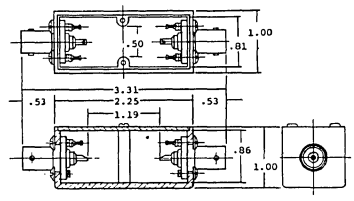
LOWER: Banana plugs on ¾" centers. One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

APPLICABLE SPECIFICATIONS:
Operating Temp: −25°C to +125°C.
Working Voltage: 500 V Peak.

MODEL 2097 QUANTITY DISC. CODE **A** **NET 3.85**

COMPONENT MOUNTING—BNC RECEPTACLE BOTH ENDS





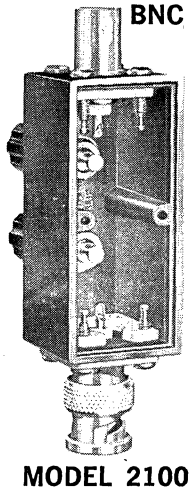
UPPER: BNC Receptacle UG290A/U

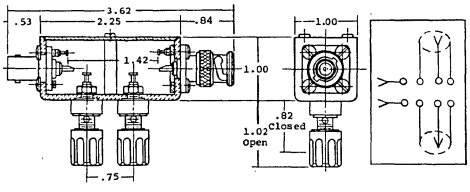
LOWER: BNC Receptacle UG290A/U

APPLICABLE SPECIFICATIONS:
Operating Temp: −25°C to +125°C.
Working Voltage: 500 V Peak.

MODEL 2101 QUANTITY DISC. CODE **A** **NET 4.85**

COMPONENT MOUNTING—BNC RECEPTACLE TO BNC PLUG WITH BINDING POSTS





UPPER: BNC Receptacle UG290A/U

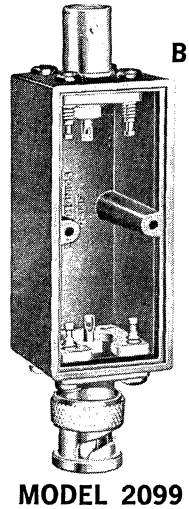
CENTER: Banana jack binding posts with solder turret terminals. Red and Black.

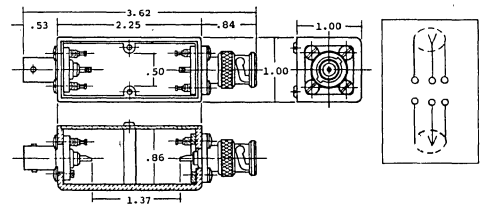
LOWER: BNC Plug. UG1104A/U.

APPLICABLE SPECIFICATIONS:
Operating Temp: −25°C to +125°C.
Working Voltage: 500 V Peak.

MODEL 2100 QUANTITY DISC. CODE **A** **NET 8.95**

COMPONENT MOUNTING—BNC RECEPTACLE TO BNC PLUG





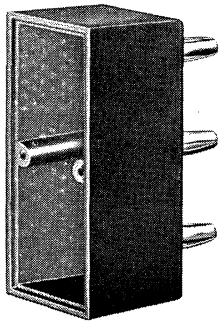
UPPER: BNC Receptacle UG290A/U

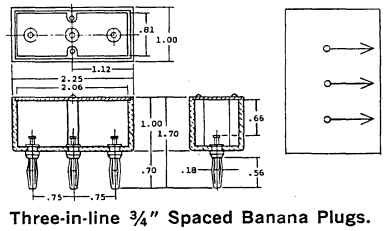
LOWER: BNC Plug UG1104A/U

APPLICABLE SPECIFICATIONS:
Operating Temp: −25°C to +125°C.
Working Voltage: 500 V Peak.

MODEL 2099 QUANTITY DISC. CODE **A** **NET 6.85**

COMPONENT MOUNTING—(3) ¾" SPACED BANANA PLUGS



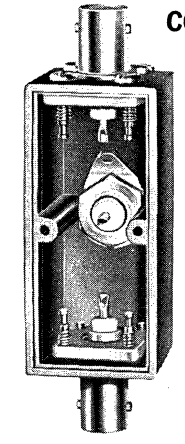


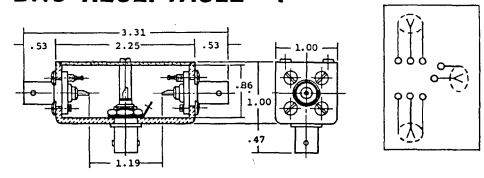
Three-in-line ¾" Spaced Banana Plugs.
One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

APPLICABLE SPECIFICATIONS:
Operating Temp: −25°C to +125°C.
Working Voltage: 5000 VDC.
Current: 15 Amps Cont., 30 Amps Int.

MODEL 2095 QUANTITY DISC. CODE **A** **NET 2.75**

COMPONENT MOUNTING—BNC RECEPTACLE "T"





UPPER: BNC Receptacle UG290A/U

CENTER: BNC Receptacle UG1094/U

LOWER: BNC Receptacle UG290A/U

APPLICABLE SPECIFICATIONS:
Operating Temp: −25°C to +125°C.
Working Voltage: 500 V Peak.

MODEL 2102 QUANTITY DISC. CODE **A** **NET 7.85**

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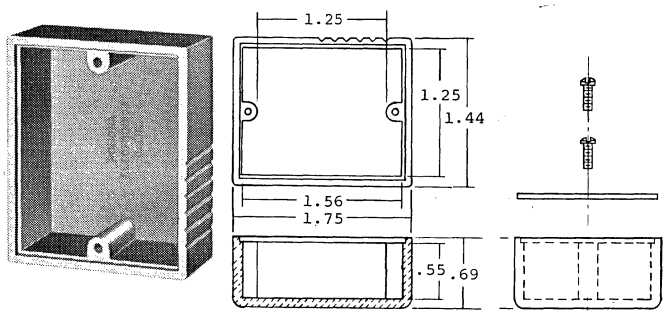
POMONA ELECTRONICS

"BLACK BOXES"

Boxes of unlimited uses for packaging of components and circuitry. Also ideal for potting and encapsulating. Available in three sizes as shown below. Housing molded of thermosetting electrical grade phenolic. Cover, punched XXP laminated paper base phenolic. Color, Housing and cover, Black. Cover plate and 2 each #2-56 cover screws included.

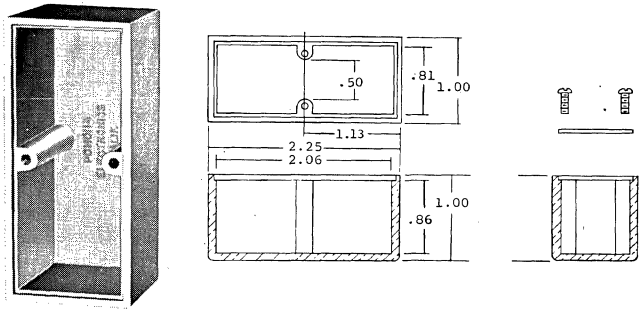
Operating Temperature: —25°C to +125°C.

BLACK BOX—JUNIOR SIZE



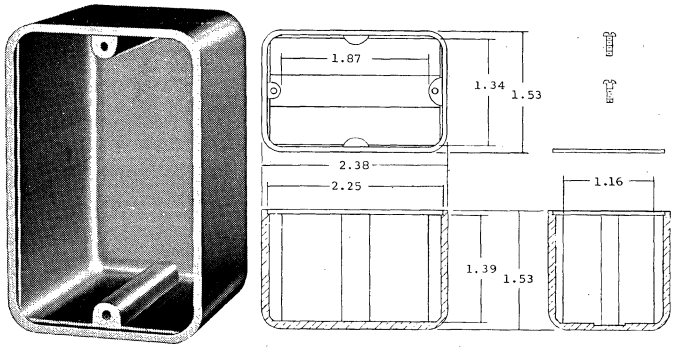
MODEL 2105 QUANTITY DISC. CODE **A** **NET .75**

BLACK BOX—QUEEN SIZE



MODEL 2103 QUANTITY DISC. CODE **A** **NET .75**

BLACK BOX—KING SIZE

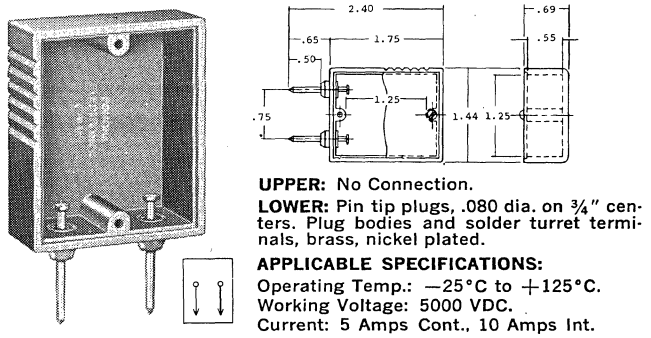


MODEL 2104 QUANTITY DISC. CODE **A** **NET .75**

CREATE passive and active networks, voltage dividers, isolation networks or attenuators with these units. Solder turret terminals for permanent noise-free connection of components, etc. Entire unit may be potted or encapsulated.

Housing molded of thermosetting electrical grade phenolic. Cover, punched XXP laminated paper base phenolic. Color, housing and cover, BLACK. Cover plate and 2 each #2-56 cover screws included.

COMPONENT MOUNTING—ACROSS PIN TIP PLUGS



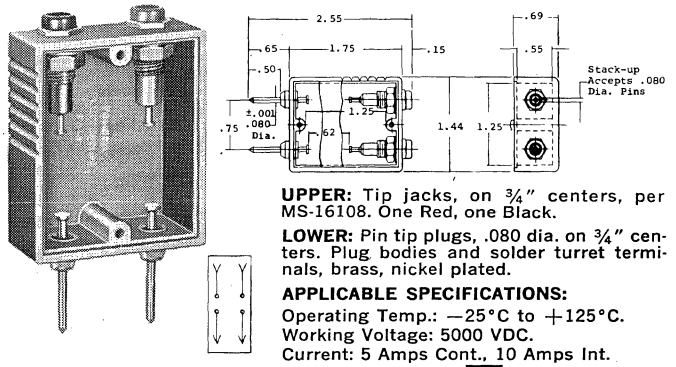
UPPER: No Connection.

LOWER: Pin tip plugs, .080 dia. on ¾" centers. Plug bodies and solder turret terminals, brass, nickel plated.

APPLICABLE SPECIFICATIONS:
Operating Temp.: —25°C to +125°C.
Working Voltage: 5000 VDC.
Current: 5 Amps Cont., 10 Amps Int.

MODEL 2268 QUANTITY DISC. CODE **A** **NET 1.95**

COMPONENT MOUNTING—PIN TIP JACKS TO DOUBLE PIN TIP PLUG—JUNIOR SIZE



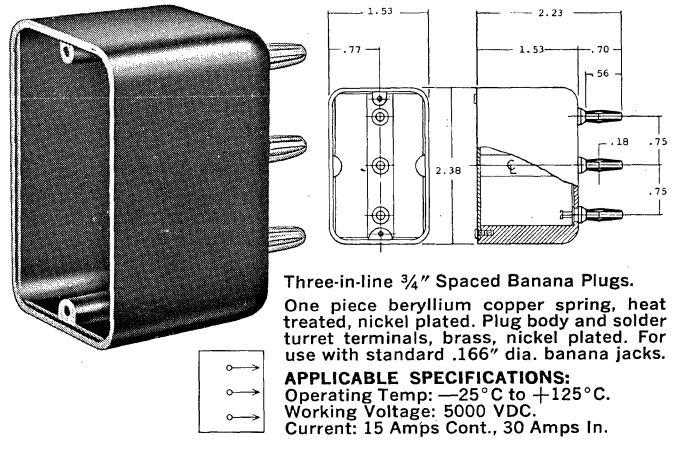
UPPER: Tip jacks, on ¾" centers, per MS-16108. One Red, one Black.

LOWER: Pin tip plugs, .080 dia. on ¾" centers. Plug bodies and solder turret terminals, brass, nickel plated.

APPLICABLE SPECIFICATIONS:
Operating Temp.: —25°C to +125°C.
Working Voltage: 5000 VDC.
Current: 5 Amps Cont., 10 Amps Int.

MODEL 2260 QUANTITY DISC. CODE **A** **NET 4.85**

COMPONENT MOUNTING — (3) ¾" SPACED BANANA PLUGS — KING SIZE



Three-in-line ¾" Spaced Banana Plugs.

One piece beryllium copper spring, heat treated, nickel plated. Plug body and solder turret terminals, brass, nickel plated. For use with standard .166" dia. banana jacks.

APPLICABLE SPECIFICATIONS:
Operating Temp: —25°C to +125°C.
Working Voltage: 5000 VDC.
Current: 15 Amps Cont., 30 Amps In.

MODEL 1943 QUANTITY DISC. CODE **A** **NET 2.75**

Net

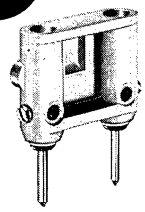
© United Technical Publications

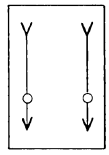
POMONA ELECTRONICS

.080 PIN TIP PLUG ACCESSORIES

NEW

COMPONENT MOUNTING — TIP JACKS TO DOUBLE PIN TIP PLUG — SET SCREWS

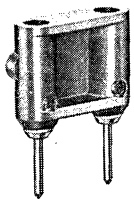


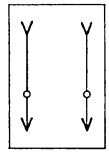


Features set screws on side of body to secure leads or components. Recess permits mounting of small component parts.
UPPER: Tip jacks, beryllium copper, gold flashed, spaced on ¾" centers, to accept .080 dia. pin tip plugs.
LOWER: Pin tips, .080 dia. on ¾" centers. Brass, nickel plated.
COLORS: Black, Red.

MODEL 2192 (Specify color) QUANTITY DISC. CODE **A** **NET 1.85**

COMPONENT MOUNTING PLUG— BANANA JACKS TO DOUBLE PIN TIP —SET SCREWS

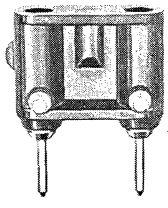


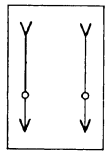


Permits single or double banana plugs to be used in equipment having tip jacks. Features recess for component mounting. Internal set screws firmly secure wire leads.
UPPER: Banana jacks, .166 dia., on ¾" centers. Brass, nickel plated.
LOWER: Pin tips .080 dia. on ¾" centers. Brass, nickel plated.
COLOR: Black.

MODEL 1858 QUANTITY DISC. CODE **A** **NET .75**

PLUG — COMPONENT MOUNTING — DOUBLE PIN TIP PLUG—SOLDER TURRETS

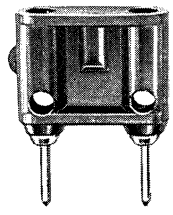


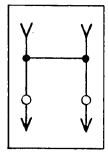


Features recess for mounting components. Gold flashed solder turrent terminals for permanent noise-free connections.
UPPER: Tip jacks, beryllium copper, gold flashed; spaced on ¾" centers to accept .080 dia. pin tip plugs.
LOWER: Pin tips, .080 dia. brass, nickel plated.
COLORS: Black, Red.

MODEL 1904 (Specify color) QUANTITY DISC. CODE **A** **NET .85**

INSULATED SHORTING BAR



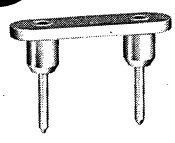


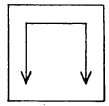
Used as a connecting link with equipment having tip jacks. Plugs internally solder bonded with 14 AWG wire. Top stack-up feature.
Current rating: 5 AMPS. cont., 10 AMPS. int. "Shorting Bar" marked on top of plug.
UPPER: Banana jacks, .166 dia. on ¾" centers. Brass, nickel plated.
LOWER: Pin tips, .080 dia. on ¾" centers. Brass, nickel plated. Cross holes (.166 dia.) in body provide side Stack-Up connections.
COLORS: Black, Red.

MODEL 1730 (Specify color) QUANTITY DISC. CODE **A** **NET .75**

NEW

METAL SHORTING BAR



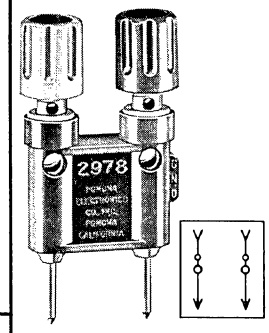


Used as a connecting link with equipment having tip jacks. Low profile, nickel plated brass shorting bar. Double pin tip plugs on ¾" centers swaged to 3/32" thick brass bar.
RESISTANCE: Less than 1.5 milliohms installed.
CURRENT RATING: 5 Amps Cont., 10 Amps Int.

MODEL 2072 QUANTITY DISC. CODE **A** **NET .75**

BINDING POSTS TO DOUBLE PIN TIP PLUG

NEW

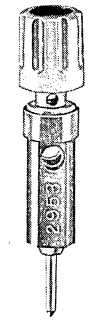


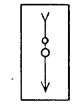
Features insulated binding posts on ¾" centers for rapid mounting and interchangeability of components. Binding posts allow top Stack-Up for multiple connections. Side Stack-Up provided by thru-holes in plug body.
UPPER: Insulated double binding posts on ¾" centers. Top and side stack-up connectors (.166 dia.). Cross holes (.166 dia.) in body provide side Stack-Up connections.
LOWER: Pin tips, .080 dia. on ¾" centers. Brass, nickel plated.
COLORS: Body, Black, Binding Posts, Black/Red.

MODEL 2978 QUANTITY DISC. CODE **A** **NET 2.25**

BINDING POST TO SINGLE PIN TIP PLUG

NEW

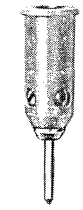


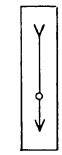


Features insulated binding post. Binding post allows top Stack-Up for multiple connections. Side Stack-Up provided by thru-holes in plug body.
UPPER: Insulated binding post. Top and side Stack-Up connectors (.166 dia.). Cross hole (.166 dia.) in body provide side Stack-Up connections.
LOWER: Pin tip, .080 dia. brass, nickel plated.
COLORS: Black, Red.

MODEL 2953 (Specify color) QUANTITY DISC. CODE **A** **NET 1.35**

SOLDERLESS PIN TIP PLUG—STACK-UP





Wire firmly held in place with internal set screw, eliminating soldering. Assembly of test leads simplified.
UPPER: Tip jack, beryllium copper, gold flashed; accepts .080 dia. pin.
LOWER: Pin tip, .080 dia., brass, nickel plated.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL 1922 (Specify color) QUANTITY DISC. CODE **A** **NET .85**

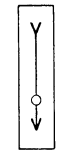
ADAPTER — BANANA JACK TO PIN TIP

Permits standard single banana plug patch cords to be used with equipment having tip jacks.
UPPER: Banana jack, .166 dia. Brass, nickel plated.
LOWER: Pin tip, .080 dia. Brass, nickel plated. Cross hole (.166 dia.) in body provides side Stack-Up connection.
COLORS: Black, Red.

Standard Package: 10 (per color)

MODEL 1432 (Specify Color) QUANTITY DISC. CODE **A** **NET .15 ea.**

ADAPTER — .080 TIP JACK TO BANANA PLUG



Permits .080 dia. pin tip patch cords to be used with equipment having banana jacks. Insulation molded to plug body.
UPPER: Tip jack, beryllium copper, gold flashed. Accepts .080 dia. pin.
LOWER: Banana plug, one piece nickel plated beryllium copper spring for use with standard 0.166 dia. banana jack. Cross hole (.166 dia.) in body provides side Stack-Up connection.
COLORS: Black, Red.

MODEL 1809 (Specify Color) QUANTITY DISC. CODE **A** **NET .75**

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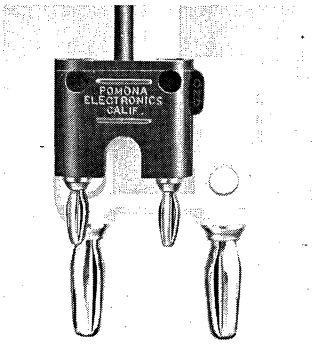
POMONA ELECTRONICS

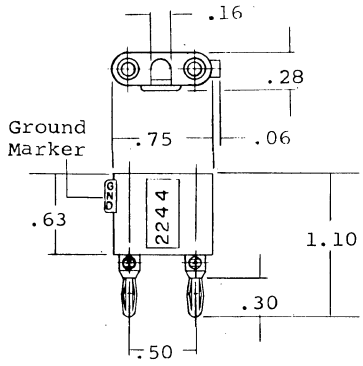
½" SPACED MINIATURE BANANA PLUGS AND ACCESSORIES

ONE-THIRD SMALLER Miniature Banana Plugs, a state-of-the-art development for the ever increasing demand for miniaturized test equipment.

Banana plug springs are precision formed of one-piece beryllium copper, heat treated for maximum life and low contact resistance. Tough thermoplastic molded to plug bodies.



ACTUAL SIZE

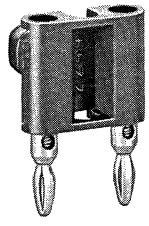


SPECIFICATIONS:

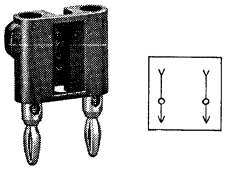
- Fits 0.104 dia. miniature banana jacks.
- Plug body brass, per QQ-B-626, Comp. #22.
- Gold flashed per MIL-G-45204 Type 11 (.00002/.00003).
- Spring, beryllium copper alloy 170 per QQ-C-533.

RATINGS:

- Operating temp.: —25°C to +85°C.
- Working voltage: 2500 VDC.
- Current: 5 amps cont., 10 amps. int.



MINIATURE—DOUBLE BANANA PLUG WITH SET SCREWS



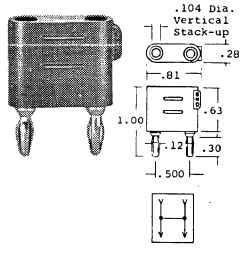
Miniature double banana plug on ½" centers. Internal set screws to secure cable or component leads. .104 dia. banana jacks on ½" centers permit top Stack-Up for multiple connections.

COLORS: Black, Red.

MODEL 2244 Black
MODEL 2244-2 Red

MODEL 2244 QUANTITY DISC. CODE **A** **NET .75**

MINIATURE—DOUBLE BANANA PLUG WITH SHORTING BAR



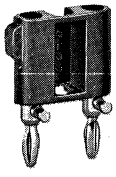
Ideal as a connecting link for use with ½" spaced banana jacks. .104 dia. banana jacks on ½" centers permit top Stack-Up for multiple connections. Banana plugs internally solder-bonded with #18 AWG wire. "Shorting Bar" stamped on plug.

COLORS: Black, Red.

MODEL 2035 Black
MODEL 2035-2 Red

MODEL 2035 QUANTITY DISC. CODE **A** **NET .95**

MINIATURE—DOUBLE BANANA PLUG WITH SOLDER TURRET TERMINALS



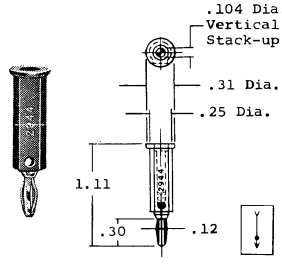
Miniature double banana plug on ½" centers. Solder turret terminals for permanent noise-free connections of cables or components. .104 dia. banana jacks on ½" centers permit top Stack-Up for multiple connections.

COLORS: Black, Red

MODEL 2245 Black
MODEL 2245-2 Red

MODEL 2245 QUANTITY DISC. CODE **A** **NET .85**

MINIATURE SOLDERLESS BANANA PLUG-STACK-UP



Miniature banana plug for rapid assembly of test leads. For use with miniature binding posts or banana jacks. Wire firmly held in place with internal set screw, eliminating soldering.

UPPER: Miniature banana jack .104 dia. Brass, gold flashed.

LOWER: Miniature banana plug, one piece gold flashed beryllium copper spring for use with .104 dia. miniature banana jacks.

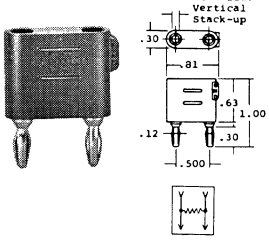
COLORS: Black, Red.

MODEL 2944-0 Black
MODEL 2944-2 Red

NEW

MODEL 2944 QUANTITY DISC. CODE **A** **NET .50**

MINIATURE—DOUBLE BANANA PLUG WITH MOLDED PRECISION RESISTOR

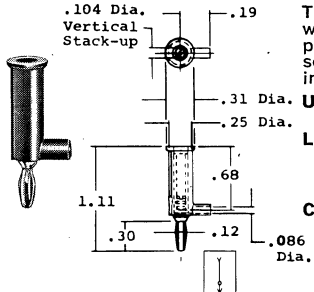


Ideal where rapid interchange of resistance values is required. Deposited carbon 1% ¼ watt, molded internally. .104 dia. banana jacks on ½" centers permit top Stack-Up for multiple connections. Resistance value stamped on plug.

COLOR: Blue (OHMS) 50 10K 600 50K 1K 100K

MODEL 2246 (Specify Value) QUANTITY DISC. CODE **A** **NET 2.75**

MINIATURE SOLDERLESS BANANA PLUG WITH SAFETY COLLAR-STACK-UP



This integral collar insulates exposed wire leads and acts as a strain relief by preventing the flexing of the lead at the set screw. Wire firmly held in place with internal set screw, eliminating soldering.

UPPER: Miniature banana jack. .104 dia. Brass, gold flashed.

LOWER: Miniature banana plug, one piece gold flashed beryllium copper spring for use with .104 dia. miniature banana jacks.

COLORS: Black, Red.

MODEL 2945-0 Black
MODEL 2945-2 Red

NEW

MODEL 2945 QUANTITY DISC. CODE **A** **NET .50**

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POMONA ELECTRONICS

MINIATURE BINDING POSTS
MINIATURE BANANA JACKS

MINIATURE BINDING POSTS

A complete 5-way Binding Post in "Miniature." Captive Thumb Nut and Binding Post Body, machined brass; gold or nickel plated. Thumb Nut and Mounting Base molded of High Impact Polycarbonate Thermoplastic. Heavy Duty Shouldered Ceramic Insulator. Lockwasher and hex nut included, unassembled, nickel plated.

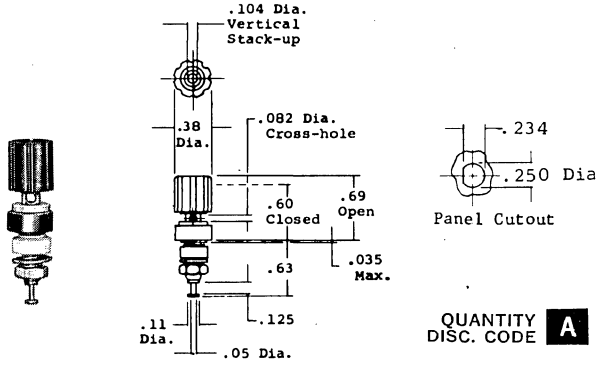
SPECIFICATIONS:

■ 5-way Binding Post ■ Mounts ¼" dia. "D" hole ■ Panels up to 3/16" thick ■ Captive Thumb Nut ■ .082 dia. Cross hole ■ Thumb Nut and Binding Post Body — Gold Flashed per MIL-G-45204 Type 2 OR Nickel Plated per QQ-N-290 Class 2.

RATINGS:

■ Operating Temp.: —65°C to +150°C.
■ Working Voltage: 1500 VDC.
■ Current: 5 Amps Cont., 10 Amps Int.

MINIATURE—INSULATED BINDING POST



QUANTITY DISC. CODE **A**

MODEL 2382-* *(Specify Color) Gold Flashed Assembly **NET .90**

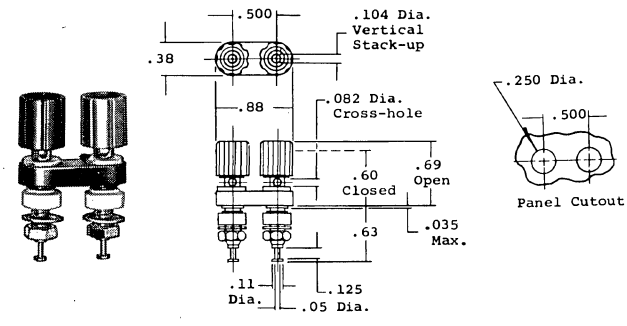
MODEL 2439-* *(Specify Color) Nickel Plated Assembly **NET .75**

(*) COLORS

-0 Black	-5 Green
-1 Brown	-6 Blue
-2 Red	-7 Violet
-3 Orange	-8 Gray
-4 Yellow	-9 White

MINIATURE—INSULATED DOUBLE BINDING POST

Double binding post body on ½" centers with one Red and one Black binding post. Choice of Black or Red plate.



MODEL 2383-* *(Specify Color) Gold Flashed Assembly **NET 1.80**

MODEL 2440-* *(Specify Color) Nickel Plated Assembly **NET 1.50**

QUANTITY DISC. CODE **A**

(*) COLORS
-0 Black Plate
-2 Red Plate

MINIATURE BANANA JACKS

Developed by the need for miniaturization of test equipment and test panels. The new generation of test jacks. Built to Pomona Electronics high standard of quality.

Wide selection of colors available.

Molded of High Impact Polycarbonate Thermoplastic Banana Jack body, one piece machined brass, gold flashed. Heavy duty shouldered ceramic insulator. Lockwasher and hex nut included, unassembled, nickel plated.

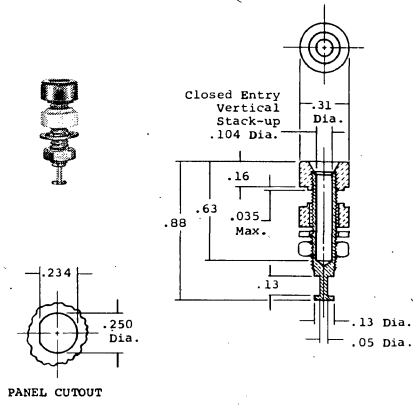
SPECIFICATIONS:

■ Closed entry jack .104 dia. ■ Insulator head molded to body. ■ Mounts in ¼" dia. hole. Model 2142, Panels up to ¼" thick. Model 2143, Panels up to 3/16" thick. ■ Solder turret terminal.

RATINGS:

■ Operating Temp.: —65°C to +150°C.
■ Working Voltage: 1500 VDC.
■ Current: 5 Amps Cont., 10 Amps Int.

MINIATURE—INSULATED BANANA JACK

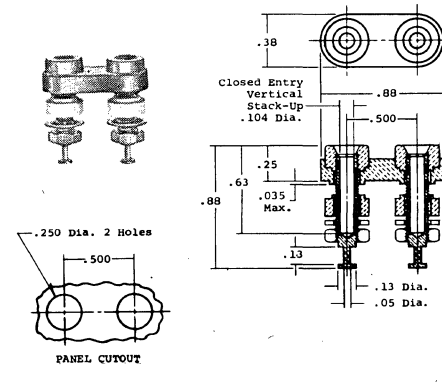


2142 —BLACK
2142-1—BROWN
2142-2—RED
2142-3—ORANGE
2142-4—YELLOW
2142-5—GREEN
2142-6—BLUE
2142-7—VIOLET
2142-8—GRAY
2142-9—WHITE

MODEL 2142 Standard Package: 10 (per color) QUANTITY DISC. CODE **A** **NET .25 ea.**

MINIATURE—INSULATED DOUBLE BANANA JACK

Double banana jack on ½" centers with one red and one black jack. Choice of Black or Red plate.



MODEL 2143 (Black Plate)

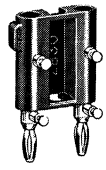
MODEL 2143-2 (Red Plate)

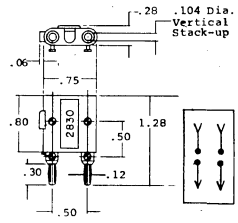
MODEL 2143 QUANTITY DISC. CODE **A** **NET .75**

POMONA ELECTRONICS

MINIATURE TEST ACCESSORIES AND PATCH CORDS

NEW MINIATURE—DOUBLE BANANA PLUG—4 TERMINAL ISOLATION

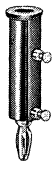


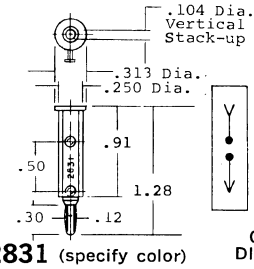


Provides four terminal isolation. Top Stack-up receptacles isolated from lower plugs. Ideal for insertion of matching networks in computer boards, circuit design and testing. Gold flashed solder turret terminals for permanent noise-free connections.
UPPER: Miniature double banana jack, .104 Dia. Brass, gold flashed.
LOWER: Miniature double banana plug on ½" centers. Gold flashed one piece beryllium copper spring.
COLOR: Red.

MODEL 2830 QUANTITY DISC. CODE **A** **NET 3.85**

NEW MINIATURE—SINGLE BANANA PLUG ISOLATION

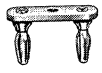




Provides two terminal isolation. Allows for addition of series components. Excellent for circuit design and testing. Gold flashed solder turret terminals for permanent noise-free connections.
UPPER: Miniature banana jack, .104 dia. Brass, gold flashed.
LOWER: Miniature banana plug, one piece gold flashed beryllium copper spring.
COLOR: Black, Red.

MODEL 2831 (specify color) QUANTITY DISC. CODE **A** **NET 1.25**

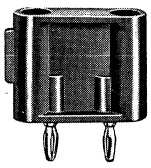
NEW MINIATURE—METAL SHORTING BAR



Low profile, gold flashed, brass shorting bar. Miniature banana plugs on ½" centers swaged to 1/16" thick brass bar. Center hole accepts #4-40 screw for easy removal. Current rating 5 Amps. cont., 10 Amps INT.

MODEL 3030 QUANTITY DISC. CODE **A** **NET .85**

NEW ADAPTER—STANDARD DOUBLE BANANA JACK TO MINIATURE DOUBLE BANANA PLUG

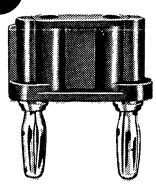


Permits standard double banana plug on ¾" centers to be used with equipment having miniature double banana jacks on ½" centers.
UPPER: Standard double banana jacks .166 dia. on ¾" centers. Brass, nickel plated.

LOWER: Miniature double banana plug on ½" centers. One piece nickel plated beryllium copper spring for use with .104 dia. miniature banana jacks.
COLOR: Black.

MODEL 2952 QUANTITY DISC. CODE **A** **NET .95**

NEW ADAPTER—MINIATURE DOUBLE BANANA JACK TO STANDARD DOUBLE BANANA PLUG

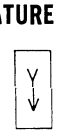


Permits miniature double banana plug on ½" centers to be used with equipment having standard double banana jacks on ¾" centers.
UPPER: Miniature double banana jacks, .104 dia. on ½" centers. Brass, nickel plated.

LOWER: Standard double banana plug on ¾" centers. One piece nickel plated beryllium copper spring for use with .166 dia. standard banana jacks.
COLOR: Black.

MODEL 2943 QUANTITY DISC. CODE **A** **NET .95**

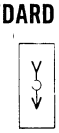
ADAPTER—STANDARD BANANA JACK TO MINIATURE BANANA PLUG



Permits standard banana plug to be used with equipment having miniature banana jacks.
UPPER: Banana jack, .166 dia.; Brass, nickel plated.
LOWER: Miniature banana plug, one piece nickel plated beryllium copper spring for use with .104 dia. miniature banana jacks.
COLORS: Black, Red.

MODEL 2138 2138-0 Black, 2138-2 Red **NET .50**
QUANTITY DISC. CODE **A**

ADAPTER—MINIATURE BANANA JACK TO STANDARD BANANA PLUG



Permits miniature banana plugs to be used with equipment having standard banana jacks.
UPPER: Miniature banana jack, .104 dia.; Brass, nickel plated.
LOWER: Standard banana plug, one piece nickel plated beryllium copper spring for use with .166 dia. banana jacks.
COLORS: Black, Red.

MODEL 2477 2477-0 Black, 2477-2 Red **NET .50**
QUANTITY DISC. CODE **A**

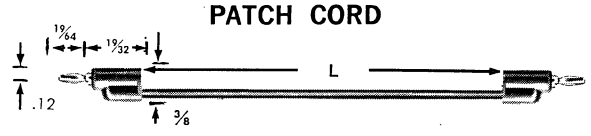
MINIATURE BANANA PLUG PATCH CORDS

Miniature patch cords for use with .104 dia. miniature banana jacks. Excellent for miniaturization of test equipment and high density packaging for patch systems.
Banana plug springs precision formed of one piece beryllium copper, heat treated for maximum life and low contact resistance. Tough thermoplastic molded to plug body and wire.

FEATURES:
■ Fits .104 dia. miniature banana jacks ■ Plug body brass, per QQ-B-626, Comp. #22 ■ Gold flashed per MIL-G-45204 Type II (.00002/.00003) ■ Spring, one piece heat treated beryllium copper, alloy 170 per QQ-C-533.

SPECIFICATIONS:
■ WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation .087" O.D. ■ RATED: 5 A. Cont., 10 A. Int., 5,000 V.D.C. ■ OPERATING TEMP.: —0° C to +105° C.

MINIATURE—BANANA PLUG STACK-UP PATCH CORD



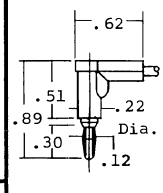
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

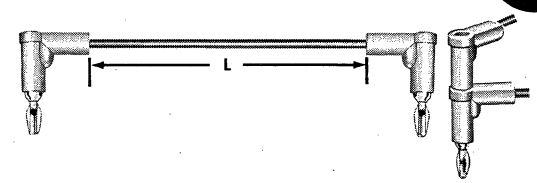
MODEL	LENGTH	NET	MODEL	LENGTH	NET
1081-4	4"	1.50	1081-24	24"	1.50
1081-8	8"	1.50	1081-36	36"	1.50
1081-12	12"	1.50	1081-48	48"	1.55
1081-18	18"	1.50	1081-60	60"	1.60

MODEL 1081 (Specify Color) ★QUANTITY DISC. CODE **A**

MINIATURE— RIGHT ANGLE BANANA PLUG PATCH CORD STACK-UP

NEW





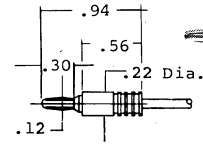
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

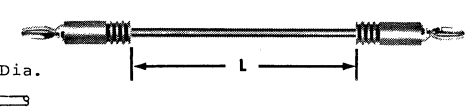
MODEL	LENGTH	NET	MODEL	LENGTH	NET
2860-4	4"	1.50	2860-24	24"	1.50
2860-8	8"	1.50	2860-36	36"	1.50
2860-12	12"	1.50	2860-48	48"	1.55
2860-18	18"	1.50	2860-60	60"	1.60

MODEL 2860 (Specify Color) ★QUANTITY DISC. CODE **A**

MINIATURE—BANANA PLUG PATCH CORD

NEW





COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

MODEL	LENGTH	NET	MODEL	LENGTH	NET
2842-4	4"	1.00	2842-24	24"	1.00
2842-8	8"	1.00	2842-36	36"	1.00
2842-12	12"	1.00	2842-48	48"	1.05
2842-18	18"	1.00	2842-60	60"	1.10

MODEL 2842 (Specify Color) ★QUANTITY DISC. CODE **A**

★ Various lengths may be aggregated for best quantity price.

Net
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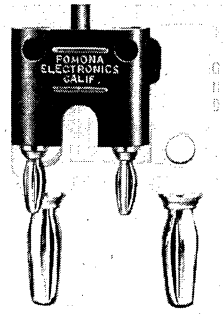
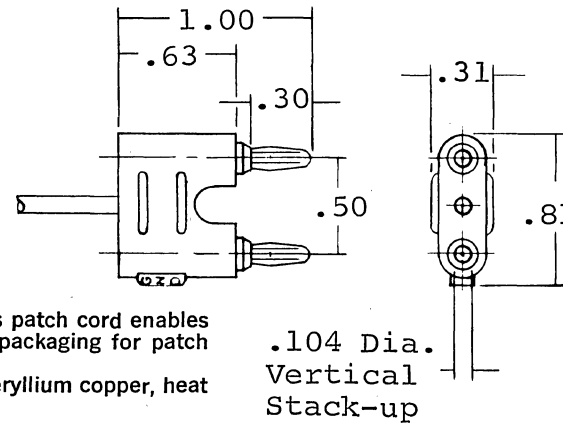
POMONA ELECTRONICS

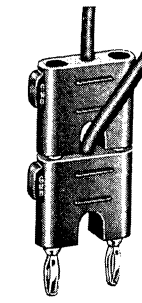
½" SPACED MINIATURE DOUBLE BANANA PLUG PATCH CORDS

MOLDED MINIATURE DOUBLE BANANA PLUG PATCH CORDS

ACTUAL SIZE







STACK-UP

⅓ smaller...

A miniature double banana plug on ½" centers. This patch cord enables miniaturization of test equipment and high density packaging for patch systems.
Banana plug springs precision formed of one piece beryllium copper, heat treated for maximum life and low contact resistance.

FEATURES...

- One piece beryllium copper heat treated spring for long life.
- Rounded spring design results in maximum contact area.
- GND., clearly molded on plug body and shell.
- Solder-bonded noise-free connections.

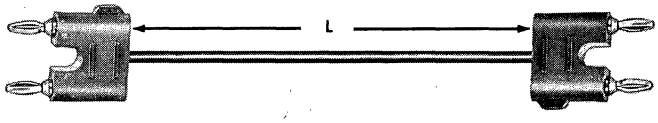
SPECIFICATIONS . . .

- Fits standard 0.104 dia. banana jacks, on ½" centers.
- Spring beryllium copper alloy 170 per QQ-C-533.
- Plug body brass per QQ-B-626, Comp. 22.
- Gold flashed per MIL-G-45204, type II.

CABLE DESCRIPTION:
Shielded coax., RG174/U. Polyethylene insulation, Vinyl jacket. Nom. cap. 29.5 pf/ft. Nom. Imp. 50 Ohms. Nom. O.D. .100". **Color: Black.**

NOTE: Molded double plug matches color of cable.

MINIATURE — DOUBLE BANANA PLUG BOTH ENDS



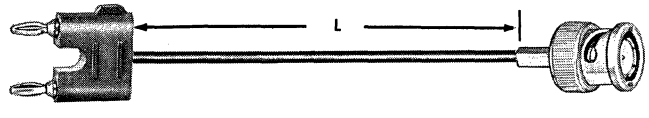
CONN: 1st END Miniature Double Banana plug on ½" centers. **CABLE:** Shielded Coax., RG174/U. **CONN: 2nd END** Miniature double banana plug on ½" centers.

★QUANTITY DISC. CODE **B**

MODEL 2247

MODEL	LENGTH	NET
2247-K-12	12"	4.85
2247-K-24	24"	4.85
2247-K-36	36"	4.85
2247-K-48	48"	5.00
2247-K-60	60"	5.15

MINIATURE–DOUBLE BANANA PLUG TO BNC MALE



CONN: 1st END Miniature Double Banana Plug on ½" centers **CABLE:** Shielded Coax., RG174/U **CONN: 2nd END** Male BNC

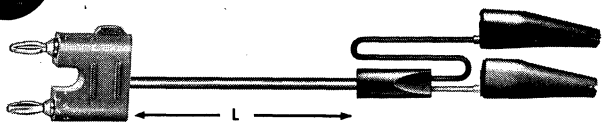
★QUANTITY DISC. CODE **B**

MODEL 2248

MODEL	LENGTH	NET
2248-K-12	12"	5.85
2248-K-24	24"	5.85
2248-K-36	36"	5.85
2248-K-48	48"	6.00
2248-K-60	60"	6.15

NEW

MINIATURE — DOUBLE BANANA PLUG TO MINIGATOR CLIPS



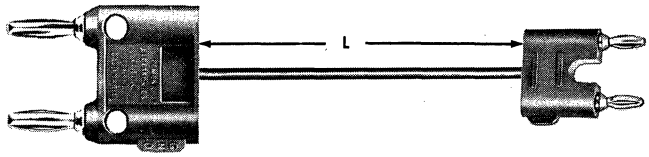
CONN: 1st END Miniature Double Banana plug on ½" centers. **CABLE:** Shielded Coax., RG174/U. **CONN: 2nd END** Minigator Clips, Steel, cad plated Insulators, Vinyl: Black/Red.

★QUANTITY DISC. CODE **B**

MODEL 3027

MODEL	LENGTH	NET
3027-K-12	12"	5.85
3027-K-24	24"	5.85
3027-K-36	36"	5.85
3027-K-48	48"	6.00
3027-K-60	60"	6.15

DOUBLE BANANA PLUG TO MINIATURE DOUBLE BANANA PLUG



CONN: 1st END Double Banana Plug, on ¾" Centers. **CABLE:** Shielded Coax., RG174/U. **CONN: 2nd END** Miniature double banana plug on ½" Centers.

★QUANTITY DISC. CODE **B**

MODEL 2443

MODEL	LENGTH	NET
2443-K-12	12"	4.85
2443-K-24	24"	4.85
2443-K-36	36"	4.85
2443-K-48	48"	5.00
2443-K-60	60"	5.15

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POMONA ELECTRONICS

SHIELDED "BLACK" BOXES

NOW AVAILABLE, *SHIELDED* "BLACK BOXES." Boxes that fulfill the requirement for RF applications.

Ideal for compact packaging, eg., voltage dividers, isolation networks, impedance matching networks, and other varied uses.

Cover and self-tapping screws included.

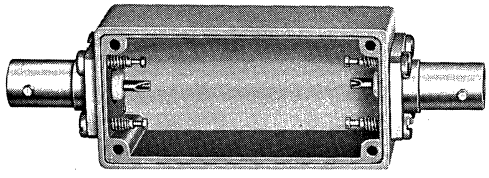
APPLICABLE SPECIFICATIONS: (ALL MODELS)

Operating Temp.: −55°C to +150°C.
Working Voltage: 500 V Peak (Model 2415, 1500 V Peak).
Noise Rejection: Greater than 70DB.

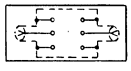
FEATURES:

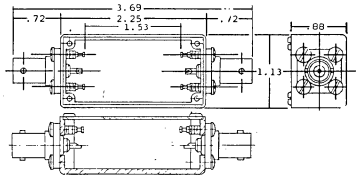
- SHIELDED HOUSING; Die Cast Aluminum. FINISH: BLUE baked enamel per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A.
- COVER; .040 Thick Aluminum #6061-T6 with clear anodized finish per MIL-A-8625A.
- Four screws secure cover for proper shielding.
- Solder turret terminals for permanent noise free connection of components.

COMPONENT MOUNTING— BNC RECEPTACLE BOTH ENDS



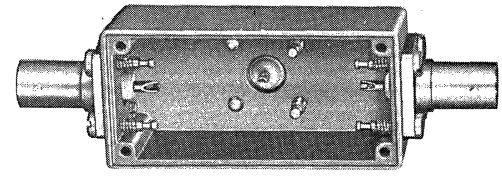
CONN: 1st END } BNC Receptacle Jack, UG290A/U.
CONN: 2nd END } BNC Receptacle Jack, UG290A/U.



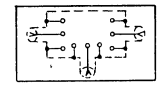


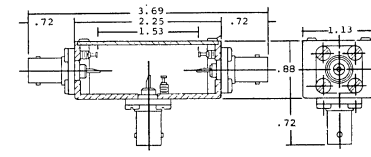
MODEL 2390 QUANTITY DISC. CODE **A** **NET 6.85**

COMPONENT MOUNTING— BNC RECEPTACLE "T"



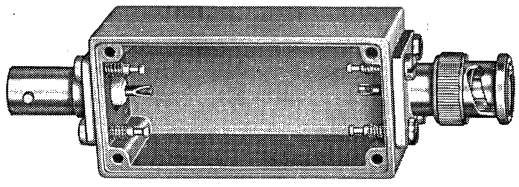
CONN: 1st END } BNC Receptacle Jack, UG290A/U.
CENTER: BNC Receptacle Jack, UG290A/U.
CONN: 2nd END } BNC Receptacle Jack, UG290A/U.



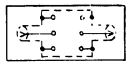


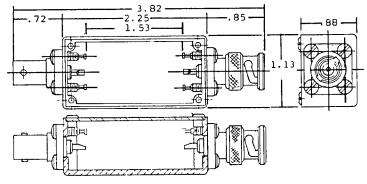
MODEL 2392 QUANTITY DISC. CODE **A** **NET 9.50**

COMPONENT MOUNTING— BNC RECEPTACLE TO BNC PLUG



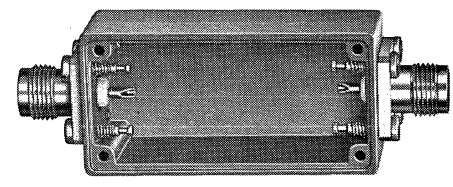
CONN: 1st END } BNC Receptacle Jack, UG290A/U.
CONN: 2nd END } BNC Receptacle Plug, UG1104A/U.



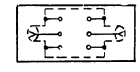


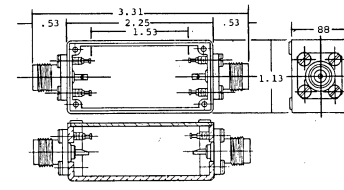
MODEL 2391 QUANTITY DISC. CODE **A** **NET 7.85**

COMPONENT MOUNTING— TNC RECEPTACLE BOTH ENDS



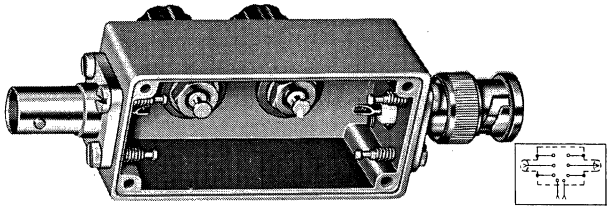
CONN: 1st END } TNC Receptacle Jack.
CONN: 2nd END } TNC Receptacle Jack.



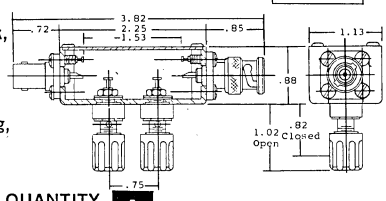


MODEL 2396 QUANTITY DISC. CODE **A** **NET 7.85**

COMPONENT MOUNTING—BNC RECEPTACLE TO BNC PLUG WITH BINDING POSTS

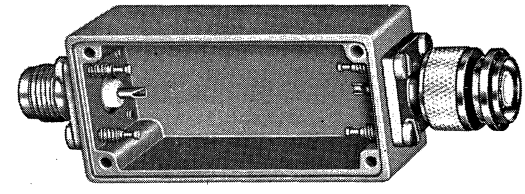


CONN: 1st END } BNC Receptacle Jack, UG290A/U.
CENTER: Banana jack binding posts with solder turret terminals. Red and Black.
CONN: 2nd END } BNC Receptacle Plug, UG1104A/U.

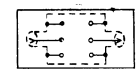


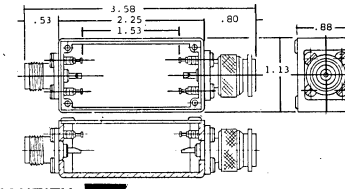
MODEL 2393 QUANTITY DISC. CODE **A** **NET 10.85**

COMPONENT MOUNTING— TNC RECEPTACLE TO TNC PLUG



CONN: 1st END } TNC Receptacle Jack.
CONN: 2nd END } TNC Receptacle Plug.





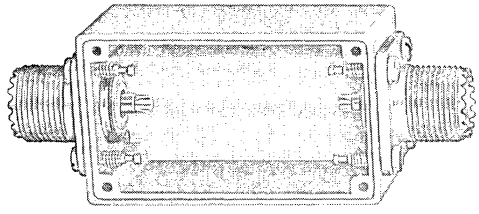
MODEL 2395 QUANTITY DISC. CODE **A** **NET 9.50**

Net
© United Technical Publications

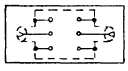
POMONA ELECTRONICS

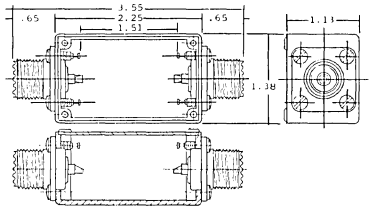
SHIELDED "BLACK" BOXES

COMPONENT MOUNTING— UHF RECEPTACLE BOTH ENDS



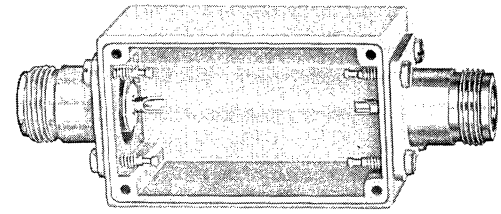
CONN: 1st END } UHF Receptacle Jack.
CONN: 2nd END } UHF Receptacle Jack.



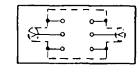


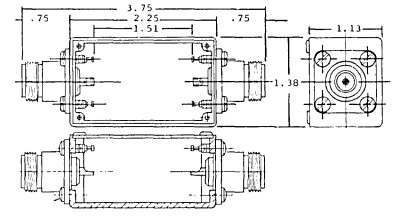
MODEL 2412 QUANTITY DISC. CODE **A** **NET 7.85**

COMPONENT MOUNTING— TYPE "N" RECEPTACLE BOTH ENDS



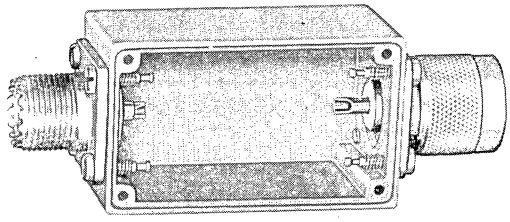
CONN: 1st END } Type "N" Receptacle Jack, UG58A/U.
CONN: 2nd END } Type "N" Receptacle Jack, UG58A/U.



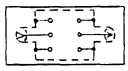


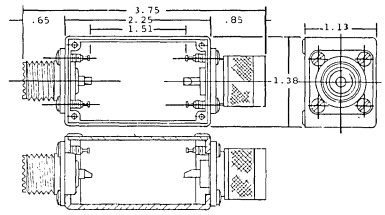
MODEL 2410 QUANTITY DISC. CODE **A** **NET 6.85**

COMPONENT MOUNTING— UHF RECEPTACLE TO UHF PLUG



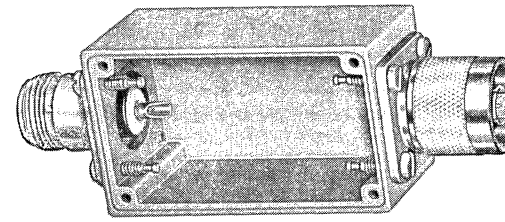
CONN: 1st END } UHF Receptacle Jack.
CONN: 2nd END } UHF Receptacle Plug.



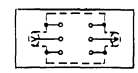


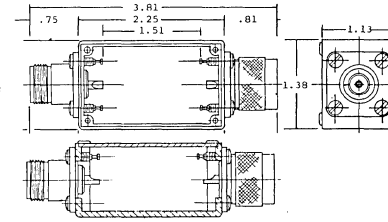
MODEL 2413 QUANTITY DISC. CODE **A** **NET 10.85**

COMPONENT MOUNTING— TYPE "N" RECEPTACLE TO TYPE "N" PLUG



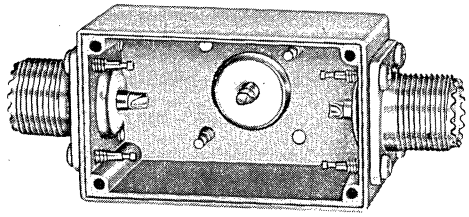
CONN: 1st END } Type "N" Receptacle Jack, UG58A/U.
CONN: 2nd END } Type "N" Receptacle Plug.



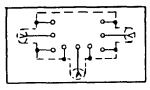


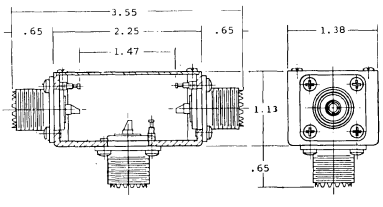
MODEL 2411 QUANTITY DISC. CODE **A** **NET 9.85**

COMPONENT MOUNTING — UHF RECEPTACLE "T"



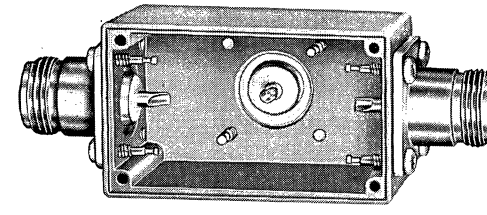
CONN: 1st END } UHF Receptacle Jack.
CENTER: UHF Receptacle Jack.
CONN: 2nd END } UHF Receptacle Jack.



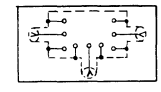


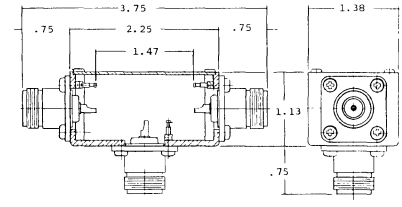
MODEL 2418 QUANTITY DISC. CODE **A** **NET 10.85**

COMPONENT MOUNTING — TYPE "N" RECEPTACLE "T"



CONN: 1st END } Type "N" Receptacle Jack, UG58A/U.
CENTER: Type "N" Receptacle Jack, UG58A/U.
CONN: 2nd END } Type "N" Receptacle Jack, UG58A/U.



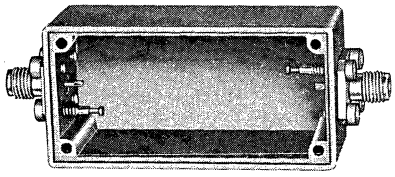


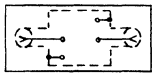
MODEL 2419 QUANTITY DISC. CODE **A** **NET 9.50**

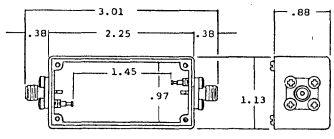
POMONA ELECTRONICS — SHIELDED "BLACK BOXES"

NEW

COMPONENT MOUNTING — OSM* RECEPTACLE BOTH ENDS





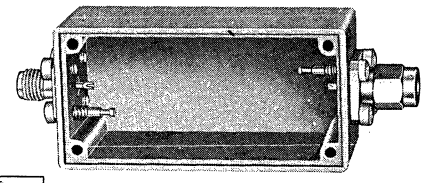


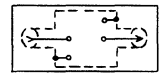
CONN: 1st END } OSM Receptacle Jack.
CONN: 2nd END } OSM Receptacle Jack.

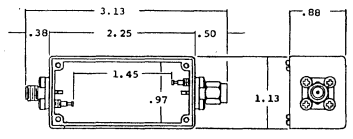
MODEL 2399 QUANTITY DISC. CODE **A** **NET 17.95**

COMPONENT MOUNTING — OSM* RECEPTACLE TO OSM* PLUG

NEW





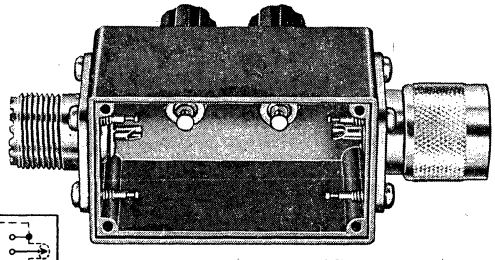


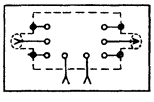
CONN: 1st END } OSM Receptacle Jack.
CONN: 2nd END } OSM Receptacle Plug.

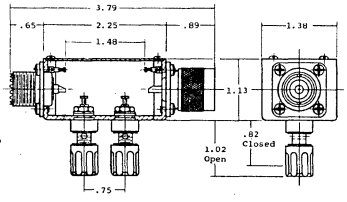
MODEL 2398 QUANTITY DISC. CODE **A** **NET 22.95**

COMPONENT MOUNTING — UHF RECEPTACLE TO UHF PLUG WITH BINDING POSTS

NEW





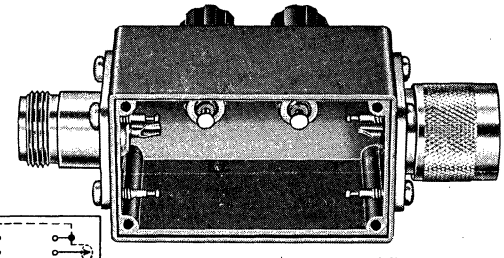


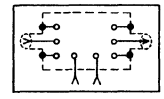
CONN: 1st END } UHF Receptacle Jack.
CENTER: Banana jack binding posts with solder turret terminals. Red and Black.
CONN: 2nd END } UHF Receptacle Plug.

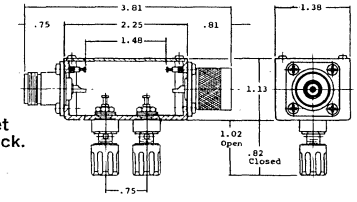
MODEL 2422 QUANTITY DISC. CODE **A** **NET 13.85**

COMPONENT MOUNTING TYPE "N" RECEPTACLE TO TYPE "N" PLUG WITH BINDING POSTS

NEW





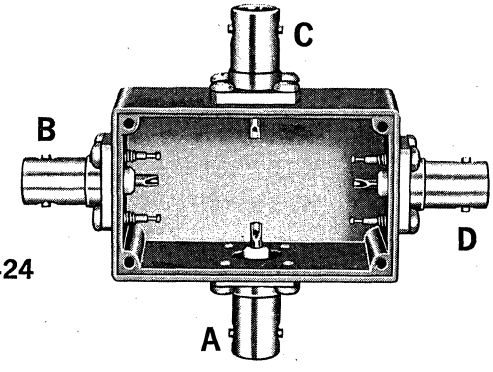


CONN: 1st END } Type "N" Receptacle Jack, UG58A/U.
CENTER: Banana jack binding posts with solder turret terminals. Red and Black.
CONN: 2nd END } Type "N" Receptacle Plug.

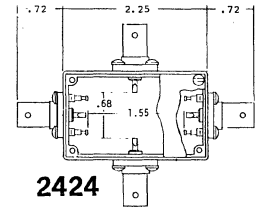
MODEL 2423 QUANTITY DISC. CODE **A** **NET 12.85**

NEW

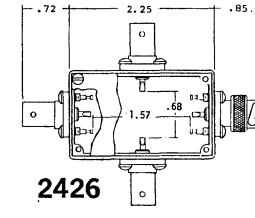
COMPONENT MOUNTING — CROSS CONNECTIONS



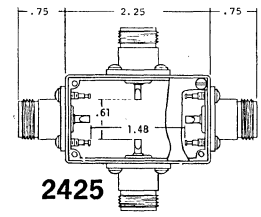
MODEL 2424



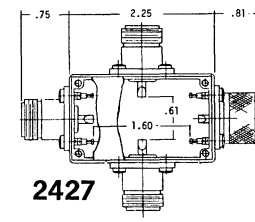
2424



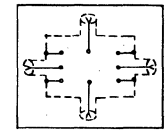
2426



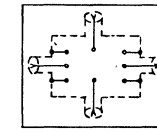
2425



2427



2424, 2425



2426, 2427

MODEL	CONNECTION A, B AND C	CONNECTION D	Quantity Disc. Code	NET
2424	BNC Receptacle Jack, UG290A/U.	BNC Receptacle Jack, UG290A/U.	A	11.75
2425	Type "N" Receptacle Jack, UG58A/U.	Type "N" Receptacle Jack, UG58A/U.	A	11.75
2426	BNC Receptacle Jack, UG290A/U.	BNC Receptacle Plug, UG1104A/U.	A	12.85
2427	Type "N" Receptacle Jack, UG58A/U.	Type "N" Receptacle Plug.	A	12.85

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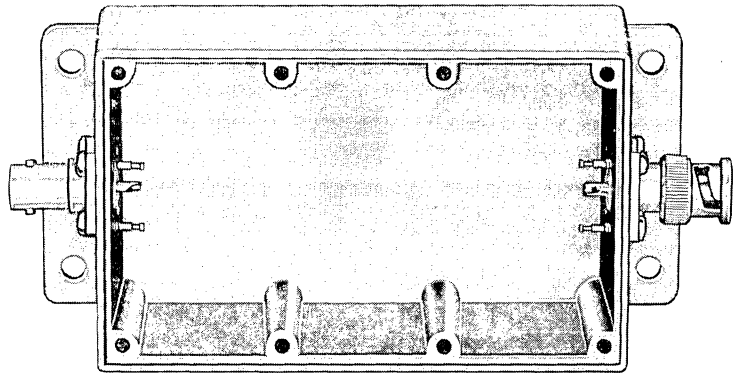
POMONA ELECTRONICS — LARGER SHIELDED "BLACK BOXES"



MODEL 2903

(Shown 2/3 actual size)

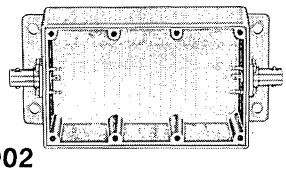
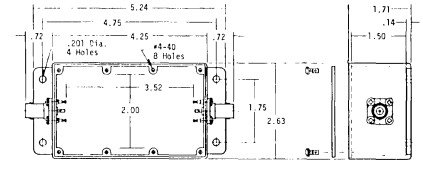
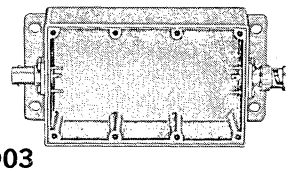
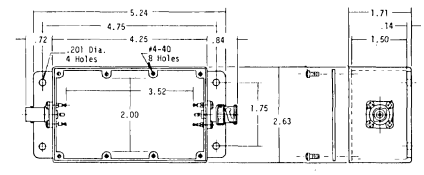
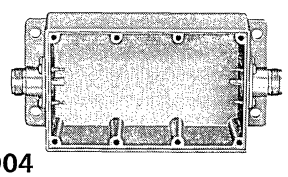
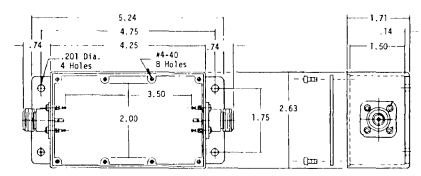
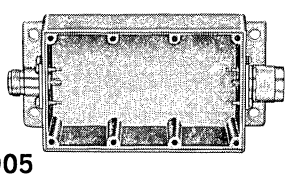
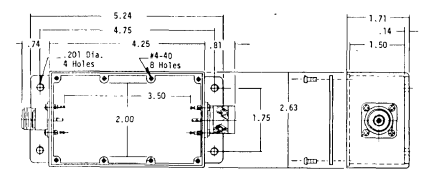
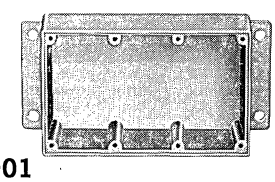
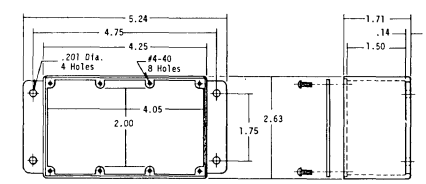
A **NEW** Series of **LARGER** shielded "BLACK BOXES."

These larger boxes are excellent for compact packaging of voltage dividers, isolation networks and many other applications.

APPLICABLE SPECIFICATIONS: (All Models)
Operating Temp.: —55°C to +150°C.
Working Voltage: 500 Peak.
Noise Rejection: Greater than 70DB

FEATURES:

- SHIELDED HOUSING; Die Cast Aluminum, Alloy #A380, FINISH: BLUE baked enamel per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A.
- COVER: .080 Thick Aluminum #6061-T6 with clear anodized finish per MIL-A-8625A.
- 8 ea. #4-40 x 1/4" screws secure cover for proper shielding.
- Solder turret terminals for permanent noise free connection of components.
- 2 flanges for easy mounting of box.

MODEL	CONN. 1st END	CONN. 2nd END		QUANTITY DISC. CODE	NET
NEW  **MODEL 2902**	BNC Receptacle Jack UG290A/U	BNC Receptacle Jack UG290A/U		A	9.85
NEW  **MODEL 2903**	BNC Receptacle Jack UG290A/U	BNC Receptacle Plug UG1104A/U		A	10.85
NEW  **MODEL 2904**	TYPE "N" Receptacle Jack UG58A/U	TYPE "N" Receptacle Jack UG58A/U		A	9.85
NEW  **MODEL 2905**	TYPE "N" Receptacle Jack UG58A/U	TYPE "N" Receptacle Plug		A	12.85
NEW  **MODEL 2901**	NONE	NONE		A	5.85
NEW **MODEL 2906** **SEE 2901**	NONE	NONE	Same as Model 2901 except box is unpainted and cover is unmarked.	A	5.85

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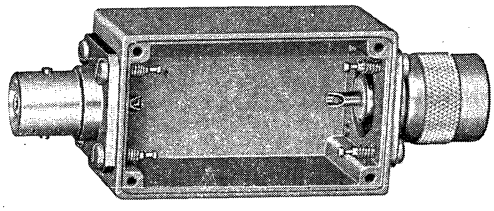
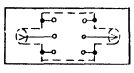
POMONA ELECTRONICS

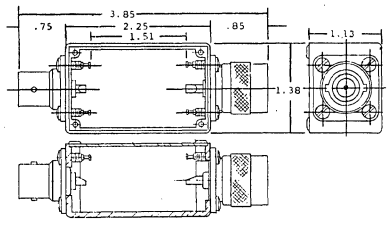
SHIELDED "BLACK BOXES"

COMPONENT MOUNTING— TYPE "C" RECEPTACLE TO TYPE "C" PLUG



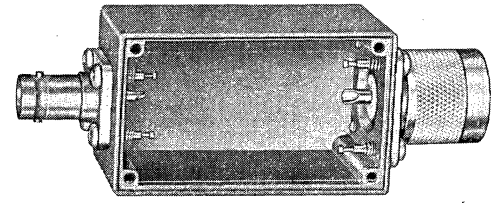
CONN: 1st END } Type "C" Receptacle Jack, UG568/U.
CONN: 2nd END } Type "C" Receptacle Plug.



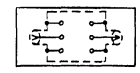


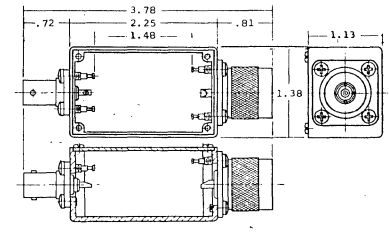
MODEL 2415 QUANTITY DISC. CODE **A** **NET 11.75**

COMPONENT MOUNTING — BNC RECEPTACLE TO TYPE "N" PLUG



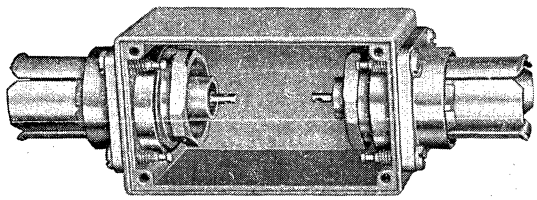
CONN: 1st END } BNC Receptacle Jack, UG290A/U.
CONN: 2nd END } Type "N" Receptacle Plug.



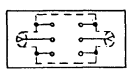


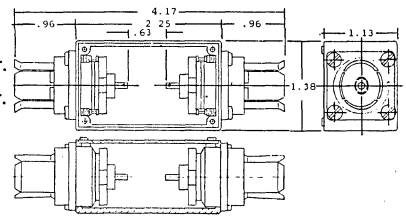
MODEL 2420 QUANTITY DISC. CODE **A** **NET 9.85**

COMPONENT MOUNTING— GR-874 CONNECTOR BOTH ENDS



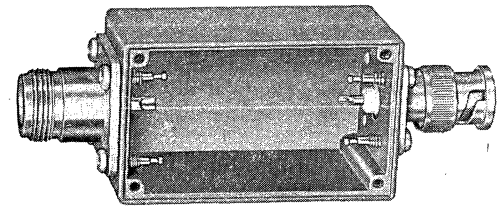
CONN: 1st END } Type GR-874 Connector.
CONN: 2nd END } Type GR-874 Connector.



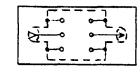


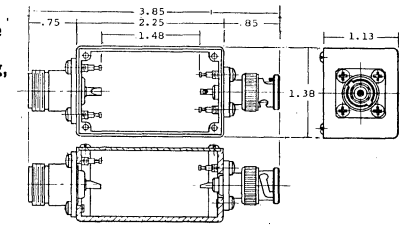
MODEL 2416 QUANTITY DISC. CODE **A** **NET 24.75**

COMPONENT MOUNTING — TYPE "N" RECEPTACLE TO BNC PLUG



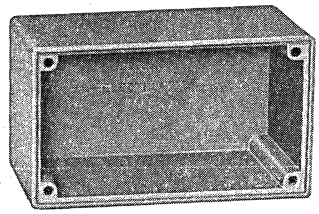
CONN: 1st END } Type "N" Receptacle Jack, UG58A/U.
CONN: 2nd END } BNC Receptacle Plug, UG1104A/U.





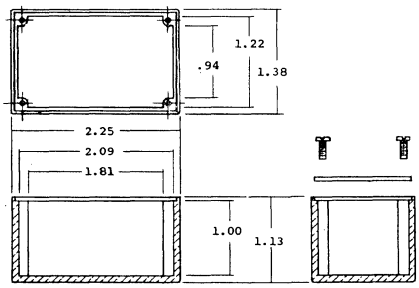
MODEL 2421 QUANTITY DISC. CODE **A** **NET 7.85**

EMPTY — SHIELDED "BLACK BOX"



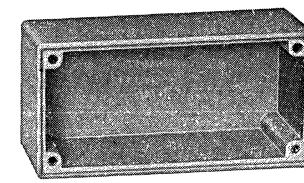
MODEL 2417
FINISH: Blue Baked Enamel.
Includes cover with part number on cover and four cover screws.

MODEL 2428
FINISH: None
Includes unmarked cover and four cover screws.



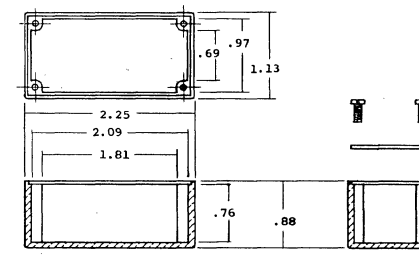
MODEL 2417
MODEL 2428
QUANTITY DISC. CODE **A** **NET 1.50**

EMPTY — SHIELDED "BLACK BOX"



MODEL 2397
FINISH: Blue Baked Enamel.
Includes cover with part number on cover and four cover screws.

MODEL 2400
FINISH: None
Includes unmarked cover and four cover screws.



MODEL 2397
MODEL 2400
QUANTITY DISC. CODE **A** **NET 1.50**

Net
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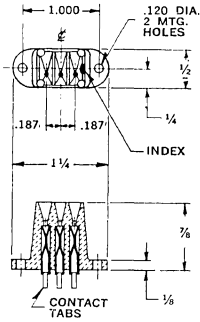
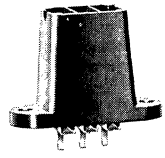
POMONA ELECTRONICS

TEST ACCESSORIES

TRANSISTOR SOCKET



For use in testing 3 lead transistors with .017 dia. leads. Beryllium copper springs for long life. Ideal for aging racks, incoming inspection, life testing, etc.

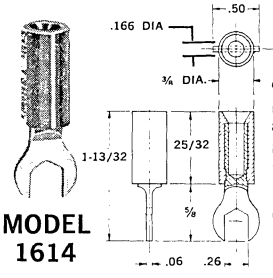


MODEL TS-187

QUANTITY DISC. CODE **A**

MODEL	TEMP. RANGE	INSULATION RESISTANCE	COLOR	NET
TS187	—100°C To +200°C.	1 x 10^5 Megohms Min. @ 500 V.D.C. @ 40% R.H., 24°C.	Black	1.75

INSULATED SPADE LUG ADAPTER



Permits single banana plug to be used with equipment having binding posts. Tough thermoplastic molded to body for maximum reliability and low shock hazard. Spade lug body, one piece machined brass, nickel plated.

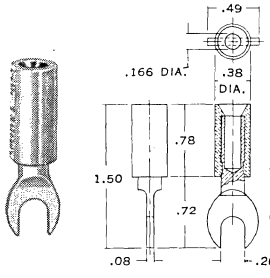
UPPER: Banana jack, .166 dia.
LOWER: Spade lug, .26 opening.
COLORS: Black, Red.

(Specify color)

QUANTITY DISC. CODE **A**

MODEL 1614 **NET .35**

TELLURIUM COPPER INSULATED SPADE LUG ADAPTER



Permits single banana plug to be used with equipment having binding posts. Tough thermoplastic molded to body for maximum reliability and low shock hazard. Spade lug body, one piece machined tellurium copper, gold plated per MIL-G-45204, Type 11, Class 1.

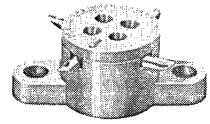
UPPER: Banana jack, .166 dia.
LOWER: Spade lug, .26 opening.
COLORS: Black, Red.

MODEL 2305 (Specify Color) QUANTITY DISC. CODE **A** **NET .95**

TRANSISTOR BREADBOARD SOCKET

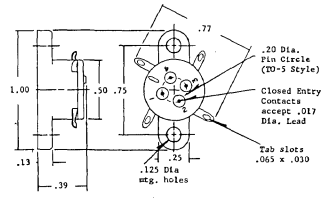
For Transistors with TO-5, and TO-12 Lead Arrangement

Excellent for breadboarding. All connections made on top of breadboard for quick accessible test points.

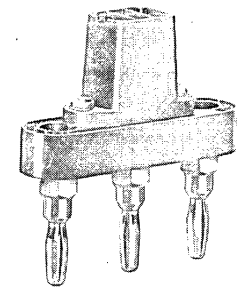


FEATURES:

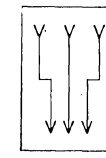
- Closed entry contacts accept .016—.019 dia. leads.
- Beryllium copper contacts silver plated.
- Contact numbers on top of socket.
- Socket molded of low loss mica filled phenolic.
- Easily mounted with two #2 screws.



MODEL XS-T4 QUANTITY DISC. CODE **C** **NET .75**



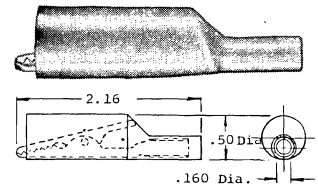
ADAPTER — TRANSISTOR TEST SOCKET



Permits the insertion of transistors with .017 dia. leads into equipment having banana jacks on ¾" centers. Ideal for incoming inspection. Transistor socket contact and banana spring made of beryllium copper. Heavy duty phenolic construction. Insulation resistance: 1 x 10^5 megohms min. @ 500 V.D.C., at 40% R.H., 24°C.

MODEL 1472 QUANTITY DISC. CODE **A** **NET 5.85**

INSULATED ALLIGATOR CLIP TO BANANA JACK

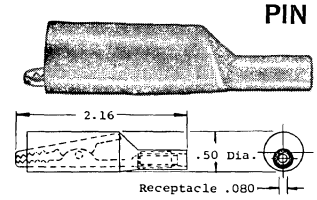


Clip, No. 60 Mueller, Steel, Cadmium Plated. Vinyl insulators, No. 62 (5 Red, 5 Black). Unassembled.

Standard Package of 10 clips and 10 insulators.

MODEL 2240 QUANTITY DISC. CODE **A** **NET .15 ea.**

INSULATED ALLIGATOR CLIP TO PIN TIP JACK



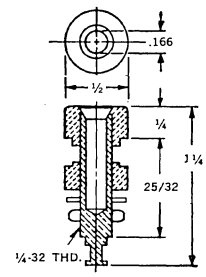
Alligator Clip, Steel, Cad. Plated. Tip Jack, Beryllium Copper, gold flashed, accepts .080 diam. Pin tip plug. Vinyl insulators (5 Red, 5 Black). Unassembled.

Standard Package of 10 clips and 10 insulators.

MODEL 1437 QUANTITY DISC. CODE **A** **NET .50 ea.**

INSULATED BANANA JACK ASSEMBLY

Used with standard banana plug. Body, one piece brass, silver plated. Heavy duty shouldered ceramic insulator. Nickel plated lockwasher and hex nut included.



FEATURES:

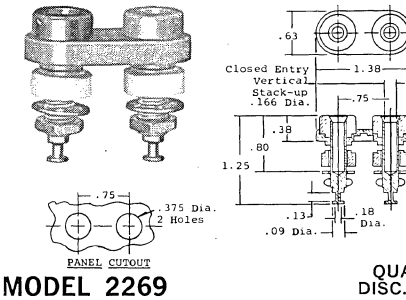
- Closed entry receptacle, .166 dia.
- Insulator head molded to body
- Mounts in ⅜" dia. hole, panels from .035" to .375" thick
- Solder turret terminal
- Rated: 2,500 WVDC

1581 — Black	**1581-5 — Green**
1581-1 — Brown	**1581-6 — Blue**
1581-2 — Red	**1581-7 — Violet**
1581-3 — Orange	**1581-8 — Gray**
1581-4 — Yellow	**1581-9 — White**

Standard Package: 10 (per color) Unassembled

MODEL 1581 QUANTITY DISC. CODE **A** **NET .25 ea.**

INSULATED DOUBLE BANANA JACK ASSEMBLY



Double banana jack on ¾" centers with one red and one black jack. Choice of Black or Red plate.

Mounts in panels from .035" to .275" thick.

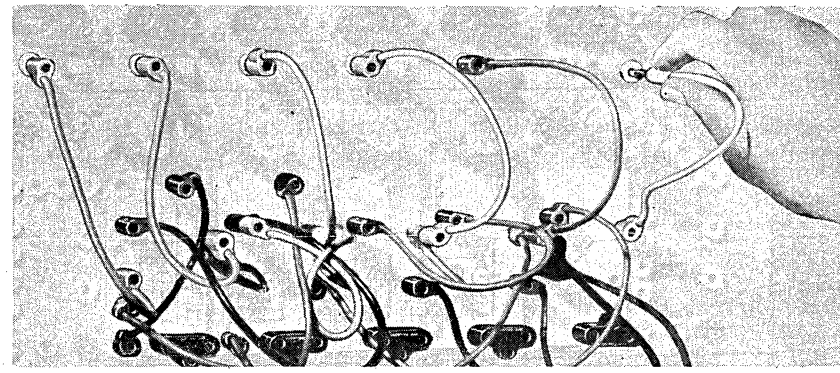
MODEL 2269 Black Plate
MODEL 2269-2 Red Plate

MODEL 2269 QUANTITY DISC. CODE **A** **NET .75**

POMONA ELECTRONICS — PATCH CORDS BANANA PLUGS

POMONA BANANA PLUG PATCH CORDS

Tough thermoplastic insulation molds the plug and leads into a strong moisture resistant integral unit. Excellent for computer board and test equipment applications. Used by leading industries in applications where extreme reliability is of prime importance.



FEATURES

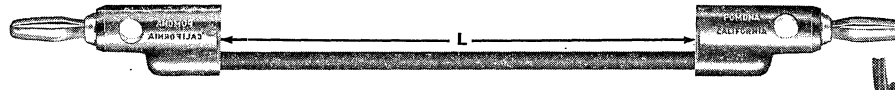
- One piece beryllium copper heat treated spring for maximum long life.
- Rounded spring design results in maximum contact area.
- Extra flexible polyvinyl insulation used on all leads.

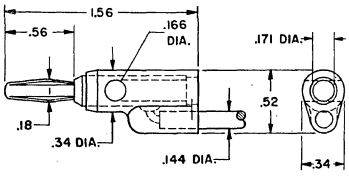
SPECIFICATIONS

- Fits standard 0.166 dia. banana jacks.
- Spring, beryllium copper alloy 170 per QQ-C-533.
- Plug body, brass per QQ-B-626, Comp. 22.
- Nickel plated per QQ-N-290, Class 2.
- Contact resistance less than 0.001 ohms per banana plug.
- Operating Temp.: −0°C to +105°C.
- Wire, 18 AWG, stranding 65 x 36 T.C.
- Insulation, polyvinyl .144" O.D.
- Ratings: 15 A. Cont., 30 A. Int. 10,000 W.V.D.C.

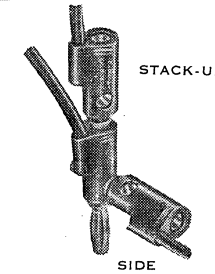
STACK-UP BANANA PLUG PATCH CORD

MODEL	LENGTH	NET
B-4	4"	1.50
B-8	8"	1.50
B-12	12"	1.50
B-18	18"	1.50
B-24	24"	1.50
B-36	36"	1.50
B-48	48"	1.55
B-60	60"	1.60





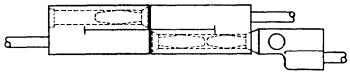
Multiple stacking feature accommodates the most complex stacking; keeps circuitry neater. Greatly simplifies circuit connections and changes. Reliable solder-bonded connections withstand pull test in excess of 50 lbs. Banana plugs both ends.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

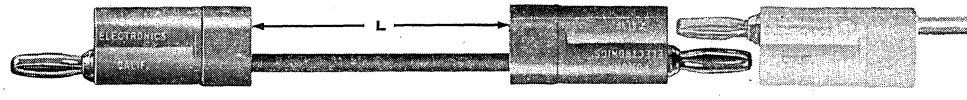


MODEL B (Specify Color) QUANTITY DISC. CODE **A** ★

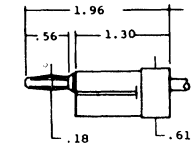
EXTENSION STACKING BANANA PLUG PATCH CORD

MODEL	LENGTH	NET
HB-4	4"	1.75
HB-8	8"	1.75
HB-12	12"	1.75
HB-18	18"	1.75
HB-24	24"	1.75
HB-36	36"	1.75
HB-48	48"	1.80
HB-60	60"	1.85





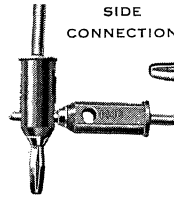
Dual purpose. Insulates all hot leads when used as an extension cord. Endless extension couplings possible with any banana plug patch cord. Provides vertical stacking from any jack. Reliable solder-bonded connections withstand pull test in excess of 50 lbs. Banana plugs both ends.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

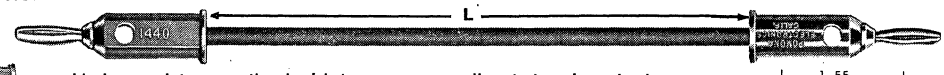


MODEL HB (Specify Color) QUANTITY DISC. CODE **A** ★

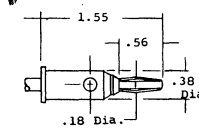
HORIZONTAL STACKING BANANA PLUG PATCH CORD

MODEL	LENGTH	NET
1440-4	4"	1.00
1440-8	8"	1.00
1440-12	12"	1.00
1440-18	18"	1.00
1440-24	24"	1.00
1440-36	36"	1.00
1440-48	48"	1.05
1440-60	60"	1.10





Ideal as an interconnecting lead between power supplies, test equipment, etc. Horizontal stacking feature. Banana plugs on both ends.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.



MODEL 1440 (Specify Color) QUANTITY DISC. CODE **A** ★

★ Various lengths may be aggregated for best quantity price.

OTHER LENGTHS AVAILABLE TO ORDER

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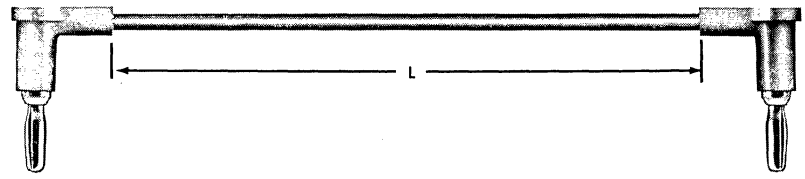
POMONA ELECTRONICS

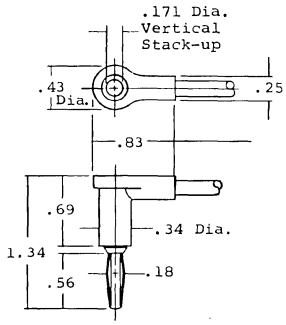
PATCH CORDS BANANA PLUGS

STACK-UP RIGHT ANGLE BANANA PLUG PATCH CORD

NEW

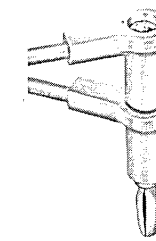
MODEL	LENGTH	NET
2864-4	4″	1.50
2864-8	8″	1.50
2864-12	12″	1.50
2864-18	18″	1.50
2864-24	24″	1.50
2864-36	36″	1.50
2864-48	48″	1.55
2864-60	60″	1.60





Vertical Stacking feature allows endless circuit connections and the right angle design keeps wires close to the chassis. An oversize shoulder allows easy connect and disconnect.

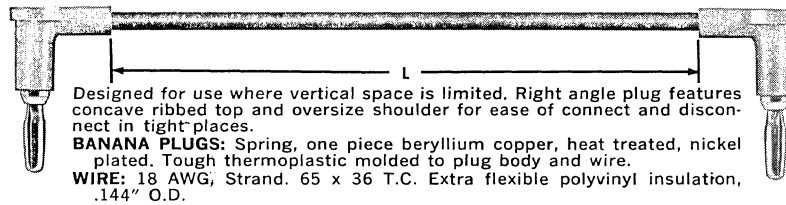
BANANA PLUGS: Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermoplastic molded to plug body and wire.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation, .144″ O.D.
OPERATING TEMP.: —0°C to +105°C.
RATED: 15 A. Cont., 30 A. Int. 10,000 W.V.D.C.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.



MODEL 2864 (Specify Color) QUANTITY DISC. CODE A ★

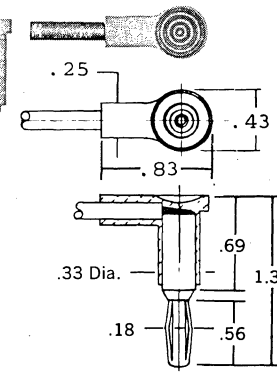
RIGHT ANGLE BANANA PLUG PATCH CORD

MODEL	LENGTH	NET
2700-4	4″	1.00
2700-8	8″	1.00
2700-12	12″	1.00
2700-18	18″	1.00
2700-24	24″	1.00
2700-36	36″	1.00
2700-48	48″	1.05
2700-60	60″	1.10



Designed for use where vertical space is limited. Right angle plug features concave ribbed top and oversize shoulder for ease of connect and disconnect in tight places.

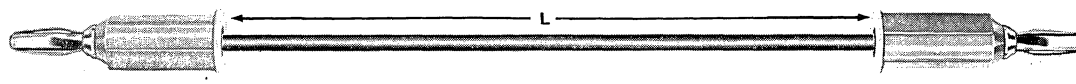
BANANA PLUGS: Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermoplastic molded to plug body and wire.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation, .144″ O.D.
OPERATING TEMP.: —0°C to +105°C.
RATED: 15 A. Cont., 30 A. Int. 10,000 W.V.D.C.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.



MODEL 2700 (Specify Color) QUANTITY DISC. CODE A ★

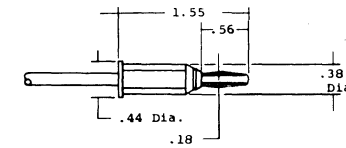
BANANA PLUG PATCH CORD

MODEL	LENGTH	NET
1985-4	4″	.85
1985-8	8″	.85
1985-12	12″	.85
1985-18	18″	.85
1985-24	24″	.85
1985-36	36″	.85
1985-48	48″	.90
1985-60	60″	.95



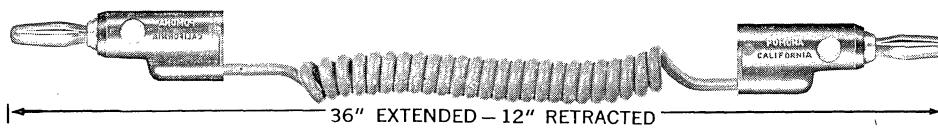
Excellent for general lab work. Permits interconnection between test instruments, etc. Banana plugs both ends.

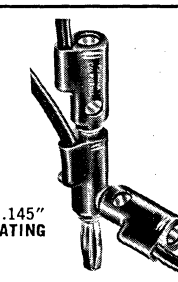
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.



MODEL 1985 (Specify Color) QUANTITY DISC. CODE A ★

RETRACTILE (COILED) PATCH CORD—WITH STACK-UP BANANA PLUGS





Permits the use of one size patch cord in place of many various lengths. **BANANA PLUGS:** Spring, one piece beryllium copper heat treated, nickel plated. Tough thermoplastic molded to body and wire. **WIRE:** 20 AWG; Stranding 41 x 36 tinned copper; rubber insulation .145″ O.D. **RATED:** 4 A. Cont., 10 A Int./5000 WVDC. **OPERATING TEMP.:** —20°C to +60°C. **COLOR:** Black, Red.

MODEL 2484-36 (Specify Color) QUANTITY DISC. CODE A

NET 2.50

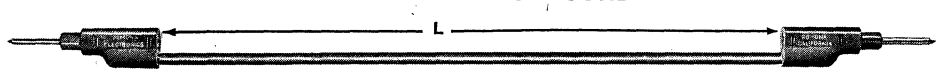
POMONA ELECTRONICS — PATCH CORDS .080 TIP

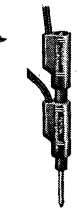
PIN TIP VERTICAL STACKING PATCH CORD

MODEL	LENGTH	NET
P-4	4″	1.75
P-8	8″	1.75
P-12	12″	1.75
P-18	18″	1.75
P-24	24″	1.75
P-36	36″	1.75
P-48	48″	1.80
P-60	60″	1.85

MODEL P
(Specify Color)

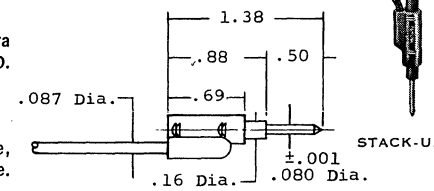
★QUANTITY DISC. CODE **A**





A must in circuit designing and testing, with instruments that utilize tip jacks.
PIN TIP: .080 dia., ½″ long, brass, gold flashed.
TIP JACK, STACK-UP: Beryllium copper, gold flashed. Accepts .080 dia. pin.

WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation .087″ O.D.
RATED: 5 A. Cont., 10 A. Int. 5,000 W.V.D.C.
OPERATING TEMP.: —0°C to +105°C.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

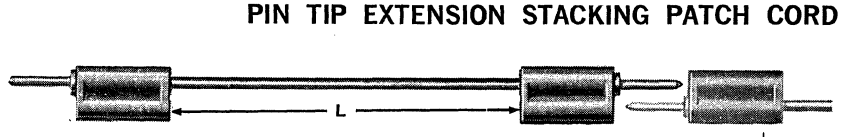


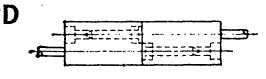
PIN TIP EXTENSION STACKING PATCH CORD

MODEL	LENGTH	NET
1727-4	4″	1.85
1727-8	8″	1.85
1727-12	12″	1.85
1727-18	18″	1.85
1727-24	24″	1.85
1727-36	36″	1.85
1727-48	48″	1.90
1727-60	60″	1.95

MODEL 1727
(Specify Color)

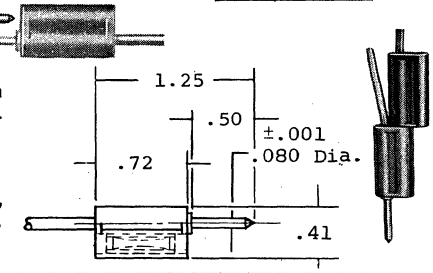
★QUANTITY DISC. CODE **A**





Dual purpose, insulates exposed leads when used as an extension cord. Endless extension coupling possible. Also provides stacking from .080 jack.
PIN TIP: .080 dia., ½″ long, brass, gold flashed.
TIP JACK: Beryllium copper, gold flashed. Accepts .080 dia. pin.

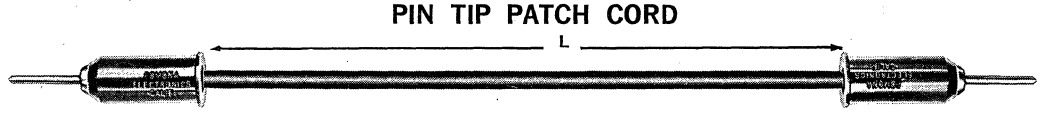
WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation .087″ O.D.
RATED: 5 A. Cont., 10 A. Int. 5,000 W.V.D.C.
OPERATING TEMP.: —0°C to +105°C.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.



PIN TIP PATCH CORD

MODEL	LENGTH	NET
1990-4	4″	.75
1990-8	8″	.75
1990-12	12″	.75
1990-18	18″	.75
1990-24	24″	.75
1990-36	36″	.75
1990-48	48″	.80
1990-60	60″	.85

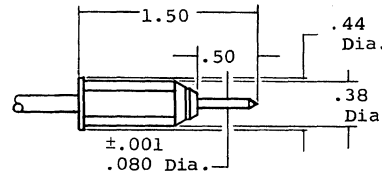
MODEL 1990
(Specify Color)



Heavy Duty patch cord. Excellent for general lab work. Permits interconnection between test instruments that utilize tip jacks.
PIN TIP: .080 dia., ½″ long, brass, nickel plated.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144″ O.D.

RATED: 5 A. Cont., 10 A. Int. 10,000 W.V.D.C.
OPERATING TEMP.: —0°C to +105°C.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

★QUANTITY DISC. CODE **A**



PIN TIP PATCH CORD

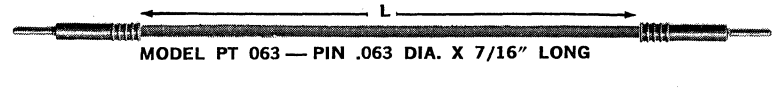
MODEL			LENGTH	NET
PT063-4	PT080-4	PM080-4	4″	.85
PT063-8	PT080-8	PM080-8	8″	.85
PT063-12	PT080-12	PM080-12	12″	.85
PT063-18	P8080-18	PM080-18	18″	.85
PT063-24	PT080-24	PM080-24	24″	.85
PT063-36	PT080-36	PM080-36	36″	.85
PT063-48	PT080-48	PM080-48	48″	.90
PT063-60	PT080-60	PM080-60	60″	.95

COLORS: PT063 and PM080—Red and Black only.
PT080 — Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.

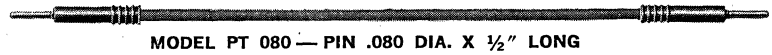
MODEL PT & PM
(Specify Color)

PIN TIP: Brass, gold flashed.
WIRE: 22 AWG, Strand. 19 x 34 T.C. Insulation, polyvinyl .064″ O.D.
RATED: 3 A. Cont., 7.5 A. Int. 1,000 W.V.D.C.
OPERATING TEMP.: —0°C to +105°C.

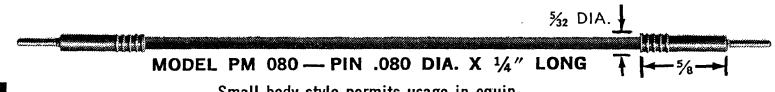
★QUANTITY DISC. CODE **A**



MODEL PT 063 — PIN .063 DIA. X 7/16″ LONG



MODEL PT 080 — PIN .080 DIA. X ½″ LONG



MODEL PM 080 — PIN .080 DIA. X ¼″ LONG

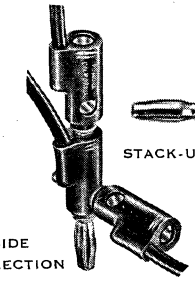
Small body style permits usage in equipment having receptacles spaced closely together. Three models shown.

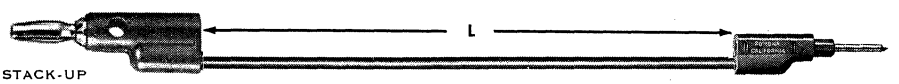
BANANA PLUG TO PIN TIP STACK-UP PATCH CORD

Adapts to equipment using banana jacks and pin jacks. Banana plug and pin tip allow vertical stack-up.

MODEL	LENGTH	NET
1126-4	4″	1.75
1126-8	8″	1.75
1126-12	12″	1.75
1126-18	18″	1.75
1126-24	24″	1.75
1126-36	36″	1.75
1126-48	48″	1.80
1126-60	60″	1.85

MODEL 1126 SIDE CONNECTION
(Specify Color)





BANANA PLUG: Spring, one piece beryllium copper, heat treated, nickel plated.
PIN TIP: .080 dia. ½″ long, brass, gold flashed.

TIP JACK, STACK-UP: Beryllium copper, gold flashed. Accepts .080 Dia. pin.
WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation .087″ O.D.
RATED: 5 A. Cont., 10 A. Int. 5,000 W.V.D.C.
OPERATING TEMP.: —0°C to +105°C.
COLORS: Black, Red.

★QUANTITY DISC. CODE **A**

★ Various lengths may be aggregated for best quantity price.

OTHER LENGTHS AVAILABLE TO ORDER

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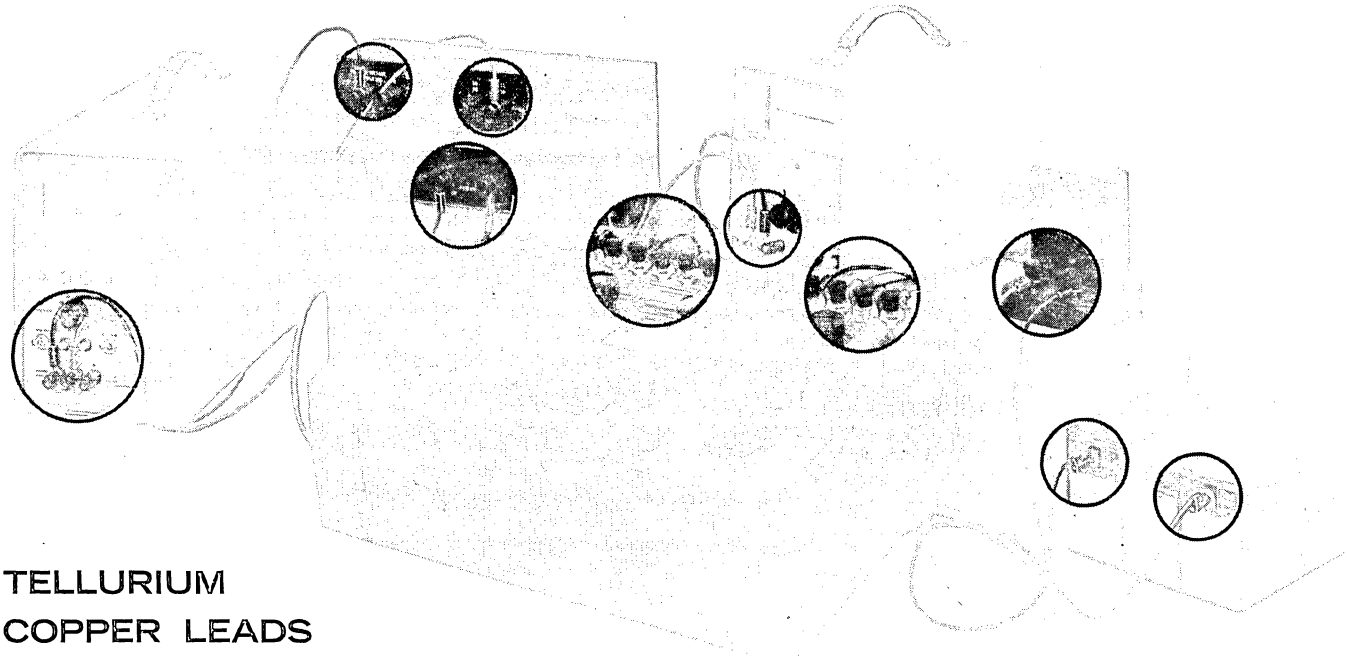
POMONA ELECTRONICS

JUMPERS — LOW THERMAL E.M.F.



TELLURIUM COPPER LEADS FOR PRECISION MEASUREMENTS

POMONA ELECTRONICS has advanced the state of the art in measurements where Thermoelectric Effects are significant sources of error. Comparators designed for use with the Kelvin-Varley voltage divider and microvolt leads were tested with Primary Standards Laboratory equipment.
Thermoelectric voltages were not detected until the most sensitive galvanometer range was used.

THERMOELECTRIC PROPERTIES—Tellurium copper gold plated spade lugs cold-staked to multi-stranded 12 gauge COPPER wire minimize thermoelectric effects—an absolute necessity for low voltage, high precision measurements.

LOW RESISTANCE—12 gauge multi-stranded COPPER wire results in extremely low cable resistance. Spade lugs plated with 50 micro inches gold for minimum contact resistance and minimum thermal EMF when using copper binding posts. (Less than 0.01 μv/c°).

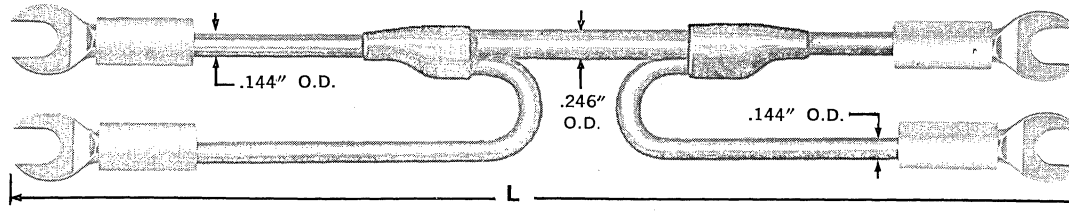
TELLURIUM COPPER SPADE LUGS, SHIELDED LEAD

MODEL	LENGTH
1756-24	24″
1756-48	48″

MODEL 1756
(Specify Length)

★ QUANTITY DISC. CODE A

NET 9.85

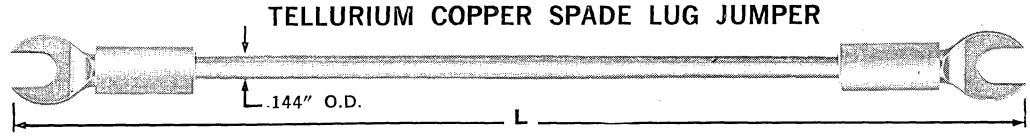


Designed for use with Kelvin Varley voltage dividers where extreme precision is required for low voltage measurements. Features guard shield to effectively reduce shunt resistance. Tough thermo-plastic molded to spade lug body, color; center conductor lug red, shield lug black. Tellurium copper heavy duty one piece machined spade lug gold plated per MIL-G-45204, Type II, Class I. Center conductor 12 AWG multi-stranded bare copper, shield lead wire, 18 AWG, stranded. Polyethylene primary insulation. Braided shield bare copper. Polyvinyl jacket, color black, per MIL-C-17C Type IIA.

TELLURIUM COPPER SPADE LUG JUMPER

MODEL	LENGTH	NET
1693-12	12″	2.50
1693-18	18″	2.50
1693-24	24″	2.50
1693-36	36″	2.50
1693-48	48″	2.55
1693-60	60″	2.60

MODEL 1693 (Specify Color) ★ QUANTITY DISC. CODE A



Single conductor tellurium copper spade lug jumper used in applications where guard shield is not required. Tough thermo-plastic molded to spade lug body. Color matches wire. Tellurium Copper heavy duty one piece machined spade lug gold plated per MIL-G-45204. Type II, Class I. Conductor, 12 AWG multi-stranded bare copper. Insulation polyvinyl, 105°C, .144″ O.D.
COLORS: Black, Red, Green.

★ Various lengths may be aggregated for best quantity price.

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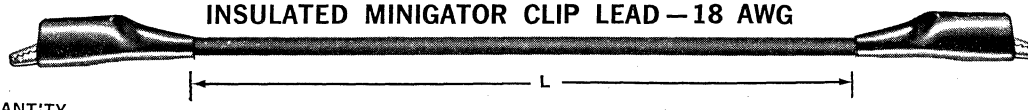
POMONA ELECTRONICS

JUMPERS — CLIP LEADS

INSULATED MINIGATOR CLIP LEAD — 18 AWG

MODEL	LENGTH	NET
MG-B-4	4″	.95
MG-B-8	8″	.95
MG-B-12	12″	.95
MG-B-24	24″	.95
MG-B-36	36″	.95
MG-B-48	48″	1.00
MG-B-60	60″	1.05

(Specify Color)



QUANTITY DISC. CODE **A** ★

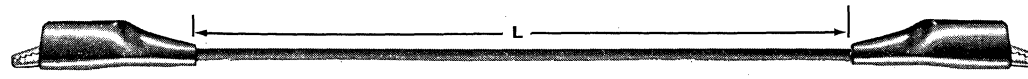
CLIP: Minigator, steel, cad plated.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144″ O.D.

INSULATOR: Red vinyl with red wire. Black on all other colors.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red.

INSULATED MINIGATOR CLIP LEAD — 20 AWG

MODEL	LENGTH	NET
1236-4	4″	.95
1236-8	8″	.95
1236-12	12″	.95
1236-24	24″	.95
1236-36	36″	.95
1236-48	48″	1.00
1236-60	60″	1.05

(Specify Color)



QUANTITY DISC. CODE **A** ★

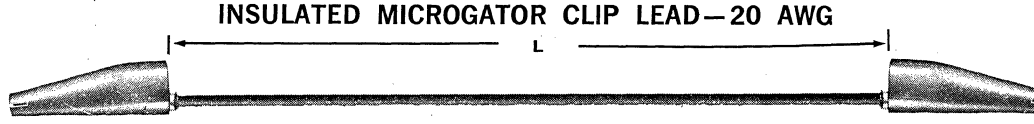
CLIP: Minigator, steel, cad. plated.
WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation, .087″ O.D.

INSULATOR: Red Vinyl with Red Wire. Black on all other colors.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red.

INSULATED MICROGATOR CLIP LEAD — 20 AWG

MODEL	LENGTH	NET
1613-4	4″	.95
1613-8	8″	.95
1613-12	12″	.95
1613-24	24″	.95
1613-36	36″	.95
1613-48	48″	1.00
1613-60	60″	1.05

(Specify Color)



QUANTITY DISC. CODE **A** ★

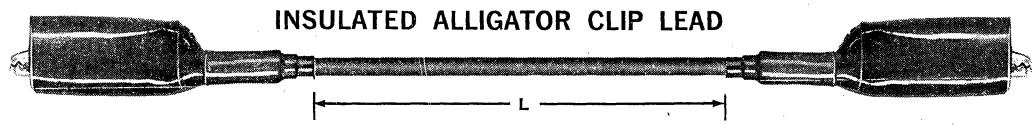
CLIP: Microgator, solid copper.
WIRE: 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation, .087″ O.D.

INSULATOR: Red Vinyl with Red Wire. Black on all other colors.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red.

INSULATED ALLIGATOR CLIP LEAD

MODEL	LENGTH	NET
AL-B-4	4″	.95
AL-B-8	8″	.95
AL-B-12	12″	.95
AL-B-24	24″	.95
AL-B-36	36″	.95
AL-B-48	48″	1.00
AL-B-60	60″	1.05

(Specify Color)



QUANTITY DISC. CODE **A** ★

CLIP: Alligator, steel, cad plated.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144″ O.D.

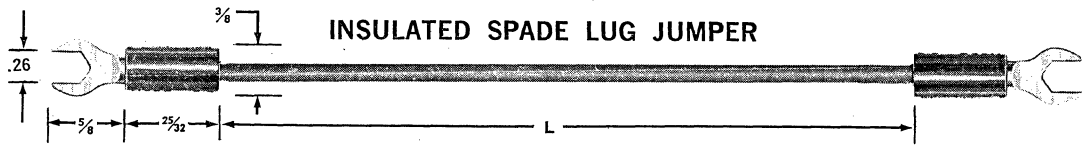
INSULATOR: Red vinyl with red wire. Black on all other colors.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red.

INSULATED SPADE LUG JUMPER

MODEL	LENGTH	NET
1743-12	12″	.95
1743-24	24″	.95
1743-36	36″	.95
1743-48	48″	1.00
1743-60	60″	1.05

(Typical Dimensions spade lug)

(Specify Color)



QUANTITY DISC. CODE **A** ★

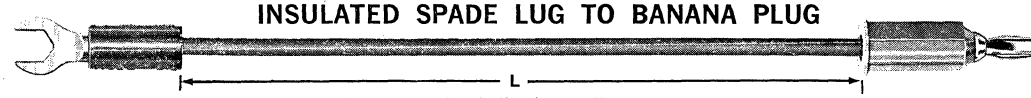
Spade lug heavy duty machined one piece brass. Tough thermo-plastic molded to spade lug body.
SPADE LUGS: Brass 1/16″ thick, nickel plated.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144″ O.D.

RATED: 15 A. Cont., 30 A Int. 10,000 W.V.D.C.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red, Green, White.

INSULATED SPADE LUG TO BANANA PLUG

MODEL	LENGTH	NET
1987-12	12″	.95
1987-24	24″	.95
1987-36	36″	.95
1987-48	48″	1.00
1987-60	60″	1.05

(Specify Color)



QUANTITY DISC. CODE **A** ★

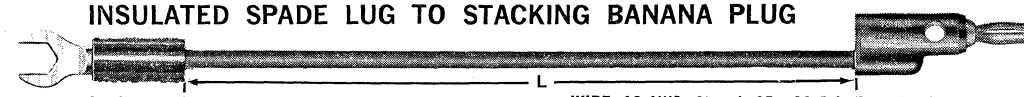
Spade lug, heavy duty machined one piece brass. Tough thermo-plastic molded to spade lug and banana plug body.
SPADE LUG: Brass 1/16″ thick, nickel plated.
BANANA PLUG: Spring one piece beryllium copper heat treated, nickel plated.

WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144″ O.D.
RATED: 15 A. Cont., 30 A. Int. 10,000 W.V.D.C.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red

INSULATED SPADE LUG TO STACKING BANANA PLUG

MODEL	LENGTH	NET
1370-12	12″	1.00
1370-24	24″	1.00
1370-36	36″	1.00
1370-48	48″	1.05
1370-60	60″	1.10

(Specify Color)



QUANTITY DISC. CODE **A** ★

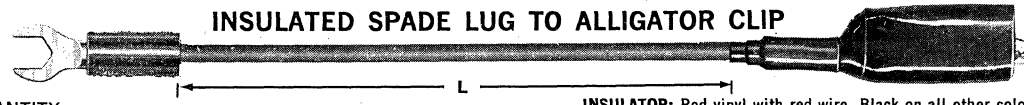
Spade lug, heavy duty machined one piece brass. Tough thermo-plastic molded to spade lug and banana plug body.
SPADE LUG: Brass 1/16″ thick, nickel plated.
BANANA PLUG: Spring one piece beryllium copper heat treated, nickel plated.

WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144″ O.D.
RATED: 15 A. Cont., 30 A. Int. 10,000 W.V.D.C.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red, Green, White.

INSULATED SPADE LUG TO ALLIGATOR CLIP

MODEL	LENGTH	NET
1960-12	12″	.95
1960-24	24″	.95
1960-36	36″	.95
1960-48	48″	1.00
1960-60	60″	1.05

(Specify Color)



QUANTITY DISC. CODE **A** ★

Spade lug, heavy duty machined one piece brass. Tough thermo-plastic molded to spade lug body.
SPADE LUG: Brass 1/16″ thick, nickel plated.
CLIP: Alligator, steel, cad plated.

INSULATOR: Red vinyl with red wire. Black on all other colors.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144″ O.D.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red

OTHER LENGTHS AVAILABLE TO ORDER

Net

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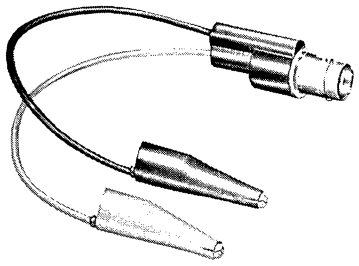
POMONA ELECTRONICS

MOLDED BREAKOUTS CLIP LEADS

A new series of "Breakouts", designed to convert standard coaxial cables to test cables.
By connecting proper Breakout receptacle or plug to corresponding cable plug or receptacle, any standard coaxial cable becomes a test cable equipped with clip leads.
All connections feature a non-tarnish finish, and tough molded thermoplastic insulation molded to connector and wire.

APPLICABLE SPECIFICATIONS:
Wire: (With Alligator Clips) 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation, .144" O.D.
Wire: (With Minigator Clips) 20 AWG, Strand. 41 x 36 T.C. Extra flexible polyvinyl insulation, .087" O.D.
Operating Temp.: —25°C to +85°C.
Working Voltage: 500 V Peak.

BNC RECEPTACLE TO TEST CLIPS

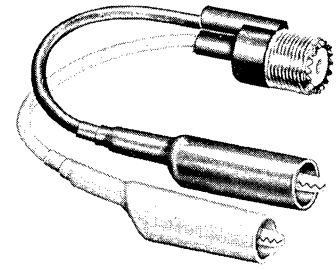


CONNECTOR: BNC Receptacle, UG1094/U.
INSULATION: Tough thermoplastic molded to connector and wire.
WIRE: See above.
TEST CLIPS: Minigator or Alligator, Steel, cad. plated. Insulators, Vinyl: 1 Black, 1 Red.

OVERALL LENGTH 7"

MODEL 2630 (ALLIGATOR CLIPS)
MODEL 2631 (MINIGATOR CLIPS) QUANTITY DISC. CODE **A** **NET 3.45**

UHF RECEPTACLE TO TEST CLIPS



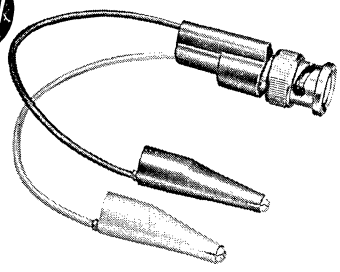
CONNECTOR: UHF Receptacle Jack.
INSULATION: Tough thermoplastic molded to connector and wire.
WIRE: See above.
TEST CLIPS: Minigator or Alligator, Steel, cad. plated. Insulators, Vinyl: 1 Black, 1 Red.

OVERALL LENGTH 7"

MODEL 2632 (ALLIGATOR CLIPS)
MODEL 2633 (MINIGATOR CLIPS) QUANTITY DISC. CODE **A** **NET 3.45**

BNC PLUG TO TEST CLIPS

NEW

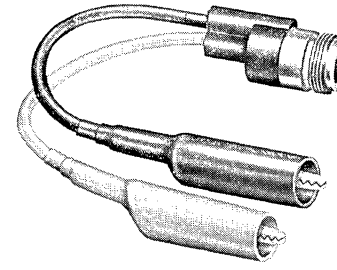


CONNECTOR: BNC Plug.
INSULATION: Tough thermoplastic molded to connector and wire.
WIRE: See above.
TEST CLIPS: Minigator or Alligator, Steel, cad. plated. Insulators, Vinyl: 1 Black, 1 Red.

OVERALL LENGTH 7"

MODEL 2885 (ALLIGATOR CLIPS)
MODEL 2886 (MINIGATOR CLIPS) QUANTITY DISC. CODE **A** **NET 4.50**

TYPE "N" RECEPTACLE TO TEST CLIPS



CONNECTOR: Type "N" Receptacle, UG58A/U.
INSULATION: Tough thermoplastic molded to connector and wire.
WIRE: See above.
TEST CLIPS: Minigator or Alligator, Steel, cad. plated. Insulators, Vinyl: 1 Black, 1 Red.

OVERALL LENGTH 7"

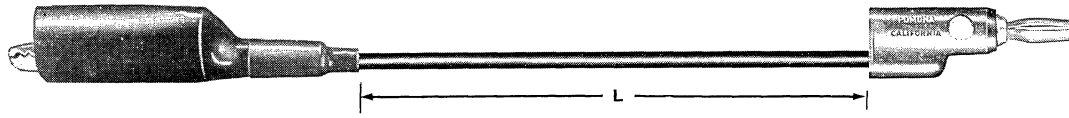
MODEL 2636 (ALLIGATOR CLIPS)
MODEL 2637 (MINIGATOR CLIPS) QUANTITY DISC. CODE **A** **NET 3.85**

TNC RECEPTACLE TO TEST CLIPS

MODEL 2634 (ALLIGATOR CLIPS)
MODEL 2635 (MINIGATOR CLIPS) QUANTITY DISC. CODE **A** **NET 3.45**

ALLIGATOR CLIP TO STACKING BANANA PLUG

MODEL	LENGTH	NET
1166-4	4"	1.00
1166-8	8"	1.00
1166-12	12"	1.00
1166-24	24"	1.00
1166-36	36"	1.00
1166-48	48"	1.05
1166-60	60"	1.10



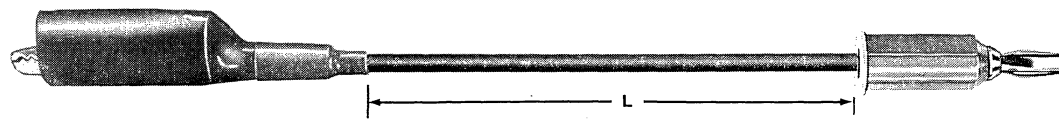
Adapts to equipment using standard banana jacks.
CLIP: Alligator, Steel, cadmium plated
BANANA PLUG: Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermoplastic molded to plug body and wire.

INSULATOR: Red vinyl with red wire. Black on all other colors.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144" O.D.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red.

MODEL 1166 (Specify Color) QUANTITY DISC. CODE **A** ★

ALLIGATOR CLIP LEAD TO BANANA PLUG

MODEL	LENGTH	NET
1959-4	4"	.95
1959-8	8"	.95
1959-12	12"	.95
1959-24	24"	.95
1959-36	36"	.95
1959-48	48"	1.00
1959-60	60"	1.05



Adapts to equipment using standard banana jacks.
CLIP: Alligator, Steel, cadmium plated
BANANA PLUG: Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermoplastic molded to plug body.

INSULATOR: Red vinyl with red wire. Black on all other colors.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation .144" O.D.
OPERATING TEMP.: —25°C to +105°C.
COLORS: Black, Red.

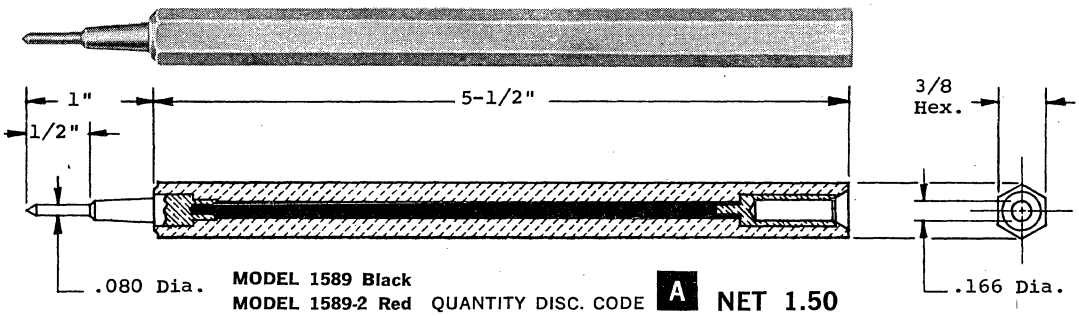
MODEL 1959 (Specify Color) QUANTITY DISC. CODE **A** ★

★ Various lengths may be aggregated for best quantity price.

OTHER LENGTHS AVAILABLE TO ORDER

POMONA ELECTRONICS — TEST PROBES

TEST PROBE TO BANANA JACK



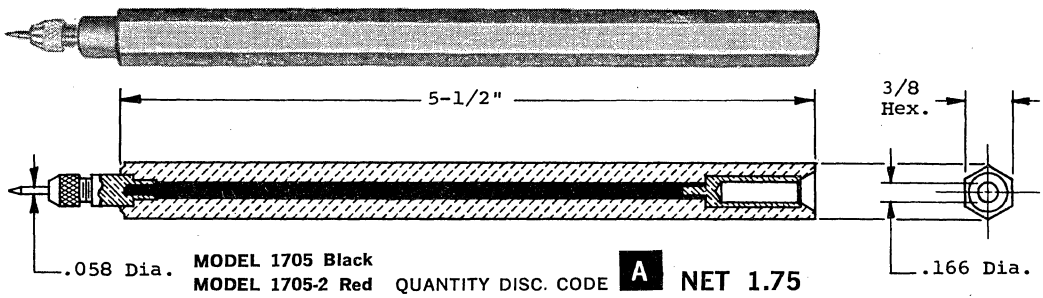
MODEL 1589 Black
MODEL 1589-2 Red QUANTITY DISC. CODE **A** **NET 1.50**

Banana jack in handle connected to tip. Permits use of standard banana plugs for circuit testing as a test prod. Heavy duty insulated handle molded to banana jack and tip.

PIN TIP: .080 dia. x ½" long, brass nickel plated.

BANANA JACK: .166 dia. Brass nickel plated. Accepts standard banana plug.

NEEDLE TIP PROBE TO BANANA JACK



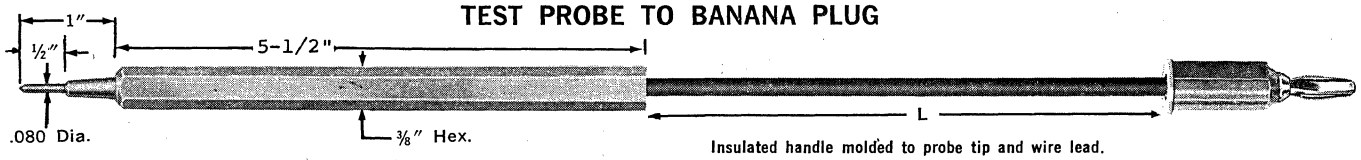
MODEL 1705 Black
MODEL 1705-2 Red QUANTITY DISC. CODE **A** **NET 1.75**

Sharp replaceable needle tip allows testing of encapsulated circuits. Banana jack in handle connected to tip. Permits use of standard banana plugs for circuit testing as a test prod. Heavy duty insulated handle molded to banana jack and tip.

PIN TIP: Replaceable needle tip, steel nickel plated.

BANANA JACK: .166 dia. Brass nickel plated. Accepts standard banana plug.

TEST PROBE TO BANANA PLUG

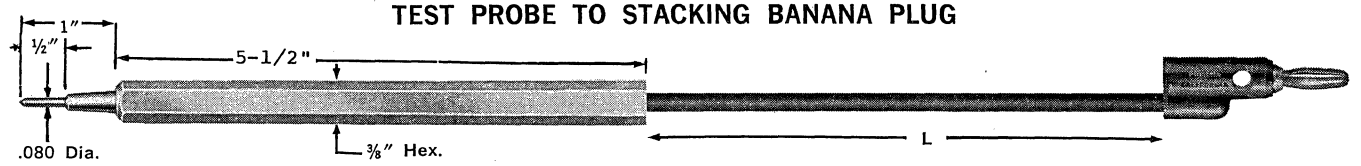


MODEL 1986-48-B	**48" Long**	**Black**	**NET 1.75**
MODEL 1986-48-R	**48" Long**	**Red**	**NET 1.75**

QUANTITY DISC. CODE **A**

Insulated handle molded to probe tip and wire lead.
PROBE PIN TIP: .080 dia. x ½" long. Brass nickel plated.
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation, .144" O.D.
BANANA PLUG: Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermo-plastic molded to body.
COLORS: Black, Red.

TEST PROBE TO STACKING BANANA PLUG

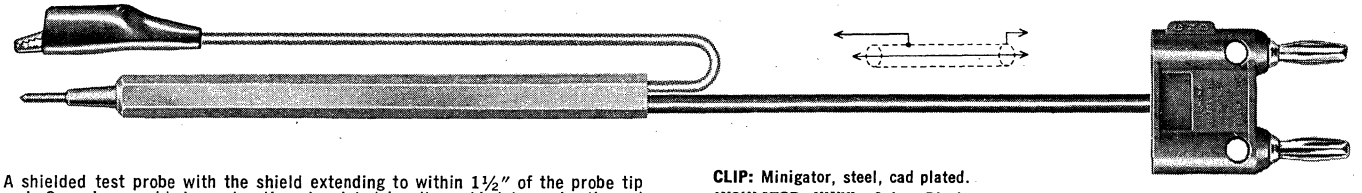


MODEL 1382-48B	**48" Long**	**Black**	**NET 1.95**
MODEL 1382-48R	**48" Long**	**Red**	**NET 1.95**

QUANTITY DISC. CODE **A**

Insulated handle molded to probe tip and wire lead.
PROBE PIN TIP: .080 dia. x ½" long. Brass nickel plated
WIRE: 18 AWG, Strand. 65 x 36 T.C. Extra flexible polyvinyl insulation, .144" O.D.
BANANA PLUG: Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermo-plastic molded to plug body and wire.
COLORS: Black, Red.

SHIELDED TEST PROBE TO DOUBLE BANANA PLUG



A shielded test probe with the shield extending to within 1½" of the probe tip end. One piece molded construction. Insulated handle molded to probe tip and cable. Insulated minigator clip connected to shield lead.

PROBE PIN TIP: .080 dia. x ½" long. Brass nickel plated.

DOUBLE BANANA PLUG: On ¾" centers. Spring, one piece beryllium copper, heat treated, nickel plated. Tough thermo-plastic molded to double plug body. Color, Gray.

CLIP: Minigator, steel, cad plated.
INSULATOR, VINYL: Color, Black.
CABLE: Shielded microphone cable: Polyethylene insulation. Vinyl jacket. Nom. capacity 25 pf./ft. .205" O.D. Color, Gray.
HANDLE: Color, red, molded of tough thermo-plastic.

MODEL 1569-B-48 .....**48" Long**

QUANTITY DISC. CODE **B**

NET 6.85

OTHER LENGTHS AVAILABLE TO ORDER

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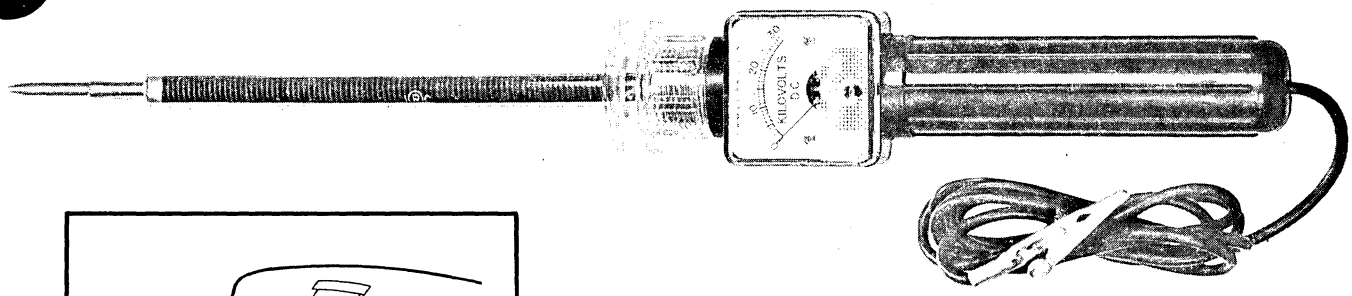
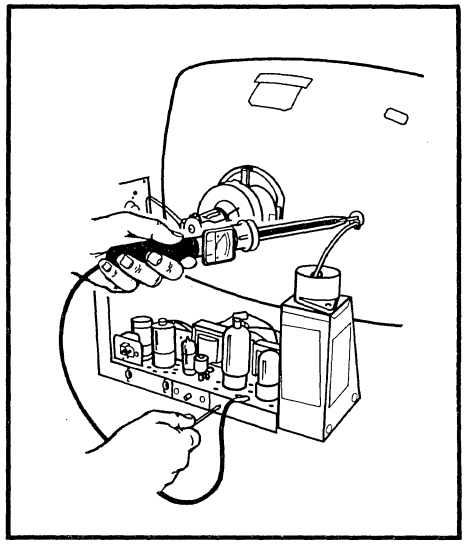
POMONA ELECTRONICS

TEST PROBES

NEW

30 KV TEST PROBE WITH BUILT-IN METER





PATENT PENDING

NEW Self-contained portable unit

The CRT High Voltage Test Probe built by Pomona Electronics is the most advanced instrument of its kind on the market; the only test probe featuring a built-in voltmeter. The Test Probe is a self-contained, portable test instrument for rapid measurements of high voltages.

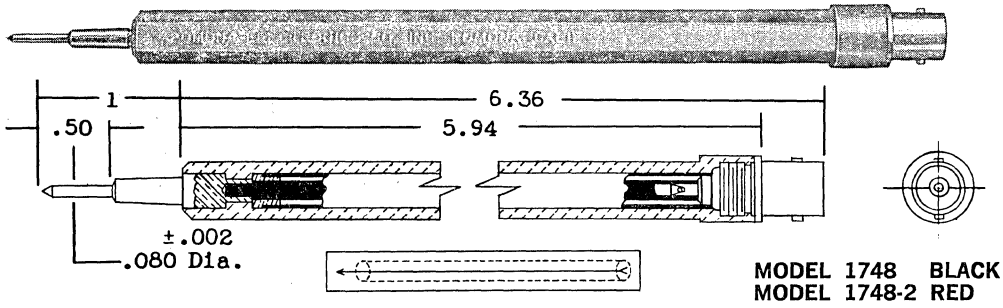
Easy to operate! Just ground the test probe instrument by attaching alligator clip to chassis, contact test probe tip to high voltage being measured and read voltage from the built-in meter. No warm-up time. No batteries.

SPECIFICATIONS

RANGE: 30,000 volts DC. **SENSITIVITY:** 20,000 ohms/volt (50 μa) movement. **ACCURACY:** ±3% full scale. **MULTIPLIER RESISTANCE:** 600 Megohm ±2%. **MATERIAL:** Handle — high impact thermo plastic. Probe — high impact polystyrene. **LENGTH:** 14¾" overall. **WEIGHT:** 8 ounces.

MODEL 2900 QUANTITY DISC. CODE **C** **NET 19.95**

TEST PROBE TO BNC RECEPTACLE



BNC receptacle in handle connected to tip. Permits the use of coaxial cables with BNC plug for circuit testing as a test prod. Tough thermoplastic molded to BNC receptable and tip. Shield extends to within 1½" of the probe tip end.

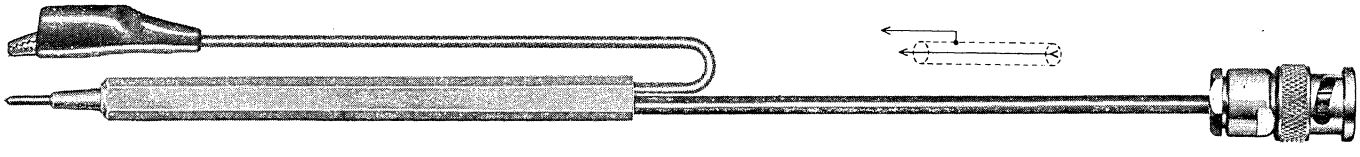
PIN TIP: .080" dia. x ½" long, brass, nickel plated.

RECEPTACLE: BNC, UG1094/U.

MODEL 1748 BLACK
MODEL 1748-2 RED

QUANTITY DISC. CODE **A** **NET 5.85**

SHIELDED TEST PROBE TO BNC MALE



A shielded test probe with the shield extending to within 1½" of the probe tip end. One piece molded construction. Insulated handle molded to probe tip and cable. Insulated minigator clip connected to shield lead.
PROBE PIN TIP: .080 dia. x ½" long. Brass, nickel plated.
CONNECTOR: BNC Male, UG88E/U.

CLIP: Minigator, steel, cad. plated.
INSULATOR, VINYL: Color, Black.
CABLE: Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.
HANDLE: Color, red, molded of tough thermo-plastic.

MODEL 2739-C-48 . . . . . 48" long

QUANTITY DISC. CODE **B**
NET 6.85

OTHER LENGTHS AVAILABLE TO ORDER

POMONA ELECTRONICS

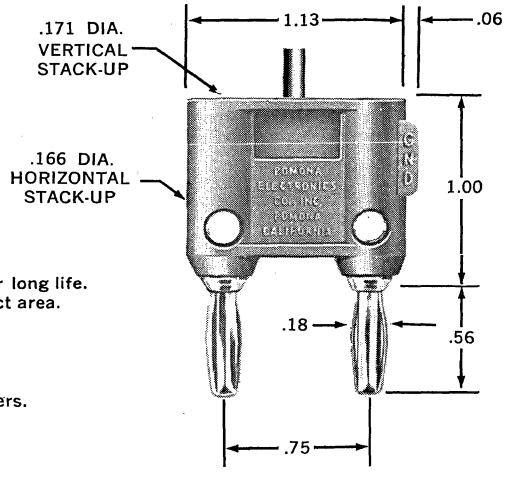
PATCH CORDS DOUBLE BANANA PLUGS

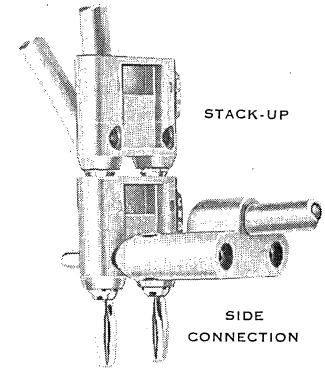
POMONA MOLDED DOUBLE BANANA PLUG PATCH CORDS AND TEST LEADS

. . . indispensable for bridge transformer connections, three terminal capacitor measurements and general hook-up for two wire systems. They are horizontally and vertically stackable in parallel.

Tough thermo-plastic material molded to plug body and cable insures maximum strength, moisture resistance and excellent insulative properties.

Used by leading industries in applications where extreme reliability is of prime importance.





FEATURES . . .

- One piece beryllium copper heat treated spring for long life.
- Rounded spring design results in maximum contact area.
- GND., clearly molded on plug body and shell.
- Solder-bonded noise-free connections.

SPECIFICATIONS . . .

- Fits standard 0.166 dia. banana jacks, on ¾" centers.
- Contact resistance less than 0.001 ohms per plug.
- Spring beryllium copper alloy 170 per QQ-C-533.
- Plug body brass per QQ-B-625, Comp. 22.
- Nickel plated per QQ-N-290, Class 2.

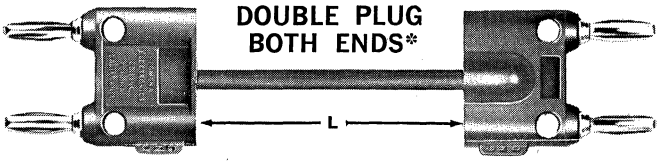
CABLE TYPE DESCRIPTION

TWO COND. TWISTED PAIR
18 AWG, Strand. 65 x 36 T.C. Vinyl insulation. Vinyl jacket, .250" O.D. Nom. Cap. 30 pf/ft.
COLOR: Gray.

SHIELDED MICROPHONE CABLE
Polyethylene insulation. Vinyl jacket, .205" O.D. Nom. Cap. 25 pf/ft.
COLOR: Gray.

SHIELDED COAXIAL CABLE
RG58C/U Polyethylene insulation. Vinyl jacket, .195" O.D. Nom. Cap. 28.5 pf/ft. **COLOR:** Black.

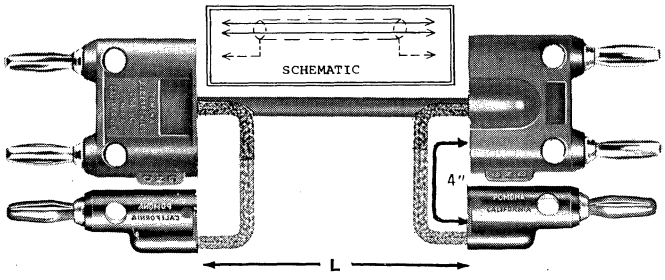
DOUBLE PLUG BOTH ENDS*



TWO COND. TWISTED PR.	SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BA-18	2BB-18	2BC-18	18"	4.85
2BA-24	2BB-24	2BC-24	24"	4.85
2BA-30	2BB-30	2BC-30	30"	4.85
2BA-36	2BB-36	2BC-36	36"	4.85
2BA-48	2BB-48	2BC-48	48"	5.00
2BA-60	2BB-60	2BC-60	60"	5.15

★ QUANTITY DISC. CODE **B**

TWO COND. SHIELDED BALANCED LINE



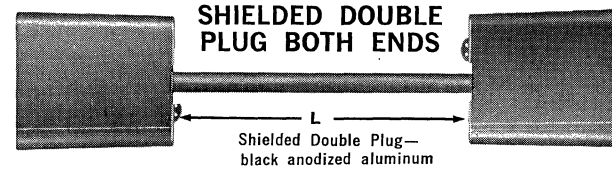
CABLE DESCRIPTION

2-Cond. shielded mic. cable. Polyethylene insulation. Vinyl jacket, .231" O.D. Nom. Cap. between cond. 18 pf./ft. Nom. Cap. between one cond. and remaining cond. connected to shield, 32 pf./ft. COLOR: Cable and double plug, Gray. Single ground plug, Green.

MODEL	LENGTH	NET
1167-18	18"	7.85
1167-24	24"	7.85
1167-30	30"	7.85
1167-36	36"	7.85
1167-48	48"	8.10
1167-60	60"	8.35

★ QUANTITY DISC. CODE **B**

SHIELDED DOUBLE PLUG BOTH ENDS

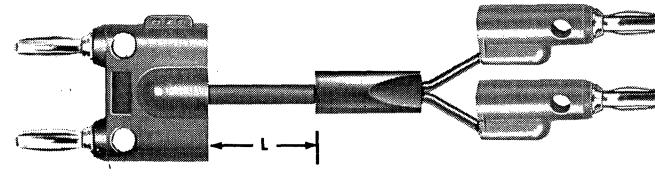


Shielded Double Plug—black anodized aluminum

SHIELDED COAX. CABLE	LENGTH	NET
1550-C-18	18"	5.85
1550-C-24	24"	5.85
1550-C-30	30"	5.85
1550-C-36	36"	5.85
1550-C-48	48"	6.00
1550-C-60	60"	6.15

★ QUANTITY DISC. CODE **B**

DOUBLE PLUG TO SINGLE BANANA PLUGS



CABLE DESCRIPTION

TWO COND. TWISTED PAIR — 18 AWG, Strand. 65 x 36 T.C. Vinyl insulation. Vinyl jacket, .250" O.D. Nom. Cap. 30 pf/ft.
COLOR: Double Plug: Gray
Single Plugs: Red, Black

MODEL	LENGTH	NET
1368-A-18	18"	5.85
1368-A-24	24"	5.85
1368-A-30	30"	5.85
1368-A-36	36"	5.85
1368-A-48	48"	6.00
1368-A-60	60"	6.15

★ QUANTITY DISC. CODE **B**

***NOTE:** Molded double plug matches color of cable.
Two cond. Twisted pair, GRAY. Shielded mic. cable, GRAY.
Coaxial RG58C/U Cable, BLACK.

★ Various lengths may be aggregated for best quantity price.

1. Other cable colors available to order on the Two Cond. Twisted Pair and Shielded Mic. cable models with plug to match.
COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.
2. Other lengths and cable types available to order.

Net

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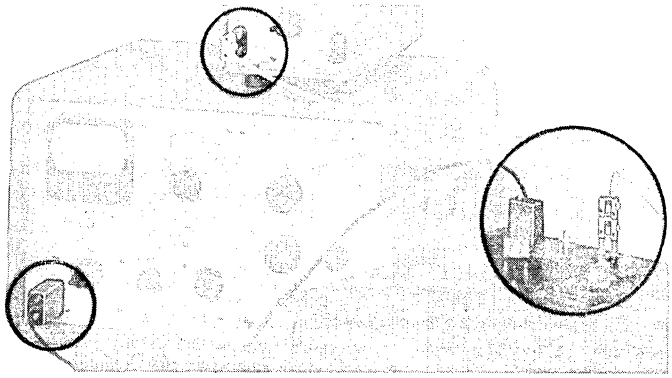
POMONA ELECTRONICS

PATCH CORDS
BNC CONNECTING LEADS



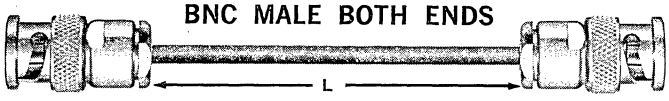
Standard video and RF connecting leads available in both shielded microphone and shielded coaxial cables. Designed to meet rigid industrial and military applications. Reliable solder-bonded connections minimize noise.

Pomona Electronics cable assemblies and patch cords are used in applications where extreme reliability is of prime importance.

CABLE TYPES

SHIELDED MICROPHONE CABLE	Polyethylene insulation, Vinyl jacket, .205″ O.D. Nom. Cap. 25 pf.ft. COLOR: Gray.	SHIELDED COAXIAL CABLE	RG58C/U RG59B/U RG62A/U

BNC MALE BOTH ENDS



CONN: 1st END } UG88E/U Male BNC — CABLE: Shielded Coax., RG58C/U — CONN: 2nd END } UG88E/U Male BNC

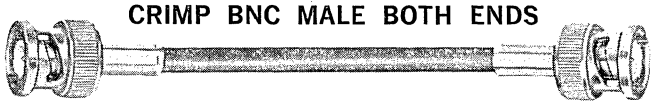
CONN: 1st END } UG260B/U Male BNC — CABLE: Shielded Coax., RG59B/U or RG62A/U — CONN: 2nd END } UG260B/U Male BNC

CABLE TYPES

SHIELDED MIC. CABLE	RG58C/U	RG59B/U	NET	RG62A/U	NET	LENGTH
BNC-B-18	BNC-C-18	BNC-E-18	5.85	BNC-M-18	6.85	18″
BNC-B-24	BNC-C-24	BNC-E-24	5.85	BNC-M-24	6.85	24″
BNC-B-30	BNC-C-30	BNC-E-30	5.85	BNC-M-30	6.85	30″
BNC-B-36	BNC-C-36	BNC-E-36	5.85	BNC-M-36	6.85	36″
BNC-B-48	BNC-C-48	BNC-E-48	6.00	BNC-M-48	7.00	48″
BNC-B-60	BNC-C-60	BNC-E-60	6:15	BNC-M-60	7.15	60″

★QUANTITY DISC. CODE B

CRIMP BNC MALE BOTH ENDS



CONN: 1st END } Crimp Male BNC (Comparable to UG88E/U) — CABLE: Shielded Coax., RG58C/U. — CONN: 2nd END } Crimp Male BNC (Comparable to UG88E/U)

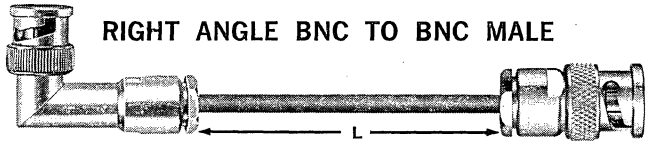
CONN: 1st END } Crimp Male BNC (Comparable to UG260B/U) — Cable: Shielded Coax., RG59B/U or RG62A/U — CONN: 2nd END } Crimp Male BNC (Comparable to UG260B/U)

CABLE TYPES

RG58C/U	RG59B/U	NET	RG62A/U	NET	LENGTH
2249-C-12	2249-E-12	4.50	2249-M-12	5.85	12″
2249-C-24	2249-E-24	4.50	2249-M-24	5.85	24″
2249-C-36	2249-E-36	4.50	2249-M-36	5.85	36″
2249-C-48	2249-E-48	4.65	2249-M-48	6.00	48″
2249-C-60	2249-E-60	4.80	2249-M-60	6.15	60″

★ QUANTITY DISC. CODE B

RIGHT ANGLE BNC TO BNC MALE

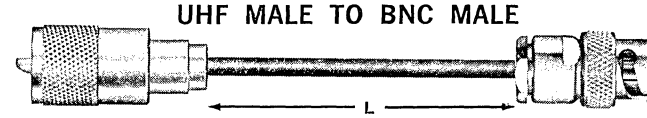


CONN.: 1ST END } UG913A/U, Angle Male BNC — CABLE: Shielded Coax., RG58C/U — CONN.: 2ND END } UG88E/U, Male BNC

SHIELDED COAX. CABLE	LENGTH	NET
1383-C-18	18″	7.85
1383-C-24	24″	7.85
1383-C-30	30″	7.85
1383-C-36	36″	7.85
1383-C-48	48″	8.00
1383-C-60	60″	8.15

★QUANTITY DISC. CODE B

UHF MALE TO BNC MALE

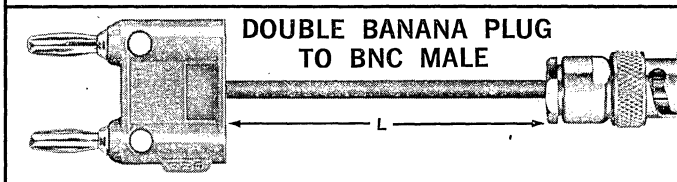


CONN.: 1ST END } PL259, UHF Male — CABLE: Shielded Coax., RG58C/U. — CONN.: 2ND END } UG88E/U, Male BNC

SHIELDED COAX. CABLE	LENGTH	NET
1367-C-18	18″	5.85
1367-C-24	24″	5.85
1367-C-30	30″	5.85
1367-C-36	36″	5.85
1367-C-48	48″	6.00
1367-C-60	60″	6.15

★QUANTITY DISC. CODE B

DOUBLE BANANA PLUG TO BNC MALE

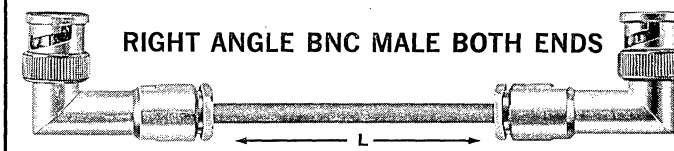


CONN.: 1ST END } Double Banana Plug, on ¾″ Centers. — CABLE: Shielded coax., RG58C/U — CONN.: 2ND END } UG88E/U, Male BNC

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BB-BNC-18	2BC-BNC-18	18″	5.85
2BB-BNC-24	2BC-BNC-24	24″	5.85
2BB-BNC-30	2BC-BNC-30	30″	5.85
2BB-BNC-36	2BC-BNC-36	36″	5.85
2BB-BNC-48	2BC-BNC-48	48″	6.00
2BB-BNC-60	2BC-BNC-60	60″	6.15

★QUANTITY DISC. CODE B

RIGHT ANGLE BNC MALE BOTH ENDS

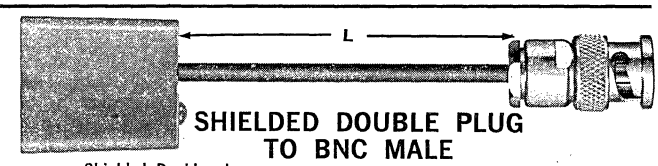


CONN.: 1ST END } UG913A/U, Angle Male BNC — CABLE: Shielded Coax., RG58C/U — CONN.: 2ND END } UG913A/U, Angle Male BNC

SHIELDED COAX. CABLE	LENGTH	NET
1155-C-18	18″	10.85
1155-C-24	24″	10.85
1155-C-30	30″	10.85
1155-C-36	36″	10.85
1155-C-48	48″	11.00
1155-C-60	60″	11.15

★QUANTITY DISC. CODE B

SHIELDED DOUBLE PLUG TO BNC MALE



CONN.: 1ST END } Shielded Double plug, on ¾″ centers. Black anodized aluminum. — CABLE: Shielded coax., RG58C/U — CONN.: 2ND END } UG88E/U, Male BNC

SHIELDED COAX. CABLE	LENGTH	NET
1555-C-18	18″	6.85
1555-C-24	24″	6.85
1555-C-30	30″	6.85
1555-C-36	36″	6.85
1555-C-48	48″	7.00
1555-C-60	60″	7.15

★QUANTITY DISC. CODE B

★ Various lengths may be aggregated for best quantity price.

OTHER LENGTHS AND CABLE TYPES AVAILABLE TO ORDER

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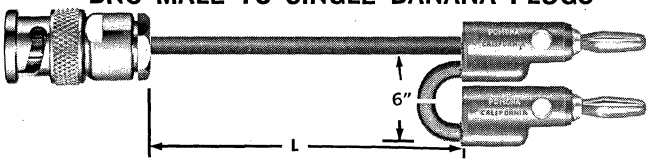
POMONA ELECTRONICS

PATCH CORDS CONNECTING LEADS

BNC MALE TO SINGLE BANANA PLUGS



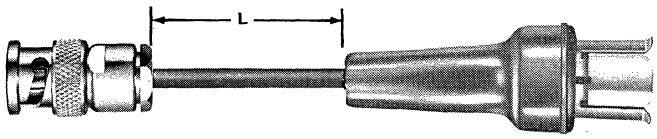
CONN: 1st END: UG88E/U Male BNC — **CABLE:** Shielded Coax., RG58C/U — **CONN:** 2nd END: Single Banana Plugs Color: 1 Black, 1 Red.

CABLE DESCRIPTION: Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D. Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

MODEL	LENGTH	NET
2241-C-18	18"	5.85
2241-C-24	24"	5.85
2241-C-36	36"	5.85
2241-C-48	48"	6.00

BNC MALE TO GR-874



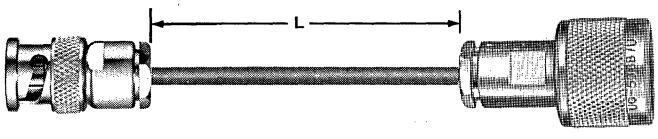
CONN: 1st END: UG88E/U Male BNC — **CABLE:** Shielded Coax., RG58C/U — **CONN:** 2nd END: GR-874

CABLE DESCRIPTION: Shielded coax., RG58C/U, Polyethylene Insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

MODEL	LENGTH	NET
1703-C-24	24"	9.85
1703-C-36	36"	9.85
1703-C-48	48"	10.00

BNC MALE TO SERIES "N" MALE



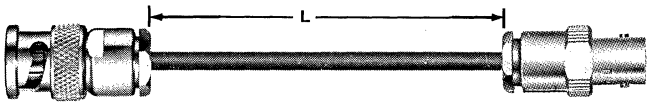
CONN: 1st END: UG88E/U Male BNC — **CABLE:** Shielded coax., RG58C/U — **CONN:** 2nd END: UG536B/U "N" Male

CABLE DESCRIPTION: Shielded coax., RG58C/U, Polyethylene Insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

MODEL	LENGTH	NET
1366-C-24	24"	6.85
1366-C-36	36"	6.85
1366-C-48	48"	7.00

BNC MALE TO BNC FEMALE



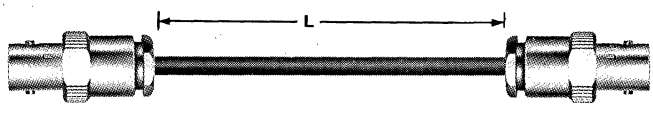
CONN: 1st END: UG88E/U Male BNC — **CABLE:** Shielded coax., RG58C/U — **CONN:** 2nd END: UG89C/U Female BNC

CABLE DESCRIPTION: Shielded Coax., RG58C/U, Polyethylene Insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

MODEL	LENGTH	NET
2223-C-12	12"	6.85
2223-C-24	24"	6.85
2223-C-36	36"	6.85
2223-C-48	48"	7.00
2223-C-60	60"	7.15

BNC FEMALE BOTH ENDS



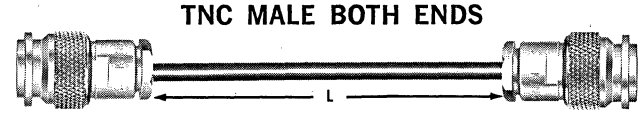
CONN: 1st END: UG89C/U Female BNC — **CABLE:** Shielded Coax., RG58C/U — **CONN:** 2nd END: UG89C/U Female BNC

CABLE DESCRIPTION: Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

MODEL	LENGTH	NET
1808-C-12	12"	6.85
1808-C-24	24"	6.85
1808-C-36	36"	6.85
1808-C-48	48"	7.00
1808-C-60	60"	7.15

TNC MALE BOTH ENDS



CONN: 1st END: Male TNC — **CABLE:** Shielded coax., RG58C/U — **CONN:** 2nd END: Male TNC

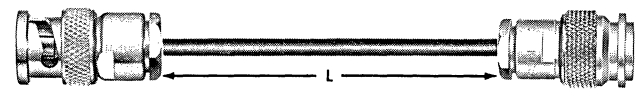
CABLE DESCRIPTION: Shielded coax., RG58C/U, Polyethylene Insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

MODEL	LENGTH	NET
1944-C-12	12"	7.85
1944-C-24	24"	7.85
1944-C-36	36"	7.85
1944-C-48	48"	8.00
1944-C-60	60"	8.15

BNC MALE TO TNC MALE

NEW



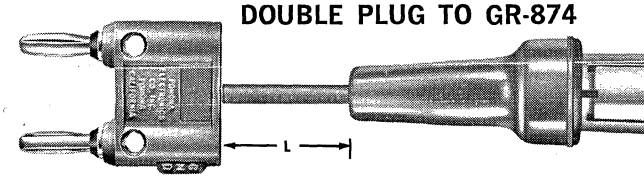
CONN: 1st END: UG88E/U Male BNC — **CABLE:** Shielded coax., RG58C/U — **CONN:** 2nd END: Male TNC

CABLE DESCRIPTION: Shielded Coax., RG58C/U, Polyethylene Insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

★ QUANTITY DISC. CODE **B**

MODEL	LENGTH	NET
1948-C-12	12"	6.85
1948-C-24	24"	6.85
1948-C-36	36"	6.85
1948-C-48	48"	7.00
1948-C-60	60"	7.15

DOUBLE PLUG TO GR-874



CONN: 1st END: Double Banana Plug, on ¾" Centers. — **CABLE:** Shielded Coax., RG58C/U — **CONN:** 2nd END: GR-874

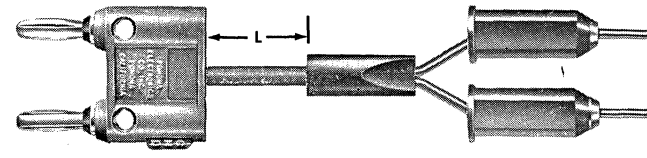
CABLE DESCRIPTION: Shielded coax., RG58C/U, Polyethylene Insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

COLOR: Cable and double plug, Black.

★ QUANTITY DISC. CODE **B**

MODEL	LENGTH	NET
2243-C-24	24"	9.50
2243-C-36	36"	9.50
2243-C-48	48"	9.65

DOUBLE PLUG TO SINGLE PIN TIPS



CONN: 1st END: Double Banana Plug, on ¾" Centers. — **CABLE:** Two Cond. Twisted Pair — **CONN:** 2nd END: Single Pin Tip Plugs, .080 Dia. Color: 1 Black, 1 Red

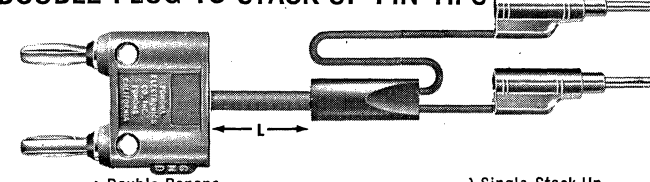
CABLE DESCRIPTION: Two Cond. Twisted pair, 18 AWG, Strand. 65 x 36 T.C. Vinyl insulation, vinyl jacket, .250" O.D. Nom. Cap. 30 pf/ft.

COLOR: Cable and Double plug, Gray.

★ QUANTITY DISC. CODE **B**

MODEL	LENGTH	NET
2184-A-24	24"	5.85
2184-A-36	36"	5.85
2184-A-48	48"	6.00

DOUBLE PLUG TO STACK-UP PIN TIPS



CONN: 1st END: Double Banana Plug, on ¾" Centers. — **CABLE:** Shielded Coax., RG58C/U — **CONN:** 2nd END: Single Stack-Up Pin Tip Plugs, .080 Dia. Color: 1 Black, 1 Red.

CABLE DESCRIPTION: Shielded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.

COLOR: Cable and Double Plug, Black.

★ QUANTITY DISC. CODE **B**

MODEL	LENGTH	NET
2BC-PP-18	18"	7.50
2BC-PP-24	24"	7.50
2BC-PP-36	36"	7.50
2BC-PP-48	48"	7.65

★ Various lengths may be aggregated for best quantity price.

OTHER LENGTHS AVAILABLE TO ORDER

Net

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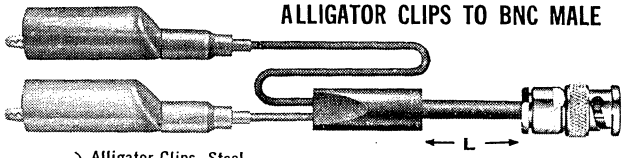
POMONA ELECTRONICS

PATCH CORDS CONNECTING LEADS

ALLIGATOR CLIPS TO BNC MALE



CONN.: 1ST END } Alligator Clips, Steel, cad plated. Insulators, Vinyl: Black/Red.

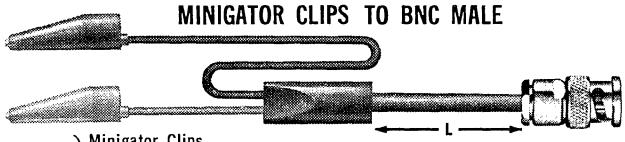
CABLE: Shielded Mic. or Shielded Coax, RG58C/U.

CONN.: 2ND END } UG88E/U, BNC, Male.

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
AL-B-BNC-18	AL-C-BNC-18	18″	5.85
AL-B-BNC-24	AL-C-BNC-24	24″	5.85
AL-B-BNC-30	AL-C-BNC-30	30″	5.85
AL-B-BNC-36	AL-C-BNC-36	36″	5.85
AL-B-BNC-48	AL-C-BNC-48	48″	6.00
AL-B-BNC-60	AL-C-BNC-60	60″	6.15

★ QUANTITY DISC. CODE **B**

MINIGATOR CLIPS TO BNC MALE



CONN.: 1ST END } Minigator Clips, Steel, cad plated Insulators, Vinyl: Black/Red.

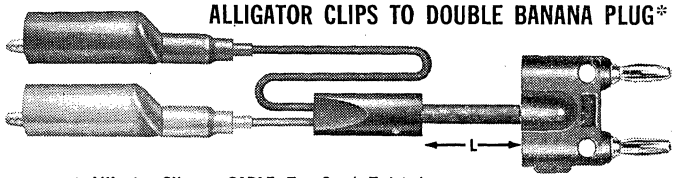
CABLE: Shielded Mic. or Shielded Coax, RG58C/U.

CONN.: 2ND END } UG88E/U, BNC, Male

SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
MG-B-BNC-18	MG-C-BNC-18	18″	5.85
MG-B-BNC-24	MG-C-BNC-24	24″	5.85
MG-B-BNC-30	MG-C-BNC-30	30″	5.85
MG-B-BNC-36	MG-C-BNC-36	36″	5.85
MG-B-BNC-48	MG-C-BNC-48	48″	6.00
MG-B-BNC-60	MG-C-BNC-60	60″	6.15

★ QUANTITY DISC. CODE **B**

ALLIGATOR CLIPS TO DOUBLE BANANA PLUG*



CONN.: 1ST END } Alligator Clips, Steel, cad plated Insulators, Vinyl: Black/Red.

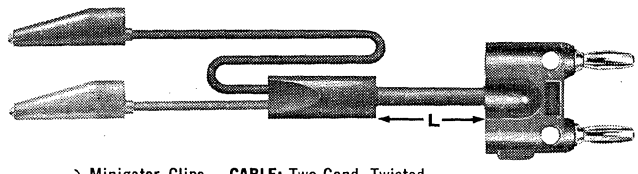
CABLE: Two Cond. Twisted Pair, Shielded Mic. or Shielded Coax, RG58C/U.

CONN.: 2ND END } Double Banana Plug, on ¾″ centers.

TWO COND. TWISTED PAIR	SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BA-AL-18	2BB-AL-18	2BC-AL-18	18″	5.85
2BA-AL-24	2BB-AL-24	2BC-AL-24	24″	5.85
2BA-AL-30	2BB-AL-30	2BC-AL-30	30″	5.85
2BA-AL-36	2BB-AL-36	2BC-AL-36	36″	5.85
2BA-AL-48	2BB-AL-48	2BC-AL-48	48″	6.00
2BA-AL-60	2BB-AL-60	2BC-AL-60	60″	6.15

★ QUANTITY DISC. CODE **B**

MINIGATOR CLIPS TO DOUBLE BANANA PLUG*



CONN.: 1ST END } Minigator Clips, Steel, cad plated Insulators, Vinyl: Black/Red.

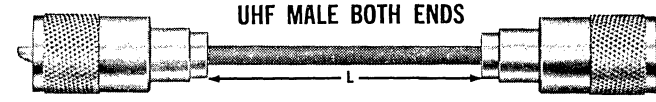
CABLE: Two Cond. Twisted pair, Shielded Mic. or Shielded Coax, RG58C/U.

CONN.: 2ND END } Double Banana Plug, on ¾″ centers.

TWO COND. TWISTED PAIR	SHIELDED MIC. CABLE	SHIELDED COAX. CABLE	LENGTH	NET
2BA-MG-18	2BB-MG-18	2BC-MG-18	18″	5.85
2BA-MG-24	2BB-MG-24	2BC-MG-24	24″	5.85
2BA-MG-30	2BB-MG-30	2BC-MG-30	30″	5.85
2BA-MG-36	2BB-MG-36	2BC-MG-36	36″	5.85
2BA-MG-48	2BB-MG-48	2BC-MG-48	48″	6.00
2BA-MG-60	2BB-MG-60	2BC-MG-60	60″	6.15

★ QUANTITY DISC. CODE **B**

UHF MALE BOTH ENDS



CONN.: 1ST END } PL259, UHF, Male

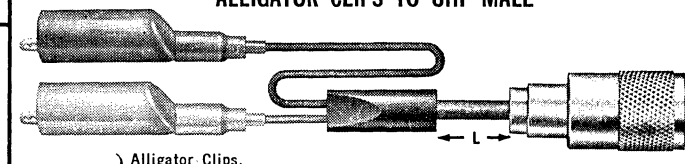
CABLE: Shielded coax., RG58C/U

CONN.: 2ND END } PL259, UHF, Male

SHIELDED COAX. CABLE	LENGTH	NET
UHF-C-18	18″	5.85
UHF-C-24	24″	5.85
UHF-C-30	30″	5.85
UHF-C-36	36″	5.85
UHF-C-48	48″	6.00
UHF-C-60	60″	6.15

★ QUANTITY DISC. CODE **B**

ALLIGATOR CLIPS TO UHF MALE



CONN.: 1ST END } Alligator Clips, Steel, cad plated Insulators, Vinyl: Black/Red.

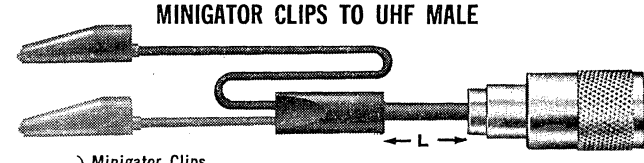
CABLE: Shielded coax., RG58C/U

CONN.: 2ND END } PL259, UHF, Male

SHIELDED COAX. CABLE	LENGTH	NET
AL-C-UHF-18	18″	5.85
AL-C-UHF-24	24″	5.85
AL-C-UHF-30	30″	5.85
AL-C-UHF-36	36″	5.85
AL-C-UHF-48	48″	6.00
AL-C-UHF-60	60″	6.15

★ QUANTITY DISC. CODE **B**

MINIGATOR CLIPS TO UHF MALE



CONN.: 1ST END } Minigator Clips, Steel, cad plated Insulators, Vinyl: Black/Red.

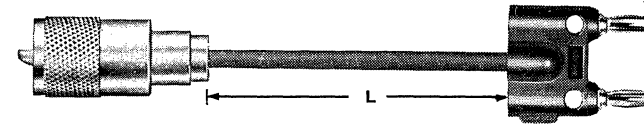
CABLE: Shielded Coax., RG58C/U

CONN.: 2ND END } PL259 UHF, Male

SHIELDED COAX. CABLE	LENGTH	NET
MG-C-UHF-18	18″	5.85
MG-C-UHF-24	24″	5.85
MG-C-UHF-30	30″	5.85
MG-C-UHF-36	36″	5.85
MG-C-UHF-48	48″	6.00
MG-C-UHF-60	60″	6.15

★ QUANTITY DISC. CODE **B**

UHF MALE TO DOUBLE BANANA PLUG*



CONN.: 1ST END } PL259 UHF, Male

CABLE: Shielded Coax., RG58C/U

CONN.: 2ND END } Double Banana Plug, on ¾″ centers.

SHIELDED COAX. CABLE	LENGTH	NET
2BC-UHF-18	18″	5.85
2BC-UHF-24	24″	5.85
2BC-UHF-30	30″	5.85
2BC-UHF-36	36″	5.85
2BC-UHF-48	48″	6.00
2BC-UHF-60	60″	6.15

★ QUANTITY DISC. CODE **B**

***NOTE:** Molded double plug matches color of cable. Two cond. Twisted pair, GRAY. Shielded mic. cable, GRAY. Coaxial RG58C/U cable, BLACK.

1. Other CABLE COLORS available to order on the Two Cond. Twisted Pair and Shielded Mic. cable models, with plug to match. COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.
2. Other lengths and cable types available to order.

★ Various lengths may be aggregated for best quantity price.

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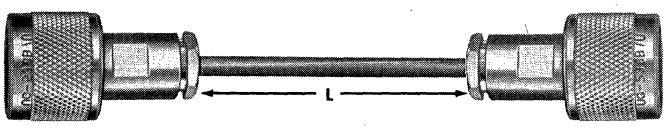
POMONA ELECTRONICS

PATCH CORDS CONNECTING LEADS

SERIES "N" MALE BOTH ENDS



CONN: 1st END: UG536B/U "N" Male — **CABLE:** Shielded Coax., RG58C/U. — **CONN:** 2nd END: UG536B/U "N" Male

CABLE DESCRIPTION:	MODEL	LENGTH	NET
Sheilded coax., RG58C/U, Polyethylene insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.	2256-C-24	24"	7.85
	2256-C-36	36"	7.85
	2256-C-48	48"	8.00
	2256-C-60	60"	8.15

★ QUANTITY DISC. CODE **B**

SERIES "N" MALE BOTH ENDS

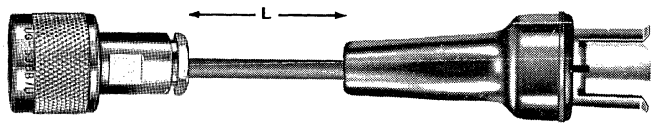
CONN: 1st END: UG21E/U "N" Male — **CABLE:** Coax., RG213/U or RG214/U — **CONN:** 2nd END: UG21E/U "N" Male

CABLE TYPES

RG213/U	NET	LENGTH	RG214/U	NET
1658-S-18	10.85	18"	1658-T-18	12.85
1658-S-24	10.85	24"	1658-T-24	12.85
1658-S-36	10.85	36"	1658-T-36	12.85
1658-S-48	11.35	48"	1658-T-48	13.60
1658-S-60	11.85	60"	1658-T-60	14.35

★ QUANTITY DISC. CODE **B**

SERIES "N" MALE TO GR-874

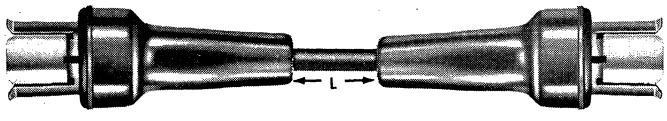


CONN: 1st END: UG536B/U "N" Male — **CABLE:** Shielded Coax., RG58C/U — **CONN:** 2nd END: GR-874

CABLE DESCRIPTION:	MODEL	LENGTH	NET
Shielded coax., RG58C/U, Polyethylene Insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.	2438-C-24	24"	10.85
	2438-C-36	36"	10.85
	2438-C-48	48"	11.00
	2438-C-60	60"	11.15

★ QUANTITY DISC. CODE **B**

GR-874 TO GR-874

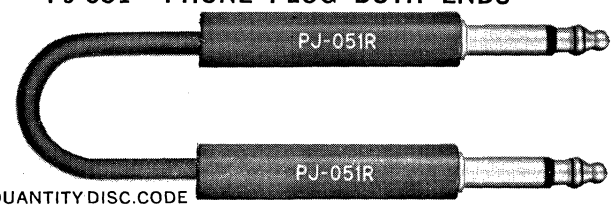


CONN: 1st END: GR-874 — **CABLE:** Shielded coax., RG58C/U — **CONN:** 2nd END: GR-874

CABLE DESCRIPTION:	MODEL	LENGTH	NET
Shielded coax., RG58C/U, Polyethylene Insulation. Vinyl jacket, .195" O.D., Nom. Cap. 28.5 pf/ft.	2316-C-24	24"	16.85
	2316-C-36	36"	16.85
	2316-C-48	48"	17.00
	2316-C-60	60"	17.15

★ QUANTITY DISC. CODE **B**

PJ-051* PHONE PLUG BOTH ENDS



★ **B** QUANTITY DISC.CODE

CONN.: 1ST END: PJ-051* — **CABLE: TWO COND. TWISTED PAIR** — **CONN.:** 2ND END: PJ-051*

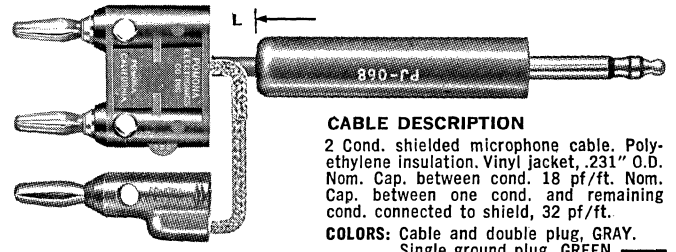
*PJ-051 Interchangeable with WE310.

Patch Cord is wired tip to tip, and ring to ring. No sleeve connection.

CABLE DESCRIPTION	MODEL	LENGTH	NET
Two Cond. Twisted pair, 18 AWG, Strand. 65 x 36 T.C. Vinyl Insulation, Vinyl jacket .250" O.D., Nom. Cap. 30 pf/ft.	2524-A-18	18"	7.85
	2524-A-24	24"	7.85
	2524-A-36	36"	7.85
	2524-A-48	48"	8.00
COLOR: Cable, Gray. Phone Plug Handle, Red.	2524-A-60	60"	8.15

DOUBLE PLUG BALANCED LINE TO PJ-068

CONN: 1st END: Double and Single Banana Plug — **CABLE:** 2 Cond. Shielded Microphone — **CONN:** 2nd END: PJ-068 Plug



CABLE DESCRIPTION

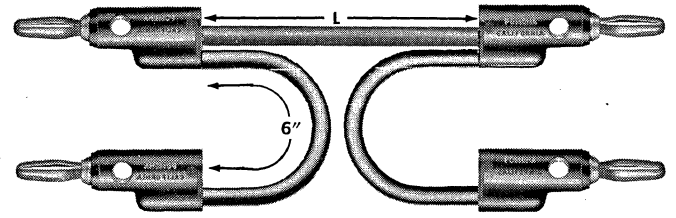
2 Cond. shielded microphone cable. Polyethylene insulation. Vinyl jacket, .231" O.D. Nom. Cap. between cond. 18 pf/ft. Nom. Cap. between one cond. and remaining cond. connected to shield, 32 pf/ft.

COLORS: Cable and double plug, GRAY. Single ground plug, GREEN.

MODEL	LENGTH	NET
2174-36	36"	9.85

★ QUANTITY DISC. CODE **B**

SINGLE BANANA PLUGS BOTH ENDS

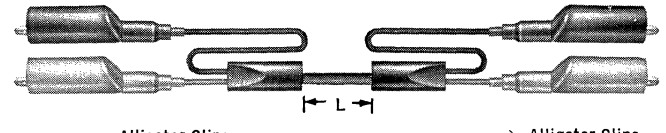


CONN: 1st END: Single Banana Plugs Colors: Inner Conductor plug, Red. Ground Plug, Black. — **CABLE:** Shielded Coax., RG122/U — **CONN:** 2nd END: Single Banana Plugs. Colors: Inner Conductor Plug, Red. Ground Plug, Black.

CABLE DESCRIPTION:	MODEL	LENGTH	NET
Shielded coax., RG122/U polyethylene insulation. Vinyl jacket, .160" O.D., Nom. Cap. 29.5 pt/ft.	2239-R-24	24"	4.85
	2239-R-36	36"	4.85
	2239-R-48	48"	5.00
	2239-R-60	60"	5.15

★ QUANTITY DISC. CODE **B**

ALLIGATOR CLIPS BOTH ENDS



CONN: 1st END: Alligator Clips, Steel, cad plated Insulators, Vinyl: Black/Red. — **CABLE:** Shielded Coax., RG58C/U — **CONN:** 2nd END: Alligator Clips, Steel, cad plated Insulators, Vinyl: Black/Red.

CABLE DESCRIPTION:	MODEL	LENGTH	NET
Shielded coax., RG58C/U, Polyethylene Insulation Vinyl jacket, .195" O.D. Nom. Cap. 28.5 pf/ft.	1152-C-12	12"	5.85
	1152-C-24	24"	5.85
	1152-C-36	36"	5.85
	1152-C-48	48"	6.00
	1152-C-60	60"	6.15

★ QUANTITY DISC. CODE **B**

***NOTE:** Molded double plug matches color of cable. Two cond. Twisted pair, GRAY. Shielded mic. cable, GRAY. Coaxial RG58C/U cable, BLACK.

1. Other CABLE COLORS available to order on the Two Cond. Twisted Pair and Shielded Mic. cable models, with plug to match. COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White.
2. Other lengths and cable types available to order.

★Various lengths may be aggregated for best quantity price.

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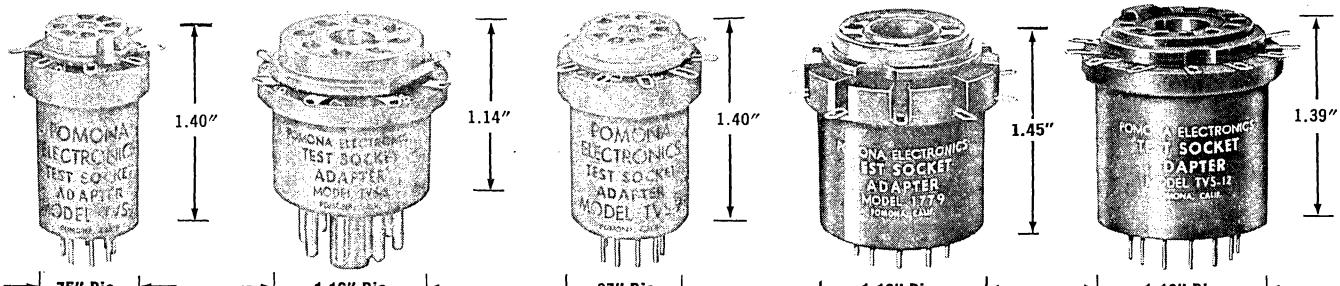
POMONA ELECTRONICS

TEST SOCKET TUBE ADAPTERS
TEST SOCKET ADAPTER HOLDER

Pomona Test Socket Tube Adapters are ideal for making measurements of voltage, resistance, audio and video without tracing complicated circuits from the bottom of the chassis. They feature: Extended test tabs for easy use with either alligator clips or test prods; Low loss MICA-FILLED molded phenolic construction per MIL-M-14, MFE. Power factor less than 0.010 at 10 Mc; high insulation resistance, the I.R. exceeds 500,000 megohms at 40% R.H., at 24°C; Distributed capacity, inter-element approximately 1 micro-micro farad; high voltage operation, voltage breakdown elements exceeds 1700 volts AC or DC Model TVS-12 and 1779 molded of electrical grade Black phenolic.



MODEL TVS-7
7 PIN MIN.
NET 1.65

MODEL TVS-8
8 PIN OCTAL
NET 1.75

MODEL TVS-9
9 PIN MIN.
NET 1.85

MODEL 1779
9 PIN NOVAR
NET 2.25

MODEL TVS-12
12 PIN COMPACTRON
NET 2.55

TVS-789 KIT SET OF THREE 5.25
(TVS-7, TVS-8, TVS-9)

QUANTITY DISC. CODE **C**

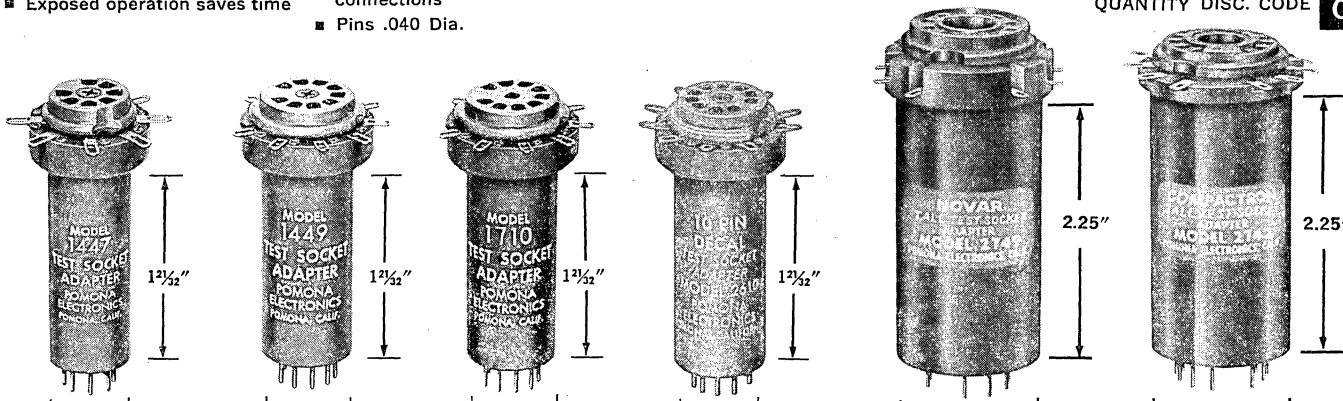
TALL TEST SOCKET TUBE ADAPTERS

FOR SOCKETS HAVING CAPTIVE OR TELESCOPING TUBE SHIELDS

- Extra height — clears shields
- Exposed operation saves time
- Ready access to socket connections
- Pins .040 Dia.

These adapters rise above the shield and place testing in the open. Shields or tuner covers do not have to be removed. All construction is the highest quality. Interelement distributed capacity is approximately 1.5 micro-micro farad. Voltage breakdown elements exceed 1800 V. AC or DC.

QUANTITY DISC. CODE **C**



MODEL 1447
7 PIN MIN.
NET 1.85

MODEL 1449
9 PIN MIN.
NET 1.95

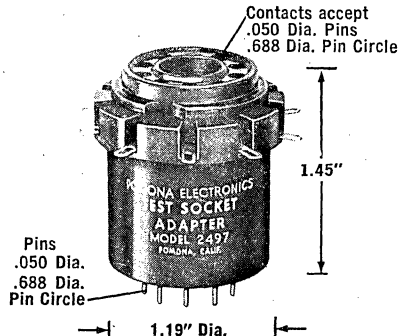
MODEL 1710
10 PIN MIN.
NET 2.25

MODEL 2610
10 PIN DECAL
NET 2.55

MODEL 2749
9 PIN NOVAR
NET 3.25

MODEL 2742
12 PIN COMPACTRON
NET 3.55

MAGNOVAL TEST ADAPTER



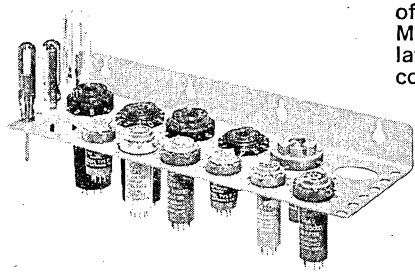
MODEL 2497
9 PIN MAGNOVAL
NET 2.75

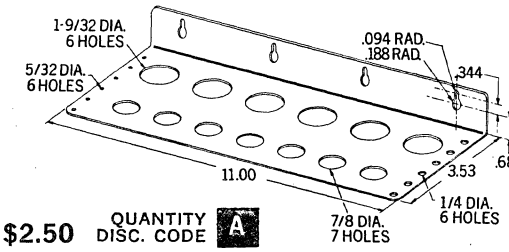
QUANTITY DISC. CODE **C**

TEST SOCKET ADAPTER HOLDER

NEW

The holder accepts up to seven socket adapters of 7/8" in diameter or less, and six adapters of 1 21/32" in diameter or less. Holes at both ends of the rack accommodate 12 service tools. Mounting holes are provided for easy installation on any vertical surface. Fabricated from cold rolled steel with baked enamel finish.





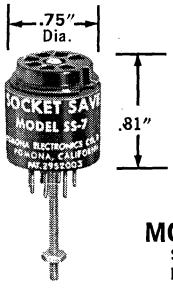
MODEL 2898 Color: Green **NET $2.50**

QUANTITY DISC. CODE **A**

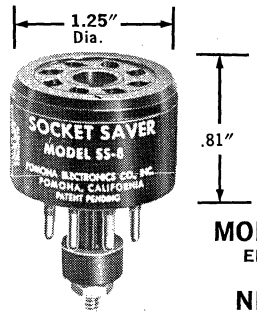
POMONA ELECTRONICS

SOCKET SAVERS
CRT CONVERSION ADAPTERS

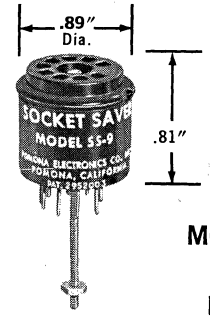
The Socket Saver® is designed to be installed on tube checkers and other electronic equipment to prevent wear and tear of sockets on original equipment. They are easy to install and remove. This eliminates the necessity of replacing and rewiring sockets on original equipment. Built of quality materials. BERYLLIUM COPPER LONG LIFE CONTACTS to give maximum service.



MODEL SS-7
SEVEN PIN
MINIATURE
NET 1.75



MODEL SS-8
EIGHT PIN
OCTAL
NET 1.75

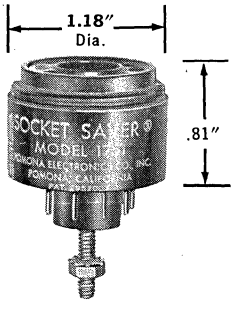


MODEL SS-9
NINE PIN
MINIATURE
NET 1.75

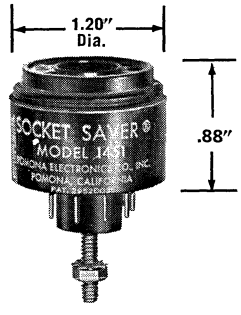
U.S. PAT. NO. 2952003

MODEL SS-789 KIT SET OF THREE 5.25
(SS-7, SS-8, SS-9)

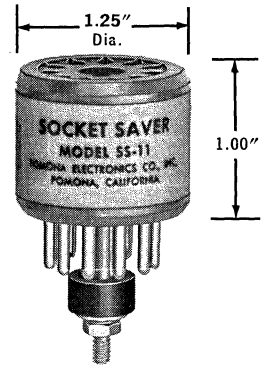
QUANTITY DISC. CODE **C**



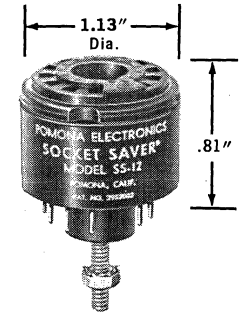
MODEL 1751
9 PIN
NOVAR
NET 1.95



MODEL 1451
9 PIN
MAGNOVAL
NET 2.25



MODEL SS-11
11 PIN
OCTAL STYLE
NET 1.95

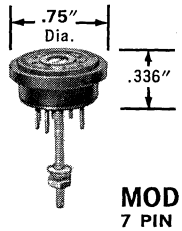


MODEL SS-12
12 PIN
COMPACTRON
NET 2.25

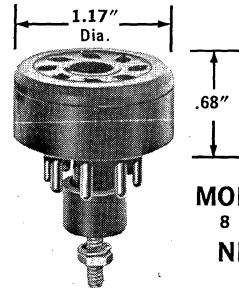
QUANTITY DISC. CODE **C**

MINIATURIZED SOCKET SAVERS®

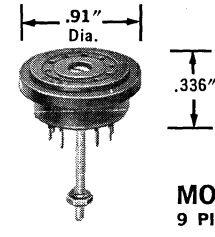
For use in applications where vertical height is restricted. Contacts made of beryllium copper, heat treated. Models 1847 and 1849 closed entry receptacles, contact and pin one piece formed beryllium copper, molded of black phenolic electrical grade.



MODEL 1847
7 PIN MINIATURE
NET 1.95



MODEL 1848
8 PIN OCTAL
NET 1.95



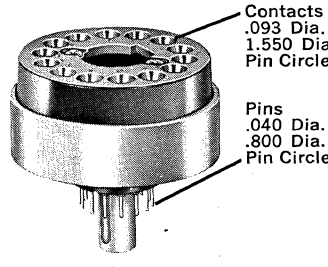
MODEL 1849
9 PIN MINIATURE
NET 1.95

QUANTITY DISC. CODE **C**

COLOR-TUBE SOCKET CONVERSION ADAPTER

NEW

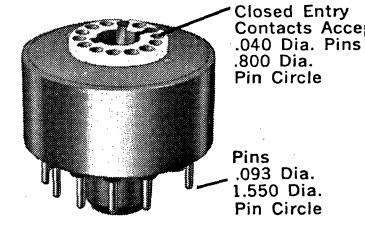
Converts Color 70° 21AXP22A CRT base to 90° 25AP22A CRT base.
Socket End: Neo-Diheptal Socket, 14AL/AU Basing.
Plug End: Miniature Diheptal Plug, 14BE Basing.



MODEL 3020 QUANTITY DISC. CODE **D** **NET 5.95**

COLOR — TUBE SOCKET CONVERSION ADAPTER

Converts color 90° 25AP22A CRT base to 70° color 21-AXP22A CRT base. Provision for accepting bases equipped with spark gaps.
Socket End: Miniature Diheptal Socket, 14BE Basing.
Plug End: Neo-Diheptal Base, 14AL/AU Basing.



MODEL 2276 QUANTITY DISC. CODE **D** **NET 5.95**

Net

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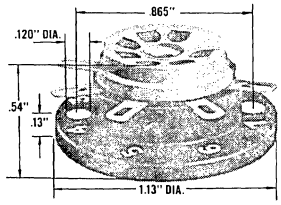
POMONA ELECTRONICS

CRT TEST ADAPTERS BREADBOARD SOCKETS

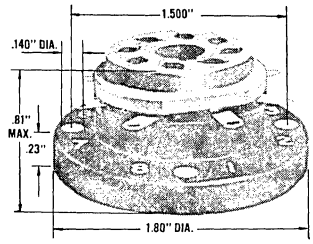
SURFACE MOUNTED BREADBOARD SOCKETS

IDEAL FOR EXPERIMENTAL CIRCUIT DESIGN, portable and enclosed units, plug-in and packaged assemblies. They feature: An insulated base to prevent connections from shorting to chassis; Eliminates double chassis design; Circuits may be wired in an enclosed unit; The base connections are numbered for easy identification; Grade-A phosphor bronze spring contacts; Standard center to center mounting holes; For ease of installation the 7 and 9 Pin Miniatures may be mounted either in the center or on the sides, the 8 Pin Octal is mounted on the sides; Small mounting holes permits the re-use of experimental chassis.

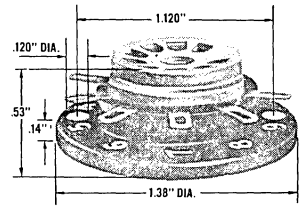
QUANTITY DISC. CODE **C**



7 PIN MINIATURE
MODEL XS-7 NET .65



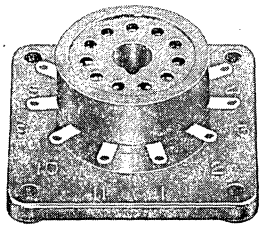
8 PIN OCTAL
MODEL XS-8 NET .75

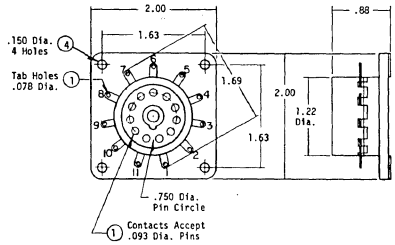


9 PIN MINIATURE
MODEL XS-9 NET .75

NEW

11 CONTACT RELAY SOCKET





Ideal for use in Industrial Control equipment requiring a rugged compact 11 contact configuration.

FEATURES:

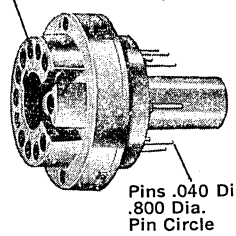
- Simplified above chassis mounting.
- Socket and Base molded of diallyl phthalate.
- Socket connections numbered for easy identification.
- Socket may be gang mounted.
- Heat treated Beryllium copper contacts.
- 600 VRMS at 10 amps.

MODEL 2811 QUANTITY DISC. CODE **A** **NET 2.75**

NEW

PIN SAVER-COLOR CRT

Closed Entry
Contacts Accept
.040 Dia. Pins
.800 Dia. Pin Circle



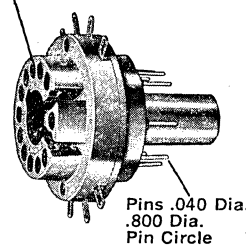
MINIATURE DIHEPTAL
For Color Television
Picture Tubes
Provision for spark gaps.

MODEL 2887

QUANTITY DISC. CODE **D** **NET 4.95**

COLOR—TEST ADAPTER MINIATURE DIHEPTAL

Closed Entry
Contacts Accept
.040 Dia. Pins
.800 Dia. Pin Circle



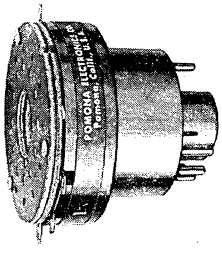
MINIATURE DIHEPTAL
For Color Television
Picture Tubes
Provision for spark gaps.

IMPROVED MODEL 2380

QUANTITY DISC. CODE **D** **NET 4.95**

CATHODE RAY TUBE TEST ADAPTERS

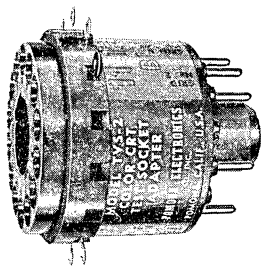
■ POMONA Test Socket Adapters are ideal for making measurements of voltage, resistance, and video from the base of the picture tube. The test socket adapter is inserted between the CR Tube base and its socket. This completes the circuit and makes all connections readily accessible. Measurements can be made without tracing circuit wiring to test points below the chassis, thereby saving valuable time and increasing efficiency in trouble shooting.



MODEL TVS-1

DUO DECAL
For Television
picture tubes

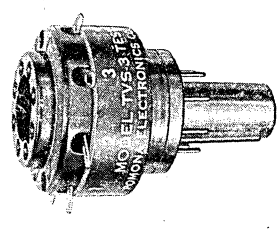
NET 2.55
QUANTITY DISC. CODE **D**



MODEL TVS-2

NEO-DIHEPTAL
For color Television
picture tubes

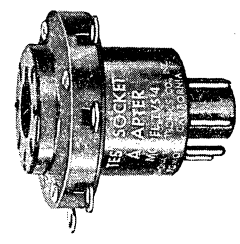
NET 7.45
QUANTITY DISC. CODE **D**



MODEL TVS-3

EIGHTAR (.040 PINS)
For 110° Television
picture tubes

NET 2.55
QUANTITY DISC. CODE **D**



MODEL TVS-4

7 PIN (.093 PINS)
For 110° Television
picture tubes

NET 2.55
QUANTITY DISC. CODE **D**

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SEALECTRO PRESS-FIT® TEFLON* TERMINALS

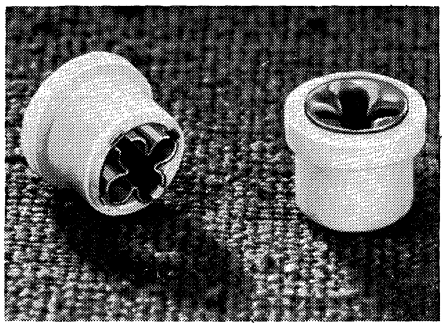
†Reg. Trademark, E. I. Du Pont de Nemours & Co.

PRESS-FIT® TEFLON* CLOVERLEAF® RECEPTACLES

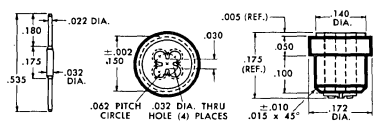
. . . providing the economies of dip-soldering with the inherent reliability of wired chassis construction

The "Press-Fit" Cloverleaf Receptacle provides economical yet uniformly perfect solder joints by means of dip soldering on a metal chassis. The unique Cloverleaf configuration permits insertion of four or more wire leads, plus an optional center post for mounting additional components after the dip-soldering operation. This design provides an encompassing hold on the leads, while providing for excellent capillary flow of solder. The Cloverleaf receptacle is a Sealectro "Press-Fit" design. Virgin Teflon insulation, precisely machined to "Press-Fit" into the chassis provides fast, positive and economical installation.

The reliability of dip solder joints made with the Cloverleaf receptacle, combined with the inherent dependability and repairability of metal chassis construction makes it ideal for use in high density, complex electronic instrumentation packaging, while the low cost of the terminal and its simple installation provides a new and outstanding assembly technique for premium quality radio and television manufacturing.



*FT-E-12

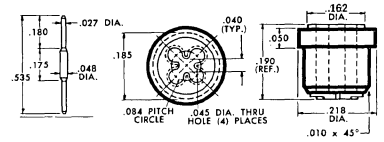


INSTALLATION DATA:

Break Installation Edge .136 $^{\pm.002}_{+.010}$ Dia. Hole with 60° C'Sink to a .160 $^{-.000}$ Dia. in .040 or Thicker Chassis. Use 82° C'Sink Under .040 Chassis. Teflon Should Protrude a Min. of .040 Beneath Chassis.

Insertion Tool: B-9-4

*FT-E-15

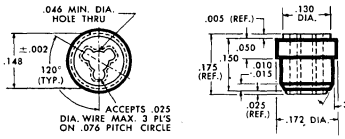


INSTALLATION DATA:

Break Installation Edge .172 $^{\pm.002}_{+.010}$ Dia. Hole with 60° C'Sink to a .195 $^{-.000}$ Dia. in .040 or Thicker Chassis. Use 82° C'Sink Under .040 Chassis. Teflon Should Protrude a Min. of .040 Beneath Chassis.

Insertion Tool: B-9-5

*FT-E-16

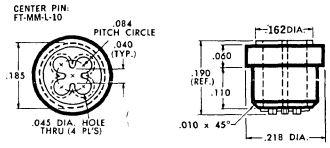


INSTALLATION DATA:

Break Installation Edge .136 $^{\pm.002}_{+.010}$ Dia. Hole with 60° C'Sink to a .160 $^{-.000}$ Dia. in .040 or Thicker Chassis. Use 82° C'Sink Under .040 Chassis. Teflon Should Protrude a Min. of .040 Beneath Chassis.

Insertion Tool: T-8800020 and B-8X-1

*FT-E-17

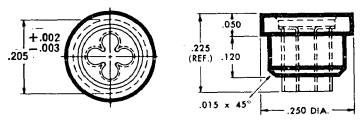


INSTALLATION DATA:

Break Installation Edge .172 $^{\pm.002}_{+.010}$ Dia. Hole with 60° C'Sink to a .195 $^{-.000}$ Dia. in .040 or Thicker Chassis. Use 82° C'Sink Under .040 Chassis. Teflon Should Protrude a Min. of .040 Beneath Chassis.

Insertion Tool: B-18-X3

*FT-E-19



INSTALLATION DATA:

Break Installation Edge .197 $^{\pm.002}_{+.010}$ Dia. Hole with 60° C'Sink to a .230 $^{-.000}$ Dia. in .040 or Thicker Chassis. Use 82° C'Sink Under .040 Chassis. Teflon Should Protrude a Min. of .040 Beneath Chassis.

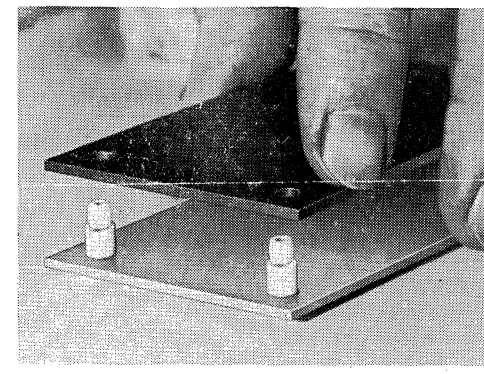
Insertion Tool: B-22-X1

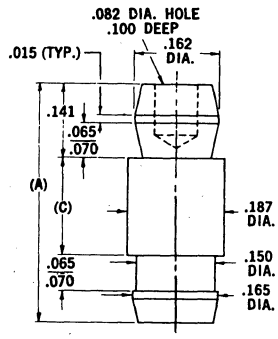
PRESS-FIT® TEFLON** SPACER/BUSHINGS

The Newest and Best Way to Mount P.C. Boards to Metal Panels and Chassis

Mount and insulate P.C. boards on metal chassis or panels without nuts, bolts, or lock washers. The new Press-Fit Teflon* Spacer/Bushings save assembly time while providing an economical and mechanically secure mounting device.

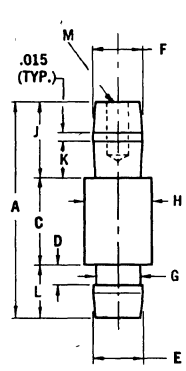
Machined from pure Teflon*, these new units are designed for various thickness P.C. boards and chassis or panels. Insertion in the chassis is a simple, one-step operation. The grommet end of each Spacer/Bushing is simply snapped in pre-drilled or punched metal chassis holes with entrance edge broken. Once inserted, they're in for good. P.C. boards require only mating holes for the opposite end of the Spacer/Bushing and may be snapped on and off of the mother board at will.





NOTE: Mtg. Hole .152 ±.002 Dia. in .062 ±.006 thick chassis.

*Part No.	A	C
227298	1.021	.750
227294	.958	.687
227290	.896	.625
227286	.833	.562
227282	.771	.500
227278	.708	.437
227274	.646	.375
227270	.583	.312
227266	.521	.250
227262	.458	.187
227258	.396	.125



*Part No.	A	C	D	E	F	G	H	J	K	L	M
228004	.782	.500	.045	.151	.151	.136	.187	.175	.098	.107	.082 Dia. x .130 deep
228006	.674	.375	.093	.165	.162	.150	.187	.141	.065	.050	.082 Dia. x .100 deep
228005	.657	.375	.045	.151	.151	.136	.187	.175	.098	.107	.082 Dia. x .100 deep
228007	.544	.250	.055	.165	.162	.150	.187	.177	.098	.047	.082 Dia. x .100 deep
228002	.490	.250	.030	.098	.100	.084	.125	.140	.068	.100	.041 Dia. x .100 deep
228000	.400	.160	.036	.092	.092	.084	.125	.140	.068	.100	.041 Dia. x .100 deep
228009	.400	.093	.065	.165	.162	.150	.187	.177	.098	.040	.082 Dia. x .100 deep
228001	.392	.160	.028	.092	.092	.084	.125	.140	.068	.100	.082 Dia. x .100 deep

* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

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SEALECTRO PRESS-FIT® TEFLON* TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

STAND-OFFS MICROMINIATURE and SUBMINIATURE

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASHOVER SEA LEVEL	A	B	B_1	B_2	C	D	E DIA.	E_1 DIA.	F DIA.	+.002 —.000 G DIA.	K	K_1
1	ST-SM-3C1-L6	B3-10	0.35	750	2500	.213	.093			.031	.089	.040		.125	.093		
1	ST-SM-7	B3-1	0.30	1000	3000	.262	.147			.040	.075	.040		.125	.093		
1	ST-SM-7L2	B3-1	0.40	1000	3000	.299	.174			.040	.085	.040		.125	.093		
1	*ST-SM-16	B3-1	0.60	1000	3000	.350	.210			.040	.100	.040		.125	.093		
1	ST-SM-3C1-L4	B3-4	0.50	750	2500	.250	.130			.031	.089	.040		.125	.104		
1	*ST-SM-1	B-8	0.45	1000	3000	.350	.210			.040	.100	.040		.172	.148		
1	*ST-SM-1C2†	B-8	0.50	1000	3000	.410	.210			.040	.160	.040		.172	.148		
1	ST-SM-1C6	B-8	0.50	1000	3000	.500	.210			.040	.250	.040		.172	.148		
1	ST-SM-1L2	B-8	0.40	1000	3000	.265	.125			.040	.100	.040		.172	.148		
1	ST-SM-1L2-C2	B-8	0.40	1000	3000	.280	.125			.040	.115	.040		.172	.148		
1	ST-SM-1L4	B-8	0.35	1000	3000	.250	.110			.040	.100	.040		.172	.148		
1	ST-SM-1L6	B-8	0.40	1000	3000	.285	.145			.040	.100	.040		.172	.148		
1	ST-SM-1L8	B-8	0.50	1000	3000	.750	.610			.040	.100	.040		.172	.148		
1	ST-SM-1L10	B-8	0.50	1000	3000	.594	.450			.040	.100	.040		.172	.148		
1	ST-SM-1L12	B-8	0.40	1000	3000	.460	.320			.040	.100	.040		.172	.148		
1	ST-SM-2	B-8	0.35	1000	3000	.310	.210			.050	.050	.040		.172	.148		
1	ST-SM-2C2	B-8	0.50	1000	3000	.335	.210			.050	.075	.040		.172	.148		
1	ST-SM-2C4	B-8	0.40	1000	3000	.370	.210			.050	.110	.040		.172	.148		
1	ST-SM-2C6	B-8	0.40	1000	3000	.305	.145			.050	.110	.040		.172	.148		
1	ST-SM-2C6-C2	B-8	0.30	1000	3000	.247	.147			.050	.050	.040		.172	.148		
1	ST-SM-2L2‡	B-8	0.35	1000	3000	.250	.150			.030	.070	.040		.172	.148		
1	ST-SM-2L4	B8-G1	0.30	1000	3000	.210	.120			.030	.060	.040		.172	.148		
1	ST-SM-6	B-8	0.40	1200	3500	.345	.210			.060	.075	.040		.172	.148		
1	ST-SM-8	B-8	0.45	1000	3000	.370	.210			.040	.120	.040		.172	.148		
1	ST-SM-15	B-8	0.35	1500	4000	.350	.210			.078	.062	.040		.172	.148		
1	ST-SM-19	B-8	0.45	1000	3000	.365	.193			.040	.132	.040		.172	.148		
1	ST-SM-3	B-15	0.45	1000	3000	.350	.210			.040	.100	.040		.195	.172		
1	ST-SM-4	B-16	0.35	1200	3500	.350	.210			.040	.100	.040		.200	.179		
1	ST-SM-5	B-22	0.35	1200	3500	.350	.210			.040	.100	.040		.250	.218		
2	ST-SM-1SL	B8-16	0.40	1000	3000	.265	.125			.040	.100	.040		.172	.148	.010	.010
3	* ST-MM-10-TUR	B3-2C	0.40	1000	3000	.310	.170	.020	.060	.040	.100	.030	.060	.125	.093		
3	*ST-SM-16-TUR	B3-2B	0.60	1000	3000	.350	.210	.020	.100	.040	.100	.040	.080	.125	.093		
3	ST-SM-027-TUR	B8-A	0.60	1000	3000	.480	.250	.020	.093	.040	.190	.040	.093	.172	.130		
3	*ST-SM-1-TUR	B-8	0.40	1000	3000	.350	.210	.020	.100	.040	.100	.040	.080	.172	.148		
3	*ST-SM-1-TUR-C2	B-8	0.50	1000	3000	.375	.210	.020	.100	.040	.125	.040	.080	.172	.148		
3	*ST-SM-TUR-C4	B-8	0.40	1000	3000	.360	.210	.020	.100	.040	.110	.040	.080	.172	.148		
3	*ST-SM-19-TUR-C2	B-8	0.55	1000	3000	.500	.210	.020	.100	.040	.250	.040	.080	.172	.148		
3	*ST-SM-22-TUR	B-8	0.50	1700	4500	.428	.210	.020	.100	.093	.125	.040	.080	.172	.148		
3	ST-SM-22-TUR-C2	B-8	0.30	1700	4500	.461	.210	.020	.100	.093	.158	.040	.080	.172	.148		
3	*ST-SM-25-TUR†	B8-A	0.50	1000	3000	.334	.154	.020	.046	.040	.140	.046	.093	.172	.148		
3	ST-SM-25-TUR-C2	B8-A	0.35	1000	3000	.254	.154	.020	.046	.040	.060	.046	.093	.172	.148		
3	*ST-SM-29-TUR†	B8-A	0.50	1000	3000	.455	.250	.020	.093	.040	.165	.040	.093	.172	.148		
3	*ST-SM-29-TUR-C2	B8-A	0.60	1000	3000	.540	.250	.020	.093	.040	.250	.040	.093	.172	.148		
3	ST-SM-29-TUR-L2	B8-A	0.50	1000	3000	.470	.250	.020	.093	.040	.180	.040	.093	.172	.148		
3	ST-SM-51-TUR-C2	B8-A	0.45	1400	3800	.346	.156	.020	.047	.040	.150	.047	.093	.172	.152		
3	ST-SM-51-TUR-C4	B8-A	0.40	1000	3000	.296	.156	.020	.047	.040	.100	.047	.093	.172	.152		
3	ST-SM-51-TUR-C6	B8-A	0.50	1000	3000	.361	.156	.020	.047	.040	.165	.047	.093	.172	.152		
3	ST-SM-4 TUR	B-16	0.35	1000	3000	.350	.210	.020	.100	.040	.100	.040	.080	.200	.179		
3	ST-SM-20 TUR	B-18	0.40	1000	3000	.350	.210	.020	.100	.040	.100	.040	.080	.218	.185		
3	*ST-SM-21 TUR	B-18	0.40	1000	3000	.375	.210	.020	.100	.040	.125	.040	.080	.218	.185		
3	ST-SM-23 TUR	B-22	0.40	1200	3500	.350	.210	.020	.100	.040	.100	.040	.080	.250	.204		
4	ST-SM-50-TUR	B-8	0.30	1000	3000	.262	.125	.020	.085	.050	.087	.040	.080	.172	.148		
4	ST-SM-352-TUR	B-8	0.30	1000	3000	.250	.110	.020	.080	.040	.100	.040	.080	.172	.148		
4	ST-SM-36 TUR	B-16	0.35	1500	4000	.320	.120	.020	.080	.075	.125	.048	.090	.200	.172		
5	ST-SM-40 TUR	B-9	0.40	1000	3000	.392	.232	.029	.031	.050	.110	.070	.109	.172	.148		
5	ST-SM-45 TUR	B8-13B	0.40	1000	3000	.362	.232	.029	.031	.050	.080	.070	.109	.172	.148		
6	ST-SM-47-TUR	B-8	0.30	1000	3000	.328	.210	.020	.120	.040	.078	.040	.080	.172	.148		
6	*ST-SM-47-TUR-C2	B-8	0.40	1000	3000	.350	.210	.020	.120	.040	.100	.040	.080	.172	.148		
6	ST-SM-47-TUR-C4	B-8	0.50	1000	3000	.415	.210	.020	.120	.040	.165	.040	.080	.172	.148		
6	ST-SM-47-TUR-C6	B-8	0.50	1000	3000	.428	.210	.020	.120	.093	.125	.040	.080	.172	.148		
7	ST-SM-42 TUR	B3-2A	0.40	1000	3000	.334	.153	.015	.031	.041	.140	.068	.078	.125	.093		
7	ST-SM-44 TUR	B-2	0.40	1000	3000	.255	.150	.015	.031	.030	.075	.068	.078	.125	.093		

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick (†Silver — ‡Gold Flash over Silver).
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.

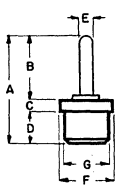

Fig. 1

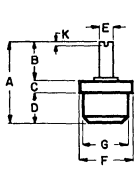

Fig. 2

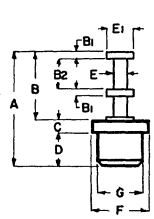

Fig. 3

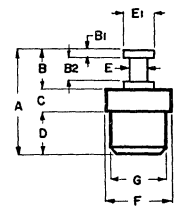

Fig. 4

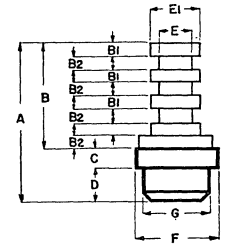

Fig. 5

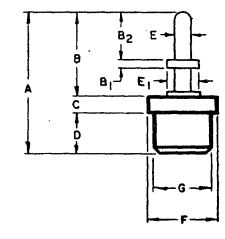

Fig. 6

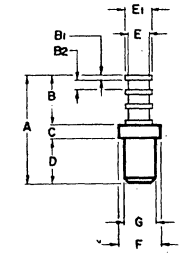

Fig. 7

* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

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†Reg. Trademark, E. I. Du Pont de Nemours & Co.

STAND-OFFS MICROMINIATURE and SUBMINIATURE

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASHOVER SEA LEVEL	A	B	B_1	B_2	C	D	E DIA.	E_1 DIA.	F DIA.	+.002 −.000 G DIA.	K	K_1
51	RST-SM-3-C1	B-3-B	0.40	1000	3000	.250	.130			.031	.089	.040		.125	**.093**		
51	*RST-SM-16	B-3-2X	0.40	1000	3000	.350	.210			.040	.100	.040		.125	**.093**		
51	RST-SM-3	B-3-B	0.30	1000	3000	.250	.130			.031	.089	.040		.125	**.104**		
51	RST-SM-11C1	B8-G	0.45	1500	4000	.350	.210			.020	.120	.040		.172	**.112**		
51	RST-SM-39-C1	B-8-M	0.35	1000	3000	.350	.210			.015	.125	.040		.172	**.112**		
51	RST-SM-13	B6-X1	0.50	500	2000	.310	.210			.040	.060	.040		.150	**.125**		
51	*RST-SM-1	B8-X1	0.40	1200	3500	.350	.210			.040	.100	.040		.172	**.148**		
51	*RST-SM-1B2	B8-G	0.40	1200	3500	.330	.210			.020	.100	.040		.172	**.148**		
51	RST-SM-1-CB	B8-X1	0.30	1000	3000	.330	.210			.046	.074	.040		.170	**.148**		
51	*RST-SM-1C6	B8-X1	0.40	2000	5000	.500	.210			.040	.250	.040		.172	**.148**		
51	RST-SM-1L2	B8-X1	0.50	1200	3500	.265	.125			.040	.100	.040		.172	**.148**		
51	RST-SM-1L8	B8-X1	0.50	1200	3500	.750	.610			.040	.100	.040		.172	**.148**		
51	RST-SM-2	B8-X2	0.40	1000	3000	.310	.210			.050	.050	.040		.172	**.148**		
51	RST-SM-6	B8-X	0.35	1200	3500	.345	.210			.060	.075	.040		.172	**.148**		
51	RST-SM-7C2	B8-X1	0.30	1200	3500	.382	.210			.040	.132	.045		.172	**.148**		
51	‡RST-SM-11	B8-G	0.30	1200	3500	.350	.210			.020	.120	.040		.172	**.148**		
51	RST-SM-28	B8-X1	0.35	1500	4000	.390	.218			.040	.132	.040		.172	**.148**		
51	RST-SM-39	B-8-M	0.30	1200	3500	.350	.210			.015	.125	.040		.172	**.148**		
51	RST-SM-3CD3	B-15-X	0.45	1000	3000	.500	.360			.040	.100	.040		.195	**.172**		
52	RST-SM-3SL	B3-2X	0.50	500	2000	.350	.210			.040	.100	.080		.125	**.104**	.036	.180
52	RST-SM-41SL	B6-C	0.30	750	2500	.150	.062			.025	.063	.050		.150	**.125**	.020	.047
53	RST-SM-47-TUR	B8-X-1	0.40	1000	3000	.328	.210	.020	.120	.040	.078	.040	.080	.172	**.148**		
53	RST-SM-47-TUR-C2	B8-X-1	0.40	1200	3500	.350	.210	.020	.120	.040	.100	.040	.080	.172	**.148**		
54	*RST-MM-10-TUR	B1-2	0.40	500	2000	.310	.170	.020	.060	.040	.100	.030	.060	.125	**.093**		
54	*RST-SM-25-TUR-C4	B8-X-1	0.40	1500	4000	.295	.156	.020	.046	.040	.100	.046	.093	.172	**.148**		
54	*RST-SM-38-TUR	B10	0.40	1500	4000	.405	.210	.020	.100	.040	.155	.040	.080	.188	**.171**		
54	*RST-SM-1-TUR	B8-X-1	0.40	1200	3500	.350	.210	.020	.100	.040	.100	.040	.080	.172	**.148**		
54	RST-SM-4-TUR	B16	0.40	1500	4000	.350	.210	.020	.100	.040	.100	.040	.080	.200	**.179**		
54	RST-SM-20-TUR	B18	0.40	1500	4000	.350	.210	.020	.100	.040	.100	.040	.080	.218	**.185**		
54	*RST-SM-21-TUR	B18	0.30	1700	4500	.375	.210	.020	.100	.040	.125	.040	.080	.218	**.185**		
54	RST-SM-23-TUR	B22-X-2	0.30	1500	4000	.350	.210	.020	.100	.040	.100	.040	.080	.250	**.204**		
55	*RST-SM-31-TUR	B8-X-1	0.50	1700	4500	.455	.227	.020	.187	.040	.187	.040	.080	.172	**.148**		
55	RST-SM-31-TUR-CD1	B8-3	0.35	1500	4000	.382	.227	.020	.187	.025	.130	.040	.080	.172	**.148**		
55	RST-SM-31-TUR-L2	B8-X-1	0.40	1200	3500	.296	.156	.020	.116	.040	.100	.046	.093	.172	**.148**		
55	RST-SM-352-TUR	B8-X-1	0.40	1200	3500	.250	.110	.020	.080	.040	.100	.040	.080	.172	**.148**		
55	RST-SM-350-TUR	B10	0.20	1500	4000	.320	.125	.020	.080	.040	.155	.040	.080	.188	**.171**		

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thickness.
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.

‡ Gold flash over silver.

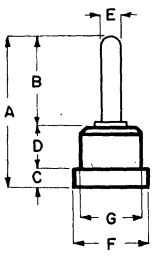

Fig. 51

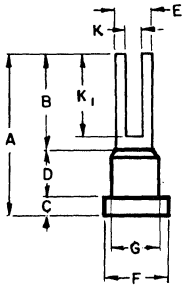

Fig. 52

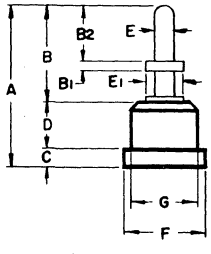

Fig. 53

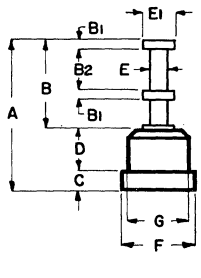

Fig. 54

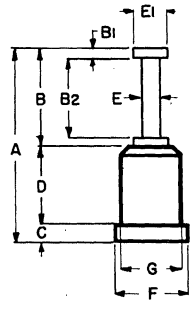

Fig. 55

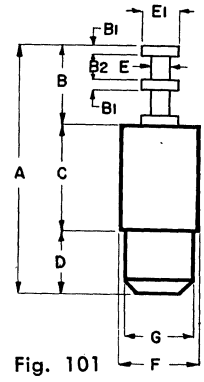

Fig. 101

* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

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SEALECTRO PRESS-FIT® TEFLON* TERMINALS

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STAND-OFFS MINIATURE

FIG. #	PART No.	TOOL NO.	CAPACITANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASHOVER SEA LEVEL	A	B	B_1	B_2	C	D	E DIA.	E_1 DIA.	F DIA.	G +.002 −.000 DIA.
101	*ST-210	B3-A	0.50	1500	4000	.346	.156	.020	.046	.103	.087	.046	.093	.125	.104
101	ST-211	B3-A	0.50	1500	4000	.346	.156	.020	.046	.103	.087	.046	.093	.125	.104
101	ST-215	B3-A	0.50	1500	4000	.359	.156	.020	.046	.103	.100	.046	.093	.125	.104
101	ST-1200	B6-10	0.20	3000	7000	.531	.156	.020	.046	.219	.156	.046	.093	.156	.127
101	ST-1400L2	B12-3	0.30	2800	7500	.647	.250	.020	.093	.250	.150	.040	.093	.187	.135
101	ST-230L2	B9-3	0.50	2500	6000	.482	.250	.020	.094	.125	.110	.040	.093	.172	.148
101	*ST-1175L2	B9-3	0.30	3200	7500	.598	.250	.020	.093	.187	.165	.040	.093	.172	.148
101	*ST-250	B12	0.30	2500	6000	.431	.156	.020	.046	.125	.150	.046	.093	.187	.165
101	*ST-250L2	B12	0.50	2500	6000	.522	.250	.020	.093	.125	.150	.040	.093	.187	.165
101	ST-250L3	B12-2	0.60	2000	5000	.556	.281	.031	.093	.125	.150	.046	.125	.187	.165
101	ST-260L3	B13	0.60	3000	7000	.556	.281	.031	.093	.175	.100	.046	.125	.187	.165
101	*ST-1000	B13	0.20	2800	6700	.493	.156	.020	.046	.187	.150	.046	.093	.187	.165
101	*ST-1000L2	B13	0.30	2800	6700	.584	.250	.020	.093	.187	.150	.040	.093	.187	.165
101	ST-1000L3	B13-3B	0.65	2500	6000	.616	.281	.031	.093	.187	.150	.046	.125	.187	.165
101	ST-1000-2C	B13	0.30	2800	6700	.468	.156	.020	.046	.187	.125	.046	.093	.187	.165
101	ST-1450L3	B13-3B	0.55	3000	7000	.681	.281	.031	.093	.200	.200	.046	.125	.187	.165
101	*ST-1500	B12-3	0.20	3100	7300	.556	.156	.020	.046	.250	.150	.046	.093	.187	.165
101	ST-1500L2	B12-3	0.30	3100	7300	.647	.250	.020	.093	.250	.150	.040	.093	.187	.165
101	ST-1500L3	B13	0.35	3100	7300	.681	.281	.031	.093	.250	.150	.046	.125	.187	.165
101	ST-1525	B12-3	0.25	3000	7000	.706	.156	.020	.046	.250	.300	.046	.093	.187	.165
101	ST-1900	B13-4	0.20	3500	8000	.831	.281	.031	.093	.350	.200	.046	.125	.187	.165
101	ST-2000	B13-3B	0.25	4500	10000	.831	.281	.031	.093	.400	.150	.046	.125	.187	.165
101	ST-2000L2	B12-3	0.20	4500	10000	.797	.250	.020	.093	.400	.150	.040	.093	.187	.165
101	ST-2000L2-C2	B12-3	0.20	4500	10000	.797	.250	.020	.093	.400	.100	.040	.093	.187	.165
101	ST-2000L3	B12-3	0.15	4500	10000	.706	.156	.020	.046	.400	.150	.046	.093	.187	.165
101	ST-2000L3-C2	B12-3	0.20	4500	10000	.656	.156	.020	.046	.400	.100	.046	.093	.187	.165
101	ST-250C1	B12	0.30	2500	6000	.431	.156	.020	.046	.125	.150	.046	.093	.187	.171
101	ST-250L3-C1	B12-2	0.60	2000	5000	.556	.281	.031	.093	.125	.150	.046	.125	.187	.171
101	*ST-250L4	B12-2	0.60	2000	5000	.556	.281	.031	.093	.125	.150	.062	.125	.187	.171
101	ST-250L4-C2	B12	0.65	2000	5000	.621	.281	.031	.093	.125	.215	.062	.125	.187	.171
101	ST-250L5	B12	0.50	2500	6000	.485	.210	.020	.100	.125	.150	.040	.080	.218	.171
101	ST-251C1	B12	0.35	2500	6000	.485	.210	.020	.100	.125	.150	.040	.080	.187	.171
101	ST-1000C1	B13	0.20	2800	6700	.493	.156	.020	.046	.187	.150	.046	.093	.187	.171
101	ST-1000L2-C1	B13	0.35	2800	6700	.584	.250	.020	.093	.187	.150	.040	.093	.187	.171
101	ST-1500C1	B12-3	0.25	3100	7300	.556	.156	.020	.046	.250	.150	.046	.093	.187	.171
101	ST-1500L3-C1	B13	0.40	3100	7300	.681	.281	.031	.093	.250	.150	.046	.125	.187	.171
101	ST-2000C1	B13-3B	0.25	4500	10000	.831	.281	.031	.093	.400	.150	.046	.125	.187	.171
101	ST-2000C4	B13-3B	0.40	3000	7000	.831	.281	.031	.093	.250	.300	.046	.125	.187	.171
101	ST-2500C1	B26	0.20	5500	12000	.968	.281	.031	.093	.500	.187	.046	.125	.250	.171
101	ST-941	B19-A	0.60	2500	6000	.546	.281	.031	.093	.125	.140	.046	.125	.218	.185
101	ST-1510L3	B24-1	0.40	3000	7000	.718	.281	.031	.093	.250	.187	.046	.125	.250	.215
101	ST-2500	B26	0.20	5500	12000	.968	.281	.031	.093	.500	.187	.046	.125	.250	.215
101	ST-2500B2	B24-1	0.30	4000	9000	.968	.281	.031	.093	.370	.317	.046	.125	.250	.215
101	ST-2500L2	B26	0.20	5200	11500	.934	.250	.020	.093	.500	.187	.040	.093	.250	.215
101	ST-4000	B26	0.30	6000	13000	1.268	.281	.031	.093	.800	.187	.046	.125	.250	.215

Terminal Lugs: Brass, Silver Plate .0003″ Min. Thick.

Capacitance and voltage measured with terminals installed in .050″ thick aluminum chassis.

See preceding page for figure drawing

* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

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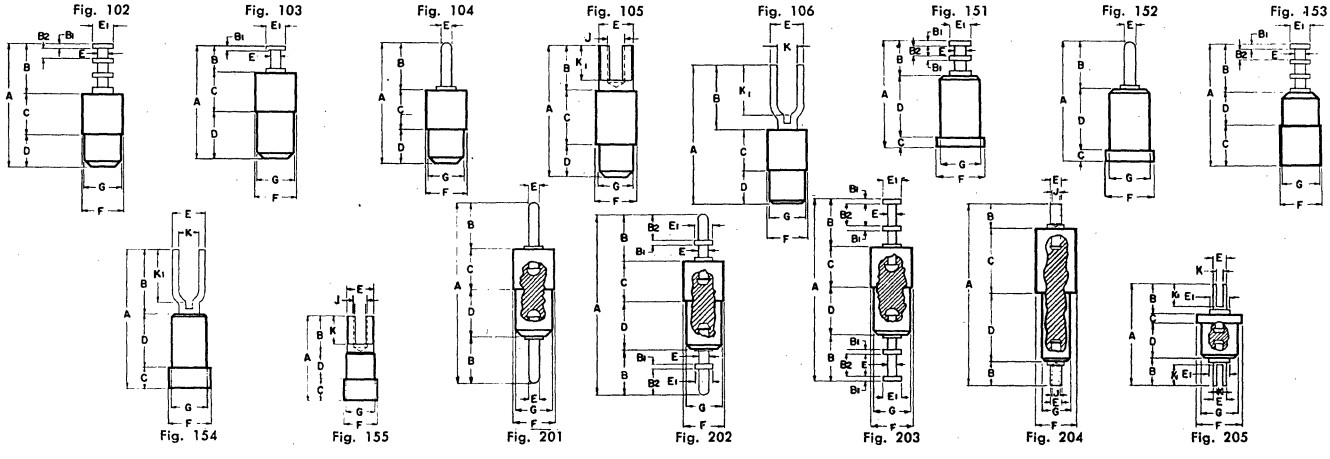
SEALECTRO PRESS-FIT® TEFLON* TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

STAND-OFFS MINIATURE and SUBMINIATURE

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASH OVER SEA LEVEL	A	B	B_1	B_2	C	D	E DIA.	E_1 DIA.	F DIA.	+.002 —.000 G DIA.	J DIA.	K	K_1
102	ST-1150	B12	0.60	2500	6000	.555	.218	.020	.046	.187	.150	.046	.093	.187	.171			
103	ST-1500TUR	B12-3	0.20	2700	6500	.520	.120	.020		.250	.150	.048	.090	.187	.165			
103	ST-1600-TUR	B13-3B	0.20	2000	6000	.519	.120	.020		.187	.212	.048	.090	.187	.171			
104	ST-251†	B13-3	0.45	2000	5000	.485	.210			.125	.150	.040		.187	.165			
104	ST-1020L5†	B13-3	0.40	2200	5500	.547	.210			.187	.150	.040		.187	.165			
105	ST-1500SL-C3	B11	0.50	2700	6500	.603	.203			.250	.150	.148		.187	.165	.078		.156
105	*ST-250SL	B11	0.70	2000	5000	.478	.203			.125	.150	.148		.187	.171	.078		.156
105	ST-250SL-1L	B11	0.70	2000	5000	.478	.203			.125	.150	.148		.187	.171	.046		.161
105	ST-1000SL	B11	0.70	2300	5600	.540	.203			.187	.150	.148		.187	.171	.078		.156
105	ST-1000SL-1L	B11	0.70	2300	5600	.540	.203			.187	.150	.148		.187	.171	.046		.161
105	ST-1150SL-1L	B11	0.50	2300	5600	.555	.203			.187	.165	.148		.187	.171	.046		.156
105	ST-1180SL	B11	0.70	2300	5600	.602	.203			.187	.212	.148		.187	.171	.078		.156
105	ST-1180SL-C2	B11	0.80	2300	5600	.620	.203			.187	.230	.148		.187	.171	.078		.156
105	*ST-1500SL	B11	0.45	2700	6500	.603	.203			.250	.150	.148		.187	.171	.078		.156
105	ST-1500SL-1L	B11	0.45	2700	6500	.603	.203			.250	.150	.148		.187	.171	.046		.156
105	*ST-2000SL	B11	0.30	4200	9500	.753	.203			.400	.150	.148		.187	.171	.078		.156
105	ST-2000SL-1L	B11	0.30	4200	9500	.753	.203			.400	.150	.148		.187	.171	.046		.161
105	ST-2000SL-C2	B11	0.30	4200	9500	.703	.203			.400	.100	.148		.187	.171	.078		.156
105	ST-2500SL-C1	B25	0.30	5000	11000	.890	.203			.500	.187	.148		.250	.171	.078		.156
105	ST-2500SL	B25	0.30	5000	11000	.890	.203			.500	.187	.148		.250	.217	.078		.156
105	ST-4000SL	B25	0.20	6000	13000	1.190	.203			.800	.187	.148		.250	.217	.078		.156
106	ST-35ML	B11-C	0.85	2000	5000	.633	.296			.187	.150	.150		.187	.171		.090	.234
151	*RST-1	B18-1B	0.40	3000	7000	.487	.154	.020	.046	.046	.287	.046	.093	.218	†.185			
151	*RST-1L2	B18-1B	0.20	3000	7000	.583	.250	.020	.093	.046	.287	.046	.093	.218	†.185			
152	RST-2	B18	0.15	3200	7500	.543	.210			.046	.287	.040		.218	.185			
152	RST-2C2	B18-1B	0.50	4000	9000	.756	.210			.046	.500	.040		.218	.185			
152	RST-2L2	B18	0.70	2500	6000	1.133	.800			.046	.333	.040		.218	.185			
153	RST-1150	B13-X	0.70	1200	3500	.555	.218	.020	.046	.187	.150	.046	.093	.187	.171			
154	RST-15ML	B13-X-2	0.75	2000	5000	.629	.296			.093	.240	.150		.187	.171		.090	.234
155	RST-250SL	B12-X	0.75	1900	4800	.478	.203			.125	.150	.148		.187	.165	.078		.156
201	DST-SM-110†	B8-16	0.20	1000	3000	.560	.180			.040	.160	.040		.172	.148			
201	DST-SM-110-L4†	B8-11	0.15	1500	4000	.600	.155			.080	.210	.040		.172	.148			
201	DST-1010-C2†	B13-3-1	0.20	2700	6400	.819	.210			.187	.212	.040		.187	.148			
201	DST-1010-C4†	B9	0.20	2700	6400	.819	.210			.187	.212	.040		.172	.148			
201	DST-SM-105†	B17	0.25	1000	3000	.640	.210			.050	.170	.040		.205	.169			
201	DST-900†	B12	0.15	2000	5000	.572	.110			.140	.212	.040		.187	.171			
201	DST-1010†	B13-3-1	0.20	2700	6500	.819	.210			.187	.212	.040		.187	.171			
202	DST-1001†	B13	0.20	2000	6000	.819	.210	.020	.120	.187	.212	.040	.080	.187	.171			
203	DST-1000-C2†	B13	0.20	2000	5000	.819	.210	.020	.100	.187	.212	.040	.080	.187	.148			
203	DST-SM-105-TUR†	B17	0.20	1000	3000	.640	.210	.020	.100	.050	.170	.040	.080	.205	.169			
203	*DST-1000†	B13	0.20	2500	6000	.819	.210	.020	.100	.187	.212	.040	.080	.187	.171			
203	*DST-1015†	B20	0.20	2700	6500	.819	.210	.020	.100	.187	.212	.040	.080	.218	.187			
203	DST-1550	B24-1	0.40	3500	8000	1.187	.281	.031	.093	.250	.375	.046	.125	.250	.218			
204	DST-2560	B28	0.15	4000	9000	1.377	.176			.500	.525	.085		.312	.217	.062	.156	
205	DTS-SM-101SL†	B10-3	0.20	1000	3000	.480	.140			.040	.160	.060	.093	.185	.165		.032	.110
205	DST-SM-100SL†	B17	0.20	1000	3000	.480	.140			.040	.160	.060	.093	.205	.169		.032	.110

Terminal Lug: Brass, Silver Plate .0003" Min. Thick. † Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Min. Thick.
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.



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SEALECTRO PRESS-FIT® TEFLON† TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

FEED-THRUS MICROMINIATURE and SUBMINIATURE

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V.RMS 60 CPS NOMINAL RATING	V.RMS 60 CPS FLASHOVER SEA LEVEL	A	B	B_1	B_2	C	D	E DIA.	E_1 DIA.	F DIA.	+.002 −.000 G DIA.	J	K	K_1
301	FT-MM-3SL	BO-1	0.65	400	1800	.510	.100			.040	.090	.030	.060	.093	**.075**		.024	.080
301	FT-MM-3SL-2L	BO-1-A	0.75	400	1800	.635	.225			.040	.090	.030	.060	.093	**.075**		.024	.075
301	FT-MM-3SL-4L	BO-1	0.65	400	1800	.471	.110			.040	.090	.030	.060	.093	**.075**		.024	.080
302	*FT-MM-5-TUR	BO	0.70	400	1800	.510	.100	.020	.060	.040	.100	.040	.060	.093	**.075**			
303	FT-MM-5SL	BO-1	0.70	400	1800	.510	.100			.040	.100	.030	.060	.093	**.075**		.024	.080
303	FT-MM-6SL	BO-1	0.70	400	1800	.552	.100			.040	.100	.030	.060	.093	**.075**		.024	.080
304	*FT-MM-7	BO-1	0.70	400	1800	.588	.125			.040	.100	.030	.060	.093	**.075**	.040		.080
305	FT-MM-7ML	BO-1	0.70	400	1800	.588	.120			.040	.100	.030	.060	.093	**.075**	.040		.080
306	FT-MM-16L2	BO-2	0.70	400	1800	.550	.275			.040	.100	.030		.093	**.075**			
307	FT-MM-47-TUR	BO-A	1.05	500	2000	1.500	.210	.020	.100	.040	.125	.032	.060	.093	**.075**			
307	FT-MM-47-TUR-BC†	BO-A	1.10	500	2000	1.500	.210	.020	.100	.040	.125	.032	.060	.093	**.075**			
307	FT-MM-47-TUR-SS#	BO-A	1.00	500	2000	1.500	.210	.020	.100	.040	.125	.032	.060	.093	**.075**			
307	FT-MM-48-TUR-BC†	BO-5	0.70	500	2000	1.700	.210	.020	.100	.090	.125	.032	.060	.093	**.075**			
351	FT-SM-7	B3-1	0.50	500	2000	.375	.147			.040	.075	.040		.125	**.093**			
351	*FT-SM-16	B3-1	0.75	500	2000	.515	.210			.040	.100	.040		.125	**.093**			
351	FT-SM-16L2	B3-1	0.65	500	2000	.453	.156			.040	.100	.040		.125	**.093**			
351	FT-SM-16L6##	B3-1	0.80	500	2000	.987	.687			.040	.100	.040		.125	**.093**			
351	FT-SM-16L14##	B3-1	0.80	500	2000	.438	.125			.040	.100	.040		.125	**.093**			
351	FT-SM-13	B6	0.50	750	2500	.515	.210			.040	.060	.040		.150	**.125**			
351	FT-SM-23	B6	0.45	750	2500	.335	.125			.040	.060	.040		.150	**.125**			
351	FT-SM-23L2	B6	0.60	750	2500	.375	.125			.040	.100	.040		.150	**.125**			
351	*FT-SM-022	B8-A	0.65	1000	3000	.630	.210			.040	.170	.040		.172	**.148**			
351	FT-SM-023	B8	0.65	1000	3000	.630	.210			.040	.217	.040		.172	**.148**			
351	*FT-SM-1	B8-16	0.50	1000	3000	.515	.210			.040	.100	.040		.172	**.148**			
351	FT-SM-1C6	B8-A	0.70	1000	3000	.710	.210			.040	.250	.040		.172	**.148**			
351	*FT-SM-1L2	B8-16	0.50	1000	3000	.443	.210			.040	.100	.040		.172	**.148**			
351	FT-SM-1L3	B8-16	0.70	1000	3000	.725	.210			.040	.100	.040		.172	**.148**			
351	FT-SM-1L4	B8-16	0.70	1000	3000	1.000	.210			.040	.100	.040		.172	**.148**			
351	FT-SM-1L6	B8-16	0.55	1000	3000	.562	.210			.040	.100	.040		.172	**.148**			
351	FT-SM-2	B8-18	0.40	1000	3000	.515	.210			.050	.050	.040		.172	**.148**			
351	FT-SM-2C4	B8-18	0.50	1200	3500	.535	.210			.050	.110	.040		.172	**.148**			
351	FT-SM-2C4-L2	B8-13	0.50	1200	3500	.431	.106			.050	.110	.040		.172	**.148**			
351	FT-SM-2C6	B8-18	0.50	1200	3500	.410	.147			.050	.110	.040		.172	**.148**			
351	FT-SM-8	B8-16	0.60	1000	3000	.535	.210			.040	.120	.040		.172	**.148**			
351	*FT-SM-9	B8-16	0.50	1000	3000	.535	.210			.040	.132	.040		.172	**.148**			
351	FT-SM-9L1	B8-16	0.55	1000	3000	.515	.210			.040	.132	.040		.172	**.148**			
351	FT-SM-9L2	B8-16	0.50	1000	3000	.407	.125			.040	.132	.040		.172	**.148**			
351	*FT-SM-14‡ ##	B8'16	0.50	1000	3000	.375	.125			.040	.100	.040		.172	**.148**			
351	FT-SM-14L2‡ ##	B8-16	0.50	1000	3000	.325	.075			.040	.100	.040		.172	**.148**			
351	FT-SM-18	B8-16	0.55	1000	3000	.443	.093			.040	.100	.040		.172	**.148**			
351	*FT-SM-19	B8-16	0.60	1000	3000	.535	.210			.040	.160	.040		.172	**.148**			
351	FT-SM-19L1	B8-16	0.60	1000	3000	.571	.210			.040	.160	.040		.172	**.148**			
351	FT-SM-35	B8	0.70	1200	3500	.890	.625			.040	.100	.045		.172	**.148**			
351	FT-SM-35L2	B8	0.60	1000	3000	.585	.320			.040	.100	.045		.172	**.148**			
351	FT-SM-1C1	B8-16	0.55	1000	3000	.515	.210			.040	.100	.040		.172	**.157**			
351	FT-SM-10	B18	1.10	1000	3000	2.500	.460			.040	.100	.040		.219	**.169**			
351	FT-SM-10L1	B18	1.30	1000	3000	2.500	.460			.040	.100	.049		.219	**.169**			
351	FT-SM-10L4	B18	0.65	1000	3000	.937	.125			.040	.100	.049		.218	**.169**			
351	FT-SM-27L2	B18-1	0.70	1000	3000	1.090	.680			.050	.110	.040		.218	**.171**			
351	FT-SM-3	B15	0.50	1200	3500	.515	.210			.040	.100	.040		.195	**.172**			
351	FT-SM-4	B16	0.50	1200	3500	.515	.210			.040	.100	.040		.200	**.179**			
351	FT-SM-5	B22	0.50	1200	3500	.515	.210			.040	.100	.040		.250	**.218**			

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.
† Beryllium Copper
# Stainless Steel

‡ Gold Flash over Silver
E Diameter ±.001

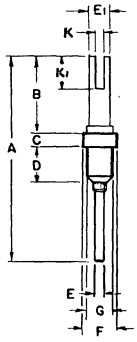

Fig. 301

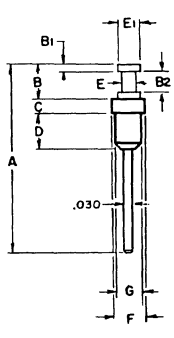

Fig. 302

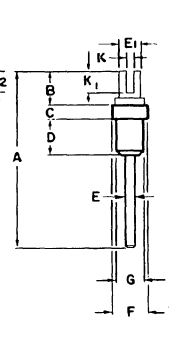

Fig. 303

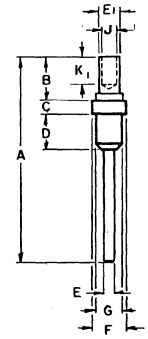

Fig. 304

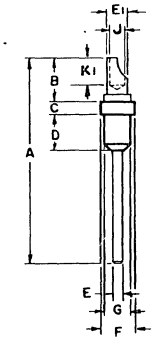

Fig. 305

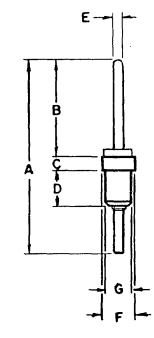

Fig. 306

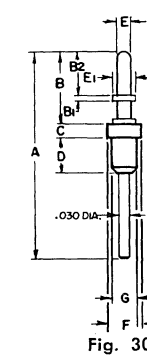

Fig. 307

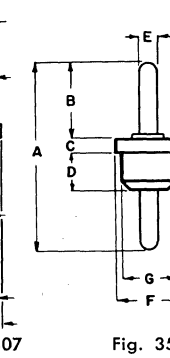

Fig. 351

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FEED-THRUS SUBMINIATURE

FIG.	PART No.	TOOL NO.	CAPACITANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASHOVER SEA LEVEL	A	B	B_1	B_2	C	D	E DIA.	E_1 DIA.	F DIA.	+.002 −.000 G DIA.	K	K_1
352	FT-SM-17		—	—	—	.375	.200			.140		.040		.180			
353	FT-SM-80	B9-X	0.70	1700	4500	.531	.031			.156	.218	.050		.172	.148		
353	FT-SM-81	B9-X1	0.70	1000	3000	.281	.031			.040	.100	.040		.172	.148		
354	FT-SM-125	B3-1	0.50	500	2000	.306	.078			.040	.075	.040	.050	.125	.093		
354	FT-SM-021	B18	0.40	1200	3500	.449	.250			.046	.060	.051	.060	.218	.185		
355	FT-SM-706	B3-5	0.40	500	2000	.218	.031			.040	.060	.030	.040	.125	.093		
357	FT-M-9L4	B10-2	0.80	1000	3000	.593	.250			.062	.140	.050		.187	.148		
357	FT-SM-9L6	B8-15-2	0.60	1000	3000	.479	.250			.040	.070	.050		.172	.148		
358	FT-SM-1SL	B3-1	0.60	500	2000	.312	.116			.040	.100	.040		.125	.106	.010	.020
358	FT-SM-100SL	B17	0.65	1500	4000	.480	.140			.040	.160	.060		.205	.169	.032	.110
359	FT-SM-1SL-1	B3-1	0.50	500	2000	.312	.116			.040	.100	.040		.125	.106	.010	.020
360	*FT-SM-16-TUR	B-3-2B	0.70	500	2000	.500	.210	.020	.100	.040	.100	.040	.080	.125	.093		
360	FT-SM-1-TUR-C6	B8	0.70	1000	3000	.500	.210	.020	.100	.040	.100	.040	.080	.172	.116		
360	FT-SM-028-TUR	B8	0.60	1000	3000	.550	.245	.020	.070	.040	.125	.040	.080	.172	.148		
360	FT-SM-029-TUR	B8	0.50	1000	3000	.812	.210	.020	.100	.040	.165	.040	.080	.172	.148		
360	*FT-SM-1-TUR	B8	0.50	1000	3000	.500	.210	.020	.100	.040	.100	.040	.080	.172	.148		
360	*FT-SM-1-TUR-C4	B8	0.50	1000	3000	.500	.210	.020	.100	.040	.165	.040	.080	.172	.148		
360	FT-SM-1-TUR-C10	B8	0.40	1000	3000	.438	.210	.020	.100	.040	.083	.040	.080	.172	.148		
360	*FT-SM-1-TUR-L2	B8	0.50	1000	3000	.438	.210	.020	.100	.040	.100	.040	.080	.172	.148		
360	FT-SM-1-TUR-L6	B8	0.70	1000	3000	.609	.210	.020	.100	.040	.165	.040	.080	.172	.148		
360	FT-SM-22-TUR-C2	B9	0.70	1200	3500	.609	.210	.020	.100	.093	.158	.040	.080	.172	.148		
360	FT-SM-4-TUR	B16	0.50	1200	3500	.500	.210	.020	.100	.040	.100	.040	.080	.200	.179		
360	FT-SM-1TUR-C8	B18	0.50	1200	3500	.438	.210	.020	.100	.040	.100	.040	.080	.218	.185		
360	FT-SM-33-TUR	B22	0.50	1500	4000	.500	.210	.020	.100	.040	.100	.040	.080	.250	.234		
361	FT-SM-2-TUR-C1	B8	0.50	1000	3000	.531	.210	.020	.100	.040	.100	.040	.080	.172	.112		
361	FT-SM-23-TUR	B6	0.50	750	2500	.500	.210	.020	.100	.040	.060	.040	.080	.150	.125		
361	*FT-SM-025-TUR	B8	0.65	1000	3000	.609	.210	.020	.100	.040	.165	.040	.080	.172	.148		
361	FT-SM-026-TUR	B8-A	0.55	1000	3000	.437	.156	.020	.047	.040	.065	.040	.080	.172	.148		
361	FT-SM-1-TUR-C2	B8	0.45	1000	3000	.500	.210	.020	.100	.040	.060	.040	.080	.172	.148		
361	*FT-SM-2-TUR	B8	0.70	1000	3000	.531	.210	.020	.100	.040	.100	.040	.080	.172	.148		
361	*FT-SM-2-TUR-C2	B8	0.70	1000	3000	.531	.210	.020	.100	.040	.125	.040	.080	.172	.148		
361	*FT-SM-22-TUR	B9	0.65	1200	3500	.609	.210	.020	.100	.093	.125	.040	.080	.172	.148		
361	FT-SM-51-TUR-C2	B8-A	0.65	1000	3000	.500	.156	.020	.047	.040	.150	.047	.093	.172	.152		
361	FT-SM-51-TUR-C4	B8-A	0.60	1000	3000	.437	.156	.020	.047	.040	.100	.047	.093	.172	.152		
361	FT-SM-20-TUR-C1	B18	0.55	1200	3500	.531	.210	.020	.100	.040	.100	.040	.080	.218	.175		
361	FT-SM-20-TUR	B18	0.65	1200	3500	.531	.210	.020	.100	.040	.100	.040	.080	.218	.185		
361	*FT-SM-21-TUR	B18	0.65	1200	3500	.531	.210	.020	.100	.040	.125	.040	.080	.218	.185		
361	FT-SM-34-TUR	B19-A	0.55	1500	4000	.609	.210	.020	.100	.093	.125	.040	.080	.218	.185		
361	FT-SM-26-TUR	B28-A	0.50	1500	4000	.531	.210	.020	.100	.040	.100	.040	.080	.312	.264		
362	FT-SM-1-TUR-L4	B8	0.50	1000	3000	.500	.210	.020	.100	.040	.100	.040	.080	.172	.148		
363	FT-SM-28-TUR	B6	0.45	750	2500	.350	.125	.020	.095	.040	.060	.040	.080	.150	.125		
363	FT-SM-18-TUR	B8	0.60	1000	3000	.443	.093	.020	.062	.040	.100	.040	.080	.172	.148		
363	FT-SM-37-TUR-C1	B8-G-1	0.65	750	2500	.493	.093	.020	.063	.020	.170	.040	.080	.172	.148		
363	FT-SM-84-TUR	B8	0.60	1000	3000	.640	.250	.020	.210	.040	.125	.040	.080	.172	.148		
363	FT-SM-36-TUR	B16	0.60	1200	3500	.500	.120	.020	.080	.075	.125	.048	.090	.200	.172		
363	FT-SM-36-TUR-L1	B16-1-A	1.00	1000	3000	.500	.120	.020	.080	.075	.125	.080	.125	.200	.172		
364	FT-SM-16-TUR-L2	B3-5	0.60	500	2000	.350	.125	.020	.085	.040	.100	.040	.080	.125	.093		
364	*FT-SM-32-TUR	B8	0.50	1000	3000	.350	.125	.020	.095	.040	.100	.040	.080	.172	.148		
364	FT-SM-32-TUR-L2	B8	0.60	1000	3000	.385	.160	.020	.130	.040	.100	.040	.093	.172	.148		
364	FT-SM-47-TUR-L2	B8	0.50	1000	3000	.380	.090	.020	.060	.040	.100	.040	.080	.172	.148		
365	FT-SM-47-TUR	B8	0.55	1000	3000	.500	.210	.020	.120	.040	.100	.040	.080	.172	.148		
365	FT-SM-47-TUR-L1	B8	0.50	1000	3000	.500	.210	.020	.120	.040	.100	.040	.080	.172	.148		
366	FT-SM-6-TUR-SL	B3-4-1	0.70	750	2500	.346	.093	.020	.060	.030	.130	.040	.080	.125	.106	.015	.047

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.
* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

Fig. 352

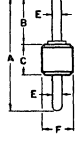


Fig. 353

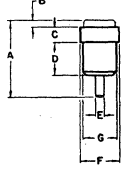


Fig. 354

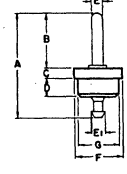


Fig. 355

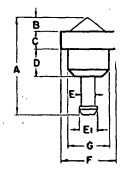


Fig. 357

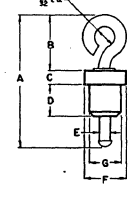


Fig. 358

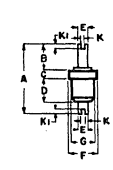


Fig. 359

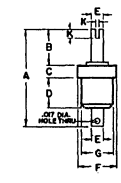


Fig. 360

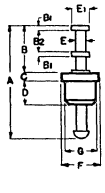


Fig. 361

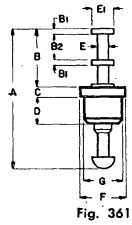


Fig. 362

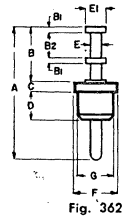


Fig. 363

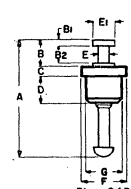


Fig. 364

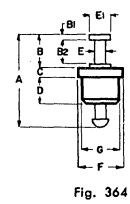


Fig. 365

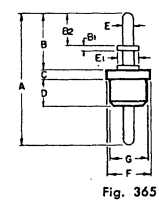
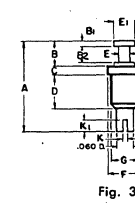


Fig. 366



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SEALECTRO PRESS-FIT® TEFLON* TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

FEED-THRUS SUBMINIATURE – SUBMINIATURE, MINIATURE (TUBULAR)

FIG.	PART No.	TOOL No.	CAPACI-TANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASHOVER SEA LEVEL	A	B	B_1	B_2	C	D	E DIA.	E_1 DIA.	F DIA.	+.002 —.000 G DIA.
451	RFT-SM-9	B8	0.50	1000	3000	.443	.093	.020	.062	.040	.100	.040	.080	.172	.148
452	*RFT-SM-1	B8	0.50	1000	3000	.515	.210			.040	.100	.040		.172	.148
452	RFT-SM-2	B8	0.40	750	2500	.515	.210			.050	.050	.040		.172	.148
452	RFT-SM-9L4	B8-19	1.15	1200	3500	2.500	1.750			.040	.132	.040		.172	.148
454	RFT-SM-16-TUR	B3-12	0.85	500	2000	.500	.210	.020	.100	.040	.100	.040	.080	.125	.093
454	RFT-SM-23-TUR	B6	0.50	1000	3000	.500	.210	.020	.100	.040	.060	.040	.080	.150	.125
454	*RFT-SM-1-TUR	B8	0.50	1000	3000	.500	.210	.020	.100	.040	.100	.040	.080	.172	.148
454	RFT-SM-1-TUR-L6	B8	0.60	1200	3500	.609	.210	.020	.100	.040	.165	.040	.080	.172	.148
454	RFT-SM-2-TUR	B8	0.70	1000	3000	.531	.210	.020	.100	.040	.100	.040	.080	.172	.148
454	RFT-SM-2-TUR-C4	B8	0.60	1200	3500	.531	.210	.020	.100	.040	.165	.040	.080	.172	.148
454	RFT-SM-2-TUR-C6	B8	0.70	1200	3500	.531	.210	.020	.100	.040	.125	.040	.080	.172	.148
454	RFT-SM-22-TUR	B8	0.70	1200	3500	.609	.210	.020	.100	.093	.125	.040	.080	.172	.148
454	RFT-SM-21-TUR	B18	0.50	1500	4000	.531	.210	.020	.100	.040	.125	.040	.080	.218	.185
455	RFT-SM-18-TUR	B8	0.55	1000	3000	.443	.093	.020	.062	.040	.100	.040	.080	.172	.148
455	RFT-SM-32-TUR	B8	0.45	1000	3000	.350	.125	.020	.094	.040	.100	.040	.080	.172	.148
455	RFT-SM-35-TUR	B8	0.60	1000	3000	.500	.120	.020	.080	.040	.130	.040	.080	.172	.148
455	RFT-SM-37-TUR	B8	0.50	1200	3500	.493	.093	.020	.062	.040	.150	.040	.080	.172	.148
456	RFT-SM-18-TUR-L2##	B8-15-1	0.60	1000	3000	.378	.093	.020	.062	.040	.100	.040	.080	.172	.148

FIG.	PART No.	TOOL NO.	CAPACI-TANCE mmf	V,RMS NOMINAL RATING	60 CPS FRASHOVER SEA LEVEL	A	B	C	D	E DIA.	F DIA.	+.002 —.000 G DIA.	H	H_1 DIA.	J	K	K_1
501	*FT-SM-59	B3-1	0.40	500	2000	.225	.125	.040	.060	.040	.125	.093			.030		
501	FT-SM-59C2	B3-1	0.40	500	2000	.215	.125	.040	.050	.040	.125	.093			.030		
501	FT-SM-600	B3-1	0.45	500	2000	.317	.187	.040	.090	.040	.125	.093			.030		
501	FT-SM-54	B4-1	0.40	750	2500	.310	.207	.050	.053	.040	.130	.120			.030		
501	FT-SM-52	B6	0.40	750	2500	.225	.125	.040	.060	.040	.150	.125			.030		
501	FT-SM-50L2	B8-13-A	0.30	750	2500	.250	.147	.050	.053	.040	.172	.148			.030		
501	FT-SM-55	B8-4	0.50	1000	3000	.296	.136	.060	.100	.040	.172	.148			.030		
501	FT-SM-55L2	B8-4	0.45	1000	3000	.234	.074	.060	.100	.040	.172	.148			.030		
501	FT-SM-62	B8-13-A	0.75	750	2500	.367	.207	.050	.110	.085	.172	.148			.063		
501	FT-SM-62C2	B8-13-A	0.90	1000	3000	.413	.207	.050	.156	.085	.172	.148			.063		
501	FT-SM-62C6	B8-13-A	0.70	1000	3000	.332	.207	.050	.075	.085	.172	.148			.063		
501	FT-SM-62C8	B8-13-A	0.60	1000	3000	.312	.207	.050	.055	.085	.172	.148			.063		
501	FT-SM-62L1	B8-13-A	0.70	1000	3000	.367	.207	.050	.110	.085	.172	.148			.070		
501	FT-SM-60	B18-1	0.70	1000	3000	.367	.207	.050	.110	.085	.218	.171			.063		
501	FT-SM-63	B21-A	0.65	1200	3500	.367	.207	.050	.110	.085	.240	.200			.063		
502	FT-SM-56	B8-13-A	0.35	1200	3500	.307	.207	.050	.110	.040	.172	.148	.057	.050	.030		
502	FT-SM-58	B8-4	0.30	1000	3000	.282	.147	.060	.075	.040	.172	.148	.042	.070	.030		
502	FT-SM-61	B18-1	0.75	1200	3000	.417	.207	.050	.160	.085	.218	.171	.050	.085	.063		
502	FT-SM-53	B22	0.35	1200	3500	.287	.147	.040	.100	.060	.250	.218	.030	.050	.030		
503	FT-SM-55-1A	B8-4	0.45	1000	3000	.296	.136	.060	.100	.040	.172	.148			.030		
504	FT-SM-71L4	B8-A	0.55	1000	3000	.270	.100	.040	.100	.060	.172	.148			.030		
505	FT-SM-42SL	B3-3	0.65	1500	4000	.412	.065	.109	.238	.062	.125	.089			.030	.020	.050
505	FT-1025SL	B11	0.90	2000	5000	.602	.203	.187	.212	.148	.187	.171			.052	.072	.156
505	†FT-150-SL	B11-A	1.0	1000	3000	.426	.203	.060	.163	.148	.218	.185			.078		.156
506	FT-SM-59SL	B3-1	0.40	500	2000	.225	.125	.040	.060	.040	.125	.093			.030	.015	.115
506	FT-SM-52SL	B6	0.40	750	2500	.225	.125	.040	.060	.040	.150	.125			.030	.015	.115
506	FT-SM-50SL	B8-13-A	0.30	1000	3000	.310	.207	.050	.053	.040	.172	.148			.030	.010	.125
506	FT-SM-62C4SL	B8-13-A	0.75	1000	3000	.320	.190	.050	.080	.085	.172	.148			.050	.030	.175
506	FT-SM-50SL-C1	B8-13-A	0.30	1000	3000	.310	.207	.050	.053	.040	.172	.165			.030	.010	.125
506	FT-SM-60SL	B18-1	0.70	1000	3000	.367	.207	.050	.110	.085	.218	.171			.062	.030	.175

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick
Cavacitance and voltage measured with terminals installed in .050" thick aluminum chassis.
*Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

*Silver Finish
Gold over Silver

Fig. 451

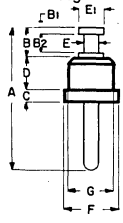


Fig. 452

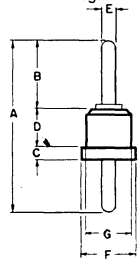


Fig. 454

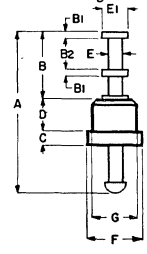


Fig. 455

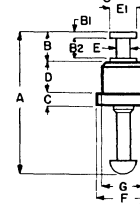


Fig. 456

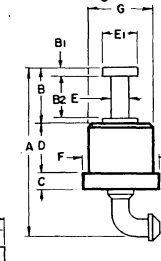


Fig. 501

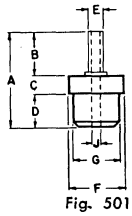


Fig. 502

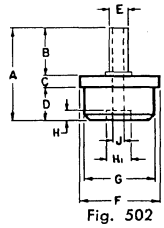


Fig. 503

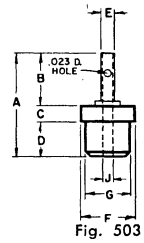


Fig. 504

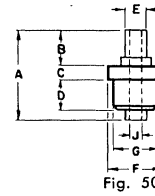


Fig. 505

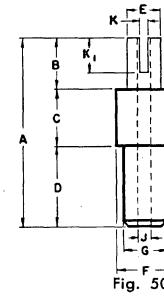
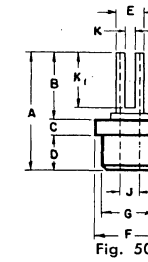


Fig. 506



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†Reg. Trademark, E. I. Du Pont de Nemours & Co.

FEED-THRUS SUBMINIATURE (TUBULAR)

FIG.	PART No.	TOOL No.	CAPACITANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASHOVER SEA LEVEL	A	B	B_1	B_2	C	D	E DIA.	E_1 DIA.	F DIA.	+.002 −.000 G DIA.	J DIA.	K	K_1
507	FT-SM-56SL	B8-13-A	0.25	1000	3000	.367	.207			.050	.110	.040		.172	.148	.030	.010	.125
509	FT-SM-702	B3-5	0.50	500	2000	.215	.125	.020		.040	.050	.040	.080	.125	.093	.030		
509	FT-SM-79	B6-A	0.50	750	2500	.273	.133	.020		.060	.080	.060	.090	.150	.125	.030		
509	FT-SM-79C4	B6-B	0.65	750	2500	.273	.133	.020	.093	.040	.100	.060	.090	.150	.125	.030		
509	FT-SM-71C2	B8-A	0.60	1000	3000	.303	.133	.020		.040	.130	.060	.090	.172	.148	.030		
509	FT-SM-72L2	B8-13	0.50	1000	3000	.293	.133	.020	.093	.050	.110	.060	.093	.172	.148	.030		
509	FT-SM-71L2	B8-A	0.50	1000	3000	.273	.133	.020		.040	.100	.060	.090	.172	.148	.030		
509	FT-SM-350	B23-1	0.35	1200	3500	.273	.133	.020		.065	.075	.060	.090	.250	.218	.030		
510	*FT-SM-74	B9-1	0.75	1000	3000	.351	.133	.020	.093	.093	.125	.082	.125	.172	.148	.062		
510	FT-SM-77	B10	0.80	1500	4000	.381	.133	.020	.093	.093	.155	.082	.125	.188	.171	.062		
511	*FT-SM-71	B8-A	0.50	1000	3000	.303	.133	.020	.093	.040	.100	.060	.090	.172	.148	.030		
511	FT-SM-71L8	B8-A	0.70	1000	3000	.460	.133	.020	.093	.040	.100	.060	.090	.172	.148	.040		
511	*FT-SM-72	B8-13	0.60	1200	3500	.333	.133	.020	.093	.050	.110	.060	.090	.172	.148	.030		
511	FT-SM-74L2	B8-13	0.85	1000	3000	.411	.133	.020		.093	.125	.082	.125	.172	.148	.062		
512	FT-SM-76SL	B17	0.75	1200	3500	.333	.133	.020	.093	.040	.160	.060	.093	.205	.169	.030	.032	.080
513	FT-SM-75	-	0.40	750	2500	.313	.120	.020	.080			.047	.090	.172		.031		
551	FT-MM-8	B3-2X	0.50	750	2500	.360	.055			.045	.260	.045		.125	.090	.030		
551	FT-SM-96	B3-2X	0.30	750	2500	.252	.100			.040	.110	.043		.125	.093	.030		
551	RFT-SM-40	B6-C	0.30	750	2500	.193	.105			.025	.063	.050		.150	.125	.030		
551	RFT-SM-52B2	B6-C	0.30	750	2500	.225	.125			.025	.075	.040		.150	.125	.030		
551	RFT-SM-52B4	B6-C	0.30	500	2000	.247	.147			.025	.075	.040		.150	.125	.030		
551	RFT-SM-50	B8	0.40	1000	3000	.310	.207			.050	.053	.040		.172	.148	.030		
551	RFT-SM-50B2	B8-X-1	0.30	1000	3000	.250	.147			.045	.053	.040		.172	.148	.030		
551	RFT-SM-50L2	B8-X-2	0.30	1000	3000	.250	.147			.050	.053	.040		.172	.148	.030		
551	RFT-SM-55	B8-X	0.45	1000	3000	.296	.136			.060	.100	.040		.172	.148	.063		
551	RFT-SM-62	B8-X-2	0.70	1000	3000	.367	.207			.050	.110	.085		.172	.148	.063		
551	RFT-SM-62L2	B8-X-2	0.70	950	2900	.310	.150			.050	.110	.085		.172	.148	.063		
551	RFT-SM-60	B18-X	0.70	1000	3000	.367	.207			.050	.110	.085		.218	.171	.063		
552	RFT-SM-1B4SL	B2-5	0.40	500	2000	.266	.146			.020	.100	.060		.125	.105	.030	.015	.130
552	RFT-SM-41SL	B6-C	0.30	500	2000	.150	.062			.025	.063	.050		.150	.125	.030	.030	.047
552	RFT-SM-52B2-SL	B6-C	0.40	750	2500	.310	.160			.025	.125	.060		.150	.135	.030	.028	.100
553	RFT-SM-602	B3-6	0.40	500	2000	.200	.100	.010		.020	.080	.050	.070	.125	.093	.030		
553	RFT-SM-78D1	B6-C	0.35	750	2500	.200	.100	.010	.080	.025	.075	.060	.090	.150	.123	.030		
553	RFT-SM-74	B9	1.00	750	2500	.351	.133	.020	.093	.093	.125	.082	.125	.172	.148	.062		
554	RFT-SM-72BC-2	B9	0.60	1200	3500	.392	.162	.020	.130	.100	.130	.060	.093	.172	.148	.042		
554	RFT-SM-77	B10	0.60	1200	3500	.381	.133	.020	.093	.093	.155	.090	.125	.188	.177	.062		
555	RFT-SM-71	B8	0.60	1000	3000	.333	.133	.020	.093	.040	.100	.060	.093	.172	.148	.030		
555	RFT-SM-71L2	B8-X-1	0.50	750	2500	.273	.133	.020	.093	.040	.100	.060	.093	.172	.148	.030		
555	RFT-SM-72C4	B8	0.50	1000	3000	.333	.133	.020		.040	.130	.060	.093	.172	.148	.030		
556	RFT-SM-602SL	B3-6	0.40	500	2000	.200	.100	.010	.080	.020	.080	.050	.070	.125	.093	.030	.030	.080
556	RFT-SM-602SL-C2	B3-6	0.50	750	2500	.260	.100	.010	.080	.020	.140	.050	.070	.125	.093	.030	.030	.040
556	RFT-SM-78SL	B7-B	0.55	500	2000	.200	.100	.010	.080	.020	.080	.085	.115	.160	.143	.060	.030	.090

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.

† ±.005

Fig. 507

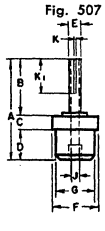


Fig. 509

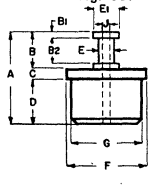


Fig. 510

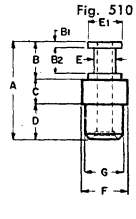


Fig. 511

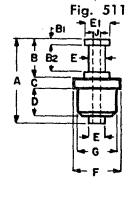


Fig. 512

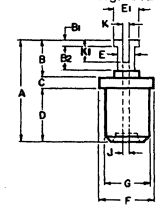


Fig. 513

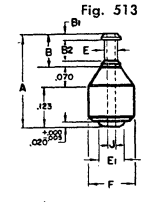


Fig. 551

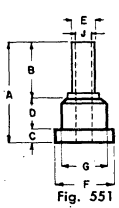


Fig. 552

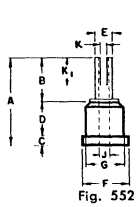


Fig. 553

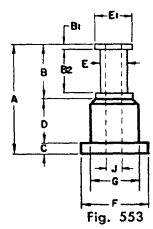


Fig. 554

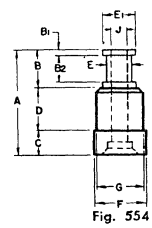


Fig. 555

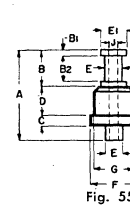
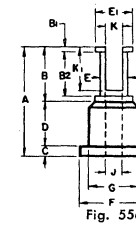


Fig. 556



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FEED-THRUS MINIATURE

FIG.	PART No.	TOOL No.	CAPACITANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASHOVER SEA LEVEL	A	B	B_1	B_2	C	D	E DIA.	E_1 DIA.	F DIA.	+.002 −.000 G DIA.	J DIA.	K
601	FT-225†	B9	0.60	1500	4000	.619	.187			.140	.105	.040		.172	.148		
601	FT-800-L5†	B12	0.60	1700	4500	.675	.200			.125	.150	.040		.187	.165		
601	FT-1000-L5†	B13-3A	0.80	2000	5000	.740	.125			.187	.212	.063		.187	.171		
601	FT-1500-L5†	B13	0.80	2500	6000	.865	.125			.250	.275	.050		.187	.171		
602	FT-1101	B12-3	0.75	2000	5000	.836	.250	.020	.093	.250	.150	.050	.093	.187	.171		
603	FT-992	B9-3	0.75	1700	4500	.836	.250	.020	.073	.187	.165	.050	.093	.172	.148		
603	FT-1001	B13	0.75	2000	5000	.836	.250	.020	.093	.187	.212	.050	.093	.187	.171		
604	FT-M-1†	B19	1.10	2000	5000	2.005	.125	.020	.085	.093	.287	.050	.093	.218	.185		
604	FT-M-1L2†	B19	0.75	2000	5000	1.000	.125	.020	.085	.093	.287	.050	.093	.218	.185		
605	FT-M-3‡	B18-1B	0.95	1000	3000	1.052	.281	.031	.093	.046	.287	.060	.125	.218	.185		
606	FT-310#	B10	0.75	1700	4500	.540	.133	.020	.093	.063	.171	.046	.093	.187	.171		
606	FT-320†#	B28-A	0.70	1700	4500	.540	.133	.020	.093	.063	.171	.046	.093	.312	.171		
606	FT-325‡	B28	1.20	750	2500	.506	.099	.020	.048	.063	.171	.125	.188	.312	.171		
607	*FT-1000	B13	0.70	2200	5500	.740	.125	.031	.062	.187	.212	.050	.093	.187	.171		
607	FT-1000B1	B24	0.80	2500	6000	.740	.125	.031	.062	.187	.212	.050	.093	.250	.171		
607	*FT-1100	B12-3	0.70	2500	6000	.740	.125	.031	.062	.250	.150	.050	.093	.187	.171		
607	*FT-1500	B12-3	0.70	3000	7000	.865	.125	.031	.062	.250	.275	.050	.093	.187	.171		
607	FT-2000	B13-3B	0.95	3500	8000	1.115	.125	.031	.062	.375	.400	.050	.125	.187	.171		
607	FT-2000B2	B13-3B	0.80	2000	5000	1.115	.125	.031	.062	.562	.212	.050	.125	.187	.171		
607	FT-2500C1	B26	1.45	4500	10000	1.365	.125	.031	.062	.500	.525	.050	.125	.250	.171		
607	FT-4000C1	B26	1.65	6000	13000	1.965	.125	.031	.062	.800	.825	.050	.125	.250	.171		
607	FT-400	B19-A	0.80	2000	5000	.640	.133	.020	.093	.093	.210	.046	.093	.215	.185		
607	FT-410	B19-A	0.80	2000	5000	.718	.133	.020	.093	.093	.288	.046	.093	.215	.185		
607	FT-2500	B26	1.70	4500	10000	1.365	.125	.031	.062	.500	.525	.050	.125	.250	.217		
607	FT-4000	B26	1.50	6000	13000	1.965	.125	.031	.062	.800	.825	.050	.125	.250	.217		
608	FT-990-DTUR	B9-3	0.80	1500	4000	.836	.250	.020	.093	.187	.165	.050	.093	.172	.148		
608	*FT-995-DTUR	B9-3	0.85	1500	4000	.836	.250	.020	.093	.125	.230	.050	.093	.172	.148		
608	FT-1000-DTUR-C3	B13-3B	0.75	2000	5000	.836	.250	.020	.093	.187	.212	.050	.093	.187	.165		
608	*FT-1000-DTUR	B13-3B	0.80	2000	5000	.836	.250	.020	.093	.187	.212	.050	.093	.187	.171		
608	FT-1100-DTUR	B12-3	0.75	2000	5000	.836	.250	.020	.093	.250	.150	.050	.093	.187	.171		
608	FT-1050-DTCR	B24	0.80	2500	6000	.836	.250	.020	.093	.187	.212	.050	.093	.250	.204		
608	FT-1050-DTUR-C3	B24	0.70	2500	6000	.836	.250	.020	.093	.187	.212	.050	.093	.250	.230		
609	*FT-950-DTUR†	B12	1.00	1500	4000	.828	.281	.031	.093	.125	.200	.062	.125	.187	.171		
609	*FT-940-DTUR†	B19-A	1.00	1200	3500	.828	.281	.031	.093	.094	.210	.062	.125	.218	.185		
609	FT-996-DTUR†	B19-A	1.00	2500	6000	.828	.281	.031	.093	.187	.212	.062	.125	.218	.185		
610	*FT-1550-DTUR	B24-A	1.25	3000	7000	1.187	.281	.031	.093	.250	.375	.062	.125	.250	.218		
610	FT-2550-DTUR	B26	1.60	5000	11000	1.687	.281	.031	.093	.500	.625	.062	.125	.250	.218		
611	FT-800	B12	0.75	1700	4500	.680	.207			.125	.150		.085	.187	.171	.063	.187

Terminal Lug: Brass, Silver Plate .0003" Min. Thick.
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis
‡ Gold flash over silver.
† Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick
# Seating Turret E1 dimension.

Fig. 601

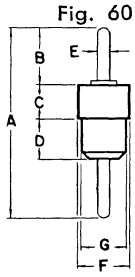


Fig. 602

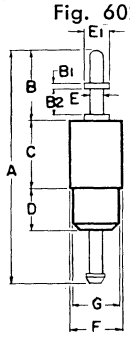


Fig. 603

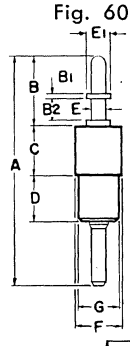


Fig. 604

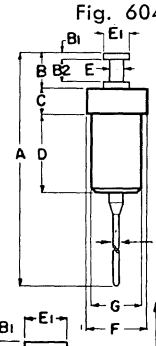


Fig. 605

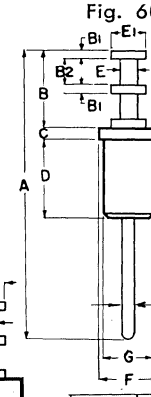


Fig. 606

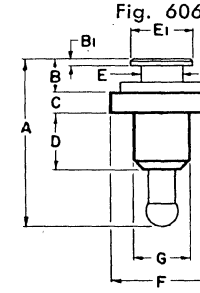


Fig. 607

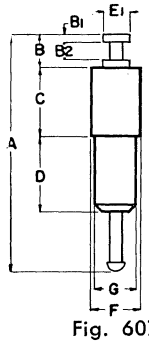


Fig. 608

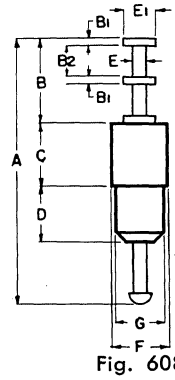
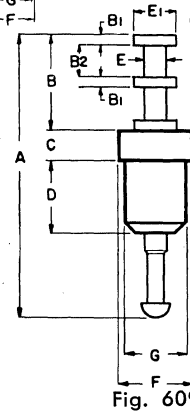


Fig. 609



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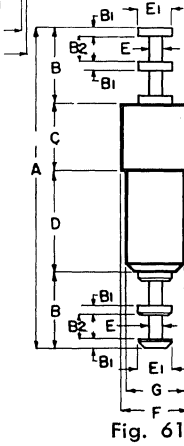

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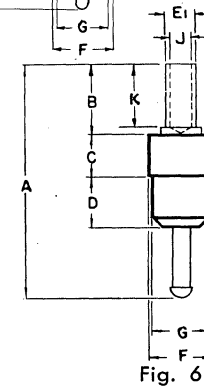

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FEED-THRUS MINIATURE

FIG.	PART No.	TOOL No.	CAPACITANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASHOVER SEA LEVEL	A	B	C	D	E DIA.	E_1 DIA.	F DIA.	+.002 —.000 G DIA.	J DIA.	K	K_1	L Class 2
612	FT-E-4‡	B19	1.00	1500	4000	.500		.281	.100	.050	.062	.218	.185				4-40
613	FT-1000T	B13-2	0.80	2000	5000	.899	.281	.187	.212	.050		.187	.171				4-36
613	FT-1000T1	B13-2	0.80	2000	5000	.899	.281	.187	.212	.050		.187	.171				4-40
613	FT-1500T	B13-2	0.90	2500	6000	1.024	.281	.250	.275	.050		.187	.171				4-36
613	FT-1500T1	B13-2	0.90	2500	6000	1.024	.281	.250	.275	.050		.187	.171				4-40
613	FT-1800T1	B13-6	0.90	2000	5000	1.039	.421	.187	.212	.050		.187	.171				4-40#
615	*FT-1000SL	B11	0.80	2000	5000	.821	.203	.187	.212	.148		.187	.171	.078		.156	
615	FT-1000SL-1L	B11	0.75	2000	5000	.821	.203	.187	.212	.148		.187	.171	.046		.156	
615	FT-1000SL-C2	B11	0.80	2000	5000	.821	.203	.187	.230	.148		.187	.171	.078		.156	
615	*FT-1500SL	B13-X-3	0.90	2500	6000	.947	.203	.250	.275	.148		.187	.171	.078		.156	
615	FT-2000SL	B11	1.20	3500	8000	1.197	.203	.375	.400	.148		.187	.171	.078		.156	
615	FT-2035SL	B11	1.00	2500	6000	1.197	.203	.250	.525	.148		.187	.171	.078		.156	
616	*FT-900SL	B11	0.90	1000	3000	.593	.203	.150	.100	.148		.187	.171	.078		.156	
617	FT-1500ML	B13-B	0.90	2500	6000	1.040	.296	.250	.275	.148		.187	.171		.110	.250	
618	FT-35ML	B11-C	1.40	2000	5000	1.015	.296	.187	.427	.150		.187	.171		.090	.234	
619	FT-2010ML†	B33	1.35	2500	6000	1.285	.281	.562	.250	.050		.250	.171				
625	FT-1600T10	B32-1	1.80	2000	5000	.737	.050	.125	.250	.125	.187	.375	.312	##			
630	FT-E-2‡	B10	0.85	1000	3000	.225	.020	.040	.150	.125		.187	.165	**			
630	FT-E-1	B23-X-1	0.90	1000	3000	.225	.015	.040	.155	.195		.250	.203	.096			
630	FT-E-5	B23-X-1	0.75	1000	3000	.210	.010	.040	.155	.170		.250	.203	.072			
651	RFT-195SL	B10	0.60	1000	3000	.477	.125	.040	.187	.148		.187	.171	.078		.078	
651	RFT-200SL	B10	0.70	1000	3000	.532	.125	.040	.187	.148		.187	.171	.078		.078	
652	RFT-1000SL	B13	0.80	2000	5000	.821	.203	.187	.212	.148		.187	.171	.078		.156	
652	RFT-1500SL	B13-X-1	1.00	2500	6000	.947	.203	.250	.275	.148		.187	.171	.078		.156	
652	RFT-2000SL	B13	1.00	3500	8000	1.197	.203	.375	.400	.148		.187	.171	.078		.156	

Terminal Lug: Brass, Silver Plated .0003" Min. Thick.
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.
‡ Gold Flash over Silver. # .156 Hex Brass Base.

** 0-80 Thread.
10/32 Thread.
† Solder dip on tail only.

Fig. 612

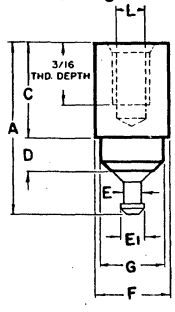
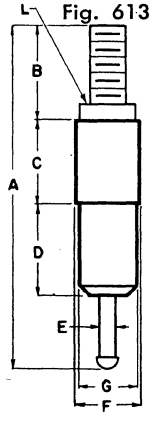


Fig. 613



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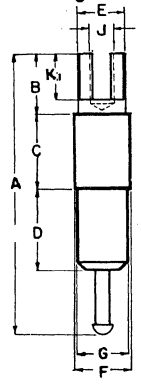

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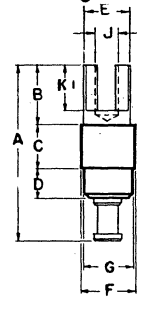

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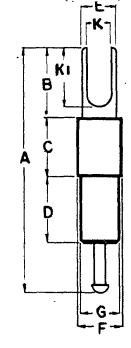


Fig. 618

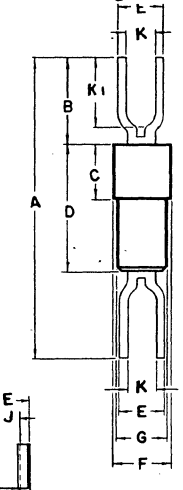


Fig. 619

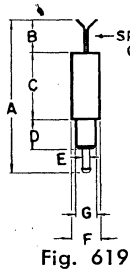


Fig. 625

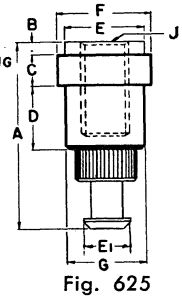


Fig. 630

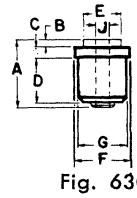


Fig. 651

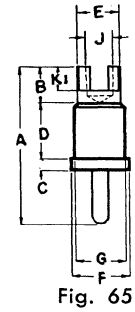
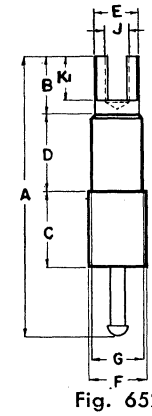


Fig. 652



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SEMI-ASSEMBLED STAND-OFFS SUBMINIATURE

Fig.	IBM Part No.	Description	Tool No.	A	B	B_1	B_2	C	D	E	E_1	F Dia.	±.002 G Dia.	K	K_1	±.015 R
1	045175	RST-2-SM-1160L3	2P-8	.290	.140			.060	.100	.040		.120	.084			.034
1	045185	RST-2-SM-1160L5	2P-8	.350	.200			.060	.100	.040		.120	.084			.054
1	045160	RST-2-SM-1160	2P-9	.350	.160			.075	.130	.040		.172	.132			.047
1	045165	RST-2-2M-1160L1	2P-9	.390	.200			.075	.130	.040		.172	.132			.047
1	045170	RST-2-SM-1160L2	2P-9	.480	.200			.080	.220	.040		.172	.132			.109
1	045180	RST-2-SM-1160L4	2P-21	.275	.125			.050	.115	.040		.172	.132			.047
1	045190	RST-2-SM-1160L6	2P-21	.350	.200			.050	.115	.040		.172	.132			.047
1	045485	RST-2-SM-1179L1	2P-4	.650	.200			.100	.370	.047		.187	.152			.050
2	045260	RST-2-SM-1160TUR	2P-7	.350	.160	.020	.110	.075	.130	.040	.060	.172	.132			.047
3	045400	RST-2-SM-1165SL	2P-22	.290	.150			.050	.100	.078		.120	.084	.041	.130	.034
3	045430	RST-2-SM-1167SL	2P-5	.320	.160			.050	.120	.084		.120	.084	.041	.140	.051
3	045410	RST-2-SM-1166SL	2P-6	.380	.175			.050	.175	.098		.172	.132	.045	.098	.080
3	045260	RST-2-SM-1160SL	2P-6	.340	.175			.050	.130	.098		.172	.132	.045	.140	.051

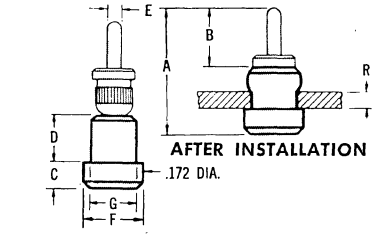


Fig 1.

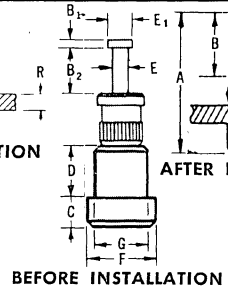


Fig. 2

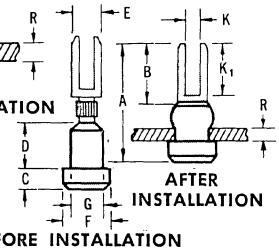


Fig. 3

CHASSIS HOLE INFORMATION

Minor Terminal Diameter (G)	Chassis Mounting Hole Dimensions (Dia.)
.084	.086
.132	.136
.134	.138
.152	.156

SEMI-ASSEMBLED FEED-THRUS SUBMINIATURE

Fig.	IBM Part No.	Description	Tool No.	A	B	B_1	B_2	C	D	E	E_1	F Dia.	±.002 G Dia.	K	K_1	±.015 R
4	075168	FT-2-SM-1162L1	2P-19	.480	.200			.060	.100	.040		.120	.084			.034
4	075167	FT-2-SM-1162	2P-19	.420	.140			.060	.100	.040		.120	.084			.034
4	075170	FT-2-SM-1162L2	2P-19	.375	.095			.060	.100	.040		.120	.084			.034
4	075160	FT-2-SM-1160	2P-23	.510	.160			.075	.130	.040		.172	.132			.047
4	075165	FT-2-SM-1161	2P-23	.590	.200			.075	.130	.040		.172	.132			.047
4	075180	FT-2-SM-1163	2P-14	.590	.200			.075	.130	.060		.172	.132			.047
4	075360	FT-2-SM-1200	2P-24	.350	.100			.050	.115	.040		.172	.132			.040
4	075240	FT-2-SM-1169	2P-23	.446	.125			.075	.100	.040		.172	.134			.016
4	075275	FT-2-SM-1179	2P-17	.900	.250			.100	.370	.047		.187	.152			.050
5	075280	*FT-2-SM-1180TUR	2P-15	.360	.080	.020	.040	.060	.100	.035	.055	.120	.084			.034
5	075300	*FT-2-SM-1182TUR	2P-15	.420	.140	.020	.100	.060	.100	.035	.055	.120	.084			.034
5	075330	*FT-2-SM-1185TUR	2P-25	.475	.160	.020	.140	.040	.130	.040	.060	.172	.132			.047
6	075215	FT-2-SM-1166SL	2P-1	.395	.160			.040	.100	.040	.084	.120	.084	.041	.140	.034
6	075220	FT-2-SM-1167SL	2P-1	.445	.160			.040	.120	.035	.084	.120	.084	.041	.140	.051
6	075230	FT-2-SM-1168SL	2P-11	.415	.150			.040	.100	.035	.084	.120	.084	.041	.130	.034
6	075175	FT-2-SM-1162SL	2P-18	.525	.175			.075	.130		.098	.172	.132	.045	.140	.047
6	075185	FT-2-SM-1163SL	2P-13	.465	.175			.040	.130	.040	.098	.172	.132	.045	.140	.047
6	075195	FT-2-SM-1164SL	2P-13	.465	.175			.040	.130	.040	.098	.172	.132	.045	.140	.051
6	075340	FT-2-SM-1190SL	2P-26	.515	.175			.050	.175	.040	.098	.172	.132	.045	.140	.080
7	075270	FT-2-SM-1178	2P-10	.400	.125			.050	.115	.040	.080	.172	.132			.047

Fig. 4

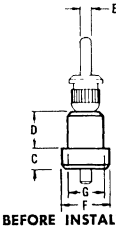


Fig. 5

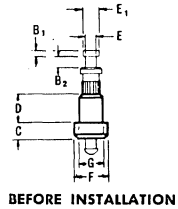


Fig. 6

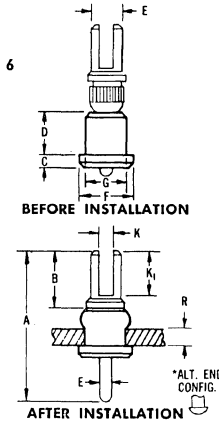
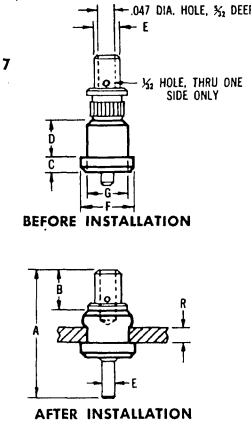


Fig. 7



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TEST POINT JACKS

FIG.	PART No.	TOOL No.	CAPACITANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASHOVER SEA LEVEL	REF. A	B	B_1	B_2	C	D	E DIA.	E_1 DIA.	F DIA.	+.002 —.000 G DIA.	J* PROBE DIA.	J_1 PROBE LNGTH	K	K_1
701	SKT-13C3	S13-1	0.45	500	2000	.203	.060	.010	.040	.030	.113	.046	.080	.150	.120	.040	.078		
701	SKT-22	S4	0.20	1500	4000	.449	.120	.030	.060	.046	.283	.040	.060	.142	.120	.040	.245		
701	SKT-22C2	S22	0.30	1500	4000	.410	.120	.030	.060	.046	.244	.040	.060	.142	.120	.040	.205		
701	SKT-13B2	S14	0.30	750	2500	.253	.060	.010	.040	.050	.143	.046	.080	.172	.140	.040	.125		
701	SKT-14B2	S14	0.30	1000	3000	.345	.120	.023	.077	.046	.179	.040	.060	.172	.140	.040	.140		
701	SKT-13B4	S13	0.40	750	2500	.203	.060	.010	.040	.046	.097	.046	.080	.172	.148	.040	.078		
701	SKT-13L2	S13	0.40	750	2500	.190	.050	.010	.030	.046	.094	.046	.080	.172	.148	.040	.078		
701	*SKT-14	S5	0.35	1000	3000	.345	.120	.023	.077	.046	.179	.040	.060	.172	.148	.040	.140		
701	*SKT-2BC	S2	0.70	1000	3000	.437	.120	.037	.053	.046	.271	.054	.074	.218	.185†	.090	.195		
701	*SKT-5BC	S2	0.60	1000	3000	.437	.120	.037	.053	.046	.271	.054	.074	.218	.185†	.080	.195		
701	SKT-5BC-C2	S35	0.45	1000	3000	.453	.120	.037	.053	.046	.287	.054	.074	.218	.185†	.050	.195		
701	*SKT-10	S1	0.70	1200	3500	.640	.187	.037	.104	.050	.400	.054	.074	.218	.185†	.080	.287		
701	*SKT-37C1	S12	0.55	1000	3000	.340	.120	.023	.077	.046	.174	.054	.074	.218	.185†	.090	.140		
701	*SKT-41	S2	0.55	1200	3500	.467	.120	.035	.047	.046	.301	.054	.074	.218	.185†	.080	.225		
701	SKT-42	S23-1	0.40	2000	5000	.455	.105	.020	.065	.050	.300	.080	.125	.218	.185†	.080	.315		
701	SKT-27	S11	0.80	3200	7500	.761	.187	.035	.116	.187	.386	.054	.074	.218	.200	.093	.455		
701	SKT-27L1	S12	0.70	2000	5000	.699	.187	.035	.116	.125	.386	.054	.074	.218	.200	.093	.390		
701	SKT-0930	S37	0.70	3200	7500	.834	.187	.035	.116	.230	.417	.054	.074	.375	.200	.093	.518		
701	*SKT-3BC	S2	0.60	1000	3000	.437	.120	.037	.053	.046	.271	.054	.074	.250	.204	.080	.195		
701	SKT-19	S9	0.60	1200	3500	.400	.060	.010	.037	.046	.294	.066	.098	.250	.218	.105	.250		
702	SKT-35	B8-14	0.25	1200	3500	.400	.150			.046	.204	.040		.172	.148	.032	.200		
703	*SKT-1	S31	0.55	1200	3500	.687	.354			.046	.287	.115		.218	.185†	.050	.250	.140	.042
703	SKT-4	S30	0.40	1200	3500	.687	.354			.046	.287	.104		.218	.185†	.041	.250	.140	.050
703	*SKT-8	S1	0.50	1200	3500	.687	.330			.046	.287	.103		.218	.185†	.080	.250	.156	.046
703	SKT-8B2	S1	0.55	2000	5000	.711	.354			.070	.287	.103		.218	.185†	.080	.274	.156	.048
703	SKT-18	S25	0.50	1500	4000	.687	.354			.052	.281	.115		.218	.185†	.050	.250	.140	.042
703	SKT-20	S27	0.80	1000	3000	.687	.330			.187	.146	.103		.218	.185†	.080	.187	.156	.046
703	SKT-20L1	S25	0.75	1000	3000	.687	.330			.187	.146	.110		.218	.185†	.050	.250	.156	
703	SKT-23	S28	0.65	1000	3000	.625	.355			.046	.224	.115		.218	.185†	.050	.200	.140	.042
703	SKT-26	S26	0.60	1000	3000	.718	.316			.046	.356	.104		.218	.185†	.060	.315	.125	.052
704	SKT-15	S32	0.60	3500	8000	.732	.188			.157	.387	.110		.250	.220	.050	.320	.140	.042
705	SKT-36	S28	0.80	1000	3000	.620	.287			.046	.287	.115		.218	.185†	.050	.250	.156	.052
706	SKT-31	S17	0.45	1000	3000	.408	.187			.046	.175	.060		.172	.148	.040	.135		
707	SKT-38C1					1.000	.060	.010			.940	.046	.078	.187	.125#	.090	.825		
707	SKT-13					.203	.060	.010			.143	.046	.080	.140		.040	.075		
707	SKT-13C1					.203	.060	.010			.143	.046	.080	.120		.040	.075		
707	SKT-13L1					.203	.060	.010			.143	.046	.080	.140		.025	.075		

Terminal Lug: Beryllium Copper — Gold Flash over Silver Plate.
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.

†±.001
#±.005

Fig. 701

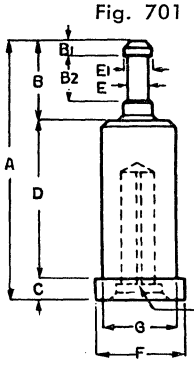


Fig. 702

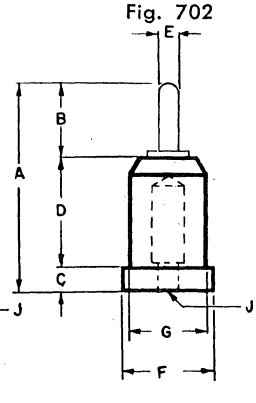


Fig. 703

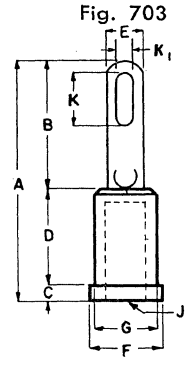
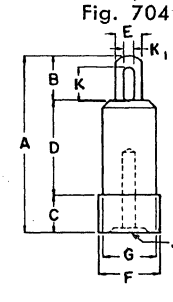


Fig. 704



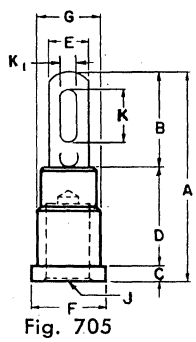


Fig. 705

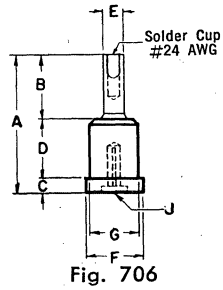


Fig. 706

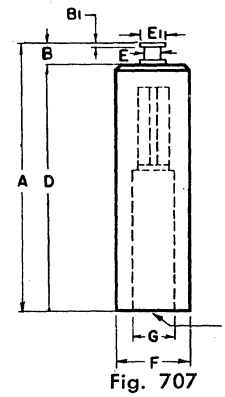
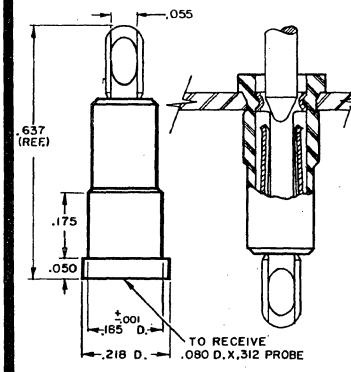


Fig. 707

*SKT-0804—GUIDED ENTRY TEST POINT JACK FOR INCREASED CHASSIS PULL-OUT STRENGTH

Featuring a beryllium-copper formed lug with unique design configuration, the SKT-0804 test point jack offers greater pull-out strength and high torque resistance. The jack is designed to provide guided-entry for an .080" diameter probe. The SKT-0804 construction permits uniform retention and greater support of the Teflon bushing by the lug.

Insertion Tool No. S-38



* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

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TEST POINT JACKS

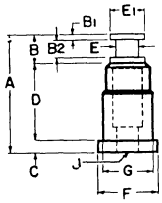


Fig. 709

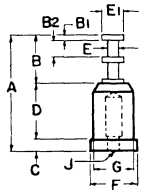


Fig. 710

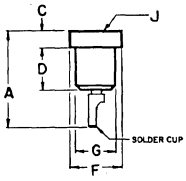


Fig. 713

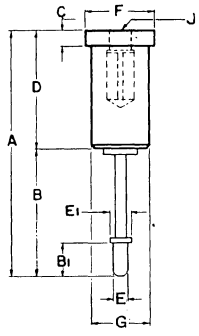


Fig. 711

FIG.	Part No.	Tool No.	Capacitance mmf	V,RMS 60 CPS Nominal Rating	Flashover Sea Level	Ref. A	B	B_1	B_2	C	D	E Dia.	E_1 Dia.	F Dia.	+.002 −.000 G Dia.	J* Probe Dia.	J_1 Probe Lgth
709	SKT-50	S23	0.50	2700	5500	.435	.105	.020	.065	.046	.284	.080	.125	.218	**.184**	.080	.310
710	SKT-34	B8-14	0.25	1700	4500	.425	.175	.020	.060	.046	.250	.040	.080	.172	**.184**	.032	.200
710	SKT-24	S18	0.65	1000	3000	.437	.154	.020	.046	.046	.391	.050	.080	.250	**.204**	.080	.145
711	SKT-100	S8	0.60	2200	5500	.912	.534	.125		.060	.378	.050	.080	.250	**.218**	.080	.250
712	SKT-28	S20	0.70	1000	3000	.450	.180		.120	.046	.224	.110	.080	.218	**.185***	.080	
713	*SKT-401	S17	0.50	1000	3000	.359	.140			.065	.154			.172	**.148**	.040	.125
713	*SKT-400	S17	0.50	1000	3000	.359	.140			.065	.154			.187	**.148**	.040	.125
713	SKT-620	S33	0.60	1200	3500	.437	.156			.065	.216			.218	**.171**	.062	.187
713	SKT-800	S18	0.60	1200	3500	.437	.156			.065	.216			.250	**.185***	.080	.187
714	SKT-113PC					.381	.090			.281		.062		.187		.080	.250
714	SKT-110PC					.441	.078			.343		.112		.218		.080	.250
714	SKT-111PC					.381	.080			.281		.112		.218		.080	.250
731	SKT-100PC	S8	0.55	2200	5500	.500	.250	.130		.062	.316	.050	.080	.250	**.218**	.080	.250
731	SKT-101PC	S8	0.45	2200	5500	.400	.250	.130		.062	.316	.050	.080	.250	**.218**	.080	.250
732	SKT-102PC		0.45	1200	3500	.500	.140	.125			.378	.050	.080	.218	**.187†**	.080	.250
732	SKT-102PC-B2		0.40	1500	4000	.520	.140	.130			.398	.040	.080	.218	**.187†**	.080	.250
732	*SKT-103PC		0.50	1200	3500	.400	.140	.125			.378	.050	.080	.218	**.187†**	.080	.250
732	SKT-103PC-L1		0.50	1200	3500	.400	.140	.187			.378	.035	.080	.218	**.187†**	.080	.250
732	SKT-0802		0.50	2700	6500	.500	.140	.125			.689	.050	.080	.218	**.187†**	.080	.500
733	SKT-105PC					.385	.233	.125		.062		.050	.080	.219	**.185***	.080	.250

Terminal Lug: Beryllium Copper, Gold Flash over Silver. *±.001 † Tolerance ±.005
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.

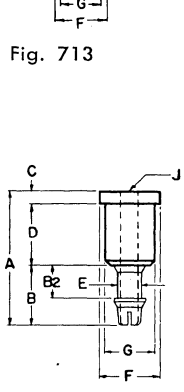


Fig. 712

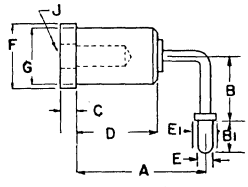


Fig. 731

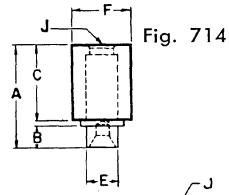


Fig. 714

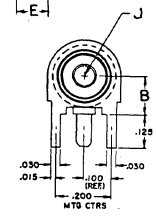
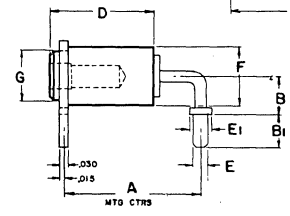


Fig. 732



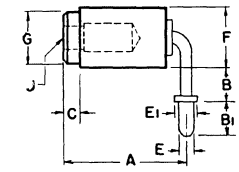


Fig. 733

* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

TAPER PIN RECEPTACLES AND SPECIAL UNITS

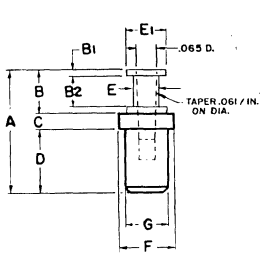


Fig. 752

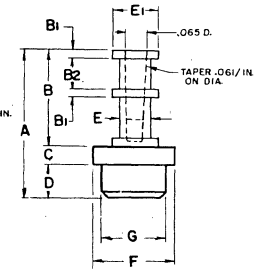


Fig. 753

Fig.	Part No.	TOOL No.	Capacitance mmf	V,RMS 60 CPS Nominal Rating	Flashover Sea Level	A	B	B_1	B_2	C	D	E Dia.	E_1 Dia.	F Dia.	+.002 −.000 Dia. G
751	TP-ST-201	B22	0.70	1000	3000	.350	.133	.020	.093	.080	.140	.093	.149	.250	**.200**
752	TP-ST-203	B8-13	0.90	1500	4000	.383	.133	.020	.093	.050	.200	.093	.125	.172	**.133**
753	TP-ST-202	B22	0.65	1000	3000	.453	.293	.025	.093	.060	.100	.093	.149	.250	**.200**
753	TP-ST-202-B2	B23	0.75	1500	4000	.513	.293	.025	.093	.080	.140	.093	.149	.250	**.200**
754	TP-FT-200	S22	1.10	1000	3000	.593	.210	.020	.180	.040	.143	.093	.125	.250	**.200**
755	TP-FT-201	B22	0.70	1000	3000	.500	.133	.020	.093	.080	.140	.093	.149	.250	**.200**
756	TP-FT-100	B6A-1	1.10	1000	3000	1.798	.133	.020	.093		.171	.080	.093		**.150**
758	PL-20**	B23-B	1.40	1000	3000	.940	.140	.020		.050	.450	.050	.078	.250	**.218**

Terminal Lug: Brass, Solder Finish (40 to 70% Tin Content) Electro-Plate .0003" Minimum Thick.
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.
**Gold Flash over Silver Plate.

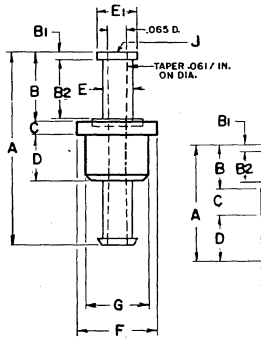


Fig. 754

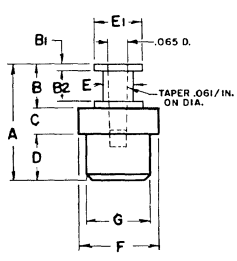


Fig. 751

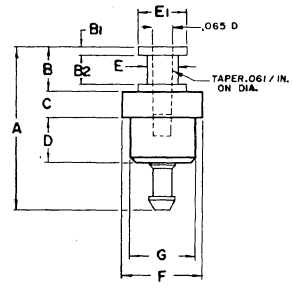


Fig. 755

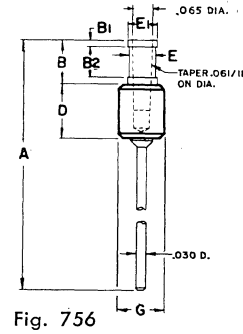


Fig. 756

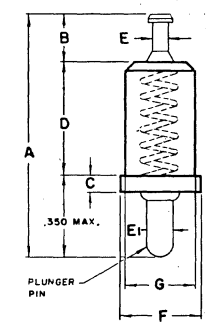


Fig. 758

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PROBES AND PLUGS

FIG.	PART No.	TOOL No.	CAPACITANCE mmf	V,RMS 60 CPS NOMINAL RATING	V,RMS 60 CPS FLASHOVER SEA LEVEL	A	B	B_1	C	D	±.001 E DIA.	E_1 DIA.	F DIA.	+.002 —.000 G DIA.	J DIA.	J_1 DIA.	K_1
801	*FT-M-9	B18-1B	1.0	1000	3000	1.937	.250		.046	.141	.050		.218	.185†			
801	*FT-M-2	B18-1B	1.10	1000	3000	2.083	.250		.046	.287	.050*		.218	.185†			
801	FT-M-2L2	B18-1B	0.70	1000	3000	.906	.250		.046	.287	.050		.218	.185†			
801	FT-M-2L4	B18-1B	0.85	1000	3000	1.531	.250		.046	.287	.050*		.218	.185†			
801	FT-M-19	B18-1B	1.0	1000	3000	1.870	.120		.046	.250	.040		.218	.185†			
802	PR-15	B-23	0.90	3000	7000	1.531			.157	.375	.050*	.125	.250	.220			
803	RFT-M-14	B-18-1C	0.90	1700	4500	1.940	.120		.046	.320	.040*		.218	.185†			
804	FT-M-4#	B18-1B	0.80	1000	3000	.739	.281		.046	.287	.081*		.218	.185†			
804	FT-M-12	B-10	0.65	1000	3000	.687	.272		.040	.212	.040		.187	.171			
804	*FT-M-7	B18-1B	0.80	1000	3000	.739	.281		.046	.287	.081*		.218	.185†			
804	*FT-M-8	B18-1B	0.90	1000	3000	.562	.250		.046	.141	.050*		.218	.185†			
804	FT-M-8-L1	B18-E	0.90	1000	3000	.562	.250		.046	.141	.081		.218	.185†			
804	FT-M-14	B18-E	0.80	1000	3000	.906	.250		.046	.287	.050		.218	.185			
804	FT-M-16	B18-1B	0.80	1000	3000	.648	.190		.046	.287	.090*		.218	.185†			
804	FT-M-17	B18-1B	0.80	1000	3000	.612	.250		.046	.141	.062*		.218	.185†			
805	RFT-M-11	B18-E	0.80	1000	3000	.562	.250		.052	.135	.050*		.218	.185†			
806	FT-M-6##	B13-2	0.85	2000	5000	.867	.250		.187	.212	.100**		.187	.171			.203
807	*PR-10	B8-14	0.70	1000	3000	.538	.130		.046	.175	.040		.172	.148			
807	PR-13	B-8	0.65	1000	3000	.416	.080		.040	.135	.040		.172	.148			
807	PR-13C1	B-8	0.65	1000	3000	.416	.080		.040	.135	.040		.172	.148			
808	*PR-400	B13-3	0.55	1000	3000	.407	.125		.065	.090	.040		.187	.148			
808	PR-620	B18-1	0.55	1200	3500	.559	.187		.065	.176	.062		.218	.171			
808	*PR-800	B23-A	0.70	1200	3500	.559	.187		.065	.169	.080		.250	.185†			
809	*PR-300					.645	.270		.375		.080		.218		.062	.128	
809	PR-0900					.645	.270		.375		.090		.218		.062	.128	
810	*PR-302	B22-X1				.645	.270		.050	.325	.080		.250	.218	.062	.128	
811	PR-100**	B6-X	0.75	750	2500	.365	.194		.046	.125	.077**		.150	.120	.030		
812	FT-M-5	B18-1B	0.70	1000	3000	.833	.250		.046	.287	.050		.218	.185			
812	FT-M-9L2	B18-1B	0.65	1000	3000	.682	.250		.046	.141	.050		.218	.185			

Terminal Lug: Gold Flash over Silver Plate. †±.001
Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.
No ball on end of Lug.
Silver Plate .0003" Min. Thick. **Beryllium Copper — E Dimension +.003 —.002 ***Gold over Copper.

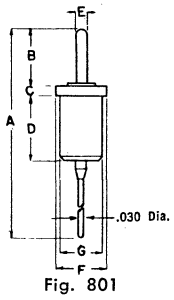

Fig. 801

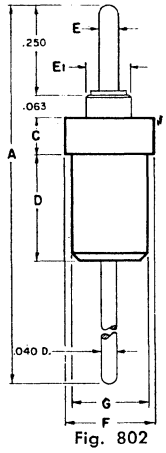

Fig. 802

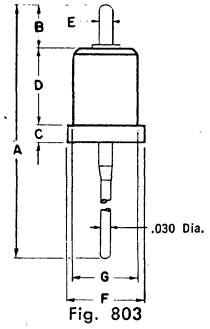

Fig. 803

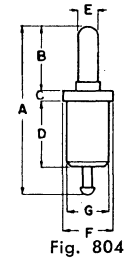

Fig. 804

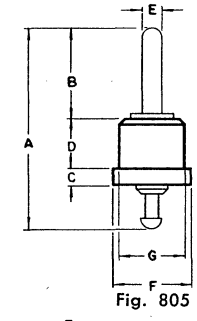

Fig. 805

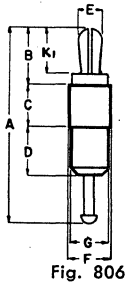

Fig. 806

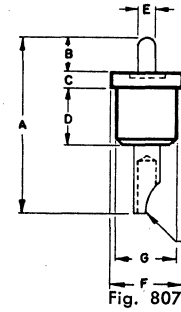

Fig. 807

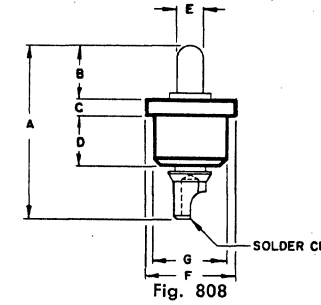

Fig. 808

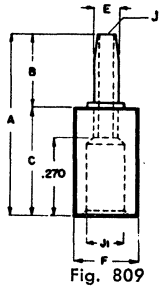

Fig. 809

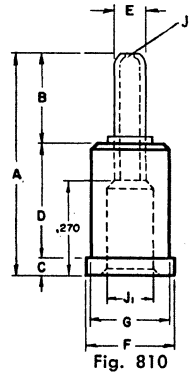

Fig. 810

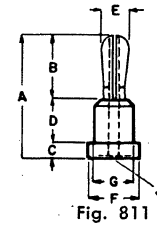

Fig. 811

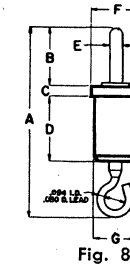

Fig. 812

* Available off-the-shelf from Authorized Local Sealectro Distributors (white only).

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SEALECTRO PRESS-FIT® TEFLON* TERMINALS

†Reg. Trademark, E. I. Du Pont de Nemours & Co.

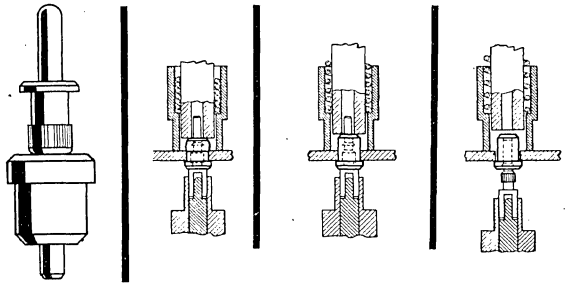
NEW PRESSGRIP™ TEFLON*-INSULATED TERMINALS

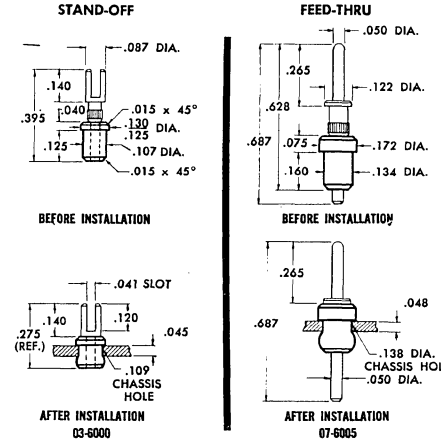
★ Terminal assembles from **major-diameter** side — easily, surely, quickly!

★ Lug seats against **major diameter** side of bushing assuring positive above-chassis height. Eliminates random UPS AND DOWNS inherent in other semi-assembled designs.

★ Installed terminal takes full advantage of natural Teflon memory — will not loosen due to Teflon relaxation.

The ultimate in semi-assembled terminals. Overcomes inherent problems of height misalignments and faulty installations. Easily tooled for, and automated in assembly. Ideal for non-chamfered, or chamfered holes. Really **GRIPS** in thin chassis materials. Sealectro maintains a complete line.... Write for complete specifications.

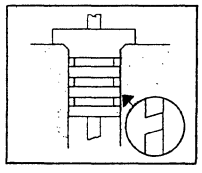




FEED-THRUS FOR DEEP HOLE INSTALLATION

Fig.	Part No.	Tool No.	Capacitance mmf	V,RMS Nom. Rating	60 CPS Flashover Sea Level	A	B	C	D	E Dia.	E_1 Dia.	F Dia.	+.002 −.000 G Dia.	J	J_1	K	K_1
660	FT-SM-705-L2	B10-5	.80	750	2500	.463	.100	.035	.155	.060	.149	.187	.172	.068	.100	.018	.125
660	FT-SM-705-L4	B10-6	.80	750	2500	.581	.218	.035	.155	.060	.149	.187	.172	.068	.100	.018	.125

Capacitance and voltage measured with terminals installed in .050" thick aluminum chassis.



"Press-Fit" installation for deep holes. As the terminal is pressfitted into the hole, the lands and grooves of the body are deflected upward, thus providing a high degree of pullout strength as illustrated in the accompanying sketch.

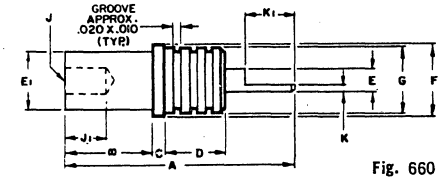
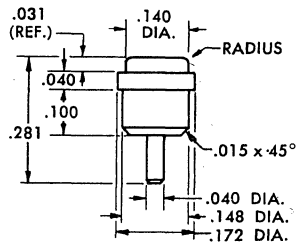


Fig. 660

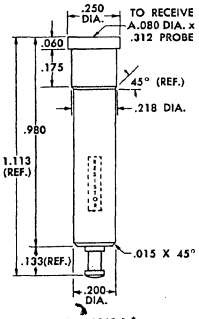
TEFLON*-INSULATED CONTACTS

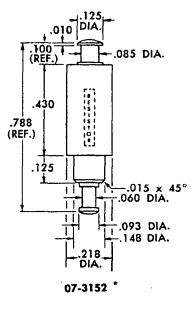


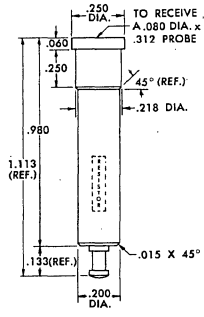
In many electro-mechanical assemblies, reliable switch contactors are required as an integral part of the unit. Sealectro manufactures a wide assortment of Press-Fit terminal designs specifically for these applications. They are designed for fast, Press-Fit installation and provide an extremely reliable electrical contact assembly while offering all of the advantages of Teflon* insulation.

RESISTIVE-TYPE TERMINALS

AVAILABLE WITH ALL STANDARD E.I.A. ¼ WATT ±5% RESISTOR VALUES

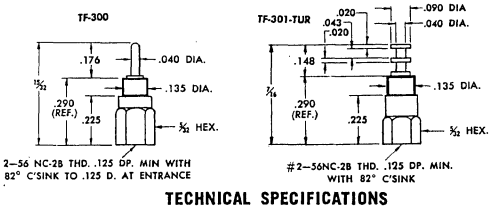






* Reg. TM, E. I. DuPont deNemours Co.

METAL BASE TEFLON* INSULATED STAND-OFFS



TECHNICAL SPECIFICATIONS

MATERIAL:
Insulation: Teflon
Lug: Brass
Plating: Lug — Solder Finish, (40 to 70% Tin Content) Electroplated.
Base: Cadmium with Chromate Coating.

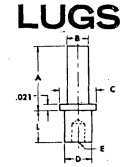
CURRENT RATING:
5.5 Amps. Continuous Duty.

TEMPERATURE RANGE:
−65°C to 200°C

COLOR CODING:
Available in Red, Blue, Yellow, Green, Brown, Orange, Gray, Violet, Black and White.

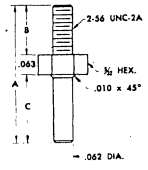
Sealectro maintains a complete line of metal based Teflon-insulated stand-offs to meet every application requirement. Two typical units are illustrated. Write for details on the complete Sealectro line.

METAL LUGS



Part No.	L	A	B Dia.	C Dia.	D Dia.	E
X-L-031165-7	.165	.173	.040	.093	.072	.046 Dia. x 1/16 Deep
X-L-031165-6	.135	.173	.040	.093	.072	.046 Dia. x 1/16 Deep
X-L-031165-5	.105	.173	.040	.093	.072	.046 Dia. x 1/16 Deep
X-L-031165-4	.075	.173	.040	.093	.072	.046 Dia. x 1/16 Deep
X-L-061765-7	.135	.173	.040	.125	.090	.063 Dia. x 1/16 Deep
X-L-061765-6	.105	.173	.040	.125	.090	.063 Dia. x 1/16 Deep
X-L-061765-5	.075	.173	.040	.125	.090	.063 Dia. x 1/16 Deep
X-L-061765-2	.165	.173	.040	.125	.090	.063 Dia. x 1/16 Deep
X-L-061765-1	.105	.218	.072	.125	.090	.063 Dia. x 1/16 Deep

SWAGE TYPE



SCREW TYPE

Shown are but two typical types of metal lugs from Sealectro's standard line which includes hundreds of other screw, swedge, and knurled types. Write for complete listing.

Part Number	A	B	C
X-L-040766-3	.375	.156	.156
X-L-030367-1	.437	.156	.218
X-L-122365-1	.437	.218	.156

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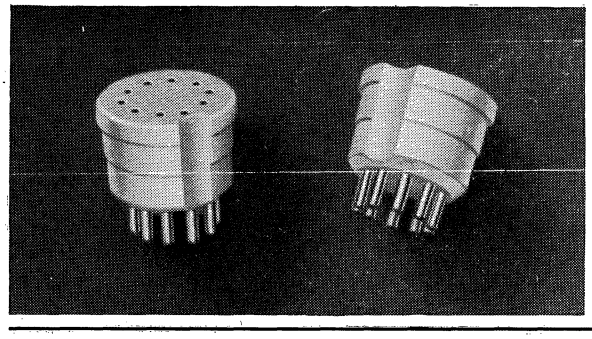
SEALECTRO® PRESS-FIT® TEFLON* TERMINALS

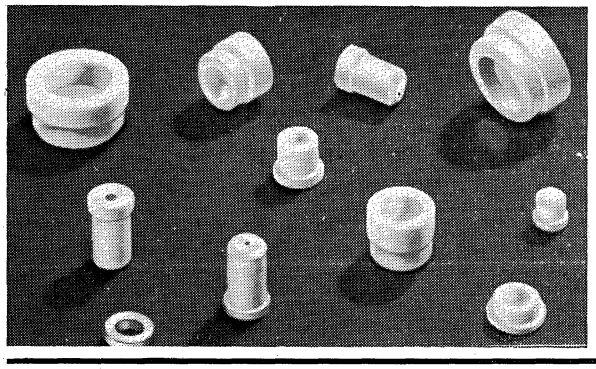
*Reg. Trademark, E. I. Du Pont de Nemours & Co.

TRANSISTORS AND IC HARDWARE



SOCKETS AND HOLDERS

Low cost, high precision sockets and holders for transistors and integrated circuit packages are now available with virgin Teflon bodies that Press-Fit into chassis. The Sealectro Series 60 Sockets permit you to plug-in and remove various TO-18, TO-5 can and I.C. packages at will. The precise contact design provides a positive mechanical grip while making electrical contact with minimum resistance. Sealectro offers a complete off-the-shelf line. Write for catalog.



BUSHINGS AND PADS

Included in the Press-Fit line of Transistor and I.C. Hardware is a complete selection of Teflon bushings and pads to fit virtually every transistor and I.C. package. Press-Fit or grommet style bushings which provide support for transistor can or thru chassis hole for leads are offered. Pads to relieve strain on glass seals are also available. They are designed for use where semiconductor units are wired directly into the circuit and to insulate it from the mounting surface. Write for complete catalogs.

TEFLON BUSHINGS

SINGLE SHOULDER

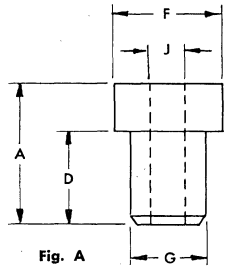


Fig. A

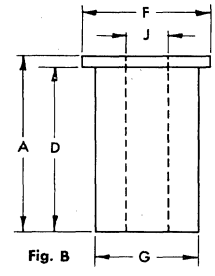


Fig. B

GROMMET TYPE

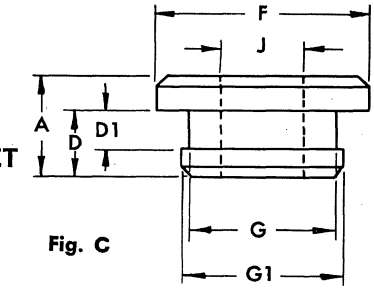


Fig. C

Fig.	Part No.	G	A	D	J	F
A	B-1555	.045	.106	.075	.025	.080
A	B-1519	.067	.120	.080	.031	.093
A	B-1516	.075	.140	.100	.042	.093
A	B-1520	.075	.140	.100	.025	.095
A	B-1440	.093	.140	.100	.040	.125
A	B-1440-1	.093	.140	.100	.035	.125
A	B-1441	.093	.100	.060	.037	.125
A	B-1464	.093	.100	.080	.038	.125
A	B-1553	.093	.100	.080	.048	.125
A	B-1576	.095	.060	.040	.038	.125
A	B-1461	.109	.085	.059	.032	.128
A	B-1422	.120	.103	.053	.040	.130
A	B-1410	.125	.060	.040	.030	.150
A	B-1448	.125	.120	.095	.080	.145
A	B-1477	.136	.140	.100	.060	.169
A	B-1460	.140	.100	.080	.089	.160
A	B-1414	.148	.140	.100	.060	.172
A	B-1435	.148	.140	.100	.040	.172
A	B-1439	.148	.160	.120	.073	.172
A	B-1455	.148	.165	.125	.084	.172
A	B-1465-1	.148	.140	.100	.060	.220
A	B-1465-2	.148	.140	.100	.090	.220
A	B-1475	.148	.140	.100	.073	.172
A	B-1485	.148	.140	.100	.065	.172
A	B-1498	.148	.140	.100	.030	.172
A	B-1508	.148	.150	.125	.084	.172
A	B-1543	.148	.140	.100	.052	.172
A	B-1539	.148	.220	.125	.052	.172
A	B-1573	.148	.170	.100	.059	.172
A	B-1404	.157	.093	.078	.089	.172
A	B-1405	.157	.074	.059	.089	.172
A	B-1478	.165	.140	.100	.060	.186
A	B-1456	.171	.160	.110	.063	.218
A	B-1474	.172	.200	.125	.089	.200
A	B-1489	.172	.140	.100	.051	.195
A	B-1514	.172	.200	.125	.071	.200
A	B-1487	.175	.312	.250	.093	.210
A	B-1445	.179	.140	.100	.085	.200
A	B-1423	.185	.333	.287	.041	.218
A	B-1434	.185	.380	.287	.050	.218
A	B-1447	.185	.225	.185	.120	.218
A	B-1447-1	.185	.130	.090	.120	.218
A	B-1451-1	.185	.327	.140	.128	.218
A	B-1469	.185	.303	.210	.046	.215
A	B-1473	.185	.450	.400	.150	.218
A	B-1486	.185	.333	.287	.093	.218
A	B-1490	.185	.330	.250	.074	.218
A	B-1598	.188	.170	.130	.080	.218
A	B-1590	.188	.130	.100	.080	.218
A	B-1442	.200	.195	.155	.125	.250
A	B-1479	.203	.140	.100	.060	.226
A	B-1428	.214	.437	.375	.090	.250
A	B-1412	.241	.150	.110	.187	.281
A	B-1512	.245	.250	.157	.156	.308
A	B-1480	.250	.140	.100	.060	.273
A	B-1552	.265	.312	.250	.136	.312
A	B-1483	.287	.140	.100	.060	.310
A	B-1549	.395	.170	.130	.312	.437
B	B-1563	.120	.120	.060	.060	.180
B	B-1578	.120	.118	.058	.050	.180
B	B-1575	.123	.124	.093	.086	.281
B	B-1567	.150	.221	.175	.118	.250
B	B-1597	.150	.091	.045	.118	.250
B	B-1585	.203	.062	.031	.144	.320
B	B-1506	.242	.093	.047	.375	.157
B	B-1556	.247	.178	.128	.140	.500
B	B-1429	.296	.500	.469	.120	.120
B	B-1430	.296	.500	.469	.210	.210
B	B-1568	.304	.045	.015	.204	.375

Fig.	Part No.	G	A	D	D1	G1	F	J
C	B-1453	.103	.081	.041	.017	.115	.145	.067
C	B-1449	.123	.070	.040	.020	.143	.187	.052
C	B-1401	.154	.104	.054	.025	.164	.218	.085
C	B-1403	.154	.104	.069	.040	.164	.218	.120
C	B-1406	.154	.094	.044	.015	.164	.218	.099
C	B-1407	.154	.104	.069	.040	.164	.218	.085
C	B-1408	.154	.094	.044	.015	.164	.218	.085
C	B-1413	.154	.094	.044	.015	.164	.218	.120
C	B-1416	.154	.104	.069	.040	.164	.218	.099
C	B-1418	.154	.085	.035	.015	.164	.195	.085
C	B-1419	.154	.134	.099	.070	.164	.218	.120
C	B-1420	.154	.104	.054	.025	.164	.218	.099
C	B-1421	.154	.104	.069	.040	.164	.218	.120
C	B-1424	.154	.094	.044	.025	.164	.195	.085
C	B-1432	.154	.104	.054	.025	.164	.218	.120
C	B-1437	.154	.125	.075	.060	.164	.218	.120
C	B-1463	.154	.104	.054	.035	.164	.218	.099
C	B-1466	.154	.140	.105	.075	.164	.218	.120
C	B-1472	.154	.135	.085	.060	.164	.218	.085
C	B-1482	.154	.104	.054	.035	.164	.218	.128
C	B-1462	.168	.156	.106	.076	.178	.218	.089
C	B-1431	.184	.104	.069	.040	.194	.248	.150
C	B-1467	.190	.104	.054	.035	.200	.250	.157
C	B-1467-1	.190	.104	.054	.035	.200	.250	.120
C	B-1436	.199	.104	.069	.040	.210	.260	.128
C	B-1450	.199	.190	.140	.120	.210	.230	.128
C	B-1459	.204	.104	.069	.040	.214	.268	.170
C	B-1459-1	.204	.104	.069	.040	.214	.268	.125
C	B-1545	.204	.124	.089	.060	.214	.268	.099
C	B-1558	.204	.124	.089	.060	.214	.268	.170

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SEALECTRO

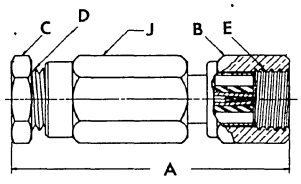
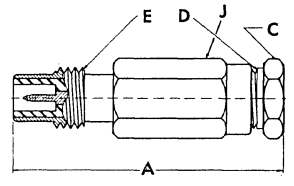
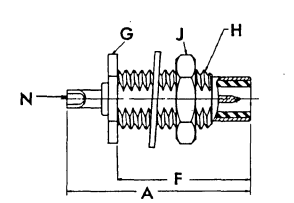
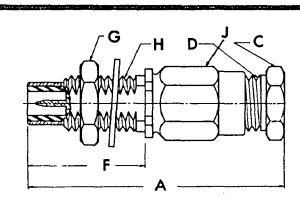
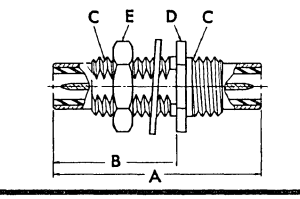
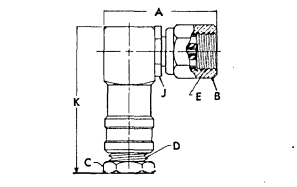
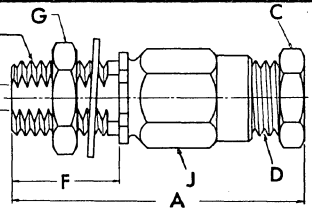
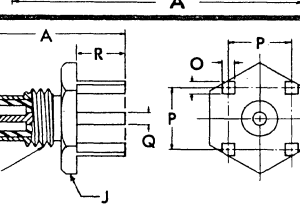
CONHEX®

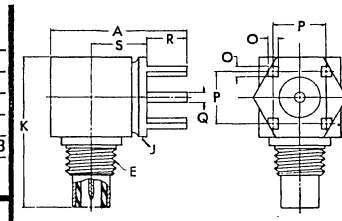
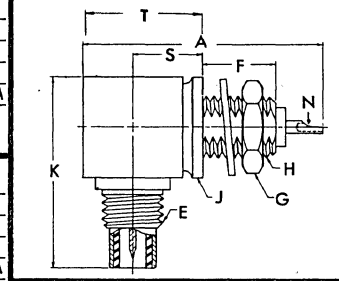
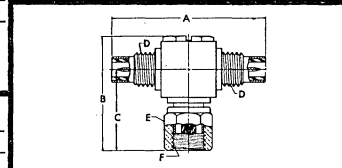
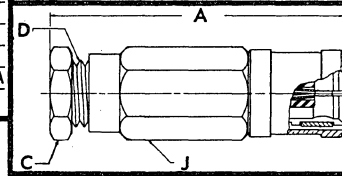
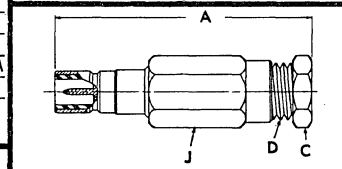
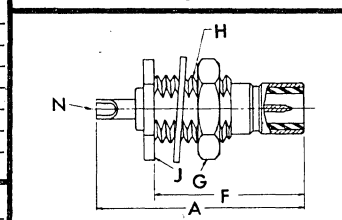
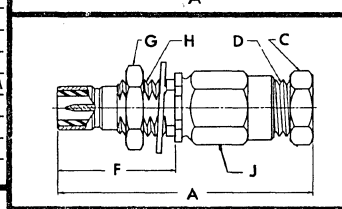
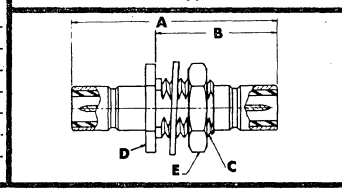
SUB-MINIATURE R.F. CONNECTORS

PLATING: 0.0001 Gold over 0.0001 Copper.

MATING CONNECTORS: All Screw-On (Snap-On) plugs will mate with all Screw-On (Snap-On) jacks & receptacles of the same resistance rating.

U. S. Pat. No. 2,937,360

See listing on following page for typical cables.	50 OHM	75 OHM
	**50-007-0000**	**50-107-0000**
	A 7/8 approx.	13/16 approx.
	B 15/64 HEX	11/32 HEX
	C 15/64 HEX	5/16 HEX
	D #10-32, UNF-2A	#9/32-40 UNS-2A
	E #10-32, UNF-2B	#5/16-32, UNEF-2B
	J 15/64 HEX	5/16 HEX
	**50-008-0000**	**50-108-0000**
	A 27/32 approx.	51/64 approx.
	C 15/64 HEX	5/16 HEX
	D #10-32, UNF-2A	#9/32-40, UNS-2A
	E #10-32, UNF-2A	#5/16-32, UNEF-2A
	J 15/64 HEX	5/16 HEX
	**50-043-0000**	**50-143-0000**
	A 19/32	19/32
	F .426	.426
	G 1/4 HEX	3/8 HEX
	H #10-32, UNF-2A	#5/16-32, UNEF-2A
	J 1/4 HEX	3/8 HEX
	N .060 O.D. x .040 I.D. x .078 Deep	.060 O.D. x .040 I.D. x .078 Deep
	**50-010-0000**	**50-110-0000**
	A 7/8 approx.	7/8 approx.
	C 15/64 HEX	5/16 HEX
	D #10-32, UNF-2A	#9/32-40, UNS-2A
	F .425	.425
	G 1/4 HEX	3/8 HEX
	H #10-32, UNF-2A	#5/16-32, UNEF-2A
	J 15/64 HEX	11/32 HEX
	**50-075-0000**	**50-175-0000**
	A .671	.671
	B .397	.397
	C #10-32, UNF-2A	#5/16-32, UNEF-2A
	D 1/4 HEX	3/8 HEX
	E 1/4 HEX	3/8 HEX
	**50-011-0000**	**50-111-0000**
	A 39/64 approx.	23/32 approx.
	B 15/64 HEX	11/32 HEX
	C 15/64 HEX	5/16 HEX
	D #10-32, UNF-2A	#9/32-40, UNS-2A
	E #10-32, UNF-2B	#5/16-32, UNEF-2B
	J 15/64 HEX	11/32 HEX
	K 3/4 approx.	27/32 approx.
	**55-013-0000**	**50-113-0000**
	A 49/64 approx.	3/4 approx.
	C 15/64 HEX	5/16 HEX
	D #10-32, UNF-2A	#9/32-40, UNS-2A
	E #10-32, UNF-2A	#5/16-32, UNEF-2A
	F .277	.277
	G 1/4 HEX	3/8 HEX
	J 15/64 HEX	11/32 HEX
	L .067D.	.111D.
	**50-051-0000**	**50-151-0000**
	A .448	.448
	E #10-32, UNF-2A	#5/16-32, UNEF-2A
	J 5/16 HEX	3/8 HEX
	O .040 (Typ.)	.040 (Typ.)
	P .200	.200
	Q .038D.	.038D.
	R .155	.155

See listing on following page for typical cables.	50 OHM	75 OHM
	**50-053-0000**	**50-153-0000**
	A 17/32 approx.	19/32 approx.
	E #10-32, UNF-2A	#5/16-32, UNEF-2A
	J 5/16 HEX	3/8 HEX
	K 19/32	21/32
	O .040 (Typ.)	.040 (Typ.)
	P .200	.200
	Q .038D	.038D
	R .155	.155
	S .215	.247
	**50-047-0000**	**50-147-0000**
	A 3/4 approx.	13/16 approx.
	E #10-32, UNF-2A	#5/16-32, UNEF-2A
	F .228	.228
	G 1/4 HEX	3/8 HEX
	H #10-32, UNF-2A	#5/16-32, UNEF-2A
	J 5/16 HEX	3/8 HEX
	K 19/32	21/32
	N .038 O.D. x .025 I.D. x .078 Deep	.038 O.D. x .025 I.D. x .078 Deep
	S .215	.247
	T .372	.435
	**50-085-0000**	**50-185-0000**
	A .860	.923
	B 21/32 approx.	23/32 approx.
	C 15/32 approx.	1/2 approx.
	D #10-32, UNF-2A	#5/16-32, UNEF-2A
	E 15/64 HEX	11/32 HEX
	F #10-32, UNF-2B	#5/16-32, UNEF-2B
	**51-007-0000**	**51-107-0000**
	A 7/8 approx.	27/32 approx.
	C 15/64 HEX	5/16 HEX
	D #10-32, UNF-2A	#9/32-40, UNS-2A
	J 15/64 HEX	11/32 HEX
	**51-008-0000**	**51-108-0000**
	A 7/8 approx.	51/64 approx.
	C 15/64 HEX	5/16 HEX
	D #10-32, UNF-2A	#9/32-40, UNS-2A
	J 15/64 HEX	5/16 HEX
	**51-043-0000**	**51-143-0000**
	A 19/32	19/32
	F .426	.426
	G 1/4 HEX	3/8 HEX
	H #10-32, UNF-2A	#5/16-32, UNEF-2A
	J 1/4 HEX	3/8 HEX
	N .060 O.D. x .040 I.D. x .078 Deep	.060 O.D. x .040 I.D. x .078 Deep
	**51-010-0000**	**51-110-0000**
	A 7/8 approx.	7/8 approx.
	C 15/64 HEX	5/16 HEX
	D #10-32, UNF-2A	#9-32-40, UNS-2A
	F .425	.425
	G 1/4 HEX	3/8 HEX
	H #10-32, UNF-2A	#5/16-32, UNEF-2A
	J 15/64 HEX	11/32 HEX
	**51-075-0000**	**51-175-0000**
	A .671	.671
	B .430	.430
	C #10-32, UNF-2A	#5/16-32, UNEF-2A
	D 1/4 HEX	3/8 HEX
	E 1/4 HEX	3/8 HEX

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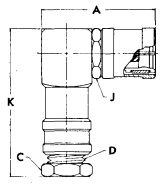
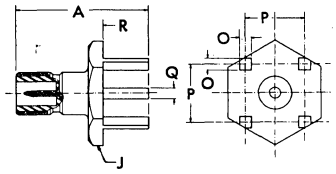
SEALECTRO CONHEX®

SUB-MINIATURE R. F. CONNECTORS

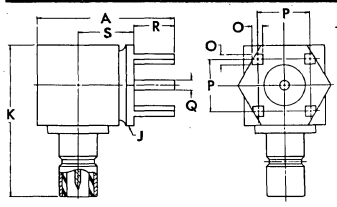
See listing below for typical cables.	50 OHM	75 OHM



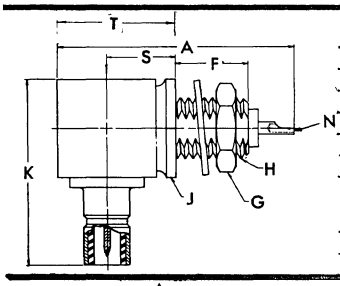
	51-011-0000	51-111-0000
A	19/32	11/16
C	15/64 HEX	5/16 HEX
D	#10-32, UNF-2A	#9/32-40, UNS-2A
J	15/64 HEX	11/32 HEX
K	3/4 approx.	27/32 approx.



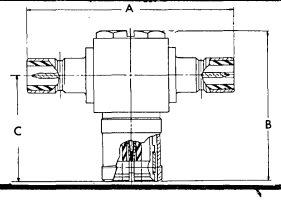
	51-051-0000	51-151-0000
A	.448	.448
J	5/16 HEX	3/8 HEX
O	.040 (Typ.)	.040 (Typ.)
P	.200	.200
Q	.038D	.038D
R	.155	.155



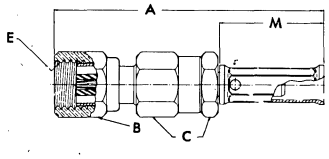
	51-053-0000	51-153-0000
A	17/32 approx.	19/32 approx.
J	5/16 HEX	3/8 HEX
K	19/32	21/32
O	.040 (Typ.)	.040 (Typ.)
P	.200	.200
Q	.038D	.038D
R	.155	.155
S	.215	.247



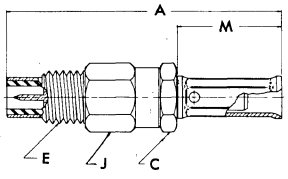
	51-047-0000	51-147-0000
A	3/4 approx.	13/16 approx.
F	.228	.228
G	1/4 HEX	3/8 HEX
H	#10-32, UNEF-2A	#5/16-32, UNEF-2A
J	5/16 HEX	3/8 HEX
K	19/32	21/32
N	.038 O.D. x .025 I.D. x .078 Deep	.038 O.D. x .025 I.D. x .078 Deep
S	.215	.247
T	.372	.435



	51-085-0000	51-185-0000
A	.860	.923
B	41/64	45/64
C	.456	.488

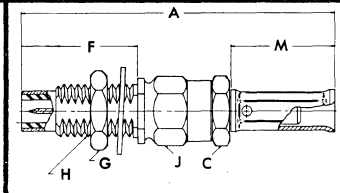


	50-024-0000	50-124-0000
A	1-1/32 approx.	1-1/16 approx.
B	15/64 HEX	11/32 HEX
C	7/32 HEX	5/16 HEX
E	#10-32, UNF-2B	#5/16-32, UNEF-2B
M	.375	.400

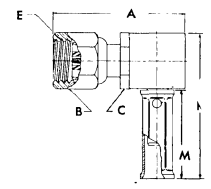


	50-025-0000	50-125-0000
A	63/64 approx.	1-1/64 approx.
C	7/32 HEX	5/16 HEX
E	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	7/32 HEX	5/16 HEX
M	.375	.400

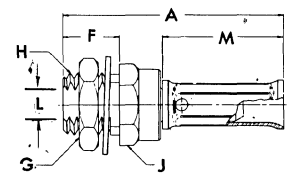
See listing below for typical cables.	50 OHM	75 OHM



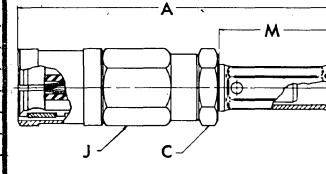
	50-027-0000	50-127-0000
A	1-1/8 approx.	1-5/32 approx.
C	7/32 HEX	5/16 HEX
F	.425	.425
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	7/32 approx.	11/32 HEX
M	.375	.400



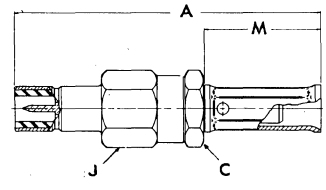
	50-028-0000	50-128-0000
A	39/64 approx.	21/32 approx.
B	15/64 HEX	11/32 HEX
C	15/64 HEX	11/32 HEX
E	#10-32, UNF-2B	#5/16-32, UNEF-2B
K	5/8 approx.	23/32 approx.
M	.375	.400



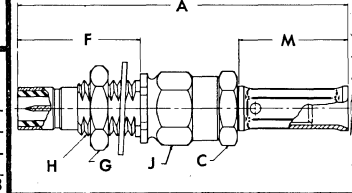
	55-031-0000	55-131-0000
A	47/64 approx	51/64 approx.
F	.228	.228
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	7/32 HEX	11/32 HEX
L	.067D	.111D
M	.375	.400



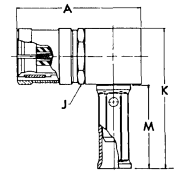
	51-024-0000	50-124-0000
A	1-1/64 approx.	1-3/64 approx.
C	7/32 HEX	5/16 HEX
J	7/32 HEX	11/32 HEX
M	.375	.400



	51-025-0000	51-125-0000
A	63/64 approx.	1-1/64 approx.
C	7/32 HEX	5/16 HEX
J	7/32 HEX	5/16 HEX
M	.375	.400



	51-027-0000	51-127-0000
A	1-1/8 approx.	1-5/32 approx.
C	7/32 HEX	5/16 HEX
F	.425	.425
G	1/4 HEX	3/8 HEX
H	#10-32, UNF-2A	#5/16-32, UNEF-2A
J	7/32 HEX	11/32 HEX
M	.375	.400



	51-028-0000	51-128-0000
A	19/32	41/64
J	15/64 HEX	11/32 HEX
K	5/8 approx.	23/32 approx.
M	.375	.400

CRIMP-ON ASSEMBLY TOOL — Part No. CT-6

TYPICAL SPEC CABLES FOR USE WITH "CONHEX" CONNECTORS

Standard 50 ohm **clamp-type** connectors accept:
RG-161/U, 174/U, 179/U, 188/U and 316/U cables.

Standard 50 ohm **crimp-type** connectors accept:
RG-161/U, 174/U, 179/U, 187/U, 188/U and 316/U cables.

Standard 75 ohm **clamp-type** connectors accept:
RG-180/U and 195/U cables.

Standard 75 ohm **crimp-type** connectors accept:
RG-180/U and 195/U cables.

Other cables having the same component diameters as those listed can also be used in the same series of connectors.

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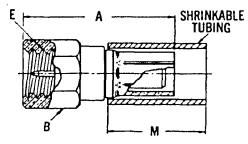
SEALECTRO ® MICRO-MINIATURE R.F. CONNECTORS

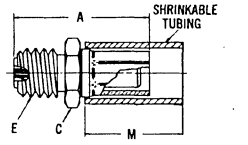
MICRO HEX ®

VSWR: Better than 1.15:1 to 10 KMC
Impedance: 50 ohms
Dielectric Withstanding Voltage: 450 volts RMS @ Sea Level
Contact Current Rating: 1.0 amps DC max.
Contact Voltage Drop: 4 mv max. @ 1 amp

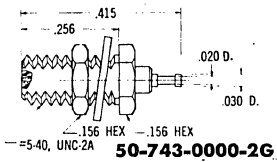
*For use with RG-196/U and RG-178/U cables



	FLEXIBLE CABLE*	SEMI-RIGID CABLE**
	50-724-0000-2G	50-724-3701-2G
A	.39	.37
B	.156 Hex	.156 Hex
E	#5-40, UNC-2B	#5-40, UNC-2B
M	.31	.31



	50-725-0000-2G	50-725-3701-2G
A	.34	.32
C	.156 Hex	.156 Hex
E	#5-40, UNC-2A	#5-40, UNC-2A
M	.31	.31



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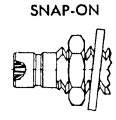

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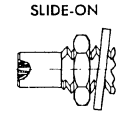

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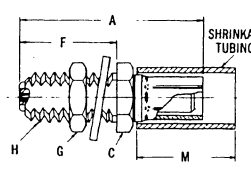
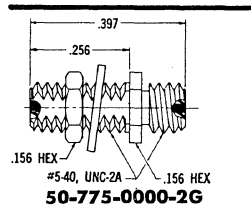


	50-727-0000-2G	50-727-3701-2G
A	.48	.46
C	.156 Hex	.156 Hex
F	.256	.256
G	.156 Hex	.156 Hex
H	#5-40, UNC-2A	#5-40, UNC-2A
M	.31	.31



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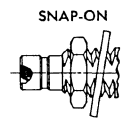

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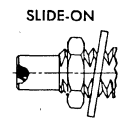
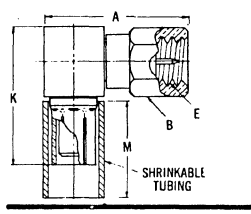
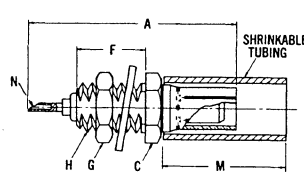


52-775-0000-2G

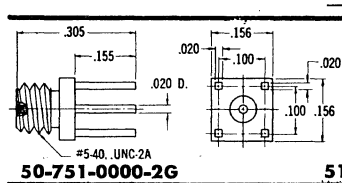
Designed for .062" thick panel.



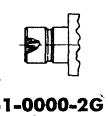
	50-728-0000-2G	50-728-3701-2G
A	.38	.38
B	.156 Hex	.156 Hex
E	#5-40, UNC-2B	#5-40, UNC-2B
K	.36	.34
M	.31	.31



	55-736-0000-2G	55-736-3701-2G
A	.53	.51
C	.156 Hex	.156 Hex
F	.177	.177
G	.156 Hex	.156 Hex
H	#5-40, UNC-2A	#5-40, UNC-2A
M	.31	.31
N	.013 I.D. x .020 O.D.	.013 I.D.x.020 O.D.



50-751-0000-2G



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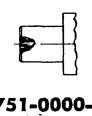

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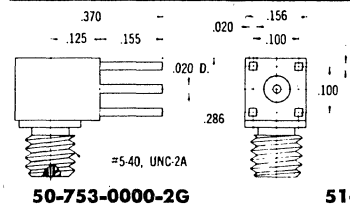

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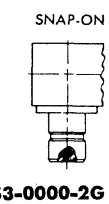

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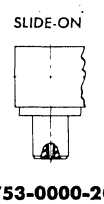
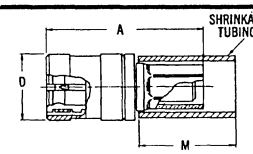
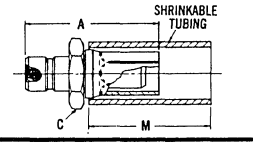


52-753-0000-2G

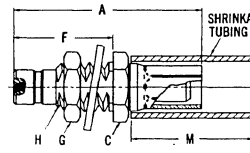
**For use with .056" diameter cable



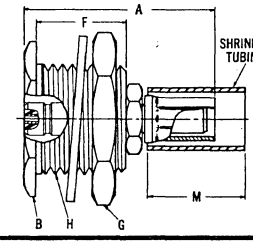
	51-724-0000-2G	51-724-3701-2G
A	.40	.38
D	.168 D.	.168 D.
M	.31	.31



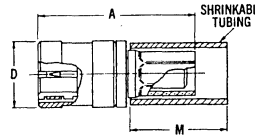
	51-725-0000-2G	51-725-3701-2G
A	.34	.32
C	.156 Hex	.156 Hex
M	.31	.31



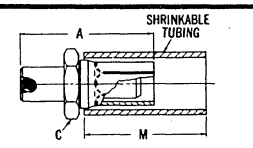
	51-727-0000-2G	51-727-3701-2G
A	.48	.46
C	.156 Hex	.156 Hex
F	.256	.256
G	.156 Hex	.156 Hex
H	#5-40, UNC-2A	#5-40, UNC-2A
M	.31	.31



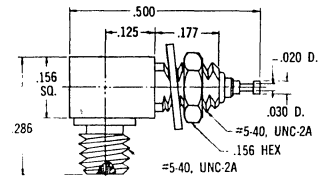
	51-733-0000-2G	51-733-3701-2G
A	.49	.47
B	.343 Hex	.343 Hex
F	.228	.228
G	.375 Hex	.375 Hex
H	#9/32-40, UNS-2A	#9/32-40, UNS-2A
M	.31	.31



	52-724-0000-2G	52-724-3701-2G
A	.40	.38
D	.168 D.	.168 D
M	.31	.31



	52-725-0000-2G	52-725-3701-2G
A	.34	.32
C	.156 Hex	.156 Hex
M	.31	.31



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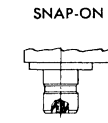

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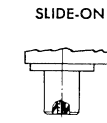

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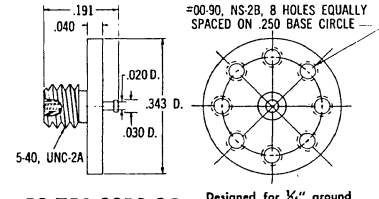
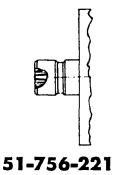


50-756-2210-2G

Designed for 1/16" ground plain spacing.



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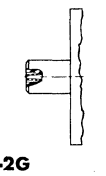

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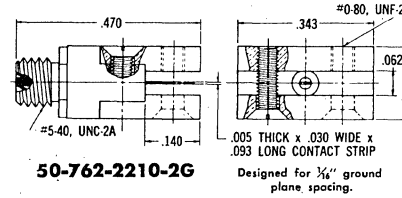
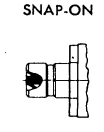


50-762-2210-2G

Designed for 1/16" ground plane spacing.



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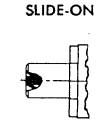

52-762-2210-2G

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SEALECTRO PROGRAMMING DEVICES

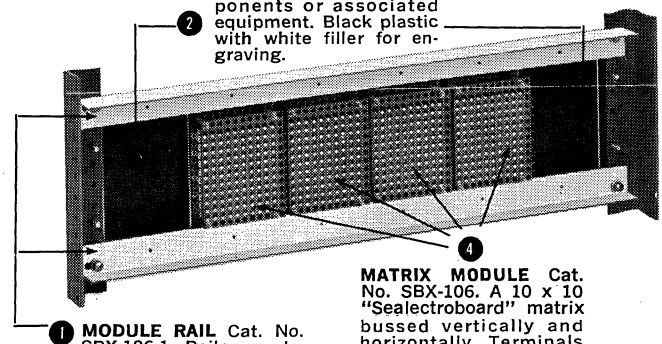
SEALECTRO PROGRAM SWITCHING

SEALECTROBOARD ™ MODULAR CORDLESS PROGRAM BOARDS *

"Sealectroboard" programming and switching provides complete ease and simplicity of operation with drastic reductions in hardware and space. The units consist of two decks of bussed contacts running at right angles to each other in the X and Y directions, forming an electrical matrix. A single shorting or component holding pin is used to complete the program circuit . . . move the pin to a new location and a new program function is generated.

The "Modular Sealectroboard" provides an extremely flexible means of program system expansion with a built-in appearance. The system consists of only four standard component assemblies, designed such that when installed in a standard E.I.A. 19″ relay rack, or bench cabinet, they result in a very attractive unit.

The "Modular Sealectroboard" can be expanded from a 10 x 10 hole matrix to a 10 x 60 hole matrix in one standard 5¼″ x 19″ rack panel. Additional panels can be added and interwired to expand program capacity as system requirements dictate.

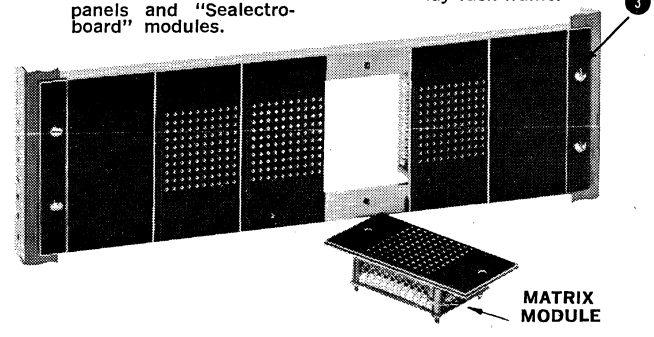


BLANK PANEL Cat. No. SBX-106-2. Fills in unused width. May be used for mounting other components or associated equipment. Black plastic with white filler for engraving.

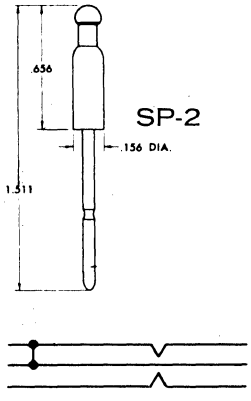
MATRIX MODULE Cat. No. SBX-106. A 10 x 10 "Sealectroboard" matrix bussed vertically and horizontally. Terminals are combination solder and Klip-on. Contact strips are silver plated.

MODULE RAIL Cat. No. SBX-106-1. Rails are designed for mounting on standard 19" relay racks. Offset is provided for flush panel installation. Mounting holes are provided for any combination (up to 6) of blank panels and "Sealectroboard" modules.

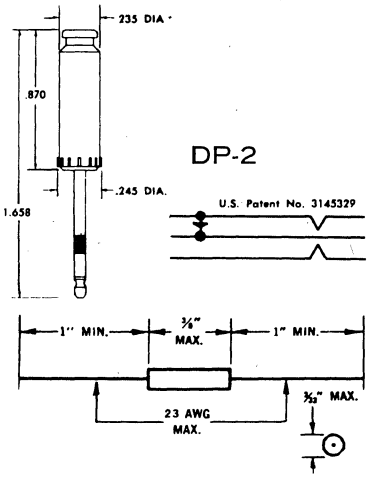
SIDE PLATE Cat. No. SBX-106-3. Provides end dressing, or return to relay rack frame.



SHORTING PIN

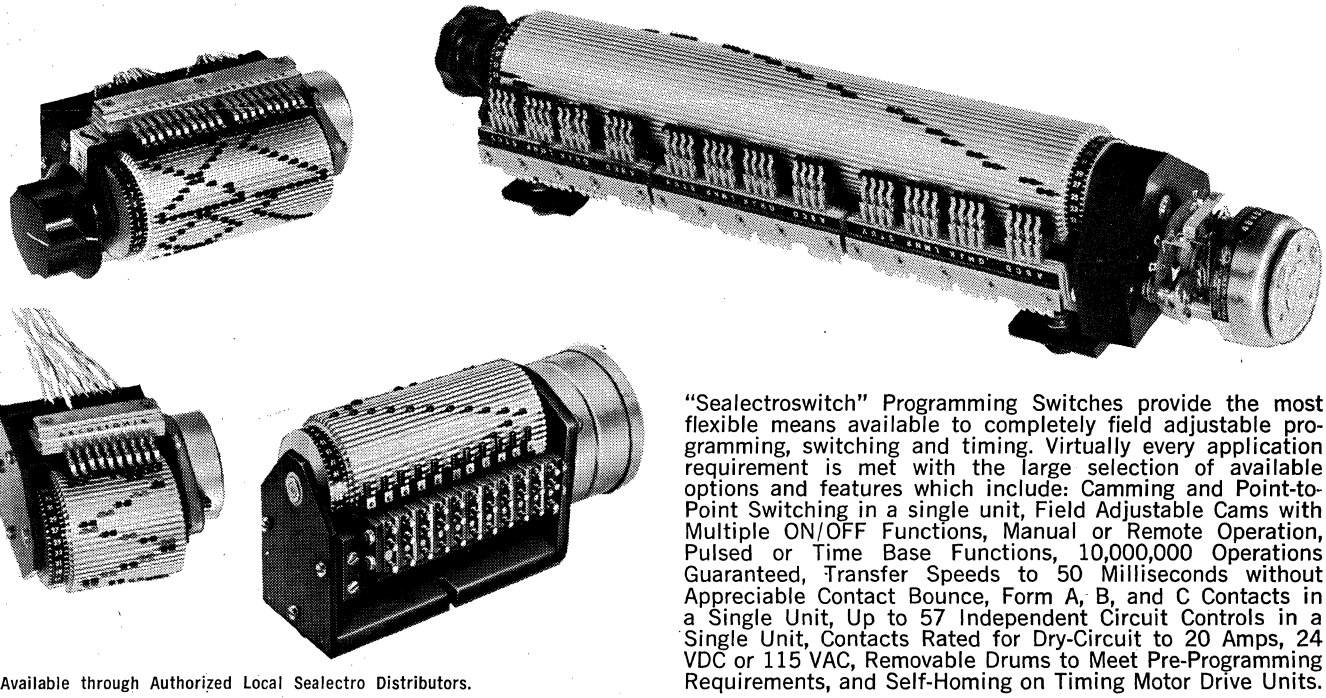


COMPONENT PIN



* Available off-the-shelf from Authorized Local Sealectro Distributors.

SEALECTROSWITCH™ FIELD ADJUSTABLE PROGRAMMING SWITCHES *



"Sealectroswitch" Programming Switches provide the most flexible means available to completely field adjustable programming, switching and timing. Virtually every application requirement is met with the large selection of available options and features which include: Camming and Point-to-Point Switching in a single unit, Field Adjustable Cams with Multiple ON/OFF Functions, Manual or Remote Operation, Pulsed or Time Base Functions, 10,000,000 Operations Guaranteed, Transfer Speeds to 50 Milliseconds without Appreciable Contact Bounce, Form A, B, and C Contacts in a Single Unit, Up to 57 Independent Circuit Controls in a Single Unit, Contacts Rated for Dry-Circuit to 20 Amps, 24 VDC or 115 VAC, Removable Drums to Meet Pre-Programming Requirements, and Self-Homing on Timing Motor Drive Units.

* Available through Authorized Local Sealectro Distributors.

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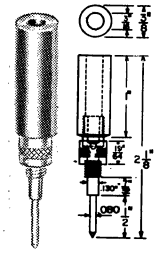
specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

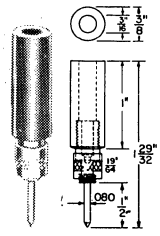
INSULATED TIP PLUG
Solderless



HANDLE: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: wire fits through body of tip then wrapped around screw portion and tightened with knurled collar. Threaded type. Fits standard phone tip jacks. Std. Pkg. 100

No.	Type	NET Per C
200	Senior	$15.00

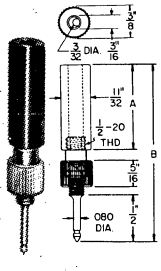
INSULATED TIP PLUG
Solderless



HANDLE: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: wire fits through body of tip then wrapped around screw portion and tightened with knurled collar. Threaded type. Fits standard phone tip jacks. Std. Pkg. 100

No.	Type	NET Per C
201	Junior	$15.00

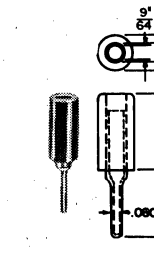
INSULATED TIP PLUG
Signal Corps Approved



HANDLE: ETHYL CELLULOSE, Type EM-1, per MIL-P-3412. Red, Black. SPECIFY COLOR
PLUG: Steel, case hardened to Signal Corps specs.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Recess at end of prod tip holds plugs more firmly in jack spring. Prevents tip from falling out when in an inverted position. Std. Pkg. 50

No.	Handle (A)	Overall (B)	NET Per C
250	1 inch	2 1/8"	$54.00
358	3 inch	4 1/8"	84.00

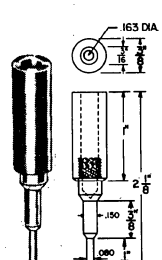
INSULATED TIP PLUG
Solder Type



HANDLE: MOLDED BUTYRATE, per FED. SPEC. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
BODY: Brass, nickel plated our No. 158.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Drawn hollow tip for easy soldering. Fits standard phone tip jack. Std. Pkg. 100

No.	NET Per C
237	$11.00

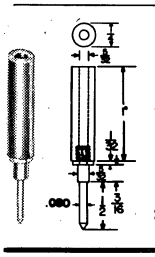
INSULATED TIP PLUG
Heavy Duty Type



HANDLE: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Large diameter well enables soldering of heavy duty wire directly into plug. Fits standard phone tip jacks. Std. Pkg. 100

No.	NET Per C
229	$15.00

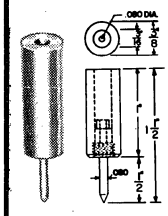
SUB-MINIATURE TIP PLUG



HANDLE: FIBRE, per MIL-F-148A, Grade CH. Red, Black. SPECIFY COLOR
TIP: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Ideally suited for checking sub-miniature equipment. Fits standard phone tip jacks. Std. Pkg. 100

No.	NET Per C
270	$18.00

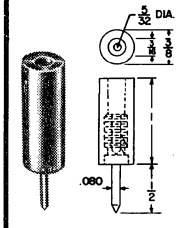
INSULATED SHORT TIP PLUG



HANDLE: MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Inserts flush to insulate handle, no metal exposed; eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 100

No.	NET Per C
203	$12.00

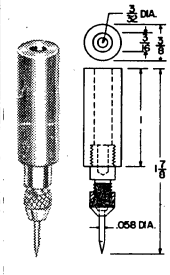
INSULATED SHORT TIP PLUG
Solderless



HANDLE: MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: wire fits through handle and body of tip then wrapped around screw portion. Inserts flush to insulated handle, no metal exposed, eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 50

No.	NET Per C
283	$14.00

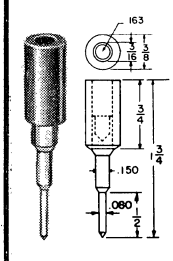
INSULATED TIP PLUG
Phono Needle



HANDLE: MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Removable chuck for easy replacement of broken needle. Needle pierces corrosion or plating for positive reading. Std. Pkg. 50

No.	NET Per C
216	$20.00

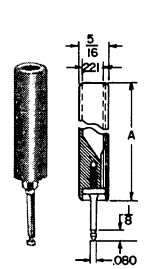
ADAPTER
Banana Plug to Tip Plug



HANDLE: MOLDED BUTYRATE, per FED. SPEC. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Accepts standard banana plugs, adapts to standard tip plug. Std. Pkg. 100

No.	NET Per C
215	$15.00

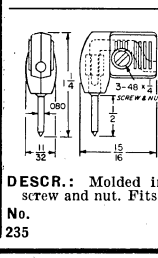
SUB-MINIATURE TIP PLUG
AND TEST PROD



HANDLE: Molded Nylon, per MIL-P-20693A. Available in Red or Black. SPECIFY COLOR
TIP: Brass, Silver plated.
DESCR.: Solderless assembly. Ideal for use with sub-miniature printed-circuit tip jacks. Sharp tip breaks flux or oxide coating on printed-circuit pattern for positive contact when used as prod. Grooved head or prod makes positive contact when laid across wires. Fits all standard .080" tip jacks. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
348	1 inch	1 9/16"	$33.00
349	4 inches	4 9/16"	42.00

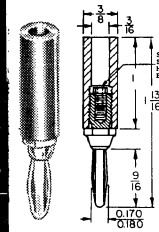
METER TIP PLUG



HANDLE: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR
TIP: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Molded in two halves for easy assembly with screw and nut. Fits standard phone tip jacks. Std. Pkg. 50

No.	NET Per C
235	$27.00

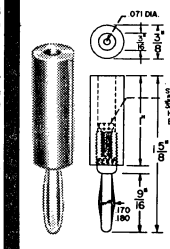
INSULATED BANANA PLUG



HANDLE: MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Hex brass, nickel or silver plated.
SPRING: Four-leaved phosphor bronze or beryllium copper, nickel or silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Std. Pkg. 100

No.	Spring Material	Plating	NET Per C
212	Phosphor Bronze	Nickel	$23.00
232	Phosphor Bronze	Silver	25.00
242	Beryllium Copper	Nickel	32.00
262	Beryllium Copper	Silver	35.00

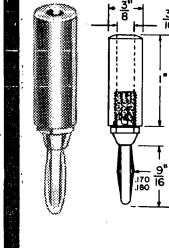
INSULATED BANANA PLUG



HANDLE: MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Brass, nickel or silver plated.
SPRING: Four-leaved phosphor bronze or beryllium copper, nickel or silver plated.
RATING: 15 Amps AC for 10° Temp. rise, continuous duty.
DESCR.: Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Std. Pkg. 100

No.	Spring Material	Plating	NET Per C
211	Phosphor Bronze	Nickel	$19.00
261	Phosphor Bronze	Silver	21.00
271	Beryllium Copper	Nickel	24.00
281	Beryllium Copper	Silver	27.00

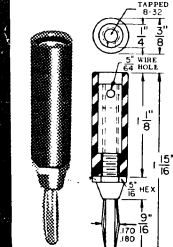
INSULATED BANANA PLUG
Solderless



HANDLE: MOLDED THERMOSETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Hex brass, nickel or silver plated.
SPRING: Four-leaved phosphor bronze or beryllium copper, nickel or silver plated.
RATING: 15 AC Amps for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: Wire fits through handle and body of tip then wrapped around screw portion. Fits standard banana jacks. Std. Pkg. 50

No.	Spring Material	Plating	NET Per C
295	Phosphor Bronze	Nickel	$25.00
296	Phosphor Bronze	Silver	27.00
297	Beryllium Copper	Nickel	33.00
298	Beryllium Copper	Silver	36.00

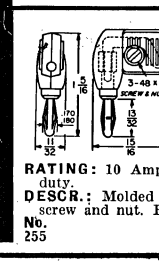
INSULATED BANANA PLUG
Solderless



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black. SPECIFY COLOR
BODY: Hex brass, nickel plated with mating brass spacer.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross drilled hole in spacer enables quick solderless connection of wire to plug. Fits standard banana jacks. Std. Pkg. 100

No.	NET Per C
236	$35.00

METER BANANA PLUG



HANDLE: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR
PLUG: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Molded in two halves for easy assembly with screw and nut. Fits standard banana jacks. Std. Pkg. 50

No.	NET Per C
255	$36.00

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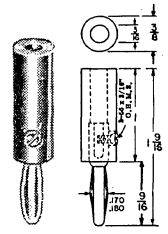
specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

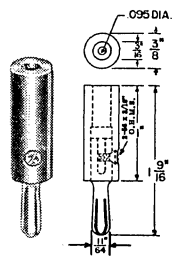
INSULATED BANANA PLUG With Side Screw



HANDLE: MOLDED THERMO-SETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze or beryllium copper, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Set screw secures wire without soldering. Fits standard banana jacks. **Std. Pkg. 100**

No.	Spring	NET Per C
204	Phosphor Bronze	$19.00
254	Beryllium Copper	27.00

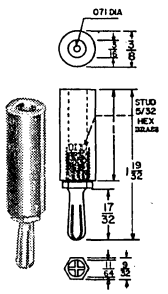
INSULATED BANANA PLUG Split Type With Side Screw



HANDLE: MOLDED THERMO-SETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross-slotted for spring tension. Set screw secures wire, without soldering. Fits standard banana jacks. **Std. Pkg. 100**

No.	NET Per C
213	$18.00

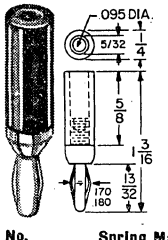
INSULATED BANANA PLUG Split Type With Internal Stud



HANDLE: MOLDED THERMO-SETTING plastic, Red & Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross-slotted for spring tension. Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. **Std. Pkg. 100**

No.	NET Per C
253	$19.00

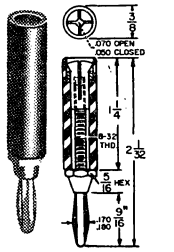
INSULATED BANANA PLUG Midget Type



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black. SPECIFY COLOR
PLUG: Brass, nickel or silver plated.
SPRING: Phosphor bronze or beryllium copper, nickel or silver plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Wire soldered directly into stud. Fits standard banana jacks. **Std. Pkg. 50**

No.	Spring Material	Plating	NET Per C
291	Phosphor Bronze	Nickel	$19.00
292	Phosphor Bronze	Silver	21.00
293	Beryllium Copper	Nickel	24.00
294	Beryllium Copper	Silver	27.00

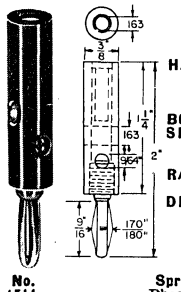
INSULATED BANANA PLUG With Internal Spring Collett



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red or Black. SPECIFY COLOR
BODY: Hex brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: Spring collett provides quick connect and disconnect of wire. Tin wire for secure contact. Fits standard banana jack. **Std. Pkg. 100**

No.	NET Per C
239	$41.00

STACK BANANA PLUG Solderless



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black, Yellow or Green. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze or beryllium copper, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless connection. Accepts standard banana plugs in top and side. Interconnects unlimited amount of multiple circuits. **Std. Pkg. 50**

No.	Spring Material	NET Per C
1511	Phosphor Bronze	$33.00
1512	Beryllium Copper	36.00

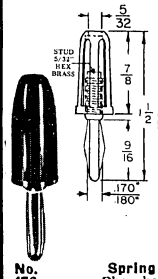
NYLON PLUGS COLOR CODE SUFFIX

Add to Catalog Number as required

—101 WHITE	—104 GREEN	—106 ORANGE	—112 PURPLE
—102 RED	—105 BLUE	—107 YELLOW	—113 GREY
—103 BLACK		—108 BROWN	

BANANA PLUG TYPE

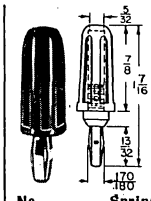
NYLON BANANA PLUG



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel plated.
SPRING: Phosphor bronze or beryllium copper nickel or silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. **Std. Pkg. 100**

No.	Spring Material	Plating	NET Per C
476	Phosphor Bronze	Nickel	$21.00
477	Phosphor Bronze	Silver	24.00
478	Beryllium Copper	Nickel	27.00
479	Beryllium Copper	Silver	30.00

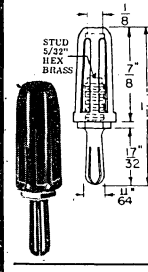
NYLON BANANA PLUG Midget



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel or silver plated.
SPRING: Phosphor bronze or beryllium copper, nickel or silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Wire soldered directly into stud. Fits standard banana jacks. **Std. Pkg. 100**

No.	Spring Material	Plating	NET Per C
426	Phosphor Bronze	Nickel	$18.00
427	Phosphor Bronze	Silver	21.00
428	Beryllium Copper	Nickel	24.00
429	Beryllium Copper	Silver	27.00

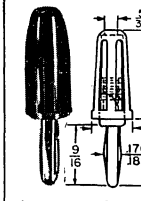
NYLON BANANA PLUG Split Type



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross-slotted for spring tension. Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. **Std. Pkg. 100**

No.	NET Per C
494	$20.00

NYLON BANANA PLUG Solderless

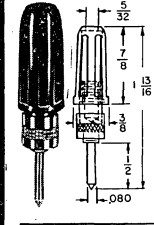


HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel or silver plated.
SPRING: Phosphor bronze or beryllium copper nickel or silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: Wire fits through handle and body of tip then wrapped around screw portion. Inserts flush to handle, no metal exposed, eliminates possibility of shock or grounding. Fits standard banana jacks. **Std. Pkg. 100**

No.	Spring Material	Plating	NET Per C
455	Phosphor Bronze	Nickel	$21.00
456	Phosphor Bronze	Silver	24.00
457	Beryllium Copper	Nickel	27.00
458	Beryllium Copper	Silver	30.00

PIN TIP TYPE

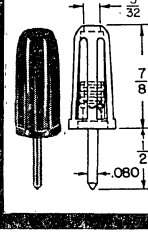
NYLON TIP PLUG Solderless



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: wire fits through body of tip then wrapped around screw portions and tightened with knurled collar. Threaded type. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	NET Per C
490	$16.00

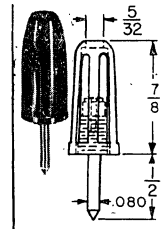
NYLON SHORT TIP PLUG Solderless



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless: Wire fits through handle and body of tip then wrapped around screw portion. Inserts flush to handle, no metal exposed, eliminates possibility of shock or grounding. Fits standard phone tip jacks. **Std.Pkg.100**

No.	NET Per C
492	$20.00

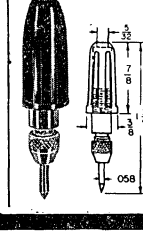
NYLON SHORT TIP PLUG



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
PLUG: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Inserts flush to insulated handle, no metal exposed; eliminates possibility of shock or grounding. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	NET Per C
491	$15.00

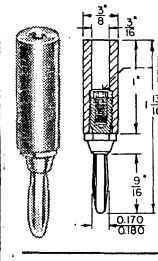
NYLON TIP PLUG Phono Needle



HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Removable chuck for easy replacement of broken needles. Needle pierces corrosion or plating for positive reading. **Std. Pkg. 50**

No.	NET Per C
493	$20.00

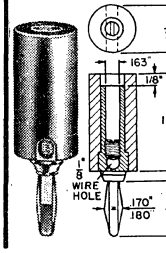
HIGH TEMPERATURE BANANA PLUG



HANDLE: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Hex brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Withstands temperature to 1200 degrees F. Full resiliency—non-oxidizing. Excellent for thermocouple connection on plastic extruding die heads. **Std. Pkg. 10**

No.	NET Per C
388	$72.00

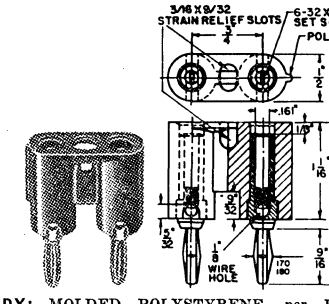
STACK BANANA PLUG



BODY: MOLDED POLYSTYRENE, per Fed. Spec. L-P416, Type I for electrical characteristics. Red or Black. SPECIFY COLOR
PLUG: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
SCREW: Steel, cadmium plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Internal set screw for wire or phone tip connection. Can be stacked for multiple connections. **Std. Pkg. 25**

No.	NET Ea.
324	$48.00

DUAL BANANA PLUG



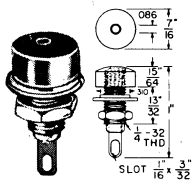
BODY: MOLDED POLYSTYRENE, per Fed. Spec. L-P416 Type I for electrical characteristics. Red or Black.
PLUG: Brass, nickel plated. SPECIFY COLOR
SPRING: Four-leaved phosphor bronze, nickel plated.
SCREW: Steel, cadmium plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 5K Volts 60 cycle AC continuous working voltage. CAPACITANCE 1.0 mmfd. between conductors.
DESCR.: Mates with standard dual binding post ¾" centers. Polarity indicated on top and side. Wire held with internal set screw. Can be stacked for multiple connections. **Std. Pkg. 25**

No.	NET Per C
210	$72.00

specify SMITH

HERMAN H. SMITH, INC.

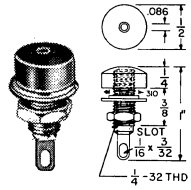
ELECTRONIC COMPONENTS



INSULATED PHONE TIP JACK

HEAD: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Positive contact with standard phone tip plugs. Supplied complete with hex nut and fibre washer. Mounts in 9/16" hole in panels up to 3/8" thick. Accepts standard phone tip plugs. **Std. Pkg. 100**

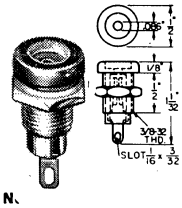
No.	NET Per C
202	$14.00



INSULATED PHONE TIP JACK

HEAD: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black Yellow, Green. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Complete with hex nut and fibre washer. Mounts in 9/16" hole in panels up to 3/8" thick. Accepts standard phone tip plugs. **Std. Pkg. 50**

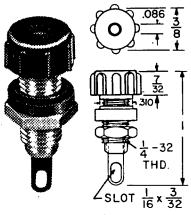
No.	NET Per C
223	$21.00



MOLDED NYLON TIP JACK

BODY: MOLDED NYLON, per MIL-P-20693A. Red, Black, Yellow, Green, Blue. SPECIFY COLOR
CONTACT: Phosphor bronze.
CAP: Brass, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty. 5 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd.
DESCR.: Mounts in 3/8" hole in panels up to 5/16" thick. Accepts standard phone tip plugs. **Std. Pkg. 100**

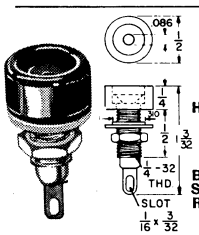
No.	NET Per C
240	$18.00



INSULATED PHONE TIP JACK

HEAD: Fluted Head, MOLDED NYLON, per MIL-P-20693A. With molded nylon washer. Red, Black, Yellow, Green, Blue. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Extruded portion of head and washer provides excellent insulation from panel. Supplied with hex nut. Mounts in 9/16" hole in panels up to 1/4" thick. Accepts standard tip plugs. **Std. Pkg. 100**

No.	NET Per C
241	$25.00

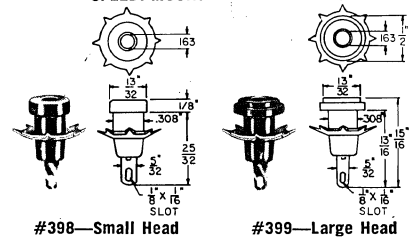


INSULATED TIP JACK Meter Type

HEAD: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue per LC-726-1. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Supplied complete with hex nut and fibre washer. Mounts in 9/16" hole in panels up to 3/8" thick. Recessed jack body prevents possibility of shock or grounding. Accepts standard phone tip plugs. **Std. Pkg. 50**

No.	NET Per C
282	$17.00

"SPEEDI-MOUNT" BANANA JACKS

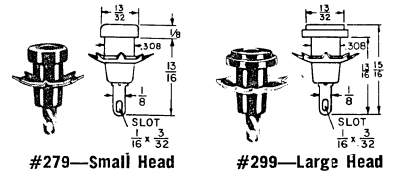


#398—Small Head #399—Large Head

BODY: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, per LC-726-1. SPECIFY COLOR
CONTACT: Brass, cadmium plated.
WASHER: Steel cadmium plated, internal and external tooth.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty. 3 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Unusual dished lockwasher permits fast assembly. Teeth embed into jack and panels, prevent pulling out and turning. Mounts in 5/16" hole in panels up to 3/16" thick. Accepts standard banana plug. **Std. Pkg. 100**

No.		NET Per C
398	Small Head 13/32"	$6.60
399	Large Head 1/2"	$6.60

"SPEEDI-MOUNT" TIP JACKS

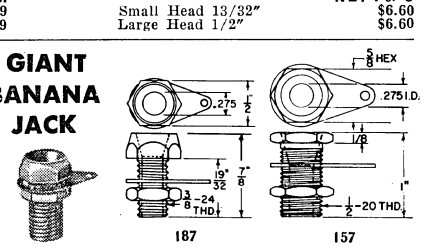


#279—Small Head #299—Large Head

BODY: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
SPRING: Phosphor bronze.
WASHER: Steel cadmium plated, internal and external tooth.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty. 3 K Volts 60 cycle AC continuous working voltage. CAACITANCE 3.0 mmfd.
DESCR.: Unusual dished lockwasher permits fast assembly. Teeth embed into jack and panels, prevents pulling out and turning. Mounts in 5/16" hole in panels up to 3/16" thick. Accepts standard phone tip plugs. **Std. Pkg. 100**

No.		NET Per C
279	Small Head 13/32"	$6.60
299	Large Head 1/2"	$6.60

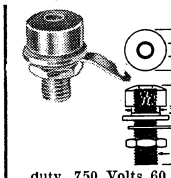
GIANT BANANA JACK



187 157

BODY: HEX BRASS, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and brass tinned lug. **Std. Pkg. 25**

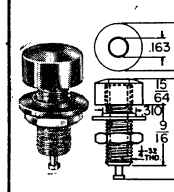
No.	Mtg. Hole	Panel	Net Per C
187	3/8"	1/2"	$30.00
157	1/2"	5/8"	30.00



INSULATED BANANA JACK

HEAD: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Supplied with hex nut, fibre washer, and brass tinned lug. Mounts in 9/16" hole in panels up to 3/8" thick. Accepts standard banana plugs. **Std. Pkg. 100**

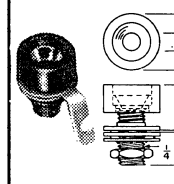
No.	NET Per C
205	$14.00



INSULATED BANANA JACK With Solder Tab

HEAD: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
BODY: Brass, nickel plated.
TAB: Brass, cadmium plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Supplied with hex nut and fibre washer. Mounts in 9/16" hole in panels up to 5/8" thick. Solder direct to tab Accepts standard banana plugs. **Std. Pkg. 100**

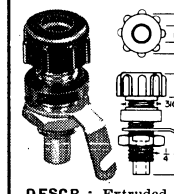
No.	NET Per C
256	$15.00



INSULATED BANANA JACK

HEAD: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue per LC-726-1. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Supplied with hex nut, fibre washer, lockwasher and brass tinned lug. Mounts in 9/16" hole in panels up to 5/8"thick. Jack body recessed for snug contact. Accepts standard banana plugs. **Std. Pkg. 100**

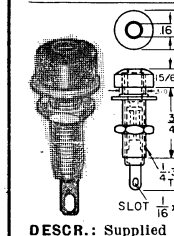
No.	NET Per C
219	$16.00



INSULATED MIDGET BANANA JACK

HEAD: Fluted Head, MOLDED NYLON, per MIL-P-20693A. With molded nylon washer. Red, Black, Yellow, Green, Blue. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Extruded portion of head and washer provides excellent insulation from panel. Supplied with hex nut, brass tinned lug. Mounts in 9/16" hole in panels up to 1/4" thick. Accepts standard banana plugs. **Std. Pkg. 100**

No.	NET Per C
221	$24.00



INSULATED JACK Combination Type

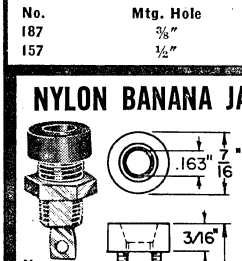
HEAD: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Supplied with hex nut and fbre washer. Accepts standard phone tip plugs or standard banana plugs. **Std. Pkg. 100**

No.	NET Per C
206	$17.00

NYLON BANANA JACKS

COLOR CODE SUFFIX — Add to Catalog Number as required

— 101 WHITE — 102 RED — 103 BLACK — 104 GREEN — 105 BLUE — 106 ORANGE — 107 YELLOW — 108 BROWN — 112 PURPLE — 113 GREY



"DOUBLE-D" BODY

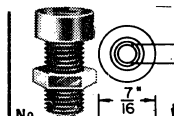
BODY: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
CONTACT: Brass, cadmium plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous working voltage. CAPACITANCE 5.5 mmfd.
DESCR.: Mounts in 5/16" hole in panels up to 5/16" thick. Accepts standard banana plugs. Wide temperature and humidity range. "Double-D" body mounts in round or punched hole to fit. **Std. Pkg. 50**

No.	NET Per C
1509	$12.00

No. 1499

As above but completely enclosed jack with solder turret terminals.

No.	NET Per C
1499	$15.00



FULL ROUND BODY

BODY: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
CONTACT: Brass, cadmium plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 5.0 mmfd.
DESCR.: Mounts in 9/16" hole in panels up to 9/16" thick. Accepts standard banana plugs. Wide temperature and humidity range. **Std. Pkg. 50**

No.	NET Per C
1508	$12.00

No. 1498

As above but completely enclosed jack with solder turret terminals.

No.	NET Per C
1498	$15.00

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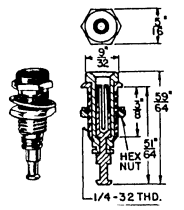
specify SMITH
HERMAN H. SMITH, INC.
ELECTRONIC COMPONENTS

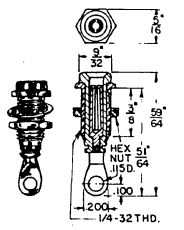
NYLON TIP JACKS

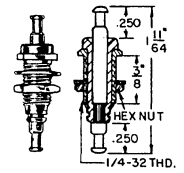
With Metal Shell
Made to Meet MS-16108 Spec.

COLOR CODE SUFFIX
(Add to Catalog Number as Required)

— 101 WHITE	— 105 BLUE	— 108 BROWN
— 102 RED	— 106 ORANGE	— 112 PURPLE
— 103 BLACK	— 107 YELLOW	— 113 GREY
— 104 GREEN		





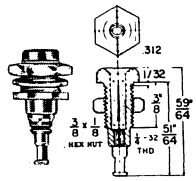


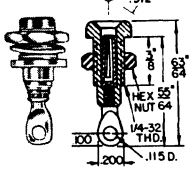
Molded Nylon Tip Jack. Metal shell eliminates possibility of stripping threads during assembly. Meets following requirements:

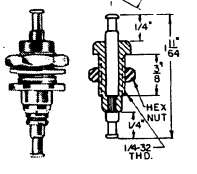
1. Salt Spray Test — Withstands 100 hours.
2. Rating — 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 10.0 mmfd.
3. Insulation Resistance — 5,000 megohms.
4. Operating Conditions —
   A. Continuous: 23 hours on, 1 hour off.
   B. Elevation: Up to 5,000 ft.
   C. Temperature: —55 to + 85 °C.
   D. Humidity: Up to 95%.
5. Material Specifications —
   A. Insulator: Molded Nylon, per MIL-P-20693A. Specify color as coded above.
   B. Shell and Nut: Brass Nickel Plated per QQ-N-290, type V (FC).
   C. Lockwasher: Phosphor Bronze Nickel Plated per Spec. QQ-N-290, type V (FC).
   D. Center Contact: Heat Treated Bery, Copper, Silver plated per QQ-S-365, Gold plated overall.
6. Non-Operating Conditions —
   A. Elevation: Up to 50,000 ft.
   B. Temperature: Continuous exposure for 72 hours at +160°F and 240 hours at —80°F.
   C. Humidity: Up to 100%.

No.	Type	Std. Pkg.	NET Per C
1501	Wrap Around	25	$30.00
1502	Spade Terminal	25	42.00
1503	Feed Through	25	39.00

All Nylon







Completely Molded Nylon Jack. Fits all standard phone tip plugs. Contact recessed in head for safe contact. Hexagon head for grip in tightening. Mounts in ¼" hole in panels up to ¼" thick. Meets following requirements:

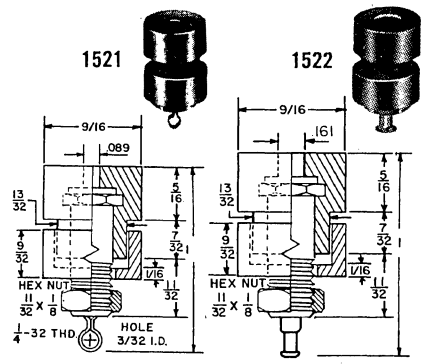
1. Salt Spray Test — Withstands 100 hours.
2. Rating: 15 Amps AC for 10°C Temp. rise, continuous duty. 5 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd.
3. Insulation Resistance — 5,000 megohms.
4. Operating Temperature— —55 to +150°C.
5. Material Specifications —
   A. Body: Molded Nylon, per MIL-P-20693A. Specify Color as coded above.
   B. Center contact: Heat treated Phosphor Bronze, Silver plated per QQ-S-365, Gold plated overall. No. 1507 Brass, per QQ-B-626, Comp. 22, plated as above.
   C. Hex Nut: Brass Nickel Plated.

No.	Type	Std. Pkg.	NET Per C
1505	Wrap Around	25	$21.00
1506	Spade Terminal	25	30.00
1507	Feed Through	25	28.20

HIGH VOLTAGE NYLON JACKS

Color Code Suffix
Add to Catalog Number as Required

— 101 WHITE	— 105 BLUE	
— 102 RED	— 106 ORANGE	
— 103 BLACK	— 107 YELLOW	
— 104 GREEN	— 108 BROWN	



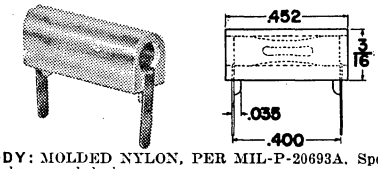
Made to meet MS-16107 Spec.

Heavy molded nylon body and cup washer prevent high-voltage flashover to panel. Meets following requirements:

1. Salt Spray Test — Withstands 100 hours.
2. Electrical Rating — 15 Amps AC for 10°C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage. Millivolt drop per MIL-J-6751.
3. Material Specifications—
   A. Insulator and Washer: Nylon Grade FM 10001, in accordance with MIL-P-17091 spec.
   B. Insert Shell and Nut: Brass, Nickel plated per spec. QQ-N-290, type V (FC). Insert gold washed overall.
   C. Contact: Phosphor bronze or beryllium copper, gold washed.
   D. Terminal style: Optional formed cylinder or slotted flat terminals as shown.

No.		Std. Pkg. 25 NET Per C
1521	TIP JACK	$45.00
1522	BANANA JACK	$45.00

RIGHT ANGLE PRINTED CIRCUIT TEST JACK

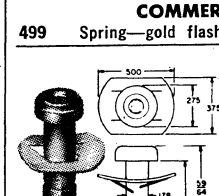


BODY: MOLDED NYLON, PER MIL-P-20693A. Specify color as coded above.
SPRING: Berylium Copper, per QQ-C-533.
FINISH: Silver underplate, .0002" min., per QQ-S-365, Type I, with .00003" Gold overplate; per MIL-F-14072, M310.
RATINGS: 5 Amps AC for 10°C Temp. rise, continuous duty. 1.5 KV. 60 cycle AC continuous working voltage. Contact resistance 5 milliohms max. at rated current. Capacitance less than 5 mmfd at 1 Mc.
MOUNTING: Mounts in .052" dia. holes, on .400" centers, in boards up to 3/16" thick. Can be spaced side-by-side .060" on centers min.
MECHANICAL DATA: Thermal shock, vibration, humidity, insulation resistance, and salt spray tests per MIL-STD-202B. Solderability per MIL-S-6872. Insertion and withdrawal force: 8 oz. min., 5 lbs. max. with .080" (±.001") dia. probe.
DECR.: Double-entry design probe inserts from either end of jack. Closed entry construction will not accept probes larger than .084", will contact probes down to .074". Closed bottom construction keeps jack from fouling with solder or flux. Locking ears hold jack firmly in board until soldered. Precise dimensions allow for automated assembly on boards. Std. Pkg. 100

No.	NET per C
430	$10.00

COMMERCIAL TYPE

499	Spring—gold flash over .0002 silver.	$9.00

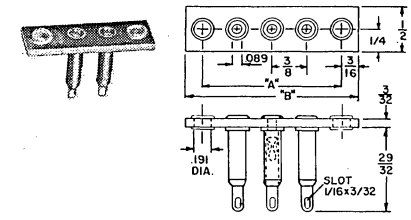


NYLON TEST TIP JACK

BODY: Nylon, Grade FM 10001. SPECIFY COLOR
CONTACT: Phosphor bronze, gold plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 3 KV 60 cycle AC continuous working voltage.
DESCR.: Mounts in 5/16" hole, with Tinnerman Speed Nut for fast permanent assembly. Teeth embed into jack body, preventing pulling out and turning. Accepts standard phone tip plugs. Std. Pkg. 25

No.	NET Per C
1598	$15.00

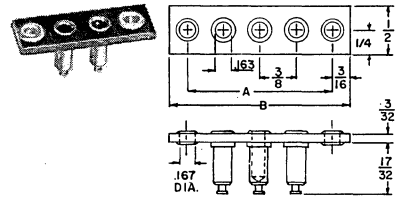
PIN JACK STRIPS



STRIP: LAMINATED PHENOLIC, XP, Black. Meets Federal Spec. L-L-31, Type I.
BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 KV, 60 cycle AC continuous working voltage.
DESCR.: From 2 to 10 pin jacks assembled on ⅜" centers on a heavy-duty board. Provides positive contact with standard phone tip plugs. Mounting holes accept screws up to #8. Std. Pkg. 25

No.	Jacks	Mtg. Ctrs. ("A")	Length ("B")	NET Per C
1982	2	1⅛"	1½"	$21.00
1983	3	1½"	1⅞"	27.00
1984	4	1⅞"	2¼"	36.00
1985	5	2¼"	2⅝"	45.00
1986	6	2⅝"	3"	51.00
1987	7	3"	3⅜"	60.00
1988	8	3⅜"	3¾"	69.00
1989	9	3¾"	4⅛"	75.00
1990	10	4⅛"	4½"	84.00

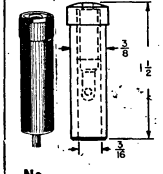
BANANA JACK STRIPS



STRIP: LAMINATED PHENOLIC, XP, Black, Meets Federal Spec. L-L-31, Type 1.
BODY: Brass, nickle plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 KV, 60 cycle AC continuous working voltage.
DESCR.: From 2 to 10 Banana jacks assembled on⅜" centers on a heavy-duty board. Provides positive contact with standard banana plugs. Mounting holes accept screws up to #8. Std. Pkg. 25

No.	Jacks	Mtg. Ctrs. ("A")	Length ("B")	Net Per C
1972	2	1⅛"	1½"	$21.00
1973	3	1½"	1⅞"	27.00
1974	4	1⅞"	2¼"	36.00
1975	5	2¼"	2⅝"	45.00
1976	6	2⅝"	3"	51.00
1977	7	3"	3⅜"	60.00
1978	8	3⅜"	3¾"	69.00
1979	9	3¾"	4⅛"	75.00
1980	10	4⅛"	4½"	84.00

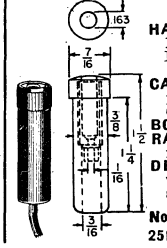
IN-LINE PHONE TIP JACK



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black, Yellow, Green. SPECIFY COLOR
CAP.: MOLDED THERMOSETTING plastic Red and Black per MIL-M-14 CFG. Yellow, Green, per LC-726-1.
BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Suitable for test lead extension where long leads are required. Accepts standard phone tip plug. Std. Pkg. 50

No.	NET Per C
248	$21.00

IN-LINE BANANA JACK



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black, Yellow, Green. SPECIFY COLOR
CAP: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, per LC-726-1.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Suitable for test lead extension where long leads are required. Accepts standard banana plugs. Std. Pkg. 50

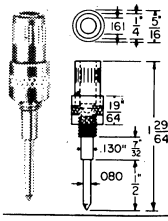
No.	NET Per C
251	$21.00

specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

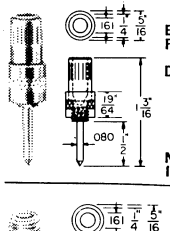
SOLDERLESS TIP PLUG



BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless; wire fits through body of tip then wrapped around screw portion and tightened with knurled collar. Force fit type. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	Type	NET Per C
105	Senior	$12.00

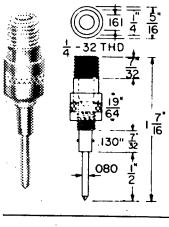
SOLDERLESS TIP PLUG



BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless; wire fits through body of tip then wrapped around screw portion and tightened with knurled collar. Force fit type. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	Type	NET Per C
106	Junior	$12.00

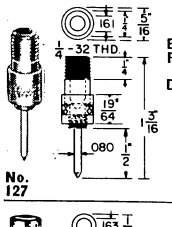
SOLDERLESS TIP PLUG Threaded Sr.



BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless; wire fits through body of tip, then wrapped around screw portion and tightened with knurled collar. Threaded for easy assembly in plastic handle. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	Type	NET Per C
124	Senior	$12.00

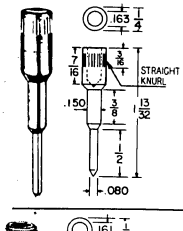
SOLDERLESS TIP PLUG Threaded Jr.



BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Solderless; wire fits through body of tip, then wrapped around screw portion and tightened with assembly in plastic handle. Fits knurled collar. Threaded for easy standard phone tip jacks. **Std. Pkg. 50**

No.	Type	NET Per C
127	Junior	$12.00

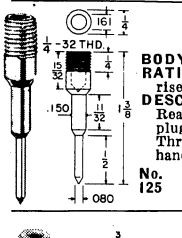
HEAVY DUTY TIP PLUG Force-Fit



BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise continuous duty.
DESCR.: Extra large well for soldering. Rear of plug accepts standard banana plugs. Fits all standard phone tip jacks. **Std. Pkg. 25**

No.	Type	NET Per C
156	Force Fit	$11.00

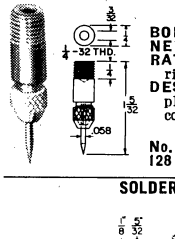
HEAVY DUTY TIP PLUG Threaded



BODY: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Extra large well for soldering. Rear of plug accepts standard banana plugs. Fits standard phone tip jacks. Threaded for easy assembly in plastic handle. **Std. Pkg. 50**

No.	Type	NET Per C
125	Threaded	$12.00

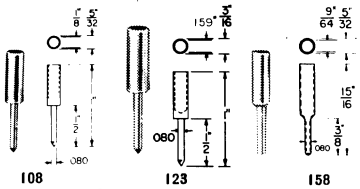
NEEDLE TIP AND CHUCK



BODY: Brass, nickel plated.
NEEDLE: Steel, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Removable chuck for easy replacement. Needle pierces plating or corrosion for positive reading. **Std. Pkg. 50**

No.	NET Per C
128	$19.00

SOLDER TYPE PHONE TIPS



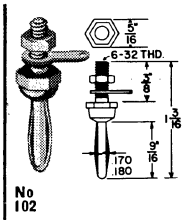
108 123 158

Brass, Nickel Plated

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty. **Std. Pkg. 100**

No.	Type	NET Per C
108	Standard	$2.50
123	Large I.D.	3.50
158	Drawn	1.50

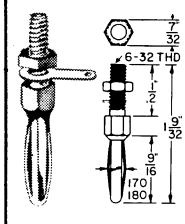
BANANA PLUG



BODY: HEX BRASS, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and phosphor bronze lug. Threaded stud for panel mounting. Fits standard banana jacks. **Std. Pkg. 100**

No	NET Per C
102	$20.00

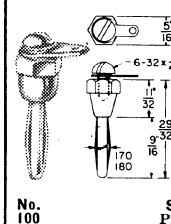
BANANA PLUG



BODY: HEX BRASS, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and phosphor bronze lug. Threaded stud for panel mounting. Fits standard banana jacks. **Std. Pkg. 100**

No.	NET Per C
103	$20.00

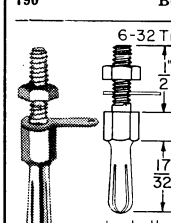
BANANA PLUG



BODY: HEX BRASS, nickel plated.
SPRING: Four-leaved phosphor bronze or beryllium copper, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with screw and phosphor bronze tinned lug. Internal female permits use on all size panels. Fits standard banana jacks. **Std. Pkg. 100**

No.	Spring Material	NET Per C
100	Phosphor Bronze	$20.00
190	Beryllium Copper	24.00

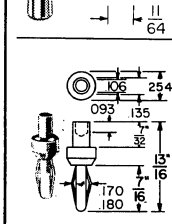
BANANA PLUG Split Type



BODY: HEX BRASS, nickel plated, cross-slotted.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Fits all standard banana jacks. Supplied with hex nut and phosphor bronze lug, threaded stud for panel mounting. Fits standard banana jacks. **Std. Pkg. 100**

No.	NET Per C
104	$14.00

MIDGET BANANA PLUG Rivet Type



BODY: BRASS, silver plated.
SPRING: Four-leaved phosphor bronze, silver plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Can be furnished in varying types to meet Jan specs. Fits all standard banana jacks. **Std. Pkg. 100**

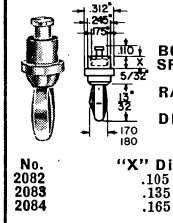
No.	NET Per C
121	$16.20
No. 3875 Staking Tool	Net Ea. $1.50

MIL-SPEC. TYPE

Same as above, made to meet Signal Corps Drawings SC-C2231. **Std. Pkg. 100**

No.	NET Per C
122	$18.00
No. 3875 Staking Tool	Net Ea. $1.50

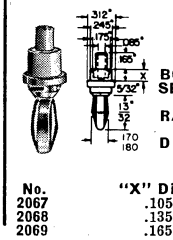
RIVET TYPE BANANA PLUG Wrap Around Type



BODY: BRASS, nickel plated.
SPRING: Four leaved, beryllium copper, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Rivets to panel or bakelite board. Wire wraps around stud and is then soldered. **Std. Pkg. 100**

No.	"X" Dim.	Panel	NET Per C
2082	.105	1/16"	$18.00
2083	.135	5/32"	18.00
2084	.165	1/8"	18.00

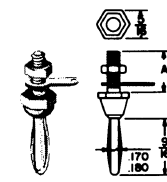
RIVET TYPE BANANA PLUG Solder Well Type



BODY: BRASS, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Rivets to panel or bakelite board. Wire solders to well in rear of plug. **Std. Pkg. 100**

No.	"X" Dim.	Panel	NET Per C
2067	.105	1/16"	$18.00
2068	.135	5/32"	18.00
2069	.165	1/8"	18.00

BANANA PLUG

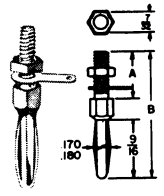


BODY: HEX BRASS, nickel or silver plated.
SPRING: Phosphor bronze or beryllium copper, nickel or silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and tinned phosphor bronze lug threaded stud for panel mounting. Fits standard banana jacks. **Std. Pkg. 50**

PHOS. BR. SPRING Nickel Plated Overall			BERYL. COP. SPRING Nickel Plated Overall		
No.	NET Per C	A	B	No.	NET Per C
431	$20.00	6-32x3/8"	1 7/32"	443	$24.00
432	20.00	6-32x1/2"	1 11/32"	444	24.00
433	20.00	6-32x5/8"	1 19/32"	445	24.00
434	20.00	8-32x3/8"	1 7/32"	446	24.00
435	20.00	8-32x1/2"	1 11/32"	447	24.00
436	20.00	8-32x3/4"	1 19/32"	448	24.00

PHOS. BR. SPRING Silver Plated Overall			BERYL. COP. SPRING Silver Plated Overall		
No.	NET Per C	A	B	No.	NET Per C
437	$23.00	6-32x3/8"	1 7/32"	449	$27.00
438	23.00	6-32x1/2"	1 11/32"	450	27.00
439	23.00	6-32x3/4"	1 19/32"	451	27.00
440	23.00	8-32x3/8"	1 7/32"	452	27.00
441	23.00	8-32x1/2"	1 11/32"	454	27.00
442	23.00	8-32x3/4"	1 19/32"	453	27.00

BANANA PLUG

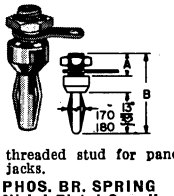


BODY: HEX BRASS, nickel or silver plated.
SPRING: Phosphor bronze or beryllium copper, nickel or silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and tinned phosphor bronze lug threaded stud for panel mounting. Fits standard banana jacks. **Std. Pkg. 50**

PHOS. BR. SPRING Nickel Plated Overall			BERYL. COP. SPRING Nickel Plated Overall		
No.	NET Per C	A	B	No.	NET Per C
401	$20.00	6-32x3/8"	1 7/32"	414	$24.00
403	20.00	6-32x1/2"	1 11/32"	415	24.00
404	20.00	6-32x3/4"	1 19/32"	416	24.00
405	20.00	8-32x3/8"	1 7/32"	417	24.00
406	20.00	8-32x1/2"	1 11/32"	418	24.00
407	20.00	8-32x3/4"	1 19/32"	419	24.00

PHOS. BR. SPRING Silver Plated Overall			BERYL. COP. SPRING Silver Plated Overall		
No.	NET Per C	A	B	No.	NET Per C
408	$23.00	6-32x3/8"	1 7/32"	420	$27.00
409	23.00	6-32x1/2"	1 11/32"	421	27.00
410	23.00	6-32x5/8"	1 19/32"	422	27.00
411	23.00	8-32x3/8"	1 7/32"	423	27.00
412	23.00	8-32x1/2"	1 11/32"	424	27.00
413	23.00	8-32x3/4"	1 19/32"	425	27.00

MIDGET BANANA PLUG

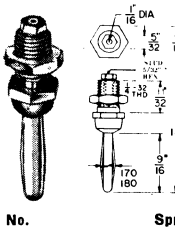


BODY: BRASS, nickel or silver plated.
SPRING: Phosphor bronze or beryllium copper. Nickel or silver plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and tinned phosphor bronze lug threaded stud for panel mounting. Fits standard banana jacks. **Std. Pkg. 50**

PHOS. BR. SPRING Nickel Plated Overall			BERYL. COP. SPRING Nickel Plated Overall		
No.	NET Per C	A	B	No.	NET Per C
460	$18.00	4-40x3/8"	15/16"	468	$21.00
461	18.00	4-40x1/2"	1 1/16"	469	21.00
462	18.00	6-32x3/8"	15/16"	470	21.00
463	18.00	6-32x1/2"	1 1/16"	471	21.00

PHOS. BR. SPRING Silver Plated Overall			BERYL. COP. SPRING Silver Plated Overall		
No.	NET Per C	A	B	No.	NET Per C
464	$21.00	4-40x3/8"	15/16"	472	$24.00
465	21.00	4-40x1/2"	1 1/16"	473	24.00
466	21.00	6-32x3/8"	15/16"	474	24.00
467	21.00	6-32x1/2"	1 1/16"	475	24.00

BANANA PLUG



BODY: HEX BRASS, nickel plated.
SPRING: Phosphor bronze or beryllium copper, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut. Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. **Std. Pkg. 50**

No.	Spring Material	NET Per M
145	Phosphor Bronze	$21.00
135	Beryllium Copper	30.00

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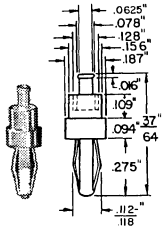
HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

SUBMINIATURE PLUGS & JACKS

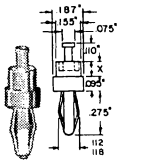


SUB MINIATURE BANANA PLUG
Rivet Type

BODY: BRASS, silver plated.
SPRING: Four leaved beryllium copper, silver plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: One piece beryllium copper spring insures positive and lasting contact. **Std. Pkg. 50**

No.	NET Per C
191	$15.00

No. 3876 Staking Tool Kit — Net Ea. $3.00

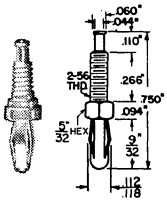


Swager Type
SUB MINIATURE BANANA PLUG

BODY: BRASS, silver plated.
SPRING: Four leaved beryllium copper silver plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: One piece beryllium copper spring insures positive and lasting contact. **Std. Pkg. 100**

No.	"X" Dim.	Panel	NET Per C
2073	.105	1/16"	$15.00
2074	.135	5/32"	15.00
2075	.165	1/8"	15.00

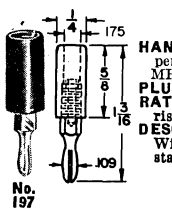
No. 3876 Staking Tool Kit — Net Ea. $3.00



SUB MINIATURE BANANA PLUG

BODY: BRASS, silver plated.
SPRING: Four leaved beryllium copper, silver plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: One piece beryllium copper spring insures positive and lasting contact. **Std. Pkg. 50**

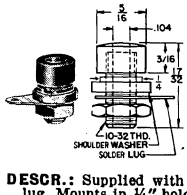
No.	NET Per C
192	$15.00



INSULATED BANANA PLUG
Sub Miniature

HANDLE: MACHINED BUTYRATE, per Fed. Spec. L-P344, Type I, Class MH. Red or Black. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross-slotted for spring tension. Wire solders directly into plug. Fits standard midget banana jacks. **Std. Pkg. 100**

No.	NET Per C
197	$17.00

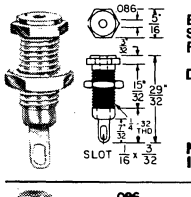


INSULATED BANANA JACK
Sub Miniature

HEAD: MACHINED BUTYRATE, per Fed. Spec. L-P344, Type I, Class MH. Red or Black. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 750 Volts 60 cycle AC continuous working voltage. CAPACITANCE 6.0 mmfd.
DESCR.: Supplied with hex nut, fibre washer and tinned lug. Mounts in 1/4" hole in panels up to 1/8" thick. Accepts standard midget banana plugs. **Std. Pkg. 100**

No.	NET Per C
196	$20.00

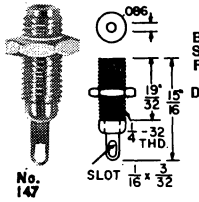
STANDARD TIP JACKS



PHONE TIP JACK

BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Positive contact with standard phone tip plugs. Supplied with hex nut. Mounts in 1/4" hole in panels up to 3/4" thick. **Std. Pkg. 100**

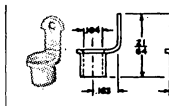
No.	NET Per C
107	$12.00



HEADLESS PHONE TIP JACK

BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut. Used with plastic molded instrument cases, where jack body is screwed into case. Accepts standard phone tip plugs. **Std. Pkg. 100**

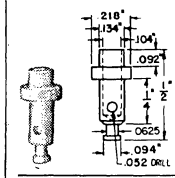
No.	NET Per C
147	$10.00



SUB MINIATURE BANANA JACK

BODY: BRASS, silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: This jack is riveted directly to chassis or to printed circuit board for easy assembly. **Std. Pkg. 100**

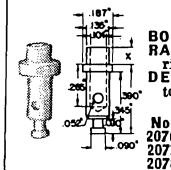
No.	NET Per C
194	$1.20



SUB MINIATURE BANANA JACK

BODY: BRASS, silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: This jack is riveted directly to chassis or to printed circuit board for easy assembly. **Std. Pkg. 50**

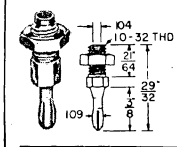
No.	NET Per C
193	$9.00



SUB MINIATURE BANANA JACK
Panel Mount

BODY: BRASS, silver plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: These jacks are riveted directly to chassis or bakelite board. **Std. Pkg. 100**

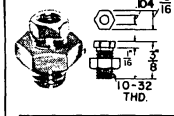
No.	"X" Dim.	Panel	NET Per C
2076	.105	1/16"	$9.00
2077	.135	5/32"	9.00
2078	.165	1/8"	9.00



MIDGET BANANA PLUG

BODY: BRASS, nickel plated, cross-slotted.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Cross-slotted, supplied with hex nut. Fits our No. 112 midget jack. **Std. Pkg. 50**

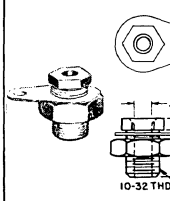
No.	NET Per C
111	$10.20



MIDGET BANANA JACK

BODY: BRASS, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut. Accepts our No. 111 midget plug. **Std. Pkg. 50**

No.	NET Per C
112	$7.80

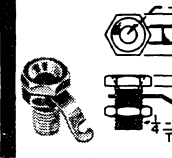


SUB MINIATURE BANANA JACK

BODY: HEX BRASS, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and tinned lug Mounts in .196 (#10) hole in panels up to 1/8" thick. Accepts standard midget banana plugs. **Std. Pkg. 100**

No.	NET Per C
195	$7.80

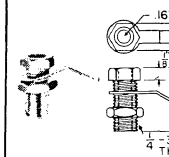
STANDARD BANANA JACKS



BANANA JACK

BODY: Hex brass nickel plated with recessed head.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and brass tinned lug. Mounts in 1/4" hole; fits panels up to 5/8" thick. Accepts standard banana plugs. **Std. Pkg.100**

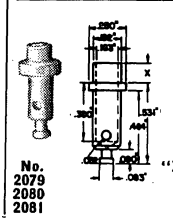
No.	NET Per C
101	$12.00



BANANA JACK

BODY: Hex brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and brass tinned lug. Mounts in 1/4" hole in panels up to 3/8" thick. Accepts standard banana plugs.

No.	Std. Pkg. 100	NET Per C
109		$12.00

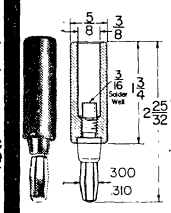


PANEL MOUNT BANANA JACK

BODY: BRASS, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Accepts all standard banana plugs. These jacks are riveted directly to chassis or bakelite board. **Std. Pkg. 100**

No.	"X" Dim.	Panel	NET Per C
2079	.105	1/16"	$10.80
2080	.135	5/32"	10.80
2081	.165	1/8"	10.80

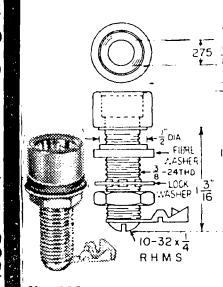
GIANT BANANA PLUGS & JACKS



INS. GIANT BANANA PLUG

HANDLE: MACHINED PHENOLIC plastic, per MIL-P-77B, Type I, Red or Black. SPECIFY COLOR
BODY: Hex brass, nickel plated.
SPRING: Six-leaved, phosphor bronze, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Large deep internal well for soldering heavy duty wire. Recessed so that no metal portions are exposed when plugged into mating jack, in order to prevent shocks or grounding. **Std. Pkg. 50**

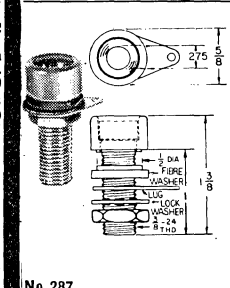
No.	NET Per C
285	$75.00



INS. GIANT BANANA JACK

HEAD: MACHINED BUTYRATE, per Fed. Spec. L-P344, Type I, class MH. Red or Black.
SPECIFY COLOR
BODY: Hex brass, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 7.0 mmfd.
DESCR.: Supplied with hex nut, fibre washer, lockwasher, screw and tinned copper lug. Jack body recessed for snug contact. Mounts in 1/2" hole in panel up to 3/4" thick. **Std. Pkg. 50**

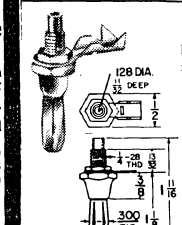
No.	NET Per C
286	$50.00



INS. GIANT BANANA JACK

HEAD: MACHINED BUTYRATE, per Fed. Spec. L-P344, Type 1, class MH, Red or Black.
SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 7.0 mmfd.
DESCR.: Supplied with hex nut, fibre washer, lockwasher, and brass tinned lug. Jack body recessed for snug contact. Mounts in 1/2" hole in panel up to 3/4" thick. **Std. Pkg. 50**

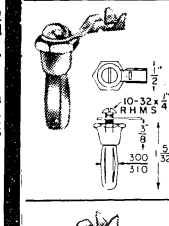
No.	NET Per C
287	$45.00



GIANT BANANA PLUG

BODY: HEX BRASS, nickel plated.
SPRING: Six-leaved phosphor bronze, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Plug portion of #285 plug. Supplied with hex nut and brass tinned lug. Large deep internal well for soldering heavy duty wire. **Std. Pkg. 25**

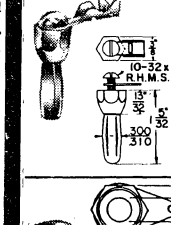
No.	NET Per C
185	$50.00



GIANT BANANA PLUG

BODY: HEX BRASS, nickel plated.
SPRING: Six-leaved phosphor bronze, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with screw and brass tinned lug. Internal female permits use on all size panels. **Std. Pkg. 25**

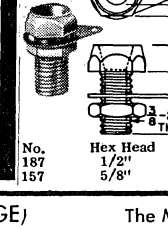
No.	NET Per C
186	$35.00



GIANT BANANA PLUG

BODY: HEX BRASS, nickel plated.
SPRING: Six-leaved phosphor bronze, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with screw and brass tinned lug. Female permits use on all size panels. Internal screw. **Std. Pkg. 25**

No.	NET Per C
188	$35.00



GIANT BANANA JACK

BODY: HEX BRASS, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied with hex nut and brass tinned lug.

Std. Pkg. 25

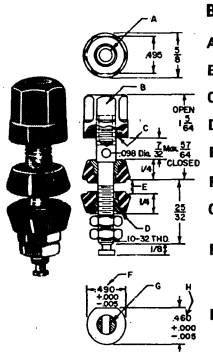
No.	Hex Head	Mtg. Hole	Panel	NET Per C
187	1/2"	3/8"	1/2"	$30.00
157	5/8"	1/2"	5/8"	40.00

specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

BINDING POST - Multipurpose



NOTES:
- **A** Banana Plug Receptacle, .161 I.D.
- **B** Head non-removable from stud.
- **C** Molded-in Brass Bushing in Head.
- **D** Molded-in Brass Bushing in Washers.
- **E** For Panels 1/16" to 1/4" thick.
- **F** Drill 1/2" hole for mounting washers.
- **G** Wire Hole is at right angle to Flat on insulated Washers.
- **H** Production Punch for keyed Slot for mounting Washers. (Sample Washer Sent on Request.)

RATING: 30 Amps AC for 10°C Temp. rise, continuous working voltage. CAPACITANCE 5.0 mmfd.
CURRENT: 30 amps safe current carrying capacity.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.
DESCR.: MOLDED NYLON, per MIL-P-20693A, head and washer completely insulates post from panel. Mounts in 1/2" or keyed hole as indicated. Wrap around type—direct solder connection to stud. Metal parts brass.
COLORS: Red, Black, Yellow, Green, Blue, White. Specify color. **St. Pkg. 100**

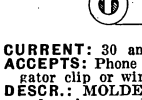
No.	NET Per C
257	$40.00

MIL-SPEC BINDING POST

Same as our #257 above, made to meet MIL-P-55149/1. **Std. Pkg. 50**

No.	NET Per C
267	$50.00

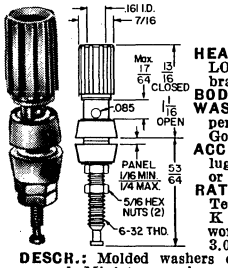
PIN JACK TYPE



Same as above, with Beryllium copper, gold plated pin tip receptacle replacing Note "A" above. All other specifications apply. **Std. Pkg. 100**

No.	NET per C
258	$46.00

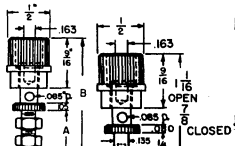
NYLON BINDING POST Insulated



HEAD: CAPTIVE, MOLDED NYLON, per MIL-P-20693A, with brass Gold-Plated Insert.
BODY: Brass, Gold Plated
WASHERS: MOLDED NYLON, per MIL-P-20693A, with brass Gold-plated inserts.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip, or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd.
DESCR.: Molded washers completely insulate post from panel. Miniature washers and narrow fluted head require minimum panel space. Mounts in 3/8" round or "D" hole in panel as indicated. Wrap-around solder terminal on stud for direct connection.
COLORS: Red, Black, Yellow, Green, Blue, White.

SPECIFY COLOR	Std. Pkg. 100
No. 1517	NET Per C $40.00

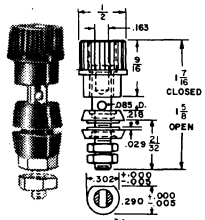
BINDING POST Five-Way Grounding Type



HEAD: CAPTIVE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
BODY: Brass, nickel plated.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous working voltage, when insulated from panel as recommended. CAPACITANCE 5.0 mmfd.
DESCR.: Can be insulated from panel with our 2155 and 2163 fibre washers. Supplied with 2 hex nuts. **Std. Pkg. 100**

No.	Description	NET Per C
220	8-32 x 1/2 Stud	$22.00
230	6-32 x 3/4 Stud	22.00
391	Rivet Type	17.00
	With brass nickel plated insert in head	
280	8-32 Stud	$26.00
264	6-32 Stud	26.00
394	Rivet Type	21.00

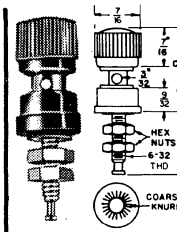
All Insulated Type



HEAD: As above.
BODY: As above.
WASHERS: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. With brass inserts.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd.
DESCR.: Mounts in 5/16" hole in panel with milled slot for locking, supplied with two hex nuts. **Std. Pkg. 100**

No.	Description	NET Per C
260	8-32 Stud	$40.00
259	6-32 Stud	40.00
	With brass nickel plated insert in head	
290	8-32 Stud	$45.00
231	6-32 Stud	45.00

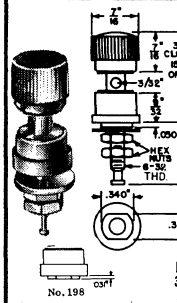
NYLON BINDING POSTS Grounding Type



HEAD: CAPTIVE: MOLDED NYLON, per MIL-P-20693A. Red or Black with brass nickel plated insert. SPECIFY COLOR
WASHER: Molded nylon with brass nickel plated insert.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. CAPACITANCE 6.0 mmfd.
DESCR.: Supplied with 2 hex nuts. Grounds to panel but supplied with nylon washer for uniformity of height with No. 378 when used on same panel. Can be insulated from panel by using our No. 2150 shoulder washer. **Std. Pkg. 100**

No.	NET Per C
377	$35.00

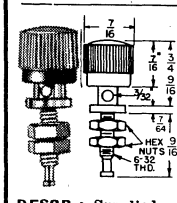
ALL INSULATED



HEAD: CAPTIVE: MOLDED NYLON, per MIL-P-20693A. Red or Black with brass nickel plated insert. SPECIFY COLOR
WASHER: Molded nylon with brass nickel plated insert.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 4.0 mmfd.
DESCR.: Supplied with two hex nuts. Boss washer insulates post from chassis when used with bakelite washer supplied. Min. Panel Std. Pkg. 100

No.	Thickness	NET Per C
378	1/16"	$35.00
198	1/32"	35.00

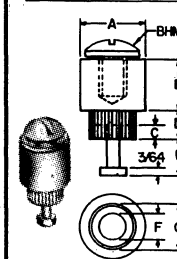
GROUNDING TYPE



HEAD: CAPTIVE: MOLDED NYLON, per MIL-P-20693A. Red or Black with brass nickel plated insert. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. CAPACITANCE 7.0 mmfd.
DESCR.: Supplied with two hex nuts. Can be insulated from panel by using our No. 2150 shoulder washer and 2162 flat washer. **Std. Pkg. 100**

No.	NET Per C
379	$30.00

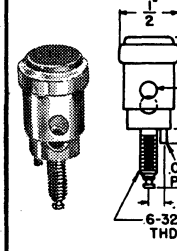
COMBINATION TERMINALS



MATERIAL: BRASS, alloy plate.
DESCR.: Combination Screw and Turret Terminal. Knurled shank prevents turning. Supplied complete with BHMS and Internal Tooth Lockwasher, unassembled. Std. Pkg. 25

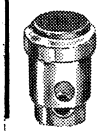
No.	A	B	C	D	E	F	G	BHMS	Net Panel Per Thk	C
2045	5/16	1/4	1/16	9/64	11/64	1/8	.220	6-32	5/32	$11.40
2046	11/32	5/16	5/64	11/64	15/64	9/64	.250	8-32	1/8	11.40
2047	5/8	5/8	5/32	15/64	15/64	5/32	.257	10-32	5/16	11.40

SPRING LOADED BINDING POSTS



HEAD: CAPTIVE, Brass nickel plated.
CAP: STYRENE, per Fed. Spec. L-P-406, Type I, Black.
BODY: Brass, nickel plated.
PIN: Nickel Silver.
ACCEPTS: Standard phone tip or wire in side hole and locks them in place on release of pressure on cap.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Side dowel pin locates and prevents post from turning when mounted in panel. Std. Pkg. 50

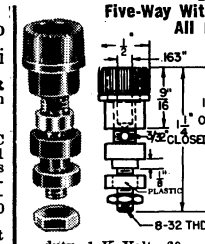
With Dowel Pin				Less Dowel Pin	
A	B	No.	NET Per C	No.	NET Per C
1/4"	1/8"	2701	$45.00	2801	$41.00
3/8"	1/8"	2702	47.00	2802	43.00
1/2"	1/4"	2703	49.00	2803	45.00
3/4"	1/4"	2704	50.00	2804	46.00
1"	3/8"	2705	52.00	2805	48.00
1 1/4"	3/8"	2706	55.00	2806	51.00
1 1/2"	1/2"	2707	58.00	2807	54.00
2"	3/4"	2708	60.00	2808	56.00



Same as above less threaded stud. Supplied with 6-32 internal mounting thread.

No.	Description	NET Per C
2709	With 1/8" lg. Dowel Pin	$40.00
2809	Without Dowel Pin	36.00

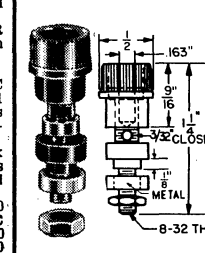
BINDING POST Five-Way With Molded Mounting Washers All Insulated Type



HEAD: CAPTIVE: MOLDED BUTYRATE, per Fed Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
BODY: Brass, nickel plated.
WASHERS: MOLDED BUTYRATE, per Fed Spec. L-P349A, Type 3. Class MS.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 5.0 mmfd.
DESCR.: Mounts in 1/4" hole in panel. Supplied with one hex nut. **Std. Pkg. 100**

No.	NET Per C
386	$25.00

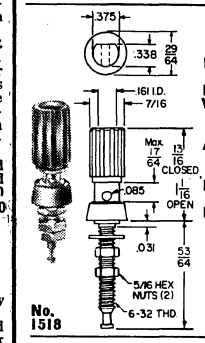
Grounding Type



HEAD: CAPTIVE: MOLDED BUTYRATE, per Fed Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
BODY: Brass, nickel plated.
WASHERS: MOLDED BUTYRATE, per Fed Spec. L-P349A, Type 3, Class MS. Mounting Washer — Molded plastic. Back-up Washer — Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Mounts in 1/4" hole in panel. Grounded to panel by back-up washer. Supplied with one hex nut. **Std. Pkg. 100**

No.	NET Per C
387	$25.00

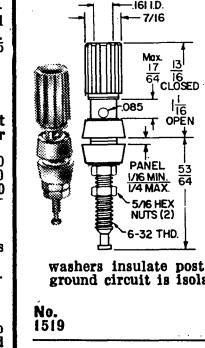
METAL BINDING POST Grounded



HEAD: CAPTIVE, Fluted Brass, Gold-plated.
BODY: Brass, Gold-plated.
WASHER: MOLDED BLACK NYLON, per MIL-P-20693A, with brass Gold-plated insert.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip, or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Fluted-head metal post to match our No. 1517. For use where direct ground connection is made to panel or chassis. Supplied with brass, gold-plated flat metal washer for grounding. **Std. Pkg. 100**

No.	NET Per C
1518	$45.00

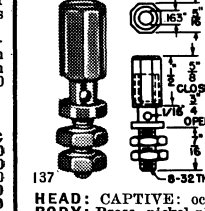
METAL BINDING POST, Insulated



HEAD: CAPTIVE, Fluted Brass, Gold-plated.
BODY: Brass, Gold-plated.
WASHER: MOLDED BLACK NYLON, per MIL-P-20693A, with brass Gold-plated insert.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip, or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts, 60 cycle AC continuous working voltage. CAPACITANCE 3.0 mmfd.
DESCR.: Fluted-head metal post to match our No. 1517. Molded washers insulate post from panel for use where internal ground circuit is isolated from chassis or panel. **Std. Pkg. 100**

No.	NET Per C
1519	$50.00

BINDING POST - Metal Five-Way



137 208

HEAD: CAPTIVE: octagonal brass, nickel plated.
BODY: Brass, nickel plated.
ACCEPTS: Phone tip, spade lug, banana plug, alligator clip or wire strand.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage, when insulated from panel as recommended. CAPACITANCE 5.0 mmfd.
DESCR.: Can be completely insulated from panel by using our 2155 and 2163 fibre washers. Supplied with two hex nuts. **Std. Pkg. 100**

No.	Description	NET Per C
137	Standard	$25.00
208	Wrap-around	33.00

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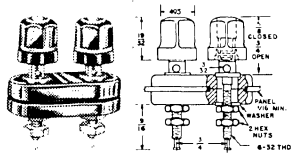
specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

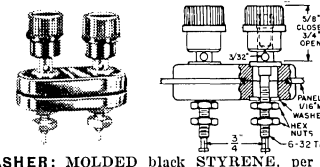
DUAL ASSEMBLY With Insulated Head



WASHER: MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips in post either forward or sideways.
BODY: Brass, nickel plated.
HEAD: Captive: MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.
DESCR.: Mounts in two ½" holes on ¾" mounting centers in panels up to ¼" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.
Std. Pkg. 10

No.	Description	NET Per C
269BB	Two Black Heads	$70.00
269RR	Two Red Heads	70.00
269RB	One Red, One Black Head	70.00

DUAL ASSEMBLY With Insulated Head

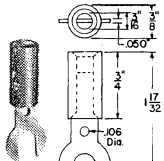


WASHER: MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips in post either forward or sideways.
BODY: Brass, nickel plated.
HEAD: Captive. MOLDED BUTYRATE, per Fed Spec. L-P349A, Type 3, Class MS. Red or Black.
SPECIFY COLOR
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.
DESCR.: Mounts in two ½" holes on ¾" mounting centers in panels up to ¼" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.
Std. Pkg. 10

No.	Description	NET Per C
224BB	Two Black Heads	$65.00
224RR	Two Red Heads	65.00
224RB	One Red, One Black Head	65.00
	Same as above with brass nickel plated insert in head	
263BB	Two Black Heads	75.00
263RR	Two Red Heads	75.00
263RB	One Red, One Black Head	75.00

ADDITIONAL DUAL BINDING POSTS ON SMITH PAGE 20

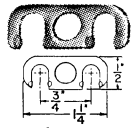
INSULATED SPADE LUG



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black.
SPECIFY COLOR
LUG: Brass, .050 thick, nickel plated.
RATING: 30 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ¼" I.D. fits all standard Multi-purpose binding posts. Accepts up to #10 insulated wire, which solders in front hole.
Std. Pkg. 100

No.	NET Per C
400	$12.00

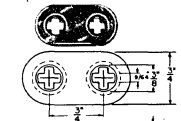
SHORTING LINK



MATERIAL: Spring brass, nickel plated, .033" thick.
RATING: 50 Amps AC continuous duty, for 10°C Temp. rise.
DESCR.: Snaps over contact barrels of dual binding posts with standard ¾" mounting centers.
Std. Pkg. 50

No.	NET Per C
327	$6.00

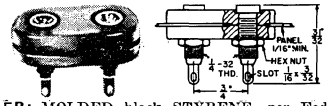
BLACK STYRENE INSULATOR



INSUL.: STYRENE, per Fed. Spec. L-P416, Type I.
RATING: 2 K Volts 60 cycle AC continuous working voltage.
DESCR.: Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick.
Std. Pkg. 100

No.	NET Per C
207	$3.00

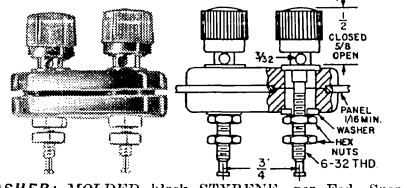
DUAL TIP JACK ASSEMBLY



WASHER: MOLDED black STYRENE, per Fed. Spec. L-P416, Type I.
BODY: Recessed, brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 4.0 mmfd. to panel.
DESCR.: Mounts in two ½" holes on ¾" mounting centers in panels up to ¼" thick. Accommodates standard phone tip plugs. Supplied with two hex nuts. Std. Pkg. 10

No.	NET Per C
488	$55.00

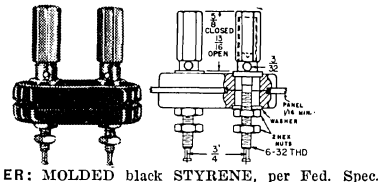
DUAL ASSEMBLY With Nylon Heads



WASHER: MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips in post either forward or sideways.
BODY: Brass, nickel plated.
HEAD: Captive: MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.
RATING: 15 Amps AC for 10°C Temp. rise, continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.
DESCR.: Mounts in two ½" holes on ¾" mounting centers in panels up to ¼" thick. Supplied with 4 hex nuts, 2 flat washers.
Std. Pkg. 10

No.	Description	NET Per C
284BB	Two Black Heads	$65.00
284RR	Two Red Heads	65.00
284RB	One Red, One Black Head	65.00

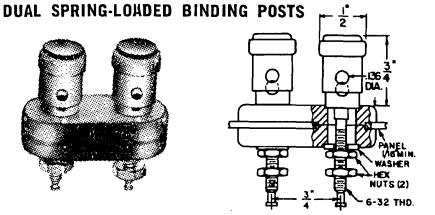
DUAL METAL BINDING POST



WASHER: MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips in post either forward or sideways.
BODY: Brass, nickel plated.
HEAD: Captive: Hex brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.
DESCR.: Mounts in two ½" holes on ¾" mounting centers in panels up to ¼" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.
Std. Pkg. 10

No.	NET Per C
209	$75.00

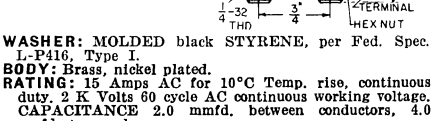
DUAL SPRING-LOADED BINDING POSTS



WASHER: MOLDED black STYRENE, per Fed Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips or wire in post either forward or sideways. Supplied in colors on special order.
HEAD: Captive, brass, nickel plated.
CAP: Molded black styrene, per Fed. Spec. L-P416.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage.
DESCR.: Accepts standard phone tips or wires in side holes, and locks them in place when pressure on cap is released.
Std. Pkg. 10

No.	NET Per C
2713	$120.00

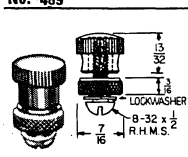
DUAL BANANA JACK ASSEMBLY



WASHER: MOLDED black STYRENE, per Fed. Spec. L-P416, Type I.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 4.0 mmfd. to panel.
DESCR.: Mounts in two ½" holes on ¾" mounting centers in panels up to ¼" thick. Accommodates standard and dual banana plugs. Supplied with two hex nuts and brass tinned lugs.
Std. Pkg. 10

No.	NET Per C
489	$50.00

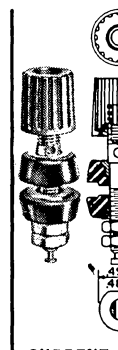
BINDING POST



HEAD: MOLDED THERMO-SETTING plastic, per MIL-M-14 CFG, with molded-in brass threaded insert, Red or Black. SPECIFY COLOR
WASHER: Brass, nickel plated
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied complete with screw and lockwasher.
Std. Pkg. 100

No.	NET Per C
265	$24.00

NYLON FLUTED HEAD MULTI-PURPOSE BINDING POST



NOTES:
A Banana Plug Receptacle, .161 I.D.
B Head non-removable from stud.
C Molded-in Brass Bushing in Head.
D Molded-in Brass Bushing in Washers.
E For Panels 1/16" to 1/4" thick.
F Drill 1/2" hole for mounting washers.
G Wire Hole is at right angle to Flat on insulated Washers.
H Production Punch for keyed Slot for mounting Washers. (Sample Washer Sent on Request.)

RATING: 30 Amps AC for 10°C Temp. rise, continuous working voltage. CAPACITANCE 5.0 mmfd.
CURRENT: 30 amps safe current carrying capacity.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.
DESCR.: MOLDED NYLON, per MIL-P-20693A, head and washer completely insulates post from panel. Mounts in ½" or keyed hole as indicated. Wrap around type—direct solder connection to stud. Metal parts brass.
COLORS: Red, Black, Yellow, Green, Blue, White. Specify color.
Std. Pkg. 100

No.	NET Per C
459	$40.00

MIL-SPEC BINDING POST

Same as our #459 above, made to meet MIL-P- 55149/1.
Std. Pkg. 50

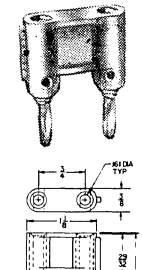
No.	NET Per C
495	$50.00

PIN JACK TYPE

Same as above with Beryllium copper, gold plated pin tip receptacle replacing Note "A" above. All other specifications apply.
Std. Pkg. 100

No.	NET Per C
497	$46.00

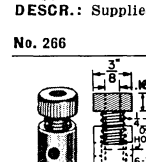
DUAL SHORTING PLUG



BODY: MOLDED BUTYRATE, per Fed. Spec. L-P416, Type I, Red, Black, Yellow, Green.
SPECIFY COLOR
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage.
DESCR.: Internally shorted plug mates with standard dual binding posts on ¾" centers. Used for grounding or shorting input and output connections. Can be stacked for additional current rating. Rear banana jack holes allow connection to shorted posts. Std. Pkg. 25

No.	NET Per C
1516	$72.00

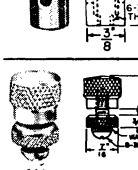
BINDING POST



HEAD: MOLDED THERMO-SETTING plastic, per MIL-M-14 CFG, with molded-in brass threaded insert, Red or Black. SPECIFY COLOR
WASHER: Brass, nickel plated
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied complete with screw and lockwasher.
Std. Pkg. 100

No.	NET Per C
266	$24.00

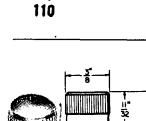
METAL BINDING POST



HEAD: BRASS, nickel plated.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Accepts standard phone tips or banana plugs.
Std. Pkg. 50

No.	NET Per C
136	$21.00

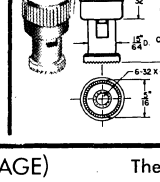
METAL BINDING POST



HEAD: BRASS, nickel plated.
BODY: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Supplied complete with screw and lockwasher.
Std. Pkg. 25

No.	NET Per C
110	$24.00

BINDING POST
Compression Type



HEAD: Captive, brass nickel plated. Straight knurled for finger grip.
BODY: Brass, nickel plated.
ACCEPTS: Phone tips or wire (up to #10 gauge).
DESCR.: Head screws down to compress wire between body and sliding contact. Internally threaded for 6-32 mounting screw. Base knurled for positive grip to panel.
Std. Pkg. 50

No.	NET Per C
159	$21.00

specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

SOLDERLESS TIP TEST LEAD

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
TIP: Solderless: Brass, nickel plated. Std. Pkg. 6

No.	Meter End	NET Per Pr.
600	Phone Tips	$1.05
601	Spade Lugs	1.05
602	Alligator Clips	1.10

PHONO NEEDLE TEST LEAD

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
BODY: Brass, nickel plated.
NEEDLE: Steel, nickel plated. Std. Pkg. 6

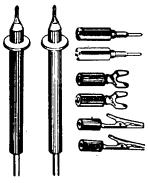
No.	Meter End	NET Per. Pr.
613	Phone Tips	$1.05
614	Spade Lugs	1.05
615	Alligator Clips	1.10

ALL SOLDERLESS TEST LEAD

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
PLUG: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.
TIP: Solderless: Brass, nickel plated. Std. Pkg. 6

No.	NET Per Pr.
603	1.35

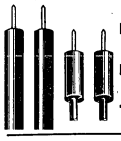
HIGH TENSION TEST LEAD



HANDLE: FIBRE, per MIL-F-1148A, Grade CH. Red and Black.
PLUG: FIBRE, per MIL-F-1148A, Grade CH. Red and Black.
TIP: Brass, nickel plated. Std. Pkg. 1

No.	Meter End	NET Per Pr.
620	Ins. Phone Tips	$2.20
621	Ins. Spade Lugs	2.20
622	Ins. Alligator Clips	2.40

SHORT TIP TEST LEAD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Grade CH. Red and Black.
PLUG: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.
TIP: Brass, nickel plated. Std. Pkg. 6

No.	NET Per Pr.
624	$1.10

SLIM HANDLE TEST LEAD

HANDLES: MACHINED BUTYRATE, per MIL-P10408A, Type 1, Class 2. Red and Black.
TIPS: Prod: Brass, Nickel Plated. Meter End: Drawn Brass Nickel Plated.

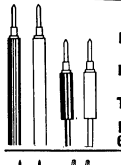
No.	NET Per Pr.
670	$.85

BANANA PLUG TEST LEAD

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
PLUG: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.
TIP: Solderless: Brass, nickel plated.
BODY: Brass, nickel plated.
SPRING: Four leaved phosphor bronze, nickel plated. Std. Pkg. 6

No.	NET Per Pr.
623	$1.50

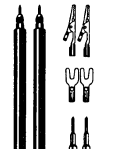
SUB MINIATURE TEST LEAD



HANDLE: FIBRE, per MIL-F-1148A, Grade CH. Red and Black.
PLUG: FIBRE, per MIL-F-1148A, Grade CH. Red and Black.
TIPS: Brass, nickel plated. Std. Pkg. 6

No.	NET Per Pr.
678	$1.26

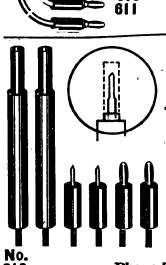
TEST LEAD KIT



DESCR.: Each kit is supplied with one pair of test leads. One end test prods, other end ins. banana plugs.
FITTINGS: Two each: Phone tips, alligator clips, spade lugs. Std. Pkg. 6

No.	Type	NET Ea.
610	Solderless Prods	$1.90
611	Needle Tip Prods	1.90

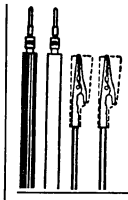
SHIELDED TEST LEADS



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
TIP: Prod tip brass, nickel plated. Meter end, see type.
DESCR.: Plugs insert flush to insulated handle. Prods have retractable cover leaving no metal exposed. Eliminates possibility of shock or grounding. Supplied with either phone tip or banana plug meter ends. Other variations on special order. Std. Pkg. 6

No.	Type	NET Per Pr.
616	Phone Tip End	$1.90
617	Banana Plug End	2.00

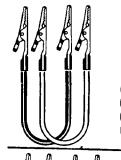
ALLIGATOR CLIP TEST LEAD



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black
TIPS: Solderless: Brass, nickel plated.
CLIPS: Steel, cadmium plated (No. 300).
BOOT: Vinyl Plastic. Red and Black Std. Pkg. 6

No.	NET Per Pr.
672	$1.26

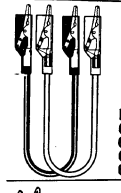
ALLIGATOR CLIP TEST LEAD



CLIPS: STEEL, cadmium plated. Std. Pkg. 6

No.	Wire	NET Per Pr.
604	12 inches	$.72
605	24 inches	.75
606	36 inches	.78
607	48 inches	.81

ALLIGATOR CLIP TEST LEAD With Boots



CLIPS: Steel, Cadmium Plated
BOOTS: Vinyl plastic Red and Black. Std. Pkg. 6

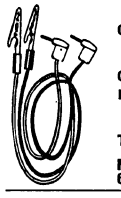
No.	Wire	NET Per Pr.
629	12 inches	$.92
657	24 inches	.96
658	36 inches	.99
659	48 inches	1.02

ALLIGATOR CLIP TEST LEAD

CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red and Black
PLUG HANDLES: MOLDED THERMOSETTING PLASTIC, per MIL-M-14 CFG. Red and Black
CLIPS: Steel, cadmium plated
TIPS: Solderless: Brass, nickel plated. Std. Pkg. 6

No.	NET Per Pr.
627	$.99

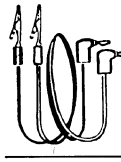
ALLIGATOR CLIP TEST LEAD



CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red and Black
CLIPS: Steel, cadmium plated.
ELBOWS: MOLDED THERMOSETTING PLASTIC, per MIL-M-14 CFG. Red and Black
TIPS: Brass, nickel plated. Std. Pkg. 6

No.	NET Per Pr.
628	$1.20

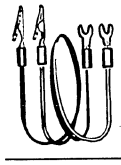
ALLIGATOR CLIP TEST LEAD



CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS, Red and Black
CLIPS: Steel, cadmium plated.
ELBOWS: MOLDED THERMOSETTING PLASTIC, per MIL-M-14 CFG. Red and Black Std. Pkg. 6

No.	NET Per Pr.
647	$1.30

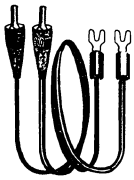
ALLIGATOR CLIP TEST LEAD



CLIP HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-349A, Type 3, Class MS, Red and Black
CLIPS: Steel, cadmium plated
LUGS: Steel, hot tinned Std. Pkg. 6

No.	NET Per C
649	$1.20

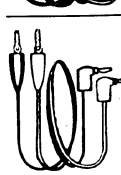
CROCODILE CLIP TEST LEAD



CLIP: STEEL, cadmium plated.
BOOT: Vinyl plastic. Red and Black.
HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black
LUG: Steel, Hot tinned Std. Pkg. 6

No.	NET Per Pr.
671	$1.20

CROCODILE CLIP TEST LEAD



CLIPS: Steel, Cadmium plated.
BOOTS: Vinyl plastic, Red and Black.
ELBOWS: MOLDED THERMOSETTING PLASTIC, per MIL-M-14 CFG. Red and Black Std. Pkg. 6

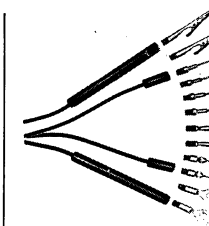
No.	NET Per Pr.
648	$1.30

CROCODILE CLIP TEST LEAD

CLIPS: STEEL, cadmium p'ated.
BOOT: Vinyl plastic. Red and Black.
ELBOW: MOLDED THERMOSETTING PLASTIC, per MIL-M-14 CFG. Red and Black
TIP: Brass, nickel plated. Std. Pkg. 6

No.	NET Per Pr.
675	$1.20

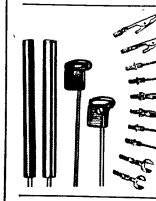
"UNIVERSAL TEST LEAD" Completely Interchangeable



Fifty Leads In One! One lead can make any required test lead combination. All parts adapt into prod handle or tip handle. Complete as shown. With plastic kit. Std. Pkg. 6

No.	NET Ea.
699	$3.00

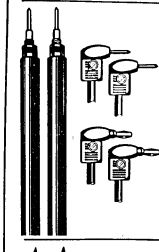
"UNIVERSAL TEST LEAD" Miniature Accessories Completely Interchangeable



Fifty Leads In One. One lead can make any required test lead combination. All parts adapt into prod handle or meter tip. Supplied with miniature tips, clips, banana plugs and spade tips. Complete as shown. With plastic kit. Std. Pkg. 6

No.	NET Ea.
679	$3.00

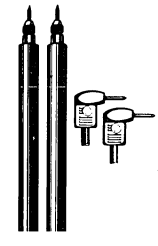
METER TEST LEADS Solderless Prod



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
TIP: Solderless: Brass, nickel plated.
ELBOW: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black.
BODY: Brass, nickel plated.
SPRING: Four leaved, phosphor bronze, nickel plated. Std. Pkg. 6

No.	Type	NET Per Pr.
625	Phone Tip Meter Tip	$1.50
685	Banana Meter Tip	1.70

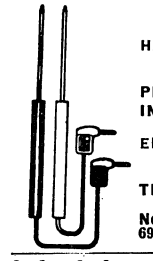
NEEDLE PROD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
NEEDLE: Steel, nickel plated.
ELBOW: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black.
BODY: Brass, nickel plated.
SPRING: Four leaved, phosphor bronze, nickel plated. Std. Pkg. 6

No.	Type	NET Per P.r
626	Phone Tip Meter Tip	$1.50
686	Banana Meter Tip	1.70

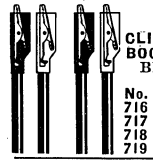
SLIM JIM TEST LEAD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
PROBE: Steel, cadmium plated.
INSULATOR: Vinyl spaghetti tubing, Red and Black.
ELBOWS: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black.
TIPS: Brass, nickel plated. Std. Pkg. 6

No.	NET Per Pr.
698	$1.35

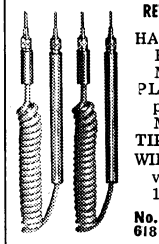
MIDGET ALLIGATOR CLIP TEST LEAD



CLIPS: STEEL, Cadmium plated
BOOTS: Vinyl plastic Red and Black. Std. Pkg. 6

No.	Wire	NET Per Pr.
716	12 inches	$.92
717	18 inches	.94
718	24 inches	.96
719	36 inches	.99

RETRACTILE ALL SOLDERLESS TEST LEAD



HANDLE: MOLDED BUTYRATE per Fed. Spec. L-P349A, Type 3, Class MS. Red and Black.
PLUG: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.
TIP: Solderless brass, nickel plated.
WIRE #20 gauge, 41/36 strand, 4000 volt, nom. O.D. .165. Retracts to 12". Extends to 6 ft. Std. Pkg. 6

No.	NET Per Pr.
618	$3.00

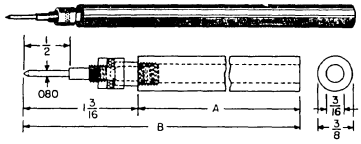
TEST LEAD WIRE SPECIFICATIONS

All test leads on this page are supplied with extra-flexible rubber-covered kinkless wire, 50-in. long, unless specified otherwise. **#20 wire, 26/34 strands, 5000 Volts, .125" O.D.**

 © United Technical Pub

specify SMITH
HERMAN H. SMITH, INC.
ELECTRONIC COMPONENTS

SOLDERLESS TEST PROD—Threaded Type



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

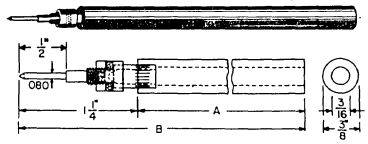
BODY: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless: Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
302	4"	5¼"	$30.00
303	5½"	6¾"	33.00

SOLDERLESS TEST PROD—Force Fit Type



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

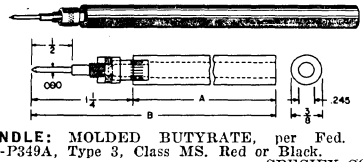
BODY: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless: Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
382	4"	5¼"	$24.00
383	5½"	6¾"	27.00

SOLDERLESS TEST PROD—Force Fit Type Extra Large Inside Diameter



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

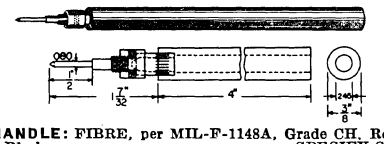
BODY: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless: Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Extra large I.D. for heavy duty wire. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
352	4"	5¼"	$24.00
353	5½"	6¾"	27.00

SOLDERLESS FIBRE TEST PROD Extra Large Inside Diameter



HANDLE: FIBRE, per MIL-F-1148A, Grade CH, Red or Black. SPECIFY CLOR

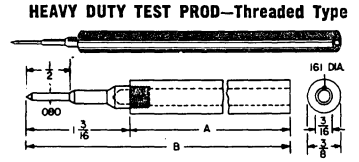
BODY: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless: Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled collar. Large I.D. permits use of heavy duty wire. Std. Pkg. 25

No.	NET Per C
328	$30.00

HEAVY DUTY TEST PROD—Threaded Type



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

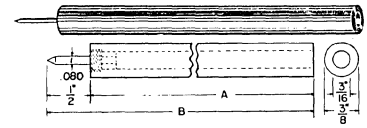
BODY: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Large diameter well enables soldering of heavy duty wire directly into plug. Fits standard phone tip jacks. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
319	4"	5 5/16"	$30.00
329	5½"	6 11/16"	33.00

SHORT TIP TEST PROD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

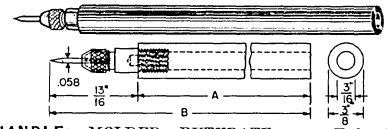
BODY: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Inserts flush with insulated handle, no metal exposed; eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
363	4"	4½"	$21.00
364	5½"	6"	24.00

PHONO NEEDLE TEST PROD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR

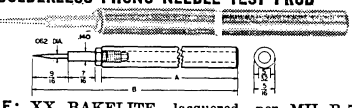
BODY: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, cont. duty.

DESCR.: Removable chuck for easy replacement or broken needles. Needle pierces corrosion or plating for positive reading. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
317	4"	4 15/16"	$30.00
318	5½"	6 5/16"	33.00

SOLDERLESS PHONO NEEDLE TEST PROD



HANDLE: XX BAKELITE, lacquered, per MIL-P-79, Form TR; Red or Black. SPECIFY COLOR

BODY: Brass, nickel plated.

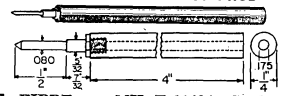
NEEDLE: Phono needle, steel.

RATING: 12 Amps AC for 10°C Temp. rise, cont. duty.

DESCR.: Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to pellet for solderless connections. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
314	4"	5 5/32"	$75.00
313	6"	7 5/32"	81.00

SUB-MINIATURE TEST PROD



HANDLE: FIBRE, per MIL-F-1148A, Grade CH, Red or Black. SPECIFY CLOR

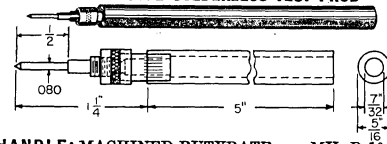
TIP: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, cont. duty.

DESCR.: Threaded for easy assembly. Ideally suited for checking all types sub-miniature equipment. Std. Pkg. 25

No.	NET Per C
322	$35.00

PENCIL TYPE SOLDERLESS TEST PROD



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class 2. Red or Black. SPECIFY COLOR

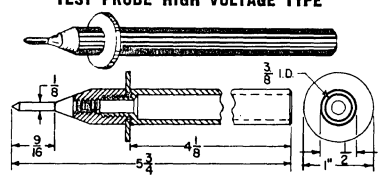
PLUG: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless: Wire fits through handle and body of plug, then wraps around screw portion and is tightened with knurled collar. Std. Pkg. 25

No.	Force Fit Type	NET Per C
384		$21.00

TEST PROBE HIGH VOLTAGE TYPE



HANDLE: FIBRE, per MIL-F-1148A, Grade CH, Red or Black. SPECIFY COLOR

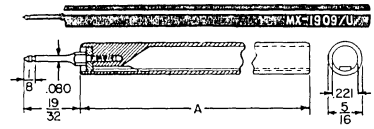
PROBE: Brass, nickel plated.

RATING: 12 Amps AC for 10°C Temp. rise, continuous duty. 15 KV 60 cycle AC continuous working voltage.

DESCR.: Heavy insulated fibre probe with flash-over shield for high-voltage applications. Large internal I.D. accommodates shielded cable or R.F. networks. Heavy duty removal tip. Std. Pkg. 10

No.	NET Ea.
630	$1.00

NYLON HANDLE PRODS AND TIPS



HANDLE: MOLDED NYLON, per MIL-P20693A. Specify color as coded above.

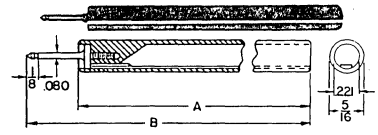
TIP: Brass, silver plated.

RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Solderless. Made to meet Signal Corps Drawing SC-C-82761. Std. Pkg. 25

No.	Sig. Corps. Drawing and Part No.	Size ("A")	Color	NET Per C
176	MX-1906/U	1"	Red	$54.00
177	MX-1907/U	1"	Black	54.00
178	MX-1909/U	4"	Red	60.00
179	MX-1910/U	4"	Black	60.00

SUB-MINIATURE TIP PLUG AND TEST PROD



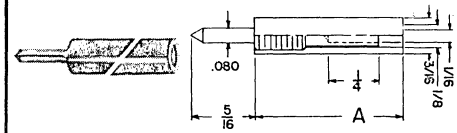
HANDLE: Molded Nylon, per MIL-P-20693A. Available in Red or Black. SPECIFY COLOR

TIP: Brass, Silver plated.

DESCR.: Solderless assembly. Ideal for use with sub-miniature printed-circuit tip jacks. Sharp tip breaks flux or oxide coating on printed-circuit pattern for positive contact when used as prod. Grooved head of prod makes positive contact when laid across wires. Fits all standard .080" tip jacks. Std. Pkg. 25

No.	Handle (A)	Overall (B)	NET Per C
348	1"	1 5/16"	$33.00
349	4"	4 5/16"	42.00

MINIATURE TIP PLUG AND TEST PROD



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red or Black. SPECIFY COLOR

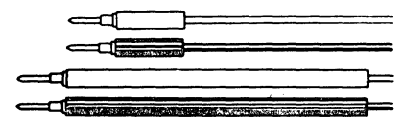
PLUG: Brass, nickel plated.

RATING: 2 Amps AC for 10°C Temp. rise, continuous duty.

DESCR.: Ideally suited for checking sub-miniature equipment. Fits standard phone tip jacks. Std. Pkg. 100

No.	Length ("A")	NET Per C
244	¾"	$18.00
666	3"	30.00

MINIATURE TEST LEAD



HANDLE: MACHINED BUTYRATE, 3/16" O.D., 4" long, per MIL-P-10408A, Type I, Class II, Red and Black.

PLUG: MACHINED BUTYRATE, 3/16" O.D., ¾" long, per MIL-P-10408A, Type I, Class II.

TIPS: Brass, nickel plated. Std. Pkg. 6

No.	NET Per C
660	$1.26

BATTERY CONNECTING STRIPS

Std. Pkg. 25

No.	Spacing	Eveready	Burgess	RCA	NET Per C
1205	1-1/2"	455,467, 457,468	XX30, XX45 K45, V451	VS055, VS016, VS082, VS125	$23.00
1206	2-1/2"	490	N60	VS090	24.00
1210	15/16"	437,495, 477,2356, 479	XX50, N60X, P45, C6X,	VS217, VS316, VS218, VS219	24.00
1217	1-1/4"	707	D5	VS315	21.00
1218	1-3/8"	274,276	4D4, D6	VS306	24.00
1219	15/16"	243	2Z3	VS324	24.00
1234	1/2"	E126,415, 216,416 246	H126, U30, 2U6, UX45, 2N6	VS328, VS086, VS323, VS318, VS305	24.00

CONNECTOR SNAPS Std. Pkg. 100

1296	Female	226,228	P6, PM8	VS300A, VS329	6.00
1297	Male	2709		VS326	6.00

specify SMITH

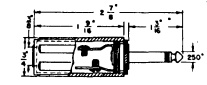
HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

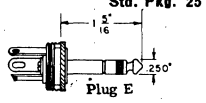
STANDARD PHONE PLUGS

BODY: Body, tip, and sleeve—Brass, nickel plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty, 750 Volts 60 cycle AC working voltage.
DESCR.: Fits standard phone jacks. Molded styrene separator insures maximum insulation between elements.
LUGS: 2 circuit plugs are screw terminals with ribbed clips and cord anchor. 3 circuit plugs are solder lugs.

Std. Pkg. 25

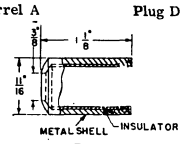


Barrel A

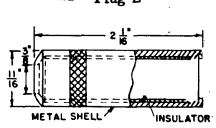


Plug D

Plug E

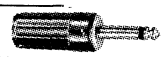


Barrel B



Barrel C

Bakelite Barrel



BARREL: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR

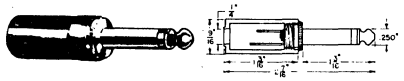
No.	Circuit	Terminals	Plug	Barrel	NET Per C
222	2	Screw	D	A	$51.00
227	3	Solder	E	A	69.00

Shielded Barrel

BARREL: BRASS, nickel plated with tubular insert.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
252	2	Screw	D	B	$66.00
272	2	Screw	D	C	84.00
228	3	Solder	E	B	90.00
238	3	Solder	E	C	105.00

STANDARD PHONE PLUG
Baby Bakelite Barrel

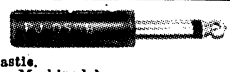


BARREL: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR
BODY: Body, tip, sleeve—Brass, nickel plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty, 750 Volts 60 cycle AC continuous working voltage.
DESCR.: Molded styrene separator insures maximum insulation between conductors. Fits standard phone jacks.

Std. Pkg. 25

No.	Circuit	Terminals	NET Per C
243	Two	Solder	$39.00

PJ055 AND PJ068 PLUGS

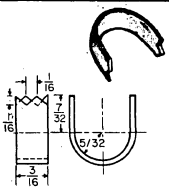


BARREL: MOLDED plastic.
BODY: Body, tip, sleeve—Machined brass.
TERM.: Brass, hot tinned.
INSUL.: Ethyl cellulose type EM-1 MIL-P-3412.
DESCR.: Designed especially for high quality communications equipment and to meet the exacting requirements of the armed services. Parts are assembled together in a mold, providing a finished plug with complete continuity of thermo plastic insulation between the tip rod and plug sleeve.

Std. Pkg. 25

No.	Type	Each
217	PJ055B	$ .95
247	PJ068B	2.19

CORD CLAMP STRAIN RELIEF

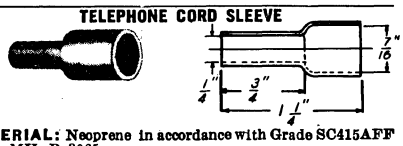


MATERIAL: Cold Rolled Steel, per QQ-S-636. Finish zinc per Spec. 7253, Table II, Type I.
DESCR.: Used on Government cord assemblies. Made in accordance with Signal Corps. Spec. SC-A-7674.

Std. Pkg. 100

No.	NET Per C
747	$1.80

TELEPHONE CORD SLEEVE

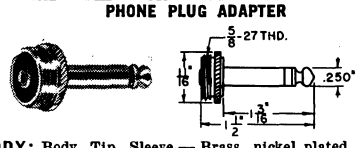


MATERIAL: Neoprene in accordance with Grade SC415AFF per MIL-R-3065.
DESCR.: Used on Government cord assemblies, for Strain Relief, Dust and Moisture Seal.

Std. Pkg. 100

No.	NET Per C
748	$9.00

PHONE PLUG ADAPTER

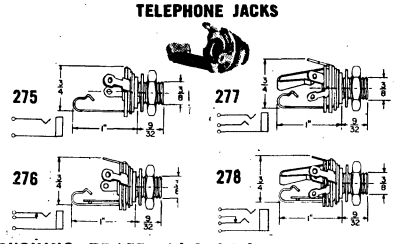


BODY: Body, Tip, Sleeve — Brass, nickel plated.
INSUL.: XXXP Bakelite.
DESCR.: Mates with No. 116 microphone connector. Fits standard phone jacks.

Std. Pkg. 25

No.	NET Per C
113	$33.00

TELEPHONE JACKS

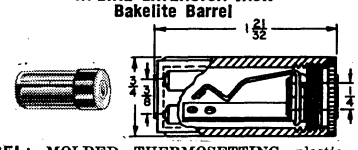


BUSHING: BRASS, nickel plated.
INSUL.: Bakelite, type PBE-P per MIL-P-3115B.
SPRING: Nickel-Silver alloy, spring temper. New tapered design provides for ease of insertion while eliminating possibility of shorts.
SLEEVE TERM.: Brass, hot tinned.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty, 1.2 K Volts 60 cycle AC continuous working voltage.
DESCR.: Notched insulating washers accurately locate all parts, and eliminate possibility of shorts and arc-over. Springs designed for firm, low-resistance electrical contact. Bushings ¼" long, threaded ⅜"-32. Mounts in ⅜" hole in panels up to 7/32" thick. Overall diameter ⅞", require 1" clearance behind panel. Supplied with ½" hex brass nut and ⅝" steel panel washer, all nickel plated.

Std. Pkg. 50

No.	Circuit	NET Per C
275	Two Conductor Open	$27.00
276	Two Conductor Closed	30.00
277	Three Conductor Open	36.00
278	Three Conductor Closed	51.00

IN-LINE EXTENSION JACK
Bakelite Barrel

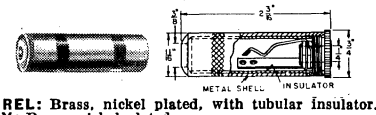


BARREL: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR
BODY: Brass, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty, 1 K Volts 60 cycle AC continuous working voltage.
SPRING: Nickel, silver, special alloy, spring temper.
INSUL.: XXP Bakelite.
DESCR.: For microphone and Hi-Fi extension cords. Mates with standard phone plugs.

Std. Pkg. 50

No.	Type	NET Per C
274	Solder Connection	$66.00
288	Screw Connection	75.00

Shielded Barrel



BARREL: Brass, nickel plated, with tubular insulator.
BODY: Brass, nickel plated.
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty, 1 K Volts 60 cycle AC continuous working voltage.
SPRING: Nickel, silver, special alloy, spring temper.
INSUL.: XXP Bakelite.
DESCR.: For microphone and Hi-Fi extension cords. Mates with standard phone plugs.

Std. Pkg. 50

No.	Type	NET Per C
273	Solder Connection	$93.00
289	Screw Connection	102.00

MINIATURE MICROPHONE CONNECTORS
⅜-32 THREAD

DESCR.: Ideal for lapel microphone, musical instruments, etc., wherever small cable is used. Accepts caple up to 3/16" diameter.

Std. Pkg. 50

No.	Type	Length	NET Per C
484	Single Contact Female	1¼"	$39.00
485	Single Contact Male	1⅛"	30.00

CHASSIS CONNECTOR

Mounts in 3/16" hole grounded; ¼" hole insulated with shoulder washer.

486	Single Contact Male	⅝"	30.00

CAP AND CHAIN

DESCR.: Brass, nickel plated. Seals chassis connectors against dust. Eliminates noisy connections. Used with any threaded one or two conductor chassis unit.

Std. Pkg. 10

No.		NET Per C
118	⅝-27 Thread	$45.00

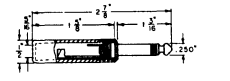
"SPECIALS are STANDARD with SMITH!"

For VARIATIONS of these standard parts to meet your SPECIAL requirements, or for entirely NEW parts made to your specifications, WE WELCOME YOUR INQUIRY!

SLIM PHONE PLUGS
Cable Clamp Style

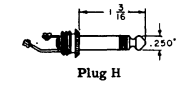
BODY: Body, tip, and sleeve—Brass, nickel plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty, 750 Volts 60 cycle AC continuous working voltage.
DESCR.: Fits standard phone jacks. Molded styrene separator insures maximum insulation between elements.

Std. Pkg. 25

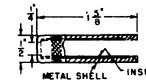


Barrel G

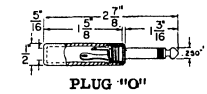
Plug F



Plug H



Barrel J



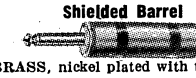
PLUG "O"

Bakelite Barrel

BARREL: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR

No.	Circuit	Terminals	Plug	Barrel	NET Per C
225	2	Solder	F	G	$48.00
307	2	Screw	H	G	51.00

Shielded Barrel



BARREL: BRASS, nickel plated with tubular insert.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
226	2	Solder	F	J	$69.00
316	2	Screw	H	J	72.00

ECONOMY TYPE

BODY: Body, tip, sleeve—Brass, nickel plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty, 750 Volts 60 cycle AC continuous working voltage.
DESCR.: An inexpensive modified version of our popular #225 and 225 plugs shown above. Features two small solder lugs.

Std. Pkg. 25

Bakelite Barrel

BARREL: MOLDED THERMOSETTING plastic per MIL-M-14 CFG. Red and Black. SPECIFY COLOR

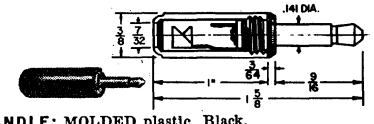
No.	Circuit	Terminals	Plug	Barrel	NET Per C
320	2	Solder	O	G	$39.00

Shielded Barrel

BARREL: BRASS, nickel plated with tubular insert.

No.	Circuit	Terminals	Plug	Barrel	NET Per C
330	2	Solder	O	J	$51.00

MINIATURE PHONE PLUG

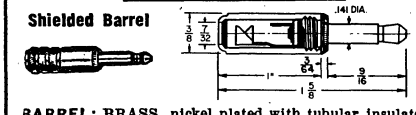


HANDLE: MOLDED plastic. Black.
BODY: Body, tip, sleeve—Brass, nickel plated.
TERM.: Brass, hot tin dipped.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty, 350 Volts 60 cycle AC continuous working voltage.
DESCR.: Designed for use with hearing aids, small meters, etc. Solder terminals.

Std. Pkg. 50

No.	NET Per C
480	50.00

Shielded Barrel



BARREL: BRASS, nickel plated with tubular insulator.
BODY: Body, tip, sleeve—Brass, nickel plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty, 350 Volts 60 cycle AC continuous working voltage.
DESCR.: Designed for use with hearing aids, small meters, etc. Solder terminals.

Std. Pkg. 50

No.	Circuit	NET Per C
481	Two Conductor	$58.00

MICROPHONE CONNECTORS

BODY: Brass, chrome plated.
SPRING: Steel cadmium plated.
INSUL.: XXXP Bakelite.
EYELET: Brass, hot tinned for easy soldering.
Standard Type ⅝-27 Thread
DESCR.: Designed for use with single conductor cable. Microphone connectors provided with flexible protector spring. Cable clamped firmly to connector by hollow point set screw.

Std. Pkg. 50

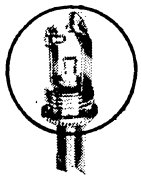
No.	Type	Length	NET Per C
115	Single Contact Male	1¾"	$30.00
116	Single Contact Female	2"	39.00

CHASSIS CONNECTORS

Mount in .385 hole grounded: .500 hole insulated with shoulder washer.

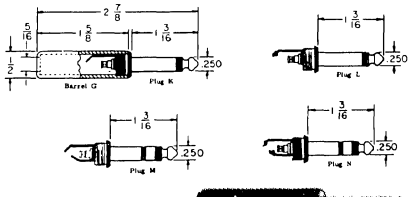
117	Single Contact Male	⅝"	30.00

 © United Technical Pub

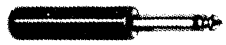


IMPROVED "TURRET-CENTER" STYLE

BODY: Body, Tip, Ring, and sleeve —Brass, nickel plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 1.5 KV 60 cycle AC continuous working voltage.
DESCR.: New, improved construction has co-axial "turret-terminal" tip lug and widely separated contacts for maximum voltage ratings. Styrene separator, Mylar sleeves, and Nylon bushings used for increased performance. Fits standard phone jacks. **Std. Pkg. 25**



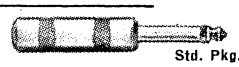
Bakelite Barrel



BARREL: MOLDED THERMOSETTING plastic, per MIL-M-14 CFG. Red and Black. SPECIFY COLOR

No.	Circuit	Terminals	Plug	Barrel	NET Per C
171	2	Solder	K	G	$45.00
172	2	Screw	L	G	50.00
308	3	Solder	M	G	72.00
309	3	Screw	N	G	81.00

Shielded Barrel



Std. Pkg. 25

BARREL: BRASS, nickel plated with tubular insert.

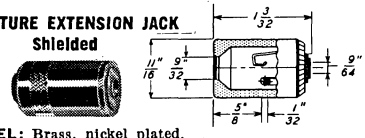
No.	Circuit	Terminals	Plug	Barrel	NET Per C
173	2	Solder	K	J	$65.00
174	2	Screw	L	J	70.00
311	3	Solder	M	J	90.00
312	3	Screw	N	J	96.00

MINIATURE TELEPHONE JACKS

BUSHING: BRASS, nickel plated.
INSUL.: XXXP bakelite, type PBE-P per MIL-P-3115A.
SPRING: Nickel silver alloy, spring temper.
TERM.: Brass, hot tinned.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage.
DESCR.: Notched insulation washers interlock springs and lugs, eliminate possibility of shifting which result in electrical shorts. Springs firmly hold mating plug. Supplied with hex brass nut and steel mounting washer all nickel plated. **Std. Pkg. 50**

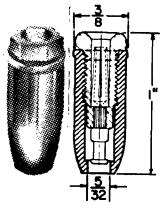
No.	Circuit	NET Per C
482	Two Conductor, Open	$30.00
483	Two Conductor, Closed	34.00

MINIATURE EXTENSION JACK
Shielded



BARREL: Brass, nickel plated.
BODY: Brass, nickel plated.
SPRING: Nickel silver alloy, spring temper.
INSUL.: Bakelite.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 500 Volts 60 cycle AC continuous working voltage.
DESCR.: Mates with Miniature Phone Plugs. **Std. Pkg. 25**
No. 487 **NET Per C $72.00**

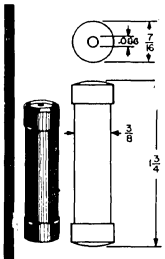
NYLON IN-LINE TIP JACK



Color Code Suffix
Add to Catalog Number as Required
— 101 WHITE
— 102 RED
— 103 BLACK
— 104 GREEN
— 105 BLUE
— 106 ORANGE
— 107 YELLOW
— 108 BROWN
— 112 PURPLE
— 113 GREY

All Nylon
HANDLE: MOLDED NYLON, per MIL-P-20693A. Specify color as coded above.
BODY: Molded Nylon, per MIL-P-20693A.
CONTACT: Heat treated beryllium copper, gold washed.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 5 KV 60 cycle AC continuous working voltage.
DESCR.: Fits all standard phone-tip plugs, with recessed contact for safe connection. Ideally suited for use in patch and extension cords. Can also be used for panel mounting where wrap-around terminal connection must be insulated at rear. **Std. Pkg. 50**
No. 1513 **NET Per C $30.00**

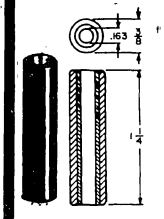
PHONE TIP PLUG SPLICE



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black, Yellow, Green. SPECIFY COLOR
CAP: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, per LC-726-1.
BODY: Brass, nickel plated.
SPRING: Phosphor bronze.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Invaluable for quick splicing connections or for test lead extension. Accepts standard phone tip plugs. **Std. Pkg. 50**

No.	NET Per C
246	$27.00

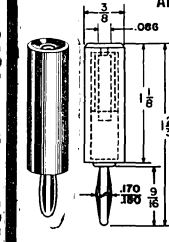
BANANA PLUG SPLICE



HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black, Yellow, Green. SPECIFY COLOR
INSERT: Brass.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Invaluable for quick splicing connections. Accepts standard banana plugs. **Std. Pkg. 50**

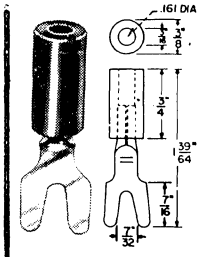
No.	NET Per C
245	$24.00

ADAPTER Tip Plug to Banana Plug



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
CAP: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.
PLUG: Brass, nickel plated.
CONTACT: Phosphor Bronze.
SPRING: Four-leaved phosphor bronze, nickel plated.
JACK: Brass, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Accepts standard phone tip plugs and adapts to standard banana plugs. **Std. Pkg. 50**
No. 214 **NET Per C $35.00**

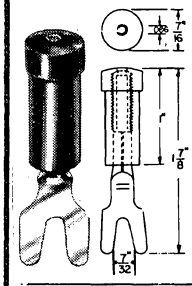
INSULATED SPADE LUG



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
LUG: Steel, hot tinned, .030 thick.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Banana plug can be inserted into spade lug thru rear of handle. **Std. Pkg. 100**

No.	Description	NET Per C
218	Insulated Spade Lug	$10.80
129	Lug Only	1.20

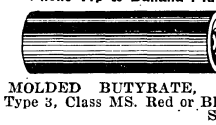
ADAPTER
Phone Tip to Spade Lug



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3 Class MS. Red or Black.
CAP.: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.
JACK: Brass.
SPRING: Phosphor Bronze.
SPADE LUG: Steel hot tinned .030 thick.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Tip jack accepts standard phone tip plugs and adapts to spade lug. **Std. Pkg. 50**

No.	Descr.	NET Per C
249	Adapter	$35.00

COMBINATION SPLICE
Phone Tip to Banana Plug

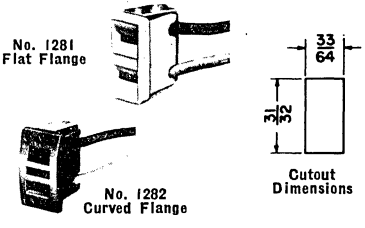


HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
BODY: Brass.
CONTACT: Beryllium copper, gold washed.
DESCR.: Invaluable for quick splice-of test leads. Accepts standard Banana plug one end, .080 phone tip other end. **Std. Pkg. 50**
No. 496 **NET Per C $30.00**

CONVENIENCE OUTLETS

For small unit electrical appliances and Electronic devices. UL Approved RADIOS — CLOCK RADIOS — CLOCKS — T.V. SETS — LAMPS — TOASTERS, ETC.

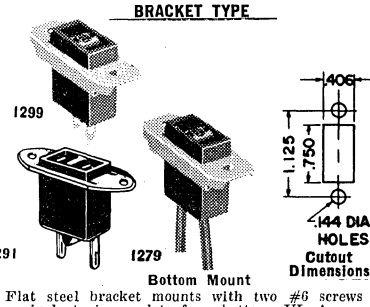
SINGLE SCREW BRACKET TYPE WIRE LEADS



Can be dropped into opening and held in place by metal bracket and single central screw, supplied. UL Approved.
RATING: 15 Amps, 125 Volts AC or DC.
LEADS: Plastic wire #14 gauge, 6" long. **Std. Pkg. 50**

No.	Color	NET Per C
1281-103	Black	$17.00
1281-101	White	19.00
1282-103	Black	17.00
1282-101	White	19.00

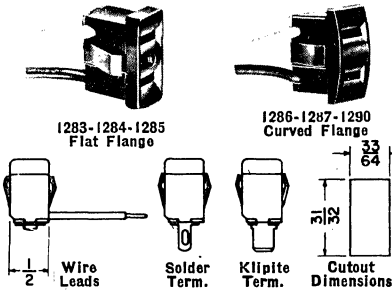
BRACKET TYPE



Flat steel bracket mounts with two #6 screws or equivalent size eyelets from bottom. UL Approved.
RATING: 15 Amps, 125 Volts AC or DC.
LEADS: No. 1279 has two leads, plastic wire #16 gauge, 8" long. UL Approved. **Std. Pkg. 50**

No.	Terminals	NET Per C
1299	Solder	$ 9.00
1279	Wire Leads	22.80
Top or Bottom Mount		
1291	Solder	10.00

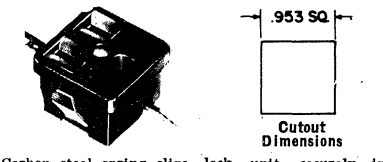
PUSH-IN SNAP-LOCK BRACKET TYPE



Carbon Steel spring clips lock unit securely in place when pushed into opening. UL Approved.
RATING: 15 Amps, 125 Volts AC or DC.
LEADS: Plastic wire #14 gauge, 6" long. **Std. Pkg. 50**

No.	Terminals	Color	NET Per C
1283-103	Wire Leads	Black	$17.00
1283-101	Wire Leads	White	19.00
1284-103	Solder	Black	15.00
1284-101	Solder	White	17.00
1285-103	Klipite	Black	15.00
1285-101	Klipite	White	17.00
1286-103	Wire Leads	Black	15.00
1286-101	Wire Leads	White	17.00
1287-103	Solder	Black	15.00
1287-101	Solder	White	17.00
1290-103	Kliptite	Black	15.00
1290-101	Kliptite	White	17.00

THREE WIRE OUTLET
(With grounding lead)

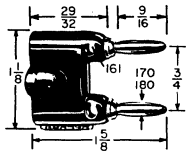


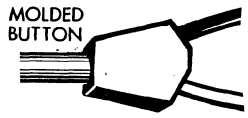
Carbon steel spring clips lock unit securely in place when pushed into opening. UL Approved.
RATING: 15 Amps, 125 Volts, AC or DC.
LEADS: Two #14 gauge 6" long plastic wire and one #16 gauge green ground lead 6" long. **Std. Pkg.50**

No.	Color	NET Per C
1280-103	Black	$32.00
1280-101	White	35.00

specify SMITH
HERMAN H. SMITH, INC.
ELECTRONIC COMPONENTS

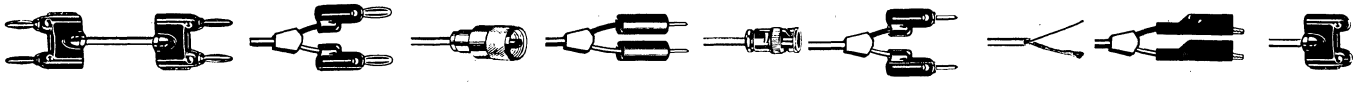
DOUBLE BANANA PATCH CORDS





CABLE TYPES AVAILABLE

	WIRE "A"	WIRE "B"	WIRE "C"
DESCRIPTION	2-cond. tw. 18 ga. 65/36 str.	Shielded audio cable	Coaxial Cable RG58/U.
INSULATION	Vinyl	Polyethylene	Polyethylene
JACKET	Vinyl, Color Grey	Vinyl, Color Grey	Vinyl,Color Black
NOM. CAP.	30 mmf./ft.	25 mmf./ft.	28.5 mmf./ft.



A B C D E F G H I

A DOUBLE PLUG BOTH ENDS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits top and side. Each end terminates with molded double banana plug. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1530-12	1540-12	1580-12	12"	$4.35
1530-24	1540-24	1580-24	24"	4.45
1530-36	1540-36	1580-36	36"	4.55
1530-48	1540-48	1580-48	48"	4.65
1530-60	1540-60	1580-48	60"	4.75

B DOUBLE PLUG TO "CROSS-PATCH" BANANA PLUGS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
BODY: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
PLUG: Our No. 1510.
DESCR.: Mates with standard dual binding post having ¾" centers.Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana plug, other end with "Cross-Patch" banana plugs, color coded Red and Black **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1523-12	1524-12	1525-12	12"	$5.35
1523-24	1524-24	1525-24	24"	5.45
1523-36	1524-36	1525-36	36"	5.55
1523-48	1524-'8	1525-48	48"	5.65
1523-60	1524-60	1525-60	60"	5.75

C DOUBLE PLUG TO UHF MALE

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
CONN.: PL-259A.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with PL-259A. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
———	1545-12	1585-12	12"	$5.35
———	1545-24	1585-24	24"	5.45
———	1545-36	1585-36	36"	5.55
———	1545-48	1585-48	48"	5.65
———	1545-60	1585-60	60"	5.75

D DOUBLE PLUG TO PHONE TIP

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
PLUG: Our No. 203.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with insulated tip plug, one red and one black. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1533-12	1543-12	1583-12	12"	$4.35
1533-24	1543-24	1583-24	24"	4.45
1533-36	1543-36	1583-36	36"	4.55
1533-48	1543-48	1583-48	48"	4.65
1533-60	1543-60	1583-60	60"	4.75

E DOUBLE PLUG TO UG 88C/U

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
CONN.: UG 88C/U.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with UG 88 C/U. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
———	1544-12	1584-12	12"	$5.35
———	1544-24	1584-24	24"	5.45
———	1544-36	1584-36	36"	5.55
———	1544-48	1584-48	48"	5.65
———	1544-60	1584-60	60"	5.75

F DOUBLE PLUG TO "CROSS-PATCH" PIN PLUGS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
BODY: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
PLUG: Our No. 1595.
DESCR.: Mates with standard dual binding post having ¾" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana plug, other end with "Cross-Patch" Pin plugs with standard .080" tip and jack in rear, banana jack in side, color coded Red and Black. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1592-12	1593-12	1594-12	12"	$5.35
1592-24	1593-24	1594-24	24"	5.45
1592-36	1593-36	1594-36	36"	5.55
1592-48	1593-48	1594-48	48"	5.65
1592-60	1593-60	1594-60	60"	5.75

G DOUBLE PLUG TO TINNED LEADS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on the side. One end terminates with double banana plug, other end stripped and tinned. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1532-12	1542-12	1582-12	12"	$3.35
1532-24	1542-24	1582-24	24"	3.45
1532-36	1542-36	1582-36	36"	3.55
1532-48	1542-48	1582-48	48"	3.65
1532-60	1542-60	1582-60	60"	3.75

H DOUBLE PLUG TO ALLIGATOR CLIPS

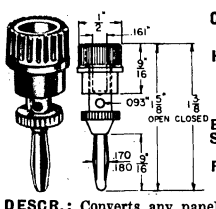
HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
CLIP: Steel cadmium plated (No. 300).
INSUL.: Molded vinyl plastic (No. 331).
WIRE: As specified above.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with insulated alligator clips, one red, one black. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1531-12	1541-12	1581-12	12"	$5.35
1531-24	1541-24	1581-24	24"	5.45
1531-36	1541-36	1581-36	36"	5.55
1531-48	1541-48	1581-48	48"	5.65
1531-60	1541-60	1581-60	60"	5.75

I DOUBLE PLUG TO DOUBLE JACK

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual binding post having ¾" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits top and side. One end terminates with molded double banana plug, other end in double extension jack. **Std. Pkg. 10**

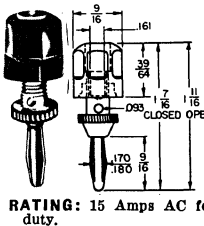
No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1881-12	1822-12	1883-12	12"	$4.35
1881-24	1882-24	1883-24	24"	4.45
1881-36	1882-36	1883-36	36"	4.55
1881-48	1882-48	1883-48	48"	4.65
1881-60	1882-60	1883-60	60"	4.75



COMBINATION BINDING POST AND BANANA PLUG

HEAD: CAPTIVE. Molded Butyrate, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 AMPS AC for 10°C Temp. rise, continuous duty.
DESCR.: Converts any panel-mounted banana jack into a five-way binding post termination. Accepts phone tip, spade lug, banana plug, alligator clip, or solid or stranded wire. **Std. Pkg. 25**

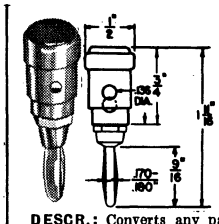
No. 233 — **NET Per C** $30.00



COMBINATION NYLON BINDING POST AND BANANA PLUG

HEAD: CAPTIVE, Molded Nylon, per MIL-P-20693A. Available in Red, Black, Yellow, Green, Blue, White. Molded-in brass nickel plated insert. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Converts any panel-mounted banana jack into a nylon five-way binding post termination. Accepts phone tips, spade lugs, banana plug, alligator clips, or solid or stranded wires. **Std. Pkg. 25**

No. 234 — **NET Per C** $30.00



COMBINATION PUSH POST AND BANANA PLUG

HEAD: Captive, brass nickel plated.
CAP: Molded Styrene, per Fed. Spec. L-P416, Type I, Black.
BODY: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Converts any panel-mounted banana jack into a spring loaded push-post. Accepts standard phone tip. solid or stranded wire, and locks them in place on release of pressure on cap. **Std. Pkg. 25**

No. 2714 — **NET Per C** $75.00

FOR YOUR SPECIAL REQUIREMENTS IN
PATCH CORDS • JUMPERS • TEST LEADS
consult HERMAN H. SMITH, INC.

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specify **SMITH**

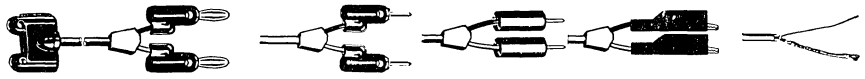
HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

PATCH CORDS

CABLE TYPES AVAILABLE

	WIRE "A"	WIRE "B"	WIRE "C"
DESCRIPTION	2-cond. tw. 18 ga. 65/36 str.	Shielded audio cable	Coaxial Cable RG58/U.
INSULATION	Vinyl	Polyethylene	Polyethylene
JACKET	Vinyl, Color Grey	Vinyl, Color Grey	Vinyl, Color Black
NOM. CAP.	30 mmf./ft.	25 mmf./ft.	28.5 mmf./ft.



A B C D E

A DOUBLE JACK TO "CROSS-PATCH" PLUGS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
BODY: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
PLUG: Our No. 1510. Red and black.
DESCR.: Mates with standard dual banana plugs having ¾" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana jacks, other end with "Cross-patch" banana plugs, color coded Red and Black. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1895-12	1896-12	1897-12	12″	$5.35
1895-24	1896-24	1897-24	24″	5.45
1895-36	1896-36	1897-36	36″	5.55
1895-48	1896-48	1897-48	48″	5.65
1895-60	1896-60	1897-60	60″	5.75

B DOUBLE JACK TO "CROSS-PATCH" PIN PLUGS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
BODY: Brass, nickel plated.
WIRE: As specified above.
PLUG: Our No. 1595. Red and black.
DESCR.: Mates with standard dual banana plugs having ¾" centers. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana jacks, other end with "Cross-Patch" Pin plugs with standard .080" tip and jack in rear, banana jack in side, color coded Red and Black. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1861-12	1898-12	1899-12	12″	$5.35
1861-24	1898-24	1899-24	24″	5.45
1861-36	1898-36	1899-36	36″	5.55
1861-48	1898-48	1899-48	48″	5.65
1861-60	1898-60	1899-60	60″	5.75

C DOUBLE JACK TO PHONE TIPS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
PLUG: Brass, nickel plated.
WIRE: As specified above.
PLUG: Our No. 203. Red and black.
DESCR.: Mates with standard dual banana plugs by the word GROUND molded on side. One end terminates with double banana jacks, other end with insulated tip plug, one red and one black. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1892-12	1893-12	1894-12	12″	$4.35
1892-24	1893-24	1894-24	24″	4.45
1892-36	1893-36	1894-36	36″	4.55
1892-48	1893-48	1894-48	48″	4.65
1892-60	1893-60	1894-60	60″	4.75

D DOUBLE JACK TO ALLIGATOR CLIPS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
JACKS: Brass, nickel plated.
CLIP: Steel cadmium plated (No. 300).
INSUL.: Molded vinyl plastic (No. 331).
WIRE: As specified above.
DESCR.: Mates with standard dual banana plugs having ¾" center. Polarity indicated by the word GROUND molded o nside. One end terminates with double banana jacks, other end with insulated alligator clips, one red, one black. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1889-12	1890-12	1891-12	12″	$5.35
1889-24	1890-24	1891-24	24″	5.45
1889-36	1890-36	1891-36	36″	5.55
1889-48	1890-48	1891-48	48″	5.65
1889-60	1890-60	1891-60	60″	5.75

E DOUBLE JACK TO STRIPPED & TINNED LEADS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
PLUG: Brass, nickel plated.
WIRE: As specifier above.
DESCR.: Mates with standard dual plugs having ¾" center. Polarity indicated by the word GROUND molded on side. One end terminates in double extension jack, other end in stripped and tinned leads. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1886-12	1887-12	1888-12	12″	$3.35
1886-24	1887-24	1888-24	24″	3.45
1886-36	1887-36	1888-36	36″	3.55
1886-48	1887-48	1888-48	48″	3.65
1886-60	1887-60	188-60	60″	3.75

UHF COAXIAL CABLE CONNECTORS

Solder Type

R.F. Connectors for use with RG-8, 9, 10, 11, 12, 63, 65/U coaxial cables. **Std. Pkg. 5**

1713

STRAIGHT COAXIAL CONNECTOR
Brass. Silver-plated shell.

No.	Type	NET Per C
1713	PL-259	$67.50

1715

CHASSIS TYPE COAXIAL RECEPTACLE

1715	SO-239	$67.50

1716

COAXIAL JUNCTION
For joining separate cable lengths.

1716	PL-258	$121.50

1719

CABLE REDUCING ADAPTER
5/16" I.D. For RG-58/U.
CABLE: Brass, Silver-plated.

No.	Type	NET Per C
1719	UG-175/U	$25.00

RF COAXIAL CABLE CONNECTORS

1710 1709 1717 1718

Small, weatherproof low-voltage connectors with bayonet action for quick-disconnect. Constant impedance, 50 ohms. Brass, silver-plated. For RG-55 and 58/U Cables. **Std. Pkg. 5**

No.	Type	Description	Each
1717	UG-88C/U	Plug	$.81
1718	UG-913/U	90° Plug	2.70
1709	UG-290AA/U	Receptacle	1.08
1710	UG-89B/U	Jack	1.35

SOLDERLESS COAXIAL CABLE CONNECTORS

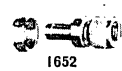
For RG-8/U, RG-11/U, RG-13/U and RG-59/U Cables

Designed to use the inner conductor of the coaxial cable for the male pin. Can be wrench-tightened for positive contact. Brass, silver plated. **Std. Pkg. 25**

Crimp Type

MALE CONNECTORS

Both types mate with female chassis fitting #1660 and Female Coupling #1680. Designed for quick and easy assembly using #1752 Crimping Tool. Withstands 350-lb pull when assembled. Packaged individually, with instruction sheet. **Std. Pkg. 25**


1652

1656

No.	For Cables	NET Ea.
1652	RG-59/U	$ .48
1656	RG-6/U	.63

FEMALE CHASSIS FITTING

Mates with #1652 connector. Mounts in 5/16" hole. Threaded stem is ⅜".

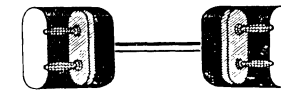
No.		Net Ea.
1660	Individually Packaged	$ .48

FEMALE COUPLING

Accepts two #1680, 1652 or 1656 connectors.

No.		Net Ea.
1680	Individually Packaged	$ .60

SHIELDED DOUBLE PLUG TO SHIELDED DOUBLE PLUG



SHIELD: Aluminum, black anodized.
BODY: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
PLUG: Brass,nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
DESCR.: Mates with standard dual binding post having ¾" center. Both ends terminate with double shielded banana plugs. **Std. Pkg. 10**

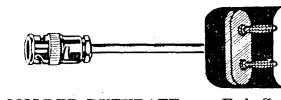
No. RG-58C/U Wire	No. RG-11/U Wire	Length	NET Ea.
1876-12	1877-12	12 inches	$5.60
1876-24	1877-24	24 inches	5.70
1876-36	1877-36	36 inches	5.80
1876-48	1877-48	48 inches	5.90
1876-60	1877-60	60 inches	6.00

DOUBLE JACK TO SHIELDED DOUBLE PLUG

SHIELD: Aluminum, black anodized.
HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Color to match wire.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: As specified above.
DESCR.: Mates with standard dual binding pos having ¾" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits top and side. One end terminates with molded double shielded banana plug, other end in double extension jack. **Std. Pkg. 10**

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
———	1884-12	1885-12	12″	$5.30
———	1884-24	1885-24	24″	5.40
———	1884-36	1885-36	36″	5.50
———	1884-48	1885-48	48″	5.60
———	1884-60	1885-60	60″	5.70

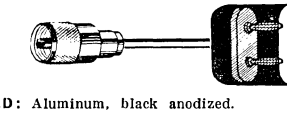
BNC MALE TO SHIELDED DOUBLE PLUG



BODY: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Assemblies.
SHIELD: Aluminum, black anodized.
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: RG-58C/U.
CONN.: UG 88C/U. (BNC Series)
DESCR.: Mates with standard dual binding post having ¾" center. One end terminates with double shielded banana plug, other end with UG 88 C/U. **Std. Pkg. 10**

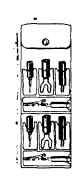
No.	Length	NET Ea.
1873-12	12 inches	$6.10
1873-24	24 inches	6.20
1873-36	36 inches	6.30
1873-48	48 inches	6.40
1873-60	60 inches	6.50

UHF MALE TO SHIELDED DOUBLE PLUG



SHIELD: Aluminum, black anodized.
BODY: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
CONN.: PL-259 (UHF Series).
PLUG: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
DESCR.: Mates with standard dual binding post having ¾" center. One end terminates with double shielded banana plug, other end in UHF Conn. **Std. Pkg. 10**

No. Wire RG-58C/U	No. Wire RG-11/U	Length	NET Ea.
1874-12	1875-12	12 inches	$6.10
1874-24	1875-24	24 inches	6.20
1874-36	1875-36	36 inches	6.30
1874-48	1874-48	48 inches	6.40
1874-60	1875-60	60 inches	6.50



LABORATORY INTERCHANGE KIT
DESCR.: All parts interchangeable, converts any standard test lead to an all purpose unit. Packaged in an electronically sealed vinyl kit.
Consists of one Red, one Black of the following.
Phone tips No. 215 Spade lugs No. 218
Tip plug adapter No. 214
Alligator clip jack No. 305 **Std. Pkg. 1**
No. 640 **NET Ea. $2.25**

specify **SMITH**

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

JUMPERS & PATCH CORDS

STANDARD ALLIGATOR CLIP TO PIN PLUG

CLIPS: STEEL, Cadmium plated.
BOOTS: Vinyl plastic. Boot colors match wire.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D of .140". Available in Red, Black, Yellow, Green, Blue, and White.
SPECIFY COLOR
Std. Pkg. 10

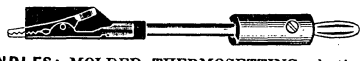
No.	Length	Net Ea.
1596-12	12 inches	$ .47
1596-24	24 inches	.49
1596-36	36 inches	.51
1596-48	48 inches	.53
1596-60	60 inches	.55

MINIATURE ALLIGATOR CLIP BOTH ENDS

CLIPS: STEEL, Cadmium plated.
BOOTS: Vinyl plastic. Boot colors match wire.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
WIRE: General purpose, PVC insulated 1/64" wall, #18 AWG, 16/30 stranded conductor. Available in Red, Black, Yellow, Green, Blue, and White.
SPECIFY COLOR
Std. Pkg. 10

No.	Length	Net Ea.
1597-12	12 inches	$ .47
1597-18	18 inches	.48
1597-24	24 inches	.49
1597-36	36 inches	.51
1597-48	48 inches	.53
1597-60	60 inches	.55

STANDARD ALLIGATOR CLIP TO BANANA PLUG



HANDLES: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue White per LC-726-1. SPECIFY COLOR
PLUG: Hex brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
CLIPS: STEEL, Cadmium plated.
BOOTS: Vinyl plastic. Boot colors match wire.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1866-12	12 inches	$ .57
1866-24	24 inches	.59
1866-36	36 inches	.61
1866-48	48 inches	.63
1866-60	60 inches	.65

STANDARD ALLIGATOR CLIP TO SPADE LUG

HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black.
SPECIFY COLOR
LUG: Brass, .050 thick, nickel plated.
CLIPS: STEEL, Cadmium plated.
BOOTS: Vinyl plastic. Boot colors match wire.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1867-12	12 inches	$ .52
1867-24	24 inches	.54
1867-36	36 inches	.56
1867-48	48 inches	.58
1867-60	60 inches	.60

SPADE LUG BOTH ENDS

HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black,
SPECIFY COLOR
LUG: Brass, .050 thick, nickel plated.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1864-12	12 inches	$ .52
1864-24	24 inches	.54
1864-36	36 inches	.56
1864-48	48 inches	.58
1864-60	60 inches	.60

STANDARD ALLIGATOR CLIP TO PIN PLUG

HANDLES: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUG: Brass, nickel plated.
CLIPS: STEEL, Cadmium plated.
BOOTS: Vinyl plastic. Boot colors match wire.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1865-12	12 inches	$ .52
1865-24	24 inches	.54
1865-36	36 inches	.56
1865-48	48 inches	.58
1865-60	60 inches	.60

PIN PLUG BOTH ENDS

HANDLES: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUGS: Brass, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of 140". Std. Pkg. 10

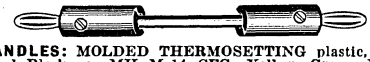
No.	Length	Net Ea.
1862-12	12 inches	$ .62
1862-24	24 inches	.64
1862-36	36 inches	.66
1862-48	48 inches	.68
1862-60	60 inches	.70

PIN PLUG TO BANANA PLUG

HANDLES: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUGS: Brass, nickel plated.
SPRING: Four-leaved phosphor bronze, nickel plated.
RATING: 12 Amps AC for 10°C Temp. rise, continuous duty.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, insulated to an O.D. of .140". Std. Pkg. 10

No.	Length	Net Ea.
1868-12	12 inches	$ .67
1868-24	24 inches	.69
1868-36	36 inches	.71
1868-48	48 inches	.73
1868-60	60 inches	.75

BANANA PLUG BOTH ENDS



HANDLES: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG. Yellow, Green, Blue, White per LC-726-1. SPECIFY COLOR
PLUGS: Brass, nickel plated.
SPRINGS: Four-leaved phosphor bronze, nickel plated.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140".
Std. Pkg. 10

No.	Length	Net Ea.
1863-12	12 inches	$ .72
1863-24	24 inches	.74
1863-36	36 inches	.76
1863-48	48 inches	.78
1863-60	60 inches	.80

MINIATURE MOLDED PATCH CORDS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Yellow, Black, Green, assemblies. SPECIFY COLOR
BODY: Brass, nickel plated.
SRING: Four-leaved beryllium copper, nickel plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, insulated to an O.D. of .140".
DESCR.: Interconnects banana jacks on closely spaced centers where space is at a premium. Fits standard banana jacks. Std. Pkg. 10

No.	WIRE	NET Per C
1860-8	8 inches	$65.00
1860-12	12 inches	65.00
1860-24	24 inches	70.00
1860-36	36 inches	75.00

COLOR CODE SUFFIX

Add to Catalog Number as required

—101 WHITE	—103 BLACK	—105 BLUE
—102 RED	—104 GREEN	—107 YELLOW

"CROSS PATCH" BANANA PLUG CORD

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red, Black, Yellow, Green, Blue, White SPECIFY COLOR
BODY: Brass, nickel plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140".
DESC.: Interconnects unlimited number of multiple circuits. Positive, lasting contact for all banana plugs on top and side. Std. Pkg. 10

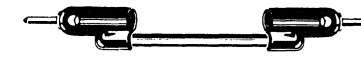
WITH PLUG SPRING 9/16" LONG

No.	Length ("A")	NET Per C
1510-8	8 inches	$130.00
1510-12	12 inches	130.00
1510-25	24 inches	135.00
1510-36	36 inches	140.00

WITH PLUG SPRING 13/32" LONG

No.	Length ("A")	NET Per C
1515-8	8 inches	$130.00
1515-12	12 inches	130.00
1515-24	24 inches	135.00
1515-36	36 inches	140.00

"CROSS PATCH" PIN TIP CORD



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Red, Black, Yellow, Green, Blue, White.
SPECIFY COLOR
BODY: Brass, nickel plated.
CONTACT: Beryllium copper.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, insulated to an O.D. of .140".
DESC.: Interconnects an unlimited number of multiple circuits .080" tip plug and female jack in rear of body fits all standard phone tips and jacks. Side holes accept standard banana plugs. Std. Pkg. 10

No.	Length ("A")	NET Per C
1595-8	8 inches	$140.00
1595-12	12 inches	140.00
1595-24	24 inches	145.00
1595-36	36 inches	150.00

"CROSS PATCH" CORD

HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black assemblies.
SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Four-leaved, beryllium copper, nickel plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140".
DESCR.: Provides a never ending banana plug receptacle, and can be used to interconnect an unlimited amount of multiple circuits Accepts standard banana plug in side. Std. Pkg. 10

No.	Length ("A")	NET Per C
680	8 inches	$95.00
681	12 inches	95.00
682	24 inches	100.00
683	36 inches	105.00

FOR YOUR SPECIAL REQUIREMENTS IN

- **PATCH CORDS**
- **JUMPERS**
- **TEST LEADS**

WHAT DO YOU NEED?

We are equipped to manufacture Patch Cords, Jumpers and Test Leads in every conceivable combination of terminal ends —plugs, jacks, clips and connectors—to be found in our entire line.

What are YOUR special requirements? We welcome your inquiry!

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specify **SMITH**

HERMAN H. SMITH, INC. ELECTRONIC COMPONENTS

JUMPERS & PATCH CORDS

COLOR CODE SUFFIX
Add to Catalog Number as required

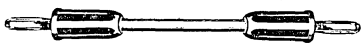
— 101 WHITE	— 106 ORANGE
— 102 RED	— 107 YELLOW
— 103 BLACK	— 108 BROWN
— 104 GREEN	— 112 PURPLE
— 105 BLUE	— 113 GREY

SUB-MINIATURE "CROSS PATCH" CORD

HANDLE: MOLDED BUTYRATE, per Fed Spec. L-P349A, Type 3, Class MS. Available in ten colors listed above. SPECIFY COLOR
BODY: Brass, silver plated.
SPRING: Four-leaved beryllium copper, silver plated.
WIRE: General purpose, PVC insulated, 1/64″ wall. #18 AWG, 41/34 stranded conductor. Voltage rating up to 1 KV RMS.
DESCR.: Interconnects unlimited number of multiple circuits. Positive, lasting contact for banana plugs on top and side. Special lengths on request. Std. Pkg. 10

No.	Length ("A")	NET Per C
1590-6	6 inches	$130.00
1590-12	12 inches	130.00
1590-18	18 inches	135.00
1590-24	24 inches	140.00

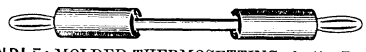
NYLON HANDLE PATCH CORD



HANDLE: MOLDED NYLON, per MIL-P-20693A. Red, Black, Yellow or Green. SPECIFY COLOR
BODY: Brass, nickel plated.
SPRING: Four-leaved beryllium copper, nickel plated.
WIRE: 10 KV PVC flexible wire, 65 strands #36 copper, #18 AWG, insulated to an O.D. of .140″.
DESCR.: Uses our standard No. 478 banana plug to interconnect circuits. Fits standard banana jacks. Std. Pkg. 10

No.	Length	NET Per C
1520-8	8 inches	$81.00
1520-12	12 inches	81.00
1520-24	24 inches	83.00
1520-36	36 inches	85.00

PATCH CORD



HANDLE: MOLDED THERMOSETTING plastic. Red and Black per MIL-M-14 CFG. Yellow, Green per LC-721-1. SPECIFY COLOR
BODY: Brass, nickel plated.
SRING: Four-leaved beryllium copper, nickel plated.
WIRE: 10 KV PVC flexible wire ,65 strands #36 copper, insulated to an O.D. of .140″.
DESCR.: Uses our standard No. 271 banana plug to interconnect circuits. Fits standard banana jacks. Std. Pkg. 10

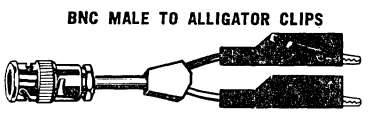
No.	Length ("A")	NET Per C
690	8 inches	$70.00
691	12 inches	70.00
692	24 inches	75.00
693	36 inches	80.00

HIGH-CURRENT PATCH CORD

HANDLE: MACHINED PHENOLIC plastic, per MIL-P-77B, Type 1. Red or Black assemblies SPECIFY COLOR
BODY: Brass, nickel plated.
SPRINGS: Six-leaved, phosphor bronze, nickel plated.
WIRE: #10, PVC insulated stranded wire, 105 strands #30 tinned copper wire, insulated to an O.D of .215″.
RATING: 25 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Tapered recessed plug so that no metal portions are exposed when plugged into mating jacks. Std. Pkg. 10

No.	Length	NET Per C
1591-8	8 inches	$190.00
1591-12	12 inches	190.00
1591-24	24 inches	195.00
1591-36	36 inches	200.00

BNC MALE TO ALLIGATOR CLIPS



CONN.: UG-88C/U. (BNC Series)
CLIPS: Steel Cad. Plated (#300).
INSUL.: Molded Vinyl (#331).
WIRE: As specified above.
DESCR.: For testing of wave patterns etc. One end termination with UG-88C/U other end with insulated alligator clips, one red, one black. Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
———	1537-12	1587-12	12″	$5.35
———	1537-24	1587-24	24″	5.45
———	1537-36	1587-36	36″	5.55
———	1537-48	1587-48	48″	5.65
———	1437-60	1587-60	60″	5.75

CABLE TYPES AVAILABLE

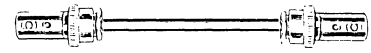
	WIRE "A"	WIRE "B"	WIRE "C"
DESCRIPTION	2-cond. tw. 18 ga. 65/36 str.	Shielded audio cable	Coaxial Cable RG58/U.
INSULATION	Vinyl	Polyethylene	Polyethylene
JACKET	Vinyl, Color Grey	Vinyl, Color Grey	Vinyl, Color Black
NOM. CAP.	30 mmf./ft.	25 mmf./ft.	28.5 mmf./ft.

BNC MALE BOTH ENDS

CONN.: UG 88 C/U. (BNC Series) Std. Pkg. 10

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
———	1539-12	1589-12	12″	$5.35
———	1539-24	1589-24	24″	5.45
———	1539-36	1589-36	36″	5.55
———	1539-48	1589-48	48″	5.65
———	1539-60	1589-60	60″	5.75

BNC FEMALE BOTH ENDS



CONN.: UG-89B/U. (BNC Series)
WIRE: RG-58C/U.

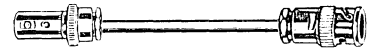
No.	Length	NET Ea.
1869-12	12 inches	$6.10
1869-24	24 inches	6.20
1869-36	36 inches	6.30
1869-48	48 inches	6.40
1869-60	60 inches	6.50

UHF MALE BOTH ENDS

CONN.: PL-259. (UHF Series) Std. Pkg. 10

No. RG-58C/U Wire	No. RG-11/U Wire	Length	NET Ea.
1871-12	1870-12	12 inches	$5.35
1871-24	1870-24	24 inches	5.45
1871-36	1870-36	36 inches	5.55
1871-48	1870-48	48 inches	5.65
1871-60	1870-60	60 inches	5.75

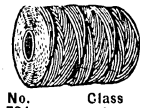
BNC FEMALE TO BNC MALE



CONN.: UG-89B/U. (BNC Series)
UG-89B/U. (BNC Series)
WIRE: RG-58C/U.

No.	Length	NET Ea.
1878-12	12 inches	$5.60
1878-24	24 inches	5.70
1878-36	36 inches	5.80
1878-48	48 inches	5.90
1878-60	60 inches	6.00

NYLON LACING CORD



MIL-T-713A, Type S. Composition P, Classes 3, 2 and 1. Supplied in 1-lb. tubes.

Natural Color

No.	Class	Test	Yardage	NET Ea.
734	1	70 lb.	600	$9.00
735	2	48 lb.	800	9.30
736	3	32 lb.	1140	9.60

Black Color

791	1	70 lb.	600	$10.80
792	2	48 lb.	800	11.10
793	3	32 lb.	1140	11.40

NYLON LACING TAPE
Braided — MGU Finish

#18 size meets MIL-T-13 A, Type P, Class 2. 500-yard spools.

Natural Color

No.	Size	Width	Thick	Test	NET Each
766	18	.090	.0125	50 lbs.	$9.50
767	21	.0625	.009	25 lbs.	7.00

Black Color

769	18	.090	.0125	50 lbs.	$10.00
770	21	.0625	.009	25 lbs.	7.50

Commercial Type

Has all application of above but at a much lower cost. Supplied in 1-lb tubes in natural color.

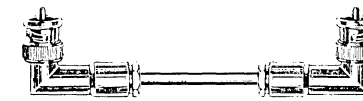
No.	Width	Yardage	NET Ea.
743	1/8″	620	$5.10

DACRON LACING CORD

Conforms to the physical requirements of MIL-T-713A. Greater tensile strength with minimal stretch than nylon. Fungus, acid and abrasion resistance. Supplied in 1 lb. tubes in natural color.

No.	Class	Test	Yardage	NET Ea.
722	1	78 lbs.	750	$9.60
723	2	57 lbs.	1000	9.90
724	3	37 lbs.	1500	10.20

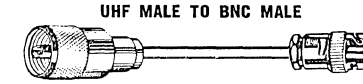
RIGHT ANGLE BNC TO RIGHT ANGLE BNC



CONN.: UC-913/U. (BNC Series)
WIRE: As specified above.
DESCR.: Used for patching and jumping. Each end terminates with UG-913/U.

No. Wire "A"	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
———	1538-12	1588-12	12″	$9.60
———	1538-24	1588-24	24″	9.70
———	1538-36	1588-36	36″	9.80
———	1538-48	1588-48	48″	9.90
———	1538-60	1588-60	60″	10.00

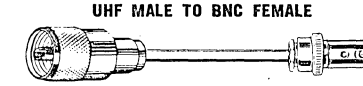
UHF MALE TO BNC MALE



CONN.: UG-88C/U. (BNC Series)
PL-259. (UHF Series)
WIRE: RG-58C/U.

No.	Length	NET Ea.
1879-12	12 inches	$5.35
1879-24	24 inches	5.45
1879-36	36 inches	5.55
1879-48	48 inches	5.65
1879-60	60 inches	5.75

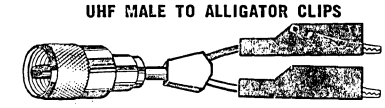
UHF MALE TO BNC FEMALE



CONN.: UG-89B/U. (BNC Series)
PL-259. (UHF Series)
WIRE: RG-58C/U.

No.	Length	NET Ea.
1880-12	12 inches	$5.35
1880-24	24 inches	5.45
1880-36	36 inches	5.55
1880-48	48 inches	5.65
1880-60	60 inches	5.75

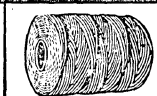
UHF MALE TO ALLIGATOR CLIPS



CONN.: PL-259. (UHF Series)
CLIPS: Steel Cad. Plated (#300).
INSUL.: Molded Vinyl (#331).
WIRE: As specified above.
DESCR.: For testing of wave patterns, etc. One end terminates with PL-259, other end with insulated alligator clips one red, one black. Std. Pkg. 10

No. BG-11/U Wire	No. Wire "B"	No. Wire "C"	Lgth.	NET Ea.
1872-12	1536-12	1586-12	12″	$5.35
1872-24	1536-24	1586-24	24″	5.45
1872-36	1536-36	1586-36	36″	5.55
1872-48	1536-48	1586-48	48″	5.65
1872-60	1536-60	1586-60	60″	5.75

For VARIATIONS of these standard parts to meet your SPECIAL requirements, or for entirely NEW parts made to your specifications, WE WELCOME YOUR INQUIRY!



LINEN LACING CORD

Mildew proofed. Spec. MIL-T-713-A. Type N.

Natural Color

No.	Tube	Ply	Class	Ydg.	NET Ea.
725	4 oz.	4	—	210	$1.65
726	8 oz.	4	—	425	3.00
727	1 lb.	4	—	850	5.40
728	4 oz.	6	3	150	1.65
729	8 oz.	6	3	300	3.00
730	1 lb.	6	3	600	5.40
737	4 oz.	8	2	115	1.65
738	8 oz.	8	2	235	3.00
739	1 lb.	8	2	470	5.40
731	4 oz.	9	—	100	1.65
732	8 oz.	9	—	200	3.00
733	1 lb.	9	—	400	5.40
740	4 oz.	12	1	75	1.65
741	8 oz.	12	1	150	3.00
742	1 lb.	12	1	300	5.40

Black Color

794	1 lb.	4	—	850	$6.00
795	1 lb.	6	3	600	6.00
796	1 lb.	8	2	470	6.00
797	1 lb.	9	—	400	6.00
798	1 lb.	12	1	300	6.00

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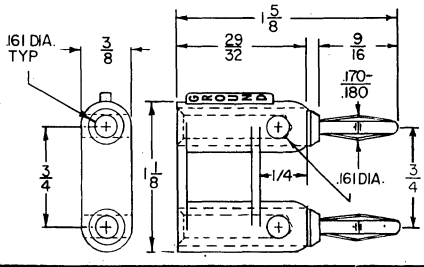
specify **SMITH**

HERMAN H. SMITH, INC. — ELECTRONIC COMPONENTS

DUAL INSTRUMENT TEST ADAPTERS



MATERIALS:
BODY: Molded Butyrate, per Fed Spec. L-P349A, Type 3, Class MS. Color BLACK unless otherwise specified.
CONDUCTOR: Brass, per QQ-B-626, Comp. 22, ½ hard.
SPRING: Four-leaved beryllium copper, heat treated.
HEAD: Molded Nylon, per MIL-P-20693A.
SHIELD: Drawn Aluminum.
SCREWS: Steel, cadmium plated.

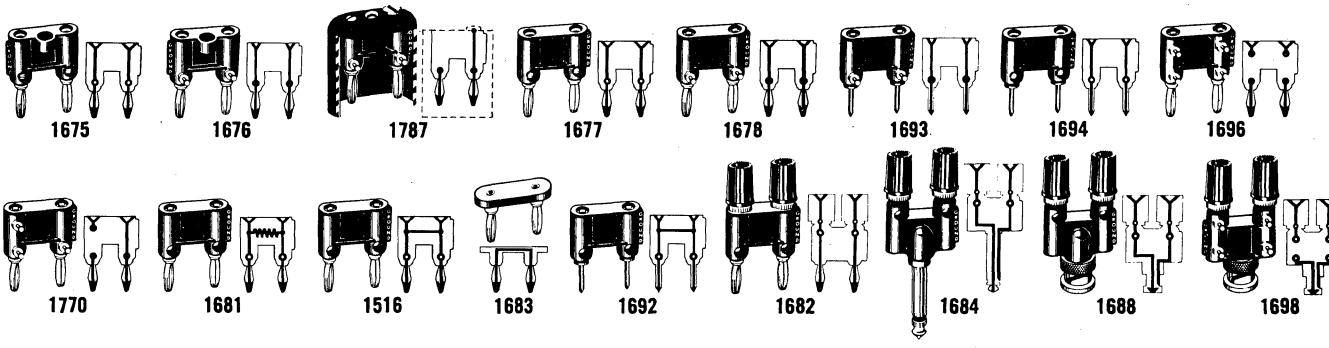
COLOR CODE SUFFIX

Add to Catalog Number as required

–101 WHITE	–105 BLUE	–108 BROWN
–102 RED	–106 ORANGE	–112 PURPLE
–103 BLACK	–107 YELLOW	–113 GREY
–104 GREEN		

FINISHES:
CONDUCTOR: Nickel plate, per QQ-N-290, Class I, Type VII.
SPRING: Nickel plate, as above.
TERMINAL: Gold washed.
CONNECTOR: Non-tarnish.
SHIELD: Black Anodized.

RATINGS:
CURRENT: 15 Amps AC for 10°C Temp. Rise, continuous duty, except where limited by co-axial connectors.
VOLTAGE: 5 KV, 60 cycle AC continuous working voltage, except where limited by co-axial connectors.
CAPACITY: 1.0 mmfd nominal between ¾" spaced conductors.
RESISTANCE: 1 milliohm or less per conductor.



CABLE MOUNTED DUAL BANANA PLUGS

SET-SCREW TYPE

REAR: 7/32 Dia. cable guide. Dual banana jacks on ¾" centers.
FRONT: Dual banana plugs on ¾" centers. Set-screws secure leads to conductors.
COLORS: Available in 10 std. colors as coded above.

No.	Std. Pkg. 10	NET Ea.
1675		$.72

TURRET-TERMINAL TYPE

REAR: 7/32 Dia. cable guide. Dual banana jacks on ¾" centers.
FRONT: Dual banana plugs on ¾" centers. Turret terminals for permanent solder connection of leads.
COLORS: Available in 10 std. colors as coded above.

No.	Std. Pkg. 10	NET Ea.
1676		$.81

SHIELDED TYPE

REAR: Mounting screw and locating boss. Inline cable entry with flush cable guide.
FRONT: Dual banana plugs ¾" centers. Turret terminals for permanent solder connection of leads.
SHIELD: Aluminum shield electrically connected to GND conductor fully enclosed plug and mating binding posts to reduce noise pickup.

No.	Std. Pkg. 1	NET Ea.
1787		$2.25

COMPONENT MOUNTING DUAL PLUGS

SET-SCREW TYPE

REAR: Dual banana jacks on ¾" centers for stacking.
FRONT: Dual banana jacks on ¾" centers. Set-screws secure component leads to conductors.
COLORS: Available in 10 std. colors as coded above. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1677		$.72

TURRET-TERMINAL TYPE

REAR: Dual banana jacks on ¾" centers for stacking.
FRONT: Dual banana plugs on ¾" centers. Turret terminals for permanent solder connection of component leads.
COLORS: Available in 10 std. colors as coded above. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1678		$.81

.080" PHONE TIP TYPE

REAR: Dual phone tip jacks on ¾" centers for stacking.
FRONT: Dual .080" phone tips on ¾" centers. Turret terminals for permanent solder connections of component leads.
COLORS: Available in Red or Black only. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1693		$.81

COMPONENT MOUNTING DUAL PLUGS

SET-SCREW PHONE TIP ADAPTER TYPE

REAR: Dual banana jacks on ¾" centers for stacking.
FRONT: Dual .080" pnone tips on ¾" centers. Set-screws secure component leads to conductors.
COLORS: Available in Red or Black only. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1694		$.72

FOUR TERMINAL ISOLATION TYPE

REAR: Dual banana jacks on ¾" centers for stacking.
CENTER: Turret-terminal connections to isolated front and rear conductors in both GND and HOT circuits allow insertion of matching pad or other 4-terminal networks in input circuits of instruments.
FRONT: Dual banana plugs on ¾" centers.
COLORS: Available in 10 colors as coded above. (Specify color)

No.	Std. Pkg. 1	NET Ea.
1696		$3.25

THREE TERMINAL ISOLATION TYPE

REAR: Dual banana jacks on ¾" centers for stacking.
CENTER: Turret-terminal connections to isolated front and rear conductors in HOT circuit, and straight-thru connection of GND circuit, with terminal, allow insertion of "T" and "P" networks in input-output circuits in instruments.
FRONT: Dual banana plugs on ¾" centers.
COLORS: Available in 10 colors as coded above.

No.	Std. Pkg. 1	NET Ea.
1770		$2.50

INTERNALLY-MOLDED COMPONENT DUAL PLUGS

MOLDED-IN PRECISION RESISTORS

(Note: Items shown below are representative stock units. Plugs can be molded to order with a variety of resistor, capacitor, or molded inductor values. Please write, detailing your requirements, for quotation.)
REAR: Dual banana jacks on ¾" centers for stacking.
INTERNAL: 1% precision deposited-carbon, ½ watt resistors, value as shown below. Resistors are shunted across line.
FRONT: Dual banana plugs on ¾" centers. Banana jack side holes for stacking.
RESISTANCE: (Value stamped on plug) Following values are stock:

Ohms	Ohms	K ohm	K ohm	Meg ohm
50	200	1	100	1
75	250	5	200	2
120	500	10	250	5
130	600	20	500	10
150	900	50		

(Specify resistance value)

No.	Std. Pkg. 1	NET Ea.
1681		$2.75

DUAL BANANA PLUG SHORTING TYPE

REAR: Dual banana jacks on ¾" centers for stacking.
INTERNAL: Busbar shorted across line.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.
COLORS: Available in Red, Black, Yellow, and Green. (Specify color)

No.	Std. Pkg. 25	NET Ea.
1516		$.72

METAL SHORTING BAR TYPE

REAR: 4/32" thick brass busbar. 15 amps. continuous duty.
FRONT: Dual banana plugs on ¾" centers. Unit sits flush to panel.

No.	Std. Pkg. 10	NET Ea.
1683		$.66

.080" PHONE TIP SHORTING TYPE

REAR: Dual banana jacks on ¾" centers for stacking.
INTERNAL: Busbar shorted across line.
FRONT: Dual .080" phone tips on ¾" centers. Banana jack holes for side stacking.
COLORS: Available in Red, Black, Yellow, and Green. (Specify color)

No.	Std. Pkg. 10	NET Ea.
1692		$.72

DUAL BINDING POST ADAPTERS

BINDING POSTS TO DUAL BANANA PLUGS

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1682		$2.25

BINDING POSTS TO 2-CIRCUIT PHONE PLUG

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: Standard ¼" 2-circuit phone plug.

No.	Std. Pkg. 1	NET Ea.
1684		$4.60

BINDING POSTS TO BNC MALE CONNECTOR

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: BNC series co-axial plug.

No.	Std. Pkg. 1	NET Ea.
1688		$4.60

BINDING POSTS TO ISOLATED BNC MALE CONNECTOR

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers.
CENTER: Turret-terminal connections to isolated front and rear conductors in both GND and HOT circuits allow insertion of matching pad or other 4-terminal networks in input circuits.
FRONT: BNC series co-axial plug.

No.	Std. Pkg. 1	NET Ea.
1698		10.00

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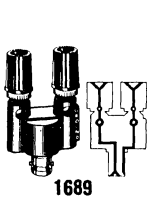
HERMAN H. SMITH, INC. — ELECTRONIC COMPONENTS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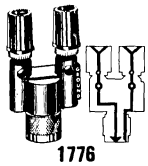
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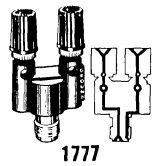
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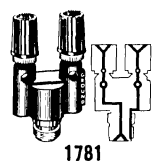
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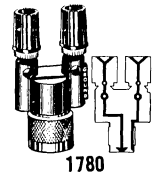
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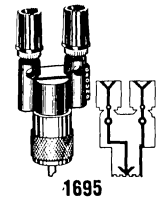
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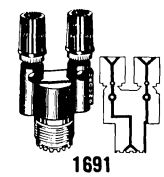
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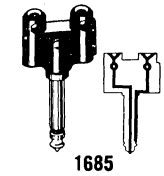
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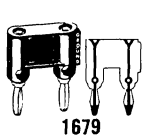
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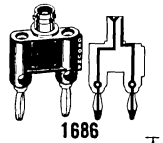
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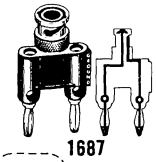
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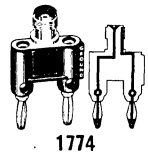
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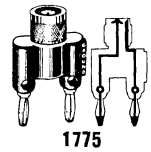
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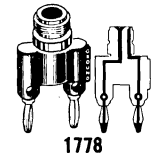
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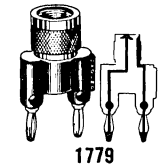
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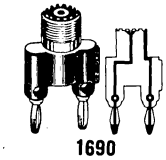
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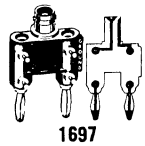
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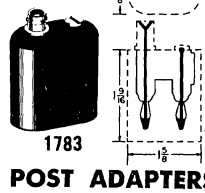
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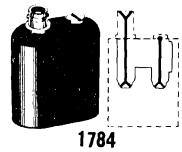
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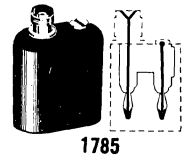
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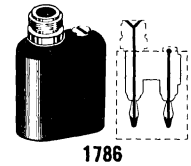
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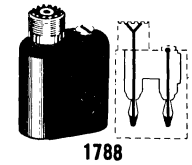
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DUAL BINDING POST ADAPTERS

BINDING POSTS TO BNC FEMALE CONNECTORS

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: BNC series co-axial jack.

No.	Std. Pkg.	NET Ea.
1689	1	$4.60

BINDING POSTS TO TNC MALE CONNECTOR

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: TNC series co-axial plug.

No.	Std. Pkg.	NET Ea.
1776	1	$6.00

BINDING POSTS TO TNC FEMALE CONNECTOR

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: TNC series co-axial jack.

No.	Std. Pkg.	NET Ea.
1777	1	$5.00

BINDING POSTS TO TYPE N MALE CONNECTOR

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: Type N co-axial plug.

No.	Std. Pkg.	NET Ea.
1780	1	$5.00

BINDING POSTS TO TYPE N FEMALE CONNECTOR

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: Type N co-axial jack.

No.	Std. Pkg.	NET Ea.
1781	1	$5.00

BINDING POSTS TO UHF MALE CONNECTOR

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: UHF series co-axial plug.

No.	Std. Pkg.	NET Ea.
1695	1	$4.60

BINDING POSTS TO UHF FEMALE CONNECTOR

REAR: Insulated dual 5-way binding posts, Red and Black heads on ¾" centers. Banana jack holes for side stacking.
FRONT: UHF series co-axial jack.

No.	Std. Pkg.	NET Ea.
1691	1	$5.00

ADAPTERS

DUAL BANANA JACKS TO 2-CIRCUIT PHONE PLUG

REAR: Dual banana jacks on ¾" centers, rear and side for stacking.
FRONT: Standard ¼" 2-circuit phone plug.

No.	Std. Pkg.	NET Ea.
1685	1	$2.60

DUAL PHONE-TIP ADAPTER

REAR: Dual .080" phone tip jacks on ¾" centers.
FRONT: Dual banana plugs on ¾" enters. Banana jack holes for side stacking.

No.	Std. Pkg.	NET Ea.
1679	10	$.81

COAXIAL CONNECTOR ADAPTERS

BNC FEMALE TO BANANA PLUGS

REAR: BNC series co-axial jack. Banana jack holes for side stacking.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg.	NET Ea.
1686	1	$2.60

BNC MALE TO BANANA PLUGS

REAR: BNC series co-axial plug.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg.	NET Ea.
1687	1	$3.60

TNC FEMALE TO BANANA PLUGS

REAR: TNC series co-axial jack.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg.	NET Ea.
1774	1	$5.00

TNC MALE TO BANANA PLUGS

REAR: TNC series co-axial plug.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg.	NET Ea.
1775	1	$6.00

TYPE N FEMALE TO BANANA PLUGS

REAR: Type N co-axial jack.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg.	NET Ea.
1778	1	$5.00

TYPE N MALE TO BANANA PLUGS

REAR: Type N co-axial plug.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg.	NET Ea.
1779	1	$5.00

UHF FEMALE TO BANANA PLUGS

REAR: UHF series co-axial jack.
FRONT: Dual banana plugs on ¾" centers. Banana jack holes for side stacking.

No.	Std. Pkg.	NET Ea.
1690	1	$4.60

BNC FEMALE TO ISOLATED DUAL BANANA PLUGS

REAR: BNC series co-axial jack.
CENTER: Turret-terminal connections to isolated front and rear conductors in both GND and HOT circuits allow insertion of matching pad or other 4-terminal networks in input circuits.
FRONT: Dual banana plugs on ¾" centers.

No.	Std. Pkg.	NET Ea.
1697	1	$9.00

SHIELDED CO-AXIAL CONNECTOR ADAPTERS

BNC JACK TO DUAL BANANA PLUGS

REAR: BNC series co-axial jack.
FRONT: Dual banana plugs on ¾" centers.
SHIELD: Aluminum shield electrically connected to GND conductor fully enclose plug and mating binding posts to reduce noise pickup.

No.	Std. Pkg.	NET Ea.
1783	1	$3.25

BNC JACK TO DUAL BANANA PLUGS

REAR: BNC series co-axial jack.
FRONT: Dual banana plugs on ¾" centers.
SHIELD: Aluminum shield electrically connected to GND conductor fully encloses jacks and mating plug to reduce noise pickup.

No.	Std. Pkg.	NET Ea.
1784	1	$3.25

TNC JACK TO DUAL BANANA PLUGS

REAR: TNC series co-axial jack.
FRONT: Dual banana plug ¾" center.
SHIELD: Aluminum shield electrically connected to GND conductor fully encloses plug and binding posts to reduce noise pickup.

No.	Std. Pkg.	NET Ea.
1785	1	$4.50

TYPE N JACK TO DUAL BANANA PLUGS

REAR: Type N co-axial jack.
FRONT: Dual banana plugs on ¾" centers.
SHIELD: Aluminum shield electrically connected to GND conductor fully enclosed plug and binding posts to reduce noise pickup.

No.	Std. Pkg.	NET Ea.
1786	1	$4.50

UHF JACK TO DUAL BANANA PLUGS

REAR: UHF series co-axial jack.
FRONT: Dual banana plugs on ¾" centers.
SHIELD: Aluminum shield electrically connected to GND conductor fully enclose plug and mating binding posts to reduce noise pickup.

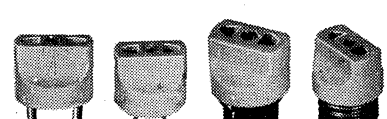
No.	Std. Pkg.	NET Ea.
1788	1	$4.50

852 856 851

AMERICAN-FOREIGN PLUG ADAPTERS

Streamlined bakelite plug adapters. Adapts from American to Foreign type. Std. Pkg. 25

No.	Female End	Male End	NET Per C
852	American	Continental	$24.00
856	American	British	24.00
851	Continental Plug		18.00


1991 1992 1993 1994

"UNIVERSAL" FOREIGN ADAPTER PLUGS

Permits operation of American, British or Continental electric shavers, radios, record players and other small appliances, from any electrical outlet, anywhere in the world supplying the required voltage. All plugs are rated at 15 Amps/117 V., — 7.5 Amps/220 V. St. Pkg. 25

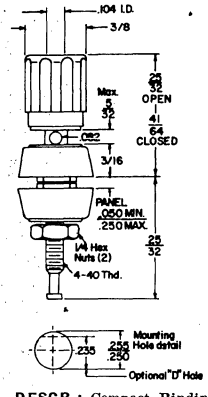
No.	Male Plug	Female Socket	NET Per C
1991	Continental	Universal	$51.00
1992	American	Universal	39.00
1993	Bayonet	Universal	60.00
1994	Screw	Universal	60.00
1995	Kit of 4 Adapters, 1 each of above		210.00

specify **SMITH**

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

SMITH MINIATURE COMPONENTS



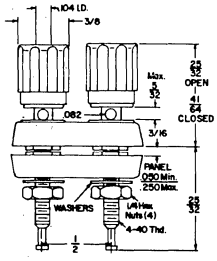
MINIATURE BINDING POST

HEAD: Captive, Molded Nylon, per MIL-P-20693A, with Brass, Gold plated insert.
BODY: Brass, Gold Plated.
WASHERS: Molded Nylon, per MIL-P-20693A, with Brass Gold Plated inserts.
ACCEPTS: Standard ".080" phone tip, #6 spade lug, miniature banana plug, alligator clip or wire.
RATING: 5 Amps AC for 10° C. Temp. rise, continuous working voltage. Capacitance 2.5 pf.

DESCR.: Compact Binding Post designed for use with miniaturized equipment. Molded washers completely insulate post from panel. Mounts in ¼ round or "D" hole in panel as indicated. Wrap-around solder turret for direct wire connection.
COLORS: Available in Red, Black, Yellow, Green, Blue, and White. SPECIFY COLOR by adding Color Code suffix to basic Catalog No.

Std. Pkg. 100

No.	NET Per C
3015	$40.00



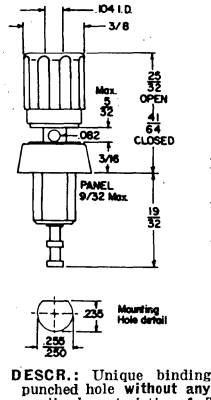
MINIATURE DUAL BINDING POST

INSUL: MOLDED Black STYRENE, Octagonal - keyed to align cross-holes at alternate 90° position.
BODIES: Brass, Gold-Plated.
HEADS: Captive, Molded Nylon, per MIL-P-29693A, with Brass Gold Plated inserts.
RATING: 5 Amps AC for 10° C. Temp. Rise, continuous duty. 2 KV 60 cycle AC, continuous working voltage. Capacitance 3.5 pf between conductors, 3.0 pf to panel.

DESCR.: Compact Dual Binding Post designed for use with miniaturized equipment. Mounts in two ¼ round, single or double "D" holes on ½" centers, in panels up to to ¼" thick. ½" center spacing designed for use with miniature dual connectors. Also accepts single miniature #6 spade lugs, alligator clips or wire. Wraparound solder turret for direct wire connections. Supplied with two hex nuts and flat washers.

Std. Pkg. 10

No.	Description	NET Per C
3016BB	Two Black Heads	$70.00
3016RR	Two Red Heads	70.00
3016RB	One Red, One Black Head	70.00



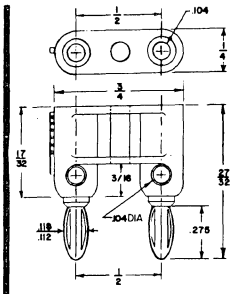
MINIATURE PRESS-FIT TEFLON* BINDING POST

HEAD: Captive Molded Nylon, per MIL-P-20693A. with Brass, Gold plated insert.
WASHER BODY: Virgin Teflon per MIL-P-19468.
ACCEPTS: Standard .080" phone tip, #6 spade lug, miniature Banana Plug, alligator clip or wire.
RATING: 5 Amps AC for 10° C. Temp. rise, continuous duty. 1 KV, 60 cycle AC, continuous working voltage. Capacitance 2.5 pf.

DESCR.: Unique binding post mounts in ¼" "D" punched hole **without any mounting hardware.** "Memory" characteristic of Teflon locks unit hole after insertion and "D" flat prevents rotation. Compact binding post head for use with miniaturized equipment. Wrap-around solder turret for direct wire connection.
COLORS: Available in Red, Black, Yellow, Green, Blue, and White, SPECIFY COLOR by adding Color Code suffix to basic catalog No.

No.	NET Per C
3017	$55.00

*Reg. Trademark E. I. DuPont Co.



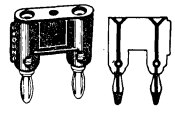
SPECIFICATIONS FOR DUAL ADAPTERS

SPRING: Nickel plated.
TERMINAL: Gold washed.
CONNECTOR: Non-tarnish Plate.

RATINGS:
CURRENT: 5 Amps AC for 10°C Temp. Rise, continuous duty, except where limited by co-axial connectors.
VOLTAGE: 2 KV, 60 cycle AC continuous working voltage, except where limited by co-axial connectors.
CAPACITY: 3.0 pf. nominal between ½" spaced conductors.
RESISTANCE: 1 milliohm or less per conductor.

MATERIALS:
BODY: Molded Butyrate, per Fed. Spec. L-P349A, Type 3, Class MS. Color BLACK unless otherwise specified.
CONDUCTOR: Brass, per QQ-B-626, Comp. 22, ½ hard.
SPRING: Four-leaved beryllium copper, heat treated.
HEAD: Molded Nylon, per MIL-P-20693A.
SCREWS: Steel, cadmium plated.

FINISHES:
CONDUCTOR: Nickel plate, per QQ-N-290, Class I, Type VII.

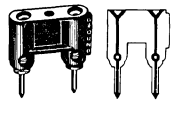


SET SCREW CONNECTION BANANA PLUGS

REAR: Dual banana jacks on ½" centers for stacking.
FRONT: Dual banana plugs on ½" centers. Set-screws secure leads to conductors.
COLORS: Available in Red or Black (Specify color.)

Std. Pkg. 10

No.	NET Ea.
1749	$ .72

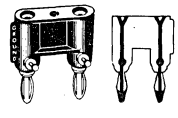


SET SCREW CONNECTION PHONE TIP

REAR: Dual banana jacks on ½" centers for stacking.
FRONT: Dual .080" phone tips on ½" centers. Set-screws secure component leads to conductors.
COLORS: Available in Red or Black (Specify color.)

Std. Pkg. 10

No.	NET Ea.
1754	$ .72

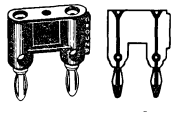


TURRET TERMINAL CONNECTION

REAR: Dual banana jacks on ½" centers for stacking.
FRONT: Dual banana plugs on ½" centers, Turret terminals for permanent solder connection of component leads.
COLORS: Available in Red or Black (Specify color.)

Std. Pkg. 10

No.	NET Ea.
1750	$ .81

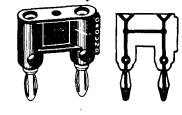


PHONE TIP ADAPTER

REAR: Dual .080" phone tip jacks on ½" centers for stacking.
FRONT: Dual banana plugs on ½" centers. Banana jack holes for side stacking.
COLORS: Available in Red or Black (Specify color.)

Std. Pkg. 10

No.	NET Ea.
1751	$ .81

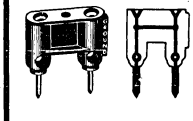


MOLDED-IN SHORTING TYPE BANANA PLUGS

REAR: Dual banana jacks on ½" centers for stacking.
INTERNAL: Busbar shorted across line.
FRONT: Dual banana plugs on ½" centers. Banana jack holes for side stacking.
COLORS: Available in Red or Black (Specify color.)

Std. Pkg. 10

No.	NET Ea.
1752	$ .72

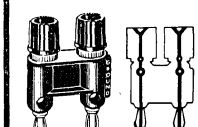


MOLDED-IN SHORTING TYPE .080 PHONE TIP

REAR: Dual banana jacks on ½" centers for stacking.
INTERNAL: Busbar shorted across line.
FRONT: Dual .080 phone tips on ½" centers. Banana jack holes for side stacking.
COLORS: Available in Red or Black (Specify color.)

Std. Pkg. 10

No.	NET Ea.
1753	$ .72

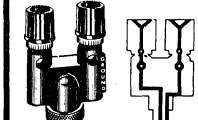


BINDING POSTS TO DUAL BANANA PLUGS

REAR: Insulated dual 5-way binding posts, Red and Black heads on ½" centers. Banana jack holes for side stacking.
FRONT: Dual banana plugs on ½" centers.

Std. Pkg. 1

No.		NET Ea.
1755	Black only	$2.25



BINDING POSTS TO BNC MALE

REAR: Insulated dual 5-way binding posts, Red and Black heads on ½" centers. Banana jack holes for side stacking.
FRONT: BNC series co-axial plug. Std. Pkg. 1

No.		NET Ea.
1756	Black only	$4.60

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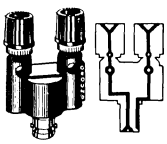
ELECTRONIC COMPONENTS

MINIATURE COMPONENTS

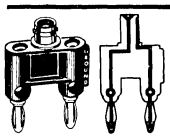


BINDING POSTS TO BNC FEMALE

REAR: Insulated dual 5-way binding posts, Red and Black heads on ½" centers. Banana jack holes for side stacking.

FRONT: BNC series co-axial jack. **Std. Pkg. 1**

No.		NET Ea.
1757	Black only	$4.60

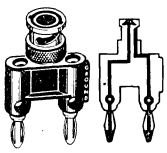


BNC FEMALE TO BANANA PLUGS

REAR: BNC series co-axial jack. Banana jack holes for stacking.

FRONT: Dual banana plugs on ½" centers. Banana jack holes for side stacking.

No.	Std. Pkg. 1	NET Ea.
1758	Black only	$2.60

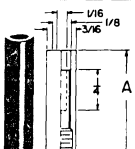


BNC MALE TO BANANA PLUGS

REAR: BNC series co-axial plug.

FRONT: Dual banana plugs on ½" centers. Banana jack holes for side stacking.

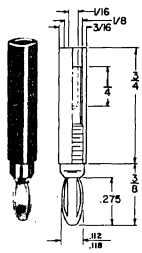
No.	Std. Pkg. 1	NET Ea.
1759	Black only	$3.60



MINIATURE TIP PLUG AND TEST PROD

HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black. SPECIFY COLOR
PLUG: Brass, nickel plated.
RATING: 2 Amps AC for 10°, Temp. rise, continuous duty.
DESCR.: Ideally suited for checking sub-miniature equipment. Fits standard phone tip jacks. **Std. Pkg. 100**

No.	Length ("A")	NET Per C
244	¾"	$18.00
666	3"	30.00

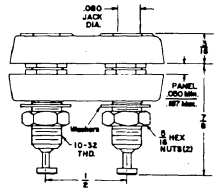


MINIATURE INSULATED BANANA PLUG Midget Type

HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red, Black. SPECIFY COLOR
PLUG: Brass, nickel plated.
SPRING: Beryllium Copper, Nickel plated.
RATING: 2 Amps AC for 10°C Temp. rise, continuous duty.
DESCR: Wire soldered directly into stud. Fits miniature banana jacks. **Std. Pkg. 50**

No.	NET Per C
268	$19.00

MINIATURE DUAL TIP JACK ASSEMBLY



INSULA.: MOLDED Black STYRENE, octagonal keyed to align cross holes at alternate 90° holes.
BODY: Recessed, brass, nickel plated.
CONTACT: Phosphor bronze.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle. AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 4.0 mmfd to panel.
DESCR.: Mounts in two ¼" round single or double "D" holes on ½" mounting centers in panels up to ¼" thick. Accommodates miniature dual phone tip plugs and standard .080 phone tip plugs. Supplied with two hex nuts. **Std. Pkg. 10**

No.	NET Per C
3018	$55.00

MINIATURE DUAL BANANA PLUG TO STANDARD DUAL BANANA PLUG

HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
PLUG: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plate.
WIRE: RC-174 c/u Coaxial wire.
DESCR.: Mates with standard or miniature banana jacks or binding posts having ½" center or ¾" center. Polarity indicated by the word GROUND molded on side. Interconnects unlimited number of multiple circuits top and side. One end terminates in a miniature dual banana plug, ½" center, other end in a standard dual banana plug ¾" center. **Std. Pkg. 10**

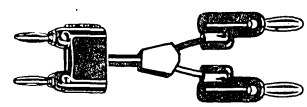
No.	Length	NET Ea.
1729-12	12"	$4.35
1729-24	24"	4.45
1729-36	36"	4.55
1729-48	48"	4.65
1729-60	60"	4.75

MINIATURE DUAL BANANA PLUG PATCH CORDS

HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
PLUGS: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
WIRE: RG-174/U Co-Axial Cable.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" centers. Polarity indicated by word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. Each end terminated with molded double banana plug. **Std. Pkg. 10**

No.	Length	NET Ea.
1599-12	12"	$4.35
1599-24	24"	4.45
1599-36	36"	4.55
1599-48	48"	4.65
1599-60	60"	4.75

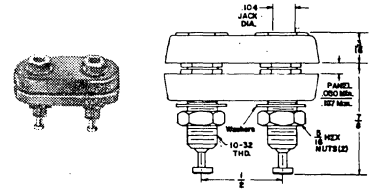
MINIATURE DUAL BANANA PLUG TO MINIATURE CROSS PATCH BANANA PLUGS



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
BODIES: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
WIRE: RG-174/U Co-Axial Cable.
PLUGS: Our No. 1590, Red and Black.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" centers. Polarity indicated by word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana plug, other end with Cross-Patch banana plugs, color coded Red and Black. **Std. Pkg. 10**

No.	Length	NET Ea.
1738-12	12"	$5.35
1738-24	24"	5.45
1738-36	36"	5.55
1738-48	48"	5.65
1738-60	60"	5.75

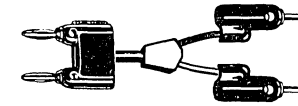
MINIATURE DUAL BANANA JACK



INSULA.: MOLDED Black STYRENE, octagonal keyed to align cross-holes at alternate 90° holes.
BODY: Brass, nickel plated
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 4.0 mmfd to panel.
DESCR.: Mounts in two ¼" round single or double "D" holes on ½" mounting centers in panels up to ¼" thick. Accommodates miniature and dual banana plugs. Supplied with two hex nuts. **Std. Pkg. 10**

No.	NET Per C
3019	$50.00

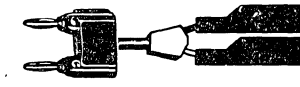
MINIATURE DUAL BANANA PLUG TO STANDARD CROSS PATCH PIN PLUGS



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
BODIES: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
WIRE: RG-174/U Co-Axial Cable.
PLUGS: Our No. 1595, Red and Black.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" centers. Polarity indicated by word GROUND molded on side. Interconnects unlimited number of multiple circuits on top and side. One end terminates with double banana plug, other end with cross-patch pin plugs with standard .080" tip and jack in rear, banana jack in side, color coded Red and Black. **Std. Pkg. 10**

No.	Length	NET Ea.
1535-12	12"	$5.35
1535-24	24"	5.45
1535-36	36"	5.55
1535-48	48"	5.65
1535-60	60"	5.75

MINIATURE DUAL BANANA PLUG TO INSULATED MINI-CLIPS



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P348A, Class MS.
BODIES: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
CLIP: Steel cadmium plated (No. 338).
INSULATOR: Molded vinyl plastic (No. 389).
WIRE: RG-174/U Co-Axial Cable.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" centers. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end with insulated miniature clips. **Std. Pkg. 10**

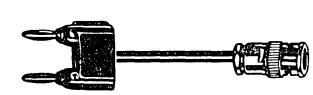
No.	Length	NET Ea.
1739-12	12"	$5.35
1739-24	24"	5.45
1739-36	36"	5.55
1739-48	48"	5.65
1739-60	60"	5.75

MINIATURE DUAL BANANA PLUGS TO TINNED LEADS

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
BODIES: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
WIRE: RG-174/U Co-Axial Cable.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" centers. Polarity indicated by the word GROUND molded on side. One end terminates with double banana plug, other end stripped and tinned. **Std. Pkg. 10**

No.	Length	NET Ea.
1534-12	12"	$3.35
1534-24	24"	3.45
1534-36	36"	3.55
1534-48	48"	3.65
1534-60	60"	3.75

MINIATURE DUAL BANANA PLUG TO BNC MALE



HANDLES: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS.
PLUG: Brass, Nickel plated.
SPRING: Four-leaved Beryllium Copper, Nickel plated.
WIRE: RG-174/U Co-Axial Cable.
CONN.: BNC male.
DESCR.: Mates with miniature dual binding posts or banana jacks having ½" center. Polarity indicated by the word GROUND molded on side. One end terminates with the double banana plug, other end with BNC male conn. **Std. Pkg. 10**

No.	Length	NET Ea.
1748-12	12"	$5.35
1748-24	24"	5.45
1748-36	36"	5.55
1748-48	48"	5.65
1748-60	60"	5.75

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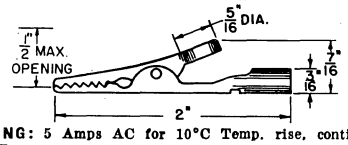
ELECTRONIC COMPONENTS

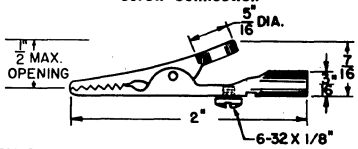
ALLIGATOR CLIPS
Solder Connection



RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ½" jaw opening. Jaws match accurately and grip securely, accepts standard banana plugs in rear.
Std. Pkg. 100

No.	Type	NET Per C
300	Steel, Cad. Pl.	$4.70
380	Solid Copper	6.50
332	Brass N.P.	8.40

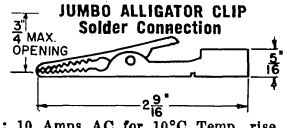
Screw Connection



RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ½" jaw opening. Supplied with screw for solderless connection when required. Jaws match accurately and grip securely. Accepts standard banana plugs in rear.
Std. Pkg. 100

No.	Type	NET Per C
350	Steel, Cad. Pl.	$5.40
360	Solid Copper	8.20
339	Brass N.P.	9.90

JUMBO ALLIGATOR CLIP
Solder Connection



RATING: 10 Amps AC for 10°C Temp. rise, continuous duty, #392.
15 Amps AC for 10°C Temp. rise, continuous duty, #396.
DESCR.: ¾" jaw opening. Jaws match accurately. For heavy terminal use.
Std. Pkg. 100

No.	Type	NET Per C
392	Steel, Cad. Pl.	$15.00
396	Solid Copper	18.00

Screw Connection

RATING: STEEL: 10 Amps AC for 10°C Temp. rise, continuous duty.
COPPER: 15 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ¾" jaw opening. Jaws match accurately. Supplied with screw for solderless connection. For heavy terminal use.
Std. Pkg. 100

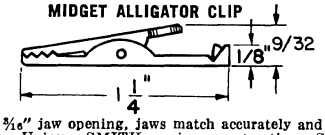
No.	Type	NET Per C
368	Steel, Cad. Pl.	$18.00
356	Solid Copper	21.00

ALLIGATOR CLIP BOOTS

MATERIAL: MOLDED VINYL PLASTIC, Red, Black, Yellow, Green, Blue or White. SPECIFY COLOR
RATING: 1 K Volts 60 cycle AC continuous working voltage.
DESCR.: Fully insulated clip while allowing maximum jaw opening. No. 331 for use on standard size alligator clips such as our No. 300. No. 389 for use on miniature alligator clips, such as our No. 338.
Std. Pkg. 100

No.	Description	NET Per C
389	Miniature	$3.30
331	Standard	2.90

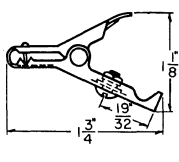
MIDGET ALLIGATOR CLIP



DESCR.: 3/16" jaw opening, jaws match accurately and grip securely. Unique SMITH spring construction. Solder connection and ears for crimping.
Std. Pkg. 100

No.	Type	NET Per C
338	Steel, Cad. Pl.	$4.30
367	Copper	5.30

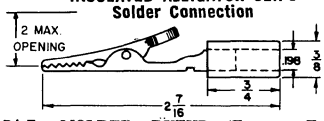
TL137 TEST CLIP
Signal Corps Approved



RATING: 10 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Steel, nickel plated, made in accordance with governme... spe s, ¾" jaw opening. Needle for piercing cor osion.
Std. Pkg. 25

No.	NET Per C
315	$42.00

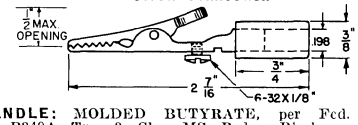
INSULATED ALLIGATOR CLIPS
Solder Connection



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ½" jaw opening. Jaws match accurately and grip securely, accepts standard banana plugs in rear.
Std. Pkg. 100

No.	Type	NET Per C
301	Steel, Cad. Pl.	$7.50
381	Solid Copper	9.00
354	Brass N.P.	11.40

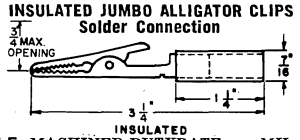
Screw Connection



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: ½" jaw opening. Supplied with screw for solderless connection when required. Jaws match accurately and grip securely. Accepts standard banana plugs in rear.
Std. Pkg. 100

No.	Type	NET Per C
351	Steel, Cad. Pl.	$7.60
361	Solid Copper	10.10
362	Brass N.P.	12.40

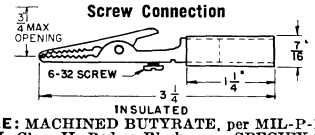
INSULATED JUMBO ALLIGATOR CLIPS
Solder Connection



INSULATED
HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II. Red or Black. SPECIFY COLOR
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty, #393.
15 Amps AC for 10°C Temp. rise, continuous duty, #397.
DESCR.: ¾" jaw opening. Jaws match accurately. For heavy terminal use.
Std. Pkg. 100

No.	Type	NET Per C
393	Steel, Cad. Pl.	$21.00
397	Solid Copper	24.00

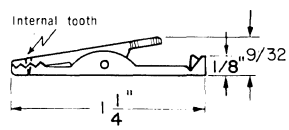
Screw Connection



INSULATED
HANDLE: MACHINED BUTYRATE, per MIL-P-10408A, Type I, Class II, Red or Black. SPECIFY COLOR
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty, #369.
15 Amps AC for 10°C Temp. rise, continuous duty, #357.
DESCR.: ¾" jaw opening. Jaws match accurately. Supplied with screw for solderless connection. For heavy terminal use.
Std. Pkg. 100

No.	Type	NET Per C
369	Steel, Cad. Pl.	$24.00
357	Solid Copper	27.00

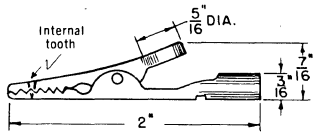
MINIATURE INSULATION PIERCING ALLIGATOR CLIP



RATING: 1 Amp AC for 10°C Temp. rise, continuous duty.
DESCR.: 3/16" jaw opening. Jaws match accurately and grip securely. Internal tooth for piercing wire insulation. Solder connection and ears for crimping.
Std. Pkg. 100

No.	NET Per C
326	$11.00

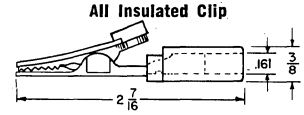
INSULATION PIERCING ALLIGATOR CLIP



RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR: 1/2" jaw opening. Jaws match accurately and grip securely. Internal tooth for piercing wire insulation. Accepts standard banana plug in rear. **Std. Pkg. 100**

No.	NET Per C
347	$11.00

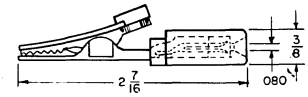
All Insulated Clip



INSULA.: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
RATING: 10 Amps AC for 10°C Temp. rise, continuous duty. 1 K Volts 60 cycle AC continuous working voltage.
DESCR.: All metal parts fully insulated with molded plastic. Insures against shock or grounding. Solder type connection.
Std. Pkg. 25

No.	NET Per C
337	$24.00

ALL INSULATED ADAPTERS

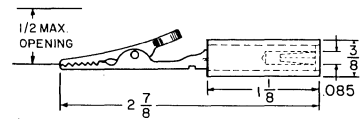


Phone Tip to Alligator Clip

INSULA.: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
CLIP: Steel, cadmium plated.
BODY: Brass.
CONTACT: Phosphor bronze.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: All metal parts fully insulated with molded plastic. Insures against shock or grounding. Jack in rear permits adapting standard phone tip plugs to alligator clips.
Std. Pkg. 25

No.	NET Per C
336	$36.00

ALLIGATOR CLIP ADAPTERS

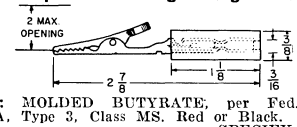


Phone Tip to Alligator Clip

HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
CAP: MOLDED THERMOSETTING plastic, Red and Black per MIL-M-14 CFG.
CLIP: Steel, cadmium plated or solid copper.
BODY: Brass.
SPRING: Phosphor bronze.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Jack in rear permits adapting standard phone tip plugs to alligator clips.
Std. Pkg. 25

No.	Description	NET Per C
304	Steel Clip	$33.00
334	Copper Clip	36.00

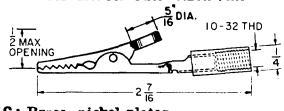
Phone Tip or Banana Plug to Alligator Clip



HANDLE: MOLDED BUTYRATE, per Fed. Spec. L-P349A, Type 3, Class MS. Red or Black. SPECIFY COLOR
CLIP: Steel, cadmium plated or solid copper.
BODY: Brass.
SPRING: Phosphor bronze.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Combination jack in rear, permits the adapting standard phone tip plug or banana plugs to alligator clip.
Std. Pkg. 25

No.	Description	NET Per C
305	Steep Clip	$39.00
335	Copper Clip	42.00

ALLIGATOR CLIP ADAPTER



BUSHING: Brass, nickel plated.
CLIP: Steel cadmium plated.
RATING: 5 Amps AC for 10°C Temp. rise, continuous duty.
DESCR.: Adapts standard solderless tips to alligator clip. This novel quick-adapter is a must for all types of bench work.
Std. Pkg. 50

No.	NET Per C
310	$13.20

MORE THAN
TEN THOUSAND
ELECTRONIC COMPONENT PARTS
MANUFACTURED UNDER ONE ROOF!

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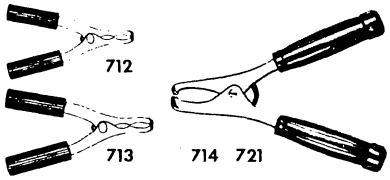
specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

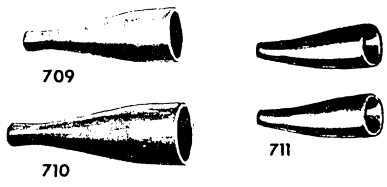
PLIER TYPE BATTERY CLIPS



Insulated Vinylite Handles, Red or Black. SPECIFY COLOR

No.	Amps.	Material	Overall Size	Std. Pkg.	NET Per C
712	35	Steel, Cop. Pl.	3¼"	10	$21.00
713	75	Steel, Cop. Pl.	4½"	10	27.60
714	100	Steel, Cop. Pl.	7½"	10	38.00
721	300	Solid Copper	7½"	5	130.00

BATTERY CLIP INSULATORS



Red or Black. SPECIFY COLOR

No.	Made to fit Smith Clip #	Material	Std. Pkg.	NET Per C
709	701, 703	H.D. Rubber	25	$16.00
710	704, 706	H.D. Rubber	10	63.00
711	366	Vinyl	100	5.90

SMITH BATTERY CLIPS

No.	Material	Current Capacity	Jaw Spread	Length	Spring	Std. Pkg.	NET Per C
365	Steel, electroplated	5 Amp.	3/8"	1-5/8"	7 lbs.	100	$5.20
366	Steel, electroplated	10 Amp.	9/16"	2"	10 lbs.	100	7.80
701	Steel, electroplated	25 Amp.	1"	2½"	17 lbs.	25	13.10
702	Steel, electroplated	50 Amp.	1½"	3-7/8"	33 lbs.	25	21.00
703	Solid Copper	50 Amp.	1"	2½"	17 lbs.	10	24.60
704	Steel, electroplated	100 Amp.	1-3/8"	5"	40 lbs.	10	49.00
705	Solid Copper	100 Amp.	1¼"	4⅜"	33 lbs.	10	72.00
706	Solid Copper	200 Amp.	1-3/8"	5¾"	40 lbs.	10	119.00

A UNIVERSALLY ADJUSTABLE PRINTED CIRCUIT CARD RACK

Complete and Economical Support System for Printed Circuit Cards

ADJUSTABLE UP-AND-DOWN
For Card Widths 2⅜" to 4¾"

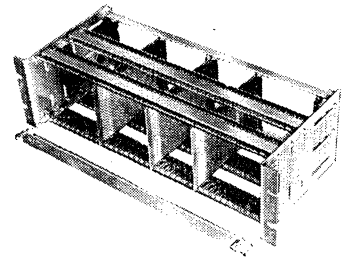
ADJUSTABLE LOCKING BAR
Holds Cards Securely against Rear Connectors

ADJUSTABLE CARD SPACING
Variable in .400" Increments

ADJUSTABLE FRONT-TO-BACK
For Card Lengths 3½" to 7¼"

ADJUSTABLE
For P.C. Connector Sizes

ADJUSTABLE CALIBRATED SLIDE PANELS
For Fast, Precise Adjustments to Any Card Size



FITS STANDARD 19-INCH EQUIPMENT RACKS

- Simple Adjustments for Multipe Card Sizes
- Simple Adjustments for Card Spacing
- Front to Back Adjustment of Printed Circuit Card Connectors
- Simple Adjustments for Printed Circuit Connector Sizes
- Locking Bar to Secure P.C. Cards

SPECIFICATIONS

CARD CAPACITY
Up to 39 cards, depending on component height.

CARD SIZES
1/16" thick standard.
With Locking Bar Feature:
Maximum Card Width: 4¾"
Maximum Card Length: 6½"
Minimum Card Width: 2⅜"
Minimum Card Length: 4⅜"
Without Front Card Lock:
Maximum Card Length: 7¼"
Minimum Card Length: 3½"

CARD SPACING
.400" Minimum Centers, Adjustable in .400" increments.

CARD GUIDES
Precision Molded Plastic. Four guides provided for each card to insure location accuracy. Guides nest together in staggered holes for minimum practical card spacing.

ADJUSTABILITY
All card guide and connector rails slide smoothly on Nylon bushings for ease in adjusting. Card rails adjust symmetrically to keep cards centered in rack. Connector rails adjust front-to-back to keep cards against locking rail. Adjust index marks permanently stamped on side plates for standard card sizes.

CONNECTOR SPACING
Accommodates card-edge connectors with mounting centers from 0.936" minimum to 4.437" maximum.

CONSTRUCTION
Heavy-gauge clear Anodized aluminum. Guide and alignment members are extrusions for maximum precision of fits.

DIMENSIONS
Designed ot fit standard 19" equipment racks, 5¼" panel space. Length 19"; Width 5¼"; Depth 8".

ASSEMBLY
Supplied knocked-down. All hardware, card guides, and complete assembly instructions included.

SPECIAL FEATURES

LOCKING BAR
Front locking bar holds cards securely against rear connectors. Held in place with captive screws for rapid card change. Card identification marking available on front of locking bar.

STACKING
Can be stacked for wider panels in multiples of 5¼". Accessory brackets available for free-standing stacking.

SPECIALS
Special color anodized finishes available on request. Non-standard sizes available on special order.

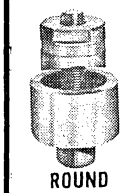
CARD RACK, CAT. NO. 3050

In Lots of	Suggested Resale Each
1 to 9	$27.95
10 to 24	25.95
25 to 99	23.95
100 up	21.95

BOARD GUIDES, CAT. NO. 3051

Std. Pkg.	Suggested Resale Per C
100	$5.00

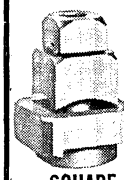
RADIO CHASSIS PUNCHES



An assortment of round, square, "D", and Keyed holes can be punched by inserting in drilled pilot hole, and turning with wrench. Finished hole is smooth, accurately sized without burrs. Round punches are provided with center-line markings for enlarging holes larger than pilot hole. Individually packed.

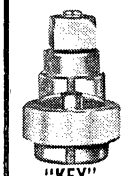
ROUND HOLE PUNCHES

No.	Hole Size	NET Ea.	No.	Hole Size	NET Ea.
3801	1/2"	$2.70	3814	1 1/4"	$3.15
3802	9/16"	2.70	3815	1 5/16"	3.75
3803	5/8"	2.70	3816	1 3/8"	3.75
3804	11/16"	2.70	3817	1 1/2"	4.25
3805	3/4"	2.70	3818	1 5/8"	5.10
3806	13/16"	2.70	3819	1 3/4"	5.85
3807	7/8"	2.70	3820	1 7/8"	7.30
3808	15/16"	3.00	3821	2"	7.80
3809	1"	3.00	3822	2 1/16"	8.45
3810	1 1/16"	3.15	3823	2 1/4"	8.45
3811	1 1/8"	3.15	3824	2 1/2"	13.75
3812	1 5/32"	3.15	3825	2 3/4"	19.00
3813	1 5/16"	3.15	3826	3"	26.50



SQUARE PUNCHES

3827	1/4"	$6.45	3830	7/8"	$8.30
3828	5/8"	6.35	3831	1"	8.60
3829	3/4"	7.10			



"KEY" PUNCHES

3832	15/32"	$6.00	3834	1 11/64"	$6.80
3833	15/16"	6.10	3835	1 17/64"	7.60

METER HOLE PUNCH

3836	2 25/32"	$13.10

"D" PUNCHES

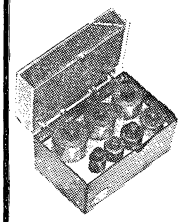
3837	1/2x15/32".	$4.90	3838	5/8x19/32"	$5.25

BALL BEARING DRIVE SCREWS

Reduces friction and effort when punching round holes 1 1/16" and larger. For use only with Round punches listed above.

No.	Use with Nos.	NET Ea.
3839	3804 to 3808	$1.10
3840	3809 to 3817	1.20
3841	3818 to 3819	2.75
3842	3820 to 3824 and 3836	2.90
3843	3825 to 3826	5.40

CHASSIS PUNCH SET



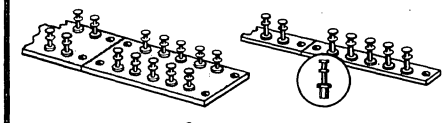
A set of 7 of the most often used chassis punch sizes for electronic construction. Packed in a plastic platform box to keep punches sharp and rust-free. Contains the following sizes: 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4".

No.	Description	NET Ea.
3844	Set of 7 Punches	$21.50

RELAY SOCKET PUNCH

3845	P&B KHP Relay Socket Punch, 1.015 & .859	$20.00

SCORED TERMINAL BOARDS

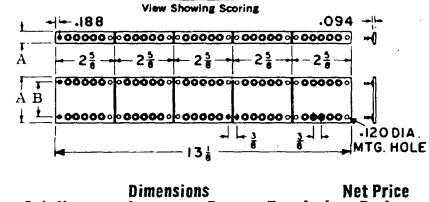


featuring

SNAP-APART SEPARATION

ASSEMBLED WITH TERMINAL LUGS & MOUNTING HOLES

SMITH Scored Boards are fabricated in PBE material per MIL-P-3115C, Temp. 250° F. Max., Type XXXP. Terminals are securely staked and are made of Brass per QQ-626 comp. 22, half-hard with hot-tinned dip solder finish, per MIL-F-14072 Type 221. Smith type 2008. **Std. Pkg. 6**



Cat. No.	Dimensions A	Dimensions B	Terminals	Net Price Each
2810	½"	Single Row	25	$1.30
2811	1½"	1"	50	2.30
2812	2"	1½"	50	2.34
2813	2½"	2"	50	2.50
2814	3"	2½"	50	2.50

specify **SMITH**

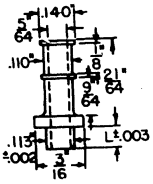
HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

SWAGE TURRET TERMINALS

Terminals shown below are "stock" items, available for speedy delivery. All brass, silver-plated, precision made. See next page for Suggested Resale Prices. For quantities over 15,000 request special prices. Inquiries are invited, for special types and sizes to particular requirements.
L indicates **Shank Length** of Lug. **T** indicates **thickness** of mounting boards. **Minimum Package 100**

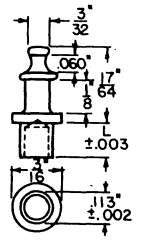
2000
HOLLOW LUG



No.	L	T
2000A	.075	1/32
2000B	.105	1/16
2000C	.135	3/32
2000D	.165	1/8
2000E	.195	5/32
2000F	.230	3/16

Staking Tool Kit **No. 3860**

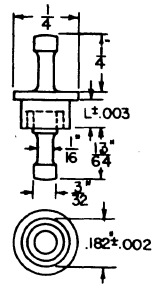
2001
SHORT TERMINAL LUG



No.	L	T
2001A	.075	1/32
2001B	.105	1/16
2001C	.135	3/32
2001D	.165	1/8

Staking Tool Kit **No. 3860**

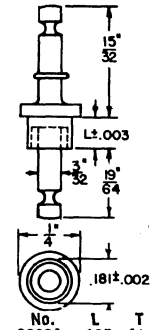
2002
DOUBLE END TERMINAL LUG



No.	L	T
2002A	.105	1/16
2002B	.135	3/32
2002C	.165	1/8
2002D	.195	5/32
2002E	.230	3/16

Staking Tool Kit **No. 3861**

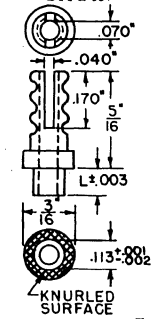
2003
DOUBLE END LUG, LONG



No.	L	T
2003A	.105	1/16
2003B	.135	3/32
2003C	.165	1/8
2003D	.195	5/32
2003E	.230	3/16

Staking Tool Kit **No. 3862**

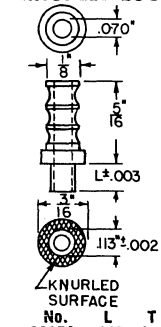
2004
SLOTTED TERMINAL LUG SHORT



No.	L	T
2004A	.075	1/32
2004B	.105	1/16
2004C	.135	3/32
2004D	.165	1/8

Staking Tool Kit **No. 3863**

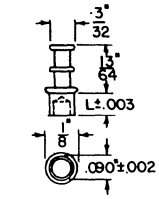
2005
HOLLOW KNURLED LUG



No.	L	T
2005A	.105	1/16
2005B	.135	3/32
2005C	.165	1/8

Staking Tool Kit **No. 3860**

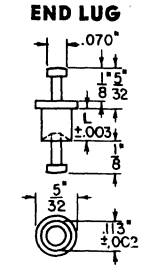
2006
SHORT TERMINAL LUG



No.	L	T
2006A	.075	1/32
2006B	.105	1/16
2006C	.135	3/32
2006D	.165	1/8

Staking Tool Kit **No. 3864**

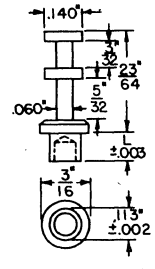
2007
SHORT DOUBLE END LUG



No.	L	T
2007A	.075	1/32
2007B	.105	1/16
2007C	.135	3/32
2007D	.165	1/8

Staking Tool Kit **No. 3865**

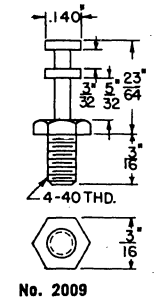
2008
TERMINAL LUG



No.	L	T
2008A	.075	1/32
2008B	.105	1/16
2008C	.135	3/32
2008D	.165	1/8
2008E	.195	5/32
2008F	.230	3/16
2008G	.293	1/4

Staking Tool Kit **No. 3860**

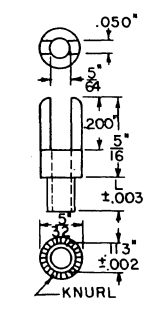
2009
TERMINAL LUG



No. 2009

Staking Tool Kit **Not Required**

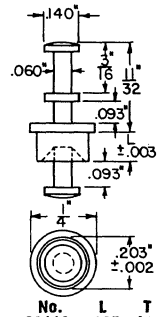
2010
SPLIT TERMINAL LUG



No.	L	T
2010A	.075	1/32
2010B	.105	1/16
2010C	.135	3/32
2010D	.165	1/8

Staking Tool Kit **No. 3866**

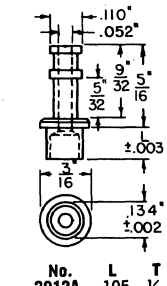
2011
DOUBLE END TERMINAL LUG



No.	L	T
2011A	.105	1/16
2011B	.135	3/32
2011C	.165	1/8
2011D	.195	5/32
2011E	.230	3/16

Staking Tool Kit **Not Available**

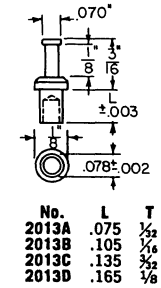
2012
TERMINAL LUG



No.	L	T
2012A	.105	1/16
2012B	.135	3/32
2012C	.165	1/8

Staking Tool Kit **No. 3860**

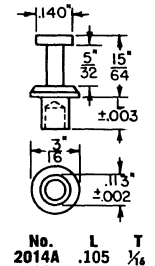
2013
TERMINAL LUG



No.	L	T
2013A	.075	1/32
2013B	.105	1/16
2013C	.135	3/32
2013D	.165	1/8

Staking Tool Kit **No. 3864**

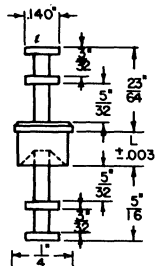
2014
TERMINAL LUG



No.	L	T
2014A	.105	1/16
2014B	.135	3/32
2014C	.165	1/8
2014D	.195	5/32
2014E	.230	3/16

Staking Tool Kit **No. 3860**

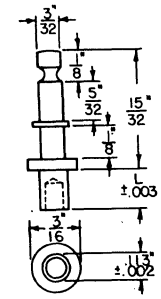
2015
TERMINAL LUG



No.	L	T
2015A	.135	3/32
2015B	.165	1/8
2015C	.195	5/32
2015D	.230	3/16

Staking Tool Kit **Not Available**

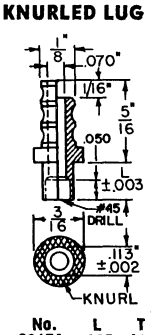
2016
TERMINAL LUG



No.	L	T
2016A	.105	1/16
2016B	.135	3/32
2016C	.155	1/8

Staking Tool Kit **No. 3860**

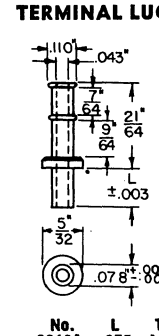
2017
HOLLOW KNURLED LUG



No.	L	T
2017A	.105	1/16
2017B	.135	3/32
2017C	.165	1/8
2017D	.195	5/32

Staking Tool Kit **No. 3860**

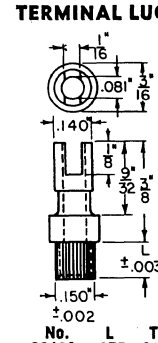
2018
HOLLOW TERMINAL LUG



No.	L	T
2018A	.075	1/32
2018B	.105	1/16
2018C	.135	3/32
2018D	.165	1/8
2018E	.195	5/32
2018F	.230	3/16

Staking Tool Kit **No. 3863**

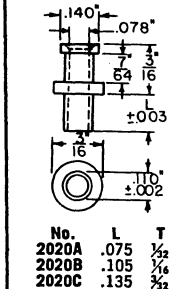
2019
SPLIT TERMINAL LUG



No.	L	T
2019A	.075	1/32
2019B	.105	1/16
2019C	.135	3/32
2019D	.165	1/8
2019E	.195	5/32
2019F	.230	3/16

Staking Tool Kit **No. 3860**

2020
TERMINAL LUG



No.	L	T
2020A	.075	1/32
2020B	.105	1/16
2020C	.135	3/32
2020D	.165	1/8

Staking Tool Kit **No. 3860**

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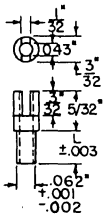
HERMAN H. SMITH, INC.
ELECTRONIC COMPONENTS

SWAGE TURRET TERMINALS

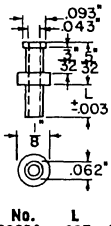
2021
MINIATURE SPADE LUG



No.	L	T
2021A	.037	1/64
2021B	.053	1/32
2021C	.084	1/16
2021D	.115	3/32
2021E	.147	1/8

Staking Tool Kit No. 3867

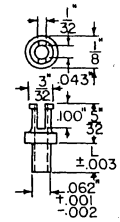
2022
MINIATURE HOLLOW LUG



No.	L	T
2022A	.037	1/64
2022B	.053	1/32
2022C	.084	1/16
2022D	.115	3/32
2022E	.147	1/8

Staking Tool Kit No. 3864

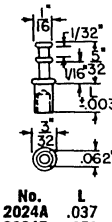
2023
MINIATURE HOLLOW SPLIT LUG



No.	L	T
2023A	.037	1/64
2023B	.053	1/32
2023C	.084	1/16
2023D	.115	3/32
2023E	.147	1/8

Staking Tool Kit No. 3864

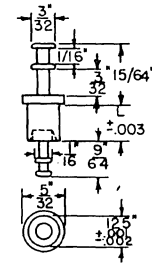
2024
MINIATURE DOUBLE TIE LUG



No.	L	T
2024A	.037	1/64
2024B	.053	1/32
2024C	.084	1/16
2024D	.115	3/32
2024E	.147	1/8

Staking Tool Kit No. 3868

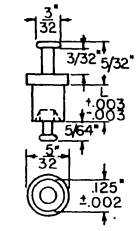
2025
MINIATURE THROUGH LUG



No.	L	T
2025A	.075	1/32
2025B	.105	1/16
2025C	.135	3/32
2025D	.165	1/8

Staking Tool Kit No. 3869

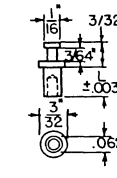
2026
MINIATURE THROUGH LUG



No.	L	T
2026A	.075	1/32
2026B	.105	1/16
2026C	.135	3/32
2026D	.165	1/8

Staking Tool Kit No. 3866

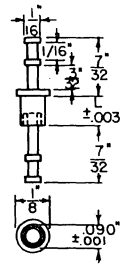
2027
MINIATURE LUG



No.	L	T
2027A	.037	1/64
2027B	.054	1/32
2027C	.084	1/16
2027D	.115	3/32
2027E	.147	1/8

Staking Tool Kit No. 3868

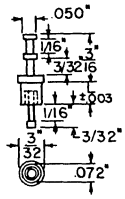
2028
FEED-THRU TERMINAL LUG



No.	L	T
2028A	.054	1/32
2028B	.084	1/16
2028C	.115	3/32
2028D	.147	1/8

Staking Tool Kit No. 3870

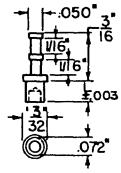
2029
TERMINAL LUG



No.	L	T
2029A	.054	1/32
2029B	.084	1/16
2029C	.115	3/32
2029D	.147	1/8

Staking Tool Kit No. 3871

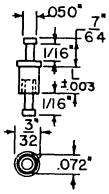
2030
TERMINAL LUG



No.	L	T
2030A	.054	1/32
2030B	.084	1/16
2030C	.115	3/32
2030D	.147	1/8

Staking Tool Kit No. 3868

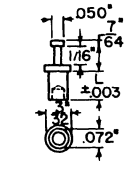
2031
FEED TERMINAL LUG



No.	L	T
2031A	.054	1/32
2031B	.084	1/16
2031C	.115	3/32
2031D	.147	1/8

Staking Tool Kit No. 3871

2032
TERMINAL LUG



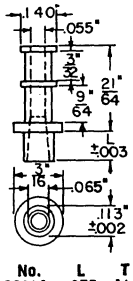
No.	L	T
2032A	.054	1/32
2032B	.084	1/16
2032C	.115	3/32
2032D	.147	1/8

Staking Tool Kit No. 3868

SUGGESTED RESALE

Cat. No. Series	NET Per C	Cat. No. Series	NET Per C
2000	$2.50	2020	2.10
2001	2.30	2021	2.10
2002	3.30	2022	1.90
2003	4.70	2023	2.40
2004	2.80	2024	1.40
2005	3.30	2025	3.00
2006	1.40	2026	3.20
2007	1.80	2027	1.50
2008	2.20	2028	2.10
2009	3.80	2029	1.90
2010	3.00	2030	1.40
2011	4.60	2031	1.70
2012	4.00	2032	1.50
2013	1.40	2033	5.20
2014	1.90	2034	6.50
2015	4.50	2035	5.00
2016	2.70	2036	5.00
2017	3.20	2037	13.00
2018	3.20	2038	14.00
2019	4.20		

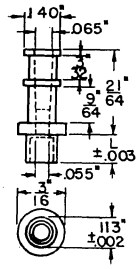
2033
RECEPTACLE LUG



No.	L	T
2033A	.075	1/32
2033B	.105	1/16
2033C	.135	3/32
2033D	.165	1/8
2033E	.195	5/32
2033F	.230	3/16

Staking Tool Kit No. 3860

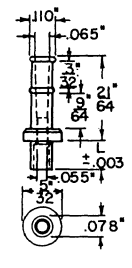
2034
RECEPTACLE LUG



No.	L	T
2034A	.075	1/32
2034B	.105	1/16
2034C	.135	3/32
2034D	.165	1/8
2034E	.195	5/32
2034F	.230	3/16

Staking Tool Kit No. 3860

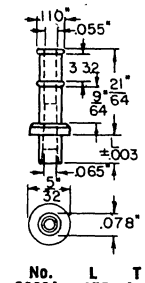
2035
RECEPTACLE LUG



No.	L	T
2035A	.075	1/32
2035B	.105	1/16
2035C	.135	3/32
2035D	.165	1/8
2035E	.195	5/32
2035F	.230	3/16

Staking Tool Kit No. 3863

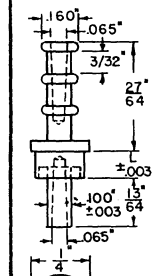
2036
RECEPTACLE LUG



No.	L	T
2036A	.075	1/32
2036B	.105	1/16
2036C	.135	3/32
2036D	.165	1/8
2036E	.195	5/32
2036F	.230	3/16

Staking Tool Kit No. 3863

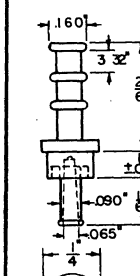
2037
TAPERED TERMINAL



No.	L	T
2037A	.105	1/16
2037B	.135	3/32
2037C	.165	1/8

Staking Tool Kit Not Available

2038
TAPERED TERMINAL



No.	L	T
2038A	.105	1/16
2038B	.135	3/32
2038C	.165	1/8

Staking Tool Kit Not Available

ALL STAKING TOOL KITS
Each.....$3.00

ACCESSORY TOOL HOLDERS

Anvil Bench Tool Holder, 1/4" anvils. Malleable iron base with bottom felt pad for bench use.
No. 3877 Net Ea. $4.20

Anvil tool holder for use with drill press, arbor, kick press, punch press or vise.
No. 3878 Net Ea. $1.50

We invite your inquiries on other types of turret terminals not shown here.

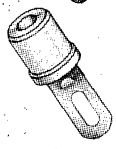
specify **SMITH**

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

TEFLON TERMINALS by SMITH

- Miniature
- Subminiature
- Microminiature



- Standoff — Feed-thru
- Probes — Test Jacks
- Connectors — Sockets
- Custom Fabrication

ALL SIZES • ALL TYPES • TEN COLORS

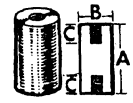
FULL LINE

Meets MIL Specifications

SMITH

COMPLETE 12-PAGE TEFLON TERMINALS **CATALOG**

FREE ON REQUEST!

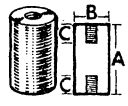


CERAMIC STANDOFFS

MADE TO JAN. SPECS.

Grade L-5 Ceramic made to JAN 1-8 and JAN 1-10 Specs. Outside of ceramic is glazed. **Std. Pkg. 50**

No.	Type	A	B	C	Thd.	NET Per C
2600	NL633W01-004	1/2"	3/8"	5/32"	6-32	$16.70
2601	NL633W01-005	5/8"	3/8"	1/4"	6-32	18.20
2602	NL633W01-006	3/4"	3/8"	1/4"	6-32	19.00
2603	NL633W01-008	1"	3/8"	3/8"	6-32	19.70
2604	NL633W01-010	1 1/4"	3/4"	3/8"	6-32	21.80
2605	NL633W01-012	1 1/2"	3/8"	3/8"	6-32	22.70
2606	NL633W01-016	2"	3/8"	3/8	6-32	23.00
2607	NL633W02-005	5/8"	1/2"	3/16"	8-32	16.70
2608	NL633W02-006	3/4"	1/2"	1/4"	8-32	17.20
2609	NL633W02-008	1"	1/2"	3/8"	8-32	17.40
2610	NL633W02-010	1 1/4"	1/2"	3/8"	8-32	20.00
2611	NL633W02-012	1 1/2"	1/2"	3/8"	8-32	25.00
2612	NL633W02-016	2"	1/2"	3/8"	8-32	30.00
2613	NL633W02-020	2 1/2"	1/2"	3/8"	8-32	30.00
2614	NL633W02-024	3"	1/2"	3/8"	8-32	31.50
2615	NL633W03-008	1"	3/4"	3/8"	10-32	26.00
2616	NL633W03-010	1 1/4"	3/4"	3/8"	10-32	28.00
2617	NL633W03-012	1 1/2"	3/4"	3/8"	10-32	34.40
2618	NL633W03-016	2"	3/4"	3/8"	10-32	39.00
2619	NL633W03-020	2 1/2"	3/4"	3/8"	10-32	40.00
2620	NL633W03-024	3"	3/4"	3/8"	10-32	45.00
2621	NL633W03-032	4"	3/4"	3/8"	10-32	51.00
2622	NL633W04-010	1 1/4"	1"	7/16"	1/4-20	37.50
2623	NL633W04-012	1 1/2"	1"	1/2"	1/4-20	48.00
2624	NL633W04-016	2"	1"	5/8"	1/4-20	54.00
2625	NL633W04-020	2 1/2"	1"	5/8"	1/4-20	55.00
2626	NL633W04-024	3"	1"	5/8"	1/4-20	62.00
2627	NL633W04-032	4"	1"	5/8"	1/4-20	75.00
2628	NL633W04-040	5"	1"	5/8"	1/4-20	92.00
2629	NL633W04-048	6"	1"	5/8"	1/4-20	103.00



CERAMIC STANDOFFS

COMMERCIAL

Grade L5 Ceramic with outside glazed. **Std. Pkg. 50**

No.	A	B	C	Thd.	NET Per C
2640	1/4"	1/4"	Thru	6-32	$13.40
2641	1/2"	1/4"	5/32"	6-32	13.70
2642	3/8"	3/8"	5/32"	6-32	14.20
2643	1/2"	3/8"	7/16"	6-32	16.90
2644	1/2"	1/2"	3/4"	6-32	18.50
2645	3/4"	1/2"	1/4"	6-32	19.50
2646	1"	1/2"	3/8"	6-32	21.50
2647	1 1/2"	1/2"	9/16"	6-32	24.50
2648	2 1/2"	1/2"	1/2"	6-32	26.70
2649	2 1/2"	3/4"	3/4"	1/4-20	36.00
2650	4"	3/4"	3/4"	1/4-20	54.00

BRASS STANDOFFS

SEE SMITH PAGE 26

TEFLON* SPAGHETTI TUBING

COLOR CODE CHART

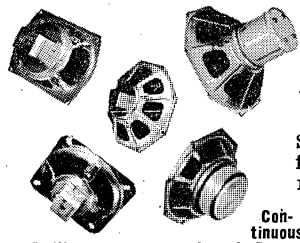
— 101 WHITE	— 107 YELLOW
— 102 RED	— 108 BROWN
— 103 BLACK	— 112 PURPLE
— 104 GREEN	— 113 GREY
— 105 BLUE	— 115 NATURAL
— 106 ORANGE	

(If no color is specified, Natural Teflon (—115) will be supplied.)

Meets and exceeds MIL-I-22129B. Ideal for slip-on insulation, and provides greater reliability and resistance to high temperatures. Shrink-back is virtually eliminated. Individually packed in dust-proof bags. SPECIFY COLOR

CAT. NO.	AWG WIRE SIZE	NOM I.D.	NOM. WALL THK.	STD. PKG. FT.	NET EA.
STANDARD WALL					
7701-24	24	.022	.012	100	$11.68
7701-22	22	.027	.012	100	12.95
7701-20	20	.034	.016	100	17.75
7701-19	19	.038	.016	100	19.38
7701-18	18	.042	.016	100	20.88
7701-17	17	.047	.016	100	22.93
7701-16	16	.053	.016	100	24.63
7701-15	15	.059	.016	100	25.30
7701-14	14	.066	.016	100	27.25
7701-13	13	.076	.016	100	30.30
7701-12	12	.085	.016	100	32.75
7701-11	11	.095	.016	100	36.38
7701-10	10	.106	.016	100	40.00
7701-09	9	.118	.020	100	57.10
7701-81	1/8"	.125	.020	100	61.00
7701-08	8	.133	.020	50	31.25
7701-07	7	.148	.020	50	33.69
7701-06	6	.166	.020	50	36.44
7701-05	5	.186	.020	50	40.10
7701-04	4	.208	.020	50	43.56
7701-03	3	.234	.020	50	49.88
7701-41	1/4"	.250	.020	50	52.88
7701.02	2	.263	.020	50	54.82
7701-01	1	.294	.020	50	60.94
7701-51	5/16"	.312	.020	50	67.50
7701-00	0	.330	.020	50	68.57
THINWALL					
7702-30	30	.012	.009	100	$10.53
7702-28	28	.015	.009	100	9.20
7702-26	26	.018	.009	100	8.88
7702-24	24	.022	.010	100	9.63
7702-22	22	.027	.010	100	10.75
7702-20	20	.034	.012	100	13.63
7702-19	19	.038	.012	100	14.68
7702-18	18	.042	.012	100	15.75
7702-17	17	.047	.012	100	17.38
7702-16	16	.053	.012	100	19.00
7702-15	15	.059	.012	100	19.63
7702-14	14	.066	.012	100	21.00
7702-13	13	.076	.012	100	23.75
7702-12	12	.085	.012	100	25.50
7702-11	11	.095	.012	100	28.38
7702-10	10	.106	.012	100	30.50
7702-09	9	.118	.015	100	44.00
7702-81	1/8"	.125	.015	100	45.00
7702-08	8	.133	.015	50	24.32
7702-07	7	.148	.015	50	26.63
7702-06	6	.166	.015	50	29.75
7702-05	5	.186	.015	50	33.50
7702-04	4	.208	.015	50	36.75
7702-03	3	.234	.015	50	40.75
7702-41	1/4"	.250	.015	50	43.75
7702-02	2	.263	.015	50	45.50
7702-01	1	.294	.015	50	50.69
7702-51	5/16"	.312	.015	50	55.12
7702-00	0	.330	.015	50	56.12
LIGHTWEIGHT					
7703-28	28	.015	.006	100	$ 7.63
7703-26	26	.018	.006	100	7.75
7703-24	24	.022	.006	100	8.13
7703-22	22	.027	.006	100	9.38
7703-20	20	.034	.006	100	11.13
7703-19	19	.038	.006	100	12.38
7703-18	18	.042	.006	100	13.38
7703-17	17	.047	.006	100	14.88
7703-16	16	.053	.006	100	16.13
7703-15	15	.059	.006	100	16.75
7703-14	14	.066	.008	100	19.50
7703-13	13	.076	.008	100	22.25
7703-12	12	.085	.008	100	24.38
7703-11	11	.095	.008	100	27.38
7703-10	10	.106	.008	100	29.50
7703-09	9	.118	.008	50	16.63
7703-81	1/8"	.125	.008	50	17.88
7703-08	8	.133	.008	50	18.44
7703-07	7	.148	.008	50	20.00
7703-06	6	.166	.010	50	25.88
7703-05	5	.186	.010	50	28.38
7703-04	4	.208	.010	50	31.38
7703-03	3	.234	.010	50	34.50
7703-41	1/4"	.250	.010	50	36.69
7703-02	2	.263	.010	50	37.57
7703-01	1	.294	.010	50	41.19
7703-51	5/16"	.312	.012	50	48.69
7703-00	0	.330	.012	50	49.63

*Reg. Trademark E. I. DuPont Co.



Norelco Loudspeakers

featuring **The World's Most Powerful Magnets**

Standard EIA mounting . Tropic-proof cadmium-plated frames . Designed for use in original equipment and as replacements in Radio, TV, Hi-Fidelity, Car Radio, etc.

Smith No.	Size	Shape	Imped. Ohms	Continuous Power Watts*	Height	Width	Depth	Free Air Resonance Freq. Resp. CPS	Free Air Resonance CPS	Cone Types	Magnet Type†	Magnet Wgt. Oz.	Std. Pkg.	NET Each
4300	2"	Round	3.2	0.3	2 1/16"	2 1/16"	1 1/16"	500-4500	590	Single	Tic.	0.36	3	$2.16
4301	2 1/2"	Round	8	0.5	2 9/16"	2 9/16"	1 3/16"	400-7000	350	Single	Fer.	0.72	3	2.25
4302	3"	Square	3.2	2.0	3 1/8"	3 1/8"	1 11/16"	200-7000	275	Single	Tic.	0.72	6	2.22
4303	3"	Square	3.2	1.0	3 1/8"	3 1/8"	1 1/16"	265-6000	285	Single	Fer.	1.44	6	2.40
4304	4"	Square	3.2	3.0	4 1/8"	4 1/8"	1 15/16"	140-16500	165	Single	Tic.	0.72	6	2.22
4305	4"	Square	3.2	1.0	4 1/8"	4 1/8"	1 1/8"	200-6000	250	Single	Fer.	1.44	6	2.40
4306	4"	Square	3.2	3.0	4 1/2"	4 1/2"	1 5/8"	170-7000	165	Single	Fer.	5.35	6	3.36
4307	5"	Octag.	3.2	3.0	4 5/16"	4 5/16"	2"	100-14000	130	Single	Tic.	0.27	3	2.34
4308	5"	Octag.	3.2	3.0	4 3/4"	4 3/4"	2 1/16"	95-18000	124	Dual	Fer.	5.00	3	3.27
4309	8"	Octag.	3.2	6.0	7 3/4"	7 3/4"	3 1/4"	60-18000	72	Dual	Tic.	1.50	3	3.27
4310	8"	Octag.	8	0.6	7 3/4"	7 3/4"	2 7/8"	60-18000	72	Dual	Fer.	5.00	3	$3.84
4311	8"	Octag.	8	6.0	7 3/4"	7 3/4"	4 5/8"	55-18000	60	Dual	Tic.	13.20	1	14.40
4312	10"	Round	8	10.0	10 1/4"	10 1/4"	5 5/16"	45-18000	50	Dual	Tic.	15.10	1	15.75
4313	12"	Round	3.2	10.0	12 3/8"	12 3/8"	4 11/16"	40-18000	45	Dual	Tic.	9.30	1	10.65
4314	12"	Round	8	20.0	12 3/8"	12 3/8"	6 1/8"	35-17000	45	Dual	Tic.	15.10	1	16.05
4315	3x8	Oval	3.2	3.0	8 5/16"	3 1/4"	2 1/16"	120-12000	130	Single	Tic.	2.50	1	3.84
4316	4x6	Oval	3.2	3.0	6 1/8"	4 7/16"	2 1/2"	110-11000	130	Single	Tic.	1.50	3	2.70
4317	4x6	Oval	3.2	3.0	6 1/8"	4 7/16"	2 1/8"	105-18000	124	Dual	Fer.	5.00	3	3.36
4318	5x7	Oval	3.2	3.0	7 1/4"	5 1/4"	2 1/8"	50-15000	90	Dual	Tic.	1.50	3	3.24
4319	5x7	Oval	3.2	6.0	7 1/4"	5 1/4"	2 1/2"	50-18000	90	Dual	Fer.	5.00	3	3.75
4320	6x9	Oval	3.2	6.0	9 1/4"	6 3/8"	3 1/4"	65-18000	77	Dual	Tic.	1.50	3	3.99
4321	6x9	Oval	3.2	6.0	9 1/4"	6 3/8"	2 7/8"	65-18000	80	Dual	Fer.	5.00	3	4.50

† Tic. = Ticonal; Fer. = Ferroxdure. * DOUBLE these ratings for PEAK power.

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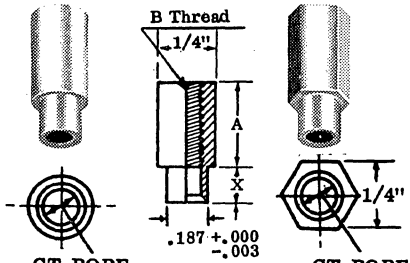
BRASS THREADED SWAGE STANDOFFS

Nickel Plated — Std. Pkg. 100

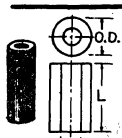


ROUND No.	NET Per C	A	B	X	HEX No.	NET Per C
4100	$10.00	1/4	4/40	.105	4200	$11.00
4101	10.00	1/4	4/40	.135	4201	11.00
4102	10.00	1/4	4/40	.165	4202	11.00
4103	11.00	3/8	4/40	.105	4203	12.00
4104	11.00	3/8	4/40	.135	4204	12.00
4105	11.00	3/8	4/40	.165	4205	12.00
4106	12.50	1/2	4/40	.105	4206	13.50
4107	12.50	1/2	4/40	.135	4207	13.50
4108	12.50	1/2	4/40	.165	4208	13.50
4109	14.00	5/8	4/40	.105	4209	15.00
4110	14.00	5/8	4/40	.135	4210	15.00
4111	14.00	5/8	4/40	.165	4211	15.00
4112	16.00	3/4	4/40	.105	4212	17.00
4113	16.00	3/4	4/40	.135	4213	17.00
4114	16.00	3/4	4/40	.165	4214	17.00
4115	20.00	1	4/40	.105	4215	21.00
4116	20.00	1	4/40	.135	4216	21.00
4117	20.00	1	4/40	.165	4217	21.00
4118	10.00	1/4	6/32	.105	4218	11.00
4119	10.00	1/4	6/32	.135	4219	11.00
4120	10.00	1/4	6/32	.165	4220	11.00
4121	11.00	3/8	6/32	.105	4221	12.00
4122	11.00	3/8	6/32	.135	4222	12.00
4123	11.00	3/8	6/32	.165	4223	12.00
4124	12.50	1/2	6/32	.105	4224	13.50
4125	12.50	1/2	6/32	.135	4225	13.50
4126	12.50	1/2	6/32	.165	4226	13.50
4127	14.00	5/8	6/32	.105	4227	15.00
4128	14.00	5/8	6/32	.135	4228	15.00
4129	14.00	5/8	6/32	.165	4229	15.00
4130	16.00	3/4	6/32	.105	4230	17.00
4131	16.00	3/4	6/32	.135	4231	17.00
4132	16.00	3/4	6/32	.165	4232	17.00
4133	20.00	1	6/32	.105	4233	21.00
4134	20.00	1	6/32	.135	4234	21.00
4135	20.00	1	6/32	.165	4235	21.00
4136	10.00	1/4	8/32	.105	4236	11.00
4137	10.00	1/4	8/32	.135	4237	11.00
4138	10.00	1/4	8/32	.165	4238	11.00
4139	11.00	3/8	8/32	.105	4239	12.00
4140	11.00	3/8	8/32	.135	4240	12.00
4141	11.00	3/8	8/32	.165	4241	12.00
4142	12.50	1/2	8/32	.105	4242	13.50
4143	12.50	1/2	8/32	.135	4243	13.50
4144	12.50	1/2	8/32	.165	4244	13.50
4145	14.00	5/8	8/32	.105	4245	15.00
4146	14.00	5/8	8/32	.135	4246	15.00
4147	14.00	5/8	8/32	.165	4247	15.00
4148	16.00	3/4	8/32	.105	4248	17.00
4149	16.00	3/4	8/32	.135	4249	17.00
4150	16.00	3/4	8/32	.165	4250	17.00
4151	20.00	1	8/32	.105	4251	21.00
4152	20.00	1	8/32	.135	4252	21.00
4153	20.00	1	8/32	.165	4253	21.00

CERAMIC STANDOFFS

SEE SMITH PAGE 25

FIBRE SPACERS



These fibre bushings are ideal for use in raising sub panels, chassis, condensers, transformers, etc.
MATERIAL:
FIBRE, per MIL-F-1148A, Grade CH.

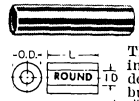
1/4" O.D.

Std. Pkg. 100

Length "L"	for #4 Screw No.	for #6 Screw No.	for #8 Screw No.	NET Per C
.125	8880	8881	8882	$3.00
.187	8883	8884	8885	3.40
.250	2335	2130	2140	3.90
.312	8886	8887	8888	4.00
.375	2336	2131	2141	4.95
.437	8889	8890	8891	5.00
.500	2337	2132	2142	6.00
.562	8892	8893	8894	6.20
.625	8895	8896	8897	6.50
.687	8898	8899	8900	6.80
.750	2338	2133	2143	7.20
.812	8901	8902	8903	7.30
.875	8904	8905	8906	7.50
.937	8907	8908	8909	8.00
1.000	2339	2134	2144	8.25

BRASS SPACERS

Cadmium Plated



These brass bushings are ideal for use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate a #4, #6, or #8 screw.

Std. Pkg. 100

1/4" O.D.

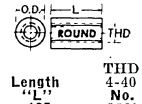
Length "L"	for #4 Screw No.	for #6 Screw No.	for #8 Screw No.	NET Per C
.125	8700	8701	8702	$2.50
.187	8703	8704	8705	2.80
.250	2340	2100	2105	3.30
.312	8706	8707	8708	3.70
.375	2341	2101	2106	4.35
.437	8709	8710	8711	4.70
.500	2342	2102	2107	5.28
.562	8712	8713	8714	5.50
.652	8715	8716	8717	5.70
.687	8718	8719	8720	6.00
.750	2343	2103	2108	6.30
.812	8721	8722	8723	6.70
.875	8724	8725	8726	6.90
.937	8727	8728	8729	7.00
1.000	2344	2104	2109	7.20

3/8" O.D.

.125	8730	8731	8732	$4.20
.187	8733	8734	8735	4.50
.250	2345	2110	2115	5.28
.312	8736	8737	8738	5.50
.375	2346	2111	2116	6.30
.437	8739	8740	8741	7.00
.500	2347	2112	2117	8.00
.562	8742	8743	8744	8.70
.625	8745	8746	8747	9.20
.687	8748	8749	8750	10.00
.750	2348	2113	2118	10.90
.812	8751	8725	8753	11.70
.875	8754	8755	8756	12.50
.937	8757	8758	8759	13.40
1.000	2349	2114	2119	14.20

BRASS THREADED SPACERS

Cadmium Plated

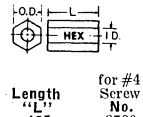


1/4" O.D.

Length "L"	THD 4-40 No.	THD 6-32 No.	THD 8-32 No.	NET Per C
.125	8760	8761	8762	$2.80
.187	8763	8764	8765	3.30
.250	2370	2120	2125	3.90
.312	8766	8767	8768	4.30
.375	2371	2121	2126	4.95
.437	8769	8770	8771	5.50
.500	2372	2122	2127	6.00
.562	8772	8773	8774	6.50
.625	8775	8776	8777	7.00
.687	8778	8779	8780	7.80
.750	2373	2123	2128	8.40
.812	8781	8782	8783	9.20
.875	8784	8785	8786	9.50
.937	8787	8788	8789	10.00
1.000	2374	2124	2129	10.40

BRASS HEX SPACERS

Cadmium Plated



1/4" HEX

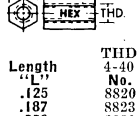
Length "L"	for #4 Screw No.	for #6 Screw No.	for #8 Screw No.	NET Per C
.125	8790	8791	8792	$3.00
.187	8793	8794	8795	3.20
.250	2380	2300	2305	3.60
.312	8796	8797	8798	4.00
.375	2381	2301	2306	4.65
.437	8799	8800	8801	5.00
.500	2382	2302	2307	5.58
.562	8802	8803	8804	5.80
.625	8805	8806	8807	6.00
.687	8808	8809	8810	6.40
.750	2383	2303	2308	6.75
.812	8811	8812	8813	7.00
.875	8814	8815	8816	7.30
.937	8817	8818	8819	7.50
1.000	2384	2304	2309	7.80

3/8" HEX

.125	8850	8851	8852	$4.40
.187	8853	8854	8855	5.00
.250	2385	2310	2315	6.18
.312	8856	8857	8858	6.30
.375	2386	2311	2316	7.20
.437	8859	8860	8861	7.90
.500	2387	2312	2317	8.25
.562	8862	8863	8864	10.00
.625	8865	8866	8867	10.90
.687	8868	8869	8870	11.70
.750	2388	2313	2318	12.50
.812	8871	8872	8873	13.40
.875	8874	8875	8876	14.20
.937	8877	8878	8879	15.00
1.000	2389	2314	2319	15.90

BRASS THREADED HEX SPACERS

Cadmium Plated



1/4" HEX

Std. Pkg. 100

Length "L"	THD 4-40 No.	THD 6-32 No.	THD 8-32 No.	NET Per C
.125	8820	8821	8822	$3.30
.187	8823	8824	8825	3.80
.250	2330	2320	2325	4.20
.312	8826	8827	8828	4.70
.375	2331	2321	2326	5.25
.437	8829	8830	8831	5.80
.500	2332	2322	2327	6.30
.562	8832	8833	8834	7.50
.625	8835	8836	8837	8.45
.687	8838	8839	8840	8.90
.750	2333	2323	2328	9.20
.812	8841	8842	8843	10.00
.875	8844	8845	8846	10.40
.937	8847	8848	8849	10.90
1.000	2334	2324	2329	11.20

ALUMINUM SPACERS

Irridite 14-2 per MIL-C-5541 — Std. Pkg. 100

ROUND—CLEAR HOLE

LENGTH "L"	.250 O.D. for #4 screw No.	for #6 screw No.	for #8 screw No.	NET Per C	.312 O.D. for #10 screw No.	NET Per C
.125	8480	8500	8520	$ 9.75	8540	$ 8.50
.250	8481	8501	8521	10.50	8541	10.75
.375	8482	8502	8522	11.00	8542	11.50
.500	8483	8503	8523	11.75	8543	12.25
.625	8484	8504	8524	12.50	8544	13.00
.750	8485	8505	8525	14.25	8545	14.50
.875	8486	8506	8526	14.50	8546	14.75
1.000	8487	8507	8527	15.00	8547	15.25
1.250	8488	8508	8528	20.00	8548	21.50
1.500	8489	8509	8529	21.50	8549	22.50
1.750	8490	8510	8530	21.75	8550	23.50
2.000	8491	8511	8531	22.25	8551	25.50
2.50	8492	8512	8532	24.00	8552	28.00
3.00	8493	8513	8533	28.00	8553	28.75
3.50	8494	8514	8534	30.00	8554	46.00
4.00	8495	8515	8535	32.00	8555	48.00
5.00	8496	8516	8536	40.00	8556	54.00
6.00	8497	8517	8537	44.00	8557	62.00

ROUND—TAPPED HOLE

LENGTH "L"	.250 O.D. 4-40 THD	6-32 THD	8-32 THD	NET Per C	.312 O.D. 10-32 THD	NET Per C
.125	8320	8340	8360	$ 8.75	8380	$ 9.00
.250	8321	8341	8361	12.00	8381	12.75
.375	8322	8342	8362	12.50	8382	13.00
.500	8323	8343	8363	13.00	8383	14.00
.625	8324	8344	8364	14.75	8384	15.25
.750	8325	8345	8365	15.50	8385	17.75
.875	8326	8346	8366	17.00	8386	18.75
1.000	8327	8347	8367	18.00	8387	19.75
1.250	8328	8348	8368	19.50	8388	20.50
1.500	8329	8349	8369	20.25	8389	21.50
1.750	8330	8350	8370	21.50	8390	22.50
2.00	8331	8351	8371	21.75	8391	24.00
2.50	8332	8352	8372	24.00	8392	26.00
3.00	8333	8353	8373	25.50	8393	28.00
3.50	8334	8354	8374	29.00	8394	31.00
4.00	8335	8355	8375	32.00	8395	34.00

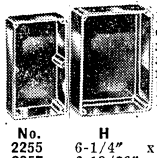
HEX—CLEAR HOLE

LENGTH "L"	.250 O.D. for #4 screw	for #6 screw	for #8 screw	NET Per C	.312 O.D. for #10 screw	NET Per C
.125	8560	8580	8600	$ 9.25	8620	$11.50
.250	8561	8581	8601	11.00	8621	13.50
.375	8562	8582	8602	12.00	8622	14.25
.500	8563	8583	8603	12.25	8623	15.00
.625	8564	8584	8604	13.50	8624	16.00
.750	8565	8585	8605	15.00	8625	16.50
.875	8566	8586	8606	15.50	8626	17.00
1.000	8567	8587	8607	20.00	8627	17.50
1.250	8568	8588	8608	21.00	8628	22.00
1.500	8569	8589	8609	22.00	8629	23.75
1.750	8570	8590	8610	22.50	8630	25.50
2.00	8571	8591	8611	23.00	8631	26.00

HEX—TAPPED HOLE

LENGTH "L"	.250 O.D. 4-40 THD	6-32 THD	8-32 THD	NET Per C	.312 O.D. 10-32 THD	NET Per C
.125	8400	8420	8440	$11.00	8460	$12.25
.250	8401	8421	8441	12.00	8461	15.00
.375	8402	8422	8442	13.50	8462	16.00
.500	8403	8423	8443	14.00	8463	16.75
.625	8404	8424	8444	15.25	8464	17.50
.750	8405	8425	8445	16.00	8465	20.00
.875	8406	8426	8446	18.00	8466	20.50
1.000	8407	8427	8447	18.50	8467	21.00
1.250	8408	8428	8448	20.25	8468	21.75
1.500	8409	8429	8449	22.00	8469	22.75
1.750	8410	8430	8450	21.50	8470	26.00
2.00	8411	8431	8451	22.50	8471	28.00
2.50	8412	8432	8452	25.00	8472	30.00
3.00	8413	8433	8453	26.50	8473	32.00
3.50	8414	8434	8454	30.00	8474	33.00
4.00	8415	8435	8455	31.00	8475	38.00

INSTRUMENT CASES AND COVERS



Ideal for small instruments and test equipment. The right size and the right mounting for your requirements. Molded of high quality, glass finish, thermosetting plastic. Threaded brass insert for cover mounting. BLACK ONLY.

Std. Pkg. 5

No.	H	W	D	Insert	NET Ea.
2255	6-1/4"	x 3-3/4"	x 2"	6-32	$1.03
2257	6-13/16"	x 5-9/32"	x 2-5/16"	4-36	1.35
2289	8-1/2"	x 7-7/16"	x 3"	6-32	2.65
2377	4"	x 2-7/8"	x 1-9/16"	4.40*	.48

*Tapped hole only (no insert).

COVERS

2256	For No. 2255	.61
2260	For No. 2257	.85
2390	For No. 2289	2.20
2378	For No. 2377	.33

PANEL PLATE

Brushed and lacquered Aluminum

2379	For No. 2255	1.00

specify SMITH

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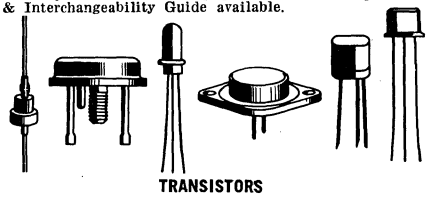
Replace over 2800 Semiconductors with just 25 SMITH Types! The most versatile replacement program of dependable, high quality, low cost semiconductors, covering the most-often-used Transistors, Diodes, and Rectifiers used in today's entertainment equipment. SMITH Replacement & Interchangeability Guide available.



TRANSISTORS

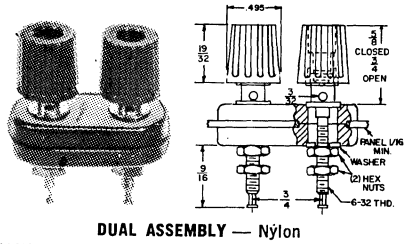
3501	Mixer, Osc., Converter PNP	$1.47
3502	I.F. Amplifier PNP	1.17
3503	A.F. Amplifier 6 V. PNP	0.99
3504	A.F. Amplifier 12 V. PNP	1.20
3505	A.F. Amplifier 9 V. PNP	0.99
3506	A.F. Automobile Power Amp. PNP	1.77
3507	Hi Power Automobile Amp. PNP	3.57
3508	Mixer, Osc., Converter NPN	1.50
3509	I.F. Amplifier NPN	1.50
3510	A.F. Amplifier 9 V. NPN	1.17
3511	A.F. Amplifier 12 V. NPN	1.17
3512	Hi Freq. R.F., I.F., Mixer, Osc., Converter PNP	1.50
3513	Hi Current (15 Amps.) for Ignition and D. C. Converters TO-3 Case	3.00
3514	Hi Current (15 Amps.) for Ignition and D. C. Converters TO-36 Case	3.57

RECTIFIERS, Silicon

3560	400 P.I.V. 750 Ma. Silicon Top Hat Rectifier	0.54
3561	600 P.I.V. 750 Ma. Silicon Top Hat Rectifier	0.75
3562	800 P.I.V. 750 Ma. Silicon Top Hat Rectifier	1.08
3563	1000 P.I.V. 750 Ma. Silicon Top Hat Rectifier	1.35
3564	400 P.I.V. 750 Ma. Silicon Epoxy Rectifier	0.42
3565	600 P.I.V. 750 Ma. Silicon Epoxy Rectifier	0.60
3566	800 P.I.V. 750 Ma. Silicon Epoxy Rectifier	0.90
3567	1000 P.I.V. 750 Ma. Silicon Epoxy Rectifier	1.35

DIODES, Germanium

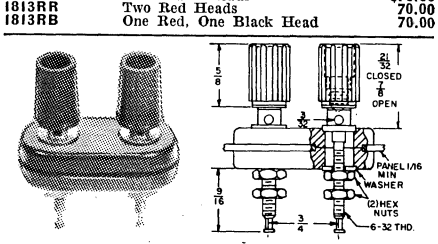
3586	Gen. Purpose Germanium Diode	0.33
3587	Video Detector Germanium Diode	0.33
3588	50 Mc. Detector Germanium Diode	0.33



DUAL ASSEMBLY — Nylon

INSUL.: MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips in post either forward, or sideways.
BODY: Brass, nickel plated.
HEAD: Captive: MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.
RATING: 15 Amps AC for 10°C Temp. rise, continuous duty. 2 K Volts 60 cycle AC continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.
DESCR.: Mounts in two ½" holes on ¾" mounting centers in panels up to ¼" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

No.	Description	Std. Pkg. 10 NET Per C
1813BB	Two Black Heads	$70.00
1813RR	Two Red Heads	70.00
1813RB	One Red, One Black Head	70.00

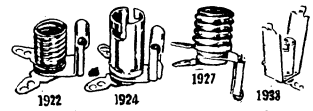


DUAL ASSEMBLY — Nylon

INSUL.: MOLDED black STYRENE, per Fed. Spec. L-P416, Type I, cross slotted (+) to accept standard phone tips in post either forward, or sideways.
BODY: Brass, nickel plated.
HEAD: Captive: MOLDED NYLON, per MIL-P-20693A, with molded in brass insert.
RATING: 15 Amps AC for 10°C Temp. rise, continuous working voltage. CAPACITANCE 2.0 mmfd. between conductors, 3.0 mmfd. to panel.
DESCR.: Mounts in two ½" holes on ¾" mounting centers in panels up to ¼" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers.

No.	Description	Std. Pkg. 10 NET Per C
1814BB	Two Black Heads	$70.00
1814RR	Two Red Heads	70.00
1814RB	One Red, One Black Head	70.00

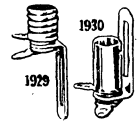
PILOT LIGHT SOCKETS
Clip-On Type



Can be used by clipping on to variable condenser or chassis. All brackets are cadmium plated.

No.	Type	Std. Pkg. 50 NET Per C
1922	Miniature Screw Up Clip	$13.00
1923	Miniature Screw Down Clip	13.00
1924	Miniature Bayonet Up Clip	13.00
1925	Miniature Bayonet Down Clip	13.00
1926	Candelabra Up Clip	13.00
1927	Candelabra Down Clip	13.00
1938	Clip-in Socket	13.00

PILOT LIGHT SOCKETS
Bracket Type



No.	Type	NET Per C
1928	Miniature Screw Up Bracket	$13.00
1929	Miniature Screw Down Bracket	13.00
1930	Miniature Bayonet Up Bracket	13.00
1931	Miniature Bayonet Down Bracket	13.00
1932	Candelabra Up Bracket	13.00
1933	Candelabra Down Bracket	13.00

Std. Pkg. 50

UNMOUNTED TYPE SOCKETS

No.	Type	NET Per C
1934	Miniature Screw Base	$13.00
1935	Miniature Bayonet Base	13.00
1936	Candelabra Base	13.00

Std. Pkg. 50

NAVY TYPE LAMP SOCKETS
75W-125V
Bayonet Base

Vibration-proof socket for surface mounting. Made to rigid specifications of black phenolic. Has bayonet sleeve of brass and double contacts of heavy spring phosphor bronze. Std. Pkg. 10
No. 1950 NET Per C $135.00

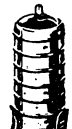
SCREW BASE

Made of black phenolic to strict requirements. Instead of usual screw shell has phosphor bronze wire coiled spring for perfect contact and elimination of vibration. Designed for soldering wire leads. Std. Pkg. 10
No. 1951 NET Per C $84.00

SCREW BASE

Easily wired and mounted. A very practical unit made of black phenolic to rigid specifications. Has phosphor bronze spring contact to assure positive contact and elimination of vibration. Std. Pkg. 10
No. 1952 NET Per C $84.00

MINI-SHIELDS FOR MINI-TUBES



These Mini-Shields fit snugly on all Mini-Tubes. Serrations in base clip prevent shielded tube from jiggling or working loose. Available in two sizes for 1½ & 2" long tubes.

			Std. Pkg. 50 NET Per C
550	for 2" tube	1¾"	$7.80
551	for 1½" tube	1¼"	6.60

MINI-SPRING FOR MINI-TUBES

Maintains a direct axial pressure downwards plus a sideways support that keeps the tube upright and perpendicular to the chassis. The spring action is constant and resilient permanently. Std. Pkg. 50

No.	Type	NET Per C
560	Short	$11.40
561	Medium	11.40
562	Long	11.40
563	9 Prong	11.63

"IT'S SOUND PLANNING TO SPECIFY SMITH!"

MINIATURE WAFER SOCKETS

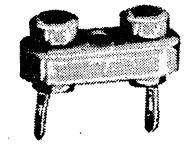
Miniature bakelite sockets with brass cadmium plated contacts. XP bakelite top plate 1/16" thick, bottom plate 3/64" thick; high grade spring brass cadmium plated contact; .095 dia. mounting holes. Std. Pkg. 50

No.	Description	MTG. Cen.	SEVEN PIN NET Per C
880	Eyelet only	⅞"	$7.00
881	Eyelet and Shield	⅞"	6.90
882	Grd Strap and Shield	⅞"	7.50
887	Eyelet only	1"	7.00
888	Eyelet and Shield	1"	6.90
889	Grd Strap and Shield	1"	8.00
	NINE PIN		
890	Eyelet only	1⅛"	$ 8.55
891	Eyelet and Shield	1⅛"	8.85
892	Grd Strap and Shield	1⅛"	9.30

MOLDED MINIATURE SOCKETS
Saddle Type

Molded from either high dielectric black general purpose bakelite or low loss mica-filled bakelite. Both types supplied with center pin. .098 dia. mtg. holes. Std. Pkg. 50

No.	Type	Pin	Mtg. Ctrs.	Mtg. Hole	NET Per C
	GENERAL PURPOSE BLACK BAKELITE				
895	Bottom Mount	7	⅞"	⅝"	$9.00
896	Top Mount	7	⅞"	⅝"	9.00
897	Bottom Mount	9	1⅛"	¾"	10.80
898	Top Mount	9	1⅛"	¾"	10.80
	LOW LOSS MICA-FILLED BAKELITE				
883	Bottom Mount	7	⅞"	⅝"	11.40
884	Top Mount	7	⅞"	⅝"	11.40
885	Bottom Mount	9	1⅛"	¾"	13.20
886	Top Mount	9	1⅛"	¾"	13.20

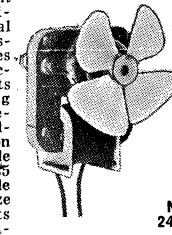


CRYSTAL SOCKET
Suitable for Citizen's Band

Glazed ceramic base. Phosphor bronze silver plated contacts spaced .486". Pin diameter .051. mtg. hole .125. Std. Pkg. 25 NET Per C
No. 1945 $15.00

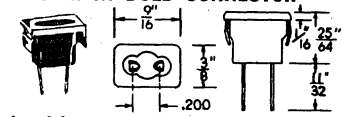
COOLING FAN

An exceptionally efficient fan for cooling tubes, rectifiers, etc. for Industrial equipment, Amateur Transmitters, and other devices requiring assisted convection flow of air. Permits more efficient RF shielding of equipment without depending on convection cooling. Shaded pole induction motor with Nylon Fan Blade runs 3000 RPM on 105-125 Volts, 60 cycle AC. Blade diameter 2½", over-all size 3½" x 2½" x 3". Mounts either horizontally or vertically. Supplied complete with two 6-32 x 1½" screws and nuts, and two 1" fibre standoffs.

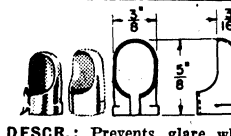


No. 2427
NET Each $6.00

SNAP-IN BULB CONNECTOR



Designed for use with the new Twin Pin Baseless Miniature Lamps (G.E. #10-25 volts, #12-6.3 volts, or #15-7.0 volts). Easily assembled to any unit for indicating purposes. Withstands excessive temperatures. Snaps into a .500x.296 rectangular hole in panels .032 to .062 thick. Bezel — brass, cad. plated; contacts — brass, silver plated. Std. Pkg. 25
No. 1504 NET Per C $17.00



PILOT LIGHT SHIELD

DESCR.: Prevents glare when used in radio receiver meters, etc. Ribbed bottom holds shield securely in place on bulb. Std. Pkg. 100

No.	Type	NET Per C
1963	Brass Cad. Plate	$3.60
1968	Plain Brass	3.30
1969	Flared Brass Cad. Plate	4.20

GRID CAPS

Std. Pkg. 100

No.	Tube Type	NET Per C
1454	¼" Mini Tubes	$1.20

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HERMAN H. SMITH, INC.
ELECTRONIC COMPONENTS

EQUIPMENT HANDLES

MATERIALS AND FINISH SPECIFICATIONS

The following specifications are met by all panel handles, ferrules, and hardware where applicable:

Materials:

Brass: In accordance with Federal Spec. QQ-B-626, Composition 22, ½ Hard.
Aluminum: In accordance with Federal Spec. QQ-A-365, Composition A, Type 3.
Steel: Cold-Rolled, in accordance with QQ-S-633b, Grade FS-1010.

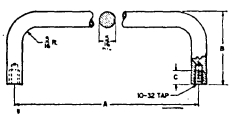
Finishes:

Nickel Plate: Polished Nickel Plate, in accordance with Federal Spec. QQ-N-290, Class I, Type VI.
Black Oxide: In accordance with MIL-F-495A.
Satin Etch: Commercial finish.
Black Anodize: In accordance with MIL-A-8625A.
Optical Black: Color in accordance with Fed. Std. 595, Type 37038. Paint complies with Fed. Spec. TT-E-527.

Note:

Aluminum Handles, either round or oval, and matching ferrules, can be supplied anodized in colors per MIL-A-8625A on special order.

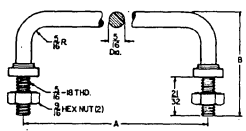
PANEL HANDLES



Brass Panel Handles, finished as shown, with internal 10-32 thread. Individually packaged. **Std. Pkg. 10**

No.	Mtg. Ctrs. (A)	Height (B)	Tap Depth (C)	Finish	NET Ea.
2050	3"	1-5/16"	7/16"	Nickel Plate	$1.00
1601	3"	1-5/16"	7/16"	Black Oxide	1.00
2057	3"	1-1/2"	9/16"	Nickel Plate	1.00
1602	3"	1-1/2"	9/16"	Black Oxide	1.00
2056	4-1/4"	1-1/2"	9/16"	Nickel Plate	1.05
1604	4-1/4"	1-1/2"	9/16"	Black Oxide	1.05
2051	4-9/16"	1-1/2"	9/16"	Nickel Plate	1.10
1605	4-9/16"	1-1/2"	9/16"	Black Oxide	1.10
2052	6-7/16"	1-3/4"	9/16"	Nickel Plate	1.40
1606	6-7/16"	1-3/4"	9/16"	Black Oxide	1.40

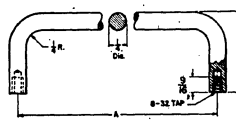
PANEL HANDLES



Brass Panel Handles, finished as shown with male threaded stud. Supplied complete with matching ferrules, and brass, nickel plated hex nuts. Mount in 5/16" panel holes. Individually packaged. **Std. Pkg. 10**

No.	Mtg. Ctrs. (A)	Height (B)	Finish	NET Ea.
1607	2"	2⅛"	Nickel Plate	$1.35
1608	2"	2⅛"	Black Oxide	1.35
1609	3"	2⅛"	Nickel Plate	1.40
1610	3"	2⅛"	Black Oxide	1.40
1611	4"	2⅛"	Nickel Plate	1.45
1612	4"	2⅛"	Black Oxide	1.45
2053	4¼"	2⅛"	Nickel Plate	1.50
1613	4¼"	2⅛"	Black Oxide	1.50
1614	6"	2 11/16"	Nickel Plate	1.55
1615	6"	2 11/16"	Black Oxide	1.55

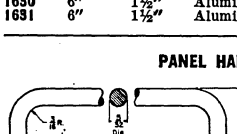
PANEL HANDLES



¼" Diameter panel handles, Brass and Aluminum, finished as shown, with internal 8-32 thread. Individually packaged. **Std. Pkg. 10**

No.	Mtg. Ctrs. (A)	Height (B)	Material	Finish	NET Ea.
1616	2"	1½"	Brass	Nickel Plate	$ .90
1617	2"	1½"	Brass	Black Oxide	.90
1618	2"	1½"	Aluminum	Satin	.65
1619	2"	1½"	Aluminum	Blk. Anodize	.75
1620	3"	1½"	Brass	Nickel Plate	.95
1621	3"	1½"	Brass	Black Oxide	.95
1622	3"	1½"	Aluminum	Satin	.75
1623	3"	1½"	Aluminum	Blk. Anodize	.80
1624	4"	1½"	Brass	Nickel Plate	1.00
1625	4"	1½"	Brass	Black Oxide	1.00
1626	4"	1½"	Aluminum	Satin	.80
1627	4"	1½"	Aluminum	Blk. Anodize	.85
1628	6"	1½"	Brass	Nickel Plate	1.05
1629	6"	1½"	Brass	Black Oxide	1.05
1630	6"	1½"	Aluminum	Satin	.85
1631	6"	1½"	Aluminum	Blk. Anodize	.90

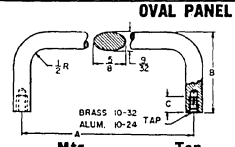
PANEL HANDLES



5/32" Diameter panel handles, Brass and Aluminum, finished as shown, with internal 4-40 thread. Individually packaged. **Std. Pkg. 10**

No.	Mtg. Ctrs. (A)	Height (B)	Material	Finish	NET Ea.
1632	1¼"	1"	Brass	Nickel Plate	$ .80
1633	1¼"	1"	Brass	Black Oxide	.80
1634	1¼"	1"	Aluminum	Satin	.75
1635	1¼"	1"	Aluminum	Blk. Anodize	.80
1636	2"	1"	Brass	Nickel Plate	.85
1637	2"	1"	Brass	Black Oxide	.85
1638	2"	1"	Aluminum	Satin	.80
1639	2"	1"	Aluminum	Blk. Anodize	.85
1640	3"	1"	Brass	Nickel Plate	.90
1641	3"	1"	Brass	Black Oxide	.90
1642	3"	1"	Aluminum	Satin	.85
1643	3"	1"	Aluminum	Blk. Anodize	.90

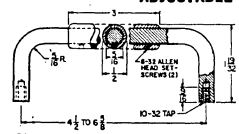
OVAL PANEL HANDLES



Flat, oval panel handles in Brass and Aluminum, finished as shown. Brass handles have internal 10-32 thread, Aluminum handles have internal 10-24 thread. Individually packaged. **Std. Pkg. 10**

No.	Mtg. Ctrs. (A)	Height (B)	Tap Depth (C)	Material	Finish	NET Ea.
1644	3"	1 9/32"	9/32"	Brass	Nickel Plate	$1.80
1645	3"	1 9/32"	9/32"	Brass	Black Oxide	1.80
1646	3"	1 9/32"	9/32"	Aluminum	Blk. Anodize	1.65
1647	4 9/16"	1½"	½"	Brass	Nickel Plate	2.20
1648	4 9/16"	1½"	½"	Brass	Black Oxide	2.20
1649	4 9/16"	1½"	9/32"	Aluminum	Blk. Anodize	1.80
1651	6 7/16"	1⅝"	½"	Brass	Nickel Plate	2.50
1653	6 7/16"	1⅝"	½"	Brass	Black Oxide	2.50
1654	6 7/16"	1⅝"	9/32"	Aluminum	Blk. Anodize	2.10
1655	9"	1⅝"	½"	Brass	Nickel Plate	2.75
1657	9"	1⅝"	½"	Brass	Black Oxide	2.75
1658	9"	1⅝"	9/32"	Aluminum	Blk. Anodize	2.20

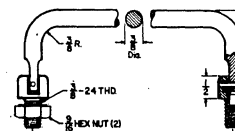
ADJUSTABLE HANDLES



Adjustable Brass Panel handles, with mounting center range from 4½" to 6⅝". Finished as shown. Internal 10-32 thread, supplied with Allen-Head locking screws. Individually packaged. **Std. Pkg. 10**

No.	Finish	NET Ea.
1659	Nickel Plate	$3.85
1661	Black Oxide	3.85

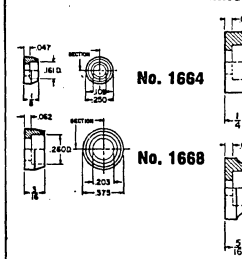
FOLDING HANDLES



Folding Brass panel handles, with spring-loaded detents which snap into upright or left-or-right folded position. Finished as shown. Supplied with brass, nickel plated hex nuts. Mounts in ⅜" panel holes. Individually packaged. **Std. Pkg. 10**

No.	Finish	NET Ea.
1662	Nickel Plate	$4.40
1663	Black Oxide	4.40

FERRULES



No. 1664

No. 2054

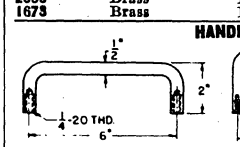
No. 1668

No. 2055

Brass and Aluminum ferrules, finished as shown, to match handles listed above. **Std. Pkg. 50**

No.	Material	Finish	NET Per C
		FOR 5/32" DIA. HANDLES	
1664	Brass	Nickel Plate	$15.00
1665	Brass	Black Oxide	12.00
1666	Aluminum	Satin	13.00
1667	Aluminum	Black Anodize	13.00
		FOR 1/4" DIA. HANDLES	
1668	Brass	Nickel Plate	$15.00
1669	Brass	Black Oxide	12.00
1670	Aluminum	Satin	13.00
1671	Aluminum	Black Anodize	13.00
		FOR 5/16" DIA. HANDLES	
2054	Brass	Nickel Plate	$15.00
1672	Brass	Black Oxide	13.00
2055	Brass	Nickel Plate	18.00
1673	Brass	Black Oxide	12.00

HANDLES

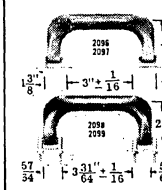


2061 2062

Steel handles painted with Optical Black finish. **Std. Pkg. 10**

No.	Diameter	NET Ea.
2061	¼"	$2.00
2062	5/16"	1.75

MOLDED GRIP HANDLES



HANDLE: Molded High Impact styrene.
HDWRE.: Steel, nickel plated.
DESCR.: Designed for economy and rugged use. **Std. Pkg. 10**

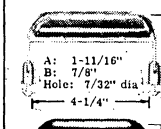
ATTACHES WITH RIVETS OR SCREWS

No.	Color	NET Per C
2096	Black	$60.00
2097	Grey	60.00

ATTACHES WITH THREADED STUD

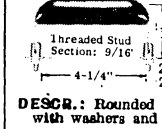
2098	Black	95.00
2099	Grey	95.00

MOLDED GRIP HANDLES



HANDLE: Molded high impact Styrene, Fungus Resistant.
HDWRE.: Steel, Nickel plated.
DESCR.: Bounded palm fitting design. Attaches to case with machine screws. **Std. Pkg. 10**

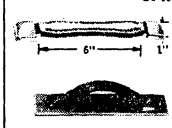
No.	Color	NET Ea.
2085	Black	$1.32
2086	Grey	1.32



HANDLE: Molded high impact Styrene, Fungus Resistant.
HDWRE.: Steel, Nickel plated.
DESCR.: Rounded palm fitting design. Attaches to case with washers and nuts supplied. Will support 100 lbs. **Std. Pkg. 10**

No.	Color	Stud Lgth.	NET Ea.
2087	Black	9/16"	$1.32
2088	Grey	9/16"	1.32

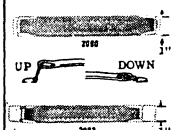
SPRING GLIDE HANDLE



HANDLE: Genuine leather, contoured BLACK, matching stitching, 6" long.
CAPS: Steel, chrome plated.
DESCR.: Strong, silent spring glide, frequency of decibel extremes will not induce handle rattle. Handle moves up for comfortable carrying down when not in use. **Std. Pkg. 10**

No.	Color	NET Ea
2089	Black	$2.50

RETRACTO-LINK HANDLES



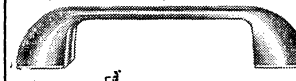
HANDLE: Genuine leather, matching stitching, BLACK.
HDWRE.: Steel, nickel plated.
DESCR.: Assemblies are shaped with all hardware installed except for decorative cover caps which are packed separately. Supplied in two styles—different lengths. **Std. Pkg. 10**

ATTACHES WITH PRONGS THAT BEND INSIDE CASE

No.	Length	Ea.
2090	4½"	$2.25
2091	5½"	2.25
2092	6¾"	2.25

ATTACHES WITH RIVETS OR SCREWS

2093	4½"	$2.25
2094	5½"	2.25
2095	6¾"	2.25



OVAL HANDLE

Die Cast Zamac Handle. Brush chrome plated.

Std. Pkg. 10

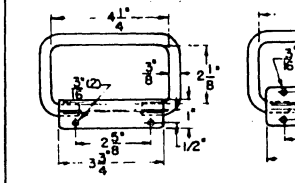
No.	NET Per C
2065	$90.00

BAKELITE HANDLE

Std. Pkg. 10

No.	Thread	O.D.	Mtg. Center	Color	NET Per C
2281	8-32	4¼"	2⅝"	Black	$16.00
2282	8-32	4¼"	Center	Red	18.00

MIL. SPEC. HANDLES



2063 2064

MATERIAL: Aluminum.
FINISH: Alodine per MIL-C-5541 Spec. Sprayed to MIL-E-15090. Gloss gray color #1640 per MIL SPEC. FTC-595. **Std Pkg. 10**

No.	Type	NET Ea.
2063	Half Bracket	$1.65
2064	Full Bracket	1.65
	With Transflux Plastic Protector	
2048	Half Bracket	$1.80
2049	Full Bracket	1.80

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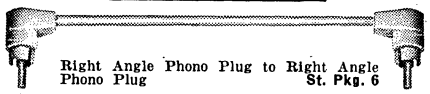
ELECTRONIC COMPONENTS

JUMPER CORDS

Male Phono Plug with fingergrip handle on each end. Std. Pkg. 6

No.	Length	NET Ea.
631	18 inches	$ .75
632	24 inches	.78
633	36 inches	.84
634	48 inches	.96
635	72 inches	1.05
636	120 inches	1.50
745	180 inches	1.78



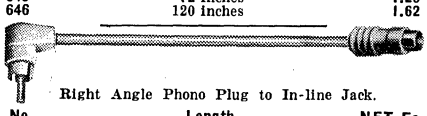
Right Angle Phono Plug to Right Angle Phono Plug. St. Pkg. 6

No.	Length	NET Ea.
2720	18 inches	$ .75
2721	24 inches	.78
2722	36 inches	.84
2723	48 inches	.96
2724	72 inches	1.05
2725	120 inches	1.50
2726	180 inches	1.78

EXTENSION CORDS

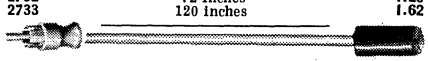
Male Phono Plug with fingergrip handle one end; Female In-line Jack other end. Std. Pkg. 6

No.	Length	NET Ea.
641	18 inches	$ .99
642	24 inches	1.02
643	36 inches	1.08
644	48 inches	1.20
645	72 inches	1.29
646	120 inches	1.62



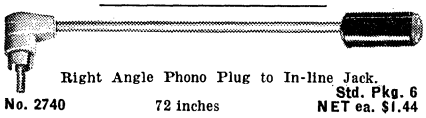
Right Angle Phono Plug to In-line Jack.

No.	Length	NET Ea. St. Pkg. 6
2728	18 inches	$ .99
2729	24 inches	1.02
2730	36 inches	1.08
2731	48 inches	1.20
2732	72 inches	1.29
2733	120 inches	1.62



Male Phono Plug one end; In-line Jack other end. Std. Pkg. 6

No. 639 — 72 inches — NET ea. $1.44



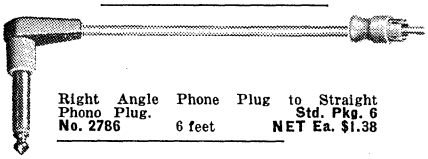
Right Angle Phono Plug to In-line Jack. Std. Pkg. 6

No. 2740 — 72 inches — NET ea. $1.44

INPUT-OUTPUT CORDS

Male Phono Plug with fingergrip handle one end; Male Phono Plug other end. Std. Pkg. 6

No. 662 — 72 inches — NET Ea. $1.38

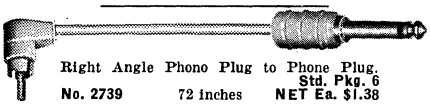


Right Angle Phone Plug to Straight Phono Plug. Std. Pkg. 6

No. 2786 — 6 feet — NET Ea. $1.38

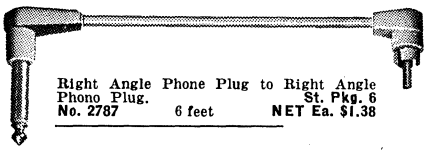
Male Phono Plug with Molded Fingergrip handle one end; Miniature Phone Plug other end. Std. Pkg. 6

No. 715 — 72 inches — NET Ea. $1.38



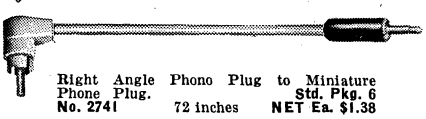
Right Angle Phono Plug to Phone Plug. Std. Pkg. 6

No. 2739 — 72 inches — NET Ea. $1.38



Right Angle Phone Plug to Right Angle Phono Plug. St. Pkg. 6

No. 2787 — 6 feet — NET Ea. $1.38

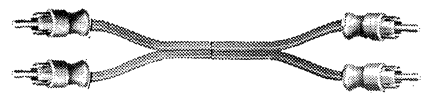


Right Angle Phono Plug to Miniature Phone Plug. Std. Pkg. 6

No. 2741 — 72 inches — NET Ea. $1.38

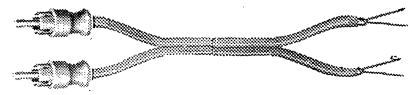
STEREO CONNECTOR CABLES

Twin shielded audio cables, individually color coded with molded connectors, for neat, simultaneous connections of both channels in Stereo Hi-Fi equipment.



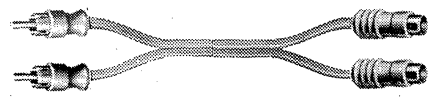
Male Phono Plugs with finger grip handle on each end.

No.	Length	NET Each
754	36 inches	$1.80
755	72 inches	2.04
756	144 inches	2.70



Male Phono Plugs with finger grip handle, one end. Other end stripped and tinned with color-coded insulation.

No.	Length	NET Each
757	36 inches	$1.59
758	72 inches	1.74
759	144 inches	2.25



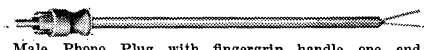
Male Phono Plugs with finger grip handle, one end. Female molded in-line jacks other end.

No.	Length	NET Each
760	36 inches	$2.25
761	72 inches	2.40
762	144 inches	3.00

PHONO PLUG CONNECTOR CORDS

Male Phono Plug with fingergrip handle one end; Spade Lugs other end. Std. Pkg. 6

No. 668 — 72 inches — NET Ea. $.72

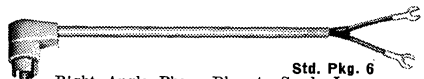


Male Phono Plug with fingergrip handle one end; other end stripped and tinned. Std. Pkg. 6

No.	Length	NET Ea.
637	36 inches	$.66
638	72 inches	.84

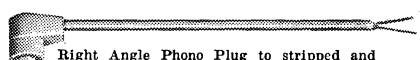
Male Phono Plug with fingergrip handle one end; Insulated Alligator Clips other end. Std. Pkg. 6

No.	Length	NET Ea.
673	36 inches	$.72
674	72 inches	.90



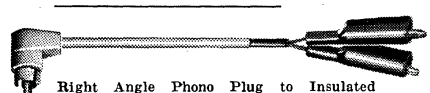
Right Angle Phono Plug to Spade Lugs. Std. Pkg. 6

No. 2734 — 72 inches — NET Ea. $.72



Right Angle Phono Plug to stripped and tinned ends. Std. Pkg. 6

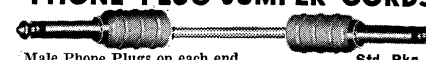
No.	Length	NET Ea.
2735	36 inches	$ .66
2736	72 inches	.84



Right Angle Phono Plug to Insulated Alligator Clips. Std. Pkg. 6

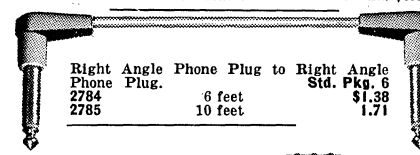
No.	Length	NET Ea.
2737	36 inches	$ .72
2738	72 inches	.90

PHONE PLUG JUMPER CORDS



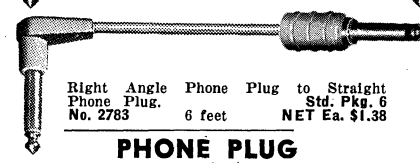
Male Phone Plugs on each end. Std. Pkg. 6

No. 677 — 72 incnes — NET Ea. $1.38



Right Angle Phone Plug to Right Angle Phone Plug. Std. Pkg. 6

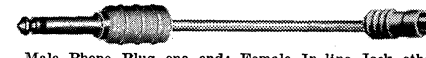
No.		NET Ea.
2784	6 feet	$1.38
2785	10 feet	1.71



Right Angle Phone Plug to Straight Phone Plug. Std. Pkg. 6

No. 2783 — 6 feet — NET Ea. $1.38

PHONE PLUG EXTENSION CORDS



Male Phone Plug one end; Female In-line Jack other end. Std. Pkg. 6

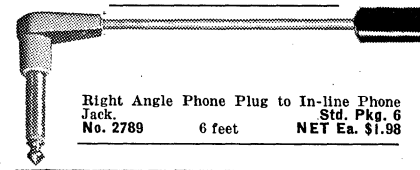
No. 663 — 72 inches — NET Ea. $1.80

Right Angle Phone Plug to In-line Phono Jack. Std. Pkg. 6

No. 2788 — 6 feet — NET Ea. $1.80

Male Phone Plug one end; In-line Jack other end. Std. Pkg. 6

No. 669 — 72 inches — NET Ea. $1.98



Right Angle Phone Plug to In-line Phone Jack. Std. Pkg. 6

No. 2789 — 6 feet — NET Ea. $1.98

PHONE PLUG CONNECTOR CORDS

Male Phone Plug one end; Spade Lugs other end. Std. Pkg. 6

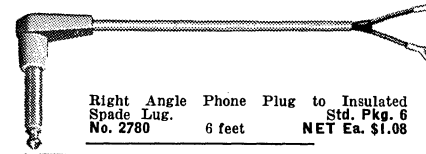
No. 665 — 72 inches — NET Ea. $1.08

Male Phone Plug one end; other end stripped and tinned. Std. Pkg. 6

No. 667 — 72 inches — NET Ea. $1.20

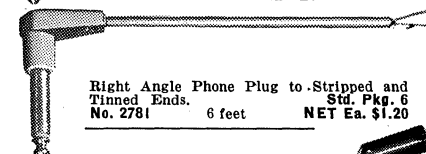
Male Phone Plug one end; insulated Alligator Clips other end. Std. Pkg. 6

No. 664 — 72 inches — NET Ea. $1.29



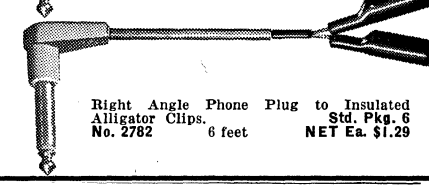
Right Angle Phone Plug to Insulated Spade Lug. Std. Pkg. 6

No. 2780 — 6 feet — NET Ea. $1.08



Right Angle Phone Plug to Stripped and Tinned Ends. Std. Pkg. 6

No. 2781 — 6 feet — NET Ea. $1.20



Right Angle Phone Plug to Insulated Alligator Clips. Std. Pkg. 6

No. 2782 — 6 feet — NET Ea. $1.29

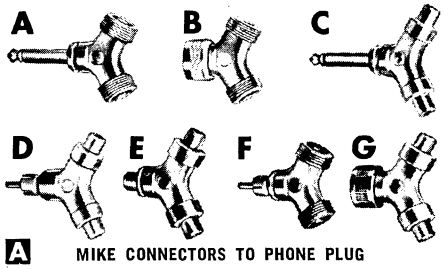
SMITH PAGE 29 (COMPLETE SMITH INDEX ON LAST SMITH PAGE) © United Technical Pub

specify SMITH

HERMAN H. SMITH, INC. — ELECTRONIC COMPONENTS

"Y" CONNECTOR ADAPTERS

Three circuit, fully shielded connectors for parallel input, patching, and mixing various styles of audio cable terminations. All connectors are American made, precision die-cast, with bright nickel plated finish. Std. Pkg. 10



A **MIKE CONNECTORS TO PHONE PLUG**
INPUT: Two Male threaded Microphone connectors parallel.
OUTPUT: Single two-circuit phone plug.
No. 1250 — NET Each $1.14

B **MIKE CONNECTORS TO MIKE CONNECTOR**
INPUT: Two Male threaded Microphone connectors, paralleled.
OUTPUT: Single Female threaded Microphone connector, captive ring.
No. 1251 — NET Each $ .99

C **PHONO JACKS TO PHONE PLUG**
INPUT: Two standard phono jacks, paralleled.
OUTPUT: Single two-circuit phone plug.
No. 1252 — NET Each $1.14

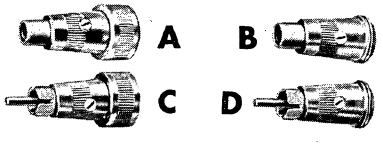
D **PHONO JACKS TO PHONO PLUG**
INPUT: Two standard phono jacks, paralleled.
OUTPUT: Single standard phono plug.
No. 1253 — NET Each $1.05

E **PHONO JACKS TO PHONO JACK**
INPUT: Two standard phono jacks, paralleled.
OUTPUT: Single two-circuit phone plug.
No. 1254 — NET Each $1.05

F **MIKE CONNECTORS TO PHONO PLUG**
INPUT: Two Male threaded Microphone connectors, paralleled.
OUTPUT: Single standard phono plug.
No. 1255 — NET Each $ .99

G **PHONO JACKS TO MIKE CONNECTOR**
INUT: Two standard phono jacks, paralleled.
OUTPUT: Single Female threaded Microphone connector, captive ring.
No. 1256 — NET Each $1.14

MICROPHONE CONNECTOR ADAPTERS



A
INPUT: Standard phono jack.
OUTPUT: Female microphone connector, with captive ring.
Std. Pkg. 10
No. 1229 — NET Each $ .75

B
INPUT: Standard phono jack.
OUTPUT: Male threaded microphone connector.
No. 1230 — NET Each $ .75

C
INPUT: Female Microphone connector, with captive ring.
OUTPUT: Standard phono plug.
No. 1231 — NET Each $ .60

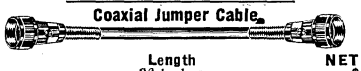
D
INPUT: Male threaded Microphone connector.
OUTPUT: Standard phono plug.
No. 1232 — NET Each $ .60

MICROPHONE CABLES

Coaxial Extension Cable

No.	Length	NET Ea.
687	36 inches	$1.44
688	72 inches	1.80
689	144 inches	2.58

Coaxial Jumper Cable



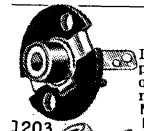
No.	Length	NET Ea.
694	36 inches	$1.62
696	72 inches	1.98
697	144 inches	2.52

PHONO PLUGS

RCA Type Phone Plug. For use with record players, recording and reproducing equipment, etc. Extra large hole in cap (.175") for coaxial cable. Std. Pkg. 100

No.	Type	NET Per C
1201	Long Pin (1" overall)	$3.60
1202	Short Pin (13/16" overall)	3.60

PHONO JACKS



Female for No. 1201 plug. Single prong positive grip jack mounted on 1/16" bakelite with 11/16" mounting centers. Std. Pkg. 100

No.		NET Per C
1203		$4.20
1203-1	Insulating Washer	1.80

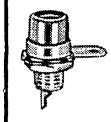
Small, compact . . . where space is at a premium. 7/16" Mtg. Ctrs. Std. Pkg. 100

No.	NET Per C
1223	$7.20

Space Saver . . . Rivets and grounds to chassis. Mounts in 19/64" hole. Std. Pkg. 50

No.	NET Per C
1293	$6.60

PANEL MOUNT PHONO JACK



Mounts in 29/64" hole (.453) with nut and washer. Easy installation for the home Hi-Fi enthusiast. Std. Pkg. 50

No.	NET Per C
1247	$30.00

HANDY GRIP PHONO PLUG

Quick connect: strip wire, solder inner conductor to pin and either solder braid to lug or crimp to lug. Fits all standard phone jacks. Std. Pkg. 100

No.	NET Per C
1246	$9.00

SHIELDED EXTENSION JACK

Brass shell, cadmium plated, $1\frac{7}{16}$" long, with black bakelite insert. Provides insulation for solder-coated positive grip contact. Uses No. 1201 phono plug. Std. Pkg. 50

No.	NET Per C
1237	$27.00

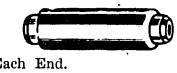
PHONE ADAPTERS

Phono Plug to Phone Plug

Adapts standard phono plug to phone plug with built in resistor to adapt either crystal or magnetic pickups. Std. Pkg. 10

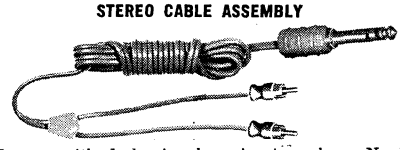
No.	Description	NET Ea.
707	With Resistor	$1.59
708	Without Resistor	.90

FEED THRU



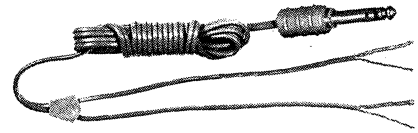
Accepts Phono Plug on Each End.
No. 661 — Std. Pkg. 10 — NET Ea. $.72

STEREO CABLE ASSEMBLY



For use with dual microphone inputs such as Norelco, Webcor, Revere and Wollensak. 6-ft. dual shielded stereo cable with 3-conductor molded phone plug at one end and two color-coded phono plugs at other two ends.
No. 2712 — NET Ea. $2.64

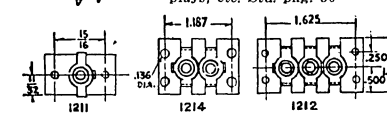
STEREO HEADPHONE CORD



Replacement cord for Jensen HS-10, Knight KN-840, Sharpe AA-8, HA-10 and most all stereo headphones. 6-ft. dual shielded stereo cable with 3-conductor molded phone plug at one end and other two ends stripped and tinned.
No. 2719 — NET Ea. $1.95

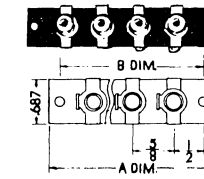
PHONO JACKS

Used on recording units, phono plays, etc. Std. pkg. 50



No.		NET Per C
1211	—Single Jack	$ 7.20
1214	—Double Jack	9.60
1212	—Triple Jack	15.00
1214-1	—Insulating Washer for No. 1214	2.40

MULTIPLE PHONO JACKS



Individual phono jacks (no interconnected grounds) kmounted on narrow width bakelite strip. Std. Pkg. 50

No.	No. of Jacks	Dimensions "A"	"B"	NET Per C
1261	1	1⅜"	1.000	$ 5.50
1262	2	2"	1.625	10.00
1263	3	2⅝"	2.250	16.00
1264	4	3¼"	2.875	19.00
1265	5	3⅞"	3.500	24.00
1266	6	4½"	4.125	28.00
1267	7	5⅛"	4.750	33.00
1268	8	5¾"	5.375	37.00

"Y" CONNECTORS

Flexible "Y" connector, male phono plug to twin female phono jacks. 4" shielded wire.
No. 751 — Std. Pkg. 6 — NET Ea. $1.20

Flexible "Y" connector, male phono plug to twin male phono plugs. 4" shielded wire.
No. 752 — Std. Pkg. 6 — NET Ea. $1.20

Flexible "Y" connector, female phono jack to twin male phono plugs. 4" shielded wire.
No. 753 — Std. Pkg. 6 — NET Ea. $1.20

ELECTRIC GUITAR CABLES

Rubber covered spring-back type, designed for professional use with guitars, and other stringed instruments, accordions, electronic organs, etc. St. Pkg. 6

RUBBER COVERED KOILED KORD — BLACK ONLY

No.	Fig.	Expanded Length	NET Each
2715	A	15 Ft.	$4.50
2717	B	15 Ft.	4.50

7505 Cord only, without termination, 15-ft. $2.10

VINYL PLASTIC KOILED KORD

Expanded length 15 Ft.
Available in Red (—102), Black (—103), Yellow (—107), Green (—104), Blue (—105), White (—101).

No.	Fig.	NET Each
2710	A	$4.20

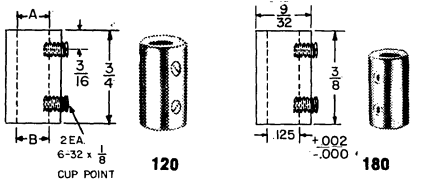
7504 Cord only, without termination, 15-ft. $1.80

specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

COUPLERS
Brass and Insulated



Std. Pkg. 25

With Two Set Screws

No.	A	B	O.D.	Material	NET Per C
120	¼"-¼"		7/16"	Brass N.P.	$22.00
140	¼"-¼"		7/16"	Fibre	22.00
131	⅜"-¼"		½"	Brass N.P.	25.00
141	⅜"-¼"		½"	Fibre	25.00
133	⅜"-⅜"		½"	Brass N.P.	25.00
142	⅜"-⅜"		½"	Fibre	25.00

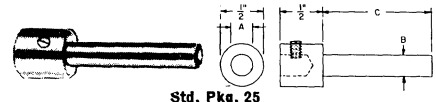
With Four Set Screws

138	¼"-¼"		7/16"	Brass N.P.	30.00

MINIATURE COUPLER
With Allen Head Set Screws

180	⅛"-⅛"		9/32"	Brass N.P.	$40.00

EXTENDERS
Brass and Insulated



Std. Pkg. 25

Long Shaft Type

No.	A	B	C	Material	NET Per C
150	¼"-¼"		1½"	Brass N.P.	$35.00
130	¼"-¼"		1½"	Fibre	35.00
132	⅜"-¼"		1½"	Brass N.P.	35.00
134	⅜"-¼"		1½"	Fibre	35.00

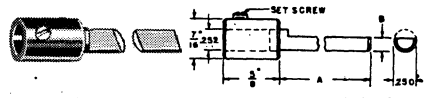
Short Shaft Type

No.	A	B	C	Material	NET Per C
160	¼"-¼"		5/8"	Brass N.P.	$25.00
161	¼"-¼"		5/8"	Fibre	22.00
162	⅜"-¼"		5/8"	Brass N.P.	30.00
163	⅜"-¼"		5/8"	Fibre	27.00

MINIATURE EXTENDER With Allen Head Set Screws

189	⅛"-⅛"		⅜"	Brass N.P.	$35.00

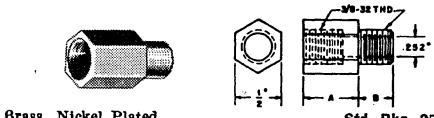
SHAFT EXTENDERS For Volume Controls



Brass, Nickel Plated. Std. Pkg. 25

No.	A	B	NET Per C
		FULL ROUND	
2356	2"	.250"	$30.00
2357	3"	.250"	31.00
2358	4"	.250"	33.00
2359	2"	.219"	34.00
		WITH FLAT	
2360	3"	.219"	35.00
2361	4"	.219"	45.00
2362	2"	.156"	34.00
2363	3"	.156"	35.00
2364	4"	.156"	50.00

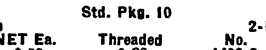
BUSHING EXTENDERS For Volume Controls



Brass, Nickel Plated. Std. Pkg. 25

No.	A	B	NET Per C
2350	⅝"	21/32"	$25.00
2351	⅝"	¾"	30.00
2352	⅝"	⅝"	33.00
2353	11/16"	⅝"	34.00
2354	11/16"	½"	35.00
2355	¾"	¼"	36.00

BRASS THREADED RODS



Std. Pkg. 10

1-Ft. Length No.	NET Ea.	Threaded	2-Ft. Length No.	NET Ea.
1400-1	$.50	6-32	1400-2	$1.00
1401-1	.50	8-32	1401-2	1.00
1402-1	.50	10-32	1402-2	1.00
1403-1	.55	¼-20	1403-2	1.10

NYLON THREADED RODS
Std. Pkg. 10

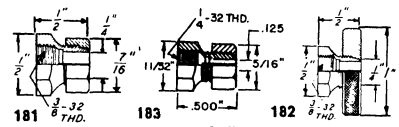
1-Ft. Length No.	NET Ea.	Threaded	2-Ft. Length No.	NET Ea.
1420-1	$1.00	6-32	1420-2	$2.20
1421-1	1.20	8-32	1421-2	2.40
1422-1	1.50	10-32	1422-2	3.00
1423-1	1.80	¼-20	1423-2	3.60

Brass Fibre and Nylon PLAIN RODS

Std. Pkg. 10

¼" DIA No.	Net Ea.	Type	Length	⅛" DIA No.	NET Ea.
1404	$.35	Brass N.P.	6"	1431	$.30
1405	.70	Brass N.P.	12"	1432	.60
1406	.15	Fibre	6"	1433	.15
1407	.30	Fibre	12"	1434	.30
1408	.24	Nylon	6"	1440	.24
1409	.48	Nylon	12"	1441	.48

SHAFT LOCKS Brass Nickel Plated



Wrench Type

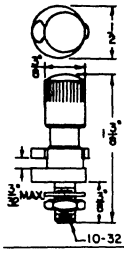
No.	Shaft	Std. Pkg.	NET Per C
181	¼"	100	$27.00

Miniature Wrench Type

183	⅛"	25	20.00

Thumb Type

182	¼"	25	45.00



DIAL LOCK

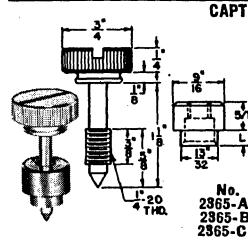
HEAD: Captive: Brass, nickel plated.

BODY: Brass nickel plated.

DESCR.: Prevents detuning of the dial when locked by means of the captive knurled nut.
Supplied with hex nut & lockwasher.
Std. Pkg. 25

No.	NET Per C
199	$66.00

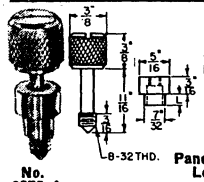
CAPTIVE SCREW & BUSHING
Large Head



BODY: BRASS, nickel plated.
DESCR.: Supplied with panel bushing as shown. Used extensively for quick removal of panels from chassis. Non-removable from panel.
Std. Pkg. 50

No.	Panel Bushing Length (L)	NET Per C
2365-A	5/32"	$60.00
2365-B	7/32"	60.00
2365-C	9/32"	60.00

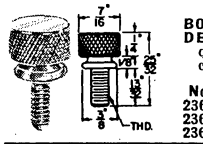
CAPTIVE SCREW & BUSHING
Small Head



BODY: BRASS, nickel plated.
DESCR.: Supplied with panel bushing as shown. Used extensively for quick removal of panels from chassis. Non-removable from panel.
Std. Pkg. 50

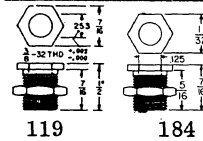
No.	Panel Bushing Length (L)	NET Per C
2375-A	5/32"	$30.00
2375-B	7/32"	30.00
2375-C	9/32"	30.00

THUMB SCREW



BODY: BRASS, nickel plated.
DESCR.: Used extensively for quick removal of panels from chassis.
Std. Pkg. 25

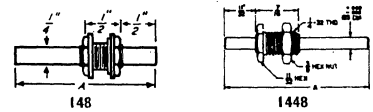
No.	Thread	NET Per C
2366	6-32	$15.00
2367	8-32	15.00
2368	10-32	15.00



PANEL BEARINGS
Brass, Nickel Plated

No.	Type	Std. Pkg.	NET Per C
119	Standard	100	$15.00
184	Miniature	25	15.00

PANEL BEARING ASSEMBLY



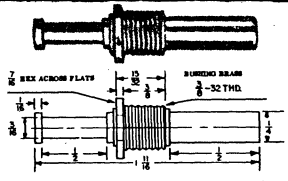
Uses our standard #119 Panel Bearing. Nickel plated overall. Std. Pkg. 25

No.	A	NET Per C
148	3"	$35.00
149	6"	50.00

MINIATURE PANEL BEARING ASSEMBLY

Miniature ⅛" shaft assembly, using our standard #184 Panel Bearing. Brass, nickel plated overall. Std. Pkg. 25

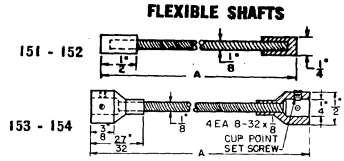
No.	Length "A"	NET Per C
1448	2"	$35.00
1449	4"	50.00



DIAL DRIVE ASSEMBLY
• Brass, Nickel Plated
Std. Pkg. 25

No.	NET Per C
126	$33.00

FLEXIBLE SHAFTS

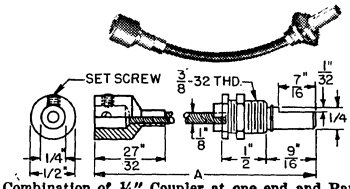


High quality phosphor bronze non-magnetic, non-rusting flexible shafts. Remote control when necessary to mount condensers and potentiometers away from panel at unusual angles. Turns at any angle up to 90°; free from back lash.

Std. Pkg. 25

No.	Size "A"	Description	NET Per C
151	3"	With ¼" hub	$60.00
152	6"	With ¼" hub	65.00
153	3⅝"	With ¼" coupler	105.00
154	6⅝"	With ¼" coupler	110.00

BI-DIRECTIONAL FLEXIBLE SHAFT AND PANEL BEARING



Combination of ¼" Coupler at one end and Panel Bearing Assembly at other. High quality phosphor bronze non-magnetic, non-rusting flexible shaft, turns at any angle up to 90°. Free from backlash. Std. Pkg. 25

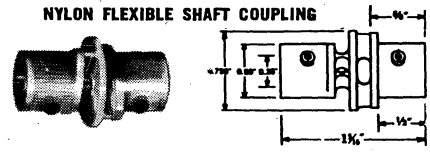
No.	Length "A"	NET Ea.
165	4 1/16"	$1.35
166	7 1/16"	1.50

FLEXIBLE SHAFT ASSEMBLY
With Casing

Bi-directional high quality flexible shaft. Cable casing acts as a support and reduces amount of deflection in cable. Metal parts steel cadmium plated.

No.	Length	NET Ea.
169	9"	$6.30
170	12"	7.50

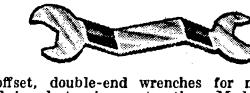
NYLON FLEXIBLE SHAFT COUPLING



DESCR.: Molded nylon with molded-in brass bushings. Hi-temp nylon not influenced by moisture. Designed for long reach shaft coupling. Supplied with 2 Allen head set screws. Std. Pkg. 25

No. 164 NET Ea. $1.65

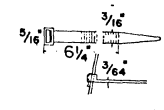
SHAFT WRENCH



Specially designed offset, double-end wrenches for most hex sizes encountered in electronic construction. Made of heavy gauge, cadmium plated steel, clearly marked with size. No. 999 is especially useful for Toggle Switch and Volume Control mounting nuts. Std. Pkg. 25

No.	For Nut Sizes	NET Per C
997	Set of 2	$42.00
998	5/16" - 3/8"	21.00
999	1/2" - 9/16"	21.00

NYLON LOCKING CLAMP



Wedge and ratchet design makes for positive holding and locking. Accommodates cables from ⅛" to 1¼". No knot tying, just slip clamp around cable, insert tongue and pull tight.

No.	Std. Pkg.	NET Per C
800	100	$9.00

NYLON MOUNTING TABS

For use with No. 800 locking clamp when premounted assembly points are desired. Furnished with .203 mounting hole. Std. Pkg. 100

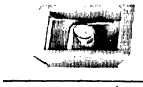
No.	NET Per C
801	$3.00

NYLON PERFORATING STRAPPING

For bundling of wire, cable and tubing. Time saver for harnessing. Use No. 803 ratchet buckle for fast assembly. Supplied on 50' rolls.

No.	NET Per Roll
802	$16.00

NYLON RATCHET BUCKLE



For No. 802 strapping. Quick and easier assembly with this ingenious item. Std. Pkg. 100

No.	NET Per C
803	For ½" Strapping $10.20

TIGHTENING TOOL

Used with strapping for fast assembly.

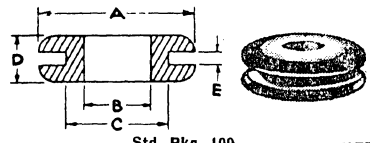
No.	NET Ea.
804	$18.00

SMITH PAGE 31 (COMPLETE SMITH INDEX ON LAST SMITH PAGE) © United Technical Pub

specify SMITH

HERMAN H. SMITH, INC. — ELECTRONIC COMPONENTS

RUBBER GROMMETS



Std. Pkg. 100

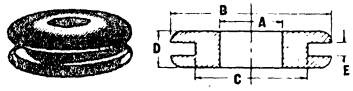
No.	A	B	C	D	E	NET Per C
2185	5/16"	1/8"	3/16"	3/16"	1/16"	$2.31
2172	7/16"	3/16"	5/16"	3/16"	1/16"	1.98
2170	5/8"	1/4"	3/8"	1/4"	1/16"	2 31
2174	5/8"	5/16"	7/16"	1/4"	1/16"	2.16
2175	11/16"	3/8"	1/2"	1/4"	1/16"	2.31
2177	3/4"	7/16"	9/16"	1/4"	1/16"	2.16
2186	1 1/16"	1/2"	3/4"	5/16"	1/16"	4.80
2187	1 1/8"	5/8"	7/8"	5/16"	1/16"	4.20
2188	1 1/16"	9/16"	3/4"	5/16"	1/16"	4.20
2189	1 "	3/4"	7/8"	5/32"	1/32"	5.10

VINYL GROMMETS

DESCR.: Exceptional aging qualities. High dielectric properties. Oil resistant. Durameter hardness 45 to 85.

No.	A	B	C	D	E	NET Per C
2145	1 1/32	1/8	1/4	3/16	1/16	$.90
2146	7/16	3/16	3/16	7/32	1/16	.96
2147	9/16	1/4	3/8	1/4	1/16	1.32
2148	5/8	3/8	1/2	1/4	1/16	1.50
2149	13/16	1/2	5/8	9/32	1/16	2.28

GROMMETS



Formerly listed by Radio Essentials, Inc., and American Radio Hardware Inc., (Their catalog numbers as below, minus first digit).

No.	A	B	C	D	E	NET Per C
91100	3/8"	13/64"	1/2"	13/32"	9/64"	$7.50
91102	9/32"	5/16"	13/32"	3/8"	5/64"	3.15
91103	3/16"	9/16"	15/32"	3/8"	1/8"	3.00
91106	5/16"	5/16"	1/2"	1/4"	3/16"	6.60
91107	3/8"	5/8"	7/16"	5/16"	3/32"	3.30
91109	3/8"	1 1/16"	7/8"	3/8"	1/4"	13.50
91111	3/8"	7/8"	1 1/16"	13/32"	9/64"	7.00
91112	49/64"	1 5/8"	13/32"	5/16"	1/16"	10.00
91113	21/64"	5/8"	13/32"	1/4"	1/16"	2.85
91114	1/8"	1 1/32"	1/4"	3/16"	1/16"	2.34
91116	5/16"	3/4"	1/2"	3/8"	1/8"	4.35
91117	5/16"	1 9/32"	7/16"	3/8"	1/8"	3.15
91118	3/16"	7/16"	5/16"	7/32"	1/16"	2.40
91119	17/64"	9/16"	13/32"	1/4"	1/16"	2.55
91120	1 9/64"	5/8"	7/16"	1/4"	1/16"	3.00
91121	3/8"	1 1/16"	1/2"	1/4"	1/16"	2.85
91122	1/4"	1/2"	1 1/32"	5/32"	1/32"	2.85
91123	9/32"	1 1/16"	1/2"	1/4"	1/16"	5.10
91124	7/16"	3/4"	9/16"	1/4"	1/16"	3.45

RECESS RUBBER BUMPERS

Std. Pkg. 100

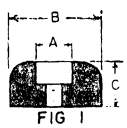


FIG 1

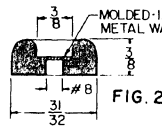


FIG. 2

No.	Fig.	A	B	C	NET Per C
2192	1	7/32"	17/32"	1/4"	$1.50
2193	1	1/4"	5/8"	5/16"	1.95
2194	1	9/32"	3/4"	3/8"	3.00
2184	1	9/32"	5/8"	9/32"	3.00
		With molded-in metal washer			
2135	2	5/8"	31/32"	3/8"	4.80

With Screw

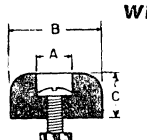


FIG 3

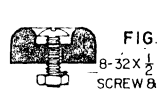


FIG. 4

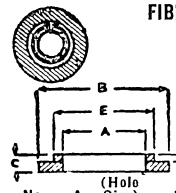
Supplied complete with 1/8" mounting screw and hex nut For panels up to 1/4" thick. Specify longer screw for thicker panels

Std. Pkg. 100

No.	Fig.	A	B	C	Screw	NET Per C
2196	3	7/32"	17/32"	1/4"	6-32	$6.60
2197	3	1/4"	5/8"	5/16"	6-32	6.90
2198	3	9/32"	3/4"	3/8"	6-32	7.50
2199	3	1/4"	5/8"	9/32"	6-32	7.50
		With molded-in metal washer				
2195	4	5/8"	31/32"	3/8"	8-32	9.30

FIBRE WASHERS

SHOULDER WASHERS



All material based on N.E.M.A. Standard and A.S.P.M. Spec. D-710.

A. Inside Diameter
B. Outside Diameter
C. Thickness Overall
D. Height of Shoulder
E. Diameter of Shoulder

No.	(Hole Size)	A	B	C	D	E	NET Per C	NET Per M
2150	.140	No. 6	.375	.093	.031	.237	$.94	$6.90
2151	.110	No. 4	.250	.062	.031	.187	.82	5.70
2152	.136	No. 6	.250	.093	.031	.187	.85	6.00
2153	.136	No. 6	.312	.093	.031	.187	.91	6.60
2154	.250	1/4"	.500	.068	.028	.312	.97	7.20
2155	.172	No. 8	.375	.093	.031	.246	.91	6.60
2156	.196	No.10	.375	.093	.031	.308	.91	6.60
2159	.265	17/64"	.500	.097	.031	.365	1.09	7.20
2157	.375	3/8"	.750	.093	.031	.500	1.20	10.00
2158	.385	3/8"	.625	.093	.031	.500	1.12	8.40

FLAT WASHERS

All material based on N.E.M.A. Standard and A.S.P.M. Spec. D-710.

No.	(Hole Size)	A I.D.	B O.D.	C Thickness	NET Per C	NET Per M
2160	No. 6	.136	.250	1/16	$ .82	$5.70
2161	No. 4	.110	.250	1/16	.82	5.70
2162	No. 6	.140	.375	1/16	.78	5.10
2163	No. 8	.172	.375	1/16	.76	5.10
2164	No. 10	.196	.375	1/16	.76	5.10
2165	1/4"	.250	.500	1/16	.79	5.40
2166	1/4"	.250	.500	3/32	.82	5.70
2167	5/16"	.312	.500	1/16	.79	5.40
2168	3/8"	.385	.625	1/16	.91	6.60
2169	3/8"	.375	.750	1/16	1.09	8.40

NYLON WASHERS

SHOULDER WASHERS

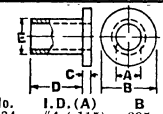
MATERIAL: Natural Nylon per MIL-P-20693A.

No.	(Hole Size)	A	B	C	D	E	NET Per C	NET Per M
2660	.140	No. 6	.375	.093	.031	.237	$2.25	$18.00
2661	.110	No. 4	.250	.062	.031	.187	1.90	15.00
2662	.136	No. 6	.250	.093	.031	.187	1.90	15.00
2663	.136	No. 6	.312	.093	.031	.187	2.05	16.20
2664	.250	1/4"	.500	.068	.028	.312	2.15	17.25
2665	.172	No. 8	.375	.093	.031	.246	2.25	18.00
2666	.196	No. 10	.375	.093	.031	.308	2.25	18.00
2669	.265	17/64"	.500	.097	.031	.365	3.15	25.00
2667	.375	3/8"	.750	.093	.031	.500	5.65	45.00
2668	.385	3/8"	.625	.093	.031	.500	3.75	30.00

FLAT WASHERS

No.	(Hole Size)	A I.D.	B O.D.	C Thickness	NET Per C	NET Per M
2514	No. 4	.115	.281	.047	$1.80	$18.00
2670	No. 6	.136	.250	1/16	1.60	12.90
2671	No. 4	.110	.250	1/16	1.60	12.90
2672	No. 6	.140	.375	1/16	2.05	16.30
2515	No. 6	.140	.312	.047	1.86	18.60
2673	No. 8	.172	.375	1/16	2.25	18.00
2516	No. 8	.170	.375	.062	2.10	21.00
2674	No. 10	.196	.375	1/16	2.05	16.30
2517	No. 10	.200	.437	.062	2.22	22.20
2675	1/4"	.250	.500	1/16	2.25	18.00
2676	1/4"	.250	.500	3/32	2.65	21.00
2518	1/4"	.260	.562	.062	2.40	24.00
2677	5/16"	.312	.500	1/16	2.25	18.00
2678	3/8"	.385	.625	1/16	2.45	19.50
2679	3/8"	.375	.750	1/16	2.70	21.75

NYLON SPACER BUSHINGS



Natural Color, MIL-P-20693A. Std. Pkg. 100

No.	I.D.(A)	B	C	D	E	NET Per C
2534	#4 (.115)	.235	3/64	1/4	.147	$2.10
2535	#6 (.140)	.290	3/64	1/4	.170	2.10
2536	#8 (.170)	.344	1/16	3/8	.205	2.22
2537	#10 (.200)	.399	1/16	3/8	.260	2.40
2538	1/4"(.260)	.513	1/16	3/8	.312	2.70

NYLON SCREWS

Natural Color, MIL-P-30693A. Std. Pkg. 100

Size	A No.	B No.	C No.	D No.	E No.	F No.	NET Per C
4-40 x 1/4	2500	2520	2540	2560	2580	2480	$3.00
4-40 x 3/8	2501	2521	2541	2561	2581	2481	3.06
4-40 x 1/2	2502	2522	2542	2562	2582	2482	3.12
6-32 x 1/4	2503	2523	2543	2563	2583	2483	3.06
6-32 x 3/8	2504	2524	2544	2564	2584	2484	3.06
6-32 x 1/2	2505	2526	2545	2565	2585	2485	3.12
6-32 x 5/8	2506	2526	2546	2566	2586	2486	3.12
6-32 x 3/4	2507	2527	2547	2567	2587	2487	3.18
8-32 x 1/4	2509	2529	2549	2569	2589	2489	3.06
8-32 x 3/8	2510	2530	2550	2570	2590	2490	3.12
8-32 x 1/2	2511	2531	2551	2571	2591	2491	3.12
8-32 x 5/8	2512	2532	2552	2572	2597	2492	3.18

NYLON HEX NUT

Natural Color, MIL-P-20693A. Std. Pkg. 100

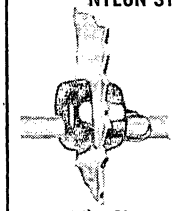
2554	4-40 x 1/4"	$6.00
2555	6-32 x 5/16"	6.30
2556	8-32 x 11/32"	6.60
2556	10-32 x 3/8"	6.90

FIBRE WASHER KIT

Each kit contains about 1,000 Flat and Shoulder Washers, packed in an 18-compartment plastic box, in the following approximate quantities of SMITH standard washers:
100 each #2151, 2161, 2153, 2160; 75 each #2150, 2162; 60 each #2155, 2163; 50 each #2156, 2164, 2154, 2165; 35 each #2159, 2167; 25 each #2158, 2168; 19 each #2157, 2169.

No.		NET Each
2173	Kit of 1,000 Washers	$6.50

NYLON STRAIN RELIEF BUSHINGS



One piece construction. Eliminates grommets, wire knots and costly labor. Completely insulates wire from chassis and prevents cord pull push and twist. No. 937 ideal for small mike cables; No. 938 for line cords; No. 939 for Co-Ax Wire.

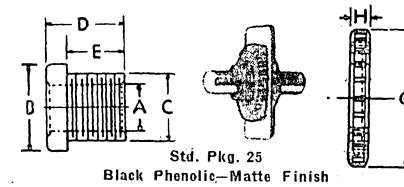
Std. Pkg. 50

A: Chassis Hole
B: Diameter of head
C: Length
D: Chassis Thickness

No.	Wire Size	A	B	C	D	NET Per C
937	1/8-3/16"	.375	.440	.415	to 1/16"	$3.60
938	SP-1 & SPT-1	.437	.468	.406	to 1/16"	3.60
939	.235-.265	.500	.560	.438	to 3/32"	4.20

No. 940 Setting Pliers — NET Each $18.00

INSULATED GROMMET BUSHINGS

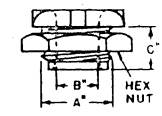


Std. Pkg. 25

Black Phenolic—Matte Finish

No.	BUSHING A	B	C	D	E	COLLAR G	H	NET Per C
931	1/8"	3/8"	1/4"—32	.3750"	1/4"	1/2"	1/4"	$25.00
932	5/16"	7/16"	5/16"—32	.4250"	5/16"	5/8"	1/4"	26.00
933	1/4"	1/4"	3/8"—27	.4375"	5/16"	11/16"	1/4"	27.00
934	5/16"	9/16"	15/32"—32	.4500"	5/16"	7/8"	1/4"	28.00
935	3/8"	5/8"	5/8"—27	.4500"	5/16"	1"	1/8"	30.00

BAKELITE INSULATING BUSHINGS

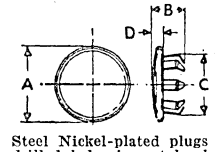


BODY: MOLDED, bakelite, black. U.L. approved recommended for temperatures up to 300 degrees Fahrenheit.
NUT: Steel, cadmium plated.

Std. Pkg. 50

No.	A	B	C	NET Per C
2136	13/32"	17/64"	1/4"	$8.40
2137	17/32"	5/16"	5/16"	9.00
2138	21/32"	25/64"	5/16"	9.60
2139	27/32"	9/16"	13/32"	10.20

SNAP BUTTON HOLE PLUGS



Steel Nickel-plated plugs for covering punched or drilled holes in metal, plastic or wood.

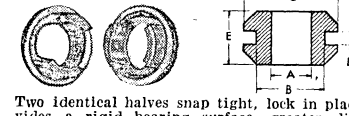
Std. Pkg. 100

No.	Hole	A	B	C	D Prongs	NET Per C
650	1/4"	13/32	1/4	17/64	6	$2.70
651	5/16"	7/16	1/4	21/64	6	2.70
652	3/8"	17/16	3/8	25/64	6	2.70
653	1/2"	21/32	17/64	17/32	8	2.70
654	5/8"	53/64	9/32	41/64	8	3.60
655	3/4"	15/16	19/64	49/64	12	3.60
608	7/8"	1 11/16	19/64	57/64	12	4.00
612	1"	15/32	19/64	1 1/64	12	5.00
*656	1"	15/32	19/64	1 1/32	12	20.00

* Vent

SNAP-LOCK PLASTIC GROMMETS

- Snaps in Place—FAST!
- Stays Put—LOCKED IN!



Two identical halves snap tight, lock in place. Provides a rigid bearing surface, greater dielectric, extreme chemical and wear resistance. Identical halves form complete grommet. Color, black.

Std. Pkg. 100

No.	A	B	C	D	E	NET Per C
2178	3/16"	5/16"	7/16"	1/16"	1/4"	$2.76
2179	1/4"	3/8"	1/2"	1/16"	1/4"	2.88
2180	3/8"	1/2"	5/8"	1/16"	1/4"	3.00

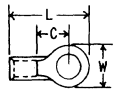
SMITH SOLDERLESS TERMINALS

COLOR CODE: **RED:** 22-18 AWG; **BLUE:** 16-14 AWG; **YELLOW:** 12-10 AWG

WIRE SIZE 22 - 18 AWG — UL APPROVED

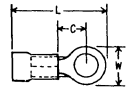
030 ELECTROLYTIC COPPER TIN PLATED

RING TERMINAL — NON-INSULATED



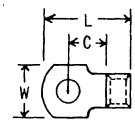
Smith Cat.No.	Material	Stud Size	Dimensions W	C	L	Net Per C
4801	Butted Seam	4-6	1/4	7/32	19/32	$2.00
4802	Butted Seam	8	21/64	1/4	11/16	2.00
4803	Butted Seam	10	21/64	1/4	11/16	2.00
4804	Brazed	4-6	1/4	7/32	19/32	3.20
4805	Brazed	8	21/64	1/4	11/16	3.20
4806	Brazed	10	21/64	1/4	11/16	3.20

RING TERMINAL — INSULATED



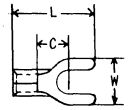
4809	Vinyl	4-6	1/4	7/32	25/32	4.00
4810	Vinyl	8	21/64	1/4	7/8	4.00
4811	Vinyl	10	21/64	1/4	7/8	4.00
4812	Nylon	4-6	1/4	7/32	25/32	6.50
4813	Nylon	8	21/64	1/4	7/8	6.50
4814	Nylon	10	21/64	1/4	7/8	6.50

FLAG TERMINAL — NON-INSULATED



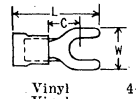
4815	Butted Seam	8-10	3/8	11/32	21/32	$3.00

SPADE TERMINAL — NON-INSULATED



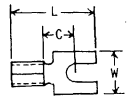
4816	Butted Seam	4-6	21/64	1/4	11/16	$2.00
4817	Butted Seam	8	21/64	1/4	11/16	2.00
4818	Butted Seam	10	21/64	1/4	11/16	2.00
4819	Brazed	4-6	21/64	1/4	11/16	3.20
4820	Brazed	8	21/64	1/4	11/16	3.20
4821	Brazed	10	21/64	1/4	11/16	3.20

SPADE TERMINAL — INSULATED



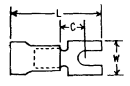
4822	Vinyl	4-6	21/64	1/4	7/8	4.00
4823	Vinyl	8	21/64	1/4	7/8	4.00
4824	Vinyl	10	21/64	1/4	7/8	4.00
4825	Nylon	4-6	21/64	1/4	7/8	6.50
4826	Nylon	8	21/64	1/4	7/8	6.50
4827	Nylon	10	21/64	1/4	7/8	6.50

BLOCK SPADES — NON-INSULATED



4829	Butted Seam	4-6	19/64	1/4	21/32	$2.00
4830	Butted Seam	8	19/64	1/4	21/32	2.00
4831	Butted Seam	10	19/64	1/4	21/32	2.00
4832	Brazed	4-6	19/64	1/4	21/32	3.20
4833	Brazed	8	19/64	1/4	21/32	3.20
4834	Brazed	10				3.20

BLOCK SPADES — INSULATED

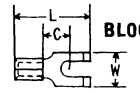


4835	Vinyl	4-6	19/64	1/4	27/32	4.00
4836	Vinyl	8	19/64	1/4	27/32	4.00
4837	Vinyl	10	19/64	1/4	27/32	4.00
4838	Nylon	4-6	19/64	1/4	27/32	6.50
4839	Nylon	8	19/64	1/4	27/32	6.50
4840	Nylon	10	19/64	1/4	27/32	6.50

WIRE SIZE 22 - 18 AWG — UL APPROVED

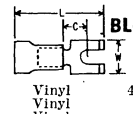
030 ELECTROLYTIC COPPER TIN PLATED

BLOCK SPADES FLANGED — NON-INSULATED



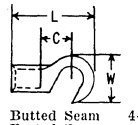
Smith Cat.No.	Material	Stud Size	Dimensions W	C	L	Net Per C
4841	Butted Seam	4-6	19/64	1/4	21/32	$2.00
4842	Butted Seam	8	19/64	1/4	21/32	2.00
4843	Butted Seam	10	19/64	1/4	21/32	2.00
4844	Brazed	4-6	19/64	1/4	21/32	3.20
4845	Brazed	8	19/64	1/4	21/32	3.20
4846	Brazed	10	19/64	1/4	21/32	3.20

BLOCK SPADES FLANGED — INSULATED



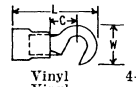
4847	Vinyl	4-6	19/64	1/4	27/32	4.00
4848	Vinyl	8	19/64	1/4	27/32	4.00
4849	Vinyl	10	19/64	1/4	27/32	4.00
4850	Nylon	4-6	19/64	1/4	27/32	6.50
4851	Nylon	8	19/64	1/4	27/32	6.50
4852	Nylon	10	19/64	1/4	27/32	6.50

HOOK TERMINAL — NON-INSULATED



4853	Butted Seam	4-6	21/64	1/4	11/16	$2.00
4854	Butted Seam	8	21/64	1/4	11/16	2.00
4855	Butted Seam	10	21/64	1/4	11/16	2.00
4856	Brazed	4-6	21/64	1/4	11/16	3.20
4857	Brazed	8	21/64	1/4	11/16	3.20
4858	Brazed	10	21/64	1/4	11/16	3.20

HOOK TERMINAL — INSULATED

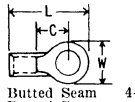


4859	Vinyl	4-6	21/64	1/4	7/8	4.00
4860	Vinyl	8	21/64	1/4	7/8	4.00
4861	Vinyl	10	21/64	1/4	7/8	4.00
4862	Nylon	4-6	21/64	1/4	7/8	6.50
4863	Nylon	8	21/64	1/4	7/8	6.50
4864	Nylon	10	21/64	1/4	7/8	6.50

WIRE SIZE 16 - 14 AWG — UL APPROVED

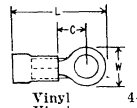
030 ELECTROLYTIC COPPER TIN PLATED

RING TERMINAL — NON-INSULATED



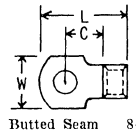
Smith Cat.No.	Material	Stud Size	Dimensions W	C	L	Net Per C
4865	Butted Seam	4-6	1/4	7/32	19/32	$2.00
4866	Butted Seam	8	21/64	1/4	11/16	2.00
4867	Butted Seam	10	21/64	1/4	11/16	2.00
4868	Butted Seam	12¼	15/32	13/32	57/64	2.50
4869	Brazed	4-6	1/4	7/32	19/32	3.20
4870	Brazed	8	21/64	1/4	11/64	3.20
4871	Brazed	10	21/64	1/4	11/64	3.20
4872	Brazed	12¼	15/32	13/32	57/64	4.00

RING TERMINAL — INSULATED



4873	Vinyl	4-6	1/4	7/32	25/32	4.00
4874	Vinyl	8	21/64	1/4	7/8	4.00
4875	Vinyl	10	21/64	1/4	7/8	4.00
4876	Vinyl	12¼	15/32	13/32	1-3/16	4.05
4877	Nylon	4-6	1/4	7/32	25/32	6.50
4878	Nylon	8	21/64	1/4	7/8	6.50
4879	Nylon	10	21/64	1/4	7/8	6.50
4880	Nylon	12¼	15/32	13/32	1-3/64	7.50

FLAG TERMINAL — NON-INSULATED

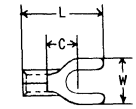


4881	Butted Seam	8-10	3/8	11/32	11/16	$3.00

WIRE SIZE 16 - 14 AWG — UL APPROVED

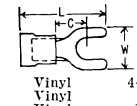
030 ELECTROLYTIC COPPER TIN PLATED

SPADE TERMINAL — NON-INSULATED



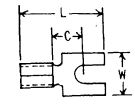
Smith Cat.No.	Material	Stud Size	Dimensions W	C	L	Net Per C
4882	Butted Seam	4-6	21/64	1/4	11/16	$2.00
4883	Butted Seam	8	21/64	1/4	11/16	2.00
4884	Butted Seam	10	21/64	1/4	11/16	2.00
4885	Brazed	4-6	21/64	1/4	11/16	3.20
4886	Brazed	8	21/64	1/4	11/16	3.20
4887	Brazed	10	21/64	1/4	11/16	3.20

SPADE TERMINAL — INSULATED



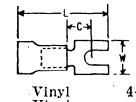
4888	Vinyl	4-6	21/64	1/4	7/8	4.00
4889	Vinyl	8	21/64	1/4	7/8	4.00
4890	Vinyl	10	21/64	1/4	7/8	4.00
4891	Nylon	4-6	21/64	1/4	7/8	6.50
4892	Nylon	8	21/64	1/4	7/8	6.50
4893	Nylon	10	21/64	1/4	7/8	6.50

BLOCK SPADES — NON-INSULATED



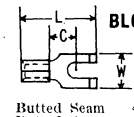
4894	Butted Seam	4-6	19/64	1/4	21/32	$2.00
4895	Butted Seam	8	19/64	1/4	21/32	2.00
4896	Butted Seam	10	19/64	1/4	21/32	2.00
4897	Brazed	4-6	19/64	1/4	21/32	3.20
4898	Brazed	8	19/64	1/4	21/32	3.20
4899	Brazed	10	19/64	1/4	21/32	3.20

BLOCK SPADES — INSULATED



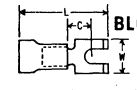
4901	Vinyl	4-6	19/64	1/4	27/32	4.00
4902	Vinyl	8	19/64	1/4	27/32	4.00
4903	Vinyl	10	19/64	1/4	27/32	4.00
4904	Nylon	4-6	19/64	1/4	27/32	6.50
4905	Nylon	8	19/64	1/4	27/32	6.50
4906	Nylon	10				6.50

BLOCK SPADES FLANGED — NON-INSULATED



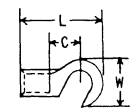
4907	Butted Seam	4-6	19/64	1/4	21/32	$2.00
4908	Butted Seam	8	19/64	1/4	21/32	2.00
4909	Butted Seam	10	19/64	1/4	21/32	2.00
4910	Brazed	4-6	19/64	1/4	21/32	3.20
4911	Brazed	8	19/64	1/4	21/32	3.20
4912	Brazed	10	19/64	1/4	21/32	3.20

BLOCK SPADES FLANGED — INSULATED



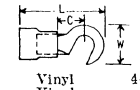
4913	Vinyl	4-6	19/64	1/4	27/32	4.00
4914	Vinyl	8	19/64	1/4	27/32	4.00
4914	Vinyl	10	19/64	1/4	27/32	4.00
4916	Nylon	4-6	19/64	1/4	27/32	6.50
4917	Nylon	8	19/64	1/4	27/32	6.50
4918	Nylon	10	19/64	1/4	27/32	6.50

HOOK TERMINAL — NON-INSULATED



4919	Butted Seam	4-6	21/64	1/4	11/16	$2.00
4920	Butted Seam	8	21/64	1/4	11/16	2.00
4921	Butted Seam	10	21/64	1/4	11/16	2.00
4922	Brazed	4-6	21/64	1/4	11/16	3.20
4923	Brazed	8	21/64	1/4	11/16	3.20
4924	Brazed	10	21/64	1/4	11/16	3.20

HOOK TERMINAL — INSULATED



4925	Vinyl	4-6	21/64	1/4	7/8	4.00
4926	Vinyl	8	21/64	1/4	7/8	4.00
4927	Vinyl	10	21/64	1/4	7/8	4.00
4928	Nylon	4-6	21/64	1/4	7/8	6.50
4929	Nylon	8	21/64	1/4	7/8	6.50
4930	Nylon	10	21/64	1/4	7/8	6.50

STANDARD PACKAGE: 100 OF A NUMBER

TOOL & KITS

ALL KITS PACKED IN PLASTIC BOXES

TOOL NO. 4980

Made of heavy gauge heat treated tool steel with insulated handles. Adjustable tension screw, cuts and crimps wire and all types of terminals 10-22 AWG, also 7 mm. **NET $3.95**

TERMINAL KIT, UNINSULATED

Terminal Kit, Uninsulated, contains 200 popular assorted types, 18 styles.

Cat. No. 4981 With Tool **NET $8.95**
Cat. No. 4984 Less Tool **NET $5.00**

TERMINAL KIT, VINYL INSULATED

Terminal Kit, Vinyl Insulated Types, contains 180 popular types, 18 styles.

Cat. No. 4982 With Tool **NET $12.95**
Cat. No. 4985 Less Tool **NET $ 9.00**

TERMINAL KIT, NYLON INSULATED

Terminal Kit, Nylon Insulated Types, contains 165 assorted types, 18 styles.

Cat. No. 4983 With Tool **NET $15.95**
Cat. No. 5000 Less Tool **NET $12.00**

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SMITH SOLDERLESS TERMINALS

COLOR CODE: RED: 22-18 AWG; BLUE: 16-14 AWG; YELLOW: 12-10 AWG

WIRE SIZE 12 - 10 AWG

UL APPROVED
040 ELECTROLYTIC COPPER
TIN PLATED

Smith Cat.No.	Material	Stud Size	Dimensions W	C	L	Net Per C
			RING TERMINAL — NON-INSULATED			
4931	Butted Seam	8-10	3/8	9/32	47/64	$2.80
4932	Butted Seam	12¼	39/64	7/16	31/32	3.20
4933	Butted Seam	5/16-⅜	39/64	7/16	31/32	3.20
4934	Brazed	8-10	39/64	7/16	47/64	4.80
4935	Brazed	12¼	39/64	7/16	31/32	5.50
4936	Brazed	5/16-⅜	39/64	7/16	31/32	5.50
			RING TERMINAL — INSULATED			
4937	Vinyl	8-10	3/8	9/32	1-1/64	5.50
4938	Vinyl	12¼	39/64	7/16	1-9/32	6.00
4939	Vinyl	5/16-⅜	39/64	7/16	1-9/32	6.00
4940	Nylon	8-10	3/8	9/32	1-1/64	7.00
4941	Nylon	12¼	39/64	7/16	1-9/32	8.00
4942	Nylon	5/16-⅜	39/64	7/16	1-9/32	8.00
			FLAG TERMINAL* — NON-INSULATED			
4943	Butted Seam	8-10	3/8	9/32	11/16	$3.20
			SPADE TERMINAL — NON-INSULATED			
4944	Butted Seam	8	3/8	9/32	47/64	$2.80
4945	Butted Seam	10	3/8	9/32	47/64	2.80
4946	Brazed	8	3/8	9/32	47/64	4.80
4947	Brazed	10	3/8	9/32	47/64	4.80
			SPADE TERMINAL — INSULATED			
4948	Vinyl	8	3/8	9/32	1-1/64	5.50
4949	Vinyl	10	3/8	9/32	1-1/64	5.50
4950	Nylon	8	3/8	9/32	1-1/64	7.00
4951	Nylon	10	3/8	9/32	1-1/64	7.00
			BLOCK SPADES — NON-INSULATED			
4952	Butted Seam	8	5/16	9/32	47/64	$2.80
4953	Butted Seam	10	5/16	9/32	47/64	2.80
4954	Brazed	8	5/16	9/32	47/64	4.80
4955	Brazed	10	5/16	9/32	47/64	4.80
			BLOCK SPADES — INSULATED			
4956	Nylon	8	5/16	9/32	1-1/64	7.50
4957	Vinyl	10	5/16	9/32	1-1/64	5.50
4958	Nylon	8	5/16	9/32	1-1/64	7.50
4959	Nylon	10	5/16	9/32	1-1/64	7.50
			HOOK TERMINAL — NON-INSULATED			
4960	Butted Seam	8	3/8	9/32	47/64	$2.80
4961	Butted Seam	10	3/8	9/32	47/64	2.80
4962	Brazed	8	3/8	9/32	47/64	4.80
4963	Brazed	10	3/8	9/32	47/64	4.80
			HOOK TERMINAL — INSULATED			
4964	Vinyl	8	3/8	9/32	1-1/64	5.50
4965	Vinyl	10	3/8	9/32	1-1/64	5.50
4966	Nylon	8	3/8	9/32	1-1/64	7.50
4967	Nylon	10	3/8	9/32	1-1/64	7.50

WIRE SIZE 26 - 24 AWG

UL APPROVED
020 ELECTROLYTIC COPPER
TIN PLATED

Smith Cat.No.	Material	Stud Size	Dimensions W	C	L	Net Per C
			MINIATURE RING TERMINAL — NON-INSULATED			
4968	Butted Seam	4	13/64	7/32	37/64	$6.00
4969	Butted Seam	6	13/64	7/32	37/64	6.00
4970	Butted Seam	8	1/4	9/32	21/32	6.00
4971	Butted Seam	10	1/4	9/32	21/32	6.00
			MINIATURE RING TERMINAL — INSULATED			
4972	Nylon	4	13/64	7/32	39/64	7.00
4973	Nylon	6	13/64	7/32	39/64	7.00
4974	Nylon	8	1/4	9/32	11/16	7.00
4975	Nylon	10	1/4	9/32	11/16	7.00
			MINIATURE SPADE TERMINAL — NON-INSULATED			
4976	Butted Seam	4	13/64	7/32	37/64	$6.00
4977	Butted Seam	6	1/4	9/32	11/16	6.00
			MINIATURE SPADE TERMINAL — INSULATED			
4978	Nylon	4	13/64	7/32	39/64	7.00
4979	Nylon	6	1/4	9/32	11/16	7.00

CONNECTORS

Smith Cat.No.	Material	Wire Size	Thick	L	Cost Per C
			BUTT CONNECTOR — NON-INSULATED UL APPROVED		
4986	Butted Seam	26-24	.016	5/8	$6.50
4987	Butted Seam	22-18	.030	9/16	2.00
4988	Butted Seam	16-14	.030	9/16	2.00
4989	Butted Seam	12-10	.040	9/16	3.00
			BUTT CONNECTOR — INSULATED — UL APPROVED		
4990	Nylon	26-24	.016	7/8	9.50
4991	Vinyl	22-18	.030	15/16	5.00
4992	Vinyl	16-14	.030	15/16	5.00
4993	Vinyl	12-10	.040	15/16	6.00
			PARALLEL CONNECTORS — NON-INSULATED UL APPROVED		
4994	Butted Seam	22-18	.030	5/16	$2.00
4995	Butted Seam	12-10	.030	5/16	2.00
4996	Butted Seam	12-10	.040	5/16	2.50
			PARALLEL CONNECTORS — INSULATED		
4997	Vinyl	22-18	.030	11/16	3.50
4998	Vinyl	16-14	.030	11/16	3.50
4999	Vinyl	12-10	.040	11/16	4.50

***CROSS-LOCK DISCONNECT — NON-INSULATED**

Smith Cat.No.	Material	Wire Size	W	Thick	Cost Per C
5001	Butted Seam	22-18	1/4	.030	$3.50
5002	Butted Seam	16-14	1/4	.030	3.50

***CROSS-LOCK DISCONNECT — SELF-MATING INSULATED**

5003	Vinyl	22-18	1/4	.030	6.00
5004	Vinyl	16-14	1/4	.030	6.00

* U. S. PATENT

STANDARD PACKAGE: 100 OF A NUMBER

CONNECTORS

BUTT CONNECTORS — CLOSED END

Smith Cat.No.	Material	Wire Size	I.D.	O.D.	L	Cost Per C
5005	Nylon	22-14	1/4	13/32	45/64	$3.50
5006	Nylon	18-10	3/8	15/32	3/4	4.50

QUICK SLIDES — FEMALE — UL APPROVED

Smith Cat.No.	Material	Wire Size	W	Thick	L	Cost Per C
5007	Butted Seam	18-14	.187 .205	.016 .030	31/64	$2.00
5008	Butted Seam	18-14	.250	.032	41/64	2.00

QUICK SLIDES — FEMALE — INSULATED

5009	Vinyl	18-14	.187 .205	.016 .030	25/32	4.50
5010	Vinyl	18-14	.250	.032	55/64	4.50

QUICK SLIDES — MALE NON-INSULATED UL APPROVED

5011	Butted Seam	18-14	.187	.016 .030	1/2	$2.00
5012	Butted Seam	18-14	.250	.032	23/32	2.00

QUICK SLIDES — MALE INSULATED UL APPROVED

5013	Vinyl	18-14	.187	.016 .030	25/32	4.50
5014	Vinyl	18-14	.250	.032	59/64	4.50

***QUICK SLIDES — SELF MATING NON-INSULATED — UL APPROVED**

5015	Butted Seam	18-14	.187-.205	31/64	$2.50
5016	Butted Seam	18-14	.250	41/64	2.50

QUICK SLIDES — SELF MATING INSULATED — PATENTED UL APPROVED

5017	Vinyl	18-14	.187-.205	—	25/32	4.50
5018	Vinyl	18-14	.250	—	25/32	4.50

* U. S. PATENT

QUICK SLIDE RECEPTACLE INSULATED DOUBLE MALE INLINE CONNECTION

5019	Vinyl	.157	.250W	$7.50

SNAP PLUGS — NON-INSULATED

Smith Cat.No.	Material	Snap Area	Wire Size	L	Thick	Net Per C
5020	Butted Seam	16-14	.157	3/16	.030	$2.50
5021	Butted Seam	16-14	.176	3/16	.030	4.00

SNAP PLUGS — INSULATED

5022	Vinyl	16-14	.157	3/16	.030	4.00
5023	Vinyl	16-14	.176	3/16	.030	4.00

SNAP PLUG RECEPTACLE SELF-MATING INSULATED

5024	Vinyl	.157	used with .157 plug	$6.00

SEE NEXT PAGE FOR SMITH SOLDERLESS TERMINAL BARREL STYLES

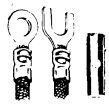
specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

SOLDERLESS TERMINALS

AMP "SOLISTRAND" Non-Insulated


A B C

The only terminal designed for use with solid, stranded or irregularly shaped wires, or combinations of wires. Corrosion resistant, high strength, electro-tinned; versatile — widely adaptable.

Std. Pkg. 100

RING TONGUE (A)

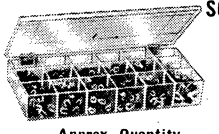
Wire Size	No.	AMP No.	Stud Size	Tong. W.	O'all L.	Stud Clear.	NET Per C
	2850	32989	4	7/32	17/32	5/32	$4.50
22	2851	34194	6	7/32	17/32	5/32	4.50
	2852	32990	8	9/32	11/16	15/64	5.50
to	2853	33214	10	5/16	11/16	9/32	5.50
	2854	33215	1/4	15/32	15/16	27/64	7.50
16	2855	33452	5/16	15/32	15/16	27/64	7.50
	2856	33453	3/8	17/32	1 1/16	17/32	7.50
	2857	32991	4	1/4	9/16	11/64	$5.50
16	2858	34197	6	1/4	9/16	11/64	5.50
	2859	32992	8	5/16	11/32	1/4	5.50
to	2860	320093	10	5/16	11/32	1/4	5.50
	2861	33218	1/4	15/32	15/16	7/16	7.50
14	2862	33454	5/16	15/32	15/16	7/16	7.50
	2863	33455	3/8	17/32	1 1/8	17/32	7.50

SPADE TONGUE (B)

22	2864	32897	6	11/32	5/8	13/64	$4.50
to	2865	32898	8	11/32	5/8	13/64	4.50
16	2866	32899	10	11/32	5/8	13/64	4.50
16	2867	32903	6	11/32	5/8	13/64	$4.50
to	2868	32904	8	11/32	5/8	13/64	4.50
14	2869	32905	10	11/32	5/8	13/64	4.50

BUTT CONNECTOR (C)

2870	31818	22-16	.140 I.D.	3/64	$5.50
2871	31819	16-14	.170 I.D.	3/64	5.50



SOLDERLESS TERMINAL ASSORTMENTS

A basic assortment of the most commonly used Ring Tongue and Spade Terminals for wire sizes 22 thru 14. Packed in a re-usable clear plastic compartmented box.

No.	Approx. Quantity of Terminals	Style	NET
1526	200	"PLASTI-GRIP"	$18.00
1527	300	"PLASTI-GRIP"	26.00
1528	200	"SOLISTRAND"	13.00
1529	300	"SOLISTRAND"	19.00
1577	200	"P.I.D.G."	24.00
1578	300	"P.I.D.G."	35.00

AMP Pre-Insulated Diamond Grip

A B C D E F

Color-coded for wire size. Std. Pkg. 100

RING TONGUE (A)

Wire Size	No.	AMP No.	Stud Size	Tongue Width	Overall Length	Stud Clear.	Per C
22	1550	320882	4	3/16	21/32	5/32	$10.50
	1551	31881	6	7/32	21/32	5/32	10.50
to	1552	31886	8	9/32	25/32	1/4	10.50
	1553	31887	10	9/32	25/32	1/4	10.50
16	1554	31894	1/4	15/32	1 1/16	27/64	11.50
14	1555	32441	4	1/4	11/16	11/64	10.50
	1556	32442	6	1/4	11/16	11/64	10.50
to	1557	31902	8	11/32	27/32	9/32	10.50
	1558	322238	10	5/16		1/4	10.50
16	1559	31906	1/4	15/32	1/16	7/16	11.50

FLANGED SPADE (B)

22-16	1560	32562	6	19/64	23/32	13/64	$10.50
	1561	32498	8	27/64	13/16	1/4	11.50
	1562	320861	6	19/64	23/32	13/64	10.50
14-16	1563	320862	8	19/64	23/32	13/64	10.50
	1564	320863	10	19/64	23/32	13/64	10.50

SPADE TONGUE (C)

	1565	34541	6	1/4	53/64	19/64	$11.50
22-16	1566	32053	8	3/8	57/64	19/64	10.50
	1567	32054	10	3/8	57/64	19/64	10.50
	1568	35559	6	19/64	47/64	13/64	10.50
14-16	1569	321233	8	19/64	47/64	13/64	11.50
	1570	32060	10	3/8	57/64	5/16	10.50

HOOK TONGUE (D)

22-16	1571	34313	6	9/32	47/64	13/64	$10.50
	1572	32456	8	11/32	55/64	9/32	10.50
	1573	320381	6	11/32	27/32	9/32	$10.50
14-16	1574	320306	8	11/32	27/32	9/32	12.50
	1575	35481	10	11/32	27/32	9/32	12.50
18-14	1576	42781-2	.250	Faston Receptacle (E) w/insulation support			$4.50

BUTT CONNECTOR (F)

22-16	1548	320559	.125	I.D.	$9.00
16-14	1549	320562	.150	I.D.	9.00

AMP "PLASTI-GRIP" (P.G.)

A B C D

Insulated, strong, special plastic has high dielectric strength. Applied with single operation of press dies or hand tools. High tensile strength. High conductivity copper, electro-tinned. Color coded for wire size. Std. Pkg. 100

RING TONGUE (A)

Wire Size	No.	AMP No.	Stud Size	Tong. W.	O'all L.	Stud Clear.	NET Per C
	2750	34141	4	7/32	21/32	5/32	$7.50
22	2751	34142	6	7/32	21/32	5/32	7.50
	2752	34145	8	9/32	25/32	1/4	7.50
to	2753	34146	10	9/32	25/32	1/4	7.50
	2754	34150	1/4	15/32	1 1/16	27/64	8.50
16	2755	34151	5/16	15/32	1 1/16	27/64	8.50
	2756	34152	3/8	17/32	1 13/64	17/32	8.50
	2757	34157	4	1/4	11/16	5/32	$7.50
16	2758	34158	6	1/4	11/16	5/32	7.50
	2759	34160	8	11/32	27/32	17/64	7.50
to	2760	34161	10	11/32	27/32	17/64	7.50
	2761	34162	1/4	15/32	1 1/16	27/64	8.50
14	2762	34163	5/16	15/32	1 1/16	27/64	8.50
	2763	34164	3/8	17/32	1 13/64	33/64	8.50

SPADE TONGUE (B)

22	2764	34153	6	11/32	49/64	13/64	$7.50
to	2765	34155	8	3/8	57/64	19/64	7.50
16	2766	34156	10	3/8	57/64	19/64	7.50
16	2767	34165	6	3/8	57/64	19/64	$7.50
to	2768	34166	8	3/8	57/64	19/64	7.50
14	2769	34167	10	3/8	57/64	19/64	7.50

HOOK TONGUE (C)

20-16	2770	34501	6	9/32	47/64	3/16	$7.50
	2771	321699	8	11/32	55/64	9/32	7.50
16-14	2772	320263	8	11/32	55/64	17/64	$10.50

BUTT CONNECTOR (D)

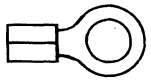
	2773	34070	22-16	.140 I.D.	1	$9.00
	2774	34071	16-14	.70 I.D.	1 1/64	9.00

HAND CRIMPING TOOL

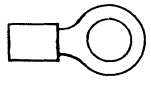
Makes strong, solderless connections; cuts and strips wire, and has threaded bolt cutter.

No.	Type	NET Ea.
1579	For P.I.D.G. & P.G.	$ 8.00
2872	For Solistrand Type	10.50

SMITH BARREL STYLES
NON-INSULATED TERMINALS

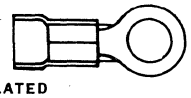


BUTTED SEAM
- Eletrolytic pure copper, tin plated.
- Open end for visual inspection of wire contact.
- Tight grip, multiple barrel serrations for full wire contact.

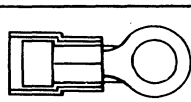


BRAZED — Same as above except silver brazed barrel.

INSULATED TERMINALS

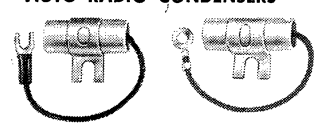


VINYL INSULATED
- Electrolytic pure copper, tin plated.
- Vinyl insulation, butted seam.
- Flared for easy wire insertion.
- Color coded for proper wire selection.



NYLON INSULATED
- Electrolytic pure copper, tin plated.
- Flared for easy wire insertion.
- Nylon insulation.
- Butted seam with seamless brass sleeve attached.
- Color Coded.

AUTO RADIO CONDENSERS



Eliminates radio interference caused by auto electrical system. Fits all cars — Proven quality — Guaranteed long life. Std. Pkg. 25

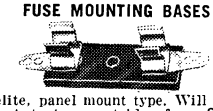
No.	Cap.	Type	NET Per C
811	.5 MFD	General, Univ.	$35.00
812	.25 MFD	Universal	$42.00

TV SNAP-ON FUSE HOLDER

Snap fuse clip over burned out fuse. Insert new fuse without soldering. Std. Pkg. 50

No.	NET Each
529	$.16

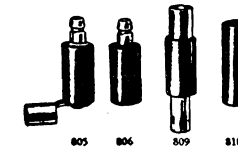
FUSE MOUNTING BASES



Black bakelite, panel mount type. Will accommodate the 3 A G Auto type cartridge fuse. Std. Pkg. 25

No.	Type	NET Per C
530	Single	$14.00
531	Double	26.00

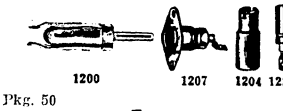
Auto Radio IGNITION SUPPRESSORS


805 806 809 810

Std. Pkg. 50

Cat. No.	Type	NET Per C
805	Snap-On Type Suppressor	$40.00
806	Univ. Type with Double Thrd.	40.00
809	Distributor Plug-in Type	50.00
810	Double Screw Type	25.00

MOTOROLA PLUGS & JACKS


1200 1207 1204 1235

Std. Pkg. 50

No.	Type	NET Per C
1200	Motorola Type Plug	$10.20
1207	Antenna Connector, Takes 1200 Plug	18.00
1204	Lead-in Adapter, converts Motorola pin plug to Delco	9.00
1235	Female for #1200 plug, without flange	7.20

MORE THAN TEN THOUSAND

ELECTRONIC COMPONENT PARTS MANUFACTURED UNDER ONE ROOF!

SMITH PAGE 35 (COMPLETE SMITH INDEX ON LAST SMITH PAGE) © United Technical Pub

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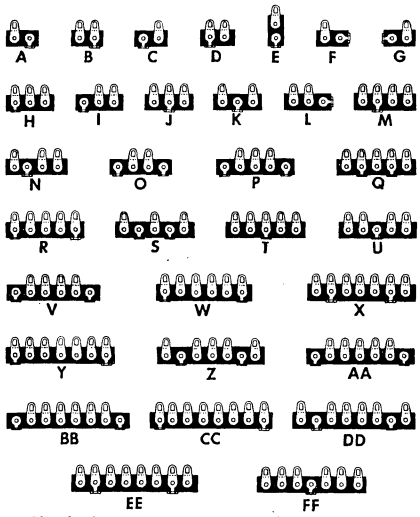
HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

TIE DOWN TERMINAL STRIPS



Standard Type

LUG: Steel, Cadmium plated. Spaced 3/8" centers.
STRIP: XP Bakelite, 5/16" wide x .062 thick.
MOUNT: .140 I.D. for No. 6 Screw.

Miniature Type

LUG: Steel, Cadmium plated. Spaced 1/4" centers.
STRIP: XP Bakelite, 5/16" wide x .062 thick.
MOUNT.: .096 I.D. for No. 3 screw or 3/32" rivet.

Std. Pkg. 100

STANDARD TYPE

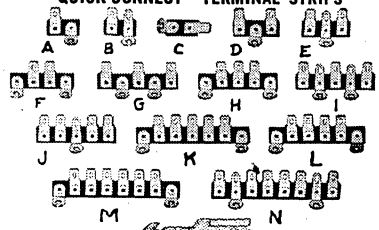
No.	NET Per C	Illustration
861	$2.20	A
862	2.40	B
813	2.50	C
820	2.50	D
849	3.00	E
828	2.40	F
821	2.40	G
830	3.00	H
829	2.80	I
864	3.00	J
863	3.00	K
846	3.50	L
850	4.00	M
857	4.00	N
867	4.50	O
853	4.50	P
868	5.00	Q
847	5.50	R
865	4.50	S
866	4.00	T
855	3.50	U
869	5.10	V
854	5.50	W
879	6.50	X
859	6.00	Y
871	5.50	Z
860	6.00	AA
848	6.70	BB
900	6.50	CC
858	7.00	DD
870	7.20	EE
901	6.00	FF

Std. Pkg. 100

MINIATURE TYPE

No.	NET Per C
1061	$2.40
1062	3.00
1003	3.30
1004	3.50
1039	4.00
1005	4.50
1009	3.50
1055	4.50
1043	4.50
1064	3.60
1063	3.00
1059	4.50
1074	5.50
1072	5.50
1067	4.20
1073	5.20
1068	5.80
1071	5.80
1065	5.20
1066	6.50
1084	7.00
1069	6.20
1076	9.00
1158	9.50
1156	9.50
1157	9.50
1060	7.00
1078	7.20
1075	10.50
1096	10.20
1070	8.40
—	—

"QUICK-CONNECT" TERMINAL STRIPS



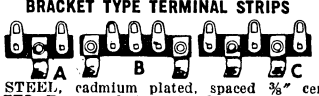
1576

Std. Pkg. 100

No.	Ill.	NET Per C	No.	Ill.	NET Per C	No.	Ill.	NET Per C
1085	A	$2.50	1090	F	$4.30	1095	K	$7.50
1086	B	3.10	1091	G	5.70	1097	L	7.50
1087	C	2.50	1092	H	5.70	1098	M	8.50
1088	D	3.30	1093	I	6.30	1099	N	9.00
1089	E	3.50	1094	J	5.00			

No.		NET Per C
1576	Terminal Strip Connectors	$4.50

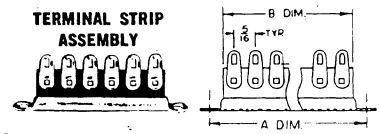
BRACKET TYPE TERMINAL STRIPS



LUGS: STEEL, cadmium plated, spaced 3/8" centers.
BRACKETS: Brass, cadmium plated.
STRIPS: X.P. Bakelite 3/8" wide x .062 thick.
MOUNT.: .140 I.D. for No. 6 screw. Std. Pkg. 100

No.	Fig.	Lugs	NET Per C
1077	A	2	$3.20
1079	C	3	5.00
1080	B	3	5.00
1081	B	4	5.50
1082	B	5	6.20
1083	B	6	7.20

TERMINAL STRIP ASSEMBLY



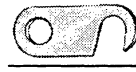
LUG: STEEL, cadmium plated.
BASE: STEEL, cadmium plated. Mounting holes for No. 6 screw.
STRIP: X.P. Bakelite. Std. Pkg. 100

No.	Terminals	Dimensions "A"	Dimensions "B"	NET Per C
3002	2	1.000	5/8"	$6.00
3003	3	1.312	15/16"	6.90
3004	4	1.625	1 1/4"	7.80
3005	5	1.937	1 9/16"	8.70
3006	6	2.250	1 7/8"	9.60
3007	7	2.562	2 3/16"	10.50
3008	8	2.875	2 1/2"	11.40
3009	9	3.187	2 13/16"	12.30
3010	10	3.500	3 1/8"	13.20
3011	11	3.812	3 7/16"	14.10
3012	12	4.125	3 3/4"	15.00

SCREW TYPE TERMINAL BOARD

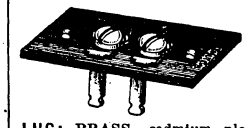
LUGS: BRASS, hot tinned, spaced 7/16" centers.
SCREW: Steel, cadmium plated 6-32x3/8.
STRIP: X.P. Bakelite 5/8" wide x .062 thick.

No.	Terminals	Mounting Center	Std. Pkg.	NET Per C
914	1	7/8"	50	$ 6.50
872	2	1 7/16"	50	7.00
873	3	1 3/4"	50	10.50
874	4	2 3/16"	50	12.50
875	5	2 5/8"	25	16.50
876	6	3 1/16"	25	18.50
877	7	3 1/2"	25	22.50
928	8	3 15/16"	25	24.00
929	9	4 3/8"	25	28.00
930	10	4 13/16"	25	32.00



878 Shorting Link 1.80

HEAVY DUTY TERMINAL BOARDS



LUG: BRASS, cadmium plated .042 thick spaced 1/2" centers. Terminals numbered.
STRIP: X.P. Bakelite 7/8" wide x 3/32" thick, numbered.
SCREW: Brass, nickel plated 8-32 x 9/16. Std. Pkg. 25

No.	Terminals	Mtg. Center	NET Per C
902	2	1 1/2"	$20.00
903	3	2"	22.00
904	4	2 1/2"	27.00
905	5	3"	33.00
906	6	3 1/2"	39.00
907	7	4"	45.00
908	8	4 1/2"	50.00
909	9	5"	60.00
910	10	5 1/2"	62.00
911	11	6"	65.00
912	12	6 1/2"	70.00

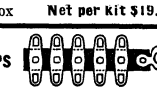
QUICK DISCONNECT TERMINALS

Terminals of pure electrolytic copper. Resists corrosion and insures shelf life. Beveled entry for easy wire threading and improved V-ridges for wire protection. Male tongue width .248/.251, female entry .225 Min.
Std. Pkg. 100

Male	Female	Wire-Size	NET Per C
		Non-Insulated	
2742	2745	22-16	$2.10
2743	2746	16-14	2.10
2744	2747	12-10	2.10
		Insulated	
2794	2797	22-16	4.50
2795	2798	16-14	4.50
2796	2799	12-10	4.50

No. 2748 Kit, 50 each, 16 types in plastic box Net per kit $19.80

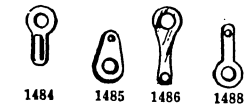
"T" TYPE TERMINAL STRIPS



LUGS: STEEL, cadmium plated, spaced 3/8" centers.
STRIP: XP Bakelite 5/8" wide x .062 thick
MOUNT.: .140 I.D. for No. 6 screw. Std. Pkg. 100

No.	Lugs	NET Per C
815	1	$3.20
816	2	4.40
817	3	6.50
818	4	7.00
819	5	8.00

SOLDER TYPE LUGS—Hot Tinned



Std. Pkg. 1000

No.	Material	Length	Thick.	Hole	NET Per M
1484	Ph. Br.	5/8"	.020"	No. 6	$6.00
1485-4	Ph. Br.	17/32"	.012"	No. 4	8.00
1485-6	Ph. Br.	17/32"	.012"	No. 6	8.00
1485-8	Ph. Br.	17/32"	.012"	No. 8	8.00
1485-10	Ph. Br.	17/32"	.012"	No. 10	8.00
1486-4	Ph. Br.	13/16"	.012"	No. 4	8.00
1486-6	Ph. Br.	13/16"	.012"	No. 6	8.00
1486-8	Ph. Br.	13/16"	.012"	No. 8	8.00
1486-10	Ph. Br.	13/16"	.012"	No. 10	8.00
1488-4	Ph. Br.	9/16"	.012"	No. 4	8.00
1488-6	Ph. Br.	9/16"	.012"	No. 6	8.00
1488-8	Ph. Br.	9/16"	.012"	No. 8	8.00
1490	Brass	3/4"	.020"	No. 10	9.00
1491	Copper	15/16"	.020"	No. 10	14.00
1493	Brass	1-1/8"	.027"	1/4"	19.00
1494-6	Brass	5/8"	.020"	No. 6	6.00
1494-8	Brass	5/8"	.020"	No. 8	6.00
1495	Brass	5/8"	.020"	No. 8	9.00
1496	Brass	3/4"	.020"	1/4"	10.20
1497	Brass	7/8"	.017"	5/16"	24.00

SOLDER LUG ASSORTMENT

A complete assortment of the most widely used Solder Lug styles, with hole sizes from #4 thru #10. Packed in a re-usable clear plastic compartmented box.

No.	Approx Quantity of Terminals	NET
1546	1400	$9.00

LOCKING TYPE TERMINAL LUGS

BRASS HOT TINNED Std. Pkg. 1000

No.	Length	Thick	Hole	NET Per M
1410-4	7/16"	.018"	No. 4	$9.00
1410-6	7/16"	.018"	No. 6	9.00
1410-8	7/16"	.018"	No. 8	9.00
1410-10	57/64"	.018"	No. 10	9.00
1410-14	13/16"	.018"	1/4"	10.20
1411-4	47/64"	.020"	No. 4	9.00
1411-6	47/64"	.020"	No. 6	9.00
1411-8	47/64"	.020"	No. 8	9.00
1412-4	5/8"	.018"	No. 4	8.40
1412-6	5/8"	.018"	No. 6	8.40
1412-8	5/8"	.018"	No. 8	8.40
1413-4	25/32"	.018"	No. 4	9.00
1413-6	25/32"	.018"	No. 6	9.00
1413-8	25/32"	.018"	No. 8	9.00
1414-4	15/16"	.018"	No. 4	9.00
1414-6	15/16"	.018"	No. 6	9.00
1414-8	15/16"	.018"	No. 8	9.00
1414-10	59/64"	.018"	No. 10	9.00
1415-4	47/64"	.018"	No. 4	9.00
1415-6	47/64"	.018"	No. 6	9.00
1415-8	47/64"	.018"	No. 8	9.00
1416-4	1 1/16"	.020"	No. 4	9.00
1416-6	1 1/16"	.020"	No. 6	9.00
1416-8	1 1/16"	.020"	No. 8	9.00

LOCKING TYPE TERMINAL LUGS

Brass Electro Plated

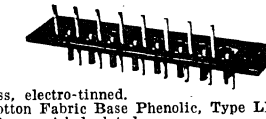
No.	Hole Size	Thick	Length	NET Per M
1465	No. 4	.020"	47/64"	$10.20
1466	No. 6	.020"	47/64"	10.20
1467	No. 8	.020"	7/8"	10.20
1468	1/4"	.020"	15/16"	12.00

LOCKING TERMINAL LUG ASSORTMENT

A complete assortment of the most widely used Locking Terminal Lug styles, with hole sizes from #4 thru #10. Packed in a re-usable clear plastic compartmented box.

No.	Approx. Quantity of Terminals	NET
1547	900	$9.00

LAMINATED TERMINAL STRIPS WITH WIRE WRAP TERMINALS



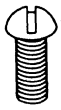
LUG: Brass, electro-tinned.
STRIP: Cotton Fabric Base Phenolic, Type LE.
SCREW: Brass, nickel plated.
DESCR.: Accommodates lugs for wires, size AWG #18 to 22. Rated 750 volts RMS (1/2 breakdown voltage).
Std. Pkg. 25

No.	Term.	(A) Mtg Ctrs.	B	NET Per C
941	8	3 1/2"	3 3/8"	$40.00
942	10	4 1/4"	4 5/8"	50.00
943	12	5"	5 3/8"	60.00

specify SMITH

HERMAN H. SMITH, INC.

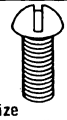
ELECTRONIC COMPONENTS



ROUND HEAD STEEL MACHINE SCREWS

CADMIUM PLATED

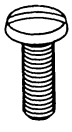
Size	No.	Net per C	No.	Net per M
2-56 x 1/4"	1173C	$.59	1173M	$5.30
2-56 x 1/2"	1174C	.62	1174M	5.60
2-56 x 3/4"	1175C	.72	1175M	6.50
3-48 x 3/4"	1176C	.76	1176M	6.85
4-36 x 1/4"	1177C	.62	1177M	5.60
4-36 x 3/8"	1178C	.65	1178M	5.85
4-36 x 1/2"	1183C	.68	1183M	6.15
4-36 x 5/8"	1184C	.87	1184M	7.85
4-36 x 3/4"	1185C	1.00	1185M	9.00
4-40 x 1/4"	1350C	.62	1350M	5.60
4-40 x 3/8"	1351C	.65	1351M	5.85
4-40 x 1/2"	1352C	.69	1352M	6.20
4-40 x 5/8"	1353C	.74	1353M	6.65
4-40 x 3/4"	1354C	1.01	1354M	9.00
6-32 x 1/4"	1000C	.70	1000M	5.85
6-32 x 3/8"	1001C	.84	1001M	7.00
6-32 x 1/2"	1002C	.94	1002M	7.80
6-32 x 5/8"	1355C	.88	1355M	8.00
6-32 x 3/4"	1356C	1.04	1356M	9.40
6-32 x 1"	1357C	1.08	1357M	9.80
6-32 x 2"	1358C	1.95	1358M	17.55
8-32 x 1/4"	1006C	.94	1006M	7.80
8-32 x 3/8"	1007C	.97	1007M	8.10
8-32 x 1/2"	1008C	1.02	1008M	8.50
8-32 x 3/4"	1359C	1.21	1359M	10.90
10-32 x 1/2"	1360C	1.24	1360M	11.20
10-32 x 3/4"	1361C	1.46	1361M	13.15
10-32 x 1"	1362C	1.63	1362M	14.70



BRASS MACHINE SCREWS

Round Head Nickel Plated

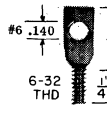
Size	No.	NET per C	No.	NET per M
4-36 x 1/4"	1044C	$1.02	1044M	$8.50
4-36 x 3/8"	1045C	.94	1045M	7.80
4-36 x 1/2"	1046C	1.32	1046M	11.20
4-40 x 1/4"	1047C	1.06	1047M	8.80
4-40 x 3/8"	1048C	1.26	1048M	10.50
4-40 x 1/2"	1049C	1.32	1049M	11.20
6-32 x 1/4"	1050C	1.56	1050M	13.00
6-32 x 3/8"	1051C	1.62	1051M	13.50
6-32 x 1/2"	1052C	1.50	1052M	12.50
8-32 x 1/4"	1056C	1.92	1056M	16.00
8-32 x 3/8"	1057C	2.30	1057M	19.20
8-32 x 1/2"	1058C	2.70	1058M	22.50



BINDING HEAD STEEL MACHINE SCREWS

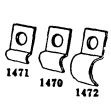
CADMIUM PLATED

Size	No.	Net per C	No.	Net per M
2-56 x 1/4"	1369C	$.59	1369M	$5.30
2-56 x 1/2"	1370C	.62	1370M	5.60
2-56 x 5/8"	1371C	.72	1371M	6.50
4-40 x 1/4"	1372C	.62	1372M	5.60
4-40 x 1/2"	1373C	.69	1373M	6.20
4-40 x 3/4"	1374C	1.01	1374M	9.10
6-32 x 3/4"	1375C	.72	1375M	6.50
6-32 x 1/4"	1425C	.77	1425M	6.40
6-32 x 3/8"	1426C	.84	1426M	7.00
6-32 x 1/2"	1427C	.85	1427M	7.15
6-32 x 5/8"	1376C	.88	1376M	7.95
6-32 x 3/4"	1377C	1.04	1377M	9.40
8-32 x 1/4"	1428C	.77	1428M	6.40
8-32 x 5/16"	1378C	.96	1378M	8.65
8-32 x 3/8"	1429C	.97	1429M	8.10
8-32 x 1/4"	1430C	1.01	1430M	8.40
8-32 x 3/4"	1379C	1.21	1379M	10.90
10-32 x 1/2"	1380C	1.24	1380M	11.20
10-32 x 3/4"	1381C	1.34	1381M	12.10



STEEL SPADE BOLTS

Size	No.	Net per C	No.	Net per M
6-32 x 5/16"	1500C	$2.30	1500M	$19.00



CABLE CLAMPS

Steel Cadmium Plated with No. 8 Mtg. Hole. Std. Pkg. 100

No.	Length	Width	Cable	NET Per C
1471	5/8"	3/8"	1/8"	$.78
1470	3/4"	3/8"	1/4"	.84
1472	1"	3/8"	1/2"	.90

SELF TAPPING SCREWS

ROUND HEAD—TYPE A—Sharp Point

Size	No.	NET per C	No.	NET per M
4 x 1/2	1801C	$.77	1801M	$6.00
6 x 1/4	1802C	.83	1802M	6.67
6 x 3/8	1803C	.87	1803M	7.00
6 x 1/2	1804C	.98	1804M	8.10
8 x 3/8	1805C	.92	1805M	7.50
8 x 1/2	1806C	1.12	1806M	9.45

ROUND HEAD—TYPE Z—Blunt Point

Size	No.	NET per C	No.	NET per M
4 x 1/2	1807C	$.87	1807M	$7.00
6 x 1/4	1808C	.87	1808M	7.00
6 x 3/8	1809C	.87	1809M	7.00
6 x 1/2	1810C	.98	1810M	8.10
8 x 3/8	1811C	.92	1811M	7.50
8 x 1/2	1812C	1.12	1812M	9.45

SLOTTED HEX HEAD — TYPE Z
Blunt Point

Size	No.	NET per C	No.	NET per M
6 x 1/4	1830C	$1.12	1830M	$9.45
6 x 3/8	1831C	1.12	1831M	9.45
6 x 1/2	1832C	1.12	1832M	9.45
8 x 3/8	1833C	.92	1833M	7.50
8 x 1/2	1834C	1.12	1834M	9.45

PAN HEAD SHEET METAL SCREWS

CADMIUM PLATED

Size	No.	Net per C	No.	Net per M
4 x 1/2"	1389C	$1.13	1389M	$10.20
6 x 1/4"	1390C	1.13	1390M	10.20
6 x 3/8"	1391C	1.17	1391M	10.55
6 x 1/2"	1392C	1.20	1392M	10.80
6 x 3/4"	1393C	1.30	1393M	11.70
8 x 1/4"	1394C	1.30	1394M	11.70
8 x 3/8"	1395C	1.37	1395M	12.35
8 x 1/2"	1396C	1.40	1396M	12.60
8 x 1"	1397C	1.80	1397M	16.20

ROUND HEAD STEEL WOOD SCREWS

Size	No.	Net per C	No.	Net per M
4 x 1/2"	1384C	$1.01	1384M	$9.10
4 x 3/4"	1385C	1.17	1385M	10.50
6 x 3/4"	1386C	1.26	1386M	11.35
6 x 1"	1387C	1.56	1387M	14.00
8 x 3/4"	1388C	1.50	1388M	13.50

OVAL HEAD STEEL NICKEL PLATED RACK SCREWS

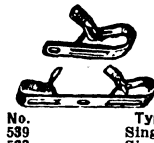
Size	No.	Net per C	No.	Net per M
6-32 x 3/4"	1382C	$.98	1382M	$8.85
8-32 x 3/4"	1383C	1.24	1383M	11.20
10-32 x 1/2"	1111C	1.14	1111M	9.50
10-32 x 3/4"	1112C	1.16	1112M	9.74

COUNTER SUNK WASHERS BRASS

NICKEL PLATED

Size	No.	Net per C	No.	Net per M
#6	1115C	$.61	1115M	$5.10
#8	1116C	.91	1116M	6.75
#10	1117C	.94	1117M	7.80

FAHNESTOCK SPRING BATTERY CLIPS



Clips are made of brass, nickel plated and are available in the single and double clip types.
Std. Pkg. 100

No.	Type	Length	NET Per C
532	Single	5/8"	$2.80
533	Single	3/4"	2.80
534	Single	1"	4.00
535	Double	1 1/2"	11.00
536	Double	2 1/16"	13.00

HEXAGON NUTS

Brass Nickel Plated

Size	No.	NET per C	No.	NET per M
4-36x1/4"	1188C	$1.10	1188M	$9.33
4-40x1/4"	1168C	1.10	1168M	9.25
6-32x1/4"	1189C	1.68	1189M	14.00
6-32x5/16".	1190C	1.28	1190M	11.08
8-32x5/16"	1192C	1.28	1192M	11.08
10-32x5/16"	1193C	1.70	1193M	14.00
1/4-32"	1187C	1.20	1187M	10.00
Steel Nickel Plated				
1/4-32"	1186C	1.50	1186M	$13.20

HEX NUTS STEEL

CADMIUM PLATED

Size	No.	Net per C	No.	Net per M
2-56 x 3/16"	1363C	.68	1363M	5.05
3-48 x 3/16"	1364C	.68	1364M	5.05
4-36 x 1/4"	1365C	.67	1365M	5.00
6-32 x 1/4"	1179C	.70	1179M	5.25
6-32 x 5/16"	1180C	.72	1180M	5.55
8-32 x 1/4"	1366C	.73	1366M	5.60
8-32 x 5/16"	1181C	.96	1181M	8.00
10-32 x 3/8"	1367C	.97	1367M	8.00
1/4-20 x 7/16"	1368C	1.33	1368M	11.50
1/4-32 x 7/16"	1186C	.75	1186M	16.00

VOL CONTROL & TOGGLE SWITCH NUTS

Nickel Plated

Type	No.	NET Per C	No.	NET Per M
Vol. Cont. Brass*	1195C	$1.65	1195M	$15.00
Vol. Cont. Steel*	1199C	1.32	1199M	12.00
Toggle Sw. Hex†	1196C	1.98	1196M	18.00
Toggle Sw. Ring‡	1197C	3.30	1197M	30.00
*3/8-32 x 1/2 x 3/32		†15/32 x 5/16 x 5/64		‡15/32 x 5/8 x 1/16

FLAT STEEL WASHERS

NICKEL PLATED

Size	No.	Net per C	No.	Net per M
For #2 Screw	1138C	.65	1138M	4.80
For #4 Screw	1149C	1.02	1149M	8.50
For #6 Screw	1150C	.83	1150M	6.60
For #8 Screw	1151C	.65	1151M	4.80
For #10 Screw	1152C	.83	1152M	6.60
For 1/4" Screw	1147C	.83	1147M	6.60
For 5/8" Screw	1148C	.90	1148M	7.25

INTERNAL TOOTH LOCKWASHERS STEEL

CADMIUM PLATED

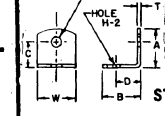
Size	No.	Net per C	No.	NET per C
#4	1127C	$.51	1127M	$3.50
#6	1128C	.51	1128M	3.50
#8	1129C	.55	1129M	3.83
#10	1130C	.55	1130M	3.83
1/4"	1132C	.67	1132M	5.00
3/8"	1131C	1.02	1131M	8.50
Narrow Rim 3/8"	1145C	1.02	1145M	8.50
Narrow Rim 15/32"	1146C	1.32	1146M	11.00

EXTERNAL TOOTH LOCKWASHERS STEEL

CADMIUM PLATED

Size	No.	Net per C	No.	Net per M
#4	1139C	.51	1139M	3.50
#6	1140C	.51	1140M	3.50
#8	1141C	.55	1141M	3.83
#10	1142C	.55	1142M	3.83
1/4"	1144C	.67	1144M	5.00
3/8"	1143C	1.02	1143M	8.50

ANGLES



A — Length of leg C — Hole Location
B — Length of leg D — Hole Location
T — Thickness H1 — Hole Diameter
W — Width H2 — Hole Diameter

Std. Pkg. 100

STEEL, Cadmium Plated

No.	A	B	C	D	W	T	H1	H2	Net Per C
1444	7/16	7/16	17/64	1/4	3/8	.032	3/16	#4	$.72
1445	1/2	1/2	11/32	23/64	1/2	.050	#6	#4	.90
1446	49/64	27/64	39/64	15/64	5/16	.032	#6	#6	.90
1447	19/64	1/2	61/64	23/64	5/16	.050	#8	#8	1.02
1476	11/16	11/16	1/2	1/2	5/8	.032	#6	#6	1.50

Note: No. 1476 has Hot Tin Dipped finish

BRASS, Nickel Plated

1474	15/32	15/32	19/64	19/64	5/16	.025	#8	#8	1.80
1475	21/32	21/32	3/8	3/8	3/8	.050	#8	#8	3.60

SMITH PAGE 37 (COMPLETE SMITH INDEX ON LAST SMITH PAGE)

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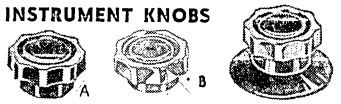
HERMAN H. SMITH, INC. — ELECTRONIC COMPONENTS

INSTRUMENT KNOBS



Plain — With Pointer — With Skirt

Molded black bakelite instrument knobs with molded in brass insert for ¼" shafts. **Style B** pointer knobs have white vinyl pointer. **Style C** skirt type have white indicator line. **Style D** same as style A except with protruding brass insert for mounting special dials and pointers. **Std. Pkg. 10**

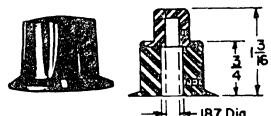
No.	Style	O.D.	Pointer Size	Height	Per C
2200	A	1⅛"		5/8"	$32.00
2201	A	1¾"		11/16"	34.00
2202	A	1⅝"		¾"	39.00
2203	A	2⅜"		⅞"	56.00
2204	B	1¼"	¾" pointer	11/16"	50.00
2205	B	1⅜"	1¼" pointer	¾"	51.00
2206	B	1⅝"	1¾" pointer	13/16"	55.00
2207	B	2⅜"	1¾" pointer	15/16"	74.00
2208	C	1⅛"	1½" Skirt	13/16"	61.00
2209	C	1¾"	1¾" Skirt	⅞"	63.00
2210	C	1⅝"	2 1/16" Skirt	29/32"	74.00
2211	C	2¾"	3" Skirt	1 1/32"	98.00
2212	D	1¼"		23/32"	40.00
2213	D	1⅜"		25/32"	41.00
2214	D	1⅝"		27/32"	46.00
2215	D	2⅜"		31/32"	63.00
			SKIRT ONLY		
2216		1½"	Skirt only		9.00
2217		1¾"	Skirt only		15.00
2218		2 1/16"	Skirt only		17.00
2219		3"	Skirt only		20.00

Matte Finish — Made to Meet MS-91531

Molded Black, Matte finish bakelite instrument knobs, with molded-in brass insert for ¼" shafts. All knobs supplied with two (2) Allen-head set-screws. Style B pointer knobs have white vinyl pointer. Style C skirt knobs have white indicator line on skirt. **Std. Pkg. 10**

No.	Style	O.D.	Pointer size	Height	NET Per C
2460	A	1⅛"		5/8"	$ 87.00
2461	A	1⅝"		¾"	106.00
2462	A	2⅜"		⅞"	129.00
2463	B	1⅛"	¾" pointer	11/16"	99.00
2464	B	1⅝"	1 3/16" pointer	13/16"	113.00
2465	B	2⅜"	1 9/16" pointer	15/16"	143.00
2466	C	1⅛"	1½" skirt	13/16"	139.00
2467	C	1⅝"	2 1/16" skirt	29/32"	172.00
2468	C	2⅜"	3" skirt	1 1/32"	210.00

FLUTED INSTRUMENT KNOBS



Molded black bakelite fluted instrument knobs, supplied with white-filled line on crown and skirt, opposite set-screw. Supplied with ¼" plain hole with set-screw. **Std. Pkg. 10**

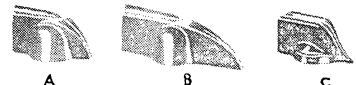
No.	Skirt Dia.	Height	NET Per C
2391	¾"	½"	$28.00
2392	1⅛"	⅝"	32.00
2393	1½"	⅞"	36.00
2394	1½"	⅞"	38.00
2395	2"	15/16"	50.00
	With ¼" plain hole with set-screw		
2396	¾"	½"	29.00

CONCENTRIC FLUTED

Molded black and Red bakelite dual-concentric fluted Instrument knobs. Outside knob is black with white filled line on skirt. Inner knob is red with white-filled line on skirt and crown. Both knobs supplied with set-screws. **Std. Pkg. 10**

No.	NET Per C
2397	$60.00

POINTER KNOBS



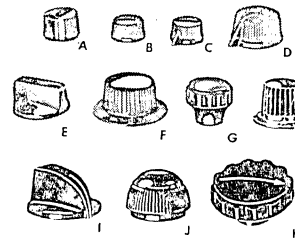
A: Length 1¼" Hgt. ⅝" — B: Length 2" Hgt. ⅝" — C: Length 1¼" Hgt. 5/16"

Molded bakelite pointer knobs, supplied with ¼" plain hole or brass inset. Complete with set screw. **Std. Pkg. 25**

No.	Style	Type Hole	Color	NET Per C
2220	A	¼" Plain	Black	$12.00
2221	A	¼" Plain	Walnut	13.00
2222	A	¼" Plain	Ivory	14.00
2223	A	¼" Brass Insert	Black	18.00
2224	A	¼" Brass Insert	Walnut	19.00
2225	A	¼" Brass Insert	Red	20.00
2226	B	¼" Plain	Black	23.00
2227	B	¼" Plain	Walnut	24.00
2228	B	¼" Brass Insert	Black	29.00
2229	B	¼" Brass Insert	Walnut	30.00
2230	C	¼" Plain	Black	15.00
2231	C	¼" Plain	Walnut	16.00

HERMAN H. SMITH, INC.
MORE THAN TEN THOUSAND ELECTRONIC COMPONENT PARTS MANUFACTURED UNDER ONE ROOF

CONTROL KNOBS

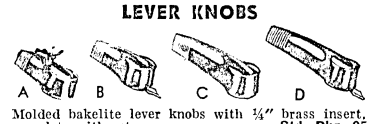


Molded bakelite control knobs. Supplied with ¼" molded hole; complete with set screw. *Recessed for locknut. **Std. Pkg. 25**

No.	Style	O.D.	Height	Color	NET Per C
2240	A	¾"	19/32"	Black	$16.00
2241	A	¾"	19/32"	Walnut	16.50
2242	B	11/16"	13/32"	Black	10.50
2243	B	11/16"	13/32"	Walnut	11.00
2244*	B	1"	½"	Black	15.00
2245*	B	1"	½"	Walnut	16.00
2275†	B	11/16"	13/32"	Black	25.00
2276†	B	11/16"	13/32"	Red	27.00
2246	C	11/16"	13/32"	Black	10.50
2247	C	11/16"	13/32"	Walnut	11.50
2273†	C	11/16"	13/32"	Black	27.00
2274†	C	11/16"	13/32"	Red	29.00
2248*	D	1"	½"	Black	19.00
2249*	D	1"	½"	Walnut	20.00
2250*	E	1⅛"	9/16"	Black	16.00
2251*	E	1⅛"	9/16"	Walnut	16.50
2252*	F	1½"	11/16"	Black	21.00
2253*	F	1½"	11/16"	Walnut	22.00
2254*	F	1½"	11/16"	Ivory	23.00
2258	G	⅞"	¾"	Black	18.00
2259	G	⅞"	¾"	Walnut	19.00
2265	H	29/32"	19/32"	Black	19.00
2266	H	29/32"	19/32"	Red	20.00
2267	J	13/16"	⅝"	Black	15.50
2268	J	13/16"	⅝"	Red	17.00
2269	K	⅞"	⅝"	Black	23.00
2270	K	⅞"	⅝"	Red	24.00
2283	L	⅞"	½"	Black	28.00
2284	L	⅞"	½"	Red	30.00

† Supplied with brass insert.

LEVER KNOBS



Molded bakelite lever knobs with ¼" brass insert, complete with set screw. **Std. Pkg. 25**

No.	Style	Length	Height	Color	NET Per C
2232	A	1⅝"	19/32"	Black	$28.00
2233	A	1⅝"	19/32"	Walnut	29.00
2234	B	1 15/16"	19/32"	Black	46.00
2235	B	1 15/16"	19/32"	Walnut	48.00
2236	C	2½"	⅝"	Black	29.00
2237	C	2½"	⅝"	Walnut	30.00
2238	D	2 13/16"	⅝"	Black	48.00
2239	D	2 13/16"	⅝"	Walnut	50.00

KNOB DIAL PLATES

2261 — 2262 — 2290

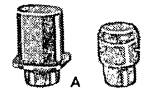
DIAL: BRASS, chrome silver, 1⅝" O.D.
KNOB: Molded bakelite black (our 2250).
DESCR.: For matching dials on instruments, receivers, amplifiers. Dial has clear black etched numbers. Knob fits 1'4" shaft. **Std. Pkg. 10**

No.	Type	NET Each
2261	10 to 0 180 Degrees	$1.05
2262	10 to 0 270 Degrees	1.05
	DIAL PLATES ONLY ½" I.D.	
2263	10 to 0 180 Degrees	.80
2264	10 to 0 270 Degrees	.80

DIAL: Nickel silver, 1⅝" O.D.
KNOB: Molded bakelite.
DESCR.: Engraved numerals, varnish coated. 10 to 0, in 360 degrees. Knob fits ¼" shaft. **Std. Pkg. 10**

No.	NET Each
2290	$1.05

PUSH BUTTON KNOBS



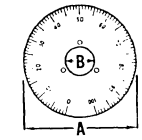
Std. Pkg. 25

No.	Style	O.D.	Height	Color	NET Per C
2277	A	½"	51/64"	Black	$8.00
2278	A	½"	51/64"	Red	9.50
2279	B	31/64"	9/16"	Black	5.50
2280	B	31/64"	9/16"	Red	7.00

CONTROL PLATES

MATERIAL: Brass Black Satin Finish. Etched silver numerals.
DIMENSION: 13/32" I.D. x O.D. as specified, x .020" thick. **Std. Pkg. 5**

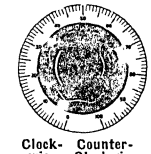
Clockwise Calib. 0-100 No.	Counter-Clockwise Calib. 100-0 No.	Degrees	Total Graduations	O.D.	NET Per C
2900	2906	180	20	2"	$105.00
2901	2907	270	20	2"	105.00
2902	2908	325	20	2"	105.00
2903	2909	180	100	3½"	150.00
2904	2910	270	100	3½"	150.00
2905	2911	325	100	3½"	150.00



DIAL PLATES

MATERIAL: Brass Chrome Silver Finish. .020" thick.
DESCR.: Mounting Holes 9/64".
Std. Pkg. 5

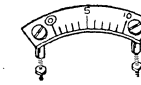
Clockwise Calib. 0-100 No.	Counter-Clockwise Calib. 100-0 No.	Degrees	A	B	NET Per C
2912	2928	180	11⅛"	3⅛"	$80.00
2913	2929	270	11⅛"	3⅛"	80.00
2914	2930	325	11⅛"	3⅛"	80.00
2915	2931	360	11⅛"	3⅛"	80.00
2916	2932	180	13¼"	31/64"	100.00
2917	2933	270	13¼"	31/64"	100.00
2918	2934	325	13¼"	31/64"	100.00
2919	2935	360	13¼"	31/64"	100.00
2920	2936	180	23¼"	¾"	135.00
2921	2937	270	23¼"	¾"	135.00
2922	2938	325	23¼"	¾"	135.00
2923	2939	360	23¼"	¾"	135.00
2924	2940	180	4"	15/16"	170.00
2925	2941	270	4"	15/16"	170.00
2926	2942	325	4"	15/16"	170.00
2927	2943	360	4"	15/16"	170.00



DIAL AND KNOB ASSEMBLY

DIAL: Brass Chrome Silver Finish. .020" thick.
KNOB: Molded Bakelite with ¼" Brass insert.
Std. Pkg. 5

Clockwise Calib. 0-100 No.	Counter-Clockwise Calib. 100-0 No.	Degrees	O.D.	NET Each
2960	2976	180	1¼"	$1.35
2961	2977	270	1¼"	1.35
2962	2978	325	1¼"	1.35
2963	2979	360	1¼"	1.35
2964	2980	180	1¾"	1.50
2965	2981	270	1¾"	1.50
2966	2982	325	1¾"	1.50
2967	2983	360	1¾"	1.50
2968	2984	180	2¾"	3.00
2969	2985	270	2¾"	3.00
2970	2986	325	2¾"	3.00
2971	2987	360	2¾"	3.00
2972	2988	180	4"	3.45
2973	2989	270	4"	3.45
2974	2990	325	4"	3.45
2975	2991	360	4"	3.45



VERNIER DIAL MARKERS

MATERIAL: Brass Chrome Silver Finish. Supplied with hardware. **Std. Pkg. 5.**

No.	For °Dials	Dial O.D.	NET Per C
2944	180	1⅛"	$85.00
2945	270	1⅛"	85.00
2946	325	1⅛"	85.00
2947	360	1⅛"	85.00
2948	180	1¾"	85.00
2949	270	1¾"	85.00
2950	325	1¾"	85.00
2951	360	1¾"	85.00
2952	180	2¾"	85.00
2953	270	2¾"	85.00
2954	325	2¾"	85.00
2955	360	2¾"	85.00
2956	180	4"	85.00
2957	270	4"	85.00
2958	325	4"	85.00
2959	360	4"	85.00

BINDING POST KNOBS

Std. Pkg. 25

threaded 8-32 brass inserts

No.	Style	O.D.	Height	Color	NET Per C
2271	A	¾"	½"	Black	$ 9.00
2272	A	¾"	½"	Red	11.00
2285	B	½"	7/16"	Red	9.00
2286	B	½"	7/16"	Black	9.00
2287	C	½"	½"	Red	9.00
2288	C	½"	½"	Black	9.00

specify SMITH

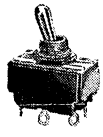
HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

CUTLER-HAMMER SWITCHES

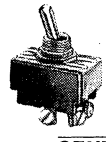
TOGGLE SWITCHES
STANDARD DUTY

15 Amps. 125 Volts — 10 Amps. 250 Volts
AC, UL Approved 15/32" shank; slow-make and break; bakelite case. AC rated only for longer life and greater capacity. **Std. Pkg. 10**



BACK CONNECTED LUG TERMINALS

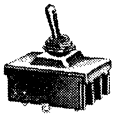
No.	C-H No.	Type	NET Each
966	7501K13	SPST	$ .84
967	7505K4	SPDT	.96
968	7561K4	DPST	1.28
969	7565K5	DPDT	1.51
970	7611K2	TPST	2.60
971	7615K2	TPDT	3.21



BACK CONNECTED SCREW TERMINALS

No.	C-H No.	Type	NET Each
972	7500K14	SPST	$ .96
973	7504K4	SPDT	1.13
974	7560K5	DPST	1.51
975	7564K6	DPDT	1.86
976	7610K2	TPST	3.03
977	7614K2	TPDT	3.84

CENTER OFF STANDARD DUTY TOGGLE SWITCHES

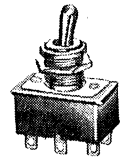


BACK CONNECTED LUG TERMINALS

No.	C-H No.	Type	NET Each
978	7503K13	SPDT	$ .96
979	7563K4	DPDT	1.51
980	7613K2	TPDT	3.21

BACK CONNECTED SCREW TERMINALS

No.	C-H No.	Type	NET Each
981	7502K13	SPDT	$1.13
982	7562K4	DPDT	1.86
983	7612K2	TPDT	3.84



TOGGLE SWITCHES
LIGHT DUTY

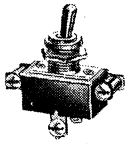
AC-DC, UL Approved; 15/32" shank; quick make — quick break; bakelite case. Unusually small size for electrical capacity. **Std. Pkg. 10**

BACK CONNECTED LUG TERMINALS
SMALL BAT HANDLE 15/32" LONG

No.	C-H No.	Current Rating Type	125 V.	250 V	NET Each
950	8280K16	SPST		3 Amps.	$ .84
951	8381K8	SPST	6 Amps.	3 Amps.	.96
952	8282K14	SPDT	3 Amps.	1 Amp.	1.05
953	8284K14	2 circ.	3 Amps.	1 Amp.	1.10
954	8360K7	DPST		3 Amps.	1.50
955	8370K7	DPST	6 Amps.	3 Amps.	1.61
956	8363K7	DPDT		3 Amps.	1.72
957	8373K7	DPDT	6 Amps.	3 Amps.	1.85

STANDARD BAT HANDLE 11/16" LONG

					NET Each
1160	8280K38	SPST		3 Amps.	$ .84
1161	8381K38	SPST	6 Amps.	3 Amps.	.96
1162	8908K448	SPDT	3 Amps.	1 Amp.	1.05
1163	8908K449	2 Circ.	3 Amps.	1 Amp.	1.10
1164	8360K38	DPST		3 Amps.	1.50
1165	8908K451	DPST	6 Amps.	3 Amps.	1.61
1166	8363K38	DPDT		3 Amps.	1.72
1167	8908K453	DPDT	6 Amps.	3 Amps.	1.85



SIDE CONNECTED SCREW TERMINALS

No.	C-H No.	Current Rating Type	125 V.	250 V.	NET Each
958	8285K8	SPST		3 Amps.	$1.01
959	8396K8	SPST	6 Amps.	3 Amps.	1.13
960	8297K8	SPDT	3 Amps.	1 Amp.	1.32
961	8372K7	DPST	6 Amps.	3 Amps.	1.97
962	8365K7	DPDT		3 Amps.	2.27
963	8375K7	DPDT	6 Amps.	3 Amps.	2.38

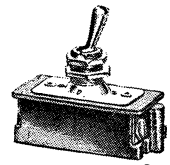
WIRE LEADS — SIX INCHES LONG
Small Bat Handle 15/32" Long

No.	C-H No.	Current Rating Type	125 V.	250 V.	NET Each
964	8290K16	SPST		3 Amps.	$1.01
965	8391K8	SPST	6 Amps.	3 Amps.	1.13

PUSH BUTTON MOMENTARY SWITCHES
Std. Pkg. 10

AC-DC, UL Approved, 15/32" shank; rated at ¾ Amp, 125 volts — ¼ Amp,250 volts.

No.	C-H No.	Type	Term.	NET Each
992	8411K11	SP Norm. Op	Lug	$ .58
993	8411K12	SP Norm. Op	Screw	.64
994	8411K8	SP Norm. Cl	Lug	.42
995	8411K7	SP Norm. Cl	Screw	.48



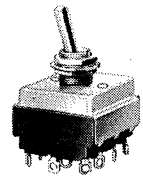
TOGGLE SWITCHES
HEAVY DUTY

AC - DC, UL Approved; 15/32" shank; quick make-quick break; bakelite case. Screw Terminals.

Std. Pkg. 10

No.	C-H No.	Current Rating Type 125 V	250-V	NET Each
984*	7321K3	SPST 12 A	6 A	$1.68
985*	7320K3	DPST 12 A	6 A	1.68
986±	7361K5	SPST 15 A	10 A	2.89
987±	7360K8	DPST 15 A	10 A	2.89
988±	7402K4	DPST	20 A	3.88

*1 Hp — 125/250V. ±1½ Hp — 125/250V.
±1½ Hp — 125V, 2 Hp — 250V.



FOUR POLE SWITCHES

AC-DC GOVERNMENT APPROVED PER MIL-S-6745. 15/32" shank. Rated 10 amps, 115 volt AC—20 amps, 28 volts DC (Nominal rating per pole) SEALED LEVER **Std. Pkg. 5**

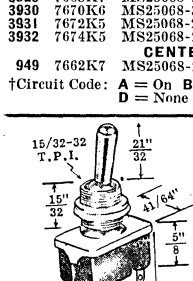
SOLDER LUGS

No.	C-H No.	"MS" No.	Type	Circuit†	NET Each
944	7661K6	—	4PST	A-D-B	$5.58
945	7665K4	—	4PDT	A-D-A	6.93
3922	7669K4	—	4PST	A-D-E	7.81
3923	7671K4	—	4PDT	A-B-C	8.58
3924	7673K4	—	4PDT	C-B-C	8.58
3925	7675K4	—	4PDT	A-D-C	8.58
		CENTER OFF			
948	7663K5	—	4PDT	A-B-A	6.93

SCREW TERMINALS (Per MIL-S-3950)

No.	C-H No.	"MS" No.	Type	Circuit†	NET Each
946	7660K12	MS25068- *	4PST	A-D-B	$6.60
947	7664K5	MS25068-23	4PDT	A-D-A	7.70
3926	7660K13	MS25068-24	4PST	A-B-D	6.16
3927	7666K6	MS25068- *	4PST	A-D-C	8.36
3928	7666K9	MS25068-28	4PST	D-B-C	8.36
3929	7668K7	MS25068-25	4PST	A-C-D	8.36
3930	7670K6	MS25068-31	4PDT	A-B-C	9.24
3931	7672K5	MS25068-27	4PDT	C-B-C	9.24
3932	7674K5	MS25068-26	4PDT	A-D-C	9.24
		CENTER OFF			
949	7662K7	MS25068-21	4PDT	A-B-A	7.70

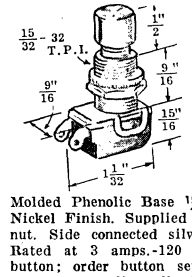
†Circuit Code: **A** = On **B** = Off **C** = Momentary On **D** = None **E** = Momentary Off



MIDGET TOGGLE SWITCH

Bat lever. Molded phenolic base. 15/32-32 x 15/32" long. Slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Back connected silver plated solder contacts. Rated 1 amp.-250 volts; 3 amps.-125 volts. **Std. Pkg. 10**

No.	Circuit	NET Each
920	SPST	$1.10
921	SPDT	1.31
922	2 Circ.	1.36
923	DPST	1.61
924	DPDT	1.85



MIDGET MOMENTARY SWITCH
SLOW MAKE AND BREAK

Molded Phenolic Base 15/32-32 x 5/16" slotted sleeve, Nickel Finish. Supplied with hex nut and knurled nut. Side connected silver plated solder contacts. Rated at 3 amps.-120 volts A.C. Supplied less button; order button separately. **Std. Pkg. 10**

Normally Closed (ON)

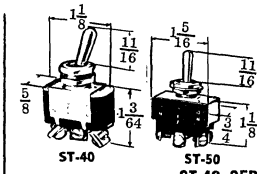
No.	Circuit	NET Each
925	SPST	$ .91
926	2 Circ.	.97

Normally Open (OFF)

No.	Circuit	NET Each
927	SPST	$ .91

Additional C-H Push Button Switches on Smith Page 46

"ST" SWITCHES



Nominal Rating Per. Pole:
10 Amps. 115 V. AC
20 Amps. 28V. DC
Std. Pkg. 10

ST-40 SERIES — Single Pole With Screw Terminals

HHS	C-H	JAN Type	Circuit	NET Each
1720	8801K13	ST40A SPST	On-None-Off	$2.10
1721	8813K12	ST40B SPST	On-None-Mom-Off	2.31
1722	8811K12	ST40C SPST	On-None-Mom-On	2.31
1723	8810K12	ST40D SPDT	On-None-On	2.53
1724	8800K13	ST40E SPDT	On-Off-On	2.53
1725	8804K12	ST40F SPDT	On-None-Mom-On	2.75
1726	8812K13	ST40G SPDT	Mom-On-Off-Mom-On	2.75
1727	8809K13	ST40H SPDT	Off-On-Mom-On	2.75

All ST-40 Switches have Sealed Lever.

ST-42 SERIES — Single Pole With Solder Lugs

HHS	C-H	JAN Type	Circuit	Each
1730	8803K6	ST42A SPST	On-None-Off	$1.79
1731	8819K5	ST42B SPST	On-None-Mom-Off	1.79
1732	8817K5	ST42C SPST	On-None-Mom-On	1.91
1733	8816K5	ST42D SPDT	On-None-On	1.85
1734	8802K6	ST42E SPDT	On-Off-On	1.85
1735	8805K5	ST42F SPDT	On-None-Mom-On	2.02
1736	8818K5	ST42G SPDT	Mom-On-Off-Mom-On	2.02
1737	8815K6	ST42H SPDT	On-Off-Mom-On	2.02

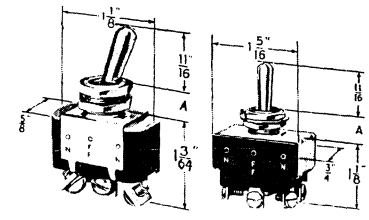
ST-50 SERIES — Double Pole With Screw Terminals

HHS	C-H	JAN Type	Circuit	Each
1740	8822K8	ST50K DPST*	On-None-Off	$2.81
1741	8828K5	ST50L DPST	On-None-Mom-Off	3.41
1742	8826K5	ST50M DPST	Off-None-Mom-On	3.41
1743	8824K8	ST50N DPDT*	On-None-On	3.41
1744	8826K10	ST50P DPDT*	On-Off-On	3.41
1745	8830K5	ST50R DPDT	On-None-Mom-On	3.70
1746	8834K4	ST50S DPDT*	Mom-On-Off-Mom-On	3.70
1747	8832K4	ST50T DPDT*	On-Off-Mom-On	3.70

* These switches are equipped with Sealed Lever.

ST-52 SERIES — Double Pole With Solder Lugs

HHS	C-H	JAN Type	Circuit	Each
1760	8823K5	ST52K DPST	On-None-Off	$1.98
1761	8829K5	ST52L DPST	On-None-Mom-Off	2.31
1762	8827K5	ST52M DPST	Off-None-Mom-On	2.31
1763	8825K5	ST52N DPDT	On-None-On	2.09
1764	8821K5	ST52P DPDT	On-Off-On	2.09
1765	8831K5	ST52R DPDT	On-None-Mom-On	2.38
1766	8835K3	ST52S DPDT	Mom-On-Off-Mom-On	2.38
1767	8833K3	ST52T DPDT	On-Off-Mom-On	2.38



"MS" SERIES Made to Spec. MIL-S-3950B

Supersedes all previous specifications. Made to meet MIL-S-3950B. Provided with sealed lever for protection against sand, dust and moisture. **Std. Pkg. 10**

SINGLE POLE

No.	C-H No.	"MS" No.	Type	Circuit†	NET Each
3900	8800K16	MS35058-21	SPST	A-B-A	$2.53
3901	8801K22	MS35058-22	SPST	A-D-B	1.99
3902	8810K15	MS35058-23	SPST	A-D-A	2.53
3903	8801K23	MS35058-24	SPDT	A-B-D	1.99
3904	8813K18	MS35058-25	SPDT	A-E-D	2.31
3905	8804K13	MS35058-26	SPDT	A-D-C	2.75
3906	8812K14	MS35058-27	SPDT	C-B-C	2.75
3907	8811K18	MS35058-28	SPDT	D-B-C	2.31
3908	8813K17	MS35058-29	SPDT	A-D-E	2.31
3909	8811K17	MS35058-30	SPDT	B-D-C	2.31
3910	8809K16	MS35058-31	SPDT	A-B-C	2.75

DOUBLE POLE

No.	C-H No.	"MS" No.	Type	Circuit†	NET Each
3911	8820K16	MS35058-21	DPDT	A-B-A	3.30
3912	8822K20	MS35059-22	DPST	A-D-B	2.75
3913	8824K14	HS35059-23	DPDT	A-D-A	3.30
3914	8822K21	MS35059-24	DPDT	A-B-D	2.75
3915	8828K12	MS35059-25	DPDT	A-E-D	3.30
3916	8830K13	MS35059-26	DPDT	A-D-C	3.63
3917	8834K5	MS35059-27	DPDT	C-B-C	3.63
3918	8826K14	MS35059-28	DPDT	D-B-C	3.30
3919	8828K13	MS35059-29	DPDT	A-D-E	3.30
3920	8826K15	MS35059-30	DPDT	B-D-C	3.30
3921	8823K6	MS35059-31	DPDT	A-B-C	3.63

†Circuit Code: **A** = On **B** = Off **C** = Momentary On **D** = **E** = Momentary Off

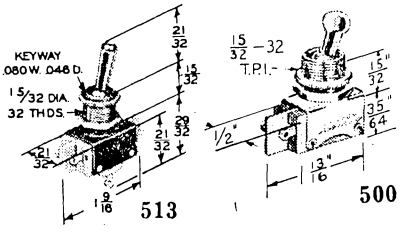
SMITH PAGE 39 (COMPLETE SMITH INDEX ON LAST SMITH PAGE) © United Technical Pub

specify SMITH

HERMAN H. SMITH, INC. — ELECTRONIC COMPONENTS

ARROW HART & HEGEMAN SWITCHES

SMALL CANOPY TYPE SWITCHES



Laminated type 15/32-32 slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Solder terminals. SPST rated at 3 amps-250 volts AC-DC; all other rated at 1 amp-250 volts, 3 amps-125 volts AC-DC. Std. Pkg. 10

BAT LEVER POSITIVE ACTION

15/32" long shaft No.	NET Each	CIRCUIT	13/32" long shaft No.	NET Each
510	$ .83	SPST	584	$ .83
511	1.05	SPDT	585	1.05
542	1.10	2-Circ.	586	1.10
512	1.50	DPST	587	1.50
513	1.72	DPDT	588	1.72

BAT LEVER MOMENTARY ACTION

15/32" long shaft

Normally Closed (ON) No.	NET Each	CIRCUIT	Normally Open (OFF) No.	NET Each
1020	$1.32	SPST	1024	$1.32
1021	1.54	SPDT	—	—
1022	1.98	DPST	1025	2.00
1023	2.23	DPDT	—	—

BALL LEVER POSITIVE ACTION

15/"32 long shaft No.	NET Each	CIRCUIT	3/4" long shaft No.	NET Each
500	$ .83	SPST	501	$ .99
502	1.05	SPDT	503	1.32
540	1.10	2 Circ.	541	1.27
504	1.50	DPST	505	1.78
506	1.72	DPDT	507	1.98

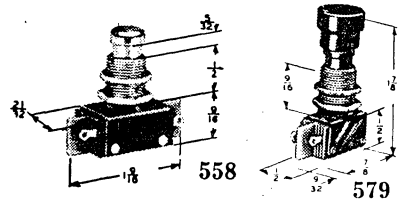
It's Sound Planning to SPECIFY SMITH FOR SWITCHES

To assist you in planning your prototypes and production, Smith maintains an inventory of all switches listed here —

IN STOCK — IN DEPTH

to meet your Immediate Requirements!

MOMENTARY PUSH SWITCHES



Laminated type 15/32-32 x 9/16" slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. All switches accept snap on button. SPST rated at 3 amps-250 volts AC-DC. All others rated at 1 amp-250 volts. 3 amps-125 volts AC-DC. Std. Pkg. 10

SUPPLIED LESS BUTTON: ORDER BUTTON SEPARATELY.

QUICK MAKE AND BREAK

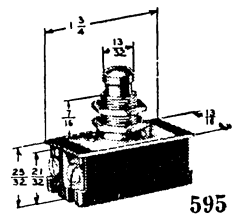
Normally Closed (ON) No.	NET Each	CIRCUIT	Normally Open (OFF) No.	NET Each
552	$1.61	SPST	555	$1.61
556	1.85	SPDT	—	—
557	1.90	2 Circ.	—	—
564	2.24	DPST	558	2.24
559	2.62	DPDT	—	—

SLOW MAKE AND BREAK

Rated at 1 amp.-125 volts AC

Normally Closed (ON)	NET Each	CIRCUIT	Normally Open (OFF)	NET Each
582	$ .91	SPST	579	$ .91
580	1.16	2 Circ.	—	—

STANDARD DUTY MOMENTARY PUSH SWITCHES



Molded phenolic base. 15/32-32 x 7/16" long slotted sleeve, nickel finish. Screw terminals. Supplied with hex nuts.

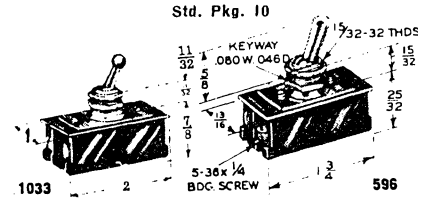
Two circ. rated at 3 amps.-250 volts, 6 amps-125 volts. AC-DC. All others rated at 6 amps-250 volts, 12 amps-125 volts AC-DC. DPST also rated at 1 HP at 250 volts AC-DC. Std. Pkg. 10

Normally Closed (ON) No.	NET Each	CIRCUIT	Normally Open (OFF) No.	NET Each
1026	$2.46	SPST	544	$2.35
1027	2.46	SPDT	—	—
1028	2.61	2 Circ.	—	—
1029	2.46	DPST	595	2.46

STANDARD DUTY TOGGLE SWITCHES

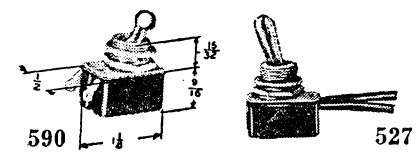
QUICK MAKE AND BREAK

Std. Pkg. 10



BALL LEVER No.	NET Each	CIRCUIT	BAT LEVER No.	NET Each
1030	$1.59	SPST	597	$1.59
1031	1.67	SPDT	598	1.59
1032	1.59	2 Circ.	599	1.67
1033	1.67	DPST	596	1.62

MIDGET SIZE TOGGLE SWITCHES



Molded phenolic base, 15/32-32 x 15/32" long slotted sleeve, nickel finish. Side connected silver plated solder contacts. Supplied with hex nut and knurled nut. SPST rated at 3 amps 250 volts; 6 amps.-125 volts; all others rated at 1 amp-250 volts, 6 amps.-125 volts. Std. Pkg. 10

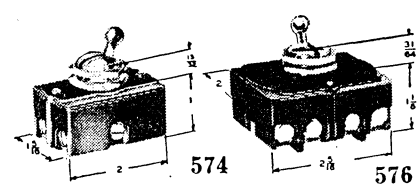
BALL LEVER No.	NET Each	CIRCUIT	BAT LEVER No.	NET Each
590	$ .95	SPST	591	$ .95
589	1.17	SPDT	592	1.17
594	1.14	2 Circ.	593	1.14

6" WIRE LEADS

BALL LEVER No.	NET Each	CIRCUIT	BAT LEVER No.	NET Each
526	$1.01	SPST	527	$1.01
538	1.40	SPDT	528	1.40
543	1.54	2 Circ.	514	1.54

EXTRA HEAVY DUTY POWER SWITCHES

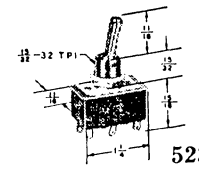
3 POSITION—POSITIVE CENTER OFF



Slotted sleeve 3/4-32, nickel finish. Screw terminals. Supplied with 2 hex nuts. Rated at 5 amps-250 volts. 10 amps-125 volts plus HP rating shown below. Std. Pkg. 5

No.	Circuit	Description	NET Each
574	DPDT	3/4 HP 250 volts AC-DC	$ 5.85
575	TPDT	1/2 HP 115/230 volts AC, 3 phase	9.00
576	4PDT	1/2 HP 115/230 volts AC, 2 phase	12.00

INTERMEDIATE SIZE TOGGLE SWITCHES

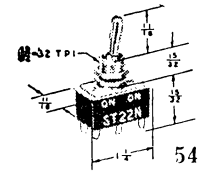


Molded phenolic base. 15/32-32 x 15/32" long slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Back connected silver plated solder contacts. SPDT rated at 1 amp-250 volts, 6 amps-125 volts AC-DC; all others rated at 3 amps-250 volts, 6 amps-125 volts AC-DC.

BAT LEVER Std. Pkg. 10

POSITIVE ACTION No.	CIRCUIT	MOMENTARY ACTION No.		NET Each
520	SPST	524	OFF	$1.58
521	SPDT	549	—	1.72
583	2 Circ.	—	—	—
522	DPST	537	OFF	2.26
523	DPDT	525	—	2.48

ST TYPE TOGGLE SWITCHES



MEETS AN SPEC. JAN-23

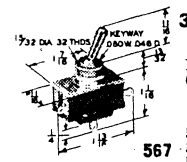
Rated at 3 amps-250 volts, 6 amps-125 volts AC-DC.

Std. Pkg. 10

No.	AWS No.	CIRCUIT	Position	NET Each
545	ST 12A	SPST	OFF-ON	$1.49
546	ST 12D	SPDT	ON-ON	1.69
1040	ST 12V	2-Circ.	ON-OFF	1.72
547	ST 22K	DPST	OFF-ON	2.11
548	ST 22N	DPDT	ON-ON	2.30

MOMENTARY NORMALLY OPEN (OFF)

1041	ST 12C	SPST	OFF-ON	$1.94
1042	ST 22M	DPST	OFF-ON	2.55

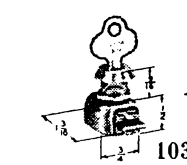


3 POSITION CENTER OFF

Rated at 3 amps-250 volts, 6 amps-125 volts AC-DC. Std. Pkg. 10

No.	CIRCUIT	NET Each
566	SPDT	$2.01
565	2 Circ.	2.25
567	DPDT	2.38

CANOPY TYPE ROTARY SWITCHES



Laminated type. 11/32-32 x 15/32" sleeve, nickel finish. Solder lugs. Supplied with hex nut and dress nut. SPST rated at 3 amps-250 volts AC-DC, all others rated at 1 amp-250 volts, 3 amps-125 volts. AC-DC. Key removable in OFF position only on SPST and DPST—key removable in both positions on all others. 1⅛" shaft. Std. Pkg. 10

KEY TYPE No.	NET Each	CIRCUIT	ROTARY TYPE No.	NET Each
1034	$1.95	SPST	570	$1.13
1035	2.01	SPDT	571	1.26
1036	2.06	2 Circ.	—	—
1037	2.47	DPST	572	1.61
1038	2.48	DPDT	573	2.13

SWITCH ACCESSORIES

508 509 581 1146 1170 1171 1172 1196 1197 1198

No.	Description	Std. Pkg.	NET Per C
508	ON-OFF name plate	50	$6.00
509	HI-LO name plate	50	6.00
581	Snap-On Button (Red or Black)	20	27.00
1146	Narrow Rim Lockwasher	100	1.32
1170	Key—Remove off position	50	24.00
1171	Key—Remove both positions	50	24.00
1172	Locking Ring	100	2.70
1196	Hex Nut—Brass N.P.	100	1.98
1197	Ring Nut—Brass N.P.	100	3.30
1198	Dress Nut—Brass N.P.	100	20.00

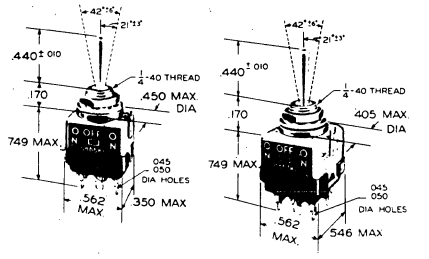
specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

CUTLER-HAMMER

MINIATURE MILITARY SWITCHES



Extremely compact, highly reliable power or dry circuit switches. Usable as a pre-set switch in aircraft recognition systems; for walkie-talkies; for electronic instruments and communications systems.

RATINGS: Res. Load 4 Amps. @ 28 V.D.C. 1 Amp @ 50 V.D.C. 3 Amps. @ 115 V.A.C.

MINIMUM RATING: 25 Microamps. @ 5 Millivolts.

SINGLE POLE

WEIGHT: 5.0 Grams.
CUBIC CONTENT: .147 cubic inches "behind panel" volume.
Std. Pkg. 5

.440 LEVER APPROVED TO MIL-S-8834

No.	C-H No.	"MS" No.	Type	Circuit†	NET Each
1841	8866K1	MS24655-211	SPDT	A-B-A	$7.48
1842	8866K2	MS24655-271	SPDT	C-B-C	8.42
1843	8866K3	MS24655-311	SPDT	A-B-C	8.42
1844	8866K4	MS24655-231	SPDT	A-D-A	7.40
1845	8866K4	MS24655-241	SPST	A-B-D	8.42
1846	8866K6	MS24655-281	SPST	D-B-C	8.42
1847	8866K7	MS24655-221	SPST	A-D-B	7.40

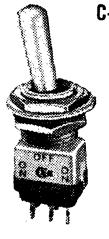
DOUBLE POLE

WEIGHT: 6.5 grams.
CUBIC CONTENT: .230 cubic inches "behind panel" volume.
Std. Pkg. 5

No.	C-H No.	"MS" No.	Type	Circuit†	NET Each
1851	8867K1	MS24656-211	DPDT	A-B-A	$ 9.35
1852	8867K2	MS24656-271	DPDT	C-B-C	10.90
1853	8867K3	MS24656-311	DPDT	A-B-C	10.90
1854	8867K4	MS24656-231	DPDT	A-D-A	9.35
1855	8867K5	MS24656-241	DPST	A-B-D	10.90
1856	8867K6	MS24656-281	DPST	D-B-C	10.90
1857	8867K7	MS24656-221	DPST	A-D-B	9.35

†Circuit Code: **A** = On **B** = Off **C** = Momentary On **D** = None **E** = Momentary Off

C-H MINIATURE MILITARY SWITCHES



Same as above, but with .687" lever. Total weight: 5.0 - 6.5 grams. Bushing dia. 15/32". Gold plated solder lug terminals.

SINGLE POLE

11/16" LEVER APPROVED TO MIL-S-8834

No.	C-H No.	Type	Circuit†	NET Each
3933	8868K1	SPDT	A-B-A	$7.60
3934	8868K2	SPDT	C-B-C	8.60
3935	8868K3	SPDT	A-B-C	8.60
3936	8868K4	SPDT	A-D-A	7.60
3937	8868K5	SPST	A-B-D	8.60
3938	8868K6	SPST	D-B-C	8.60
3939	8868K7	SPST	A-D-B	7.60

DOUBLE POLE

No.	C-H No.	Type	Circuit†	NET Each
3940	8869K1	DPDT	A-B-A	$ 9.46
3941	8869K2	DPDT	C-B-C	11.00
3942	8869K3	DPDT	A-B-C	11.00
3943	8869K4	DPDT	A-D-A	9.46
3944	8869K5	DPST	A-B-D	11.00
3945	8869K6	DPST	D-B-C	11.00
3946	8869K7	DPST	A-D-B	9.46

†Circuit Code: **A** = On **B** = Off **C** = Momentary On **D** = None **E** = Momentary Off

PUSH BUTTON SWITCHES

Push to make—Push to break

AC-DC, UL Approved; 11/16" shank; bakelite case. Pushing the button once closes the contacts. Pushing it again opens the contacts. Rated at 6 Amps. 125 Volts; 3 Amps. 250 Volts. **Std. Pkg. 10**

No.	C-H No.	Type	Term.	NET Each
989	7206K4	SPST	Lug	$1.15
990	7208K4	SPST	Screw	1.30
991	7207K4	SPST	Wire	1.30

QUALIFIED SALES ENGINEERS

The men and their organizations comprising the nationwide network of SMITH REPRESENTATIVES are technically qualified and eager to consult with you on your requirements for standard or special components manufactured by Herman H. Smith Inc.

MICRO TOGGLE SWITCHES

ROCKER-ACTUATED TOGGLE SWITCHES

Combines advantages of Toggle Switch circuitry and current capacity with pushbutton control. Snag-proof keys prevent false actuation. Translucent plastic keys feature edge light indication. Lower half of key emits soft glow from light source in panel. Enables easy identification of actuator position. Transparent plastic keys mounted above flush. An insert with signs, symbols, or letters can be placed under the key.

Temperature range −65°F to +160°F. Sealed between bushing and rocker actuator, and between cover and case. **Std. Pkg. 10**

Circuit Code #	Circuit	Circuit Code #	Circuit
1	ON-OFF-ON	8	OFF-NONE-ON(MOM)
2	ON-NONE-OFF	9	ON(MOM)OFF-ON (MOM
3	ON-NONE-ON	10	ON-NONE-ON(MOM)
4	ON-OFF-NONE	11	ON-OFF(MOM)-NONE
5	ON-ON-NONE	12	ON(MOM)-ON-NONE
6	ON-NONE-OFF(MOM)	13	NONE-OFF-ON(MOM)
7	ON-OFF-ON(MOM)		

RATING: CURRENT CAPACITY (AMPS)

	CONTINUOUS	RESISTIVE LOAD 30 vdc	115 vdc	250 vdc	115 vac	230 vac	LAMP LOAD 30 vdc	115 vac	INDUCTIVE LOAD 30 vdc	115 vac
A	45	20	.75	.5	15	6	5	3	15	10
B	45	15	.75	.5	15	6	4	2	10	7
C	40	20	.75	.5	15	6	7	4	15	15
D	40	18	.75	.5	11	6	5	2	10	8
E	40	20	.75	.5	15	6	5	4	12	15
F	40	18	.75	.5	11	6	4	2	10	8

HHS	MICRO	Circuit	Rating	NET Each
	1 POLE			
	TRANSLUCENT KEY			
3401	1TP1-1	1	A	$ 7.29
3402	1TP1-2	2	A	7.29
3403	1TP1-3	3	A	7.29
3404	1TP1-21	4	A	7.29
3405	1TP1-31	5	A	7.29
3406	1TP1-4	6	B	7.29
3407	1TP1-5	7	B	7.29
3408	1TP1-6	8	B	7.29
3409	1TP1-7	9	B	7.29
3410	1TP1-8	10	B	12.63
3411	1TP1-41	11	B	13.02
3412	1TP1-51	12	B	13.05
3413	1TP1-61	13	B	7.29
	TRANSPARENT KEY			
3414	1TP4-1	1	A	$ 7.29
3415	1TP4-2	2	A	7.29
3416	1TP4-3	3	A	7.29
3417	1TP4-21	4	A	15.57
3418	1TP4-31	5	A	15.57
3419	1TP4-4	6	B	7.29
3420	1TP4-5	7	B	7.29
3421	1TP4-6	8	B	7.29
3422	1TP4-7	9	B	7.29
3423	1TP4-8	10	B	15.15
3424	1TP4-41	11	B	15.57
3425	1TP4-51	12	B	15.63
3426	1TP4-61	13	B	13.02
	2 POLE			
	TRANSLUCENT KEY			
3427	2TP1-1	1	C	$ 8.40
3428	2TP1-2	2	C	8.40
3429	2TP1-3	3	C	8.40
3430	2TP1-21	4	C	8.40
3431	2TP1-31	5	C	8.40
3432	2TP1-4	6	D	16.17
3433	2TP1-5	7	D	8.40
3434	2TP1-6	8	D	8.40
3435	2TP1-7	9	D	14.61
3436	2TP1-8	10	D	8.40
3437	2TP1-41	11	D	15.03
3438	2TP1-51	12	D	15.21
3439	2TP1-61	13	D	15.03
	TRANSPARENT KEY			
3440	2TP4-1	1	C	$ 8.40
3441	2TP4-2	2	C	8.40
3442	2TP4-3	3	C	8.40
3444	2TP4-31	5	C	17.58
3446	2TP4-5	7	D	8.40
3447	2TP4-6	8	D	17.19
3448	2TP4-7	9	D	8.40
3449	2TP4-8	10	D	8.40
3451	2TP4-51	12	D	17.73
3452	2TP4-61	13	D	17.58
	4 POLE			
	TRANSLUCENT KEY			
3453	4TP1-1	1	E	$ 9.90
3454	4TP1-2	2	E	9.90
3455	4TP1-3	3	E	9.90
3456	4TP1-21	4	E	9.90
3457	4TP1-31	5	E	9.90
3458	4TP1-4	6	F	18.00
3459	4TP1-5	7	F	9.90
3461	4TP1-7	9	F	9.90
3462	4TP1-8	10	F	15.03
3463	4TP1-41	11	F	15.21
3464	4TP1-51	12	F	15.03
	TRANSPARENT KEY			
3466	4TP4-1	1	E	$ 9.90
3467	4TP4-2	2	E	9.90
3468	4TP4-3	3	E	9.90
3469	4TP4-21	4	E	20.16
3470	4TP4-31	5	E	22.05
3471	4TP4-4	6	F	19.77
3472	4TP4-5	7	F	9.90
3474	4TP4-7	9	F	9.90
3475	4TP4-8	10	F	19.89
3476	4TP4-41	11	F	20.91
3477	4TP4-51	12	F	22.44
3478	4TP4-61	13	F	20.16

BUSHING-MOUNTED TOGGLE SWITCHES

Tested and approved under MIL-S-3950A. Silicone sealed between cover and case, and between bushing and toggle lever. Integral terminals provide stronger wiring connections. Wide temperature range of −85°F to +250°F. **Std. Pkg. 10**

Circuit Code #	Circuit	Circuit Code #	Circuit
1	ON-OFF-ON	8	OFF-NONE-ON(MOM)
2	ON-NONE-OFF	9	ON(MOM)OFF-ON (MOM)
3	ON-NONE-ON	10	ON-NONE-ON(MOM)
4	ON-OFF-NONE	11	ON-OFF(MOM)-NONE
5	ON-ON-NONE	12	ON(MOM)-ON-NONE
6	ON-NONE-OFF(MOM)	13	NONE-OFF-ON(MOM)
7	ON-OFF-ON(MOM)		

RATING: CURRENT CAPACITY (AMPS)

	CONTINUOUS	RESISTIVE LOAD 30 vdc	115 vdc	250 vdc	115 vac	230 vac	LAMP LOAD 30 vdc	115 vac	INDUCTIVE LOAD 30 vdc	115 vac
A	45	20	.75	.5	15	6	5	3	15	10
B	45	15	.75	.5	15	6	4	2	10	7
C	40	20	.75	.5	15	6	7	4	15	15
D	40	18	.75	.5	11	6	5	2	10	8

HHS	MICRO	"MS" No.	Circuit	Rating	NET Each
		1 POLE (MS 24523)			
3101	1TL1-1	MS24523-21	1	A	$5.13
3102	1TL1-2	MS24523-22	2	A	5.13
3103	1TL1-3	MS24523-23	3	A	5.13
3104	1TL1-21	MS24523-24	4	A	5.97
3105	1TL1-31	MS24523-33	5	A	5.97
3106	1TL1-4	MS24523-29	6	B	5.13
3107	1TL1-5	MS24523-31	7	B	5.13
3108	1TL1-6	MS24523-30	8	B	5.13
3109	1TL1-7	MS24523-27	9	B	5.13
3110	1TL1-8	MS24523-26	10	B	5.13
3111	1TL1-41	MS24523-25	11	B	5.97
3112	1TL1-51	MS24523-51	12	B	5.97
3113	1TP1-61	MS24523-28	13	B	5.97
		2 POLE (MS 24524)			
3114	2TL1-1	MS24524-21	1	C	$8.43
3115	2TL1-2	MS24524-22	2	C	8.43
3116	2TL1-3	MS24524-23	3	C	8.43
3117	2TL1-21	MS24524-24	4	C	8.43
3118	2TL1-31	MS24524-33	5	C	8.43
3119	2TL1-4	MS24524-29	6	D	8.43
3120	2TL1-5	MS24524-31	7	D	8.43
3121	2TL1-6	MS24524-30	8	D	8.43
3122	2TL1-7	MS24523-27	9	D	8.43
3123	2TL1-8	MS24524-26	10	D	8.43
3124	2TL1-41	MS24524-25	11	D	8.43
3125	2TL1-51	MS24524-32	12	D	8.43
3126	2TL1-61	MS24524-28	13	D	8.43
		4 POLE (MS 24525)			
3127	4TL1-1	MS24525-21	1	C	$13.35
3128	4TL1-2	MS24525-22	2	C	13.35
3129	4TL1-3	MS24525-23	3	C	13.35
3130	4TL1-21	MS24525-24	4	C	13.35
3131	4TL1-31	MS24525-33	5	C	13.35
3132	4TL1-4	MS24525-29	6	D	13.35
3133	4TL1-5	MS24525-31	7	D	13.35
3134	4TL1-6	MS24525-30	8	D	13.35
3135	4TL1-7	MS24525-27	9	D	13.35
3136	4TL1-8	MS24525-26	10	D	13.35
3137	4TL1-41	MS24525-25	11	D	13.35
3139	4TL1-51	MS24525-32	12	D	13.35
3139	4TL1-61	MS24525-28	13	D	13.35

BUSHING-MOUNTED "TS" TOGGLE SMITCHES

Tested and approved under MIL-S-3950A. Terminals plated to enable conversion to solder use by removing screws. Sealed toggle lever. **Std. Pkg. 10**

RATING: CURRENT CAPACITY (AMPS)

	CONTINUOUS	RESISTIVE LOAD 30 vdc	125 vdc	250 vdc	125 vac	250 vac	LAMP LOAD 30 vdc	125 vac	INDUCTIVE LOAD 30 vdc	125 vac
A	40	20	.75	.5	15	6	5	3	15	10
B	40	15	.75	.5	15	6	4	2	10	7
C	30	30	.75	.5	25	9	7	4	15	15
D	30	20	.75	.5	15	6	5	2	10	8

HHS	MICRO	"MS" No.	Circuit	Rating	NET Ea.
		1 POLE (MS 35058)			
3141	511TS1-1	MS35058-21	1	A	$2.18
3142	511TS1-2	MS35058-22	2	A	1.82
3143	511TS1-3	MS35058-23	3	A	2.18
3144	511TS1-21	MS35058-24	4	A	1.82
3145	511TS1-4	MS35058-29	6	B	2.02
3146	511TS1-5	MS35058-31	7	B	2.37
3147	511TS1-6	MS35058-30	8	B	2.02
3148	511TS1-7	MS35058-27	9	B	2.37
3149	511TS1-8	MS35058-26	10	B	2.37
3150	511TS1-61	MS35058-28	13	B	2.02
3151	511TS1-41	MS35058-25	11	B	2.02
		2 POLE (35059)			
3152	512TS1-1	MS35059-21	1	C	$2.93
3153	512TS1-2	MS35059-22	2	C	2.44
3154	512TS1-3	MS35059-23	3	C	2.93
3155	512TS1-21	MS35059-24	4	C	2.44
3156	512TS1-4	MS35059-29	6	D	2.93
3157	512TS1-5	MS35059-31	7	D	3.15
3158	512TS1-6	MS35059-30	8	D	2.93
3159	512TS1-7	MS35059-27	9	D	3.15
3160	512TS1-8	MS35059-26	10	D	3.15
3161	512TS1-61	MS35059-28	13	D	2.93
3162	512TS1-41	MS35059-25	11	D	2.93

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MICRO TOGGLE SWITCHES

"TS" TOGGLE SWITCHES "UL" LISTED

"UL" listed "Commercial" type are identical to military type except for bat handle finish. Bright chrome plated to enhance panel appearance. Also certified by the Canadian Standards Association (CSA). **Std. Pkg. 10**

Circuit Code #	Circuit	Circuit Code #	Circuit
1	ON-OFF-ON	8	OFF-NONE-ON(MOM)
2	ON-NONE-OFF	9	ON(MOM)OFF-ON
3	ON-NONE-ON		(MOM)
4	ON-OFF-NONE	10	ON-NONE-ON(MOM)
6	ON-NONE-OFF(MOM)	13	NONE-OFF-ON(MOM)
7	ON-OFF-ON(MOM)		

RATING "A"	RATING "B"	RATING "C"
15 Amps., 125-250 VAC	10 Amps., 125-250 VAC	15 Amps., 125-250 VAC
½ HP, 125 VAC	¼ HP, 125 VAC	⅓ HP, 125 VAC
1 HP, 250 VAC	½ HP, 250 VAC	¾ HP, 250 VAC

HHS	MICRO	Circuit	Rating	Net Ea.
	1 POLE			
	SCREW TERMINALS			
3331	11TS15-1	1	A	$2.18
3332	11TS15-2	2	A	1.82
3333	11TS15-3	3	A	2.18
3334	11TS15-6	8	B	2.02
3335	11TS15-61	13	B	2.02
3336	11TS15-7	9	B	2.37
	QUICK DISCONNECT TERMINALS			
3337	11TS95-1	1	A	$2.11
3338	11TS95-2	2	A	1.76
3339	11TS95-21	4	A	1.76
3340	11TS95-3	3	A	2.11
3341	11TS95-4	6	B	1.95
3342	11TS95-5	7	B	2.31
3343	11TS95-6	8	B	1.95
3344	11TS95-61	13	B	1.95
3345	11TS95-7	9	B	2.31
3346	11TS95-8	10	B	2.31
	SOLDER TERMINALS			
3347	11TS115-1	1	A	$2.05
3348	11TS115-2	2	A	1.72
3349	11TS115-3	3	A	2.05
3350	11TS115-4	6	B	1.92
3351	11TS115-7	9	B	2.24
	2 POLE			
	SCREW TERMINALS			
3352	12TS15-1	1	A	$2.93
3353	12TS15-2	2	A	2.44
3354	12TS15-21	4	A	2.44
3355	12TS15-3	3	A	2.93
3357	12TS15-5	7	C	3.15
3359	12TS15-61	13	C	2.93
3360	12TS15-7	9	C	3.15
3361	12TS15-8	10	C	3.15
	QUICK DISCONNECT			
3362	12TS95-1	1	A	$2.76
3363	12TS95-2	2	A	2.31
3365	12TS95-3	3	A	2.76
3366	12TS95-4	6	C	2.83
3367	12TS95-5	7	C	3.02
3370	12TS95-7	9	C	3.02
	SOLDER TERMINALS			
3372	12TS115-1	1	A	$2.63
3373	12TS115-2	2	A	2.24
3374	12TS115-21	4	A	2.24
3375	12TS115-3	3	A	2.63
3376	12TS115-4	6	C	2.73
3377	12TS115-5	7	C	2.89
3378	12TS115-6	8	C	2.73
3379	12TS115-61	13	C	2.73
3380	12TS115-7	9	C	2.89
3381	12TS115-8	10	C	2.89

3-HOLE MOUNT "TS" TOGGLE SWITCHES

"An" Type tested and approved under MIL specs. "JAN" Type conform to JAN-S-23. Sealed Lever. **Std. Pkg. 10**

Circuit Code #	Circuit	Circuit Code #	Circuit
1	ON-OFF-ON	8	OFF-NONE-ON(MOM)
2	ON-NONE-OFF	9	ON(MOM)OFF-ON
3	ON-NONE-ON		(MOM)
4	ON-OFF-NONE	10	ON-NONE-ON(MOM)
6	ON-NONE-OFF(MOM)	11	ON-OFF(MOM)-NONE
7	ON-OFF-ON(MOM)	13	NONE-OFF-ON(MOM)

RATING: CURRENT CAPACITY (AMPS)

	CONTINUOUS	RESISTIVE 30 vdc	125 vdc	250 vdc	115 vac	230 vac	LAMP LOAD 30 vdc	125 vac	INDUCTIVE LOAD 30 vdc	125 vac
A	55	40	.75	.5	20	7.5	7	7	20	15
B	55	30	.75	.5	20	7.5	5	4	18	11
C	55	40	.75	.5	25	8	10	7	20	15
D	55	30	.75	.5	20	7	7	4	18	11

1 POLE (MIL-S-6745)

HHS	MICRO	"AN" No.	"JAN" No.	Circuit	Rating	Net Ea.
3301	31TS1-1	3022-1	ST45E	1	A	$2.57
3302	37TS1-2	3022-2	ST45A	2	A	2.11
3303	31TS1-3	3022-3	ST45D	3	A	2.57
3304	31TS1-21	——	——	4	A	2.11
3305	31TS1-4	3022-9	ST45B	6	B	2.34
3306	31TS1-5*	——	ST45H	7	B	2.76
3307	31TS1-6	3022-8	ST45C	8	B	2.34
3308	31TS1-7	3022-7	ST45G	9	B	2.76
3309	31TS1-8	3022-11	ST45F	10	B	2.76
3310	31TS2-5	3022-6	——	7	B	2.96
3311	31TS1-61	——	——	13	B	2.34

*Has a jumper across the stationary contact terminals.

2 POLE (MIL-S-3950A)

HHS	MICRO	"MS" No.	Circuit	Rating	Net Ea.
3312	532TS1-1	MS25103-21	1	C	$5.33
3313	532TS1-3	MS25103-23	3	C	5.33
3314	532TS1-21	MS25103-24	4	C	4.45
3315	532TS1-5	MS25103-31	7	D	5.79
3316	532TS1-7	MS25103-27	9	D	5.79
3317	532TS1-8	MS25103-26	10	D	5.79
3319	532TS1-61	MS25103-28	13	D	5.23

RATING: CURRENT CAPACITY (AMPS)

	CONTINUOUS	RESISTIVE LOAD 30 vdc	115 vac	30 vdc	LAMP LOAD 115 vac	30 vdc	INDUCTIVE LOAD 115 vdc
E	30	25	22	5	3	15	15
F	20	20	20	5	4	12	15
G	20	18	11	4	2	10	8

3 POLE (MIL-S-3950A)

HHS	MICRO	"MS" No.	Circuit	Rating	Net Ea.
3320	533TS1-1	MS25105-21	1	E	$4.97
3321	533TS1-3	MS25105-23	3	E	4.97
3322	533TS1-21	MS25105-24	4	E	4.16

4 POLE (MIL-S-6745)

HHS	MICRO	"AN" No.	Circuit	Rating	Net Ea.
3323	34TS1-1	3227-1	1	F	$6.66
3324	34TS1-2	3227-2	2	F	5.33
3325	34TS1-3	3227-3	3	F	6.66
3326	34TS1-21	3227-9	4	F	7.83
3327	34TS1-5	3227-5	7	G	8.03
3328	34TS1-6	3227-8	8	G	7.22
3329	34TS1-7	3227-7	9	G	8.03
3330	34TS1-61	3227-10	13	G	7.22

SEALED "TS" TOGGLE SWITCHES

These switches have a panel seal in addition to all other "TS" features. When mounted, the seal provides a dust, liquid and moisture seal at the panel. **Std. Pkg. 10**

Circuit Code #	Circuit	Circuit Code #	Circuit
1	ON-OFF-ON	7	ON-OFF-ON(MOM)
2	ON-NONE-OFF	8	OFF-NONE-ON(MOM)
3	ON-NONE-ON	9	ON(MOM)OFF-ON
4	ON-OFF-NONE		(MOM)
6	ON-NONE-OFF(MOM)	10	ON-NONE-ON(MOM)

RATING: CURRENT CAPACITY (AMPS)

	CONTINUOUS	RESISTIVE LOAD 30 vdc	125 vdc	250 vdc	125 vac	250 vac	LAMP LOAD 30 vdc	125 vac	INDUCTIVE LOAD 30 vdc	125 vac
A	40	20	.75	.5	15	6	5	3	15	10
B	40	15	.75	.5	15	6	4	2	10	7
C	30	30	.75	.5	25	9	7	4	15	15
D	30	20	.75	.5	15	6	5	2	10	8

1 POLE

SCREW TYPE TERMINALS

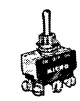
HHS	MICRO	Circuit	Rating	NET Each
3201	211TS1-1	1	A	$3.45
3202	211TS1-2	2	A	3.06
3203	211TS1-3	3	A	3.45
3206	211TS1-5	7	B	3.61
3207	211TS1-6	8	B	3.25
3209	211TS1-8	10	B	3.61

SOLDER TYPE TERMINALS

3211	211TS11-1	1	A	$3.28
3212	211TS11-2	2	A	2.96
3213	211TS11-3	3	A	3.28
3215	211TS11-4	6	B	3.15
3216	211TS11-5	7	B	3.48
3217	211TS11-6	8	B	3.15
3218	211TS11-7	9	B	3.48
3219	211TS11-8	10	B	3.48

2 POLE

SCREW TYPE TERMINALS

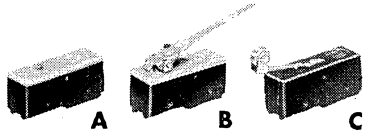


HHS	MICRO	Circuit	Rating	NET Each
3221	212TS1-1	1	C	$4.13
3222	212TS1-2	2	C	3.64
3223	212TS1-3	3	C	4.13
3224	212TS1-21	4	C	3.64
3225	212TS1-4	6	D	4.13
3226	212TS1-5	7	D	4.39
3227	212TS1-6	8	D	4.13
3228	212TS1-7	9	D	4.39
3229	212TS1-8	10	D	4.39

SOLDER TYPE TERMINALS

3231	212TS11-1	1	C	$3.84
3232	212TS11-2	2	C	3.45
3233	212TS11-3	3	C	3.84
3236	212TS11-5	7	D	4.06
3237	212TS11-6	8	D	3.93
3238	212TS11-7	9	D	4.06
3239	212TS11-8	10	D	4.06

ARROW H & H "SNAP-ACTING" Momentary Contact SWITCHES



TERMINAL CODE: S = solder lugs; L = screws, lock washers; C = screws, cup washers; Q = quick connect

Std. Pkg. 5

HIGH SENSITIVITY PIN TYPE (A)

RATINGS
LIMIT LOAD to 1 10 Amp, 125 V., A.C.
or 10 Watts, 125 V., A.C.
or 5 Watts, 25 V., D.C.

Operating Characteristics
Operating Force..... 7 to 12 oz.
Pretravel ..... .012" max.
Overtravel ..... .005" min.
Diff. Travel.. .0002 to .0008 in.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4701	$6.40	4705	$6.40	4709	$6.66
C	4702	6.54	4706	6.54	4710	6.77
L	4703	6.54	4707	6.54	4711	6.77
Q	4704	6.40	4708	6.40	4712	6.66

ADJUSTABLE RIGID LEVER (B)

Heavy Duty 20 Amp

RATINGS
20 A., 480 V., A.C. ¼ A., 250 V., D.C.
10 A, 125 V., A.C. "L" Load 1 H.P., 120 V., A.C.
½ A, 125 V., D.C. 2 H.P., 240 V., A.C.

Operating Characteristics
Operating Force.. 2½ oz. max.
Pretravel ..... 5/8" max.
Overtravel ..... .078" min.
Diff. Travel..... .109" max.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4721	$2.91	4725	$2.91	4729	$3.17
C	4722	3.04	4726	3.04	4730	3.30
L	4723	3.04	4727	3.04	4731	3.30
Q	4724	2.91	4728	2.91	4732	3.17

ROLLER LEAF ACTUATOR (C)

General Purpose 15 Amp

RATINGS
15 Amp., 480 V., A.C.
½ Amp., 125 V., D.C.
¼ Amp., 250 V., D.C.

Operating Characteristics
Operating Force..... 5 oz. max.
Pretravel ..... 5/32" max.
Overtravel..... not over 1/16 in.
Diff. Travel..... .050" max.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4501	$2.41	4533	$2.41	4565	$2.74
C	4502	2.48	4534	2.48	4566	2.78
L	4503	2.48	4535	2.48	4567	2.78
Q	4504	2.41	4536	2.41	4568	2.74

Heavy Duty 20 Amp

RATINGS
20 A., 480 V., A.C. ¼ A., 250 V., D.C.
10 A, 125 V., A.C. "L" Load 1 H.P., 120 V., A.C.
½ A, 125 V., D.C. 2 H.P., 240 V., A.C.

Operating Characteristics
Operating Force..... 5 oz. max.
Pretravel ..... 11/32" max.
Overtravel..... not over 1/16 in.
Diff. Travel..... .065" max.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4601	$2.47	4633	$2.47	4665	$2.84
C	4602	2.54	4634	2.54	4666	2.91
L	4603	2.54	4635	2.54	4667	2.91
Q	4604	2.47	4636	2.47	4668	2.84

specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

ARROW, HART & HEGEMAN "SNAP ACTING" MOMENTARY CONTACT SWITCHES

PRECISION SNAP-ACTING SWITCH A precision snap-acting switch is a mechanically operated electric switch having predetermined and accurately controlled characteristics, and having contacts other than the blade and jaw, or mercury type, where the maximum separation between any butting contacts is 1/8 inch.

MOMENTARY CONTACT SWITCH A momentary contact switch is a switch which returns from the operated condition to its normal circuit condition when the actuating force is removed.

ACTUATOR An actuator is the mechanism of the switch or enclosure which, when moved as intended, will operate the contacts.

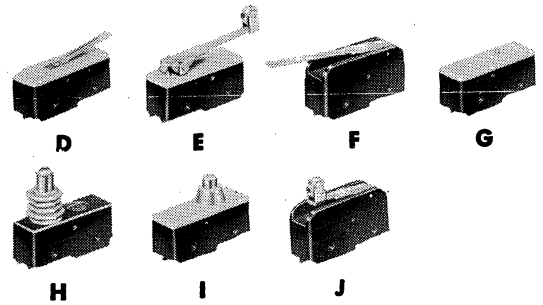
OPERATING FORCE Operating force is that straight line force in the designated direction applied to the actuator to cause the switch contacts to snap to the operated contact position.

PRETRAVEL Pretravel is the distance or angle through which the actuator moves from the actuator free position to the actuator operating position.

OVERTRAVEL Overtravel is the movement of the actuator beyond the operating position.

MOVEMENT DIFFERENTIAL Movement differential is the distance or angle from the operating position to the releasing position.

Std. Pkg. 5



TERMINAL CODE: L = screws, lock washers; S = solder lugs; C = screws, cup washers; Q = quick disconnect

FLEXIBLE LEAF ACTUATOR (D)

General Purpose 15 amp

RATINGS
15 Amp., 480 V., A.C.
½ Amp., 125 V., D.C.
¼ Amp., 250 V., D.C.

Operating Characteristics
Operating Force..... 5 oz. max.
Pretravel..... 5/32" max.
Overtravel..... not over 1/16 in.
Diff. Travel..... .050" max.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4505	$1.79	4537	$1.79	4569	$2.15
C	4506	1.85	4538	1.85	4570	2.28
L	4507	1.85	4539	1.85	4571	2.28
Q	4508	1.79	4540	1.79	4572	2.15

Heavy Duty 20 Amp

RATINGS
20 A., 480 V., A.C. ¼ A., 250 V., D.C.
10 A, 125 V., A.C. "L" Load 1 H.P., 120 V., A.C.
½ A, 125 V., D.C. 2 H.P., 240 V., A.C.

Operating Characteristics
Operating Force... 9 oz. max.
Pretravel..... 11/32" max.
Overtravel..... not over 1/16 in.
Diff. Travel..... .065" max.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4605	$1.85	4637	$1.85	4669	$2.28
C	4606	1.92	4638	1.92	4670	2.34
L	4607	1.92	4639	1.92	4671	2.34
Q	4608	1.85	4640	1.85	4672	2.28

STANDARD ROLLER (E)

General Purpose 15 Amp

RATINGS
15 Amp., 480 V., A.C.
½ Amp., 125 V., D.C.
¼ Amp., 250 V., D.C.

Operating Characteristics
Operating Force.. 3½ oz. max.
Pretravel..... 9/32" max.
Overtravel..... .156" min.
Diff. Travel.... .004 to .040 in.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4521	$2.78	4553	$2.78	4585	$3.17
C	4522	2.91	4554	2.91	4586	3.30
L	4523	2.91	4555	2.91	4587	3.30
Q	4524	2.78	4556	2.78	4588	3.17

Heavy Duty 20 Amp

RATINGS
20 A., 480 V., A.C. ¼ A., 250 V., D.C.
10 A, 125 V., A.C. "L" Load 1 H.P., 120 V., A.C.
½ A, 125 V., D.C. 2 H.P., 240 V., A.C.

Operating Characteristics
Operating Force.. 2½ oz. max.
Pretravel..... 15/32" max.
Overtravel..... 1/16" min.
Diff. Travel..... .085" max.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4621	$2.71	4653	$2.71	4685	$3.30
C	4622	2.98	4654	2.98	4686	3.37
L	4623	2.98	4655	2.98	4687	3.37
Q	4624	2.71	4656	2.71	4688	3.30

RIGID HINGE (F)

General Purpose 15 Amp

RATINGS
15 Amp., 480 V., A.C.
½ Amp., 125 V., D.C.
¼ Amp., 250 V., D.C.

Operating Characteristics
Operating Force..... 2½ oz.
Pretravel..... 3/8" max.
Overtravel..... .219" min.
Diff. Travel..... .007 to .050 in.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4525	$2.15	4557	$2.15	4589	$2.55
C	4526	2.22	4558	2.22	4590	2.61
L	4527	2.22	4559	2.22	4591	2.61
Q	4528	2.15	4560	2.15	4592	2.55

Heavy Duty 20 Amp

RATINGS
20 A., 480 V., A.C. ¼ A., 250 V., D.C.
10 A, 125 V., A.C. "L" Load 1 H.P., 120 V., A.C.
½ A, 125 V., D.C. 2 H.P., 240 V., A.C.

Operating Characteristics
Operating Force.. 2½ oz. max.
Pretravel..... 5/8" max.
Overtravel..... .078" min.
Diff. Travel..... .109" max.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4625	$2.27	4657	$2.27	4689	$2.61
C	4626	2.34	4658	2.34	4690	2.67
L	4627	2.34	4659	2.34	4691	2.67
Q	4628	2.27	4660	2.27	4692	2.61

PIN TYPE (G)

General Purpose 15 Amp

RATINGS
15 Amp., 480 V., A.C.
½ Amp., 125 V., D.C.
¼ Amp., 250 V., D.C.

Operating Characteristics
Operating Force..... 9 to 13 oz.
Pretravel..... .015" max.
Overtravel..... .005" min.
Diff. Travel.. .0004 to .002 in.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4529	$1.65	4561	$1.65	4593	$1.95
C	4530	1.72	4562	1.72	4594	2.08
L	4531	1.72	4563	1.72	4595	2.08
Q	4532	1.65	4564	1.65	4596	1.95

Heavy Duty 20 Amp

RATINGS
20 A., 480 V., A.C. ¼ A., 250 V., D.C.
10 A, 125 V., A.C. "L" Load 1 H.P., 120 V., A.C.
½ A, 125 V., D.C. 2 H.P., 240 V., A.C.

Operating Characteristics
Operating Force.... 14 to 22 oz.
Pretravel..... .050" max.
Overtravel..... .010" min.
Diff. Travel.. .002 to .0075 in.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4629	$1.72	4661	$1.72	4693	$2.05
C	4630	1.79	4662	1.79	4694	2.15
L	4631	1.79	4663	1.79	4695	2.15
Q	4632	1.72	4664	1.72	4696	2.05

PANEL MOUNTED TYPE (H)

General Purpose 15 Amp

RATINGS
15 Amp., 480 V., A.C.
½ Amp., 125 V., D.C.
¼ Amp., 250 V., D.C.

Operating Characteristics
Operating Force..... 9 to 13 oz.
Pretravel..... 1/64" max.
Overtravel..... 7/32" min.
Diff. Travel.... .0004 to .002 in.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4509	$3.90	4541	$3.90	4573	$4.36
C	4510	3.93	4542	3.93	4574	4.43
L	4511	3.93	4533	3.93	4575	4.43
Q	4512	3.90	4544	3.90	4576	4.36

Heavy Duty 20 Amp

RATINGS
20 A., 480 V., A.C. ¼ A., 250 V., D.C.
10 A, 125 V., A.C. "L" Load 1 H.P., 120 V., A.C.
½ A, 125 V., D.C. 2 H.P., 240 V., A.C.

Operating Characteristics
Operating Force.... 14 to 22 oz.
Pretravel..... .050" max.
Overtravel..... .219" min.
Diff. Travel.. .002 to .0075 in.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4609	$4.00	4641	$4.00	4673	$4.49
C	4610	4.06	4642	4.06	4674	4.56
L	4611	4.06	4643	4.06	4675	4.56
Q	4612	4.00	4644	4.00	4676	4.49

SHORT OVERTRAVEL BUTTON (I)

General Purpose 15 Amp

RATINGS
15 Amp., 480 V., A.C.
½ Amp., 125 V., D.C.
¼ Amp., 250 V., D.C.

Operating Characteristics
Operating Force..... 9 to 13 oz.
Pretravel..... 1/64" max.
Overtravel..... 1/16" min.
Diff. Travel.. .0004 to .002 in.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4513	$2.04	4545	$2.04	4577	$2.41
C	4514	2.08	4546	2.08	4578	2.48
L	4515	2.08	4547	2.08	4579	2.48
Q	4516	2.04	4548	2.04	4580	2.41

Heavy Duty 20 Amp

RATINGS
20 A., 480 V., A.C. ¼ A., 250 V., D.C.
10 A, 125 V., A.C. "L" Load 1 H.P., 120 V., A.C.
½ A, 125 V., D.C. 2 H.P., 240 V., A.C.

Operating Characteristics
Operating Force... 14 to 22 oz.
Pretravel..... .050" max.
Overtravel..... .093" min.
Diff. Travel.. .002 to .0075 in.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4613	$2.08	4645	$2.08	4677	$2.48
C	4614	2.15	4646	2.15	4678	2.55
L	4615	2.15	4647	2.15	4679	2.55
Q	4616	2.08	4648	2.08	4680	2.48

SHORT ROLLER (J)

General Purpose 15 Amp

RATINGS
15 Amp., 480 V., A.C.
½ Amp., 125 V., D.C.
¼ Amp., 250 V., D.C.

Operating Characteristics
Operating Force 6 oz. max.
Pretravel..... 9/64" max.
Overtravel..... 3/32" min.
Diff. Travel.... .003 to .020 in.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4517	$2.78	4549	$2.78	4581	$3.17
C	4518	2.91	4550	2.91	4582	3.30
L	4519	2.91	4551	2.91	4583	3.30
Q	4520	2.78	4552	2.78	4584	3.17

Heavy Duty 20 Amp

RATINGS
20 A., 480 V., A.C. ¼ A., 250 V., D.C.
10 A, 125 V., A.C. "L" Load 1 H.P., 120 V., A.C.
½ A, 125 V., D.C. 2 H.P., 240 V., A.C.

Operating Characteristics
Operating Force ... 6 oz. max.
Pretravel..... ¼" max.
Overtravel..... 1/32" min.
Diff. Travel..... 3/64" max.

WITH TERMINALS	S.P. NORM. OPEN No.	NET Ea.	S.P. NORM. CLOSED No.	NET Ea.	S.P.D.T. No.	NET Ea.
S	4617	$2.91	4649	$2.91	4681	$3.30
C	4618	2.97	4650	2.97	4682	3.37
L	4619	2.97	4651	2.97	4683	3.37
Q	4620	2.91	4652	2.91	4684	3.30

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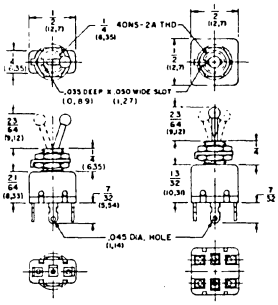
specify SMITH

HERMAN H. SMITH, INC. — ELECTRONIC COMPONENTS

ARROW, H. & H. MIDGET TOGGLE SWITCHES



SUB-MINIATURE TOGGLE SWITCHES

Offers the greatest switching flexibility and is available in both positive and momentary action. Gold plated silver stationary contacts to insure continuity on low energy circuits and Rhodium plated silver movable contacts to withstand mechanical wear. Molded diallyl phthalate and aluminum housing. Available in Commercial and Military types Rating. Resistive and *Inductive.

5A. 125V. AC
5A. 29V. DC
Max. Inrush: 25A.
Minimum rating: 40 milliamps at 1.5 volts
*AC: 75% Power Factor
DC: An Inductors
Mechanical Life: 100,000 cycles

Std. Pkg. 5

COMMERCIAL

Housing and mounting hardware gold anodized. Available only in stainless steel ball lever.

Smith No.	AH&H No.	Circuit*	Net Each
4740		TC-3	SPDT A-B-A	$5.00
4741		TE-3	SPDT C-B-A	5.30
4742		TG-3	SPDT C-B-C	5.30
4743		TM-3	SPDT C-D-A	5.30
4744		TS-1	SPST B-D-A	4.60
4745		TS-2	DPST B-D-A	5.60
4746		TS-3	SPDT A-D-A	5.00
4747		TC-6	DPDT A-B-A	6.50
4748		TE-6	DPDT C-B-C	8.25
4749		TG-6	DPDT C-B-C	8.25
4750		TM-6	DPDT C-D-A	8.25
4751		TS-6	DPDT A-D-A	6.50

*A-ON, B-OFF, C-Momentary ON, D-None

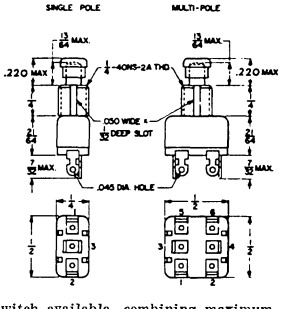
MILITARY

Meets Mil S-3950B, MS75028 and MS75029. Housing and hardware, clear anodized. Available only with aluminum bat lever.

Smith No.	AH&H No.	MS No.	Circuit*	NET Each
4760	TC-3-M	MS75028-21	SPDT A-B-A	$5.30
4761	TE-3-M	MS75028-31	SPDT C-B-A	5.60
4762	TG-3-M	MS75028-27	SPDT C-B-C	5.60
4763	TM-3-M	MS75028-26	SPDT C-D-A	5.60
4764	TS-1-M	MS75028-22	SPST B-D-A	5.00
4765	TS-2-M	MS75029-22	DPST B-D-A	6.00
4766	TS-3-M	MS75028-23	SPDT A-D-A	5.30
4767	TC-6-M	MS75029-21	DPDT A-B-A	6.80
4768	TE-6-M	MS75029-31	DPDT C-B-A	8.60
4769	TG-6-M	MS75029-27	DPDT C-B-C	8.60
4770	TM-6-M	MS75029-26	DPDT C-D-A	8.60
4771	TS-6-M	MS75029-23	DPDT A-D-A	6.80

*A-ON, B-OFF, C-Momentary ON, D-None

ARROW, H. & H. SUB-MINIATURE MOMENTARY PUSH BUTTON SWITCHES



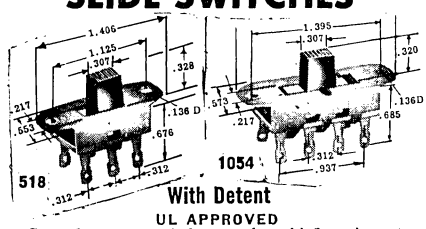
Smallest momentary switch available, combining maximum performance, dependability and durability with minimum weight and envelope. Gold plated leaf contacts, with molded diallyl phthalate body and anodized aluminum housing. Mounts with ¼" diameter slotted sleeve, supplied with mounting hardware. Nylon push button caps are optional and are available in seven colors.

Rating: 2A. 29V.DV Resistive
1A. 115V.AC
Minimum Rating: 10 Micro-amps at 50 MV.
Weight: 2.5 Grams Single Pole
4.0 Grams Double Pole
Mechanical Life: Min. 1,000,000 Cycles.

Smith No.	Circuit	Net Each
4755	SPDT NO/MC	4.60
4756	DPDT NO/MC	5.60
4757	3PST 3P/NO	5.30
4758	3PST 3P/NC	7.60
4754	Button Only, Available in Red, Black, Green, Yellow Blue, Brown, Natural	.17

Std. Pkg. 25

CONTINENTAL-WIRT SLIDE SWITCHES



With Detent

UL APPROVED

General purpose switches, used on hi-fi equipment, test instruments, etc. Steel cadmium plated housings. Black phenolic buttons.

Std. Pkg. 25

No.	Circuit	Rating @ 125 Volts AC Amps	DC Amps	NET Per C
515	SPST	.75	.75	$11.40
516	SPDT	.75	.75	12.00
517	DPST	.5	.5	15.00
518	DPDT	.5	.5	18.00
1105	SPST	6.0	1.0	14.40
1106	SPDT	6.0	1.0	15.00
1107	DPST	6.0	1.0	24.00
1108	DPDT	6.00	1.0	27.00

With Spring Return

No.	Circuit	Rating 125V ACDC	NET Per C
568	SPST	.5 Amp	$35.00
569	SPDT	.5 Amp	28.80

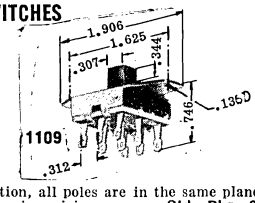
TRIPLE THROW

With Detent

No.	Circuit	Rating 125V ACDC	NET Per C
1053	SP3T	.5 Amp	$28.80
1054	DP3T	.5 Amp	30.00

MULTI-POLE SWITCHES

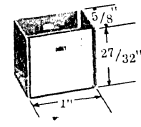
With Detent



Unique construction, all poles are in the same plane, more compact, easier wiring.

Std. Pkg. 25

No.	Circuit	Rating @ 125 Volts AC Amps	DC Amps	NET Per C
1109	3PDT	3.0	1.0	$48.00
1110	3PDT	.5	.5	45.00
	Same as above but 1.005" wide			
1104	4PDT	.5	.5	60.00



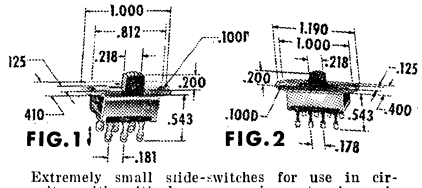
SLIDE SWITCH SHIELD

For terminal protection or electrostatic shielding. Shield is made of steel, cadmium plated, with fibre insulation.

Std. Pkg. 25

No.	NET Per C
No. 519	$15.00

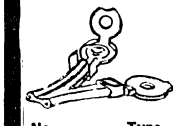
SUBMINIATURE SLIDE SWITCHES



Extremely small slide-switches for use in circuitry with critical space requirements. Approximately 1/3 the volume of standard slide switch. All switches UL approved, and rated at 0.5 amp, 125 volt, AC-DC. Available with printed-circuit terminals on special order.

Std. Pkg. 25

No.	Circuit	With Detent Fig. No.	Net Per C
1226	SPDT	1	$27.00
1227	DPDT	1	33.00
1238	SPST	2	40.00
1239	DP3T	2	40.00
	With Spring Return		
1236	SPDT	1	40.00



TV ANTENNA LUG

Solderless Type

A secure, swift, positive and permanent method of connecting TV wire to antenna. Simply strip wire, coil around groove and fold over. Insure positive contact.

Std. Pkg. 100

No.	Type	Length	Hole	NET Per C
1460	Double Cup	1 5/16"	No. 10	$2.64
1461	Double Cup	1 5/16"	¼"	$3.00

PLUG-IN MODULE HOUSING

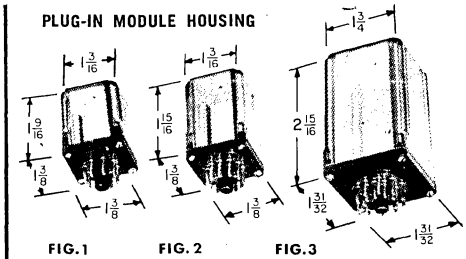


FIG. 1 FIG. 2 FIG. 3

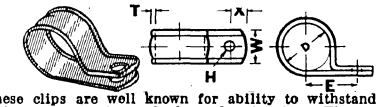
Molded plastic housings and pin headers fit standard tube sockets. For use in packaging relays, networks, miniature interchangeable circuits in plug-in, replaceable modules. Available in three sizes and materials for a wide range of temperature and environmental applications.

HEADERS: MOLDED THERMOSETTING plastic per MIL-M-14 CFG, Black.
HOUSINGS: MOLDED POLYSTYRENE, per Fed. Spec. L-P416, Type 1, Black.
MOLDED BUTYRATE, per Fed. Spec. L-349A, Type 3, Class MS, Clear.
MOLDED NYLON, per MIL-P-20693A, Natural.
Housings are supplied complete with header.
PINS: Brass, nickel plated.
SCREWS: Steel, Cadmium plated.

Std. Pkg. 5

HOUSING	STYRENE Cat. No.	STYRENE NET Each	BUTYRATE Cat. No.	BUTYRATE NET Each	NYLON Cat. No.	NYLON NET Each
Miniature (Fig. 1)						
8-Pin	2437-08	$.66	2421-08	$.76	2424-08	$.69
9-Pin	2437-09	.76	2421-09	.88	2424-09	.88
11-Pin	2437-11	.76	2421-11	.88	2424-11	.88
20-Pin	2437-20	.88	2421-20	1.00	2424-20	1.00
Standard (Fig. 2)						
8-Pin	2438-08	$.64	2422-08	$.64	2432-08	$.76
9-Pin	2438-09	.70	2422-09	.76	2432-09	.88
11-Pin	2438-11	.70	2422-11	.76	2432-11	.88
20-Pin	2438-20	.88	2422-20	.88	2432-20	1.00
Large (Fig. 3)						
8-Pin	2439-08	$.81	2423-08	$1.20	—	—
11-Pin	2439-11	.88	2423-11	1.25	—	—
20-Pin	2439-20	1.15	2423-20	1.47	—	—

PLASTIC CABLE CLIPS — ETHYL CELLULOSE



These clips are well known for ability to withstand age, moisture, corrosion, shock and vibration. This tough, light weight, durable clip withstands temperatures from −60 to +175 degrees F. Made to MIL Std. 242A (Ships).
T .060 — W ½" X 7/32" — H .204

Std. Pkg. 100

No.	Hole (D)	E	NET Per C
831	1/8	.360	$2.34
832	5/16	.423	2.40
833	¼	.457	2.58
834	5/16	.498	2.85
835	3/8	.529	3.00
836	7/16	.560	3.30
837	½	.592	3.60
838	9/16	.623	4.20
839	5/8	.654	4.50
840	11/16	.752	4.80
841	¾	.783	5.10
842	7/8	.845	5.40
843	1	.908	5.70
844	1⅛	.970	6.00
845	1¼	1.062	6.30

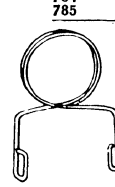
NYLON CABLE CLIPS

These strong and tough molded nylon clamps hold their shape under severest stress. Do not support combustion. Withstands temperatures from −60 to +250 degrees F. Made to MIL P17091A amend. 2.

Std. Pkg. 100

	⅛" to ½" (D)	9/16" to 1¼" (D)
T	.040	.060
W	3/16"	½"
X	5/32"	15/64"
H	.167	.204

No.	Hole (D)	E	NET Per C
771	1/8	.310	$3.60
772	5/16	.373	3.90
773	¼	.407	4.20
774	5/16	.448	4.65
775	3/8	.479	4.80
776	7/16	.510	5.10
777	½	.542	5.40
778	9/16	.623	6.60
779	5/8	.654	7.20
780	11/16	.752	7.50
781	¾	.783	8.10
782	7/8	.845	8.70
783	1	.908	10.20
784	1⅛	1.002	12.00
785	1¼	1.062	13.80



SPRING GRID CLIP

Small and large type grid clip used to replace clips that have lost their tension due to heat causing poor contact.

Std. Pkg. 100

No.	Type Type	Per C
1288	1X2-6BQ6	$6.00
1289	1B3-6BG6	6.00

specify SMITH

HERMAN H. SMITH, INC.

ELECTRONIC COMPONENTS

SINGLE RECORD 33-1/3 R.P.M.

TEN LESSONS
UP TO 15 WORDS PER MINUTE
Complete on Two Sides

This twelve inch long play record contains all ten of the Code Course Lessons listed above, five on each side. 20-Page SMITH Instruction Book is included, and the record is housed in attractive, sturdy jacket with International Morse Code table on reverse side.

No. 2420 NET Each $4.80

ADVANCED CODE COURSE

Single Record— 33⅓ R.P.M.

TWELVE LESSONS 16 to 25 Words Per Minute

Specially prepared to increase skills in copying code at high speeds. 12 step-by-step lessons are provided plus specific directions with each. 20 page Advanced Code Instruction Book included. Record comes in sturdy jacket with International Morse Code table on reverse side.

No. 2435 Advanced Code Course complete with 20 page instruction Book ..... NET $4.80

BEGINNERS AND ADVANCED CODE COURSES IN COMBINATION PACKAGE

Advanced Code Course #2435 PLUS Beginners' Code Course #2420 (see above) both complete with 20-page instruction books, attractively packaged in combination carton.

No. 2436 NET $9.00

SMITH CODE INSTRUCTION KIT

The SMITH NO. 2442 Code Instruction Kit contains a Code Oscillator (Self Keyed) in kit form, complete with all instructions, Code Record and Headphone.

The oscillator is housed in a sturdy black plastic case with a gold front panel and utilizes a single transistor blocking oscillator circuit that provides audio regeneration or oscillation. The oscillator is supplied with its own Key and is battery powered by means of any 9 Volt transistor type battery which is not furnished with the kit.

The Code Record, 12"-33-1/3 RPM, is individually sleeved and contains 10 lessons up to 15 WPM on two sides. Also included is a 20 page instruction booklet containing all lessons and information as to how to use the record for best results.

The No. 2442 Code Instruction Kit is the ideal and most complete package for any individual desiring to learn the Code.

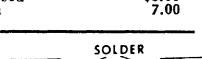
No. 2442 **Net Each $16.95**

INTERLOCK PLUGS

1228 1208

No.	Std. Pkg. 100 Type	NET Per C
1208	Recessed	$8.00
1228	Flush	7.00

"CLEAPS" (Connectors for Joining Severed Wires)



MATERIAL: Brass, cadmium plated.
WIRE SIZE: For wires, .010" to .050" (B&S Gauge 16 to 30).
DESCR.: Used to splice cut leads of condensers, resistors, etc., in process of trouble-shooting. Insert wire in each tapered end and solder thru center opening. **Std. Pkg. 100**

No. 1270 NET Per C $1.00

HIGH SENSITIVITY HEADPHONES

The latest in deluxe design, with many features of more expensive types. Featherweight construction assures fatigue-free use. Alnico V magnets, dual coil construction provide excellent tonal fidelity. Adjustable vinyl covered headband, molded plastic cases. Cord equipped with phone tips.

No.	Description	Ohms	NET Each
2441	Single	1000	$1.89
2440	Double	2000	3.45
2446	Single	2—4	1.89
2447	Double	4—8	3.45
2448	Single	2000	2.10
2449	Double	4000	3.75

FOR STEREO USE

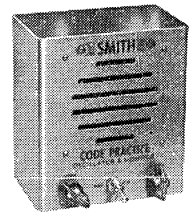
Same as above, except each Phone has leads brought out separately.

2477	Double	2000	$3.75
2478	Double	4—8	3.75
2479	Double	4000	4.20

RUBBER EAR CUSHIONS

Finest quality soft rubber ear cushions, fit all standard earphones. For comfortable listening over long periods of time.

No. 2410 **Per Pair $1.50**



CODE PRACTICE OSCILLATOR & MONITOR

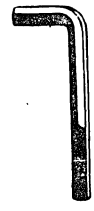
Ideal for the beginner as well as the experienced operator, this versatile instrument can be used as a code practice oscillator, as a keying monitor to check ICW signals, or as a monitor for phone signals.

Two tubes are used, in an up to date circuit that provides continuously variable tone and volume. Self-contained PM speaker affords ample volume for group use, with phone jack available for individual headphone listening.

The handsome Hammertone finish cabinet has additional provision for wall mounting, an exclusive SMITH feature that eliminates need for valuable desk space. The unit is designed for use on 110 Volts AC or DC, and is supplied complete with two tubes.

No.	Description	NET Each
2425	Kit	$13.50
2426	Wired	18.00

HEX AND SPLINE KEYS



Made of special alloy steel, tempered to avoid brittleness and impose maximum resistance to torsional strain. Ends ground for easy insertion.

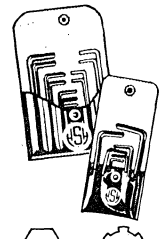
HEX KEYS **Std. Pkg. 50**

No.	Screw	O.D.	NET Per C
340	No. 2	.034	$7.80
341	No. 3, 4	.050	7.80
342	No. 5, 6	.062	7.80
343	No. 8	.078	7.80
344	No. 10	.093	9.00
345	No. ¼"	.125	9.00
346	No. 5/16"	.156	9.00

SPLINE KEYS

No.	Screw	O. D.	NET Per C
370	No. 4	.058	$7.80
371	No. 5	.068	7.80
372	No. 6	.075	7.80
373	No. 8	.093	7.80
374	No. 10	.109	9.00
375	No. ¼"	.143	9.00
376	No. 5/16"	.182	9.00

HEX AND SPLINE KEY KITS



HEX KEYS SPLINE KEYS

Attractive tearproof vinyl plastic kit with individual pockets for each of six keys in kit. Std. Pkg. 5

Kit of 6 hex keys for screws from No. 3 to 5/16".
No. 355 **$60.00 NET Per C**

Kit of 6 spline keys for screws from No. 5 to 5/16".
No. 385 **$60.00 NET Per C**

Combination Kit of 3 hex and 3 spline keys for No. 6-8-10 screws.
No. 390 **$60.00 NET Per C**

Kit of 7 hex keys for screws from No. 2 to 5/16" and 4 spline keys Nos. 4, 6, 8, and 10.
No. 395 **$120.00 NET Per C**

DISPLAY CARDS

No.		NET Each
355D	Display of 24 Hex Kits No. 355	$14.40
385D	Display of 24 Spline Kits No. 385	14.40
390D	Display of 24 Comb. Kits No. 390	14.40
395D	Display of 20 Comb. Kits No. 395	24.00

"PANELABELS"

Modern Panel Title Decals

New size type face on all word titles to match modern instrument panels and sound equipment.

Packaged individually in clear plastic boxes — instant selection — box itself can be used as water tray for applying the decals.

Standard Packages of 6.

Please order by catalog number.

NET, EACH PACKAGE **$1.50**

TRANSMITTER

For industrial prototype use, Hams, Citizens' Banders. Also for Microwave and Broadcast stations.

No. 3700	BLACK
No. 3701	WHITE

RECEIVER

Hams, Citizens' Banders, industrial prototypes, Hi-Fi and Experimenter applications.

No. 3702	BLACK
No. 3703	WHITE
No. 3704	RED
No. 3705	GOLD

DIALS

For all uses in transmitters, Ham and Citizens' Band industrial prototypes, Hi-Fi, electricians, experimenters.

No. 3706	BLACK
No. 3707	WHITE
No. 3708	RED
No. 3709	GOLD

ALPHABETS

Most popular item in the line! For all general uses above.

3710	2-inch	BLACK
3711	2-inch	WHITE
3712	2-inch	RED
3713	2-inch	GOLD
3714	⅝-inch	BLACK
3715	⅝-inch	WHITE
3716	⅝-inch	RED
3717	⅝-inch	GOLD
3718	Assorted	BLACK
3719	Assorted	WHITE
3720	Assorted	RED
3721	Assorted	GOLD

INSTRUMENTS

Primarily for Technicians, Hams and industrial use.

No. 3722	BLACK
No 3723	WHITE

HI-FI AND STEREO

For experimenters, commercial sound distributors, industrial prototypes.

No. 3724	BLACK
No. 3725	WHITE
No. 3726	RED
No. 3727	GOLD

SOUND SYSTEMS

For industrial use by commercial sound distributors, custom installers, electricians and experimenters.

No. 3728	BLACK
No. 3729	WHITE
No. 3730	RED
No. 3731	GOLD

TRANSISTORS AND DIODES

Used by Hams, experimenters, technicians, and industrial prototype use. Includes complete list of transistor and diode numbers plus symbols of PNP, NPN, 4 and 5 element transistors, diode symbols.

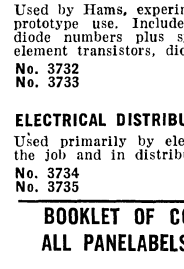
No. 3732	BLACK
No. 3733	WHITE

ELECTRICAL DISTRIBUTION

Used primarily by electricians and custom installers on the job and in distribution panel design.

No. 3734	BLACK
No. 3735	WHITE

BOOKLET OF COMPLETE TITLE LISTS OF ALL PANELABELS AVAILABLE ON REQUEST



DRILL & TAP KIT for

- Hams
- Laboratories
- Servicemen

Specially designed for electronic bench duty, this kit contains the most popular sizes of taps and corresponding tap and body drills for precise and speedy work. Drill and tap size identifications are engraved on the steel cadmium plated drill stand, to facilitate correct replacement as needed. **Contains: 4-40, 6-32, 8-32, 10-32 Taps with eight corresponding tap and body drills.**

No.		NET Ea.
750	Kit	$15.00
749	Stand Only	.66

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specify SMITH

HERMAN H. SMITH, INC. — ELECTRONIC COMPONENTS

ALL TRANSISTOR

Norelco Electronic Educational kits

Model EE20 "Master Kit" With New Concept in Assembly

FOR AGES 9 AND OVER

Complete, foolproof individual template provided for each circuit

- NO SOLDERING — NO TOOLS REQUIRED
- ABSOLUTELY SAFE • PEGBOARD ASSEMBLY

UP TO **23** DIFFERENT USEFUL OPERATING PROJECTS

Std. Pkg. 6

Model EE20 SUGGESTED RETAIL
SMITH No. 2419 (less battery) **$27.95**

ALL THESE WORKING UNITS CAN BE MADE

ELECTRO ACOUSTICS
EE20 Electronic Organ
EE 8 Phono Amplifier
EE20 Sound Amplifier
EE20 Push-Pull Sound Amplifier
EE20 Bi-Ampli Amplifier

TELECOMMUNICATION
EE20 Intercom
EE20 Morse Code Trainer, with loudspeaker
EE 8 Morse Code Training Set
EE20 Public Address and Telephone Amplifier

RADIO
EE20 3-Transistor Radio Receiver
EE 8 2-Transistor Sensitive Radio Receiver
EE 8 1-Transistor Radio Receiver

ELECTRONIC SIGNALING
EE20 Burglar Alarm
EE20 Acoustic Relay
EE20 Pilfering Alarm
EE20 Pilfering Alarm with power-economizing circuit
EE 8 Tell-tale Light
EE 8 Flashing Beacon

ELECTRONIC MEASURING AND CONTROL
EE 8 Rain or Moisture Indicator
EE20 Time Switch
EE20 Automatic Night Light
EE20 Universal Measuring Equipment
EE20 Light Meter

When a project loses its appeal, it can be stripped and the same parts used to rebuild other projects, over and over!

ADDITIONAL "EE" KITS

Smith No.	Kit	Description	Resale
2417	EE8	Starter Kit, makes up to 8 different circuits. (Less Battery)	$17.95
2418	EE8/20	"Add-On" for EE8 Kit, to make up to 15 additional different circuits (Less Battery)	$10.95

NORELCO

ALL TRANSISTOR

Radio Kit Model RE-2

For ages 9 and over. Easy to assemble, using two-color pictorial charts and step-by-step assembly. No soldering. Can be set up, taken apart and re-assembled. Powered by standard 9-volt battery. Build any of these units:
- 2-transistor radio with earphones and cabinet.
- 3-transistor radio with speaker and cabinet.
- Record Player Amplifier. • Code Practice Oscillator.
- Public Address System. • Radio Direction Finder.

Complete with 24-page instruction manual.
Norelco Model RE-2

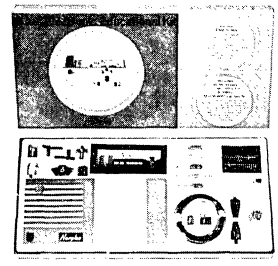
SMITH No. 2416 (less battery) SUGGESTED RETAIL $24.95

STARTER KIT EE-1050

BUILD ACTUAL ELECTRONIC EQUIPMENT

ELECTROCOUSTICS TELECOMMUNICATIONS SIGNALING - RADIO ELECTRONIC CONTROL

FOR AGES 9 AND OVER



STARTER KIT EE-1050
Makes the Following Projects:

Burglar Alarm with Flashing Light
Flashing Traffic Beacon with Adjustable Rate
Flashing Light with Adjustable Rate
Phonograph Amplifier with Earphones
Automatic Night Light
Wetness Indicator
Burglar Alarm with Tel-Tale Light
Sound Operated Relay
Morse Code Oscilator with Earphones
Light Dependent Frequency Generator
Lightmeter
Time Switch

BUILD UP TO 24* EXCITING INSTRUCTIVE PROJECTS
USES THE NEWEST SILICON PLANAR TRANSISTORS
Individual Templates Provided for Each Project

No. 1 ADD-ON KIT EE-1051
Used Only to Extend Range of Projects:
Pushpull Phonograph Amplifier with Speaker
Phonograph Amplifier with Frequency Correction
Burglar Alarm, Tell-Tale Light with Sound
Morse Code Oscillator with Speaker
Electron Siren
Telephone Signaler

No. 2 ADD-ON KIT EE-1052
Used Only to Extend Range of Projects:
Sound and Light Operated Relay
Variable Frequency Audio Generator
Telephone Pickup Amplifier with Speaker
Telephone Pickup Amplifier with Earphones
2-Transistor Multiwave Radio with Earphones
3-Transistor Multiwave Radio with Speaker

***Combination of All Kits Makes Total of 24 Projects.**

100% **EDUCATIONAL** — Learn How and Why Each Project Works Basic Electronics Course Included.
SIMPLIFIED INSTRUCTION MANUAL — Teaches Basic Electronics, Circuitry, Components and Transistor Theory.
ENCOURAGES CREATIVITY — Invent your own Projects.
ABSOLUTELY SAFE — Battery Operated.
NO SOLDERING—NO TOOLS—Pegboard Assembly, Spring Clips, Overlay Templates.

MODEL EE-1050 — STARTER KIT
Makes 12 Projects.
SMITH NO. 2412 .....**Suggested Resale $17.95**

MODEL EE-1051 — No. 1 ADD-ON KIT
Used Only to Make 6 Additional Projects in conjunction with EE-1050 Kit. (Cannot be used separately).
SMITH NO. 2413 .....**Suggested Resale $9.95**

MODEL EE-1052 — No. 2 ADD-ON KIT
Used Only to Make 6 Additional Projects in conjunction with EE-1050 Kit. (Cannot be used separately).
SMITH NO. 2414 .....**Suggested Resale $9.95**

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NORELCO

Mechanical Kit Model ME-1200

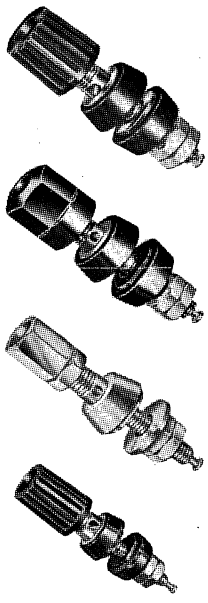
FOR AGES 9 AND OVER

Promotes knowledge and understanding of fundamental sources of energy. Makes over 40 projects. Over 600 parts.

SMITH No. 2415 (less battery) SUGGESTED RETAIL $39.95

5-way® BINDING POSTS

5 WAYS TO CONNECT • GOLD-PLATED BRASS PARTS • RANGE OF COLORS



FLUTED NUT TYPES

Plastic parts of standard (not miniature) size types molded of Lexan polycarbonate resin; brass parts are gold-plated. Rated for 30 amperes, 1000 volts working. Nickel-plated brass types available on special order.

HEX NUT TYPES

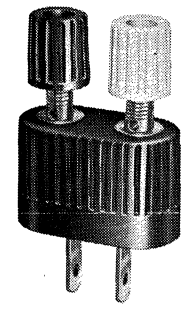
Rated for 30 amperes, 1000 volts working. Brass parts are gold-plated; plastic parts are of nylon compounded to meet military specifications MIL-M-20693A, Type IV. Nickel-plated brass types available on order.

GROUNDING TYPE

For making rapid connections to ground. Made of finely machined brass nickel-plated and polished. Panel grounding collar frozen to shaft has "D" type shoulder for locking in keyed panel hole.

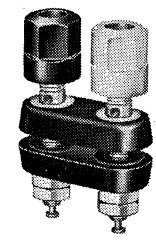
MINIATURE TYPES

Fluted nut design only. Rated for 15 amperes, 1000 volts working. Gold-plated brass parts; nylon plastic parts compounded to meet military specification MIL-P-20693A, Type IV. Types with nickel-plated brass available also.



DUAL ADAPTER TYPE

Designed to facilitate line voltage connections from output receptacles to binding posts. Has integral parallel-blade plug. Rating is 15 amperes, 125 volts. Body is black; captive black and white thumbnuts are mounted on ¾" centers. Brass parts are gold-plated. Ideal for safe, rigid connections to equipment lacking a parallel-blade plug and cord assembly.



DOUBLE ASSEMBLY TYPES

For instrument and equipment panels requiring binding posts mounted on ¾" centers. Rated for a current capacity of 30 amperes and a working voltage of 1000 volts. Brass parts are gold-plated; panel insulators in black only. Rugged, self-contained assembly makes mounting more accurate, faster and easier than two individual binding posts and gives maximum strength where connections are frequently made.

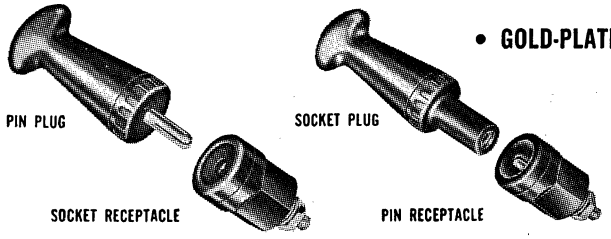
STYLE	TYPE
BINDING POSTS	
FLUTED NUT — STANDARD	DF31*
HEX NUT — STANDARD	DF30*
GROUNDING — ALL METAL	GP30NC
FLUTED NUT — MINIATURE	DF21*

STYLE	TYPE
DUAL ADAPTER TYPE	
BLACK & WHITE FLUTED NUTS	DAP15BWC
DOUBLE ASSEMBLY TYPES	
BLACK & WHITE HEX NUTS	DF30-2-BWTC
TWO BLACK HEX NUTS	DF30-2-BBC
BLACK & RED HEX NUTS	DF30-2-BRC

*Add desired color suffix to series designation number: BC (black), BLC (blue), RC (red), WTC (white), YC (yellow), GNC (green). For example: DF21BLC.

SUPERCON® ELECTRICAL CONNECTORS

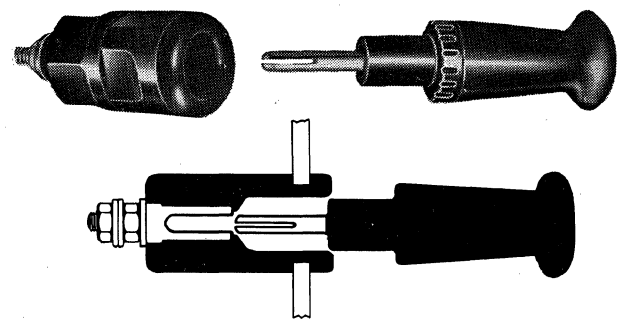
• GOLD-PLATED CURRENT CARRYING PARTS • SIMPLIFIED, QUICK ASSEMBLY



Nylon plastic parts, gold-plated brass current-carrying parts. Plugs accomodate either soldered or solderless connections to a wide range of cable sizes. Plug grips are of a simple, two-piece threaded construction for quick assembly. Receptacles have color-matched nylon caps and bodies. 25, 50 and 100 ampere types are rated 125-250 volts a-c or d-c current rupturing, 600 volts disconnect use only. 250 ampere types are rated 600 volts disconnect use only.

AMPERES	PIN PLUGS TYPE†	SOCKET RECEPTACLES TYPE†	SOCKET PLUGS TYPE†	PIN RECEPTACLES TYPE†
25	PP25G	RS25G	PS25G	RP25G
50	PP50G	RS50G	PS50G	RP50G
100	PP100G	RS100G	PS100G	RP100G
250	PP250G	RS250G	PS250G	RP250G

†Add desired color suffix to series designation number: B (black), BL (blue), R (red), WT (white), Y (yellow), GN (green). For example: PS25GWT.



EXTRA-SAFE "L" TYPE

"L" types have all current-carrying parts insulated to remove any possibility of physical contact when making connections. Rated same as 50 ampere conventional types. When ordering, add available color suffix to type number: B (black), R (red), WT (white).

SOCKET RECEPTACLES	PIN PLUGS
LSR50G	LPP50G

THE SUPERIOR ELECTRIC COMPANY

SEE OTHER SUPERIOR ELECTRIC PRODUCT PAGES IN SECTIONS 3500, 4000, AND 5600

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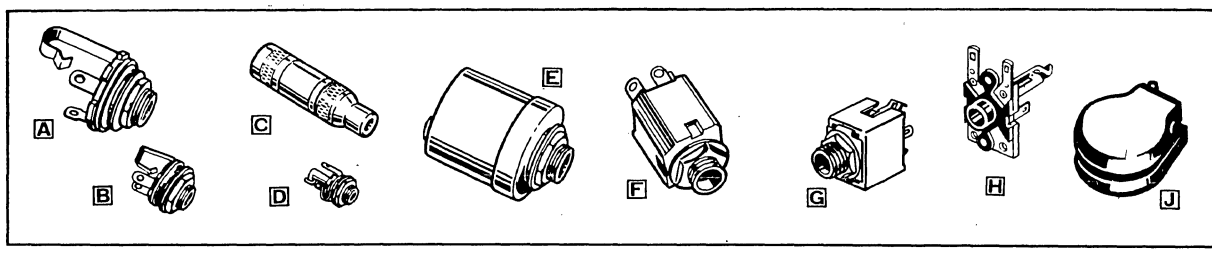
Phone Jacks



"LITTEL-JAX" PHONE JACKS

A Quality phone jacks that mate with standard ¼" phone plugs. Notched insulating washers mechanically interlock springs and solder lugs. "V" bend in tip spring firmly "holds" mating plug. Minimum space requirements. Economical. Mount in single ⅜" hole, panels up to 5/32" thick, except L-11 and L-12A in panels up to ¼" thick.

Nos. C-11 and C-12A mate with No. 440 (PJ-055B) Plug; C-12B, S-12B and S-13B mate with No. 480 (JAN-PJ-068) or No. 484 (W.E. No. 309) Plug. Nos. C-11 and C-12B have locating pins (non-turn devices). No. S-11 similar to No. 11 except .210" I.D. sleeve. C-11, C-12B and C-12A per JAN-J-641. All others mate with standard ¼" dia. plugs.

No. 14B Stereo Littel-Jax, switches-out speakers when connecting stereo headphones. Dual, N.O. switch contacts, open both stereo circuits independently when a 3-conductor plug is inserted.

TWO-CONDUCTOR TYPES

Part No.	Schematic No.	Typical Mating Plug	Mil-Type	U.S.A. List Price
11	I	250	—	$0.45
C-11	I	440	JJ-034	.65
L-11	I	250	—	.55
S-11	I	S-250	—	.50
12A	III	250	—	.50
C-12A	III	440	JJ-089	.80
L-12A	III	250	—	.60
13	V	250	—	1.00
13A	VI	250	—	.90
13E	IX	250	—	1.00

THREE-CONDUCTOR TYPES

12B	IV	267	—	.60
C-12B	IV	480	JJ-033	1.05
L-12B	IV	267	—	.75
S-12B	IV	480	—	.75
13B	VIII	267	—	.85
S-13B	VIII	480	—	1.05
14B	X	267	—	1.05

"TINI-JAX" MINIATURE PHONE JACKS

B Miniature 2-conductor Jacks, approximately ⅓ the size of the "Littel-Jax"; otherwise similar in construction. Mount in ¼" dia. hole; panel up to ⅛" thick. No. 43A has a unique spring design that requires a pear shaped tip, such as Switchcraft "Tini-Plug" No. 750.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
41	I	750	2	$0.45
42A	III	750	2	.50
43A	VI	750	2	.80

"TINI-EXTENSION JAX"

C An extension or cable jack to mate with "Tini-Plug". Two-conductor. Metal housing for ruggedness and electrical shielding. Solder lug terminals.

Switchcraft Part No. 125 ..... U.S.A. List Price **$1.35**

"MICRO-JAX" SUB-MINIATURE PHONE JACKS

D Precision manufactured jack for miniaturized applications. Two-conductor, single closed circuit. See Schematic Circuit III. Silver plating on special tempered nickel silver springs. Internally keyed nylon insulation interlocks springs and solder lugs to eliminate shorts. Fits .190" dia. hole in panels to 5/32" thick. Only 1/25th the size of standard phone jacks. Mates with "Micro-Plug", Series 850, 880.

Switchcraft Part No. TR-2A ..... U.S.A. List Price **$0.50**

"SHIELDED JAX"

E A unique modification of the "Littel-Jax". The shield is assembled into and made part of the jack. Ideal for high impedance circuits.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
CN-11	I	250	2	$0.90
CN-12A	III	250	2	.95
CN-12B	IV	267	3	1.05
CN-13B	VIII	267	3	1.30

"HI-D JAX" PHONE JACKS

F New smaller, more compact phone jacks, mate with std. ¼" phone plugs. Molded box body protects integral silver-plated, nickel silver springs. Low contact resistance and electrical leakage with little capacity between the springs. Mount on ⅝" centers in single ⅜" hole in panels up to 5/32" thick, depth behind panel 1 3/32". All part Nos. with "L" prefix mount in panels up to ¼" thick; part Nos. with "N" prefix feature a threaded nylon bushing to provide complete insulation of jack sleeve from mtg. panel. **Stereo "HI-D Jax", Nos. 114B, L-114B, N-114B,** switches out speakers when connecting stereo headphones. Dual N.O. switch contacts open both stereo circuits independently when a 3 cond. plug is inserted.

TWO CONDUCTOR TYPES

Part No.	Schematic	Typical Mating Plug	U.S.A. List Price
111	I	250	$0.45
L-111	I	250	.60
N-111	I	250	.60
112A	III	250	.50
L-112A	III	250	.65
N-112A	III	250	.65
113	V	250	1.00
113D	VI	250	1.00
113E	IX	250	1.00

THREE CONDUCTOR TYPES

112B	IV	267	.55
L-112B	IV	267	.70
N-112B	IV	267	.70
113B	VIII	267	.75
L-113B	VIII	267	.80
N-113B	VIII	267	.80
113F	VII	267	.75
114B	X	267	.85
L-114B	X	267	.95
N-114B	X	267	.95

"TINI-D JAX" SUBMINIATURE PHONE JACKS

G New, small completely enclosed, molded phone jack. Mate with Switchcraft "Tini-Plug", No. 750 etc. Phenolic housing protects the **bifurcated** beryllium copper springs from being bent during mounting. **No. 142A** has threaded bushing for conventional mtg.; **No. PC-142A,** with plain bushing. Both have tip spring terminals that "snap-in" P.C. boards. Mount on ⅜" centers, in ¼" dia. hole in panels up to ⅛" thick. Depth behind panel 1/16".

Part No.	Conductors	Schematic	Typical Mating Plug	U.S.A. List Price
142A	2	III	750	$0.50
PC-142A	2	III	750	.55

"R-JAX" ECONOMY PHONE JACKS

H Radically new jack design. Simple mounting needs only two (2) 3/32" dia. rivets to fasten securely to mounting panel. Accept standard ¼" dia. phone plugs.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
1	I	250	2	$0.40
2A	II	250	2	.45
2B	IV	267	3	.50
3A	VI	250	2	.70
3B	VIII	267	3	.60
3E	IX	250	2	.80
3F	VII	267	3	.60
4B	X	267	3	.70

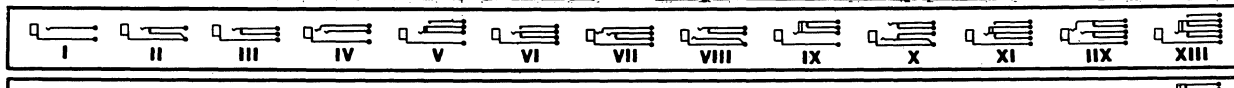
JACK COVERS

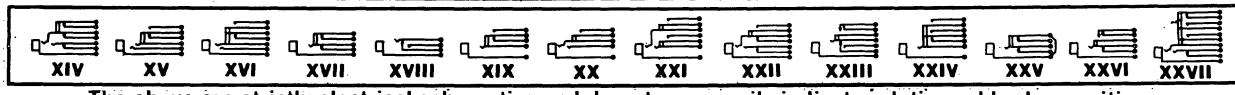
J Handy, rugged, spring-load phone jack covers. Covers jack openings when phone plug is removed. Protects against dust and moisture.

Series 500—Use with standard ⅜"-32 threaded bushing type phone jacks.

Series 600—Use with certain type tip jacks with ¼" mounting; height of tip jack head ⅛" to 3/16". Also used as covers for "Tini-Jax."

Part No.	Color	U.S.A. List Price	Part No.	Color	U.S.A. List Price
510	Olive Drab	$1.15	610	Olive Drab	$1.00
512	Bright Nickel	1.15	612	Bright Nickel	.85
515	Black	1.15	615	Black	1.00
520	Navy Gray	1.15	620	Navy Gray	1.00





The above are strictly electrical schematics and do not necessarily indicate relative solder lug positions.

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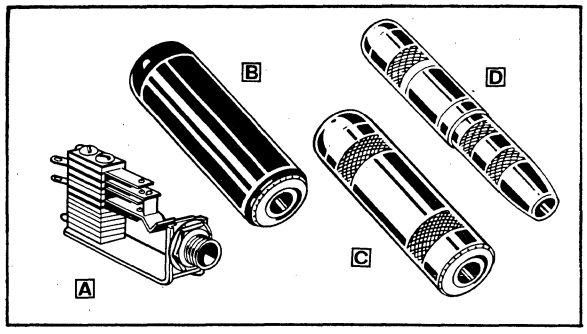
Phone Jacks

SWITCHCRAFT INC.



"LF-JAX" LONG FRAME JACKS

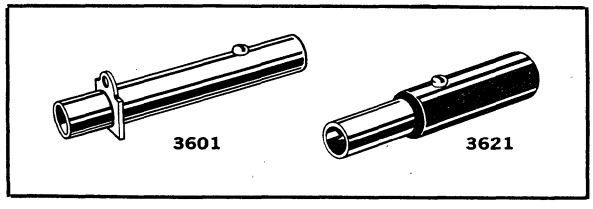
A Quality long frame phone jacks with a ground lug that is an integral part of the frame. Fine silver contacts rated at 3 amp., 300 watts, A.C., non-inductive load. Frame also available with a non-turn device, prefix **Part No.** with letter **"R"**. Standard types mount in single ⅜" dia. hole in panels up to 5/16" thick. Depth behind panel, only 2 25/32".

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
31	I	250	2	$0.80
32	II	250	2	1.05
32A	III	250	2	1.05
32B	IV	267	3	1.05
33	V	250	2	1.15
33A	VI	250	2	1.15
33B	VII	267	3	1.15
33C	VIII	267	3	1.15
33E	IX	250	2	1.15
34	X	267	3	1.30
34A	XI	250	2	1.30
34B	XII	267	3	1.30
35	XIII	250	2	1.60
36	XIV	267	3	1.85

"EXTENSION JAX" CABLE EXTENSION JACKS

Standard ¼", 2 and 3-conductor extension phone jacks with solder lugs or screw type terminals. Size 11/16" O.D., 2 25/32" long; 121 and 131 ½" O.D., 2½" long. Black handles are durable plastic. Shielded handles are brass, bright nickel plated.

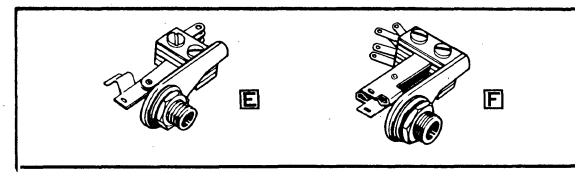
Part No.	Fig.	Cond.	Typical Mating Plug	Term.	Handle	U.S.A. List Price
80	B	2	250	Screw	Black	$1.25
88	B	2	250	Solder	Black	1.10
120	C	2	270	Screw	Shielded	1.70
121	D	2	270	Solder	Shielded	1.80
126	C	2	R-280	Solder	Shielded	1.90
128	C	2	270	Solder	Shielded	1.55
S-128	C	2	S-250	Solder	Shielded	1.65
131	D	3	290	Solder	Shielded	2.25
830	B	3	267	Screw	Black	1.70
S-830	B	3	480	Screw	Black	2.25
838	B	3	267	Solder	Black	1.55
1230	C	3	290	Screw	Shielded	2.20
S-1230	C	3	480	Screw	Shielded	2.75
1238	C	3	290	Solder	Shielded	2.00



CV JAX AND PLUGS

High quality **coaxial-video jacks** and **plugs** designed for use in patching high frequency signals, microwave, telemetry and data transmitting applications. Jacks are made for **50** and **70 ohm** circuits and use standard RG cables. No. **3601** accepts RG59/U; No. **3602** accepts RG62/U. Mate with Switchcraft CV Plugs. Mount in single 7/16" hole. Depth behind panel is 2 29/64". No **3621,** terminating plug with 75 ohm ± 1% ½ watt resistor; No. **3622,** feed through plug; No. **3623** same as **3621** but with tip jack for incircuit testing.

JACKS		PLUGS	
Part No.	U.S.A. List Price	Part No.	U.S.A. List Price
3601	$10.00	3621	$ 4.75
3602	10.00	3622	4.25
		3623	5.75



"SF-JAX" SHORT FRAME PHONE JACKS

E **Series 20**—High quality commercial jacks, solder lugs parallel to mounting surface. Mount in ⅜" dia. holes, panels up to 5/16" thick.

F **Series 50**—Similar to Series 20, except solder lug location necessitates more depth but requires less panel space. Mount in panels up to ¼" thick.

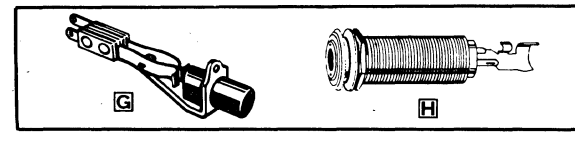
Series C-20 and C-50—MIL Types with Military insulation and finishes, otherwise similar to commercial Series 20 and 50; both will mount in panels up to ¼" thick.

SERIES 20 and C-20

Part No.	Schematic No.	Typical Mating Plug	Mil-Type	U.S.A. List Price
21	I	250	—	$0.70
22	II	250	—	.90
22A	III	250	—	.90
22B	IV	267	—	.90
23	V	250	—	1.05
C-23	V	440	JJ-099	1.50
23A	VI	250	—	1.05
C-23A	VI	440	JJ-098	1.50
23B	VII	267	—	1.05
23C	VHI	267	—	1.05
23E	IX	250	—	1.05
C-23E	IX	440	JJ-102	1.50
24	X	267	—	1.20
24A	XI	250	—	1.20
24B	XII	267	—	1.20
25	XIII	250	—	1.45
26	XIV	267	—	1.55

SERIES 50 and C-50

51	I	250	—	$0.70
C-51	I	440	JJ-096	1.30
52	II	250	—	.90
52A	III	250	—	.90
C-52A	III	440	JJ-097	1.45
52B	IV	267	—	.90
C-52B	IV	482	JJ-103	1.45
53	V	250	—	1.05
53A	VI	250	—	1.05
C-53A	VI	440	JJ-092	1.70
53B	VII	267	—	1.05
53C	VIII	267	—	1.05
53E	IX	250	—	1.05
54	X	267	—	1.20
54A	XI	250	—	1.20
C-54A	XI	440	JJ-093	1.75
54B	XII	267	—	1.20
C-54B	XII	482	JJ-101	1.75
55	XIII	250	—	1.45
C-55B	XV	482	JJ-095	2.05
56	XIV	267	—	1.55



"LAMP JAX" SWITCHBOARD PANEL TYPES

G Quality long frame panel type lamp jacks. No. **LT-47,** black nylon lamp housing completely insulates lamp from frame. Interchangeable with W.E. Nos. 47A, 47B. Accepts std. lamps and lamp caps, W.E. Nos. 2, 72, etc. No. **LT-48,** new Ballast Lamp-Jax for use in circuits subjected to increasing temperature and wattage. Steel frame and bushing, Teflon sleeve. Accepts std. telephone lamps or ballast lamp No. 60XA. Both lamp jacks mount in std. Switchcraft jack panels.

Switchcraft Part No. LT-47 ..... U.S.A. List Price **$1.40**

Switchcraft Part No. LT-48 ..... U.S.A. List Price **$2.00**

"THICK PANEL JAX"

H Phone jacks with long bushing. Mount in single 15/32" dia. hole in panels up to 1¼" thick. Solder lug terminals. Ideal for use with microphones; extra shielding virtually eliminates audio hum. No. 151, 2-conductor mates with 240, 245, 250, 255, 270 and 280 Plugs. No. 152B, 3-conductor mates with 260, 267, 269 and 297 Plugs.

Part No.	Description	U.S.A. List Price
151	2-cond. Brass Nickel Plated	$1.50
152B	3-cond. Brass Nickel Plated	1.65

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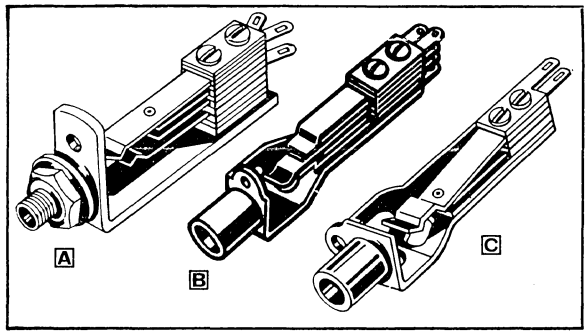
SWITCHCRAFT INC.

Phone Jacks and Plugs

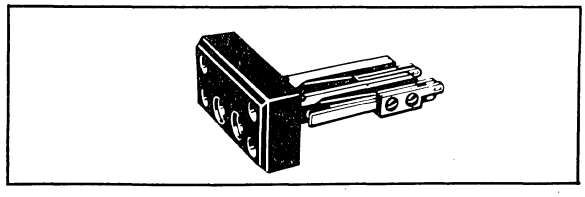


"T-JAX" TELEPHONE TYPE PHONE JACKS

C Long frame, switchboard type, phone jacks. For high quality communication equipment. Springs of nickel silver alloy for maximum life and corrosion resistance. Fine silver contacts are standard. Available in two frame designs. Part numbers in chart cover "A" frame design as shown in **Fig. C.** For frame design "C" as shown in **Fig. B,** add prefix letter "C" to part numbers. All jacks listed mate with standard ¼" dia. phone plugs.

Part No.	Schematic No.	Typical Mating Plug	Conductors	U.S.A. List Price
T-331	I	250	2	$1.05
T-332A	III	250	2	1.20
T-332B	IV	267	3	1.20
T-332C	XVIII	250	2	1.45
T-333	V	250	2	1.35
T-334A	XI	250	2	1.50
T-334B	XII	267	3	1.60
T-334C	XVII	250	2	1.50
T-334F	XIX	250	2	1.50
T-335	XIII	250	2	1.60
T-336	XXVI	250	2	1.75

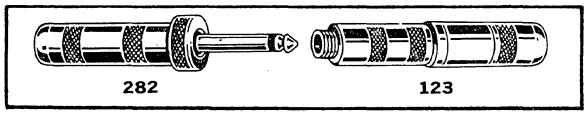
"DUAL-JACK BLOCKS"



Molded black phenolic jack blocks for mounting "MT-JAX" and "T-JAX" long frame phone jacks, on ⅝" centers. Can be rack panel mounted individually or in multiples. Blocks are 2¾" W. x 1¼" H. x ⅝" D. Mount with four No. 8-32 flat head screws.

Part No.	Description	U.S.A. List Price
2300	Jack Block, less jacks	$1.50
2331	Two MT-331 jacks	4.00
2332A	Two MT-332A jacks	4.40
2332B	Two MT-332B jacks	4.40
2333	Two MT-333 jacks	4.90

"LOCK PLUG AND EXTENSION JAX"



Standard size ¼", 2 and 3 conductor phone plugs and mating cable extension jacks with built-in device. Plug has coupling ring that can be threaded to the bushing of a "Littel-Jax" or to the mating end of the "Lock Extension Jax". Lock Plug handle, $1\frac{51}{64}$" long; ½" dia. Lock Extension Jax, ½" O.D.; 2½" long. All have solder lug terminals.

Part No.	Description	U.S.A. List Price
282	2-Conductor Lock Plug	$1.50
298	3-Conductor Lock Plug	2.00
123	2-Conductor Extension Jax	2.00
133	3-Conductor Extension Jax	2.50

"M-JAX" MILITARY TYPE PHONE JACKS

A Very heavy long frame jacks often referred to as the **Navy Jack.** Ideal for industrial and Military equipment. Long heavy duty springs with fine silver contacts. Mounts on single ⅜" hole, in panels up to ¼" thick.

Part No.	Schematic No.	Adjusted for Plug	Mil-Type No.	U.S.A. List Price
M-441	I	250	—	$1.50
M-442A	III	440	JJ-107	1.70
M-443A	VI	440	JJ-105	1.95
M-443B	VII	482	JJ-106	2.10
M-444*	XII	484 & 480	JJ-083	2.30
M-444B	XII	482	JJ-082	2.20
M-445	XIII	440	JJ-104	2.75
M-446	XIV	482	JJ-079	3.50
M-446A	XVI	482	JJ-081	3.90

*Bushing, .2085".

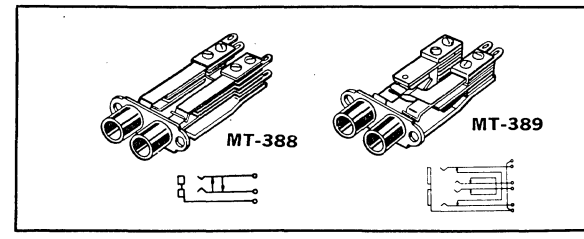
"MT-JAX" MILITARY TELEPHONE JACKS

C Long frame, telephone switchboard jacks designed for high quality communication and military equipment. Springs are of a special nickel silver alloy with welded cross bar palladium contacts. MT-Jax are available in two frame designs, namely "A" & "C". Part numbers in chart cover "A" frame design as shown in **Fig. C.** For frame design "C" as shown in **Fig. B,** add prefix letter "C" to part numbers.

Part No.	Schematic No.	Adjusted for Plug	Mil-Type No.	U.S.A. List Price
MT-331	I	440*	JJ-086	$1.25
MT-332	II	440	—	1.45
MT-332A	III	440	JJ-024	1.45
MT-332B	IV	482†	JJ-022	1.45
MT-332C	XVIII	440	JJ-016	1.70
MT-333	V	440	JJ-084	1.70
MT-333B	VII	482	—	1.70
MT-333E	IX	440	—	1.70
MT-334A	XI	440	—	1.75
MT-334B	XII	482	JJ-042	1.75
MT-334C	XVII	440	JJ-072	1.75
MT-334E	XXV	440	JJ-085	1.75
MT-334F	XIX	440	JJ-035	1.75
MT-335	XIII	440	—	2.00
MT-335A	XXVI	440	JJ-017	2.00
MT-336	XX	482	JJ-074	2.00
MT-336A	XIV	482	JJ-075	2.50
MT-336B	XXI	482	JJ-077	2.50
MT-336C	XXII	482	JJ-073	2.50
MT-336E	XXIII	440	—	2.50
CMT-336E	XXIII	440	JJ-019	2.50
MT-337	XXIV	440	JJ-087	2.50
CMT-337	XXIV	440	JJ-015	2.50
MT-339	XXVII	482	JJ-078	3.75
MT-342B§	IV	480‡	—	1.70
MT-344B§	XII	480	—	2.00

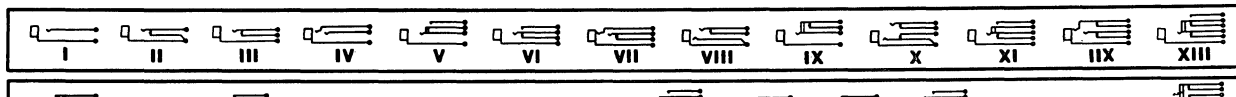
*MIL Type PJ-055.
†MIL Type PJ-051B.
‡MIL Type PJ-068.
§Bushing, .2085".

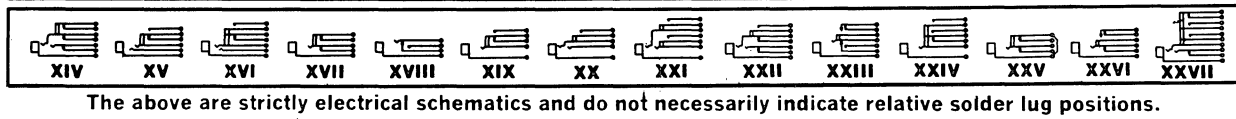
"TWIN JAX" DUAL MILITARY JACKS



Similar in design to "MT-Jax" except frame is double width, with two mounting ears on 1⅜" centers; bushings are on ⅝" centers. MT-388, MIL-Type No. **JJ-088,** mates with Nos. 411, 412, 413, 420 and 425 plugs. MT-389 has two 3-conductor jacks interconnected; mates with No. 482 Plug.

Switchcraft Part No. MT-388.....U.S.A. List Price **$4.50**
Switchcraft Part No. MT-389.....U.S.A. List Price **5.00**



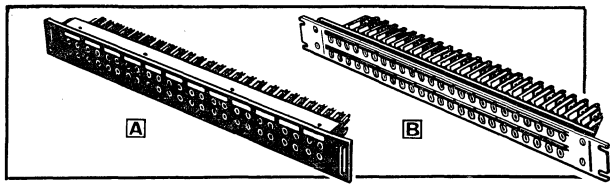


The above are strictly electrical schematics and do not necessarily indicate relative solder lug positions.

Jack Panels, Plugs, Patch Cords

SWITCHCRAFT INC.

"JACK PANELS"

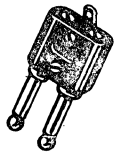


Rugged, heavy-duty jack panels for switching, distribution and control of audio signals in broadcasting stations, theaters, P. A. systems installations, etc. **Series 1200,** Fig. A, black phenolic panels reinforced with steel for the utmost rigidity. Mounting brackets slotted to fit all standard 19″ relay racks. Panel includes plastic covered designation strips. **Series 2800,** Fig. B, clear anodized aluminum panel. Extremely rugged, yet lightweight. Includes new narrow designation strip for each row. Add Prefix "X" to part numbers to indicate offset ground lugs on jacks. Aluminum panels available only with offset lugs.

Part No.	Fig.	Rows	Number of Jacks	Size, In. W x D x H	U.S.A. List Price
1200	A	Single	24 *	19x1¼x1¾	$ 14.50
1232A	A	Single	24 T-332A	19x1¼x1¾	40.00
1332A	A	Single	24 MT-332A	19x1¼x1¾	45.00
1400	A	Single	26 *	19x ⅝x1¾	15.00
1432A	A	Single	26 T-332A	19x ⅝x1¾	43.00
1532A	A	Single	26 MT-332A	19x ⅝x1¾	49.00
2400	A	Double	48 *	19x1¼x2⅛	15.00
2432A	A	Double	48 T-332A	19x1¼x2⅛	70.00
2532A	A	Double	48 MT-332A	19x1¼x2⅛	83.00
2600	A	Double	52 *	19x ⅝x1¾	18.00
2632A	A	Double	52 T-332A	19x ⅝x1¾	79.00
2732A	A	Double	52 MT-332A	19x ⅝x1¾	92.00
2800	B	Double	48 *	19x ⅝x1¾	40.00
X2832A	B	Double	48 T-332A	19x ⅝x1¾	95.00
X2932A	B	Double	48 MT-332A	19x ⅝x1¾	108.00

*Supplied less jacks.

MILITARY TYPE "TWIN-PLUGS"



412

Meet exact industrial and military requirements. **No. 411,** both design and materials, is manufactured in accordance with MIL-P-642(A) specs. **Nos. 412 and 413,** use identical materials. "Twin-Plug" sleeves spaced ⅝″ center to center with self-aligning feature.

Part No. 411—Two electrically independent 2-conductor plugs in black plastic handle. Has provision for Cord Clamp No. S-2674. Military Type **PJ-327** (Old Navy No. 491242). Interchangeable with W.E. 327.....U.S.A. List Price **$5.25**

Part No. 412—Two electrically independent 2-conductor plugs in black plastic handle. Has external cord clamp. Old Military Type PJ-289. Similar to W.E. 289B.....U.S.A. List Price **$4.90**

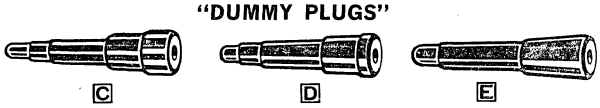
Part No. 413—Three circuit plug with two electrically independent tip circuits in heavy duty die cast frame. Molded black phenolic handle notched to indicate polarity. Interchangeable with MIL-Type PJ-421 and W.E. 241.....U.S.A. List Price **$4.90**

Part No. 414—Six circuit plug. Two electrically independent 3 conductor ¼″ dia. fingers. Black polarized handle. Interchangeable with WE-338A.....U.S.A. List Price **$9.25**

Part No. 415—Six circuit plug. Two electrically independent 3 conductor fingers. One ¼″ dia. finger, one .206″ dia. For automatic polarization. Black handle.....U.S.A. List Price **$10.25**

Part No. S-2674—Strain relief clamp, natural brass. For use with Nos. 411, 414, 415 "Twin-Plug". Pkg. of 10...U.S.A. List Price **$0.50**

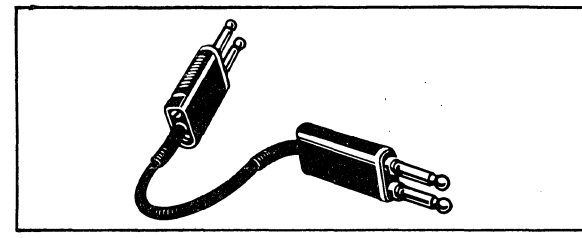
"DUMMY PLUGS"



Low cost, 2- and 3-conductor molded plastic, dummy plugs for use in switchboards, jack panels. Inserts in jack as does a phone plug to switch circuits, but can not couple incoming signals. Can also be used to plug up unused phone jacks to prevent accidental insertion of a phone plug. Series 491, 3-conductor, .207″ dia. finger. Series 492, 3-conductor, .250″ dia. finger. Series 493, 2-conductor, .250″ dia.

Part No.	Fig.	Handle	Typical Mating Jack	U.S.A. List Price
491-01	C	Red	MT-342B	$0.50
491-02	C	Black	MT-342B	.50
491-05	C	White	MT-342B	.50
492-01	D	Red	MT-332B	.50
492-02	D	Black	MT-332B	.50
492-05	D	White	MT-332B	.50
493-01	E	Red	MT-331	.50
493-02	E	Black	MT-331	.50
493-05	E	White	MT-331	.50

PATCH CORD SETS



All patch cords are constructed of bronze tinsel conductors, insulated and shielded, with a heavy black nylon braid overall.

Series 17Q—2-conductor patch cords have No. 413 "Twin-Plug" at each end with shields grounded both ends.

Series 17P—Same as 17Q, except shield grounded one plug only.

Series 18Q—2-conductor patch cords use Military Plug **PJ-051** (Switchcraft Part No. 482) at each end with shields grounded both ends.

Series 19Q—Single conductor patch cords utilize Military Plug **PJ-047B** (Switchcraft Part No. 420) connected to each end with shield grounded both ends.

Part No.	Length	Plugs Used	U.S.A. List Price
17QA17	6 inch	413	$11.00
17QB17	1 foot	413	11.25
17QD17	2 feet	413	11.50
17QF17	3 feet	413	11.75
17QH17	4 feet	413	12.15
17QK17	6 feet	413	13.00
17QN17	10 feet	413	13.75
17PA17	6 inch	413	11.00
17PB17	1 foot	413	11.25
17PD17	2 feet	413	11.50
17PF17	3 feet	413	11.75
17PH17	4 feet	413	12.15
17PK17	6 feet	413	13.00
17PN17	10 feet	413	13.75
18QA18	6 inch	482	11.50
18QB18	1 foot	482	12.00
18QD18	2 feet	482	12.50
18QF18	3 feet	482	13.00
18QH18	4 feet	482	13.50
18QK18	6 feet	482	14.50
18QN18	10 feet	482	16.50
19QA19	6 inch	420	6.00
19QB19	1 foot	420	6.25
19QD19	2 feet	420	6.75
19QF19	3 feet	420	7.25
19QH19	4 feet	420	7.75
19QK19	6 feet	420	9.10
19QN19	10 feet	420	10.50

REPLACEMENT PATCH CORDS

Patch cords are made of bronze tinsel conductors, insulated and shielded, with a heavy black nylon braid overall. Cords designed for use with Switchcraft plugs 413, 420 and 482 or equivalents. When used with No. 420, clip off unnecessary lead.

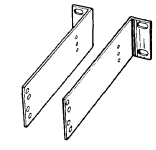
Series 89Q—2-conductor shielded cord with shield termination at both ends.

Series 89P—2-conductor shielded cord with shield termination at one end only.

Part No.		Length	U.S.A. List Price
Both Ends Shielded	One End Shielded		
89QA89	89PA89	6 inch	$2.25
89QB89	89PB89	1 foot	2.75
89QD89	89PD89	2 feet	3.00
89QF89	89PF89	3 feet	3.25
89QH89	89PH89	4 feet	3.50
89QK89	89PK89	6 feet	4.50
89QN89	89PN89	10 feet	6.50

JACK PANEL ACCESSORIES

HOLE PLUG



BRACKET KIT

Hole Plug, P-1801, molded nylon, fits all Switchcraft jack panels, Series 1200, 1400, 2400, 2600, 2800. Designed to plug unused holes in jack panels. Bracket Kit, K-107, consists of 2 long L-shaped steel, stand-off brackets and eight No. 6-32 self-tapping screws. To hold jack panels, Series 1400, 2600, 7″ in front of mounting rack.

Part No.	Description	U.S.A. List Price
P-1801	Hole Plug	$0.30
K-107	Bracket Kit	4.50

Trade Discount Applies To List Prices Only
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Phone Plugs

"LITTEL PLUG" PHONE PLUGS

Small size phone plugs fit standard ¼" phone jacks except *Nos. S-250, S-260, S-280 and S-290 which have a .206" dia. sleeve. **Nos. C-240, C-245 and C-270 feature an integral cable clamp with screw terminals. †No. R-280 has short sleeve for Revere Recorders. ‡No. 288 has a wide insulator between tip and sleeve for use in a 3-conductor jack to perform a 2-conductor function without shorting. Plugs with solder terminals have built-in cable clamp. Shielded metal handles are nickel plated brass; others are molded of durable plastic; ⅝" long x ½" dia.

TWO-CONDUCTOR TYPE

Part No.	Fig.	Typical Mating "Littel-Jax"	Handle	Terminals	U.S.A. List Price
240	A	11	Black	Screw	$0.85
C-240**	A	11	Black	Screw	1.00
245	A	11	Red	Screw	.85
C-245**	A	11	Red	Screw	1.00
250	A	11	Black	Solder	.80
255	A	11	Red	Solder	.80
270	B	11	Shielded	Screw	1.20
C-270**	B	11	Shielded	Screw	1.35
280	B	11	Shielded	Solder	1.15
288‡	B	11	Shielded	Solder	1.20
S-250	A	S-11	Black	Solder	.85
S-280	B	S-11	Shielded	Solder	1.15
R-280†	B	—	Shielded	Solder	1.50

THREE-CONDUCTOR TYPE

260	A	12B	Black	Screw	$1.35
S-260*	A	S-12B	Black	Screw	1.90
267	A	12B	Black	Solder	1.20
269	A	12B	Red	Solder	1.20
290	B	12B	Shielded	Screw	1.60
S-290*	B	S-12B	Shielded	Screw	2.15
297	B	12B	Shielded	Solder	1.50

STANDARD ¼" PHONE PLUGS

Available with phenolic or shielded, nickel plated over brass handle.

TWO-CONDUCTOR TYPE—SCREW TERMINALS

Typical mating jack "Littel-Jax" No. 11. Nos. 49 and 169 feature circuit closing device. Nos. 170 and 475 (MIL PJ-636) have two-piece handle with built-in clamp for ¼" cable. No. 180 has wide insulator between tip and sleeve for use in a 3-conductor jack to perform a 2-conductor function without shorting.

Part No.	Fig.	Handle	Length & Dia.	U.S.A. List Price
40	A	Black	2 1/16 x ¾	$0.85
45	A	Red	2 1/16 x ¾	.85
49	A	Black	2 1/16 x ¾	1.75
70	B	Shielded	2 1/16 x 1 1/16	1.40
160	C	Shielded	1 x 1 1/16	1.10
169	C	Shielded	1 x ¾	2.00
170	D	Shielded	2 1/16 x 1 1/16	1.85
180	—	Shielded	1 x ¾	1.25
475	D	Shielded	1 ¾ x ¾	2.20

THREE-CONDUCTOR TYPE—SOLDER TERMINALS

Typical mating jack "Littel-Jax" No. 12B. No. 190A has two-piece handle with built-in cable clamp for ¼" cable.

60	A	Black	2 1/16 x 1 1/16	$1.15
90	C	Shielded	1 x 1 1/16	1.50
190	B	Shielded	2 1/16 x 1 1/16	1.75
190A	D	Shielded	2 1/16 x 1 1/16	2.20

"LUG-PLUG" PHONE PLUGS

Low cost, two-conductor phone plugs. Fit all ¼" phone jacks.

No. 385 Plug has a .206" dia. sleeve and mates with S-11 "Littel-Jax". All have solder lug terminals. Handle: Shielded metal or phenolic.

Part No.	Fig.	Typical Mating "Littel-Jax"	Handle	Length & Dia.	U.S.A. List Price
350	A	11	Black	1⅝ x ½	$0.65
355	A	11	Red	1⅝ x ½	.65
380	—	11	Shielded	1 x ½	.85
385	—	S-11	Shielded	1 x ½	1.10

"TINI-PLUG" MINIATURE PHONE PLUGS

Miniature 2-conductor phone plugs for use with "TINI-JAX" only 1/3 the size of standard phone plugs. Handle 1⅝" overall length, are plastic or brass, nickel plated.

Part No.	Fig.	Terminal	Handle	U.S.A. List Price
740	E	Screw	Black	$0.85
745	E	Screw	Red	.85
750	E	Solder	Black	.80
755	E	Solder	Red	.80
770	E	Screw	Shielded	1.15
780	E	Solder	Shielded	1.15

"MICRO-PLUG" SUB-MINIATURE PHONE PLUGS

Sub-miniature 2-conductor phone plugs, only 1 1/64" long; ¼" O.D., .097" dia. sleeve. Mate with No. TR-2A. Have screw-on handles in black, red or natural anodized aluminum; accommodates cables up to 1/64" dia. All plugs have integral cable clamps.

Part No.	Fig.	Description	U.S.A. List Price
850	F	Black Handle	$0.75
855	F	Red Handle	.75
880	F	Natural Handle	.75

MILITARY TYPE "LITTEL-PLUG" AND EXTENSION JAX

Designed to meet exact industrial and military requirements. Plugs are made in accordance with MIL-P-642(A) specifications. One-piece tip rod and one-piece sleeve and plug body provide internal interlock to prevent parts shifting in position. Type 820 Extension Jack meets MIL-J-641A specifications and mates with "Littel-Plug" No. 430. No. 470 has shielded handle; all others plastic: †Red; ‡Black. All plugs have screw terminals.

Part No.	Fig.	Mil-Type No.	Typical Mating Jack	Cond.	U.S.A. List Price
420‡	G	PJ-047B	MT-388	2	$1.75
425†	G	PJ-047R	MT-388	2	1.75
430‡	H	PJ-054B	820	2	1.50
435†	H	PJ-054R	820	2	1.50
440‡	—	PJ-055B	MT-331	2	1.50
445†	—	PJ-055R	MT-331	2	1.50
450‡	H	PJ-540B	820	2	1.50
455†	H	PJ-540R	820	2	1.50
470	—	PJ-055M	MT-331	2	2.10
480‡	I	PJ-068	MT-342B	3	3.60
482†	J	PJ-051R	MT-332B	3	4.00
483‡	J	PJ-051B	MT-332B	3	4.00
484†	J	PJ-309	M-444	3	3.60
820‡	—	JJ-026	430 Plug	2	2.00

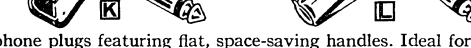
Switchcraft Part No. P-1074-1—Strain Relief Clamp. Nickel Plate Brass. Package of 25.....U.S.A. List Price **$0.85**

TYPE 410 PLUG AND TYPE 810 JACK

Miniature 2-conductor extension jack and mating plug; often referred to as "Throat Microphone Plug and Jack". Plug is Military Type PJ-291; jack is Type JJ-048. Each is of two-piece molded construction. Plug has solder-cup terminals; jack has solder lugs. After wiring, shells must be cemented and clamped till dry. Overall size (engaged), 2⅝" x 17/32" x ⅜".

Switchcraft Part No. 410 Plug.....U.S.A. List Price **$1.00**
Switchcraft Part No. 810 Jack.....U.S.A. List Price **1.20**

"FLAT PLUG" PHONE PLUGS



¼" phone plugs featuring flat, space-saving handles. Ideal for applications where conventional plugs would protrude too far. Nos. 220, 225 have adapter clips which make them convenient to clamp standard phone tips to terminals. Shielded flat plugs, Nos. 228 and 238 have nickel plated steel handles; all others have red or black plastic handles. Nos. S-230 and S-235 have .206" dia. sleeve.

TWO-CONDUCTOR TYPE

Part No.	Fig.	Typical Mating Jack	Handle	Terminals	U.S.A. List Price
220	K	11	Black	Screw	$1.25
225	K	11	Red	Screw	1.25
227	K	11	Black	Solder	1.00
228	L	11	Shielded	Solder	1.10
229	K	11	Red	Solder	1.00

THREE-CONDUCTOR TYPE

230	K	12B	Black	Screw	$1.55
S-230	K	S-12B	Black	Screw	2.00
235	K	12B	Red	Screw	1.55
S-235	K	S-12B	Red	Screw	2.00
237	K	12B	Black	Solder	1.50
238	L	12B	Shielded	Solder	1.65
239	K	12B	Red	Solder	1.50

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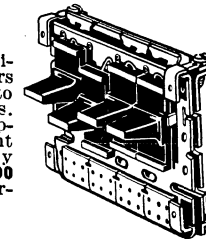
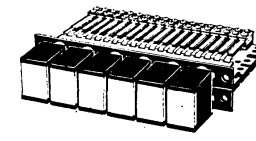
SWITCHCRAFT® INC. Switches

Switchcraft switches give you unlimited latitude in the selection of switching functions and actuations for customizing your equipment designs. Whether you choose pushbutton, slide or lever actuated switches, OUR specialized sales personnel can aid you in the selection and specification of the proper switch to fill your particular requirements. Call on us. We can supply any lever switch, or any size "Multi-Slide" and/or "Multi-Switch", with virtually unlimited functions, from stock, immediately, at factory prices.

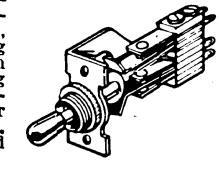
Only Switchcraft offers 3 complete lines of slide, multiple station pushbutton, and lever switches . . . 3 proven solutions to man-machine interface problems.



SLIDE ACTION . . . Series 39000 "Multi-Slide" switches provide design engineers with an entirely new switching method to solve man-machine system problems. "Multi-Slide" switches help eliminate operating confusion inherent in constant manipulation of pushbutton matrixes by providing slide-switch variety. **Series 39000 Switches** offer 3 types of actuation: interlock, all-lock, non-lock.

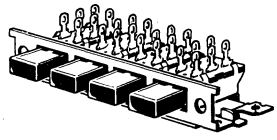


PUSHBUTTON ACTION . . . Whatever your requirements for switching, you will find Switchcraft "Multi-Switch" switches enable you to design a cybernetically correct, error-reducing panel. Both illuminated and non-illuminated types are available with non-lock, all-lock, interlock, push-to-lock, push-to-release functions. Illuminated types offer single or multiple lighting effects. **Series 7000 and 21000** frames are available from 1 to 37 stations in a row. Littel "Multi-Switch" **Series 35000, 36000, 37000,** are compact switching units offering 1 to 18 stations in a row.



LEVER ACTION . . . Switchcraft offers the largest selection of illuminated and non-illuminated lever-type switches in the industry. They come in a wide choice of sizes, 2 or 3 position, locking and non-locking types. They range in size and style from miniaturized **"Feather Lever"**, featuring changeable push-on color knobs to **"Lever-Lite"**, a 3-color illuminated type lever switch; to the industry standard **"Telever"**, a telephone type switch featuring field changeable functions.

DW "MULTI-SWITCH"™ SERIES 65000

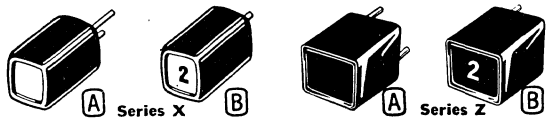


Rugged, versatile, multiple-station pushbutton switch requires only 1 1/16" depth behind panel. Overall switch height of 2 7/32" allows stacking in tight parallel rows. Three standard functions available: **Interlock**—actuating a button automatically restores to normal the button previously actuated; **Non-Lock**—each button has momentary action; **All-Lock**—all buttons, except release, lock when depressed. Standard on all interlock switches is a **Lock-Out** feature which prevents operation of more than one button at a time; this is also available on special order for non-lock and all-lock switches*. Single row assemblies are available from 1 to 12 stations with interlock or all-lock functions: up to 18 stations, non-lock. These switches utilize a specially-designed switching module consisting of a switch housing, pushbutton actuator, terminal board assembly and contactors. Features "U"-shaped, double-wipe bifurcated contactors for extra reliability. Silver-plated contactors rated 3 amps, 125 VAC, non-inductive; 0.5 amp, 125 VDC. Pushbutton, on 5/8" centers, is an integral part of plunger and cannot be lost or pilfered. Assemblies to 18 stations mount with only two #6 screws (not furnished). Frame notched to accept Tinnerman No. 7888-632-1 speed nuts with 6-32 machine screws (not furnished). Switches listed are fully assembled and factory-tested; have black pushbutton actuators and 2-C (DPDT) switch modules at each station. **Only the more commonly used switches are listed here; for complete engineering information, request Switchcraft Bulletin 174.**

No. of Stations	Interlock (With Lock-Out) Part No.	All-Lock Function Part No.*	List Price	Non-Lock Function Part No.*	List Price
2	65021K-206	65023-206	$ 2.80	65022-206	$ 2.65
4	65041K-206	65043-206	5.00	65042-206	4.85
6	65061K-206	65063-206	7.20	65062-206	7.00
8	65081K-206	65083-206	9.40	65082-206	9.20
10	65101K-206	65103-206	11.55	65102-206	11.30
12	65121K-206	65123-206	13.75	65122-206	13.50

*For **Lock-Out** function, omit hyphen in part number and replace with letter **K** (e.g., 65023**K**206), and add **10%** to List Price.

"GLO-BUTTONS" FOR "MULTI-SWITCH" SWITCHES SERIES X, Y, Z



Economy of non-illuminated buttons with the vivid color-legend display of illuminated buttons. "Glo-Buttons" look and function like an illuminated button, but require no lamp or power. Mount on all pushbutton switches with std. .050" x .187" plungers, as Switchcraft Series 7000, 8000, and 35000 "Multi-Switch", and other switches having maintained plunger action with a max. of 1/16" **fallback.** "Glo-Buttons" have a translucent front screen on which a legend is marked in an opaque color. The opaque color provides a background for the legend while the legend itself remains clear **(Figs. A).** An internal fluorescent illuminator is carried on a pusher which has two legs extending from the rear. When the button is depressed, the rear legs of the pusher bring the fluorescent illuminator flush with the screen which then lights up due to reflected ambient light, and projects a clearly visible legend, see **Figs. B.** All "Glo-Buttons" have black button housings and are available with std. legends: **"A"** thru **"Z"**, **"0"** thru **"50"**, and **"ON"**, **"OFF".** Eight basic types of buttons are offered: To order, specify part number and add suffix letter or numeral to part number which describes desired legend. Example: To order 1/2" sq. "Glo-Button" with black screen, orange-red illuminator and numeral "7", part number would read X21248-7.

Series No.	Size	Screen Color	Illuminator Color
X21248	1/2" square	Black	Orange-Red
X51248	1/2" square	White	Orange-Red
Y21248	3/4" h. x 5/8" w.	Black	Orange-Red
Y28248	3/4" h. x 5/8" w.	Black	Chartreuse
Y51248	3/4" h. x 5/8" w.	White	Orange-Red
Z21248	5/8" h. x 3/4" w.	Black	Orange-Red
Z28248	5/8" h. x 3/4" w.	Black	Chartreuse
Z51248	5/8" h. x 3/4" w.	White	Orange-Red

Net

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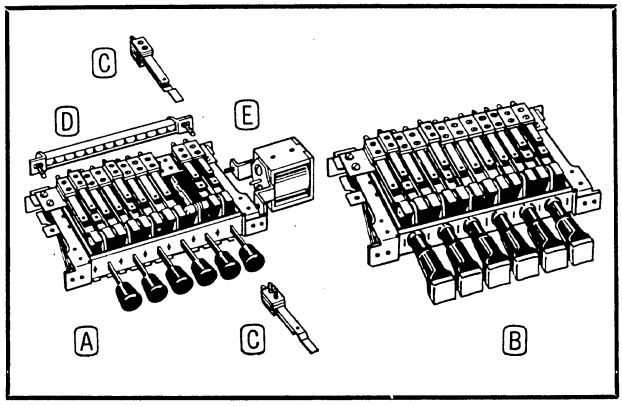
SWITCHCRAFT INC.

"MULTI-SWITCH" SWITCHES



Basic design simplicity provides a unique multiple station push-button switch that's rugged, compact, versatile and completely flexible in switching functions. Hundreds of circuit and function combinations are possible as **all switching components**—frame, switch stacks, lamps and other accessories **are changeable.** Order the "Multi-Switch" you now require, from stock, and later change circuits and/or functions in the field by simple positioning adjustments of stop plate, latch bar spring, and/or interchanging or adding-on switch stacks. **For a complete multiple station assembly, you must order the proper frame and the necessary switch stacks, for each station on the frame.** Optional accessories include: **Lock-out bar** which prevents operation of more than one station at a time, and a **solenoid release** to provide automatic remote release of activated stations. Standard "Multi-Switch" frames are available with these functions: **Interlock,** restores to normal any previously actuated station when another station is actuated. **Non-Lock,** momentary action of each station. **All-Lock,** accumulative locking of all stations with restoration of all stations to normal when release station is depressed. **Specify switching function when ordering frames listed below.**

SERIES 7000 NON-ILLUMINATED FRAMES

(A) Heavy gauge steel switch frames mount on panels up to 3/8" thick, with 3 5/16" depth behind the panel. Rugged, welded end-mounting brackets have four 8-32 tapped holes for ease of panel mounting. Attractive, round brown push-on-buttons supplied for each station, plus extra red button for use when switch requires a release station. Center-to-center distance between buttons is 5/8". Steel plunger .050" x .187" accepts standard push-on-buttons and "Glo-Buttons". Standard plunger is 1 1/8" long, but can be supplied up to 5 3/4" long on special order. Switch frames with buttons on 3/4" centers are available in Series 8000 which has all the same features as Series 7000. **Series 7000** "Multi-Switch" frames are available with from 1 to 37 stations; **Series 8000** from 1 to 31 stations. When ordering Series 8000 add 10% to prices. Only the most commonly used frames are listed below. For more detailed information, request Switchcraft catalog S-306.

Part No.	No. of Stations	Part No.	No. of Stations	Part No.	No. of Stations
7100	1	**7500**	5	**7900**	9
7200	2	**7600**	6	**71000**	10
7300	3	**7700**	7	**71100**	11
7400	4	**7800**	8	**71200**	12

SERIES 21000 ILLUMINATED FRAMES

(B) Similar in switching functions and characteristics to non-illuminated "Multi-Switch", but, with these outstanding features: modern square button design with bright uniform front and side illumination provided by lamp diffusers; knurled retaining collar for quick easy front-of-panel lamp replacement. Two lamp voltages: 6 V and 28 V. Buttons with white jewels and white diffusers are furnished for switching and release stations. Standard frames listed below provide **"L"** type lighting (pushbuttons light in "IN" position). To have pushbutton light in "OUT" position, prefix part No. with **M** (e.g., **M**21100). To have them light in both the "IN" and "OUT" positions, prefix with **N.** To avoid ordering "specials", order lighting stacks listed in next column to provide "M" and "N" lighting. Center-to-center distance between buttons is 5/8" on **Series 21000,** available with up to 37 stations in a row; **Series 22000,** buttons on 3/4" centers, available up to 31 stations only. Add 10% to price of Series 21000 when ordering Series 22000. Only the most commonly used frames are listed below. For more detailed information request Switchcraft catalog S-306. All frames are supplied less lamps and stack switches.

Part No.	No. of Stations	Part No.	No. of Stations	Part No.	No. of Stations
21100	1	**21500**	5	**21900**	9
21200	2	**21600**	6	**211000**	10
21300	3	**21700**	7	**211100**	11
21400	4	**21800**	8	**211200**	12

LAMPS FOR "MULTI-SWITCH" SWITCHES

Lamps are not furnished with **Series 21000** switches. For initial order or replacement specify **Part No. P-1593-1,** 28 V flange base lamp, Ind. No. 327; or, **Part No. P-1593-2,** 6 V flange base lamp, Ind. No. 328.

SWITCH STACKS

(C) Interchangeable switch stacks for mounting to "Multi-Switch" frames. Two types listed: **Series 70** stacks, fine silver contacts; **Series 70P,** welded cross-bar palladium contacts. Use where the switching circuits of a released station will return to normal before contacts of a newly operated station are actuated. Both series are rated at 3 amps, 300 watts, max., AC non-inductive load. Should more than one circuit be required, specify two (or more) stacks in order to balance the load on the plunger. With each switch, two mounting screws and one pressure plate is furnished. In addition to Series 70 and Series 70P Switch Stacks, four other Series are available, from stock.

SERIES 70—SILVER CONTACTS

Part No.	Circuits	Part No.	Circuits	Part No.	Circuits
71	1-A	**73D**	1-D	**76**	2-C
72	1-B	**74**	2-A	**76D**	2-D
73	1-C	**75**	2-B		

SERIES 70P—PALLADIUM CONTACTS

Part No.	Circuits	Part No.	Circuits	Part No.	Circuits
71P	1-A	**73PD**	1-D	**76P**	2-C
72P	1-B	**74P**	2-A	**76PD**	2-D
73P	1-C	**75P**	2-B		

LOCK-OUT BAR "K" SERIES

(D) Prevents operation of more than one switching station at a time. Mounts on back of standard "Multi-Switch" Series 7000, 8000, 21000 and 22000 frames with two screws (furnished). Available from 2 to 37 stations for a single frame. Lock-Out Bars listed are for 5/8" center plunger only; for 3/4" centers, order special.

Part No.	Stations	Part No.	Stations	Part No.	Stations
K-02	2	**K-06**	6	**K-10**	10
K-03	3	**K-07**	7	**K-11**	11
K-04	4	**K-08**	8	**K-12**	12
K-05	5	**K-09**	9		

SOLENOID RELEASE—"J" SERIES

(E) Two, simple solenoid assemblies are available that can be easily added on the end of a standard frame assembly by two screws. **Part No. J-1** is for use on interlocked switches; **Part No. J-3,** for use on all-lock switches with up to 12 stations. Both are for use in 115 volt, 60 cycle AC circuits. Complete with mounting bracket and screws.

LIGHTING STACKS

Prepackaged lighting stacks convert standard stock **Series 21000** frames from **"L"** type lighting to **"M"** or **"N"** lighting in the field. Use **"NB"** type stack to complete lighting circuit with all three types of lighting **"L", "M", "N".** All mount easily to frame. Two mounting screws and one pressure plate furnished with each switch. Order one stack for each station.

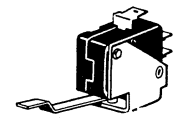
Part No.	Type of Lighting
LL	"L" —light on in "IN" position
MM	"M"—light on in "OUT" position
NN	"N"—light on in "IN" and "OUT" positions
NB	Completes lighting circuit

COMBINATION SWITCH STACKS

Consists of a lighting stack with a switching stack in a single pre-assembled pile-up. Designed to provide additional switching circuitry on **Series 21000** frames. Replaces original lighting stacks as furnished with frames. Available in all three lighting arrangements with fine silver contacts, **Series 70;** or, with welded cross-bar palladium contacts, **Series 70P.** Both rated at 3 amps, 300 watts, max., AC non-inductive load. Supplied with mounting screws and pressure plate.

Part No.	Circuits	Lighting	Part No.	Circuits	Lighting
LL71	1-A	L	**LL71P**	1-A	L
MM71	1-A	M	**MM71P**	1-A	M
NN71	1-A	N	**NN71P**	1-A	N
NB71	1-A	.....	**NB71P**	1-A	.....
LL73	1-C	L	**LL73P**	1-C	L
MM73	1-C	M	**MM73P**	1-C	M
NN73	1-C	N	**NN73P**	1-C	N
NB73	1-C	.....	**NB73P**	1-C	.....

"PIGGY-BACK" SNAP SWITCH MODULES



Two snap switch modules **Part Nos. 73SA** and **73SB** provide power switching for "Multi-Switch" and "Push-Push" Switches. Module consists of snap-action switch, actuator, mounting bracket and screws. **No. 73SA** mounts on Series 7000, 8000, 21000, 22000 frames and Series 5000 "Push-Push" Switch. **No. 73SB** mounts on Series 15000 "Push-Push" Switch. Both rated at 15 amps, 1/2 HP, 125/250 VAC. Each module provides a 1-C circuit. Supplied with mounting hardware and instruction sheet.

ESCUTCHEON PLATES

Attractive escutcheon plates for **Series 7000** non-illuminated "Multi-Switch". Black satin finish over a 1/32" thick aluminum plate; back side has paper backing, which when removed exposes a pressure sensitive adhesive which "sticks" plate to panel. Listed below are standard lengths.

Part No.	Stations	Part No.	Stations
ES-04	4	**ES-12**	12
ES-06	6	**ES-18**	18
ES-08	8		

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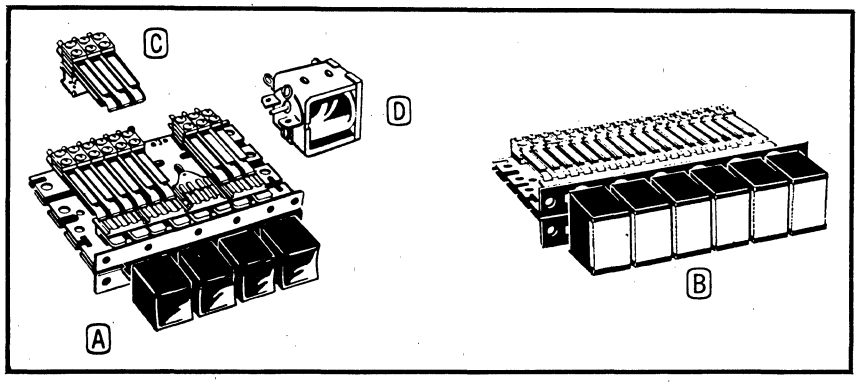
SWITCHCRAFT INC.

littel "MULTI-SWITCH" SWITCHES



Compact, versatile, low-cost multiple station pushbutton switches. Four standard functions available: **Interlock**—actuating a button automatically restores to normal the button previously actuated. **Lock-Out**—prevents operation of more than one button at a time. This feature is included on all interlock frames. **Non-Lock**—each button has momentary action. **All-Lock**—all buttons, except release, lock when depressed. All buttons restored to normal by actuating release button. **Push-to-Lock, Push-to-Release**—button locks when depressed and is released when again depressed. Buttons on ⅝" centers. **Frames available from 1 to 18 stations.**

SERIES 35000 NON-ILLUMINATED FRAMES

(A) Switch frames mount on panels up to ⅛" thick. Permits 6 PDT switching in .6 sq. in. Narrow rectangular silhouette permits stacking in parallel rows on ¾" centers. Only 2⁵⁄₁₆" depth behind panel. End brackets have four 6-32 tapped mounting holes. A square black pushbutton is furnished for each station and an extra red button is supplied for use when switch requires a release. The following part numbers cover basic frames only. To complete assembly, order switch stacks for each station, solenoid releases, and snap-switch modules if required. Only the most commonly used frames are listed here:

Part Numbers For Functions				
Interlock	Non-Lock	All-Lock	Push-to-Lock, Push-to-Release	No. of Stations
35021	35022	35023	35027	2
35041	35042	35043	35047	4
35061	35062	35063	35067	6
35081	35082	35083	35087	8
35101	35102	35103	35107	10
35121	35122	35123	35127	12

SERIES 37000 SINGLE LAMP ILLUMINATED FRAMES

(B) Identical in switching functions and characteristics as non-illuminated Series 35000, but feature large rectangular shaped pushbuttons which serve as a color or legend coded panel indicator light which actuates up to 6 PDT switching. Switch frames mount in parallel rows from **1" centers** and up. Depth behind panel **2⁵⁄₁₆"**. Pushbuttons with large transparent clear display screen and white legend insert, which can be hot stamped or engraved, are furnished for switching and release stations. A single **6 V** or **28 V** lamp can be used at each station. Lighting, such as **"L"**—pushbuttons light in "IN" position; **"M"**—pushbuttons light in "OUT" position; and **"N"**—pushbuttons light in both "IN" and "OUT" positions, can be effected by direct wiring to the lamp terminals or through the use of **Series H** Lighting Stacks. The following part numbers cover basic frames only. To complete assembly, order switch stacks, lighting stacks, and lamps for each station. Only the most commonly used frames are listed here:

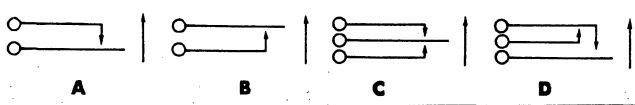
Part Numbers For Functions				
Interlock	Non-Lock	All-Lock	Push-to-Lock, Push-to-Release	No. of Stations
37021	37022	37023	37027	2
37041	37042	37043	37047	4
37061	37062	37063	37067	6
37081	37082	37083	37087	8
37101	37102	37103	37107	10
37121	37122	37123	37127	12

SERIES 38000 TWIN LAMP ILLUMINATED FRAMES

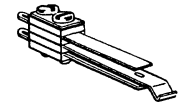
(B) Same compact assembly and versatility as Series 37000, except features twin lamp illumination at each station for redundant or two color, split-face lighting. Uses **Series H** lighting stacks and two long life Part No. **P-1890,** 6 V lamps for choice of **"L"**, **"M"**, or **"N"** lighting. Each button serves as a color legend coded indicator light which actuates up to 3 PDT switching where Series H lighting stacks are used. Switches can be stacked in parallel rows on 1" centers with only 2⁵⁄₁₆" depth behind panel. The following part numbers cover basic frames only. For complete switch assembly order switch stacks, lighting stacks, lamps for each station, plus solenoid release, if needed. Only the most commonly used frames are listed here:

Part Numbers For Functions				
Interlock	Non-Lock	All-Lock	Push-to-Lock, Push-to-Release	No. of Stations
38021	38022	38023	38027	2
38041	38042	38043	38047	4
38061	38062	38063	38067	6
38081	38082	38083	38087	8
38101	38102	38103	38107	10
38121	38122	38123	38127	12

BASIC CONTACT FORMS



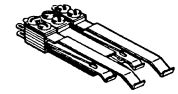
SWITCH STACKS



(C) Interchangeable switch stacks for littel "Multi-Switch" switches, **Series 35000, 37000, 38000. Series 80P,** constructed with cross-bar welded palladium contacts. For use where switch contacts of a released station will return to normal before contacts of a newly operated station are actuated. **Series 800P,** same as 80P, except designed to be used on push-to-lock, push-to-release function. Both Series rated 3 amps, 300 watts max., AC non-inductive load. Switch stacks fasten direct to removable switch mounting brackets. Supplied with two mounting screws and one pressure plate.

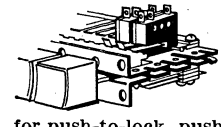
Series 80P Part No.	Series 800P Part No.	Circuits	Series 80P Part No.	Series 800P Part No.	Circuits
81P	801P	1-A	83P	803P	1-C
82P	802P	1-B	83PD	803PD	1-D

LIGHTING SWITCH STACKS



Two lighting switch stacks, **Part Nos. H-83P** and **H-803P** are available for convenient rear-of-frame lamp circuit wiring on **Series 37000** and **38000** frames. Stacks consist of standard Series 80P and 800P switch stacks with an extra long contact leaf spring on top. Use **No. H-83P** for all functions except push-to-lock, push-to-release; **No. H-803P** for push-to-lock, push-to-release. Each provide 1-C circuitry. Furnished with two screws and pressure plate.

"PIGGY-BACK" SNAP-SWITCH MODULES



Increases the switching load capacity of littel "Multi-Switch" switches from 3 amps to 15 amps. Module consists of snap-action switch, actuator and mounting bracket. Two types available: Miniature types **No. 83SA,** for all switching functions except push-to-lock, push-to-release; **No. 803SA,** for push-to-lock, push-to-release function. Both rated at 15 amps, ½ HP, 125/250 VAC. Subminiature types **Nos. 83SC** and **83SD,** are similar to No. 83SA in function, and **Nos. 803SC, 803SD** are similar to No. 803SA in function. Subminiature types are rated at 10 amps, ¼ HP, 125 VAC. All supplied with mounting hardware. Solder terminals.

Part No.	SPDT Circuits	Part No.	SPDT Circuits	Part No.	SPDT Circuits
83SA	1	83SC	1	803SC	1
803SA	1	83SD	2	803SD	2

SERIES NJ SOLENOID RELEASE

(D) A simple solenoid assembly which can be added to the end of a standard **Series 35000, 37000,** or **38000,** littel "Multi-Switch" frame to provide electrical release of activated stations. **No. NJ-1** designed for use with up to 18 interlock stations; **No. NJ-3** will handle up to 12 all-lock stations. Both are for use in 115 V, 60 cycle AC circuits. Mounting instructions and hardware furnished with each solenoid.

LAMP ADAPTER

Lamp Adapter, **Part No. T-1,** converts Series 21000 and 37000 lamp sockets that accommodate P-1593-2, -1 lamps, to accept the **P-1890** subminiature lamps. Order a **Part No. T-1** lamp adapter for each station of a Series 21000 and 37000 if long-life P-1890 lamp is specified.

LAMPS FOR littel "MULTI-SWITCH" SWITCHES

Lamps are not furnished with **Series 37000,** or **38000** switches. Series 37000 will accept lamps P-1593-2 (6 V) and P-1593-1 (28 V). Series 37000 uses long life P-1890 (6 V) lamp when used with **T-1** lamp adapter. Series 38000 accepts only the **P-1890 lamp.** For initial order or replacement, specify: **Part No. P-1593-2,** 6 V flange base lamp—Ind. No. 328; **Part No. P-1890,** subminiature 6 V flange base lamp—Ind. No. 718; **Part No. P-1593-1,** 28 V flange base lamp—Ind. No. 327.

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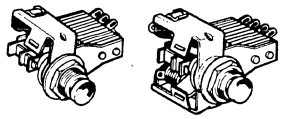
SWITCHCRAFT INC.

Pushbutton Switches

NEW ILLUMINATED "NF-LITE" SWITCHES



A B

Series 4100 and 4200 "NF-LITE" illuminated switches indicate switching and circuit functions at a glance. Flat frame construction provides multiple pole momentary action switching. Lighting circuit is independent of switching circuit. Ideal for control panel or press-to-test applications. Contacts are fine silver rated at 3 amps, 300 watts max., A.C., non-inductive load.

Series 4100, Fig. A, uses single miniature lamp, 6V or 28V. Light from lamp is filtered through color chip to clear plastic push-button. Various colored chips can be inserted at any time. **Series 4200, Fig. B,** same as Series 4100, except utilizes two lamps for greater illumination or color coding of two circuit conditions. Both series require 11/16" min., 15/16" max. depth behind panel depending on size of stack; mounts in 3/8" hole in panels up to 1/4" thick. **Series 4100** furnished with **one kit of 4 color chips** (red, amber, green, and yellow). **Series 4200** furnished with **two kits. Lamps** must be **purchased separately.** See lamp listing below.

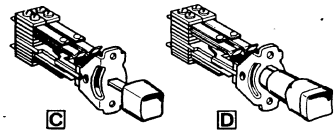
SERIES 4100

Part Number	Action	Schematic Circuit	U.S.A. List Price
4101	S.P.S.T.n.o.	1-A	$ 1.95
4103	S.P.D.T.	1-C	2.10
4104	D.P.S.T.n.o.	2-A	2.20
4106	D.P.D.T.	2-C	2.45
4109	3 P.D.T.	3-C	3.00

SERIES 4200

4201	S.P.S.T.n.o.	1-A	$2.85
4203	S.P.D.T.	1-C	3.00
4204	D.P.S.T.n.o.	2-A	3.10
4206	D.P.D.T.	2-C	3.35
4209	3 P.D.T.	3-C	3.90

"PUSH-PUSH" SWITCHES



C D

Push-to-lock, push-to-release or momentary action push-button switches. Welded cross-bar palladium contacts rated at 3 amps, 300 watts, max., non-inductive load. Mount with two 3-48 screws (not supplied) on 5/8" centers. Depth behind panel, 2 1/8". **Series 5000, Fig. C,** non-illuminated, supplied with square brown button. **Series 15000, Fig. D,** illuminated; available in three lighting arrangements, **"L"** button lights in "IN" position; **"M"** button lights in "OUT" position; **"N"** button lights in "IN" and "OUT" positions. Series 15000 part numbers listed below provide "L" type lighting. For "M" type prefix part no. with "M"; for "N" type prefix part no. with "N". Series 15000 supplied less lamp. 6V or 28V lamps can be used.

*Add suffix letter "L" to part number to indicate locking type.

NON-ILLUMINATED SERIES 5000

Part Number Non-locking*	Action	Schematic Circuit	U.S.A. List Price
5003	S.P.D.T.	1-C	$ 6.00
5004	D.P.S.T.n.o.	2-A	6.50
5006	D.P.D.T.	2-C	6.75
5008	4 P.S.T.n.o.	4-A	7.60
5009	3 P.D.T.	3-C	7.75
5012	4 P.D.T.	4-C	9.00

ILLUMINATED SERIES 15000

15003	S.P.D.T.	1-C	$ 8.50
15004	D.P.S.T.n.o.	2-A	9.00
15006	D.P.D.T.	2-C	9.25
15008	4 P.S.T.n.o.	4-A	10.00
15009	3 P.D.T.	3-C	10.25
15012	4 P.D.T.	4-C	11.50

LAMPS FOR ILLUMINATED SWITCHES

The **"NF-Lite", "Littel-Lite"** and **"Push-Push"** Switches are not supplied with lamps. When ordering these switches, be sure to specify:

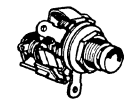
Part No.	Used with Switch	Voltage	Lamp Base	Ind. No.	U.S.A. List Price
P-1217	NF-Lite Littel-Lite	6	Screw	1768	$1.20
P-1218	NF-Lite Littel-Lite	28	Screw	335	2.00
P-1593-1	Push-Push	28	Flange	327	1.50
P-1593-2	Push-Push	6	Flange	328	1.20

"TINY SWITCH" PUSH-BUTTON SWITCHES

Series 950, red button, and **Series 960,** black button, subminiature push-button switches for limited space applications. Integral contacts suitable for low level circuits where contact resistance is not important. Mounts in 1/4" hole in panels up to 3/32" thick; depth behind panel 5/8".

Part Number Red Button	Part Number Black Button	Action	Schematic Circuit	U.S.A. List Price
951	961	S.P.S.T.n.o.	1-A	$0.95
952	962	S.P.S.T.n.c.	1-B	.95
953	963	S.P.D.T.	1-C	1.10

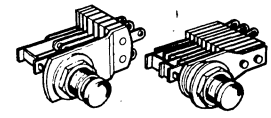
NEW ILLUMINATED "LITTEL-LITE" SWITCHES



Series 210 "Littel-Lite" Switches are unusually small, momentary contact, illuminated push-button types. Requires minimum panel space; ideal for limited space applications and press-to-test circuits. One-piece, clear plastic button and shaft is illuminated by a single miniature lamp, 6V or 28V. Lamps are **not** furnished, see lamp listing below. Includes kit of 4 color chips (red, amber, green, and yellow), can be inserted in switch at any time. Nickel silver spring contacts are recommended for low lever circuits where contact resistance is not important. Also available, fine silver contacts (Part No. suffix **"S"**) rated at 3 amps, 300 watts, max., A.C. non-inductive load. Lighting circuit is independent of switching circuit. Mounts in single 3/8" hole in panels up to 1/4" thick; depth behind panel 1 1/16"

Part Number	Action	Schematic Circuit	U.S.A. List Price
211	S.P.S.T.n.o.	1-A	$1.70
212	S.P.S.T.n.c.	1-B	1.70
213	S.P.D.T.	1-C	2.00
211S	S.P.S.T.n.o.	1-A	1.95
212S	S.P.S.T.n.c.	1-B	1.95
213S	S.P.D.T.	1-C	2.25

NON-LOCKING FLAT FRAME SWITCHES



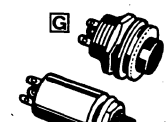
E F

FF Switches. Fig. E, Series 1000. Flat frame construction provides multiple pole switching with minimum depth behind panel. Fine silver contacts rated at 3 amps, 300 Watts Max., A.C., non-inductive load. One piece black button and shaft. 3/8" diameter threaded shank; mounts in panels up to 1/4" thick.

NF Switches. Fig. F, Series 4000, same as FF Switches, except smaller spring design, ideal for mounting in ultra-compact equipment. Only 1/2" W.; 1 5/8" L.; mounts in 3/8" hole in panels up to 5/32" thick.

Part Numbers Series 1000	Part Numbers Series 4000	Action	Schematic Circuit	U.S.A. List Price
1001	4001	S.P.S.T.n.o.	1-A	$1.15
1002	4002	S.P.S.T.n.c.	1-B	1.15
1003	4003	S.P.D.T.	1-C	1.30
1004	4004	D.P.S.T.n.o.	2-A	1.45
1005	4005	D.P.S.T.n.c.	2-B	1.45
1006	4006	D.P.D.T.	2-C	1.70
1009	4009	3 P.D.T.	3-C	2.30

"BUTTON SWITCH" SWITCHES

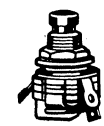


G H

Series 903, 923. Unusually small, momentary action push button switches. Enclosed in metal housing; black or red plastic button. **Series 903, Fig. G.** back panel mounting; 13/32" hole, mounts in panels up to 19/64" thick. **Series 923, Fig. H.** front panel mounting; 1/4" hole, mounts in panels up to 5/32" thick. Both rated at 250 mils, AC, non-inductive load, 30 watts max.

Part Nos. Red Button	Part Nos. Black Button	Action	Schematic Circuit	U.S.A. List Price
903	913	S.P.D.T. "Break-Make"	1-C	$1.40
903D	913D	S.P.D.T. "Make-Break"	1-D	1.40
923	933	S.P.D.T. "Break-Make"	1-C	1.50
923D	933D	S.P.D.T. "Make-Break"	1-D	1.50

"LITTEL-SWITCH" SWITCHES

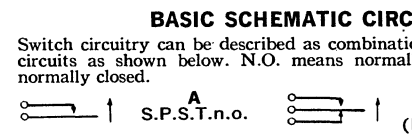


Series 100, 200, tiny momentary contact push button switches. Rugged, dependable action. All contacts insulated from panel bushing with interlocking phenolic washers. Series 100 and 200, springs are of nickel silver, recommended only for low level circuits where contact resistance is unimportant. **Series 100S and 200S** have fine silver contacts rated at 3 amps or 300 watts max., A.C., non-inductive load. One-piece plastic button and shaft in red or black. Mounts in 3/8" hole in panels up to 1/4"

Part Nos. Red Button	Part Nos. Black Button	Action	Schematic Circuit	U.S.A. List Price
101	201	S.P.S.T. n.o.	1-A	$0.95
101S	201S	S.P.S.T. n.o.	1-A	1.15
102	202	S.P.S.T. n.c.	1-B	.95
102S	202S	S.P.S.T. n.c.	1-B	1.15
103	203	S.P.D.T.	1-C	1.10
103S	203S	S.P.D.T.	1-C	1.35

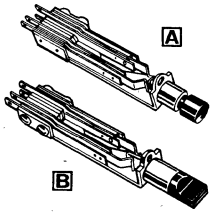
BASIC SCHEMATIC CIRCUITS

Switch circuitry can be described as combinations of basic schematic circuits as shown below. N.O. means normally open; N.C. means normally closed.



Pushbutton Switches

SWITCHCRAFT INC.



"T-SWITCH" SWITCHES

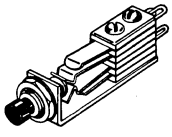
Rugged, long frame switches for quality communication equipment. Welded cross bar palladium contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. Requires minimum of panel space, only 9/16"x1 5/16"; 2 7/8" depth behind panel. **Series 11000, Fig. A,** push button T-Switch. Available in momentary action and push-to-lock, pull-to-release action. **Series 11200, Fig. B,** two position turn button T-Switch. Available in non-locking and locking action. Black button with white arrow to indicate switching position.
*Add Suffix **"L"** to Part Numbers to Indicate Locking Type.

A PUSH BUTTON—SERIES 11000

Part No. Non-Locking*	Action	Schematic Circuit	U.S.A. List Price
11001	S.P.S.T. n.o.	1-A	$3.50
11002	S.P.S.T. n.c.	1-B	3.50
11003	S.P.D.T.	1-C	4.00
11003D	S.P.D.T.	1-D	4.00
11004	D.P.S.T. n.o.	2-A	4.50
11005	D.P.S.T. n.c.	2-B	4.50
11006	D.P.D.T.	2-C	5.00
11006D	D.P.D.T.	2-D	5.00
11008	4 P.S.T. n.o.	4-A	5.60
11009	3 P.D.T.	3-C	6.00
11012	4 P.D.T.	4-C	6.80

B TURN BUTTON—SERIES 11200

11201	S.P.S.T. n.o.	1-A	$3.50
11202	S.P.S.T. n.c.	1-B	3.50
11203	S.P.D.T.	1-C	4.00
11203D	S.P.D.T.	1-D	4.00
11204	D.P.S.T. n.o.	2-A	4.50
11205	D.P.S.T. n.c.	2-B	4.50
11206	D.P.D.T.	2-C	5.00
11206D	D.P.D.T.	2-D	5.00
11208	4 P.S.T. n.o.	4-A	5.60
11209	3 P.D.T.	3-C	6.00
11212	4 P.D.T.	4-C	6.80



MINIATURE "TF" BUTTON SWITCHES

"Tiny Frame" switches. Small, sturdily constructed, provides simple, direct acting push button switching for use where space is at a premium. Available in **Series 970L** push-to-lock, pull-to-release; or **Series 970,** momentary action. Nickel silver springs, integral contacts, recommended for low level circuits where contact resistance is unimportant. Requires only 1 19/32" depth behind panel; mounts in single 1/4" hole in panels up to 3/32" thick.

SERIES 970—NON-LOCKING

Part No.	Action	Schematic Circuit	U.S.A. List Price
974	D.P.S.T. n.o.	2-A	$1.30
975	D.P.S.T. n.c.	2-B	1.30
976	D.P.D.T.	2-C	1.30

SERIES 970L—LOCKING

974L	D.P.S.T. n.o.	2-A	$1.55
975L	D.P.S.T. n.c.	2-B	1.55
976L	D.P.D.T.	2-C	1.55

"CordMASTER" PENDANT SWITCH

NEW

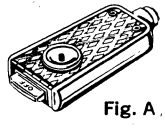


Fig. A

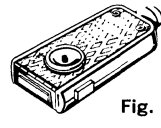


Fig. B

Extremely versatile pendant (cord) switch with top or edge operated pushbutton operation, illuminated and non-illuminated. Attractively patterned stainless steel sheath fits over white shock resistant thermoplastic switch housing to provide greater strength. **Series 42000, Fig. A,** has top operated pushbutton action. Three standard functions available: **non-lock**—momentary action; **locking**—button locks when depressed, releases when side button is depressed; **push-to-lock, push-to-release**—button locks when depressed and is released when depressed again. **Series 42000E, Fig. B,** has edge operation; supplied with **"L"** type illumination (top jewel lights when button is depressed). Illumination supplied by Ind. No. 377, 6 V miniature, T-1 3/4 flange base lamp (not supplied with switch). Part No. listed has locking function with front button release. Both Series have spring tempered nickel silver contact springs with cross-bar welded palladium contacts rated at 2 amps, 200 watts, max. A.C., non-inductive load. This switch is not recommended for 120 V A.C. line switching. Switches accept cables up to .270" dia. Overall dimensions: 1 3/4"W. x 3 11/16"L. x 5/8"H.

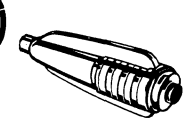
Part No.	Function	Action	Schematic	U.S.A. List Price
42206	Non-Lock	DPDT	2-C	$ 9.00
42306	Locking	DPDT	2-C	9.50
42706	Push-to-Lock, Push-to-Release	DPDT	2-C	10.00
42306E	Locking	DPDT	2-C	10.50

"CORD SWITCHES"

An attractive bright nickel plated housing supports **Series 903** and **913** button switches. Ideal for cord mounted or pendant switch on remote control applications. Sleeve 11/16" diameter, 2 3/16" long.

Part Nos. Red Button	Part Nos. Black Button	Action	Schematic Circuit	U.S.A. List Price
E-903	E-913	S.P.D.T. "Break-Make"	1-C	$2.25
E-903D	E-913D	S.P.D.T. "Make-Break"	1-D	2.25

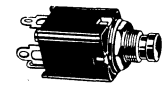
NEW



"CORDETTE" PENDANT SWITCHES

Small lightweight pendant, momentary action (cord) switches provide remote switching of industrial and commercial instrumentation and control devices. Attractive one-piece grey molded body protects switching controls from dirt and dust. Switch has 1-A (S.P.S.T.) circuit. Integral brass, hard gold contacts rated at 500 MA., 50 watts max., A.C. non-inductive load. Not recommended for use in high voltage circuits. **Part No. 921** has phono jax termination molded to body. Mates with Switchcraft molded cable assemblies with phono plug terminations such as **3501, 3501MC,** etc. or industry standard phono plugs. **Part No. 921K** same as **921** except 6' of 2-cond. unshielded cable molded to switch body. Stripped and tinned cable termination. Overall dimensions 1 3/16" wide by 2 13/16" long (not including cable).

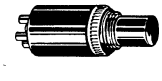
Switchcraft Part No. 921.....U.S.A. List Price **$4.25**
Switchcraft Part No. 921K.....U.S.A. List Price **$5.00**



"HI-D SWITCH" SWITCHES

Series H-100, H-200—compact momentary action switches. Molded box body protects contact springs. Low electrical leakage, low capacity. Integral fine-silver plated contacts for use in circuits where contact resistance is not critical. One piece plastic button and shaft in Red—**Series H-100,** and Black—**Series H-200.** Mounts on 5/8" **centers** in either of two planes; in a single 3/8" hole in panels up to 3/32" thick. Depth behind panel 1 3/32".

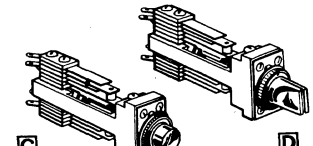
Part Nos. Red Button	Part Nos. Black Button	Action	Schematic Circuit	U.S.A. List Price
H-101	H-201	S.P.S.T.n.o.	1-A	$1.00
H-102	H-202	S.P.S.T.n.c.	1-B	1.00
H-103	H-203	S.P.D.T.	1-C	1.15
H-103D	H-203D	S.P.D.T.	1-D	1.15



SERIES DA SWITCH

Series DA. Completely enclosed, momentary action push-button switch. Anodized aluminum body protects switch contacts from dirt, dust and from being bent. **A-B contact** arrangement provides a 1-A, 1-B or 1-C circuit when externally wired. Integral hard gold plated contacts rated at 500 MA., 50 watts max., A.C., non-inductive load. Terminals accept AMP Series 53 taper pins. Mount in 3/8" hole on 17/32" centers. Depth behind panel 15/16".

Part No.	Button Color	Part No.	Button Color	U.S.A. List Price
DA-01-3	Red	DA-04-3	Blue	$2.25
DA-02-3	Black	DA-05-3	White	2.25
DA-03-3	Green	DA-08-3	Yellow	2.25



"T-LITE" SWITCHES

Series 32000, 32000TL. High-quality illuminated switches, ideal for instrumentation, communication equipment and telephone apparatus. Lightweight, extremely rugged aluminum **"T-Beam"** frame construction. Frame includes a non-turn device. "Frosted" plastic pushbuttons give quick visual indication of switching function or circuit condition. **Series 32000, Fig. C,** momentary action, pushbutton can be engraved. **Series 32000TL, Fig. D,** momentary push with turn-to-lock feature. Button has black indicator line to indicate switching position. Utilize T-2 telephone slide base lamp. Relamp from front of panel. Lamps not supplied with switch. Long leaf nickel silver springs with cross-bar palladium contacts rated at 3 amps, 300 watts, max., A.C. non-inductive load. Mount in single 5/8" hole on 13/16" centers in panels 1/8" thick. Depth behind panel 3 7/16".

SERIES 32000 PUSHBUTTON

Part No.	Action	Schematic Circuit	U.S.A. List Price
32004	D.P.S.T.n.o.	2-A	$10.00
32006	D.P.D.T.	2-C	10.75
32008	4P.S.T.n.o.	4-A	11.50
32012	4P.D.T.	4-C	13.00

SERIES 32000TL TURN BUTTON

32004TL	D.P.S.T.n.o.	2-A	10.50
32006TL	D.P.D.T.	2-C	11.25
32008TL	4P.S.T.n.o.	4-A	12.00
32012TL	4P.D.T.	4-C	13.50

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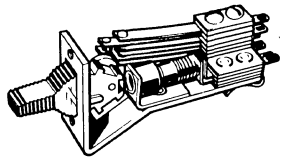
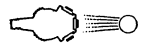
Lever Switches

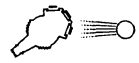
3-COLOR ILLUMINATED LEVER SWITCHES

"LEVER-LITE" SWITCHES SERIES 25000



UP POSITION
1st Color Shows


NEUTRAL POSITION
2nd Color Shows


DOWN POSITION
3rd Color Shows

"Lever-Lite", Series 25000. Illuminated switches indicate positions at a glance. Individual color chips can be inserted in each switch position. Available in 2 or 3 positions, locking and non-locking types. Reduces panel space; minimizes costly wiring. Supplied with 6V miniature screw base lamp and six color chips, Red, Green, Amber, Yellow, Blue and White; 28V lamp also available. See lamp listing below. Nickel-silver springs, silver contacts rated 3 amps, 300 watts max., A.C., non-inductive load. Requires only 2¼" depth behind panel, can be mounted on ⅝" centers in panels up to $\frac{3}{32}$" thick.
Size: 2¼" L. x $\frac{39}{64}$" W. x 1$\frac{7}{32}$" H. *Add suffix letter "L" to Part No. to indicate locking type.

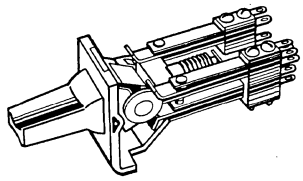
TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
25201	S.P.S.T. n.o.	1-A		$4.00
25203	S.P.D.T.	1-C		4.25
25206	D.P.D.T.	2-C		5.00
25209	3 P.D.T.	3-C		5.75

THREE POSITION TYPES

25304	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	$4.50
25306	S.P.D.T. Ea. Sec.	1-C	1-C	5.00
25308	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	5.50
25312	D.P.D.T. Ea. Sec.	2-C	2-C	6.00

"LEVER-LITE" SWITCHES SERIES 27000



"Lever-Lite," Series 27000 illuminated lever switch, three color lighting identical to Series 25000, but utilizes a larger, contoured lever and larger, factory installed color filters. Available in 2 or 3 position, locking and non-locking types. Mounts on ¾" centers, in panels up to $\frac{3}{32}$" thick. Depth behind panel 2$\frac{3}{16}$". Nickel silver springs with fine silver contacts rated at 3 amps, 300 watts, max., A.C., non-inductive load. On standard 2 position type AMBER lights in the "NEUTRAL" position; GREEN lights in the "DOWN" position. On 3 position types, RED lights in the "UP" position, AMBER in "NEUTRAL" position and GREEN in the "DOWN" position. Supplied with a 6 V lamp. † n. o. center position off. *Add suffix "L" to part number to indicate locking type.

TWO POSITION TYPES

Part No. Non-locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
27206	D.P.D.T.	2-C		$6.50
27212	4 P.D.T.	4-C		8.00

THREE POSITION TYPES

27306	S.P.D.T. ea. sec.	1-C	1-C	6.50
27307	S.P.D.T. n.o. ea. sec.	1-C†	1-C†	6.65
27312	D.P.D.T. ea. sec.	2-C	2-C	8.00

LAMPS FOR "LEVER-LITE" SWITCHES

Lamps are mounted in a "snap-out" frame assembly. A 6V lamp is furnished with each of the above listed switches. Specify the following part numbers when ordering replacement lamps:

Part No.	Voltage	Base	Ind. No.	U.S.A. List Price
P-1217	6V	Screw	1768	$1.20
P-1218	28V	Screw	Hudson 369	2.00

ESCUTCHEON PLATES FOR "LEVER-LITE" SWITCHES

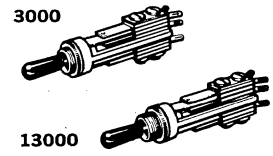
For easy and convenient mounting of Series 25000 and 27000 Switches. Satin black finish. Eliminates punching rectangular hole in mounting panel. **Part No. 531 for Series 25000,** complete with two No. 3-48 black machine screws. **Part No. 532 for Series 27000,** complete with two No. 2-56 machine screws.

Switchcraft Part No. 531_____U.S.A. List Price **$0.15**
Switchcraft Part No. 532_____U.S.A. List Price **0.25**

AMBIENT LIGHT SHIELD

For use where **"LEVER-LITE" Series 27000** switches are mounted on minimum centers. Shield gives positive separation of lighting between switches. Shield is placed between panel and switch, held in place by mounting screws. Two shields can be used per switch if desired.
Switchcraft Part No. P-1864_____U.S.A List. Price **$0.10**

"LEV-R" SWITCHES



Small lever action switches in two and three position types, locking and non-locking action. Requires half the space usually needed for a lever switch; frame bushing and shaft nickel plated brass. Supplied with locknut and screw-on black knob. Fine silver contacts rated at 3 amps, 300 watts, max. A.C. non-inductive load. Non-locking types have spring return. **Series 3000** mounts in panels up to $\frac{3}{32}$" thick; **Series 13000** mounts in panels up to ¼" thick. Both Series are ⅝" wide; requires 2¼" behind panel; mounts in single ½" dia. hole. †n.o. center position off. ‡Inter-communications "Talk-Listen" switches, lever locks on one side of neutral and operates non-locking on the other side. *Add suffix letter "L" to Part No. to indicte locking type.

SERIES 3000
TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
3001	S.P.S.T. n.o.	1-A		$2.00
3002	S.P.S.T. n.c.	1-B		2.00
3003	S.P.D.T.	1-C		2.35
3003D	S.P.D.T.	1-D		2.50
3004	D.P.S.T. n.o.	2-A		2.60
3005	D.P.S.T. n.c.	2-B		2.60
3006	D.P.D.T.	2-C		2.85
3006D	D.P.D.T.	2-D		3.00
3009	3 P.D.T.	3-C		3.65

THREE POSITION TYPES

3033	S.P.D.T. n.o.	1-C†		$2.60
3034	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	2.70
3035	S.P.S.T. n.c. Ea. Sec.	1-B	1-B	2.70
3036	S.P.D.T. Ea. Sec.	1-C	1-C	3.00
3036D	S.P.D.T. Ea. Sec.	1-D	1-D	3.35
3037	S.P.D.T. n.o. Ea. Sec.	1-C†	1-C†	3.05
30312	D.P.D.T. Ea. Sec.	2-C	2-C	4.00
30313	D.P.D.T. n.o. Ea. Sec.	2-C†	2-C†	4.00

SERIES 13000
TWO POSITION TYPES

13001	S.P.S.T. n.o.	1-A		$2.20
13002	S.P.S.T. n.c.	1-B		2.20
13003	S.P.D.T.	1-C		2.50
13003D	S.P.D.T.	1-D		2.60
13004	D.P.S.T. n.o.	2-A		2.75
13005	D.P.S.T. n.c.	2-B		2.75
13006	D.P.D.T.	2-C		2.85
13006D	D.P.D.T.	2-D		3.00
13009	3 P.D.T.	3-C		4.00

THREE POSITION TYPES

13033	S.P.D.T. n.o.	1-C†		$2.75
13034	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	2.85
13035	S.P.S.T. n.c. Ea. Sec.	1-B	1-B	2.85
13036	S.P.D.T. Ea. Sec.	1-C	1-C	3.35
13036D	S.P.D.T. Ea. Sec.	1-D	1-D	3.50
13037	S.P.D.T. n.o. Ea. Sec.	1-C†	1-C†	3.35
130312	D.P.D.T. Ea. Sec.	2-C	2-C	4.25
130313	D.P.D.T. n.o. Ea. Sec.	2-C†	2-C†	4.25

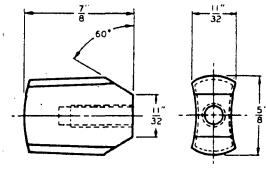
INTER-COM SWITCHES‡
SERIES 3000

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
3033T	S.P.D.T. n.o.	1-C†		$2.60
3037T	S.P.D.T. n.o. Ea. Sec.	1-C†	1-C†	3.05

SERIES 13000

13033T	S.P.D.T. n.o.	1-C†		$2.75
13037T	S.P.D.T. n.o. Ea. Sec.	1-C†	1-C†	3.35

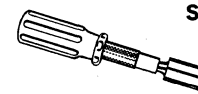
CONTOUR KNOBS FOR LEVER SWITCHES



Attractive contour knobs designed for today's modern equipment. Series M-1177 knobs, 8-32" tapped hole for use with "LEV-R" switches **Series 3000, 12000 and 13000.** Series M-1178 knobs, 6-32" tapped hole for use with "TELEVER" switches **Series 6000 and 16000.**

Part No. Series 1177	Part No. Series 1178	Color	U.S.A. List Price Per Pkg. of 10
M-1177-1	M-1178-1	Red	$3.50
M-1177-2	M-1178-2	Black	3.50
M-1177-15	M-1178-15	White	3.50

SPECIAL WRENCHES



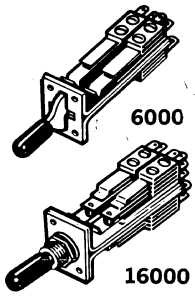
Special Switchcraft wrenches designed to assemble knurled locknuts normally furnished with lever and button switches and jacks. A-1070 wrench fits $\frac{15}{32}$"-32 locknuts; A-1071 for use with ¼"-32 knurled locknuts.

Part No. A-1070.....U.S.A. List Price **$7.50**
Part No. A-1071.....U.S.A. List Price **7.50**

Lever Switches

SWITCHCRAFT INC.

"TELEVER" SWITCHES



Series 6000 and 16000. Rugged telephone type lever switches featuring **"T-Beam"** frame construction which results in a relatively light construction with sturdiness of a structural "T-Beam". Available in two and three positions, locking and non-locking types. **Nylon rollers** on the lever actuate the special nickel silver springs, providing smooth action; assures long dependable spring life. Welded cross bar palladium contacts are standard, rated at 3 amps, 300 watts max., A.C., non-inductive load. **Series 6000** mounts with four No. 3-48 machine screws. Mounting centers $17/32$" x $13/16$", mounts in panels up to $1/4$" thick. **Series 16000** features single hole mounting; $15/32$"-32 threaded bushing. Mounts in $1/2$" dia. hole in panels up to $1/4$" thick. **Part No. 545, "Stop Plate"** provides positive "stops" for two position action. **Part No. 540, "Stop Plate"** provides non-locking or momentary action. The "Stop Plates" can be changed in the field. Both Series switches supplied with black insulated knob. All have tinned solder lug terminals. *Add suffix letter **"L"** to Part No. to indicate locking type. **Series 16000 non-locking type** can be converted to **locking type** by removing **"Stop Plate".**

SERIES 6000
TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
6006	D.P.D.T.	2-C		$5.00
6006D	D.P.D.T.	2-D		5.60
6008	4 P.S.T. n.o.	4-A		5.60
6009	3 P.D.T.	3-C		6.00
60012	4 P.D.T.	4-C		6.80
60012D	4 P.D.T.	4-D		7.50
60024	8 P.D.T.	8-C		10.00

THREE POSITION TYPES

6036	S.P.D.T. Ea. Sec.	1-C	1-C	$5.00
6036D	S.P.D.T. Ea. Sec.	1-D	1-D	5.60
6038	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	5.60
60312	D.P.D.T. Ea. Sec.	2-C	2-C	6.80
60312D	D.P.D.T. Ea. Sec.	2-D	2-D	7.50
60316	4 P.S.T. n.o. Ea. Sec.	4-A	4-A	8.80
60324	4 P.D.T. Ea. Sec.	4-C	4-C	10.00

SERIES 16000
TWO POSITION TYPES

16006	D.P.D.T.	2-C		$5.00
16006D	D.P.D.T.	2-D		5.60
16008	4 P.S.T. n.o.	4-A		5.60
16009	3 P.D.T.	3-C		6.00
160012	4 P.D.T.	4-C		6.80
160012D	4 P.D.T.	4-D		7.50
160024	8 P.D.T.	8-C		10.00

THREE POSITION TYPES

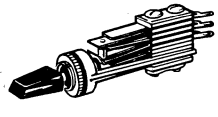
16036	S.P.D.T. Ea. Sec.	1-C	1-C	$5.00
16036D	S.P.D.T. Ea. Sec.	1-D	1-D	5.60
16038	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	5.60
160312	D.P.D.T. Ea. Sec.	2-C	2-C	6.80
160312D	D.P.D.T. Ea. Sec.	2-D	2-D	7.50
160316	4 P.S.T. n.o. Ea. Sec.	4-A	4-A	8.80
160324	4 P.D.T. Ea. Sec.	4-C	4-C	10.00

Part No. 530 Escutcheon Plate. For Series 6000 Telever switches with 4 mounting screws.....U.S.A. List Price **$0.60**

Part No. 540 Stop Plate. For Series 16000 Telever switches. To convert from locking to non-locking action. Includes two mounting screws.....U.S.A. List Price **$0.25**

Part No. 545 Stop Plate. For Series 16000 Telever switches. To convert from 3-position to 2-position. Includes two mounting screws.....U.S.A. List Price **$0.25**

"LEV-R" SWITCHES



"LEV-R Switches." Series 28000. Compact, lever action switch in two and three position, locking and non-locking types. Smooth, easier lever action assured with special nylon roller. Supplied with locknut, non-turn ring (slips over slotted bushing to prevent switch from turning in mounting hole), and a black knob which is molded directly to the lever. Eliminates loose or lost knobs. Fine silver contacts rated at 3 amps, 300 watts, max., A.C., non-inductive load. Mounts on $5/8$" centers in panels up to $3/32$" thick. Requires only one $15/64$" dia. mounting hole for bushing and one $1/8$" dia. hole for non-turn device; depth behind panel, $2\frac{1}{4}$". *Add suffix letter "L" to Part No. to indicate locking type. †Center position open (OFF).

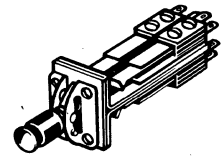
TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
28201	S.P.S.T. n.o.	1-A		$2.80
28203	S.P.D.T.	1-C		3.25
28204	D.P.S.T. n.o.	2-A		3.50
28206	D.P.D.T.	2-C		2.75

THREE POSITION TYPES

28304	S.P.S.T. n.o. ea. sec.	1-A	1-A	$3.60
28306	S.P.D.T. ea. sec.	1-C	1-C	3.90
28307	S.P.D.T. n.o. ea. sec.	1-C†	1-C†	3.95
28312	D.P.D.T. ea. sec.	2-C	2-C	4.75

SERIES 26000 "LEVER-LOCK" SWITCHES



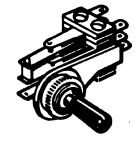
Rugged telephone-type lever switches. "Lever-Lock" feature guards against accidental switching due to **shock, vibrations, operator fatigue,** or **unintended operation.** Ideal for mobile communication equipment. **Index bracket** and **release plunger "locks" lever** in any position. Turning actuator knob to extreme left actuator will be permanently locked. To unlock, turn knob to the right. Pressing release plunger frees actuator from index bracket and allows actuator to be moved to another switching position. Welded cross bar palladium contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. Mounts with four No. 3-48 screws in panels up to $3/32$" thick. Requires $31/32$" depth behind panel.

TWO POSITION TYPES

Part No. Locking Type Only	Action	Schematic Circuits Pos. 1	Pos. 2	U.S.A. List Price
26206L	D.P.D.T.	2-C		$8.50
26208L	4 P.S.T. n.o.	4-A		9.10
26212L	4 P.D.T.	4-C		10.30
26212DL	4 P.D.T.	4-D		11.00

THREE POSITION TYPES

26306L	S.P.D.T. Ea. Sec.	1-C	1-C	$8.50
26308L	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	9.10
26312L	D.P.D.T. Ea. Sec.	2-C	2-C	10.30
26312DL	D.P.D.T. Ea. Sec.	2-D	2-D	11.00
26316L	4 P.S.T. n.o. Ea. Sec.	4-A	4-A	12.30
26324L	4 P.D.T. Ea. Sec.	4-C	4-C	13.50



"LEV-R" SWITCHES, SERIES 12000

Small **right-angle** action switches requiring minimum of depth behind panel. Available in two and three position, locking and non-locking types. Long leaf-type springs insure long switch life. Fine silver contacts rated at 3 amps, 300 watts max., A.C., non-inductive load. Requires only $7/8$" depth behind panel; single $1/2$" dia. mounting hole; mounts in panels up to $3/32$" thick. Supplied with nickel plated locknut and removable black plastic knob. †n.o. center position off. *Add suffix letter "L" to Part No. to indicate locking type.

TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
12001	S.P.S.T. n.o.	1-A		$1.80
12002	S.P.S.T. n.c.	1-B		1.80
12003	S.P.D.T.	1-C		2.10
12003D	S.P.D.T.	1-D		2.35
12004	D.P.S.T. n.o.	2-A		2.35
12005	D.P.S.T. n.c.	2-B		2.35
12006	D.P.D.T.	2-C		2.60
12006D	D.P.D.T.	2-D		2.85

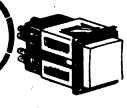
THREE POSITION TYPES

12033	S.P.D.T. n.o.	1-C†		$2.35
12034	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	2.45
12035	S.P.S.T. n.c. Ea. Sec.	1-B	1-B	2.45
12036	S.P.D.T. Ea. Sec.	1-C	1-C	2.75
12036D	S.P.D.T. Ea. Sec.	1-D	1-D	2.95
12037	S.P.D.T. Ea. Sec.	1-C†	1-C†	2.85

THREE POSITION TYPES
LOCKING ONE SIDE—NON-LOCKING OTHER SIDE

12033T	S.P.D.T. n.o.	1-C†		$2.35
12037T	S.P.D.T. Ea. Sec.	1-C†	1-C†	2.85

NEW



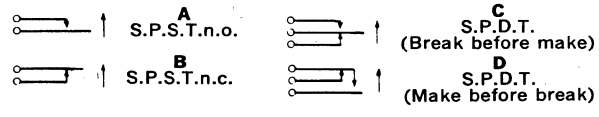
"BOX SWITCH"

Series BX. Miniature, momentary action, push-button switch offers broad switching capabilities in minimum panel space. $11/16$" square switch requires $55/64$" min. to $1\frac{5}{64}$" max. depth behind panel. Molded plastic body protects against damaging dust and dirt and prevents bending or disfiguring of contacts caused by excessive handling. Attractive bezel frames pushbutton and acts as built-in escutcheon plate. Unique **"Adjusto-Clips"** provide snap-in, front of panel, mounting in panels from $3/64$" to $17/64$" thick in .615" sq. holes. Red, black, green, or white pushbuttons. $7/64$" button stroke. Integral slide contacts of special spring tempered phosphor bronze, silver plated, rated at: 250 ma., 30 watts max., A.C. non-inductive load. Evenly spaced solder lug terminals are clearly identified for ease of wiring.

Part Nos. Red Button	Black Button	Green Button	White Button	Action	Schematic Circuit	U.S.A. List Price
BX-01-1	BX-02-1	BX-03-1	BX-05-1	S.P.S.T. n.o.	1-A	$3.25
BX-01-3	BX-02-3	BX-03-3	BX-05-3	S.P.D.T.	1-C	$3.40
BX-01-6	BX-02-6	BX-03-6	BX-05-6	D.P.D.T.	2-C	$3.75
BX-01-10	BX-02-10	BX-03-10	BX-05-10	D.P.D.T.-D.P.S.T. n.o.	2-C & 2-A	$4.25

BASIC SCHEMATIC CIRCUITS

Switch circuitry can be described as combinations of basic schematic circuits as shown below. N.O. means normally open; N.C. means normally closed.



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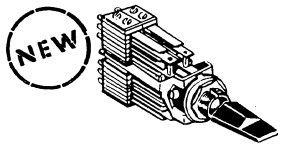
SWITCHCRAFT INC.

Lever Switches

"LT SWITCH"



Series 41000. Smallest, high-quality, telephone type lever switch available. Two or three position types with positive locking and/or non-locking action. Special damping block guards against transient leaf bounce. **"Can't-Cheat"** detent guide prevents accidental actuator by-pass of switching positions. Switch has rigid **"U"-shaped,** twin girder frame. Its parallel steel members terminate in an interlocked box where spring combinations are mounted. The special long life, nickel-silver springs can be individually fastened to any one of the frame's four switch stacks mounting positions. Welded cross bar palladium contacts rated at 3 amps, 200 watts max., AC, non-inductive load are standard. Series 41000 mounts on $^{23}/_{32}$" centers in a $^{15}/_{32}$" dia. hole in panels up to ¼" thick. Requires only 2⅛" depth behind panel. The bushing includes a keyway to accept the non-turn ring which prevents switch turning or twisting in panel. *Add suffix **"L"** to Part No. to indicate locking type.

SERIES 41000

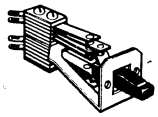
TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuits Pos. 1	Pos. 2	U.S.A. List Price
41203	S.P.D.T.	1-C		$4.00
41206	D.P.D.T.	2-C		5.00
41208	4 P.S.T. n.o.	4-A		5.50
41212	4 P.S.T.	4-C		6.75

THREE POSITION TYPES

41306	S.P.D.T. Ea. Sec.	1-C	1-C	$5.00
41308	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	5.50
41312	D.P.D.T. Ea. Sec.	2-C	2-C	6.75
41324	4 P.D.T. Ea. Sec.	4-C	4-C	10.00

"LK" LITTEL-KEY SWITCHES



Series 23000. Short frame lever-type switches available in 2 or 3 positions, locking or non-locking types. Ideal for applications where panel mounting space and depth behind panel is at a premium. Fine silver contacts, rated at 3 amps, 300 watts max., A.C., non-inductive load. Frame has 2 tapped No. 3-48 holes for easy mounting. Mounts in panels up to ⅛" thick. Depth behind panel only $2^{3}/_{32}$". *Add suffix letter "L" to Part No. to indicate locking type.

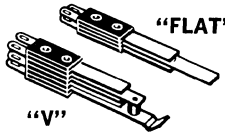
TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
23201	S.P.S.T. n.o.	1-A		$1.75
23203	S.P.D.T.	1-C		2.10
23206	D.P.D.T.	2-C		2.40

THREE POSITION TYPE

23304	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	$2.25
23306	S.P.D.T. Ea. Sec.	1-C	1-C	2.40
23308	D.P.S.T. n.o. Ea. Sec.	2-A	2-A	2.60

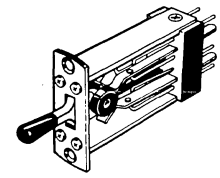
STACK SWITCHES



General purpose stack switch assemblies made from a pile-up of various actuator springs, contact springs and lifters. These stack switch assemblies can be used on manually operated devices where switching is operated by cams, levers, push buttons, and other mechanical devices. General purpose stack switches are available with a **"Flat"** or **"V"** actuator spring. Fine silver or palladium cross bar welded contacts are standard, rated at 3 amps., 300 watts max., A.C., non-inductive load. Supplied with pressure plate and two No. 5-40 screws; mount on ⅜" centers. **Height of stack** depends on switching circuit; 1-B circuit $^{21}/_{64}$" **H., min.**; 2-C circuit $^{45}/_{64}$" **H., max.**

FLAT ACTUATOR SPRING

Part No.	Contact Material	Action	Schematic Circuit	U.S.A. List Price
AA01AA	Silver	S.P.S.T. n.o.	1-A	$0.80
AA01AB	Palladium	S.P.S.T. n.o.	1-A	.90
AA02AA	Silver	S.P.S.T. n.c.	1-B	.80
AA02AB	Palladium	S.P.S.T. n.c.	1-B	.90
AA03AA	Silver	S.P.D.T.	1-C	1.00
AA03AB	Palladium	S.P.D.T.	1-C	1.20
AA06AA	Silver	D.P.D.T.	2-C	1.45
AA06AB	Palladium	D.P.D.T.	2-C	1.75
"V" FORMED ACTUATOR SPRING				
AA01BA	Silver	S.P.S.T. n.o.	1-A	$0.90
AA01BB	Palladium	S.P.S.T. n.o.	1-A	1.00
AA02BA	Silver	S.P.S.T. n.c.	1-B	.90
AA02BB	Palladium	S.P.S.T. n.c.	1-B	1.00
AA03BA	Silver	S.P.D.T.	1-C	1.10
AA03BB	Palladium	S.P.D.T.	1-C	1.30
AA06BA	Silver	D.P.D.T.	2-C	1.65
AA06BB	Palladium	D.P.D.T.	2-C	1.85



"LO-CAP" SWITCHES

Series 10000. Low-capacity lever actuated switches, previously referred to as **Federal Anti-Capacity switches.** Specially designed flat actuator springs and round contact springs are wide spaced in a large molded insulating block. This construction eliminates the build-up of induced alternating current between springs. Rugged "U" shaped aluminum frame. Roller actuation for easy lever operation. Available in 2 and 3 position models, locking and non-locking types. Actuator springs have fine silver contacts rated at 1 amp, 100 watts, max., A.C., non-inductive load. Supplied with polished chrome escutcheon plate. Mounts with two No. 6-32 flat head screws (not supplied). Mounting centers $1^{15}/_{16}$". Depth behind panel $3^{7}/_{16}$". †n.o. center position off.
*Add suffix letter **"L"** to Part No. to indicate locking type.

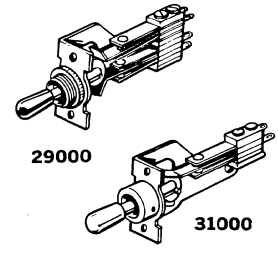
TWO POSITION TYPES

Part No. Non-Locking*	Old Federal No.**	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
10204	1427	D.P.S.T.n.o.	2-A		$ 6.80
10205	1426	D.P.S.T.n.o.	2-B		6.80
10206	—	D.P.D.T.	2-C		7.00

THREE POSITION TYPES

10306	—	S.P.D.T.Ea.Sec.	1-C	1-C	7.00
10307	1425	S.P.D.T.n.o.Ea.Sec.	1-C†	1-C†	7.00
10312	—	D.P.D.T.Ea.Sec.	2-C	2-C	7.50
10313	1424	D.P.D.T.n.o.Ea.Sec.	2-C†	2-C†	7.50
10324	—	4P.D.T.Ea.Sec.	4-C	4-C	16.50
10325	12494	4P.D.T.n.o.Ea.Sec.	4-C†	4-C†	16.50

**Old Federal Part No. refer to locking type switches only.

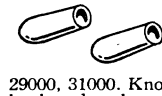


"FEATHER LEVER" SWITCHES

Miniature lever switches, lightweight, compact, mount on $^{7}/_{16}$" centers. Available in 2 and 3 position, locking and non-locking types. Actuator designed with nylon roller for smoother, easy lever operation over entire life of switch. Rugged steel frame withstands rough usage, shock and vibration. Nickel silver springs with fine silver contacts, rated at 2 amperes, 200 watts, max., A.C., non-inductive load. Supplied with black plastic push-on knob. Other push-on knobs, available in 10 colors. See listing below. **Series 29000,** with bushing, mounts in $^{5}/_{16}$" O.D. panel hole. Supplied with locknut. **Series 31000,** mounts with 2 No. 2-56 machine screws. Both Series supplied with black push-on knob. Require only $1^{9}/_{32}$" depth behind panel, mount in panels up to ⅛" thick. †n.o., center position off. ‡Inter-communications "Talk-Listen" switches, lever locks on one side of neutral and operates non-locking on the other side. *Add suffix letter "L" to Part No. to indicate locking type.

SERIES 29000, 31000
TWO POSITION TYPES

Part No. Non-Locking* 29000	31000	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
29201	31201	S.P.S.T. n.o.	1-A		$1.95
29203	31203	S.P.D.T.	1-C		2.25
29204	31204	D.P.S.T. n.o.	2-A		2.50
29206	31206	D.P.D.T.	2-C		2.75
THREE POSITION TYPES					
29303	31303	S.P.D.T. n.o.	1-C†		$2.50
29304	31304	S.P.S.T. n.o. ea. sec.	1-A	1-A	2.60
29306	31306	S.P.D.T. ea. sec.	1-C	1-C	2.90
29307	31307	S.P.D.T. n.o. ea. sec.	1-C†	1-C†	2.95
29312	31312	D.P.D.T. ea. sec.	2-C	2-C	3.75
‡INTER-COMM SWITCHES					
29303T	31303T	S.P.D.T. n.o.	1-C†		$2.50
29307T	31307T	S.P.D.T. n.o. ea. sec.	1-C	1-C	2.95



PUSH-ON COLOR KNOBS

Kit of molded plastic knobs. Available in 10 colors. For "Feather-Lever" Switches, Series 29000, 31000. Knobs can be changed quickly—simply pull off present knob and push-on new one. For permanence, use plastic cement.

Part No.	Color	Part No.	Color	U.S.A. List Price Per Pkg. of 10
K-108	One of ea. color	K-114	Brown	$0.80
K-109	Red	K-115	Orange	0.80
K-110	Black	K-116	Yellow	0.80
K-111	Green	K-117	Ivory	0.80
K-112	Blue	K-118	Gray	0.80
K-113	White	—	—	0.80

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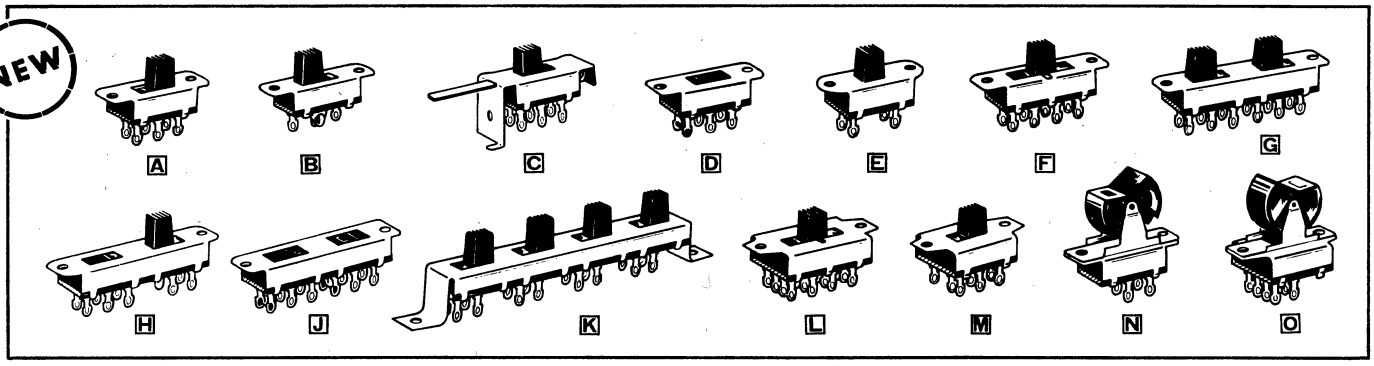
"double-wipe" Slide Switches

SWITCHCRAFT INC.



New low-cost, precision "double-wipe" slide switches. Switches use special U-shaped, bifurcated sliders to assure continuous wiping action. Contacts rated at 0.5 amp. D.C., 3 amps. A.C., 125 volts non-inductive load. Standard solder lug terminals have a $\frac{5}{64}$" dia. center hole and wrap-around notch for wiring ease. Most switches furnished with black $\frac{11}{32}$" knob and .140" ($\frac{9}{64}$") dia. mounting holes. **Nos. 46206LF, 46256LF** and **47227LF** flush screwdriver actuated knob. All slide and rocker switches are U.L. approved unless otherwise noted. **See next page for slide switch contact arrangement.**

SERIES 46000 2 AND 3 POSITION GENERAL PURPOSE TYPE

Rated 0.5 amp. D.C., 3 amps. A.C., 125 volts non-inductive load; except shorting types **46203LS** and **46206LS**, rated 0.5 amp., 125 volts, D.C. only. **No. 46206MP** 2 position momentary switch with $1\frac{1}{8}$" plunger and extruded and tapped 6-32 mounting holes. **Nos. 46206LF, 46256LF** flush, screwdriver slotted knob. **No. 46204MB** pushbutton actuated switch with $\frac{5}{16}$" knob.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
46202L	SPST Locking	II	A	$ .35
46202M	SPST Momentary	I	B	.50
46203L	SPDT Locking	III	A	.40
46203LS	SPDT Locking	III	A	.45
46203M	SPDT Momentary	III	B	.55
46204L	DPST Locking	2-II	A	.45
46206L	DPDT Locking	2-III	A	.50
46206LS	DPDT Locking	2-III	A	.55
46206M	DPDT Momentary	2-III	B	.65
46206MP	DPDT Momentary	2-III	C	.75
46206LF	DPDT Locking	2-III	D	.55
46256LF	DPDT Locking	V	D	.75
46204MB*	DPST Momentary	IV	E	.70

Three position slide switches with positive center detent action. Locking in all positions. **Nos. 46311LD** and **46313LD** have shutter type dust cover.

46311L	SPTT Locking	VI	F	.55
46311LD*	SPTT Locking	VI	F	.60
46313L	DPTT Locking	2-VI	F	.60
46313LD*	DPTT Locking	2-VI	F	.65

SERIES 47000 TANDEM SLIDE SWITCHES

Compact, two-gang, slide switches. **Series 47000L** two independent knobs; **Series 47000LC**, single knob construction with coupling link between knobs. One knob $\frac{11}{32}$" other flush screwdriver operated. **No. 47227LF** two knobs flush with switch housing, one knob screwdriver actuated. Knobs are coupled. Shorting bar each section. Rated at 0.5 amp. D.C., 3 amps. A.C., 125 volts non-inductive load.

47202L	SPST-SPST Locking	II II	G	.65
47202LC			H	.65
47203L	SPDT-SPDT Locking	III III	G	.75
47203LC			H	.75
47204L	DPST-DPST Locking	2-II 2-II	G	.85
47204LC			H	.85
47206L	DPDT-DPDT Locking	2-III 2-III	G	.90
47206LC			H	.90
47215L	SPST-SPDT Locking	II III	G	.70
47215LC			H	.70
47217L	SPST-DPST Locking	II 2-II	G	.75
47217LC			H	.75
47219L	SPST-DPDT Locking	II 2-III	G	.80
47219LC			H	.80
47221L	SPDT-DPST Locking	III 2-II	G	.80
47221LC			H	.80
47223L	SPDT-DPDT Locking	III 2-III	G	.85
47223LC			H	.85
47225L	DPST-DPDT Locking	2-II 2-III	G	.90
47225LC			H	.90
47227LF	DPDT-DPDT Locking	V V	J	1.40

*Not submitted for U.L. approval.

SERIES 48000 QUADRUM SLIDE SWITCHES

Four-gang slide switches with independent knob operation. $\frac{11}{32}$" knob height and .153 mounting holes.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
48208L*	4-SPST Locking	4-II	K	$1.20
48212L*	4-SPDT Locking	4-III	K	1.40
48214L	4-DPST	8-II	K	1.60
48224L*	4-DPDT Locking	8-III	K	1.80

SERIES 49000 3 POSITION GENERAL PURPOSE TYPE

Large, heavy duty 3 and 4 pole slide switches. Knob height $\frac{1}{2}$". Mounting holes $\frac{9}{64}$". **Series 49000L**, non-shorting; **Series 49000LS**, with shorting contacts.

49309L	3PDT Locking	3-III	L	.85
49309LS				.90
49329L	3PTT Locking	3-VI	L	.90
49329LS				.95
49312L	4PDT Locking	4-III	L	.90
49312LS				.95
49331L	4PTT Locking	4-VI	L	.95
49331LS				1.00

SERIES 50000 2 POSITION GENERAL PURPOSE TYPE

Series 50000L and **M**, non-shorting; **Series 50000LS** and **MS**; with shorting contacts.

50207L	3PST Locking	3-II	M	.60
50207M	3PST Momentary	3-II	M	.75
50208L	4PST Locking	4-II	M	.65
50209L	3PDT Locking	3-III	M	.70
50209LS				.75
50209M	3PDT Momentary	3-III	M	.85
50209MS				.90
50212L	4PDT Locking	4-III	M	.75
50212LS				.80

SERIES 51000 2 POSITION ROCKER SWITCHES

Compact rocker switches offer same quality and dependability as standard slide switches. Rugged rocker bracket is precision welded to standard slide switch housing. Rocket pivots between bracket members to allow free actuation of switch mechanism. Black rocker.

51202L	SPST Locking	II	N	.75
51203L	SPDT Locking	III	N	.80
51204L	DPST Locking	2-II	N	.85
51206L	DPDT Locking	2-III	N	.90

SERIES 52000 2 POSITION ROCKER SWITCHES

Larger than **Series 51000**, offering 3 and 4 poles of switching. **Series 52000L**, non-shorting; **Series 52000LS** with shorting contacts.

52207L	3PST Locking	3-II	O	.90
52208L	4PST Locking	4-II	O	.95
52209L	3PDT Locking	3-III	O	1.00
52209LS				1.05
52212L	4PDT Locking	4-III	O	1.05
52212LS				1.10

Trade Discount Applies To List Prices Only

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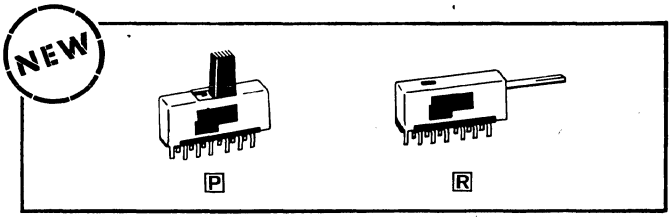
SWITCHCRAFT INC.

Switches



SERIES 53000 2 POSITION MINIATURE SLIDE SWITCHES

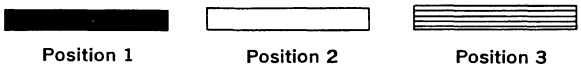
Printed circuit terminals snap easily in P.C. boards. **Nos. 53206L, 53212L** have ½" knobs, plunger. **No. 53212MP** is constructed with a momentary plunger.

Part No.	Action	Schematic	Fig.	U.S.A. List Price
53206L*	DPDT Locking	2-III	P	$ .90
53212L*	4PDT Locking	4-III	P	1.20
53212MP*	4PDT Momentary	4-III	R	1.40

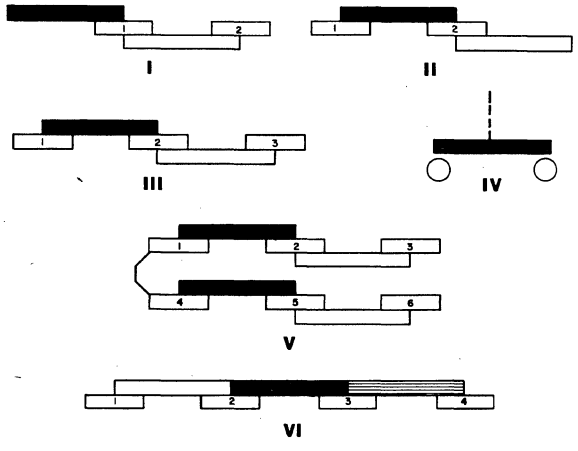
*Not submitted for U.L. approval.

"DW" SLIDE SWITCH CONTACT ARRANGEMENT

Standard "break" before "make" (non-shorting). "Make" before "break" (shorting) switches are available in some models, refer to Series 46000, 49000, 50000 and 52000.



BASIC SCHEMATIC CHART

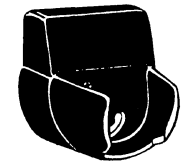


"BOX SWITCH"

Series BX. Miniature, momentary action, pushbutton switch offers broad switching capabilities in minimum panel space. 11/16" square switch requires 55/64" min. to 1 3/64" max. depth behind panel. Molded plastic body protects against damaging dust and dirt and prevents bending or disfiguring of contacts caused by excessive handling. Attractive bezel frames pushbutton and acts as built-in escutcheon plate. Unique **"Adjusto-Clips"** provide snap-in, front of panel, mounting in panels from 3/64" to 17/64" thick in .615" sq. holes. Red, black, green, or white pushbuttons. 7/64" button stroke. Integral slide contacts of special spring tempered phosphor bronze, silver plated, rated at: 250 ma., 30 watts max., A.C. non-inductive load. Evenly spaced solder lug terminals are clearly identified for ease of wiring.

Part Nos.				Action	Schematic Circuit	U.S.A. List Price
Red Button	Black Button	Green Button	White Button			
BX-01-1	BX-02-1	BX-03-1	BX-05-1	S.P.S.T. n.o.	1-A	$3.25
BX-01-3	BX-02-3	BX-03-3	BX-05-3	S.P.D.T.	1-C	$3.40
BX-01-6	BX-02-6	BX-03-6	BX-05-6	D.P.D.T.	2-C	$3.75
BX-01-10	BX-02-10	BX-03-10	BX-05-10	D.P.D.T.- D.P.S.T. n.o.	2-C & 2-A	$4.25

CRADLE SWITCH



High quality Handset Cradle Switch holds W.E. and other standard telephone industry handsets. Sturdy housing is flexible enough to withstand shocks and vibrations. Housing includes Switchcraft's dependable "Hook Switch" (See Hook Switch listing below), with a 4C (4P.D.T.) contact arrangement. Switch has long nickel silver springs with gold alloy contacts rated at 1 amp. 100 watts max., A.C. non-inductive load. Ideal for use in critical low level audio circuits such as in communication and instrumentation applications.

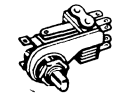
Part No.	Description	U.S.A. List Price
14412G	Handset Cradle Switch. Black housing. 4-C (4P.D.T.) circuit.	$8.00
14512G	As above, except beige.	8.00
14612G	As above, except white.	8.00

"HOOK SWITCH" SWITCHES

Quality constructed leaf-type switch actuated by a hook (or hanger). Ideal for equipment where it is necessary to actuate a circuit by hanging an accessory on a "hook", as a headset, telephone or microphone. Fine silver contacts, rated at 3 amps, 300 watts, max., A.C., non-inductive load. Requires only 19/32" depth behind panel.

Part No.	Action	Schematic Circuit	U.S.A. List Price
14004	D.P.S.T. n.o.	2-A	$2.75
14005	D.P.S.T. n.c.	2-B	2.75
14006	D.P.D.T.	2-C	3.00
14012	4 P.D.T.	4-C	3.85

"RS-SWITCH" SWITCHES



Rugged rotary switches, available in various multiple circuits, two and three position types, locking or non-locking action. Ideal for communication, musical and test equipment applications. **Fibre cam** actuates long, leaf-type springs resulting in easy action; good wiping action of contacts. Fine silver contacts rated at 3 amps, 300 watts max., AC, non-inductive load. Requires only 7/8" depth behind panel, mounts in single 3/8" hole in panels up to 1/4" thick.
*Add suffix letter **"L"** to part number to indicate locking type.

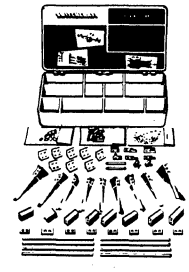
TWO POSITION TYPES

Part No. Non-Locking*	Action	Schematic Circuit Pos. 1	Pos. 2	U.S.A. List Price
2001	S.P.S.T. n.o.	1-A		$1.40
2002	S.P.S.T. n.c.	1-B		1.40
2003	S.P.D.T.	1-C		1.65
2004	D.P.S.T. n.o.	2-A		1.65
2005	D.P.S.T. n.c.	2-B		1.65
2006	D.P.D.T.	2-C		2.15

THREE POSITION TYPES

2034	S.P.S.T. n.o. Ea. Sec.	1-A	1-A	$1.65
2035	S.P.S.T. n.c. Ea. Sec.	1-B	1-B	1.65
2036	S.P.D.T. Ea. Sec.	1-C	1-C	2.15

STACK SWITCH KITS



Experimental kits of component parts for assembling switch stacks. Designed to speed the assembly of engineering samples in the lab, aid maintenance men in the field and save time in general replacement. Ideal for mechanical engineers and coin machine servicing; used in relays, electronic organs, etc. Each kit consists of **136 springs** in different thicknesses, over **152 phenolic spacers** and insulators in various sizes, hard-rubber insulating tubing, two sets of stack assembling pins, two roller assemblies, assorted contacts, etc. **Kit No. K-119,** consisting of **"Tini-Stack"** components, are miniature variations of standard switch stack springs, spacers, etc. All in compartmented plastic box.

Kit No. K-101. Assorted ¼" and ⅜" mtg. center contact springs and associated parts..... NET **$11.10**

Kit No. K-102. Assorted ¼" mtg. center contact springs and associated parts..... NET **11.10**

Kit No. K-103. Assorted ⅜" mtg. center contact springs and associated parts..... NET **11.10**

Kit No. K-119. "Tini-Stack". Assorted 3/16" mtg. center contact springs and associated parts..... NET **11.10**

Q-G* Audio Connectors

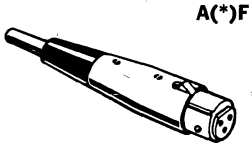
SWITCHCRAFT INC.

Patent No. 3,219,961

AUDIO CONNECTORS WITH COMPLETE GROUNDING PROVISIONS!

Switchcraft's* "Quick-Ground" connectors feature a separate "Ground-Terminal" electrically integral with the connector shell. Ground continuity between mating plugs automatically accomplished through the exclusive "Ground Contactors." Possible loss of insert screw is eliminated by new "Captive Design" Insert Screw. Socket and pin assemblies utilize "wedge-action" to insure firm, reliable positioning in connector shell. Q-G* Series 3 and 4-contact audio connectors, offer 4 and 5-contact versatility when "Ground Terminal" is utilized. Can be used interchangeably with Cannon type XLR-3, XLR-4 and Amphenol type 91-850 Series. ***Number of insert contacts or pins must be specified to complete Part Number.**

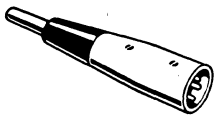
A(*)F CORD PLUGS



Fresh, streamlined design includes rugged, diecast zinc body, satin nickel finish, high-impact resistant thermosetting plastic socket insert, molded latchlock, dual pressure plates, keyed neoprene relief bushing. Features "Ground Terminal" and "Ground Contactors" offers 4 and 5-contact versatility. Mates with Switchcraft A(*)M and other connectors with similar contact arrangements. Takes 7/32" O.D. cable. Overall length 3 7/32"; dia. 3/4".

Part No.	Insert Contacts	U.S.A. List Price
A3F	3	$2.30
A4F	4	2.85

A(*)M CORD PLUGS



Has "Captive Design" insert screw, one-piece pin insert assembly easily removable for fast soldering. Polarizing groove. Die-cast zinc shell, satin nickel finish. Mates with Switchcraft A(*)F and other connectors with similar contact arrangements. Brass, silper plated chromate dipped pins to resist tarnishing. Overall length 2 25/32"; dia. 3/4".

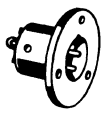
Part No.	Insert Pins	U.S.A. List Price
A3M	3	$2.00
A4M	4	2.10

B(*)M RECEPTACLES

For panel or chassis mounting; locknut accommodates panels up to 1/4" thick. Single hole mounting, can be keyed by using "D" shaped panel hole or S-3519 mounting adapter. Pin insert features "Captive Design" insert screw and "Ground Terminal." Mates with Switchcraft A(*)F and other connectors with similar contact arrangements. Diecast zinc shell, satin nickel finish. Dimensions: Flange 1 7/64" dia.; Barrel 13/16" overall; pin extensions 9/32".

Part No.	Insert Pins	U.S.A. List Price
B3M	3	$2.90
B4M	4	3.00

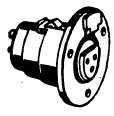
C(*)M RECEPTACLES



Mounts on wall, panel or chassis with three .136" dia. mounting holes. High impact thermosetting plastic pin insert. "Captive Design" insert screw, "Ground Terminal." Pins, brass, silver plated, chromate dipped; resists tarnishing. Mates with Switchcraft A(*)F and other connectors with similar contact arrangements. Dimensions: Flange 1 1/16" dia.; Barrel 13/16" overall; pin extensions 9/32".

Part No.	Insert Pins	U.S.A. List Price
C3M	3	$1.40
C4M	4	1.50

C(*)F RECEPTACLES



For panel or chassis mounting; has socket insert, push-type latch locking device. Flange has three .136" holes for mounting screws. Mates with Switchcraft A(*)M and other connectors with similar contact arrangements. Dimensions: Flange 1 7/16" dia.; Barrel 1 13/16" overall; pin extension 1/4".

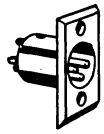
Part No.	Insert Pins	U.S.A. List Price
C3F	3	$3.10
C4F	4	3.20

D(*)F RECEPTACLES

Rectangular flange design receptacle permits close mounting on crowded panel or chassis. Features "Captive Design" loss-proof insert screw, positive latch locking device and high impact thermosetting socket insert. Mates with Switchcraft A(*)M and other connectors with similar contact arrangements. Dimensions: Flange 1 1/16" x 1 7/16"; Barrel 1 13/64" overall; pin extension 1/4".

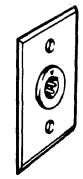
Part No.	Insert Contacts	U.S.A. List Price
D3F	3	$3.20
D4F	4	3.30

D(*)M RECEPTACLES



Narrow, rectangular flange design receptacle for mounting on compact panel or chassis. Mates with Switchcraft A(*)F and other connectors with similar contact arrangements. Dimensions: Flange 1/8" x 1 7/16"; Barrel 13/16" overall; pin extension 9/32".

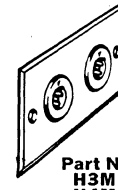
Part No.	Insert Pins	U.S.A. List Price
D3M	3	$1.90
D4M	4	2.00



G(*)M TYPE WALL PLATES

Single gang wall plates with a B(*)M male receptacle. Fits standards electrical outlet box. Wall plates available in brushed brass or brushed stainless steel. Dimensions: Wall Plate 4 1/2"H x 2 3/4"W.

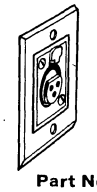
Part No.	Finish	Insert Pins	U.S.A. List Price
G3M	Brass	3	$5.00
G4M	Brass	4	4.75
G3MS	Stainless Steel	3	5.00
G4MS	Stainless Steel	4	5.25



H(*)M TYPE WALL PLATES

Two gang wall plates with two B(*)M male receptacles. Mounts in standard electrical switch box (single). Wall plates available in brushed brass or brushed stainless steel. Dimensions: Wall Plate 4 1/2"H x 2 3/4"W. Six contacts.

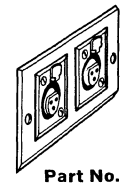
Part No.	Finish	Insert Pins	U.S.A. List Price
H3M	Brass	3 ea.	$6.50
H4M	Brass	4 ea.	7.00
H3MS	Stainless Steel	3 ea.	7.00
H4MS	Stainless Steel	4 ea.	7.50



J(*)F TYPE WALL PLATES

Single gang wall plates with a D(*)F female receptacle. Fits standard electrical outlet box. Wall plates available in brushed brass or brushed stainless steel. Dimensions: 4 1/2"H x 2 3/4"W.

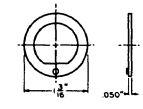
Part No.	Finish	Insert Contacts	U.S.A. List Price
J3F	Brass	3	$4.70
J3FS	Stainless Steel	3	5.20
J4F	Brass	4	4.95
J4FS	Stainless Steel	4	5.45



K(*)F TYPE WALL PLATES

Two gang wall plates with two D(*)F female receptacles. Mounts in standard electrical outlet junction box. Wall plates available in brushed brass or stainless steel. Dimensions: 4 1/2"H x 2 3/4"W.

Part No.	Finish	Insert Contacts	U.S.A. List Price
K3F	Brass	3 ea.	$6.90
K3FS	Stainless Steel	4 ea.	7.40
K4F	Brass	3 ea.	7.40
K4FS	Stainless Steel	4 ea.	7.90



MOUNTING ADAPTER

For use with B3M panel and chassis receptacle. Eliminates necessity of providing a flatted "D" shaped hole in panel to prevent turning of receptacle.

Switchcraft Part No. S-3519.....U.S.A. List Price **$0.40**

"SLIM-LINE" CONNECTORS

New, small 4-contact connectors for audio and communication equipment. Barrel insert assembly of high-impact. thermo-plastic. **No. 2504M, Fig. A,** 4-pin male plug with coupling ring. "D-Shaped" barrel assembly polarized for proper mating. Large, husky cable clamp. **No. 2504FP, Fig. B,** 4-contact female receptacle, only 49/64" dia., 3/4" depth behind panel. For front panel mount. No. 2504FR, same as 2504FP, except rear panel mount. All "Slim-Line" connectors bright nickel plated.

Switchcraft Part No. 2504M.....U.S.A. List Price **$2.50**
Switchcraft Part No. 2504FP.....U.S.A. List Price **$2.50**
Switchcraft Part No. 2504FR.....U.S.A. List Price **$2.50**

AC RECEPTACLES

Highly dependable 3-pin receptacles for use in all electrical/electronic equipment. "Chassis hugging" recessed type mounting. Brass contact pins are silver plated, chromate dipped. **No. AC3,** ungrounded; **No. AC3G,** grounded, includes self-aligning feature. Pins #1 and #3 move, #2 is stationary. Receptacles mate with Belden cord No. 17258. Rating: 115V, 7 amps.

Switchcraft Part No. AC3.....U.S.A. List Price **$0.80**
Switchcraft Part No. AC3G.....U.S.A. List Price **.75**

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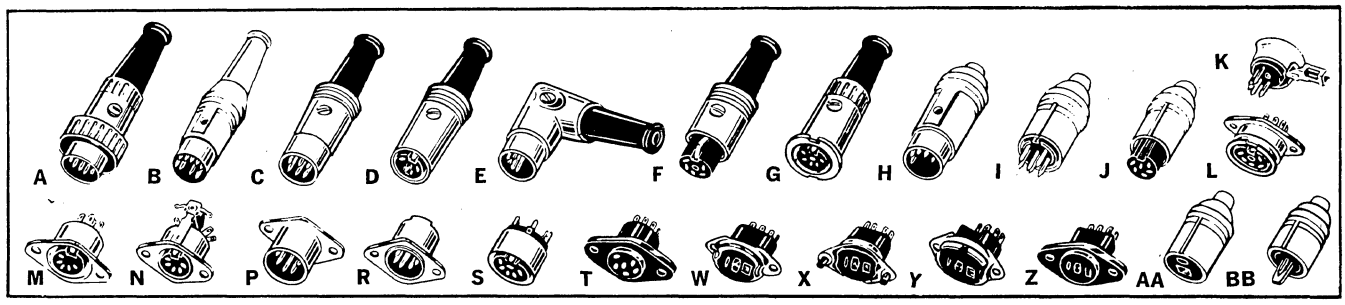
Audio Connectors



Here is the most complete low-cost family of miniature audio connectors available today. Exact replacements for plugs and receptacles used on most foreign built tape recorders, radios and dictation equipment. Switchcraft/Preh 2 to 7 contact connectors include male and female plugs and receptacles with bright nickel-plated shells and plastic snap-on shells. Check these outstanding features . . . lock-ring coupling, silver plated contact pins for low contact resistance, contact friction coupling for low mechanical interference noise, exclusive "automatic" grounding and polarization provisions. Thirteen receptacles offer some form of internal switching. Positioning "Ground Key-Rib" or "Ground Contact"—electrically integral with the connector shell—is provided in each plug and receptacle (except those with plastic housings or shells) to ground or shield the connector shell. Designed for low level circuitry, they have unlimited use in commercial, industrial, consumer and military applications.

PLUGS

STRAIGHT CORD PLUGS with 30° Lock Ring

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
03CL2M	A	2 pins, ins. sw. actuator.	1	$1.75
05CL3M	A	3 pins at 180°	2	1.75
05CL5M	A	5 pins at 180°	5	1.95
09CL4M	A	4 pins at 210°	3	1.85
12CL5M	A	5 pins at 240°	4	1.95

STRAIGHT CORD PLUG with Shielded Barrel

05GM3M	B	3 pins at 180°. Gray	2	1.10
05GM5M	B	5 pins at 180°. Gray	5	1.30
09GM4M	B	4 pins at 210°. Gray	3	1.20
12GM5M	B	5 pins at 240°. Gray	4	1.30
12GM6M	B	6 pins at 240°.	6	1.40
12HN5M	B	5 pins at 240°. Gray	4	1.30
15GM7M	B	7 pins at 270°. Gray	7	1.50

STRAIGHT CORD PLUG with Extended Barrel

03BL2M	C	2 pins, ins. sw. actuator	1	1.65
05BL3M	C	3 pins at 180°	2	1.65
05BL5M	C	5 pins at 180°	5	1.85
09BL4M	C	4 pins at 210°	3	1.75
12BL5M	C	5 pins at 240°	4	1.85
12BL6M	C	6 pins at 240°	6	1.95

STRAIGHT CORD PLUG with Flush Socket Insert

04AL2F	D	2 cont., cl. ckt. sw. Ckt. #4	A	1.65
06AL3F	D	3 contacts at 180°	B	1.65
06AL5F	D	5 contacts at 180°	F	1.85
10AL4F	D	4 contacts at 210°	D	1.75
13AL5F	D	5 contacts at 240°	E	1.85
13AL6F	D	6 contacts at 240°	G	1.95

RIGHT ANGLE CORD PLUG with 8 Position Barrel

03DL2M	E	2 pins, ins. sw. actuator	1	2.00
05DL3M	E	3 pins at 180°	2	2.00
05DL5M	E	5 pins at 180°	5	2.20
09DL4M	E	4 pins at 210°	3	2.10
12DL5M	E	5 pins at 240°	4	2.20

STRAIGHT CORD PLUG with Extended Socket

07FL3F	F	3 contacts at 180°	B	1.60
11FL4F	F	4 contacts at 210°	D	1.70
14FL5F	F	5 contacts at 240°	E	1.80

STRAIGHT CORD PLUG with Lock Flange

06EL3F	G	3 contacts at 180°	B	1.65
06EL5F	G	5 contacts at 180°	F	1.85
10EL4F	G	4 contacts at 210°	D	1.75
13EL5F	G	5 contacts at 210°	E	1.85

STRAIGHT CORD PLUG with Snap-Lock Plastic Shell

05LK3M	H	3 pins at 180°	2	.90
05LK5M	H	5 pins at 180°	5	1.10
09LK4M	H	4 pins at 210°	3	1.00
12LK5M	H	5 pins at 240°	4	1.10

STRAIGHT CORD PLUG with Short Plastic Shell

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
05QK3M	I	3 pins at 180°	2	$ .60
05QK5M	I	5 pins at 180°	5	.80
09QK4M	I	4 pins at 210°	3	.70
12QK5M	I	5 pins at 240°	4	.80
12QK6M	I	6 pins at 240°	6	.90

STRAIGHT CORD PLUG with Ext. Socket and Shell

07QK3F	J	3 contacts at 180°	B	.60
07QK5F	J	5 contacts at 180°	F	.80
08QK3F	J	3 cont.—180°, 2 blanks	C	.60
11QK4F	J	4 contacts at 210°	D	.70
14QK5F	J	5 contacts at 240°	E	.80
14QK6F	J	6 contacts at 240°	G	.90

RIGHT ANGLE CORD PLUG with Ins. Plastic Shell

05UK3M	K	3 pins at 180°	2	.60
05UK5M	K	5 pins at 180°	5	.80

RECEPTACLES

RECEPTACLE for Lockring Plugs

55HA2F	L	2 cont., clsd. ckt. sw. Ckt. #4	A	1.00
57HA3F	L	3 contacts at 180°	B	1.00
60HA4F	L	4 contacts at 210°	D	1.10
61HA4F	L	5 contacts at 240°	E	1.20

RECEPTACLE for Shielded and Extended Barrel Plugs

55GA2F	M	2 cont. plus clsd. ckt. sw. Ckt. #4	A	.70
57GA3F	M	3 contacts at 180°	B	.70
57B5F	M	5 contacts at 180°	F	.90
57NC5F	N	5 cont.—180°, P.C. term.	F	.80
58GB5F	M	3 cont.—180°, 2 blanks	B	.75
58NC3F	N	3 cont.—180°, 2 blanks. P.C. term.	C	.60
59GB3F	P	3 cont.—180°, clsd. ckt. sw. Ckt. #5	B	1.30
59GB5F	P	5 cont.—180°, clsd. ckt. sw. Ckt. #5	F	1.50
60GA4F	M	4 contacts at 210°	D	.80
61GA5F	M	5 contacts at 240°	E	.90
61GA6F	M	6 contacts at 240°	G	1.00
62GB7F	M	7 contacts at 270°	H	1.00

RECEPTACLE for Flush and Extended Socket Plugs

56KD2M	R	2 pins, ins. sw. actuator.	1	1.00
57KD3M	R	3 pins at 180°	2	1.00
57KD5M	R	5 pins at 180°	5	1.20
60KD4M	R	4 pins at 210°	3	1.10
61KD5M	R	5 pins at 240°	4	1.20

RECEPTACLE with Recessed Mounting for Extended Socket Plugs

57JD3M	S	3 pins at 180°	2	1.00
60JD4M	S	4 pins at 210°	3	1.10
61JD5M	S	5 pins at 240°	4	1.20

RECEPTACLE for Short and Right Angle Plastic Shell Plugs

Part No.	Fig.	Description	Pin or Contact arrangement	U.S.A. List Price
57LA3F	T	3 contacts at 180°	C	$ .40
60LA4F	T	4 contacts at 210°	D	.50
61LA5F	T	5 contacts at 240°	E	.60
61LA6F	T	6 contacts at 240°	G	.70

CONTROL AND SWITCHING RECEPTACLES FOR 01QK2M PLUG

Each receptacle includes an elongated center contact for positive polarization. When inserting mating plug, contact is made to terminals 1 and 2. Receptacle's built-in closed-circuit switch is not actuated. Plug may then be turned 180°, without a polarity change, and re-inserted to open switch and make contact to terminal 2. Convertible feature available in **Nos. 51DA2F, 52BA2F, 52CA2F and 52DA2F.**

RECEPTACLE with Metal Mounting Flange

52DA2F	W	2 cont. clsd. ckt. sw. Ckt. #2. Conv't.	J	.65
53DA2F	W	2 contacts	K	.55
54DA2F	W	2 cont. clsd. ckt. sw. Ckt. #3. Not Conv't.	L	.60

RECEPTACLE with Metal Rivet Mounting Flange

52BA2F	X	2 cont. clsd. ckt. sw. Ckt. #2. Conv't.	J	.70
53BA2F	X	2 contacts	K	.60
54BA2F	X	2 cont. clsd. ckt. sw. Ckt. #3. Not Conv't.	L	.65

RECEPTACLE with 1-C Circuit

51DA2F	Y	2 cont. Make-break. Ckt. #2. Conv't.	M	.80

RECEPTACLE with Insulated Plastic Body

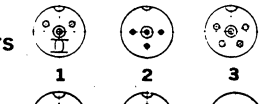
52CA2F	Z	2 cont. clsd. ckt. sw. Ckt. #2. Conv't.	J	.60
53CA2F	Z	2 contacts	K	.50
54CA2F	Z	2 cont. clsd. ckt. sw. Ckt. #3. Not Conv't.	L	.55

CONTROL AND SWITCHING PLUGS

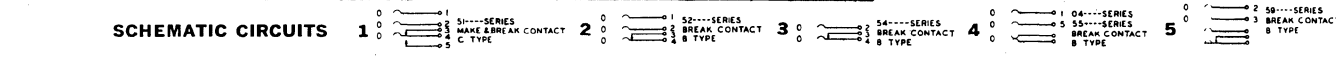
PLUGS with Snap-On Plastic Shells

01QK2M	AA	Male plug. 2 cont.	8	.40
02QK2F	BB	Female plug. 2 cont.	K	.50

PIN ARRANGEMENTS



SCHEMATIC CIRCUITS



CONTACT ARRANGEMENTS

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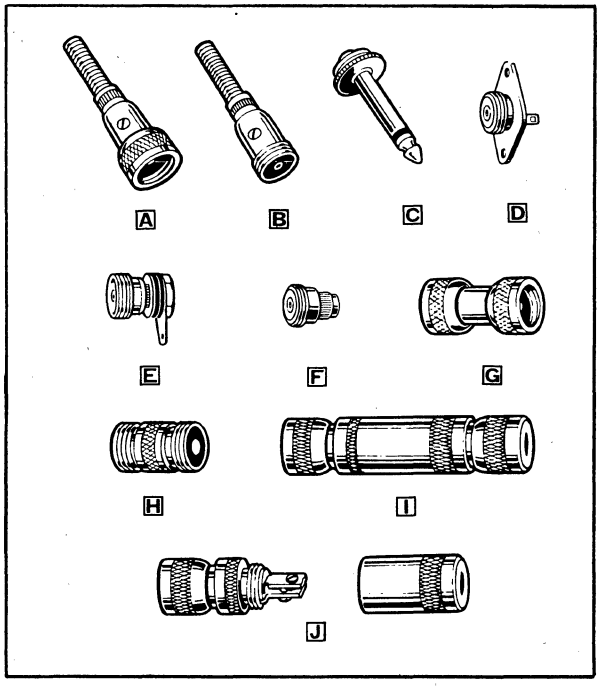
Connectors

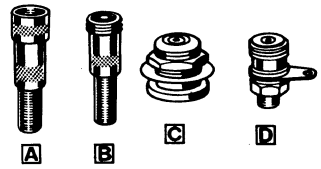
MICROPHONE CONNECTORS



Standard connectors with 5/8"-27 threads. Designed for use with single conductor microphone cable with 9/32" max. O.D. **Coupling ring** on 2501F removable for fast change of female to male type. Spring assembled into body, cable braid and spring clamped by hollow set screw. **No. 44** adapts 2501F to fit standard 2-cond. phone jack. No. 2501MP mounts in .385" dia. hole. ***No. 2501MPC** same as 2501MP except closed circuit type. **No. 2501FT,** coupler, two female connectors at each end. **No. 2501MT,** coupler, two male connectors at each end. **Nos. 2501FL, 2501FS,** for attaching cable to female connector without soldering; screw terminals. **No. 2501MBL,** insulated male panel receptacle. **No. 2501MPF,** male panel receptacle for PRESS-FIT mounting. **Cable clamp.

Part No.	Fig.	Description	U.S.A. List Price
2501F	A	Female Connector	$ .65
2501M	B	Male Connector	.50
44	C	Phone Plug Adapter	.55
2501MBL	D	Panel Receptacle	.60
2501MP	E	Panel Receptacle	.50
*2501MPC	E	Panel Receptacle	.60
2501MPF	F	Panel Receptacle	.50
2501FT	G	Double Female Connector	1.25
2501MT	H	Double Male Connector	1.25
**2501FL	I	Screw Term. Female Connector	2.50
2501FS	J	Screw Term. Female Connector	1.80

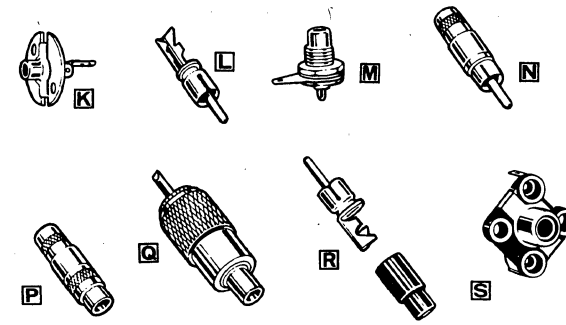
"MINI-CON" MINIATURE CONNECTORS



Popular "Mini-Con" microphone-type connectors used with miniaturized audio equipment, lapel microphones, musical instruments, etc. About 1/2 the size of standard microphone connectors. Accepts single conductor shielded cables up to 5/16" O.D. Nickel plated brass bodies. Coupling ring on 5501F removable for quick change of female to male type. Cable-braid spring clamped to body by hollow point set screw. 5501MF mounts by lock-nut front side of panel, in 3/8" dia. hole. 5501MP mounts back side of panel in 5/16" dia. hole. 5501MPC same as 5501MP except shorting type

Part Number	Fig.	Description	U.S.A. List Price
5501F	A	Female Cord Connector	$0.65
5501M	B	Male Cord Connector	.50
5501MF	C	Panel Connector, Male	.50
5501MP	D	Panel Connector, Male	.40
5501MPC	D	Panel Connector, Male	.80

PHONO JACKS AND PLUGS



Low cost 2-cond. jacks and plugs for record players, FM-AM tuners, tape recorders, test equipment, etc. **3501MC** has 3/8" O.D. shell and cable clamp. **3501FP** for front panel mount in 1/4" hole, in panels up to 1/8" thick. **3501FR** for rear panel mount in 3/8" hole, in panels up to 13/64" thick. **3502** has unique cable clamp with 13/32" O.D. shielded removable handle. 3503 ext. jack has shielded removable handle, 13/32" O.D. with cable clamp. **3508 Series,** new color coded phono plugs with cable clamp and **"snap-on"** plastic handles in Red, Black, and White. **Series 3511 "4-Leaf Clover" Jax.** Molded phono Jack with dual contact surfaces for minimum shunt resistance, greater reliability. Open and closed circuit types. Mate with all Switchcraft phono plugs.

Part No.	Fig.	Description	U.S.A. List Price
3501F	K	Chassis jack	$0.15
3501M	—	Plug, less cable clamp	.10
3501MC	L	Plug with cable clamp	.15
3501FP	M	Chassis jack	.35
3501FR	—	As above, chassis jack	.40
3502	N	Plug	.50
3503	P	Extension jack	.65
3508-1	R	Plug, Red handle	.25
3508-2	R	Plug, Black handle	.25
3508-5	R	Plug, White handle	.25
3511	S	Chassis jack, open circuit	.30
3511A	S	Chassis jack, open circuit, grounded	.30
3512	S	Chassis jack, closed circuit	.35
3512A	S	Chassis jack, closed circuit, grounded	.35

RF-JACKS and RF-PLUGS

Standard phono jacks and plugs with **nylon insulation.** For use in radio frequency applications—low cost, max. insulation resistance. **No. 3504M,** 3/8" O.D. **No. 3505F** mounts front of panel in 3/8" hole—fits panel up to 11/64" thick. **No. 3506** adapter has coaxial connector (Amphenol 83-1SP) one end; 3505F at other end. **No. 3507** has 13/32" O.D. shielded, screw-on handle with cable clamp.

Part No.	Fig.	Description	U.S.A. List Price
3504M	L	Plug	$0.20
3505F	M	Chassis jack	.60
3506	Q	Adapter	2.25
3507	N	Plug	.80

"SLIM-LINE" CONNECTORS

New, small 4-contact connectors for audio and communication equipment. Barrel insert assembly of high-impact, thermo-plastic. **No. 2504M, Fig. A,** 4-pin male plug with coupling ring. "D-Shaped" barrel assembly polarized for proper mating. Large, husky cable clamp. **No. 2504FP, Fig. B,** 4-contact female receptacle, only 49/64" dia., 3/4" depth behind panel. For front panel mount. No. 2504FP, same as 2504FP, except rear panel mount. All "Slim-Line" connectors bright nickel plated.

Switchcraft Part No. 2504M.....U.S.A. List Price **$2.50**
Switchcraft Part No. 2504FP.....U.S.A. List Price **$2.50**
Switchcraft Part No. 2504FR.....U.S.A. List Price **$2.50**

AC RECEPTACLES

Highly dependable 3-pin receptacles for use in all electrical/electronic equipment. "Chassis hugging" recessed type mounting. Brass contact pins are silver plated, chromate dipped. **No. AC3,** ungrounded; **No. AC3G,** grounded, includes self-aligning feature. Pins #1 and #3 move, #2 is stationary. Receptacles mate with Belden cord No. 17258. Rating: 115V, 7 amps.

Switchcraft Part No. AC3.....U.S.A. List Price **$0.80**
Switchcraft Part No. AC3G.....U.S.A. List Price **.75**

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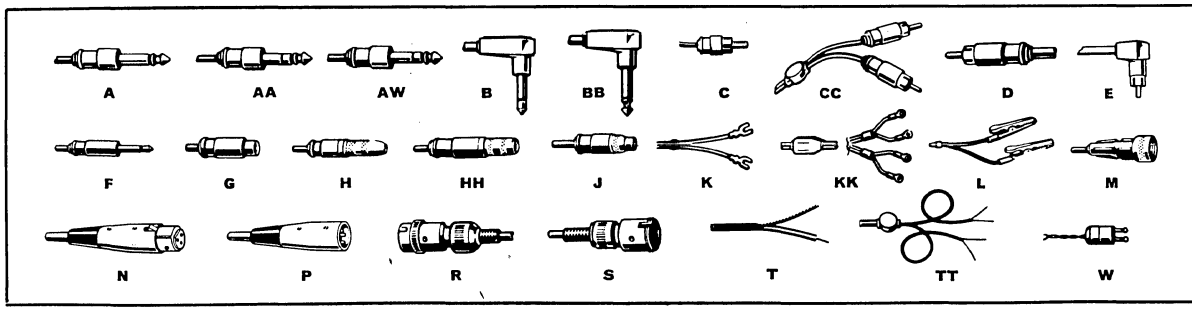
HI-FI MOLDED CABLES

SWITCHCRAFT INC.



Only Switchcraft quality molded cable assemblies offer built-in cable clamps to support cable and eliminate strain—functionally designed handles to provide an easy grip. Cable is chrome grey (unless otherwise specified) with matching plastic handles. **Fig. AW** Phone Plug with Resistor. 3-Conductor. **Fig. M** Microphone Connector—Female. **Fig. N** Switchcraft Q-G 3-Pin Audio Connector—Female. **Fig. P** Switchcraft Q-G 3-Pin Audio Connector—Male. **Fig. R** Amphenol 3-Pin Connector—Female. **Fig. S** Amphenol 3-Pin Connector—Male. **Fig. W** Ear-Receiver Plug.

Part Number	Terminations End No. 1 Fig.	End No. 2 Fig.	Length	U.S.A. List Price
STRAIGHT 2-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTIONS				
05AC05	A	A	18″	$1.75
05AD05	A	A	24″	1.95
05AK05	A	A	6′	2.86
05AN05	A	A	10′	3.85
05AU05	A	A	25′	5.10
05AR05	A	A	15′	4.35
05AK15	A	BB	6′	2.85
05AN15	A	BB	10′	3.85
05AR15	A	BB	15′	4.35
05AK25	A	C	6′	2.20
05AN25	A	C	10′	3.00
05AR25	A	C	15′	3.30
05AK30	A	E	6′	2.20
05AN30	A	E	10′	3.00
05AK80	A	H	6′	2.85
05AN80	A	H	10′	3.85
05AR80	A	H	15′	4.40
05AU80	A	H	25′	5.10
05AK82	A	G	6′	2.40
05AN82	A	G	10′	3.30
05AR82	A	G	15′	3.60
05AK87	A	M	6′	2.85
05AN87	A	M	10′	3.85
05AR87	A	M	15′	4.35
05AU87	A	M	25′	5.10
05AK84	A	T	6′	1.95
05AN84	A	T	10′	2.50
05AR84	A	T	15′	3.00
05CK84*	A	T	6′	1.55
05CN84*	A	T	10′	2.10
05CK85*	A	K	6′	1.65
05CN85*	A	K	10′	2.20
05CT85*	A	K	20′	2.60
05CU85*	A	K	25′	3.40
05CK86*	A	L	6′	2.10
05CN86*	A	L	10′	2.65
05CR86*	A	L	15′	2.90
05CT86*	A	L	20′	3.30

STRAIGHT 3-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTIONS

10BD10	AA	AA	24″	$3.60
10BF10	AA	AA	36″	4.00
10BK10	AA	AA	6′	5.30
10BN10	AA	AA	10′	6.60
10BU10	AA	AA	25′	9.65
10BK81	AA	H	6′	5.30
10BN81	AA	H	10′	6.60
10BU81	AA	H	25′	9.65

Stereo Cable Assembly for use with stereo tape recorders using 3-conductor dual microphone inputs—Norelco, Webcor, Revere, Wollensak.

10FK25	AA	CC	6′	$4.40

Webcor cable assemblies. 3-Cond. phone plug with internal resistor to various connections.

11AK26	AW	D	6′	$3.60
11AN26	AW	D	10′	4.40
11CN86	AW	L	10′	3.60

2-Conductor Revere and Wollensak cables with R.A. Phone Plug to various connections.

12HK25	B	B	6′	$2.75
12HB79	B	HH	12′	3.60
12HR79	B	HH	15′	5.50
12HU79	B	HH	25′	6.55
12HD80	B	H	24′	4.35

RIGHT ANGLE 2-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTIONS

15AK15	BB	BB	6′	$2.85
15AN15	BB	BB	10′	3.85

*Parallel unshielded cable.

‡Hearing Aid Tinsel Cord. All other cables shielded.

Part Number	Terminations End No. 1 Fig.	End No. 2 Fig.	Length	U.S.A. List Price
15AU15	BB	BB	25′	$5.10
15AK25	BB	C	6′	2.20
15AN25	BB	C	10′	3.00
15AR25	BB	C	15′	3.30
15AK30	BB	E	6′	2.20
15AN30	BB	E	10′	3.00
15AK80	BB	H	6′	2.85
15AN80	BB	H	10′	3.85
15AU80	BB	H	25′	5.10
15AK82	BB	G	6′	2.40
15AN82	BB	G	10′	3.30
15AK87	BB	R	6′	2.85
15AN87	BB	R	10′	3.85
15AN84	BB	T	10′	2.50
15AR84	BB	T	15′	3.00
15CN84*	BB	T	10′	2.10
15CK85*	BB	K	6′	1.65
15CN85*	BB	K	10′	2.20
15CK86*	BB	L	6′	2.10
15CN86*	BB	L	10′	2.65

STRAIGHT PHONO PLUG TO VARIOUS CONNECTIONS

25AC25	C	C	18″	$1.15
25AF25	C	C	36″	1.30
25AH25	C	C	4′	1.50
25AK25	C	C	6′	1.65
25AN25	C	C	10′	2.20
25AR25	C	C	15′	2.75
25AT25	C	C	20′	3.30
25AU25	C	C	25′	3.85
25AC30	C	E	18″	1.15
25AF30	C	E	36″	1.30
25AK30	C	E	6′	1.65
25AN30	C	E	10′	2.20
25AU30	C	E	25′	3.85
25AK80	C	H	6′	2.20
25AN80	C	H	10′	3.00
25AR80	C	H	15′	3.60
25AC82	C	G	18″	1.30
25AF82	C	G	36″	1.50
25AH82	C	G	4′	1.75
25AK82	C	G	6′	1.95
25AN82	C	G	10′	2.20
25AR82	C	G	15′	2.75
25AT82	C	G	20′	3.30
25AU82	C	G	25′	3.85
25AC84	C	T	18″	.90
25AF84	C	T	36″	1.05
25AH84	C	T	4′	1.10
25AK84	C	T	6′	1.25
25AN84	C	T	10′	1.80
25AR84	C	T	15′	2.50
25AT84	C	T	20′	3.00
25AU84	C	T	25′	3.60
25CF84†	C	T	36″	.85
25CK84*	C	T	6′	1.00
25CN84*	C	T	10′	1.55
25CK85*	C	K	6′	1.10
25CN85*	C	K	10′	1.65
25CT85*	C	K	20′	2.40
25CK86*	C	L	6′	1.95
25CN86*	C	L	10′	2.50
25CR86*	C	L	15′	2.60
25CT86*	C	L	25′	2.85
25AK87	C	M	6′	2.70
25AN87	C	M	10′	3.70
25AU87	C	M	25′	5.00

Special Stereo Cables. Two shielded insulated cables inside a common grey plastic jacket. Provides two isolated channels for all stereo applications. Phono plugs color coded.

25FF25	CC	CC	36″	$3.60
25FK25	CC	CC	6′	4.15
25FN25	CC	CC	10′	4.95
25FF84	CC	TT	36″	3.20
25FK84	CC	TT	6′	3.60
25FN84	CC	TT	10′	4.15

STRAIGHT PHONO PLUG (LONG HANDLE) TO VARIOUS CONNECTIONS

26AF26	D	D	36″	$1.45
26AK26	D	D	6′	1.75

Part Number	Terminations End No. 1 Fig.	End No. 2 Fig.	Length	U.S.A. List Price
26AN26	D	D	10′	$2.30
26AR26	D	D	15′	2.85
26AK05	D	A	6′	2.40
26AN05	D	A	10′	3.00
26AF82	D	G	36″	1.65
26AK82	D	G	6′	2.15
26AN82	D	G	10′	2.50
26AR82	D	G	15′	3.00
26AF84	D	T	36″	1.20
26AK84	D	T	6′	1.45
26AN84	D	T	10′	2.00

RIGHT ANGLE PHONO PLUG TO VARIOUS CONNECTIONS

30AC30	E	E	18″	$1.15
30AF30	E	E	36″	1.30
30AH30	E	E	4′	1.50
30AK30	E	E	6′	1.65
30AN30	E	E	10′	2.20
30AR30	E	E	15′	2.75
30AT30	E	E	20′	3.30
30AU30	E	E	25′	3.85
30AK80	E	H	6′	2.20
30AN80	E	H	10′	3.00
30AC82	E	G	18″	1.40
30AF82	E	G	36″	1.50
30AK82	E	G	6′	1.95
30AN82	E	G	10′	2.20
30AR82	E	G	15′	2.75
30AT82	E	G	20′	3.30
30AU82	E	G	25′	3.85
30AF84	E	T	36″	1.05
30AK84	E	T	6′	1.25
30AN84	E	T	10′	1.80
30CF84*	E	T	36″	.85
30CK84*	E	T	6′	1.00
30CN85*	E	K	10′	1.65
30CK86*	E	L	6′	1.95
30CN86*	E	L	10′	2.50

STRAIGHT TINI-PLUG TO VARIOUS CON.

40DK05	F	A	6′	$3.00
40DF25	F	C	36″	2.30
40DK25	F	C	6′	2.75
40DK40	F	F	6′	2.10
40DK80	F	H	6′	3.00
40DF82	F	G	6′	1.90
40DK82	F	G	6′	2.75
40DN82	F	G	10′	2.75
40DK83	F	J	6′	3.00
40DN83	F	J	10′	3.60
40DF84	F	T	36″	1.95
40DK84	F	T	6′	2.20
40DN84	F	T	10′	2.75
40DN86	F	W	10′	2.75
41EF75‡	F	W	36″	2.20
41EH75‡	F	W	4′	2.50
45AN25	F	C	10′	3.00
45AR25	F	C	15′	3.60
45AU25	F	C	25′	4.70

EXTENSION JACK CORDS

82AC82	G	G	18″	$1.65
82AF82	G	G	36″	1.80
82AK82	G	G	6′	2.15
83DK05	J	A	6′	3.00

CORDS w/ SPADE LUGS, ALLIGATOR CLIPS

85CN85*	K	K	10′	$1.00
85CT85*	K	K	20′	1.65
85CU85*	K	K	25′	2.00
86CN86*	L	L	10′	1.95
86CU86*	L	L	25′	2.80

MICROPHONE CONNECTOR TO VARIOUS CONNECTIONS

87AF84	M	T	36″	$1.65
87AK84	M	T	6′	2.00
87AN84	M	T	10′	2.50
87AU84	M	T	25′	4.70
87AF87	M	M	36″	2.20
87AK87	M	M	6′	2.75
87AP87	M	M	12′	3.85
87AU87	M	M	25′	5.50
91BU92	N	P	25′	13.75
93BU94	R	S	25′	10.75

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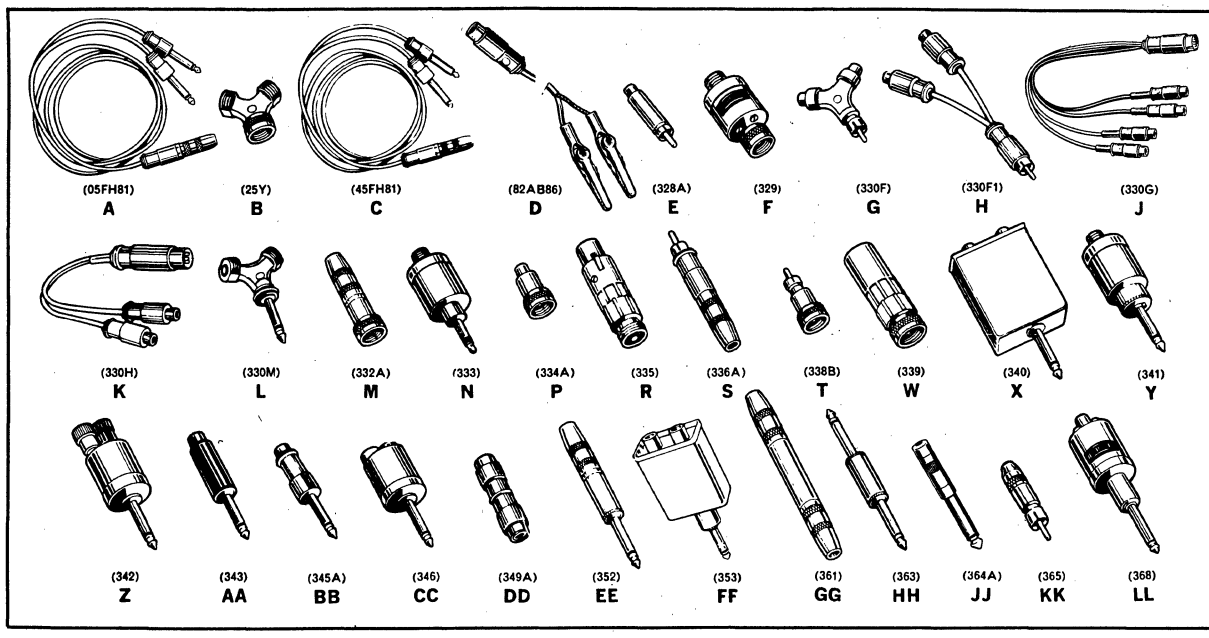
Adapters

SWITCHCRAFT INC.



A versatile and complete line of adapters for interconnecting components that do not have mating jacks and/or plugs. For hi-fi stereo, phonographs, tuners, tape recorders, amplifiers, P.A. systems, etc. Positive mating contacts of high quality material prevent resistive line-losses. **Nickel plated finish for long life. No. 328A,** audio equalizer, converts ceramic phono cartridge to magnetic input. **No. 329** Volume Control Adapter for use in high impedance circuits. **No. 330G** adapts European-type 5-contact sockets to standard Switchcraft phono plugs, color coded. Fits Norelco, Korting, Grundig, Sony, Elber tape recorders; Grundig radios. **No. 330H,** adapts 3-pin European type plug to standard Switchcraft phono plugs. **No. 335** has unsoldered internal wire at one end to permit user to convert terminal needed. **No. 341,** silent plug adapter, includes a circuit closing device to eliminate amplifier "squeals" when disconnecting. **No. 352,** converts stereo headphones and/or microphones to a monaural input. **No. 353** adapts stereo recorder for two headphones. **Nos. 332A, 334A, 338B** can be used as male or female connector; coupling ring screws back, converting to male mike connector.

Part No.	Fig.	Description	U.S.A. List Price
05FH81	A	Stereo Headphone Adapter Cable. Two std. 2-cond. phone plugs wired to a 3-cond. phone jack. Shielded, 4 ft. stereo cable.	$4.80
25Y	B	Y-Adapter, two male mike connectors in parallel to one female mike connector.	2.10
45FH81	C	Stereo Headphone Adapter Cable. Similar to 05FH81, except two 2-cond. "Tini-Plugs" wired to a 3-cond. std. ¼" phone jack. Shielded.	4.30
82AB86	D	Speaker Adapter Cable. Two alligator clips to a molded phono extension jack. 12" cable. Shielded.	1.20
328A	E	Audio Equalizer. Phone jack input to phone plug output.	3.30
329	F	Volume Control, female mike connector to male mike connector.	6.95
330F	G	Y-Adapter. Two phono jacks in parallel to a phono plug. Shielded.	1.95
330F1	H	Flexible Y-Adapter, phono plug in parallel to 2 phono jacks. Shielded 4" cable.	2.25
330F2	—	Same as above, but phono plug and phono jack to a phono plug.	2.25
330F3	—	Same as above, but 2 phono plugs to 1 phono plug.	2.25
330G	J	Stereo Adapter Cable. 5-pin European-type plug to four phono jacks. Shielded stereo cables, each 1 ft.	6.00
330H	K	Flexible Y-Adapter. 3-pin European-type plug to 2 phono jacks. Shielded 5" cable.	3.75
330M	L	Y-Adapter, two male mike connectors in parallel to a 2-cond. phone plug.	2.25
330PJ	—	Y-Adapter, as above, except two phono jacks in parallel to a 2-cond. phone plug. Shielded.	2.25
332A	M	Phone jack input to female mike connector output.	1.95
333	N	Phone jack input to special 2-cond. plug for American Geloso recorders.	2.60
334A	P	Phono jack input to female mike connector output. Shielded.	1.60
334B	—	Same as above, but phono jack input to male mike connector output. Shielded.	1.45
335	R	2-cond. input has Switchcraft 2501MP to output connector Cannon XL-3-11.	3.50

Part No.	Fig.	Description	U.S.A. List Price
336A	S	2-cond. phone jack input to phono plug output. Shielded.	$1.95
336B	—	Same as above, but 2-cond. phone jack input to phono jack output.	1.95
338A	—	Phono plug input to male mike connector output. Shielded. Similar to 338B.	1.25
338B	T	Phono plug input to female mike connector output. Shielded.	1.40
339	W	Same as 335, but output connector Switchcraft 2501F to input connector Cannon XL-3-12.	3.50
340	X	Two 2-cond. phone jack inputs in parallel to a 2-cond. phone plug output. Shielded.	4.00
341	Y	Silent-Plug Adapter. 2-cond. phone jack input to 2-cond. phone plug output.	3.30
342	Z	Dual purpose binding post/banana jack input to 2-cond. phone plug output.	2.95
343	AA	Phono jack input to phone plug output. Built-in limiting resistor for Webcor tape recorders.	1.95
345A	BB	Phone plug output to phono jack input.	1.45
346	CC	Tip jack input to 2-cond. phone plug output.	2.50
349A	DD	Phono plug coupler, mates with phono plug at each end. Shielded.	1.25
352	EE	Stereo to monaural adapter. 3-cond. phone jack to 2-cond. phone plug output. Shielded.	2.25
353	FF	Stereo headphone adapter. 3-circuit plug wired to two 3-circuit jacks. Housed in shielded, metal case, tan finish.	4.75
361	GG	Coupler. 2-cond. phone jack at each end. Shielded.	2.50
362	—	Same as above, but 3-cond. phone jack at each end.	3.00
363	HH	Coupler, 2-cond. phone plug at each end. Shielded.	2.25
364A	JJ	2-cond. "Tini-Jax" 9/64" dia. sleeve, to 2-cond. ¼" O.D. phone plug. Shielded.	1.75
365	KK	2-cond. "Tini-Jax" (as above) input to phono jack output. Shielded.	1.75
368	LL	Input volume control. Phono jack input to a 2-cond. phone plug output. Shielded.	4.95

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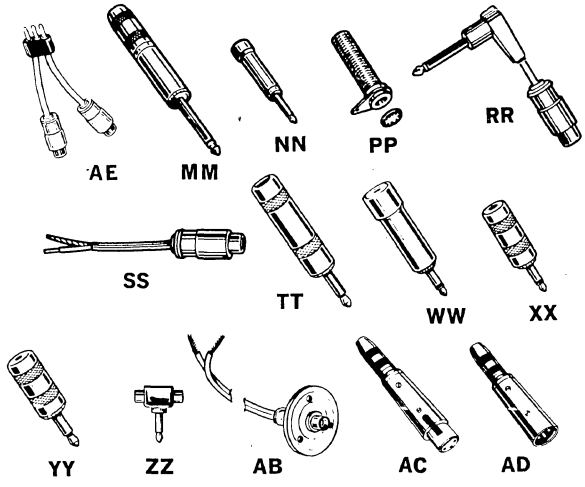
Adapters and Cable Assemblies

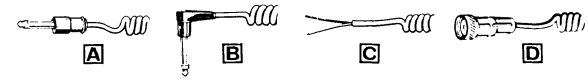
SWITCHCRAFT INC.



Versatile adapters for interconnecting components and cables that do not have mating jacks and/or plugs. Positive mating contacts prevent resistive line-losses. **Nos. 369, 374, 375, 376, 377,** have shielded, nickel plated brass handles. **No. 378,** "Tini-Tee", provides dual output jacks for two separate earphones. Allows two to listen at once from a single transistorized radio, tape recorder, etc. **Part No. 330B,** Special Stereo Adapter, adapts Lear Jet Model HSA-900 tape recorder to RCA, or other stereo units with a three contact in-line socket assembly. Two single conductor color coded phono jack outputs to one 3 pin in-line input. Completely shielded. 4" long.

Part No.	Fig.	Description	U.S.A. List Price
330B	AE	Two single conductor, color coded phono jack outputs to one 3 pin in-line input. Completely shielded. 4" long.	$2.50
369	MM	2-cond. Revere/Wollensak phone jack input to a standard 2-cond. phone plug output. Shielded.	$2.25
370	NN	Phono jack input to a 2-cond. "Tini-Plug" (9/64" dia. finger) output. Shielded.	1.40
371	PP	Thick panel adapter for 3501FP phono jack. Permits mounting of jack in panels up to 1¼" thick.	1.25
372	RR	2-cond. molded right angle phone plug to a molded phono jack. 2" shielded cable.	1.95
373	SS	2-cond. molded phono jack to 3" shielded cable, stripped and tinned leads.	.90
374	TT	Phone jack input to a 2-cond. "Tini-Plug" (9/64" dia. finger) output.	1.95
375	WW	Phono jack input to a 2-cond. "Micro-Plug" (.097 dia. finger) output.	1.75
376	XX	"Tini-Jax" input to a 2-cond. "Micro-Plug" (.097" dia. finger) output.	1.75
377	YY	"Micro-Jax" input to a 2-cond. "Tini-Plug" (9/64" dia. finger) output.	1.75
378	ZZ	"Tini-Tee" Adapter. 2-cond. "Tini-Plug" input to two 2-cond. "Tini-Jax" outputs.	2.40
379	AB	Speaker enclosure phono jack. Molded flanged phono jack to stripped and tinned leads. 24" cable.	1.50
381	—	Adapter Cable. 11' 2-cond. shielded cable from 3-cond. right angle phone plug to "Y" junction. Two single cond. shielded 1' cables from "Y" junction to two 2-cond. phone plugs.	7.00
383	AC	3 Contact Switchcraft A3F female microphone input to 2-cond. extension phone jack output.	4.75
NEW 384	AD	Three Pin A3M male microphone input to 2-cond. extension phone jack output.	4.25

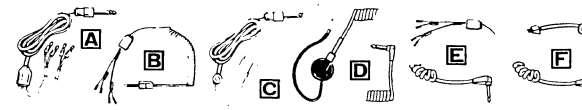
MOLDED COILED CORD ASSEMBLIES



Shielded, coiled cord assemblies with molded terminations and/or stripped and tinned ends. Various extended lengths from **4 ft. to 20 ft.** extended lengths. Single conductor shielded cable with black neoprene jacket. Coiled cord flexes to maximum length and retracts positively each time it is used.

Part No.	Terminations		Extended Length	U.S.A. List Price
	End No. 1	End No. 2		
05LH84	A	C	4 ft.	$ 3.60
15LH84	B	C	4 ft.	3.60
87LH84	D	C	4 ft.	3.70
05LP05	A	A	12 ft.	8.25
05LP15	A	B	12 ft.	8.25
05LP87	A	D	12 ft.	8.40
05LT05	A	A	20 ft.	11.50
05LT15	A	B	20 ft.	11.55
05LT87	A	D	20 ft.	11.70

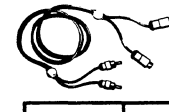
MOLDED HEADPHONE CABLES



Replace worn-out headphone cords with new molded cords from Switchcraft. **Part Nos. 05NJ88, 05NN88, 05KF88, 05KJ88, 13NJ88 and 13NN88** are direct replacements for cords used on Brush BA-200, BA-205, BA-206 headphones; RCA MI-38107B headphone. Standard Switchcraft straight or right angle 2-cond. phone plugs to color coded eyelet lugs. **Part No. 50MJ74** ideal for earphones used on dictation and office equipment. **Part No. 10FJ84** is a direct replacement for cords used on JENSEN HS-10, KNIGHT KN-840, SHARPE HA-8 and HA-10 Stereo Headphones.

Part No.	Fig.	Description	U.S.A. List Price
05KF88	A	Molded Headphone Cord. 2', 2-cond. cable from phone plug to "Y" junction. 1' cable from "Y" junction to eyelet plugs. Parallel wired.	$3.30
05KJ88	A	Same as above, except 4 ft. cable from phone plug to "Y" junction.	3.50
05NJ88	B	Straight 2-cond. phone plug to eyelet lugs. 5' (extended) coiled cord.	4.10
05NN88	B	Same as above except 10' (extended).	5.10
10FJ84	C	Molded Stereo Headphone Cord. 4' cable from phone plug to "molded band". 1' cable from bond to stripped, tinned leads.	3.25
13NJ88	E	Right angle 2-cond. phone plug to eyelet lugs. 5' (extended) coiled cord.	4.10
13NN88	E	As above, but 10' (extended).	5.10
50MJ74	F	Right angle "Tini-Plug" 2-cond. output, (9/64" dia. finger) to 2-cond. polarized ear receiver plug. Tinsel coiled cord extends to 5'.	3.60
3843	D	Personal Earphone Kit. Consists of dynamic type earphone, earpiece and 5' (extended) coiled cord. Cord has 2-cond. "Tini-Plug" one end to 2-cond. polarized ear receiver other end.	9.35

STEREO EXTENSION CABLES



Two shielded insulated cables (tandem) inside a common grey plastic jacket: provides 2 isolated channels. Molded phono plugs, jacks are color coded for easy channel identification. Ideal in all stereo applications such as tape recorders, record players, etc.

Part No.	Description	U.S.A. List Price
25FF82	2 straight molded phono plugs wired to 2 molded phono jacks. 3' grey stereo cable.	$3.25
25FK82	Same as 25FF82 except 6' cable.	$3.75
25FN82	Same as 25FF82 except 10' cable.	$4.50

STEREO ADAPTER CABLE

Two standard, color coded, molded phono plugs wired to a 3-cond. molded extension phone jack. Ideal for adapting 3 circuit stereo phone plugs, as used on microphones and headsets, to 2 separate phono jack inputs. Completely shielded 4' grey stereo cable.

Switchcraft Part No. 25FH81.....U.S.A. List Price **$3.90**

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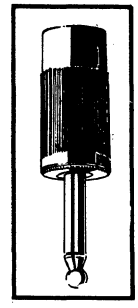
TRIMM INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

PLUGS AND JACKS: General Purpose Audio, Miniature, Adapters

"511" and "513" STANDARD PHONE PLUGS

General purpose. To fit standard 0.250" I.D. jacks. "511" two-conductor plugs have screw terminals and ribbed bakelite or knurled metal shell. The "513" three-conductor plugs use an identical shell, but the terminals are solder lug type only. All metal parts are bright plated brass. Stay cord anchorage is provided.

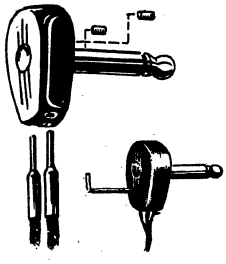


Two-Circuit Type

511	Black plastic shell	$.80
511-1	Red plastic shell	0.80
511-2	Metal one piece shell	1.35
511-3	Metal two piece shell (With cable clamp)	1.85
511-4	Metal stubby shell	1.00
511-5	Metal stubby. Has long tip to sleeve insulator which leaves "ring" spring open when inserted in 3-ckt. jack.	1.25

Three-Circuit Type

513	Black plastic shell	$1.10
513-1	Red plastic shell	1.10
513-2	Metal, one piece shell	1.70
513-3	Metal, two piece shell (With cable clamp)	2.20
513-4	Metal stubby shell	1.45
515	Adapter. Couples Amphenol mike plug to standard jacks.	0.55



"512" FLAT PLUG

Compact, non protruding. Adapts phone pin tips, or any two conductors, to a two-circuit plug. One piece molded phenolic plastic. Fits standard jacks 0.250" I.D.

512	Black	$1.10	512-2	With headset hanger	$1.60
512	Red	1.10			

"514" MIN-A-PLUG

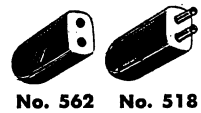
Small size for use with shielded microphone cable. Two conductor types, plastic or metal shell. Shield connection clamp.

TWO CONDUCTOR TYPES (0.250" dia.) SOLDER TERMINALS

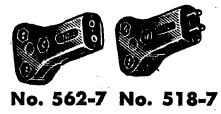
		List			List
514	Black plastic	$0.80	514-2	Shielded	$1.15
514-1	Red plastic	0.80	514-4	Shielded, stubby	0.90

"518" PLUG — "562" JACK

Two circuit miniature disconnect plug and jack. Unshielded. Parallel pin plug locks into jack springs. No. 518 and 562 acetate shells are cemented together. No. 518-7 and 562-7 bakelite shells are held together with screws. No. 518-8 plug set is polarized (one male and one female terminal per plug).



No. 562 No. 518

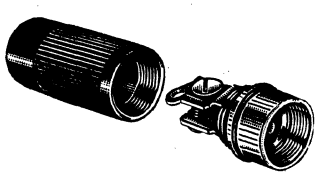


No. 562-7 No. 518-7

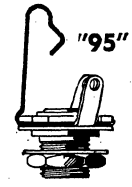
518 Plug $0.80 **518-7** Plug $1.10 **518-8** $1.20
562 Jack 1.00 **562-7** Jack 1.35

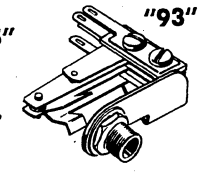
"525" CONNECTOR

Adapts headset cords, or any two wires, to single contact microphone plugs — such as Amphenol 75MC series. Same shell as No. 511.



525	Black Plastic	$1.60
525-1	Red Plastic	1.60
525-2	Shielded one piece shell	2.00
525-3	Shielded, two piece shell (With cable clamp)	2.50
525-4	Shielded stubby shell	1.80





"93" and "95" JACKS

Threaded bushing 3/8" in diameter mounts jack to panel or chassis. Ideal for limited space and depth. The "95" is only 15/16" deep behind panel. The "93" is offset to one side. Nickel silver springs, tinned terminals. Jack circuits described below.

95-01	Open ckt., two conductor	$.45	93-01	$0.70
95-02	Closed ckt., two conductor	0.50	93-02	0.90
95-25	Open ckt., three conductor (0.250" dia. plugs)	0.60	93-06	1.05
			93-07	1.20
95-50	Open ckt., three conductor (0.206" dia. plugs)	0.70	93-25	0.90
			93-26	1.20
			93-27	1.30

TELEPHONE TYPE PLUGS

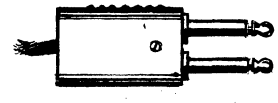
"516" and "517" PLUGS

The three circuit 516 has been the accepted standard for telephone switchboards, instrument systems, and in other communication areas. Supplied on TRIMM 851 series patch cords. Red, black or grey shell which can be attached without removing cord. Interchangeable with WE 310. The three-circuit 517 plugs are identical with 516 types, but with a special tip contour that reduces "clicks" in service.

Net Prices

516	Red	$1.50	517	Red	$1.70	516-10 Red, marked PJ-051	$1.60
516-1	Black	1.50	517	Black	1.70	516-11 Black, marked PJ-051B	1.60

"506" TWIN 3-CKT. PLUG



A broadcast standard now widely used in instrumentation and missile control. Supplied on 840 patch cords. Electrically common plug shafts spaced 5/8" C to C. Self aligning. Bakelite shell notched on one edge to indicate polorization. Interchangeable with WE 241 and MIL PJ-241.

506 Black $2.60 Net
506-1 Red $2.60 Net

"536" - "537" MINIATURE PLUGS

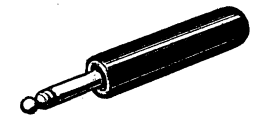
Used with "94" series jacks and "866"-"867" patch cords. Both two-circuit 536 and three-circuit 537 have molded in place insulation and screw terminals. Contact your distributor for miniature line prices.

536 Black
536-1 Red

537 Black
537-1 Red

"500" and "501" (PJ-055) TWO-CIRCUIT PLUGS

The 500 telephone plug — long the two-circuit switchboard standard has been replaced, for the most part, by the slightly shorter 501. The 501 has been widely used on high quality military communication equipment. Commonly referred to as PJ-055. Black or Red plastic shell or nickel plated brass for shielded types.



Net Prices

501	Black	$.72	501-10 Black, marked PJ-055B	$.76
501-1	Red	.72	501-11 Red, marked PJ-055R	.76
501-2	Metal shell	1.00	501-12 Metal, marked PJ-055M	1.00
500	Red	.90	500-10 Red, marked PJ-047R	.95
500-1	Black	.90	500-11 Black, marked PJ-047B	.95

Trade Discount Applies To List Prices Only
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PATCH CORDS, JACK PANELS AND TELEPHONE PLUGS: Audio, Broadcast, Miniature

TRIMM patch cords feature telephone type plugs on cords built to withstand hard use. Two or more conductors of bronze tinsel are covered with numerous layers of insulation and waterproofing. The cords are color coded, shielded (if desired) then covered with a final braid of nylon to assure long service. The nylon is standard black unless a color is specified. Available at a slight extra charge are: Blue (BL), Brown (BR), Green (GR), Red (RD), Slate Gray (GY) and White (WH).

"840" PATCH CORDS

Broadcast type "506" twin plugs at both ends. Conductors are wired to tip and the shield (when used) is connected to the grounded shaft. Commonly supplied with shield attached at one end only. Available without shield (W in code number), or with shield attached at both ends (X in code number). PP indicates the cord has a plug at both ends.

Standard Shielding				"X" Shielding			
840-05-PP	$10.90	840- 4-PP	$11.95	840-05X-PP	$10.90	840- 4X-PP	$11.95
840- 1-PP	11.00	840- 5-PP	12.30	840- 1X-PP	11.00	840- 5X-PP	12.30
840- 2-PP	11.30	840- 6-PP	12.65	840- 2X-PP	11.30	840- 6X-PP	12.65
840- 3-PP	11.60	840-10-PP	14.05	840- 3X-PP	11.60	840-10X-PP	14.05

Without Shield

840-2W-PP $11.25 840-3W-PP $11.50

"841" and "851" SPACESAVERS

841 patch cords use two No. 517 triple circuit plugs of special broadcast design. The unique plug tip contour reduces "clicks" in service. Conductors are wired to tip and ring. Shield (if used) is wired to plug shaft. 851 patch cords use two No. 516 triple circuit plugs with standard ball tip construction. Both types commonly have shield connected at one end only.

841 1-PP	$8.70	841- 6-PP	$10.35	851- 4-PP	$9.45
841-2-PP	9.00	841-10-PP	11.75	851- 5-PP	9.80
841-3-PP	9.30	851- 1-PP	8.50	851- 6-PP	10.15
841-4 PP	9.65	851- 2-PP	8.80	851-10-PP	11.55
841-5-PP	10.00	851- 3-PP	9.10		

"X" Shielding

841-1X-PP $8.70 851-1X-PP $8.50
841-2X-PP 9.00 851-2X-PP 8.80

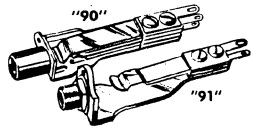
Without Shield

851-2W-PP $8.80
851-3W-PP 9.10

"866" - "867" MINIATURE PATCH CORDS

Two conductor (866) and three conductor (867) patch cords using new miniature "536" and "537" plugs. Have same high quality construction details and optional features as standard patch cords. Same coding. Contact your distributor for miniature line prices.

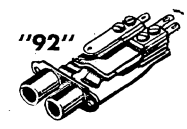
866-1-PP	867-1-PP	866- 5-PP	867- 5-PP
866-2-PP	867-2-PP	866-10-PP	867-10-PP



"90" and "91" JACKS

Commonly known as the telephone jack. The "90" series nickel plated bushing fits a 23/64" dia. mounting hole and the jack is held to the panel with a mounting screw. The "91" series has a 3/8" threaded bushing for mounting and has the standard mounting screw hole in addition. Screws or nuts and washers furnished. Cadmium plated frame, nickel silver springs and tinned terminals.

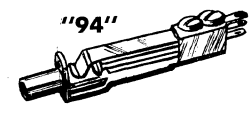
90SN-01	$1.05	90CSN-14B	$2.50	91-01	$1.05	91-09B	$1.50
90SN-02B	1.40	90SN-25	1.45	91-02B	1.20	91-25	1.45
90SN-06B	1.70	90SN-26B	1.75	91-05B	1.40	91-26B	1.60
90SN-07B	1.75	90SN-27B	2.00	91-06B	1.35	91-50	1.60
90SN-08B	1.70	90SN-50	1.60	91-07B	1.50	91-51B	1.75
90SN-09B	1.75	90SN-51B	1.90				



"92" JACKS

Twin jacks on a single frame used in toll and carrier frequency systems. 92-1009B provides **unbalanced** normal through circuitry while 92-1030B provides **balanced** normal through circuitry between jacks. A single plug inserted into either side of the jack opens circuit up to jack for testing up to that point. Brass bushing as in 92-1009B, or nickel plated as in 92N-1009B. G indicates gold contacts.

		Net
92S-1009B	92SN-1009B	$3.00
92S-1009BG	92SN-1009BG	4.20
92S-1030B	92SN-1030B	4.00
92S-1030BG	92SN-1030BG	6.00
92S-25	92SN-25	3.00



"94" MINIATURE JACKS

Uses one half the space of conventional jacks. Fits new 96-700 miniature jack mounting strips. Same high reliability. Cadmium plated steel frame. Molded spring insulation prevents moisture absorption. Welded gold crossbar contacts on nickel silver springs.

94S-01	$1.10	94S-08B	$1.70	94S-26B	$1.70
94S-02B	1.40	94S-25	1.50	94S-27B	1.80
				94S-32B	$2.40

"96" JACK PANELS

5/8" thick bakelite panel with end brackets, side reinforcing strips and designation strips. Complete with jacks mounted and choice of jack circuits. All jacks insulated from each other. Ordinarily supplied with jack ground lug offset (to reduce wiring time). Straight ground lugs are available to duplicate W.E. jacks. Types 96-71 through 96-77 are three circuit types for No. 516 or 517 plugs. Types 96-01 through 96-07 usually used with No. 506 twin plugs although other standard two-circuit plugs will fit.

Code No.	Rows	No. of Jacks	Jack Type	Jack Mounting Strip Type	Width	List
96-01	1	24	90LN-02B	96-21	1¾"	$42.50
96-02	2	48	90LN-02B	96-22	2⅛"	71.25
96-03	2	48	90LN-02B	96-23	3½"	78.00
96-04	2	48	90LN-02B	96-24	3½"	80.00
96-06	1	26	90LN-02B	96-26	1¾"	47.20
96-07	2	52	90LN-02B	96-27	1¾"	78.20
96-71	1	24	90LN-26B	96-21	1¾"	56.00
96-72	2	48	90LN-26B	96-22	2⅛"	93.00
96-74	2	48	90LN-26B	96-24	3½"	101.00
96-76	1	26	90LN-26B	96-26	1¾"	59.50
96-77	2	52	90LN-26B	96-27	1¾"	108.00

"96-700" MINIATURE JACK MOUNTING STRIPS

Bakelite panels 3/8" thick, 1¾" wide. Fits standard 19" panel mountings. One or two rows of mounting holes for the installation of one or two rows of miniature jacks, 48 or 52 jacks per row. Standard designation strip is JP-35. Contact your distributor for miniature line prices.

	Rows	Total Jacks	No. Desig. Strips		Rows	Total Jacks	No. Desig. Strips
96-721-1	1	48	1	96-726	1	52	1
96-721-2	2	96	2	96-727	2	104	2

"96" JACK MOUNTING STRIPS — WITHOUT JACKS

Used as a mounting base where non-standard arrangement of jacks, lamps sockets, turn or push keys, and coaxial jacks are combined on one panel. Suppliesd with end brackets, designation strips and side reinforcing strips mounted. Available in numerous other types than those listed.

Code No.	Rows	Jack Holes per Row	Jack Hole Spacing c. to c.	Width	Designation Strip Qty.	Type	List
96-20	1	12	1⅜	1¾	1	JP-30	$27.00
96-20-1	1	12	5/8 - 2¼ - 5/8	1¾	1	JP-35	27.00
96-21	1	24	5/8 - ¾ - 5/8	1¾	1	JP-30	15.80
96-22	2	24	5/8 - ¾ - 5/8	2⅛	1	JP-30	16.40
96-23	2	24	5/8 - ¾ - 5/8	3½	1	JP-30	22.00
96-24	2	24	5/8 - ¾ - 5/8	3½	2	JP-30	24.00
96-25	2	12	1⅜	3½	2	JP-30	32.00
96-26	1	26	5/8	1¾	1	JP-34	14.00
96-27	2	26	5/8	1¾	2	JP-34	15.00
96-28	2	Upper 24 Lower 12	5/8 - ¾ - 5/8	3½	2	JP-35	33.00
96-31	1	24	5/8 - ¾ - 5/8	1¾	1	JP-38	17.00
96-32	2	24	5/8 - ¾ - 5/8	2⅛	2	JP-33	18.00
96-37	2	24	5/8 - ¾ - 5/8	1¾	2	JP-34	18.00
*96-38	1	32	5/8	1¾	2	JP-31-3	48.00
*96-39	2	32	5/8	1¾	2	JP-31-3	54.00
96-40	4	24	5/8 - ¾ - 5/8	3½	3	Special	54.00

ALUMINUM JACK MTG. STRIPS— LESS JACKS

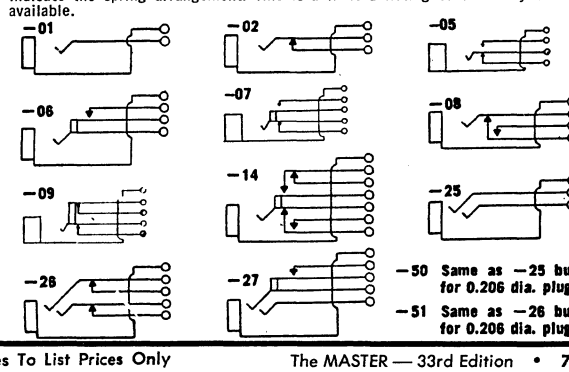
The "99" series features a front aluminum panel 3/16" thick separated from a rear sub-panel 1/8" thick to which the jacks are mounted. Overall thickness of 13/32". Sub-panel forms common ground for jacks. Fits 19" rack. The "99-200" series backs the aluminum front panel with a 1/16" bakelite strip to isolate jacks from each other. Total thickness of 5/8".

Code No.	Rows	Jacks/ Row	Jack Hole Spacing c. to c.	Width	Designation Strip Qty.	Type	Notes	List
99-20	1	12	1⅜"	1¾	1	JP-37		$26.00
99-20-1	1	12	5/8 - 2¼ - 5/8	1¾	1	JP-37		26.00
99-21	1	24	5/8 - ¾ - 5/8	1¾	1	JP-37		27.00
99-22	2	24	5/8 - ¾ - 5/8	2⅛	1	JP-30		34.00
99-22-1	2	24	5/8 - ¾ - 5/8	2⅛	2	JP-33	1	35.50
99-22-2	2	23	5/8 - ¾ - 5/8	2⅛	2	JP-33	2	36.00
99-24	2	24	5/8 - ¾ - 5/8	3½	2	JP-37	1	40.00
99-26	1	26	5/8"	1¾	1	JP-34		27.00
99-27	2	26	5/8"	1¾	2	JP-34	1	36.00

NOTES 1. Designation strip above top, and below bottom row.
2. Designation strip above each row.

JACK CIRCUIT DIAGRAMS

Standardized coding: The jack series number PLUS a DASH NUMBER to indicate the spring arrangement. This is a limited listing of the many circuits available.



-50 Same as -25 but for 0.206 dia. plug.

-51 Same as -26 but for 0.206 dia. plug.

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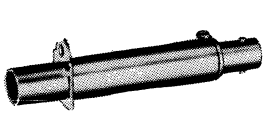
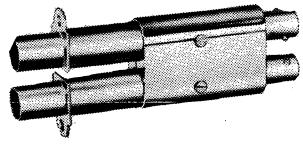
COAXIAL JACKS, PLUGS AND PANELS: Video Patch Cords, Hybrid Audio/Visual





COAXIAL JACKS: "89" SERIES

Developed for a wide range of RF applications including video frequencies, carrier and UHF frequencies. Triple layer plating of silver, palladium and hard gold on female contact assures extremely low contact resistance and long wear.

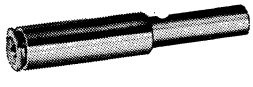
SINGLE JACKS		Net
89-01	RG 58 Cable	$ 6.20
89-02	RG 59 Cable	6.20
89-04	RG 62 Cable	6.20
89-05	RG 11 Cable	6.20
89-06	RG 8, 9 Cable	6.25
89-07	RG 54 (Also fits WE 724, Belden 8281. Jack similar to WE 477B.	6.20
89-08	RG 54 Cable Jack similar to WE 477C	10.00
89-09	RG 2-59. Paralleling 2-RG-59	6.50
89-11	RG 187	$ 6.20
89-12	RG 11, 13	6.50
89-14	Amphenol 2-597	6.20
89-15	Equiv. to WE 470B	5.00
89-31	Female UHF fitting	20.00
89-32	Female BNC fitting	$ 6.80
89-33	Female C fitting	16.00
89-715	(*)	5.25
89-731	(*) Fem. UHF fitting	20.00
89-732	(*) Fem. BNC fitting	6.80
89-733	(*) Fem. C fitting	16.00

(*) RCA Compatible, otherwise WE

TWIN TYPES, Non-Switching		
89-51	RG 58 Cable	13.00
89-52	RG 59 Cable	13.00
89-57	RG 54, WE 724, Belden 8281. Equiv. WE 465C	13.50
89-82S	Single BNC at rear for paralleling	15.00

TWIN TYPES, Switching		
89-132	Double BNC rear	18.00
89-1010	Single BNC plus turret terminal	17.00
89-1011	Double turret terminal at rear	16.50

COAXIAL PLUGS: "530" SERIES



For use with "89" series jacks. Assembled on cords to form "849" series patch cords. Silver and hard gold plated contact pin assures minimum resistance and long wear.

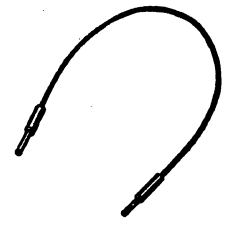
Part No.	Cable	Notes	Net
530-1	RG-58		$4.80
530-2	RG-59		4.80
530-4	RG-62		4.80
530-5	RG-11		5.40
*530-6	RG-54 Belden 8281 / W.E. 724	Equiv. to W.E. 358A	4.00
530-7	RG-8 & 9		5.40
*530-9	RG-59	Similar to W.E. 337C	15.00
530-10	RG-55		5.40
*530-15	RG-58 & 59		4.20
530-15RG-58			4.80
530-16RG-59			4.80
*530-32A	N/A	Mates with male BNC connection at rear end	6.00
†530-701	RG-58		4.80
†530-702	RG-59		4.80
†530-705	RG-11 & 13		5.40

†Compatible with RCA; other types W.E.

COAXIAL BRIDGING PLUG: "531"

A twin coaxial plug (sometimes called a looping plug). Internally wired to connect two adjacent coaxial jacks spaced 5/8" C to C. Two plugs essentially similar to "530" series mounted in a plastic handle-like shell.

Part No.	Imp.	Notes	Net	Part No.	Imp.	Net
531-1	52 ohm	Compatible	$6.80	531-702	75 ohm	$6.80
531-2	75 ohm	with and	6.80	531-7	75 ohm	29.00
531-3	90 ohm	Equiv. to	6.80	531-707	75 ohm	29.00
531-701	50 ohm	W.E. 477B	6.80			



COAXIAL PATCH CORDS: "849"

The following cords use two, 530-2 (for WE), or two 530-702 (for RCA), plugs and RG59B/U cable 75 ohm).

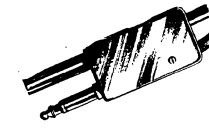
W.E.	Net	RCA	Net
849-05X-PPG	$ 9.60	849-1X-700PPG	$ 9.60
849-1X-PPG	9.60	849-105X-700PPG	9.60
849-105X-PPG	9.60	849-2X-700PPG	9.80
849-2X-PPG	9.80	849-3X-700PPG	10.00
849-3X-PPG	10.00		
849-4X-PPG	10.20		

The following cords, as above, but with RG-58C/U cable (50 ohm).

W.E.	Net	RCA	Net
84-1X58-PPG	$ 9.60	849-1X58-700PPG	$ 9.60
849-105X58-PPG	9.60	849-105X58-700PPG	9.60
849-2X58-PPG	9.80	849-2X58-700PPG	10.20
849-3X58-PPG	10.00	849-3X58-700PPG	10.00

HYBRID PATCH CORDS: "869" SERIES

Audio and Video patch cord. Twin plug contains a coax and a three-circuit telephone plug. On 5/8" centers. Will fit combination panels with "89" series coaxial jacks and "90" series telephone jacks. 75 ohm cable on section (RG-187) and audio is carried by two additional conductors with shield overall (but not common to coax shield).



	Net
869-1X-PPG	$30.00
869-105X-PPG	30.00
869-2X-PPG	30.00

COAXIAL JACK PANEL ASSEMBLIES

The "89" series coaxial jacks can be mounted on the "96" or "99" series strips in almost any specified configuration. Listed below are some of the more standard types already produced. Consult factory for information regarding price or your special requirements.

W.E.	RCA	Qty/Row	Rows	Jack Type	Jack Mtg. Strip
99-80		12	1	89-32	99-20
	99-780	12	1	89-732	99-20
98-84		24	2	89-02	96-24
	96-784	24	2	89-702	96-24
*96-94-2		24	2	89-02	96-524-2
	*96-794-2	24	2	89-702	96-524-2
96-85		12	2	89-02	96-25
	96-785	12	2	89-702	96-25
*96-95-2		12	2	89-02	96-525-2
	*96-795-2	12	2	89-702	96-525-2
*96-98-2		Top 24 / Bottom 12	2	89-02	96-528-2
	*96-798-2	Top 24 / Bottom 12	2	89-702	96-528-2

*Denotes sub-chassis with 24 UHF connectors.

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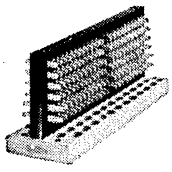
TRIMM INC.

A SELECTED LISTING FROM OVER 2500 TRIMM-MANUFACTURED COMPONENTS.

TERMINAL BLOCKS, TURN AND PUSH KEYS, LAMP SOCKETS: Related Panel Equipment



TERMINAL BLOCKS

Originally developed for telephone and telegraph exchange use, now are quite generally found in broadcast and microwave relay stations, large instrument systems —wherever very large numbers of circuits need convenient places of termination.

Terminals are of three basic types: standard solder types, wire wrap type, and hybrid wire wrap on one side, solder on the other. All are of 0.040" brass, tinlate plated. Standard solder type available in four different lengths with "butterfly" notched design assuring retention of wire. All blocks having numbering along the top row. Costs as shown are for standard solder lugs.

"421 SERIES"

Molded of black phenolic plastic material, including base. Provides 20 terminals per row, in two banks of ten, with up to ten rows. Base 6 1/16" long x 3" wide. Has steel mounting strip inset in groove in base, with standard mounting dimensions and accommodating #10-32 screws. Interchange with W.E. "L" series, as indicated by ( ) following TRIMM no.

Code No.	No. Rows	No. Term	Base
421C-1	1	20	$ 4.00
421C-2	2	40	5.00
421C-3 (L34)	3	60	6.00
421C-4 (L4A)	4	80	7.00
421C-5 (L5A)	5	100	8.00
421C-6 (L6A)	6	120	9.00
421C-7	7	140	10.00
421C-8 (L8A)	8	160	11.00
421C-9	9	180	12.30
421C-10	10	200	13.60

"427" SERIES

Molded of black phenolic plastic material, including base. Provides 26 terminals per row in two banks of 13. Base 8" x 2 5/8" wide. Fits Cook Elec. frames.

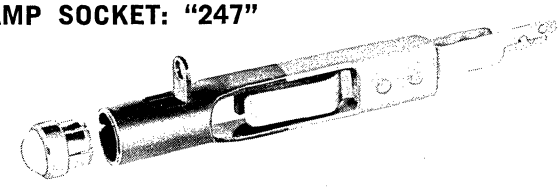
Code No.	No. Rows	No. Term.	Base
427B-1	1	26	$ 4.40
427B-2	2	52	5.40
427B-3	3	78	6.40
427B-4	4	104	7.40
427B-5	5	130	8.40
427B-6	6	156	9.60
427B-7	7	182	10.80
427B-8	8	208	11.80
427B-9	9	234	12.90
427B-10	10	260	14.00
427B-11	11	286	15.00
427B-12	12	312	16.00

OTHER SERIES

Summarized below are terminal arrangements and base dimensions for other types. All bases 5/8" thick phenolic. Available in 1 to 14 rows. Write for additional information.

Series	Term. per Row	Base Dimensions	Notes
421A	20	6 7/16" x 2 5/8"	Eq. to W.E. "M" type.
427D	26	8" x 3 9/16"	

LAMP SOCKET: "247"



Switchboard type lamp socket; intended for use with standard No. 2 switchboard lamps, and to be assembled on to standard 5/8" thick jack mounting strips with 29/64" dia. jack bushing holes. Has lug for #6-32 mounting screw 3/8" off center line. May be mounted 5/8" c. to c. horizontally.

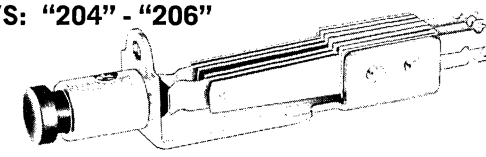
Frame, one piece steel construction. Springs nickel silver insulated from frame and each other with XXXP phenolic laminated spacers. Lamp mounts close to lens of lamp cap, giving maximum illumination.

247	Lamp Socket	47B	.80

"240" GLASS LAMP CAP

		W.E.EQ.	Base
240-AY	Lamp Cap White Opalescent	2-AY	0.24
240-H	Lamp Cap Red Opalescent	2-H	0.24
240-L	Lamp Cap Green Opalescent	2-L	0.24
240-U	Lamp Cap Amber	2-U	0.24
240-W	Lamp Cap Blue	2-W	0.24

PUSH KEYS: "204" - "206"



Long frame push button type key very similar to turn keys. The usual applications for push button type keys are as an impulse switch for relays, or motor starters; buzzer signals, test circuits requiring momentary contact, etc. Mounting, dimensional and contact data, similar to turn keys. Available in non-locking and locking forms. Knob of black plastic material with depressed dimple for finger.

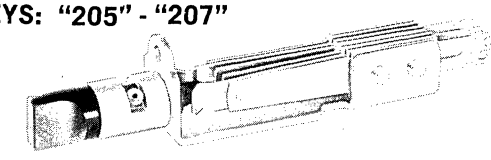
LOCKING TYPE, "204"

Part No.	Base	Part No.	Base
204-1A	$2.10	204-2A	$2.50

NON-LOCKING TYPE, "206"

Part. No.	Base	Part No.	Base
206-1A	$2.10	206-2A	$2.50
206-1B	2.10	206-2B	2.50
206-1C	2.30	206-2C	3.00
206-1D	2.30	206-3C	3.50
		206-4A	3.50

TURN KEYS: "205" - "207"



Long frame rotating cam type keys or switches. Intended to be assembled on to standard 5/8" thick jack mounting strips having 29/64" dia. jack bushing holes. Hole for #6-32 screw 3/8" off center provided. Entirely interchangeable with telephone type jacks, and essentially similar to W.E. "552" series. See table below for cross reference.

Knob of molded black nylon, has two flat areas on each side to provide convenience in turning. White filled line on front of knob readily identifies in which of two positions key has been turned.
Requires 2 23/32" depth behind panel.

LOCKING TYPE, "205"

Part No.	Base	Part No.	Base	Part No.	Base	Part No.	Base
205-1A	$2.10	205-2A	$2.50	205-3A	$3.00	205-2A2B	$3.10
205-1B	2.10	205-2B	2.50	205-3C	3.50	205-1A2C	3.30
205-1C	2.30	205-2C	3.00	205-4A	3.50	205-1000	3.50
205-1D	2.30	205-2D	3.10	205-4C	4.10	205-1001	3.80

NON-LOCKING TYPE, "207"

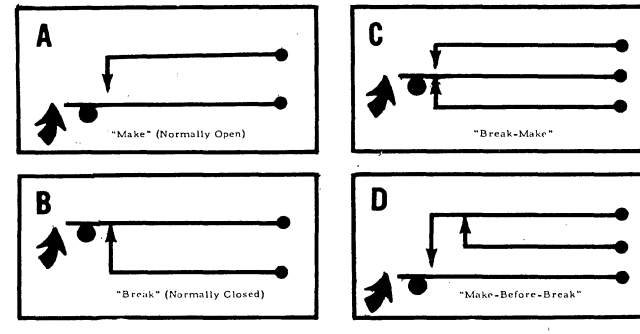
Part-No.	Base	Part No.	Base	Part No.	Base
207-1A	$2.10	207-1B	$2.10	207-2C	$3.00

CROSS REFERENCE W.E. to TRIMM

TRIMM Code	W.E. Type	TRIMM Code	W.E. Type
205-2C	552A	205-1000	552E
205-3A	552B	205-1D	552G
205-1001	552C	205-2C1A	552H
205-2B 2C	552D		

SWITCH DIAGRAMS

Basic switching for Turn Keys and Push Keys is described by these diagrams. Other combinations are available. Coding: The series number of the switch followed by a dash number. 205-4C is then a locking type Turn Key with a stacking of four 'C' switches.



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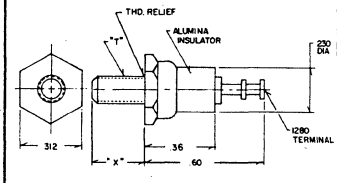
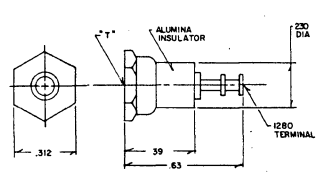
INSULATED TERMINALS • Hi-Alumina



PART NO.	"X"	"T"	PART NO.	"X"	"T"
1460 A	3/16	6-32	1460 H	3/8	4-40
1460 B	1/4	6-32			

VOLTAGE BREAKDOWN; 3000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS.

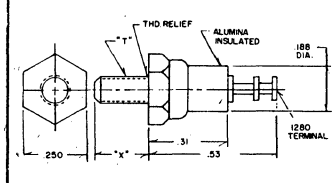
Part No. 1460



PART NO.	"T"
1461	6-32
1461 A	4-40

THREAD DEPTH, 3 THREADS MIN.
VOLTAGE BREAKDOWN; 3000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

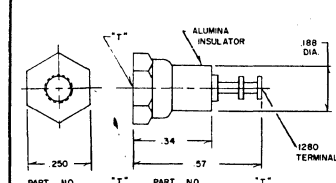
Part No. 1461



PART NO.	"X"	"T"	PART NO.	"X"	"T"
1440 A	.188	6-32	1440 E	.188	4-40
1440 B	.250	6-32			
1440 C	.312	6-32			

VOLTAGE BREAKDOWN; 1500 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

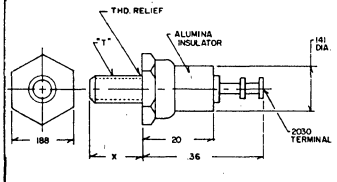
Part No. 1440



PART NO.	"T"	PART NO.	"T"
1441 A	2-56	1441 B	4-40

THREAD DEPTH, 3 THREADS MIN.
VOLTAGE BREAKDOWN; 1500 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

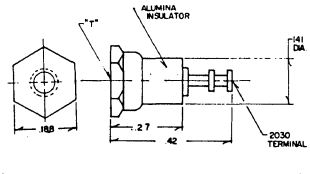
Part No. 1441



PART NO.	"X"	"T"	PART NO.	"X"	"T"
1480 A	1/8	2-56	1480 C	1/8	4-40
1480 B	7/32	2-56	1480 D	7/32	4-40

VOLTAGE BREAKDOWN; 1000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

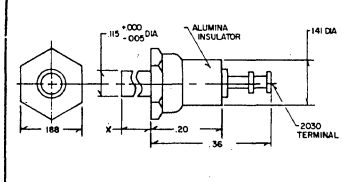
Part No. 1480



PART NO.	"T"
1481 A	4-40
1481 B	2-56

THREAD DEPTH, 3 THREADS MIN.
VOLTAGE BREAKDOWN; 1000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

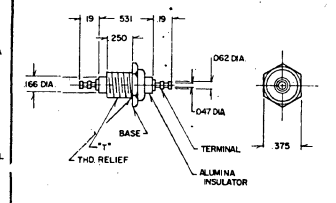
Part No. 1481



PART NO.	X	BD THICK
1482 A	.054	031
1482 B	.094	.062

VOLTAGE BREAKDOWN; 1000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

Part No. 1482

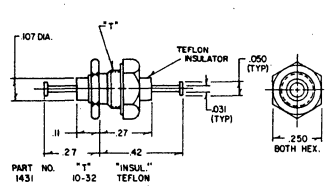


PART NO.	"T"
1483	1/4-28

FOR USE WITH .188 (MAX) THICK MTG. BOARD
MOUNTING HARDWARE FURNISHED WITH UNIT
VOLTAGE BREAKDOWN; 2500 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

Part No. 1483

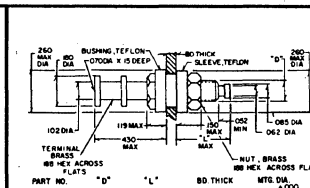
INSULATED TERMINALS • Teflon



PART NO.	"T"	"INSUL."
1431	10-32	TEFLON

VOLTAGE BREAKDOWN; 2500 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS
FOR USE WITH .094 (MAX) THICK MTG BOARD

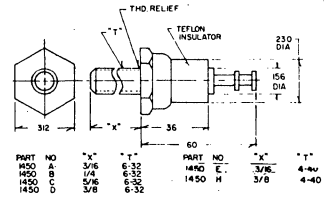
Part No. 1431



PART NO.	"D"	"L"	BD THICK	MTG. DIA.
1432	5-40 THD.	.348	.062	.195 +.000 -.004

VOLTAGE BREAKDOWN; 1500 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

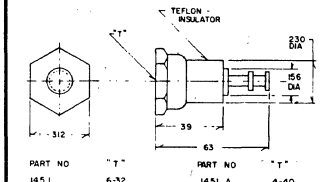
Part No. 1432



PART NO.	"X"	"T"	PART NO.	"X"	"T"
1450 A	3/16	6-32	1450 E	3/16	4-40
1450 B	1/4	6-32	1450 H	3/8	4-40
1450 C	5/16	6-32			
1450 D	3/8	6-32			

VOLTAGE BREAKDOWN; 5000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

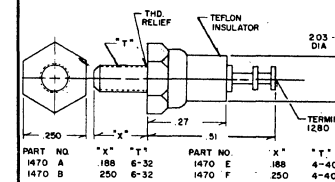
Part No. 1450



PART NO.	"T"	PART NO.	"T"
1451	6-32	1451 A	4-40

THREAD DEPTH, 3 THREADS MIN.
VOLTAGE BREAKDOWN; 5000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

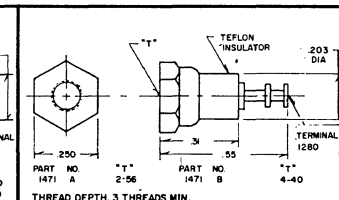
Part No. 1451



PART NO.	"X"	"T"	PART NO.	"X"	"T"
1470 A	.188	6-32	1470 E	.188	4-40
1470 B	250	6-32	1470 F	.250	4-40

VOLTAGE BREAKDOWN; 2500 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

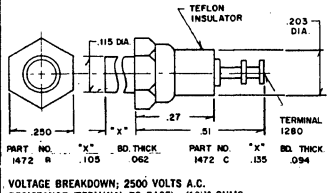
Part No. 1470



PART NO.	"T"	PART NO.	"T"
1471 A	2-56	1471 B	4-40

THREAD DEPTH, 3 THREADS MIN.
VOLTAGE BREAKDOWN; 2500 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

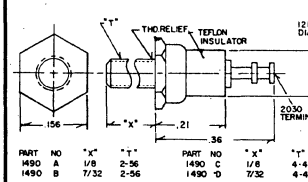
Part No. 1471



PART NO.	"X"	BD. THICK	PART NO.	"X"	BD. THICK
1472 A	.105	.062	1472 C	.135	.094

VOLTAGE BREAKDOWN; 2500 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

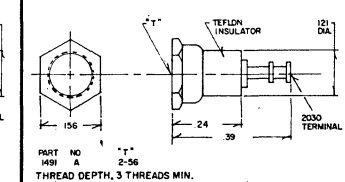
Part No. 1472



PART NO.	"X"	"T"	PART NO.	"X"	"T"
1490 A	1/8	2-56	1490 C	1/8	4-40
1490 B	7/32	2-56	1490 D	7/32	4-40

VOLTAGE BREAKDOWN; 2000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

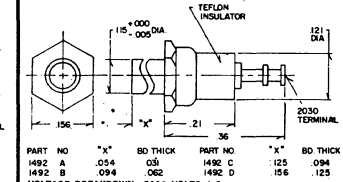
Part No. 1490



PART NO.	"T"
1491 A	2-56

THREAD DEPTH, 3 THREADS MIN.
VOLTAGE BREAKDOWN; 2000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

Part No. 1491



PART NO.	"X"	BD THICK	PART NO.	"X"	BD. THICK
1492 A	.054	031	1492 C	.125	.094
1492 B	.094	.062	1492 D	.156	.125

VOLTAGE BREAKDOWN; 2000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

Part No. 1492

Plating: Terminal, 0.000010/0.000020 gold over 0.00030/0.00050 silver; Base, 0.00030/0.00050 cadmium
Tolerance: .XXX ± .010; .XX ± .016 before plating

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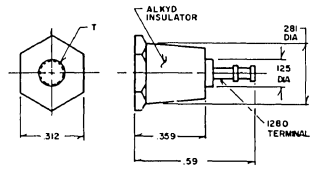
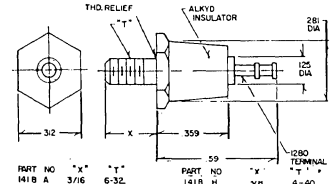
INSULATED TERMINALS • Alkyd



PART NO	T	PART NO	T
1417	6-32	1417A	4-40

VOLTAGE BREAKDOWN, 6000 VOLTS A.C
THREAD DEPTH, 3 THREADS MIN.

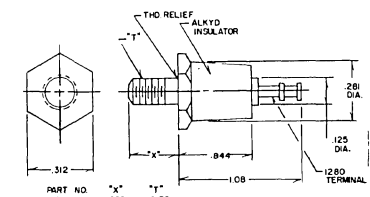
Part No. 1417



PART NO	"X"	"T"	PART NO	"X"	"T"
1418 B	3/16	6-32	1418 H	5/8	4-40
1418 B	1/4	6-32			
1418 C	5/16	6-32			
1418 D	3/8	6-32			

VOLTAGE BREAKDOWN; 6000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

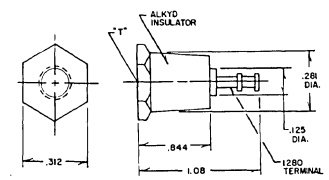
Part No. 1418



PART NO.	"X"	"T"
1421	250	6-32

VOLTAGE BREAKDOWN; 10000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

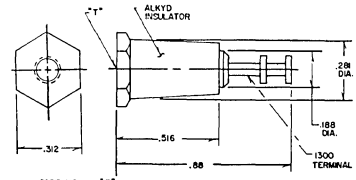
Part No. 1421



PART NO	"T"
1422	6-32

VOLTAGE BREAKDOWN; 11,000 VOLTS A.C.
THREAD DEPTH, 3 THREADS MIN.

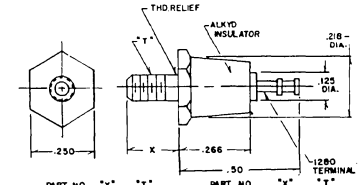
Part No. 1422



PART NO.	"T"
1423	6-32

VOLTAGE BREAKDOWN; 9000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

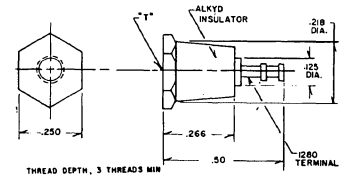
Part No. 1423



PART NO.	"X"	"T"	PART NO.	"X"	"T"
1409 A	3/16	6-32	1409 E	3/16	4-40
1409 B	1/4	6-32	1409 F	1/4	4-40
1409 C	5/16	6-32			
1409 D	3/8	6-32			

VOLTAGE BREAKDOWN; 6000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

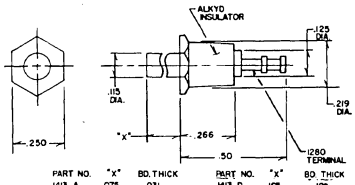
Part No. 1409



PART NO.	"T"	PART NO.	"T"
1411 A	6-32	1411 B	4-40

VOLTAGE BREAKDOWN; 6000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

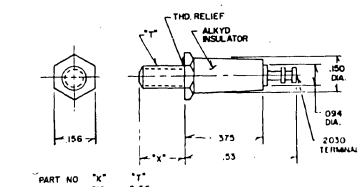
Part No. 1411



PART NO.	"X"	BD. THICK	PART NO.	"X"	BD. THICK
1413 A	.075	.031	1413 D	.165	.125
1413 B	.105	.062			

VOLTAGE BREAKDOWN; 5000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

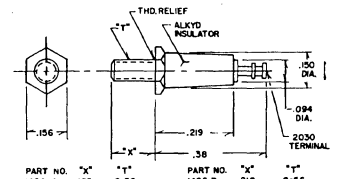
Part No. 1413



PART NO	"X"	"T"
1425	.218	2-56

VOLTAGE BREAKDOWN; 6000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

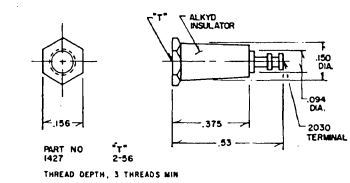
Part No. 1425



PART NO.	"X"	"T"	PART NO.	"X"	"T"
1426 A	.125	2-56	1426 B	.218	2-56

VOLTAGE BREAKDOWN; 6000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

Part No. 1426

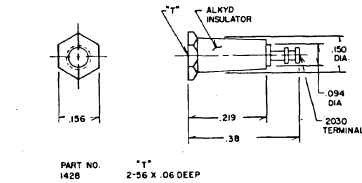


PART NO	"T"
1427	2-56

THREAD DEPTH, 3 THREADS MIN

VOLTAGE BREAKDOWN; 6000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

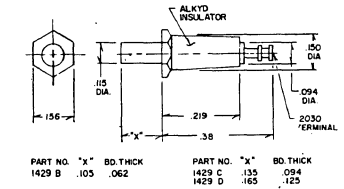
Part No. 1427



PART NO.	"T"
1428	2-56 X .06 DEEP

VOLTAGE BREAKDOWN; 6000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS
THREAD DEPTH, 3 THREADS MIN.

Part No. 1428

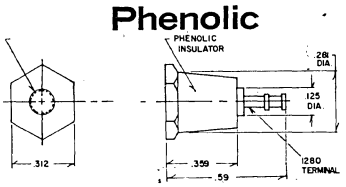


PART NO.	"X"	BD. THICK	PART NO.	"X"	BD. THICK
1429 B	.105	.062	1429 C	.135	.094
			1429 D	.165	.125

VOLTAGE BREAKDOWN; 6000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

Part No. 1429

Phenolic

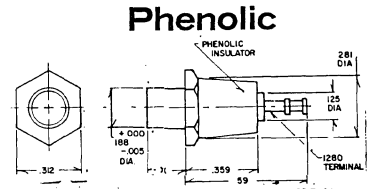


PART NO.	"T"	PART NO.	"T"
1401	6-32	1401 A	4-40

VOLTAGE BREAKDOWN; 6000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS
THREAD DEPTH, 3 THREADS MIN.

Part No. 1401

Phenolic

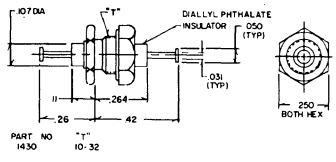


PART NO	X	BD THICK	PART NO	X	BD THICK
1410 A	.054	.031	1410 D	.156	125

VOLTAGE BREAKDOWN; 6000 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE) $(10)^{12}$ OHMS

Part No. 1410

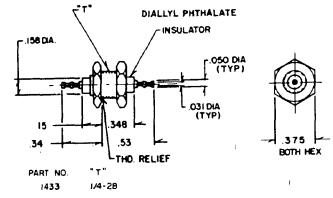
INSULATED TERMINALS • Diallyl Phthalate



PART NO	"T"
1430	10-32

VOLTAGE BREAKDOWN; 2500 VOLTS A.C.
RESISTANCE (TERMINAL TO BASE), $2(10^{11})$ OHMS
FOR USE WITH .094 (MAX) THICK MTG. BOARD

Part No. 1430



PART NO.	"T"
1433	1/4-28

VOLTAGE BREAKDOWN; 4000 VOLTS A.C.
FOR USE WITH .188 (MAX) THICK MTG. BOARD
RESISTANCE (TERMINAL TO BASE), 10^{12} OHMS

Part No. 1433

Plating: Terminal, 0.000010/0.000020 gold over 0.00030/0.00050 silver; Base, 0.00030/0.00050 cadmium
Tolerance: .XXX ± .010; .XX ± .016 before plating

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STANDARDIZED ELECTRONIC HARDWARE
LITTON INDUSTRIES/USECO DIVISION

INSULATED TERMINALS • MIL-T-55155

MIL-T-55155

Configurations, materials, platings and specifications conform to requirements of MIL-T-55155.

SPECIFICATIONS

Terminals

Material: Brass, ½ hard, composition 22, per QQ-B-626

Finish: Standard —4 (0.0005 Solder Plate) Optional at additional cost —10 (0.00003 gold)

Bases

Material: Brass ½ hard, composition 22, per QQ-B-626

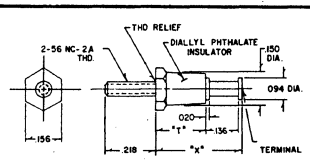
Finish: Standard —11.2 (0.0003 Cadmium with iridescent yellow coating)

Insulating Materials

TEFLON per MIL-M-14077

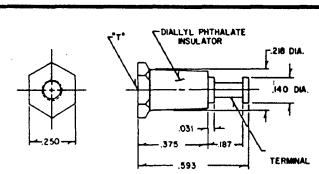
HI-ALUMINA per MIL-I-10

DIALLYL PHTHALATE per MIL-M-14F Type SDG-F



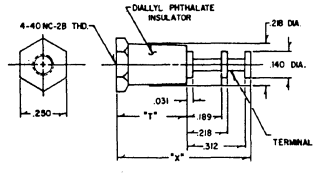
PART NO.	"T"	"X"
4550 A	.219	.375
4550 B	.375	.532

MIL-T-55155/18-1 & -2 USECO Part No. 4550



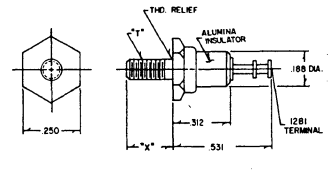
PART NO.	"T"
4551	4-40

MIL-T-55155/19-1 USECO Part No. 4551



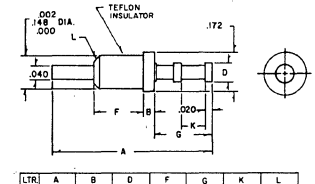
PART NO.	"T"	"X"
4552 A	.375	.718
4552 B	.594	.937

MIL-T-55155/20-1 & -2 USECO Part No. 4552



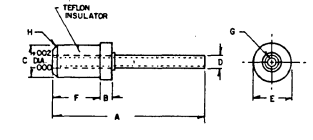
PART NO.	"X"	"T"
4553 A	.250	4-40
4553 B	.375	4-40

MIL-T-55155/21-1 & -2 USECO Part No. 4553



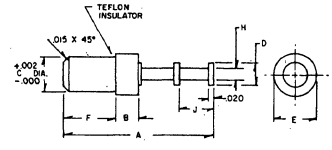
LTR	A	B	D	F	G	K	L
A	.500	.040	.080	.100	.210	.100	.015 X 45°
B	.836	.125	.093	.230	.250	.093	1/32 X 45°

MIL-T-55155/4-1 & -2 USECO Part No. 4500



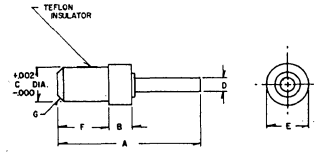
LTR	A	B	C	D	E	F	G	H
A	.225	.040	.093	.040	.125	.060	.030	.010 X 45°

MIL-T-55155/21-1 & -2 -3 USECO Part No. 4502



LTR	A	B	C	D	E	F	H	J
A	.359	.040	.148	.080	.172	.110	.040	.120
B	.421	.125	.165	.093	.187	.150	.045	.068

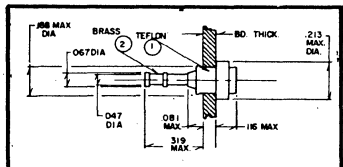
MIL-T-55155/7-1 & -2 USECO Part No. 4504



LTR	A	B	C	D	E	F	G
A	.350	.040	.148	.040	.172	.100	.015 X 45°

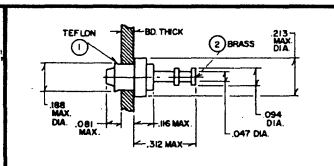
MIL-T-55155/8-1 USECO Part No. 4505

LOC-FIT® TERMINALS



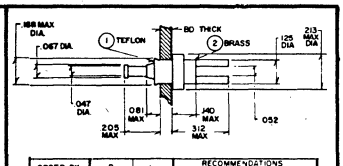
ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4430 B			.062	.142	4430	
4430 D		.125				

Part No. 4430



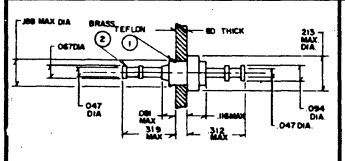
ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4440 A			.031	.142	4440	
4440 B			.062			
4440 C			.094			

Part No. 4440



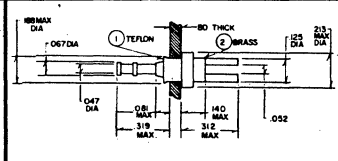
ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4444 B			.062	.142	4444	
4444 C			.094			

Part No. 4444



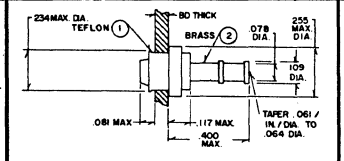
ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4442 A			.031	.142	4442	
4442 B			.062			
4442 C			.094			

Part No. 4442



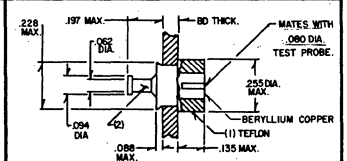
ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4445 B			.062	.142	4445	

Part No. 4445



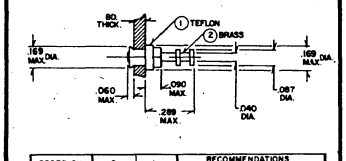
ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4447 B			.062	.188	4447	
4447 C			.094			

Part No. 4447



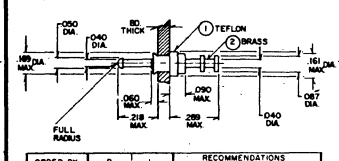
ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4451 C			.094	.189	4451	
4451 D			.125			

Part No. 4451



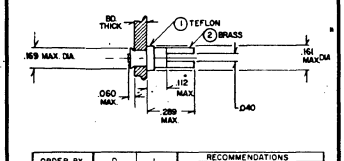
ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4482 A			.031	.126	4482	
4482 B			.062			

Part No. 4482



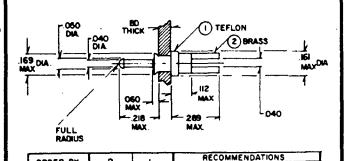
ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4487 A			.031	.126	4487	
4487 B			.062			

Part No. 4487



ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4484 A			.031	.126	4484	
4484 B			.062			

Part No. 4484



ORDER BY PART NO.	D NOM.	L NOM.	RECOMMENDATIONS BD. THICK	MTG. HOLE +.003 -.001 DIA.	SWAGE TOOL	SWAGE PRESS
4489 A			.031	.126	4489	
4489 B			.062			

Part No. 4489

Loc Fit Specifications — Plating: 0.000010/0.000020 gold over 0.00030/0.00050 silver
Tolerance: .XXX ± .010· .XX ± .016 before plating

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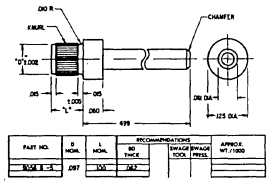
STANDARDIZED ELECTRONIC HARDWARE
LITTON INDUSTRIES/USECO DIVISION

SELF-PUNCHING COMPONENTS

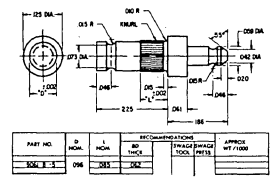
Miniature



PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	SWAGE TOOL	SWAGE PRESS	APPROX WT /1000
9056 B-5	.097	.105	.062			

Part No. 9056

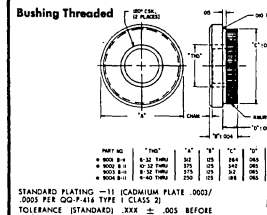
Miniature



PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	SWAGE TOOL	SWAGE PRESS	APPROX WT /1000
9061 B-5	.096	.085	.062			

Part No. 9061

Bushing Threaded

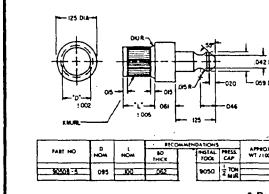


PART NO.	"THD"	"A"	"B"	"C"	"D"	BD THK
* 9001 B-5	8-32 THRU	.312	.125	.284	.045	.062
* 9002 B-5	10-32 THRU	.375	.125	.342	.045	.062
9003 B-5	8-32 THRU	.375	.125	.342	.085	.062
* 9004 B-5	1/4-40 THRU	.250	.125	.188	.045	.062

STANDARD PLATING —11 (CADMIUM PLATE .0003/.0005 PER QQ-P-416 TYPE I CLASS 2)
TOLERANCE (STANDARD) .XXX ± .005 BEFORE PLATING.

Part No. 9001 Thru 9004

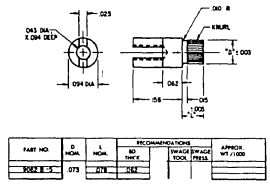
Miniature



PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	INSTAL TOOL	PRESS CAP	APPROX WT /1000
9050 B-5	.095	.100	.062	9050	3 TON MIN	

* Part No. 9050

Sub-Miniature

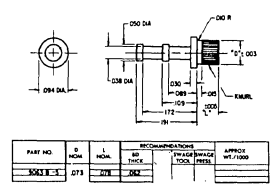


PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	SWAGE TOOL	SWAGE PRESS	APPROX WT /1000
9062 B-5	.073	.078	.062			

REFERENCE USECO 2000 SERIES

Part No. 9062

Sub-Miniature

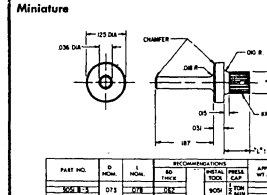


PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	SWAGE TOOL	SWAGE PRESS	APPROX WT /1000
9063 B-5	.073	.078	.062			

REFERENCE USECO 2520 SERIES

Part No. 9063

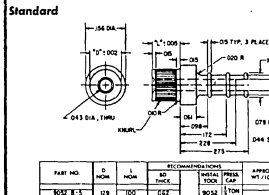
Miniature



PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	INSTAL TOOL	PRESS CAP	APPROX WT /1000
9051 B-5	.073	.078	.062	9051	3 TON MIN	

* Part No. 9051

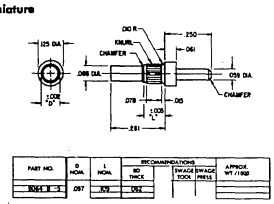
Standard



PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	INSTAL TOOL	PRESS CAP	APPROX WT /1000
9052 B-5	.129	.100	.062	9052	3 TON MIN	

* Part No. 9052

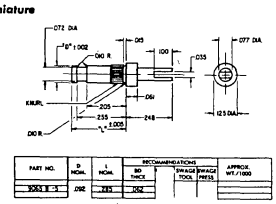
Miniature



PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	SWAGE TOOL	SWAGE PRESS	APPROX WT /1000
9064 B-5	.097	.078	.062			

Part No. 9064

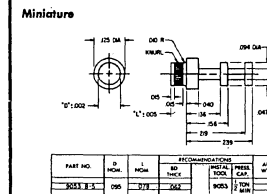
Miniature



PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	SWAGE TOOL	SWAGE PRESS	APPROX WT /1000
9065 B-5	.092	.215	.062			

Part No. 9065

Miniature

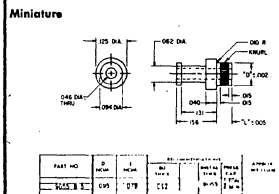


PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	INSTAL TOOL	PRESS CAP	APPROX WT /1000
9053 B-5	.095	.078	.062	9053	3 TON MIN	

REFERENCE USECO 1280 SERIES

Part No. 9053

Miniature



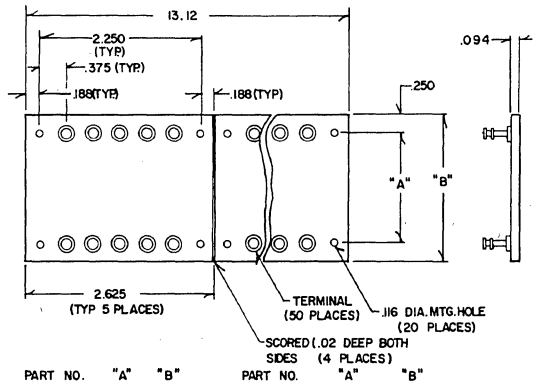
PART NO.	D NOM.	L NOM.	RECOMMENDATIONS: BD THICK	INSTAL TOOL	PRESS CAP	APPROX WT /1000
9055 B-5	.095	.078	.062			

REFERENCE USECO 2010 SERIES

Part No. 9055

SPECIFICATIONS COMMON TO PARTS ON THIS PAGE EXCEPT AS NOTED.
STANDARD PLATING —5
MATERIAL BRASS ½ HARD COMP. 22 PER QQ-B-626
TOLERANCE (STANDARD) .XXX ± .010 BEFORE PLATING. *INCLUDED IN #9000 KIT

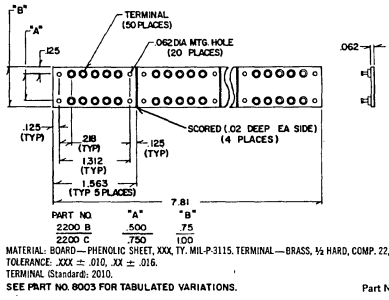
TERMINAL BOARDS



PART NO.	"A"	"B"	PART NO.	"A"	"B"
1100 A	1.000	1.50	1100 B	1.500	2.00
1100 C	2.000	2.50	1100 D	2.500	3.00

MATERIAL: BOARD—PHENOLIC SHEET, XXX, TY. MIL-P-3115. TERMINAL—BRASS, ½ HARD, COMP. 22, QQ-B-626.
TOLERANCE: .XXX ± .010, .XX ± .016.
TERMINAL (STANDARD): 1300.

Part No. 1100

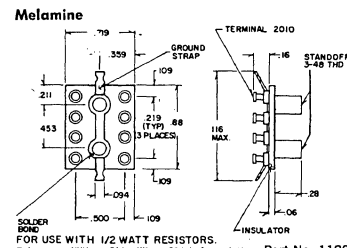


PART NO.	"A"	"B"
2200 B	.500	.75
2200 C	.750	1.00

MATERIAL: BOARD—PHENOLIC SHEET, XXX, TY. MIL-P-3115. TERMINAL—BRASS, ½ HARD, COMP. 22, QQ-B-626.
TOLERANCE: .XXX ± .010, .XX ± .016.
TERMINAL (Standard): 2010.
SEE PART NO. 8003 FOR TABULATED VARIATIONS.

Part No. 2200

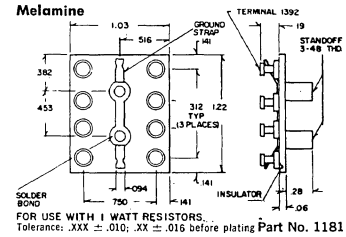
Melamine



FOR USE WITH 1/2 WATT RESISTORS.
Tolerance: .XXX ± .010; .XX ± .016 before plating

Part No. 1180

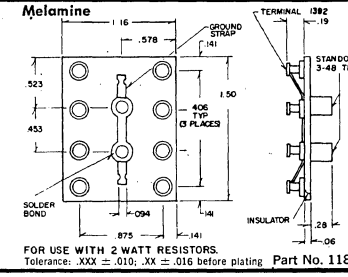
Melamine



FOR USE WITH 1 WATT RESISTORS.
Tolerance: .XXX ± .010; .XX ± .016 before plating

Part No. 1181

Melamine



FOR USE WITH 2 WATT RESISTORS.
Tolerance: .XXX ± .010; .XX ± .016 before plating

Part No. 1182

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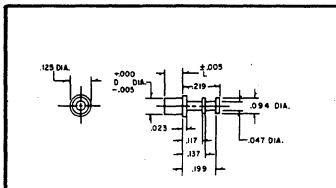
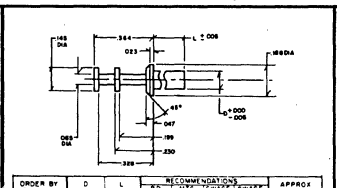
STANDARDIZED ELECTRONIC HARDWARE
LITTON INDUSTRIES/USECO DIVISION

TERMINALS



ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
1281 A	.090 DIA.	.078	.031	+.003 -.001	1281	500 LBS	8 OZ
1281 B		.109	.062				
1281 C		.140	.094				
1281 D		.171	.125				

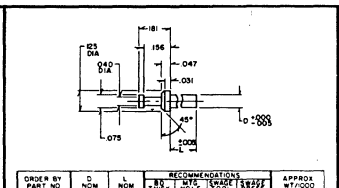
Part No. 1281



ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
1300 A	.114 DIA 6-40 THD	.078	.031	+.003 -.001	1300	800 LBS	1 LB 10 OZ
1300 B		.109	.062				
1300 C		.140	.094				
1300 D		.203	.156				
1300 T		.188	.156				1 LB 8 OZ

1300T SUPPLIED WITH .188 HEX. ACROSS FLATS, AND THREAD RELIEF.

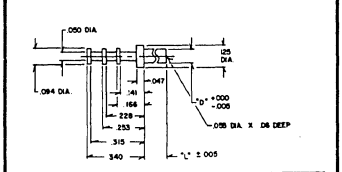
Part No. 1300



ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
1340 A	.078 DIA	.078	.031	+.003 -.001	1340	800 LBS.	1 LB
1340 B		.109	.062				
1340 C		.140	.094				
1340 D	2-56 THD	.203	.156				7 OZ
1340 T		.328	.281				

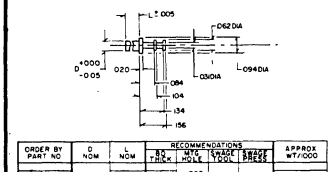
1340T SUPPLIED WITH .125 HEX. ACROSS FLATS, AND THREAD RELIEF.

Part No. 1340



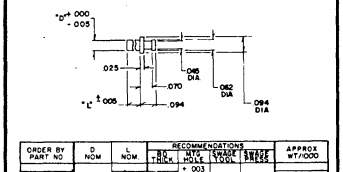
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2035 A	.089 DIA.	.078	.031	+.003 -.001	2035	500 LBS	10 OZ
2035 B		.109	.062				
2035 C		.140	.094				
2035 D		.165	.125				

Part No. 2035



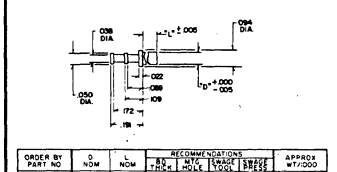
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2030 A	.062 DIA	.053	.031	+.003 -.001	2030	300 LBS.	2 OZ
2030 B		.084	.062				
2030 C		.115	.094				
2030 D		.147	.125				

Part No. 2030



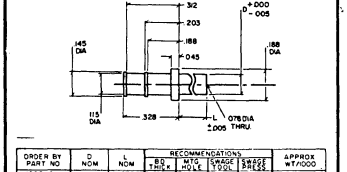
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2060 A	.063 DIA	.053	.031	+.003 -.001	2060	300 LBS	2 OZ
2060 B		.084	.062				
2060 C		.115	.094				

Part No. 2060



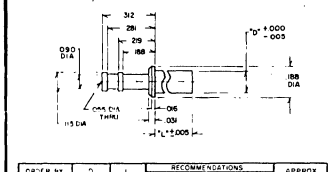
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2520 A	.073DIA	.053	.031	+.003 -.001	2520	400 LBS.	3 OZ
2520 B		.084	.062				
2520 C		.115	.094				
2520 D		.147	.125				

Part No. 2520



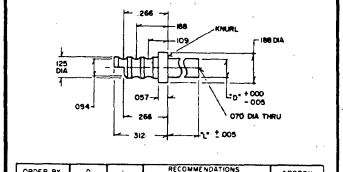
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
1200 A	.114 DIA	.075	.031	+.003 -.001	1200	800 LBS	1 LB 1 OZ
1200 B		.105	.062				
1200 C		.135	.094				
1200 D		.165	.125				

Part No. 1200



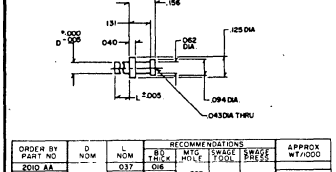
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
1330 B	.135 DIA	.105	.062	+.003 -.001	1330	800 LBS	1 LB
1330 C		.135	.094				
1330 D		.165	.125				

Part No. 1330



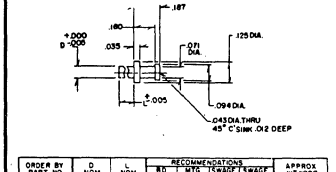
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
1380 B	.114 DIA	.105	.062	+.003 -.001	1380	800 LBS	1 LB
1380 C		.135	.094				
1380 D		.165	.125				

Part No. 1380



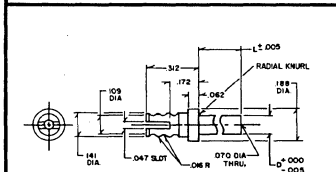
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2010 AA	.063DIA	.037	.016	+.003 -.001	2010	300 LBS	4 OZ
2010 A		.053	.031				6 OZ
2010 B		.084	.062				
2010 C		.115	.094				
2010 D		.147	.125				
200 T	4-40THD	.125					

Part No. 2010



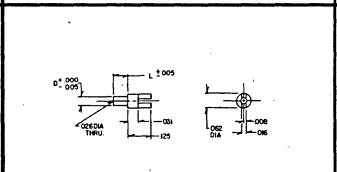
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2011 A	.073DIA	.053	.031	+.003 -.001	2011	500 LBS	6 OZ
2011 B		.084	.062				
2011 C		.115	.094				

Part No. 2011



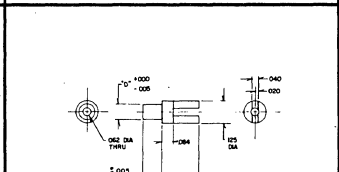
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
1250 A	.114DIA	.075	.031	+.003 -.001	1250	800 LBS.	1LB 12 OZ
1250 B		.105	.062				
1250 C		.135	.094				
1250 D		.165	.125				

Part No. 1250



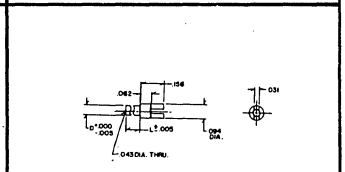
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2002 AA	.042 DIA	.037	.016	+.003 -.001	2002	200LBS	2 OZ.
2002 A		.053	.031				
2002 B		.084	.062				
2002 C		.115	.094				
2002 D		.147	.125				

Part No. 2002



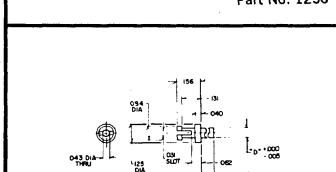
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
1309 A	.091 DIA	.075	.031	+.003 -.001	1309	300 LBS	10 OZ
1309 B		.105	.062				
1309 C		.135	.094				
1309 D		.165	.125				

Part No. 1309



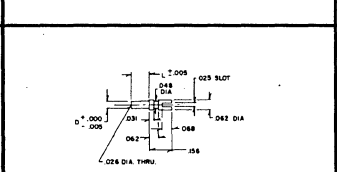
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2000 AA	.063DIA	.037	.016	+.003 .065 -.001	2000	300 LBS.	4 OZ
2000 A		.053	.031				
2000 B		.084	.062				
2000 C		.115	.094				
2000 D		.147	.125				

Part No. 2000



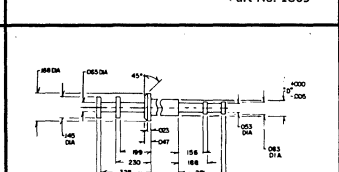
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2020 AA	.083 DIA	.037	.016	+.003 .065 -.001	2020	300 LBS.	4 OZ
2020 A		.053	.031				
2020 B		.084	.062				
2020 C		.115	.094				
2020 D		.147	.125				

Part No. 2020



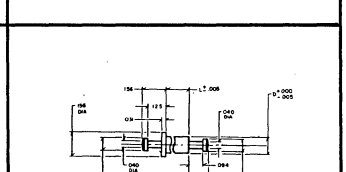
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2024 AA	.046DIA	.037	.016	.080 -.001	2024	200 LBS	
2024 A		.053	.031				
2024 B		.084	.062				
2024 C		.115	.094				
2024 D		.147	.125				

Part No. 2024



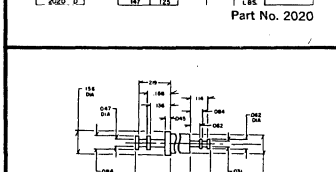
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
1301 C	.94 DIA	.115	.094	+.003 -.001	1301	1000 LBS	1 LB 9 OZ
1301 D		.165	.125				

Part No. 1301



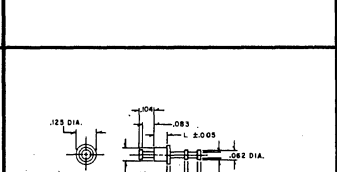
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
1290 A	.114 DIA	.075	.031	+.003 -.001	1290	800 LBS	
1290 B		.105	.062				
1290 C		.135	.094				
1290 D		.165	.125				

Part No. 1290



ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2040 A	.126 DIA	.075	.031	+.003 -.001	2040	800 LBS.	14 OZ
2040 B		.105	.062				
2040 C		.135	.094				
2040 D		.165	.125				

Part No. 2040



ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2501 B	.090 DIA	.093	.062	+.003 .092 -.001	2501	400 LBS	6 OZ
2501 C		.125	.094				

Part No. 2501

Plating: 0.00030/0.00050 silver. Tolerance: .XXX ± .010 before plating.

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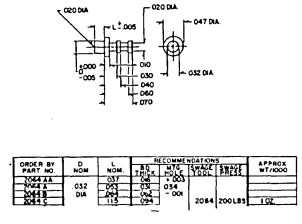
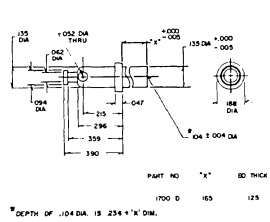
STANDARDIZED ELECTRONIC HARDWARE
LITTON INDUSTRIES/USECO DIVISION

TERMINALS



ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2064 A	.032 DIA	.037	.045	.094 +.003 -.001	2064	200 LBS	10 OZ
2064 B		.043	.051				
2064 C		.065	.064				
2064 D		.115	.094				

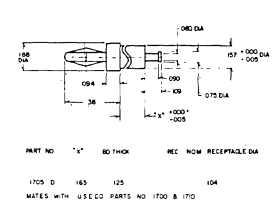
Part No. 2064



PART NO	"X"	BD THICK
1700 D	.165	.125

*DEPTH OF .104 DIA. IS .234 + "X" DIM.

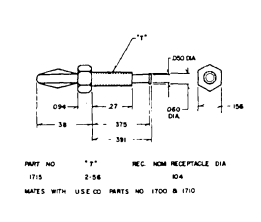
Part No. 1700



PART NO	"X"	BD THICK	REC NOM RECEPTACLE DIA
1705 D	.165	.125	.104

MATES WITH USECO PARTS NO 1700 & 1710

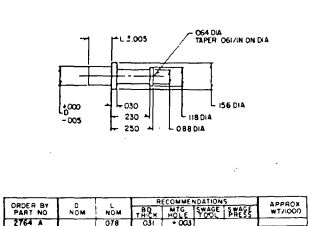
Part No. 1705



PART NO	"Y"	REC NOM RECEPTACLE DIA
1715	2-56	.104

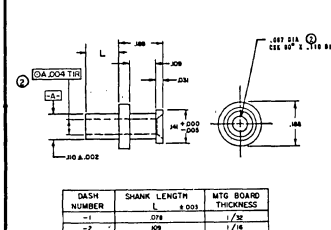
MATES WITH USECO PARTS NO 1700 & 1710

Part No. 1715



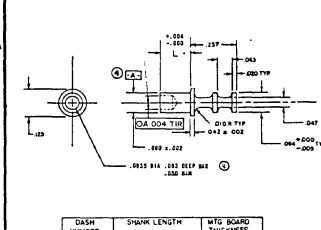
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2764 A	.112	.078	.031	.094 +.003 -.001	2764		
2764 B		.109	.062				
2764 C		.141	.094				
2764 D		.172	.125				

Part No. 2764



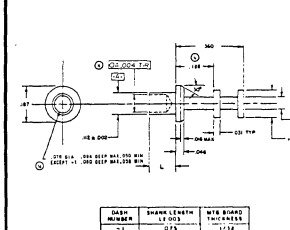
DASH NUMBER	SHANK LENGTH L ±.003	MTG BOARD THICKNESS
-1	.078	1/32
-2	.109	1/16
-3	.141	3/32
-4	.172	1/8

Part No. NAS 704



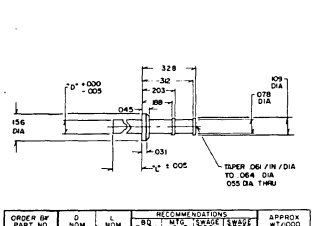
DASH NUMBER	SHANK LENGTH L	MTG BOARD THICKNESS
-1	.075	1/32
-2	.105	1/16
-3	.135	3/32
-4	.165	1/8

Part No. NAS 705



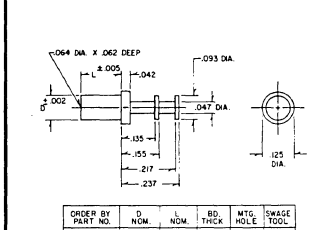
DASH NUMBER	SHANK LENGTH L ±.003	MTG BOARD THICKNESS
-1	.075	1/32
-2	.109	1/16
-3	.141	3/32
-4	.172	1/8
-5	.230	5/32
-6	.297	1/4

Part No. NAS 707



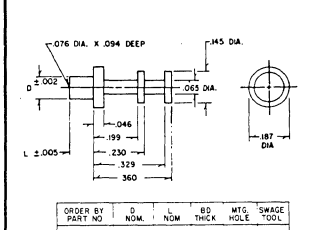
ORDER BY PART NO	D NOM	L NOM	RECOMMENDATIONS BD THICK	MTG HOLE	SWAGE TOOL	SWAGE PRESS	APPROX WT/1000
2740 A	.079 DIA	.075	.031	.094 +.003 -.001	2740	600 LBS	8 OZ
2740 B		.105	.062				
2740 C		.135	.094				
2740 D		.165	.125				

Part No. 2740



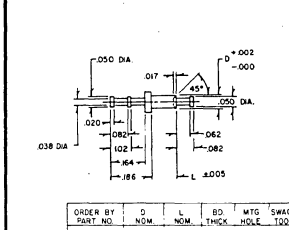
ORDER BY PART NO.	D NOM.	L NOM.	BD. THICK	MTG. HOLE	SWAGE TOOL
4522 B	.090 DIA.	.105	.062	.094 +.003 -.001	4522

MIL-T-55155/12-4, -5, -6 - USECO Part No. 4522



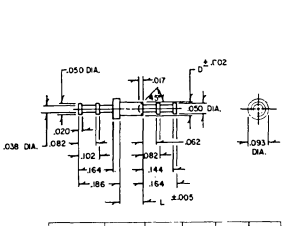
ORDER BY PART NO	D NOM.	L NOM.	BD. THICK	MTG. HOLE	SWAGE TOOL
4523 B	.112 DIA.	.109	.062	.094 +.003 -.001	4523
4523 C		.141	.094		
4523 D		.172	.125		

MIL-T-55155/12-7, -8, -9 USECO Part No. 4523



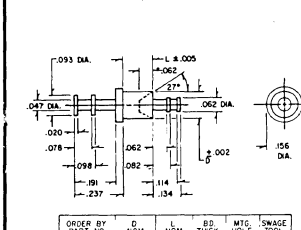
ORDER BY PART NO.	D NOM.	L NOM.	BD. THICK	MTG. HOLE	SWAGE TOOL
4526 B	.072 DIA.	.082	.062	.076 +.003 -.001	4526

MIL-T-55155/14-1, -2, -3 USECO Part No. 4526



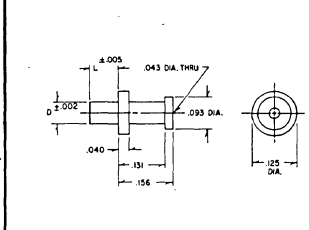
ORDER BY PART NO.	D NOM.	L NOM.	BD. THICK	MTG. HOLE	SWAGE TOOL
4528 B	.072 DIA.	.082	.062	.076 +.003 -.001	4528

MIL-T-55155/15-1, -2, -3 USECO Part No. 4528



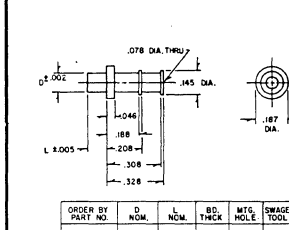
ORDER BY PART NO.	D NOM.	L NOM.	BD. THICK	MTG. HOLE	SWAGE TOOL
4529 B	.125 DIA.	.105	.062	.129 +.003 -.001	4529
4529 C		.135	.094		
4529 D		.165	.125		

MIL-T-55155/15-4, -5, -6 USECO Part No. 4529



ORDER BY PART NO.	D NOM.	L NOM.	BD. THICK	MTG. HOLE	SWAGE TOOL
4531 B	.062 DIA.	.084	.062	.066 +.003 -.001	4531
4531 C		.115	.094		

MIL-T-55155/16-1, -2, -3 USECO Part No. 4531



ORDER BY PART NO.	D NOM.	L NOM.	BD. THICK	MTG. HOLE	SWAGE TOOL
4532 B	.112 DIA	.109	.062	.116 +.003 -.001	4532

MIL-T-55155/17-1, -2, -3 USECO Part No. 4532

Plating: 0.00030/0.00050 silver. Tolerance: .XXX ± .010 before plating.

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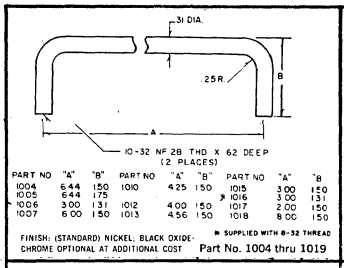
STANDARDIZED ELECTRONIC HARDWARE
LITTON INDUSTRIES/USECO DIVISION

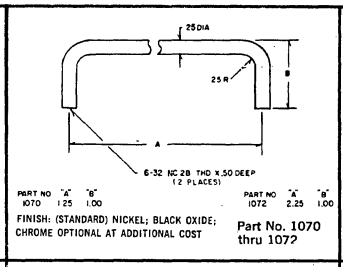
INSTRUMENT PANEL HARDWARE • Handles — Brass



PART NO	"A"	"B"	PART NO	"A"	"B"	PART NO	"A"	"B"
1004	6.44	.150	1010	4.25	.150	1015	3.00	.150
1005	6.44	.175				* 1016	3.00	.131
1006	3.00	.131	1012	4.00	.150	1017	2.00	.150
1007	6.00	.150	1013	4.56	.150	1018	8.00	.150

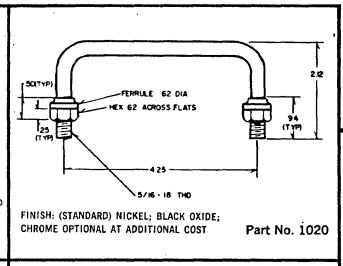
FINISH: (STANDARD) NICKEL; BLACK OXIDE; CHROME OPTIONAL AT ADDITIONAL COST — Part No. 1004 thru 1019

* SUPPLIED WITH 8-32 THREAD

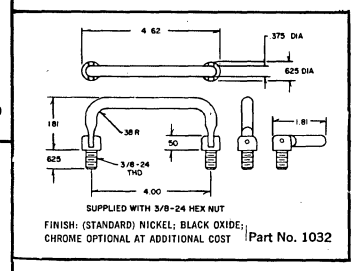


PART NO	"A"	"B"	PART NO	"A"	"B"
1070	1.25	1.00	1072	2.25	1.00

FINISH: (STANDARD) NICKEL; BLACK OXIDE; CHROME OPTIONAL AT ADDITIONAL COST — Part No. 1070 thru 1072

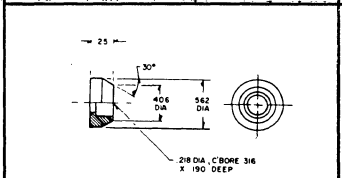


FINISH: (STANDARD) NICKEL; BLACK OXIDE; CHROME OPTIONAL AT ADDITIONAL COST — Part No. 1020



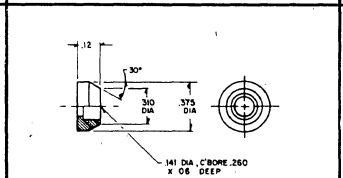
SUPPLIED WITH 3/8-24 HEX NUT

FINISH: (STANDARD) NICKEL; BLACK OXIDE; CHROME OPTIONAL AT ADDITIONAL COST — Part No. 1032



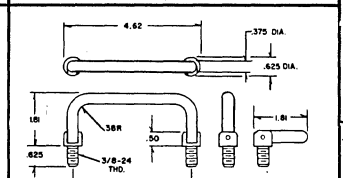
MAY BE USED WITH HANDLES 1004 through 1019

FINISH: (STANDARD) NICKEL; BLACK OXIDE; CHROME OPTIONAL AT ADDITIONAL COST — Part No. 900



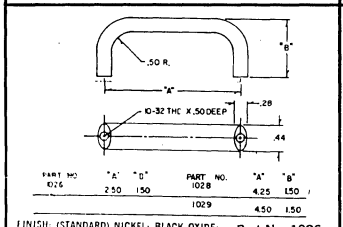
MAY BE USED WITH HANDELS 1070/1072

FINISH: (STANDARD) NICKEL; BLACK OXIDE; CHROME OPTIONAL AT ADDITIONAL COST — Part No. 903



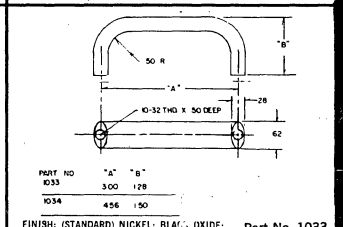
SUPPLIED WITH 3/8-24 HEX NUT

FINISH: (STANDARD) NICKEL; BLACK OXIDE; CHROME OPTIONAL AT ADDITIONAL COST — Part No. 1031



PART NO	"A"	"B"	PART NO.	"A"	"B"
1026	2.50	.150	1028	4.25	.150
			1029	4.50	.150

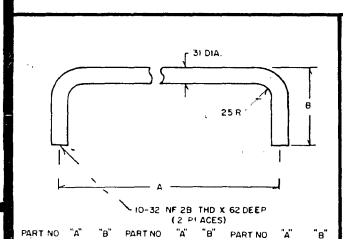
FINISH: (STANDARD) NICKEL; BLACK OXIDE; CHROME OPTIONAL AT ADDITIONAL COST — Part No. 1026 thru 1029



PART NO	"A"	"B"
1033	3.00	.128
1034	4.56	.150

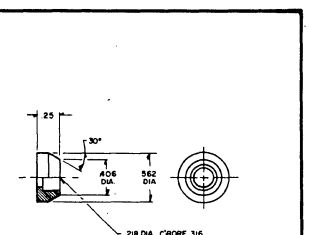
FINISH: (STANDARD) NICKEL; BLACK OXIDE; CHROME OPTIONAL AT ADDITIONAL COST — Part No. 1033 thru 1036

Handles — Aluminum



PART NO	"A"	"B"	PART NO	"A"	"B"	PART NO	"A"	"B"
1062	6.00	.150	1064					
1063	4.25	.150	1065					
			1066	3.00	.150	1069	1.00	.150

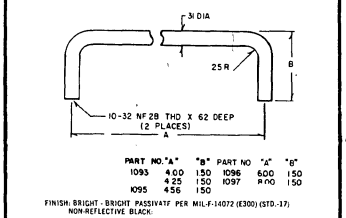
STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE — Part No. 1060 thru 1069



MAY BE USED WITH HANDLES 1060 THROUGH 1069

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE — Part No. 901

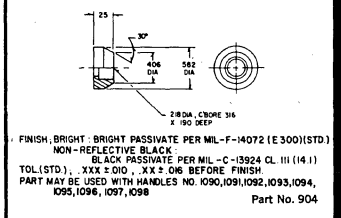
Handles — Stainless Steel



PART NO.	"A"	"B"	PART NO	"A"	"B"
1093	4.00	.150	1096	6.00	.150
	4.25	.150	1097	8.00	.150
1095	4.56	.150			

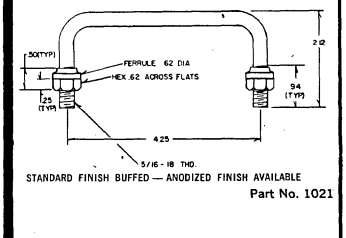
FINISH: BRIGHT - BRIGHT PASSIVATE PER MIL-F-14072 (E300) (STD.-37) NON-REFLECTIVE BLACK - BLACK PASSIVATE PER MIL-C-13924 CL. III (14.1)

* SUPPLIED WITH 8-32 THD FOR MTG — Part No. 1090

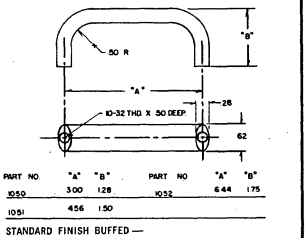


FINISH: BRIGHT - BRIGHT PASSIVATE PER MIL-F-14072 (E300) (STD.) NON-REFLECTIVE BLACK - BLACK PASSIVATE PER MIL-C-13924 CL. III (14.1)
TOL (STD.), .XXX ± .010, .XX ± .016 BEFORE FINISH.
PART MAY BE USED WITH HANDLES NO. 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098

Part No. 904



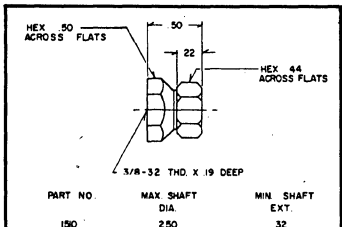
STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE — Part No. 1021



PART NO	"A"	"B"	PART NO	"A"	"B"
1050	3.00	.128	1052	6.44	.175
1051	4.56	.150			

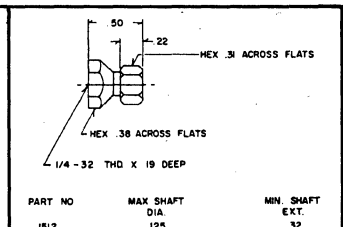
STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE — Part No. 1050

Shaft Locks — Brass



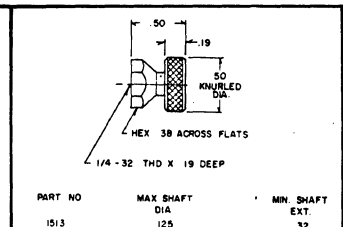
PART NO	MAX. SHAFT DIA.	MIN. SHAFT EXT.
1510	.250	.32

STANDARD PLATING — 12 — Part No. 1510



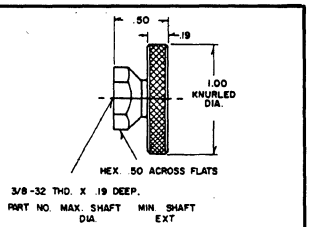
PART NO	MAX. SHAFT DIA.	MIN. SHAFT EXT.
1512	.125	.32

STANDARD PLATING — 12 — Part No. 1512



PART NO	MAX. SHAFT DIA.	MIN. SHAFT EXT.
1513	.125	.32

STANDARD PLATING — 12 — Part No. 1513



PART NO.	MAX. SHAFT DIA.	MIN. SHAFT EXT.
1520	.250	.32

STANDARD PLATING — 12 — Part No. 1520

Tolerance: .XXX ± .010; .XX ± .016 before plating

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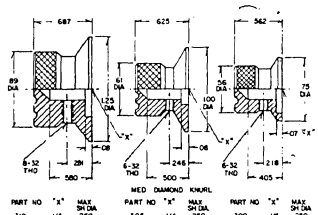
STANDARDIZED ELECTRONIC HARDWARE
LITTON INDUSTRIES/USECO DIVISION

INSTRUMENT PANEL HARDWARE • Knobs



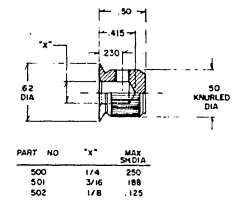
PART NO	"X"	MAX SH DIA
310	1/4	.250

PART NO	"X"	MAX SH DIA
305	1/4	.250

PART NO	"X"	MAX SH DIA
300	1/4	.250
301	3/16	.188

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

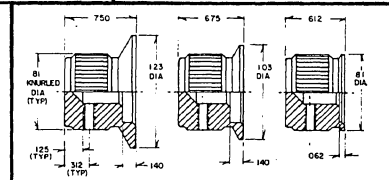
Part No. 300



PART NO	"X"	MAX SH DIA
500	1/4	.250
501	3/16	.188
502	1/8	.125

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

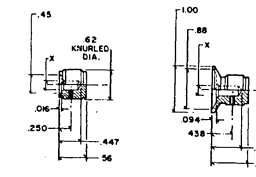
Part No. 500



PART NO	"X"	MAX SH DIA
555	1/4	.250

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

Part No. 555



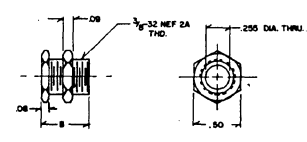
PART NO.	X	MAX SH DIA.
627	1/8	.125
625	1/4	.250

PART NO.	X	MAX SH DIA.
1000	1/4	.250

STANDARD FINISH BUFFED — ANODIZED FINISH AVAILABLE

Part No. 625

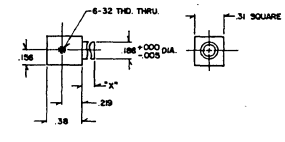
Accessory Hardware



PART NO.	"B"	SHAFT DIA. MAX.
1560	.562	.250
1560-1	.438	.250
1560-2	.375	.250
1560-3	.620	.250

STANDARD PLATING — 12

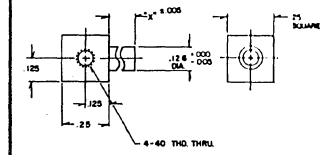
Part No. 1560



PART NO.	"X"	BD. THICK.	PART NO.	"X"	BD. THICK.
1590 C	.135	.094	1590 B	.105	.062
			1590 D	.165	.125

STANDARD PLATING — 11

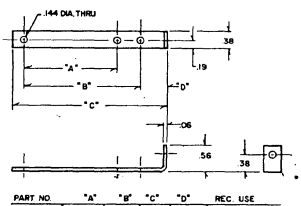
Part No. 1590



PART NO.	"X"	BD.THICK	PART NO.	"X"	BD THICK
1591 A	.075	.031	1591 B	.105	.062
1591 C	.135	.094	1591 D	.165	.125

STANDARD PLATING — 11

Part No. 1591

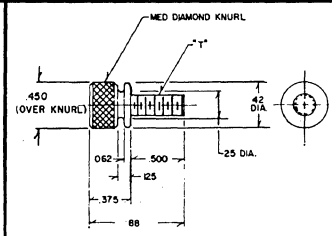


PART NO.	"A"	"B"	"C"	"D"	REC. USE
11 - 2	1.500		2.12	.35	1100 B
11 - 3	1.500	2.000	2.62	.35	1100 B & C
11 - 4	2.000	2.500	3.31	.56	1100 C & D
11 - 5	1.500	2.000	2.81	.56	1100 B & C

STANDARD PLATING — 11

Part No. 11

MATL.; 1020 COLD ROLLED STEEL PER QQ-S-633

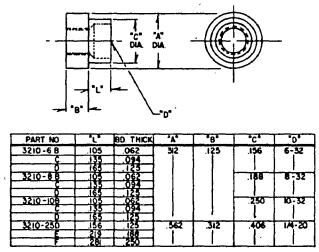


PART NO.	"T"
3100-6	6-32
3100-8	8-32
3100-10	10-32

STANDARD PLATING — 12

Part No. 3100

MATL.; BRASS, 1/2 HARD, COMP. 22, PER QQ-B-626

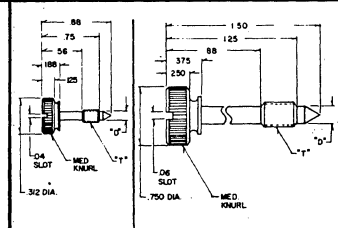


PART NO	"L"	BD. THICK	"A"	"B"	"C"	"D"
3210-6 B	.105	.062	.32	.125	.156	6-32
C	.135	.094				
D	.165	.125				
3210-8 B	.105	.062			.188	8-32
C	.135	.094				
D	.165	.125				
3210-10 B	.105	.062			.250	10-32
C	.135	.094				
D	.165	.125				
3210-250 C	.156	.125	.562	.312	.406	1/4-20
E	.218	.188				
F	.281	.250				

STANDARD PLATING — 12

Part No. 3210

MATL.; BRASS, 1/2 HARD, COMP. 22, PER QQ-B-626



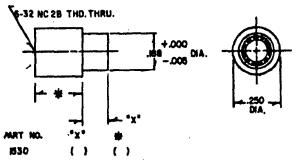
PART NO.	"D"	"T"
3200-6	.094	6-32
3200-8	.120	8-32
3200-10	.140	10-32

PART NO.	"D"	"T"
3200-25	.171	1/4-20

STANDARD PLATING — 12

MATL.; BRASS, 1/2 HARD, COMP. 22, PER QQ-B-626

Part No. 3200



PART NO.	"X"	*
1530	( )	( )

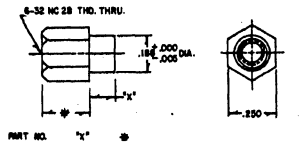
(X) A=.075 B=.105 C=.135 D=.165
.031 .062 .094 .125 BD. THICKNESS.

* (1/8), (3/16), (1/4), (3/8), (1/2), (5/8), (3/4), (1.00).

ORDER BY ; BASIC PART NO, LETTER & LENGTH IN FRACTION.
EXAMPLE ; 1530 A 1/8
MODEL NO. "X" DIM. * DIM.

STANDARD PLATING — 12

Part No. 1530



PART NO.	"X"	*
1531	( )	( )

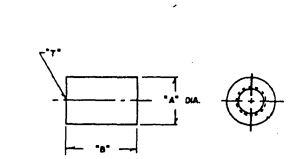
(X) A=.075 B=.105 C=.135 D=.165
.031 .062 .094 .125 BD. THICKNESS.

* (1/8), (3/16), (1/4), (3/8), (1/2), (5/8), (3/4), (1.00).

ORDER BY ; BASIC PART NO, LETTER & LENGTH IN FRACTION.
EXAMPLE , 1531 A 1/8
MODEL NO. "X" DIM. * DIM.

STANDARD PLATING — 12

Part No. 1531

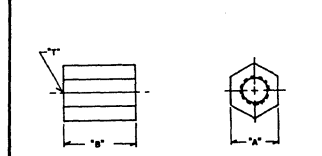


PART NO.	"A"	"B"	"T"
1550 A	.18	.250	4-40
1550 C	.25	.250	6-32
1550 E	.25	.500	6-32
1550 G	.25	.750	6-32
1550 I	.38	.375	8-32

PART NO.	"A"	"B"	"T"
1550 B	.18	.375	4-40
1550 D	.25	.375	6-32
1550 F	.25	.625	6-32
1550 H	.38	.250	8-32
1550 J	.38	.500	8-32
1550 M	.38	.750	8-32

STANDARD PLATING — 12

Part No. 1550



PART NO.	"A"	"B"	"T"
1551 A	.18	.250	4-40
1551 C	.25	.250	6-32
1551 E	.25	.500	6-32
1551 G	.25	.750	6-32
1551 I	.38	.375	8-32
1551 K	.38	.625	8-32

PART NO.	"A"	"B"	"T"
1551 B	.18	.375	4-40
1551 D	.25	.375	6-32
1551 F	.25	.625	6-32
1551 J	.38	.500	8-32
1551 M	.38	.750	8-32

STANDARD PLATING — 12

Part No. 1551

Tolerance: .XXX ± .010; .XX ± .016 before plating

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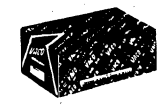
SOLDERLESS TERMINALS

Packaged Four Convenient Ways

Vaco offers convenient packaging for every type and size of terminal user. All Vaco Paks are shown with stock number, actual size illustration of terminal, and wire and stud size for easy shelf identification.

$ PAK
(5 Paks to Master Carton). Use prefix "D" when ordering.

"C" PAK
(100 per Pak—5 Paks to Master Carton). Use prefix "C" when ordering.



"MB" PAK
(Contains 1000 of a number.) Use prefix "MB" when ordering.

69¢ PAK
For small quantity user.

	Wire Size	Stud Size	Series 10000 Vaco Single-Grip Terminals and Connectors are one-piece, non-insulated basic type and meet most requirements. Stock No.	Qty. per $ Pack	Series 30000 Similar to 10000 Series except with brazed barrel, providing a seamless connector. Especially recommended for solid strand wire. Stock No.	Qty. per $ Pack	Series 40000 Vaco Double-Grip Terminals and Connectors are excellent wherever vibration is a problem. Tin-plated bronze sleeve provides area for double crimp that prevents strain from reaching the barrel crimp. Stock No.	Qty. per $ Pack	Series 50000 Vaco Single-Grip Insulated Terminals, with heavy plastic sleeve, provides insulation from tongue to wire insulation. The sleeve also prevents wire from flexing at the crimp for greater strength. Stock No.	Qty. per $ Pack	Series 60000 Similar to 50000 Series except with flared or bell mouth insulation. Stock No.	Qty. per $ Pack	Series 90000 Vaco Double-Grip Insulated Terminals and Connectors have nylon sleeve that extends beyond the tin-plated bronze sleeve to provide complete insulation from tongue to wire. Engineered to meet the most exacting requirements. Stock No.	Qty. per $ Pack
RING TONGUE	22-18	4	11204	32	31204	★	41204	★	51204	16	61204	14	91204	★
	22-18	5-6	11205*	32	31205		41205		51205	16	61205	14	91205	
	22-18	5-6	11206	32	31206		41206		51206	16	61206	14	91206	
	22-18	8	11208*	32	31208		41208		51208	16	61208	14	91208	
Non-Insulated	22-18	10	11210*	32	31210		41210		51210	16	61210	14	91210	
	22-18	12-¼	11214	25	31214		41214		51214	14	61214	12	91214	
	22-18	⅜	11238	25	31238		41238		51238	14	61238	12	91238	
	16-14	4	11304	32	31304		41304		51304	16	61304	14	91304	
	16-14	5-6	11305*	32	31305		41305		51305	16	61305	14	91305	
	16-14	5-6	11306	32	31306		41306		51306	16	61306	14	91306	
	16-14	8	11308*	32	31308		41308		51308	16	61308	14	91308	
Insulated	16-14	10	11310*	32	31310		41310		51310	16	61310	14	91310	
	16-14	12-¼	11314	25	31314		41314		51314	14	61314	12	91314	
	16-14	⅜	11338	25	31338		41338		51338	14	61338	12	91338	
	12-10	4-6	11406	25	31406		41406		51406	14	61406	12	91406	
	12-10	8	11408	25	31408		41408		51408	14	61408	12	91408	
	12-10	10	11410	25	31410		41410		51410	14	61410	12	91410	
	12-10	12-¼	11414	19	31414		41414		51414	13	61414	10	91414	
	12-10	⅜	11438	19	31438		41438		51438	13	61438	10	91438	
SPADE TONGUE	22-18	4	13204	36	33204		43204		53204	16	63204	14	93204	
	22-18	5-6	13206	36	33206		43206		53206	16	63206	14	93206	
	22-18	8	13208	32	33208		43208		53208	16	63208	14	93208	
Non-Insulated	22-18	10	13210	32	33210		43210		53210	16	63210	14	93210	
	16-14	4-6	13306	32	33306		43306		53306	16	63306	14	93306	
	16-14	8	13308	32	33308				53308	16	63308	14	93308	
	16-14	10	13310	32	33310		43310		53310	16	63310	14	93310	
	12-10	4-6	13406	25	33406		43406		53406	14	63406	12	93406	
	12-10	8	13408	25	33408		43408		53408	14	63408	12	93408	
Insulated	12-10	10	13410	25	33410		43410		53410	14	63410	12	93410	
	22-18	4-6	14206	36			44206		54206	16	64206	14	94206	
HOOK TONGUE	22-18	4-6	15206	32	35206		45206		55206	16	65206	14	95206	
Non-Insulated	22-18	8	15208	32	35208		45208		55208	16	65208	14	95208	
	22-18	10	15210	32	35210		45210		55210	16	65210	14	95210	
	16-14	4-6	15306	32	35306		45306		55306	16	65306	14	95306	
	16-14	8	15308	32	35308		45308		55308	16	65308	14	95308	
	16-14	10	15310	32	35310		45310		55310	16	65310	14	95310	
Insulated	12-10	4-6	15406	25	35406		45406		55406	14	65406	12	95406	
	12-10	8	15408	25	35408		45408		55408	14	65408	12	95408	
	12-10	10	15410	25	35410		45410		55410	14	65410	12	95410	
FLAG TONGUE Non-Insulated	22-18	8-10	16210	32										
	16-14	8-10	16310	32										
	12-10	8-10	16410	25										

*Available in High Temperature Material (substitute 2 for 1st digit instead of 1) Example: 21205

★Note: not available in $ pack.

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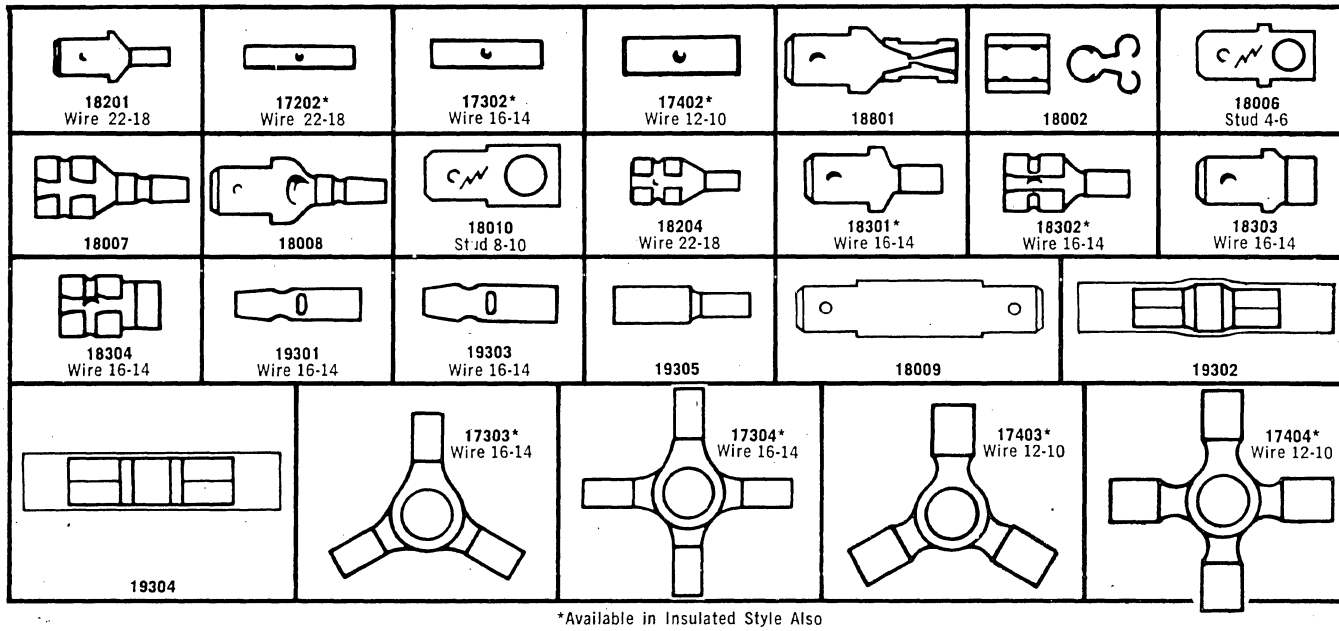
QUICK CONNECTORS

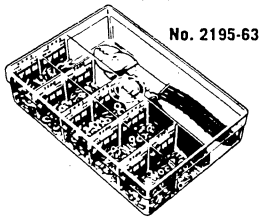
- Use Quick Connect Terminals For Fast Connect and Disconnect Feature
- Insulated and Non-Insulated Styles Available

Illustrations Actual Size

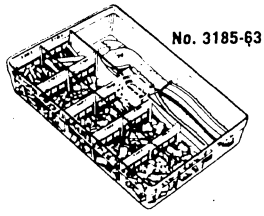


*Available in Insulated Style Also

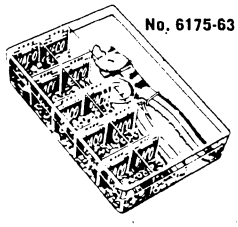
TERMINAL KITS



No. 2195-63 Service Kit. Kit contains 10 different types of popular electrical, radio and TV single-grip terminals and No. 1963 crimping tool. Terminals included are: 11205, 11206, 11210, 11305, 11306, 11310, 14206, 13306, 13310, 15208. Price **$9.95**



No. 3185-63 Service Kit. Especially designed for the appliance, automotive and electrical equipment service man. Contains varied assortment of popular quick connect terminals and adapters plus No. 1963 crimping tool. Terminals included are: 18301, 18302, 18303, 18304, 18001, 18002, 18008, 18007, 19301, 19302. Price.....**$9.95**

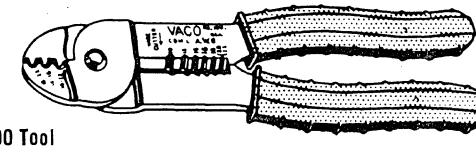


No. 6175-63 Service Kit. Kit contains 10 different types of popular insulated single-grip terminals for electrical, radio and TV plus No. 1963 crimping tool. Terminals included are: 51205, 51206, 51210, 51305, 53206, 53306, 53310, 51306, 51310, 54206.
Price **$9.95**

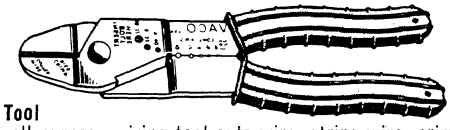
No. 5000-63 Non-Insulated "Cash Register" Assortment. Heavy steel box contains 20 compartmented sections each with supply of 50 single-grip, non-insulated terminals (1000 in all). Complete with identification card in cover for easy selection of any terminal. Size: 13¼"x9¼"x2".
Price each **$32.50**

No. 4900-63 Insulated "Cash Register" Assortment. Same as No. 5000-63 except assortment contains 500 insulated, single-grip terminals in 20 different types and sizes. Plastic insulation is color-coded for size.
Size: 13¼"x9¼"x2".
Price each **$32.50**

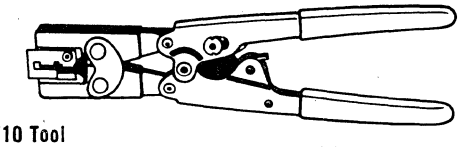
ATTACHING TOOLS



No. 1900 Tool
Features specially designed crimping dies for use on non-insulated type terminals . . . forms cold weld between wire and terminal barrel. Cuts wire, strips wire and crimps terminals 22 to 10 gauge AWG. Plastic comfort grip handles.
Price . . . **$3.95**



No. 1963 Tool
Patented, all purpose wiring tool cuts wire, strips wire, crimps insulated and non-insulated terminals and slices 6 sizes of bolts (4-40, 5-40, 6-32, 8-32, 10-32, and 10-24). Special features include end positioned wire cutter for reaching into hard-to-get-at places, and new bolt slicing principle that permits less hand pressure for slicing bolts with **no** burrs to file. Plastic comfort grip handles.
Price . . . **$4.95**



No. T1710 Tool
One tool . . . one die . . . crimps all styles of insulated and non-insulated terminals in wire range from 22-10 gauge AWG. Built-in ratchet with safety release assures uniform crimps every time, and compound lever action from narrow span handles puts "ease in the squeeze." Terminals are quickly positioned for double crimps by special terminal locator. Plastic comfort grip handles.
Price . . . $35.00

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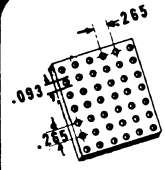
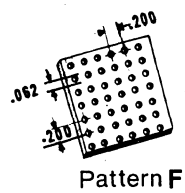
Prices subject to change without notice.

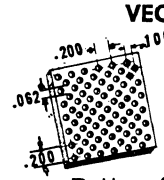
VECTORBORD*



Pattern A



Pattern F



Pattern G

Pattern	Spacing	Pattern	Spacing	Pattern	Spacing
A	.265 Centers	B	.188 Centers	H	.100 Centers
C	.200 Centers	E	.141 Centers	G	.20 x .10
		F	.200 Centers	L	.250 Centers

Vectorbord* (Pre-Punched Terminal Board) has precision pre-punched holes at various spacings on tan XXXP phenolic type PBE-P (Mil-P-3115), ivory EXXXP Epoxy Paper type PEE (Mil-P-22324), G-10 Epoxy Glass type GEE (Mil-P-18177), Copper clad G-10 Epoxy Glass type FL-GE (Mil-P-13949C), copper clad XXXP phenolic type PP (Mil-P-13949) and copper clad Epoxy Paper (Mil-P-13949). Ideal for prototypes and many production uses. Vector Push-In Terminals or standard turned terminals and eyelets fit pre-punched holes. User can make own etched circuits with listed copper clad boards. May be sawed, drilled or punched.

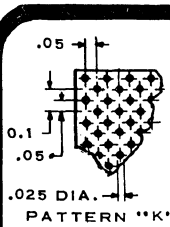
Cat. No.	Pat-tern	Hole Size	Dimensions	No. of Holes	Price 1-19
XXXP Phenolic					
18A18	A	.093	4.80 x 4.80 x 1/16	18 x 18	$ .43
32A9	A	.093	8.51 x 2.41 x 1/16	32 x 9	.45
32AA18	A	.093	8.51 x 4.80 x 3/32	32 x 18	.84
64A18	A	.093	16.99 x 4.8 x 1/16	64 x 18	1.25
64AA18	A	.093	16.99 x 4.8 x 3/32	64 x 18	1.60
64AA32	A	.092	16.99 x 8.51 x 3/32	64 x 32	2.75
45B30	B	.062	8.51 x 5.69 x 1/16	45 x 40	.84
90B30	B	.062	16.97 x 5.69 x 1/16	90 x 30	1.62
85C24	C	.093	16.99 x 4.80 x 1/16	85 x 23	1.25
95G175	G	.093	35.00 x 19.00 x 1/16	(94 x 175) x 2	7.62
26L18	L	.093	6.5 x 4.5 x 1/16	26 x 18	.70
34L19	L	.093	8.5 x 4.8 x 1/16	34 x 19	.75
68L34	L	.093	16.99 x 8.5 x 1/16	68 x 34	1.95
68LL19	LL	.093	16.99 x 4.8 x 3/32	68 x 19	1.60
Epoxy Paper					
32AA18EP	A	.093	8.51 x 4.80 x 3/32	32 x 18	$1.40
64AA18EP	A	.093	16.99 x 4.80 x 3/32	64 x 18	2.73
64AA32EP	A	.093	16.99 x 8.51 x 3/32	64 x 32	4.39
85F24EP	F	.062	16.99 x 4.80 x 1/16	85 x 23	2.06
85G24EP	G	.062	16.99 x 4.80 x 1/16	(85 x 23) x 2	2.06
85G42EP	G	.062	16.99 x 8.5 x 1/16	(85 x 42) x 2	3.17
120E33EP	E	.062	16.99 x 4.80 x 1/16	120 x 33	2.23
Epoxy Glass					
32A18WE	A	.093	8.51 x 4.80 x 1/16	32 x 18	1.89
42G24WE	G	.062	8.5 x 4.80 x 1/16	(42 x 23) x 2	1.89
85G24WE	G	.062	16.99 x 4.80 x 1/16	(85 x 23) x 2	3.81
170H48WE	H	.062	17.00 x 4.80 x 1/16	170 x 47	4.07
120E33WE	E	.062	16.99 x 4.80 x 1/16	120 x 33	3.99
Copper Clad XXXP Phenolic					
42F22C1*	F	.062	8.5 x 4.5 x 1/16	42 x 22	1.00
42F22C2**	F	.062	8.5 x 4.5 x 1/16	42 x 22	1.32
3070-1XXXP*	F	.062	6.5 x 4.5 x 1/16	28 x 22	.84
3070-2XXXP**	F	.062	6.5 x 4.5 x 1/16	28 x 22	1.04
3106-1XXXP*	F	.062	4.5 x 3" x 1/16	18 x 14	.45
3106-2XXXP**	F	.062	4.5 x 3" x 1/16	18 x 14	.55
Copper Clad Epoxy Paper					
3070-1EP*	F	.062	6.5 x 4.5 x 1/16	28 x 22	1.39
3070-2EP**	F	.062	6.5 x 4.5 x 1/16	28 x 22	1.67
Copper Clad Epoxy Glass					
42G22WEC1*	G	.062	8.5 x 4.5 x 1/16	(42 x 22) x 2	2.55
42G22WEC2**	G	.062	8.5 x 4.5 x 1/16	(42 x 22) x 2	2.60
85F42WEC1*	F	.062	16.99 x 8.51 x 1/16	85 x 42	9.33
85F42WEC2**	F	.062	16.99 x 8.51 x 1/16	85 x 42	10.25

Copper Clad Unperforated		CU, 1 Side	Price 1-19	CU, 2 Sides	Price 1-19
4½" x 3"	XXXP Phenolic	CU45/30-1	$.30	CU45/30-2	$.40
6½" x 4½"	XXXP Phenolic	CU65/45-1	.60	CU65/45-2	.77
8½" x 4½"	XXXP Phenolic	CU85/45-1	.70	CU85/45-2	.98
4½" x 3"	Epoxy Glass	CU45/30WE-1	.69	CU45/30WE-2	.77
6½" x 4½"	Epoxy Glass	CU65/45WE-1	1.34	CU65/45WE-2	1.52
8½" x 4½"	Epoxy Glass	CU85/45WE-1	1.71	CU85/45WE-2	1.95

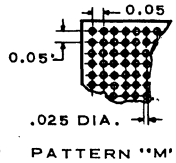
* Indicates 2 oz. Copper Clad 1 Side
** Indicates 2 oz. Copper Clad 2 Sides

*Vectorbord is a registered trade-mark of Vector Electronic Co., Inc.

MICRO-VECTORBORD



PATTERN "K"



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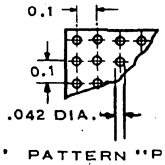

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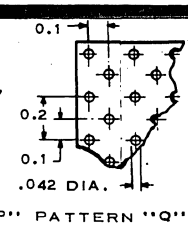
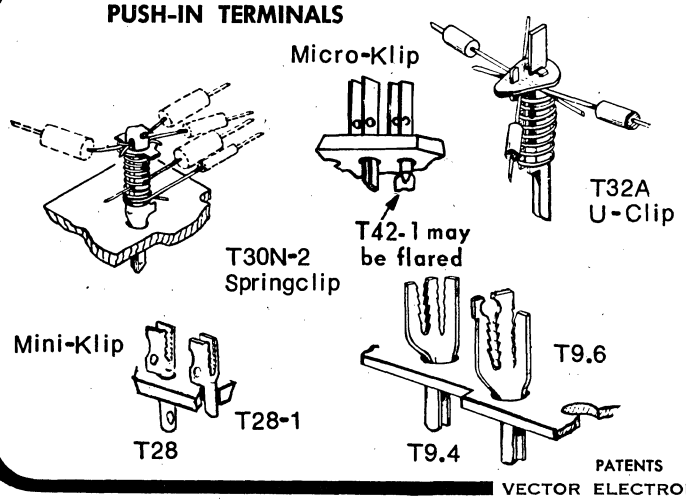


PATTERN "Q"

Micro-Vectorbord has been specially designed for the denser packaging required by cordwood construction and mounting micro-miniature components. All boards listed are G-10 Epoxy Glass type GEE (MIL-P-18177), or G-10 Epoxy Glass type FL-GE (MIL-P-13949) except "EP" types which are epoxy paper type PEE grade EXXXP per MIL-P-22324.

Cat. No.	Pat-tern	Hole Size	Dimension	No. of Holes	Price 1 - 19
59P19/032	P	.042"	6" x 2" x 1/32"	59 x 19	$1.09
64P44/062EP	P	.042"	4½" x 6½" x 1/16"	64 x 44	1.75
169P47/062EP	P	.042"	4.8" x 17" x 1/16"	169 x 47	3.40
169P59/032	P	.042"	17" x 6" x 1/32"	169 x 59	4.82
29Q9/032	Q	.042"	6" x 1" x 1/32"	(29 x 9) x 2	.90
84Q29/032	Q	.042"	17" x 6" x 1/32"	(84 x 29) x 2	4.39
76M38/032	M	.025"	4" x 2" x 1/32"	76 x 38	1.52
336M76/032	M	.025"	17" x 4" x 1/32"	336 x 76	8.50
38K19/032	K	.025"	4" x 2" x 1/32"	(38 x 19) x 2	1.30
168K38/032	K	.025"	17" x 4" x 1/32"	(168 x 38) x 2	6.42
EPOXY GLASS COPPER CLAD ONE SIDE					
169P59/032C1	P	.042"	17" x 6" x 1/32"	169 x 59	6.61
336M76/032C1	M	.025"	17" x 4" x 1/32"	336 x 76	9.69

PUSH-IN TERMINALS



SOLDERLESS SPRINGCLIP TERMINALS—Reliable truly solderless terminals for fast setup of experimental circuitry. May be used over and over—permits reusing expensive components by eliminating heat damage. Extremely low contact resistance, e.g. less than .002 ohms for T30-2. Suggested board thickness 3/32" for best support of T30 and T32 series.
SOLDERABLE TYPES T9.4, T9.6, T28, T28-1 are brite tin or silver plated for easy soldering.

Cat. No.	Fits Holes	Description	Quan. Per Bag	Net Price 1-19 Bags	1-4 Bags (1000 Per Bag)
T9.4	.093"	Brass, Tin Ptlg.	100	$1.38	$9.79
T9.4A	.093"	Brass, Tin Ptlg. w/o slot serr.	100	1.38	9.79
T9.6	.093"	Beryllium Copper, Tin Ptlg.	100	2.31	15.06
P122B	Inserting tool for T9.4, T9-4A & T9.6		1	1.40	Any Quan.
T28	.062"	Beryllium Copper, Tin Ptlg.	100	1.55	11.00
T28S	.062"	Beryllium Copper, Silver Ptlg.	100	1.65	12.99
T28-1	.062"	Beryllium Copper, Tin Ptlg. except .325 O/A height	100	1.55	11.00
P91	Inserting tool for T28 series		1	.50	1-49 Pcs.
T30-2	.093"	Brass, Silver Ptlg.	10	.99	
T30-2	.093"	Brass, Silver Ptlg.	100	7.40	52.86
T30N-2	.093"	Brass, Nickel Ptlg.	10	.95	
T30N-2	.093"	Brass, Nickel Ptlg.	100	6.95	48.50
P92A	Inserting tool for T30-2 series		1	.50	1-49 Pcs.
T32A	.093"	Brass, Nickel Ptlg.	100	9.90	75.00
T32A-1	.062"	Brass, Nickel Ptlg.	100	9.90	75.00
P136	Inserting tool for T32 series		1	1.20	Any Quan.
T42-1	.042"	Beryllium Copper, Tin Ptlg.	100	1.75	12.99
P149A	Inserting tool for T42-1 series		1	1.50	1-49 Pcs.

PATENTS
VECTOR ELECTRONIC CO., INC.

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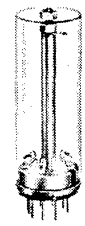
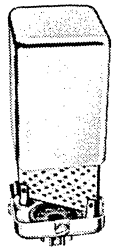
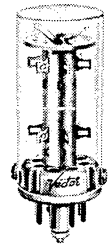
Vector ROUND AND SQUARE PLUG-INS

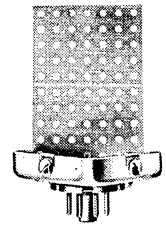
G2.2-8F

G2.2-8-4


G2.1-8


C12-KI.02 (with 514)


G2-10-T-1


C12-KI.02 with 511 (cover removed)

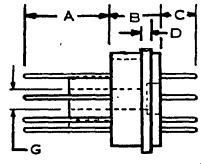
SMALL ROUND AND SQUARE PLUG-INS are ideal for packaging hand wired, printed, or solid state plug-in modules. Aluminum cases provide shielding and strength. Wide variety of internal structures eases circuit wiring. Plugs are standard tube base style. Plug Key in square Octal based units points toward case corner.

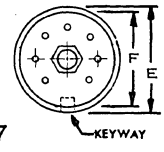
Catalog No.	Bottom Plug	Case Type	Case Height (Less Prongs)	Internal Structure	Net Price 1-49
B-8	8 P. Oct.	1.42" Sq.	2"	None	$1.56
B-10	8 P. Oct.	1.42" Sq.	2.5"	None	1.57
B-10-N *	8 P. Oct.	1.42" Sq.	2.5"	Turret	2.46
B-10-T	8 P. Oct.	1.42" Sq.	2.5"	Turret	1.90
B-10-4†	8 P. Oct.	1.42" Sq.	2.5"	Card W/Terms.	2.19
C-10	8 P. Oct.	2" Sq.	2.5"	None	1.50
C-12	8 P. Oct.	2" Sq.	3"	None	1.44
C-12K1.02	8 P. Oct.	2" Sq.	3"	None	1.10
511 (Terminal Card 1.9" x 2.7")†					.69
514 (Terminal Card 1.9" x 2.7")†					.91
C-12-T	8 P. Oct.	2" Sq.	3"	Turret W/12 Lugs.	2.11
C-12-4†	8 P. Oct.	2" Sq.	3"	Card W/Terms.	3.14
G2-10	8 P. Oct.	1.25" Rd.	2.5"	None	1.16
G2-10T-1	8 P. Oct.	1.25" Rd.	2.5"	Term. Turret & Wafer	1.94
G2-10-4†	8 P. Oct.	1.25" Rd.	2.5"	Card W/Terms.	2.24
G2.1-8	9 P. Min.	.75" Rd.	2"	Spacer	1.45
G2.1-8F	9 P. Min.	.75" Rd.	2"	None	1.49
G2.1-8-4†	9 P. Min.	.75" Rd.	2"	Card W/Terms.	2.09
G2.2-8F	7 P. Min.	.625" Rd.	2"	None	1.49
G2.2-8-4†	7 P. Min.	.625" Rd.	2"	Card W/Terms.	2.07

*Includes 9 Pin Noval Socket mounted in top.

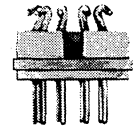
†511 has .093" holes spaced .265"; 514 has .062" holes, spaced alt. 0.1" Ctrs.; B-10-4 has wall 1.37" (W), 1.87" (L), W/.093" holes spaced .265" Ctrs. Trmls; C-12-4 has wall 1.88" (W), 2.37" (L), W/.093" holes spaced .200" x .265" Ctrs., Trmls; G-2-10-4 has wall 1.08" (W), 1.78" (L), W/.093" holes spaced .250", Trmls; G2.1-8-4 has wall .60" (W), 1.62" (L), W/.062"holes spaced .141" Ctrs., Trmls; G2.2-8-4 has wall .46" (W), 2" (L), W/.062" holes spaced .141" Ctrs, Trmls.

TUBE BASE PLUGS





P7

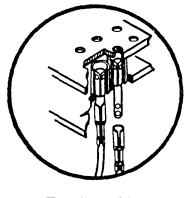

KI.434

VECTOR TUBE BASE PLUGS fit standard 7-pin miniature, 9-pin noval, and 14-pin relay sockets. Round metal cans may be attached with screws to units with KF number which indicates (2) recessed 1/72" inserts in plug sides. Plugs are mica filled phenolic with phosphor bronze .040" diameter tinned pins. All except K1.14 have center screw hole 1/8" and recessed bottom cavity for small pattern nut on underside.

Ordering Information

Catalog No.	Type	DIMENSIONS A	B	C	D	E	F	G	Net Price 1-49
P7	7 p. min.	17/32	.300	.265	1/16	.621	.575	.125	$.47
P9	9 p. nov.	17/32	.300	.265	1/16	.748	.700	.125	.52
K1.402	(same as P9 except no center post)								.52
K1.334	7 Pin hooked		.300	.265	1/16	.621	.575	.125	.53
K1.434	9 Pin hooked		.300	.265	1/16	.748	.700	.125	.58
KR1.334	(same as K1.334 except with retaining ring)								.62
KR1.434	(same as K1.434 except with retaining ring)								.67
K1.14	14 pin	17/32	.300	.265	1/16	.750	.700		.99
KF1.335	(Similar to K1.334 except has knurl nuts and no keyway.)								.65
KF1.435	(Similar to K1.434 except has knurl nuts and no keyway.)								.70

PATCHBOARDS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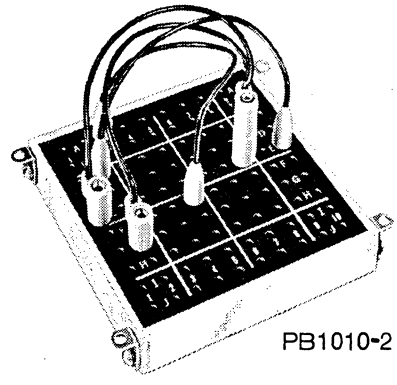

PB1010-2

All boards are marked front and back with horizontal rows lettered alphabetically and vertical columns numbered. Brackets for mounting are supplied. Holes for plugs are .093" diameter, spaced on .265" centers. Front panels are removable and may be changed if necessary. Larger contact systems can be made by mounting standard panels adjacent. Special sizes, special marking and screening in colors are made to order at minimum cost.

SPECIFICATIONS:

Panels: Black XXXP phenolic, Type PBE-P. Grade EXXXP per MIL-P 3115, .093" thick with printed white numbers and letters. PB1010-1 has epoxy paper, ivory color, .093" thick with black numbers and letters.

Contacts: Beryllium copper, nickel plated gold flashed, 2 holes for soldering on leads. Add letter "A" to Cat. No. if wire wrap tabs are desired.

Dimensions: All boards 1" thick. See Description column for width and length.

Patchcords: Plugs .087"—.091" diameter x .468" long, nickel plated with standard #20 gage wire vinyl insulation. 6" black, 9" yellow, 15" blue.

Ordering Information

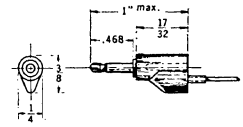
Cat. No.	No. of Contacts	Hole Layout	Size	Net Price 1-49
PB33-2	9	3 x 3	1.130 x 1.130	$ 2.95
PB110-2	10	10 x 1	2.985 x .600	3.25
PB210-2	20	20 x 2	2.985 x .865	4.25
PB510-2	50	10 x 5	2.985 x 1.660	6.45
PB1010-1	100	10 x 10	3.250 x 3.250	10.85
PB1010-2	100	10 x 10	2.985 x 2.985	10.85
PB1020-2	200	20 x 10	5.635 x 2.985	21.60
PB1520-2	300	20 x 15	5.635 x 4.310	32.35
*K2.06	Patchcord, single contact ea. end 6" (25 per bdl.)			bdl/2.65
*K2.09	Patchcord, single contact ea. end 9" (25 per bdl.)			bdl/2.68
*K2.15	Patchcord, single contact ea. end 15" (25 per bdl.)			bdl/3.08
†K9.06	Patchcord, Piggy-back each end 6"			ea. .93
†K9.09	Patchcord, Piggy-back each end 9"			ea. .93
†K9.15	Patchcord, Piggy-back each end 15"			ea. .93
*K2.02-1	Jumper Plug, Jumper type (25 per bdl.)			bdl/2.95

*Net any quantity

†Net price 1-999

PATCHCORD K2.06

JUMPER PLUG K2.02-1



PIGGY-BACK PLUG

Vector Fixed Panel style Patchboards provide simple but reliable low-cost units for multiple connection, single conductor patching for test panels, automation and telemetry equipment, low cost computers, numerical control equipment, paging and speaker systems or other equipment where economy and connection multiplicity are desired.

Extremely low contact resistance (less than .001 ohms) and long contact life (over 2000 insertions per contact without resistance change) assures reliability.

Removable Pre-Programming Patchboard and patchcords also available with 204, 300, 450, 600 and 1200 contacts. Write factory.

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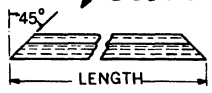
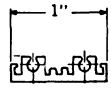
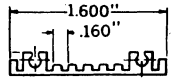
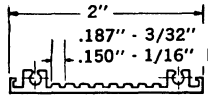
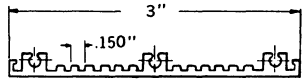
Vector FRAME-LOC RAILS

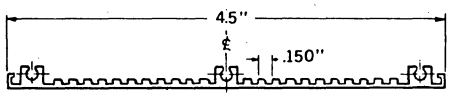






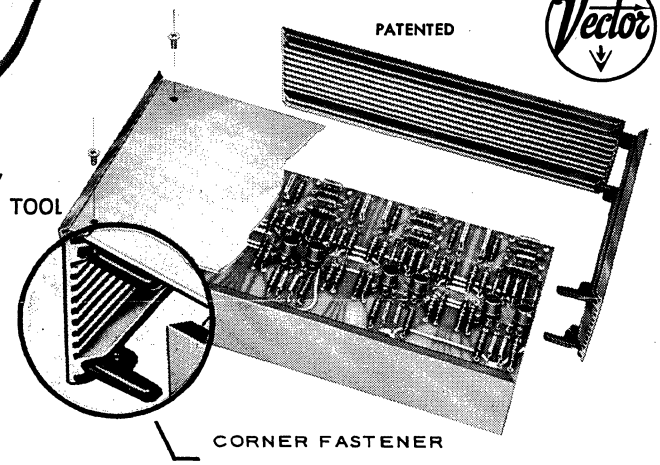






P147 CRIMPING TOOL

PATENTED



CORNER FASTENER BRACKET DETAIL

Make handsome, sleek aluminum cases for circuit boards in seconds with these new extruded aluminum rails. Each rail has extruded grooves running lengthwise so boards may be "stacked" if desired or shielded between with aluminum plates. Unique corner brackets, lockwashers and screws furnished with all mitred rails fasten corners together for chassis or complete boxes, or furnish your own covers. 24" unmitred pieces supplied for making required lengths. P147 Tool crimps corner joints permanently on inside of case.

FRAME-LOC CASE AND CHASSIS RAILS FOR 1/16" AND 3/32" BOARDS — PRICES ARE PER PAIR

Overall Length	End Type	1" Wide for 1/16" Boards	Price 1-49 Pr.	1.6" Wide for 1/16" Boards	Price 1-49 Pr.	2" Wide for 1/16" Boards	Price 1-49 Pr.	2" Wide for 3/32" Boards	Price 1-49 Pr.	3" Wide for 1/16" Boards	Price 1-49 Pr.	4.5" Wide for 1/16" Boards	Price 1-49 Pr.
2.87"	Mitred	SR1-29-062	$1.05	SR16-29-062	$1.18	SR2-29-062	$1.21			SR3-29-062	$1.28	SR45-29-062	$1.55
3.11"	Mitred	SR1-31-062	1.07	SR16-31-062	1.21	SR2-31-062	1.23	SR2-30-093	$1.23	SR3-31-062	1.31	SR45-31-062	1.59
4.61"	Mitred	SR1-46-062	1.18	SR16-46-062	1.39	SR2-46-062	1.44	SR2-46-093	1.44	SR3-46-062	1.52	SR45-46-062	1.91
4.91"	Mitred	SR1-49-062	1.19	SR16-49-062	1.40	SR2-49-062	1.46	SR2-48-093	1.46	SR3-49-062	1.53	SR45-49-062	1.95
6.61"	Mitred	SR1-66-062	1.40	SR16-66-062	1.68	SR2-66-062	1.72	SR2-66-093	1.72	SR3-66-062	1.85	SR45-66-062	2.40
8.0"	Mitred	SR1-80-062	1.51	SR16-80-062	1.83	SR2-80-062	1.86	SR2-80-093	1.86	SR3-80-062	2.02	SR45-80-062	2.67
8.61"	Mitred	SR1-86-062	1.53	SR16-86-062	1.87	SR2-86-062	1.92	SR2-85-093	1.92	SR3-86-062	2.06	SR45-86-062	2.76
10.0"	Mitred	SR1-100-062	1.71	SR16-100-062	2.10	SR2-100-062	2.21	SR2-100-093	2.21	SR3-100-062	2.30	SR45-100-062	3.10
14.0"	Mitred	SR1-140-062	2.12	SR16-140-062	2.67	SR2-140-062	2.79	SR2-140-093	2.79	SR3-140-062	2.96	SR45-140-062	4.10
17.1"	Mitred	SR1-171-062	2.44	SR16-171-062	3.13	SR2-171-062	3.20	SR2-170-093	3.20	SR3-171-062	3.49	SR45-171-062	4.93
24.0"	*Square	SR1-240-062	2.93	SR16-240-062	3.76	SR2-240-062	3.84	SR2-240-093	3.84	SR3-240-062	4.19	SR45-240-062	5.92

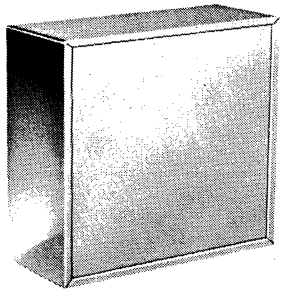
P147 Corner Crimping Tool — Any Quantity $6.59 each.

*24" Lengths supplied square cut and no fasteners — all others 45° mitred with corner brackets, lockwashers and screws. (Supplied in pairs.) Other square cut lengths available — see Vector General Catalog.

COVER PLATES (.064" Thick Aluminum)

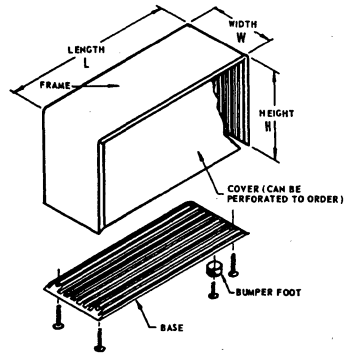
Catalog No.	Length	Width	Price 1 - 49	Catalog No.	Length	Width	Price 1 - 49
PL2746	4.5	2.750	$ .48 each	PL4597	9.7	4.500	$1.22 each
PL4546	4.5	4.500	.63 each	PL8097	9.7	8.000	1.71 each
PL8046	4.5	8.000	1.01 each	PL27140	14.0	2.750	1.19 each
PL2766	6.5	2.750	.52 each	PL45140	14.0	4.500	1.31 each
PL4566	6.5	4.500	.69 each	PL80140	14.0	8.000	2.45 each
PL8066	6.5	8.000	1.25 each	PL48-170-Pkg 2	17.0	4.800	4.14 pair
PL48-85-Pkg 2	8.5	4.800	2.74 pair	PL85-170-Pkg 2	17.0	8.500	6.29 pair
PL2797	9.7	2.750	.70 each				

MULTI-MOD CASES



W20-46-46

PATENTED FEATURES



These quietly handsome and strong aluminum cases with internally grooved surfaces for 1/16" panels can rest on any face and provide table top housings for instruments, circuitry, controls, miscellaneous small equipment. Bases remove quickly for ready access; good R.F.I. shielding is provided by overlapping cover joints. 14 standard sizes from 1.6" x 3.1" x 3.1" to 4.5" x 14" x 8" are available.

CAT. No.	WIDTH	LENGTH	HEIGHT	PRICE 1 - 49
W16-31-31	1.6"	3.10"	3.10"	$ 3.41
W20-46-31	2.0"	4.61"	3.10"	3.93
W20-46-46	2.0"	4.61"	4.61"	4.34
W20-66-46	2.0"	6.61"	4.61"	5.15
W30-66-46	3.0"	6.61"	4.61"	5.25
W30-86-46	3.0"	8.61"	4.61"	5.56
W30-100-46	3.0"	10.00"	4.61"	6.20
W30-100-66	3.0"	10.00"	6.61"	7.80
W30-100-80	3.0"	10.00"	8.00"	8.05
W30-140-80	3.0"	14.00"	8.00"	10.10
W45-66-46	4.5"	6.61"	4.61"	5.94
W45 86-46	4.5"	8.61"	4.61"	6.95
W45-100-46	4.5"	10.00"	4.61"	7.36
W45-140-80	4.5"	14.00"	8.00"	11.78
FT-1-Pkg 8		Rubber Bump Feet		.58 Pkg

VECTOR ELECTRONIC CO., INC.

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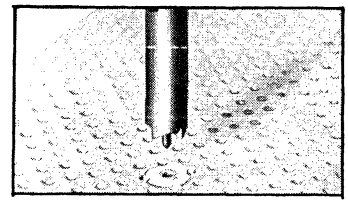
INTEGRATED CIRCUIT SOCKETS (D.I.P.)

D.I.P. Socket
R714 and R716
Wire Wrap Type

New D.I.P. R-714 Sockets, available with leads fitting .042 holes, R-714-1 intended for soldering directly to P.C. pads. R-716 and R-716-1 have 16 contacts and leads in similar arrangement, with 8 leads per side instead of 7.

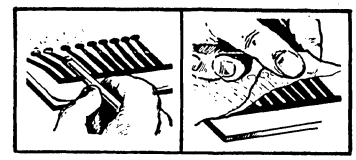
CAT. NO.	DESCRIPTION	PRICE
R-714 (Pkg. 4)	Wire-wrap leads. 14 contacts on R-714, 16 contacts on R-716. Glass filled nylon, Phos. brz. nickel, gold plated contacts.	$3.26/pkg.
R-716 (Pkg. 4)		$4.76/pkg.
R-714-1 (Pkg. 4)	R-714-1, 14 contacts; R-716-1, 16 contacts. Poly-carbnte. casting, Phos. brz. tin pltd. contacts.	$2.55/pkg. Short Tabs
R-716-1 (Pkg. 4)		$2.90/pkg. Short Tabs

Vector Vector



PAD CUTTER TOOLS — Use for isolating terminals from rest of copper cladding. Tools have pilot pin which enters prepunched Vectorbord holes. Rotation of cutter leaves center copper "do-nut" around hole to provide solder tie for terminals. Shank type fits hand or machine drill chuck accepting 1/8" or 1/4" drill. Handle types are for hand use.

Cat. No.	Pilot Pin Dia.	Ring O.D.	Handle	Price
P116	.055	.250	No	$1.85
P116A	.055	.188	No	1.98
P116B	.055	.250	Yes	2.45
P116C	.055	.188	Yes	2.58
P138A	.040	.125	Yes	2.58
P138C	.040	.125	No	1.98
P138D	.022	.125	Yes	2.58
P138E	.022	.125	No	1.98

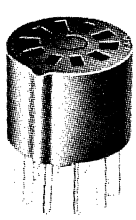


RUB-ON RESIST for making prototype etched circuits. Eliminates messy tape and eliminates undercutting at circuit junctions. Resist ink is printed on semitransparent film sheets 10" x 15" and transfers onto copper clad board when back is rubbed with ball point pen. Available in multipurpose printed sheets with assortment of various width lines, pads, circles and 43 contact connector with .156" spaced contacts or specialized sheets shown below. Works in ferric chloride or ammonium persulfate etchant.

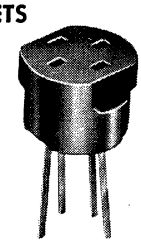
Cat. No.	Description	$2.00 per Sheet
R322	All purpose sheet with connect. pattern	
R405	Sheet of assorted straight lines	
R406	Transistor Pad patterns	
R393A-1	Letters and numbers, black ink, Display and etch use	
R393A-2	Letters and numbers, white ink, Display and etch use	

Vector Vector

I.C.P. AND TRANSISTOR SOCKETS



RA 10
I.C.P. Socket

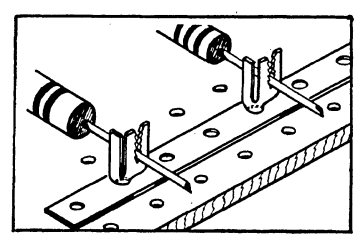


RA 9
Transistor Socket

Transistor Sockets accept 4 leads on 0.2" diam. circle. MFE and Beryl. Cop.

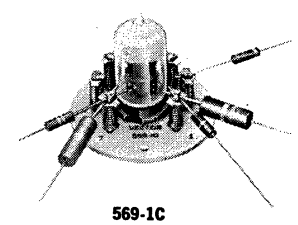
I.C.P. Sockets fit TO-5 size, 8 or 10 leads. Formed to insert in 0.1" grid holes (P or H pattern bds.) D.A.P. body and Beryl. copper contacts.

CAT. NO.	NO. TABS	SADDLE	PRICE 1 - 49
RA-9	4	No	.38
RA-9.1	4	Yes	.45
RA-88	8	No	.93
RA-10	10	No	.99



Prepunched narrow brass tinned strip mounts to prepunched boards with Zip Push-In terminals or screws. Make connections wherever required quickly. New T104 type has .2" spaced holes for convenient mounting on "E", "F", "G", or "H" pattern prepunched Vectorbord.

Cat. No.	Description	Price
T57	16" long. .093" holes spaced .265"	$1.21/Pkg. 10
T58	8" long. .093" holes spaced .265"	.77/Pkg. 10
T104	17" long. .062" holes spaced .2"	1.21/Pkg. 10



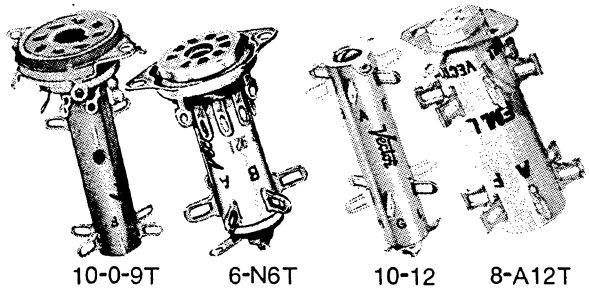
569-1C

SOLDERLESS SOCKETS save experimental time. Multiple connections can be made to any pin by connecting wires to corresponding SOLDERLESS SPRINGCLIP TERMINAL which is permanently connected to socket contact. Tube socket types mount on Vectorbord with furnished hardware; 570B press fits.

Cat. No.	Description	Price
567-1C	Solderless Octal Socket	$1.50
568-1C	Solderless Noval (9 pin) Socket	1.65
569-1C	Solderless Miniature (7 pin) Socket	1.35
570B	Solderless Universal Transistor Socket	1.20

Vector Vector

POST SOCKET TURRETS



10-0-9T 6-N6T 10-12 8-A12T

Vector Socket, Terminal and Transistor Turrets simplify electronic construction. Faster wiring, greater component density and higher reliability are assured by their use. Transistor sockets accommodate 3-in-line or "top-hat" transistors. Commercial types have mica filled sockets, hot tin dipped steel saddles and XXXP phenolic turret posts with brass tinned terminals. Military types (premium grade) have MIL sockets with beryllium copper silver plated socket contacts, brass nickel plated hot tin dipped saddles and glass silicone turret posts with tinned brass terminals.

PATENTED

Catalog Numbers Comm. Types	Military Types	Turret Details Height	No. of Term.	No. of Rings	Space Between Rings	Net Price Comm. Type 1-49
		OCTAL SOCKET TURRETS				
*8-0-9T	681	2"	9	2	1"	$ .65
*10-0-9T	683	2½"	9	2	1⅜"	.69
		7-PIN SOCKET TURRETS				
*6-M-6T	687	1½"	6	1	—	.69
*8-M-9T	688	2"	9	2	1"	.76
		9-PIN SOCKET TURRETS				
*6-N-6T	693	1½"	6	1	—	.69
*8-N-9T	694	2"	9	2	1"	.76
		TERMINAL TURRETS				
8-12	677	1-27/32"	12	2	1"	.58
10-12		2"	12	2	1⅜"	.62
		TRANSISTOR TURRETS				
8-A-12T	678	2-11/32"	12	2	1⅜"	1.18

Note: Tolerance on dimensions 1/16"
***Indicates preferred types.**
Longer or shorter types and other terminal configuration to order.

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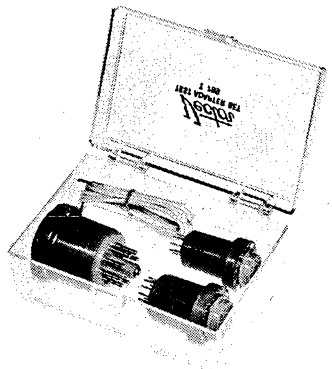
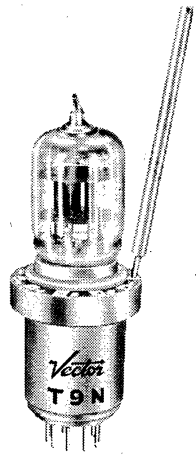
Vector TUBE SOCKET TEST ADAPTERS



T-789



T9N

TUBE SOCKET TEST ADAPTERS are ideal for making voltage resistance and wave form measurements from the tube side of electronic equipment. To use, insert adapter between tube and socket, and replace tube in adapter socket. Special test tabs are recessed on the adapter skirt and have a hole to grip test probe and protect operator's fingers during insertion and withdrawal. Regular alligator test-clipped probes also hold on tab and socket. Castings are low loss phenolic and fit all shield bases for miniature and noval type or into standard tube clamps. Reduced body diameter permits insertion into new telescoping shields. Adapter socket contacts are beryllium copper, silver plated for long life and low resistance. Electrostatic capacity between adjacent leads of the adapter is approximately 1 micro-micro-farad. Flash over voltage between adjacent terminals is in excess of 1500 volts DC.

Kit T789 consists of the three popular "must have" sizes, 7-pin miniature, 8-pin octal, 9-pin noval and a P1 probe in a handy clear plastic carrying case.

Ordering Information

Cat. No.	Tube Type	Body Dia.	Skirt Dia.	Length Less Prongs	Price 1-19
T-4	4 Pin	1.26	1.56	1.50	$3.18
T-5	5 Pin	1.26	1.56	1.50	3.10
T-6	6 Pin	1.26	1.56	1.50	3.18
T-7-0	7 Pin Small	1.26	1.56	1.50	3.25
T-7-L	7 Pin Large	1.45	1.75	1.50	3.25
T-7-M	7 Pin Min.	0.75	1.03	1.50	1.65
T-8-0	8 Pin Octal	1.25	1.56	1.50	1.75
T-9-N	9 Pin Noval	0.87	1.16	1.50	1.85
T789	Set of types T-7-M, T-8-0, T-9-N, P1, in case.				5.90
P1	Plug-in Probe with 30" lead.				.52

Special Adapters Designed to Customer Specifications—Write Factory.

EXPERIMENTER'S TEST ADAPTERS SOCKET EXTENDERS

EXPERIMENTER'S TEST ADAPTERS. These are similar to the Socket Test Adapter but are less the shells and tabs so that connections can be cross-connected in any desired way. User must solder connections.

SOCKET EXTENDERS provide a replaceable unit for use in tube testers and expensive meters. Wear is shifted from the socket in the tester to the one in the extender. Sockets have beryllium copper silver plated contacts for long life. An all molded outside shell is used with socket leads soldered to plug pins.

TX-8-0
OCTAL

Experimenter's Test Adapters

Cat. No.	Socket Type	Net Price 1-19
TX-8-0	Octal	$2.47
TX-7-M	Miniature	.88
TX-9-N	Noval	.94
TX-789	Set of above three in kit	4.62

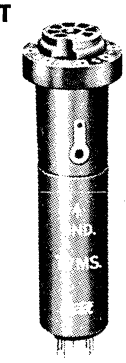
1264
7 P. MINIATURE

Socket Extenders

Cat. No.	Socket Type	Net Price 1-19
1262	Octal 8	$1.75
1263	9 P. Noval	1.75
1264	7 P. Miniature	1.75

EXTENDED TUBE SOCKET TEST ADAPTERS

For most work the short, unshielded adapters are adequate. For hard to reach locations or where surrounding equipment restricts use of regular test adapters, the 3 to 4 inch extended adapter may be used. In these the leads between plug and socket are individually shielded to minimize coupling. The shield is brought out to a lug on the wall of the adapter and should be connected to the chassis being tested. Capacity to shield is approx. 8 mmf. per lead.

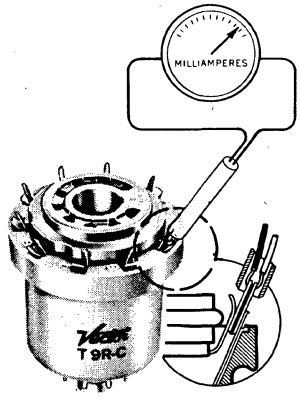


T7MS

Ordering Information

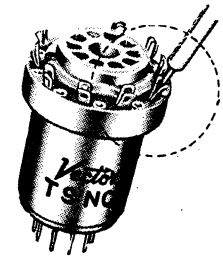
Cat. No.	Tube Type	Body Dia.	Skirt Dia.	Length Less Prongs	Price 1-19
T-7-M-S	7 Pin Min.	0.75	1.03	3.25	$5.91
T-8-0-S	8 Pin Octal	1.25	1.56	4.00	6.60
T-9-N-S	9 Pin Noval	0.87	1.16	3.25	6.60
P1	Plug-in Probe with 30" lead				.52
T-789-S	Set of above in case				19.47

CURRENT TEST ADAPTERS



T9R-C
WITH P-2 PROBE

VECTOR CURRENT TEST ADAPTERS have two spring test tab elements for each pin. These test tab elements break the circuit when a dual-sided probe is inserted in test position. Probes are gripped by the test tabs and need not be held in position. Current is read at the meter where the two test leads are connected. The same test adapters and probe also permit voltage and wave form readings on any pin position, merely by connecting the leads jointly to the meter. The adapters have mica-filled shell and keyways, and may be used in a horizontal or vertical position.



Ordering Information

Cat. No.	Type	Net Price 1-19
T-7-M-C	7 Pin Min.	$2.53
T-8-0-C	8-Pin Octal	3.19
T-9-N-C	9 Pin Noval	2.70
T-9-R-C	9 Pin Novar	3.65
T-12-C	12 Pin Compactron	3.85
P-2	Dual Sided Plug-in Probe, Required for above. Any Quantity	.79
T-789-C	Set of First 3 Adapters With P-2 Probe in Case	9.74
T-912-C	Set of Novar and Compactron Adapters With P-2 Probe in Case	8.29

Versatile VECTOR CURRENT TEST ADAPTERS make possible tube circuit current or voltage measurements without cutting leads or making computations. All measurements may be made from the tube side of the electronic equipment without disturbing the chassis.

VECTOR ELECTRONIC CO., INC.

Net
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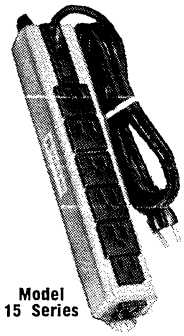
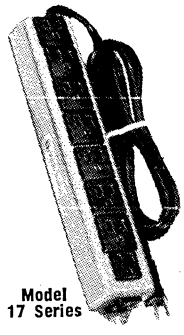
WABER *Heavy Duty* OUTLET BOXES

waber ELECTRONICS INC


Model 15 Series

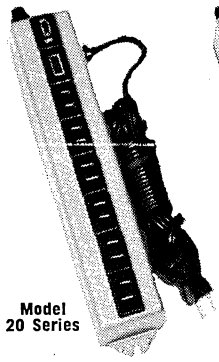

Model 17 Series

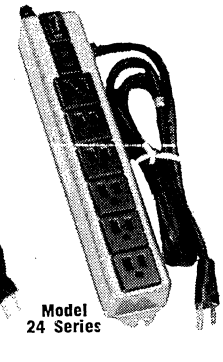
THESE POPULAR WABER HEAVY-DUTY ELECTRICAL OUTLET BOXES COMPLETELY WIRED FOR USE . . . IDEAL FOR LAB, SCHOOL OR INDUSTRY

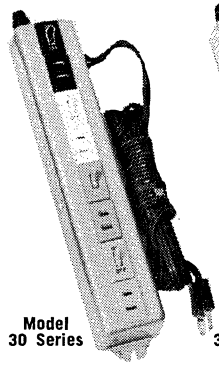
Here are eight series of Waber Models of proven utility. Models 15 and 17 are in-line units designed for series stringing with an outlet on one end and the cord-set coming out of the other. Model 15 is the control unit, with "on-off" switch, pilot light, fuse or circuit breaker, and seven "U" ground outlets. Model 17 is the slave unit, with 9 "U" ground outlets only.

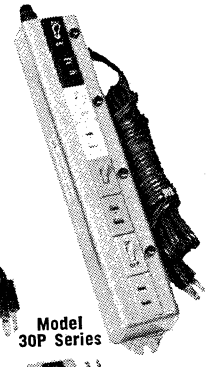
Waber Models 20 and 24 have 6 outlets controlled by an "on-off" switch, pilot light, and panel-mounted fuse or circuit breaker. Model 20 is of the 2-wire type and Model 24 is the 3-wire "U" ground type.

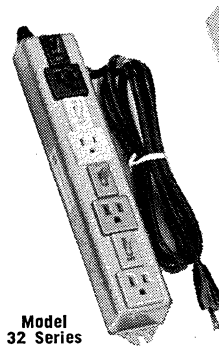
Waber Models 30 and 32 feature 4 color-coded switch-outlet sets, protected by either a fuse or circuit breaker. Model 30 is the 2-wire type and Model 32 is the 3-wire "U" ground type. These same units are available with a pilot light for each switch outlet group in the Models 30P and 32P series.

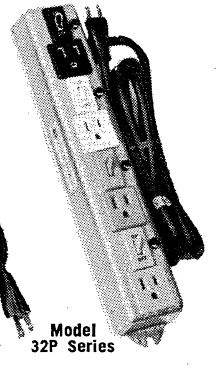

Model 20 Series


Model 24 Series


Model 30 Series


Model 30P Series


Model 32 Series


Model 32P Series

	NET
Model 15 (fuse, 6′ cord-set)	$ 8.75
Model 15-15 (fuse, 15′ cord-set)	9.75
Model 15CB (circuit breaker, 6′ cord-set)	9.75
Model 15CB-15 (circuit breaker, 15′ cord-set)	10.75
Model 17 (6′ cord-set)	6.75
Model 17-15 (15′ cord-set)	7.75
Model 20 (fuse, 10′ cord-set)	5.95
Model 20CB (circuit breaker, 10′ cord-set)	6.95
Model 24 (fuse, 6′ cord-set)	8.50
Model 24-15 (fuse, 15′ cord-set)	9.50
Model 24CB (circuit breaker, 6′ cord-set)	9.50
Model 24CB-15 (circuit breaker, 15′ cord-set)	10.50
Model 30 (fuse, 10′ cord-set)	5.95
Model30CB (circuit breaker, 10′ cord-set)	6.95
Model 30P (fuse, 10′ cord-set)	7.50
Model 30PCB (circuit breaker, 10′ cord-set)	8.50

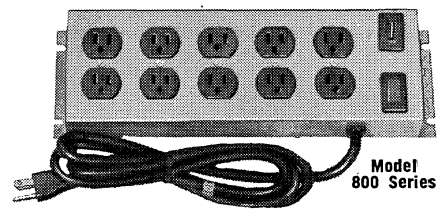
	Net
Model 32 (fuse, 6′ cord-set)	8.50
Model 32-15 (fuse, 15′ cord-set)	9.50
Model 32CB (circuit breaker, 6′ cord-set)	9.50
Model 32CB-15 (circuit breaker, 15′ cord-set)	10.50
Model 32P (fuse, 6′ cord-set)	10.50
Model 32P-15 (fuse, 15′ cord-set)	11.50
Model 32PCB (circuit breaker, 6′ cord-set)	11.50
Model 32PCB-15 (circuit breaker, 15′ cord-set)	12.50

SPECIFICATIONS — Panel-mounted fuse or circuit breaker ■ Tough HSJ cord-set ■ All snap-in components, fuse posts, circuit breakers, cord-sets UL approved ■ Rated 15 amperes 130 volts continuous duty ■ 12¾″ mounting centers ■ Size: 13⅛″x2⅜″x1⅝″ ■ Steel case finished in silver gray textured hammertone ■ Convenient mounting ears.

WABER 800 SERIES IN "U" GROUND, LOCKING, OR CROW'S FOOT TYPES

Ten duplex outlets, available in "U" ground, locking, or crow's foot types (with matching plug), are provided with "on-off" switch, neon pilot light, panel mounted fuse or circuit breaker, and your choice of a 6′ or 15′ Waber HSJ cord-set.

UL approved components • Rated at 15 Amperes, 130 Volts Continuous Duty • Steel Case Finished in Silver Gray Textured Hammertone • 12⅞ x 2⅞″ Mounting Centers • Size: 13¼″ x 4¼″ x 1½″.


Model 800 Series

MODEL 800 SERIES, "U" GROUND OUTLETS

	NET
Model 800 (fuse, 6′ cord-set)	$13.50
Model 800-15 (fuse, 15′ cord-set)	14.50
Model 800CB (crct. brkr., 6′ cord-set)	14.50
Model 800CB-15 (crct. brkr., 15′ cord-set)	15.50

MODEL 801 SERIES, LOCKING TYPE OUTLETS

Model 801 (fuse, 6′ cord-set)	29.95
Model 801-15 (fuse, 15′ cord-set)	30.95
Model 801CB (crct. brkr., 6′ cord-set)	30.95
Model 801CB-15 (crct. brkr., 15′ cord-set)	31.95

MODEL 802 SERIES, CROW'S FOOT TYPE OUTLETS

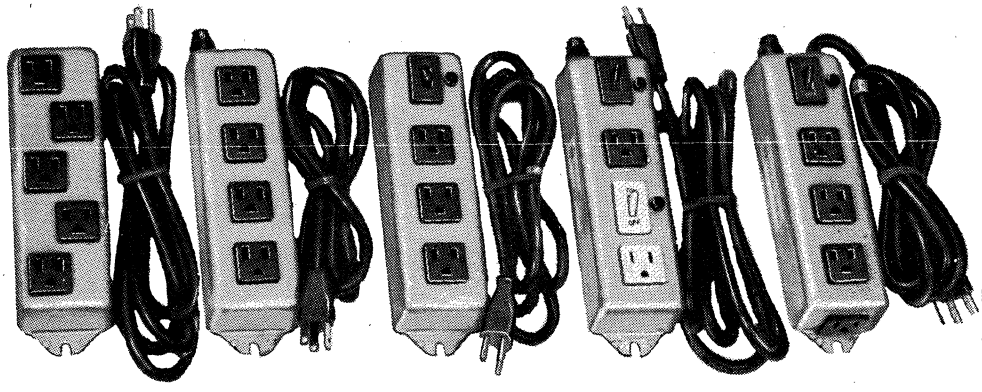
Model 802 (fuse, 6′ cord-set)	$34.95
Model 802-15 (fuse, 15′ cord-set)	35.95
Model 802CB (crct. brkr., 6′ cord-set)	35.95
Model 802CB-15 (crct. brkr., 15′ cord-set)	36.95

Dual Grounding Protection — In addition to being grounded to the case through contact with the mounting clips, Waber Models 15, 17, and 24 are tied together electrically with a third ground wire.

WABER ELECTRONICS INC.

Compact OUTLET BOXES

waber
ELECTRONICS INC



Model 602 Model 603 Model 605 Model 606 Model 608

CHOOSE THE WABER "COMPACT" TAILOR MADE FOR YOUR APPLICATION FROM THESE POPULAR HEAVY-DUTY MODELS

Compact in size, these sturdy Waber units provide quality "U" ground type outlets in a variety of configurations for schools, labs, or industry. They are particularly useful for OEM applications. Custom variations can be made to meet your specific needs.

MODEL 602 SERIES, 5 "U" Ground Outlets Only

	Net
Model 602 (6' cord-set)	$4.80
Model 602-15 (15' cord-set)	5.80

MODEL 603 SERIES, 4 "U" Ground Outlets, Fuse or Push-To-Reset Circuit Breaker

Model 603 (fuse, 6' cord-set)	$5.25
Model 603-15 (fuse, 15' cord-set)	6.25
Model 603CB (circuit breaker, 6' cord-set)	6.25
Model 603CB-15 (circuit breaker, 15' cord-set)	7.25

MODEL 605 SERIES, 3 "U" Ground Outlets, Pilot Light, On-Off Switch, Fuse or Push-To-Reset Circuit Breaker

Model 605 (fuse, 6' cord-set)	$5.95
Model 605-15 (fuse, 15' cord-set)	6.95
Model 605CB (circuit breaker, 6' cord-set)	6.95
Model 605CB-15 (circuit breaker, 15' cord-set)	7.95

MODEL 606 SERIES, 2 Color-Coded Sets (Switch, Pilot Light, Outlet) Fuse or Push-To-Reset Circuit Breaker

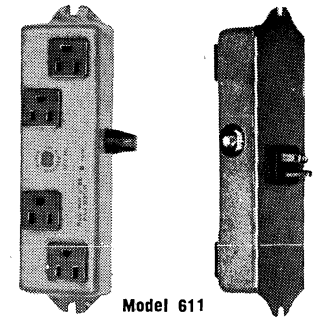
Model 606 (fuse, 6' cord-set)	$5.95
Model 606-15 (fuse, 15' cord-set)	6.95
Model 606CB (circuit breaker, 6' cord-set)	6.95
Model 606CB-15 (circuit breaker, 15' cord-set)	7.95

MODEL 608 SERIES, Pilot Light, On-Off Switch, Fuse or Push-To-Reset Circuit Breaker, and 4 "U" Ground Outlets. Outlet On One End and Cord-Set Out Other End For Series-String Wiring.

Model 608 (fuse, 6' cord-set)	$6.50
Model 608-15 (fuse, 15' cord-set)	7.50
Model 608CB (circuit breaker, 6' cord-set)	7.50
Model 608CB-15 (circuit breaker, 15' cord-set)	8.50

SPECIFICATIONS: Tough HSJ UL approved cord-set ■ Rated at 15 amperes, 130 volts continuous duty ■ Steel case finished in silver gray textured hammertone ■ Your choice of UL approved fuse or push-to-reset circuit breaker ■ All 600 series models have 8¼" mounting centers, Size 8⅝" x 2¼" x 1½".

NEW! U-GROUND PLUG-IN WALL OUTLET

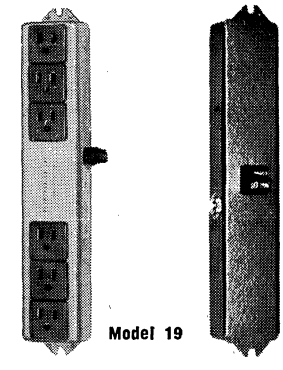


Model 611

Get four "U" ground outlets from one wall outlet with this new Waber Model 611 outlet box. Mounting ears enable you to fasten unit to wall securely. Fuse or push-to-reset circuit breaker.

	Net
Model 611 (fuse)	$4.75
Model 611CB (circuit breaker)	5.75
Model 611B (no fuse or crct. bkr.)	4.25

6 OUTLETS FROM ONE WALL OUTLET



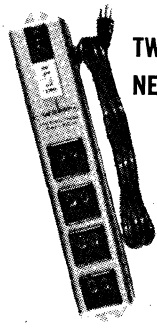
Model 19

Male plug-in base enables you to multiply your outlets. Plug-in male outlet and secure mounting ears. You get 6 heavy duty "U" ground outlets, protected by a panel mounted fuse or circuit breaker.

Model 19 (fuse)	$6.75
Model 19CB (circuit breaker)	7.75
Model 19B	6.25

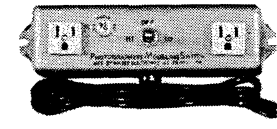
PHOTO AIDS

WABER ELECTRONICS INC.



TWO WABER MODELING SWITCHES NEWEST PHOTO STUDIO ACCESSORIES

Photofloods last longer... lots, lots longer! And it licks the heat problem, too. Flick the switch to "low" and you have the shadows you need to properly position and focus your subject. When you're ready to shoot, flick the switch to "high" and the lights come on at maximum brilliance.



	NET
Model 210 (for two bulbs of the same type. Up to 1650 watts, total)	$5.97
Model 211 (for up to four bulbs of any type. Max. 1650 watts, total)	10.89

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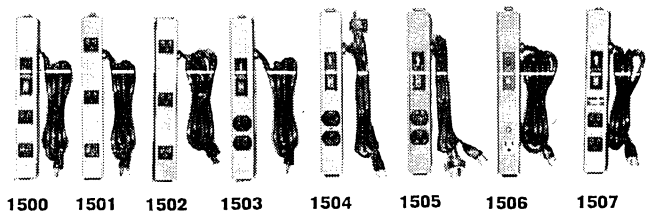
WABER Pick-a-Strip OUTLET BOXES

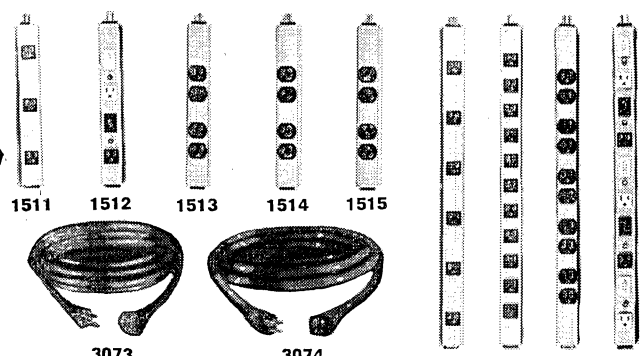
NEW! WABER "PICK-A-STRIP" LETS YOU MIX 'EM OR MATCH 'EM FOR ANY COMBINATION — ANY LENGTH

TAKE ANY ONE OF THESE MASTERS



1500 1501 1502 1503 1504 1505 1506 1507

AND ADD ANY COMBINATION OF THESE SLAVES



1511 1512 1513 1514 1515

3073 3074

1520 1521 1522 1523

Now you can combine any variety of slaves to any master to give you outlets . . . as you want them . . . controlled by the master best suited for your requirements. You can intermix slaves, add to make any desired length, and space out with Waber high quality extension cords, permitting placement of Pick-A-Strip units where you want them. These outlet boxes provide a high degree of flexibility never before available, and they are completely wired, ready to plug in. Make your choice from the wide variety shown here, and have exactly what you need.

All units are of sturdy seamless steel construction, finished in silver gray hammertone. Rating is 15 amperes, 130 volts continuous duty. The master and slave units are 12¾" L x 1 11/16" W x 1½" H with 12⅜" mounting centers. The 24" models are 24¾" L x 1 11/16" W x 1½" H with 24⅜" mounting centers.

The timer models are slightly larger in size, but mate perfectly with all other "Pick-A-Strip" units. Their size is 12¾" L x 1½" H with 12⅜" mounting centers.

WABER MASTER UNITS

WABER MODEL 1500 SERIES

This popular model has 2 "U" ground outlets in addition to the female through connector, on-off switch, pilot light, and your choice of fuse or circuit-breaker protection and 6 or 15 foot neoprene cord-set. Component parts are UL approved.

	Net
Model 1500 (fuse, 6′ cord-set)	$6.95
Model 1500-15 (fuse, 15′ cord-set)	7.95
Model 1500CB (circuit breaker, 6′ cord-set)	7.95
Model 1500CB-15 (circuit breaker, 15′ cord-set)	8.95

WABER MODEL 1501 SERIES

Provided with this model are 3 "U" ground outlets in addition to the female through connector. These units have fuse or circuit breaker protection, and 6- or 15-foot neoprene cord-set.

	Net
Model 1501 (fuse, 6′ cord-set)	$6.50
Model 1501-15 (fuse, 15′ cord-set)	7.50
Model 1501CB (circuit breaker, 6′ cord-set)	7.50
Model 1501CB-15 (circuit breaker, 15′ cord-set)	8.50

WABER MODEL 1502 SERIES

This unit has 3 "U" ground outlets in addition to the female through connector. This unit has outlets only and your choice of 6- or 15-foot cord-set. UL approved components.

	Net
Model 1502 (6′ cord-set)	$5.25
Model 1502-15 (15′ cord-set)	6.25

WABER MODEL 1503 SERIES

This series features a duplex "U" ground outlet in addition to the female through connector, on-off switch, bright pilot light, your choice of fuse or circuit breaker protection, and 6 or 15-foot neoprene cord-set. Components are UL approved.

	Net
Model 1503 (fuse, 6′ cord-set)	$6.95
Model 1503-15 (fuse, 15′ cord-set)	7.95
Model 1503CB (circuit breaker, 6′ cord-set)	7.95
Model 1503CB-15 (circuit breaker, 15′ cord-set)	8.95

WABER MODEL 1504 SERIES

This is the same as 1503 series above except that the duplex outlet is of the locking type.

	Net
Model 1504 (fuse, 6′ cord-set)	$15.50
Model 1504-15 (fuse, 15′ cord-set)	16.50
Model 1504CB (circuit breaker, 6′ cord-set)	16.50
Model 1504CB-15 (circuit breaker, 15′ cord-set)	17.50

WABER MODEL 1505 SERIES

This is the same as Model 1503 series except that the duplex outlet is a crow's foot type.

	Net
Model 1505 (fuse, 6′ cord-set)	$15.50
Model 1505-15 (fuse, 15′ cord-set)	16.50
Model 1505CB (circuit breaker, 6′ cord-set)	16.50
Model 1505CB-15 (circuit breaker, 15′ cord-set)	17.50

WABER MODEL 1506 SERIES

This unit has a master on-off switch, pilot light, "U" ground outlet controlled by its own switch and pilot light and female through connector. Your choice of fuse or circuit breaker protection, 6 or 15-foot neoprene cord-set.

	Net
Model 1506 (fuse, 6′ cord-set)	$7.50
Model 1506-15 (fuse, 15′ cord-set)	8.50
Model 1506CB (circuit breaker, 6′ cord-set)	8.50
Model 1506CB-15 (circuit breaker, 15′ cord-set)	9.50

WABER MODEL 1507 SERIES

This versatile unit has 2 "U" ground outlets, on-off switch, pilot light, and a 0 to 150 volt edgewise reading AC voltmeter. Choice of fuse or circuit breaker protection, 6 or 15-foot neoprene cord-set. In addition, unit has a female through connector.

	Net
Model 1507 (fuse, 6′ cord-set)	$8.95
Model 1507-15 (fuse, 15′ cord-set)	9.95
Model 1507CB (circuit breaker, 6′ cord-set)	9.95
Model 1507CB-15 (circuit breaker, 15′ cord-set)	10.95

WABER SLAVE MODELS

All of the slave models listed below are designed with a male connector on one end and a standard "U" ground female connector on the other end. This enables these units to be plugged one into the other. These connectors are in addition to the components listed below.

	Net
Model 1511 (3 "U" ground receptacles)	$3.75
Model 1512 (2 "U" ground outlets each controlled by its own color coded switch and pilot light)	5.00
Model 1513 (Four "U" ground outlets)	3.75
Model 1514 (4 locking outlets, duplex type)	10.75
Model 1515 (4 crow's foot outlets, duplex type)	10.75

WABER 24 INCH SLAVE MODELS

	Net
Model 1520 (6 "U" ground outlets)	$6.95
Model 1521 (11 "U" ground outlets)	8.50
Model 1522 (10 "U" ground outlets, duplex type)	6.95
Model 1523 (5 "U" ground outlets, each controlled by its own on-off switch and pilot light, color coded)	9.50

WABER TIMER SLAVE MODEL

	Net
Model 1516 12-hour timer and 2 "U" ground outlets. Timer turns off at end of cycle)	$12.60
Model 1517 (12-hour timer and 2 "U" ground outlets. Timer turns on at end of cycle)	12.60

WABER NEOPRENE EXTENSION CORDS

These quality extension cords are ideal as spacers between slave units or can be used instead of a master unit. Insulation on both conductors and outer jacket is finest heat and oil resistant duPont neoprene. All plugs and receptacles are molded on. These UL approved cord-sets are rated at 15 amperes, 130 volts.

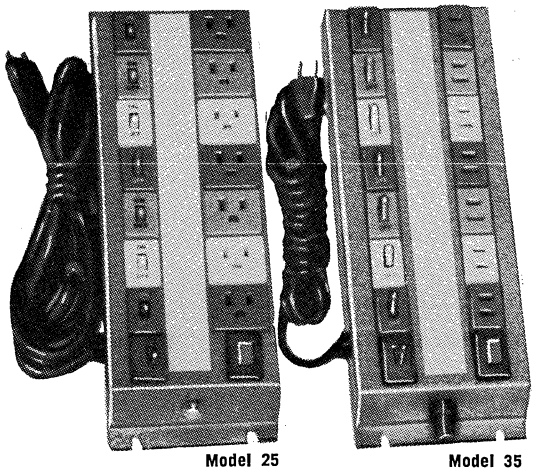
	Net
Model 3073 (7′ extension cord)	$2.61
Model 3074 (16′ extension cord)	4.43

DeLuxe OUTLET BOXES

waber

ELECTRONICS INC

NEED A SPECIAL?
Tell us what you need and we will design a unit to meet your exact requirements . . . quickly and economically.

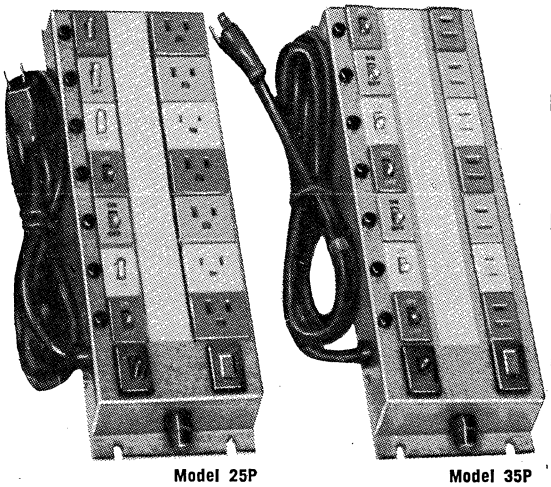


Model 25 Model 35

WABER HEAVY-DUTY OUTLET BOXES FEATURE INDIVIDUAL AND MASTER CONTROL IN CONTRASTING COLORS

Waber Deluxe Models 25 and 35 provide 7 color-keyed switch-outlet groups, a panel mounted fuse or circuit breaker, pilot light, and a master "on-off" switch. These models feature a center "write-on" strip for immediate identification. The 25 series is the "U" ground type with your choice of a 6 or 15-foot Waber HSJ cord-set. Model 35 is the 2-wire type with 10-foot neoprene cord-set.

Waber Deluxe Models 25P and 35P series have the same configuration as the 25 and 35, with the addition of a bright pilot light for each switch-outlet set. All Waber outlet boxes are pre-wired, ready for use.



Model 25P Model 35P

	NET
Model 25 (fuse, 6′ cord-set)	$15.50
Model 25-15 (fuse, 15′ cord-set)	16.50
Model 25CB (circuit breaker, 6′ cord-set)	16.50
Model 25CB-15 (circuit breaker, 15′ cord-set)	17.50
Model 35 (fuse, 10′ cord-set)	13.50
Model 35CB (circuit breaker, 10′ cord-set)	14.50
Model 25P (fuse, 6′ cord-set)	$19.50
Model 25P-15 (fuse, 15′ cord-set)	20.50
Model 25PCB (circuit breaker 6′ cord-set)	20.50
Model 25PCB-15 (circuit breaker, 15′ cord-set)	21.50
Model 35P (fuse, 10′ cord-set)	17.50
Model 35PCB (circuit breaker, 10′ cord-set)	18.50

SPECIFICATIONS — Models 25 and 35 Series • Panel Mounted Fuse Or Circuit Breaker • Bright Neon Pilot Light • Seven Color Keyed Switch-Outlet Groups • Tough Waber H5J Cord-Set • UL Approved Components • 13 x 2⅞″ Mounting Centers • Rated at 15 Amperes, 130 Volts Continuous Duty • Steel Case Finished in Silver Gray Textured Hammertone • Shipping Weight: 4 Pounds.

NEW! THESE HANDSOME WABER DELUXE OUTLET BOXES FEATURE OUTLETS CONTROLLED BY 12 HOUR TIMERS

Model 26 Model 27

Model 26P Model 27P

Now you can have the popular Waber Deluxe Models with timers. You can set the timer for up to 12 hours. Two types are available. The timer in Model 26 Series turns power to the unit "on" at the end of the preset time and Model 27 is designed to turn power off at the end of the pre-set time.

	NET
Model 26 (fuse, 6′ cord-set)	$24.00
Model 26-15 (fuse, 15′ cord-set)	25.00
Model 26CB (circuit breaker, 6′ cord-set)	25.00
Model 26CB-15 (circuit breaker, 15′ cord-set)	26.00
Model 26P (fuse, 6′ cord-set)	28.00
Model 26P-15 (fuse, 15′ cord-set)	29.00
Model 26PCB (circuit breaker, 6′ cord-set)	29.00
Model 26PCB-15 (circuit breaker, 15′ cord-set)	30.00
Model 27 (fuse, 6′ cord-set)	24.00
Model 27-15 (fuse, 15′ cord-set)	25.00
Model 27CB (circuit breaker, 6′ cord-set)	25.00
Model 27CB-15 (circuit breaker, 15′ cord-set)	26.00
Model 27P (fuse, 6′ cord-set)	28.00
Model 27P-15 (fuse, 15′ cord-set)	29.00
Model 27PCB (circuit breaker, 6′ cord-set)	29.00
Model 27PCB-15 (circuit breaker, 15′ cord-set)	30.00

WABER ELECTRONICS INC.

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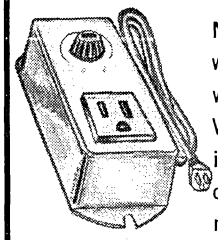
Vari-Fine MOTOR CONTROLLERS

waber
ELECTRONICS INC

NEW VARI-FINE® ONLY 9.95 NET



MODEL 205

Now you can dial the speed you want; the light intensity you want with this newest addition to the Vari-Fine® Motor Controller family. 6′ 3 wire AC cord, "U" ground outlet. Works on universal AC/DC motors. 5 Amps 130 volts.

Model 205 .....$9.95 Net

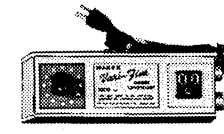
NEW! WABER VARI-FINE® SOLID STATE AC-DC MOTOR SPEED CONTROLLERS

NOW AVAILABLE IN HIGH CURRENT RATINGS AND NEW TWINS FOR TEST AND PRODUCTION WHERE IDENTICAL TWIN UNITS IN A MODERN PACKAGE CAN PROVIDE SPACE SAVING CONVENIENCE.

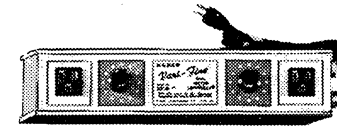
MODEL 200

Waber Vari-Fine Controllers are solid state devices for speed and light control, featuring stepless change from zero to maximum. They provide infinite control of motor speed and light intensity, and can be used to vary the speed of AC/DC motors of the universal type. They handle load currents up to the maximum rating at 117 volts 60 cps. These self contained units may be plugged into any wall outlet and are fused for circuit protection. They are compact and portable. Waber Vari-Fine Controllers have many applications in the home, laboratory, school, or factory where the regulation of motor or light is desirable.

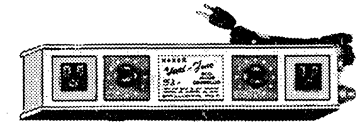
	Net
Model 200 (Rated at 7 amperes, 117 volts)	$14.95
Model 201 (Rated at 12 amperes, 117 volts)	19.95
Model 202 (Twin, rated 7 amperes each half)	26.95
Model 203 (Twin, rated 12 amperes each half)	34.95



MODEL 201

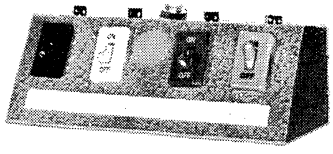


MODEL 202

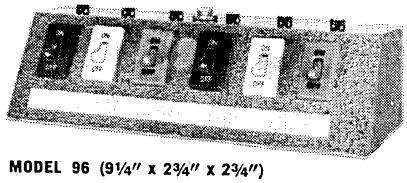


MODEL 203

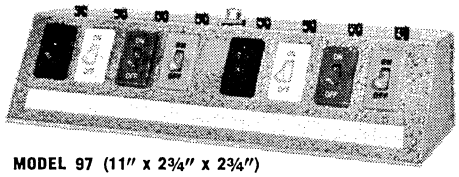
NEW! WABER CONSOLE DESK TOP — LAB TOP MODELS



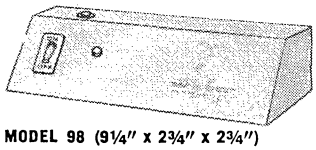
MODEL 95 (7½″ x 2¾″ x 2¾″)



MODEL 96 (9¼″ x 2¾″ x 2¾″)



MODEL 97 (11″ x 2¾″ x 2¾″)



MODEL 98 (9¼″ x 2¾″ x 2¾″)

Nothing is more elegant for the desk or lab and nothing will give you such complete control over instruments and equipment as will these well designed units. Available in 3 different sizes, these models have 4, 6 or 8 "U" ground outlets, each controlled by its own switch and pilot light. The outlets are in the rear of the units. All 3 models are available with circuit breaker or fuse, 6-foot or 15-foot, HSJ cord-set. Rated at 15 amperes, 130 volts.

	Net
Model 95 (fuse, 6′ cord-set)	$12.95
Model 95-15 (fuse, 15′ cord-set)	13.95
Model 95CB (circuit breaker, 6′ cord-set)..	13.95
Model 95CB-15 (circuit breaker, 15′ cord-set)	14.95
Model 96 (fuse, 6′ cord-set)	$15.50
Model 96-15 (fuse, 15′ cord-set)	16.50
Model 96CB (circuit breaker, 6′ cord-set)..	16.50
Model 96CB-15 (circuit breaker, 15′ cord-set)	17.50
Model 97 (fuse, 6′ cord-set)	$19.50
Model 97-15 (fuse, 15′ cord-set)	20.50
Model 97CB (circuit breaker, 6′ cord-set)..	20.50
Model 97CB-15 (circuit breaker, 15′ cord-set)	21.50

Model 98 Series offers a master switch and pilot light controlling six "U" ground outlets on the rear panel. Your choice of fuse or circuit breaker protection, 6 or 15 foot HSJ cord-set.

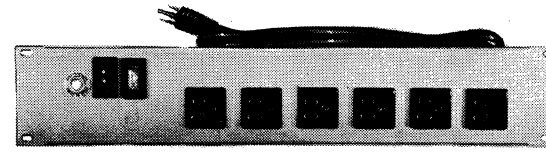
	Net
Model 98 (fuse, 6′ cord-set)	$10.95
Model 98-15 (fuse, 15′ cord-set)	11.95
Model 98CB (circuit breaker, 6′ cord-set)..	11.95
Model 98CB-15 (circuit breaker, 15′ cord-set)	12.95

ALL WABER OUTLET BOXES ARE PREWIRED JUST *Plug-In*

WABER ELECTRONICS INC.

RACK MOUNT OUTLET BOXES

waber
ELECTRONICS INC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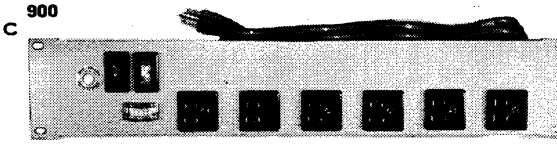
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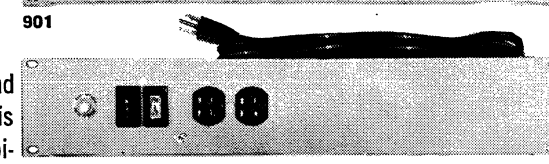
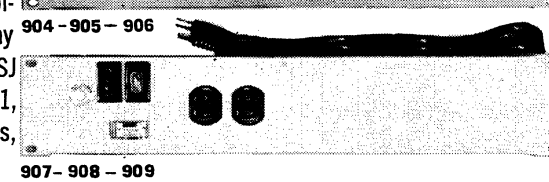

904 - 905 - 906


907 - 908 - 909

POWER UP YOUR RACKS WITH THESE PRE-WIRED WABER OUTLET PANELS

Waber pre-wired, ready-to-use, master power controls provide a quick and easy power source for standard relay racks. You have your choice from this great variety of configurations with outlets on the outside, inside, or combinations of both. Choose the Waber pre-wired panel you need from the many standard units shown here. UL Cord-set is of durable, high quality HSJ heater type. All rack panels are 3½" x 19" in size except series 903, 911, 912, 913 which are 1¾" x 19". All Waber outlet boxes are rated at 15 amperes, 130 volts continuous duty.

WABER MODEL 900 SERIES RACK PANEL OUTLET BOXES

These units feature an "on-off" switch, pilot light, fuse or push-to-reset circuit breaker, 6 "U" ground outlets, and your choice of a 6 or 15-foot neoprene cord-set. All component parts UL approved.

	Net
Model 900 (fuse, 6' cord-set)	$10.95
Model 900-15 (fuse, 15' cord-set)	11.95
Model 900CB (circuit breaker, 6' cord-set)	11.95
Model 900CB-15 (circuit breaker, 15' cord-set)	12.95

WABER 901 RACK MOUNT FEATURES AC VOLTMETER

This unit has all of the features of the 900 series, plus a handsome, edgewise reading AC Voltmeter for monitoring voltages of from 0 to 150 volts AC.

Model 901 (fuse, 6' cord-set)	$14.50
Model 901-15 (fuse, 15' cord-set)	15.50
Model 901CB (circuit breaker, 6' cord-set)	15.50
Model 901CB-15 (circuit breaker, 15' cord-set)	16.50

WABER MODEL 904 SERIES IN "U" GROUND, CROW'S FOOT, OR LOCKING TYPE

This popular series features an "on-off" switch pilot light, fuse or push-to-reset circuit breaker, 6 or 15-foot HSJ cord-set, and 6 outlets (2 in front and 4 in back). Size: 3½" x 19". All component parts UL approved.

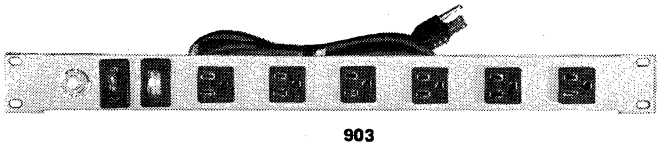
"U" GROUND TYPE	Net
Model 904 (fuse, 6' cord-set)	$12.95
Model 904-15 (fuse, 15' cord-set)	13.95
Model 904CB (circuit breaker, 6' cord-set)	13.95
Model 904CB-15 (circuit breaker, 15' cord-set)	14.95
LOCKING TYPE	
Model 905 (fuse, 6' cord-set)	23.95
Model 905-15 (fuse, 15' cord-set)	24.95
Model 905CB (circuit breaker, 6' cord-set)	24.95
Model 905CB-15 (circuit breaker, 15' cord-set)	25.95
CROW'S FOOT TYPE	
Model 906 (fuse, 6' cord-set)	24.95
Model 906-15 (fuse, 15' cord-set)	25.95
Model 906CB (circuit breaker, 6' cord-set)	25.95
Model 906CB-15 (circuit breaker, 15' cord-set)	26.95

WABER MODELS 907-908-909 EQUIPPED WITH AC VOLTMETER

These Waber Models have all of the features of the 904-905-906 series with the addition of an edgewise reading 0-150 volt AC voltmeter.

"U" GROUND TYPE	Net
Model 907 (fuse, 6' cord-set)	$16.50
Model 907-15 (fuse, 15' cord-set)	17.50
Model 907CB (circuit breaker, 6' cord-set)	17.50
Model 907CB-15 (circuit breaker, 15' cord-set)	18.50
LOCKING TYPE	
Model 908 (fuse, 6" cord-set)	27.50
Model 908-15 (fuse, 15" cord-set)	28.50
Model 908CB (circuit breaker, 6' cord-set)	28.50
Model 908CB-15 (circuit breaker, 15' cord-set)	29.50
CROW'S FOOT TYPE	
Model 909 (fuse, 6' cord-set)	28.50
Model 909-15 (fuse, 15' cord-set)	29.50
Model 909CB (circuit breaker, 6' cord-set)	29.50
Model 909CB-15 (circuit breaker, 15' cord-set)	30.50

WABER POPULAR SPACE SAVING MODELS ONLY 1¾" WIDE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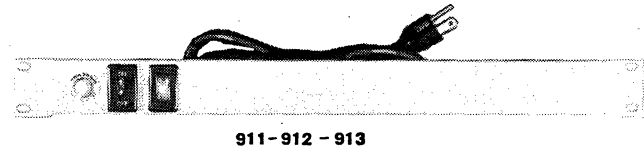
911 - 912 - 913

Waber Model 903 series features 6 "U" ground outlets (in the front) "on-off" switch, pilot light, fuse or circuit breaker, 6 or 15-foot neoprene cord-set. Models 911, 912, 913 have the same features except that the outlets are in the back and are available in "U" ground, locking, or crow's foot types. Component parts UL approved. Size: 1¾"x19".

WANT SOMETHING SPECIAL?
WE'LL MANUFACTURE TO YOUR SPECS.

	Net
Model 903 (fuse, 6' cord-set)	$10.95
Model 903 (fuse, 15' cord-set)	11.95
Model 903CB (circuit breaker 6' cord-set)	11.95
Model 903CB-15 (circuit breaker, 15' cord-set)	12.95
"U" GROUND TYPE	
Model 911 (fuse, 6' cord-set)	12.95
Model 911-15 (fuse, 15' cord-set)	13.95
Model 911CB (circuit breaker, 6' cord-set)	13.95
Model 911CB-15 (circuit breaker, 15' cord-set)	14.95

LOCKING TYPE	Net
Model 912 (fuse, 6' cord-set)	$23.95
Model 912-15 (fuse, 15' cord-set)	24.95
Model 912CB (circuit breaker, 6' cord-set)	24.95
Model 912CB-15 (circuit breaker, 15' cord-set)	25.95
CROW'S FOOT TYPE	
Model 913 (fuse, 6' cord-set)	24.95
Model 913-15 (fuse, 15' cord-set)	25.95
Model 913CB (circuit breaker, 6' cord-set)	25.95
Model 913CB-15 (circuit breaker, 15' cord-set)	26.95

Net
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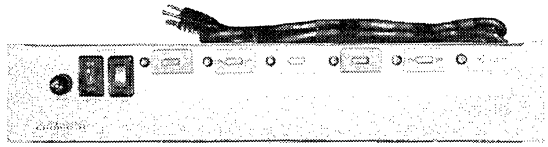
NEED OUTLETS IN A HURRY?
Get what you need . . . fast! Check these pages. Waber rack mounts give you outlets inside or outside the cabinet.

RACK MOUNT OUTLET BOXES

waber ELECTRONICS INC



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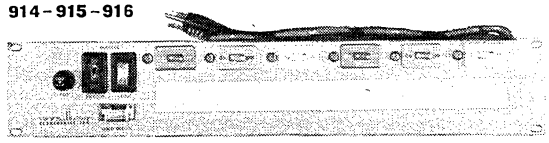

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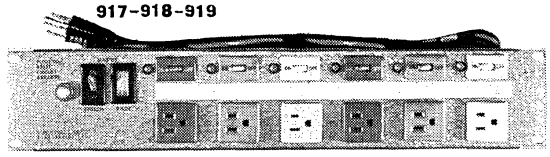

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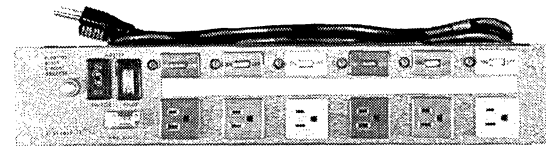

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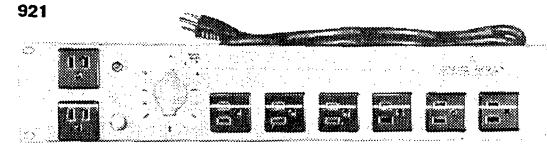

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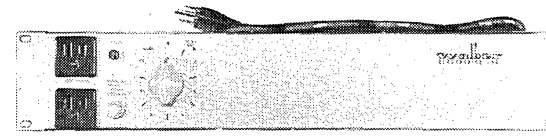


924-925

WABER MODEL 914 SERIES DELUXE RACK PANEL

6 color-coded switches provide individual control for outlets on the inside, with individual bright pilot lights and write-on strip. Master switch and pilot light control the entire unit. Choice of 6 or 15-foot neoprene cord-set, and fuse or push-to-reset circuit breaker. Sturdy steel panel finished in silver gray textured hammertone. Rated at 15 amperes, 130 volts continuous duty.

"U" GROUND TYPE	Net
Model 914 (fuse, 6' cord-set)	$22.00
Model 914-15 (fuse, 15' cord-set)	23.00
Model 914CB (circuit breaker, 6' cord-set)	23.00
Model 914CB-15 (circuit breaker, 15' cord-set)	24.00
LOCKING TYPE	
Model 915 (fuse, 6' cord-set)	32.00
Model 915-15 (fuse, 15' cord-set)	33.00
Model 915CB (circuit breaker, 6' cord-set)	33.00
Model 915CB-15 (circuit breaker, 15' cord-set)	34.00
CROW'S FOOT TYPE	
Model 916 (fuse, 6' cord-set)	33.00
Model 916-15 (fuse, 15' cord-set)	34.00
Model 916CB (circuit breaker, 6' cord-set)	34.00
Model 916CB-15 (circuit breaker, 15' cord-set)	35.00

WABER MODELS 917, 918 & 919 WITH METER

These models have all of the features of the 914 with the addition of a 0 to 150 volts AC Voltmeter.

"U" GROUND TYPE	Net
Model 917 (fuse, 6' cord-set)	$25.45
Model 917-15 (fuse, 15' cord-set)	26.45
Model 917CB (circuit breaker, 6' cord-set)	26.45
Model 917CB-15 (circuit breaker, 15' cord-set)	27.45
LOCKING TYPE	
Model 918 (fuse, 6' cord-set)	$40.00
Model 918-15 (fuse, 15' cord-set)	41.00
Model 918CB (circuit breaker, 6' cord-set)	41.00
Model 918CB-15 (circuit breaker, 15' cord-set)	42.00
CROW'S FOOT TYPE	
Model 919 (fuse, 6' cord-set)	41.00
Model 919-15 (fuse, 15' cord-set)	42.00
Model 919CB (circuit breaker, 6' cord-set)	42.00
Model 919CB-15 (circuit breaker, 15' cord-set)	43.00

WABER MODEL 920 HAS DELUXE FEATURES

6 color-coded switch and "U" ground outlet sets with individual pilot lights are featured in this deluxe model. The entire unit is controlled by a master switch and pilot light. You have a choice of fuse or push-to-reset circuit breaker, and 6 or 15- foot neoprene cord-set. Unit is rated at 15 amperes, 130 volts continuous duty.

	Net
Model 920 (fuse, 6' cord-set)	$18.50
Model 920-15 (fuse, 15' cord-set)	19.50
Model 920CB (circuit breaker, 6' cord-set)	19.50
Model 920CB-15 (circuit breaker, 15' cord-set)	20.50

WABER MODEL 921 HAS AC VOLTMETER

This unit has all of the features of the Model 920, with the addition of a 0 to 150 volt AC Voltmeter.

	Net
Model 921 (fuse, 6' cord-set)	$21.95
Model 921-15 (fuse, 15' cord-set)	22.95
Model 921CB (circuit breaker, 6' cord-set)	22.95
Model 921CB-15 (circuit breaker, 15' cord-set)	23.95

WABER MODELS 922 AND 923 ARE TIMER CONTROLLED

Put a timer model (up to 12 hours) to work for you in many different ways. These models have 6 "U" ground outlets and a master pilot light, plus 2 extra "always-on" outlets. You have your choice of fuse or push-to-reset circuit breaker protection, 6 or 15-foot neoprene cord-set. Model 922 is designed to turn power off after the timed interval, while Model 923 turns power on. Rated at 15 amperes, 130 volts continuous duty.

	Net
Model 922 (fuse, 6' cord-set)	$20.55
Model 922-15 (fuse, 15' cord-set)	21.55
Model 922CB (circuit breaker, 6' cord-set)	21.55
Model 922CB-15 (circuit breaker, 15' cord-set)	22.55
Model 923 (fuse, 6' cord-set)	20.55
Model 923-15 (fuse, 15' cord-set)	21.55
Model 923CB (circuit breaker, 6' cord-set)	21.55
Model 923CB-15 (circuit breaker, 15' cord-set)	22.55

WABER MODELS 924 AND 925 FEATURE 12-HOUR TIMER

These Models feature 6 heavy-duty "U" ground outlets, 2 "always-on" in the front and 4 timed outlets in the back. A bright neon pilot light shows when power is on. You have a choice of fuse or push-to-reset circuit breaker protection, and 6 or 15-foot neoprene cord-set. Model 924 utilizes the up-to-12-hour timer to turn power off after the timed interval, and Model 925 is designed to turn power on. Rating is 15 amperes, 130 volts continuous duty. Size is 3½"x19".

	Net
Model 924 (fuse, 6' cord-set)	$22.55
Model 924-15 (fuse, 15' cord-set)	23.55
Model 924CB (circuit breaker, 6' cord-set)	23.55
Model 924CB-15 (circuit breaker, 15' cord-set)	24.55
Model 925 (fuse, 6' cord-set)	22.55
Model 925-15 (fuse, 15' cord-set)	23.55
Model 925CB (circuit breaker, 6' cord-set)	23.55
Model 925CB-15 (circuit breaker, 15' cord-set)	24.55

DUST AND SAFETY COVERS **4.00**
DC-5 FOR MODELS 900, 901, 920, 921
DC-1 FOR 904, 907, 922, 923, 924, 925
Other 3½" models have dust covers attached

STEEL PANELS FINISHED IN TEXTURED HAMMERTONE GRAY

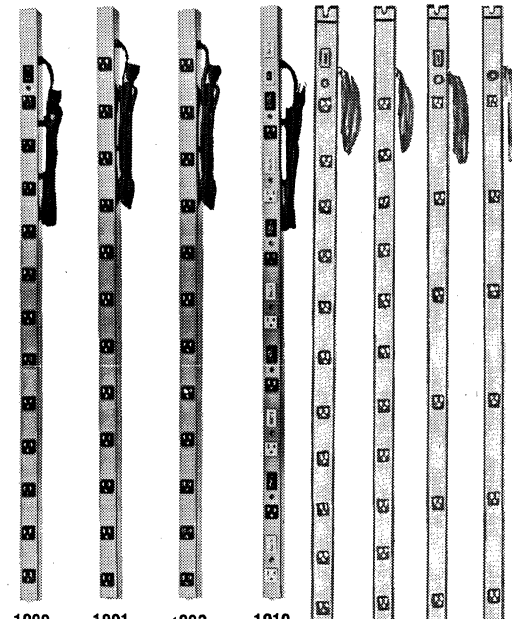
"STRING BEAN" OUTLET BOXES

waber

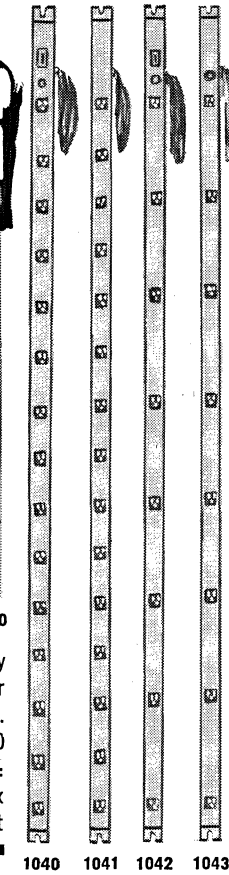
ELECTRONICS INC

POPULAR WABER "STRING-BEAN"OUTLET BOXES STREAMLINED FOR SPACE SAVING APPLICATIONS

These popular Waber "String-Bean" models offer eight variations in two convenient lengths, four foot and six foot. Only 1½" wide and 1⅛" deep, these units are especially valuable where space is at a premium.



1000 1001 1002 1010



1040 1041 1042 1043

SPECIFICATIONS — Sturdy steel case finished in silver gray textured hammertone. Rated at 15 amperes, 130 volts continuous duty. ■ Sizes: 49x1½x1⅛" and 72x1½x1⅛" ■ Tough HSJ cord-set ■ UL approved components ■ Shipping weight 5 & 8 lbs.

WABER MODEL 1000 SERIES

This unit provides 12 "U" ground outlets, "on-off" switch, neon pilot light, fuse or push-to-reset circuit breaker, and 6 or 15-foot HSJ cord-set.

	Net
Model 1000 (fuse, 6′ cord-set)	$15.95
Model 1000-15 (fuse, 15′ cord-set)	16.95
Model 1000CB (circuit breaker, 6′ cord-set)	16.95
Model 1000BC-15 (circuit breaker, 15′ cord-set)	17.95

WABER MODEL 1001 SERIES

Provided with this model are 12 "U" ground outlets, with fuse or circuit breaker protection, and 6 or 15-foot neoprene cord-set.

Model 1001 (fuse, 6′ cord-set)	$14.95
Model 1001-15 (fuse, 15′ cord-set)	15.95
Model 1001CB (circuit breaker, 6′ cord-set)	15.95
Model 1000CB-15 (circuit breaker, (15′ cord-set)	16.95

WABER MODEL 1002 SERIES

This unit has 12 "U" ground outlets only. UL approved components.

Model 1002 (6′ cord-set)	$13.95
Model 1002-15 (15′ cord-set)	14.95

WABER DELUXE MODEL 1010 SERIES

This handsome model has 8 outlets, each individually controlled by its own switch and pilot light, with a master "on-off" switch and pilot light. Fuse or push-to-reset circuit breaker, and choice of 6 or 15-foot HSJ cord-set.

Model 1010 (fuse, 6′ cord-set)	$19.95
Model 1010-15 (fuse, 15′ cord-set)	20.95
Model 1010CB (circuit breaker, 6′ cord-set)	20.95
Model 1010CB-15 (circuit breaker, 15′ cord-set)	21.95

WABER SIX FOOT PRE-WIRED OUTLET BOXES

WABER MODEL 1040 SERIES

This unit provides 15 "U" ground outlets, on-off switch, neon pilot light, fuse or push-to-reset circuit breaker, and 6 or 15 foot HSJ cord-set.

Model 1040 (fuse, 6′ cord-set)	$19.95
Model 1040-15 (fuse, 15′ cord-set)	20.95
Model 1040CV (circuit breaker, 6′ cord-set)	20.95
Model 1040CB (circuit breaker, 15′ cord-set)	21.95

WABER MODEL 1041 SERIES

Fifteen "U" ground outlets are provided with a pilot light to show when power is on. Available in either a 6 or 15 foot HSJ cord-set.

	Net
Model 1041 (6′ cord-set)	$16.95
Model 1041-15 (15′ cord-set)	17.95

WABER MODEL 1042 SERIES

This model features 8 "U" ground outlets, on-off switch, pilot light, fuse or circuit breaker protection, and choice of 6′ or 15′ HSJ cord-set.

	Net
Model 1042 (fuse, 6′ cord-set)	$16.95
Model 1042-15 (fuse, 15′ cord-set)	17.95
Model 1042CB (circuit breaker, 6′ cord-set)	17.95
Model 1042CB-15 (circuit breaker, 15′ cord-set)	18.95

WABER MODEL 1043 SERIES

A neon pilot light indicates power is on at each of the eight "U" ground outlets provided in this 72" outlet box. Available with either a 6′ or 15′ cord-set

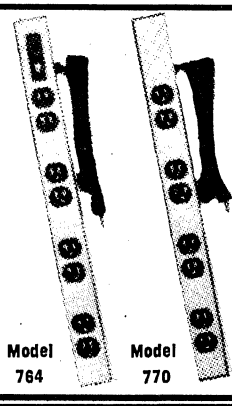
	Net
Model 1043 (6′ cord-set)	$13.95
Model 1043-15 (15′ cord-set)	14.95

INSTANT WIRING!

Waber Outlet Boxes Are Pre-Wired . . . Ready To Use.

WABER ELECTRONICS INC.

WABER 24" MODELS PACK GIANT FEATURES IN STURDY BOX



Model 764 Model 770

The new Waber 764 and 770 "Short John" series are similar to Waber series 707 and 711. This convenient two foot length provides a desirable in-between length to supplement our one foot and four foot series. These new units are ideal for racks, benches, and test set-ups where its 22"x2"x1½" size is advantageous. Mounting centers are 23¾". Shipping weight 5 lbs.

	NET
Model 764 (fuse, 6′ cord-set)	$13.35
Model 764-15 (fuse, 15′ cord-set)	14.35
Model 764CB (circuit breaker, 6′ cord-set)	14.35
Model 764CB-15 (circuit breaker, 15′ cord-set)	15.35
Model 770 (6′ cord-set)	11.90
Model 770-15 (15′ cord-set)	12.90

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INDIVIDUAL TYPE "U" GROUND OUTLETS

LONG JOHN OUTLET BOXES

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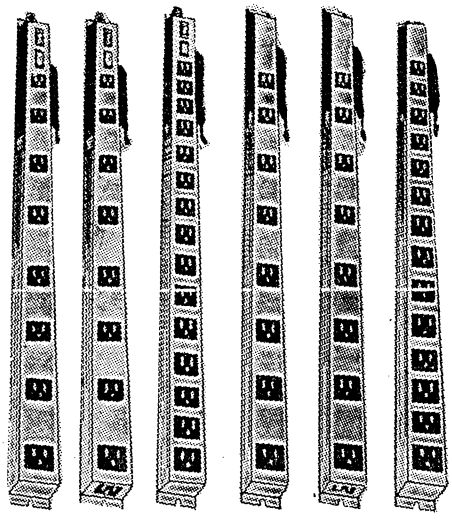
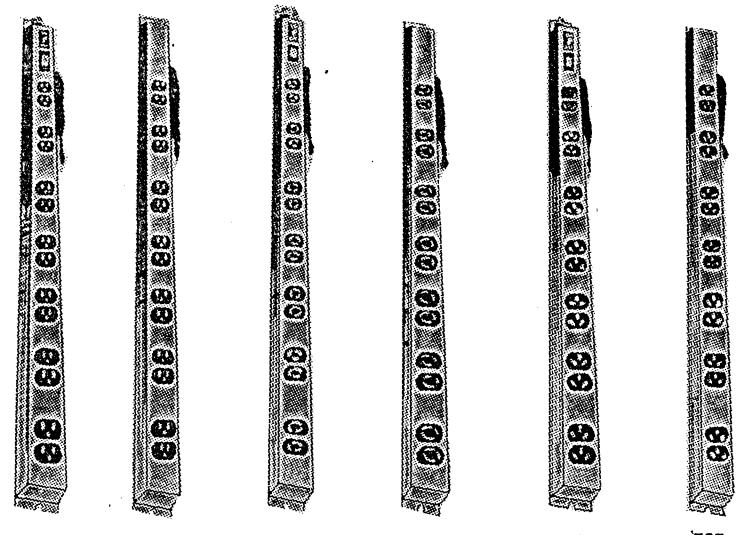


700 704 705 710 712 715

STURDY WABER "READY-TO-PLUG-IN" 4-FOOT HEAVY DUTY OUTLET BOXES

These rugged, versatile four footers have proven themselves to thousands of users in a wide variety of applications. Now veterans of the Waber line, these seamless steel outlet boxes are doing yeoman service in racks, workbenches, production benches and lab tables across the country. These hardy outlet boxes have the versatility to serve you well. No wiring to do . . . just plug in.

DUPLEX TYPE "U" GROUND • CROW'S FOOT • LOCKING STYLE OUTLETS



707 711 720 725 730 735

"U" GROUND MODELS

WABER MODEL 700 SERIES

This popular model has 8 "U" ground outlets, on-off switch, pilot light and your choice of fuse or circuit-protection, and 6- or 15-foot HSJ cord-set. Component parts are UL approved.

	Net
Model 700 (fuse, 6′ cord-set)	$14.95
Model 700-15 (fuse, 15′ cord-set)	15.95
Model 700CB (circuit breaker, 6′ cord-set)	15.95
Model 700CB-15 (circuit breaker, 15′ cord-set)	16.95

WABER MODEL 704 SERIES

This unit has the same features as the "700" with the addition of an outlet on one end and the cord-set coming out the other end for "in-line" series stringing.

Model 704 (fuse, 6′ cord-set)	$15.95
Model 704-15 (fuse, 15′ cord-set)	16.95
Model 704CB (circuit breaker, 6′ cord-set)	16.95
Model 704CB-15 (circuit breaker, 15′ cord-set)	17.95

WABER MODEL 705 SERIES

This unit has 15 "U" ground outlets, on-off switch, bright pilot light, your choice of fuse or push-to-reset circuit breaker protection, and 6- or 15-foot HSJ cord-set. Component parts are UL approved.

Model 705 (fuse, 6′ cord-set)	$18.95
Model 705-15 (fuse, 15′ cord-set)	19.95
Model 705CB (circuit breaker, 6′ cord-set)	19.95
Model 705CB-15 (circuit breaker, 15′ cord-set)	20.95

WABER MODEL 710 SERIES

This unit has 8 "U" ground outlets only.

Model 710 (6′ cord-set)	$12.95
Model 710-15 (15′ cord-set)	13.95

WABER MODEL 712 SERIES

Model 712 is an in-line series stringing type with 8 "U" ground outlets plus a "U" ground outlet on one end and cord-set on other end. Designed as a slave unit for Model 704.

Model 712 (6′ cord-set)	$13.95
Model 712-15 (15′ cord-set)	14.95

WABER MODEL 715 SERIES

This unit features 15 "U" ground outlets only.

Model 715 (6′ cord-set)	$16.95
Model 715-15 (15′ cord-set)	17.95

DUPLEX MODELS

WABER MODEL 707 SERIES

This series features 14 "U" ground outlets, on-off switch, bright pilot light, your choice of fuse or circuit breaker protection, and 6- or 15-foot neoprene cord-set. Components are UL approved.

	Net
Model 707 (fuse, 6′ cord-set)	$15.75
Model 707-15 (fuse, 15′ cord-set)	16.75
Model 707CB (circuit breaker, 6′ cord-set)	16.75
Model 707CB-15 (circuit breaker, 15′ cord-set)	17.75

WABER MODEL 711 SERIES

This series features 14 "U" ground outlets of the duplex type.

Model 711 (6′ cord-set)	$13.95
Model 711-15 (15′ cord-set)	14.95

WABER MODEL 720 SERIES

This unit provides 14 locking-type outlets, an "on-off" switch, neon pilot light, fuse or push-to-reset circuit breaker, and 6- or 15-foot HSJ cord-set. Components are UL approved.

Model 720 (fuse, 6′ cord-set)	$32.95
Model 720-15 (fuse, 15′ cord-set)	33.95
Model 720CB (circuit breaker, 6′ cord-set)	33.95
Model 720CB-15 (circuit breaker, 15′ cord-set)	34.95

WABER MODEL 725 SERIES

This model contains 14 duplex outlets of the locking type only.

	Net
Model 725 (6′ cord-set)	$31.95
Model 725-15 (15′ cord-set)	32.95

WABER MODEL 730 SERIES

14 crow's foot outlets are featured in this unit with on-off switch, pilot light, fuse or push-to-reset circuit breaker, and 6- or 15-foot cord-set. Component parts are UL approved.

Model 730 (fuse, 6′ cord-set)	$32.95
Model 730-15 (fuse, 15′ cord-set)	33.95
Model 730CB (circuit breaker, 6′ cord-set)	33.95
Model 730CB-15 (circuit breaker, 15′ cord-set)	34.95

WABER MODEL 735 SERIES

This model has 14 crow's foot outlets only.

Model 735 (6′ cord-set)	$31.95
Model 735-15 (15′ cord-set)	32.95

SPECIFICATIONS Tough HSJ cord-set ■ Steel case finished in textured silver gray hammertone ■ Convenient mounting ears ■ Rated at 15 amperes 130 volts ■ Mounting centers 48¾″ ■ Size: 49″ x 2″ x 1½″ ■ All units pre-wired for instant use.

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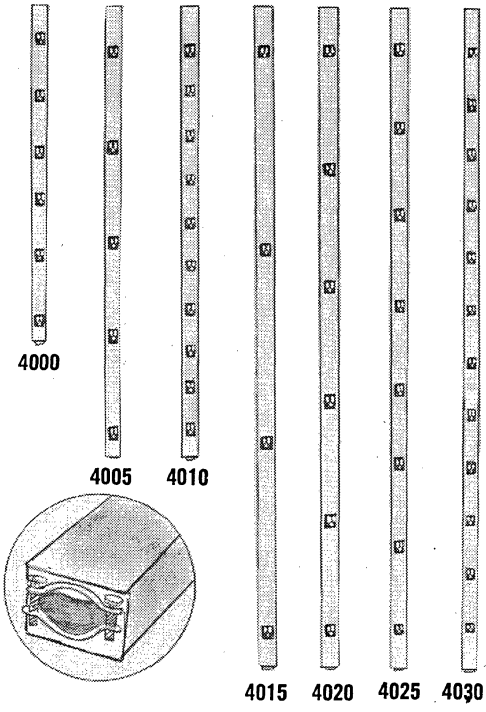
Net

OUTLET BOXES
Ready To Wire In

waber
ELECTRONICS INC



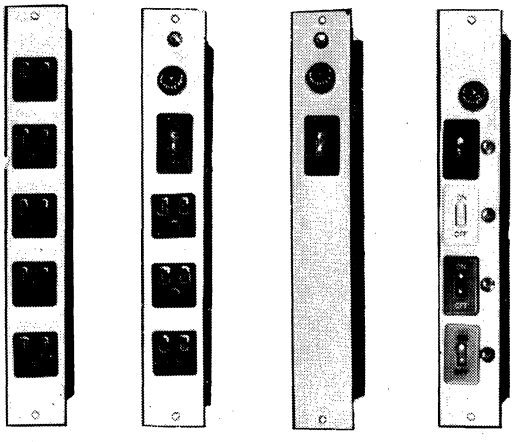
NEW! WABER OUTLET STRIPS WITH BX CONNECTOR.. READY TO WIRE IN

When the application calls for an outlet strip to be wired into a fixed installation the Waber Model 4000 Series are ideal for this purpose. Make your choice from the wide range shown here. Many "U" ground outlets or few outlets... long strip or short strip... the choice is yours.

Mounting is easy. Bottom cover is screwed to bench, back wall, or wherever outlet strip is wanted. After connections are made, top cover is mounted to bottom plate with self tappers. Size is 1⅝" wide by 1⅜" wide. Lengths are as shown. Case is of sturdy steel finished in hammertone gray. Outlets are "U" ground type and UL approved.

MODEL NO.	LENGTH FT.	NO. OF OUTLETS	CENTERS	SHIPPING WT.	NET
4000	3	6	6″	4	$ 9.95
4005	5	5	10″	7	10.95
4010	5	10	6″	7	14.95
4015	6	4	14″	7	12.50
4020	6	6	10″	7	14.95
4025	6	8	8″	7	15.95
4030	6	12	5″	7	17.95

NEW BEAUTIFULLY CHROME FINISHED "ICEBERG"® OUTLET STRIPS MADE TO RECESS INTO DESKS, CABINETS AND HI-FI INSTALLATIONS



The new Waber "Iceberg"® line is a handsome addition to our growing family of outlet boxes. These units are made to be recessed into desks, counters, cabinets, and hi-fi installations of all types. Just like the iceberg, which has most of its bulk submerged and out of sight, only the handsome chrome plated face plate shows in the new Waber "Iceberg"® Outlet Box line.

Four units are available in this new line. Two of the units have outlets available on the surface plate, and the other two have the outlets on the back with control from the face plate. Size of the unit is 1½" wide x 10" long x 1½" deep. Mounting hole size is 9½" x $1\frac{17}{32}$". These units are available with fuse or circuit breaker protection and six or fifteen foot neoprene cord-sets. Rating is 15 amps, 130 volts continuous duty.

Model 1560 consists of five "U" ground outlets only, surface mounted with your choice of a 6 or 15-foot neoprene cord-set. Model 1561 has three surface mounted "U" ground outlets controlled by a switch and pilot light. You have a choice between a fuse post or circuit breaker, 6 or 15-foot neoprene cord-set. Model 1562 has the switch, protective device, and pilot light surface mounted with access to the three "U" ground outlets from the back. You have a choice between a fuse post or circuit breaker, 6 or 15 foot neoprene cord-set. Model 1563 is the deluxe unit with four color coded switches, pilot lights and protective device surface mounted, and with access to the four "U" ground outlets from the back. Each outlet is individually controlled by its own switch.

	Net
Model 1560 (6′ cord-set)	$5.75
Model 1560-15 (15′ cord-set)	6.75
Model 1561 (fuse, 6′ cord-set)	6.95
Model 1561-15 (fuse, 15′ cord-set)	7.95
Model 1561CB (6′ cord-set, circuit breaker	7.95
Model 1561CB-15 (circuit breaker, 15′ cord-set)	8.95
Model 1562 (6′ cord-set, fuse)	6.95
Model 1562-15 (15′ cord-set, fuse)	7.95
Model 1562CB (6′ cord-set, circuit breaker)	$7.95
Model 1562CB-15 (15′ cord-set, circuit breaker)	8.95
Model 1563 (6′ cord-set, fuse)	8.50
Model 1563-15 (15′ cord-set, fuse)	9.50
Model 1563CB (6′ cord-set, circuit breaker)	9.50
Model 1563CB-15 (15′ cord-set, circuit breaker)	10.50

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WABER *Heavy Duty* OUTLET BOXES

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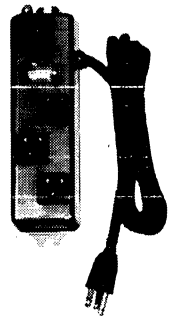
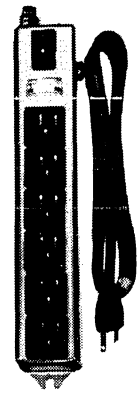
WABER LINE VOLTAGE MONITORING METER MODELS FOR CONTINUOUS CHECKING



Model 607M



Model 24M

WABER MODEL 607M OUTLET BOX WITH ILLUMINATED AC VOLTMETER

This highly useful outlet box features an "on-off" switch with three "U" ground outlets, with an illuminated edgewise reading 0 to 150 volts AC Voltmeter for continuous line voltage checks. Your choice of a 6- or 15-foot HSJ cord-set, fuse or push-to-reset circuit breaker protection. Size: 8⅝" x 2¼" x 1½" with 8¼" mounting centers.

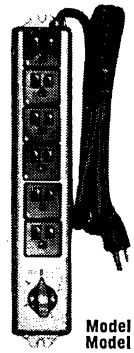
	Net
Model 607M (fuse, 6′ cord-set)	$ 8.95
Model 607M-15 (fuse, 15′ cord-set)	9.95
Model 607MCB (circuit breaker, 6′ cord-set)	9.95
Model 607MCB-15 (circuit breaker, 15′ cord-set)	10.95

WABER MODEL 24M OUTLET BOX FEATURES ILLUMINATED AC VOLTMETER

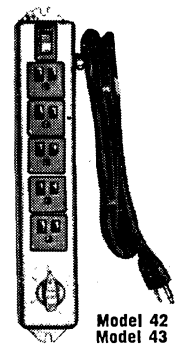
Our popular Model 24 series, now available with an illuminated voltmeter, provides continuous check of AC line voltage. The illuminated wide angle, edgewise reading meter monitors from 0 to 150 AC Volts. Included also are an "on-off" switch, 6 "U" ground outlets, and your choice of a 6- or 15-foot HSJ cord-set, fuse or circuit breaker

	Net
Model 24M (fuse, 6′ cord-set)	$11.95
Model 24M-15 (fuse, 15′ cord-set)	12.95
Model 24MCB (circuit breaker, 6′ cord-set)	12.95
Model 24MCB-15 (circuit breaker, 15′ cordset)	13.95

NEW! WABER OUTLET BOXES EQUIPPED WITH TIMERS



Model 13
Model 14



Model 42
Model 43

WABER MODEL 42 AND 43 SERIES WITH UP TO 12-HOUR TIMER

5 "U" ground outlets, neon pilot light, your choice of 6- or 15-foot HSJ line cord, fuse or push-to-reset circuit breaker, and a reliable timer with settings of up to 12 hours. Model 42 is designed to turn power off at the conclusion of the timed interval, and Model 43 is designed to turn power on. Size: 13⅛" x 2⅜" x 1⅝" with 12¾" mounting centers.

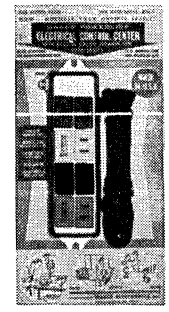
	Net
Model 42 (fuse, 6′ cord-set)	$17.00
Model 42-15 (fuse, 15′ cord-set)	18.00
Model 42CB (circuit breaker, 6′ cord-set)	18.00
Model 42CB-15 (circuit breaker, 15′ cord-set)	19.00
Model 43 (fuse, 6′ cord-set)	17.00
Model 43-15 (fuse, 15′ cord-set)	18.00
Model 43CB (circuit breaker, 6′ cord-set)	18.00
Model 43CB-15 (circuit breaker, 15′ cord-set)	19.00

WABER MODEL 13 AND 14 SERIES TIMER MODELS

These popular units provide up to 12 hours of timing, and have an HSJ cord-set. The 6 outlets are timer-controlled. Model 18 turns power off at the end of the timed interval, and Model 19 turns power on. Size: 13⅛" x 2⅜" x 1⅝" with 12¾" mounting centers.

	Net
Model 13 (6′ cord-set)	$15.00
Model 13-15 (15′ cord-set)	16.00
Model 14 (6′ cord-set)	16.00
Model 14-15 (15′ cord-set)	17.00

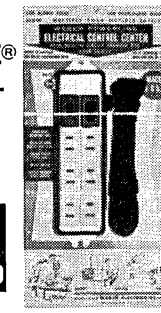
THREE POPULAR WABER OUTLET BOXES SKIN-PACKED AND CHROME PLATED



WABER POWERLINE® ELECTRICAL CONTROL CENTER

CIRCUIT BREAKER PROTECTED

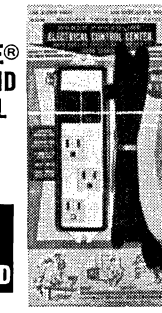
MODEL 11



WABER POWERLINE® "U" GROUND ELECTRICAL CONTROL CENTER

CIRCUIT BREAKER PROTECTED

MODEL 12



MODEL 601 "U"

MODEL 11

Features 10-foot Neoprene cord-set and nylon strain relief. Rated at 15 amperes, 130 volts continuous duty.

MODEL 12

Features 10-foot Neoprene cord-set and nylon strain relief. Rated at 15 amperes, 130 volts continuous duty.

MODEL 601 "U"

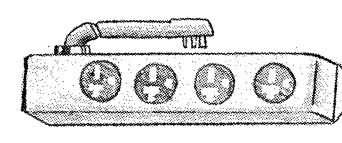
Features a 6-foot HSJ cord-set for a real quality box. Rating is 15 amperes, 130 volts continuous duty.

Control a piece of equipment or appliance by a flip of a switch! Each of the four individual, heavy duty outlets is controlled by its own on-off switch with contrasting colors for swift, positive identification. You get a handsome control center for power tools, appliances, or equipment with **positive circuit breaker protection against burnout or overload.**

Never before anything so useful, so handy for the home, workshop, or office. This sturdy chrome case features six individual, heavy duty outlets with an on-off master switch and bright pilot light. You get a handy control center for power tools, appliances, or equipment with **positive circuit breaker protection against burnout or overload.**

Now you can have this chrome beauty with "U" ground type outlets. It features a sturdy steel case, 3 individual grounded outlets, with an on-off master switch and bright pilot light. This handy control center can be used in any number of applications with positive "push-to-reset" circuit protection against burnout or overload.

NEW! WABER OUTLET BOX RATED AT 20 AMPS, 250 VOLTS



Here is a heavy duty outlet box that provides four outlets with the new design established for air conditioners and other 20 A-250 V applications. These outlets meet all industry standards for 250 V devices — yet is completely non-interchangeable with devices of any other voltage now on the market or contemplated.

Cord-set has right angle 20 A - 250 V plug, 12/3 S cable 15 feet long.

Model 810 .....$18.50 Net

WABER ELECTRONICS INC.

• CORD SETS
• ACCESSORIES

waber

ELECTRONICS INC

WABER EXTRA FINE QUALITY CORD SETS AND EXTENSION CORDS IN CONVENIENT LENGTHS

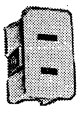
Need a cord-set or extension cord? Choose from these well made UL approved units. Made of the finest materials, these cords have molded male and female parts. Ideal for industrial "Work-horse" applications.

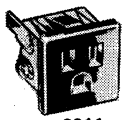
WABER TIPOVER SWITCH — This unit installs easily in automobiles, trucks, buses, and tractors. The mercury operated switches automatically shut off the motor when the vehicle is tipped past a forty-five degree angle. In addition to minimizing the danger of fire or explosion, this unit is especially valuable in stalling moving blades, wheel and parts found on many farm vehicles. This unit will operate with either 6 or 12 volt ignition systems. Installation is permanent. Nothing to burn out or replace.

3067 ..... $5.97 Net

CATALOG NO.	DESCRIPTION	LENGTH FT.	CONDUCTORS	SIZE AWG	TYPE	NET PRICE
3071	"U" Ground Cord-Set	6	3	16	HSJ	$2.25
3072	"U" Ground Cord-Set	15	3	16	HSJ	4.20
3073	"U" Ground Extension Cord	7	3	16	Neoprene	2.61
3074	"U" Ground Extension Cord	16	3	16	Neoprene	4.43
3075	2 Wire Cord-Set	10	2	16	HPN	1.56
3076	"U" Ground Cord-Set	15	3	12	S	6.20
3077	"U" Ground Cord-Set	20	3	18	SJT	3.60
3078	20A - 250 V Cord-Set	15	3	12	S	6.20
3079	"U" Ground Cord-Set	6	3	12	S	3.25

WABER REPLACEMENT PARTS AND ELECTRICAL ACCESSORIES

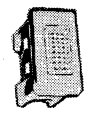

3001


3011

3015

3017

3020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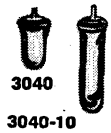
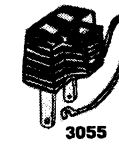


3040-10

3045

3050


3055

3077

3078 3079

SNAP-IN CONVENIENCE OUTLET — Polarized with male, quick connect terminals. UL rated 15 A, 125 V. Takes polarized and non-polarized caps. Mounting hole $1\frac{7}{32}$ x $2\frac{1}{32}$".

3001 (Black) ..... $.32 Net
3001-W (White ..... .36 Net
3001-G Gray) ..... .36 Net
3001-R (Red) ..... .36 Net

SNAP-IN "U" GROUND CONVENIENCE OUTLET — UL. Quick connect terminals. Rated 15 A, 125 V. Mounting size: $1\frac{7}{32}$ x $1\frac{7}{32}$".

3011 (Black) ..... $.42 Net
3011-W (White) ..... .48 Net
3011-G (Gray) ..... .48 Net
3011-R (Red) ..... .48 Net

SNAP-IN "U" GROUND CONVENIENCE OUTLET — UL. Wire leads or male quick connect terminals with ground lead. Rated 15 A, 125 V. Mounting hole $\frac{31}{32}$ x $\frac{3}{32}$".

3015 (Black with wire leads) ..... $.34 Net
3015-W (White with wire leads) ..... .38 Net
3017 (Black with quick connect terminals).. .34 Net
3017-W (White with quick connect terminals) ..... .38 Net

SNAP-IN ON-OFF SWITCH — With male quick connect terminals. UL rated 20 A, 125 V. Mounting hole $1\frac{7}{32}$ x $2\frac{1}{32}$".

3020 (Black) ..... $.56 Net
3030-W (White) ..... .74 Net
3020-R (Red) ..... .62 Net
3020-G (Gray) ..... .62 Net

SNAP-IN PILOT-LIGHT — Brilliant red nylon lens. Male, quick connect terminals. UL. Strong spring steel mounting clip. Mounting hole $1\frac{7}{32}$ x $2\frac{1}{32}$". 125 VAC.

3025 (Black) ..... $.68 Net
3025-W (White) ..... .75 Net
3025-R (Red) ..... .74 Net
3025-G (Gray) ..... .74 Net

MALE LOAD PLUGS — UL. With male quick connect terminals. Rated 15 A, 125 V. Mounting hole $\frac{31}{32}$ x $\frac{31}{32}$". Black body.

3019 ..... .74 Net

MERCURY TILT SWITCHES — Contacts in rugged all steel body. Unequalled durability for all fields including switching of heavy loads and highly inductive circuits. Low contact resistance. All steel body acts as one side of the circuit. Provides practically limitless life where a tilt action is required. Part No. 3040 is rated at 1 A, 115 VAC, and Part No. 3040-10 is rated at 10 A, 115 VAC.

3040 (package of 3) ..... $1.25 Net
3040-10 (pnackage of 2) ..... 2.10 Net

EDGEWISE READING AC VOLTMETER KIT — Modern space-saving edgewise reading meter, spring clamp, diode and series resistor. Scale reads from 0 to 150 volts AC. Mounting hole $\frac{37}{64}$ x $1\frac{17}{64}$".

3045 ..... $3.75 Net

PUSH TO RESET CIRCUIT BREAKER — Protect from overloads with this thermal type circuit breaker. Mounts easily in $\frac{7}{16}$" hole. Plunger pops out on overloads. Push in to reset.

3050 (15 Amperes, 125 Volts) ..... $1.35 Net
3051 (20 Amperes, 125 Volts) ..... 1.35 Net

2 WIRE TO 3 WIRE ADAPTER — Polarized with "U" ground slot and green grounding lead equipped with convenient spade lug. UL rated 15 A, 125 V. Molded body. Automatically converts any standard 2 wire parallel outlet to a 3 wire "U" ground outlet.

3055 ..... $.30 Net

BRIGHT NEON PILOT LIGHTS — These handsome pilot lights, in a compact space saving size, mount easily in a $\frac{5}{16}$" diameter hole. Included is a spring clip to lock pilot firmly in place.

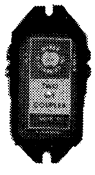
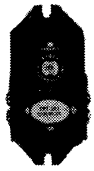
3077 (Package of three) ..... $1.35 Net

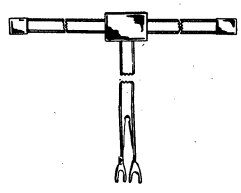
FUSE POST — UL approved. Mounting hole $\frac{5}{16}$" dia.

3078 ..... $.36 Net

FUSE — UL approved. Heavy duty. 15 Amp rating.

3079 ..... $.14 Net



WABER RADIO AND TELEVISION ACCESSORIES

BALUN TYPE COUPLERS — Two, three and four-set FM-TV multi-couplers operate with high efficiency and low loss. Transformer coupling provides the isolation needed to prevent interaction between sets. Low loss design assures full strength signals to the receiver. Dependable, sure contact screw terminals. Convenient mounting ears. For 300 Ohm Standard Twinlead.

3062 (Two Set Coupler) ..... $1.17 Net
3063 (Three Set Coupler) ..... 1.95 Net
3064 (Four Set Coupler) ..... 2.97 Net

INDOOR FM-TV ANTENNA — This easy to install antenna is very effective for moderate signal areas. Folded dipole type especially suited for FM. Place behind cabinet, under rug, or any other suitable place where antenna can be concealed. Made of high quality twin lead with spade lugs attached to six foot lead-in. Attaches easily to tuner.

3030 ..... $1.20 Net

OEM CUSTOM REQUIREMENTS
Need a special? Send us your specs — Tell us what you need — We can do a good job for you.

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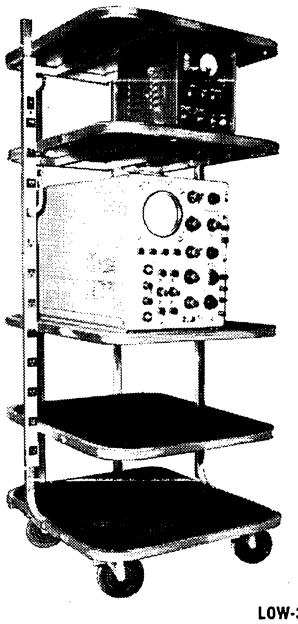
WABER LAB-ON-WHEELS®

waber
ELECTRONICS INC

SINGLE CANTILEVER Lab on Wheels DOUBLE CANTILEVER



LOW-3

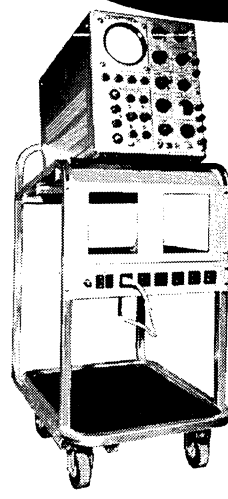
WHEEL IT IN WHEEL IT OUT... AT YOUR CONVENIENCE

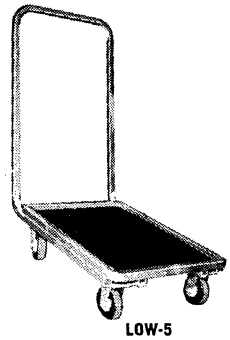
The WABER "Lab On Wheels" will greatly expand your present work area, rolls effortlessly, and will provide ample space for your instruments, supplies, assemblies, breadboards, prototypes, etc. Provisions are available for mounting a WABER Outlet Box (1,000 series) to supply power to the unit.

Shelves are adjustable to make every inch count. Each shelf is covered with tempered hardboard. Size: 28"Lx26"Wx66"H. This unit could prove a real workhorse for the school, lab, or industrial plant.

WABER Model LOW-3

Net
(less outlet box) $149.00





LOW-5

NEW! STURDY WABER "SCOPE" DOLLY EASILY TAKES ALL SIZES

This versatile scope dolly is designed to handle the big scopes and oversized test equipment with ease. The spacious non-skid deck, inclined at 22°, accommodates all instruments. The welded square tubing combines rigidity with functional design to permit the user free access to controls and an uncluttered view. It also allows 900 Series rack panels to be mounted as required. Size: 19¼"Wx29½"Lx 36½"H.

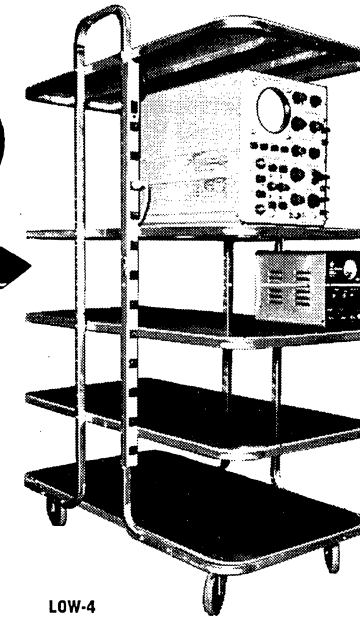
Net
LOW-6 ..... $89.00

Accessory shelf and outlet box not included.

THIS WABER DOLLY HAS THE UTILITY YOU NEED

Transport stocks, instruments, assemblies with ease with this low cost WABER Basic Dolly. You can make your own adaptations to serve many purposes in your projects, where mobility would be desirable. Size: 32"Lx18½"Wx37½"H. Here is one of the most versatile and rugged units available to serve the needs of the lab, school or industry.

Net
WABER Model LOW-5 ..... $48.00



LOW-4

PAYS FOR ITSELF IN TIME SAVED... IN CONVENIENCE

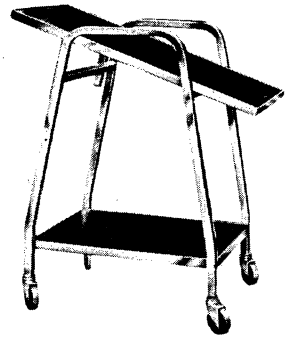
This double cantilevered carrier is built to hold greater load capacities with sway-free rigidity, strength and durability. The tremendous area available will accommodate your projects with ease, and provisions for a WABER 1000 series Outlet Box will "power-up" the carrier. When your projects are held-up you can wheel it out of the way and your lab tables are cleared for action. When you're ready to go again, wheel it back in.

Size of the WABER Double Cantilevered Carrier is 48"Lx26"Wx71"H. Tempered hardboard is provided with each of the five shelves, and the shelves are adjustable.

WABER MODEL LOW-4
(less outlet box) $188.00

FEATURES:

1 INCH SQUARE STEEL TUBING FOR RIGIDITY, STRENGTH AND DURABILITY • BEAUTIFULLY CHROME PLATED • HEAVY DUTY 5" WHEELS WITH HEAVY PLATE CASTERS. QUIET, FAST, EASY SWIVELING • PROVISIONS FOR MOUNTING WABER OUTLET BOXES.



HANDSOMELY DESIGNED SCOPE DOLLY ADJUSTABLE TO THREE POSITIONS

Here is an unusually good buy in a scope dolly. It is unusually versatile, just roll it out and put it to work. Also included is an outlet box with three convenient outlets, an on-off switch, pilot light, and panel mounted fuse. The outlet box is rated at 15 amperes, 130 volts continuous duty.

The top shelf will take a large variety of instruments and can be adjusted for convenient viewing angle. The sturdy bottom shelf gives you additional capacity. Size is 34" H x 19" W x 31" L and the rubber tired casters are 3 inches in diameter.

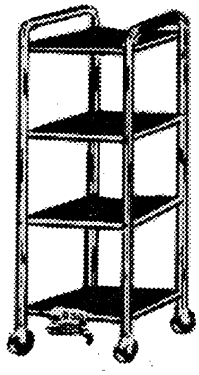
Model LOW-8 ..... $79.50 Net

WABER ELECTRONICS INC.

WABER LAB-ON-WHEELS®

waber
ELECTRONICS INC

THESE CHROME PLATED BEAUTIES EQUIPPED WITH WABER OUTLET BOXES



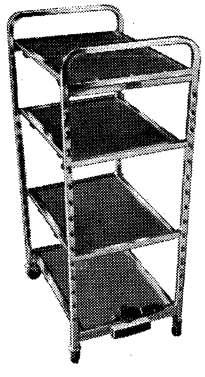
WABER MODEL LOW-11 CARRIER

This sturdy, versatile instrument cart provides ample area for instruments on a free moving carrier. The 4 sturdy shelves are fabricated of durable half-inch plywood laminated with black ribbed non-slip facing.

Construction of the carrier is of 1-inch square steel tubing beautifully finished in gleaming chrome plate. Also included is an outlet box providing 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an HSJ cord-set. Rating is 15 amperes, 130 volts continuous duty. Two middle shelves are adjustable to desired position.

Casters are 5-inch heavy duty rubber, all swiveling. Shelf size: 21″ x 21″. 40″ H. Cap.: 600 pounds.

Model LOW-11 .....$125.00 Net



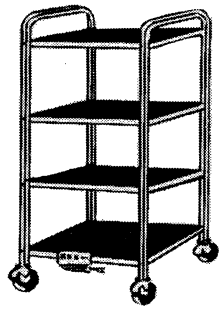
WABER MODEL LOW-12 CARRIER

Here is a highly useful instrument carrier built for years of service. The 4 sturdy shelves are made of half-inch plywood with a thick ribbed non-slip laminated top.

This carrier is well constructed of 1-inch square steel tubing handsomely finished in bright chrome plate. Included with this unit is an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an HSJ cord-set. Rating is 15 amperes, 130 volts continuous duty. Two middle shelves are adjustable to desired positions.

Casters are 5-inch rubber, all swiveling. Shelf size: 21″ x 29″. 60″ H. Cap.: 600 pounds.

Model LOW-12 .....$125.00 Net



WABER MODEL LOW-13 CARRIER

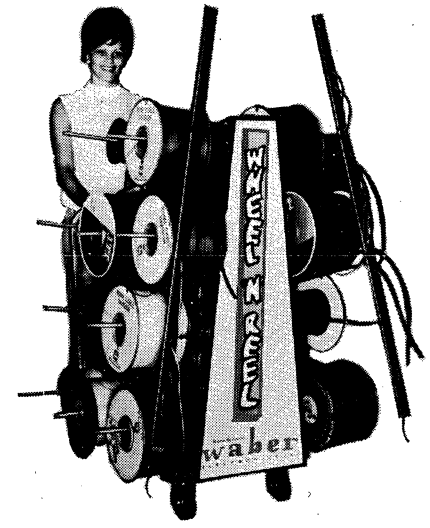
As useful as it is handsome. Same specifications as LOW-12 above except guard rail on top shelf is the longer dimension.

Construction is of 1-inch square steel tubing finished in bright chrome plate. Included is an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an HSJ cord-set. Rating is 15 amperes, 130 volts continuous duty. Two middle shelves are adjustable to desired positions.

Casters are 5 inches, all swiveling. Shelf size: 21″ x 29″. 60″ H. Capacity: 600 pounds.

Model LOW-13 .....$125.00 Net

NEW! WABER "WHEEL 'N' REEL"® MOBILE WIRE RACK



Here's the answer to your wire handling problems. This new Waber "Wheel 'N' Reel"® Mobile Wire Rack holds up to 20 generous size reels of wire, each one in position to be dispensed easily and effortlessly. Move it into position for cable assemble; store it out of the way when not in use. Unlike fixed position wire racks, you can take a large assortment of wire to the area where needed. The "Wheel 'N' Reel" will pay for itself in time saved. Constructed of sturdy 1-inch square tubing, handsomely finished in silver grey hammertone. Equipped with brakes for stability.

Model LOW-10 .....$140.00 Net

1900 pound load capacity

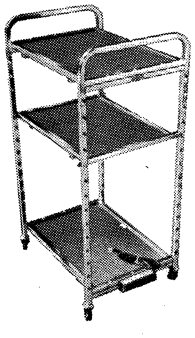
WABER MODEL LOW-15 CARRIER

Just picture this handy cart in your lab giving your instruments and equipment mobility. The 2 decks are made of half-inch plywood laminated with a heavy ribbed facing.

This cart is constructed of 1-inch square steel tubing finished in bright chrome plate. Included is an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an HSJ cord-set. Rating is 15 amperes, 130 volts continuous duty.

Casters are 5 inches, all swiveling. Shelf size: 22″ x 36″. 36″ H. Capacity: 600 pounds.

Model LOW-15 .....$110.00 Net



WABER MODEL LOW-14 CARRIER

This popular 3-shelf model provides easy mobility for your instruments. Shelves are made of half-inch plywood faced with a thick ribbed non-slip laminated top.

Framework is made of 1-inch square steel tubing finished in bright chrome plate. Included is an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an HSJ cord-set. Rating is 15 amperes, 130 volts continuous duty. Middle shelf is adjustable to desired position.

Casters are 5 inches, all swiveling. Shelf size: 21″ x 29″. 58″ H. Capacity: 600 pounds.

Model LOW-14 .....$120.00 Net

WABER ELECTRONICS INC.

Net

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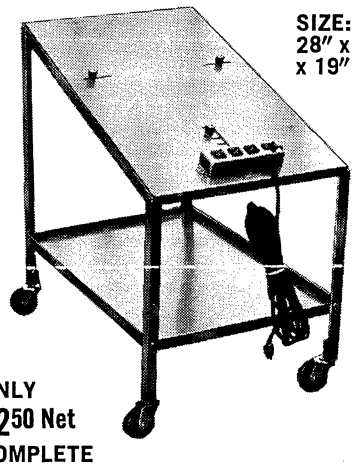
WABER LAB-ON-WHEELS®

waber ELECTRONICS INC

LOOK WHAT GOES WITH THIS RUGGED, EASY TO HANDLE

SCOPE CART

A WABER OUTLET BOX—THAT'S WHAT!



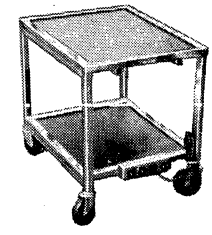
SIZE: 28" x 32" x 19"

ONLY 42.50 Net COMPLETE

MODEL LOW-25

You can't buy better value in a scope cart. Adjustable stops . . . solid steel construction . . . 3-inch swiveling cushion rubber casters . . . Waber outlet box featuring fuse post, switch, pilot light, 3 "U" ground outlets and 15-foot "U" ground cord-set. Rated 15 amps, 130 volts. Shipping weight 45 lbs.

CHROME PLATED SQUARE TUBING PROVIDES STRENGTH AND UTILITY TO THESE MOBILE CARRIERS



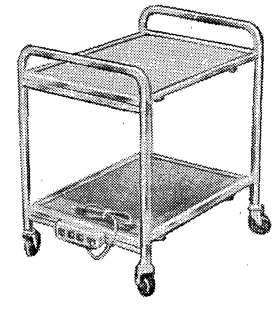
WABER MODEL LOW-16 CARRIER

Audio Visual users will appreciate this versatile carrier. Both decks are constructed of durable half-inch plywood with a thick ribbed surface.

Framework is of decorator 1-inch square steel tubing finished in bright chrome plate. Included is an outlet box with 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an HSJ cord-set. Rating is 15 amperes, 130 volts continuous duty.

4-inch casters are of the swiveling type. Shelf size: 18" x 24". 21" H. Capacity: 400 pounds.

Model LOW-16 .....$80.00 Net



WABER MODEL LOW-17 CARRIER

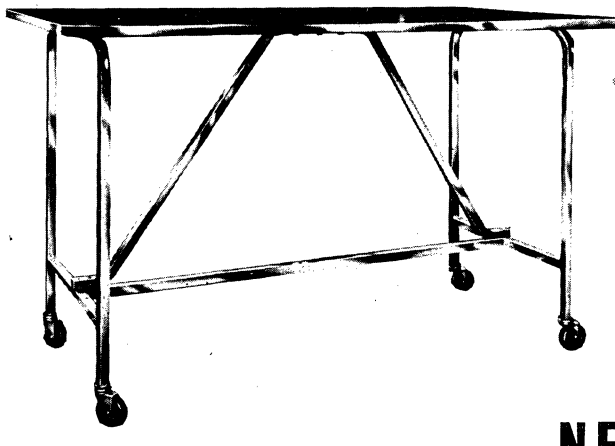
Schools, Labs, and Audio-Visual users will find this a work-horse of carriers. Each of the 2 shelves is made of sturdy half-inch plywood laminated with a heavy duty ribbed non-slip top.

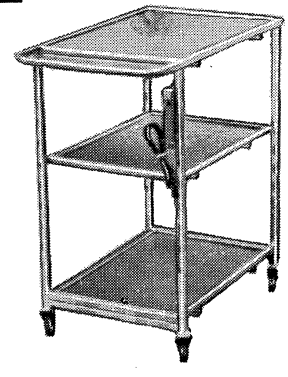
Popular 1-inch square steel construction provides support for this carrier and finish is in bright chrome plate. Also included is an outlet box providing 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an HSJ cord-set. Rating is 15 amperes, 130 volts continuous duty.

All of the 4-inch casters are of the swiveling type. Shelf size: 21" x 29". 32" H. Capacity: 400 pounds.

Model LOW-17 .....$90.00 Net

NEW! WABER LOW-20 MOBILE BENCH DOUBLES AS TABLE OR CARRIER





WABER MODEL LOW-18 CARRIER

Featuring 3 decks, each of half-inch plywood faced with a ribbed non-slip top, these easy rolling carriers provide many advantages for the school, shop or lab.

Here again the construction is of eye appealing 1-inch square steel tubing finished with a bright chrome plate. In addition the carrier is supplied with an attractive electrical outlet box featuring 3 "U" ground outlets, neon pilot light, on-off switch, fuse protection, and an HSJ cord-set. Rating is 15 amperes, 130 volts, continuous duty.

The 5-inch casters are of the swiveling type. Shelf size: 21" x 29". 42" H. Capacity: 600 pounds.

Model LOW-18 .....$125.00 Net

Use the versatile unit either as a table or as a carrier to transport equipment. It will prove a real asset in many ways.

The framing is of attractive and durable 1-inch square steel tubing finished in bright chrome plate. The table top is constructed of hard board with a formica surface. Size of the top is 24" x 48".

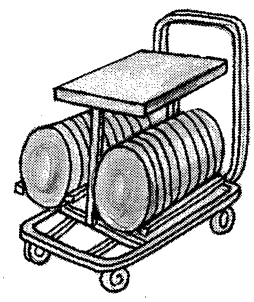
In addition, this unit includes an electrical outlet box with 3 "U" ground outlets, on-off switch, pilot light, fuse protection, and a 15-foot HSJ cord-set. Rating is 15 amperes, 130 volts, continuous duty.

Casters are 5-inch heavy duty rubber, all swiveling. Size: 25" W x 48" L x 37" H. Capacity: 600 pounds.

Model LOW-10 .....$120.00

Model LOW-21 (Size 30" W x 60" L x 37" H) ..$140.00

NEW! WABER MOBILE TAPE RACK



This compact mobile tape carrier will help you solve your tape handling problems. You'll get better control, less handling and more efficiency with this versatile carrier.

Made of one inch square tubing, beautifully chromed, and transported by sturdy 5" swiveling caster.

Unit features a convenience shelf for handling tapes. Size is 32" L x 18½" W x 37½" H.

Model LOW-19 — $95.00 Net

WABER ELECTRONICS INC.

whatever electronic products
you require...

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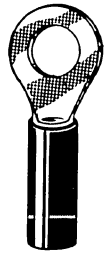
...the world's largest catalog
of electronic
products
sold through
distributors

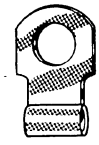
waldom SOLDERLESS TERMINALS AND CONNECTORS

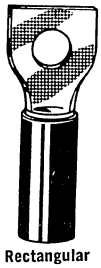
INSULATED AND NON-INSULATED TYPES FOR EVERY WIRING APPLICATION


Ring Tongue

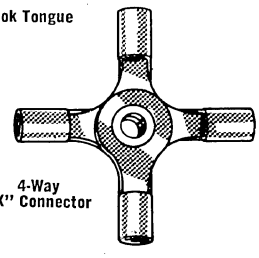
Spade Tongue

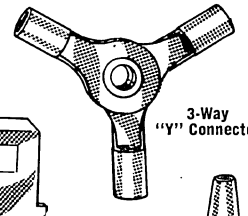
Hook Tongue


Flag Type

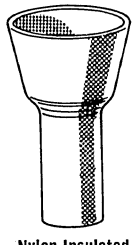

Rectangular Tongue

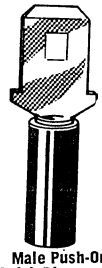
Flanged Spade

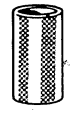

4-Way "X" Connector


3-Way "Y" Connector

Butt Connector


Nylon Insulated Closed End Connector


Male Push-On Quick Disconnect


Parallel Connector

Snap Plug

Female Flag Quick Disconnect

INSULATED TERMINALS COLOR CODED FOR QUICK IDENTIFICATION OF WIRE RANGES

Wire Range	Color	Wire Range	Color
26-24	Yellow	4	Yellow
22-18	Red	2	Red
16-14	Blue	1/0	Blue
12-10	Yellow	2/0	Yellow
8	Red	3/0	Red
6	Blue	4/0	Blue

Available in 6 Construction Styles

INSULATED

INSULKRIMP®

INSULKRIMP® terminals and connectors incorporate all the advanced features of KRIMPTITE construction, plus the advantages of the permanently attached rigid vinyl plastic insulating sleeve. Up to No. 10 wire range basic barrel is Krimptite; size No. 8 and up uses Versakrimp (brazed seam) barrel. Replacing slower methods of individually insulating connection with tubing or tape, INSULKRIMP Terminals and Connectors are rapidly applied in a single application. The tough insulating sleeve is permanently attached and will not slip off, fracture, or unravel. In addition, INSULKRIMP construction affords increased vibration resistance due to its insulation supporting plastic sleeve. Operating Temperature Range: continuous duty from —40° to 220°F; intermittent duty to 300°F.

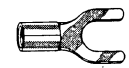
NYLAKRIMP®

Wire Ranges 8 thru 4/0 Has the same features as the Versakrimp except that it has a Nylon insulated sleeve. Nylon Sleeve ideal for high temperature applications.

AVIKRIMP®

AVIKRIMP® terminals are truly the ultimate in construction and performance. To all the VIBRAKRIMP features has been added the permanently attached and overlapping NYLON insulating sleeve — no extra insulation necessary. It provides extra barrel strength and insulation grip to resist high vibration plus heat-resistant pre-insulation. Color coded for rapid identification, these terminals are complete in themselves, needing only the proper wire and crimping tool. WALDOM offers many sizes and types with the maximum in reliability for your most critical applications. Operation Temperature Range: continuous duty from —40° to 250°F; intermittent duty to 350°F.

NON-INSULATED



KRIMPTITE®

KRIMPTITE® terminals and connectors are the most modern labor saving answer to your wiring problems. Functionally designed to make positive connections with a minimum of experience and time needed for application. Uniformly reliable connections can be made in a fraction of the time formerly required by less reliable and more costly methods. Available in a wide range of types and sizes to meet your every wiring need. Minimum ¼ inch barrel lengths are available in all terminals listed.

VERSAKRIMP®

VERSAKRIMP® terminals and connectors have all the advantageous features of the KRIMPTITE construction plus the universality and higher tensile strength afforded by BRAZED BARREL construction. The seam is bonded with a special silver brazing alloy, and cannot possibly pull open under any conditions of stress or wire pull. Capable of being crimped by a wide variety of crimp styles, a new freedom of selection is available for your needs. Crimping location is not critical, as the specially brazed seams are guaranteed not to split and may be crimped from any direction. Recommended for both stranded and solid wires.

VIBRAKRIMP®

VIBRAKRIMP® terminals are particularly suitable where high vibration is a factor and firm insulation support is required. The seamless annealed electro-tin plated brass sleeve adds over-all strength to the terminal construction while the "skirt" portion which extends beyond the barrel is crimped in the same operation as the barrel and the wire is permanently held, preventing creep. Insulation is anchored and any wire flexing takes place beyond the terminal.

BASIC TERMINAL CONSTRUCTION DETAILS

Made of pure electrolytic copper for highest conductivity (MIL QQC576). Annealed to flow freely under crimping pressure for best connection. Electroplated with pure tin for greatest corrosion-resistance, in accordance with the highest standards of the electrical industry and MIL-T-10727 (Ord.).

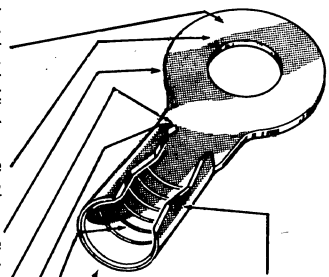
Modern construction from a single piece of metal gives greater strength, lower cost, uniform current flow for maximum conductivity.

All terminals and connectors have wire range clearly stamped on back.

The open-end design allows quick visual inspection of wire location before and after crimping.

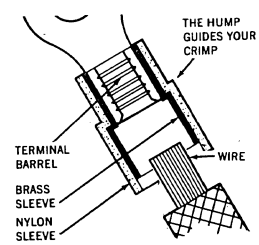
Strength gussets reinforce terminal where flat tongue has been formed into round barrel.

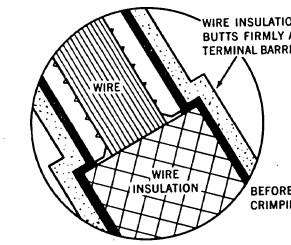
Multiple deep V-notches securely grip wire, provide best contact and maximum holding power over wide contact area.



Long barrel in all sizes eliminates loss of time finding a critical crimping location, eliminates squeeze-outs and shearing. Allows wider crimp for extra-strong, vibration-proof, moisture-tight connection with wide contact area.

Chamfered edge for faster, easier insertion of wire. Actually gathers frayed strands by funnel action.





"STEP" CONSTRUCTION GIVES EXTRA PROTECTION

Cutaway views of an AVIKRIMP barrel show how the "step" design for the brass sleeve acts to socket the wire insulation solidly in both the AVIKRIMP and VIBRAKRIMP styles for the ultimate in anti-vibration protection. In addition, the external "hump" marks the exact location of the barrel end — a quick guide to the target.

WALDOM . . . the "positive action" line . . . available through your electronic parts distributor

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SOLDERLESS TERMINALS AND CONNECTORS

waldom

26-24 WIRE RANGE

NEW **NEW** **NEW**

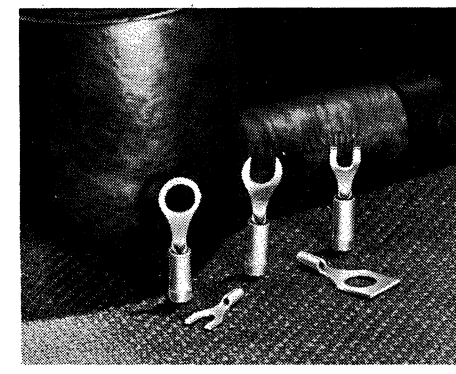
TERMINALS FOR SMALL WIRE RANGE APPLICATIONS

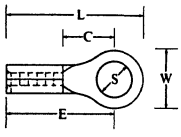
Now you can meet your wire needs in the 26-24 wire range with WALDOM High Quality, Dependable Terminals.

Five terminal tongue styles are available in both uninsulated KRIMPTITE® and nylon insulated AVIKRIMP®

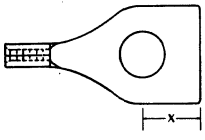
These terminals feature: Serrated barrels for extra wire-gripping strength — Funnel action chamfered edge for easy wire insertion — Controlled atmosphere annealing insures easy crimping — Highest conductivity because they are made from pure electrolytic copper with an electro-tin plating. The nylon insulated AVIKRIMP will operate continuously at from −40° to 250°F.—intermittently up to 350°.

Ideal for use in electronic industry, aircraft, instrument manufacturing, or any industry use with precise circuitry requirements.

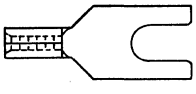




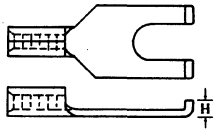
RING TONGUE



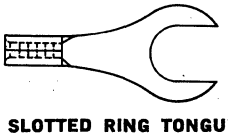
RECTANGULAR TONGUE



SPADE TONGUE



FLANGED SPADE TONGUE



SLOTTED RING TONGUE

.018 STOCK — INSULATION COLOR YELLOW

RING TONGUE TERMINALS — BARREL LENGTH: AVIKRIMP* 23/64", KRIMPTITE* 1/8"

Basic Dimensions			Insulated AVIKRIMP* .075 Max. Insulation Diameter				Uninsulated Krimptite*			Price Code See Below
Stud Size S	Width W	Clearance C	Part No.	Length L	Barrel Extension E	Tongue Length X	Part No.	Length L	Barrel Extension	
0	9/64	1/8	N-5925	33/64	7/16	—	S-1925	23/64	17/64	A
	9/64	1/8	N-5926	33/64	7/16	—	S-1926	23/64	17/64	A
2	13/64	7/32	N-5927	21/32	17/32	—	S-1927	31/64	23/64	A
	9/64	7/32	N-5928	39/64	17/32	—	S-1928	29/64	23/64	A
4	13/64	7/32	N-5929	21/32	17/32	—	S-1929	31/64	23/64	A
6	13/64	7/32	N-5930	21/32	17/32	—	S-1930	31/64	23/64	A
	1/4	19/64	N-5931	3/4	39/64	—	S-1931	37/64	7/16	A
8	1/4	19/64	N-5932	3/4	39/64	—	S-1932	37/64	7/16	A
10	1/4	19/64	N-5933	3/4	39/64	—	S-1933	37/64	7/16	A

RECTANGULAR TONGUE — BARREL LENGTH: AVIKRIMP* 23/64", KRIMPTITE* 1/8"

2	3/16	7/32	N-5934	21/32	17/32	7/64	S-1934	31/64	23/64	A
6	5/16	19/64	N-5935	13/16	39/64	3/16	S-1935	41/64	7/16	A
8	5/16	19/64	N-5936	13/16	39/64	3/16	S-1936	41/64	7/16	A
10	5/16	19/64	N-5937	13/16	39/64	3/16	S-1937	41/64	7/16	A

SPADE TONGUE — BARREL LENGTH: AVIKRIMP* 23/64", KRIMPTITE* 1/8"

0	9/64	1/8	N-5938	23/64	7/16	1/16	S-1938	23/64	17/64	A
2	3/16	7/32	N-5939	21/32	17/32	7/64	S-1939	31/64	23/64	A
4	13/64	7/32	N-5940	41/64	17/32	3/32	S-1940	31/64	23/64	A

FLANGED SPADE TONGUE — BARREL LENGTH: AVIKRIMP* 23/64", KRIMPTITE* 1/8"

2	3/16	7/32	N-5941	21/32	17/32	7/64	S-1941	31/64	23/64	A

SLOTTED RING TONGUE — BARREL LENGTH: AVIKRIMP* 23/64", KRIMPTITE* 1/8"

6	1/4	19/64	N-5942	3/4	39/64	—	S-1942	37/64	7/16	A

NET PRICES 26-24 WIRE RANGE TERMINALS

WRITE FOR QUOTATION ON LARGER QUANTITIES

Price Code Letter	KRIMPTITE* Pkg. of 100	KRIMPTITE* BULK 1000-4999 Per M	KRIMPTITE* BULK 5000 or more Per M	AVIKRIMP* Pkg. of 100	AVIKRIMP* BULK 1000-4999 Per M	AVIKRIMP* BULK 5000 or more Per M
A	2.27	16.35	12.75	7.57	61.45	46.10

* TRADEMARK

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SOLDERLESS TERMINALS AND CONNECTORS

waldom

22-18 WIRE RANGE

MILITARY 22-18; COMMERCIAL 22-16; BUREAU OF SHIPS 1-2
CIRCULAR MIL AREA 509—2,600 UL & CSA RECOGNIZED

.032" STOCK • INSULATION COLOR RED

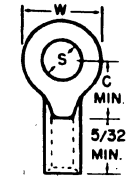
PRICING FOLLOWS THIS WIRE RANGE LISTING

RING TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

KRIMPTITE*
RING TONGUE
FULL BARREL

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code See Page 5
Stud Size S	Width W	Clearance C	Part Number	Length L	.125 Max. Ins. Dia. Pt. No.	.145 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.145 Max. Ins. Dia. Pt. No.	Length L	.145 Max. Ins. Dia. Pt. No.	Length L	
1-2	7/32	5/32	S-1099	33/64	T-2099	T-2099X	45/64	B-3099	33/64	D-4099	43/64	N-5099	45/64	A
3-4	7/32	5/32	S-1047	33/64	T-2047	T-2047X	45/64	B-3047	33/64	D-4047	43/64	N-5047	45/64	A
	9/32	1/4	S-1096	41/64	T-2096	T-2096X	53/64	B-3096	41/64	D-4096	51/64	N-5096	53/64	A
5-6	7/32	5/32	S-1001	33/64	T-2001	T-2001X	45/64	B-3001	33/64	D-4001	43/64	N-5001	45/64	A
	9/32	1/4	S-1002	41/64	T-2002	T-2002X	53/64	B-3002	41/64	D-4002	51/64	N-5002	53/64	A
	5/16	5/16	S-1103	23/32	T-2103	T-2103X	29/32	B-3103	23/32	D-4103	7/8	N-5103	29/32	A
8	9/32	1/4	S-1097	41/64	T-2097	T-2097X	53/64	B-3097	41/64	D-4097	51/64	N-5097	53/64	A
	5/16	5/16	S-1021	23/32	T-2021	T-2021X	29/32	B-3021	23/32	D-4021	7/8	N-5021	29/32	A
10	9/32	1/4	S-1098	41/64	T-2098	T-2098X	53/64	B-3098	41/64	D-4098	51/64	N-5098	53/64	A
	5/16	5/16	S-1003	23/32	T-2003	T-2003X	29/32	B-3003	23/32	D-4003	7/8	N-5003	29/32	A
	15/32	.400	S-1111	57/64	T-2111	T-2111X	1- 5/64	B-3111	57/64	D-4111	1- 3/64	N-5111	1- 5/64	B
	9/16	9/16	S-1800	1- 7/64	T-2800	T-2800X	1-19/64	B-3800	1- 7/64	D-4800	1-17/64	N-5800	1-19/64	C
1/4	15/32	.400	S-1004	57/64	T-2004	T-2004X	1- 5/64	B-3004	57/64	D-4004	1- 3/64	N-5004	1- 5/64	B
	9/16	9/16	S-1801	1- 7/64	T-2801	T-2801X	1-19/64	B-3801	1- 7/64	D-4801	1-17/64	N-5801	1-19/64	C
5/16	15/32	.400	S-1005	57/64	T-2005	T-2005X	1- 5/64	B-3005	57/64	D-4005	1- 3/64	N-5005	1- 5/64	B
	9/16	9/16	S-1802	1- 7/64	T-2802	T-2802X	1-19/64	B-3802	1- 7/64	D-4802	1-17/64	N-5802	1-19/64	C
3/8	9/16	9/16	S-1143	1- 7/64	T-2143	T-2143X	1-19/64	B-3143	1- 7/64	D-4143	1-17/64	N-5143	1-19/64	C

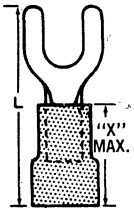
RING TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH



VERSAKRIMP*
RING TONGUE
SHORT BARREL

1-2	7/32	5/32	SS-1099	27/64	ST-2099	ST-2099X	5/8	SB-3099	27/64	SD-4099	37/64	SN-5099	5/8	A
3-4	7/32	5/32	SS-1047	27/64	ST-2047	ST-2047X	5/8	SB-3047	27/64	SD-4047	37/64	SN-5047	5/8	A
	9/32	1/4	SS-1096	35/64	ST-2096	ST-2096X	3/4	SB-3096	35/64	SD-4096	45/64	SN-5096	3/4	A
5-6	7/32	5/32	SS-1001	27/64	ST-2001	ST-2001X	5/8	SB-3001	27/64	SD-4001	37/64	SN-5001	5/8	A
	9/32	1/4	SS-1002	35/64	ST-2002	ST-2002X	3/4	SB-3002	35/64	SD-4002	45/64	SN-5002	3/4	A
	5/16	5/16	SS-1103	5/8	ST-2103	ST-2103X	53/64	SB-3103	5/8	SD-4103	25/32	SN-5103	53/64	A
8	9/32	1/4	SS-1097	35/64	ST-2097	ST-2097X	3/4	SB-3097	35/64	SD-4097	45/64	SN-5097	3/4	A
	5/16	5/16	SS-1021	5/8	ST-2021	ST-2021X	53/64	SB-3021	5/8	SD-4021	25/32	SN-5021	53/64	A
10	9/32	1/4	SS-1098	35/64	ST-2098	ST-2098X	3/4	SB-3098	35/64	SD-4098	45/64	SN-5098	3/4	A
	5/16	5/16	SS-1003	5/8	ST-2003	ST-2003X	53/64	SB-3003	5/8	SD-4003	25/32	SN-5003	53/64	A
	15/32	.400	SS-1111	51/64	ST-2111	ST-2111X	1	SB-3111	51/64	SD-4111	61/64	SN-5111	1	B
1/4	15/32	.400	SS-1004	51/64	ST-2004	ST-2004X	1	SB-3004	51/64	SD-4004	61/64	SN-5004	1	B
	9/16	9/16	SS-1801	1- 1/64	ST-2801	ST-2801X	1- 7/32	SB-3801	1- 1/64	SD-4801	1-11/64	SN-5801	1- 7/32	C
5/16	15/32	.400	SS-1005	51/64	ST-2005	ST-2005X	1	SB-3005	51/64	SD-4005	61/64	SN-5005	1	B
	9/16	9/16	SS-1802	1- 1/64	ST-2802	ST-2802X	1- 7/32	SB-3802	1- 1/64	SD-4802	1-11/64	SN-5802	1- 7/32	C
3/8	9/16	9/16	SS-1143	1- 1/64	ST-2143	ST-2143X	1- 7/32	SB-3143	1- 1/64	SD-4143	1-11/64	SN-5143	1- 7/32	C

SPADE TONGUE TERMINALS—FULL (1/4") BARREL LENGTH



Full Barrel X=7/16"
Short Barrel X=23/64"

INSULKRIMP*
SPADE TONGUE

3-4	1/4	7/32	S-1116	5/8	T-2116	T-2116X	13/16	B-3116	5/8	D-4116	25/32	N-5116	13/16	A
	19/64	7/32	S-1803	5/8	T-2803	T-2803X	13/16	B-3803	5/8	D-4803	25/32	N-5803	13/16	A
	21/64	1/4	S-1804	23/32	T-2804	T-2804X	29/32	B-3804	23/32	D-4804	7/8	N-5804	29/32	A
5-6	1/4	7/32	S-1118	5/8	T-2118	T-2118X	13/16	B-3118	5/8	D-4118	25/32	N-5118	13/16	A
	19/64	7/32	S-1014	5/8	T-2014	T-2014X	13/16	B-3014	5/8	D-4014	25/32	N-5014	13/16	A
	5/16	5/16	S-1029	3/4	T-2029	T-2029X	15/16	B-3029	3/4	D-4029	29/32	N-5029	15/16	A
	21/64	1/4	S-1501	23/32	T-2501	T-2501X	29/32	B-3501	23/32	D-4501	7/8	N-5501	29/32	A
	3/8	1/4	S-1503	23/32	T-2503	T-2503X	29/32	B-3503	23/32	D-4503	7/8	N-5503	29/32	A
	27/64	1/4	S-1805	23/32	T-2805	T-2805X	29/32	B-3805	23/32	D-4805	7/8	N-5805	29/32	A
8	19/64	7/32	S-1030	5/8	T-2030	T-2030X	13/16	B-3030	5/8	D-4030	25/32	N-5030	13/16	A
	5/16	5/16	S-1031	3/4	T-2031	T-2031X	15/16	B-3031	3/4	D-4031	29/32	N-5031	15/16	A
	21/64	1/4	S-1806	23/32	T-2806	T-2806X	29/32	B-3806	23/32	D-4806	7/8	N-5806	29/32	A
	3/8	1/4	S-1504	23/32	T-2504	T-2504X	29/32	B-3504	23/32	D-4504	7/8	N-5504	29/32	A
	27/64	1/4	S-1507	23/32	T-2507	T-2507X	29/32	B-3507	23/32	D-4507	7/8	N-5507	29/32	A
10	5/16	5/16	S-1032	3/4	T-2032	T-2032X	15/16	B-3032	3/4	D-4032	29/32	N-5032	15/16	A
	3/8	1/4	S-1505	23/32	T-2505	T-2505X	29/32	B-3505	23/32	D-4505	7/8	N-5505	29/32	A
	27/64	1/4	S-1807	23/32	T-2807	T-2807X	29/32	B-3807	23/32	D-4807	7/8	N-5807	29/32	A

*TRADEMARK

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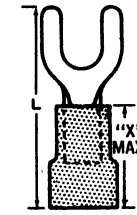
SOLDERLESS TERMINALS AND CONNECTORS

22-18 WIRE RANGE (Continued)

SPADE TYPE TERMINALS—SHORT (5/32") BARREL LENGTH

PRICING FOLLOWS THIS WIRE RANGE LISTING

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*		VERSAKRIMP*			VIBRAKRIMP*		AVIKRIMP*		Price Code See Page 5
Stud Size S	Width W	Clearance C	Part Number	Length L	.125 Max. Ins. Dia. Pt. No.	.145 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.145 Max. Ins. Dia. Pt. No.	Length L	.145 Max. Ins. Dia. Pt. No.	Length L	
3-4	1/4	7/32	SS-1116	17/32	ST-2116	ST-2116X	47/64	SB-3116	17/32	SD-4116	11/16	SN-5116	47/64	A
	19/64	7/32	SS-1803	17/32	ST-2803	ST-2803X	47/64	SB-3803	17/32	SD-4803	11/16	SN-5803	47/64	A
	21/64	1/4	SS-1804	5/8	ST-2804	ST-2804X	53/64	SB-3804	5/8	SD-4804	25/32	SN-5804	53/64	A
5-6	1/4	7/32	SS-1118	17/32	ST-2118	ST-2118X	47/64	SB-3118	17/32	SD-4118	11/16	SN-5118	47/64	A
	19/64	7/32	SS-1014	17/32	ST-2014	ST-2014X	47/64	SB-3014	17/32	SD-4014	11/16	SN-5014	47/64	A
	5/16	5/16	SS-1029	21/32	ST-2029	ST-2029X	55/64	SB-3029	21/32	SD-4029	13/16	SN-5029	55/64	A
	21/64	1/4	SS-1501	5/8	ST-2501	ST-2501X	53/64	SB-3501	5/8	SD-4501	25/32	SN-5501	53/64	A
	3/8	1/4	SS-1503	5/8	ST-2503	ST-2503X	53/64	SB-3503	5/8	SD-4503	25/32	SN-5503	53/64	A
	27/64	1/4	SS-1805	5/8	ST-2805	ST-2805X	53/64	SB-3805	5/8	SD-4805	25/32	SN-5805	53/64	A
8	19/64	7/32	SS-1030	17/32	ST-2030	ST-2030X	47/64	SB-3030	17/32	SD-4030	11/16	SN-5030	47/64	A
	5/16	5/16	SS-1031	21/32	ST-2031	ST-2031X	55/64	SB-3031	21/32	SD-4031	13/16	SN-5031	55/64	A
	21/64	1/4	SS-1806	5/8	ST-2806	ST-2806X	53/64	SB-3806	5/8	SD-4806	25/32	SN-5806	53/64	A
	3/8	1/4	SS-1504	5/8	ST-2504	ST-2504X	53/64	SB-3504	5/8	SD-4805	25/32	SN-5504	53/64	A
	27/64	1/4	SS-1507	5/8	ST-2507	ST-2507X	53/64	SB-3507	5/8	SD-4507	25/32	SN-5507	53/64	A
10	5/16	5/16	SS-1032	21/32	ST-2032	ST-2032X	55/64	SB-3032	21/32	SD-4032	13/16	SN-5032	55/64	A
	3/8	1/4	SS-1505	5/8	ST-2505	ST-2505X	53/64	SB-3505	5/8	SD-4505	25/32	SN-5505	53/64	A
	27/64	1/4	SS-1807	5/8	ST-2807	ST-2807X	53/64	SB-3807	5/8	SD-4807	25/32	SN-5807	53/64	A

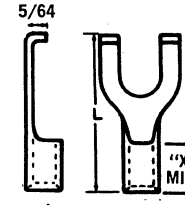


Full Barrel X=7/16"
Short Barrel X=23/64"

INSULKRIMP*

FLANGED SPADE TERMINALS—FULL (1/4") BARREL LENGTH

3-4	19/64	7/32	S-1125	5/8	T-2125	T-2125X	13/16	B-3125	5/8	D-4125	25/32	N-5125	13/16	A
	21/64	1/4	S-1808	23/32	T-2808	T-2808X	29/32	B-3808	23/32	D-4808	7/8	N-5808	29/32	A
5-6	19/64	7/32	S-1080	5/8	T-2080	T-2080X	13/16	B-3080	5/8	D-4080	25/32	N-5080	13/16	A
	21/64	1/4	S-1510	23/32	T-2510	T-2510X	29/32	B-3510	23/32	D-4510	7/8	N-5510	29/32	A
	3/8	1/4	S-1809	23/32	T-2809	T-2809X	29/32	B-3809	23/32	D-4809	7/8	N-5809	29/32	A
	27/64	1/4	S-1810	23/32	T-2810	T-2810X	29/32	B-3810	23/32	D-4810	7/8	N-5810	29/32	A
8	19/64	7/32	S-1081	5/8	T-2081	T-2081X	13/16	B-3081	5/8	D-4081	25/32	N-5081	13/16	A
	21/64	1/4	S-1811	23/32	T-2811	T-2811X	29/32	B-3811	23/32	D-4811	7/8	N-5811	29/32	A
	3/8	1/4	S-1812	23/32	T-2812	T-2812X	29/32	B-3812	23/32	D-4812	7/8	N-5812	29/32	A
	27/64	1/4	S-1516	23/32	T-2516	T-2516X	29/32	B-3516	23/32	D-4516	7/8	N-5516	29/32	A
10	3/8	1/4	S-1582	23/32	T-2582	T-2582X	29/32	B-3582	23/32	D-4582	7/8	N-5582	29/32	A
	27/64	1/4	S-1813	23/32	T-2813	T-2813X	29/32	B-3813	23/32	D-4813	7/8	N-5813	29/32	A



Full Barrel X=1/4"
Short Barrel X=5/32"

VERSAKRIMP*

FLANGED SPADE TERMINALS—SHORT (5/32") BARREL LENGTH

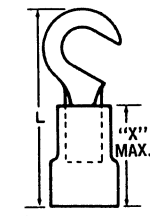
3-4	19/64	7/32	SS-1125	17/32	ST-2125	ST-2125X	47/64	SB-3125	17/32	SD-4125	11/16	SN-5125	47/64	A
	21/64	1/4	SS-1808	5/8	ST-2808	ST-2808X	53/64	SB-3808	5/8	SD-4808	25/32	SN-5808	53/64	A
5-6	19/64	7/32	SS-1080	17/32	ST-2080	ST-2080X	47/64	SB-3080	17/32	SD-4080	11/16	SN-5080	47/64	A
	21/64	1/4	SS-1510	5/8	ST-2510	ST-2510X	53/64	SB-3510	5/8	SD-4510	25/32	SN-5510	53/64	A
	3/8	1/4	SS-1809	5/8	ST-2809	ST-2809X	53/64	SB-3809	5/8	SD-4809	25/32	SN-5809	53/64	A
	27/64	1/4	SS-1810	5/8	ST-2810	ST-2810X	53/64	SB-3810	5/8	SD-4810	25/32	SN-5810	53/64	A
8	19/64	7/32	SS-1081	17/32	ST-2081	ST-2081X	47/64	SB-3081	17/32	SD-4081	11/16	SN-5081	47/64	A
	21/64	1/4	SS-1811	5/8	ST-2811	ST-2811X	53/64	SB-3811	5/8	SD-4811	25/32	SN-5811	53/64	A
	3/8	1/4	SS-1812	5/8	ST-2812	ST-2812X	53/64	SB-3812	5/8	SD-4812	25/32	SN-5812	53/64	A
	27/64	1/4	SS-1516	5/8	ST-2516	ST-2516X	53/64	SB-3516	5/8	SD-4516	25/32	SN-5516	53/64	A
10	3/8	1/4	SS-1582	5/8	ST-2582	ST-2582X	53/64	SB-3582	5/8	SD-4582	25/32	SN-5582	53/64	A
	27/64	1/4	SS-1813	5/8	ST-2813	ST-2813X	53/64	SB-3813	5/8	SD-4813	25/32	SN-5813	53/64	A

HOOK TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

5-6	5/16	5/16	S-1018	23/32	T-2018	T-2018X	29/32	B-3018	23/32	D-4018	7/8	N-5018	29/32	A
8	5/16	5/16	S-1036	23/32	T-2036	T-2036X	29/32	B-3036	23/32	D-4036	7/8	N-5036	29/32	A
10	5/16	5/16	S-1037	23/32	T-2037	T-2037X	29/32	B-3037	23/32	D-4037	7/8	N-5037	29/32	A

HOOK TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH

5-6	5/16	5/16	SS-1018	5/8	ST-2018	ST-2018X	53/64	SB-3018	5/8	SD-4018	25/32	SN-5018	53/64	A
8	5/16	5/16	SS-1036	5/8	ST-2036	ST-2036X	53/64	SB-3036	5/8	SD-4036	25/32	SN-5036	53/64	A
10	5/16	5/16	SS-1037	5/8	ST-2037	ST-2037X	53/64	SB-3037	5/8	SD-4037	25/32	SN-5037	53/64	A



Full Barrel X=13/32"
Short Barrel X=5/16"

VIBRAKRIMP*

*TRADEMARK

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SOLDERLESS TERMINALS AND CONNECTORS

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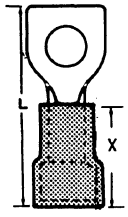
22-18 WIRE RANGE (Continued)

RECTANGULAR TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

PRICING FOLLOWS THIS WIRE RANGE LISTING



Full Barrel X=7/16"
Short Barrel X=23/64"

AVIKRIMP*
Rectangular Tongue

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
3-4	1/4	7/32	S-1814	5/8	T-2814	T-2814X	13/16	B-3814	5/8	D-4814	25/32	N-5814	13/16	A
	19/64	7/32	S-1128	5/8	T-2128	T-2128X	13/16	B-3128	5/8	D-4128	25/32	N-5128	13/16	A
	21/64	1/4	S-1815	23/32	T-2815	T-2815X	29/32	B-3815	23/32	D-4815	7/8	N-5815	29/32	A
5-6	1/4	7/32	S-1816	5/8	T-2816	T-2816X	13/16	B-3816	5/8	D-4816	25/32	N-5816	13/16	A
	19/64	7/32	S-1071	5/8	T-2071	T-2071X	13/16	B-3071	5/8	D-4071	25/32	N-5071	13/16	A
	5/16	5/16	S-1130	3/4	T-2130	T-2130X	15/16	B-3130	3/4	D-4130	29/32	N-5130	15/16	A
	21/64	1/4	S-1519	23/32	T-2519	T-2519X	29/32	B-3519	23/32	D-4519	7/8	N-5519	29/32	A
	3/8	1/4	S-1817	23/32	T-2817	T-2817X	29/32	B-3817	23/32	D-4817	7/8	N-5817	29/32	A
	27/64	1/4	S-1818	23/32	T-2818	T-2818X	29/32	B-3818	23/32	D-4818	7/8	N-5818	29/32	A
8	19/64	7/32	S-1072	5/8	T-2072	T-2072X	13/16	B-3072	5/8	D-4072	25/32	N-5072	13/16	A
	5/16	5/16	S-1132	3/4	T-2132	T-2132X	15/16	B-3132	3/4	D-4132	29/32	N-5132	15/16	A
	21/64	1/4	S-1819	23/32	T-2819	T-2819X	29/32	B-3819	23/32	D-4819	7/8	N-5819	29/32	A
	3/8	1/4	S-1820	23/32	T-2820	T-2820X	29/32	B-3820	23/32	D-4820	7/8	N-5820	29/32	A
	27/64	1/4	S-1526	23/32	T-2526	T-2526X	29/32	B-3526	23/32	D-4526	7/8	N-5526	29/32	A
10	5/16	5/16	S-1133	3/4	T-2133	T-2133X	15/16	B-3133	3/4	D-4133	29/32	N-5133	15/16	A
	21/64	1/4	S-1821	23/32	T-2821	T-2821X	29/32	B-3821	23/32	D-4821	7/8	N-5821	29/32	A
	3/8	1/4	S-1524	23/32	T-2524	T-2524X	29/32	B-3524	23/32	D-4524	7/8	N-5524	29/32	A
	27/64	1/4	S-1822	23/32	T-2822	T-2822X	29/32	B-3822	23/32	D-4822	7/8	N-5822	29/32	A

RECTANGULAR TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH

3-4	19/64	7/32	SS-1128	9/16	ST-2128	ST-2128X	49/64	SB-3128	9/16	SD-4128	23/32	SN-5128	49/64	A
	21/64	1/4	SS-1815	5/8	ST-2815	ST-2815X	53/64	SB-3815	5/8	SD-4815	25/32	SN-5815	53/64	A
5-6	19/64	7/32	SS-1071	9/16	ST-2071	ST-2071X	49/64	SB-3071	9/16	SD-4071	23/32	SN-5071	49/64	A
	21/64	1/4	SS-1519	5/8	ST-2519	ST-2519X	53/64	SB-3519	5/8	SD-4519	25/32	SN-5519	53/64	A
	3/8	1/4	SS-1817	5/8	ST-2817	ST-2817X	53/64	SB-3817	5/8	SD-4817	25/32	SN-5817	53/64	A
	27/64	1/4	SS-1818	5/8	ST-2818	ST-2818X	53/64	SB-3818	5/8	SD-4818	25/32	SN-5818	53/64	A
8	19/64	7/32	SS-1072	9/16	ST-2072	ST-2072X	49/64	SB-3072	9/16	SD-4072	23/32	SN-5072	49/64	A
	27/64	1/4	SS-1526	5/8	ST-2526	ST-2526X	53/64	SB-3526	5/8	SD-4526	25/32	SN-5526	53/64	A
	21/64	1/4	SS-1819	5/8	ST-2819	ST-2819X	53/64	SB-3819	5/8	SD-4819	25/32	SN-5819	53/64	A
	3/8	1/4	SS-1820	5/8	ST-2820	ST-2820X	53/64	SB-3820	5/8	SD-4820	25/32	SN-5820	53/64	A
10	21/64	1/4	SS-1821	5/8	ST-2821	ST-2821X	53/64	SB-3821	5/8	SD-4821	25/32	SN-5821	53/64	A
	3/8	1/4	SS-1524	5/8	ST-2524	ST-2524X	53/64	SB-3524	5/8	SD-4524	25/32	SN-5524	53/64	A
	27/64	1/4	SS-1822	5/8	ST-2822	ST-2822X	53/64	SB-3822	5/8	SD-4822	25/32	SN-5822	53/64	A

NET PRICES — 22-18 WIRE RANGE TERMINALS

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

	KRIMPTITE*			INSULKRIMP* No Suffix			INSULKRIMP* Suffix X			VERSAKRIMP*			VIBRAKRIMP*			AVIKRIMP*		
		BULK			BULK			BULK			BULK			BULK			BULK	
Price Code Letter	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M
A	2.27	16.35	12.75	4.47	33.05	25.85	5.02	37.10	29.00	3.50	28.00	21.00	5.30	42.40	31.80	7.57	61.45	46.10
B	3.11	22.35	17.50	5.79	42.80	33.45	6.13	45.35	35.40	4.87	39.15	29.35	6.76	54.10	40.55	9.47	75.75	56.85
C	4.08	29.45	23.00	5.79	42.80	33.45	6.13	45.35	35.40	4.87	39.15	29.35	6.76	54.10	40.55	9.47	75.75	56.85

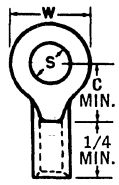
16-14 WIRE RANGE

BUREAU OF SHIPS 21/2-4 UL & CSA RECOGNIZED
CIRCULAR MIL AREA 2,050-5,180 (HEAVY DUTY 2,050-9,000)

.032" STOCK (HEAVY DUTY .050") • INSULATION COLOR CODED BLUE (HEAVY DUTY YELLOW) •

RING TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

PRICING FOLLOWS THIS WIRE RANGE LISTING



Full Barrel X=1/4"
Short Barrel X=5/32"

KRIMPTITE*
Ring Tongue

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code See Page 6
Stud Size S	Width W	Clearance C	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
1-2	1/4	7/32	S-1102	19/32	T-2102	T-2102X	25/32	B-3102	19/32	D-4102	3/4	N-5102	25/32	D
3-4	1/4	7/32	S-1048	19/32	T-2048	T-2048X	25/32	B-3048	19/32	D-4048	3/4	N-5048	25/32	D
	5/16	9/32	S-1823	45/64	T-2823	T-2823X	57/64	B-3823	45/64	D-4823	55/64	N-5823	57/64	D
	11/32	5/16	S-1095	47/64	T-2095	T-2095X	59/64	B-3095	47/64	D-4095	57/64	N-5095	59/64	D
5-6	1/4	7/32	S-1006	19/32	T-2006	T-2006X	25/32	B-3006	19/32	D-4006	3/4	N-5006	25/32	D
	5/16	9/32	S-1007	45/64	T-2007	T-2007X	57/64	B-3007	45/64	D-4007	55/64	N-5007	57/64	D
	11/32	5/16	S-1092	47/64	T-2092	T-2092X	59/64	B-3092	47/64	D-4092	57/64	N-5092	59/64	D
8	1/4	7/32	S-1824	19/32	T-2824	T-2824X	25/32	B-3824	19/32	D-4824	3/4	N-5824	25/32	D
	5/16	9/32	S-1024	45/64	T-2024	T-2024X	57/64	B-3024	45/64	D-4024	55/64	N-5024	57/64	D
	11/32	5/16	S-1093	47/64	T-2093	T-2093X	59/64	B-3093	47/64	D-4093	57/64	N-5093	59/64	D
10	5/16	9/32	S-1008	45/64	T-2008	T-2008X	57/64	B-3008	45/64	D-4008	55/64	N-5008	57/64	D
	11/32	5/16	S-1094	47/64	T-2094	T-2094X	59/64	B-3094	47/64	D-4094	57/64	N-5094	59/64	D
	15/32	.400	S-1106	57/64	T-2106	T-2106X	1- 5/64	B-3106	57/64	D-4106	1- 3/64	N-5106	1- 5/64	B
	9/16	9/16	S-1825	1- 7/64	T-2825	T-2825X	1-19/64	B-3825	1- 7/64	D-4825	1-17/64	N-5825	1-19/64	C
1/4	15/32	.400	S-1009	57/64	T-2009	T-2009X	1- 5/64	B-3009	57/64	D-4009	1- 3/64	N-5009	1- 5/64	B
	9/16	9/16	S-1826	1- 7/64	T-2826	T-2826X	1-19/64	B-3826	1- 7/64	D-4826	1-17/64	N-5826	1-19/64	C
5/16	15/32	.400	S-1041	57/64	T-2041	T-2041X	1- 5/64	B-3041	57/64	D-4041	1- 3/64	N-5041	1- 5/64	B
	9/16	9/16	S-1827	1- 7/64	T-2827	T-2827X	1-19/64	B-3827	1- 7/64	D-4827	1-17/64	N-5827	1-19/64	C
3/8	9/16	9/16	S-1147	1- 7/64	T-2147	T-2147X	1-19/64	B-3147	1- 7/64	D-4147	1-17/64	N-5147	1-19/64	C

*TRADEMARK

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waldom

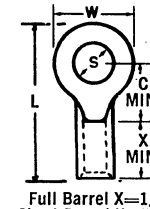
SOLDERLESS TERMINALS AND CONNECTORS

16-14 WIRE RANGE (Continued)

RING TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH

PRICING FOLLOWS THIS WIRE RANGE LISTING

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code See Page 8
Stud Size S	Width W	Clearance C	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
1-2	1/4	7/32	SS-1102	1/2	ST-2102	ST-2102X	45/64	SB-3102	1/2	SD-4102	21/32	SN-5102	45/64	D
3-4	1/4	7/32	SS-1048	1/2	ST-2048	ST-2048X	45/64	SB-3048	1/2	SD-4048	21/32	SN-5048	45/64	D
	5/16	9/32	SS-1823	39/64	ST-2823	ST-2823X	13/16	SB-3823	39/64	SD-4823	49/64	SN-5823	13/16	D
5-6	1/4	7/32	SS-1006	1/2	ST-2006	ST-2006X	45/64	SB-3006	1/2	SD-4006	21/32	SN-5006	45/64	D
	5/16	9/32	SS-1007	39/64	ST-2007	ST-2007X	13/16	SB-3007	39/64	SD-4007	49/64	SN-5007	13/16	D
	11/32	5/16	SS-1092	41/64	ST-2092	ST-2092X	27/32	SB-3092	41/64	SD-4092	51/64	SN-5092	27/32	D
8	1/4	7/32	SS-1824	1/2	ST-2824	ST-2824X	45/64	SB-3824	1/2	SD-4824	21/32	SN-5824	45/64	D
	5/16	9/32	SS-1024	39/64	ST-2024	ST-2024X	13/16	SB-3024	39/64	SD-4024	49/64	SN-5024	13/16	D
	11/32	5/16	SS-1093	41/64	ST-2093	ST-2093X	27/32	SB-3093	41/64	SD-4093	51/64	SN-5093	27/32	D
10	5/16	9/32	SS-1008	39/64	ST-2008	ST-2008X	13/16	SB-3008	39/64	SD-4008	49/64	SN-5008	13/16	D
	11/32	5/16	SS-1094	41/64	ST-2094	ST-2094X	27/32	SB-3094	41/64	SD-4094	51/64	SN-5094	27/32	D
	15/32	.400	SS-1106	51/64	ST-2106	ST-2106X	1	SB-3106	51/64	SD-4106	61/64	SN-5106	1	B
1/4	15/32	.400	SS-1009	51/64	ST-2009	ST-2009X	1	SB-3009	51/64	SD-4009	61/64	SN-5009	1	B
	9/16	9/16	SS-1826	1- 1/64	ST-2826	ST-2826X	1- 7/32	SB-3826	1- 1/64	SD-4826	1-11/64	SN-5826	1- 7/32	C
5/16	15/32	.400	SS-1041	51/64	ST-2041	ST-2041X	1	SB-3041	51/64	SD-4041	61/64	SN-5041	1	B
	9/16	9/16	SS-1827	1- 1/64	ST-2827	ST-2827X	1- 7/32	SB-3827	1- 1/64	SD-4827	1-11/64	SN-5827	1- 7/32	C
3/8	9/16	9/16	SS-1147	1- 1/64	ST-2147	ST-2147X	1- 7/32	SB-3147	1- 1/64	SD-4147	1-11/64	SN-5147	1- 7/32	C

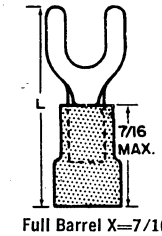


Full Barrel X=1/4"
Short Barrel X=5/32"

KRIMPTITE*
Ring Tongue

SPADE TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

3-4	1/4	7/32	S-1121	5/8	T-2121	T-2121X	13/16	B-3121	5/8	D-4121	25/32	N-5121	13/16	D
	19/64	7/32	S-1828	5/8	T-2828	T-2828X	13/16	B-3828	5/8	D-4828	25/32	N-5828	13/16	D
	21/64	1/4	S-1829	23/32	T-2829	T-2829X	29/32	B-3829	23/32	D-4829	7/8	N-5829	29/32	D
5-6	1/4	7/32	S-1123	5/8	T-2123	T-2123X	13/16	B-3123	5/8	D-4123	25/32	N-5123	13/16	D
	19/64	7/32	S-1015	5/8	T-2015	T-2015X	13/16	B-3015	5/8	D-4015	25/32	N-5015	13/16	D
	21/64	1/4	S-1529	23/32	T-2529	T-2529X	29/32	B-3529	23/32	D-4529	7/8	N-5529	29/32	D
	23/64	9/32	S-1051	3/4	T-2051	T-2051X	15/16	B-3051	3/4	D-4051	29/32	N-5051	15/16	D
	3/8	1/4	S-1531	23/32	T-2531	T-2531X	29/32	B-3531	23/32	D-4531	7/8	N-5531	29/32	D
	27/64	1/4	S-1830	23/32	T-2830	T-2830X	29/32	B-3830	23/32	D-4830	7/8	N-5830	29/32	D
8	19/64	7/32	S-1033	5/8	T-2033	T-2033X	13/16	B-3033	5/8	D-4033	25/32	N-5033	13/16	D
	21/64	1/4	S-1831	23/32	T-2831	T-2831X	29/32	B-3831	23/32	D-4831	7/8	N-5831	29/32	D
	23/64	9/32	S-1052	3/4	T-2052	T-2052X	15/16	B-3052	3/4	D-4052	29/32	N-5052	15/16	D
	3/8	1/4	S-1532	23/32	T-2532	T-2532X	29/32	B-3532	23/32	D-4532	7/8	N-5532	29/32	D
	27/64	1/4	S-1535	23/32	T-2535	T-2535X	29/32	B-3535	23/32	D-4535	7/8	N-5535	29/32	D
10	23/64	9/32	S-1016	3/4	T-2016	T-2016X	15/16	B-3016	3/4	D-4016	29/32	N-5016	15/16	D
	3/8	1/4	S-1533	23/32	T-2533	T-2533X	29/32	B-3533	23/32	D-4533	7/8	N-5533	29/32	D
	27/64	1/4	S-1832	23/32	T-2832	T-2832X	29/32	B-3832	23/32	D-4832	7/8	N-5832	29/32	D

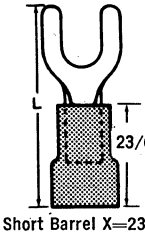


Full Barrel X=7/16"

INSULKRIMP*
Spade Tongue
Full Barrel

SPADE TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH

3-4	1/4	7/32	SS-1121	17/32	ST-2121	ST-2121X	47/64	SB-3121	17/32	SD-4121	11/16	SN-5121	47/64	D
	19/64	7/32	SS-1828	17/32	ST-2828	ST-2828X	47/64	SB-3828	17/32	SD-4828	11/16	SN-5828	47/64	D
	21/64	1/4	SS-1829	5/8	ST-2829	ST-2829X	53/64	SB-3829	5/8	SD-4829	25/32	SN-5829	53/64	D
5-6	1/4	7/32	SS-1123	17/32	ST-2123	ST-2123X	47/64	SB-3123	17/32	SD-4123	11/16	SN-5123	47/64	D
	19/64	7/32	SS-1015	17/32	ST-2015	ST-2015X	47/64	SB-3015	17/32	SD-4015	11/16	SN-5015	47/64	D
	21/64	1/4	SS-1529	5/8	ST-2529	ST-2529X	53/64	SB-3529	5/8	SD-4529	25/32	SN-5529	53/64	D
	23/64	9/32	SS-1051	21/32	ST-2051	ST-2051X	55/64	SB-3051	21/32	SD-4051	13/16	SN-5051	55/64	D
	3/8	1/4	SS-1531	5/8	ST-2531	ST-2531X	53/64	SB-3531	5/8	SD-4531	25/32	SN-5531	53/64	D
	27/64	1/4	SS-1830	5/8	ST-2830	ST-2830X	53/64	SB-3830	5/8	SD-4830	25/32	SN-5830	53/64	D
8	19/64	7/32	SS-1033	17/32	ST-2033	ST-2033X	47/64	SB-3033	17/32	SD-4033	11/16	SN-5033	47/64	D
	21/64	1/4	SS-1831	5/8	ST-2831	ST-2831X	53/64	SB-3831	5/8	SD-4831	25/32	SN-5831	53/64	D
	23/64	9/32	SS-1052	21/32	ST-2052	ST-2052X	55/64	SB-3052	21/32	SD-4052	13/16	SN-5052	55/64	D
	3/8	1/4	SS-1532	5/8	ST-2532	ST-2532X	53/64	SB-3532	5/8	SD-4532	25/32	SN-5532	53/64	D
	27/64	1/4	SS-1535	5/8	ST-2535	ST-2535X	53/64	SB-3535	5/8	SD-4535	25/32	SN-5535	53/64	D
10	23/64	9/32	SS-1016	21/32	ST-2016	ST-2016X	55/64	SB-3016	21/32	SD-4016	13/16	SN-5016	55/64	D
	3/8	1/4	SS-1533	5/8	ST-2533	ST-2533X	53/64	SB-3533	5/8	SD-4533	25/32	SN-5533	53/64	D
	27/64	1/4	SS-1832	5/8	ST-2832	ST-2832X	53/64	SB-3832	5/8	SD-4832	25/32	SN-5832	53/64	D



Short Barrel X=23/64"

INSULKRIMP*
Spade Tongue
Short Barrel

*TRADEMARK

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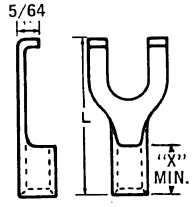
16-14 WIRE RANGE (Continued)

FLANGED SPADE TERMINALS—FULL (1/4") BARREL LENGTH

PRICING FOLLOWS THIS WIRE RANGE LISTING

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code See Page 8
Stud Size S	Width W	Clearance C	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
3-4	19/64	7/32	S-1126	5/8	T-2126	T-2126X	13/16	B-3126	5/8	D-4126	25/32	N-5126	13/16	D
	21/64	1/4	S-1833	23/32	T-2833	T-2833X	29/32	B-3833	23/32	D-4833	7/8	N-5833	29/32	D
5-6	19/64	7/32	S-1083	5/8	T-2083	T-2083X	13/16	B-3083	5/8	D-4083	25/32	N-5083	13/16	D
	21/64	1/4	S-1538	23/32	T-2538	T-2538X	29/32	B-3538	23/32	D-4538	7/8	N-5538	29/32	D
	3/8	1/4	S-1834	23/32	T-2834	T-2834X	29/32	B-3834	23/32	D-4834	7/8	N-5834	29/32	D
	27/64	1/4	S-1835	23/32	T-2835	T-2835X	29/32	B-3835	23/32	D-4835	7/8	N-5835	29/32	D
8	19/64	7/32	S-1084	5/8	T-2084	T-2084X	13/16	B-3084	5/8	D-4084	25/32	N-5084	13/16	D
	21/64	1/4	S-1836	23/32	T-2836	T-2836X	29/32	B-3836	23/32	D-4836	7/8	N-5836	29/32	D
	3/8	1/4	S-1837	23/32	T-2837	T-2837X	29/32	B-3837	23/32	D-4837	7/8	N-5837	29/32	D
	27/64	1/4	S-1543	23/32	T-2543	T-2543X	29/32	B-3543	23/32	D-4543	7/8	N-5543	29/32	D
10	3/8	1/4	S-1585	23/32	T-2585	T-2585X	29/32	B-3585	23/32	D-4585	7/8	N-5585	29/32	D
	27/64	1/4	S-1838	23/32	T-2838	T-2838X	29/32	B-3838	23/32	D-4838	7/8	N-5838	29/32	D



Full Barrel X=1/4"
Short Barrel X=5/32"

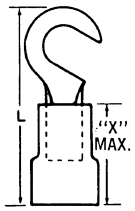
VERSAKRIMP*
Flanged Spade

FLANGED SPADE TERMINALS—SHORT (5/32") BARREL LENGTH

3-4	19/64	7/32	SS-1126	17/32	ST-2126	ST-2126X	47/64	SB-3126	17/32	SD-4126	11/16	SN-5126	47/64	D
	21/64	1/4	SS-1833	5/8	ST-2833	ST-2833X	53/64	SB-3833	5/8	SD-4833	25/32	SN-5833	53/64	D
5-6	19/64	7/32	SS-1083	17/32	ST-2083	ST-2083X	47/64	SB-3083	17/32	SD-4083	11/16	SN-5083	47/64	D
	21/64	1/4	SS-1538	5/8	ST-2538	ST-2538X	53/64	SB-3538	5/8	SD-4538	25/32	SN-5538	53/64	D
	3/8	1/4	SS-1834	5/8	ST-2834	ST-2834X	53/64	SB-3834	5/8	SD-4834	25/32	SN-5834	53/64	D
	27/64	1/4	SS-1835	5/8	ST-2835	ST-2835X	53/64	SB-3835	5/8	SD-4835	25/32	SN-5835	53/64	D
8	19/64	7/32	SS-1084	17/32	ST-2084	ST-2084X	47/64	SB-3084	17/32	SD-4084	11/16	SN-5084	47/64	D
	21/64	1/4	SS-1836	5/8	ST-2836	ST-2836X	53/64	SB-3836	5/8	SD-4836	25/32	SN-5836	53/64	D
	3/8	1/4	SS-1837	5/8	ST-2837	ST-2837X	53/64	SB-3837	5/8	SD-4837	25/32	SN-5837	53/64	D
	27/64	1/4	SS-1543	5/8	ST-2543	ST-2543X	53/64	SB-3543	5/8	SD-4543	25/32	SN-5543	53/64	D
10	3/8	1/4	SS-1585	5/8	ST-2585	ST-2585X	53/64	SB-3585	5/8	SD-4585	25/32	SN-5585	53/64	D
10	27/64	1/4	SS-1838	5/8	ST-2838	ST-2838X	53/64	SB-3838	5/8	SD-4838	25/32	SN-5838	53/64	D

HOOK TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

5-6	23/64	9/32	S-1038	23/32	T-2038	T-2038X	29/32	B-3038	23/32	D-4038	7/8	N-5038	29/32	D
8	23/64	9/32	S-1039	23/32	T-2039	T-2039X	29/32	B-3039	23/32	D-4039	7/8	N-5039	29/32	D
10	23/64	9/32	S-1040	23/32	T-2040	T-2040X	29/32	B-3040	23/32	D-4040	7/8	N-5040	29/32	D



Full Barrel X=13/32"
Short Barrel X=5/16"

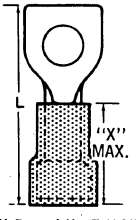
VIBRAKRIMP*
Hook Tongue

HOOK TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH

5-6	23/64	9/32	SS-1038	5/8	ST-2038	ST-2038X	53/64	SB-3038	5/8	SD-4038	25/32	SN-5038	53/64	D
8	23/64	9/32	SS-1039	5/8	ST-2039	ST-2039X	53/64	SB-3039	5/8	SD-4039	25/32	SN-5039	53/64	D
10	23/64	9/32	SS-1040	5/8	ST-2040	ST-2040X	53/64	SB-3040	5/8	SD-4040	25/32	SN-5040	53/64	D

RECTANGULAR TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

3-4	1/4	7/32	S-1134	5/8	T-2134	T-2134X	13/16	B-3134	5/8	D-4134	25/32	N-5134	13/16	D
	19/64	7/32	S-1839	5/8	T-2839	T-2839X	13/16	B-3839	5/8	D-4839	25/32	N-5839	13/16	D
	21/64	1/4	S-1840	23/32	T-2840	T-2840X	29/32	B-3840	23/32	D-4840	7/8	N-5840	29/32	D
5-6	1/4	7/32	S-1136	5/8	T-2136	T-2136X	13/16	B-3136	5/8	D-4136	25/32	N-5136	13/16	D
	19/64	7/32	S-1074	5/8	T-2074	T-2074X	13/16	B-3074	5/8	D-4074	25/32	N-5074	13/16	D
	21/64	1/4	S-1546	23/32	T-2546	T-2546X	29/32	B-3546	23/32	D-4546	7/8	N-5546	29/32	D
	23/64	9/32	S-1137	3/4	T-2137	T-2137X	15/16	B-3137	3/4	D-4137	29/32	N-5137	15/16	D
	3/8	1/4	S-1841	23/32	T-2841	T-2841X	29/32	B-3841	23/32	D-4841	7/8	N-5841	29/32	D
	27/64	1/4	S-1842	23/32	T-2842	T-2842X	29/32	B-3842	23/32	D-4842	7/8	N-5842	29/32	D
8	19/64	7/32	S-1075	5/8	T-2075	T-2075X	13/16	B-3075	5/8	D-4075	25/32	N-5075	13/16	D
	21/64	1/4	S-1843	23/32	T-2843	T-2843X	29/32	B-3843	23/32	D-4843	7/8	N-5843	29/32	D
	23/64	9/32	S-1139	3/4	T-2139	T-2139X	15/16	B-3139	3/4	D-4139	29/32	N-5139	15/16	D
	3/8	1/4	S-1550	23/32	T-2550	T-2550X	29/32	B-3550	23/32	D-4550	7/8	N-5550	29/32	D
	27/64	1/4	S-1553	23/32	T-2553	T-2553X	29/32	B-3553	23/32	D-4553	7/8	N-5553	29/32	D
10	21/64	1/4	S-1844	23/32	T-2844	T-2844X	29/32	B-3844	23/32	D-4844	7/8	N-5844	29/32	D
	23/64	9/32	S-1140	3/4	T-2140	T-2140X	15/16	B-3140	3/4	D-4140	29/32	N-5140	15/16	D
	3/8	1/4	S-1551	23/32	T-2551	T-2551X	29/32	B-3551	23/32	D-4551	7/8	N-5551	29/32	D
	27/64	1/4	S-1845	23/32	T-2845	T-2845X	29/32	B-3845	23/32	D-4845	7/8	N-5845	29/32	D



Full Barrel X=7/16"
Short Barrel X=23/64"

AVIKRIMP*
Rectangular Tongue

*TRADEMARK

waldom

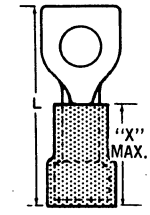
SOLDERLESS TERMINALS AND CONNECTORS

16-14 WIRE RANGE (Continued)

RECTANGULAR TONGUE TERMINALS—SHORT (5/32") BARREL LENGTH

PRICING FOLLOWS THIS WIRE RANGE LISTING

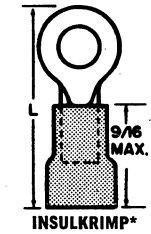
BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*		AVIKRIMP*		Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	Part Number	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
3-4	19/64	7/32	SS-1839	49/64	ST-2839	ST-2839X	31/32	SB-3839	49/64	SD-4839	59/64	SN-5839	31/32	D
	21/64	1/4	SS-1840	5/8	ST-2840	ST-2840X	53/64	SB-3840	5/8	SD-4840	25/32	SN-5840	53/64	D
5-6	19/64	7/32	SS-1074	49/64	ST-2074	ST-2074X	31/32	SB-3074	49/64	SD-4074	59/64	SN-5074	31/32	D
	21/64	1/4	SS-1546	5/8	ST-2546	ST-2546X	53/64	SB-3546	5/8	SD-4546	25/32	SN-5546	53/64	D
	3/8	1/4	SS-1841	5/8	ST-2841	ST-2841X	53/64	SB-3841	5/8	SD-4841	25/32	SN-5841	53/64	D
	27/64	1/4	SS-1842	5/8	ST-2842	ST-2842X	53/64	SB-3842	5/8	SD-4842	25/32	SN-5842	53/64	D
8	19/64	7/32	SS-1075	49/64	ST-2075	ST-2075X	31/32	SB-3075	49/64	SD-4075	59/64	SN-5075	31/32	D
	21/64	1/4	SS-1843	5/8	ST-2843	ST-2843X	53/64	SB-3843	5/8	SD-4843	25/32	SN-5843	53/64	D
	3/8	1/4	SS-1550	5/8	ST-2550	ST-2550X	53/64	SB-3550	5/8	SD-4550	25/32	SN-5550	53/64	D
	27/64	1/4	SS-1553	5/8	ST-2553	ST-2553X	53/64	SB-3553	5/8	SD-4553	25/32	SN-5553	53/64	D
10	21/64	1/4	SS-1844	5/8	ST-2844	ST-2844X	53/64	SB-3844	5/8	SD-4844	25/32	SN-5844	53/64	D
	3/8	1/4	SS-1551	5/8	ST-2551	ST-2551X	53/64	SB-3551	5/8	SD-4551	25/32	SN-5551	53/64	D
	27/64	1/4	SS-1845	5/8	ST-2845	ST-2845X	53/64	SB-3845	5/8	SD-4845	25/32	SN-5845	53/64	D



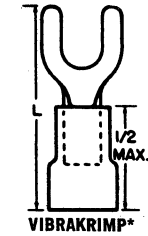
Full Barrel X=7/16"
Short Barrel X=23/64"
AVIKRIMP*
Rectangular Tongue

HEAVY DUTY RING TONGUE TERMINALS—FULL (1/4") BARREL LENGTH—.050" STOCK USE 12-10 TOOLING

BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VIBRAKRIMP*			AVIKRIMP*			Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.215 Max. Ins. Dia. Pt. No.	.255 Max. Ins. Dia. Pt. No.	Length L	.235 Max. Ins. Dia. Pt. No.	.255 Max. Ins. Dia. Pt. No.	Length L	.235 Max. Ins. Dia. Pt. No.	.255 Max. Ins. Dia. Pt. No.	Length L	
3-4	9/32	5/16	S-1401H	45/64	T-2401H	T-2401HX	1- 1/64	D-4401H	D-4401HX	61/64	N-5401H	N-5401HX	1	L
	3/8	5/16	S-1402H	3/4	T-2402H	T-2402HX	1- 1/16	D-4402H	D-4402HX	1	N-5402H	N-5402HX	1- 3/64	L
5-6	9/32	5/16	S-1403H	45/64	T-2403H	T-2403HX	1- 1/64	D-4403H	D-4403HX	61/64	N-5403H	N-5403HX	1	L
	3/8	5/16	S-1404H	3/4	T-2404H	T-2404HX	1- 1/16	D-4404H	D-4404HX	1	N-5404H	N-5404HX	1- 3/64	L
8	9/32	5/16	S-1432H	45/64	T-2432H	T-2432HX	1- 1/64	D-4432H	D-4432HX	61/64	N-5432H	N-5432HX	1	L
	3/8	5/16	S-1406H	3/4	T-2406H	T-2406HX	1- 1/16	D-4406H	D-4406HX	1	N-5406H	N-5406HX	1- 3/64	L
10	3/8	5/16	S-1407H	3/4	T-2407H	T-2407HX	1- 1/16	D-4407H	D-4407HX	1	N-5407H	N-5407HX	1- 3/64	L
	17/32	13/32	S-1408H	59/64	T-2408H	T-2408HX	1-15/64	D-4408H	D-4408HX	1-11/64	N-5408H	N-5408HX	1- 7/32	M
	19/32	31/64	S-1409H	1- 1/32	T-2409H	T-2409HX	1-11/32	D-4409H	D-4409HX	1- 9/32	N-5409H	N-5409HX	1-21/64	N
1/4	17/32	13/32	S-1410H	59/64	T-2410H	T-2410HX	1-15/64	D-4410H	D-4410HX	1-11/64	N-5410H	N-5410HX	1- 7/32	M
	19/32	31/64	S-1411H	1- 1/32	T-2411H	T-2411HX	1-11/32	D-4411H	D-4411HX	1- 9/32	N-5411H	N-5411HX	1-21/64	N
	3/4	5/8	S-1433H	1-17/64	T-2433H	T-2433HX	1-37/64	D-4433H	D-4433HX	1-33/64	N-5433H	N-5433HX	1- 9/16	O
5/16	17/32	13/32	S-1413H	59/64	T-2413H	T-2413HX	1-15/64	D-4413H	D-4413HX	1-11/64	N-5413H	N-5413HX	1- 7/32	M
	19/32	31/64	S-1414H	1- 1/32	T-2414H	T-2414HX	1-11/32	D-4414H	D-4414HX	1- 9/32	N-5414H	N-5414HX	1-21/64	N
	3/4	5/8	S-1434H	1-17/64	T-2434H	T-2434HX	1-37/64	D-4434H	D-4434HX	1-33/64	N-5434H	N-5434HX	1- 9/16	O
3/8	18/32	31/64	S-1416H	1- 1/32	T-2416H	T-2416HX	1-11/32	D-4416H	D-4416HX	1- 9/32	N-5416H	N-5416HX	1-21/64	N
	3/4	5/8	S-1417H	1-17/64	T-2417H	T-2417HX	1-37/64	D-4417H	D-4417HX	1-33/64	N-5417H	N-5417HX	1- 9/16	O
7/16	3/4	5/8	S-1435H	1-17/64	T-2435H	T-2435HX	1-37/64	D-4435H	D-4435HX	1-33/64	N-5435H	N-5435HX	1- 9/16	O
1/2	3/4	5/8	S-1419H	1-17/64	T-2519H	T-2419HX	1-37/64	D-4419H	D-4419HX	1-33/64	N-5419H	N-5419HX	1- 9/16	O



INSULKRIMP*
Heavy Duty
Ring Tongue



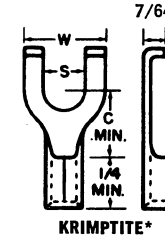
VIBRAKRIMP*
Heavy Duty
Spade Tongue

HEAVY DUTY SPADE TONGUE TERMINALS—FULL (1/4") BARREL LENGTH —.050" STOCK

5-6	3/8	5/16	S-1420H	25/32	T-2420H	T-2420HX	1- 3/32	D-4420H	D-4420HX	1- 1/32	N-5420H	N-5420HX	1- 5/64	L
8	3/8	5/16	S-1421H	25/32	T-2421H	T-2421HX	1- 3/32	D-4421H	D-4421HX	1- 1/32	N-5421H	N-5421HX	1- 5/64	L
10	3/8	5/16	S-1422H	25/32	T-2422H	T-2422HX	1- 3/32	D-4422H	D-4422HX	1- 1/32	N-5422H	N-5422HX	1- 5/64	L
1/4	17/32	13/32	S-1427H	59/64	T-2427H	T-2427HX	1-15/64	D-4427H	D-4427HX	1-11/64	N-5427H	N-5427HX	1- 7/32	M
5/16	17/32	13/32	S-1428H	59/64	T-2428H	T-2428HX	1-15/64	D-4428H	D-4428HX	1-11/64	N-5428H	N-5428HX	1- 7/32	M

HEAVY DUTY FLANGED SPADE TERMINALS—FULL (1/4") BARREL LENGTH—.050" STOCK

5-6	3/8	5/16	S-1423H	3/4	T-2423H	T-2423HX	1- 1/16	D-4423H	D-4423HX	1	N-5423H	N-5423HX	1- 3/64	L
8	3/8	5/16	S-1424H	3/4	T-2424H	T-2424HX	1- 1/16	D-4424H	D-4424HX	1	N-5424H	N-5424HX	1- 3/64	L
10	3/8	5/16	S-1425H	3/4	T-2425H	T-2425HX	1- 1/16	D-4425H	D-4425HX	1	N-5425H	N-5425HX	1- 3/64	L



KRIMPTITE*
Heavy Duty
Flanged Spade

NET PRICES — 16-14 WIRE RANGE TERMINALS

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

Price Code Letter	KRIMPTITE* Pkg. of 100	KRIMPTITE* BULK 1000-4999, per M	KRIMPTITE* BULK 5000 or more, per M	INSULKRIMP* No Suffix Pkg. of 100	INSULKRIMP* No Suffix BULK 1000-4999, per M	INSULKRIMP* No Suffix BULK 5000 or more, per M	INSULKRIMP* Suffix (X) Pkg. of 100	INSULKRIMP* Suffix (X) BULK 1000-4999, per M	INSULKRIMP* Suffix (X) BULK 5000 or more, per M	VERSAKRIMP* Pkg. of 100	VERSAKRIMP* BULK 1000-4999, per M	VERSAKRIMP* BULK 5000 or more, per M	VIBRAKRIMP* Pkg. of 100	VIBRAKRIMP* BULK 1000-4999, per M	VIBRAKRIMP* BULK 5000 or more, per M	AVIKRIMP* Pkg. of 100	AVIKRIMP* BULK 1000-4999, per M	AVIKRIMP* BULK 5000 or more per M
B	3.11	22.35	17.50	5.79	42.80	33.45	6.13	45.35	35.40	4.87	39.15	29.35	6.76	54.10	40.55	9.47	75.75	56.85
C	4.08	29.45	23.00	5.79	42.80	33.45	6.13	45.35	35.40	4.87	39.15	29.35	6.76	54.10	40.55	9.47	75.75	56.85
D	2.37	17.05	13.35	4.47	33.05	25.85	5.02	37.10	29.00	3.50	28.00	21.00	5.30	42.40	31.80	7.57	61.45	46.10
L	3.53	28.20	21.15	6.64	53.15	39.85	6.64	53.15	39.85				8.89	71.10	53.35	12.00	95.95	72.00
M	4.55	36.40	27.30	7.33	58.60	43.95	7.33	58.60	43.95				9.36	74.90	56.20	13.08	104.70	78.50
N	5.01	40.10	30.10	7.95	63.65	47.65	7.95	63.65	47.65				10.29	82.20	61.70	13.86	110.85	83.15
O	7.97	63.75	47.85	11.44	91.45	68.65	11.44	91.45	68.65				12.85	100.60	75.45	14.89	119.20	89.35

*TRADEMARK

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SOLDERLESS TERMINALS AND CONNECTORS

waldom

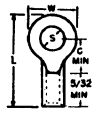
12-10 WIRE RANGE

BUREAU OF SHIPS 6-9
CIRCULAR MIL AREA 5,180-13,100 UL & CSA RECOGNIZED

.040" STOCK • INSULATION COLOR CODED YELLOW

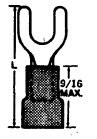
PRICING FOLLOWS THIS WIRE RANGE LISTING

RING TONGUE TERMINALS—FULL (1/4") BARREL LENGTH



KRIMPTITE* Ring Tongue

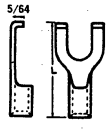
BASIC DIMENSIONS			KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		VIBRAKRIMP*			AVIKRIMP*			Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.215 Max. Ins. Dia. Pt. No.	.255 Max Ins. Dia. Pt. No.	Length L	Part Number	Length L	.235 Max. Ins. Dia. Pt. No.	.255 Max. Ins. Dia. Pt. No.	Length L	.235 Max. Ins. Dia. Pt. No.	.255 Max. Ins. Dia. Pt. No.	Length L	
3-4	9/32	5/16	S-1148	45/64	T-2148	T-2148X	1- 1/64	B-3148	45/64	D-4148	D-4148X	61/64	N-5148	N-5148X	1-22/33	E
	3/8	5/16	S-1846	3/4	T-2846	T-2846X	1- 1/16	B-3846	3/4	D-4846	D-4846X	1	N-5846	N-5846X	1- 3/64	E
5-6	9/32	5/16	S-1149	45/64	T-2149	T-2149X	1- 1/64	B-3149	45/64	D-4149	D-4149X	61/64	N-5149	N-5149X	1	E
	3/8	5/16	S-1049	3/4	T-2049	T-2049X	1- 1/16	B-3049	3/4	D-4049	D-4049X	1	N-5049	N-5049X	1- 3/64	E
8	9/32	5/16	S-1150	45/64	T-2150	T-2150X	1- 1/64	B-3150	45/64	D-4150	D-4150X	61/64	N-5150	N-5150X	1	E
	3/8	5/16	S-1050	3/4	T-2050	T-2050X	1- 1/16	B-3050	3/4	D-4050	D-4050X	1	N-5050	N-5050X	1- 3/63	E
10	3/8	5/16	S-1011	3/4	T-2011	T-2011X	1- 1/16	B-3011	3/4	D-4011	D-4011X	1	N-5011	N-5011X	1- 3/64	E
	17/32	13/32	S-1115	59/64	T-2115	T-2115X	1-15/64	B-3115	59/64	D-4115	D-4115X	1- 7/64	N-5115	N-5115X	1- 7/32	F
	19/32	31/64	S-1107	1- 1/32	T-2107	T-2107X	1-11/32	B-3107	1- 1/32	D-4107	D-4107X	1- 9/32	N-5107	N-5107X	1-21/64	G
1/4	17/32	13/32	S-1100	59/64	T-2100	T-2100X	1-15/64	B-3100	59/64	D-4100	D-4100X	1- 7/64	N-5100	N-5100X	1- 7/32	F
	19/32	31/64	S-1012	1- 1/32	T-2012	T-2012X	1-11/32	B-3012	1- 1/32	D-4012	D-4012X	1- 9/32	N-5012	N-5012X	1-21/64	G
	3/4	5/8	S-1847	1-17/64	T-2847	T-2847X	1-37/64	B-3847	1-17/64	D-4847	D-4847X	1-33/64	N-5847	N-5847X	1- 9/16	H
5/16	17/32	13/32	S-1101	59/64	T-2101	T-2101X	1-15/64	B-3101	59/64	D-4101	D-4101X	1- 7/64	N-5101	N-5101X	1- 7/32	F
	19/32	31/64	S-1042	1- 1/32	T-2042	T-2042X	1-11/32	B-3042	1- 1/32	D-4042	D-4042X	1- 9/32	N-5042	N-5042X	1-21/64	G
	3/4	5/8	S-1848	1-17/64	T-2848	T-2848X	1-37/64	B-3848	1-17/64	D-4848	D-4848X	1-33/64	N-5848	N-5848X	1- 9/16	H
3/8	19/32	31/64	S-1013	1- 1/32	T-2013	T-2013X	1-11/32	B-3013	1- 1/32	D-4013	D-4013X	1- 9/32	N-5013	N-5013X	1-21/64	G
	3/4	5/8	S-1153	1-17/64	T-2153	T-2153X	1-37/64	B-3153	1-17/64	D-4153	D-4153X	1-33/64	N-5153	N-5153X	1- 9/16	H
7/16	3/4	5/8	S-1154	1-17/64	T-2154	T-2154X	1-37/64	B-3154	1-17/64	D-4154	D-4154X	1-33/64	N-5154	N-5154X	1- 9/16	H
1/2	3/4	5/8	S-1155	1-17/64	T-2155	T-2155X	1-37/64	B-3155	1-17/64	D-4155	D-4155X	1-33/64	N-5155	N-5155X	1- 9/16	H



INSULKRIMP* Spade Tongue

SPADE TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

5-6	3/8	5/16	S-1053	25/32	T-2053	T-2053X	1- 3/32	B-3053	25/32	D-4053	D-4053X	1- 1/32	N-5053	N-5053X	1- 5/64	E
8	3/8	5/16	S-1054	25/32	T-2054	T-2054X	1- 3/32	B-3054	25/32	D-4054	D-4054X	1- 1/32	N-5054	N-5054X	1- 5/64	E
10	3/8	5/16	S-1017	25/32	T-2017	T-2017X	1- 3/32	B-3017	25/32	D-4017	D-4017X	1- 1/32	N-5017	N-5017X	1- 5/64	E
1/4	17/32	13/32	S-1184	59/64	T-2184	T-2184X	1-15/64	B-3184	59/64	D-4184	D-4184X	1-11/64	N-5184	N-5184X	1- 7/32	F
	17/32	13/32	S-1849	59/64	T-2849	T-2849X	1-15/64	B-3849	59/64	D-4849	D-4849X	1-11/64	N-5849	N-5849X	1- 7/32	F
5/16	17/32	13/32	S-1850	59/64	T-2850	T-2850X	1-15/64	B-3850	59/64	D-4850	D-4850X	1-11/64	N-5850	N-5850X	1- 7/32	F



VERSAKRIMP* Flanged Spade

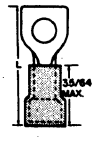
FLANGED SPADE TERMINALS—FULL (1/4") BARREL LENGTH

5-6	3/8	5/16	S-1086	3/4	T-2086	T-2086X	1- 1/16	B-3086	3/4	D-4086	D-4086X	1	N-5086	N-5086X	1- 3/64	E
8	3/8	5/16	S-1087	3/4	T-2087	T-2087X	1- 1/16	B-3087	3/4	D-4087	D-4087X	1	N-5087	N-5087X	1- 3/64	E
10	3/8	5/16	S-1088	3/4	T-2088	T-2088X	1- 1/16	B-3088	3/4	D-4088	D-4088X	1	N-5088	N-5088X	1- 3/64	E

VIBRAKRIMP* Hook Tongue

HOOK TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

5-6	3/8	5/16	S-1057	3/4	T-2057	T-2057X	1- 1/16	B-3057	3/4	D-4057	D-4057X	1	N-5057	N-5057X	1- 3/64	E
8	3/8	5/16	S-1058	3/4	T-2058	T-2058X	1- 1/16	B-3058	3/4	D-4058	D-4058X	1	N-5058	N-5058X	1- 3/64	E
10	3/8	5/16	S-1045	3/4	T-2045	T-2045X	1- 1/16	B-3045	3/4	D-4045	D-4045X	1	N-5045	N-5045X	1- 3/64	E



AVIKRIMP* Rectangular Tongue

RECTANGULAR TONGUE TERMINALS—FULL (1/4") BARREL LENGTH

5-6	3/8	5/16	S-1077	25/32	T-2077	T-2077X	1- 3/32	B-3077	25/32	D-4077	D-4077X	1- 1/32	N-5077	N-5077X	1- 5/64	E
8	3/8	5/16	S-1078	25/32	T-2078	T-2078X	1- 3/32	B-3078	25/32	D-4078	D-4078X	1- 1/32	N-5078	N-5078X	1- 5/64	E
10	3/8	5/16	S-1079	25/32	T-2079	T-2079X	1- 3/32	B-3079	25/32	D-4079	D-4079X	1- 1/32	N-5079	N-5079X	1- 5/64	E

NET PRICES—12-10 WIRE RANGE TERMINALS

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

	KRIMPTITE*			INSULKRIMP* No Suffix			INSULKRIMP* Suffix (X)			VERSAKRIMP*			VIBRAKRIMP*			AVIKRIMP*		
		BULK			BULK			BULK			BULK			BULK			BULK	
Price Code Letter	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M
E	3.30	23.70	18.55	5.79	42.80	33.45	6.13	45.35	35.40	4.87	39.15	29.35	6.76	54.10	40.55	9.47	75.75	56.85
F	4.35	31.30	24.40	6.13	45.35	35.40	6.81	50.40	39.45	5.63	45.05	33.80	7.50	59.95	45.00	9.68	77.40	58.05
G	4.78	34.45	26.90	6.81	50.40	39.35	7.51	55.60	43.45	5.91	47.25	35.45	7.98	63.85	47.90	10.62	83.95	62.95
H	7.38	53.20	41.55	9.09	67.20	52.50	9.78	72.40	56.55	8.51	68.10	51.10	10.34	82.75	62.10	12.47	99.75	74.85

*TRADEMARK

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SOLDERLESS TERMINALS AND CONNECTORS

8 WIRE RANGE

BUREAU OF SHIPS 14
CIRCULAR MIL AREA 13,100-20,800

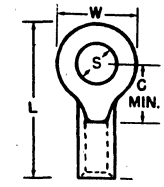
.050" STOCK • INSULATION COLOR CODED RED

PRICING FOLLOWS THIS WIRE RANGE LISTING

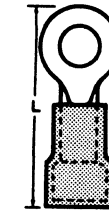
RING TONGUE TERMINALS

(AVAILABLE IN RING TONGUE ONLY)

BASIC DIMENSIONS			VERSAKRIMP*		INSULKRIMP*			NYLAKRIMP*		
Stud Size S	Width W	Clearance C	Part Number	Length L	.300 Max. Ins. Dia. Pt. No.	.385 Max. Ins. Dia. Pt. No.	Length L	.300 Max. Ins. Dia. Pt. No.	Length L	Price Code See Page 12
6	15/32	11/32	B-3851	61/64	T-2851	T-2851X	1-17/64	N-5851	1-17/64	P
	3/8	11/32	B-3852	29/32	T-2852	T-2852X	1- 7/32	N-5852	1- 7/32	P
8	15/32	11/32	B-3201	61/64	T-2201	T-2201X	1-17/64	N-5201	1-17/64	P
	3/8	11/32	B-3225	29/32	T-2225	T-2225X	1-17/32	N-5225	1- 7/32	P
10	15/32	11/32	B-3202	61/64	T-2202	T-2202X	1-17/64	N-5202	1-17/64	P
	19/32	13/32	B-3205	1- 5/64	T-2205	T-2205X	1-25/64	N-5205	1-25/64	Q
	13/16	19/32	B-3853	1- 3/8	T-2853	T-2853X	1-11/16	N-5853	1-11/16	R
	3/8	11/32	B-3226	29/32	T-2226	T-2226X	1- 7/32	N-5226	1- 7/32	P
1/4	15/32	11/32	B-3203	61/64	T-2203	T-2203X	1-17/64	N-5203	1-17/64	P
	19/32	13/32	B-3206	1- 5/64	T-2206	T-2206X	1-25/64	N-5206	1-25/64	Q
	13/16	19/32	B-3854	1- 3/8	T-2854	T-2854X	1-11/16	N-5854	1-11/16	R
	1- 1/8	31/32	B-3855	1-29/32	T-2855	T-2855X	2- 7/32	N-5855	2- 7/32	R
	3/8	11/32	B-3856	29/32	T-2856	T-2856X	1- 7/32	N-5856	1- 7/32	P
5/16	15/32	11/32	B-3204	61/64	T-2204	T-2204X	1-17/64	N-5204	1-17/64	P
	19/32	13/32	B-3207	1- 5/64	T-2207	T-2207X	1-25/64	N-5207	1-25/64	Q
	13/16	19/32	B-3857	1- 3/8	T-2857	T-2857X	1-11/16	N-5857	1-11/16	R
	1- 1/8	31/32	B-3218	1-29/32	T-2218	T-2218X	2- 7/32	N-5218	2- 7/32	R
3/8	19/32	13/32	B-3208	1- 5/64	T-2208	T-2208X	1-25/64	N-5208	1-25/64	Q
	13/16	19/32	B-3858	1- 3/8	T-2858	T-2858X	1-11/16	N-5858	1-11/16	R
	1- 1/8	31/32	B-3219	1-29/32	T-2219	T-2219X	2- 7/32	N-5219	2- 7/32	R
7/16	19/32	13/32	B-3859	1- 5/64	T-2859	T-2859X	1-25/64	N-5859	1-25/64	Q
	13/16	19/32	B-3860	1- 3/8	T-2860	T-2860X	1-11/16	N-5860	1-11/16	R
	1- 1/8	31/32	B-3861	1-29/32	T-2861	T-2861X	2- 7/32	N-5861	2- 7/32	R
1/2	13/16	19/32	B-3862	1- 3/8	T-2862	T-2862X	1-11/16	N-5862	1-11/16	R
	1- 1/8	31/32	B-3221	1-29/32	T-2221	T-2221X	2- 7/32	N-5221	2- 7/32	R
5/8	13/16	19/32	B-3863	1- 3/8	T-2863	T-2863X	1-11/16	N-5863	1-11/16	R
	1- 1/8	31/32	B-3222	1-29/32	T-2222	T-2222X	2- 7/32	N-5222	2- 7/32	R
3/4	1- 1/8	31/32	B-3223	1-29/32	T-2223	T-2223X	2- 7/32	N-5223	2- 7/32	R



VERSAKRIMP* Ring Tongue



INSULKRIMP* (Flared) Ring Tongue

6 WIRE RANGE

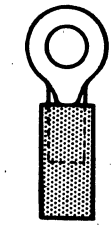
BUREAU OF SHIPS 23-30
CIRCULAR MIL AREA 20,800-33,100

.057" STOCK • INSULATION COLOR CODED BLUE

RING TONGUE TERMINALS

(AVAILABLE IN RING TONGUE ONLY)

BASIC DIMENSIONS			VERSAKRIMP*		INSULKRIMP*			NYLAKRIMP*		
Stud Size S	Width W	Clearance C	Part Number	Length L	.380 Max. Ins. Dia. Pt. No.	.440 Max. Ins. Dia. Pt. No.	Length L	.380 Max. Ins. Dia. Pt. No.	Length L	Price Code See Page 12
8	5/8	1/2	B-3864	1- 1/4	T-2864	T-2864X	1- 5/8	N-5864	1- 5/8	S
	15/32	1/2	B-3865	1-11/64	T-2865	T-2865X	1-35/64	N-5865	1-35/64	S
10	5/8	1/2	B-3228	1- 1/4	T-2228	T-2228X	1- 5/8	N-5228	1- 5/8	S
	13/16	19/32	B-3866	1- 7/16	T-2866	T-2866X	1-13/16	N-5866	1-13/16	U
	15/32	1/2	B-3248	1-11/64	T-2248	T-2248X	1-35/64	N-5248	1-35/64	S
1/4	5/8	1/2	B-3229	1- 1/4	T-2229	T-2229X	1- 5/8	N-5229	1- 5/8	S
	13/16	19/32	B-3867	1- 7/16	T-2867	T-2867X	1-13/16	N-5867	1-13/16	U
	1- 1/8	31/32	B-3868	1-31/32	T-2868	T-2868X	2-11/32	N-5868	2-11/32	T
	15/32	1/2	B-3249	1-11/64	T-2249	T-2249X	1-35/64	N-5249	1-35/64	S
5/16	5/8	1/2	B-3230	1- 1/4	T-2230	T-2230X	1- 5/8	N-5230	1- 5/8	S
	13/16	19/32	B-3869	1- 7/16	T-2869	T-2869X	1-13/16	N-5869	1-13/16	U
	1- 1/8	31/32	B-3241	1-31/32	T-2241	T-2241X	2-11/32	N-5241	2-11/32	T
	15/32	1/2	B-3870	1-11/64	T-2870	T-2870X	1-35/64	N-5870	1-35/64	S
3/8	5/8	1/2	B-3231	1- 1/4	T-2231	T-2231X	1- 5/8	N-5231	1- 5/8	S
	13/16	19/32	B-3871	1- 7/16	T-2871	T-2871X	1-13/16	N-5871	1-13/16	U
	1- 1/8	31/32	B-3242	1-31/32	T-2242	T-2242X	2-11/32	N-5242	2-11/32	T
7/16	5/8	1/2	B-3232	1- 1/4	T-2232	T-2232X	1- 5/8	N-5232	1- 5/8	S
	13/16	19/32	B-3872	1- 7/16	T-2872	T-2872X	1-13/16	N-5872	1-13/16	U
	1- 1/8	31/32	B-3873	1-31/32	T-2873	T-2873X	2-11/32	N-5873	2-11/32	T
1/2	13/16	19/32	B-3238	1- 7/16	T-2238	T-2238X	1-13/16	N-5238	1-13/16	U
	1- 1/8	31/32	B-3244	1-31/32	T-2244	T-2244X	2-11/32	N-5244	2-11/32	T
5/8	13/16	19/32	B-3874	1- 7/16	T-2874	T-2874X	1-13/16	N-5874	1-13/16	U
	1- 1/8	31/32	B-3245	1-31/32	T-2245	T-2245X	2-11/32	N-5245	2-11/32	T
3/4	1- 1/8	31/32	B-3246	1-31/32	T-2246	T-2246X	2-11/32	N-5246	2-11/32	T



(Nylon Insulated) NYLAKRIMP* Ring Tongue

*TRADEMARK

Note: Large size INSULKRIMP* and NYLAKRIMP* parts have brazed barrels of VERSAKRIMP style.

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SOLDERLESS TERMINALS AND CONNECTORS

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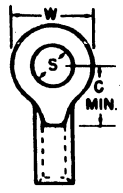
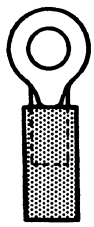
4 WIRE RANGE — BUREAU OF SHIPS 40-50 — CIRCULAR MIL AREA 33,100-52,600

.075" STOCK • INSULATION COLOR CODED YELLOW
RING TONGUE (AVAILABLE IN RING TONGUE ONLY)

PRICING FOLLOWS THIS WIRE RANGE LISTING



VERSAKRIMP* Ring Tongue

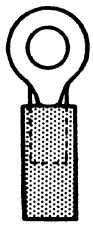


INSULKRIMP* Ring Tongue

Basic Dimensions			VERSAKRIMP*		INSULKRIMP*			NYLAKRIMP*		Price Code See Page 12
Stud Size S	Width W	Clearance C	Part Number	Length L	.300 Max. Ins. Dia. Pt. No.	.385 Max. Ins. Dia. Pt. No.	Length L	.448 Max. Ins. Dia. Pt. No.	Length L	
10	21/32	1/2	B-3251	1- 5/16	T-2251	T-2251X	1- 3/4	N-5251	1- 3/4	V
	15/32	1/2	B-3875	1- 7/32	T-2875	T-2875X	1-21/32	N-5875	1-21/32	V
1/4	21/32	1/2	B-3252	1- 5/16	T-2252	T-2252X	1- 3/4	N-5252	1- 3/4	V
	15/32	1/2	B-3876	1- 7/32	T-2876	T-2876X	1-21/32	N-5876	1-21/32	V
	7/8	31/32	B-3877	1-29/32	T-2877	T-2877X	2-11/32	N-5877	2-11/32	W
	1- 1/4	31/32	B-3878	2- 3/32	T-2878	T-2878X	2-17/32	N-5878	2-17/32	X
5/16	21/32	1/2	B-3253	1- 5/16	T-2253	T-2253X	1- 3/4	N-5253	1- 3/4	V
	15/32	1/2	B-3879	1- 7/32	T-2879	T-2879X	1-21/32	N-5879	1-21/32	V
	7/8	31/32	B-3880	1-29/32	T-2880	T-2880X	2-11/32	N-5880	2-11/32	W
	1- 1/4	31/32	B-3273	2- 3/32	T-2273	T-2273X	2-17/32	N-5273	2-17/32	X
3/8	21/32	1/2	B-3254	1- 5/16	T-2254	T-2254X	1- 3/4	N-5254	1- 3/4	V
	7/8	31/32	B-3268	1-29/32	T-2268	T-2268X	2-11/32	N-5268	2-11/32	W
	1-1 /4	31/32	B-3274	2- 3/32	T-2274	T-2274X	2-17/32	N-5274	2-17/32	X
7/16	21/32	1/2	B-3255	1- 5/16	T-2255	T-2255X	1- 3/4	N-5255	1- 3/4	V
	7/8	31/32	B-3881	1-29/32	T-2881	T-2881X	2-11/32	N-5881	2-11/32	W
	1- 1/4	31/32	B-3882	2- 3/32	T-2882	T-2882X	2-17/32	N-5882	2-17/32	X
1/2	21/32	1/2	B-3276	1- 5/16	T-2276	T-2276X	1- 3/4	N-5276	1- 3/4	V
	7/8	31/32	B-3883	1-29/32	T-2883	T-2883X	2-11/32	N-5883	2-11/32	W
	1- 1/4	31/32	B-3884	2- 3/32	T-2884	T-2884X	2-17/32	N-5884	2-17/32	X
5/8	7/8	31/32	B-3885	1-29/32	T-2885	T-2885X	2-11/32	N-5885	2-11/32	W
	1- 1/4	31/32	B-3277	2- 3/32	T-2277	T-2277X	2-17/32	N-5277	2-17/32	X
3/4	1- 1/4	31/32	B-3278	2- 3/32	T-2278	T-2278X	2-17/32	N-5278	2-17/32	X

2 WIRE RANGE — BUREAU OF SHIPS 60-75 — CIRCULAR MIL AREA 52,600-83,700

.075" STOCK • INSULATION COLOR CODED RED
RING TONGUE (AVAILABLE IN RING TONGUE ONLY)



(Nylon Insulated)

NYLAKRIMP* Ring Tongue

Basic Dimensions			VERSAKRIMP*		INSULKRIMP*			NYLAKRIMP*		Price Code See Page 12
Stud Size S	Width W	Clearance C	Part Number	Length L	.380 Max. Ins. Dia. Pt. No.	.440 Max. Ins. Dia. Pt. No.	Length L	.526 Max. Ins. Dia. Pt. No.	Length L	
10	5/8	43/64	B-3886	1-17/32	T-2886	T-2886X	2- 1/32	N-5886	2- 1/32	Y
1/4	7/8	43/64	B-3284	1-21/32	T-2284	T-2284X	2- 5/32	N-5284	2- 5/32	Y
	5/8	43/64	B-3281	1-17/32	T-2281	T-2281X	2- 1/32	N-5281	2- 1/32	Y
	7/8	31/32	B-3887	1-31/32	T-2887	T-2887X	2-15/32	N-5887	2-15/32	Z
	1- 1/4	31/32	B-3888	2- 5/32	T-2888	T-2888X	2-21/32	N-5888	2-21:32	AA
5/16	7/8	43/64	B-3285	1-21/32	T-2885	T-2285X	2- 5/32	N-5285	2- 5/32	Y
	5/8	43/64	B-3282	1-17/32	T-2282	T-2282X	2- 1/32	N-5282	2- 1/32	Y
	7/8	31/32	B-3889	1-31/32	T-2889	T-2889X	2-15/32	N-5889	2-15/32	Z
	1- 1/4	31/32	B-3890	2- 5/32	T-2890	T-2890X	2-21/32	N-5890	2-21/32	AA
3/8	7/8	43/64	B-3286	1-21/32	T-2286	T-2286X	2- 5/32	N-5286	2- 5/32	Y
	5/8	43/64	B-3283	1-17/32	T-2283	T-2283X	2- 1/32	N-5283	2- 1/32	Y
	7/8	31/32	B-3891	1-31/32	T-2891	T-2891X	2-15/32	N-5891	2-15/32	Z
	1- 1/4	31/32	B-3892	2- 5/32	T-2892	T-2892X	2-21/32	N-5892	2-21/32	AA
7/16	7/8	43/64	B-3287	1-21/32	T-2287	T-2287X	2- 5/32	N-5287	2- 5/32	Y
	7/8	31/32	B-3893	1-31/32	T-2893	T-2893X	2-15/32	N-5893	2-15/32	Z
	1- 1/4	31/32	B-3894	2- 5/32	T-2894	T-2894X	2-21/32	N-5894	2-21/32	AA
1/2	7/8	43/64	B-3288	1-21/32	T-2288	T-2288X	2- 5/32	N-5288	2- 5/32	Y
	7/8	31/32	B-3895	1-31/32	T-2895	T-2895X	2-15/32	N-5895	2-15/32	Z
	1- 1/4	31/32	B-3300	2- 5/32	T-2300	T-2300X	2-21/32	N-5300	2-21/32	AA
5/8	7/8	43/64	B-3896	1-21/32	T-2896	T-2896X	2- 5/32	N-5896	2- 5/32	Y
	7/8	31/32	B-3301	1-31/32	T-2301	T-2301X	2-15/32	N-5301	2-15/32	Z
	1- 1/4	31/32	B-3897	2- 5/32	T-2897	T-2897X	2-21/32	N-5897	2-21/32	AA
3/4	1- 1/4	31/32	B-3302	2- 5/32	T-2302	T-2302X	2-21/32	N-5302	2-21/32	AA

*TRADEMARK

Note: Large size INSULKRIMP* and NYLAKRIMP* parts have brazed barrels of VERSAKRIMP style.

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SOLDERLESS TERMINALS AND CONNECTORS

1/0 WIRE RANGE
BUREAU OF SHIPS 100
CIRCULAR MIL AREA 83,700-119,500

.075" STOCK • INSULATION COLOR CODED BLUE • RING TONGUE (AVAILABLE IN RING TONGUE ONLY)

BASIC DIMENSIONS			VERSAKRIMP*		NYLAKRIMP*		Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.595 Max. Ins. Dia. Pt. No.	Length L	
1/4	13/16 7/8	5/8 5/8	B-3307 B-3310	1-59/64 1-61/64	N-5307	2-35/64	AB AC
5/16	13/16 7/8	5/8 5/8	B-3308 B-3311	1-59/64 1-61/64	N-5308	2-35/64	AB AC
3/8	13/16 7/8 1- 1/4	5/8 5/8 1- 1/8	B-3309 B-3312 B-3315	1-59/64 1-61/64 2-11/16	N-5309 N-5312 N-5315	2-35/64 2-37/64 3- 5/16	AB AC AD
7/16	7/8	5/8	B-3313	1-61/64	N-5313	2-37/64	AC
1/2	7/8 1- 1/4	5/8 1- 1/8	B-3314 B-3316	1-61/64 2-11/16	N-5314 N-5316	2-37/64 3- 5/16	AC AD
5/8	1- 1/4	1- 1/8	B-3317	2-11/16	N-5317	3- 5/16	AD
3/4	1- 1/4	1- 1/8	B-3318	2-11/16	N-5318	3- 5/16	AD
7/8	1- 1/4	1- 1/8	B-3319	2-11/16	N-5319	3- 5/16	AD

2/0 WIRE RANGES
BUREAU OF SHIPS 125
CIRCULAR MIL AREA 119,500-150,500

.083" STOCK • INSULATION COLOR CODED YELLOW • RING TONGUE (AVAILABLE IN RING TONGUE ONLY)

BASIC DIMENSIONS			VERSAKRIMP*		NYLAKRIMP*		Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.675 Max. Ins. Dia. Pt. No.	Length L	
1/4	29/32 15/16	5/8 5/8	B-3322 B-3327	1-15/16 2	N-5327	2- 5/8	AE AF
5/16	29/32 15/16	5/8 5/8	B-3323 B-3328	1-15/16 2	N-5328	2- 5/8	AE AF
3/8	29/32 15/16	5/8 5/8	B-3324 B-3329	1-15/16 2	N-5329	2- 5/8	AE AF
7/16	29/32 15/16	5/8 5/8	B-3325 B-3330	1-15/16 2	N-5330	2- 5/8	AE AF
1/2	29/32 15/16 1- 1/4	5/8 5/8 1- 1/8	B-3326 B-3331 B-3332	1-15/16 2 2-43/64	N-5331 N-5332	2- 5/8 3-19/64	AE AF AG
5/8	1- 1/4	1- 1/8	B-3333	2-43/64	N-5333	3-19/64	AG
3/4	1- 1/4	1- 1/8	B-3334	2-43/64	N-5334	3-19/64	AG
7/8	1- 1/4	1- 1/8	B-3335	2-43/64	N-5335	3-19/64	AG

3/0 WIRE RANGE
BUREAU OF SHIPS 150
CIRCULAR MIL AREA 150,500-190,000

.095" STOCK • INSULATION COLOR CODED RED • RING TONGUE (AVAILABLE IN RING TONGUE ONLY)

BASIC DIMENSIONS			VERSAKRIMP*		NYLAKRIMP*		Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.735 Max. Ins. Dia. Pt. No.	Length L	
5/16	1- 3/64	3/4	B-3898	2- 7/64	N-5898	2-57/64	BO
3/8	1- 3/64	3/4	B-3899	2- 7/64	N-5899	2-57/64	BO
7/16	1- 3/64	3/4	B-3900	2- 7/64	N-5900	2-57/64	BO
1/2	1- 3/64	3/4	B-3901	2- 7/64	N-5901	2-57/64	BO
5/8	1- 3/64 1- 1/4	3/4 1- 1/8	B-3902 B-3903	2- 7/64 2-11/16	N-5902 N-5903	2-57/64 3-15/32	BO BP
3/4	1- 3/64 1- 1/4	3/4 1- 1/8	B-3904 B-3905	2- 7/64 2-11/16	N-5904 N-5905	2-57/64 3-15/32	BO BP
7/8	1- 1/4	1- 1/8	B-3906	2-11/16	N-5906	3-15/32	BP

4/0 WIRE RANGE
BUREAU OF SHIPS 200
CIRCULAR MIL AREA 190,000-231,000

.105" STOCK • INSULATION COLOR CODED BLUE • RING TONGUE (AVAILABLE IN RING TONGUE ONLY)

BASIC DIMENSIONS			VERSAKRIMP*		NYLAKRIMP*		Price Code (See Pricing Below)
Stud Size S	Width W	Clearance C	Part Number	Length L	.835 Max. Ins. Dia. Pt. No.	Length L	
3/8	1- 1/8	11/16	B-3907	2-11/64	N-5907	2-61/64	BQ
7/16	1- 1/8	11/16	B-3908	2-11/64	N-5908	2-61/64	BQ
1/2	1- 1/8	11/16	B-3910	2-11/64	N-5910	2-61/64	BQ
5/8	1- 1/4	1- 1/8	B-3911	2-45/64	N-5911	3-31/64	BR
3/4	1- 1/4	1- 1/8	B-3912	2-45/64	N-5912	3-31/64	BR
7/8	1- 1/4	1- 1/8	B-3913	2-45/64	N-5913	3-31/64	BR

NET PRICES — LARGE WIRE RANGE TERMINALS (8, 6, 4 & 2 Wire Ranges)

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

Code Letter	VERSAKRIMP* Pkg. of (A)25 (B)20	VERSAKRIMP* 100-999, per C	VERSAKRIMP* 1000-4999, per M	VERSAKRIMP* 5000 or more, per M	INSULKRIMP* Straight Insulation Pkg. of (A)25 (B)20	INSULKRIMP* Straight Insulation 100-999, per C	INSULKRIMP* Straight Insulation 1000-4999, per M	INSULKRIMP* Straight Insulation 5000 or more, per M	INSULKRIMP* Flared Insulation Pkg. of (A)25 (B)20	INSULKRIMP* Flared Insulation 100-999, per C	INSULKRIMP* Flared Insulation 1000-4999, per M	INSULKRIMP* Flared Insulation 5000 or more, per M	NYLAKRIMP* Pkg. of (A)25 (B)20	NYLAKRIMP* 100-999, per C	NYLAKRIMP* 1000-4999, per M	NYLAKRIMP* 5000 or more, per M
P	(A)2.40	7.70	67.55	57.90	(A)3.43	11.00	96.15	82.40	(A)3.67	11.75	102.80	88.10	(A)4.62	15.30	135.45	109.50
Q	(A)3.21	10.25	89.80	76.95	(A)4.22	13.55	118.35	101.50	(A)4.47	14.30	125.05	107.15	(A)5.44	18.05	159.90	129.25
R	(A)4.70	15.05	131.50	112.70	(A)5.72	18.30	160.10	137.25	(A)5.95	19.05	166.65	142.85	(A)7.06	23.40	207.25	167.60
S	(A)3.72	11.90	104.05	89.20	(A)4.92	15.70	137.50	117.90	(A)5.26	16.80	147.00	126.00	(A)6.43	21.30	188.80	160.65
T	(A)5.09	16.30	142.65	122.30	(A)6.29	20.15	176.15	151.05	(A)6.59	21.10	184.90	158.05	(A)7.88	26.00	231.20	196.75
U	(A)4.38	14.00	122.05	125.15	(A)5.58	17.85	156.10	133.80	(A)5.87	18.80	164.40	140.80	(A)7.17	23.50	209.20	178.05
V	(B)4.27	17.05	149.20	127.90	(B)6.82	21.80	190.65	163.40	(B)7.12	22.70	198.80	170.40	(B)6.30	26.10	231.40	196.95
W	(B)5.27	21.10	184.45	158.10	(B)8.09	25.80	225.90	193.60	(B)8.37	26.75	234.05	200.60	(B)7.35	30.45	270.20	229.95
X	(B)5.59	22.35	195.45	167.50	(B)8.47	27.05	236.90	203.05	(B)8.77	28.00	245.00	210.00	(B)7.69	31.80	282.25	240.20
Y	(B)5.84	23.35	204.35	175.20	(B)9.15	29.25	255.90	219.35	(B)9.49	30.30	265.20	227.35	(B)9.45	39.15	347.10	295.35
Z	(B)7.86	32.50	288.60	245.60	(B)9.27	38.65	342.65	291.60	(B)9.70	39.80	348.70	297.45	(B)11.58	47.95	425.35	362.05
AA	(B)8.57	34.30	299.90	257.05	(B)12.57	40.15	351.45	301.25	(B)12.90	41.25	360.80	309.20	(B)12.32	50.99	452.20	384.85

NET PRICES — (1/0 & 2/0 Wire Ranges)

Code Letter	VERSAKRIMP* Pkg. of 20	VERSAKRIMP* 100-999, per C	VERSAKRIMP* 1000-4999, per M	VERSAKRIMP* 5000 or more, per M	NYLAKRIMP* Pkg. of 20	NYLAKRIMP* 100-999, per C	NYLAKRIMP* 1000-4999, per M	NYLAKRIMP* 5000 or more, per M
AB	7.10	28.40	249.45	213.80	13.55	52.45	466.00	377.60
AC	6.80	27.15	287.75	203.80	13.55	52.45	466.00	377.60
AD	8.99	35.95	315.50	270.45	17.18	66.35	589.40	477.60
AE	9.05	36.20	318.15	272.70				
AF	9.06	36.25	318.30	272.80	15.23	59.05	524.50	424.95

(3/0 & 4/0 Wire Ranges)

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

Code Letter	VERSAKRIMP* Pkg. of 20	VERSAKRIMP* 100-999, per C	VERSAKRIMP* 1000-4999, per M	VERSAKRIMP* 5000 or more, per M	NYLAKRIMP* Pkg. of 20	NYLAKRIMP* 100-999, per C	NYLAKRIMP* 1000-4999, per M	NYLAKRIMP* 5000 or more, per M
AG	12.29	49.10	404.60	346.80	19.43	75.15	667.00	540.40
BO	11.55	44.70	397.00	321.70	18.11	70.45	625.00	506.80
BP	13.90	54.00	479.00	388.60	21.89	85.05	755.60	612.20
BQ	13.65	52.85	469.20	380.10	22.68	88.05	781.90	633.45
BR	17.60	68.30	606.75	491.55	33.02	126.10	1,119.45	907.05

SOLID SILVER-BRAZED BARRELS

The barrel seam of the parts in Wire Ranges 8 thru 4/0 is closed with a 35% Silver Brazing Alloy to insure a solid one-piece barrel which will not open when crimped or under any stress or wire pull.

EXTRA WIRE-GRIPPING POWER

Specially designed indentations in the form of inverted truncated pyramids provide the interior of the barrels of all parts in Wire Ranges 8 thru 4/0 with extra wire-gripping power & greater contact area.

BENT TONGUES AVAILABLE

Terminal tongues can be bent to any angle for special applications. Although 90° and 45° angle bends are the most popular, we will form terminal tongues to your particular specifications.

Note: Large size INSULKRIMP* and NYLAKRIMP* parts have brazed barrels of VERSAKRIMP style.

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SOLDERLESS TERMINALS AND CONNECTORS

waldom

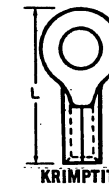
TERMINALS AND BUTT CONNECTORS FOR HIGH TEMP. APPLICATIONS

900 Series is conservatively rated for continuous duty at 900°F. Steel, Nickel Plated.
650 Series is conservatively rated for continuous duty at 650°F. Silver Bearing Copper, Nickel Plated.

RING TONGUE TERMINALS (AVAILABLE IN RING TONGUE ONLY)

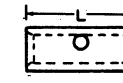
STOCK SIZE: 22-18 — .032″: 16-14 — .032″: 12-10 — .040″

Wire Range	Basic Dimensions: Stud Size	Basic Dimensions: Width	Basic Dimensions: Stud Clearance	900° Series Krimptite*: Part No.	900° Series Krimptite*: Length	650° Series Versakrimp*: Part No.	650° Series Versakrimp*: Length	650° Series Vibrakrimp*: Part No.	650° Series Vibrakrimp*: Length	Price Code (See Pricing below)
22-18	5-6	7/32	5/32	S-1165	33/64	SB-3600	27/64	SD-4600	37/64	AY
22-18	5-6	9/32	1/4	S-1166	41/64	SB-3601	35/64	SD-4601	45/64	AY
22-18	8	9/32	1/4	S-1167	41/64	SB-3602	35/64	SD-4602	45/64	AY
22-18	10	9/32	1/4	S-1168	41/64	SB-3603	35/64	SD-4603	45/64	AY
22-18	1/4	15/32	13/32	S-1185	57/64	SB-3190	51/64	SD-4190	61/64	BJ
22-18	5/16	15/32	13/32	S-1191	57/64	SB-3191	51/64	SD-4191	61/64	BJ
22-18	3/8	9/16	9/16	S-1192	1-7/64	SB-3192	1-1/64	SD-4192	1-11/64	BK
16-14	5-6	1/4	7/32	S-1170	19/32	SB-3604	1/2	SD-4604	21/32	AZ
16-14	5-6	5/16	9/32	S-1171	45/64	SB-3605	39/64	SD-4605	49/64	AZ
16-14	8	5/16	9/32	S-1172	45/64	SB-3606	39/64	SD-4606	49/64	AZ
16-14	10	5/16	9/32	S-1173	45/64	SB-3607	39/64	SD-4609	49/64	AZ
16-14	1/4	15/32	13/32	S-1193	57/64	SB-3193	51/64	SD-4193	61/64	BL
16-14	5/16	15/32	13/32	S-1194	57/64	SB-3194	51/64	SD-4194	61/64	BL
16-14	3/8	9/16	9/16	S-1195	1-7/64	SB-3195	1-1/64	SD-4195	1-11/64	BM
12-10	5-6	3/8	5/16	S-1175	3/4	B-3608	3/4	D-4608	1	BA
12-10	8	3/8	5/16	S-1176	3/4	B-3609	3/4	D-4609	1	BA
12-10	10	3/8	5/16	S-1177	3/4	B-3610	3/4	D-4610	1	BA
12-10	1/4	17/32	13/32	S-1179	59/64	B-3611	59/64	D-4611	1-11/64	BB
12-10	5/16	17/32	13/32	S-1196	59/64	B-3696	59/64	D-4696	1-11/64	BB
12-10	3/8	19/32	31/64	S-1197	1-1/32	B-3697	1-1/32	D-4697	1-9/32	BN



BUTT CONNECTORS

Wire Range	900° Series Krimptite*: Part No.	900° Series Krimptite*: Length	650° Series Versakrimp*: Part No.	650° Series Versakrimp*: Length	Price Code
22-18	S-1169	9/16	B-3612	21/32	BC
16-14	S-1174	9/16	B-3613	21/32	BC
12-10	S-1178	9/16	B-3614	13/16	BD



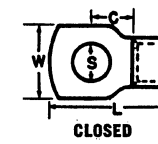
NET PRICES — HIGH TEMP. TERMINALS & BUTT CONNECTORS

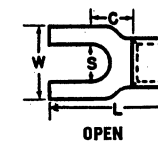
Code No.	900° Series Krimptite*: Pkg. of 100	900° Series Krimptite*: Bulk 1000-4999, per M	900° Series Krimptite*: Bulk 5000 or more, per M	650° Series Versakrimp*: Pkg. of 100	650° Series Versakrimp*: Bulk 1000-4999, per M	650° Series Versakrimp*: Bulk 5000 or more, per M	650° Series Vibrakrimp*: Pkg. of 100	650° Series Vibrakrimp*: Bulk 1000-4999, per M	650° Series Vibrakrimp*: Bulk 5000 or more, per M
AY	2.37	17.05	13.35	4.54	36.85	27.65	9.82	79.70	59.80
AZ	2.61	18.80	14.75	5.24	42.65	31.95	14.67	119.20	89.40
BA	3.48	25.05	19.65	6.72	54.55	40.95	17.50	142.10	106.65
BB	4.35	34.90	26.10	9.33	75.75	56.85	19.38	157.40	118.15
BC	2.76	19.85	15.60	5.16	41.70	31.30			
BD	4.74	34.05	26.70	7.93	59.20	45.05			
BJ	3.28	26.30	19.65	7.52	60.40	45.10	12.86	103.35	77.25
BK	4.35	34.90	26.10	8.54	68.55	51.25	14.79	118.80	88.80
BL	3.28	26.30	19.65	7.90	63.40	47.40	18.64	149.70	111.85
BM	4.35	34.90	26.10	8.82	70.80	52.90	19.85	159.30	119.00
BN	4.92	39.55	29.50	9.20	73.85	55.20	22.50	180.70	135.05

FLAG TERMINALS — KRIMPTITE*

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

Wire Range	Stud Size - S	Maximum Width - W	Clearance C	Stock	Closed: Part Number	Closed: Length L	Open: Part Number	Open: Length L	Net Prices: Pkg. of 100	Net Prices: Bulk 1000-4999, per M	Net Prices: Bulk 5000 or more, per M
22-16	5-6	3/8	5/16	.032	S-1059	5/8	S-1156	5/8	3.34	24.05	18.80
	8	3/8	5/16	.032	S-1060	5/8	S-1157	5/8	3.34	24.05	18.80
	10	3/8	5/16	.032	S-1043	5/8	S-1158	5/8	3.34	24.05	18.80
16-14	5-6	3/8	5/16	.032	S-1061	21/32	S-1159	21/32	3.41	24.55	19.15
	8	3/8	5/16	.032	S-1062	21/32	S-1160	21/32	3.41	24.55	19.15
	10	3/8	5/16	.032	S-1044	21/32	S-1161	21/32	3.41	24.55	19.15
12-10	5-6	3/8	5/16	.040	S-1108	23/32	S-1162	23/32	4.68	33.70	26.30
	8	3/8	5/16	.040	S-1109	23/32	S-1163	23/32	4.68	33.70	26.30
	10	3/8	5/16	.040	S-1110	23/32	S-1164	23/32	4.68	33.70	26.30





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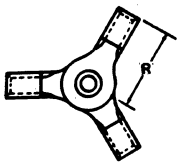
SOLDERLESS TERMINALS AND CONNECTORS

3-WAY & 4-WAY CONNECTORS

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

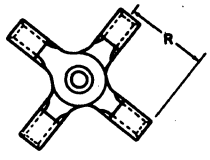
"Y" and "X" Connectors are made up of ring terminals joined to form a 3-way or 4-way splice. The wire ranges apply to each terminal. Material is tin-plated copper with a plated steel rivet. Other combinations of standard terminals can be supplied on special order.

3-WAY "Y" CONNECTORS



Wire Range	Stock	KRIMPTITE* Part Number	KRIMPTITE* Ref. Length R	INSULKRIMP* Part Number	INSULKRIMP* Max. Ins. Dia.	INSULKRIMP* Part Number	INSULKRIMP* Max. Ins. Dia.	INSULKRIMP* Ref. Length R	VERSAKRIMP* Part Number	VERSAKRIMP* Ref. Length R	VIBRAKRIMP* Part Number	VIBRAKRIMP* Max. Ins. Dia.	VIBRAKRIMP* Ref. Length R	AVIKRIMP* Part Number	AVIKRIMP* Max. Ins. Dia.	AVIKRIMP* Ref. Length R	Price Code (See pricing below)
22-16	.032	S-1065	33/64	T-2065	.125	T-2065X	.145	45/64	B-3065	33/64	D-4065	.145	43/64	N-5065	.145	45/64	BF
16-14	.032	S-1066	35/64	T-2066	.155	T-2066X	.175	47/64	B-3066	35/64	D-4066	.175	45/64	N-5066	.175	47/64	BF
12-10	.040	S-1067	37/64	T-2067	.215	T-2067X	.255	57/64	B-3067	37/64	D-4067	.235	53/64	N-5067	.235	7/8	BG

4-WAY "X" CONNECTORS



Wire Range	Stock	KRIMPTITE* Part Number	KRIMPTITE* Ref. Length R	INSULKRIMP* Part Number	INSULKRIMP* Max. Ins. Dia.	INSULKRIMP* Part Number	INSULKRIMP* Max. Ins. Dia.	INSULKRIMP* Ref. Length R	VERSAKRIMP* Part Number	VERSAKRIMP* Ref. Length R	VIBRAKRIMP* Part Number	VIBRAKRIMP* Max. Ins. Dia.	VIBRAKRIMP* Ref. Length R	AVIKRIMP* Part Number	AVIKRIMP* Max. Ins. Dia.	AVIKRIMP* Ref. Length R	Price Code (See pricing below)
22-16	.032	S-1068	33/64	T-2068	.125	T-2068X	.145	45/64	B-3068	33/64	D-4068	.145	43/64	N-5068	.145	45/64	BH
16-14	.032	S-1069	35/64	T-2069	.155	T-2069X	.175	47/64	B-3069	35/64	D-4069	.175	45/64	N-5069	.175	47/64	BH
12-10	.040	S-1070	37/64	T-2070	.215	T-2070X	.255	57/64	B-3070	37/64	D-4070	.235	53/64	N-5070	.235	7/8	BI

NET PRICES — 3-WAY AND 4-WAY CONNECTORS

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

Code No.	KRIMPTITE* Pkg. of 25	KRIMPTITE* Bulk 500-1499, per M	KRIMPTITE* Bulk 1500 or more, per M	INSULKRIMP* Straight Insulation Pkg. of 25	INSULKRIMP* Straight Insulation Bulk 500-1499, per M	INSULKRIMP* Straight Insulation Bulk 1500 or more, per M	INSULKRIMP* Flared Insulation Pkg. of 25	INSULKRIMP* Flared Insulation Bulk 500-1499, per M	INSULKRIMP* Flared Insulation Bulk 1500 or more, per M	VERSAKRIMP* Pkg. of 25	VERSAKRIMP* Bulk 500-1499, per M	VERSAKRIMP* Bulk 1500 or more, per M	VIBRAKRIMP* Pkg. of 25	VIBRAKRIMP* Bulk 500-1499, per M	VIBRAKRIMP* Bulk 1500 or more, per M	AVIKRIMP* Pkg. of 25	AVIKRIMP* Bulk 500-1499, per M	AVIKRIMP* Bulk 1500 or more, per M
BF	1.88	60.25	45.20	4.21	134.85	101.20	4.69	149.80	112.40	3.43	109.90	82.45	5.05	161.50	121.10	6.92	221.30	165.95
BG	2.60	83.05	62.30	5.38	172.25	129.05	5.91	188.85	141.70	4.09	131.00	98.30	6.32	202.15	151.55	8.44	270.25	202.65
BH	2.47	74.85	59.25	5.50	175.90	131.90	6.13	195.80	146.85	4.48	143.35	107.45	6.60	211.25	158.45	9.09	290.70	218.05
BI	3.56	113.85	85.40	7.04	225.40	169.05	7.66	245.20	183.90	6.57	210.10	157.55	8.30	265.20	198.90	11.12	355.95	267.00

FOLD-OVER SOLDERLESS TERMINALS

Designed to give a trim appearance to otherwise unsightly wire connections. They fold neatly over the stranding and confine it directly under binding screw or nut and automatically insure greatest possible contact. The cushion-like construction when closed permits binding nut or screw to sink into the soft copper and so serve the purpose of a lock nut and is therefore vibration proof. Each is adaptable to a wide range of wire sizes. For standard, extra flexible or solid wire.

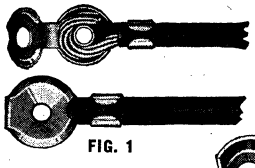


FIG. 1

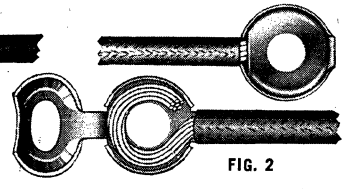


FIG. 2

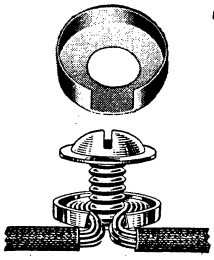


FIG. 3

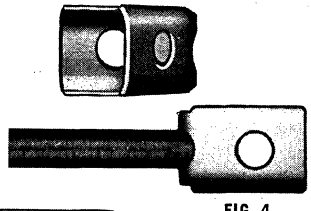


FIG. 4

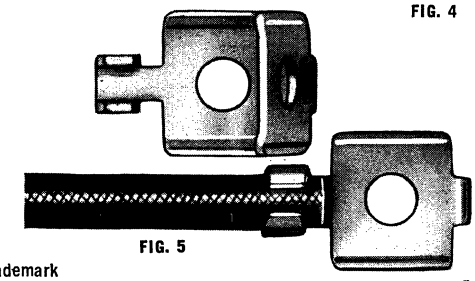


FIG. 5

* Trademark

CIRCULAR FOLDING TERMINALS WITH INSULATION GRIP (FIG. 1)

Wire Range	Stud Size	Width	Length	Part No.	Price Per 100	1000-4999 Per M	5000-over Per M
18-14	6-8	5/16	9/16	KH-100	$2.72	$23.10	$19.65
18-14	6-10	3/8	11/16	KH-101	2.90	24.70	21.00
16-10	6-8	7/16	13/16	KH-102	3.07	26.10	22.20
16-10	6-10	9/16	15/16	KH-103	3.42	29.10	24.75
16-10	12-¼	9/16	15/16	KH-104	3.42	29.10	24.75
10-6	¼-5/16	21/32	1-1/8	KH-105	5.96	50.70	43.10
10-6	5/16-⅜	13/16	1-1/4	KH-106	13.12	111.50	94.80
10-6	5/16-⅜	1	1-5/16	KH-107	24.50	208.30	177.05

CIRCULAR FOLDING TERMINALS WITHOUT INSULATION GRIP (FIG. 2)

18-10	6-10	9/16	9/16	KH-120	1.57	13.40	11.40
12-8	12-¼	21/32	11/16	KH-121	1.67	14.20	12.10
18-10	6-8	7/16	7/16	KH-122	1.75	14.90	12.20
18-10	6-10	1/2	1/2	KH-123	1.84	15.60	13.25
18-14	6-10	3/8	3/8	KH-124	2.10	17.90	15.22
18-14	6-8	5/16	5/16	KH-125	3.32	28.20	24.00

SINGLE CUP WASHER TERMINALS (FIG. 3)

18-14	4-6	1/4	1/4	KH-130	1.22	10.40	8.85
16-10	6-10	9/16	9/16	KH-131	1.32	11.20	9.50
16-10	6-8	7/16	7/16	KH-132	1.39	11.80	10.00
18-14	6-10	3/8	3/8	KH-133	1.57	13.40	11.40
18-14	6-8	5/16	5/16	KH-134	1.70	14.50	12.35
18-14	4-6	1/4	1/4	KH-135	1.84	15.60	13.25

RECTANGULAR FOLDING TERMINALS WITHOUT INSULATION GRIP (FIG. 4)

6-10	10-12	15/32	3/4	KH-140	4.02	34.20	29.05
8-4	12-¼	11/16	7/8	KH-141	6.12	52.00	44.20

RECTANGULAR FOLDING TERMINALS WITH INSULATION GRIP (FIG. 5)

18-10	6-10	1/2	1	KH-150	8.75	74.40	63.25
12-6	12-¼	11/16	1-1/8	KH-151	3.50	29.80	25.35

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SOLDERLESS TERMINALS AND CONNECTORS

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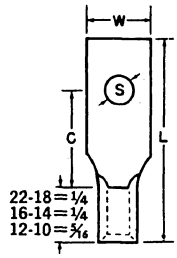
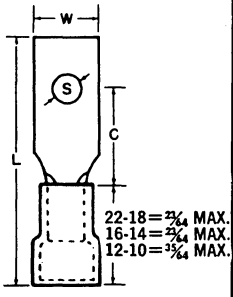
RECTANGULAR TONGUE TERMINALS FOR TERMINAL BLOCKS

MIL-E-16366D (SHIPS) covers non-insulated brazed barrel rectangular tongue terminals. Insulated versions of these terminals are covered by MS-17143 (SHIPS). Since the Navy and AWG Wire Sizes, Tongue Width, Clearance, and Stud Size are identical for both Specifications, these common basic dimensions are in the center section of the chart below. The left and right sections of the chart list the individual Specification, the Waldom Part Number, Length, and the Maximum Wire Insulation Diameter (for MS-17143).



MIL-E-16366D (SHIPS)

TYPE WT (NON-INSULATED)



MIL-T-7928 (ASG) MS-17143 (SHIPS)

TYPE II (INSULATED)

AWG Wire Size	Navy Wire Size	BASIC DIMENSIONS Stud Size S	Width W	Clearance C	VERSAKRIMP* TYPE WT (Non-Insulated) Part Number	Length L	AVIKRIMP* TYPE II (Insulated) Part Number	Maximum Insulation Diameter	Length L	MS-17143 Dash No.	Price Code (See Pricing Below)
22-18	1-2	8	25/64	5/8	B-3555	1-13/64	SN-5555	.145	1-21/64	—1	BS
22-18	1-2	6	5/16	15/32	B-3556	61/64	SN-5556	.145	1- 5/64	—4	BS
22-18	1-2	8	5/16	15/32	B-3557	61/64	SN-5557	.145	1- 5/64	—7	BS
22-18	1-2	5	9/32	9/32	B-3558	45/64	SN-5558	.145	53/64	—10	BT
22-18	1-2	6	15/64	13/32	B-3559	55/64	SN-5559	.145	63/64	—13	BT
22-18	1-2	4	15/64	13/32	B-3560	55/64	SN-5560	.145	63/64	—16	BT
22-18	1-2	4	15/64	1/4	B-3561	41/64	SN-5561	.145	49/64	—19	BT
16-14	2 1/2-4	8	25/64	5/8	B-3562	1-13/64	SN-5562	.175	1-21/64	—2	BS
16-14	2 1/2-4	6	19/64	15/32	B-3563	61/64	SN-5563	.175	1- 5/64	—5	BS
16-14	2 1/2-4	8	19/64	15/32	B-3564	61/64	SN-5564	.175	1- 5/64	—8	BS
16-14	2 1/2-4	5	9/32	9/32	B-3565	45/64	SN-5565	.175	53/64	—11	BT
16-14	2 1/2-4	6	15/64	13/32	B-3566	55/64	SN-5566	.175	63/64	—14	BT
16-14	2 1/2-4	4	15/64	13/32	B-3567	55/64	SN-5567	.175	63/64	—17	BT
16-14	2 1/2-4	4	15/64	1/4	B-3568	41/64	SN-5568	.175	49/64	—20	BT
12-10	6-9	8	25/64	5/8	B-3569	1-17/64	SN-5569	.235	1-17/32	—3	BU
12-10	6-9	6	19/64	15/32	B-3570	1- 1/64	SN-5570	.235	1- 9/32	—6	BV
12-10	6-9	8	19/64	15/32	B-3571	1- 1/64	SN-5571	.235	1- 9/32	—9	BV
12-10	6-9	5	9/32	9/32	B-3572	49/64	SN-5572	.235	1- 3/64	—12	BW
12-10	6-9	6	15/64	13/32	B-3573	59/64	SN-5573	.235	1-13/64	—15	BW
12-10	6-9	4	15/64	13/32	B-3574	59/64	SN-5574	.235	1- 3/16	—18	BW
12-10	6-9	4	15/64	61/64	B-3575	57/64	SN-5575	.235	63/64	—21	BW

NET PRICES — FOR ABOVE RECTANGULAR TONGUE TERMINALS

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

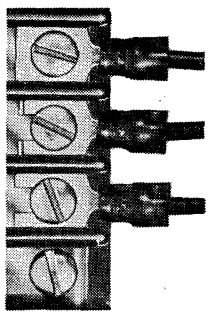
Code Letter	VERSAKRIMP* Pkg. of 100	VERSAKRIMP* BULK 1000-4999, per M	VERSAKRIMP* BULK 5000 or more, per M	AVIKRIMP* Pkg. of 100	AVIKRIMP* BULK 1000-4999, per M	AVIKRIMP* BULK 5000 or more, per M
BS	4.04	35.40	30.50	7.75	68.75	58.50
BT	2.81	24.95	21.22	6.04	53.60	45.60
BU	7.04	62.40	53.10	9.32	87.10	74.10

Code Letter	VERSAKRIMP* Pkg. of 100	VERSAKRIMP* BULK 1000-4999, per M	VERSAKRIMP* BULK 5000 or more, per M	AVIKRIMP* Pkg. of 100	AVIKRIMP* BULK 1000-4999, per M	AVIKRIMP* BULK 5000 or more, per M
BV	5.63	49.95	42.50	8.26	73.25	62.30
BW	4.04	35.85	30.50	7.45	66.10	56.25

*TRADEMARK

TERMINALS FOR USE WITH COMMERCIAL TYPE TERMINAL BLOCKS

To eliminate circuit failure in terminal blocks, WALDOM has produced exactly the right shape and width terminals to fit commonly used commercial terminal blocks. They cannot turn sideways, loosen, arc, or fail.



TERMINAL BLOCKS JONES Series	KULKA Series	GENPRO Series	MARATHON Series	For Wire Range	RECTANGULAR TONGUE For greatest reliability	SPADE TONGUE Least effort in installing & removing	FLANGED SPADE Greater reliability than Spade Tongue
140, 164 540	600, 600A 599	440, 464 740	100, 6A100	22-18	S-1071, T-2071, B-3071, D-4071, N-5071	S-1014, T-2014, B-3014, D-4014, N-5014	S-1080, T-2080, B-3080, D-4080, N-5080
				16-14	S-1074, T-2074, B-3074, D-4074, N-5074	S-1015, T-2015, B-3015, D-4015, N-5015	S-1083, T-2083, B-3083, D-4083, N-5083
141, 151	601, 699	441, 741	200	22-18	S-1519, T-2519, B-3519, D-4519, N-5519	S-1501, T-2501, B-3501, D-4501, N-5501	S-1510, T-2510, B-3510, D-4510, N-5510
				16-14	S-1546, T-2546, B-3546, D-4546, N-5546	S-1529, T-2529, B-3529, D-4529, N-5529	S-1538, T-2538, B-3538, D-4538, N-5538
142, 542	602	442,742	300	22-18	S-1526, T-2526, B-3526, D-4526, N-5526	S-1507, T-2507, B-3507, D-4507, N-5507	S-1516, T-2516, B-3516, D-4516, N-5516
				16-14	S-1553, T-2553, B-3553, D-4553, N-5553	S-1535, T-2535, B-3535, D-4535, N-5535	S-1543, T-2543, B-3543, D-4543, N-5543

Refer to Alpha-Numerical Index to Locate Terminal Description and Pricing Information.

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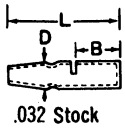
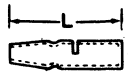
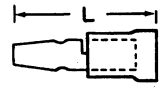
SOLDERLESS TERMINALS AND CONNECTORS

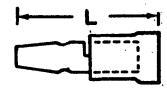
QUICK DISCONNECT DEVICES

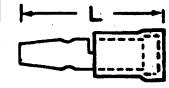
SNAP PLUGS











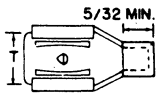
BASIC DIMENSIONS				KRIMPTITE*		INSULKRIMP*			VIBRAKRIMP*		AVIKRIMP*		Price Code (See Pricing Below)
Wire Range	Length L	Barrel Length B	Diameter D	Part Number	Length L	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	.175 Max. Ins. Dia. Pt. No.	Length L	
16-14	35/64	3/16	.176	S-1056	35/64	T-2056	T-2056X	51/64	D-4056	49/64	N-5056	51/64	AW
16-14	19/32	3/16	.157	S-1055	19/32	T-2055	T-2055X	21/32	D-4055	13/16	N-5055	27/32	AV

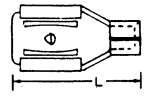
Cat. No. PR-1426
INSULATED SNAP PLUG RECEPTACLE
An insulated connector for use with S-1055, T-2055, T-2055X, or D-4055 only. One snap plug is inserted in either end of the receptacle. Tubular Shell is high impact transparent Styrene.

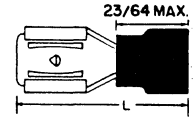
Part No.	BULK		
	Pkg. of 100	1000-4999, per M	5000 or more, per M
PR-1426	8.98	64.70	50.35

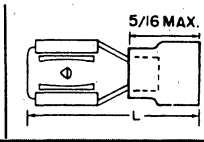
QUICK-DISCONNECT PUSH-ON TYPE TERMINALS

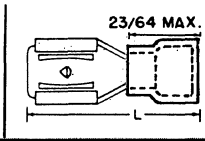
18-14 WIRE RANGE (USE 22-18 SHORT BARREL TOOLING) FEMALE IN LINE





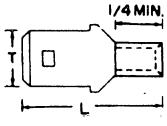


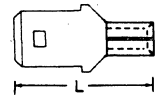


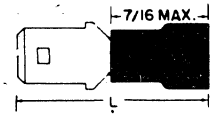


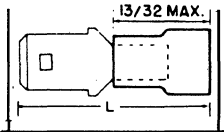
BASIC DIMENSIONS		KRIMPTITE*		INSULKRIMP*			VIBRAKRIMP*		AVIKRIMP*		Price Code Letter (See Pricing Below)
Fits Male Tab T	Stock	Part Number	Length L Max.	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	
.110 .125 x .020	.016	SS-1186	29/64	ST-2186	ST-2186X	21/32	SD-4186	39/64	SN-5186	27/32	AX
.187 x .020	.020	SS-1187	17/32	ST-2187	ST-2187X	47/64	SD-4187	11/16	SN-5187	47/64	AX
.250 x .032	.020	SS-1090	41/64	ST-2090	ST-2090X	27/32	SD-4090	51/64	SN-5090	27/32	AX

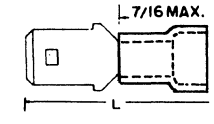
18-14 WIRE RANGE (USE 16-14 REGULAR TOOLING) MALE





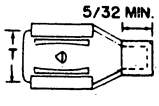


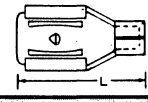


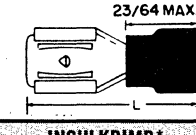


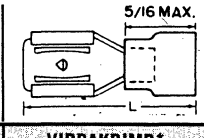
BASIC DIMENSIONS		KRIMPTITE*		INSULKRIMP*			VIBRAKRIMP*		AVIKRIMP*		Price Code Letter (See Pricing Below)
Tab Width T	Stock	Part Number	Length L Max.	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	
.187	.020	S-1190	1/2	T-2190	T-2190X	25/32					AX
.250	.032	S-1089	21/32	T-2089	T-2089X	27/32	D-4089	13/16	N-5089	27/32	AX

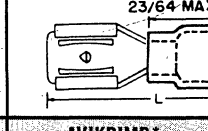
16-12 WIRE RANGE (USE 16-14 SHORT BARREL TOOLING) FEMALE IN LINE











BASIC DIMENSIONS		KRIMPTITE*		INSULKRIMP*			VIBRAKRIMP*		AVIKRIMP*		Price Code Letter (See Pricing Below)
Fits Male Tab T	Stock	Part Number	Length L Max.	.155 Max. Ins. Dia. Pt. No.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	.175 Max. Ins. Dia. Pt. No.	Length L Max.	
.250 x .032	.020	SS-1188	41/64	ST-2188	ST-2188X	27/32	SD-4188	51/64	SN-5188	27/32	AX

†Crimp these parts with tool indenter on side of barrel opposite seam.

NET PRICES — SNAP PLUGS AND QUICK DISCONNECT PUSH ON TYPE TERMINALS

Price Code Letter	KRIMPTITE*			INSULKRIMP* No Suffix			INSULKRIMP* Suffix (X)			VIBRAKRIMP*			AVIKRIMP*		
		BULK			BULK			BULK			BULK			BULK	
	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M	Pkg. of 100	1000-4999, per M	5000 or more, per M
AV	2.14	15.40	12.00	4.47	33.05	25.85	5.02	37.10	29.00	5.30	42.40	31.80	7.57	61.45	46.10
AW	2.23	16.05	12.55	4.47	33.05	25.85	5.02	37.10	29.00	5.30	42.40	31.80	7.57	61.45	46.10
AX	2.60	18.75	14.65	4.80	35.50	27.75	5.41	40.05	31.30	5.30	42.40	31.80	7.57	61.45	46.10

*TRADEMARK

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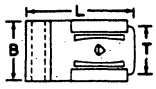
SOLDERLESS TERMINALS AND CONNECTORS

waldom

QUICK DISCONNECT DEVICES (Continued)

FEMALE FLAGS

18-14 WIRE RANGE—KRIMPTITE*



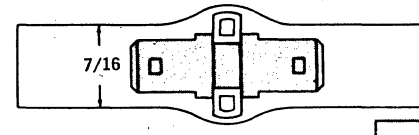
Part No.	Basic Dimensions Tab T	Barrel Length B	Length L	Pkg. of 100	Bulk 1000-4999, per M	Bulk 5000 or more, per M
S-1189	.187x.020	15/64	29/64	2.77	19.95	15.70
S-1091-A	.250x.032	15/64	29/64	2.64	18.95	14.80

16-12 WIRE RANGE—KRIMPTITE*

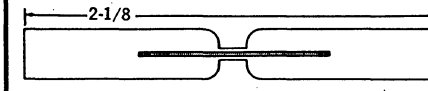
S-1091-B	.250x.020	5/16	19/32	3.07	22.05	17.20

INSULATED TAB RECEPTACLE

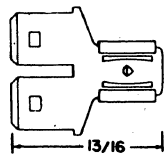
For connecting two .250 Female Disconnects.



Part No.	NET PRICES Pkg. of 100	1000-4999, per M	5000 or more, per M
TR-1427	9.19	66.20	51.50



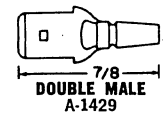
DOUBLE MALE TAB ADAPTER



For converting one .250 x .032 Male Tab to two Male Tabs. .032 Stock.

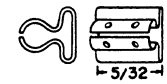
Part No.	NET PRICES Pkg. of 100	BULK 1000-4999, per M	BULK 5000 or more, per M
A-1428	4.70	33.85	26.35

SNAP PLUG TO TAB ADAPTERS



DOUBLE MALE
A-1429

For adapting .157 Plug Receptacle to .250 Female Disconnect. .032 Stock.



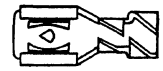
DOUBLE FEMALE
A-1430

For adapting .157 Plug to .250 x .032 Tab.

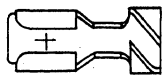
Part No.	NET PRICES Pkg. of 100	1000-4999, per M	5000 or more, per M
A-1429	5.87	42.25	32.90
A-1430	6.42	46.20	35.95

ECONOMICAL INSULATION-GRIP QUICK DISCONNECTS

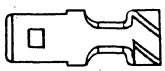
MATERIAL: BRASS, ELECTRO-TIN PLATED



CP-801



CP-802

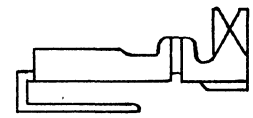


CP-803

Part No.	Wire Range	Description	NET PRICES Pkg. of 100	BULK 1000-4999, per M	BULK 5000 or more, per M
CP-801	20-16	1/4" Female	2.87	21.80	16.40
CP-802	16-12	1/4" Female	4.57	34.75	26.05
CP-803	20-16	1/4" Male	3.73	28.45	21.35

PIGGY BACK TERMINAL

MATERIAL: BRASS (UNPLATED)



Part No.	Wire Range	NET PRICES Pkg. of 100	Pkg. of 1000 1-4	Pkg. of 1000 5 or more
PB-1431	20-12	6.49	49.45	37.05

1/4" MALE TABS

MATERIAL: .031 BRASS, CADMIUM PLATED

S-1432T

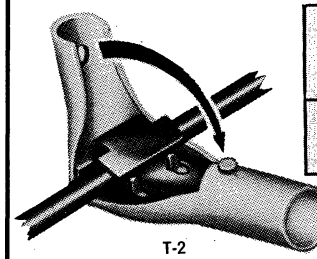
S-1431T

Part No.	Height	Mtg. Hole	NET PRICES Pkg. of 100	BULK 1000-4999, per M	BULK 5000 or more per M
S-1431T	29/64"	.144	1.28	10.25	7.70
S-1432T	7/16"	.156	2.38	19.05	14.30

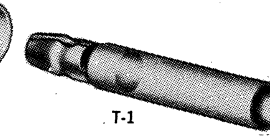
T—TAB TERMINAL

For attaching trailer lights to Towing Vehicle's Lighting System without cutting wires. The T-2 receptical consists of a brass insulation piercing terminal with a slipover, fold-over insulating sleeve. (Use ordinary plyers to crimp piercing portion of terminal to wire.)
The T-1 snap plug, with nylon insulating sleeve, allows easy, quick disconnecting of trailer wire. Wire range 16-14. Use CT-4050 crimping tool.

PART NO. (Male) T-1
PART NO. (Female) T-2
PART NO. (Complete Set) T-3



T-2



T-1

Part No.	Pkg. of 25	NET PRICES Pkg. of 100	1000-4999 per M	5000 or more per M
T-3	4.31	14.26	126.45	102.25
T-2	3.36	11.13	98.70	79.80
T-1	1.47	4.99	44.05	35.60

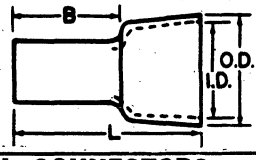
waldom

SOLDERLESS TERMINALS AND CONNECTORS

PERMANENT CONNECTORS

NYLON INSULATED CLOSED END CONNECTORS

Connectors are annealed, tin-plated, seamless brass for 22-14 wire range, and annealed tin-plated copper for 16-10 wire range. Insulation is natural-color translucent DuPont Nylon. Underwriters' Laboratories approved. UL temperature rating of 105°C maximum. 600 Volts maximum in building wire and 1,000 Volts inside a sign or fixture.

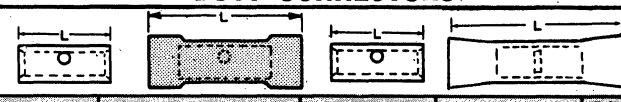


Wire Range	Part Number	Outside Diameter O.D.	Overall Length L	Barrel Length B	Inside Diameter I.D.	Circular Mil Area	Pkg. of 100	BULK 1000-4999, per M	BULK 5000 or more, per M
22-14	CE-2214	5/16	39/64	11/32	1/4	600- 5,180	3.89	27.95	21.85
16-10	CE-1610	7/16	23/32	3/8	3/8	2,400-13,000	5.68	40.90	31.95

PARALLEL CONNECTORS

	KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		NYLAKRIMP*	
Wire Range	Part Number	Length L	Straight Ins. Dia. Pt. No.	Flared Ins. Dia. Pt. No.	Length L	Part Number	Length L	Part Number	Length L
22-18	S-1105	5/16	T-2105	T-2105X	11/16	†B-3105S	5/16	N-5105S	5/8
16-14	S-1063	5/16	T-2063	T-2063X	11/16	†B-3063S	5/16	N-5063S	5/8
12-10	S-1064	5/16	T-2064	T-2064X	25/32	†B-3064S	5/16	N-5064S	5/8
8			T-2260	T-2260X	1	B-3260	3/8	N-5260S	1
6			T-2261	T-2261X	1- 3/16	B-3261	7/16	N-5261S	1-13/16
4			T-2262	T-2262X	1-13/32	B-3262	17/32	N-5262S	1-13/32
2			T-2303	T-2303X	1- 5/8	B-3303	41/64	N-5303S	1- 5/8
1/0			The INSULKRIMP and NYLA-KRIMP Parts in Wire Ranges 8 thru 2 have Brazed Barrels.			†B-3321	47/64	†N-5321S	1-61/64
2/0						†B-3336	47/64	†N-5336S	1-61/64
3/0						†B-3338S	3/4	†N-5338S	2-19/64
4/0						†B3340S	3/4	†N-5340S	2-19/64

BUTT CONNECTORS



	KRIMPTITE*		INSULKRIMP*			VERSAKRIMP*		NYLAKRIMP*		Price Code Letter (see Below)
	Part Number	Length L	Straight Ins. Dia. Pt. No.	Flared Ins. Dia. Pt. No.	Length L	Part Number	Length L	Part Number	Length L	
	S-1019	9/16	T-2019	T-2019X	15/16	†B-3019S	21/32	N-5019S	1- 3/64	AH
	S-1020	9/16	T-2020	T-2020X	15/16	†B-3020S	21/32	N-5020S	1- 3/64	AH
	S-1046	9/16	T-2046	T-2046X	1- 1/16	†B-3046S	13/16	N-5046S	1- 3/64	AI
			T-2263	T-2263X	1- 7/16	B-3263	53/64	N-5263S	1- 7/16	AJ
			T-2264	T-2264X	1- 3/4	B-3264	1- 1/64	N-5264S	1- 3/4	AK
			T-2265	T-2265X	2	B-3265	1- 1/8	N-5265S	2	AL
			T-2304	T-2304X	2- 1/4	B-3304	1- 1/4	N-5304S	2- 1/4	AM
			The INSULKRIMP and NYLA-KRIMP Parts in Wire Ranges 8 thru 2 have Brazed Barrels.			†B-3320	1-27/64	†N-5320S	2-41/64	AN
						†B-3337	1- 7/16	†N-5337S	2-41/64	AO
						†B-3339S	1-31/64	†N-5339S	3	AP
						†B-3341S	1-31/64	†N-5341S	3	AQ

To find Wire Range needed for Parallel Connectors, compute the total Circular Mil Area of Wires involved and consult Conversion and Wire Combination Charts at back of Solderless Terminal Listing. †Formed from solid copper tubing.

NET PRICES — PERMANENT CONNECTORS

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

Wire Ranges 22-10

Type	Price Code Letter	KRIMPTITE* Pkg. of 100	KRIMPTITE* BULK 1000-4999, per M	KRIMPTITE* BULK 5000 or more, per M	INSULKRIMP* No Suffix Pkg. of 100	INSULKRIMP* No Suffix BULK 1000-4999, per M	INSULKRIMP* No Suffix BULK 5000 or more, per M	INSULKRIMP* Suffix (X) Pkg. of 100	INSULKRIMP* Suffix (X) BULK 1000-4999, per M	INSULKRIMP* Suffix (X) BULK 5000 or more, per M	VERSAKRIMP* Pkg. of 100	VERSAKRIMP* BULK 1000-4999, per M	VERSAKRIMP* BULK 5000 or more, per M	NYLAKRIMP* Pkg. of 100	NYLAKRIMP* BULK 1000-4999, per M	NYLAKRIMP* BULK 5000 or more, per M
Parallel Connectors	AH	2.16	15.55	12.15	3.98	29.45	23.00	3.98	29.45	23.00	3.00	24.10	18.10	4.24	35.55	32.05
	AI	2.87	20.65	16.10	5.31	39.30	30.70	5.31	39.30	30.70	3.73	29.75	22.35	5.70	50.55	43.00
Butt Connectors	AH	2.50	17.95	14.00	5.28	39.05	30.55	5.28	39.05	30.55	3.96	31.70	23.75	6.74	54.75	41.05
	AI	4.43	31.90	24.95	7.21	53.35	41.65	7.21	53.35	41.65	5.62	44.90	33.90	8.76	71.10	53.35

Wire Ranges 8 thru 2

Type	Price Code No.	INSULKRIMP* Straight Insulation Prefix (T) No Suffix Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M	INSULKRIMP* Flared Insulation Prefix (T) Suffix (X) Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M	VERSAKRIMP* Prefix (B) Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M	NYLAKRIMP* Prefix (N) Pkg. of (A)25 (B)20	100-999, per C	1000-4999, per M	5000 or more, per M
Parallel Connectors	AJ	(A)2.67	8.55	74.90	64.20	(A)2.92	9.30	81.60	69.95	(A)1.56	5.00	43.65	37.40	(A) 3.78	12.55	111.25	94.65
	AK	(A)3.94	12.60	110.25	94.50	(A)4.20	13.45	117.65	100.85	(A)2.65	8.45	74.10	63.55	(A) 5.57	18.38	162.95	139.35
	AL	(B)4.06	16.25	142.00	121.75	(B)4.29	17.15	150.00	128.60	(B)2.77	11.10	97.15	83.25	(B) 5.74	23.78	210.90	179.45
	AM	(B)4.98	19.90	174.25	149.35	(B)5.25	21.00	183.55	157.35	(B)3.39	13.55	118.40	101.50	(B) 7.05	29.19	311.35	220.30
Butt Connectors	AJ	(A)4.37	14.00	122.30	104.80	(A)4.60	14.75	128.90	110.50	(A)3.09	9.90	86.60	74.25	(A) 6.18	20.48	181.55	154.50
	AK	(A)6.04	19.35	169.20	145.05	(A)6.30	20.15	176.50	151.30	(A)4.72	15.10	132.20	113.30	(A) 8.55	28.35	251.20	213.85
	AL	(B)6.28	25.10	219.70	188.30	(B)4.51	26.45	227.80	195.30	(B)4.92	19.65	172.05	147.45	(B) 8.88	36.78	326.20	277.60
	AM	(B)7.91	31.65	276.80	237.25	(B)8.17	32.70	286.10	245.25	(B)6.18	24.70	216.35	185.40	(B)11.19	46.35	411.00	349.80

Wire Ranges 1/0 thru 4/0

Type	Price Code No.	VERSAKRIMP* Prefix (B) Pkg. of 20	100-999, per C	1000-4999, per M	5000 or more, per M	NYLAKRIMP* Prefix (N) Pkg. of 20	100-999, per C	1000-4999, per M	5000 or more, per M
Parallel Connectors	AN	3.51	14.00	122.65	105.15	6.86	28.40	251.80	214.30
	AO	3.86	15.45	135.20	115.90	6.65	27.51	244.20	207.80
	AP	5.30	21.20	185.50	159.00	8.64	35.80	317.40	270.10
	AQ	6.69	26.70	233.85	200.45	11.36	47.09	417.50	355.30
Butt Connectors	AN	8.10	32.40	285.40	244.65	16.62	68.84	610.40	519.55
	AO	9.65	38.55	338.50	290.15	16.32	67.55	599.00	509.80
	AP	12.09	48.35	424.40	363.80	18.51	76.63	679.55	578.35
	AQ	14.43	57.70	506.55	434.25	23.87	98.81	876.15	745.70

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SOLDERLESS TERMINALS AND CONNECTORS

MILITARY SPECIFICATION TERMINALS (MIL-T-7928E)

These terminals are produced to military specification. **MIL-T-7928E (ASG)** of the U. S. Army, Air Force, Army Ordnance, Coast Guard, Marine Corps and Navy.

Class 1 and Class 2 are designations for the two classes of Military Approvals. Class 1 Terminals and Splices are those which meet all performance requirements of their Military Standard specification when crimped with Military Specification crimping tools.

Class 2 Terminals and Splices are those which meet all performance characteristics of their Military Standard specification when crimped with the manufacturer's recommended crimping tools.

Type I and Type II designate insulated and non-insulated Terminals and Splices. Type I is un-insulated. Type II is insulated.

RING TONGUE TERMINALS

CLASS I TYPE I

MS PART NO.	WALDOM PART NO. 1/4" Barrel	5/32" Barrel
MS-20659-1	D-4001	SD-4001
-2	D-4003	SD-4003
-3	D-4006	SD-4006
-4	D-4008	SD-4008
-5	B-3001	
-6	B-3101	
-7	B-3226	
-8	B-3207	
-9	B-3249	
-10	B-3231	
-11	B-3258	
-12	B-3254	
-13	B-3281	
-14	B-3283	
-17	B-3007	
-18	B-3309	
-19	B-3323	
-20	B-3324	
-25	D-4143	SD-4143
-26	D-4007	SD-4007
-27	D-4147	SD-4147
-28	B-3013	
-29	B-3208	
-30	B-3248	
-31	B-3230	
-32	B-3253	
-33	B-3288	
-35	B-3314	
-36	B-3331	
-38	D-4047	SD-4047
-39	D-4048	SD-4048
-40	B-3225	
-41	B-3203	
-42	B-3215	
-43	B-3238	
-44	B-3257	
-46	B-3280	
-47	B-3282	
-48	B-3287	
-51	B-3308	
-52	B-3313	
-53	B-3322	
-54	B-3330	

CLASS I TYPE II

MS PART NO.	WALDOM PART NO. 1/4" Barrel	5/32" Barrel
MS25036-1	N-5001	SN-5001
-2	N-5002	SN-5002
-3	N-5003	SN-5003
-4	N-5005	SN-5005
-5	N-5143	SN-5143
-6	N-5006	SN-5006
-7	N-5007	SN-5007
-8	N-5094	SN-5094
-9	N-5041	SN-5041
-10	N-5147	SN-5147
-11	N-5049	
-12	N-5011	
-13	N-5101	
-14	N-5013	
-15	T-2202	
-16	T-2203	
-17	T-2207	
-18	T-2208	
-19	T-2248	
-20	T-2249	
-21	T-2230	
-22	T-2231	
-48	N-5047	SN-5047
-49	N-5021	SN-5021
-50	N-5004	SN-5004
-52	N-5048	SN-5048
-53	N-5024	SN-5024
-54	N-5009	SN-5009
-56	N-5050	
-57	N-5100	
MS-17143-1	N/A	SN-5555
-2	N/A	SN-5562
-3	N/A	SN-5569
-4	N/A	SN-5556
-5	N/A	SN-5563
-6	N/A	SN-5570
-7	N/A	SN-5557
-8	N/A	SN-5564
-9	N/A	SN-5577
-10	N/A	SN-5558
-11	N/A	SN-5565
-12	N/A	SN-5572
-13	N/A	SN-5559
-14	N/A	SN-5566
-15	N/A	SN-5573
-16	N/A	SN-5560
-17	N/A	SN-5567
-18	N/A	SN-5574
-19	N/A	SN-5561
-20	N/A	SN-5568
-21	N/A	SN-5573

N/A (Not Available)

SPLICE TERMINALS

CLASS I TYPE II

MS PART NO.	WIRE RANGE	PART NO.
MS-25181-1	22-18	A81-1
-2	16-14	B81-2
-3	12-10	C81-3
-4	26-24	M81-4

SOLDERLESS TERMINALS AND CONNECTORS

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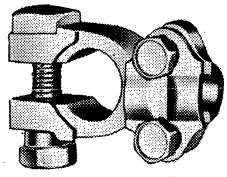
SOLDERLESS BATTERY TERMINALS AND LUGS

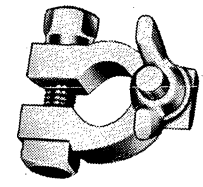
MARINE BATTERY TERMINALS



Simple to install...you need only a wrench to bolt down clamp. Designed for both positive and negative posts, and covers cable range 8 thru 2/0.

Part No.	PRICE EACH 1 - 99	100 - Up
BL-805	.89	.76

UNIVERSAL BATTERY TERMINALS

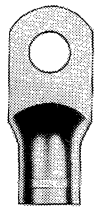


Both positive and negative, each featuring different size stud and wing nut. Dimensional difference prevents cross polarity when attaching cable to battery post.

Part No.	PRICE EACH 1 - 99	100 - Up
BL-809 (Positive)	.89	.76
BL-810 (Negative)	.89	.76

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

SOLDERLESS BATTERY LUGS



Four lugs, designed especially for starter motor applications on diesel equipment, but can be used anywhere a 3/8" or 1/2" stud hole is required.

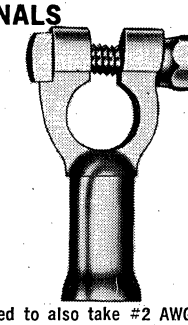
Part No.	Wire Size	Stud Size	PRICE EACH 1 - 99	100 - Up
SBTL-46	4-6	3/8"	.24	.19
SBTL-12	1-2	3/8"	.24	.19
SBTL-20	1/0-2/0	3/8"	.45	.36
SBTL-201	1/0-2/0	1/2"	.45	.36

Use SKT-840 Tool For Crimping (Page 22)

SOLDERLESS BATTERY TERMINALS

Choose from eight terminals for the following wire sizes and battery posts.

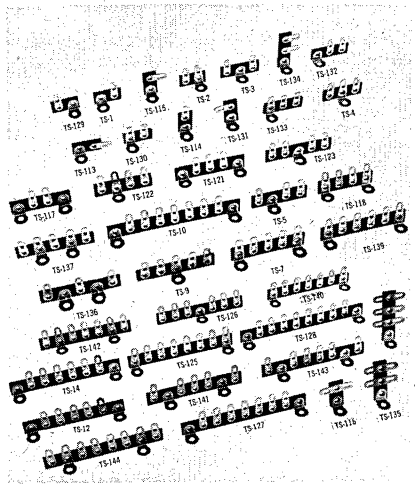
Part No.	Wire Size	Post Type	PRICE EACH 1 - 99	100 - Up
SBL-6	6	Universal	.99	.87
SBL-4	4	Universal	.99	.87
*SBL-1P	1	Positive	.99	.87
*SBL-1N	1	Negative	.99	.87
SBL-10P	1/0	Positive	1.09	.98
SBL-10N	1/0	Negative	1.09	.98
SBL-20P	2/0	Positive	1.16	1.03
SBL-20N	2/0	Negative	1.16	1.03



Use SKT-840 Tool For Crimping (Page 22) *designed to also take #2 AWG

TERMINAL STRIPS

STANDARD TERMINAL STRIPS

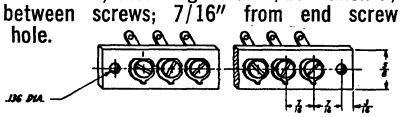


Standard type lug mounting terminal strips. Fabricated from X Grade bakelite 1/16" thick, 3/8" wide. Square barrelled construction prevents twisting and slippage. End Terminals are spaced 3/16" from end of strip. All strips are furnished with lug holes spaced 3/8" center to center.

Part No.	Bag of 25	100-Over per/C	Part No.	Bag of 25	100-Over per/C	Part No.	Bag of 25	100-Over per/C
2 and 3 Position			4, 5 and 6 Position			7, 8 and 9 Position		
TS-1	.88	2.40	TS-117	1.70	4.55	TS-141	2.55	6.80
TS-129	.88	2.40	TS-5	1.43	3.90	TS-12	2.55	6.80
TS-2	.95	2.50	TS-122	1.50	4.00	TS-126	2.33	6.15
TS-130	.95	2.50	TS-118	1.80	4.75	TS-142	2.63	7.00
TS-113	1.03	2.90	TS-136	2.00	5.30	TS-140	2.63	7.00
TS-114	1.03	2.90	TS-121	2.00	5.30	TS-143	2.83	7.55
TS-115	1.03	2.90	TS-123	1.78	4.65	TS-14	2.83	7.55
TS-131	.88	2.40	TS-9	1.78	4.75	TS-144	2.93	7.75
TS-3	1.20	3.15	TS-137	2.08	5.50	TS-125	2.93	7.75
TS-132	1.20	3.15	TS-7	2.08	5.50	TS-127	3.13	8.30
TS-4	1.20	3.25	TS-10	2.25	6.05	TS-128	3.38	9.05
TS-133	1.20	3.25	TS-139	2.33	6.25	TS-116	1.33	3.45
TS-134	1.20	3.15				TS-135	2.00	5.30
						TS-138	2.70	7.15

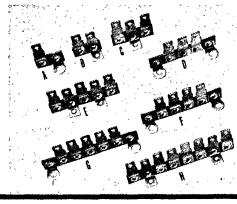
SCREW TYPE TERMINAL STRIPS

Standard bakelite screw type terminal strips. Terminals are hot-tinned dipped for easy soldering. All are 5/8" wide, with .136 dia., mounting holes 1/16" thick 7/16" spacing between screws; 7/16" from end screw to mounting hole.



Part No.	No. of Ter.	Length	Mtg. Centers	Pkg.of 25	100 - Over
BTS-19	2	1-11/16"	1-5/16"	2.73	7.60
BTS-20	3	2-1/8"	1-3/4"	4.10	11.40
BTS-21	4	2-9/16"	2-3/16"	5.19	14.40
BTS-22	5	3"	2-5/8"	6.01	16.70
BTS-23	6	3-7/16"	3-1/16"	7.66	21.25
BTS-24	7	3-7/8"	3-1/2"	9.56	26.55

QUICK DISCONNECT TERMINAL STRIPS



Tabs are 1/4" Brass, Cadmium Plated. Strip is 1/16" Bakelite (XP), 3/8" wide, spaced 3/8" center to center. See page 18 for female terminals.

Part No.	Fig.	Pkg. of 25	Net 100	Part No.	Fig.	Pkg. of 25	Net 100
TS-301	A	1.86	5.05	TS-305	E	5.95	16.25
TS-302	B	2.45	6.65	TS-306	F	5.98	16.25
TS-303	C	3.61	9.80	TS-307	G	7.15	19.50
TS-304	D	4.80	13.05	TS-308	H	9.48	25.90

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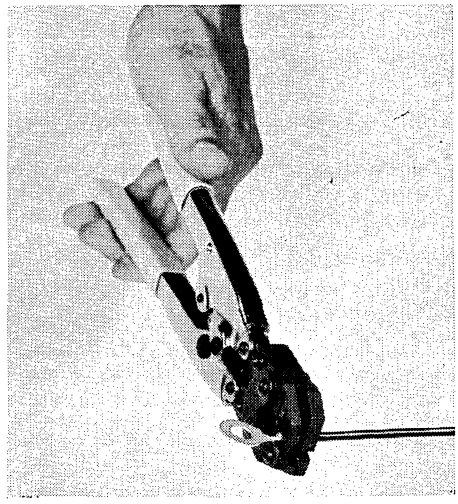
SOLDERLESS TERMINALS AND CONNECTORS

HAND RATCHET AND MAINTENANCE TOOLS

RATCHET TOOL

A precision production tool. Lighter in weight and easier to use than any similar tool. Unique pin-action gives greater mechanical advantage. The tool crimps even the heavier wires and terminals (up through #10 AWG) with a light squeeze. Tamper-proof ratchet mechanism is safe for fingers. The ratchet mechanism will not release until the crimping cycle is complete, but no extra effort is required for release and handles then open automatically. Precision-calibrated and crimp-tested at the factory to give perfect electrical connections every time.



MAINTENANCE TOOL

An ideal inexpensive multi-purpose maintenance tool. Handles wire sizes #22 through #10 AWG. Cuts and strips wires, crimps insulated and non-insulated termials and connectors. Proper leverage is provided to assure uniformly reliable results. Edges stay sharp. Quality hardened steel. Instulated handles.

FOR KRIMPTITE* & VERSAKRIMP*
Terminals • Parallel Connectors • Butt Connectors

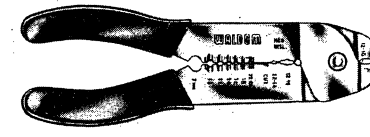
Crimp Section	Wire Size	Ratchet Tool Part No.		Maintenance Tool Part No.
		Full Barrel Terminals	Short Barrel Terminals	
	22-18	RHT-1000	RHT-1050	CT-4050
	16-14			
	12-10			
Price ea. Net		24.75	24.75	4.35

FOR INSULKRIMP* & AVIKRIMP*
Terminals • Parallel Connectors • Butt Connectors

Crimp Section	Wire Size	Ratchet Tool Part No.		Maintenance Tool Part No.
		Regular Terminals	Short Barrel Terminals	
	22-18	RHT-2000	RHT-2050	CT-4050
	16-14	RHT-2100	RHT-2150	
	16-14	RHT-2100	RHT-2150	
	12-10	RHT-2200		
Price ea. Net		32.73	32.73	4.35

FOR NYLON CLOSED-END CONNECTORS

Crimp Section	Wire Size	Ratchet Tool Part No.	Maintenance Tool Part No.
	22-14	RHT-8000	CT-4050
	16-10	RHT-9000	
Price ea. Net		26.95	4.35



Crimps both insulated and non-insulated parts, and both Full and Short Barrel Terminals.

Part No. CT-4050 .....Price $4.35 ea. Net

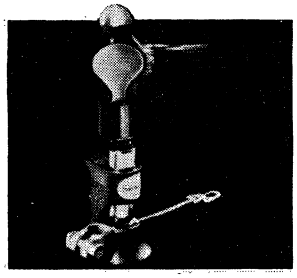
SELECTAKRIMP®

A New Tool for Crimping Both Small and Large Wire Range Terminal in Maintenance and Production Work

OUTSTANDING FEATURES

- Completely portable—easy to use
- Eliminates need for soldering large wires to terminals
- Replaces costly, permanently mounted crimping equipment
- "In-line" action assures uniform crimping
- Impossible to over- or under-crimp
- Low cost—yet lasts indefinitely

*Crimps #16 thru 4/0 wire range terminals



Here's the long-awaited answer to the problem of crimping large wire range terminals in maintenance and production work — without costly, permanently mounted equipment. The new Waldom "Selectakrimp" is a completely portable, easy-to-use tool. To operate, all you need is any conventional 2-lb. hammer to produce the closing pressure by striking the ram. An easy-to-read crimping scale prevents under-crimping. Over-crimping is prevented by unique design of the nest and indenter. Terminal being crimped is held securely in the nest by a strong, completely enclosed spring. Uniform, positive connection crimping is assuerd by the "in-line" ram action.

A single Selectakrimp tool can serve various departments, because its light weight (1¾ pounds) makes it easy to bring the tool to the work. Where production requirements call for simultaneous use in several locations, the low cost of Selectakrimp makes it economically feasible to have more than one in plant or shop.

Built to last indefinitely, the ram is made of specially heat-treated tool steel, and the base, of cast malleable iron. Base design prevents rocking of tool under closing pressures.

Part No. SKT-840 .....each $14.80

* Trademark

waldom

SOLDERLESS TERMINALS AND CONNECTORS

SOLDERLESS TERMINAL & QUICK DISCONNECT ASSORTMENTS

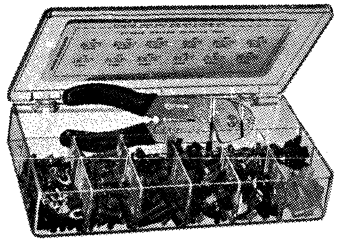


FIG. A
(Includes Crimping Tool No. CT-4050)

Waldom offers a wide variety of terminals and connectors specially packaged for maintenance and repair work. Figure A illustrates a 13 compartment re-usable plastic box containing 12 different items, plus a universal crimping tool. Figure B illustrates a smaller box containing an assortment of 8 different items. No tool is included with this assortment. Following are the contents and description of various assortments available.

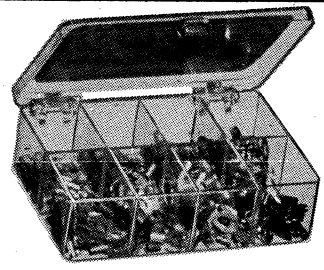


FIG. B

ELECTRONIC ASSORTMENTS
NON-INSULATED TERMINALS

Contains 215 pieces of most popular ring, spade, flanged spade, hook, quick disconnect terminals and butt connectors in wire ranges 22-18 through 12-10.

Part No. K-170 (Fig. A) .....$9.85 ea.

INSULATED TERMINALS

Contains 138 pieces of most popular flanged spade, ring, spade, quick disconnect terminals and butt and closed-end connectors in wire ranges 22-18 through 12-10.

Part No. K-180 (Fig. A) .....$12.05 ea.

ELECTRICAL ASSORTMENTS
NON-INSULATED TERMINALS

Contains 214 pieces of most popular flanged spade, ring, spade, hook, and quick disconnect terminals and butt connectors in wire ranges 22-18 through 12-10.

Part No. K-150 (Fig. A) .....$9.85 ea.

INSULATED TERMINALS

Contains 132 pieces of most popular flanged spade, ring, spade, quick disconnect terminals and butt and closed-end connectors in wire ranges 22-18 through 12-10.

Part No. K-160 (Fig. A) .....$12.05 ea.

DELUXE ASSORTMENTS

NON-INSULATED TERMINALS

Contains 620 pieces of most popular ring, flanged spade, spade terminals and butt, quick disconnect and closed-end connectors in wire ranges 22-18 through 16-14.

Part No. K-120 (Fig. A) .....$16.45 ea.

Insulated & Non-Insulated Terminals

Contains 630 pieces of most popular ring, flanged spade, spade terminals and butt, quick disconnect and closed-end connectors in wire ranges 22-18 through 16-10.

Part No. K-130 (Fig. A) .....$23.05 ea.

INSULATED TERMINALS

Contains 640 pieces of most popular ring, flanged spade, spade terminals and butt, quick disconnect and closed-end connectors in wire ranges 22-18 through 16-10.

Part No. K-140 (Fig. A) .....$29.65 ea.

SMALLER ASSORTMENTS

NON-INSULATED TERMINALS

Contains 200 pieces of most popular ring, spade, and hook terminals in wire ranges 22-18 through 16-14.

Part No. HD-4007 (Fig. B) .....$3.98 ea.

INSULATED TERMINALS

Contains 96 pieces of most popular ring, spade, and hook terminals in wire ranges 22-18 through 16-14.

Part No. HD-4021 (Fig. B) .....$3.98 ea.

QUICK DISCONNECT ASSORTMENTS

NON-INSULATED

Contains 200 pieces of most popular male and female disconnect devices in wire ranges 18-14 through 16-12.

Part No. HD-4022 (Fig. B) .....$3.98 ea.

INSULATED

Contains 72 pieces of most popular male and female disconnect devices in wire ranges 18-14 through 16-12.

Part No. HD-4023 (Fig. B) .....$3.98 ea.

DELUXE ASSORTMENT
NON-INSULATED & INSULATED

Contains 480 pieces of most popular male and female insulated and non-insulated quick disconnect terminals in wire ranges 18-14 through 16-12.

Part No. K-220 (Fig. A) .....$12.05 ea.

ECONO-LINE ASSORTMENT
NON-INSULATED

Contains 120 pieces of most popular econo-line male and female disconnect devices in wire ranges 20-16 through 16-12.

Part No. HD-4025 (Fig. B) .....$4.98 ea.

PERMANENT CONNECTOR ASSORTMENT

Contains 48 pieces of most popular butt, parallel, and closed-end insulated connectors in wire ranges 22-18 through 12-10.

Part No. HD-4024 (Fig. B) .....$3.98 ea.

WIRE CONNECTOR ASSORTMENT

Contains 169 wire connectors in individually-compartmented, re-usable plastic box.

Part No. K-210 .....$2.74 ea.

WIRE NUTS IN OTHER PACKAGING

Part Number	Trade Equivalent	Wire Combinations Minimum	Wire Combinations Maximum	Rating	Pkg. of 25 (ea.)	100-999, per C	1000-4999, per M	5000 or more, per M
WN-18*	A0	2 #24	2 #18	300V	.27	.85	7.30	6.65
WN-16A	A1	2 #18	1 #16 & 2 #18	300V	.27	.85	7.30	6.65
WN-16	72B	2 #18	3 #16	300-600(a)	.50	1.65	13.85	12.75
WN-14	73B	1 #18 & 1 #16	5 #16	300-600(a)	.51	1.65	14.40	13.15
WN-12	74B	1 #14 & 1 #18	2 #12 & 1 #18	300V	.55	1.75	15.25	13.95
WN-10	76B	1 #14 & 1 #16	3 #10	300V	.96	3.20	27.70	25.35

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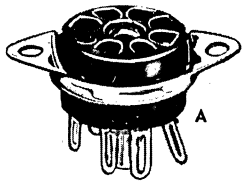
waldom SOCKETS

TUBE SOCKETS

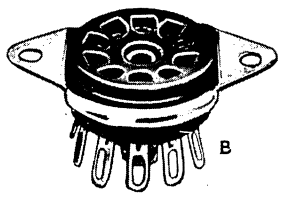

A

MINIATURE SOCKETS 7 PIN (FIG. A)

Steel saddle*cadmium plated, brass contacts cadminum plated. With center shield. Mounting centers 7/8″, Chassis mounting hole 5/8″ pin circle is .375 diam. Mounting holes on saddle are .095″.

Part No.	Description	Mounting	Pkg. of 5	100 per C
VTS-69	Black Bakelite	Bottom	.79	9.30
VTS-70	Mica Filled	Bottom	.97	10.80
VTS-71	Black Bakelite	Top	.79	9.30
VTS-72	Mica Filled	Top	.97	10.80
VTS-170	*Black Bakelite	Top	1.58	17.65
VTS-171	*Mica Filled	Top	1.76	19.15

* Shield Base Type (Fig. C)

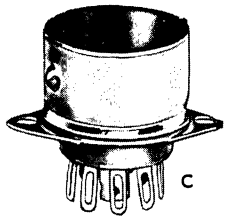

B

9 PIN (FIG. B)

Same as above, except mounting centers are 1-1/8″ and mounting hole 3/4″. Pin circle is .468 diam.

Part No.	Description	Mounting	Pkg. of 5	100 per C
VTS-73	Black Bakelite	Bottom	1.06	11.60
VTS-74	Mica Filled	Bottom	1.23	14.60
VTS-75	Black Bakelite	Top	1.06	11.60
VTS-76	Mica Filled	Top	1.23	14.60
VTS-172	*Black Bakelite	Top	1.94	22.95
VTS-173	*Mica Filled	Top	2.11	24.70

* Shield Base Type (Fig. C)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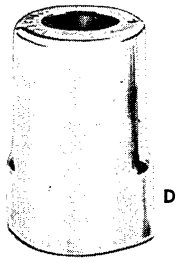
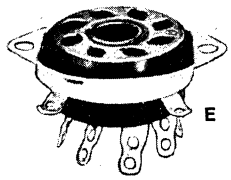

D

LOCKING TYPE TUBE SHIELDS (FIG. D)

Match shield base sockets above. Nickel plated brass with plated retainer spring.

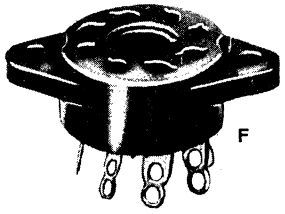
Part No.	Description	Height	Bag of 5	100 - Over
TST-141	7 Pin	1-3/8″	1.43	15.65
TST-142	7 Pin	1-3/4″	1.58	17.30
TST-143	7 Pin	2-1/4″	1.79	19.85
TST-144	9 Pin	1-1/2″	1.58	17.30
TST-145	9 Pin	1-15/16″	1.64	18.50
TST-146	9 Pin	2-3/8″	2.02	21.90


E

OCTAL SOCKETS—SADDLE MOUNT (FIG. E)

Tinned steel saddle w/ground lugs. Contacts are brass cadmium plated. Top mtg. pin circle is .687″ dia. Mtg. holes on saddle are .140″.

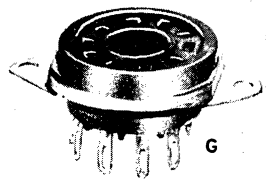
Part No.	Description	Mtg. Hole	Mtg. Centers	Bag of 5	100-over
VTS-65	Black Bakelite	15/16″	1-5/16″	.79	9.30
VTS-66	Mica Filled	15/16″	1-5/16″	1.14	13.65
VTS-67	Black Bakelite	1-1/16″	1-1/2″	.88	10.35
VTS-68	Mica Filled	1-1/16″	1-1/2″	1.14	13.65


F

HIGH VOLTAGE (FIG. F)

Solid all-molded construction. Flash barriers between contacts overall height 7/8″. Pin Circle is 11/16″ diam.

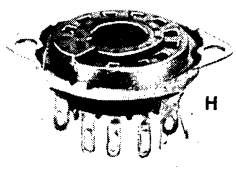
VTS-148	Black Bakelite	1-1/32″	1-5/16″	.88	10.00


G

9-PIN NOVAR TUBE SOCKETS (FIG. G)

Part No.	Description	Type Mtg.	Mtg. Centers	Pkg. of 5	100-over
VTS-81	Phenolic	Top	1-5/16″	1.58	17.45
VTS-82	Mica Filled	Top	1-5/16″	1.76	19.55
VTS-83	Phenolic	Top	1-1/2″	1.50	16.90
VTS-84	Mica Filled	Top	1-1/2″	1.65	18.90
VTS-85*	Phenolic		1-5/16″	1.50	16.90
VTS-86*	Mica Filled		1-5/16″	1.67	18.90

* High Voltage Type


H

12-PIN COMPACTRON TUBE SOCKETS (FIG. H)

1.312 Mtg. Centers
.750″ Dia. Pin Circle

1-3/16″ Chassis Hole.
Mtg. Holes .140″ Diam.

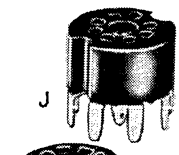
Part No.	Description	Type Mtg.	Pkg. of 5	100-over
VTS-77	Phenolic	Bottom	1.23	14.25
VTS-78	Mica Filled	Bottom	1.41	17.10
VTS-79	Phenolic	Top	1.23	14.25
VTS-80	Mica Filled	Top	1.41	17.10

I

NUVISTOR TUBE SOCKETS (FIG. I)

Socket is MFE type low loss phenolic material. Saddle is steel, cadmium plated, and contacts are copper alloy, cad. phd. crimp mounting type.

Part No. VTS-87	Bag of 5 — 1.32 100-over — 15.00/C
Saddle Mount Type — 3/4″ Mtg. Centers .106 Dia. Mtg. Holes	
Part No. VTS-88	Bag of 5 — 2.02 100-over — 24.20/C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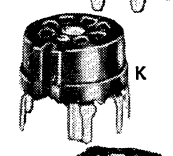
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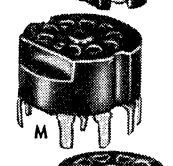
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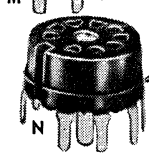
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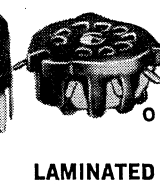
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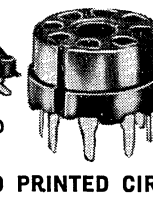
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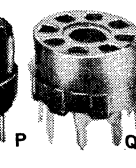

Q

MOLDED PRINTED CIRCUIT SOCKETS

Phenolic* or low-loss mica filled†; with center shield‡, snap-in type¶, figure as shown.

Part No.	Fig.	Description	Diam.	Bag of 5	100-over per C
PC-258*‡	J	7 Pin	.750″	.94	11.00
PC-268†‡	J	7 Pin	.750″	1.31	14.45
PC-257*‡	K	7 Pin	.750″	.85	10.10
PC-267†‡	K	7 Pin	.750″	1.12	12.95
PC-263*¶	L	7 Pin	.875″	1.03	11.75
PC-273†¶	L	7 Pin	.875″	1.31	14.60
PC-259*‡	M	9 Pin	.843″	1.22	13.70
PC-269†‡	M	9 Pin	.843″	1.50	16.50
PC-260*‡	N	9 Pin	.843″	1.03	12.10
PC-270†‡	N	9 Pin	.843″	1.31	14.90
PC-262*¶	O	9 Pin	.968″	1.12	13.25
PC-272†¶	O	9 Pin	.968″	1.41	16.15
PC-264*	P	Octal	1.062″	.94	11.35
PC-274†	P	Octal	1.062″	1.22	14.15
PC-282*‡	Q	Compactron	1.187″	1.12	12.55
PC-283†‡	Q	Compactron	1.187″	1.41	16.85

R

LAMINATED PRINTED CIRCUIT SOCKETS (FIG. R)

Part No.	Type	Diam.	Bag of 5	100-over per C
PC-372	7 in - Center Shield	7/8″	.67	7.85
PC-371	7 pin - No C.S.	7/8″	.66	7.50
PC-392	9 pin - Center Shield	15/16″	.94	10.55
PC-391	9 pin - No C.S.	15/16″	.85	10.30

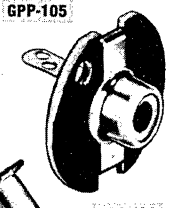
PHONO PLUGS AND SOCKETS

GPP-105

CONVENTIONAL RCA TYPE PHONO PLUG

Use on record players, radios, etc., or wherever emergency connections of experimental nature are required. Pin is 11/16″ long, 1/8″ diameter. For use with females listed below.

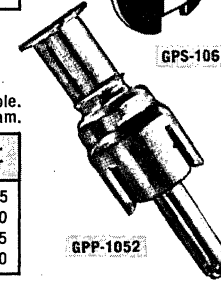
Part No. KPP-105	Show-Off Pkg. of 6	.59 ea.
Part No. PP-105-C	Pkg. of 100	6.96


GPS-106

FEMALE SOCKET

Ceramic insert mounted on 1/16″ bakelite disc, with 11/16″ mounting centers. Metal Parts Cadmium Plated.

Part No. KPP-106	Show-Off Pkg. of 4	.59 ea.
Part No. PP-106-C	Pkg. of 100	7.57


GPP-1052

DELUXE MALE PHONO PLUG

Has additional barrel which can be crimped over wire insulation to provide strain relief and provides extra FINGER GRIP FOR EASY REMOVAL FROM SOCKET.

Part No. KPP-1052	Show-Off Pkg. of 4	.59 ea.
Part No. PP-1052-C	Pkg. of 100	9.68

TRANSISTOR SOCKETS

UNIVERSAL TRANSISTOR SOCKETS

Made of mica-filled phenolic with phosphor bronze contacts. Cadmium plated. Mounting centers .590″, chassis mounting hole, .400″ mounting holes, .100″ diameter.

VTS-325

Part No.	No. of Contacts*	Pkg. of 5	Pkg. of 100
VTS-325	3	1.23	14.70
VTS-326	4	1.23	14.70
VTS-327	5	1.23	14.70

* Contact Arrangements

3-Contact

4-Contact

5-Contact

SUBMINIATURE TRANSISTOR SOCKETS

.350 Long x .281 Deep x .156 Thick. Black Phenolic.

Part No.	No. of Contacts*	Pkg. of 5	Pkg. of 100
VTS-331	3	1.14	13.50

Part No. PC-265

Universal type suitable for two-lead transistors of any size. Laminated bakelite construction with plated steel backing plate for increased rigidity. Backing plate has extra solder lug for use as a grounded type tie terminal. Mounts from top of chassis. 1-11/32″ x 1″. Mounting centers diagonally using bakelite holes only, 9/32″. Mounting centers diagonally using steel backing plate holes, 1-6/32″.

Part No. PC-265 ..... Pkg. of 5 $ .85; Pkg. of 100 10.25

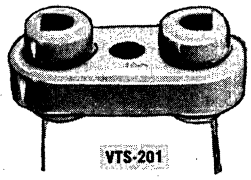
MINIATURE TRANSISTOR SOCKETS

Made of mica-filled phenolic with phosphor bronze contacts. Cadmium plated. .395″ diameter. Supplied with mounting rings.

VTS-328

Part No.	No. of Contacts*	Pkg. of 5	Pkg. of 100
VTS-328	3	1.50	18.00
VTS-329	4	1.65	19.80
VTS-330	5	1.80	21.60

CRYSTAL SOCKETS

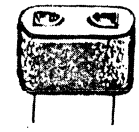


VTS-201

JAN TYPE LOW LOSS

Low-loss steatite crystal socket. Contacts are phosphor bronze, hot tin-dipped. Pin spacing .486″ for .050″ pins. Overall size 55/64″ long 3/8″ high exclusive of contacts and 3/8″ wide.

Part No. VTS-201 ..... Pkg. of 5 $ 1.14; Pkg. of 100 11.70



PRINTED CIRCUIT LOW LOSS

Part No.	Pins	Pin Centers	Pkg. of 5	Pkg. of 100
VTS-202	.040″	.192″	.65	10.60
VTS-203	.040″	.273″	.55	9.45

TV ACCESSORIES

TELEVISION SAFETY CORD

Identical replacement cord as used in most television receivers. One end has standard A Plug, while other end is conventional safety plug. Power automatically disconnected when cord is pulled from receiver chassis. 6 ft. cord, all molded construction. UL approved.

LC-111

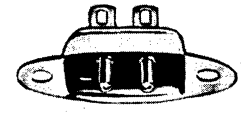
Part No. LC-111 ..... Net Each $ .44; 100 or more 39.15/C

REPLACEMENT CORD SET LC-112

Replacement cord of all-molded construction. For general repair and maintenance on all electronic equipment. Cord is brown, 6 ft. long with tips stripped and tipped for ease of installation. UL approved.

Part No. LC-112 ..... Net Each $ .41; 100 or more 36.25/C

TV INTERLOCK SOCKET

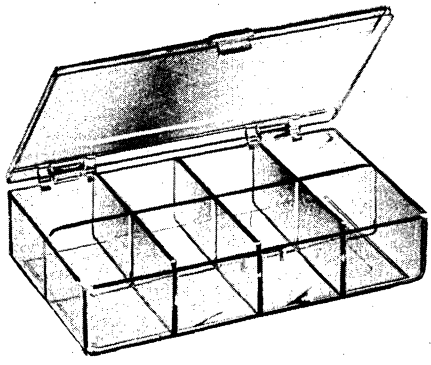


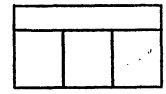
Conventional male interlock TV socket. Standard type used on all television receivers. Heavily plated contact pins. Mounting centers 1-1/4″.

Part No. VTS-61 ..... Pkg. of 5 $ .78; Pkg. of 100 9.05

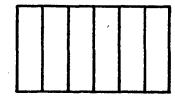
PLASTIC BOXES

For storing small parts of all sorts. Compartmented for neat arrangement. Made of highest quality, fully transparent rigid plastic. All types reliably hinged, and with clasps.

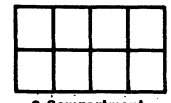




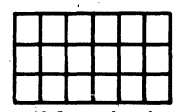
4 Compartment



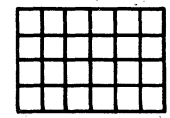
6 Compartment



8 Compartment



18 Compartment



24 Compartment

Part No.	Inside Dimensions	Net, Ea.
4 COMPARTMENTS		
PB-90	4-5/8″ x 2-3/4″ x 1″	.33
6 COMPARTMENTS		
PB-115	7″ x 3-1/2″ x 1-1/8″	.66
8 COMPARTMENTS		
PB-100	4-5/8″ x 2-3/4″ x 1″	.33
PB-103A	5-5/32″ x 3-3/16″ x 1-1/16″	.40
18 COMPARTMENTS		
PB-500	10-3/8″ x 6″ x 2″	2.48
24 COMPARTMENTS		
PB-800	13-1/8″ x 9″ x 2-5/16″	4.24

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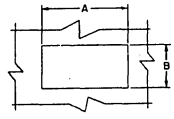
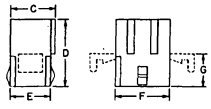
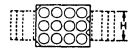
NYLON CONNECTORS

MOUNTING HOLE DETAIL

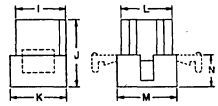


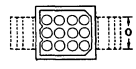
RECEPTACLE





PLUG





CONNECTOR DIMENSIONS

Miniature .062" Connctors

	1625-1		1625-3		1625-4		1625-5		1625-6		1649-8		1625-9		1625-12		1625-15		1772-36	
	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P
A	N/A	N/A	.265	.318	N/A	N/A	.265	N/A	.552	N/A	.330	N/A	.552	.615	.563	.614	.563	.614	.707	.825
B	N/A	N/A	.650	.745	N/A	N/A	.940	N/A	.505	N/A	1.715	N/A	.650	.752	.795	.903	.934	1.042	1.677	1.795
C	.203 Dia.		.203		.203		.203		.484		.310		.531		.531		.531		.859	
D	.781		.781		.781		.781		.781		.781		.781		.781		.781		.781	
E	N/A		.203		.203		.203		.484		.220		.484		.484		.484		.687	
F	N/A		.484		.625		.781		.343		1.500		.484		.625		.765		1.515	
G	N/A		.390		.390		.390		.390		.390		.390		.390		.390		.390	
H	N/A		.187		N/A		.187		.375		.312		.375		.375		.375		.562	
I	.203 Dia.		.203		.203		.203		.484		.225		.531		.531		.531		1.015	
J	.750		.750		.750		.750		.750		.750		.750		.750		.750		.750	
K	.296 Dia.		.281		.296		.296		.578		.312		.578		.578		.593		.812	
L	N/A		.484		.625		.781		.343		1.500		.484		.625		.781		1.640	
M	N/A		.578		.734		.875		.453		1.593		.578		.718		.859		1.640	
N	N/A		.375		N/A		.375		N/A		N/A		.375		.375		.375		.375	
O	N/A		.187		N/A		N/A		N/A		N/A		.375		.375		.375		.625	

Standard .093" Connectors

	1619		1545		1396		1490		1653		1261		1292		1360		1375	
	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P	R	P
A	N/A	N/A	.705	.800	.840	.933	1.038	1.131	N/A	N/A	.718	.750	.828	.937	1.050	1.155	1.240	1.343
B	N/A	N/A	.312	.375	.312	.375	.312	.375	N/A	N/A	.600	.695	.725	.725	.655	.760	.655	.760
C	.234 Dia.		.250		.234		.236		.234		.632		.625		.640		.632	
D	1.000		1.000		1.031		1.000		1.000		1.031		1.031		1.031		1.031	
E	N/A		.250		.234		.236		.234		.632		.625		.640		.632	
F	N/A		.531		.671		.875		1.062		.437		.671		.870		1.067	
G	N/A		.437		.437		.437		.437		.437		.437		.437		.437	
H	N/A		.250		.234		.236		N/A		.562		.562		.562		.562	
I	.241 Dia.		.250		.234		.250		.250		.734		.634		.634		.632	
J	.968		.968		.968		.968		.968		.968		.968		.968		.968	
K	.358 Dia.		.352		.338		.338		.343		.640		.734		.734		.734	
L	N/A		.531		.671		.859		1.062		.531		.765		.975		1.169	
M	N/A		.640		.773		.968		1.171		.531		.765		.975		1.169	
N	N/A		.421		.421		.421		.421		.421		N/A		.421		.421	
O	N/A		.250		.234		.250		N/A		.562		.562		.562		.562	

Dimensions subject to nominal variation N/A — Not Applicable.

ORDER DATA

Waldom/Molex Miniature Nylon Connector/Housings

Part Number	Configuration	No. of Circuits	W/ Mounting Ears Plug	W/ Holding Tabs Receptacle	W/ Mounting Ears Receptacle	Amps. per Circuit	Volts per Circuit	Std. Pkg.	Per Pkg.	100-499 Per C	500-Over Per C
1625-1P	Plug	1				5	250	10	$ .70	$ 4.80	$ 4.00
1625-1R	Receptacle	1		X		5	250	10	.60	4.15	3.50
1625-3P	Plug	3	X			5	250	10	1.20	9.00	7.40
1625-3R	Receptacle	3		X	X	5	250	10	1.40	10.15	8.35
1625-4P	Plug	4				5	250	10	2.45	17.75	14.65
1625-4R	Receptacle	4		X		5	250	10	2.55	17.90	14.70
1625-5P	Plug	5				5	250	5	.95	13.30	10.95
1625-5R	Receptacle	5		X	X	5	250	5	1.15	16.80	13.85
1625-6P	Plug	6				5	250	5	.90	12.50	10.30
1625-6R	Receptacle	6		X	X	5	250	5	1.05	14.10	11.60
1649-8P	Plug	8				5	250	5	1.15	15.35	12.65
1649-8R	Receptacle	8		X	X	5	250	5	1.30	18.55	14.80
1625-9P	Plug	9	X			5	250	5	.95	13.30	10.95
1625-9R	Receptacle	9		X	X	5	250	5	1.05	15.05	12.40
1625-12P	Plug	12	X			5	250	5	1.15	15.70	12.90
1625-12R	Receptacle	12		X	X	5	250	5	1.15	15.90	13.15
1625-15P	Plug	15	X			5	250	5	1.50	21.90	18.05
1625-15R	Receptacle	15		X	X	5	250	5	1.65	24.70	20.40
1772-36P	Plug	36	X			4	250	5	5.75	84.00	68.15
1772-36R	Receptacle	36			X	4	250	5	5.95	87.50	71.35

Waldom/Molex Standard Nylor Connector Housings

1619P	Plug	1				12	250	10	.72	5.20	4.05
1619R	Receptacle	1		X		12	250	10	.61	4.55	3.55
1545P	Plug	2	X			12	250	10	1.16	8.50	6.55
1545R	Receptacle	2		X	X	12	250	10	1.20	8.80	6.70
1396R	Plug	3	X			12	250	10	1.14	8.30	6.40
1396R	Receptacle	3		X	X	12	250	10	1.26	9.40	7.25
1490P	Plug	4	X			9	250	10	1.30	9.45	7.35
1490R	Receptacle	4		X	X	9	250	10	1.47	10.70	8.25
1653P	Plug	5				9	250	5	.80	12.70	9.85
1653R	Receptacle	5		X		9	250	5	1.12	16.30	12.60
1261P	Plug	6	X			9	250	5	.88	12.80	10.15
1261R	Receptacle	6		X	X	9	250	5	.98	14.55	11.45
1292P	Plug	9	X			9	250	5	1.00	15.10	11.90
1292R	Receptacle	9		X	X	9	250	5	1.14	16.40	12.90
1360P	Plug	12	X			7.5	250	5	1.17	17.00	13.35
1360R	Receptacle	12			X	7.5	250	5	1.23	17.60	13.85
1375P	Plug	15	X			7.5	250	5	1.40	19.90	15.65
1375R	Receptacle	15			X	7.5	250	5	1.58	22.40	17.60

Waldom/Molex Pin Terminals

Part Number	Configuration	Mating Diameter	Wire Size 16	18	20	22	24	26	28	30	Std. Pkg.	100-999 Per C	1,000-4,999 Per M	5,000-Over Per M
1189	Female	.093"	X	X	X						100	$3.05	$20.75	$15.25
1190	Male	.093"	X	X	X						100	3.05	20.75	15.25
1380	Male	.093"		X	X	X		X	X		100	3.05	20.75	
1381	Female	.093"		X	X	X		X	X		100	3.05	20.75	
1433	Female	.093"				X	X	X	X	X	100	3.05	20.75	15.25
1434	Male	.093"				X	X	X	X	X	100	3.05	20.75	15.25
1560	Male	.062"		X	X	X					100	3.70	25.10	18.50
1561	Female	.062"		X	X	X					100	3.70	25.10	18.50
1854	Male	.062"					X	X	X	X	100	3.70	25.10	18.50
1855	Female	.062"					X	X	X	X	100	3.70	25.10	18.50

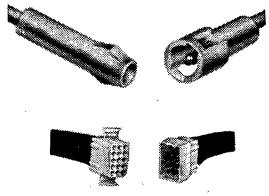
NOTE: .093" Pin Terminals are used with Standard Connectors.
.062" Pin Terminals are used with Miniature Connectors.

Waldom/Molex Tooling

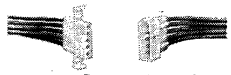
Use with Pine Types	Prototype Hand Tool	Each	Manual Production Tool	Each
1189-1190	HT-1919	$4.35	HT-1031-C	$25.00
1380-1381	HT-1919	$4.35	HT-1031-C	$25.00
1433-1434	HT-1921	$4.35	HT-1708	$50.00
1560-1561	HT-1921	$4.35	HT-1719-C	$40.00
1854-1855	HT-1921	$4.35	HT-1885	$45.00

molex®

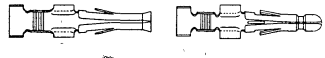
Waldom/Molex connectors are being designed into some of man's most exciting circuitry. For they offer incomparable reliability, versatility and economy. Save time and labor. Provide a better mode of connection. They are being used in countless applications in the business machine, home entertainment, appliance, communications, measurement and instrumentation industries. Solving some of the most demanding circuitry problems. Making connections in some of the toughest environments imaginable. We offer Nylon Miniature Connectors in 1 to 36 circuits and standard connectors from 1 to 15 circuits. They are available with integrally molded mounting ears for ease of panel mounting. And are U.L. recognized. To simplify the attachment of individual contacts. Waldom/Molex provides a complete range of manual production and prototype hand tools. Both male and female terminals may be readily extracted and easily replaced using Waldom/Molex extractor tools. These tools permit simple servicing and circuitry variation.

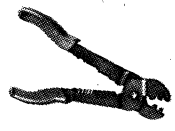


Above configuration in 9-12-15-36 circuits



Above configuration in 2-3-4-5-6-8 circuits





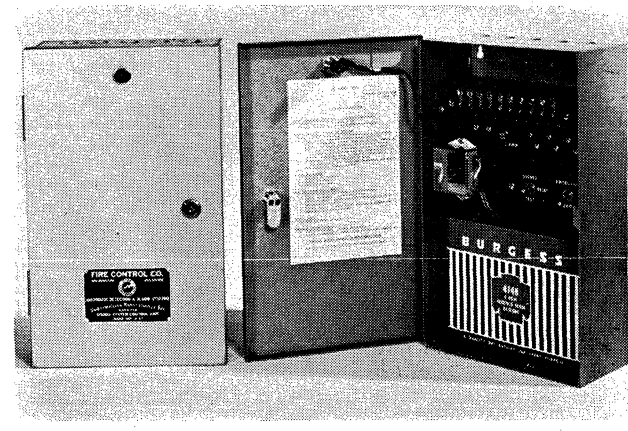
These products are manufactured by Molex Products Company, and are available from Electronic/Electrical Distributors through Waldom Electronics

AUTOMATIC FIRE DETECTION & ALARM SYSTEMS

#SC-600R CONTROL UNIT
UNDERWRITERS' LABORATORIES APPROVED
MEETS & EXCEEDS NATIONAL FIRE CODES

FOR: Homes, Schools, Churches, Recreation Centers, Public Buildings, Nursing Homes, Restaurants, Stores, Motels, Clubs, Factories, Warehouses, Military, etc.

#SC-600R CONTROL UNIT $192.00



MAIN POWER SUPPLY

Input 115 V/AC, 60 cy. 0.25 amp. Transformed/rectified to 6 V/DC, maximum load 2.0 amp. The Supply is **Electrically Supervised,** so that a failure immediately sounds trouble alarms, and the System automatically transfers to Emergency Power, thus assuring continuity of fire protection. The Main Supply automatically returns when power is restored. Use #14 approved wire.

EMERGENCY POWER SUPPLY

6 Volt Battery: Burgess #4F4H; Eveready #706; or equivalent. Maximum load under alarm condition 2.0 amp. Obtain from local electrical or radio wholesale house.

CABINET

14" x 9" x 4". Gray Hammertone. Surface mount. Cylinder lock, 2 keys.

DETECTOR CIRCUIT

6 V/DC, 0.15 amp. Safety-Loop Circuit is **Electrically Supervised,** so that a wire break immediately sounds trouble alarms. Emergency circuits compensate for such fault (See N/E Switch), thus assuring continuity of fire protection. Maximum wire run 5000 ft. #FA-18/2 Approved Fire Detector Cable.

NORMAL/EMERGENCY SWITCH

Provides Emergency Operation:

(a) Compensates for wire break in Detector Loop. **permitting full response from all detectors** until repairs are made.

(b) Silences Trouble Buzzer, but maintains Red Lamp to show the emergency condition.

ALARM CIRCUITS

6 V/DC, maximum load 1.5 amp. If only one bell is used, it is **Electrically Supervised,** so that a failure immediately sounds trouble alarms. If two or more bells and/or #A-604 Annunciator are used, they are alternately connected to the two alarm circuits provided and the last operable alarm device is **Electrically Supervised.** Use #14 approved wire.

TEST/RESET/SILENCE SWITCH

Provides Simple Test Procedure:

(a) Test The System (once monthly)

(b) Silence all Firegongs.

(c) Reset to normal operation.

APPROVED FIRE ALARM SYSTEM

National Fire Codes Pamphlet 72A details the 'Local Automatic Fire Protective Signalling System' and its installation, acceptable to the Board of Fire Underwriters, and to Federal, State and Municipal authorities. This Standard is applicable to all industrial, commercial and military installations. Best practice throughout the country uses it in homes as well. Consult your Fire Chief.

Equipment bearing the UL Label has passed rigid inspection requirements and is of high professional quality.

Proper and correct tally of Automatic Fire Detectors is basic. The Code requires detectors in each room, hall, closet, stairwell, storage area, furnace room, basement, attic, loft, shaft, chute, etc. Do not exceed the space ratings given for each type of detector.

All wiring should be done in conduit as the best insurance for longevity and trouble-free service.

PRICING: FOB FACTORY

Pricing shown is Net. Standard Trade Discount to Electrical Contractors and Dealer-Installers. Subject to change without notice.

HOW TO ORDER

1. Order #SC-600R Control Unit.
2. Order #T111N Disconnect Switch Unit.
3. Order #A-(6"; 8"; 10" gong size) Inside Underdome Firegongs. Specify #AP for Weatherproof.
4. Order correct tally of Automatic Fire Detectors. Use Spot Fire Locators for industrial, commercial, and military installations. Use FyrGuard Detectors for homes.
5. Order #FA-18/2 Fire Detector Cable. A 250 ft. reel will cover the average three bedroom ranch home.
6. Optional equipment: #A-604 Annunciator; #529 Manual Pull Stations; #SFA-1 Smoke/Fire Alarms; #AR-2 Adapter Plates; etc.

TERMS

Net 30 days to accredited accounts. Check with order to others.

Our sole warranty is to repair or replace any equipment found defective in workmanship or materials within one year of invoice date. Tampering voids this obligation.

No merchandise may be returned without prior authorization from the Factory.

FIRE CONTROL CO.

© United Technical Publications

SPOT FIRE LOCATORS

UL APPROVED

Famous dual-action Rate-of-Rise & Fixed-Temperature Automatic Fire Detector. Standard in the industry. Specified in industrial, commercial, and military installations.

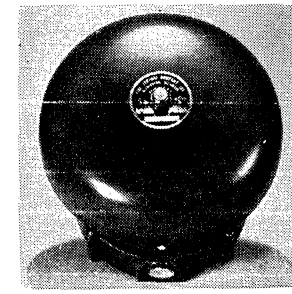
Rated coverage: 2500 sq. ft. (Room 50 ft. x 50 ft.).

USE #501 (136°) in offices, showrooms, closets, halls.
USE #502 (190°) in furnace room, kitchen, attic.

SPOT FIRE LOCATORS **$5.20**

UNDERDOME FIREGONG

UL APPROVED

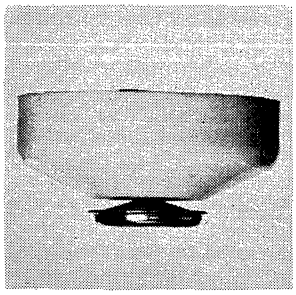


Finest quality Underdome Firegongs made today. Clear pitch, firm tone. Low current draw. Flush easy-mount on all standard outlet boxes.

Specify 6 V/DC; 115 V/AC; other.

Add $4.00 for #AP Weatherproof.

#A-6" INSIDE UNDERDOME FIREGONG **$28.00**
#A-8" **$32.00**
#A-10" **$36.00**



FYRGUARD DETECTORS

UL APPROVED

Fixed-Temperature Automatic Fire Detector. A small, unobtrusive and economical unit widely used in home installations. Self-resetting.

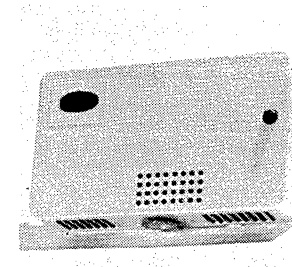
Rated coverage: 900 sq. ft.

(Room 30 ft. x 30 ft.).

USE#2S (135°) in living rooms, bedrooms closets, halls.
USE #2H (175°) in furnace room, kitchen, attic.

FYRGUARD DETECTORS **$3.20**

SMOKE/FIRE ALARM
SOLID-STATE CIRCUITRY



New dual unit detects Smoke and Fire before they reach danger levels! Sounds early warning alarm to save life! Simply hang on wall and plug into a 115 V/AC outlet. Has own alarm and can be used by itself, or easily tied into the detector circuit of a standard fire alarm system.

USE one unit in each bedroom, and one in the center hall on each floor (best near the stair landing).

#SFA-1 SMOKE/FIRE ALARM **$59.95**

MANUAL PULL STATION

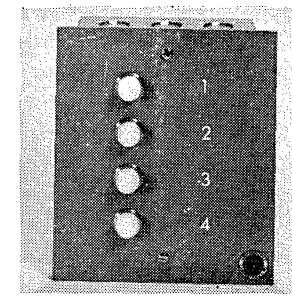
UL APPROVED

Non-coded fire stations. Modern design. Mounts on standard switch-box. Wire into the detector circuit exactly as an automatic fire detector. With 2 spare discs and key. Specify #BB Back Box for surface mount.

#529 MANUAL PULL STATION **$12.00**

4-ZONE ANNUNCIATOR

UL APPROVED



For use in large installations which require quick identification of the fire area. All detector circuits are **Electrically Supervised.** Easy tie connections to #SC-600R Control Unit.

#A-604 4-ZONE ANNUNCIATOR **$80.00**

#FA-18/2 FIRE DETECTOR CABLE **$16.00**

UL Approved Low-Energy Cable specified for Detector Circuits. Ivory plastic parallel cord. One tinned and one copper conductor for quick polarity identification. 250 ft. reel.

#T111N DISCONNECT SWITCH UNIT **$10.00**

Required by Code. Includes Box, Padlock, Disconnect Switch, Adapter with non-interchangeable Fuse, Spare. Mount adjacent to and take 115 V/AC from Line Side of Load Center, through Fuse to Terminals 1 & 2 in #SC-600R Control Unit. Use #14 approved wire.

#AR-2 ADAPTER PLATES **80c**

To easy-mount Spot Fire Locators on 3" or 4" octagon boxes. For conduit installations.

#1 IVORY INSULATED STAPLES **80c**

Decorator type. To secure Detector Cable to baseboards, moldings, rafters, etc. Box of 200.

#SFS HOME ALARM SYSTEM PACKAGE **$465.00**

Class 'A' Supervised (Fail-Safe) Home Alarm System. Incomparably the best protection for your family against death by smoke and poison gas inhalation, or by fire. Features both smoke and heat detection to give early warning against both slow-smoldering and fast fires.

The Package contains all equipment needed for a three bedroom ranch home except the emergency battery and #14 wire. Both are obtained at the local radio or electrical wholesale house. Simplified installation instructions.

Equipment List as follows: 1 #SC-600R Control Unit; 1 #T111N Disconnect Switch Unit; 1 #A-6" Inside Firegong; 4 #SFA-1 Smoke/Fire Alarms; 6 FyrGuard Detectors; 1 reel #FA-18/2 Fire Detector Cable; 1 box #1 Insulated Staples.

For other types of homes: Order 1 Smoke/Fire Alarm for each additional bedroom and floor center hall; 1 reel Fire Detector Cable; 1 box of Insulated Staples.

FIRE CONTROL CO.

GENERAL TIME

Progress in the World of Time

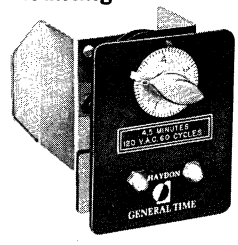
INDUSTRIAL CONTROLS DIVISION

Full line of...

- **Electromagnetic and electronic timing devices**
- **The WIDE ETI's***

*Elapsed Time Indicators

Series DA Time Delay Timers, Rear Mounting



Type DA11. Manually adjustable by knob. Apply wherever delay, interval or repeat cycle timing functions are required (repeat cycle requires two units). Internal clutch engages and disengages when motor is energized and de-energized. Resets to start position when power is removed. SPDT switch rated 20 amps. 125 or 250 VAC resistive; solder lug terminals. Min. setting 0 sec. Repeat accuracy ±¾ of 1% of total time range. 5 watt motor. 120 VAC, 60 Hz. U/L listed. Size: 3⅜" W x 2 13/16" D x 3⅛" H. Weight: 1½ lbs.

Type DA21. Same as DA11 but with locknut adjustment to eliminate tampering.

When ordering, specify model number, voltage and frequency.

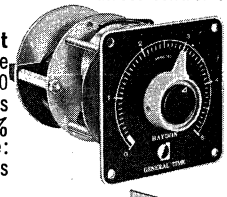
MFR'S MODEL NO.		MAX. TIME SETTING	MAX. RESET TIME
DA11-036		5.7 sec.	0.25 sec.
DA11-031	DA21-001	14 sec.	1.0 sec.
DA11-032	DA21-002	57 sec.	1.5 sec.
DA11-035	DA21-005	114 sec.	9.0 sec.
DA11-033	DA21-003	4.5 min.	15 sec.
DA11-034	DA21-004	9.5 min.	120 sec.

NET EACH, LOTS OF

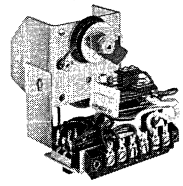
1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$15.30	$14.54	$13.77	$13.01	$12.24	$11.48	$10.71

Series BN Adjustable Reset Timers

Panel or rear mounting; interval or delay timing. Built-in relay, adjustable time range. Apply to machine tools, production and processing equipment or other operations requiring a compact, dependable unit for direct control of electrical loads.



BN41 (Interval) and BN42 (Delay) Panel Mount Dial and setting knob with readout of elapsed time by pointer in center of knob. SPDT relay rated 10 amps at 125 or 250 VAC. Timing motor rated 5 watts max. 120 VAC, 60 Hz. Repeat accuracy ±¾ of 1% of total time range. Screw terminal block. Size: 3 5/16" square x 4⅜" deep; behind panel. Requires 3 3/16" dia. mounting hole.



BN25 (Interval) and BN22 (Delay) Rear Mount Same specifications as BN41 and BN42 except have chassis or back panel mount. Locknut setting adjustment, where only occasional time period changes are required. Size: 3.375" W x 4.202" H x 3.750" D.

PANEL MOUNTING

MFR'S MODEL NO.		TIME SETTING		MAX. RESET TIME	DIAL GRADS.	
INTERVAL	DELAY	MAX.	MIN.		MAJOR	MINOR
BN41-001	BN42-001	6 sec.	0.3 sec.	0.5 sec.	1 sec.	0.1 sec.
BN41-003	BN42-003	15 sec.	0.8 sec.	1.0 sec.	1 sec.	0.2 sec.
BN41-004	BN42-004	30 sec.	1.5 sec.	1.5 sec.	5 sec.	0.5 sec.
BN41-005	BN42-005	60 sec.	3.0 sec.	1.5 sec.	10 sec.	1.0 sec.
BN41-006	BN42-006	120 sec.	6.0 sec.	10 sec.	20 sec.	2.0 sec.
BN41-007	BN42-007	5 min.	0.2 min.	15 sec.	1 min.	0.1 min.
BN41-008	BN42-008	10 min.	0.4 min.	120 sec.	1 min.	0.2 min.

REAR MOUNTING

MFR'S MODEL NO.		TIME SETTING		MAX. RESET TIME	DIAL GRADS.	
INTERVAL	DELAY	MAX.	MIN.		MAJOR	MINOR
BN25-006	BN22-006	5.4 sec.	0.3 sec.	0.5 sec.	1 sec.	0.1 sec.
BN25-001	BN22-001	13.5 sec.	0.7 sec.	0.5 sec.	1 sec.	0.5 sec.
BN25-002	BN22-002	54 sec.	3.0 sec.	1.5 sec.	5 sec.	1.0 sec.
BN25-005	BN22-005	108 sec.	6.0 sec.	2.5 sec.	10 sec.	1.0 sec.
BN25-003	BN22-003	4.5 min.	15 sec.	5.0 sec.	1 min.	5.0 sec.
BN25-004	BN22-004	9.5 min.	30 sec.	120 sec.	1 min.	5.0 sec.

NET EACH, LOTS OF

MOUNTING	1-4	5-9	10-24	25-49	50-99	100-249	250 & over
Panel	$25.93	$24.63	$23.33	$22.04	$20.74	$19.44	$18.15
Rear	21.46	20.39	19.32	18.24	17.17	16.10	15.02

Series DP11 Panel Mounting Reset Timer

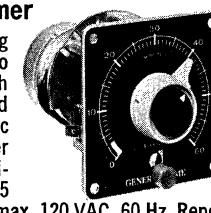
Adjustable time range by simple pointer knob. Apply wherever delay, interval or repeat cycle timing are needed (repeat cycle requires two timers). Readout of elapsed time by pointer in center of knob. Unit resets to start position when power is removed. SPDT switch rated 10 amps, 125 or 250 VAC resistive. Timing motor rated 5 watts max. 120 VAC, 60 Hz. Repeat accuracy ±1% of total time range. Screw terminals. Size: 3 5/16" square x 3 9/32" deep, behind panel. Requires 3 3/16" dia. mounting hole cut. When ordering, specify model number, voltage and frequency.

MFR'S MODEL NO.	TIME SETTING		MAX. RESET TIME	DIAL GRADS.	
	MAX.	MIN.		MAJOR	MINOR
DP11-007	6 sec.	0.3 sec.	0.5 sec.	1 sec.	1.0 sec.
DP11-001	15 sec.	0.8 sec.	1.0 sec.	1 sec.	0.2 sec.
DP11-006	30 sec.	1.5 sec.	1.5 sec.	5 sec.	0.5 sec.
DP11-002	60 sec.	3.0 sec.	1.5 sec.	10 sec.	1.0 sec.
DP11-005	120 sec.	6.0 sec.	10 sec.	20 sec.	2.0 sec.
DP11-003	5 min.	0.2 min.	15 sec.	1 min.	0.1 min.
DP11-004	10 min.	0.4 min.	120 sec.	1 min.	0.2 min.

NET EACH, LOTS OF

1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$19.55	$18.57	$17.60	$16.62	$15.64	$14.66	$13.69

Series BJ Push-Button Interval Timer



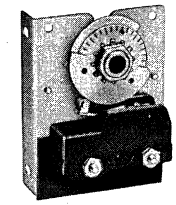
Dependable, rugged panel-mount timer. Timing interval is initiated by manually setting knob to selected position and manually depressing the push button. For control of mixers, ovens, tumbling and plating equipment, copy machines, photographic equipment, etc. Readout of elapsed time by pointer in center of setting knob. Instant reset to start position automatically. SPDT switch rated 15 amps, 125 or 250 VAC resistive. Timing motor rated 5 watts max. 120 VAC, 60 Hz. Repeat accuracy ±½ of 1% of full scale. Combination spade and solder lugs. Size: 3 5/16" square x 2 23/32" deep, behind panel. Requires 3 3/16" dia. mounting hole. Weight: 1½ lbs. When ordering, specify model number, voltage and frequency.

MFR'S MODEL NO.	TIME SETTING		DIAL GRADS.	
	MAX.	MIN.	MAJOR	MINOR
BJ12-004	30 sec.	1.5 sec.	5 sec.	0.5 sec.
BJ12-005	60 sec.	3.0 sec.	10 sec.	1.0 sec.
BJ12-006	120 sec.	6.0 sec.	20 sec.	2.0 sec.
BJ12-007	5 min.	0.2 min.	1 min.	0.1 min.
BJ12-008	10 min.	0.4 min.	1 min.	0.2 min.
BJ12-009	15 min.	0.8 min.	1 min.	0.2 min.
BJ12-010	30 min.	1.5 min.	5 min.	0.5 min.
BJ12-011	60 min.	3.0 min.	10 min.	1.0 min.

NET EACH, LOTS OF

1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$17.43	$16.55	$15.68	$14.81	$13.94	$13.09	$12.20

Series RG21 Repeat Cycle Timers



Cam-actuated, single switch timers for rear mounting. Run continuously, repeating a set cycle of make-break switching operations as long as motor is energized. Also operates a single time cycle. Cam adjustable from 7° min. to 169° max. (±3%). SPDT switch rated 20 amps resistive. Timing motor 3.7 watts max., 120 VAC, 60 Hz. Solder lug terminals. 6" leads. U/L listed. Size: 2 5/16" W x 3⅛" H x 2½" D. Weight: 1 lb.

MFR'S MODEL NO.	TIME RANGE	MFR'S MODEL NO.	TIME RANGE
RG21-090	7½ sec.	RG21-095	10 min.
RG21-091	15 sec.	RG21-096	15 min.
RG21-092	30 sec.	RG21-097	30 min.
RG21-093	1 min.	RG21-098	60 min.
RG21-094	5 min.	RG21-099	4 hrs.

NET EACH, LOTS OF

1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$12.96	$12.31	$11.67	$11.02	$10.37	$ 9.72	$ 9.07

Net

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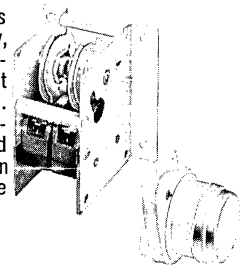
Series RE62 Repeat Cycle Multi-Cam Timers



Same specifications as RG21, except 2 to 6 switches may be actuated during cycle. Run continuously, repeating set cycles of multiple switching operations as long as motor is energized. Complete unit requires one motor and one or more switch stacks. Spanner wrench included to adjust cams. Two-switch unit size: 2 5/16" H x 3 5/32" W x 3 9/16" D; add 11/16" to depth for each additional switch. When ordering, specify switch stock model number, drive motor type number, voltage and frequency.

SWITCH STACKS

MODEL NO.	SWITCH	1-4	5-9	10-24	25-49	50-99	100-249	250 & over
RE62-091	2	$12.03	$11.42	$10.83	$10.22	$ 9.62	$ 9.02	$ 8.42
RE63-092	3	16.06	15.26	14.66	13.66	12.85	12.04	11.25
RE64-093	4	20.10	19.09	18.10	17.09	16.08	15.07	14.08
RE65-094	5	24.56	23.33	22.11	20.88	19.65	18.42	17.20
RE66-095	6	28.60	27.17	25.75	24.31	22.88	21.45	20.03

DRIVE MOTORS — Order one with switch stacks for complete unit.

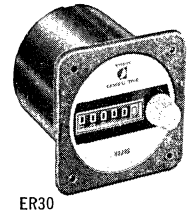
TYPE	TIME RANGE	TYPE	TIME RANGE
MP10-390	7½ sec.	MP10-395	10 min.
MP10-391	15 sec.	MP10-396	15 min.
MP10-392	30 sec.	MP10-397	30 min.
MP10-393	1 min.	MP10-398	1 hr.
MP10-394	5 min.	MP10-399	4 hrs.

NET EACH, LOTS OF

1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$6.25	$5.94	$5.62	$5.31	$5.00	$4.69	$4.37

Elapsed Time Indicators

EF



ER30

Wide variety of meters available for any application where accurate time readings are required. All are synchronous motor driven. Round, square bezel, panel mount and rear mount available. Can be resettable or non-resettable, and readout is digital with a range of five figures plus tenths; in hours and tenths or minutes and tenths. All units operate at 120 VAC, 60 Hz; operating temperatures —12°C to +55°C.

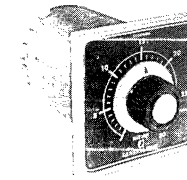
TYPE	BEZEL	DEPTH	DIAMETER OF UNIT	MAX. MOTOR RATING	LEADS OR TERMINALS
EF13 NR	2⅛" Rd.	1 51/64	2 17/64	2.5 w	6" leads
ED71 NR	1¾" Sq.	2 37/64	1 17/32	2.5 w	11¼" leads
ED72 NR	1¾" Sq.	2 37/64	1 17/32	2.5 w	solder
EN30 NR	3" Sq.	3 5/16	2 23/32	3.7 w	8-32 studs
ER30 R	3" Sq.	3 5/16	2 23/32	3.7 w	8-32 studs
ER35 R	3½" Rd.	3 5/16	2 23/32	3.7 w	8-32 studs
EN35 NR	3½" Rd.	3 5/16	2 23/32	3.7 w	8-32 studs

R = Reset
NR = Non-reset

NET EACH, LOTS OF

TYPE	REGISTERS	1-4	5-9	10-24	25-49	50-99	100-249	250 & over
EF1333	min. & 10ths	$ 8.93	$ 8.48	$ 8.03	$ 7.59	$ 7.14	$ 6.69	$ 6.25
EF1335	hrs. & 10ths	8.93	8.48	8.03	7.59	7.14	6.69	6.25
ED7112	hrs. & 10ths	20.19	19.18	18.17	17.16	16.15	15.14	14.13
ED7212	hrs. & 10ths	21.89	20.79	19.70	18.60	17.51	16.42	15.32
EN3010	min. & 10ths	16.15	15.34	14.54	13.73	12.92	12.11	11.31
EN3012	hrs. & 10ths	16.15	15.34	14.54	13.73	12.92	12.11	11.31
EN3510	min. & 10ths	16.15	15.34	14.54	13.73	12.92	12.11	11.31
EN3512	hrs. & 10ths	16.15	15.34	14.54	13.73	12.92	12.11	11.31
ER3020	min. & 10ths	23.16	22.00	20.85	19.69	18.53	17.37	16.21
ER3022	hrs. & 10ths	23.16	22.00	20.85	19.69	18.53	17.37	16.21
ER3520	min. & 10ths	23.16	22.00	20.85	19.69	18.53	17.37	16.21
ER3522	hrs. & 10ths	23.16	22.00	20.85	19.69	18.53	17.37	16.21

Series QT10 Solid State Panel-Mount Timers



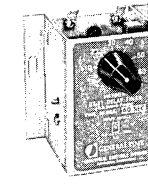
Rugged, highly accurate. Solid state for maximum performance and reliability. Adjustable time range. Internal load relay provides complete timing control with minimum external wiring. Repeat accuracy ±1% of set value above 1 sec, even with voltage variations of ±10%, temperature variations 0° to 60°C. Maximum reset time .050 seconds. Applications include machine process control, injection molding, industrial process ovens, x-ray timing, heating, lubricating and ventilation systems. Completely isolated SPDT relay contacts rated at 10 amps at 115 VAC resistive load, 5 amps at 230 VAC. Life expectancy up to 10,000,000 operations, depending on load (1,000,000 operations at rated load). 117 VAC, 60 Hz. Screw terminal block. Size: 3⅝" square x 4⅛" deep, behind panel. Requires 3¼" dia. mounting hole. Shipping weight: 2 lbs. When ordering, specify model number, voltage and frequency.

MFR'S MODEL NO. DELAY	MFR'S MODEL NO. INTERVAL	TIME SETTING (SEC.) MAX.	TIME SETTING (SEC.) MIN.
QT11-001	QT14-001	1 sec.	.02 sec.
QT11-002	QT14-002	3 sec.	.04 sec.
QT11-003	QT14-003	5 sec.	.05 sec.
QT11-004	QT14-004	10 sec.	.10 sec.
QT11-005	QT14-005	15 sec.	.15 sec.
QT11-006	QT14-006	30 sec.	.30 sec.

NET EACH, LOTS OF

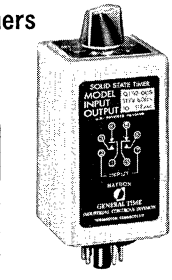
1-4	5-9	10-24	25-49	50-99	100-249	250 & over
$72.25	$68.64	$65.03	$61.41	$57.80	$54.19	$50.58

Series QT21 Solid State Rear-Mounting Timers



Solid state construction includes moisture-resistant coated PC board. Knob-adjustable time periods. Rear mounting. For applications where delay, interval or repeat cycle time functions are required (repeat cycle requires two units). SPDT relay 10 amps, 125 VAC resistive. Power input 117 volts, 60 Hz. Repeat accuracy ±2% of set value under constant conditions of temperature and voltage. Power standing on this timer has no damaging effect. Maximum reset time 130 milliseconds. Dial accuracy 10% of full scale. ¼" male spade terminals. Size: 3⅜" x 2 57/64" x 3⅝". Two 3/16" x 5/16" slotted mounting holes on 2⅞" centers. Average weight: 1 lb. When ordering, specify model number.

Series QT52 Solid State Octal Plug Timers



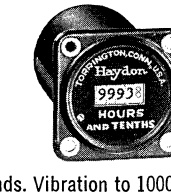
Basically same specifications as QT21, except has octal plug mounting and DPDT relay. Size: 4⅜" x 3 9/16" x 2⅛".

MFR'S MODEL NO.	MFR'S MODEL NO.	RANGE
QT21-003	QT52-003	3 sec.
QT21-004	QT52-004	5 sec.
QT21-005	QT52-005	10 sec.
QT21-006	QT52-006	15 sec.
QT21-007	QT52-007	30 sec.
QT21-008	QT52-008	60 sec.

NET EACH, LOTS OF

	1-4	5-9	10-24	25-49	50-99	100-249	250 & over
QT21	$17.85	$16.96	$16.07	$15.17	$14.28	$13.39	$12.50
QT52	19.55	18.57	17.60	16.62	15.64	14.66	13.69

Hermetically Sealed Military Type Indicator



A very small, lightweight running time meter for wide application in military equipment. Meets Mil specification requirements per Mil-M-7793C and Mil-E-5272C. Life tested over 78,000 hours. Driven by synchronous hysteresis motor. Readout four digits plus tenths. Temperature range —55°C to +85°C. Round case 1¾" square bezel, 2 37/64" deep, barrel diameter 1½", four mounting holes on 1 5/16" centers. 115 volts, 400 Hz. Shock 50g, 11 milliseconds. Vibration to 1000 Hz at 10g. Altitude, sea level to 80,000 feet. Dielectric strength 500 volts, rms 60 Hz for one minute. Mil-Std-Ms-28053-5 solder terminals. Shipping weight: ¾ lb.

NET EACH, LOTS OF

TYPE	REGISTERS	1-4	5-9	10-24	25-49	50-99	100-249	250 & over
7010-004	hrs. & 10ths	$34.00	$32.30	$30.60	$28.90	$27.20	$25.50	$23.80

Prices Effective May 15, 1968.

240 VAC units available; prices on request.

HAYDON Products / INDUSTRIAL CONTROLS DIVISION GENERAL TIME
Progress in the World of Time

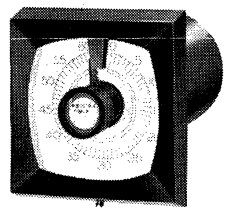
time delay timers

Three basic methods are employed to generate a Time Delay: synchronous motor, Thermal Bi-Metal, and electronic. The Series GTD, MTD, TD/CTD, H/CH, SF/CSF, TDAB, and Series RB generate the Delay function from a synchronous motor. This Delay is created by applying power to the timer motor/clutch circuit with a sustained switch closure (sustained is interpreted as simply being longer in length than the desired delay). When the timer receives power it begins a delay period, at the end of which occurs a switch operation. The load switch remains in the operated condition until power is removed from the timer, at which time the timer automatically resets.

In Models TD, H, MTD, SF, and RB in time cycles under 5 minutes a clutch/motor is used and the operating circuit is illustrated as "Circuit A".

In Models GTD, CTD, CH, CSF, TDAF and TDAB an external clutch is used to couple the motor to the timing mechanism during the time cycle. Model MTD above 30 seconds also is equipped with the external clutch, and this and the forementioned timers operate with the "Circuit B".

SERIES GTD



The Series GTD is an appearance engineered timer designed to compliment today's modern machinery. This unit provides a switch closure at the completion of a timed delay in an extremely wide selection of time cycles from 3 seconds to 60 hours or more. A clutching mechanism between the heavy duty synchronous motor and the load switch assures instant start, and immediate reset. Mounting is simple. A 3 inch hole in your panel is all that is required. A single screw under the flange of the timer face tightens a bracket against the edge of the panel hole.

As an optional feature the GTD can be supplied with a reverse clutching mechanism. This feature permits the unit to remain in the operate position if the control circuit is de-energized due to a power failure.

Load contacts are snap action SPDT, isolated. Contacts are rated at 10 amps. non-inductive. The GTD in available for 115/60, 115/50, 220/60 or 230/50. Other voltages available, contact factory.

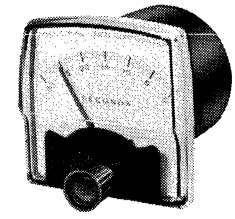
TIME CYCLE CHART

Model	Max. Time	Min. Time & Calibration
GTD-3S	3 seconds	1/20 second
GTD-6S	6 seconds	1/10 second
GTD-15S	15 seconds	1/4 second
GTD-30S	30 seconds	1/2 second
GTD-60S	60 seconds	1 second
GTD-3M	3 minutes	3 seconds
GTD-5M	5 minutes	5 seconds
GTD-15M	15 minutes	15 seconds
GTD-30M	30 minutes	30 seconds
GTD-60M	60 minutes	1 minute
GTD-3H	3 hours	3 minutes

Note: Time cycles exceeding three hours are available. Please consult factory for details.

115/60 — **$39.50** 120/60 — **$41.50**

SERIES MTD



The Series MTD Time Delay Timer represents a new appearance concept for timing controls. This new timer is designed to match modern panel instruments, so commonly found on the finest automatic machines. The MTD features a rugged plastic face which protects the setting and progress indicators from dust and damage. When used alone or in conjunction with other instruments, the Series MTD will contribute to equipment appearance as well as performing its control function.

The control function of the Series MTD is one of providing a predetermined timed delay between the closing of one load circuit and the subsequent operation of the timer isolated load switch. The load contacts are 10 amp. SPDT snap action and are brought out to snap on terminals located at the rear of the timer. Mounting is through a 3" round hole in a panel and secured by means of a bracket screwed to the rear of the timer.

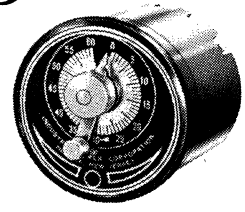
TIME CYCLE CHART

Model	Max. Time	Min. Time
MTD-6S	6 seconds	1/10 second
MTD-15S	15 seconds	1/4 second
MTD-30S	30 seconds	1/2 second
*MTD-60S	60 seconds	1 second
*MTD-3M	3 minutes	3 seconds
*MTD-5M	5 minutes	5 seconds
*MTD-15M	15 minutes	15 seconds
*MTD-30M	30 minutes	30 seconds
*MTD-60M	60 minutes	1 minute
*MTD-3H	3 hours	3 minutes

Note: All dials have 60 calibrations regardless of time cycle.
*Models with clutch external to synchronous motor.

115/60 — **$30.50** 220/60 — **$31.50**

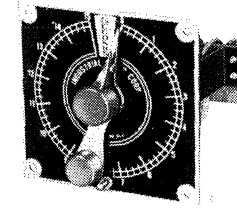
SERIES TD/CTD



The Series TD is a cased time delay timer which mounts through a 3 3/15" hole in a panel. The timer is secured to the panel with a bracket which mounts to the rear of the timer and clamps the unit to the panel. The TD offers 10 amp. SPDT snap action load contacts, isolated from the timing movement. Two models within the TD category are available, dependent upon time cycle. The models under 1 minute use a clutch/motor, whereas 1 minute up to 5 minutes use an external clutch that provides rapid reset. Voltages of 115/60, 115/50, 220/60, or 220/50 are available.

115/60 — **$30.50** 220/60 — **$31.50**

SERIES H/CH



The Series H time delay timer is designed for panel mounting with the dial of the timer fastened to the panel with four screws. Wiring is accomplished to a terminal strip at the rear of the unit. Load circuit rating is 10 amps., non-inductive 115/60 through SPDT snap action contacts. The Series H is available with an external clutch for time cycles above 1 minute; those models with time cycles below one minute employ a clutch/motor. Voltages are 115/60, 115/50, 220/60 or 220/50.

115/60 — **$26.50** 220/60 — **$27.50**

Time Cycle Chart For Series TD/CTD • H/CH • SF/CSF

Model Number			Time Cycle	Dial Division
TD-6S	H-6S	S F-6S	6 sec.	1/10 sec.
TD-15S	H-15S	S F-15S	15 sec.	1/4 sec.
TD-30S	H-30S	S F-30S	30 sec.	1/2 sec.
CTD-1M	CH-1M	CS F-1M	60 sec.	1 sec.
CTD-3M	CH-3M	CS F-3M	3 min.	3 sec.
CTD-5M	CH-5M	CS F-5M	5 min.	5 sec.

Note: For longer time cycles, consult factory.

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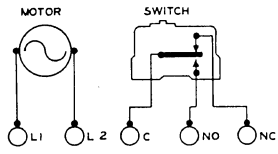
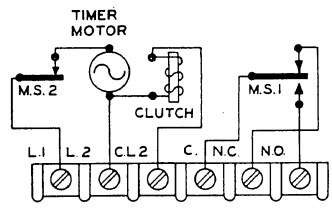
WIRING DIAGRAMS:

for timers equipped with clutch motor

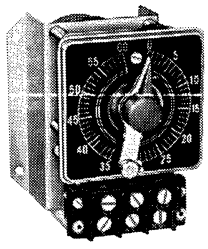


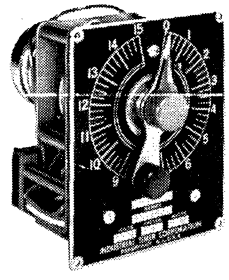
Circuit "A"

for timers with external clutch and prefix "C"



Circuit "B"





SERIES TDAB TDAF

The Series TDAB is a back mounted delay timer featuring an external clutch, designed for the most demanding and accurate applications. This exclusive clutch enables the timer to be offered in a wide range of time cycles, ranging from 1 second to 3 hours in 12 individual models. The TDAB clutch also features an automatic reset which allows the complete timing/switching movement of the timer to reset in less than 0.2 of a second. Switch rating is 10 amps., SPDT, snap action contacts rated at 115/60 non-inductive. The TDAB is also available in a steel knockout housing. Please specify if required.

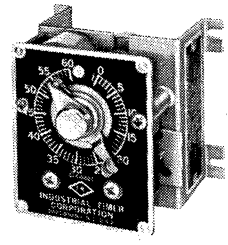
The Series TDAF is a panel mounted, automatic reset timer employing the same rugged movement as the Series TDAB. It is commonly used in applications requiring high repetitive accuracy, fast reset, and heavy usage.

115/60 — **$43.00** 220/60 — **$46.00**

TIME CYCLE CHART

Model Suffix	Max. Time Cycle	Dial Div.	Model Suffix	Max. Time Cycle	Dial Div.
1S	1 sec.	1/60 sec.	3M	3 min.	3 sec.
3S	3 sec.	1/20 sec.	5M	5 min.	5 sec.
6S	6 sec.	1/10 sec.	15M	15 min.	15 sec.
15S	15 sec.	¼ sec.	30M	30 min.	30 sec.
30S	30 sec.	½ sec.	60M	60 min.	60 sec.
60S	60 sec.	1 sec.	3H	3 hrs.	3 min.

SERIES SF/CSF



The Series SF/CSF is one of industry's most versatile compact time delay timers. The unit offers dial adjustability, automatic reset, external clutching (in models with prefix "C"), and 10 amp. SPDT snap action load contacts. The Series SF/CSF is a small, back mounted timer, designed for applications where adjustment is infrequent but required. Two timing movements are employed in this series; a clutch motor is used on models with time cycles under 60 seconds, and an external clutch is employed for models having 1 minute or more time cycle.

Voltages are 115/60, 115/50, 220/60, or 220/50.

$23.00 **$23.50**

CUSTOM DIAL SERVICE

Proprietary on private label dials available for all panel mounted timers. Contact factory for details.

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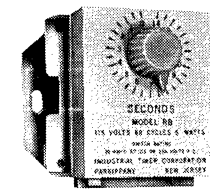
SERIES RB



The Series RB features an injection molded case of a material specifically designed for complete insulation, dimensional stability and strength. The internal mechanism is totally enclosed.

The unit can be back mounted with steel brackets supplied with the timer. These mounting feet can be removed for applications requiring a panel mounted unit.

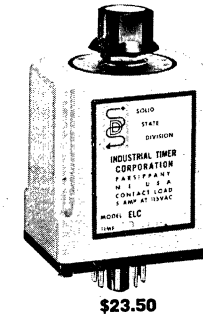
TIME CYCLE CHART

Model	Minimum Setting	Maximum Setting
RB-5.6S	.2 second	5.6 seconds
RB-14S	½ second	14 seconds
RB-28S	1 second	28 seconds
RB-56S	2 seconds	56 seconds
RB-84S	3 seconds	84 seconds
RB-168S	6 seconds	168 seconds
RB-4.5M	10 seconds	4 minutes 40 seconds

115/60 — **$14.50** 220/60 — **$15.00**

■ electronic

SERIES ELC



$23.50

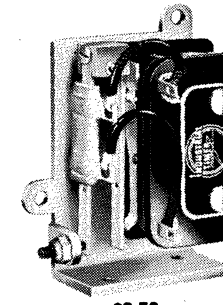
The Series ELC is a plug-in, adjustable delay relay incorporating an electronic delay circuit. This model provides a pre-set delay between the closing of a circuit and the subsequent operation of the built-in SPDT contacts. Contact rating is 5 amps., rated at 115/60 Non inductive. The unit resets instantaneously upon the opening of the start circuit. Adjustment is accomplished with a screw secured with a lock nut located on the top of the timer. 5 models with time cycles ranging from 1/10 second to 60 seconds are available. Load contacts isolated from timing circuit. Available for start circuit of 115/60 only.

TIME CYCLE CHART

Model	Minimum Setting	Maximum Setting
ECC-5	0.1 sec.	5 seconds
ECC-10	0.1 sec.	10 seconds
ECC-15	0.1 sec.	15 seconds
ECC-30	0.1 sec.	30 seconds
ECC-60	0.1 sec.	60 seconds

Note: Time cycles exceeding 60 seconds available, contact factory for details.

SERIES TH



$8.50

The Series TH is a thermally actuated snap action switch. The isolated load switch has a rating of 10 amps., non-inductive, and is totally enclosed. The timer is operated by the application of power to a resistor which in turn generates heat. The heat is transferred to a bi-metal strip which flexes against a switch actuator. The time delay occurs between the application of voltage to the resistor and the subsequent operation of the load switch. An additional bi-metal strip provides ambient temperature compensation. Reset time is from 2 to 4 times operating time, dependent upon model. Available in all voltages, AC and DC. Time Cycles—15 sec., 30 sec., 60 sec., 90 sec., 2 min., maximum.

programming cam timers

motors

Heavy duty synchronous motors, U/L and CSA approved. These motors are available in any of thirteen standard speeds. In cases where short time cycles are required of a higher torque motor is used. On the MC-O and RC-O Multi Cam Timers a High Torque motor is standard. These motors are built and guaranteed for long trouble-free performance.

switches

Single pole double throw snap action, U/L and CSA approved, totally enclosed. The switches are mounted on individual brackets, permitting removal of each switch without disassembling the entire switch bank. The switch contacts are rated at 10 amps non-inductive AC.

electrical characteristics

The Cam Timer Series can be supplied for 115 volt or 220 volt AC operation on 25, 50, 60 or 400 cycle frequencies. (As well as 6, 12, 24, & 30 volts DC)

gear rack assemblies

50 standard ratio gear and rack assemblies are stocked for changing overall time cycles on the Cam Timer Series. These assemblies may be changed by removing a 5/40 screw, setting the rack into the recess, and retightening the screw. Refer to chart for particular time cycle and gear rack assembly.

individual cam adjustment (series CM, MC, RC only)

Standard cam construction is such that the ON or OFF periods may be adjusted from 2% to 98% of the total time cycle. Cam adjustment consists of loosening the nut on the face of the plate, rotating the movable cam segment to the percentage of ON or OFF period desired, and then tightening the nut. The cams are made of corrosion resistant aluminum.

timing sequence (MC, RC only)

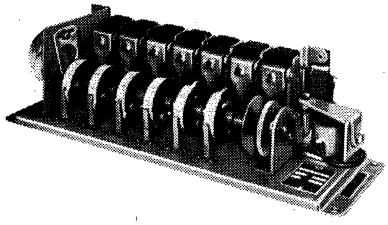
Each cam is individually mounted on the shaft by means of a heavy duty friction disc which allows easy finger adjustment of timing sequences. Individual positioning of the cam is also made possible without the use of set screws and wrenches, and permits rapid adjustment. On the Series MC and RC Multi Cam models a drum calibrated from 0% to 100% is mounted on each cam, this drum in conjunction with a mounted pointer acts as a guide when setting related programmed sequences; thus providing a reference point for use during the cycle.

ordering information

When ordering a Cam Timer please specify the following information:

1. Voltage and frequency of motor current.
2. Number of switches desired.
3. Time cycle selected from chart. (refer to motor number plus gear rack number. Example: MC4 Timer with C-12. Gear Rack.)

■ single cycle multi-cam timer

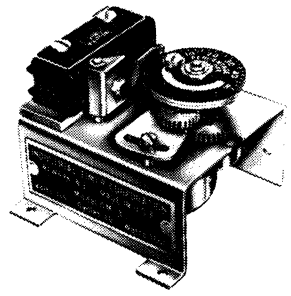


SERIES RC

The Series RC Timer is designed to provide a single timed electrical cycle upon momentary actuation from a remote position. The cam is a circular plate notched at one point in its circumference. Coincident with this notch is a small plate or a pawl. This plate is contoured to the periphery of the cam, and pressed against the cam face by a spring and a stud. Upon actuation, the relay mechanically disengages a lever from the cam notch, simultaneously starting the motor. During the revolution of the cam, the relay lever rides on the circumference of the cam. At the end of the revolution, the pawl guides the lever into the notch, stopping the motor after completing one revolution. The single switch handles the timer motor and the external load circuits, limited only by switch rating. The RC Multi Cam Timer operates from 1 to 20 additional circuits. This design enables the user to have all the advantages of the Series MC, plus single cycle homing control.

$42.50 up to $201.00

■ recycling timer

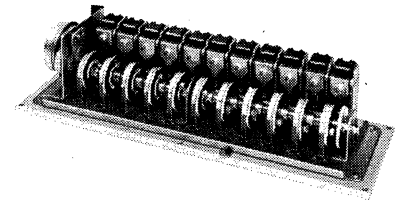


SERIES CM

The Series CM Timer repeats a continuous, adjustable ON and OFF electrical cycle. This timer consists of a heavy duty synchronous motor, adjustable cam, and single pole, double throw snap action switch, assembled on a base mount chasis. The cam is coupled to the motor by means of a simple gear and rack assembly, which can be changed by the user. Standard cam construction is such that the ON-OFF cycle may be adjusted from 2% to 98% of the total time cycle. The cam is calibrated in percentage for quick accurate adjustment. 50 stocked gear and rack assemblies are available for time cycles from 40 cycles (2/3 of a second) to 1 rev. in 72 hours.

115/60 — **$20.50**
220/60 — **$21.50**

■ multi-cam recycling timer



SERIES MC

The MC Multi Cam Timer is identical in operation to the CM timer but controls from 2 to 20 circuits. The cams are mounted on a single driving shaft, coupled to the motor by a gear and rack assembly. Each cam is independently adjustable for 2% to 98% of the total time cycle. Individual cam adjustability enables the timer to be used as a programming device. The cams can be adjusted in any combination of timed sequences rapidly and easily. Total revolution time is determined by motor speed and the interchangeable gear and rack assembly.

	115/60	220/60
2 SW	**$ 35.50**	**$ 37.00**
6 SW	**69.00**	**70.50**
10 SW	**106.50**	**108.00**

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GEAR RACK CHART: all gear racks interchangeable regardless of model number

MODEL	CM 0	CM 1	CM 2	CM 3	CM 4	CM 5	CM 6	CM 7	CM 8	CM 9	CM 10	CM 11	CM 12	MODEL
MODEL	MC 0	MC 1	MC 2	MC 3	MC 4	MC 5	MC 6	MC 7	MC 8	MC 9	MC 10	MC 11	MC 12	MODEL
MODEL	RC 0	RC 1	RC 2	RC 3	RC 4	RC 5	RC 6	RC 7	RC 8	RC 9	RC 10	RC 11	RC 12	MODEL
Gear Rack	SEE NOTE 2*													Gear Rack
E-12	40c	4 sec	10sec	20s	40s	2m	3m20s	10m	20m	40m	2h	3h20m	8h	E-12
E-14	46.7c	4.67s	11.67s	23.33s	46.67s	2m20s	3m53s	11m40s	23m20s	46m40s	2h20m	3h53m	9h20m	E-14
D-12	48c.	4.8s	12s.	24s	48s	2m24s	4m	12m	24m	48m	2h24m	4h	9h36m	D-12
E-15	50c	5 sec	12.5s	25s	50s	2m30s	4m10s	12m30s	25m	50m	2h30m	4h10m	10h	E-15
E-16	53.3c	5.33s	13.33s	26.67s	53.3s	2m40s	4m27s	13m20s	26m40s	53m20s	2h40m	4h27m	10h40m	E-16
D-14	56c	5.6s	14s	28s	56s	2m48s	4m40s	14m	28m	56m	2h48m	4h40m	11h12m	D-14
C-12	1 sec	6 sec	15s	30s	60s	3m	5m	15m	30m	60m	3h	5h	12h	C-12
D-16	64c	6.4s	16s	32s	64s	3m12s	5m20s	16m	32m	64m	3h12m	5h20m	12h48m	D-16
E-20	66.7c	6.67s	16.67s	33.33s	66.67s	3m20s	5m33s	16m40s	33m20s	66m40s	3h20m	5h33m	13h20m	E-20
C-14	70c	7s	17.5s	35s	70s	3m30s	5m50s	17m30s	35m	70m	3h30m	5h50m	14h	C-14
D-18	72c	7.2s	18s	36s	72s	3m36s	6m	18m	36m	72m	3h36m	6h	14h24m	D-18
E-22	73.3c	7.33s	18.33s	36.67s	73.33s	3m40s	6m7s	18m20s	36m40s	73m20s	3h40m	6h7m	14h40m	E-22
C-15	75c	7.5s	18.75s	37.5s	75s	3m45s	6m15s	18m45s	37m30s	75m	3h45m	6h15m	15h	C-15
B-12	80c	8 sec	20s	40s	80s	4m	6m40s	20m	40m	80m	4h	6h40m	16h	B-12
E-26	86.7c	8.67s	21.67s	43.33s	86.67s	4m20s	7m13s	21m40s	43m20s	86m40s	4h20m	7h13m	17h20m	E-26
D-22	88c	8.8s	22s	44s	88s	4m24s	7m20s	22m	44m	88m	4h24m	7h20m	17h36m	D-22
C-18	90c	9 sec	22.5s	45s	90s	4m30s	7m30s	22m30s	45m	90m	4h30m	7h30m	18h	C-18
B-14	93.3c	9.33s	23.33s	46.67s	93.33s	4m40s	7m47s	23m20s	46m40s	93m20s	4h40m	7h47m	18h40m	B-14
D-24	96c	9.6s	24s	48s	96s	4m48s	8m	24m	48m	96m	4h48m	8h	19h12m	D-24
B-15	100c	10 sec	25s	50s	100s	5m	8m20s	25m	50m	100m	5h	8h20m	20h	B-15
D-26	104c	10.4s	26s	52s	104s	5m12s	8m40s	26m	52m	104m	5h12m	8h40m	20h48m	D-26
B-16	106.7c	10.67s	26.67s	53.33s	106.7s	5m20s	8m54s	26m40s	53m20s	106m40s	5h20m	8h54m	21h20m	B-16
C-22	110c	11 sec	27.5s	55s	110s	5m30s	9m10s	27m30s	55m	110m	5h30m	9h10m	22h	C-22
D-28	112c	11.2s	28s	56s	112s	5m36s	9m20s	28m	56m	112m	5h36m	9h20m	22h24m	D-28
E-34	113.3c	11.33s	28.33s	56.67s	113.3s	5m40s	9m27s	28m20s	56m40s	113m20s	5h40m	9h27m	22h40m	E-34
A-12	2 sec.	12 sec	30s	60s	2m	6m	10m	30m	60m	2h	6h	10h	24h	A-12
D-32	2s8c	12.78s	32s	64s	128s	6m24s	10m40s	32m	64m	2h8m	6h24m	10h40m	25h36m	D-32
C-26	2s10c	13 sec	32.5s	65s	130s	6m30s	10m50s	32m30s	65m	2h10m	6h30m	10h50m	26h	C-26
B-20	2s12c	13.2s	33.33s	66.67s	133.3s	6m40s	11m7s	33m20s	66m40s	2h13m	6h40m	11h7m	26h40m	B-20
D-34	2s16c	13.56s	34s	68s	136s	6m48s	11m20s	34m	68m	2h16m	6h48m	11h20m	27h12m	D-34
A-14	2s20c	14 sec	35s	70s	140s	7m	11m40s	35m	70m	2h20m	7h	11h40m	28h	A-14
D-36	2s24c	14.4s	36s	72s	144s	7m12s	12m	36m	72m	2h24m	7h12m	12h	28h48m	D-36
B-22	2s27c	14.7s	36.67s	73.33s	146.7s	7m20s	12m13s	36m40s	73m20s	2h27m	7h20m	12h13m	29h20m	B-22
A-15	2s30c	15 sec	37.5s	75s	150s	7m30s	12m30s	37m30s	75m	2h30m	7h30m	12h30m	30h	A-15
A-16	2s40c	16 sec	40s	80s	160s	8m	13m20s	40m	80m	2h40m	8h	13h20m	32h	A-16
C-34	2s50c	17 sec	42.5s	85s	170s	8m30s	14m10s	42m30s	85m	2h50m	8h30m	14h10m	34h	C-34
B-26	2s52c	17.2s	43.33s	86.67s	173.3s	8m40s	14m27s	43m20s	86m40s	2h53m	8h40m	14h27m	34h40m	B-26
A-18	3 sec	18 sec	45s	90s	3m	9m	15m	45m	90m	3h	9h	15h	36h	A-18
B-28	3s7c	18.7s	46.67s	93.33s	186.7s	9m20s	15m33s	46m40s	93m20s	3h7m	9h20m	15h33m	37h20m	B-28
A-20	3s20c	20 sec	50s	100s	200s	10m	16m40s	50m	100m	3h20m	10h	16h40m	40h	A-20
B-32	3s33c	21.3s	53.33s	106.7s	213.4	10m40s	17m47s	53m20s	106m40s	3h33m	10h40m	17h47m	42h40m	B-32
A-22	3s40c	22 sec	55s	110s	220s	11m	18m20s	55m	110m	3h40m	11h	18h20m	44h	A-22
B-34	3s47c	22.7s	56.67s	113.3s	226.7s	11m20s	18m53s	56m40s	113m20s	3h47m	11h20m	18h53m	45h20m	B-34
A-24	4 sec	24 sec	60s	2m	4m	12m	20m	60m	2h	4h	12h	20h	48h	A-24
A-26	4s20c	26 sec	65s	130s	260s	13m	21m40s	65m	2h10m	4h20m	13h	21h40m	52h	A-26
A-28	4s40c	28 sec	70s	140s	280s	14m	23m20s	70m	2h20m	4h40m	14h	23h20m	56h	A-28
A-30	5 sec	30 sec	75s	150s	5m	15m	25m	75m	2h30m	5h	15h	25h	60h	A-30
A-32	5s20c	32 sec	80s	160s	320s	16m	26m40s	80m	2h40m	5h20m	16h	26h40m	64h	A-32
A-34	5s40c	34 sec	85s	170s	340s	17m	28m20s	85m	2h50m	5h40m	17h	28h20m	68h	A-34
A-36	6 sec	36 sec	90s	3m	6m	18m	30m	90m	3h	6h	18h	30h	72h	A-36

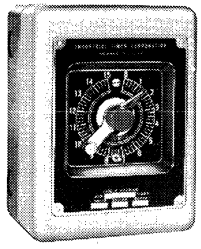
c- CYCLES s- SECONDS m- MINUTES h- HOURS

1. ORDERING INFORMATION — Model number selected from top of gear rack chart, gear rack, number of load switches, voltage and frequency.
   ALTERNATE ORDERING INFORMATION — Required time cycle (one complete rotation of cam shaft), number of load switches, voltage and frequency. Since some time cycles are available in 3 model numbers, the use of the ALTERNATIVE ordering information may expedite delivery by allowing us to ship model in stock with required time cycle.
2. Multi-switch cam timers requiring time cycles in shaded area may require high torque timing motor. This is due to increased torque encountered in rapid time cycles. To determine need of larger motor; multiply required time cycle in seconds by ⅔, the answer will be the maximum number of switches that can be operated with a standard timing motor. EXAMPLE: Time cycle 15 seconds. ⅔ x 15s = 10. 10 switches can be operated at 15 seconds with a standard timing motor, more than 10 load switches requires the use of a high torque timing motor. Because of torque requirements some RC0, MC0, RC1 and MC1 timers require the installation of a high torque motor. For RC0 and MC0 timers the high torque motor adds $27.50 to the price of the timer. For those RC1 and MC1 timers requiring a high torque motor add $29.50 — see formula*. If there is any question of when the high torque motors are required please contact the factory for advice.

INDUSTRIAL TIMER CORPORATION

interval timer

An interval timer closes its load circuit immediately upon the start of the time period. This circuit is closed (or opened) during the time that the timer is running for the pre-selected period. When this is completed, the load circuit opens and the timer automatically resets. Interval timers are designed to start from a momentary pulse. However, a sustained start circuit can be used. If the start circuit is still closed at the end of the time cycle, the load circuit will return to its normal position, but the timer will not reset until the start circuit is broken. At this time, the reset will occur and the timer is again ready for another cycle.



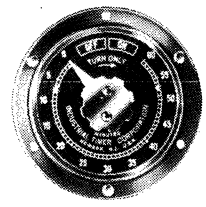
SERIES PAB (PAF)

The Series PAB Timer is an extremely accurate timing mechanism built to stand up under the hard usage and demanding standards that modern manufacturing processes require.

Due to the simplicity and reliability of a special clutching mechanism it is possible to offer the Series PAB with a range of timing from the PAB 1S with a 1 second overall range in 1/60 second increments, to the PAB 3H timer with a range of 3 minutes to 3 hours, calibrated in 3 minute steps.

The series PAF is similar in construction but is panel mounted.

115/60	220/60
$55.00	**$58.00**

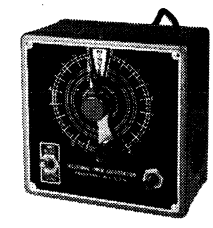


SERIES RS

The Series RS Interval timer is a manual set timer capable of handling a full 20 ampere load without the use of external relays. The Series RS is completely enclosed, silent in operation and has a simple knob for time setting and elapsed time indication. Available in the variety of time cycles shown on chart. Available in 115, or 230 volt, 25, 50, 60, or 400 cycle current. (Also 6-30 VDC) 18" color coded leads provided through back of housing. Knockout housing available as optional equipment.

Shipping weight—2 pounds—in case 3 pounds

115/60	220/60
$18.50	**$19.00**



SERIES P/M

The Series P Timer is a multi-purpose interval timer, equipped with an A.C. input cord, built in manual start push button, and two receptacles. The RED receptacle is provided on the side of the case for REMOTE STARTING. The BLACK receptacle receives plug in LOAD circuits. Keyholes are provided in the back of the case for wall mounting. Load contact rating is 15 amps., non-inductive.

Available for 115, 230 volts, 60, 50, or 25 cycles.

Series M Timers follow the same description as the Series P except that they are not equipped with a remote start and have a load rating of 10 amps. 115, 230 volts, 60, 50, or 25 cycles.

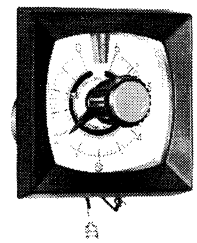
Shipping weight—3 pounds

SERIES S

The Series S Signaling timer is a multi-purpose process timer that provides an audible signal at the end of either a time interval or a time delay. Two receptacles are provided on the side of the case: a black receptacle for a load or remote signal to operate at the end of the cycle, and a red receptacle to operate a load circuit during the time cycle. Timer is also equipped with a line cord. Snap action contacts are rated at 10 amps. 115, 230 volts, 60, 50, or 25 cycles.

Shipping weight—3 pounds

115/60	220/60
$29.00	**$31.50**

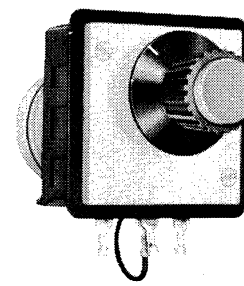


SERIES PBM

pushbutton start

The Series PBM is an automatic reset, pushbutton operated Interval timer. The unit is panel mounted through a square hole, and secured with four screws. The PBM features extreme repeat accuracy and exceptional long life; both made possible through the use of a positive acting infinite engagement clutch which connects the switch actuator with the heavy duty synchronous motor. The unit also features an attractive glass faced dial with adjustment knob and start button combined in one assembly. Time interval or progress indication is located in the dial with a moving red pointer.

115/60 — $19.25 **220/60 — $20.50**



SERIES LVR

pushbutton interval

The Series LVR is a pushbutton Interval Timer specifically designed for OEM applications. This timer operates a set of 25 amp. SPDT contacts when the pushbutton is depressed and released, and opens the contacts at the completion of a pre-set time interval. The timer automatically resets and restarts when the pushbutton is again operated.

The timer is mounted through a panel with only the pushbutton and setting knob appearing on the panel. The dial of the timer would then be etched or affixed to the panel itself. Dials available on special order, please contact factory for details.

INDUSTRIAL TIMER CORPORATION

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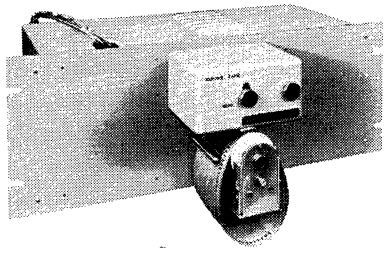
punched tape programmers

The programmers described in this Bulletin are designed to fill the need for a multi-circuit control device offering the flexibility of punched tape and a direct reading system that eliminates the requirement for elaborate memory devices, or special coding .

A unique method of reading and controlling load circuits is employed in these programmers. This method uses brushes which complete a load circuit through a hole in the tape. These brushes are so designed as to provide a "make before break" switch closure when two or more holes are read in a tape channel. This switch closure is sustained for as long as the channel is punched with successive holes.

The punched tape is driven by one of three methods: A synchonous motor, a stepping/fast advance drive, or a variable speed drive. Reading speeds as fast as 30 lines per second are available with one of these three drives.

Since the Tape Programmers are direct reading, the tape must be rugged, have a high insulation capacity, and eliminate static electricity. Hence a special rope paper/mylar laminate tape was developed which not only has the required qualities, but also has a surface texture that continuously cleans the brush ends, adding to the reliability of the system.



MODELS 012, 112, 122, 142, AND 182 — SYNCHRONOUS DRIVE

These tape readers are driven by a synchronous motor and offer many reading speeds ranging from 1 to 30 lines per second. A simple modification of this unit uses one channel for control of the synchronous motor so that the tape will make one complete circuit through the reading head and then home to a start position.

The Model 012 designates that the unit is mounted on a 6" x 6" panel. The Model 112 is mounted on a standard 7" x 19" rack panel.

MODELS 212, 222, 242, AND 282 — STEPPING/FAST ADVANCE DRIVE

The stepping drive advances the tape through the reader line by line upon receipt of a simple switch closure. Movement of the tape occurs instantly upon receipt of a 1/10 sec. or longer pulse. A sustained switch closure will advance the tape one position. Maximum standard stepping speed is 4 lines per second.

The stepping drive system also provides a fast advance which transports the tape at a speed of 15 lines per second. The determination of step or fast advance is generally made by punched holes in the tape, using one channel to signal the unit. (Please see wiring schematic.)

Note: The fast advance speed can be supplied on special order at rates other than 15 lines per second, or adjustable from a dial located on the panel.

MODELS 312, 322, 342, AND 382 — ADJUSTABLE SPEED DRIVE

This provides a solid state variable speed drive, adjustable from speeds from 1 to 30 lines per second in several ratios. Speed adjustment can be made while the equipment is operating. Additional speed ranges available; consult the factory.

READING METHOD

Make before break brushes (steel with hardened tips), to common drum.

CURRENT CAPACITY

1/4 amps, per channel, non inductive rated at 115/60.

$400 up to $810.00

INDUSTRIAL TIMER CORPORATION

time measurement devices

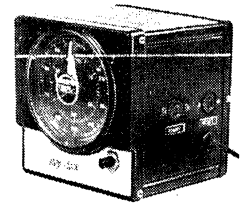
Running TIME meters and reset time totalizers are designed to record equipment operating time. The running time meter accumulates total time whereas the reset time totalizer can be reset to 0 at any time by means of an external knob.

stop clocks

MODELS SC-100/SC-60

Two models, SC-100 with a range from 1/10C sec. to 60 seconds, and the SC-60 with a range from 1 second to 60 minutes. Both models used to measure time intervals, and can be started from a remote switch closure, (see wiring schematic). Pointer reset accomplished by built-in pushbutton or remote switch closure. Finish, baked enamel on formed steel housing. Available for 115, 220 volts/60 or 50 cycles only.

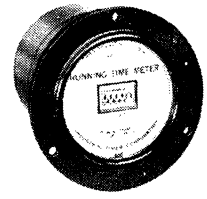
$68.50



model designation chart

model number	minimum registration	maximum registration
SC-100	1/100 second	60 seconds
SC-60	1 second	60 minutes

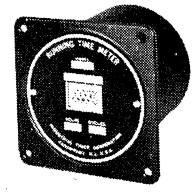
running time meters



MODEL C-2 NON RESET TYPE

C-2 . . . Designed to harmonize with other instruments installed on a panel. The C-2 Running Time Meter is completely enclosed, moisture and dust resistant, insuring long life and operating efficiency. Screw terminals are located on the back of the case for wiring.

$20.00



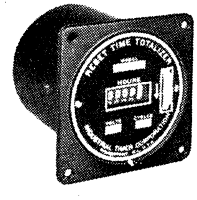
MODEL C-25 NON RESET TYPE

C-25 . . . The C-25 Running Time Meter follows the same description as the Model C-2 with the exception of its case and mounting provisions. The C-25 matches the C-5 Reset Time Totalizer in appearance and mounting.

$20.00

All models available for 115, 220 volts, 60 and 50 cycles. Six models available from 10,000 seconds to 100,000 hours.

models	count	range
C-2, C-25	1/10 hr.	10,000 hrs.
C-2A, C-25A	1 hr.	100,000 hrs.
C-2D, C-25D	1/10 min.	10,000 min.
C-2F, C-25F	1 min.	100,000 min.
C-2G, C-25G	1/10 sec.	10,000 sec.
C-2H, C-25H	1 sec.	100,000 sec.



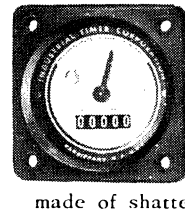
$42.50

MODEL C-5 RESET TYPE

C-5 . . . Mounted in a baked black finish steel housing. Reset wheel protrudes slightly out front of dial for thumb reset. Screw terminals on back of unit. Available for 115, 220 volt, 60 and 50 cycles.

Four ranges available from 10,000 minutes up to 100,000 hours.

model	count	range
C-5	1/10 hr.	10,000 hrs.
C-5A	1 hr.	100,000 hrs.
C-5D	1/10 min.	10,000 min.
C-5F	1 min.	100,000 min.



MODELS C-8, C-8W, D.C. UNIT

The Series C-8 and C-8W Running Time Meters are heavy duty units featuring a rugged pulse wound clock movement. At the heart of this unique movement is a large winding solenoid that is pulsed from snap action contacts. These contacts operate every 40 to 60 seconds when the unit is energized. The unit is sealed against dust and moisture in a steel enclosure. The crystal over the dial is made of shatterproof non-yellowing plastic. The readout of the C-8 is in minutes with a sweep hand, and up to 99999 hours on the odometer. Mounting is by bracket on the Series C-8W or by flange with the C-8. Wiring connections are made on the back of the unit. 12-32 VDC.

$19.25

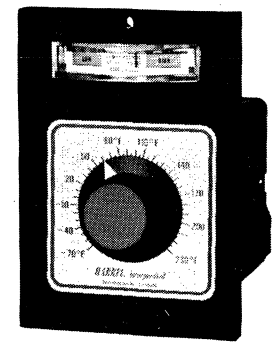
HARREL

PRECISION SOLID STATE TEMPERATURE CONTROLLERS

GENERAL

Harrel temperature controllers are intended for the precision temperature control of ovens, test fixtures, and all kinds of industrial machinery. They are arranged for easy mounting on any panel and are designed to require minimum panel space.

Temperature sensing is by means of a wire-type resistance sensor. This gives long-term stability and sensitivity which cannot be equalled by any other method of temperature sensing. The temperature sensor may be located as much as several hundred feet from the controller if desired. No special lead wires or shielding are required between controller and sensor.



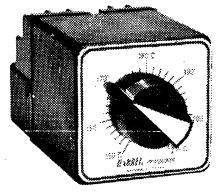
Indicating Controller

ON-OFF RELAY CONTROLLERS

Utilize a rugged, solid state amplifier controlling a 10-ampere relay. Relay is easily replaceable in the field.

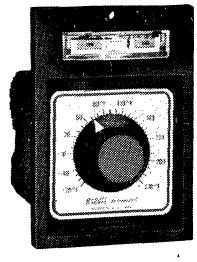
TIME PROPORTIONING RELAY TYPES

Similar to regular on-off controller, but controller operates on a regular cycle of on to off and back again, and it is the **proportion** of on-to-off time which is varied to control the temperature. Gives a characteristic which approximates true proportional control and in general gives greatly improved performance over regular on-off controllers.



TRUE PROPORTIONAL TYPES

Completely solid state. No relays, contacts, or moving parts whatsoever in the power control circuits. Output does not cycle on and off but remains steady at exactly the amount necessary to hold the temperature at precisely the desired value. True stepless control gives closest temperature control of any type of controller. Elimination of contacts and moving parts means life measured in years.



STANDARD MODELS
115 volt, 60 cycle operation

Form		Type	Temperature Range	Switching or Proportional Band*	Power Output	Price	
Non-indicating	Indicating					Non-indicating	Indicating
TC-115Q	TC-115S	on-off	100-300°F	1°C	0 amps	75.00	92.00
TC-115R	TC-115T	on-off	100-500°F	1°C	10 amps	75.00	92.00
TC-116L	TC-116AF	Time Proportioning, Relay	100-300°F	1.5°C	10 amps	80.00	97.00
TC-116M	TC-116AB	Time Proportioning, Relay	100-500°F	1.5°C	10 amps	80.00	97.00
TC-396D	TC-496D	True Proportional	100-300°F	1.5°C	1000 watts**	149.00	166.00
TC-396E	TC-496E	True Proportional	100-500°F	1.5°C	1000 watts**	149.00	166.00

* For on-off, temperature change at sensor to go from on to off and vice versa. For time proportioning, temperature change for 30% to 75% power output. For true proportional, temperature change from 10% to 80% full power output. Note that temperature performance for proportional types will in general be much better than figure shown; full proportional band is seldom required to compensate for changes in external conditions.

** At 25°C ambient temperature. Derate linearly to zero at 100°C ambient temperature. For indicating types, heater must be arranged so that steady state power output (that is the power other than during warm-up and cool-down) is between 5% and 75% of full power output.

INDICATING FORMS

The system of display employed on indicating forms of the controller is designed especially for automated systems. The temperature is both set and read out on the large easy-to-read dial. The indicator is separate, and is of the go/no-go type which gives a visual alarm whenever the actual temperature is not at the set point. No skill or knowledge is required of the operator. All he has to do is be sure that the indicator stays out of the two red zones. Indicating forms are mounted on an attractive escutcheon arranged for easy panel mounting or indicator may be located remotely if desired.

SENSORS

A number of different forms of sensors are available for the above

a. **Patch Sensor:** For measuring the temperature of surfaces. Thin and flexible; may be attached by means of an adhesive or with tape (supplied).

b. **Oval:** Sensors wound on oval hollow ceramic core. Bracket mount for sensing air temperature.

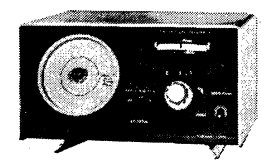
c. **Tubular:** Cylindrical sensors in aluminum or stainless steel protecting jackets. May be mounted in solids, liquids, or gases.

SENSORS

Form	Type	Max. Temperature	Dimensions	Price
TS-100B	Patch	300°F	¾" x ¾" x 1/16"	$19.80
TS-100F	Patch	500°F	1" x 1" x 1/16"	23.75
TS-103G	Oval	500°F	2" x ½" x 3/16"	4.50
TS-103J	Tubular, Aluminum Jacket	500°F	3/16" dia. x 1½" long	9.35
TS-103K	Tubular, Stainless Jacket	500°F	3/16" dia. x 1½" long	11.75

CR207A Temperature Indicator/Recorder. Compact, high accuracy nulling type instrument provides precise measurement of temperature. Expanded scale recording spreads temperature span of interest over entire track of recorder. Total recording time 1, 7, or 30 hours. May be used with any wire type resistance sensor. An ideal instrument for general purpose laboratory work.

Price $585.00



Other products manufactured by Harrel, Inc. — High Precision Proportional Temperature Controllers (ten-turn potentiometer forms), Controllers for Thermoelectric Coolers, Programmable Controllers, Temperature-Controlled Enclosures, Temperature Indicators, Temperature Sensors, Heaters. Write for further information.

HARREL, incorporated — PRECISION TEMPERATURE CONTROLS

• *Recorders* • *Indicators* • *Sensors* • *Heaters*
• *Programmers* • *Alarms* • *Thermoelectric Controllers* • *Enclosures*

Net

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MALLORY SONALERT® Electronic Signals

The Sonalert electronic audible signal is a major advance in the signal warning field. The signal produces a penetrating sound of either 2800 Hz or 4500 Hz by purely electronic means. All circuitry is completely "solid-state" for maximem efficiency, lowest current requirement and extreme reliability.

Operating principles are quite simple. A transistorized oscillator drives a piezoelectric transducer to produce the desired tone. The characteristics of the transducer determine the output frequency and this cannot be changed by external means. Output volume is directly proportional to input voltage and ranges from 68 db at 6 VDC up to 80 db at 28 volts DC.

Because the circuitry is all solid-state, there are no points to arc and require maintenance. In addition, the signal produces no RF field. As a result, it may be used in computers where even the slightest amount of RF generation would upset delicate amplifiers.

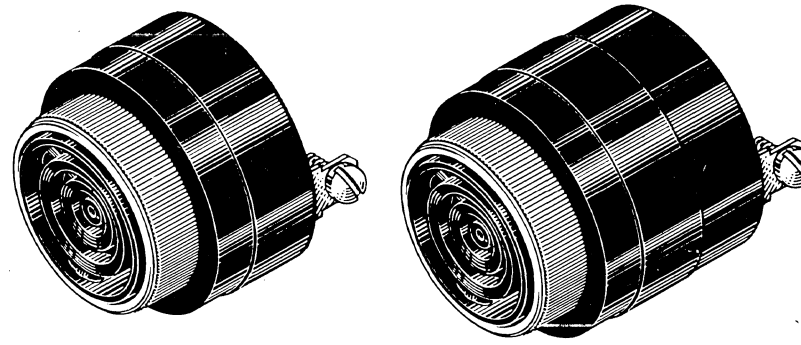
The outstanding advantage of the Sonalert signal is that it operates on such low currents. In fact, the signal uses less current than a high-intensity neon indicator light. Because of this the signal is widely used to augment visual warning signals in computers and industrial process controls.

In the vast majority of cases no amplifier is needed to operate the Sonalert. Thus, it may be used with only simple probes to indicate water level when operated at 28 VDC. Indeed, it can even be used to give an indication of water hardness on a direct basis. Soft water does not have sufficient conductivity to "fire" the signal. As water becomes hard conductivity increases and the signal sounds.

The listing to the left shows all standard Sonalert signal models. The basic type is the SC628 which produces a 2800 Hz tone and operates on 6-28 VDC. The SC628H produces 4500 Hz. Types for 110 VAC operation are also shown. Several models are available which produce pulsating signals. The pulse rate is dependent on input voltage and varies from 3 cycles per second at 6 VDC up to 5 cycles at 28 volts. A special "warbler" model is also available (SC628W). This model is used in conjunction with a normal SC628H and produces a signal which warbles between the low 2800 Hz tone and the higher 4500 Hz tone.

There are no MIL specifications to cover the Sonalert per se. However, the signals are widely used in military and aerospace applications. A complete list of applicable MIL specs is presented in Bulletin 9-398 which is available from your Mallory distributor.

A 48 page booklet of Sonalert uses is available upon request. The booklet covers a host of uses ranging from auto through boat and home as well as industrial and laboratory. This booklet is available at your local Mallory Distributor or by writing to Mallory. Ask for Form 9-406.



STANDARD SONALERT SIGNALS

ALL WITH SILICON TRANSISTOR DESIGN

Catalog Number	Sound Freq. Hz*	Oper. Voltage VDC	Oper. Voltage VAC	Oper. Curr. (ma)	Sound Intensity (db)	Vol. (in.)	Wt. (oz.)	Oper. Temp. (°F)	L (in.)	Net (ea.)
STOCKED BY FRANCHISED MALLORY DISTRIBUTORS										
SC628	2800	6-28	—	3-14	68-80	2.9	1.25	−40+185	.781	**$5.50**
SC628H	4500	6-28	—	3-14	68-80	2.9	1.25	−40+185	.871	**6.35**
SC628P	2800†	6-28	—	3-14	68-80†	4	2	−40+185	1.38	**9.95**
SC628A	2800	6-28	6-28	3-14	68-80	4	2	−40+185	1.38	**8.75**
SC110	2800	86	110	14	80	4	2	−40+185	1.38	**8.75**
AVAILABLE ON SPECIAL ORDER FROM MALLORY DISTRIBUTORS										
SC628HP	4500†	6-28	—	3-14	68-80†	4	2	−40+185	1.38	**$10.80**
SC628AH	4500	6-28	6-28	3-14	68-80	4	2	−40+185	1.38	**9.65**
SC628AP	2800†	6-28	6-28	3-14	68-80	5.1	2.75	−40+185	1.94	**13.20**
SC628AHP	4500†	6-28	6-28	3-14	68-80†	5.1	2.75	−40+185	1.94	**14.10**
SC110H	4500	86	110	14	80	4	2	−40+185	1.38	**9.65**
SC110P	2800†	86	110	14	80†	5.1	2.75	−40+185	1.94	**13.20**
SC110HP	4500†	86	110	14	80†	5.1	2.75	−40+185	1.94	**14.10**
SC628W*	2800*	12-28	—	3-14	68-80*	4	2	−40+185	1.38	**10.85**

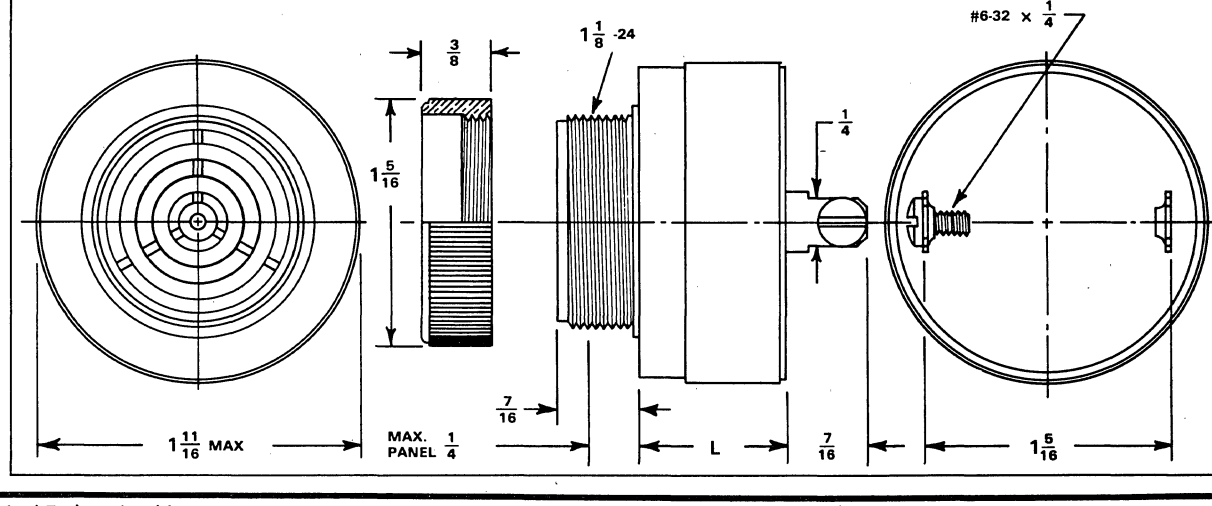
*Tolerance: 2800 ± 300 Hz, 4500 ± 500 Hz

†Pulsating: 3 to 5 Hz

*Warbler unit, use with SC628 or SC628H

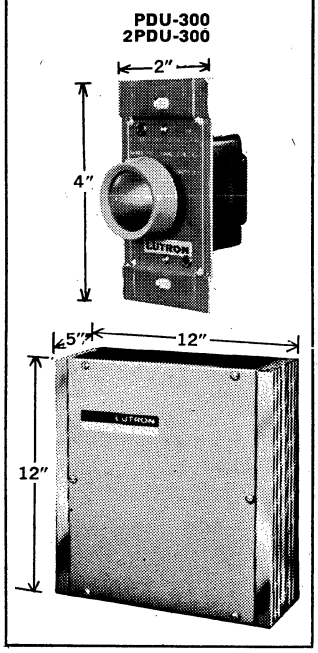
Suffix: None = 2800 Hz; H = 4500 Hz; A = AC current model; P = Pulsating model; W = Warbling model

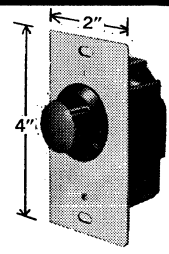
FULL SCALE



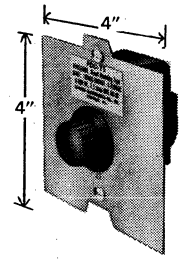
LUTRON POWERDIAL®
SCR* POWER CONTROLS

*Silicon Controlled Rectifier

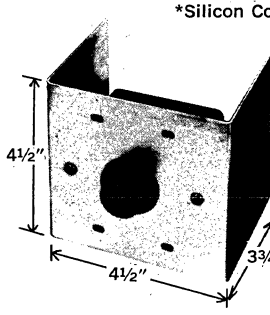




PDU-50
2PDU-50



PDU-75
2PDU-75
PDU-100
2PDU-100



PDU-150
2PDU-150

PDU SERIES

PDU Series is suitable for panel mounting. -- May be wired for AC or DC output. Two wire connection.

MODEL	MAX. AC WATTS	RMS. AMPS. AC	RMS. AMPS. DC	AC INPUT VOLTS	AC OUTPUT VOLTS	RMS-DC OUTPUT VOLTS	WEIGHT LBS.	TRADE NET
PDU-50	600	0-5	0-5	120	0-120	0-85	.25	$ 15.75
PDU-75	900	0-7.5	0-7.5	120	0-120	0-85	.34	18.75
PDU-100	1200	0-10	0-7.5	120	0-120	0-85	.53	30.00
PDU-150	1800	0-15	0-10	120	C-120	0-85	1.0	60.00
PDU-300	3600	0-30	0-20	120	0-120	0-85	12.0	127.50
2PDU-50	1200	0-5	0-5	240	0-240	0-170	.25	30.00
2PDU-75	1800	0-7.5	0-7.5	240	0-240	0-170	.34	33.00
2PDU-100	2400	0-15	0-7.5	240	0-240	0-170	.53	39.00
2PDU-150	3600	0-15	0-10	240	0-240	0-170	1.0	78.00
2PDU-300	7200	0-30	0-20	240	0-240	0-170	12.0	162.00

NOTE: Above units are 60 cycle service. Please send 400 cycle or other special unit inquiries to our Engineering Dept.

POWERDIAL FEATURES

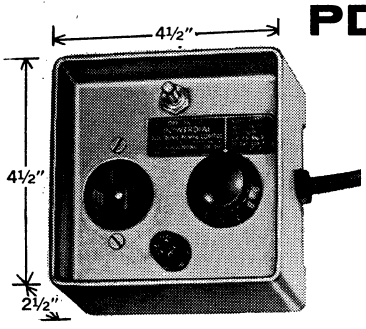
- **Output is continuously adjustable AC or DC**
- **No brushes to burn out or wear**
- **Rugged, reliable, solid state circuitry**
- **Lower installed cost**
- **1/10 the weight, ½ the size of conventional variable auto-transformer controls**

POWERDIAL WILL CONTROL:

- Universal and Series DC Motors
- Shaded Pole Motors*
- Permanent Split Capacitor Motors*
- Lamps
- Voltage
- Current
- Resistive Heaters & Infra-Red Lamps
- Soldering Irons
- Electric Solenoids & Brakes, D.C. Clutches
- Electroplaters
- Electric Punches & Actuators
- Vibratory Feeders
- Centrifuges

*Used only on fan and light loads, or where torque is proportional to speed.

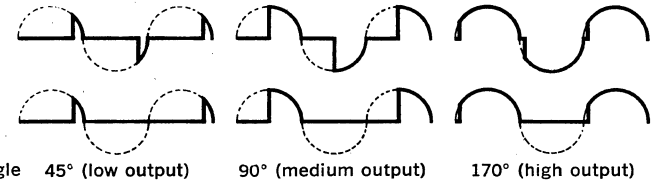
PD SERIES BENCH MODELS



MODEL	MAX. AC WATTS	RMS. AMPS. AC OUT	RMS. AMPS. DC OUT	AC INPUT VOLTS	AC OUTPUT VOLTS	RMS-DC OUTPUT VOLTS	WEIGHT LBS.	TRADE NET
PD-50	600	0-5	0-5	120	0-120	0-85	2.0	$24.00
PD-75	900	0-7.5	0-7.5	120	0-120	0-85	2.0	27.00
PD-100	1200	0-10	0-7.5	120	0-120	0-85	2.3	30.00
PD-150	1800	0-15	0-10	120	0-120	0-85	2.6	60.00
2PD-50	1200	0-5	0-5	240	0-240	0-170	2.0	33.00
2PD-75	1800	0-7.5	0-7.5	240	0-240	0-170	2.0	36.00
2PD-100	2400	0-10	0-7.5	240	0-240	0-170	2.3	39.00
2PD-150	3600	0-15	0-10	240	0-240	0-170	2.6	81.00

PD Series — Simply Switch to AC, DC or off. All units have fuse, 3 wire cord and receptacle.

Typical Waveforms



LUTRON ELECTRONICS CO., INC.

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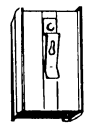
LUTRON SPEEDIAL® MOTOR SPEED CONTROLS

MK-II/III



Clip-on Back For Use on Belt or Wall

SPEEDIAL MOTOR SPEED CONTROLS electronically vary the speed of any Universal (AC-DC) motor driven tool from zero to full speed without loss of power. Electronic feedback increases power as load increases. Solid state construction throughout. Speed control saves drill bits, makes cleaner cuts, holes and sanded surfaces possible with inexpensive tools.

FOR HANDYMAN AND HOBBYIST

MODELS	MAXIMUM MOTOR NAMEPLATE RATING	50-60 CPS INPUT VOLTS	APPROXIMATE MAX. H.P.	APPROX. MAX. DRILL SIZE	TRADE NET
MK-II	5 Amps	120	.4 H.P.	¼", ⅜"	$11.96
MK-III	10 Amps	120	.8 H.P.	½"	19.46

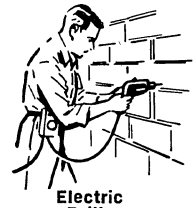
INDUSTRIAL — PROFESSIONAL — SCIENTIFIC MODELS
(Housed in 4½" x 2⅝" DEEP CAST ALUMINUM CASES)

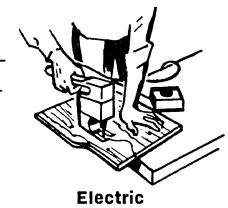
MODELS	MAXIMUM MOTOR NAMEPLATE RATING	50-60 CPS INPUT VOLTS	APPROXIMATE MAX. H.P.	APPROX. MAX. DRILL SIZE	TRADE NET
MK-5	5 Amps	120	.4 H.P.	¼", ⅜"	$19.46
MK-10	10 Amps	120	.8 H.P.	½"	29.96
MK-15	15 Amps	120	1.2 H.P.	⅝"	42.90
MK-250-5	5 Amps	208-250	.8 H.P.	½"	24.00
MK-250-10	10 Amps	208-250	1.6 H.P.	⅝"	36.00
MK-250-15	15 Amps	208-250	2.5 H.P.		51.75

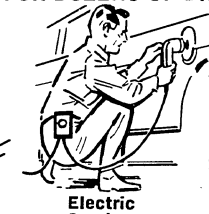
OPERATION: To be used on Universal (AC-DC) and on Series DC motors ONLY. Do not use on AC motors. Electric hand tools have Universal motors. May also be used on electric clutches and brakes requiring DC voltage.

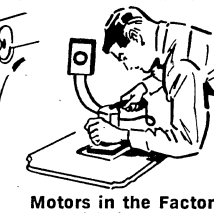
TYPICAL APPLICATIONS: Mixing Liquids (Paints, Chemicals, etc.) Feeders, Flame Cutting Machines, Winding Machines, Controls, Electric Clutches and Brakes, Screwdrivers, Paper Cutters, Paper Pulp Mixing, Conveyor Belts. Also Mixers, Stirrers, Blenders.

ONE INEXPENSIVE SPEED CONTROL FOR DOZENS OF DIFFERENT TOOLS


Electric Drills


Electric Saws


Electric Sanders


Motors in the Factory and Laboratory

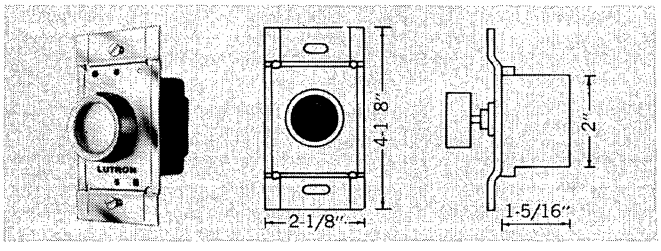
NEW SPEEDIAL SOLID STATE MODULES

provide complete electronic motor speed control in module form for easy mounting to wall, panel, rack, or plate.

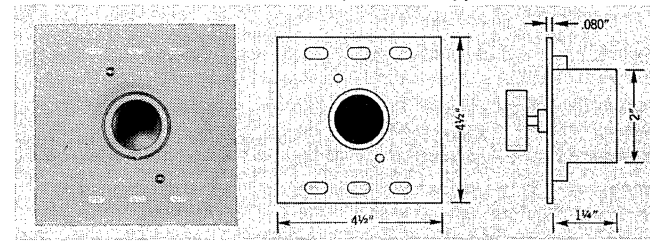
Specifications — Speedial Modules for 5 and 10 amp service

Volts: 120 vac, 60 Hz.
Amps: Model DJ-5 — 5 max; Model DJ-10 — 10 max.
Switch: Rotary with full power ON setting.
Service: Universal ac-dc or series dc motors.
Installation: Single gang box, or any panel, rack or plate mounting.
Operating Temperature: +50°C max. ambient.
Weight: Model DJ-5 — 3¼ oz; Model DJ-10 — 4¼ oz.
Trade Net Price: Model DJ-5 — $8.65; Model DJ-10 — $24.00.

DIMENSIONS — MODEL DJ-5 (Faceplate not supplied.)

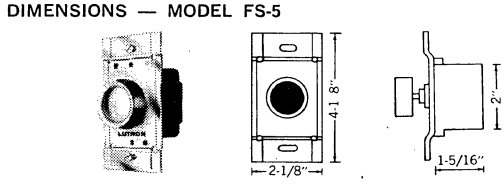


DIMENSIONS — MODEL DJ-10 (Faceplate not supplied.)

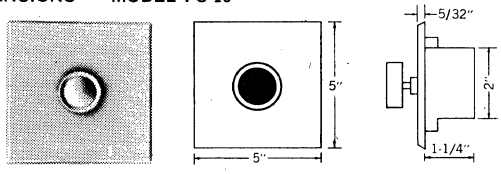


LUTRON FANDIAL™ FAN SPEED CONTROLS

DIMENSIONS — MODEL FS-5



DIMENSIONS — MODEL FS-10

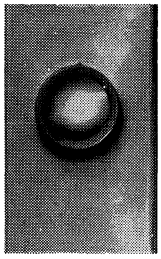


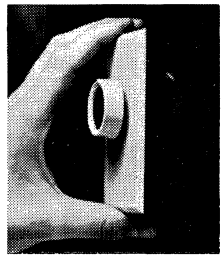
FANDIAL continuously varies fan and blower speeds from maximum to any lower speed. Permits exact comfort level adjustment, fan noise reduction and elimination of smoke and odors without excess cooling. OUTSTANDING FEATURES: Turns on at top speed and adjusts to lower speeds. Built-in trimmer can be set to prevent stalling, or at any higher minimum speed. Control knob has positive ON-OFF action. Easy installation and mounting. Internal radio interference suppression filter. TYPICAL APPLICATIONS: Controls a wide variety of fans in home and industry, including kitchen and bathroom exhaust, range hood, window, attic and pedestal fans, furnace blowers, environmental chambers, clean rooms, cooling electronic equipment, industrial exhaust and ventilating equipment.

SPECIFICATIONS — FANDIAL Modules for 5 and 10 amp service.

Volts: 120 vac, 60 cps.
Amps: Model FS-5 — 5 max; Model FS-10 — 10 max; (see motor nameplate rating).
Switch: Rotary with positive ON/OFF action. **Service:** Shaded pole or permanent split capacitor motors only.
Installation: Single gang electrical wall box. **Faceplate:** Use any standard faceplate (supplied with FS-10). **Power Component:** Solid state Triac.
Leads: 6 inches — 1 black, 1 yellow, 1 red. **Minimum Speed:** Low end adjustment provided by knurled collar trim control.
Weight: FS-5 — 4.0 oz.; FS-10 — 7.0 oz. **Trade Net Price:** FS-5 — $7.97: FS-10 — $16.67.

LUTRON LIGHT DIMMERS





CAPRI
ELECTRONIC LIGHT CONTROLS

Continuous dimming controls for residential, commercial and industrial use. A popular accessory for hi-fi and TV rooms, dining rooms, kitchen, nursery, bedroom and office. Excellent for use in equipment and visual displays. Quickly and easily installed in the same manner as an ordinary switch, they fit standard depth wall boxes. For single or multi-ganged installation.

INCANDESCENT DIMMERS

These solid state thyristor controls feature double-sized mounting brackets for longer life and to eliminate overheating. All switches have silver contacts. High-quality phenolic case is ¼" shallower than conventional types, fits any GEM box. Manual and motor driven high-power dimmers are available for the 2,500 to 100,000 watt range. They utilize the exclusive new Lutron expandable modular building block system. For complete information, request our free High Power Dimmer Bulletin.

*3-way dimmer permits control of same light from two locations.

MODEL NO.	DESCRIPTION	INSTALLATION	TRADE NET
D-6P	600 Watts Push-On-Off	Single Gang Box, 2 Wires	$ 5.97
D-63P	600 Watts 3-Way* Push-On-Off	Single Gang Box, 3 Wires	$ 9.46
D-600P	600 Watts (UL), Push-On-Off	Single Gang Box, 2 Wires	$ 7.30
D-603P	600 Watts (UL), 3-Way* Push-On-Off	Single Gang Box, 3 Wires	$10.63
D-10P	1000 Watts Push-On-Off	Single Gang Box, 2 Wires	$ 26.63
D-103P	1000 Watts 3-Way* Push-On-Off	Single Gang Box, 3 Wires	$ 29.30

MODEL NO.	DESCRIPTION	INSTALLATION	TRADE NET
D-1000	1000 Watts (UL)	Single Gang Box 2 wires	$ 26.63
D-1800P	1800 Watts Push-On-Off	Double Gang Box, 2 Wires	$ 56.67
D-1803P	1800 Watts 3-Way* Push-On-Off	Double Gang Box, 2 Wires	$ 59.98
D-2000	2000 Watts	Double Gang Box, 2 Wires	$ 59.98
D-2500A	2500 Watts	Remote Control Single Gang Box	$ 86.67
D-3600A	3600 Watts	Remote Control Single Gang Box	$128.00

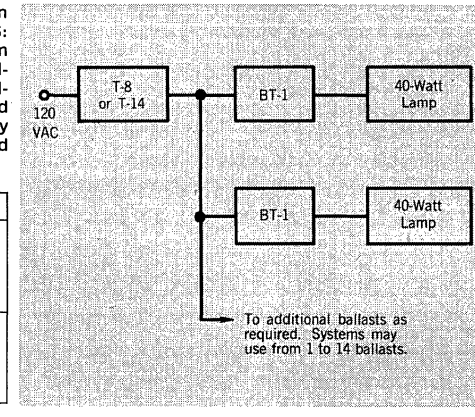
NEW! *Tu-Wire™ FLUORESCENT DIMMING SYSTEM

Exclusive! Features 500:1 Dimming Ratio!

*Patent Pending

Lutron introduces two-wire fluorescent dimming control using solid state thyristors with these outstanding advantages: NEW INSTALLATIONS: Quick and easy two-wire connection to dimmer. No third wire needed. No auxiliary ballast required. CONVERSIONS: Eliminates costly rewiring. Simple two-step installation — (1) Install Lutron BT-1 dimming ballast in place of existing ballast; (2) Install Lutron Tu-Wire fluorescent dimmer in place of existing switch. SPECIAL FEATURES: All Tu-Wire systems have built-in minimum illumination level control which can be adjusted easily by the user, even after installation. Tu-Wire systems are easily installed in any standard single gang wall box. They are now available in two models, as specified below.

MODEL	DESCRIPTION	BALLAST	INSTALLATION	TRADE NET
T-8	1 to 8 Forty Watt lamps (rapid start only); 120 vac, 60 cps; rotary positive on/off action switch.	One approved BT-1 ballast per lamp ($6.13 Trade Net)	Fits any single gang wall box — use any standard faceplate. Two-wire connection to dimmer.	$11.99
T-14	4 to 14 Forty Watt lamps (rapid start only); 120 vac, 60 cps; rotary positive on/off action switch.	One approved BT-1 ballast per lamp ($6.13 Trade Net)	Fits any single gang wall box—faceplate is supplied. Two-wire connection to dimmer.	$26.65



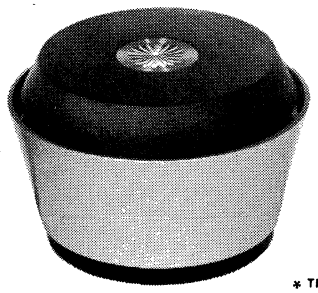
FLUORESCENT DIMMERS

All Lutron solid state fluorescent dimmers (except Tu-Wire) control fluorescent and incandescent lamps separately or together on the same circuit. Outstanding dimming performance is achieved with low-cost dimming ballasts of four different manufacturers; no auxiliary ballasts are required. Lutron dimmers and controls are all reliability tested through 40,000 full load cycles, equivalent to ten years of the severest residential use.

MODEL NO.	DESCRIPTION	INSTALLATION	TRADE NET
FD-600	3 to 12 Forty Watt lamps or 600 Watt incandescent	Single Gang Box 3 wires	$ 22.00
FD-900	10 to 18 Forty Watt lamps or 900 Watt incandescent	Single Gang Box 3 wires	$ 33.30

MODEL NO.	DESCRIPTION	INSTALLATION	TRADE NET
FD-1800	10 to 36 Forty Watt lamps or 1800 Watt incandescent	Remote Control Single Gang Box	$ 96.67
FD-3600	10 to 72 Forty Watt lamps or 3600 Watt incandescent	Remote Control Single Gang Box	$132.00

For proper fluorescent dimming with Lutron "FD" series dimmers, one of the following dimming ballasts must be used: Universal Nos. 661, 535, 550A, 502A; GE Nos. 6G5001, 6G3670, 89G718, 6G5007; Advance Nos. DIM-140L or RSD-140; Jefferson No. 254-1171.

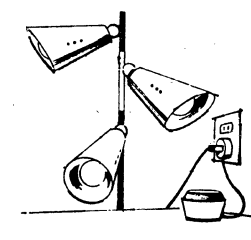


* ™

dim-liter™

SOLID STATE LAMP DIMMER

For home and office. Controls one or more incandescent lamps up to 600 w total. Features decorator styling, push-on, push-off, genuine walnut dial for fingertip remote control. Has concealed glow-light, visible only in the dark, to end groping for switches. Makes any lamp a night light. Cork bottom protects furniture. **Trade Net $9.97**



Dim-liter can be used with table lamps, desk lamps, pole lamps, swag lights, or any incandescent lamp.

Net

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OHMITE OHMITROL® solid state power controls

- SAVE SPACE, SAVE POWER, SAVE $$
- SMALLEST 1 & 2 KW CONTROL
- LONG LIFE
- AC & DC OUTPUT TYPES
- INTEGRAL TRIMMER ADJUSTS CONTROL RANGE FOR DIFFERENT APPLICATIONS
- INCORPORATES ON-OFF SWITCH

USE IT TO CONTROL

AC OUTPUT TYPE

Shaded pole motors
Permanent split capacitor motors
Universal motors
Heaters—both resistive and infra-red

DC OUTPUT TYPE

Shunt wound motors
Series wound motors
Permanent magnet motors
Magnetic clutches and brakes

Now, for the first time, a Solid State Power Control is available which is adaptable to a wide variety of applications by a simple turn of a screwdriver!

An internal trimmer allows the starting point of the control voltage of the Ohmitrol to be set anywhere within the stated trimmer voltage range. (This adjustment can be preset at the factory at small additional cost.

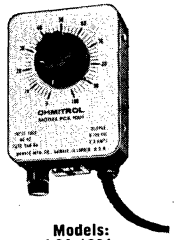
From the starting point to full line voltage, infinitely smooth control is obtained by means of the control knob. An "on-off" line switch actuated at the counterclockwise end of the control knob rotator is provided on all models.

Ohmite solid state power controls are the smallest 1 or 2 KW controls available and offer the advantages, not only of convenient size, but also of power savings, long life and low initial cost.

Two styles are available: the component style for panel mounting in equipment, and the lightweight, self-contained portable style. Portable units are completely self contained with grounded line cord and standard grounded AC receptacle.

Ohmitrol Controls are available with AC output and with two kinds of DC output delivered simultaneously. One kind consists of rectified DC, at approximately full line voltage; the other is the variable or controlled DC. This double output is useful, for example, for controlling shunt wound motors. Two-way terminals at the rear of the controls accept quick-connectors (push-on connectors), or can be soldered.

PORTABLE STYLE



Models:
PCA-1001,
PCD-1001,
PCA-1021,
PCD-1021

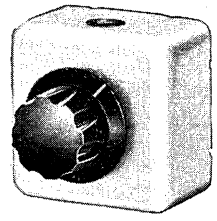
SPECIFICATIONS AND ORDERING INFORMATION

	120 Volt Types	240 Volt Types
LOAD RATING	1 KW, 8.3 Amps	2 KW, 8.3 Amps
INPUT	120 VAC, 60 Hz	240 VAC, 60 Hz
OUTPUT	0-120V AC or DC	0-240V AC
TRIMMER VOLTAGE RANGE	0-70 Volts	0-200 Volts

SIZE: Portable Style, 4¼"Lx3¼"Wx1 13/16" (not incl. knob or fuse)
Component Style, 1¾" Square x 1" Deep (not incl. terminals)

Mounting (Component Type): ⅜"-32 Bushing, Non-Turn Projection on ½" Centers with Shaft.

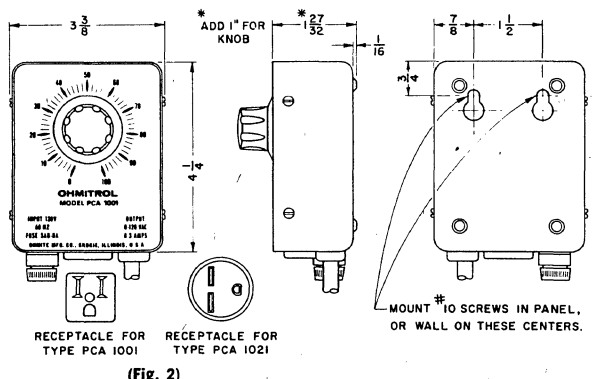
COMPONENT STYLE



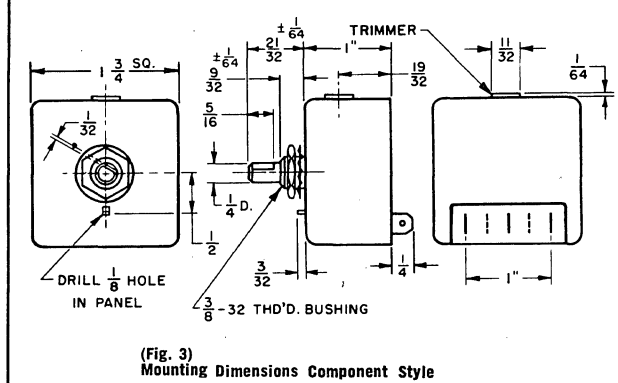
Models:
PCD-1000,
PCA-1000,
PCA-1020,
PCD-1020

Model	Input	Output	Price (1-9)
PCA-1001	120 VAC	0-120 VAC	25.36
PCD-1001	60 Hz	Pulsating 0-120 VDC and Full 120 VDC	42.56
PCA-1021	240 VAC	0-240 VAC	32.56
PCD-1021	60 Hz	Pulsating 0-240 VDC and Full 240 VDC	48.40

Model	Input	Output	Price (1-9)
PCA-1000	120 VAC	0-120 VAC	17.14
PCD-1000	60 Hz	Pulsating 0-120 VDC and Full 120 VDC	31.84
PCA-1020	240 VAC	0-240 VAC	22.40
PCD-1020	60 Hz	Pulsating 0-240 VDC and Full 240 VDC	36.70



(Fig. 2)
Mounting Dimensions Portable Style



(Fig. 3)
Mounting Dimensions Component Style

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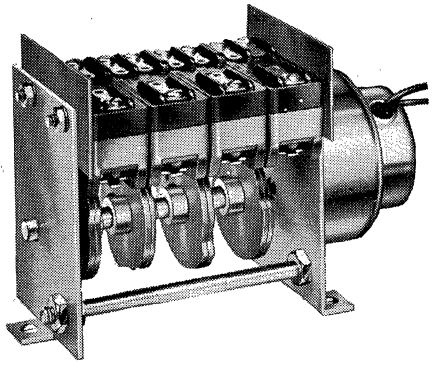
BRISTOL MOTORS / DIVISION OF VOCALINE

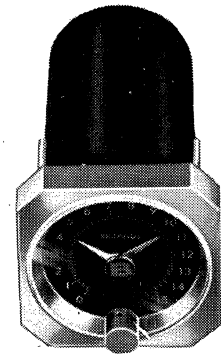
SYNCHRONOUS MOTORS AND TIMERS

Versatility is the characteristic which design engineers need — and find — in Bristol Synchronous Motors and Timing Devices. Bristol's unusually broad experience and range of design and manufacturing skills are particularly valuable where special requirements must be met.

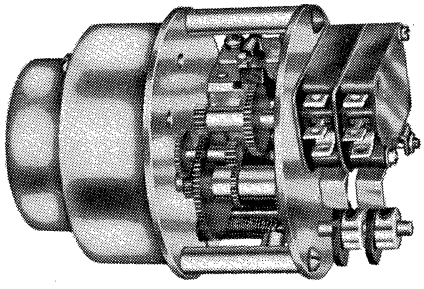
The devices shown are among the most widely used. All can be mounted in any position, and take a minimum of space. Materials are selected on the basis of their suitability to provide long service, and perform well under a variety of conditions. Bristol engineering service is available for applications that require custom design and manufacture.



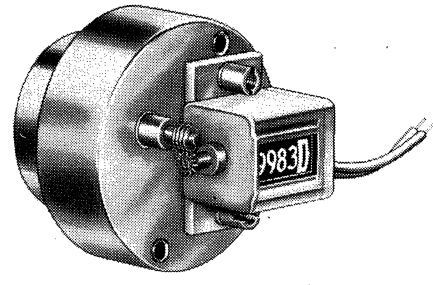
SERIES 31 REPEAT CYCLE TIMER. Low-cost multi-contact timer with high repeat accuracy. For vending machines, home appliances, industrial program controls. Speed Ranges: 1 Revolution Per Second to 1 Revolution Per Month. Motors standard, or high torque reversible. Switch Rating: 20 amp. at 115-230 V AC (also in ½ hp. at 125 V AC). Switches: enclosed snap action SPDT type. Cams: dual cams with set screws for field adjustment. Cut cams available on special order. Bulletin B-22.
One Switch Model $8.25 approx.
Four Switch Model $16.75 approx.



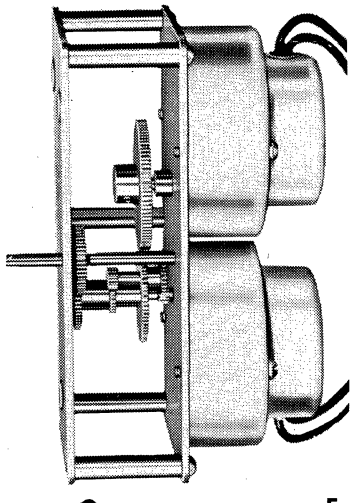
SERIES 6100 TIME DELAY RELAY. Universal Time Delay Relay provides self-holding solenoid starting with adjustable timed contact operation. Type 6110 provides three types of load contacts which give seven types of load circuit operation in a single unit. This model may be wired up to one of four basic types of operation: momentary start, automatic reset; momentary start, manual reset; sustained switching; and tandem or cascaded operation. Size 3" in diameter by 5 1/16 long. Timer case bezel 19/32 thick x 3 5/8 inches square. Universal mounting allows standard 3-stud or 4-stud panel mounting. For further information request Bulletin No. B-11.
$44.00 approx.



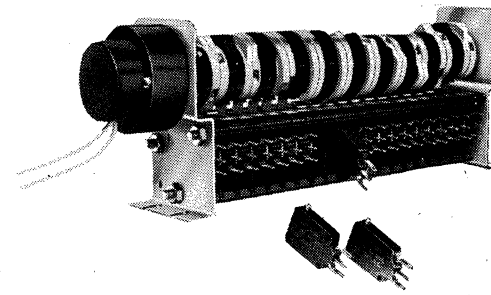
SERIES 21 TIME DELAY RELAY. General timer for instantaneous reset-type action, such as timers for photography, electronic safety, alarms, signals, etc. (Life expectancy over 1 million cycles.) Compact. Quick reset time (well under 1/5 second). Repeat accuracy better than 1% full scale. Time setting: 15 seconds to 3 months full scale. Rating: 10 amp (non-inductive load), Voltage: 115 V AC, 60 cycles standard. Optional adjustment feature available. Bulletin B-21.
One Switch Model $19.00 approx.
Two Switch Model $22.50 approx.



SERIES 41 ELAPSED TIME INDICATOR. Adaptable for panel or unit mounting, this low-cost series features simple installation, and a choice of four models with non-reset or reset counters. Maximum readings on both units from 9,999.9 minutes to 99,999 hours. 115 V AC, 60 Cycle standard. 50 Cycle and other voltages available. For further information on the three models above request Bulletin B-23.
Non-reset $14.00 approx.
Reset $20.00 approx.



MODEL 42 DUAL SPEED UNIT. Consists of two motors assembled to a common output shaft through a differential. Output speed is the sum of the two motor input speeds. Therefore, two different speed unidirectional motors provide a choice of 3 output speeds (either motor speed or the sum of the two motor speeds). Available with reversible motors for further variations in output speed. Standard units also available incorporating 3 and 4 motors providing up to 40 output speeds by electrical switching. Dimensions depend on the design of the unit in question. For further information request Bulletin B-24.
Basic Unit $18.75 approx.



SERIES 47 REPLACEABLE SWITCH REPEAT CYCLE TIMER is a multi-contact program timer which permits easy switch replacement without the necessity of disassembling. In addition one turn of the calibrated adjusting screw provides a 2% variation of cam time sequence. Switches are rated at 6 amps-115 volts. Available in a wide range of switches and speed combinations. Request Bulletin B-20
Two Switch Model $14.00 approx.
Six Switch Model $24.00 approx.

For Complete Bristol Line Write for Catalog

VOCALINE COMPANY OF AMERICA, INC., BRISTOL MOTOR/TIMER DIVISION

Timers and Motors to meet special applications are available from distributors. See Vocaline Bristol Motors Catalog for complete line of motors and timers.

IMMEDIATE DELIVERY FROM FRANCHISED VOCALINE\BRISTOL MOTORS DISTRIBUTORS

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BRISTOL MOTORS / DIVISION OF VOCALINE

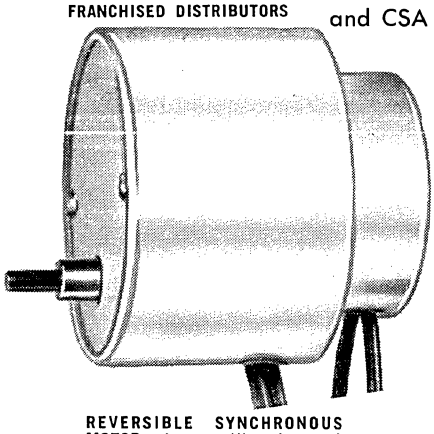
CATALOGED IN The MASTER

MOTOR FEATURES:

STANDARDS AVAILABLE "OFF THE SHELF" AT FRANCHISED DISTRIBUTORS

SYNCHRONOUS MOTORS AND TIMERS

Speeds from 1800 RPM to as low as 1 Revolution Per Month for 60-cycle operation • High starting torque with running torque considerably higher • Exceptionally compact size—the motor is 2 inches in diameter • May be operated in any position • Impregnated bronze-graphite rotor bearings • Most gears hobbed for efficient operation and long life • Moisture and dust-proof type construction throughout • All standard motors are approved by UL and CSA except Models 647 and 830.



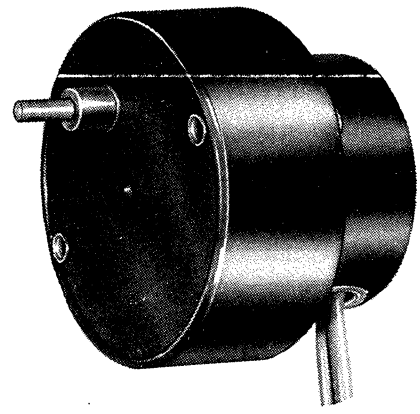
REVERSIBLE SYNCHRONOUS MOTOR. A versatile, low-cost motor for remote control and high torque applications. This motor operates by means of a condenser phase shift network, and offers positive reversibility in the following ratings:*

Model	Watts	Rated Starting Torque at 1 RPM
530	5	45 In. oz.
830	8	100 In. oz.

These are 2 inches in diameter, and 2 inches long.

*Torque ratings are developed motor torque. All standard gear trains are rated for 20 in. oz. maximum continuous running, 5 in. lbs., static torque rating.

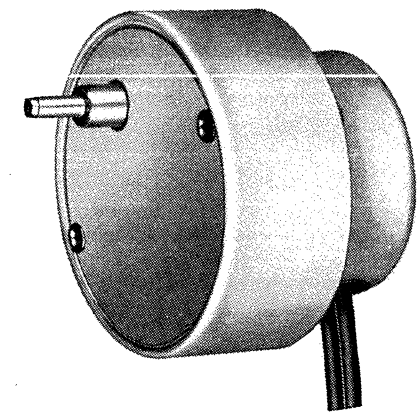
$7.25 approx.



MODEL 350 INTERNAL SHIFT MOTOR. The rotor is disengaged from the gear train when de-energized permitting restting. A built-in solenoid assures positive engaged and disengagement of the clutch in all positions. Output torque rated at 16 in. oz. Available in speeds of ½ to 5 RPM. Dimensions 2" dia. x 1 25/64" long. (Similar shift type action available on Type 830 reversible motor.)

$7.25 approx.

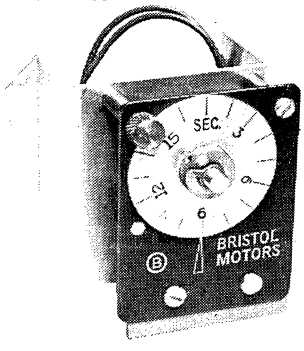
For further information on the models above request Bulletin B-10.



BASIC TIMING MOTOR. The standard Bristol motor for light and medium duty in uni-directional use, 2 in. diameter x 1 21/64 long, with through hole mounting. Avaliable in a wide variety of output shafts and the following torque rating:!*

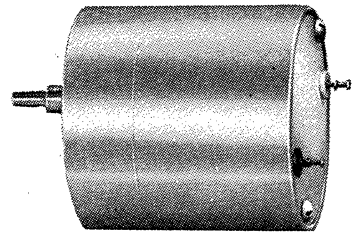
Model	Watts	Rated Starting Torque at 1 RPM
247	2.5	16 in. oz.
425	4	16 in. oz.
447	4	40 in. oz.
647	6	50 in. oz.

$5.00 approx.

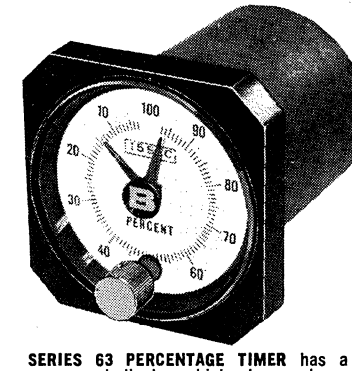


BRISTOL SERIES 55 DELAY TIMER, the low cost timer with the adjustable dial. For use when short time-delays are called for. This Delay Timer has a progress pointer which indicates the progress of a cycle, automatically re-sets when power to the duty-matched synchronous motor is interrupted and is manually adjusted by a selective dial which can be reset at will. The standard motor is for 115v/60 cycle, other voltages are available at small extra cost. Switch is SPDT rated 20 Amps resistive load at 115-230 VAC. Delay Timers are available in 15, 30, 60 and 120 second time delays. Bulletin B-32.

$14.00 approx.



MODEL 317 AND 318 TRANSISTORIZED DC MOTOR. This DC motor consists of a synchronous hysteresis motor with a transistorized inverter circuit. Ideal for long, reliable use in high humidity or saline atmosphere, with **no objectionable radio noise.** Speed ranges from 1 Rev per Month to 1500 RPM. Speed accuracy ±10%; 16 in. oz. starting toque at 1 RPM. Suitable for ambient temperatures ranging from −10 degrees C to +65 degrees C. Model 317 dimensions 3 5/16" wide x 3" high x 1 3/8" deep. Model 318: 2" in diameter x 2 3/8" long. For further information request Bulletin B-26. **$31.00 approx.**



SERIES 63 PERCENTAGE TIMER has a progress indicator which always shows the present position of the timer. This is an easily adjustable repeat cycle timer which makes or breaks an electrical circuit for an adjustable percentage of the full time cycle. Available in 7.5 second to 31 day time ranges, they are ideal for control of blowers, ovens, dryers, heaters, pumps, etc. Have repeat accuracy within ¼%. Panel mount. Automatic re-cycle. For complete information, request Bulletin B-30. **$27.00 approx.**

SEND FOR COMPLETE MOTOR AND TIMER CATALOG

VOCALINE COMPANY OF AMERICA, INC., BRISTOL MOTOR/TIMER DIVISION

Timers and Motors to meet special applications are available from distributors. See Vocaline Bristol Motors Catalog for complete line of motors and timers.

IMMEDIATE DELIVERY FROM FRANCHISED VOCALINE BRISTOL MOTORS DISTRIBUTORS

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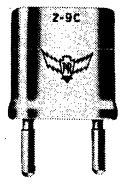
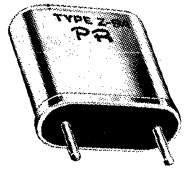
PR Crystals

- AMATEUR
- AIRCRAFT
- CITIZENS BAND
- INDUSTRIAL
- RADIO CONTROL
- DIATHERMY
- FREQUENCY STANDARD

FOR AMATEUR SERVICE



Z-9C



Z-9A

Z-9C and Z-9A Crystals are supplied ONLY in the following bands and calibrated INTEGRAL KILOCYCLES only, NO FRACTIONS. All Z-9C crystals are calibrated with a load of 32 mmfd.

Type	Frequency Range	For	Price
Z-9C Fundamental	1750 to 2000 Kc. ±250 Cycles	160M.	$2.95
	3500 to 4000 Kc.	80M.	
	7000 to 7425 Kc.	40M.	
	8000 to 8222 Kc.	2M.	
	8334 to 9000 Kc. ±500 Cycles	6M.	
Type	**Frequency Range**		**Price**
Z-9A 3rd Overtone	24000 to 24666 Kc. ±3 Kc. 25000 to 27000 Kc. ±3 Kc. 28000 to 29700 Kc. ±5 Kc. 30000 to 50000 Kc. ±10 Kc.		3.95
Z-9A 5th Overtone	50000 to 54000 Kc. ±10 Kc.		4.95

CITIZENS BAND

Supplied in all 23 assigned frequencies. Be sure to specify channel desired, with name of manufacturer and model of equipment. Type Z-9R Crystals have .486" pin spacing; .050" pin diameter; .758" height, above pins; width .720" and depth .309". Z-13 Crystals have .192" pin spacing; .040" pin diameter; .530" height above pins; width .402" and thickness .150". Z-13P Crystals are same as Z-13 except for having .017" wire leads instead of pins.

	.005%	.002%
Calibrated		
All Types	$2.95	$3.95

Type Z-9R, RADIO CONTROL

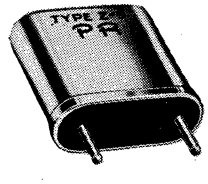
Supplied in all FCC assigned frequencies. Calibrated .005%. In ordering, be sure to specify frequency desired, with manufacturer and model number of equipment.

Type Z-9R—Radio Control	.005%	$2.95
Type Z-9R—Radio Control	.002%	3.95

MARINE TYPES

(Pix Z-9 HC-6/U

Available for all makes of Marine equipment. Frequency range 1600 Kc to 7000 Kc. Specify make of equipment and frequency desired.



	Transmitter	Receiver
Z-9.....2000-3000Kc.....	$6.00	$6.00
Z-30.....2000-3000Kc.....	6.00	6.00

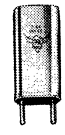
Type Z-1, TV MARKER

Channels 2 through 13	$6.45
4.5 Mc. Intercarrier, .01%	2.95
5.0 Mc. Signal Generator, .01%	2.95
10.7 Mc. FM, IF, .01%	2.95

VHF Types, AIRCRAFT

For Lear, Narco and similar equipment operating in the 121 Mc. region, requiring crystals in 30 Mc. range. Z-9R Crystals have .486" pin spacing; .050" pin diameter; .758" height above pins; width .720" and depth .309". Z-13 Crystals have .192" pin spacing; .040" pin diameter; .530" height above pins; width .402" and thickness .150". Z-13P Crystals are same as Z-13, except for having .017 wire leads instead of pins.

Type Z-9R—Aircraft	$4.95
Type Z-13—Aircraft	4.95
Type Z-13P—Aircraft	4.95



Type Z-6A, FREQUENCY STANDARD

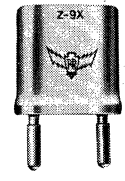
Correlated in oscillator having load capacity of 32 mmfd. .486" pin spacing; .050" pins.

Type Z-6A—100 Kc. (.050" Pins) $6.95

Z-1, MARS and CAP

Calibrated to .005% with 32 mmfd. crystal load capacity. Official assigned transmitter frequencies in the range.

1600 to 10000 Kc. $3.45

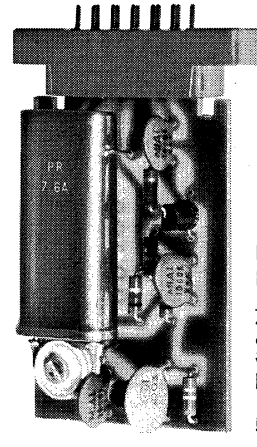


Z-9X, EXPERIMENTAL

Suitable for converters, experimental, etc.

1600 to 12000 Kc. ±5 Kc. (Fund.)	$3.45
12001 to 25000 Kc. ±10 Kc. (3rd Overtone)	4.45

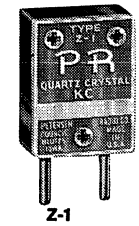
TRANSISTORIZED OSCILLATOR PR 100



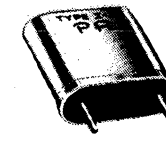
Fully wired, plug-in unit... Includes a Z-6A 100 Kc crystal. With it you can check harmonics from 100 Kc through 54 Mc.

PR 100 with crystal
Price $16.95

COMMERCIAL TYPES



Z-1



Z-9, Z-9R

Z-13

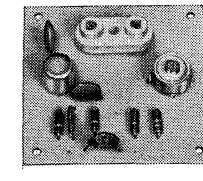
SPECIFICATIONS

Type	Pin Spacing	Pin Diameter	Height Above Pins
Z-1	.486"	.093"	1 3/16"
Z-1A	3/4"	.125"	1 3/8"
Z-1B	3/4"	.125"	1 3/8"
Z-1D	1/2"	.125"	1 3/16"
Z-1H	3-Pin W.E.	.157"	2 1/16"
Z-1M	7/8"	Std. Banana	2 3/32"
Z-1R	1/2"	.093"	1 1/4"
Z-9	.486"	.050"	.758"
Z-9R	.486"	.050"	.758"
Z-13	.192"	.040"	.530"
Z-13P	.192"	.017 Wire	.530"
E-1	Interchange with FT164 and AC-95		
Z-21	3-Pin W.E.	.157"	2"
Z-22	3/4"	.125"	1 1/4"
Z-24	1/2"	.125"	1 1/4"
Z-30	3/4"	.125"	1 1/4"

Note: Z-1A can be supplied with Standard Banana Pins. Specify when ordering. Z-9 and Z-9R can be supplied with .093 Pins. All Fundamental Crystals are correlated in oscillator having load capacity of 32 mmfd. unless otherwise specified.

Commercial Type Crystals are available from 800 Kc. to 150 Mc. Prices depend upon specifications and quantities. Ask for quotations.

TRANSISTOR OSCILLATORS



Temp. range —0°C./+35°C. Power req. 9V DC +10% @ 4 Ma. Min. R.F. voltage no load, 2V. 1-1.5V. with max. load of 1.5 K ohms. Width 2", depth 2", height 1 15/16". Matching crystal required for frequency desired. Specify tolerance. Fully wired.

PR-455—Frequency range 455 Kc. to 1 Mc., Less Crystal	$8.50
PR 1-5—Frequency range 1 Mc. to 5 Mc., Less Crystal	$8.50

(Available to 17 Mc.)

OVEN PRO-26

Precision built for long life. Heating element anchored in epoxy. Teflon coated interior inhibits formation of moisture.

Internal cavity temperature: 65°C. to 100°C. Input voltage: 6.3 to 110V. AC or DC.

PRICE $19.95

PETERSEN RADIO CO., INC. • MAKERS OF FINE CRYSTALS SINCE 1934

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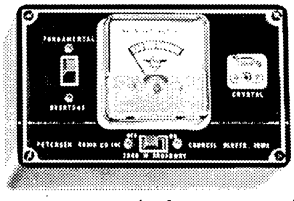
PR Components

Precision Built for Long Life

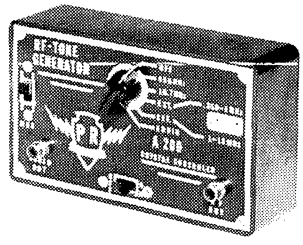
CB CRYSTAL ACTIVITY CHECKER



Model CB-101 checks activity of 13 Mc. fundamental and 27 Mc. overtone; Model MR-100; 1,500 to 8,000 Kc. Single function switch for fundamental or overtone mode Meter is calibrated to read according to crystal performance under normal operating conditions.

Silicon transistor oscillator circuit for high stability, performance and wider temperature range. Simple scale readings —"BAD" and "NORMAL". Has two sockets, for crystals with .486" or .192" pin spacing. Black phenolic case with anodized aluminum top panel. Clear cover over meter scale. Length 6¼", width 3¾", height 2½". Weigth 19 ounces. Uses 9 volt battery.

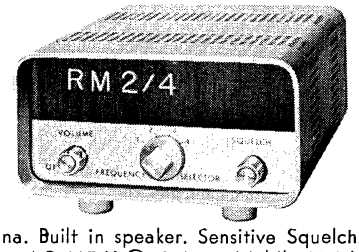
MODEL A200 R.F.—TONE MODULATED GENERATOR



Portable Alignment—Marker Signal Generator

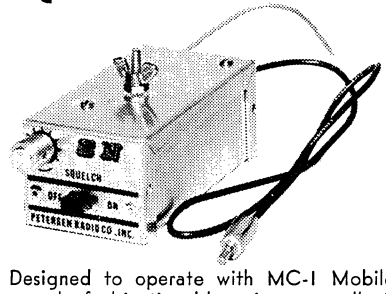
R. F. Range .250 MHz-15 MHz (X 10=150 MHz). Built in 455 KHz and 10.7 MHz. 2-External Crystal positions (HC 6/U). Audio Freq. 1000 Hz. Output: RF or RF Modulated, 1000 Hz Audio for external use. Size L. 6¼" X 3¾" X 2½". Power 9 V @ 8 ma. **List $24.95.**

MODEL RM 2 MONITOR RECEIVER



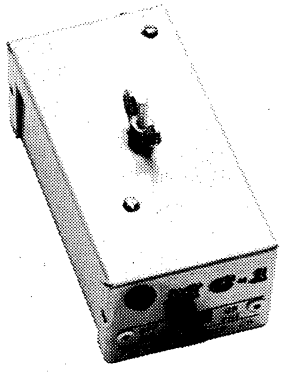
AC — MOBILE — PORTABLE. Frequency 2-200 MHz, AM or FM. Features Crystal Controlled:- Interchangeable plug in cords contain RF Stage Oscillator and mixer stages. Built in antenna with provision tor external antenna. Built in speaker. Sensitive Squelch. One Watt Audio. Power: AC 117 V @ .2 Amp. Mobile 12.6 V DC @ 35—200 Ma. Portable 12 V DC @ 40—200 Ma. RM 2-1 Single Frequency Units with one plug in card—Price $59.95. RM 2-4 Four Frequency Unit with one plug in card —Price $69.95. Additional plug in cards—$14.95. Size 3⅜" X 5¾" X 7¼". Accessories: Portable battery pack. Mounting Bracket.

MODEL S N SQUELCH NOISE ELIMINATOR



Designed to operate with MC-1 Mobile Converter. For removal of objectionable noises normally found in VHF Mobile Converters. One adjustable control on front panel. Control is set to a position in same manner for comfortable listening as with a commercial receiver with built in squelch. Features four silicon transistors. One Zener Diode. Power 12 V @ 20 Ma. Size 2⅛" X 1 1/5" X 4". **Price $16.95.**

MC-1 MOBILE CONVERTER



12 volt VHF Mobile Converter crystal controlled to any one frequency from 148 MHz to 175 MHz. Compact, rugged, solid state converter. When ordering, specify exact frequency in MHz and KHz. **Price $29.95.**

PRM COMPACT CONVERTERS

With it you can monitor VHF such as aircraft, business, marine, police, railroad, taxicab, radiotelephone and others, with your transistor broadcast radio. Crystal controlled.

Place the PRM Converter next to a good 6-10 transistor broadcast radio, tuned to a frequency determined by the crystal. No internal connection needed. Performance of 20 miles or more under good conditions.

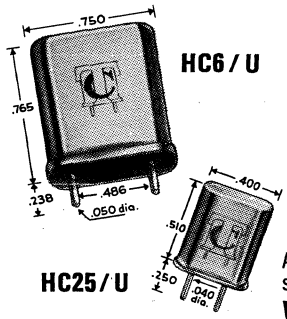
Powered by 9-volt transistor battery. Case 2⅞ x 1⅞ x 4 inches. Antenna extends to 36 inches. Weight 8½ ounces complete. Specify VHF frequency to be received, also broadcast frequency desired on transistor radio. **Dual $24.95.**

PRM ONE—148-175 mc.; FM; PRM THREE—108-136 mc. **LESS BATTERY $19.95.**

PETERSEN RADIO CO., INC. • MAKERS OF FINE CRYSTALS SINCE 1934

PRICE LIST • Subject to Change without Notice • **MINIMUM ORDER $10.00**

CRYSTEK CRYSTALS... *FOR EVERY PURPOSE*



HC6/U

HC25/U

2.95 EACH

CLASS "D" CITIZEN BAND CRYSTALS

23 Frequencies — 3rd Overtone — .005% Tol.

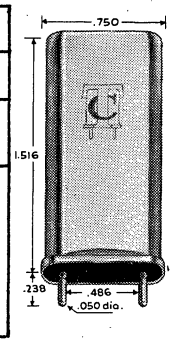
All "Citizen Band" crystals supplied in Hermetically sealed holders for all 23 channels and C.A.P.

When ordering, specify make and Model of UNIT and CHANNEL NUMBERS desired.

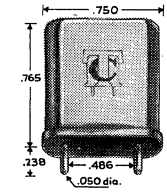
We supply crystals for every popular make of Citizen Band Transceivers.

LOW FREQUENCY CRYSTALS 80 KHZ - 999 KHZ

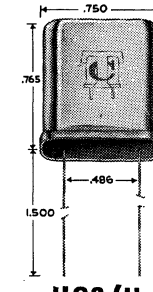
FREQUENCY	TYPE	
	STANDARD	SPECIAL
	CALIBRATION TOLERANCE ±.005%	CALIBRATION TOLERANCE ±.002%
80- 99 KHZ	$10.00	$12.00
100-199 KHZ	8.00	10.00
200-799 KHZ	7.00	9.00
800-999 KHZ	12.00	13.00



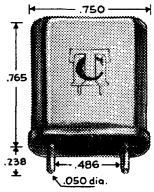
HC13/U
70 KHZ — 200 KHZ (70-99 KHZ is 2.5" in height)



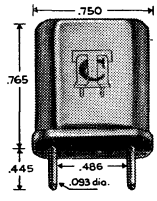
HC6/U
200 KHZ to 1000 KHZ



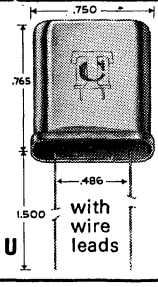
HC6/U
Also Available with Wire-leads



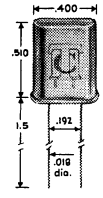
HC6/U



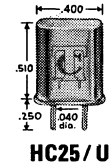
HC17/U



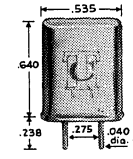
HC6/U with wire leads



HC18/U



HC25/U



HC32/U

FUNDAMENTAL TYPE — 1000 KHZ - 22000 KHZ

FREQUENCY	TYPE		
	STANDARD	SPECIAL	OVEN 75°C/85°C
	CALIBRATION TOLERANCE ±.002%	CALIBRATION TOLERANCE ±.001%	CALIBRATION TOLERANCE ±.002%
1000- 1499 KHZ	$8.50	$10.50	$12.50
1500- 1999 KHZ	7.50	10.00	12.00
2000- 2999 KHZ	6.00	9.00	11.00
3000-10999 KHZ	4.50	7.00	9.00
11000-19999 KHZ	6.00	8.00	10.00
20000-22000 KHZ	8.00	10.00	12.00

OVERTONE TYPE — 10 MHZ - 125 MHZ

FREQUENCY	MODE	STANDARD	SPECIAL	OVEN 75°C/85°C
		CALIBRATION TOLERANCE ±.002%	CALIBRATION TOLERANCE ±.001%	CALIBRATION TOLERANCE ±.002%
10- 60 MHZ	(3rd)	$6.00	$ 8.00	$10.00
61- 75 MHZ	(5th)	7.50	11.00	13.00
76-125 MHZ	(5th)	9.00	13.00	15.00

AMATEUR CRYSTALS

Hermetically Sealed HC6/U Holder

Supplied In Following Freq.	±.005% Tolerance
3501 to 3999KC.....	$2.95 ea.
4667 to 4780KC.....	2.95 ea.
7000 to 7425KC.....	2.95 ea.
8001 to 8221KC.....	2.95 ea.
8334 to 8900KC.....	2.95 ea.

MARINE CRYSTALS

2000 — 5000 KHZ

For most marine units, including Apelco, Bendix, Konisberg, Pearce-Simpson, Raytheon, Sonar and Kaar.

Type HC6/U Marine 2000 KHZ thru 5000 KHZ

$5.50

Type HC17/U Marine 2000 KHZ thru 5000 KHZ

$5.50

TEXAS CRYSTALS

DIVISION OF WHITEHALL ELECTRONICS

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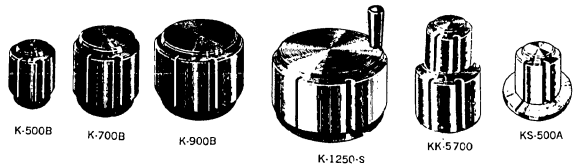
ALUMINUM KNOBS • CERAMIC TERMINAL STRIPS



ALUMINUM INSTRUMENT KNOBS

STANDARD ANODIZED KNOBS FOR ¼" SHAFTS

Modern, decorative knobs of fabricated aluminum. Offers one-piece construction and superior styling at moderate price.

Model	O.D.	Finish*	One-99	100-249	250-499	500-999
K-500	.500"	A, B, G	.45	.41	.39	.36
K-700	.750"	A, B, G	.50	.45	.43	.40
K-900	.937"	A, B, G	.55	.50	.47	.44
K-1250	1.250"	A, B, G	.65	.59	.56	.52
K-1250-S	1.250"	A, B	1.55	1.40	1.32	1.24
K-5700	.500" & .750"	A, B	1.10	.99	.94	.88

SKIRTED ANODIZED KNOBS FOR ¼" SHAFTS

Decorative knobs with skirts of natural or black aluminum or acrylic plastic. KS types have aluminum skirt; KSP types, acrylic plastic skirt.

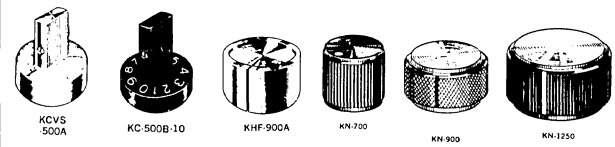
Model	O.D.	Skirt Dia.	Finish*	One-99	100-249	250-499	500-999
KS-500	.500"	.750"	A, B	.60	.54	.51	.48
KS-700	.750"	1.125"	A, B	.65	.59	.56	.52
KS-900	.937"	1.406"	A, B	.85	.77	.73	.68
KSP-700	.750"	1.125"	A, B	.60	.54	.51	.48
KSP-900	.937"	1.406"	A, B	.65	.59	.56	.52

DELUXE KNOBS WITH A CUSTOM LOOK

ALCOKNOBS with unique, notched pointers are designed for hi-fi/stereo, tape recorders, test equipment, lab and medical instruments. The emphasis is on style to enhance the overall appearance. For ¼" shafts.

Model	O.D.	Finish*	One-99	100-249	250-499	500-999
KHF-500	.500"	A, G	.45	.41	.39	.36
KHF-700	.750"	A, G	.50	.45	.43	.40
KHF-900	.937"	A, G	.55	.55	.47	.44
KHF-1250	1.250"	A, G	.65	.59	.56	.52

*Specify color: add suffix **A** for natural aluminum anodizing with black pointer; add **B** for black anodizing with white pointer; add **G** for gold anodizing with red pointer.



MINIATURE ANODIZED KNOBS FOR ⅛" SHAFTS

K-⅛ types are machined aluminum with anodized finish and hairline indicator. Usable with switches and controls having ⅛" shafts. KC types are skirted knobs for MRA Series Alcoswitches: machined aluminum anodized with hairline and two set screws.

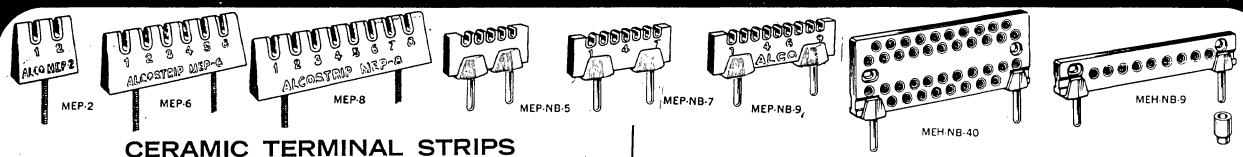
Model	O.D.	Skirt	Finish*	One-99	100-249	250-499	500-999
K-500-⅛	.500"	No	A, B, G	.45	.41	.39	.36
KS-500-⅛	.500"	Yes	A, B	.60	.54	.51	.48
KC-500	.473"	Yes	A, B	.55	.50	.47	.44
KC-500-10†	.473"	Yes	A, B	.65	.59	.56	.52
KCVS-500°	.473"	Yes	A, B	1.10	.99	.94	.88
KR-1	Shaft Reducer ¼ to ⅛			.06	.045	.04	.036

*Specify color: add suffix **A** for natural aluminum anodizing; add **B** for black anodizing; add **G** for gold anodizing.
†Has engraved 0-9 numerals. °Special adjustable stop types.

KNURLED ALUMINUM KNOBS

Model	O.D.	Style Knurl	Finish*	One-99	100-249	250-499	500-999
KD-500	.500"	Diamond	A, B, G	.55	.50	.47	.44
KD-500-⅛°	.500"	Diamond	A, B, G	.55	.50	.47	.44
KD-700	.750"	Diamond	A, B, G	.60	.54	.51	.48
KD-900	.937"	Diamond	A, B, G	.70	.63	.60	.56
KD-1250	1.250"	Diamond	A, B, G	.85	.77	.73	.68
KN-500	.500"	Straight	A, B	.55	.50	.47	.44
KN-500-⅛°	.500"	Straight	A, B	.55	.50	.47	.44
KN-700	.750"	Straight	A, B	.60	.54	.51	.48
KN-900	.937"	Straight	A, B	.70	.63	.60	.56
KN-1250	1.250"	Straight	A, B	.85	.77	.73	.68
KN-500	.500"	Straight	AB, BA**	.75	.68	.64	.60
KN-500-⅛°	.500"	Straight	AB, BA**	.75	.68	.64	.60
KN-700	.750"	Straight	AB, BA**	.80	.72	.68	.64
KN-900	.937"	Straight	AB, BA**	.90	.81	.77	.72
KN-1250	1.250"	Straight	AB, BA**	1.10	.99	.94	.88

*Specify color: Add suffix A for Natural Aluminum anodizing; Add B for Black anodizing; Add G for gold anodizing.
**Specify colors: Add suffix AB for Natural Aluminum body with Black top; Add BA for Black anodized body with Natural top. °For ⅛" Shafts.



CERAMIC TERMINAL STRIPS

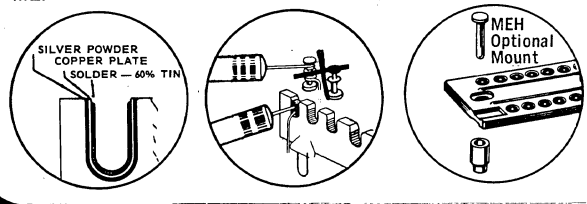
Ceramic-base terminal strips with fired silver, copperplated and tinned terminals to facilitate high-temperature soldering of components and leads. Features permanent bond between metal and ceramic. Standard 2-56 threaded studs are extra long for cutting to any required dimension. Board ht. 0.590" from base. Depth of slots, 0.197". Dielectric Strength: more than 10 seconds at 1500 VDC between terminals. Insulated Resistance: over 1000 megohms at 500 VDC megger. Dip Solder Test: no exfoliation at 250°C for 5 seconds.

STANDARD TYPES WITH THREAD MOUNTING

Model	No. of Terminal Slots	Size, Overall Width	Inches Mtg. Ctrs.	One-24	25-99	100-499	500-999
MEP-2	2	0.650	.....	.36	.24	.21	.17
MEP-4	4	1.161	0.512	.45	.30	.25	.21
MEP-6	6	1.673	1.024	.60	.40	.34	.28
MEP-8	8	2.185	1.535	.75	.50	.42	.35
MEP-10	10	2.697	2.047	.87	.58	.49	.41
MEP-12	12	3.209	2.560	.99	.66	.56	.46

MINIATURE TYPES WITH SNAP MOUNTING

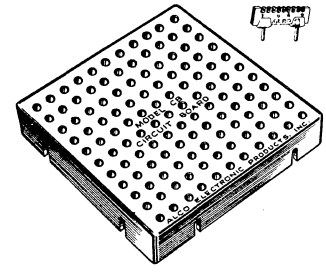
MEP-NB-3	3	0.600	.....	.48	.325	.29	.26
MEP-NB-5	5	0.885	0.490	.66	.45	.395	.355
MEP-NB-7	7	1.165	0.490	.81	.545	.48	.435
MEP-NB-9	9	1.445	0.750	.87	.59	.52	.47
MEP-NB-13	13	2.140	1.500	1.11	.755	.665	.60
MEP-NB-16	16	2.440	1.500	1.35	.92	.81	.73
MEP-NB-20	20	3.020	2.520	1.65	1.12	.99	.89



UNIVERSAL TYPES WITH SNAP MOUNTING

ALCO's new concept allows for horizontal or vertical mounting of terminal strips. Each strip is supplied with 2 types of mounting hardware. The selected positioning of the terminals permits the use of more components in a limited space (either singly or in pairs). Silverplated copper eyelets are swedged to the ceramic base.

Model	No. of Terminal Slots	Size Overall Width	Inches Mtg. Ctrs.	One-24	25-99	100-499	500-999
MEH-NB-9	9	3.000	2.500	.80	.53	.45	.38
MEH-NB-18	18	3.000	2.500	1.45	.97	.81	.67
MEH-NB-19	19	3.000	1.750	1.45	.97	.81	.67
MEH-NB-40	40	3.000	2.500	2.20	1.47	1.23	1.01



Simplify Circuitry With These
DESIGN BOARDS
and Plug-in Terminal Strips

Ceramic Alcostrips are ideal for breadboarding which may be quickly inserted or removed as desired to simplify circuit design. A mating circuit board measuring only 5" x 6" is provided to form a base for experimental design work. Complete ceramic kit includes 16 strips (8 sizes) and one board.

CB-2 Kit 10.95
CB-1 Board only .95

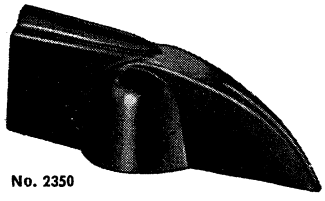
ALCOSTRIPS ARE MANUFACTURED UNDER A LICENSE GRANTED BY TEKTRONIX, INC.

ALCO® ELECTRONIC PRODUCTS, INC.

HARRY DAVIES MOLDING CO.

MOLDERS OF PLASTICS

POINTER AND BAR KNOBS



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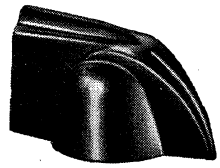

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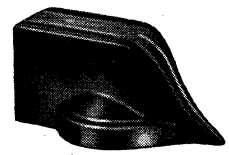

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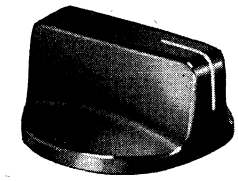
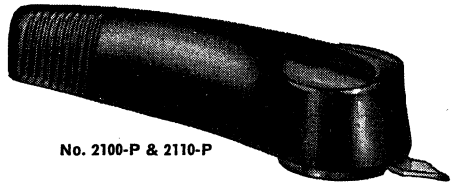
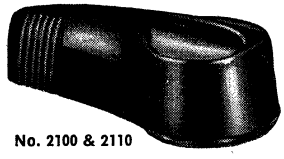


No. 1500, 1510 & 1520



No. 2100-P & 2110-P



No. 2100 & 2110

No. 2350
Length 2", hgt. 5/8", 1/4" molded hole or metal insert, set screw mounting, locknut recess.

No. 2300
Length 1 1/4", hgt. 5/8", 1/4" molded hole, also 1/4" metal insert, set screw or knurled hole mounting, locknut recess.

No. 2150
Length 1 1/4", hgt. 5/16", 1/4" molded hole, set screw mounting, locknut recess.

No. 1550
Dia. 1 1/8", hgt. 5/8", 1/4" molded hole or metal insert, set screw, spring or knurled hole mounting, locknut recess.

No. 1500
Dia. 1 1/8", hgt. 5/16", 1/4" molded hole. Set screw mounting. Locknut recess. Indicator line filled or unfilled.

No. 1510
Dia. 3/4", Hgt. 5/16", 1/8", 3/16" or 1/4" Molded Hole and Set Screw, 1/4" Knurled Hole Mounting.

No. 1520
Dia. 1 1/2", Hgt. 3/4", 1/4" Molded Hole or Brass Insert with Set Screw.

No. 2100-P
Length 2 1/2", hgt. 5/8", width 3/4", 1/4" metal insert and 5/16" pointer, set screw mounting.

No. 2110-P
Length 1 5/8", hgt. 1 9/32", width 3/4", 1/4" metal insert and 5/16" pointer, set screw mounting.

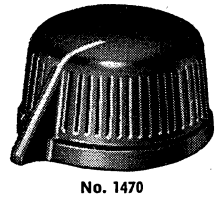
No. 2100
Length 2 1/2", hgt. 5/8", width 3/4", 1/4" molded hole or metal insert, set screw mounting, locknut recess.

No. 2110
Length, 1 5/8", hgt. 1 9/32", width 3/4", 1/4" molded hole or metal insert, set screw or knurled hole mounting, locknut recess.

CONTROL KNOBS

No. 1400

No. 1450



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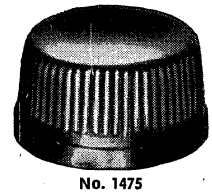

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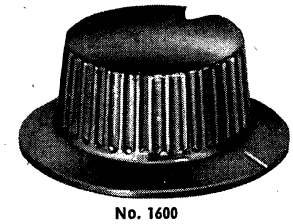
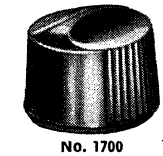
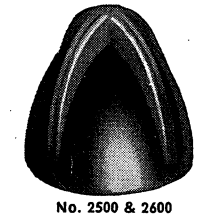


No. 1600

No. 1610



No. 1700



No. 2500 & 2600

No. 1400
Dia. 1 1/16", hgt. 13/32", 1/8" or 1/4" molded hole or brass insert, set screw, spring or knurled hole mounting.

No. 1450
Dia. 1 1/16", hgt. 13/32", 1/8" or 1/4" molded hole or brass insert, set screw, spring or knurled hole mounting.

No. 1470
Dia. 1", hgt. 1/2", 1/4" molded hole or brass insert, set screw, spring or knurled hole mounting, indicator line filled or unfilled, locknut recess.

No. 1475
Dia. 1", hgt. 1/2", 1/4" molded hole or brass insert, set screw, spring or knurled hole mounting, locknut recess.

No. 1600
Dia. 1 1/2", hgt. 1 1/16", 1/4" molded hole or metal insert, set screw mounting, locknut recess, indicator line filled or unfilled.

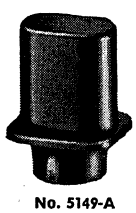
No. 1610
Dia. 1 5/16", hgt. 5/8", 1/8" or 1/4" molded hole or metal insert, set screw mounting, locknut recess, indicator line filled or unfilled.

No. 1700
Dia. 3/4", hgt. 19/32", 1/4" molded hole or brass insert, set screw, spring or knurled hole mounting.

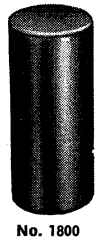
No. 2500
Dia. 3/4", hgt. 3/4", 1/4" molded hole, set screw, spring or knurled hole mounting.

No. 2600
Dia. 7/8", hgt. 7/8", 1/4" molded hole, set screw, spring or knurled hole mounting.

PUSH BUTTONS



No. 5149-A



No. 1800

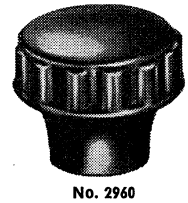
No. 1750 & 1770

No. 5149-A
Hgt. 5/64", oval touch tuning. Push-on to fit flatted shaft. .050" x .187".

No. 1800
Dia. 7/16", hgt. 1" to 1 3/8", touch tuning, plain or recessed top, push-on, to fit flatted shaft .050" x .187" patented friction fit. Also with studs of various lengths.

No. 1750
Dia. 31/64", hgt. 9/16" to 15/16", touch tuning, push on, to fit flatted shaft .050" x .187".

TERMINAL NUTS



No. 2960

No. 2710, 2720, & 2730

No. 1770
Dia. 31/64", hgt. 1/2" to 7/8", 6-32 or 8-32 female metal insert. 8-32 male stud.

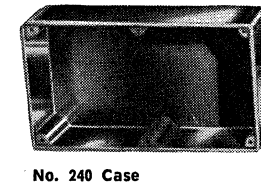
No. 2960
Dia. 7/8", hgt. 3/4", 8-32 or 10-32 female metal insert, 10-24 or 10-32 male stud.

No. 2710
Dia. 3/4", hgt. 1/2", 8-32, 10-32, 10-24 metal insert.

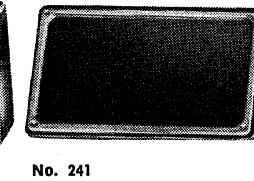
No. 2720
Dia. 5/8", Hgt. 5/16", 10-24, 10-32 Female Metal Insert.

No. 2730
Dia. 13/16, Hgt. 33/64", 10-24, 10-32 Female Metal Insert, 10-32 Male Stud.

METER CASE AND COVERS



No. 240 Case



No. 241

No. 240 Case
2" hgt. x 3 3/4" wide x 6 1/4" long. (Outside Dimensions) 1/8" (Wall Thickness).

No. 241
Mating cover with interlocking lip for No. 240 series cases.

No. 220 Case
1 7/16" hgt. x 2 7/8" x 4" long (outside dimensions) .109" (wall thickness).

No. 260 Case
2 5/16" hgt. x 5 9/32" w x 6 13/16" l. (Outside Dimensions)—5/32" (Wall Thickness).

No. 261
Mating cover with interlocking lip for No. 260 case.

No. 221
Mating cover for 220 case. Laminated phenolic nests inside case.

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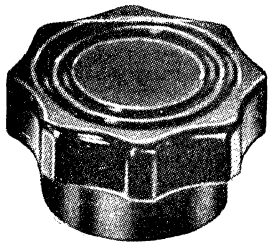
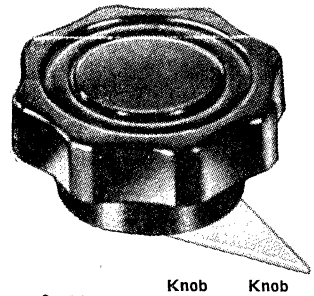
INSTRUMENT KNOBS



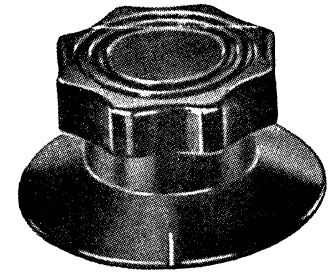
Part No.	Knob Dia.	Knob Hgt.
4100	1⅛"	⅝"
4101	1⅜"	11/16"
4102	1⅝"	¾"
4103	2⅜"	⅞"

Entire series available with ¼" molded hole or metal insert. Set screw mounting.



Part No.	Knob Dia.	Knob Hgt.
4100 W/PTR	1⅛"	⅝"
4101 W/PTR	1⅜"	11/16"
4102 W/PTR	1⅝"	¾"
4103 W/PTR	2⅜"	⅞"

White vinylite pointer available. Pointer lengths ⅝", ¾", ⅞", 1 1/16", 1 5/16".

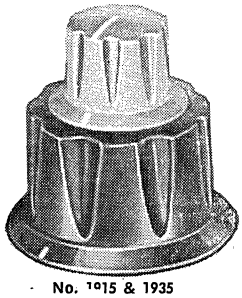


Part No.	Knob Dia.	Skirt Dia.
4104	1⅛"	1½"
4107	1⅜"	1¾"
4108	1⅝"	2 1/16"
4109	2⅜"	3"

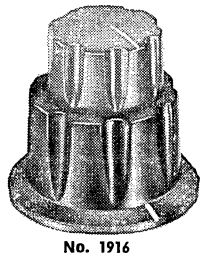
Skirt available with or without indicator line filled. Branding stamps constructed to your specifications.

This series can be furnished in compliance with MS 91531.

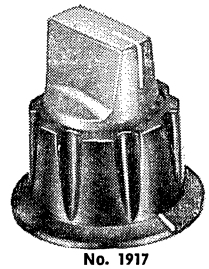
NEW FLUTED INSTRUMENT KNOBS



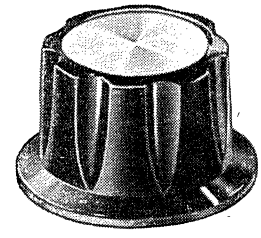
No. 1915 & 1935



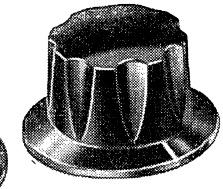
No. 1916



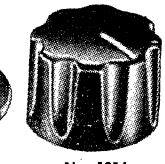
No. 1917



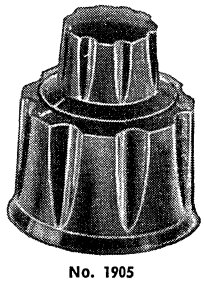
No. 1925-SS



No. 1913

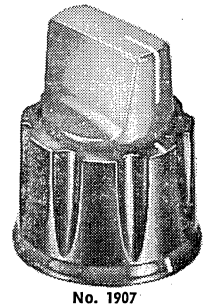


No. 1914

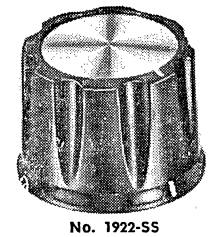


No. 1905

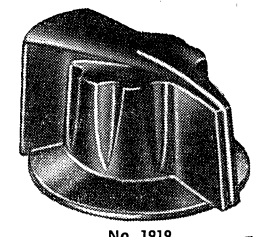
No. 1906



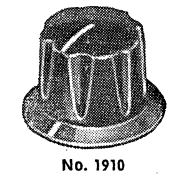
No. 1907



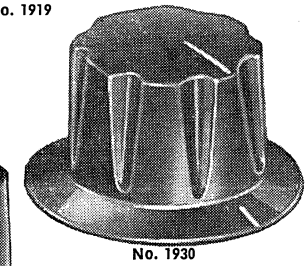
No. 1922-SS



No. 1919



No. 1910



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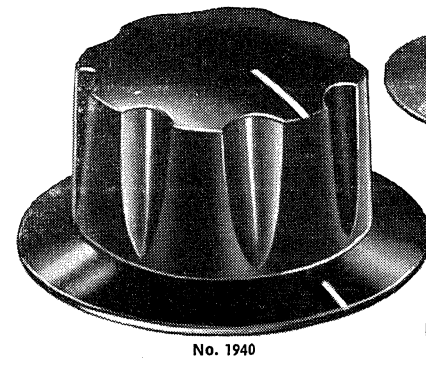
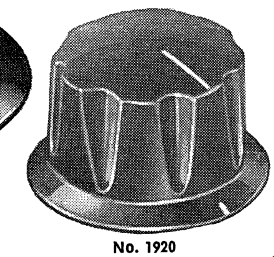


No. 1940



No. 1920

No. 1935
Dual control, dia. 1½", hgt. 1 5/16". See 1930 and 1910 for mountings.

No. 1915
Dual control, dia. 1¼", hgt. 1 3/16". See 1925 and 1910 for mountings.

No. 1905
Dual control, dia. 1 1/16", hgt. 1 3/16". See 1922 and 1910 for mountings.

No. 1916
Dual Control, Dia. 1¼", hgt. 1 13/64". See 1925 and 1914 for Mountings.

No. 1906
Dual Control, Dia. 1 1/16", hgt. 1 13/64". See 1922 and 1914 for Mountings.

No. 1917
Dual Control, Dia. 1¼", hgt. 1 1/16". See 1925 and 1510 for Mountings.

No. 1907
Dual Control, Dia. 1 1/16", hgt. 1 1/16". See 1922 and 1510 for Mountings.

No. 1913
Dia. 1⅛", hgt. ⅝". ¼" molded hole or brass insert. Set screw mounting ¼" CRL knurl.

No. 1919
Length 1¼", hgt. ⅝". ¼" molded hole or brass insert. Set screw mounting.

No. 1914
Dia. ¾", hgt. ½". ⅛", 3/16", ¼" molded hole or insert.

No. 1910
Dia. ¾", hgt. ½". ⅛", 3/16" or ¼", molded hole or brass insert, set screw, spring or knurled hole mounting.

No. 1930
Dia. 1½", hgt. ⅞". ¼" molded hole or brass insert, set screw.

No. 1940
Dia. 2", hgt. 1 5/16". ¼" molded hole or brass insert. Set screw mounting.

No. 1920
Dia. 1¼", hgt. ¾". ¼" molded hole or brass insert, set screw, spring or knurled hole mounting.

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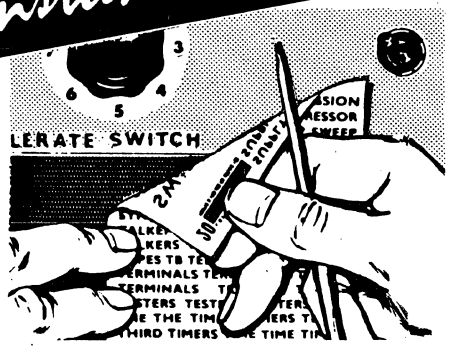

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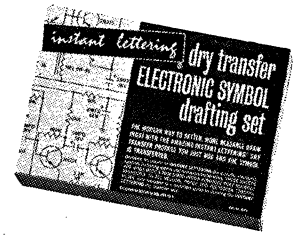

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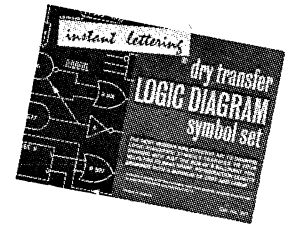

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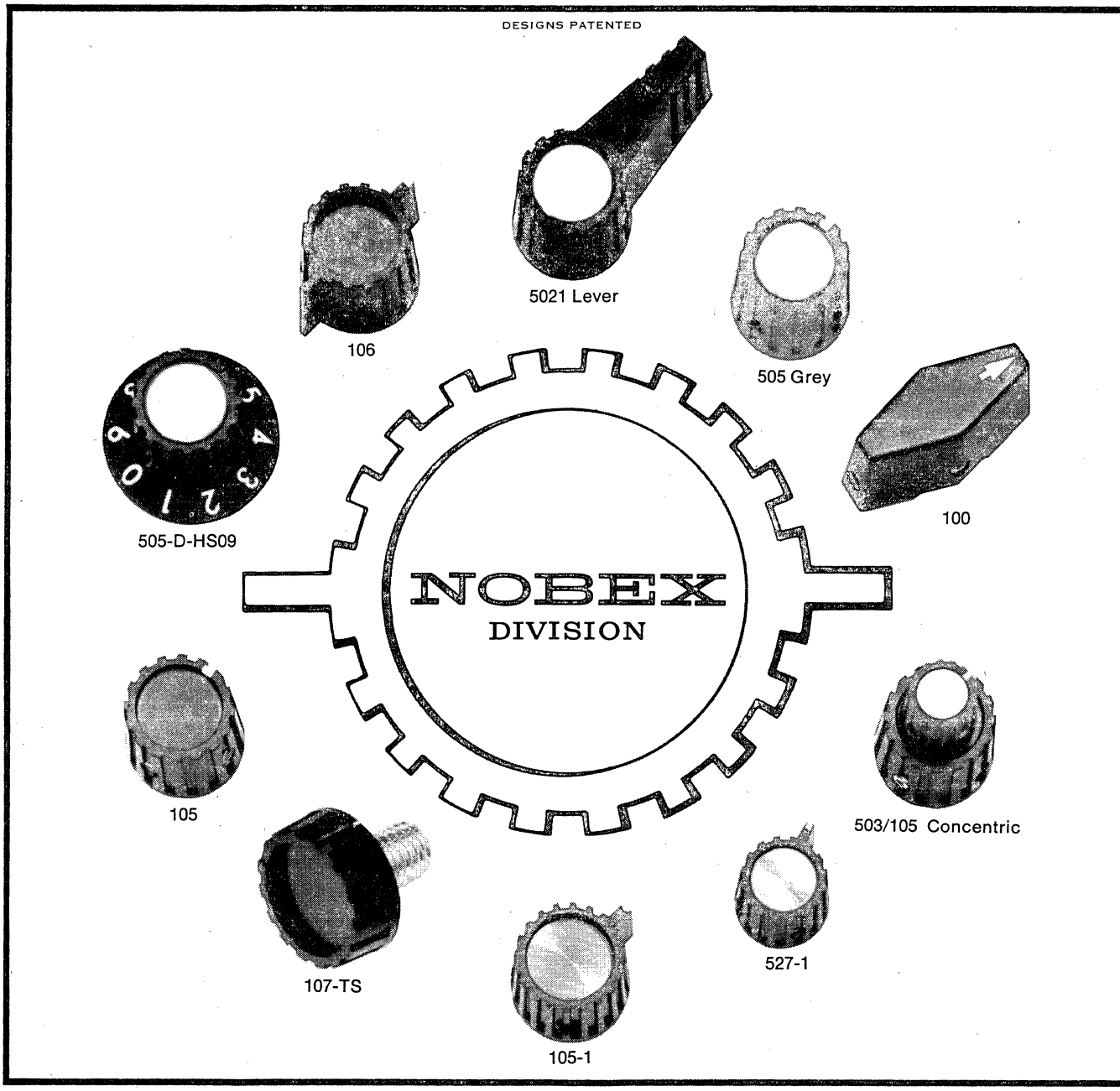

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AM-4	AM-4W	NM-4	NM-4W	1/2″
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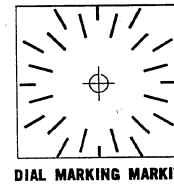
EAKAGE LEAK LEFT

ELECTRONIC WORDS MARKIT®



DIAL MARKING MARKIT®

Dial Marking Kit

Contains dial patterns, arcs, wedges, lines, dots, switch symbols, graduation lines, lines for rotary tap switches, potentiometers and calibrated meter dials.

DM-1 (14 Pages black)
(13 Pages white)

99 100 101 102
03 04 05 06
2 3 3 4 4 5 5
A L P M R

TERMINAL & CHASSIS MARKIT®

Terminal and Chassis MarKit®

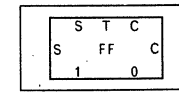
Contains numbers (through 200, 1 through 0 and 01 through 09) plus complete alphabets. All numbers 1/8″ high. For application in prototypes and production.

TC-1 (15 Pages black)
(12 Pages white)

Logic Diagram Symbols MarKit®

Contains flip flops, arrows, arrow heads, time delays, and, nand, or, nor, registers, shift registers, connection dots, Schmidt triggers, single shots.

LD-1 (black)

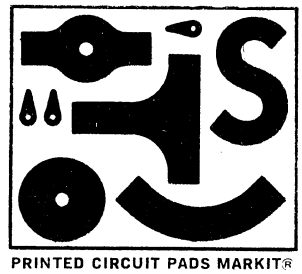


LOGIC DIAGRAM SYMBOLS MARKIT®

Printed Circuit Pads MarKit®

Thousands of printed circuit pads: circles (with center hole), teardrops, teardrops (with vanishing point), double end teardrops, double end teardrops (with vanishing points), elbows, elbow (terminal), T-connectors, fillets, ovals.

PC-1 (black)



PRINTED CIRCUIT PADS MARKIT®

MARKETCH® ETCHING SOLUTION

Adhere any desired MarKit® symbol to copper surface of printed circuit board Burnish thoroughly. Then deposit entire board into etching solution until al exposed copper is completely etched from board. Symbol will remain as it is, unaffected by etching solution. Wash board under running water. Wipe board dry. Then use thinner or fine sandpaper until bright copper is exposed.

PCE-1 — PRICE $3.00

One pint liquid in unbreakable plastic container. Weight approx. 28 oz.

DRI-TRANSFER® FUTURA MEDIUM FM-60C 60 Pt.

A A A A B B C C D D E E E E F F G G H H I
A A A A B B C C D D E E E E F F G G H H I
I I I J J K L L L M M N N N O O O O P P Q R
I I I J J K L L L M M N N N O O O O P P Q R

(EXAMPLE)
SHEET SIZE — 8½″ x 13½″
BLACK ONLY

NATURAL BOLD ABCDEFGHijklmno

Cat. No. NOB16-CL/16 Pt. Capitals and Lower Case
Cat. No. NOB24-CL/24 Pt. Capitals and Lower Case
Cat. No. NOB36-CL/36 Pt. Capitals and Lower Case
Cat. No. NOB42-CL/42 Pt. Capitals and Lower Case
Cat. No. NOB48-L/48 Pt. Lower Case Letters Only
Cat. No. NOB48-C/48 Pt. Capital Letters Only

FUTURA BOLD ABCDEFGHIJKlmnopqrs

Cat. No. FOB12-CL/12 Pt. Capitals and Lower Case
Cat. No. FOB24-CL/24 Pt. Capitals and Lower Case
Cat. No. FOB30-CL/30 Pt. Capitals and Lower Case
Cat. No. FOB36-CL/36 Pt. Capitals and Lower Case
Cat. No. FOB48-C/48 Pt. Capital Letters Only
Cat. No. FOB60-L/60 Pt. Lower Case Letters Only
Cat. No. FOB60-C/60 Pt. Capital Letters Only

FUTURA DEMI-BOLD ABCDEFghijkl

Cat. No. FDB24-CL/24 Pt. Capitals and Lower Case
Cat. No. FDB30-CL/30 Pt. Capitals and Lower Case
Cat. No. FDB36-CL/36 Pt. Capitals and Lower Case
Cat. No. FDB48-L/48 Pt. Lower Case Letters Only
Cat. No. FDB48-C/48 Pt. Capital Letters Only
Cat. No. FDB60-L/60 Pt. Lower Case Letters Only
Cat. No. FDB60-C/60 Pt. Capital Letters Only
Cat. No. FDB72-L/72 Pt. Lower Case Letters Only
Cat. No. FDB72-C/72 Pt. Capital Letters Only

FUTURA MEDIUM ABCDefgh

Cat. No. FM36-CL/36 Pt. Capitals and Lower Case
Cat. No. FM48-L/48 Pt. Lower Case Letters Only
Cat. No. FM48-C/48 Pt. Capital Letters Only
Cat. No. FM60-L/60 Pt. Lower Case Letters Only
Cat. No. FM60-C/60 Pt. Capital Letters Only
Cat. No. FM72-L/72 Pt. Lower Case Letters Only
Cat. No. FM72-C/72 Pt. Capital Letters Only

CLARENDON ABCDefg

Cat. No. CON24-CL/24 Pt. Capitals and Lower Case
Cat. No. CON 36-CL/36 Pt. Capitals and Lower Case
Cat. No. CON48-L/48 Pt. Lower Case Only
Cat. No. CON48-C/48 Pt. Capital Letters Only

FRANKLIN GOTHIC COND. ABCDEFghijk

Cat. No. FGC24-CL/24 Pt. Capitals and Lower Case
Cat. No. FGC36-CL/36 Pt. Capitals and Lower Case
Cat. No. FGC42-CL/42 Pt. Capitals and Lower Case
Cat. No. FGC48-L/48 Pt. Lower Case Letters Only
Cat. No. FGC48-C/48 Pt. Capital Letters Only
Cat. No. FGC60-L/60 Pt. Lower Case Letters Only
Cat. No. FGC60-C/60 Pt. Capital Letters Only
Cat. No. FGC72-L/72 Pt. Lower Case Letters Only
Cat. No. FGC72-C/72 Pt. Capital Letters Only

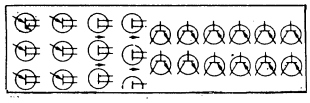
FRANKLIN GOTHIC ABCDEFghijk

Cat. No. FG18-CL/18 Pt. Capitals and Lower Case
Cat. No. FG36-CL/36 Pt. Capitals and Lower Case
Cat. No. FG48-L/48 Pt. Lower Case Letters Only
Cat. No. FG48-C/48 Pt. Capital Letters Only
Cat. No. FG60-L/60 Pt. Lower Case Letters Only
Cat. No. FG60-C/60 Pt. Capital Letters Only
Cat. No. FG72-L/72 Pt. Lower Case Letters Only
Cat. No. FG72-C/72 Pt. Capital Letters Only

1 - 5 Sheets	$1.69 ea.
6 - 11 Sheets	1.59 ea.
12 or more Sheets	1.49 ea.

Assorted Sheets

ELECTRONIC SYMBOL SHEETS



DST-1 Thermistors, photocells, Zener Diodes, SCR's.
BRS-1 Bridge Rectifiers, Diodes, SCR's.
UNP-1 FET, Unijunction, NPN and PNP Transistors.
RCT-1 Capacitors, Tubes, Resistors, Potentiometers, Varistors.
BFP-1 Plugs, Jacks, Switches, Lights, Fuses.
CC-1 Grounds, Shields, Contactors, Connections.
IRM-1 Relays, Contactors, Heaters, Reactors, Rotating Components, Thermal Delay Relays, Inductors, Transformers.
LAB-1 Antennas, Amplifiers, Speakers, Mikes, Boxes.

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waldom KNOBS

INSTRUMENT KNOBS

MODERN KNOBS
Black Styrene, 1/4" Brass Insert, Slotted Set Screw

Part No.	Diam.	Height	Skirt or Pointer Size	Net Ea.	100-Up, Ea.
6126	5/8"	7/16"		.32	.25
6126 Red	5/8"	7/16"		.37	.30
6129	7/8"	19/32"		.50	.40

BAR KNOB

BK-1B	11/16"	1/2"		.37	.30

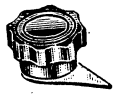
INSTRUMENT KNOBS—Full-Fluted Type
Black Bakelite, 1/4" Brass Insert, Slotted Set Screw

WA-4100	1-1/8"	5/8"		.46	.40
WA-4101	1-3/8"	11/16"		.47	.40
WA-4102	1-5/8"	3/4"		.54	.45
WA-4103	2-3/8"	7/8"		.78	.60

The above knobs supplied drilled and tapped for mounting skirts, pointers, or dials. Add Suffix (D)—Net—$.08 Ea.

W/SKIRT

WA-4104	1-1/8"	51/64"	1-1/2"	.74	.60
WA-4107	1-3/8"	55/64"	1-3/4"	.84	.65
WA-4108	1-5/8"	7/8"	2-1/16"	.97	.75
WA-4109	2-3/8"	1"	3"	1.25	1.00



W/WHITE OPAQUE PLASTIC POINTER

WA-4100Q	1-1/8"	11/16"	3/4"	.68	.55
WA-4101J	1-3/8"	3/4"	7/8"	.68	.55
WA-4102Q	1-5/8"	13/16"	1-1/4"	.70	.55
WA-4103W	2-3/8"	15/16"	1-9/16"	.94	.75

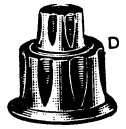
W/TRANSPARENT, LINED PLASTECELE POINTER

6566-P	1-1/8"	5/8"	25/32"	.80	.65
6571-P	1-3/8"	11/16"	1-1/32"	.86	.70
6570-P	1-5/8"	3/4"	1-9/32"	.92	.75
6559-P	2-3/8"	7/8"	1-11/16"	1.24	1.00

LATEST SERIES INSTRUMENT KNOBS
Black Bakelite, slotted set screw, white marker line on skirt.

INSTRUMENT KNOBS WITH DECORATIVE SILVER INLAY. All Instrument Knobs are available with a spun aluminum inlay for decorative purposes. Write for quotation.

Part No.	Diam.	Height	Figure	Net Ea.	100-Up, Ea.
WA-101	3/4"	1/2"	A	.29	.20
WA-101B*	3/4"	1/2"	A	.39	.35
WA-101C†	3/4"	1/2"	A	.31	.20
WA-102	1-1/8"	5/8"	A	.31	.20
WA-102B*	1-1/8"	5/8"	A	.42	.35
WA-103	1-1/4"	3/4"	A	.33	.30
WA-103B*	1-1/4"	3/4"	A	.44	.35
WA-104	1-1/2"	7/8"	A	.35	.30
WA-104B*	1-1/2"	7/8"	A	.47	.40
WA-105	2"	15/16"	A	.62	.50
WA-105B*	2"	15/16"	A	.77	.60
WA-106S	1-1/4"	3/4"	B	.53	.45
WA-106AG	1-1/4"	3/4"	B	.53	.45
WA-109	1-1/4"	5/8"	C	.41	.35
WA-109B*	1-1/4"	5/8"	C	.52	.40



* 1/4" Brass Insert; † 1/8" Molded Hole; All others have 1/4" Molded Hole. S w/Silver Inlay. G w/Gold Inlay.

DUO CONCENTRIC KNOB
Small Knob WA-101-C—Large Knob for 1/4" Shaft.

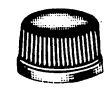
WA-107	1-1/4"	1-3/16"	D	.65	.50

BAR KNOBS
Black Bakelite, 1/4" Molded Hole, Slotted Set Screw, White Indicator Knob.

WA-1510	3/4"	9/16"		.33	.30
WA-1500	1-1/8"	9/16"		.25	.20
WA-1520	1-1/2"	3/4"		.57	.45

STANDARD KNOBS—Pointer Knobs
Molded Black Bakelite, Slotted Set Screw

Part No.	Description	Net Ea.	100-Up, Ea.
	11/16" Diam., 13/32" High		
WA-1400	1/4" Molded Hole	.14	.10
WA-1400W	1/4" Brass Insert	.37	.30
WA-1400R	1/8" Molded Hole	.22	.15
	1" Diam., 1/2" High		
WA-1470	1/4" Molded Hole	.29	.20
WA-1470C	1/4" Brass Insert	.40	.35



ROUND KNOBS
11/16" Diam., 13/32" High

WA-1450	1/4" Molded Hole	.14	.10
WA-1450W	1/4" Brass Insert	.37	.30
WA-1450G	1/8" Molded Hole	.22	.15
	1" Diam., 1/2" High		
WA-1475	1/4" Molded Hole	.22	.15
WA-1475C	1/4" Brass Insert	.33	.30

SKIRTED KNOBS
Molded Black Bakelite, Slotted Set Screw
1-1/2" Diam. x 3/4" High

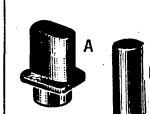
WA-1600	1/4" Molded Hole	.29	.20
WA-1600A	1/4" Brass Insert	.34	.30
	7/8" Diam. x 9/16" High		
WA-1610	1/4" Molded Hole	.26	.20
WA-1610A	1/4" Brass Insert	.34	.30

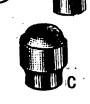
LEVER KNOBS
Black Bakelite. For use on Intercoms, appliances, electronic equipment. 1/4" Brass Insert, Slotted Set Screw

Part No.	Diam.	Height	Net Ea.	100-Up, Ea.
WA-2110A	1-5/8"	19/32"	.35	.30
WA-2100A	2-1/2"	5/8"	.39	.35

POINTER KNOBS
Black Bakelite, White Filled Pointer, for 1/4" Shaft, Set Screw

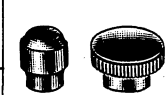
Part No.	Diam.	Height	Figure	Net Ea.	100-Up, Ea.
WA-2300	1-1/4"	5/8"	A	.18	.10
WA-2300A*	1-1/4"	5/8"	A	.26	.20
WA-2350	2"	5/8"	A	.34	.30
WA-2350A*	2"	5/8"	A	.44	.35
*Brass Insert					
WA-2150	1-1/4"	9/16"	B	.22	.15





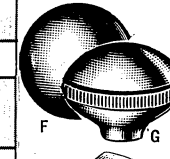
PUSH BUTTON KNOBS
Self-locating Friction fit for use on Flat Wire Shaft, .050 x .187. Black Bakelite

WA-201	1/2"	51/64"	A	.14	.10
WA-202	31/64"	9/16"	B	.09	.05
WA-203	7/16"	1"	C	.14	.10



UTILITY KNOBS
Black Bakelite w/8-32 Threaded Female Insert

WA-204	31/64"	1/2"	D	.12	.10
WA-205	3/4"	1/2"	E	.15	.10



BALL KNOBS
Black Bakelite. WA-301 has 1/4-20 Threaded hole. WA-302 and WA-303 have 3/8-24 Threaded Female Insert.

WA-301	1- 1/4"	1"	F	.28	.20
WA-302	1-15/16"	1-27/32"	F	.48	.40
WA-303	2"	1- 9/16"	G	.52	.40

POINTER KNOB

WA-1550	1-1/8"	9/16"		.20	.15

Knobs above are available in other colors than black, with more than one set screw, with socket type set screws, and with special hot-stamped markings. Write for quotation.

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INSTRUMENT KNOBS (Continued)

WING TYPE KNOBS

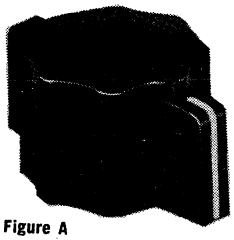

Figure A

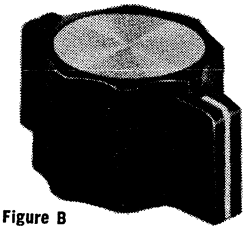

Figure B

Part No.	Dia.	Height	Figure	Net Ea.	100-Up, Ea.
WA-401	1-1/4″	19/32″	A	.99	.82
WA-402	1-1/4″	19/32″	B	1.33	1.10

Supplied with 1/4″ brass insert and two #8-32 slotted head set screws, 135° apart.

BAR TYPE KNOBS

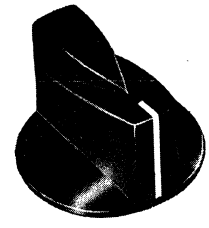

Figure C

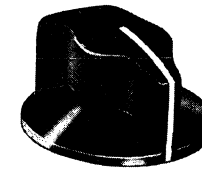

Figure D

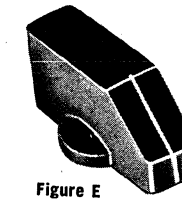

Figure E

Part No.	Dia.	Height	Figure	Net Ea.	100-Up, Ea.
WA-1560	1-1/8″	5/8″	C	.35	.29
WA-1580	1-1/2″	5/8″	D	.29	.24
WA-1590	1-1/8″	11/16″	E	.17	.14

MILITARY KNOBS PER MIL SPEC MS91531 SERIES

Dash No.	Part No.	Figure	Net Ea.	Dash No.	Part No.	Figure	Net Ea.
—2N2B	WA-2NB	1	1.14	—3F2M	WA-3FM	2	1.38
—2N2M	WA-2NM	1	.80	—4F2B	WA-4FB	2	2.71
—3N2B	WA-3NB	1	1.39	—4F2M	WA-4FM	2	1.72
—3N2M	WA-3NM	1	.98	—2P2B	WA-2PB	3	1.30
—4N2B	WA-4NB	1	1.72	—2P2M	WA-2PM	3	.94
—4N2M	WA-4NM	1	1.20	—3P2B	WA-3PB	3	1.51
—2F2B	WA-2FB	2	1.80	—3P2M	WA-3PM	3	1.08
—2F2M	WA-2FM	2	1.10	—4P2B	WA-4PB	3	1.87
—3B2B	WA-3FB	2	2.22	—4P2M	WA-4PM	3	1.36

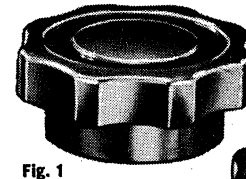

Fig. 1

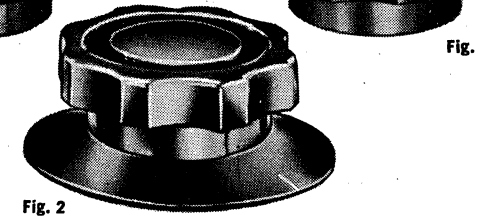

Fig. 2

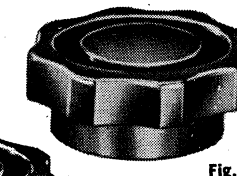

Fig. 3

DECORATIVE ALUMINUM KNOBS

Stocked standard with clear anodized finish, one slotted-head setscrew and black inlays, with or without indicator lines. Can be supplied with various anodized colors and inlays on special order.

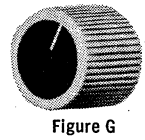

Figure G

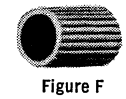

Figure F

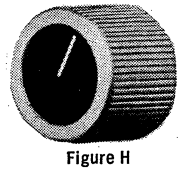

Figure H

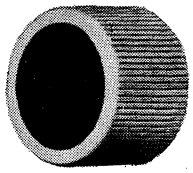

Figure I

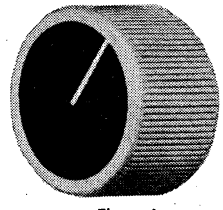

Figure J

Part No.	Figure	Inlay	Dia.	Height	Shaft Hole	Net Ea.	100-Up, Ea.
WA-1000A	F	w/o Indicator	7/16″	5/8″	1/8″	.75	.62
WA-1001A	F	w/Indicator	7/16″	5/8″	1/8″	.94	.77
WA-1002A	G	w/o Indicator	3/4″	9/16″	1/8″	.94	.77
WA-1003A	G	w/Indicator	3/4″	9/16″	1/8″	1.12	.92
WA-1004A	G	w/o Indicator	3/4″	9/16″	1/4″	.94	.77
WA-1005A	G	w/Indicator	3/4″	9/16″	1/4″	1.13	.93
WA-1006A	H	w/o Indicator	1″	11/16″	1/4″	1.12	.92
WA-1007A	H	w/Indicator	1″	11/16″	1/4″	1.31	1.08
WA-1008A	I	w/o Indicator	1-1/4″	3/4″	1/4″	1.42	1.17
WA-1009A	I	w/Indicator	1-1/4″	3/4″	1/4″	1.61	1.32
WA-1010A	J	w/o Indicator	1-1/2″	13/16″	1/4″	1.87	1.54
WA-1011A	J	w/Indicator	1-1/2″	13/16″	1/4″	2.06	1.69

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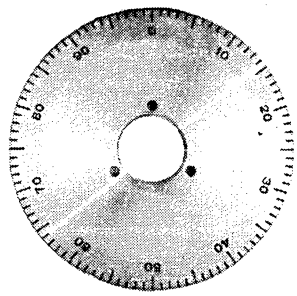
waldom DIALS & ASSEMBLIES

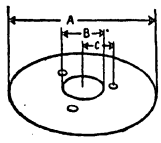
DIALS, INDICATORS & DIAL ASSEMBLIES

Material: Heavy aluminum with hand spun finish. Calibration lines etched and filled with black enamel.

DIALS



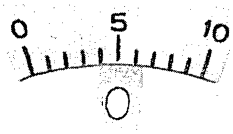
DO-8



CALIBRATION			DIMENSIONS				
Clockwise 0-100 Part No.	Counter-clockwise 100-0 Part No.	DEGREES	A	B	C	NET EA.	100 OR MORE EA.
DO-15	DO-15R	180°	1-1/8″	3/8″	7/32″	.50	.40
DO-16	DO-16R	270°	1-1/8″	3/8″	7/32″	.50	.40
DO-17	DO-17R	325°	1-1/8″	3/8″	7/32″	.50	.40
DO-18	DO-18R	360°	1-1/8″	3/8″	7/32″	.50	.40
DO-1	DO-1R	180°	1-3/4″	31/64″	9/32″	.66	.55
DO-2	DO-2R	270°	1-3/4″	31/64″	9/32″	.66	.55
DO-19	DO-19R	325°	1-3/4″	31/64″	9/32″	.66	.55
DO-20	DO-20R	360°	1-3/4″	31/64″	9/32″	.66	.55
DO-3	DO-3R	180°	2-3/4″	3/4″	13/32″	.83	.65
DO-4	DO-4R	270°	2-3/4″	3/4″	13/32″	.83	.65
DO-21	DO-21R	325°	2-3/4″	3/4″	13/32″	.83	.65
DO-5	DO-5R	360°	2-3/4″	3/4″	13/32″	.83	.65
DO-6	DO-6R	180°	4″	15/16″	5/8″	1.32	1.05
DO-7	DO-7R	270°	4″	15/16″	5/8″	1.32	1.05
DO-22	DO-22R	325°	4″	15/16″	5/8″	1.32	1.05
DO-8	DO-8R	360°	4″	15/16″	5/8″	1.32	1.05
0-360 DO-8A	360-0 DO-8AR	360°	4″	15/16″	5/8″	1.32	1.05

DIAL INDICATORS

1-1/8″ and 1-3/4″ Dials use the single line indicator SL-1. The numbers on the verniers (VI-3 etc.) are the same as the numbers of the dials they are to be used with (DO-3 etc.), Verniers are heavy, etched aluminum with a single mounting bracket complete with mounting hardware.



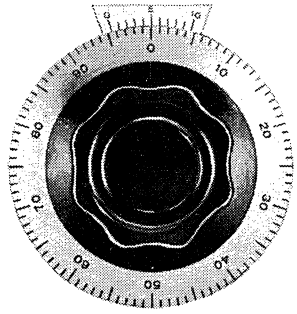
Vernier

SL-1

PART NO.	USED WITH DIAL NO.	NET EA.	100 OR MORE EA.	PART NO.	USED WITH DIAL NO.	NET EA.	100 OR MORE EA.
SL-1	All 1-1/8″ & 1-3/4″ dials	.11	.10	VI-6	DO-6	.33	.25
				VI-6R	DO-6R	.33	.25
VI-3	DO-3	.33	.25	VI-7	DO-7	.33	.25
VI-3R	DO-3R	.33	.25	VI-7R	DO-7R	.33	.25
VI-4	DO-4	.33	.25	VI-22	DO-22	.33	.25
VI-4R	DO-4R	.33	.25	VI-22R	DO-22R	.33	.25
VI-21	DO-21	.33	.25	VI-8	DO-8	.33	.25
VI-21R	DO-21R	.33	.25	VI-8R	DO-8R	.33	.25
VI-5	DO-5	.33	.25	VI-8A	DO-8A	.33	.25
VI-5R	DO-5R	.33	.25	VI-8AR	DO-8AR	.33	.25

DIRECT DRIVE DIAL AND KNOB ASSEMBLIES

Direct Drive Dial assemblies in 1-1/8″ and 1-3/4″ sizes have knobs only—all others have knob and skirt. All knobs have brass inserts for 1/4″ shafts. Complete with appropriate indicator or vernier.



302

CALIBRATION						
Clockwise 0-100 Part No.	Counter-clockwise 100-0 Part No.	DEGREES	O.D.	KNOB USED (See Pg. 34)	NET EA.	100 OR MORE EA.
27084	27084-R	180°	1-1/8″	WA-1450-W	1.56	1.25
27085	27085-R	270°	1-1/8″	WA-1450-W	1.56	1.25
27086	27086-R	325°	1-1/8″	WA-1450-W	1.56	1.25
27087	27087-R	360°	1-1/8″	WA-1450-W	1.56	1.25
27068	27068-R	180°	1-3/4″	WA-4100	1.68	1.35
27069	27069-R	270°	1-3/4″	WA-4100	1.68	1.35
27080	27080-R	325°	1-3/4″	WA-4100	1.68	1.35
27081	27081-R	360°	1-3/4″	WA-4100	1.68	1.35
294	294-R	180°	2-3/4″	WA-4108	2.76	2.20
295	295-R	270°	2-3/4″	WA-4108	2.76	2.20
27082	27082-R	325°	2-3/4″	WA-4108	2.76	2.20
303	303-R	360°	2-3/4″	WA-4108	2.76	2.20
292	292-R	180°	4″	WA-4109	3.60	2.90
293	293-R	270°	4″	WA-4109	3.60	2.90
27083	27083-R	325°	4″	WA-4109	3.60	2.90
302	302-R	360°	4″	WA-4109	3.60	2.90
0-360 302-A	360-0 302-AR	360°	4″	WA-4109	3.60	2.90

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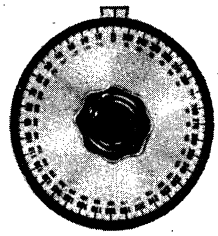
DIALS (Continued) & DIAL PLATES

AZIMUTH DIALS

Precision Test Dial. For laboratory use on instruments requiring a dial of extreme accuracy in calibration. Calibrated through full 360°. Outer numerals read 0 to 360° in a counter-clockwise direction. Inner numerals read 0 to 360 in a clockwise direction. Etched on heavy aluminum with black graduations and figures on handspun background.



Part No. KD-12

Part No.	Fits Shaft Diam.	Net ea.	100 or more ea.
27010	3/8"	5.40	4.30
27011	1/4"	5.40	4.30

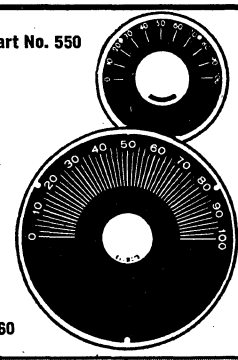
6" diameter dial with bakelite knob and skirt and single line indicator.

KD-12	1/4"	3.62	2.80

4" diameter dial with bakelite knob and single line indicator.

ROUND DIALS

Made of black anodized aluminum and have embossed beaded edges for greater stiffness and better appearance. Highly polished backgrounds and silvery white figures and borders. Diameter of center hole is 13/32".



Part No. 550

Part No. 260

Part No.	Diameter	Calibration	Net Ea.	100 or more ea.
550	1-7/8"	0-100 in 180°	.54	.45
551	1-7/8"	0-100 in 270°	.54	.45
651	1-7/8"	0-100 in 325°	.54	.45
552	2-7/8"	0-100 in 180°	1.02	.80
553	2-7/8"	0-100 in 270°	1.02	.80
654	2-7/8"	0-100 in 325°	1.02	.80

Dials below are made of Aluminum with a dull black-background. Have three mounting holes. Center hole is 1/2".

262	1-7/8"	0-100 in 180°	.52	.40
263	1-7/8"	0-100 in 270°	.52	.40
663	1-7/8"	0-100 in 325°	.52	.40
260	3"	0-100 in 180°	1.02	.80
261	3"	0-100 in 270°	1.02	.80
662	3"	0-100 in 325°	1.02	.80
264*	2-1/4"	0-100 in 300°	1.02	.80

* Titled "Gain"

ROUND CONTROL PLATES

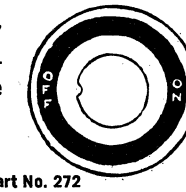
1-3/4" Diam. Black Anodized Aluminum with natural razed letters. Center hole is 13/32" diam.

Part No. 25

Part No.	Title of Calibration	Net ea.	100 or more ea.
25	Volume	.34	.25
26	Off-tone Control	.34	.25
569	0-100 in 180°	.34	.25
905	0-100 in 270°	.34	.25

CIRCULAR PLATES FOR TOGGLE SWITCHES

1-1/8" in diameter with 15/32" hole. Polished aluminum with black-background. Locking lug fits groove in switch.



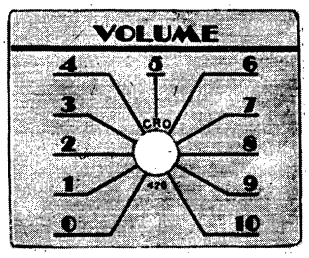
Part No. 272

Part No.	Title	Net ea.	100 or more ea.
272	Off-On	.20	.15
589	Off-On (Vert.)	.20	.15
573	Micro-Phono	.20	.15
581	Lo-Hi	.20	.15
582	Monitor	.20	.15

Plates below are 1" x 1-1/4" Polished Aluminum with black background. 15/32" hole. Two mounting holes.

584	Off-On	.28	.20
274	1-2	.28	.20
564	1-2-3	.28	.20

LITHOGRAPHED ALUMINUM DIAL PLATES



These are high quality lithographed aluminum plates particularly designed for amplifiers and public address equipment. The black figures and letters are protected by a heavy varnish finish to assure long-lasting service.

Horizontal 2 3/16" high x 2 5/8" wide.

Part No. 426A

Part No.	Title and Calibration	Part No.	Title and Calibration	Net ea.	100 or more ea.
410A	Without Title 0-10	426A	Volume 0-10	.41	.30

Part No. 278

Part No. 275

HORIZONTAL SWITCH PLATES

Two styles "Off-On" Switch Plates made of etched aluminum with black background and polished aluminum letters and border with two mounting holes.

Part No.	Size	Net ea.	100 or more ea.
278	11/16" x 1-11/16"	.20	.15
275	5/8" x 1-1/2"	.22	.20

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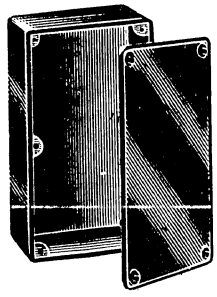
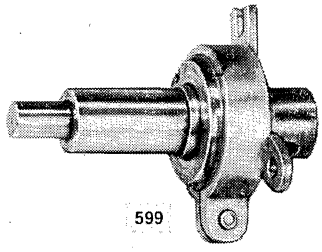
INSTRUMENT CASES & COVERS



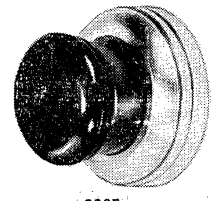
Molded Plastic 1/8" Thick w/Highly Polished Finish. Will withstand rugged usage. Cases suffixed BI have 6-32 brass inserts. Others have molded hole.

Part No.	DESCRIPTION	Net Ea.	100-up Ea.
BC-136	3-25/32"L x 2-21/32"W x 1-15/32" Deep	.51	.35
BP-135	Flat Panel for above	.34	.25
BC-138	6"L x 3-1/2"W x 1-7/8"D	1.01	.70
BC-138BI	W/Brass Inserts in 6 corners	1.13	.80
BP-137	Flat Panel for above	.62	.45
BP-137A	Molded Cover for above	.67	.45
BC-140	6-1/2"L x 4-31/32"W x 2-5/32" Deep	1.34	.95
BC-140BI	W/Brass Inserts in 4 corners	1.49	1.05
BP-139	Flat Panel for above	.83	.60
BP-139A	Molded Cover for above	.90	.65
BC-142	5-7/8"L x 3-1/16"W x 2-1/4" Deep	.95	.65
BC-141BI	8-3/8"L x 7-3/8"H x 3" Deep	3.08	2.15
BP-141	Flat Panel for above	1.68	1.35

PLANETARY DRIVES



599



6665

Two ball-type planetary drive units are useful whenever a compact device is needed for reduced-speed operation of light mechanisms. These units depend on the action of steel balls that rotate between the knob shaft and a concentric sleeve that is attached to the driven instrument. The units are adjustable so that the pressure on the balls can be varied to match the operating load, this assures maximum smoothness while maintaining adequate torque. Maximum torque is 14 inch ounces; minimum torque is 10 inch ounces. The ratio is approximately 5 to 1, and two units may be used in tandem to produce a 25 to 1 ratio. These are precision devices for both military and commercial applications.

TWO-SPEED PLANETARY DRIVE

Permits slow speed operation at approximately 5 to 1; high speed at 1 to 1. The 6665 Dual Concentric Knob below fits this unit. Complete with mounting accessories.

Part No. 599 Net Ea. 11.62 25 to 99, Ea. 10.90 100 or more, Ea. 9.15

SINGLE SPEED PLANETARY DRIVE

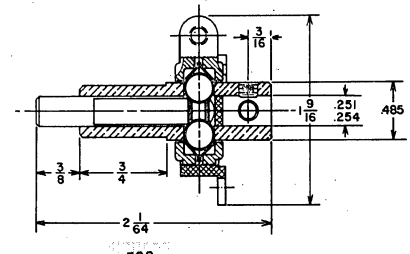
Same as above unit, except that the sleeve for the high-speed knob has been omitted. In its place is a threaded sleeve with shoulder, so an indicating dial or pointer may be installed. Clamping nut, clamping washers and planetary anchor stud are included.

Part No. 27067 Net Ea. 11.01 25 to 99, Ea. 10.40 100 or more, Ea. 8.45

ACCESSORY DUAL CONCENTRIC KNOB

Fits 599 Planetary Drive. Larger knob is aluminum. 1-3/16" diameter drilled 7/16" to fit high-speed sleeve on planetary. Smaller knob is molded black styrene with 1/4" brass insert to fit low-speed planetary shaft. Both with set screws.

Part No. 6665 Net. Ea. 1.26 100 or more, Ea. .90



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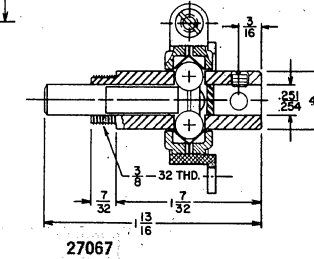
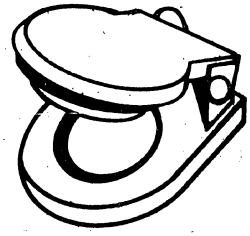


27067

JACK COVERS

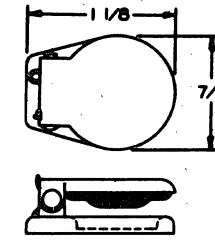


J-106

Have high-torque springs for positive self-closing action. Used for protecting jacks against entrance of dust and moisture.

Steel with smooth black finish. Use with standard 3/8"-32 threaded bushing type phone jack.

Part No. J-106 Net Ea., .66



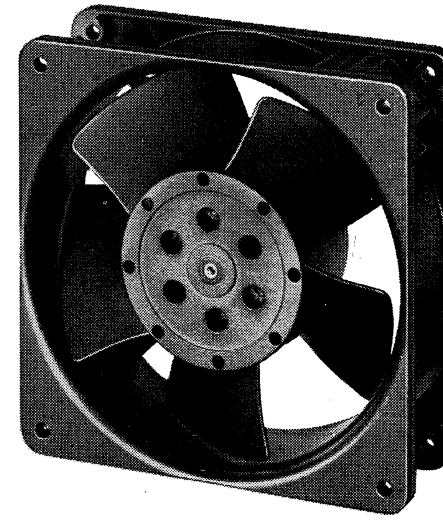
PAMOTOR

MINIATURE AXIAL FANS

MODELS 4500 and 4550 (Shaded-pole Type)

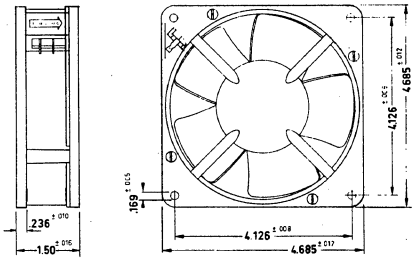
4 11/16" x 4 11/16" x 1 1/2" • ALL-METAL • LOW-NOISE LEVEL

*Provides 115 cfm with less than 37.5 dB SIL**



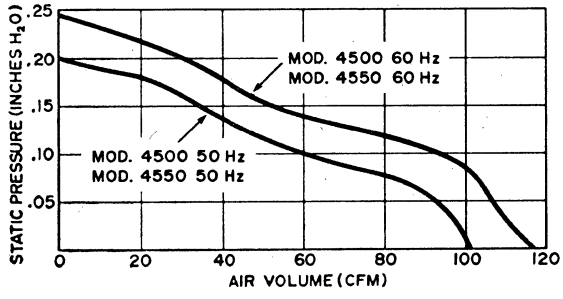
- All-metal precision hubs, impellers, and die-cast housings eliminate warping often found in plastic fans.
- Designed for applications in wide variety of electronic apparatus, such as computers, laboratory and office machines, industrial and military communications equipment, industrial control equipment, sound systems, power supplies, telephone equipment, etc.
- Designed to operate continuously at room temperature (25° C) for over 100,000 hours—even at uppermost limit of 55° C, 20,000 operational hours, continuous duty may be expected.
- Delivers more air at a lower noise level, yet priced under similar conventional plastic fans.
- Powerful shaded-pole motor operates with low internal heat rise—efficient inside-out design.
- Hand-fitted proven broached dual-sleeve bearing system assures longer, more reliable operation.
- Weighs just 1¼ lbs. and is interchangeable with similar, less reliable 4 11/16" fans.
- Operates over range of 105 to 125 VAC at dual frequency of 50/60 Hz.
- Has Underwriters' Laboratories Inc. Yellow Card Component Recognition Number E41168.
- Accessories available for use with this model include mounting brackets, filter, metal screen assembly, finger guard, plug and cord assembly.

*Speech Interference Level

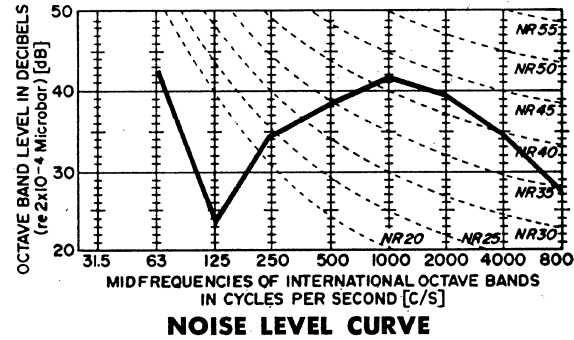


Characteristic	MODEL 4500	MODEL 4550
Voltage	117 volts	230 volts
Frequency*	60 Hz	60 Hz
Air Flow	115 cfm	115 cfm
Speed	2900 rpm	2850 rpm
Input Power	20 watts	17 watts
Weight	1 lb. 4 oz.	1 lb. 4 oz.

*These models also operate at 50 Hz. Additional data available upon request.



TYPICAL PERFORMANCE CURVE



NOISE LEVEL CURVE

PAMOTOR FANS ARE STOCKED FOR IMMEDIATE DELIVERY FROM LEADING ELECTRONICS DISTRIBUTORS THROUGHOUT THE UNITED STATES AND CANADA. CONTACT YOUR LOCAL DISTRIBUTOR FOR COMPLETE ENGINEERING DATA AND PRICES.

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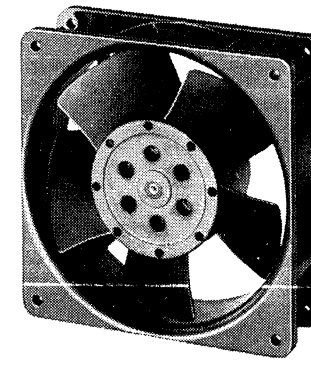
PAMOTOR MINIATURE AXIAL FANS

MODELS 4506 and 4556 (Shaded-pole Type)
$4^{11}/_{16}$" x $4^{11}/_{16}$" x $1^{1}/_{2}$" • ALL-METAL • 115 CFM

Ball bearing fans for 85° C ambient temperature operation



- Designed for over 20,000 hours of operation at 85° C.
- Low noise level of less than 37.5 dB SIL (Speech Interference Level).
- Designed to meet UL requirements.
- Offer same performance characteristics as Models 4500 and 4550.
- Standard accessories available include mounting brackets, filter, metal screen assembly, finger guard, plug and cord assembly.

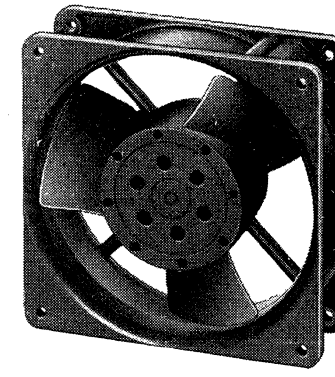
MODEL 4800 (Shaded-pole Type)
$4^{11}/_{16}$" x $4^{11}/_{16}$" x $1^{1}/_{2}$" • ALL-METAL • 70 CFM

Specifically designed for noiseless performance . . . noise level less than 20 dB SIL.

- Designed for applications in Hi-Fi/stereo equipment, TV, office copying machines, etc. where noiseless performance is a prime requirement.
- Hand-fitted proven broached dual-sleeve bearing system with large oil reservoir ensures longer, more reliable operation.
- Designed to meet UL requirements.

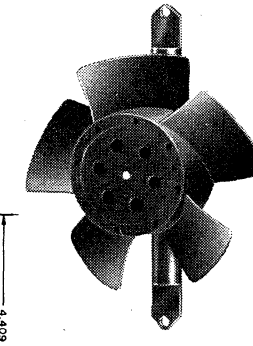
Characteristic	MODEL 4800
Voltage	115 volts
Frequency*	60 Hz
Air Flow	70 cfm
Speed	1650 rpm
Input Power	10 watts
Weight	1 lb. 4 oz.

*This model also operates at 50 Hz.
Additional data available upon request.



MODELS 4700 and 4750 (Shaded-pole Type)
$4^{1}/_{8}$" (DIA.) x $1^{1}/_{2}$" • ALL-METAL • 65 CFM

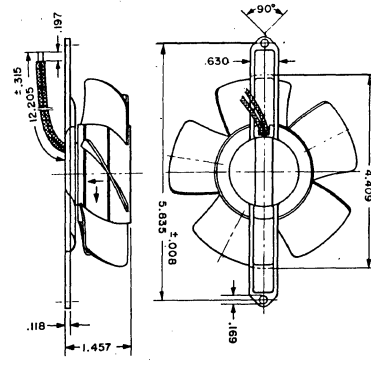
low-cost fans for use where venturi housing is not needed



- "Bracket" models save space and weight when equipment arrangement serves as venturi housing.
- Attach to heat sinks and reduce space requirements.
- Designed to meet UL requirements.

Characteristic	MODEL 4700	MODEL 4750
Voltage	115 volts	220 volts
Frequency*	60 Hz	60 Hz
Air Flow	65 cfm	55 cfm
Speed	2800 rpm	2500 rpm
Input Power	21 watts	19 watts
Weight	1 lb.	1 lb.

*These models also operate at 50 Hz.
Additional data available upon request.



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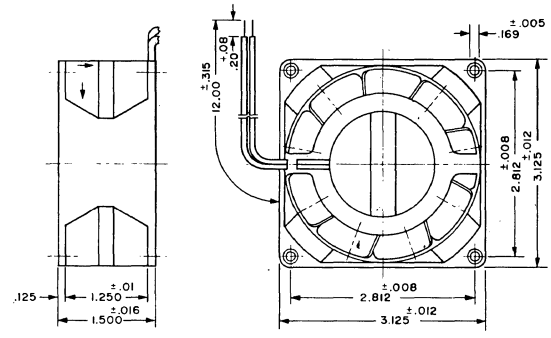
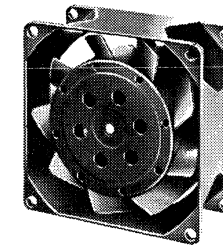
PAMOTOR MINIATURE AXIAL FANS

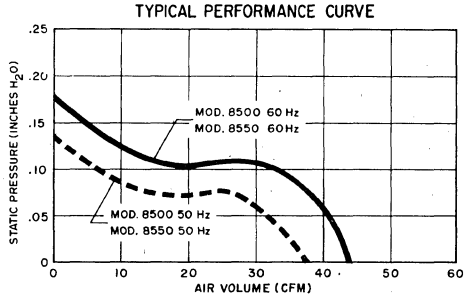
MODELS 8500 and 8550 (Shaded-pole Type)
3 1/8" x 3 1/8" x 1 1/2" • ALL-METAL • 43 CFM

Ultra-compact . . . 1/8" thinner than other 3 1/8" fans

- Unmatched low noise level of 28.8 dB SIL.
- Ideal for tight dimensional applications where performance and cost are prime considerations.
- Standard mounting dimensions for EIA 3½" rack panels.
- All-metal construction ensures longer life in various low-profile electronic equipment.
- UL recognition number E41168.







Characteristic	MODEL 8500	MODEL 8550
Voltage	115 volts	220 volts
Frequency*	60 Hz	60 Hz
Air Flow	43 cfm	37 cfm
Speed	3200 rpm	2600 rpm
Input	13 watts	13 watts
Weight	1 lb. 2½ oz.	1 lb. 2½ oz.

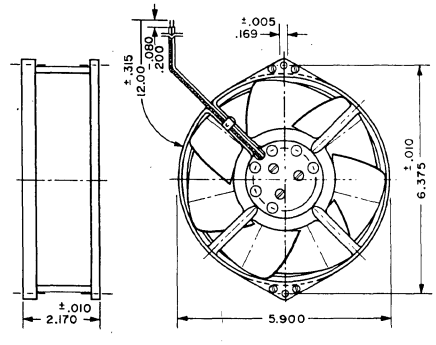
*These models also operate at 50 Hz. Additional data available upon request.

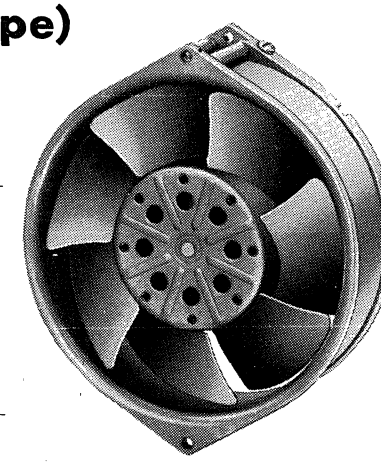
MODELS 7500 and 7550 (Shaded-pole Type)
6" (DIA.) x 2" • ALL-METAL • 250 CFM

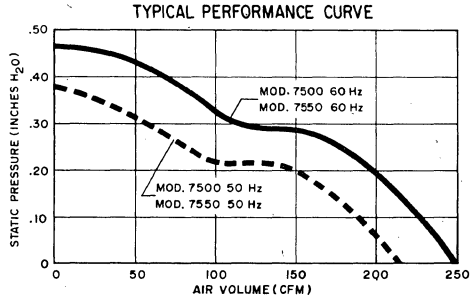
use one to replace two or more fans where max. air movement is needed with low 40.5 dB noise level

- High air delivery ideal for cooling large enclosures with high resistance to air flow.
- New design of pressure type blades will sustain delivery as high as 200 cfm at .2 inches of water back pressure.
- UL recognition number E41168.

MODELS 7506/7556, ball bearing fans for 85° C ambient temperature operation, also available.







Characteristic	MODEL 7500	MODEL 7550
Voltage	115 volts	220 volts
Frequency*	60 Hz	50 Hz
Air Flow	250 cfm	220 cfm
Speed	3250 rpm	2700 rpm
Input	40 watts	36 watts
Weight	2 lbs. 11½ oz.	2 lbs. 11½ oz.

*These models also operate at 50 Hz. Additional data available upon request.

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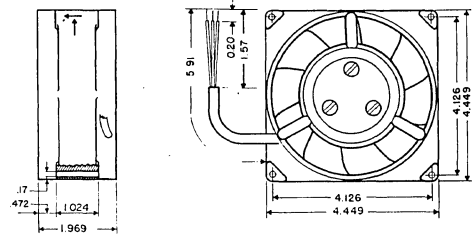
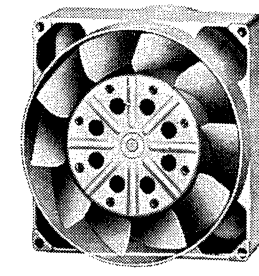
PAMOTOR MINIATURE AXIAL FANS

MODELS 1000A, 1100, and 1300 (Induction Type)
$4\frac{7}{16}$" x $4\frac{7}{16}$" x $1\frac{31}{32}$" • ALL-METAL • 125 CFM

The ultimate in reliability and performance in a 4½" fan

- Impedance protected for longer, more efficient operation.
- Universal 4⅛" mounting makes these models interchangeable with similar, less reliable $4\frac{11}{16}$" fans.
- Powerful inside-out motor is impedance protected.
- Standard accessories include mounting brackets, filter, metal screen assembly, finger guard.
- UL recognition number E41168.



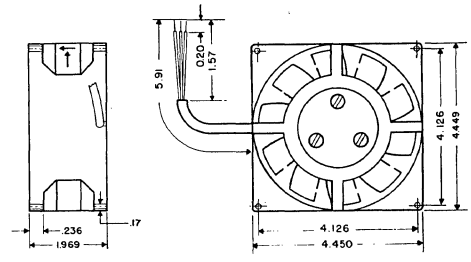


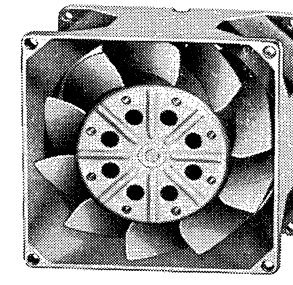
Characteristic	MODEL 1000A		MODEL 1100	MODEL 1300	
Voltage	115 volts	115 volts	115 volts	220 volts	220 volts
Frequency	60 Hz	50 Hz	400 Hz	60 Hz	50 Hz
Air Flow	125 cfm	100 cfm	100 cfm	125 cfm	110 cfm

MODELS 2000 and 2050 (Induction Type)
$4\frac{7}{16}$" x $4\frac{7}{16}$" x $1\frac{31}{32}$" • ALL-METAL • 130 CFM

Highest free air delivery in a $4\frac{7}{16}$" package

- Hand-fitted sleeve bearings ensure reliable performance.
- Extremely low internal heat rise extends life beyond that of conventional fans.
- Stator windings for motor are uniform, allowing for minimum magnetic field density within the air gap.
- Universal 4⅛" mounting.
- UL recognition number E41168.
- Accessories include filter, metal screen assembly, finger guard, and mounting brackets.



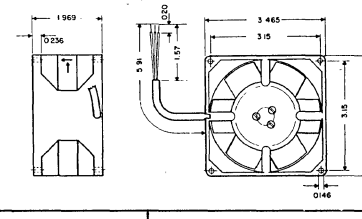


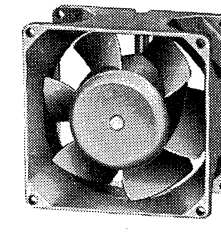
Characteristic	MODEL 2000		MODEL 2050	
Voltage	115 volts	115 volts	220 volts	220 volts
Frequency	60 Hz	50 Hz	60 Hz	50 Hz
Air Flow	130 cfm	116 cfm	130 cfm	116 cfm

MODELS 3000 and 3050 (Induction Type)
$3\frac{15}{32}$" x $3\frac{15}{32}$" x $1\frac{31}{32}$" • ALL-METAL • 65 CFM

Unmatched design and performance in a compact 3½" fan

- Continuous reliable operation in a compact package . . . dynamically balanced rotor.
- Extremely low-noise level.
- Precision hubs, impellers, and die-cast housings.
- Efficient inside-out motor design.
- UL recognition number E41168.





Characteristic	MODEL 3000		MODEL 3050	
Voltage	115 volts	115 volts	220 volts	220 volts
Frequency	60 Hz	50 Hz	60 Hz	50 Hz
Air Flow	65 cfm	58 cfm	65 cfm	58 cfm

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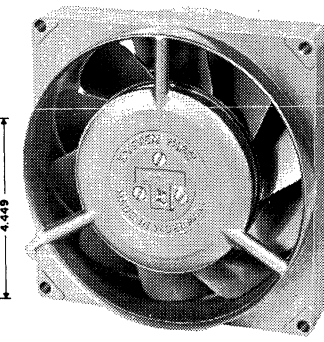
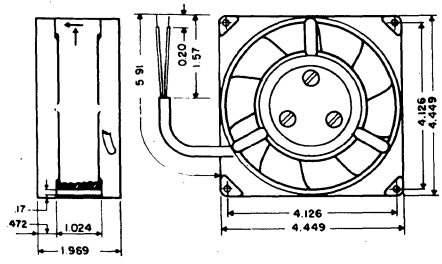
PAMOTOR MINIATURE AXIAL FANS

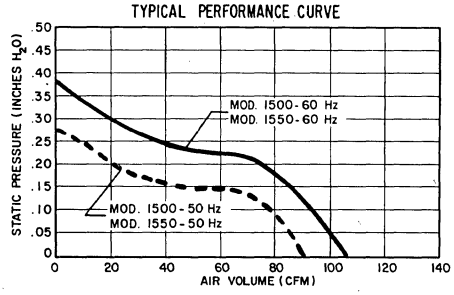
MODELS 1500 and 1550 (Shaded-pole Type)
$4\frac{7}{16}''$ x $4\frac{7}{16}''$ x $1\frac{31}{32}''$ • ALL-METAL • 105 CFM

Universal 4⅛" mounting for interchangeability





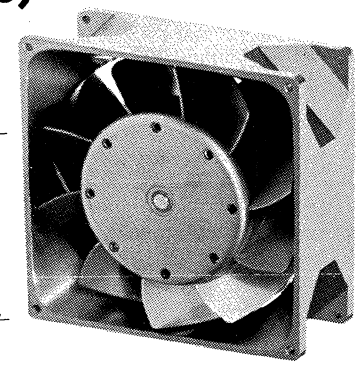
- All-metal component parts are natural heat sinks, ensuring cooler operation.
- Special moisture resistant finish prevents corrosion or deterioration under humid atmospheric conditions or in extreme temperature variations.
- Long operating life without maintenance.
- UL recognition number E41168.
- Standard accessories include mounting brackets, filter, metal screen assembly, finger guard.

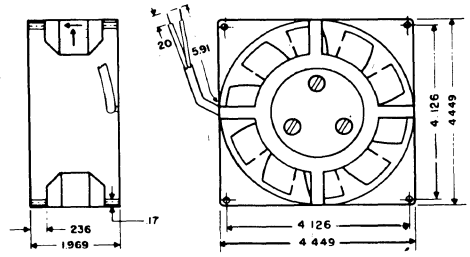


Characteristic	MODEL 1500		MODEL 1550	
Voltage	115 volts	115 volts	220 volts	220 volts
Frequency	60 Hz	50 Hz	60 Hz	50 Hz
Air Flow	105 cfm	90 cfm	105 cfm	90 cfm
Speed	3400 rpm	2850 rpm	3400 rpm	2850 rpm
Input Power	25 watts	27 watts	25 watts	27 watts
Weight	2 lbs. 10 oz.	2 lbs. 10 oz.	2 lbs. 10 oz.	2 lbs. 10 oz.

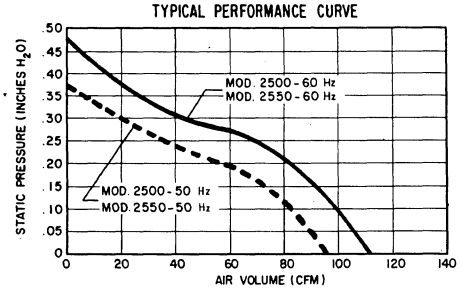
MODELS 2500 and 2550 (Shaded-pole Type)
$4\frac{7}{16}''$ x $4\frac{7}{16}''$ x $1\frac{31}{32}''$ • ALL-METAL • 115 CFM

Low-cost design with efficient inside-out type motor





- Long operating life without maintenance.
- Universal 4⅛" mounting for interchangeability.
- 50-60 Hz operation at 115 or 220 VAC.
- Standard accessories include mounting brackets, filter, metal screen assembly, finger guard.
- UL recognition number E41168.



Characteristic	MODEL 2500		MODEL 2550	
Voltage	115 volts	115 volts	220 volts	220 volts
Frequency	60 Hz	50 Hz	60 Hz	50 Hz
Air Flow	115 cfm	95 cfm	115 cfm	95 cfm
Speed	3400 rpm	2850 rpm	3400 rpm	2850 rpm
Input Power	25 watts	27 watts	25 watts	27 watts
Weight	2 lbs. 1 oz.	2 lbs. 1 oz.	2 lbs. 1 oz.	2 lbs. 1 oz.

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FILTERS

TYPE IN MINIATURE L & Pi TUBULAR R.F.I. FILTERS

Aerovox type IN miniature L and Pi filters offer up to a 60% reduction in size over present industry standards with comparable ratings and performance.

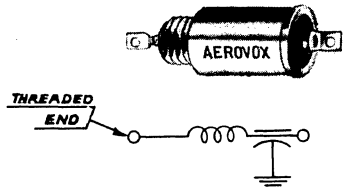
The new miniature filters utilize conventional film paper dielectric which result in a capacitance change with temperature of ±5% from −55°C to +85°C and +15% to +125°C. The stability of the capacitance dielectric allows these filters to meet the minimum insertion loss specified over the complete temperature excursion - under rated load conditions.

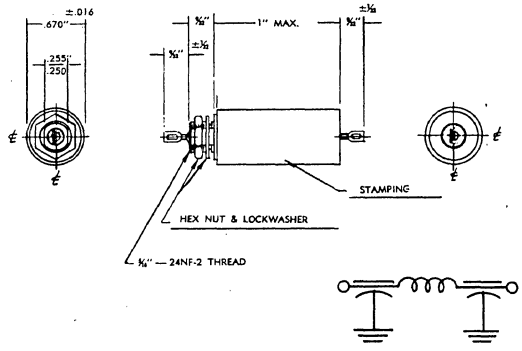
This line is dual rated 185 VDC/115 VAC 0-400 Hz at 85°C and 150VDC/115 VAC 0-60 Hz at 125°C and will meet or exceed the applicable requirements of MIL-F-15733.

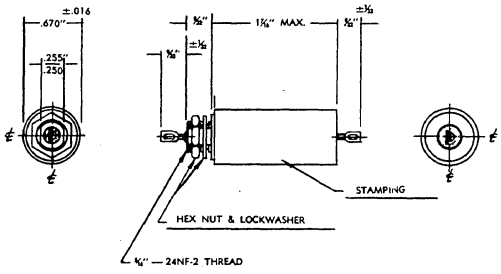
Concerning packaging, the new line offers one standard L and one standard Pi case size for all current ratings.

Inquiries are invited for filter designs to meet specific application requirements.

Complete technical information is contained in Bulletin NPJ-141.







MINIATURE TUBULAR L

At 85°C — 115 VAC 0-400 Hz • 185 VDC At 125°C — 115 VAC 0-60 Hz • 150 VDC

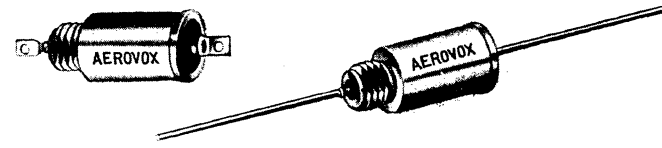
Aerovox Part #	Current (Amps) @+125°C	Max. Rdc. (ohms)	Voltage Drop	Minimum Full Load Insertion Loss (db) per Mil-Std-220A						
				150 KHz	300 KHz	500 KHz	1 MHz	10 MHz	100 MHz	1 GHz
IN-1240	.1	3.0	.3	50	60	70	70	70	70	70
IN-1241	.25	2.0	.5	45	55	65	70	70	70	70
IN-1242	.5	1.2	.6	40	50	60	70	70	70	70
IN-1243	1.0	.42	.42	30	40	50	64	70	70	70
IN-1244	2.0	.12	.24	22	32	40	50	70	70	70
IN-1245	3.0	.06	.18	20	28	34	44	70	70	70
IN-1246	5.0	.03	.15	18	26	30	38	70	70	70
IN-1247	10.0	.01	.1	16	24	28	36	60	70	70

MINIATURE TUBULAR Pi

At 85°C — 115 VAC 0-400 Hz • 185 VDC At 125°C — 115 VAC 0-60 Hz • 150 VDC

Aerovox Part #	Current (Amps) @+125°C	Max. Rdc. (ohms)	Voltage Drop	Minimum Full Load Insertion Loss (db) per Mil-Std-220A						
				150 KHz	300 KHz	500 KHz	1 MHz	10 MHz	100 MHz	1 GHz
IN-1232	.1	3.0	.3	72	80	80	80	80	80	80
IN-1233	.25	2.0	.5	66	80	80	80	80	80	80
IN-1234	.5	1.2	.6	64	80	80	80	80	80	80
IN-1235	1.0	.42	.42	52	70	80	80	80	80	80
IN-1236	2.0	.12	.24	38	58	70	80	80	80	80
IN-1237	3.0	.06	.18	32	50	64	78	80	80	80
IN-1238	5.0	.03	.15	20	35	62	78	80	80	80
IN-1239	10.0	.01	.1	6	28	46	65	80	80	80

TYPE FC MINIATURE CERAMIC LOW-PASS R.F.I. FILTERS



Type FC miniature low-pass RFI filters meet or exceed applicable requirements of MIL-F-15733. They are available in working voltages of 28, 35 and 50 VDC at 125°C, 105°C and 85°C respectively, or equivalent AC peak. In addition, this series will withstand dielectric tests of 100 VDC at 25°C and has insulation resistance of 100 megohms minimum at 25°C.

These filters are supplied in hermetically-sealed silver plated cases and meet moisture resistance requirements of MIL-STD-202. Temperature cycling and immersion, vibration and attenuation also conform to MIL-STD-202.

All units are marked with Aerovox part number and working voltage.

Complete technical information is contained in Bulletin NPJ-140.

STANDARD RATINGS

Aerovox FC Series	Stock Items	Minimum Insertion Loss in Decibels (db) MIL-STD-220						Maximum DC Current or Low Frequency AC	Maximum DC Resistance @ 25°C. (ohms)
	Dash Numbers	30 KHz	150 KHz	300 KHz	1 MHz	10 MHz	1000 MHz		
FC001- *	-01 -02 -04 -11 -21	44	70	70	70	70	70	60 ma	70.0
FC002- *	-01 -02 -04 -11 -21	24	52	64	70	70	70	150 ma	12.0
FC003- *	-01 -02 -04 -11 -21	18	42	56	70	70	70	250 ma	4.0
FC004- *	-01 -02 -04 -11 -21	16	35	44	62	70	70	300 ma	2.3
FC005- *	-01 -02 -04 -11 -21	15	31	37	55	70	70	450 ma	1.2
FC006- *	-01 -02 -04 -11 -21	15	28	33	44	64	70	10 amps	.01

*Add Dash Numbers in accordance with Part Number Ordering Data listed on back of this sheet.

PART NUMBER ORDERING DATA

EXAMPLE: FC 001 -1 1

FC — FILTER CERAMIC
001 — 60 MA UNIT
-1 — THREADED CAPACITOR END
1 — SPADE TERMINALS

0 — Threaded Inductor End
1 — Threaded Capacitor End
2 — Hex Case - Threaded Inductor End—(Fig. 5)
3 — Hex Case - Threaded Capacitor End—(Fig. 5)

—1 Spade Terminals—(Fig. 2)
—2 Wire Terminals—(Fig. 3)
—3 Wire Terminal Threaded End - Spade Other—(Fig. 4)
—4 Spade Terminal Threaded End - Wire Other—(Fig. 4)

Figure 1
STANDARD SCHEMATIC

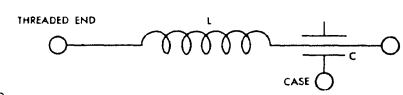


Figure 2

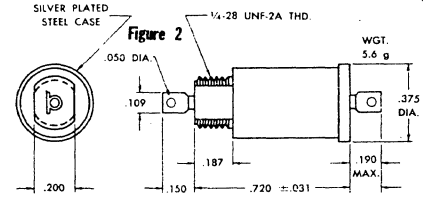


Figure 4

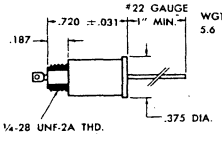


Figure 3

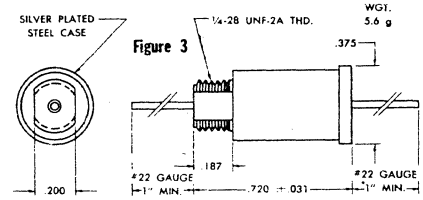
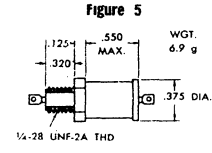


Figure 5



Contact your local Aerovox Industrial Distributor for Prices.

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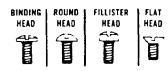
DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

FASTENINGS, NYLON-FIBRE WASHERS, SPACERS, SCREWS, NUTS, SPAGHETTI PACKS, ALL-WAVE KITS, FIBERGLASS GUY WIRE

DABURN NYLON FASTENINGS ZYTEL 101 PER MIL-P-17019B AND MIL-P-20693A



Has outstanding insulation specs. hi-resistance to heat, shock, vibration, chemical. Is light in weight, superior torque strength. Corrosion resistant, non magnetic. Continuous service temperature to 300°F. All parts made to American thread standards to Class 2A or 2B fit. B18.2 (hex nuts), B18.6 (machine screws), B1.1 (thread specs.).

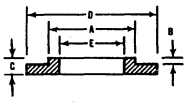
DABURN No.	Size	Type	DABURN No.	Size	Type
14-40	2-56 x 1/4"	Rd. Hd.	14-48B	6-32 x 1/2"	Fill. Hd.
14-40A	2-56 x 1/4"	Fill. Hd.	14-48C	6-32 x 1/2"	Flat. Hd.
14-40B	2-56 x 1/4"	Bind. Hd.	14-49	6-32 x 3/4"	Rd.Hd.
14-41	2-56 x 3/8"	Rd. Hd.	14-49A	6-32 x 3/4"	Fill. Hd.
14-41A	2-56 x 3/8"	Fill. Hd.	14-49B	6-32 x 3/4"	Bind. Hd.
14-41B	2-56 x 3/8"	Bind. Hd.	14-50	6-32 x 1"	Rd. Hd.
14-42	2-56 x 1/2"	Rd. Hd.	14-50C	6-32 x 1	Flat. Hd.
14-42A	2-56 x 1/2"	Fill. Hd.	14-51	8-32 x 1/4"	Rd. Hd.
14-42B	2-56 x 1/2"	Bind. Hd.	14-51A	8-32 x 1/4"	Fill. Hd.
14-43	4-40 x 1/4"	Rd. Hd.	14-51B	8-32 x 1/4"	Bind. Hd.
14-43A	4-40 x 1/4"	Fill. Hd.	14-52	8-32 x 1/2"	Rd. Hd.
14-43B	4-40 x 1/4"	Bind. Hd.	14-52A	8-32 x 1/2"	Fill. Hd.
14-44	4-40 x 3/8"	Rd. Hd.	14-52B	8-32 x 1/2"	Bd. Hd.
14-44A	4-40 x 3/8"	Fill Hd.	14-52C	8-32 x 1/2"	Flat Hd.
14-44B	4-40 x 3/8"	Bind. Hd.	14-54	8-32 x 5/8"	Rd. Hd.
14-45	4-40 x 1/2"	Rd. Hd.	14-54A	8-32 x 5/8"	Fill. Hd.
14-45A	4-40 x 1/2"	Fill. Hd.	14-55	8-32 x 3/4"	Rd. Hd.
14-45B	4-40 x 1/2"	Bind. Hd.	14-55A	8-32 x 3/4"	Fill. Hd.
14-46	6-32 x 1/4"	Rd. Hd.	14-55B	8-32 x 3/4"	Bd. Hd.
14-46A	6-32 x 1/4"	Fill. Hd.	14-56A	8-32 x 1"	Fill. Hd.
14-46B	6-32 x 1/4"	Bind. Hd.	14-56C	8-32 x 1"	Flat. Hd.
14-47	6-32 x 3/8"	Rd. Hd.	14-57	10-32 x 3/8"	Rd. Hd.
14-47A	6-32 x 3/8"	Bind. Hd.	14-58	10-32 x 1/2"	Rd. Hd.
14-47B	6-32 x 3/8"	Fill. Hd.	14-58C	10-32 x 1/2"	Flat. Hd.
14-47C	6-32 x 3/8"	Flat. Hd.	14-59	10-32 x 5/8"	Rd. Hd.
14-48	6-32 x 1/2"	Rd. Hd.	14-60	10-32 x 1"	Rd. Hd.
14-48A	6-32 x 1/2"	Bind. Hd.	14-60C	10-32 x 1"	Flat Hd.

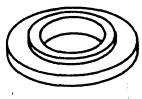
STOCK COLOR: Natural — Std. Pkg.: 100, 1000

Additional sizes available to order.

DABURN NYLON SHOULDER WASHERS

Natural Nylon Per MIL-P-20693A
Standard Package 1000

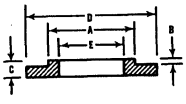


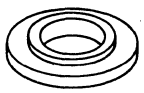


Catalog No.	E	Hole Size	D	C	B	A
14-540	.140	6	.375	.093	.031	.237
14-541	.110	4	.250	.062	.031	.187
14-542	.136	6	.250	.093	.031	.187
14-543	.136	6	.312	.093	.031	.187
14-544	.250	1/4"	.500	.068	.028	.312
14-545	.172	8	.375	.093	.031	.246
14-546	.196	10	.375	.093	.031	.308
14-547	.265	17/64"	.500	.097	.031	.365
14-548	.375	3/8"	.750	.093	.031	.500
14-549	.385	3/8"	.625	.093	.031	.500

FIBRE SHOULDER WASHERS

Fibre Material Per NEMA Standard and ASTM Spec. D-710



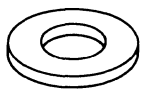


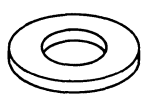
Catalog No.	E	Hole Size	D	C	B	A
14-530	.140	6	.375	.093	.031	.237
14-531	.110	4	.250	.062	.031	.187
14-532	.136	6	.250	.093	.031	.187
14-533	.136	6	.312	.093	.031	.187
14-534	.250	1/4"	.500	.068	.028	.312
14-535	.172	8	.375	.093	.031	.308
14-536	.196	10	.375	.093	.031	.308
14-537	.265	17/64"	.500	.097	.031	.365
14-538	.375	3/8"	.750	.093	.031	.500
14-539	.385	3/8"	.625	.093	.031	.500

Standard Package 1000

FLAT FIBRE WASHERS

NEMA STANDARD ASTM SPEC D-710

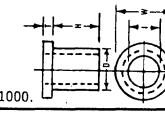




Cat. No.	Hole Size	I.D.	O.D.	Thickness
14-510	6	.136	.250	1/16
14-511	4	.110	.250	1/16
14-512	6	.140	.375	1/16
14-513	8	.172	.375	1/16
14-514	10	.196	.345	1/16
14-515	1/4"	.250	.500	1/16
14-516	1/4"	.250	.500	3/32
14-517	5/16"	.312	.500	1/16
14-518	3/8"	.385	.625	1/16
14-519	3/8"	.375	.750	1/16

Standard Package 1000

DABURN NYLON SPACER/BUSHINGS



Wide flanges isolates screw from mounting surface. Has hi-tensile and torque strength.
COLOR: Natural. MIL-P-20693A. Std. Pkg.: 100, 1000.

Daburn No.	Screw Size I.D.	W	T	H	D
14-79	# 4 (.115")	.235"	3/64"	1/4"	.146"
14-79A	# 6 (.140")	.290"	3/64"	1/4"	.170"
14-79B	# 8 (.173")	.344"	1/16"	3/8"	.205"
14-79C	#10 (.200")	.399"	1/16"	3/8"	.260"
14-79D	1/4" (.260")	.513"	1/16"	3/8"	.312"

DABURN NYLON HEX NUTS

Daburn No.	Size	Daburn No.	Size
14-85	2-56	14-88	8-32
14-86	4-40	14-89	10-32
14-87	6-32	14-90	1/4-20

COLOR: Natural. MIL-P-20693A. Std. Pkg.: 100, 1000

DABURN NYLON FLAT WASHERS

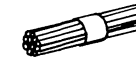
Daburn No.	For Screw Size	I.D.	O.D.	Thickness
14-92	2	3/32"	1/4"	.016"
14-93	4	1/8"	1/4"	.016"
14-94	6	5/32"	5/16"	.031"
14-95	8	.170"	3/8"	.031"
14-96	10	.195"	3/8"	.031"
14-97	1/4	9/32"	5/8"	.063"

COLOR: Natural — Std. Pkg.: 100, 1000

NOTE: See Sections 2100, 3100 for additional Daburn Hardware Products. Section 6000, for our Insulated Tubing - Wire - Cable — including Heat Shrinkable Tubing.

DABURN ASSORTED SPAGHETTI PACKS

25-9" lengths per pack consists of varnished sleeving of assorted sizes and colors.

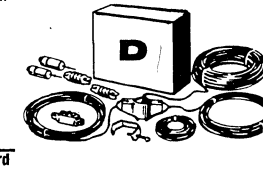


DABURN Cat. No.		Standard Package
9-07	Pack	25
9-08	25 Packs in Display Carton	1

DABURN ALL-WAVE ASSEMBLED ANTENNA KIT

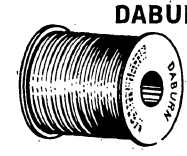
Designed for reception of overseas radio signals & programs. Utilizes the Hertz principle — balanced line consists of:

2—30' coils 7/24 copper wire
1—40' coil transmission cable
1—Center insulator
2—Porcelain insulators
2—Lead-in strips
1—Ground clamp
2—Nail-on knobs



DABURN Cat. No.		Standard Package
9-09	All Wave Kit	12

DABURN FIBERGLASS GUY WIRE



Gives complete isolation for any antenna system. Non-radiating, non-absorbing, no rot, no shrink, no sag. This non metallic guy wire has an overall (PVC) polyvinylchloride jacket.

DABURN No.	Put-Up	Tensile Strength	Color	Nom. O.D.
10-01	100', 500', 1000'	500 lbs.	Green	.125"
10-02	100', 500', 1000'	1000 lbs.	Gray	.218"
10-03	100', 500', 1000'	2500 lbs.	White	.313"

Doubling the cable will double the strength.

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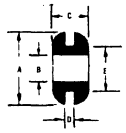
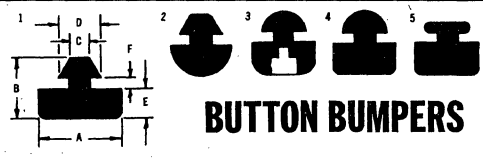
WRITE FOR CATALOG

All items except MS-35489 Grommets are molded of natural and synthetic rubber compounds or reclaimed rubber in combination or blends thereof. All series are listed in ascending order of diameter and height.



GROMMETS

Part No.	A O.D.	B I.D.	C Height	D Groove Width	E Groove Diam.	Per 100 100/999	Per 100 1000/4999
GOB-2101	1/4	1/8	1/8	1/32	3/16	$1.95	$1.56
GOB-2104	11/32	7/64	3/16	1/16	13/64	1.35	1.08
GOB-2105	11/32	1/8	3/16	1/16	3/16	1.50	1.20
GOB-210	11/32	1/8	3/16	1/16	1/4	2.70	2.16
GOB-2158	13/32	3/16	13/64	1/16	3/16	1.80	1.44
GOB-2157	7/16	1/8	7/32	1/16	3/16	1.95	1.56
GOB-2156	7/16	3/16	7/32	1/32	3/16	1.95	1.56
GOB-215	7/16	3/16	7/32	1/16	3/16	1.80	1.44
GOB-415	7/16	3/16	1/4	1/32	5/16	1.95	1.56
GOB-2160	7/16	7/32	3/16	1/16	3/16	1.80	1.44
GOB-2161	7/16	13/64	3/32	1/32	21/64	1.80	1.44
GOB-2153	15/32	9/64	1/4	1/16	3/16	2.10	1.68
GOB-2151	15/32	9/64	9/32	3/32	3/16	1.80	1.44
GOB-2154	15/32	7/32	1/8	1/32	3/16	1.80	1.44
GOB-2174	1/2	3/32	3/16	1/16	3/8	2.70	2.16
GOB-2171	1/2	3/16	3/16	1/32	3/8	2.10	1.68
GOB-2173	1/2	3/16	7/32	1/32	5/16	2.25	1.80
GOB-217	1/2	3/16	7/32	1/16	3/8	2.25	1.80
GOB-2172	1/2	1/4	3/32	1/32	5/16	2.25	1.80
GOB-2191	17/32	7/32	23/64	3/64	11/32	2.85	2.28
GOB-219	17/32	7/32	13/32	3/32	11/32	2.85	2.28
GOB-2201	5/16	3/16	3/8	1/8	7/16	2.85	2.28
GOB-220	5/16	1/4	1/4	1/16	3/8	2.40	1.92
GOB-221	5/16	5/32	1/4	1/16	3/8	2.40	1.92
GOB-2211	5/16	5/32	1/4	1/16	13/32	2.85	2.28
GOB-321	5/16	5/32	5/16	1/8	3/8	2.85	2.28
GOB-523	19/32	1/4	11/64	3/64	13/32	2.85	2.28
GOB-324	19/32	5/16	3/8	1/8	7/16	2.85	2.28
GOB-3241	19/32	5/16	17/32	5/32	7/16	2.85	2.28
GOB-2253	5/8	5/32	1/4	3/64	7/16	4.35	3.48
GOB-2254	5/8	5/32	11/64	3/64	7/16	3.15	2.52
GOB-2260	5/8	1/4	9/32	1/16	3/8	3.75	3.00
GOB-2251	5/8	1/4	11/32	1/16	3/8	4.50	3.60
GOB-3251	5/8	1/4	3/8	1/8	3/8	4.50	3.60
GOB-2257	5/8	1/4	17/32	3/32	1/2	4.50	3.60
GOB-2255	5/8	17/64	5/16	1/16	7/16	3.90	3.12
GOB-2352	5/8	5/16	5/32	1/16	7/16	2.85	2.28
GOB-2252	5/8	5/16	1/4	1/16	7/16	3.60	2.88
GOB-225	5/8	3/8	1/4	1/16	3/8	2.85	2.28
GOB-2258	5/8	3/8	11/32	1/16	17/32	2.85	2.28
GOB-226	23/32	21/64	5/16	1/16	5/16	3.75	3.00
GOB-2261	3/4	1/4	11/64	1/16	5/16	3.90	3.12
GOB-3262	3/4	5/16	5/16	1/16	17/32	8.25	6.60
GOB-3261	3/4	5/16	5/16	3/16	17/32	5.10	4.08
GOB-1101-1	3/4	3/8	1/2	1/8	17/32	4.95	3.96
GOB-1101	3/4	7/16	1/4	1/16	5/16	4.05	3.24
GOB-230	13/16	1/2	9/32	1/16	5/8	4.80	3.84
GOB-2274	7/8	5/16	5/16	1/16	5/8	6.00	4.80
GOB-2272	7/8	5/16	11/32	3/32	11/16	6.00	4.80
GOB-2271	7/8	3/8	5/16	1/16	5/8	6.30	5.05
GOB-1102-5	1 1/16	5/16	1/2	3/32	3/4	8.70	6.96
GOB-1102	1 1/16	1/2	5/16	1/16	13/16	7.05	5.64
GOB-1102-2	1 1/16	1/2	11/32	1/8	13/16	7.05	5.64
GOB-2301	1 1/16	11/16	1/4	1/16	13/16	10.20	8.16
GOB-1103	1 1/8	5/8	5/16	1/16	7/8	10.50	8.40
GOB-1105	1 1/8	13/16	1/4	3/64	15/16	10.50	8.40
GOB-1104	2 1/8	1 1/2	7/16	1/16	1 3/4	21.90	17.52



BUTTON BUMPERS

Part No.	A Max. Diam.	B Hgt.	C Insert Head	D Insert Head Base	E Base Hgt.	F Channel Width	PRICES Per 100 100/999 Black	Per 100 100/999 White	Per 100 1000/4999 Black	Per 100 1000/4999 White
FIG. 1										
BUT-3169	3/8	1/4	1/4	5/16	1/16	.070	$1.20	$1.35	$ .96	$1.08
BUT-3062	3/8	1/4	1/4	5/16	5/32	3/64	1.05	1.35	.84	1.08
BUT-3061	3/8	5/32	5/16	1/4	1/8	3/64	1.05	1.35	.84	1.08
BUT-4061	3/8	5/16	5/16	1/4	1/8	1/16	1.05	1.35	.84	1.08
BUT-4062	3/8	5/16	1/4	5/16	1/8	1/16	1.20	1.50	.96	1.20
BUT-4161	3/8	11/32	5/16	1/4	1/8	5/32	1.05	1.35	.84	1.08
BUT-4163	3/8	3/8	17/64	11/32	5/16	1/32	1.65	1.95	1.32	1.56
BUT-3168	3/8	15/32	13/64	19/64	7/32	1/16	1.50	1.65	1.20	1.32
BUT-3063	7/16	1/2	1/4	5/16	5/16	3/64	1.20	1.50	.96	1.20
BUT-3072	1/2	21/64	5/32	3/8	1/8	3/64	1.50	1.95	1.20	1.56
BUT-4071	1/2	3/8	5/16	1/4	1/8	1/16	1.65	1.95	1.32	1.56
BUT-4078	1/2	13/32	1/4	3/8	1/8	1/16	1.80	1.95	1.44	1.56
BUT-4167	1/2	27/64	5/32	13/32	1/4	3/64	1.65	1.95	1.32	1.56
BUT-4171	1/2	7/16	5/16	1/4	5/16	1/16	1.65	1.95	1.32	1.56
BUT-4176	1/2	7/16	1/4	5/16	5/16	1/16	1.50	1.80	1.20	1.44
BUT-4165	1/2	7/16	1/4	5/16	13/64	1/16	1.80	2.10	1.44	1.68
BUT-4075	1/2	7/16	13/64	1/4	5/16	1/16	1.95	2.40	1.56	1.96
BUT-4081	5/8	1/4	9/32	3/8	1/8	1/16	1.80	2.25	1.44	1.80
BUT-4082	5/8	13/32	5/16	1/4	1/4	.025	2.70	3.60	2.16	2.80
BUT-1160	3/4	1/2	.480	5/16	1/8	.050	2.70	3.75	2.16	3.00
BUT-1161	3/4	5/16	.480	27/64	5/16	.050	2.70	3.75	2.16	3.00
BUT-611	7/8	1/2	5/16	13/32	1/4	5/64	3.75	4.65	3.00	3.72
FIG. 2										
BUT-4076	1/2	7/16	1/4	5/16	5/16	1/16	1.50	1.80	1.20	1.44
BUT-3167	5/16	5/16	3/16	1/4	5/32	1/32	1.65	—	1.32	—
BUT-3064	7/16	13/64	13/64	17/64	5/32	3/64	1.35	1.50	1.08	1.20
BUT-3065	7/16	11/32	1/4	5/16	1/8	1/16	1.35	1.50	1.08	1.20
BUT-6112	13/16	11/32	1/4	5/16	5/32	1/16	3.15	—	2.52	—
FIG. 3										
BUT-306	3/8	3/8	5/16	17/64	5/16	.040	1.50	1.65	1.20	1.32
BUT-307	1/2	7/16	1/4	11/32	1/4	.040	1.80	2.55	1.44	2.04
BUT-407	1/2	7/16	1/4	11/32	1/4	1/8	1.65	2.55	1.32	2.04
BUT-317	1/2	1/2	1/4	11/32	1/4	1/8	1.80	2.55	1.44	2.04
BUT-408	5/8	7/16	3/8	15/32	5/16	1/16	3.75	4.05	3.00	3.24

BUTTON BUMPERS (Continued)

Part No.	A Max. Diam.	B Hgt.	C Insert Head	D Insert Head Base	E Base Hgt.	F Channel Width	PRICES Per 100 100/999 Black	Per 100 100/999 White	Per 100 1000/4999 Black	Per 100 1000/4999 White
FIG. 4										
BUT-4068	7/16	17/64	3/16	1/4	3/32	3/64	1.20	1.50	1.96	1.20
BUT-3263	7/16	7/16	1/4	5/16	3/16	1/8	1.50	1.80	1.20	1.44
BUT-4166	7/16	21/32	1/4	11/32	1/2	1/32	3.15	3.75	2.52	3.00
FIG. 5										
BUT-4083	5/8	5/32	13/32	17/32	1/8	3/32	2.55	3.30	2.04	2.64

MS-35489 GROMMETS

ARMY-NAVY APPROVED AN 931 (Military Standard)

SPECIFICATION: MIL-G-3036

GROMMET, ELASTIC, HOT-OIL AND COOLANT RESISTANT MATERIAL

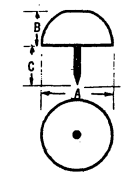
MS #	AN 931 #	I.D.	O.D. Groove	O.D.	Width Groove	Thick-ness	Per 100 100/0100	Per 100 above 1000
MS-35489-1	AN 931-3-5	3/16	5/16	7/16	1/16	3/16	$6.30	$5.04
MS-35489-6	AN 931-4-7	1/4	7/16	5/8	1/16	3/16	7.20	5.76
MS-35489-9	AN 931-5-9	5/16	7/16	13/16	1/16	3/16	11.25	9.00
MS-35489-11	AN 931-6-10	3/8	5/8	7/8	1/16	3/16	11.25	9.00
MS-35489-13	AN 931-7-11	7/16	11/16	15/16	1/16	3/16	15.30	12.24
MS-35489-14	AN 931-8-13	1/2	13/16	1 1/16	1/16	3/16	16.65	13.32
MS-35489-17	AN 931-10-14	5/8	7/8	1 1/8	1/16	3/16	16.65	13.32
MS-35489-19	AN 931-11-16	11/16	1	1 5/16	1/16	3/8	21.15	16.92
MS-35489-20	AN 931-12-17	3/4	1 1/16	1 3/8	1/16	3/8	23.85	19.08
MS-35489-22	AN 931-14-20	7/8	1 1/4	1 5/8	1/16	7/16	33.75	27.00
MS-35489-23	AN 931-16-22	1	1 3/8	1 3/4	1/16	7/16	41.40	33.12
MS-35489-35	AN 931-A4-7	1/4	7/16	5/8	1/8	3/16	8.10	6.48
MS-35489-40	AN 931-A6-10	3/8	5/8	7/8	1/8	3/16	12.60	10.08
MS-35489-42	AN 931-A7-11	7/16	11/16	15/16	1/8	3/16	16.65	13.32
MS-35489-43	AN 931-A8-13	1/2	13/16	1 1/16	1/8	3/16	18.45	14.76
MS-35489-49	AN 931-A12-17	3/4	1 1/16	1 3/8	1/8	3/8	26.10	20.88

RECESSED BUMPERS

Part No.	A Max. Diam.	B Hgt.	C Screw Head Depth	D Screw Shaft Depth	E Screw Base Opening	F Screw Shaft Width	PRICES Per 100 100/999 Black	Per 100 100/999 White	Per 100 1000/4999 Black	Per 100 1000/4999 White
FIG. 1										
REC-2062	3/8	1/4	3/16	1/16	1/4	5/32	$1.80	$2.40	$1.44	$1.92
REC-2082	5/8	1/2	1/4	1/4	5/16	5/32	2.10	2.70	1.68	2.16
REC-2082S	5/8	1/2	1/4	1/4	5/16	5/32	3.60	4.50	2.90	3.60
REC-2084S	3/4	3/8	5/16	3/16	7/16	7/32	6.75	9.30	5.40	7.44
REC-2096S	15/16	5/8	7/16	3/16	7/16	7/32	9.60	12.00	7.68	9.60
FIG. 2										
REC-206	3/8	3/16	3/32	3/32	3/16	3/64	.90	1.20	.72	.96
REC-2061	7/16	5/32	3/32	1/16	1/4	5/32	1.35	1.65	1.08	1.32
REC-2061S	7/16	5/32	3/32	1/16	1/4	5/32	3.45	4.05	2.76	3.24
REC-207	1/2	1/4	1/8	1/8	1/4	1/8	1.50	1.80	1.20	1.44
REC-207S	1/2	1/4	1/8	1/8	1/4	1/8	2.55	3.00	2.04	2.40
REC-2081	5/8	5/16	3/16	1/8	1/4	3/16	1.95	2.70	1.56	2.16
REC-2081S	5/8	5/16	3/16	1/8	1/4	3/16	3.45	4.20	2.76	3.36
REC-2088	5/8	5/16	3/16	1/8	1/4	1/8	1.95	2.70	1.56	2.16
REC-2085	3/4	3/8	3/16	3/16	5/16	5/32	3.00	—	2.40	—
REC-2085S	3/4	3/8	3/16	3/16	5/16	5/32	4.80	6.15	3.84	4.92
REC-209	13/16	1/2	1/4	1/4	5/16	5/32	3.75	5.10	3.00	4.08
REC-209S	13/16	1/2	1/4	1/4	5/16	5/32	6.15	7.35	4.92	5.88
REC-2097	1	1	5/8	3/8	5/16	5/32	7.65	10.50	6.12	8.40
REC-2097S	1	1	5/8	3/8	5/16	5/32	9.90	12.60	7.92	10.08
REC-2099S	1	1 1/2	5/8	7/8	5/16	5/32	14.75	17.10	11.76	13.68
FIG. 3										
REC-2195	15/16	1/4	1/8	1/8	1/2	1/4	4.80	6.30	3.84	5.04
FIG. 4										
REC-2087	3/4	5/32	5/32	1/8	1/4	1/8	3.60	4.65	2.88	3.72
REC-2196	15/16	11/32	3/16	5/32	3/8	3/16	3.90	5.10	3.12	4.08
REC-2095S	13/16	3/8	3/16	3/16	3/8	5/32	4.05	5.40	3.24	4.32
REC-2197S	1	1/2	1/4	1/4	3/8	3/16	5.70	7.50	4.56	6.00

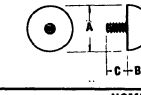
RECESSED BUMPERS AVAILABLE IN WHITE ON SPECIAL REQUEST.

TACK BUMPERS



PART NO.	A O.D.	B HEIGHT	C TACK LENGTH	NOMINAL DURO-METER
TAC-37	3/8	7/32	3/8	75
TAC-50	1/2	1/4	5/16	75
TAC-62	5/8	5/16	7/16	75
TAC-75	3/4	3/8	3/8	75
TAC-87	7/8	1/2	11/32	75

MACHINE BUMPERS



PART NO.	A O.D.	B HEIGHT	C SCREW LENGTH	SCREW SIZE	NOMINAL DURO-METER
MAC-51	1/2	1/4	1/4	8-32	75
MAC-62	5/8	5/16	1/4	8-32	75
MAC-75	3/4	3/8	1/4	8-32	75
MAC-87	7/8	1/2	1/2	10-32	75
MAC-100	1	1/2	1/2	10-32	75
MAC-112	1 1/8	1/2	1/2	10-32	75

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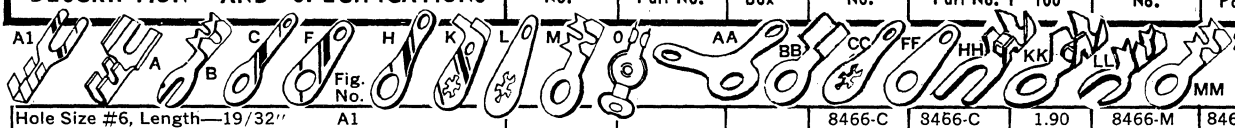
GC ELECTRONICS

ELECTRONIC HARDWARE

SOLDERING LUGS TINNED



DESCRIPTION AND SPECIFICATIONS	Fig. No.	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
Hole Size #6, Length—19/32"	A1				8466-C	8466-C	1.90	8466-M	8466-M	15.19
Hole Size #6, Length—23/32"	A				8467-C	8467-C	3.42	8467-M	8467-M	27.32
Hole Size #8, Length—23/32"	A				8468-C	8468-C	3.22	8468-M	8468-M	25.72
Hole Size #6, Length—21/32"	B	H104-F	H104-F	25	1021-BC	7136-C	1.29	1021-BM	7136-M	10.26
Hole Size #8, Length—5/8"	B	H106-F	H106-F	25	7445-C	7138-CW	1.46	7445-M	7138-MW	11.60
Hole Size #10, Length—11/16"	B				8473-C	8473-C	1.42	8473-M	8473-M	11.33
Hole Size #6, Length—9/16"	C				5703-C	5703-C	1.09	5703-M	5703-M	8.66
Hole Size #8, Length—9/16"	C				5704-C	5704-C	2.04	5704-M	5704-M	16.26
Hole Size #10, Length—13/16"	C				5705-C	5705-C	2.04	5705-M	5705-M	16.26
Hole Size #6, Length—11/16"	C	H108-F	H108-F	30	1021-CC	1021-CC	1.12	1021-CM	1021-CM	8.93
Hole Size #6, Length—9/16"	F	H112-F	H112-F	30	1021-FC	1021-FC	1.12	1021-FM	1021-FM	8.93
Hole Size #8, Length—9/16"	F	H113-F	H113-F	30	7451-C	7168-C	1.07	7451-M	7168-M	8.53
Hole Size #6, Length—7/8"	F	H114-F	H114-F	25	7454-C	7454-C	.80	7454-M	7454-M	6.40
Hole Size #8, Length—7/8"	H	H117-F	H117-F	25	7455-C	7455-C	1.05	7455-M	7455-M	8.40
Hole Size #10, Length—7/8"	H	H118-F	H118-F	25	7456-C	7456-C	1.05	7456-M	7456-M	8.40
Hole Size #4, Length—25/32"	K				7458-C	7458-C	2.23	7458-M	7458-M	17.85
Hole Size #8, Length—25/32"	K				7460-C	7460-C	2.27	7460-M	7460-M	18.13
Hole Size #10, Length—13/16"	K				7461-C	7461-C	2.27	7461-M	7461-M	18.13
Hole Size #6, Length—5/8"	L	H122-F	H122-F	20	7462-C	7462-C	1.30	7462-M	7462-M	10.40
Hole Size #8, Length—5/8"	L				7463-C	7463-C	1.30	7463-M	7463-M	10.40
Hole Size #4, Length—9/16"	F				5706-C	5706-C	2.03	5706-M	5706-M	16.26
Hole Size #8, Length—13/16"	F				5707-C	5707-C	2.03	5707-M	5707-M	16.26
Hole Size #6, Length—13/16"	F				5708-C	5708-C	2.03	5708-M	5708-M	16.26
Hole Size #6, Length—11/16"	M	H124-F	H124-F	25	7441-C	7146-C	1.43	7441-M	7146-M	11.46
Hole Size #8, Length—11/16"	M	H134-F	H134-F	25	7442-C	7148-CW	1.35	7442-M	7148-MW	10.80
Hole Size #10, Length—11/16"	M	H102-F	H102-F	25	1021-AC	7149-C	1.35	1021-AM	7149-M	10.80
Solderless TV Line Lugs	O	H225-F	7190-F	10	8633-C	7199-C	2.00	8633-M	7199-M	15.99
Hole Size #6	AA				7116-C	7116-C	1.48	7116-M	7116-M	11.86
Hole Size #8	AA				7118-CW	7118-CW	1.57	7118-MW	7118-MW	12.53
Hole Size #6, Length—7/16"	BB				7126-C	7126-C	1.17	7126-M	7126-M	9.33
Hole Size #8, Length—5/8"	BB				7128-C	7128-C	1.53	7128-M	7128-M	12.26
Hole Size #6	CC				7156-C	7156-C	1.30	7156-M	7156-M	10.40
Hole Size #8, Length—13/16"	CC				7158-CW	7158-CW	1.30	7158-MW	7158-MW	10.40
Hole Size #6, Length—1/2"	FF				7166-C	7166-C	1.20	7166-M	7166-M	9.60
Hole Size #10, Length—11/16"	FF				7169-C	7169-C	1.02	7169-M	7169-M	8.13
Hole Size #10	HH	7170-F	7170-F	25	7179-C	7179-C	1.28	7179-M	7179-M	10.26
Hole Size #10	KK	7180-F	7180-F	15	7189-C	7189-C	2.05	7189-M	7189-M	16.39
Assorted #6-#10 Hole Size	B, C, F, M	H100-F	H100-F	30						
Assorted Types		7100-F	7100-F	36						
Assorted #6-#8 Hole Size	AA	7110-F	7110-F	20						
Assorted #6-#8 Hole Size	BB	7120-F	7120-F	20						
Assorted #6-#8 Hole Size	LL	7130-F	7130-F	25						
Assorted #6-#8 Hole Size	MM	7140-F	7140-F	16						
Assorted #6-#8 Hole Size	CC	7150-F	7150-F	15						
Assorted #6-#8 Hole Size	FF	7160-F	7160-F	35						
100 Assorted Terminals					1020	1020	1.30			

ROUND HEAD MACHINE SCREWS

STEEL — NICKEL PLATED

2-56 x 1/4"	H1022-F	H1022-F	40	7130-C	7130-C	.57	7130-M	7130-M	4.53
2-56 x 1/2"	H1024-F	8024-F	40	7131-C	8024-C	.60	7131-M	8024-M	4.80
2-56 x 3/4"	H1026-F	H1026-F	40	7132-C	7132-C	.72	7132-M	7132-M	5.73
3-48 x 3/4"	H1028-F	H1028-F	40	7124-C	7124-C	.72	7124-M	7124-M	5.73
4-36 x 1/4" Phono Cartridge Mounting Screw	H1032-F	8032-F	40	6005-C	8032-C	.60	6005-M	8032-M	4.80
4-36 x 3/8"	H1033-F	H1033-F	35	7138-C	7138-C	.65	7138-M	7138-M	5.20
4-36 x 1/2"	H1034-F	8034-F	35	6006-C	8034-C	.67	6006-M	8034-M	5.33
4-36 x 5/8"				5651-C	5651-C	.70	5651-M	5651-M	5.60
4-36 x 3/4"	H1036-F	8036-F	35	6007-C	8036-C	.85	6007-M	8036-M	6.80
4-40 x 1/4" Phono Cartridge Mounting Screw	H1042-F	8042-F	40	6005-AC	8042-C	.60	6005-AM	8042-M	4.80
4-40 x 1/2"	H1044-F	8044-F	35	6005-BC	8044-C	.67	6005-BM	8044-M	5.33
4-40 x 5/8"				5652-C	5652-C	.70	5652-M	5652-M	5.60
4-40 x 3/4"	H1046-F	H1046-F	35	6005-CC	6005-CC	.79	6005-CM	6005-CM	6.26
6-32 x 1/4"	H1062-F	8062-F	40	6008-C	8062-C	.65	6008-M	8062-M	5.20
6-32 x 1/2"	H1064-F	8064-F	30	6009-C	8064-C	.75	6009-M	8064-M	6.00
6-32 x 5/8"				5653-C	5653-C	.83	5653-M	5653-M	6.66
6-32 x 3/4"	H1066-F	8066-F	30	6010-C	8066-C	.88	6010-M	8066-M	7.06
6-32 x 1"	H1068-F	H1068-F	30	6011-C	8068-C	1.02	6011-M	8068-M	8.13
6-32 x 1- 1/4"	H1070-F	H1070-F	30	7141-C	7141-C	1.24	7141-M	7141-M	9.86

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GC ELECTRONICS

ELECTRONIC HARDWARE

ROUND HEAD MACHINE SCREWS

STEEL — NICKEL PLATED

DESCRIPTION AND SPECIFICATIONS	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
6-32 x 2″	H1076-F	8078-F	20	7148-C	8078-C	1.84	7148-M	8078-M	14.66
8-32 x 1/4″	H1082-F	8082-F	30	6013-C	8082-C	.87	6013-M	8082-M	6.93
8-32 x 3/8″	H1083-F	8083-F	25	6014-C	8083-C	.95	6014-M	8083-M	7.60
8-32 x 1/2″	H1084-F	8084-F	25	6015-C	8084-C	1.02	6015-M	8084-M	8.13
8-32 x 5/8″				5654-C	5654-C	1.07	5654-M	5654-M	8.53
8-32 x 3/4″	H1086-F	8086-F	20	6016-C	8086-C	1.13	6016-M	8086-M	9.06
8-32 x 1″	H1088-F	H1088-F	20	6017-C	8088-C	1.30	6017-M	8088-M	10.40
8-32 x 1-1/4″	H1090-F	H1090-F	20	7142-C	7142-C	1.50	7142-M	7142-M	12.00
10-32 x 1/2″	H1104-F	8104-F	20	6020-C	8104-C	1.15	6020-M	8104-M	9.20
10-32 x 5/8″				5655-C	5655-C	1.27	5655-M	5655-M	10.13
10-32 x 3/4″	H1106-F	8106-F	20	6021-C	8106-C	1.39	6021-M	8106-M	11.06
10-32 x 1″	H1108-F	8108-F	17	6022-C	8108-C	1.52	6022-M	8108-M	12.13
10-32 x 1-1/2″	H1112-F	H1112-F	15	7143-C	7143-C	2.02	7143-M	7143-M	16.13
2-56 x 3/16″				8021-CW	8021-CW	.52	8021-MW	8021-MW	4.13
2-56 x 5/16″				8022-C	8022-C	.53	8022-AM	8022-AM	4.26
2-56 x 3/8″	8023-F	8023-F	40	8023-C	8023-C	.57	8023-M	8023-M	4.53
4-40 x 3/8″				8043-C	8043-C	.60	8043-M	8043-M	4.80
4-40 x 1″							8048-M	8048-M	5.90
6-32 x 3/8″	8063-F	8063-F	35	8063-C	8063-C	.65	8063-M	8063-M	5.20
Assorted	8000-F	8000-F	40						
Assorted	H1000-F	H1000-F	35						
Assorted	H1001-F	H1001-F	40						
Assorted	H1002-F	H1002-F	35						
Assorted	H1010-F	H1010-F	40						
Assorted	H1012-F	H1012-F	40						
Assorted	H1016-F	H1016-F	40						
Assorted	H1018-F	H1018-F	25						
Small Machine Screws and Nut Assortment	8002-F	8002-F	36						
Cartridge Mounting Screw Assortment	H1560-F	H1560-F	60						
Cartridge Mounting Screw Assortment	H1562-F	H1562-F	40						
Cartridge Mounting Screw	H1564-F	H1564-F	40						
Pickup Cartridge Mounting Screw	8560-F	8560-F	30						
Phonograph Needle and Styllus Set Screw (Assorted)	H1550-F	8550-F	12						
1-72 x 1″	H1555-F	8555-F	5						
2-56 x 9/16″	H1551-F	H1551-F	12						
2-64 x 3/4″	H1553-F	8553-F	12						
2-56 x 5/8″	8552-F	8552-F	15						

BINDING HEAD MACHINE SCREWS

STEEL — NICKEL PLATED

2-56 x 1/4″	H1122-F	8151-F	40	7160-C	8151-C	.62	7160-M	8151-M	4.93
2-56 x 1/2″	H1124-F	8152-F	40	7161-C	8152-C	.68	7161-M	8152-M	5.46
2-56 x 3/4″	H1126-F	8154-F	40	7162-C	8154-C	.75	7162-M	8154-M	6.00
4-36 x 1/4″	H1132-F	8155-F	40	7163-C	8155-C	.75	7163-M	8155-M	6.00
4-36 x 1/2″	H1134-F	8156-F	35	7164-C	8156-C	.75	7164-M	8156-M	6.00
4-36 x 3/4″	H1136-F	8157-F	35	7165-C	8157-C	.75	7165-M	8157-M	6.00
4-40 x 1/4″	H1142-F	8158-F	40	7170-C	8158-C	.64	7170-M	8158-M	5.06
4-40 x 1/2″	H1144-F	8159-F	35	7171-C	8159-C	.67	7171-M	8159-M	5.33
4-40 x 3/4″				7172-C	8160-C	.79	7172-M	8160-M	6.26
5-36 x 1/4″	H1170-F	8161-F	35	7154-C	8161-C	.65	7154-M	8161-M	5.20
6-32 x 3/16″				7151-C	8162-C	.68	7151-M	8162-M	5.46
6-32 x 1/4″	H1172-F	8163-F	35	7152-C	8163-C	.65	7152-M	8163-M	5.20
6-32 x 3/8″				7153-C	8164-C	.70	7153-M	8164-M	5.60
6-32 x 1/2″				7118-C	8166-C	.75	7118-M	8166-M	6.00
6-32 x 3/4″	H1166-F	8167-F	30	7173-C	8167-C	.88	7173-M	8167-M	7.06
7-32 x 3/8″	H1174-F	8165-F	30	7155-C	8165-C	1.90	7155-M	8165-M	15.19
8-32 x 1/4″	H1182-F	8168-F	30	7174-C	8168-C	.87	7174-M	8168-M	6.93
8-32 x 5/16″				7158-C	8171-C	.95	7158-M	8171-M	7.60
8-32 x 3/8″				7119-C	8169-C	.95	7119-M	8169-M	7.60
8-32 x 1/2″				7120-C	8170-C	1.02	7120-M	8170-M	8.13
8-32 x 3/4″	H1186-F	8172-F	25	7175-C	8172-C	1.13	7175-M	8172-M	9.06
10-32 x 1/2″	H1188-F	8173-F	20	7176-C	8173-C	1.15	7176-M	8173-M	9.20
10-32 x 3/4″	H1190-F	8174-F	20	7177-C	8174-C	1.39	7177-M	8174-M	11.06
Assorted	H1168-F	H1168-F	35						

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

GC ELECTRONICS

ELECTRONIC HARDWARE

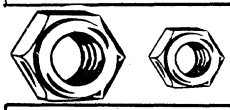
SHEET METAL SCREWS

HEX HEAD — SLOTTED SELF-TAPPING — NICKEL PLATED

DESCRIPTION AND SPECIFICATIONS	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
#8 x 3/8"	H1383-F	8383-F	20	6095-C	8383-C	1.28	6095-M	8383-M	10.26
#8 x 1/2"	H1384-F	8384-F	20	6096-C	8384-C	1.32	6096-M	8384-M	10.53
#8 x 1"	H1388-F	8388-F	15	6097-C	8388-C	1.69	6097-M	8388-M	13.46
#10 x 3/8"	H1403-F	8403-F	15	6098-C	8403-C	1.43	6098-M	8403-M	11.46
#10 x 1/2"	H1404-F	8404-F	15	6099-C	8404-C	1.57	6099-M	8404-M	12.53
#10 x 3/4"	H1406-F	8406-F	12	6100-C	8406-C	1.70	6100-M	8406-M	13.59
#8 x 5/8"				5696-C	5696-C	1.33	5696-M	5696-M	10.66
#4 x 3/8"				6089-C	6089-C	.94	6089-M	6089-M	7.46
#4 x 1/2"	H1350-F	H1350-F	35	6090-C	6090-C	1.02	6090-M	6090-M	8.13
#6 x 1/4"	H1362-F	8362-F	30	6091-C	8362-C	1.07	6091-M	8362-M	8.53
#6 x 3/8"	H1363-F	8363-F	25	6092-C	8363-C	1.09	6092-M	8363-M	8.66
#6 x 1/2"	H1364-F	8364-F	25	6093-C	8364-C	1.15	6093-M	8364-M	9.20
#6 x 3/4"	H1366-F	8366-F	20	6094-C	8366-C	1.24	6094-M	8366-M	9.86
#8 x 1/4"	H1382-F	8382-F	20	8102-C	8382-C	1.24	8102-M	8382-M	9.86
#6 x 1"	8368-F	8368-F	20	8368-C	8368-C	1.67	8368-M	8368-M	13.33
#8 x 3/4"	8386-F	8386-F	15	8386-C	8386-C	1.60	8386-M	8386-M	12.79
Assorted	H1300-F	8300-F	25						

FLAT HEAD RACK AND CABINET SCREWS

6-32 x 1/2"				6540-C	6540-C	.75	6540-M	6540-M	6.00
6-32 x 5/8"	8265-F	8265-F	30	5691-C	8265-C	1.07	5691-M	8265-M	8.53
6-32 x 3/4"				6541-C	6541-C	.88	6541-M	6541-M	7.06
8-32 x 5/8"	8269-F	8269-F	25	5692-C	8269-C	1.15	5692-M	8269-M	9.20
8-32 x 3/4"				6542-C	6542-C	1.13	6542-M	6542-M	9.23
10-32 x 1/2"				8848-C	8848-C	1.15	8848-M	8848-M	9.20
10-32 x 5/8"				5693-C	5693-C	1.25	5693-M	5693-M	10.00
10-32 x 3/4"	8273-F	8273-F	20	6543-C	8273-C	1.35	6543-M	8273-M	10.80
12-24 x 5/8"				8278-C	8278-C	1.73	8278-M	8278-M	13.81
Assorted	H1005-F	8005-F	30						



HEXAGON NUTS

STEEL — NICKEL PLATED

Thread 2-56, Width 3/16", Thickness 1/16"	H1802-F	8802-F	30	7225-C	8802-C	.83	7225-M	8802-M	6.66
Thread 3-48, Width 3/16", Thickness 1/16"	H1803-F	H1803-F	30	7226-C	7226-C	.83	7226-M	7226-M	6.66
Thread 4-36, Width 1/4", Thickness 3/32"	H1805-F	H1805-F	30	6041-C	8824-CW	.83	6041-M	8824-MW	6.66
Thread 4-40, Width 1/4", Thickness 3/32"	H1804-F	H1804-F	30	6041-AC	6041-AC	.83	6041-AM	6041-AM	6.66
Thread 6-32, Width 1/4", Thickness 3/32"	H1806-F	8806-F	30	6042-C	8806-C	.83	6042-M	8806-M	6.66
Thread 6-32, Width 5/16", Thickness 7/64"	H1807-F	H1807-F	30	7230-C	8826-C	.90	7230-M	8826-M	7.20
Thread 8-32, Width 1/4", Thickness 3/32"	H1808-F	H1808-F	30	6043-C	6043-C	.83	6043-M	6043-M	6.66
Thread 8-32, Width 5/16", Thickness 7/64"	8808-F	8808-F	30	7232-C	8808-C	.90	7232-M	8808-M	7.20
Thread 8-32, Width 11/32", Thickness 1/8"	H1809-F	H1809-F	30	7233-C	8828-C	.88	7233-M	8828-M	7.06
Thread 10-32, Width 3/8", Thickness 5/64"	H1810-F	H1810-F	30	6044-C	6044-C	1.17	6044-M	6044-M	9.33
Thread 10-32, Width 3/8", Thickness 1/8"				6049-C	8830-C	1.07	6049-M	8830-M	8.53
Thread 1/4-20, Width 7/16", Thickness 3/16"	H1820-F	H1820-F	25	7235-C	7235-C	1.48	7235-M	7235-M	11.86
Thread 11/32-32, Width 7/16",Thickness 1/16"				7236-C	7236-C	2.37	7236-M	7236-M	18.93
Thread 3/8-32, Width 9/16", Thickness 3/32"	H1923-F	H1923-F	15	6050-AC	6050-AC	1.78	6050-AM	6050-AM	14.26
Thread 7/16-27, Width 9/16", Thickness 1/8"				7238-C	7238-C	4.00	7238-M	7238-M	31.99
Thread 15/32-32, Width 9/16", Thickness 5/64"	H1924-F	8924-F	10	6050-BC	6050-BC	2.18	6050-BM	6050-BM	17.46
Thread 1/4-32, Width 3/8", Thickness 3/32"				7715-C	7715-C	1.62	7715-M	7715-M	12.93
Thread 5-40, Width 5/16", Thickness 7/64"				6045-BC	6045-BC	.88	6045-BM	6045-BM	7.06
Thread 10-32, Width 5/16", Thickness 7/64"	8810-F	8810-F	25	8810-C	8810-C	1.17	8810-M	8810-M	9.33
Assorted	H1800-F	8800-F	30						
Thread 4-40. Width 3/16", Thickness 1/16"	8804-F	8804-F	30	8804-C	8804-C	.80	8804-M	8804-M	6.40

MOUNTING NUTS

STEEL — NICKEL PLATED

Thread 11/32-32, Width 7/16", Thickness 1/16", Rotary Switch Size — Hex				7236-C	7236-C	2.37	7236-M	7236-M	18.93
Thread 3/8-32, Width 9/16", Thickness 3/32", Volume Control Size—Hex	H1923-F	H1923-F	15	6050-AC	6050-AC	1.78	6050-AM	6050-AM	14.26
Thread 7/16-27, Width 9/16", Thickness 1/8", Pilot Light Size—Hex				7238-C	7238-C	4.00	7238-M	7238-M	31.99
Thread 15/32-32, Width 9/16", Thickness 5/64", Toggle Switch Size—Hex	H1924-F	8924-F	10	6050-BC	8924-C	2.18	6050-BM	8924-M	17.46
Thread 15/32-32, Width 19/32", Thickness 1/16", Round Ring Nut, Knurled—Toggle Switch Size	H1926-F	H1926-F	8	6050-CC	6050-CC	4.20	6050-CM	6050-CM	33.59
Thread 3/8-32, Width 1/2", Thickness 3/32", Volume Control Switch—Hex	8923-F	8923-F	12	8923-C	8923-C	2.67	8923-M	8923-M	21.32
Thread 15/32-32, Width 19/32", Thickness 3/32", Round Ring Nut Knurled—Toggle Switch Size	8926-F	8926-F	8	8926-C	8926-C	5.70	8926-M	8926-M	45.58
Thread 3/8-32, Width 1/2", Thickness 3/32", Volume Control—Hex				8922-C	8922-C	4.83	8922-M	8922-M	38.68
Assorted	8920-F	8920-F	12						
Assorted	H1920-F	H1920-F	12						

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

Net

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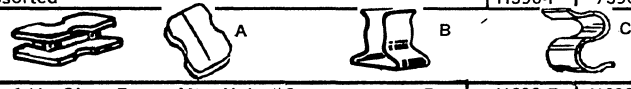
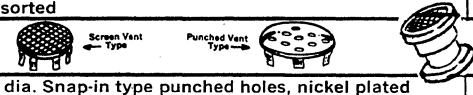
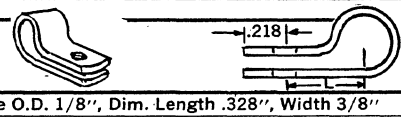
GC ELECTRONICS

ELECTRONIC HARDWARE

DESCRIPTION AND SPECIFICATIONS	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
RIVETS									
NICKEL PLATED									
Shank: Dia. .059", Length 5/32"				7276-C	7276-C	1.07	7276-M	7276-M	8.53
Shank: Dia. .059", Length 3/16"				7277-C	7277-C	1.07	7277-M	7277-M	8.53
Shank: Dia. .060", Length 1/4"				7278-C	7278-C	.70	7278-M	7278-M	5.60
Shank: Dia. .088", Length 3/16"				7280-C	7280-C	1.15	7280-M	7280-M	9.20
Shank: Dia. .098", Length 3/16"				7283-C	7283-C	1.20	7283-M	7283-M	9.60
Shank: Dia. .121", Length 1/8"				7286-C	7286-C	.93	7286-M	7286-M	7.46
Shank: Dia. .121", Length 3/16"				7288-C	7288-C	.73	7288-M	7288-M	5.86
Shank: Dia. .121", Length 1/4"				7290-C	7290-C	.85	7290-M	7290-M	6.80
Shank: Dia. .121", Length 1/2"				7293-C	7293-C	.78	7293-M	7293-M	6.26
Shank: Dia. .146", Length 5/16"				7296-C	7296-C	.99	7296-M	7296-M	7.86
Assorted rivets and eyelets	H526-F	H526-F	55						
Assorted rivets	H525-F	7525-F	50						
Assorted TV interlock recept rivets	H527-F	7527-F	50						
Envelope of 12 TV inter-recept rivets	8205-E								
EYELETS									
BRASS									
Shank Dia. .087", Length 1/8", Head Dia. .145"				7251-C	7251-C	.35	7251-M	7251-M	2.80
Shank Dia. .087", Length 5/32", Head Dia. .145"				7252-C	7252-C	.47	7252-M	7252-M	3.73
Shank Dia. .087", Length 7/32", Head Dia. .145"				7253-C	7253-C	.58	7253-M	7253-M	4.66
Shank Dia. .087", Length 11/32", Head Dia. .180"				7254-C	7254-C	1.35	7254-M	7254-M	10.80
Shank Dia. .123", Length 5/32", Head Dia. .197"	H515-F	H515-F	50	7257-C	7257-C	.65	7257-M	7257-M	5.20
Shank Dia. .123", Length 7/32", Head Dia. .195"				7259-C	7259-C	.52	7259-M	7259-M	4.13
Shank Dia. .123", Length 1/4", Head Dia. .195"				7260-C	7260-C	.68	7260-M	7260-M	5.46
Shank Dia. .123", Length 9/32", Head Dia. .195"				7261-C	7261-C	.68	7261-M	7261-M	5.46
Shank Dia. .125", Length 5/16", Head Dia. .289"				7264-C	7264-C	1.17	7264-M	7264-M	9.33
Shank Dia. .127", Length 15/32", Head Dia. .222"				7265-C	7265-C	1.43	7265-M	7265-M	11.46
Shank Dia. .182", Length .145", Head Dia. .315"				7269-C	7269-C	.40	7269-M	7269-M	3.20
Assorted eyelets	H510-F	H510-F	50						
Assorted eyelets and clamps	H744-F	H744-F	50						
Assorted eyelets and rivets	H526-F	H526-F	55						
A B C D E **FAHNESTOCK CLIPS**									
A Length 1/2", Width 7/32", Mtg. hole #4, Mtg. wire 16 ga.	H592-F	7592-F	15	6301-C	7592-C	1.82	6301-M	7592-M	14.53
B Length 3/4", Width 5/16", Mtg. hole #6, Mtg. wire 14 ga.	H594-F	7594-F	14	6302-C	7594-C	2.08	6302-M	7594-M	16.66
C Length 1", Width 3/8", Mtg. hole #8, Mtg. wire 10 ga.				6303-C	6303-C	3.60	6303-M	6303-M	28.79
D Lgth. 1-1/2", Width 5/16", Mtg. hole #6, Mtg. wire 10 ga.				6304-C	6304-C	13.33	6304-M	6304-M	106.62
E Length 3/4", Width 5/16", Mtg. hole #6, Mtg. wire 14 ga.				6306-C	6306-C	6.00	6306-M	6306-M	48.00
Assorted	H590-F	7590-F	12						
 A B C **FUSE CLIPS**									
Prices per quantity shown on these items									
For 1/4" Glass Fuses, Mtg. Hole #6 B	H600-F	H600-F	12	6311-C	7601-C	2.54	6311-M	7601-M	20.26
TV Fuse Clip Box of 100 A				8618-C		18.00			
TV Fuse Clip Box of 500 A				8618-5C		67.00			
TV Fuse Clip Each A				8618		.28			
S-Type Fuse Clip Bag of 20 C				8619		.47			
S-Type Fuse Clip 5 of 200 C				8619-2C		2.50			
Assorted	7600-F	7600-F	10	(see index for pricing)					
 Screen Vent Type — Punched Vent Type **SNAP-IN VENTILATING PLUGS**									
1" dia. Snap-in type punched holes, nickel plated	H334-F	H334-F	4	1709-C	1709-C	9.81	1709-M	1709-M	78.50
1" dia. Snap-in type screen vent, steel nickel plated				1708-C	7331-C	25.86	1708-M	7331-M	206.85
19/32" dia. eyelet type screen vent, brass not plated				7332-CW	7332-CW	5.71	7332-MW	7332-MW	45.72
3/4" dia. eyelet type screen vent, brass not plated				7333-CW	7333-CW	8.10	7333-MW	7333-MW	64.77
Assorted	7330-F	7330-F	3						
 .218 L **NYLON CABLE CLAMPS**									
Made of natural color (Translucent White)									
For Cable O.D. 1/8", Dim. Length .328", Width 3/8"				34-370-C		3.60	34-370-M		30.00
For Cable O.D. 3/16", Dim. Length .390", Width 3/8"				34-374-C		3.93	34-374-M		31.77
For Cable O.D. 1/4", Dim. Length .421", Width 3/8"				34-378-C		4.17	34-378-M		34.73
For Cable O.D. 5/16", Dim. Length .453", Width 3/8"				34-382-C		4.68	34-382-M		38.37
For Cable O.D. 3/8", Dim. Length .483", Width 3/8"				34-386-C		4.83	34-386-M		40.32
For Cable O.D. 7/16", Dim. Length .531", Width 3/8"				34-390-C		5.13	34-390-M		42.63
For Cable O.D. 1/2", Dim. Length .625", Width 3/8"				34-394-C		5.47	34-394-M		45.38
For Cable O.D. 9/16", Dim. Length .625", Width 1/2"				34-398-C		6.72	34-398-M		62.26
For Cable O.D. 5/8", Dim. Length .610", Width 1/2"				34-402-C		7.50	34-402-M		65.63
For Cable O.D. 11/16", Dim. Length .666", Width 1/2"				34-406-C		7.80	34-406-M		77.33
For Cable O.D. 3/4", Dim. Length .765", Width 1/2"				34-410-C		8.40	34-410-M		75.00
For Cable O.D. 7/8", Dim. Length .812", Width 1/2"				34-414-C		9.00	34-414-M		81.00
For Cable O.D. 1", Dim. Length .906", Width 1/2"				34-418-C		10.50	34-418-M		96.00

Material Thickness is .050" on all clamps 1/2" and smaller in diameter.

Material thickness is .060 on all clamps 9/16" and larger in diameter.

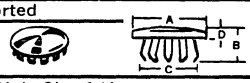
WRITE FOR CATALOG # FR-69 FOR COMPLETE LISTINGS

ELECTRONIC HARDWARE

CABLE HOLDER CLAMPS

NICKEL PLATED

DESCRIPTION AND SPECIFICATIONS	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
Cable Dia. 1/8" to 3/16". Mounting Hole Size #6	H502-F	7502-F	25	6251-C	7502-C	1.25	6251-M	7502-M	10.00
Cable Dia. 1/4" to 5/16". Mounting Hole Size #6				7503-C	7503-C	1.60	7503-M	7503-M	12.79
Cable Dia. 5/16" to 1/2". Mounting Hole Size #6	H506-F	H506-F	15	6253-C	6253-C	1.54	6253-M	6253-M	12.26
Baseboard Wire Clips, Black, Parkerized	H509-F	H509-F	20	8345-C	8345-C	2.52	8345-M	8345-M	20.13
Cable Dia. 3/16" to 1/4". Mounting Hole Size #8	H503-F	7503-F	20	6252-C	7503-CW	1.43	6252-M	7503-MW	11.46
Cable Dia. 1/4" to 5/16". Mounting Hole Size #8	7505-F	7505-F	16	7505-C	7505-C	2.52	7505-M	7505-M	20.13
Assorted	H500-F	H500-F	20						
Assorted	7500-F	7500-F	20						



SNAP BUTTON HOLE PLUGS

For Hole Size 1/4" A—13/32", B—1/4", C—17/64", D—5/64"	H306-F	7306-F	8	1711-AC	7306-CW	2.70	1711-AM	7306-MW	21.59
For Hole Size 5/16" A—7/16", B—1/4", C—21/64", D—1/16"				1711-BC	1711-BC	2.90	1711-BM	1711-BM	23.19
For Hole Size 3/8" A—17/32", B—3/8", C—25/64", D—5/64"	H308-F	7308-F	8	1711-C	7308-CW	3.07	1711-M	7308-MW	24.52
For Hole Size 1/2" A—21/32", B—17/64", C—17/32", D—5/64"	H310-F	7310-F	6	1712-C	7310-C	3.72	1712-M	7310-MW	29.72
For Hole Size 5/8" A—51/64", B—9/32", C—41/64", D—5/64"	H312-F	7312-F	6	1713-C	7312-CW	4.00	1713-M	7312-MW	31.99
For Hole Size 3/4" A—15/16", B—19/64", C—49/64", D—3/32"	H314-F	7314-F	5	1714-C	7314-C	4.03	1714-M	7314-M	32.25
For Hole Size 7/8". Fits switch box knockout holes				1714-AC	7315-C	5.60	1714-AM	7315-M	44.78
For Hole Size 1-1/8" A—1-5/16",B—11/32", C—1-9/64", D—3/32"				1715-BC	7318-C	7.16	1715-BM	7318-M	57.31
For Hole Size 1-1/4" A—1-7/16", B—15/16", C—1-17/16", D—3/32"				1715-C	7320-C	7.81	1715-M	7320-M	62.51
For Hole Size 1-3/8" A—1-9/16", B—13/32", C—1-13/32", D—3/32"				5700-C	5700-C	8.61	5700-M	5700-M	68.91
For Hole Size 1-7/16" A—1-39/64", B—27/64", C—1-15/32", D—7/64"				5701-C	5701-C	8.80	5701-M	5701-M	70.37
For Hole Size 1-1/2" A—1-41/64", B—13/32", C—1-17/32", D—3/32"				5702-C	5702-C	11.35	5702-M	5702-M	90.76
For Hole Size 1" A—1-5/32", B—19/64", C—1-1/32", D—5/64"	H316-F	7316-F	5	1715-AC	7316-C	5.36	1715-AM	7316-M	42.92
For Hole Size 1/8" A—5/16", B—15/64", C—9/64", D—1/32"				7302-C	7302-C	3.88	7302-M	7302-M	31.02
For Hole Size 3/16" A—11/32", B—7/32", C—7/32", D—3/64"				7304-C	7304-C	3.68	7304-MW	7304-MW	29.50
Assorted	H300-F	7300-F	8						
Assorted 50 per box				1710	1710	2.01	(per box of 50)		

CUP FINISHING WASHERS

NICKEL PLATED

#6 (7/16" O.D.)	H806-F	7806-F	45	6161-C	7806-C	.57	6161-M	7806-M	4.53
#8 (1/2" O.D.)	H808-F	7808-F	45	6162-C	7808-C	.60	6162-M	7808-M	4.80
#10 (9/16" O.D.)	H810-F	7810-F	35	6163-C	7810-C	.68	6163-M	7810-M	5.46
#12 (5/8" O.D.)				7812-C	7812-C	1.45	7812-M	7812-M	5.90
Assorted screws and washers	H1005-F	8005-F	30						
Assorted washers	H805-F	H805-F	40						

EXTERNAL LOCK WASHERS

Screw Size #4				7354-C	7354-C	.53	7354-M	7354-M	4.26
Screw Size #6				7356-C	7356-C	.53	7356-M	7356-M	4.26
Screw Size #8				7358-C	7358-C	.58	7358-M	7358-M	4.66
Screw Size #10				7360-C	7360-C	.58	7360-M	7360-M	4.66
Screw Size 1/4", O. D. 1/2"				7361-C	7361-C	.77	7361-M	7361-M	6.13
Screw Size #3/8, O. D. 11/16"				7363-C	7363-C	1.15	7363-M	7363-M	9.20
Assorted	H950	H950	60						

INTERNAL LOCK WASHERS

Screw Size #2	H922-F	H922-F	35	7322-C	7322-C	.87	7322-M	7322-M	6.93
Screw Size #3				7323-C	7323-C	.75	7323-M	7323-M	6.00
Screw Size #4	H924-F	7924-F	50	7324-C	7924-CW	.55	7324-M	7924-M	4.40
Screw Size #6, O. D. 9/32"	H926-F	7926-F	50	7326-C	7926-CW	.53	7326-M	7926-M	4.26
Screw Size #8, O. D. 21/64"	H928-F	7928-F	50	7328-C	7928-CW	.58	7328-M	7928-M	4.66
Screw Size #10	H930-F	7930-F	45	7330-C	7930-CW	.58	7330-M	7930-M	4.66
Screw Size 1/4", O. D. 15/32"				7332-C	7932-CW	.77	7332-M	7932-M	6.13
Screw Size #5/16, O. D .19/32"				7333-C	7333-C	.98	7333-M	7333-M	7.86
Screw Size 3/8", O. D. 11/16"				7334-C	7935-C	1.15	7334-M	7935-M	9.20
Screw Size 3/8", O. D. 9/16"	H938-F	7934-AF	25	7335-C	7934-C	1.52	7335-M	7934-M	12.13
Screw Size 15/32", O. D. 19/32"				7338-C	7338-C	1.90	7338-M	7338-M	15.19
Screw Size 5/16", O. D. .430"	7933-AF	7933-AF	20	7933-C	7933-C	.98	7933-M	7933-M	7.90
Asst. all types	H918-F	H918-F	45						
Assorted	H920-F	7920-F	50						

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

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GC ELECTRONICS

ELECTRONIC HARDWARE

FLAT METAL WASHERS

DESCRIPTION	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
Screw Size #4, Hole size 1/8", O.D. 9/32", Thickness 1/32"	H874-F	7874-F	80	6154-C	7874-C	.55	6154-M	7874-M	4.40
Screw Size #6, Hole size 5/32", O.D. 3/8", Thickness 1/32"	H876-F	7876-F	80	6155-C	7876-C	.55	6155-M	7876-M	4.40
Screw Size #8, Hole size 3/16", O.D. 7/16", Thickness 1/32"	H878-F	H878-F	80	6156-C	6156-C	.60	6156-M	6156-M	4.80
Screw #10, Hole Size 13/64", O.D. 3/8", Thickness 1/32"	H880-F	H880-F	70	7306-C	7306-C	.57	7306-M	7306-M	4.53
Screw Size #10, Hole size, 13/64", O.D. 7/16", Thickness 1/32"	7880-F	7880-F	70	7307-C	7880-C	.57	7307-M	7880-M	4.53
Screw Size #10, Hole size 13/64", O.D. 1/2", Thickness .049"				6157-C	6157-C	.60	6157-M	6157-M	4.80
Screw Size #12, Hole size .228", O.D. 7/16", Thickness .021"				7308-C	7308-C	.57	7308-M	7308-M	4.53
Screw Size #1/4, Hole size 17/64", O.D. 5/8", Thickness 1/16"	H882-F	H882-F	50	6158-C	6158-C	.83	6158-M	6158-M	6.66
Screw Size #1/4, Hole size 11/32", O.D. 1/2", Thickness 1/16"	7882-F	7882-F	50	7311-C	7882-C	.75	7311-M	7882-M	6.00
Screw #5/16, Hole size 11/32", O.D. 11/16", Thickness 1/16"				7312-C	7312-C	.70	7312-M	7312-M	5.60
Screw Size #8, Hole size 19/64", O.D. 3/8", Thickness 1/32"	7878-F	7878-F	80	7878-C	7878-C	.60	7878-M	7878-M	4.80
Assorted	H870-F	7870-F	80						

CORD STRAIN RELIEFS

Will fit P.O.S.J. cord			H048-F	7048-F	5	6675-C	7048-C	6.38	6675-M	7048-M	51.05
Size	Use on wire type	Hole Size						Net Per Bag			
0.120" x 0.220"	SP1, SPT-1,POSJ, POT	7/16"	1521	1521	4			.33			
.15" x .28" thru .16" x .30"	SP & SPT-2 #18/2, SP & SPT-2 #16/2 HPN-18, HPN-16	1/2"	1522	1522	3			.30			
.330" thru .410"	SJ, SJT & SJO #18/3 #16/2, #16/3, #18/4, #14/2	5/8"	1523	1523	2			.30			

RUBBER TACK BUMPERS

3/8" O. D.	H071-F	H071-F	10	1075-C	7071-C	2.25	1075-M	7071-M	17.99

RUBBER FEET SCREW TYPE

O. D. 3/8", Height 3/16"	H052-F	7052-F	8	1075-BC	7052-C	1.60	1075-BM	7052-M	12.79
O. D. 1/2", Height 1/4"	H054-F	7054-F	8	1075-CC	7054-C	2.12	1075-CM	7054-M	16.93
O. D. 5/8", Height 5/16"	H056-F	7056-F	8	1075-FC	7056-C	2.98	1075-FM	7056-M	23.86
O. D. 3/4", Height 3/16"				7058-C	7058-C	3.42	7058-M	7058-M	27.32
Assorted	H050-F	7050-F	8						

PURE GUM GROMMETS

A—7/16", B—3/16", C—7/32", D—1/16", E—5/16"	H042-F	H042-F	12	7582-C	7582-C	1.97	7582-M	7582-M	15.73
A—9/16", B—1/4", C—1/4", D—1/16", E—3/8"	H043-F	H043-F	10	7584-C	7584-C	2.78	7584-M	7584-M	22. 6
Assorted	H040-F	H040-F	12						
100 Assorted				7581-C	7581-C	1.96			

VINYL GROMMETS

A—11/32", B—1/8", C—3/16", D—1/16", E—1/4"	7030-F	7030-F	14	7030-C	7030-C	1.10	7030-M	7030-M	8.93
A—7/16", B—3/16", C—7/32", D—1/16", E—5/16"	7032-F	7032-F	12	7032-C	7032-C	1.22	7032-M	7032-M	11.00
A—9/16", B—1/4", C—1/4", D—1/16", E—3/8"	7034-F	7034-F	12	7034-C	7034-C	1.62	7034-M	7034-M	11.96
A—5/8", B—3/8", C—1/4," D—1/16", E—1/2"	7036-F	7036-F	10	7036-C	7036-C	1.77	7036-M	7036-M	12.89
A—13/16", B—1/2", C—9/32", D—1/16", E—5/8"	7038-F	7038-F	8	7038-C	7038-C	2.77	7038-M	7038-M	20.39
Assorted	7025-F	7025-F	12						

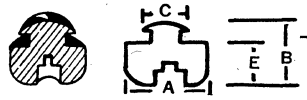
RUBBER GROMMETS

A—11/32", B—1/8", C—3/16", D—1/16", E—1/4"	H030-F	H030-F	16	1041-2C	1041-2C	1.35	1041-2M	1041-2M	10.80
A—7/16", B—3/16", C—7/32", D—1/16", E—5/16"	H032-F	H032-F	14	1041-C	1041-C	1.54	1041-M	1041-M	12.26
A—1/2", B—1/4", C—5/16", D—1/8", E—3/8"				7566-C	7566-C	2.97	7566-M	7566-M	23.72
A—1/2", B—3/16", C—1/4", D—1/16", E—5/16"				5710-C	5710-C	4.60	5710-M	5710-M	36.78
A—9/16", B—1/4", C—1/4", D—1/16", E—3/8"	H034-F	H034-F	12	1042-C	1042-C	2.02	1042-M	1042-M	16.13
A—5/8", B—3/8", C—1/4", D—1/16", E—1/2"	H036-F	H036-F	10	1043-C	1043-C	2.30	1043-M	1043-M	18.39
A—3/4", B—5/16", C—11/32", E—15/32"				5715-C	5715-C	8.23	5715-M	5715-M	65.84
A—3/4", B—7/16", C—1/4", D—1/16", E—9/16"				5712-C	5712-C	6.23	5712-M	5712-M	49.85
A—13/16", B—1/2", C—9/32", D—1/16", E—5/8"	H038-F	H038-F	8	1043-1C	1043-1C	3.48	1043-1M	1043-1M	27.86
A—7/8", B—9/16", C—15/64", D—1/16", E—3/4"				5711-C	5711-C	4.27	5711-M	5711-M	34.12
A—1-1/16", B—3/8", C—5/16", D—1/16", E—13/16"				7569-C	7569-C	6.96	7569-M	7569-M	55.71
A—1-1/16", B—7/16", C—5/16", D—1/16", E—23/32"				5718-C	5718-C	11.30	5718-M	5718-M	90.36
A—1-1/8", B—5/8", C—5/16", D—1/16", E—7/8"				5716-C	5716-C	6.93	5716-M	5716-M	55.45
A—1-5/16", B—11/16", C—3/8", D—1/16", E—1"				5717-C	5717-C	13.96	5717-M	5717-M	111.69
Assorted	H025-F	H025-F	15						
Kit Assorted 50 Pcs.				1040	1040	.83 Per Kit			

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

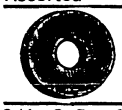
GC ELECTRONICS

ELECTRONIC HARDWARE



RUBBER BUTTON BUMPERS

DESCRIPTION	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
A—3/8", B—7/16", C—3/16", D—5/32"				7596-C	7596-C	1.72	7596-M	7596-M	13.73
A—1/2", B—7/16", C—1/4", D—1/4"	H058-F	H058-F	8	7597-C	7597-C	2.57	7597-M	7597-M	20.53
A—5/8", B—9/16", C—3/8", D—5/16"				7598-C	7598-C	4.13	7598-M	7598-M	33.05
Assorted	7083-F	7083-F	12						

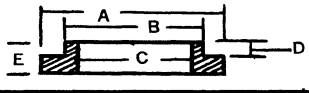


RADIO KNOB FELTS

3/4" O. D. x 1/4" I. D., Brown	H760-F	7760-F	40	1065-C	7760-C	.47	7760-M	7760-M	3.73

GRID CAP AND CLIPS

1/4" High Voltage Spring Grid Clips				8838-1RC	7617-C	4.60	8838-1RM	7617-M	36.79
3/8" High Voltage Spring Grid Clips				8838-2RC	7616-C	4.80	8838-2RM	7616-M	38.38
1/4" Insulated High Voltage Grid Cap	H612-F	H612-F	1	8834-C	8834-C	30.39	8834-M	8834-M	243.10
3/8" Insulated High Voltage Grid Cap	H614-F	H614-F	1	8835-C	8835-C	30.39	8835-M	8835-M	243.10

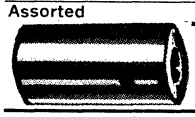


EXTRUDED FIBRE WASHERS

Screw Size #4 A—9/32", B—13/64", C—1/8", D—1/32", E—1/16"				6524-C	6524-C	1.07	6524-M	6524-M	8.53
Screw Size #6 A—5/16", B—3/16", C—9/64", D—1/32", E—1/16"				6525-C	6525-C	1.07	6525-M	6525-M	8.53
Screw Size #8 A—3/8", B—1/4", C—11/64", D—1/32", E—1/16"				6526-C	6526-C	1.07	6526-M	6526-M	8.53
Screw Size #10 A—7/16", B—1/4", C—13/64", D—1/32", E—1/16"				6527-C	6527-C	1.15	6527-M	6527-M	9.20
Screw Size #1/4 A—1/2", B—3/8", C—1/4", D—1/32", E—1/16"				6528-C	6528-C	1.15	6528-M	6528-M	9.20
Screw Size #3/8 A—5/8", B—7/16", C—3/8", D—1/32", E—1/16"	H864-F	H864-F	20	6529-C	6529-C	1.20	6529-M	6529-M	9.60
Screw Size #6 A—5/16", B—3/16", C—9/64", D—1/32", E—3/32"				7856-C	7856-C	1.07	7856-M	7856-M	8.53
Screw Size #10 A—3/8", B—5/16", C—13/64", D—1/32", E—3/32"				7860-C	7860-C	1.15	7860-M	7860-M	9.20
Screw Size #1/4 A—1/2", B—11/32", C—1/4", D—1/32", E—3/32"				7862-C	7862-C	1.15	7862-M	7862-M	9.20
Screw Size 3/8 A—5/8", B—1/2", C—3/8", D—1/32", E—3/32"				7864-C	7864-C	1.20	7864-M	7864-M	9.60
Screw Size #8 A—3/8", B—1/2", C—3/8", D—1/32", E—3/32"				7858-C	7858-C	1.07	7858-M	7858-M	8.53
Assorted	H855-F	H855-F	30						
Assorted	7824-F	7824-F	30						
Assorted									
Assorted	7825-F	7825-F	30						
Assorted									
Assorted	7826-F	7826-F	30						
Assorted									
Assorted	7827-F	7827-F	24						
Assorted									
Assorted	7828-F	7828-F	20						
Assorted									
Assorted	H854-F	7820-F	35						

FLAT FIBRE WASHERS

Screw size	I.D.	O.D.	Thickness								
No. 4	.120"	1/4"	1/32"	H824-F	H824-F	30	6512-C	6512-C	.60	6512-M	6512-M	4.80
No. 6	9/64"	1/4"	1/32"	H825-F	H825-F	30	6513-C	6513-C	.60	6513-M	6513-M	4.80
No. 8	11/64"	3/8"	1/32"	H826-F	H826-F	30	6514-C	7838-C	.60	6514-M	7838-M	4.80
No. 10	.196"	3/8"	1/32"	H827-F	H827-F	24	6515-C	7840-C	.60	6515-M	7840-M	4.80
No. 1/4"	1/4"	1/2"	3/64"	H828-F	H828-F	20	6516-C	7842-C	.65	6516-M	7842-M	5.20
No. 3/8"	25/64"	39/64"	3/64"				6517-C	7844-C	.94	6517-M	7844-M	7.46
No. 7/16"	.440"	3/4"	1/32"				6519-C	6519-C	1.02	6519-M	6519-M	8.13
No. 15/32"	15/32"	3/4"	1/32"				6518-C	6518-C	.94	6518-M	6518-M	7.46
Assorted				H820-F	H820-F	35	7836-C	7836-C	.52	7836-M	7836-M	4.13



SPACERS

INSULATED

1/4"	1/4"	8	6775-C	6775-C	5.00	6775-M	6775-M	45.00
1/4"	3/8"	8	6776-C	6776-C	5.00	6776-M	6776-M	45.00
1/4"	1/2"	8	6777-C	6777-C	5.00	6777-M	6777-M	45.00
1/4"	3/4"	8	6778-C	6778-C	7.00	6778-M	6778-M	56.00
3/8"	1/4"	12	6779-C	6779-C	5.00	6779-M	6779-M	45.00
3/8"	1/2"	12	6780-C	6780-C	5.00	6780-M	6780-M	45.00
3/8"	3/4"	12	6781-C	6781-C	5.00	6781-M	6781-M	45.00

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GC ELECTRONICS

ELECTRONIC HARDWARE

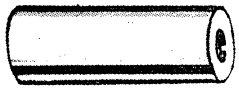
SPACERS
ALUMINUM — ROUND TAPPED HOLE

O.D.	Length	For Screw size	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100
.250"	1.000"	6-32	13-700-C	13-700-C		13-700-M	13-700-M	144.00
.250"	1.500"	6-32	13-704-C	13-704-C		13-704-M	13-704-M	162.00
.250"	2.000"	6-32	13-708-C	13-708-C		13-708-M	13-708-M	174.00
.250"	2.500"	6-32	13-712-C	13-712-C		13-712-M	13-712-M	192.00

SPACERS
CADMIUM PLATED BRASS — ROUND NON-THREADED

1/4"	1/4"	4	13-500-C	13-500-C		13-500-M	13-500-M	26.40
1/4"	3/8"	4	13-502-C	13-502-C		13-502-M	13-502-M	34.80
1/4"	1/2"	4	13-504-C	13-504-C		13-504-M	13-504-M	42.24
1/4"	3/4"	4	13-506-C	13-506-C		13-506-M	13-506-M	50.40
1/4"	1"	4	13-508-C	13-508-C		13-508-M	13-508-M	57.60
1/4"	1/4"	6	13-516-C	13-516-C		13-516-M	13-516-M	26.40
1/4"	3/8"	6	13-518-C	13-518-C		13-518-M	13-518-M	34.80
1/4"	1/2"	6	13-520-C	13-520-C		13-520-M	13-520-M	42.24
1/4"	3/4"	6	13-522-C	13-522-C		13-522-M	13-522-M	50.40
1/4"	1"	6	13-524-C	13-524-C		13-524-M	13-524-M	57.60
1/4"	1/4"	8	13-532-C	13-532-C		13-532-M	13-532-M	26.40
1/4"	3/8"	8	13-534-C	13-534-C		13-534-M	13-534-M	34.80
1/4"	1/2"	8	13-536-C	13-536-C		13-536-M	13-536-M	42.24
1/4"	3/4"	8	13-538-C	13-538-C		13-538-M	13-538-M	50.40
1/4"	1"	8	13-540-C	13-540-C		13-540-M	13-540-M	57.60
3/8"	1/4"	10	6769-C	6769-C		6769-M	6769-M	56.00
3/8"	1/2"	10	6770-C	6770-C		6770-M	6770-M	64.00
3/8"	3/4"	10	6771-C	6771-C		6771-M	6771-M	80.00

SPACERS
CADMIUM PLATED BRASS — ROUND THREADED

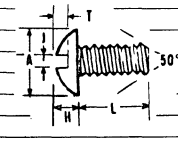


1/4"	1/4"	4-40	13-600-C	13-600-C		13-600-M	13-600-M	31.20
1/4"	3/8"	4-40	13-602-C	13-602-C		13-602-M	13-602-M	39.60
1/4"	1/2"	4-40	13-604-C	13-604-C		13-604-M	13-604-M	48.00
1/4"	3/4"	4-40	13-606-C	13-606-C		13-606-M	13-606-M	67.20
1/4"	1"	4-40	13-608-C	13-608-C		13-608-M	13-608-M	83.20
1/4"	1/4"	6-32	13-616-C	13-616-C		13-616-M	13-616-M	31.20
1/4"	3/8"	6-32	13-618-C	13-618-C		13-618-M	13-618-M	39.60
1/4"	1/2"	6-32	13-620-C	13-620-C		13-620-M	13-620-M	48.00
1/4"	3/4"	6-32	13-622-C	13-622-C		13-622-M	13-622-M	67.20
1/4"	1"	6-32	13-624-C	13-624-C		13-624-M	13-624-M	83.20
1/4"	1/4"	8-32	13-632-C	13-632-C		13-632-M	13-632-M	31.20
1/4"	3/8"	8-32	13-634-C	13-634-C		13-634-M	13-634-M	39.60
1/4"	1/2"	8-32	13-636-C	13-636-C		13-636-M	13-636-M	48.00
1/4"	3/4"	8-32	13-638-C	13-638-C		13-638-M	13-638-M	67.20
1/4"	1"	8-32	13-640-C	13-640-C		13-640-M	13-640-M	83.20

SPACERS
ASSORTED METAL AND INSULATING

Assorted Metal Spacers	7620-F		12
Assorted Insulating Spacers	7630-F		12

NYLON ROUND HEAD MACHINE SCREWS



	A	H	J	T	L						
2-56 UNC-2A	.156	.064	.027	.043	1/4"	9900-C		3.69	9900-M		33.30
2-56 UNC-2A	.156	.064	.027	.043	1/2"	9901-C		3.69	9901-M		33.30
4-40 UNC-2A	.203	.081	.035	.050	1/4"	9902-C		3.69	9902-M		33.30
4-40 UNC-2A	.203	.081	.035	.050	1/2"	9903-C		3.69	9903-M		33.30
4-40 UNC-2A	.203	.081	.035	.050	3/4"	9904-C		3.79	9904-M		34.50
6-32 UNC-2A	.250	.097	.044	.060	1/4"	9905-C		3.69	9905-M		33.30
6-32 UNC-2A	.250	.097	.044	.060	3/8"	9906-C		3.79	9906-M		34.50
6-32 UNC-2A	.250	.097	.044	.060	1/2"	9907-C		3.79	9907-M		34.50
6-32 UNC-2A	.250	.097	.044	.060	5/8"	9908-C		3.79	9908-M		34.50
6-32 UNC-2A	.250	.097	.044	.060	3/4"	9909-C		3.79	9909-M		34.50
8-32 UNC-2A	.297	.113	.050	.068	3/8"	9910-C		3.86	9910-M		35.30
8-32 UNC-2A	.297	.113	.050	.068	1/2"	9911-C		3.86	9911-M		35.30
8-32 UNC-2A	.297	.113	.050	.068	3/4"	9912-C		3.86	9912-M		35.30
10-32 UNF-2A	.344	.130	.055	.070	1/2"	9913-C		3.86	9913-M		35.30
10-32 UNF-2A	.344	.130	.055	.070	1"	9914-C		4.02	9914-M		37.30

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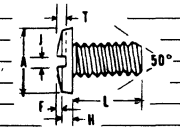
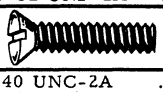
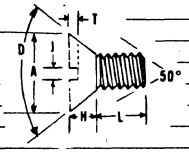
NYLON BINDING HEAD MACHINE SCREWS



DESCRIPTION	A	H	F	J	T	L	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
2-56 UNC-2A	.176	.028	.013	.027	.027	1/4"				9915-C		3.69	9915-M		33.30
2-56 UNC-2A	.176	.028	.013	.027	.027	1/2"				9916-C		3.69	9916-M		33.30
4-40 UNC-2A	.229	.039	.021	.035	.038	1/4"				9917-C		3.69	9917-M		33.30
4-40 UNC-2A	.229	.039	.021	.035	.038	1/2"				9918-C		3.69	9918-M		33.30
4-40 UNC-2A	.229	.039	.021	.035	.038	3/4"				9919-C		3.79	9919-M		34.50
6-32 UNC-2A	.280	.047	.028	.044	.049	1/4"				9920-C		3.69	9920-M		33.30
6-32 UNC-2A	.280	.047	.028	.044	.049	3/8"				9921-C		3.79	9921-M		34.50
6-32 UNC-2A	.280	.047	.028	.044	.049	1/2"				9922-C		3.79	9922-M		34.50
6-32 UNC-2A	.280	.047	.028	.044	.049	5/8"				9923-C		3.79	9923-M		34.50
6-32 UNC-2A	.280	.047	.028	.044	.049	3/4"				9924-C		3.79	9924-M		34.50
8-32 UNC-2A	.337	.058	.034	.050	.060	3/8"				9925-C		3.86	9925-M		35.30
8-32 UNC-2A	.337	.058	.034	.050	.060	1/2"				9926-C		3.86	9926-M		35.30
8-32 UNC-2A	.337	.058	.034	.050	.060	3/4"				9927-C		3.86	9927-M		35.30
10-32 UNF-2A	.383	.068	.040	.055	.070	1/2"				9928-C		3.86	9928-M		35.30
10-32 UNF-2A	.383	.068	.040	.055	.070	1"				9929-C		4.02	9929-M		37.30

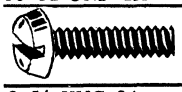
NYLON FLAT HEAD MACHINE SCREWS

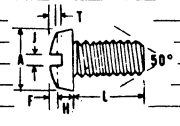




A	H	J	T	D	L	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
4-40 UNC-2A	.217	.062	.035	.025	81°	1/2"				9945-C		3.69	9945-M		33.30
6-32 UNC-2A	.267	.078	.044	.030	81°	3/8"				9946-C		3.79	9946-M		34.50
6-32 UNC-2A	.267	.078	.044	.030	81°	1/2"				9947-C		3.79	9947-M		34.50
6-32 UNC-2A	.267	.078	.044	.030	81°	5/8"				9948-C		3.79	9948-M		34.50
8-32 UNC-2A	.318	.094	.050	.037	81°	1/2"				9949-C		3.86	9949-M		35.30
8-32 UNC-2A	.318	.094	.050	.037	81°	3/4"				9950-C		3.86	9950-M		35.30
10-32 UNF-2A	.369	.108	.055	.045	81°	1/2"				9951-C		4.01	9951-M		37.30
10-32 UNF-2A	.369	.108	.055	.045	81°	1"				9952-C		4.31	9952-M		40.00

NYLON FILLISTER HEAD MACHINE SCREWS



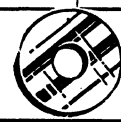


A	H	F	J	T	L	GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
2-56 UNC-2A	.132	.058	.016	.027	.031	1/4"				9930-C		3.69	9930-M		33.30
2-56 UNC-2A	.132	.058	.016	.027	.031	1/2"				9931-C		3.69	9931-M		33.30
4-40 UNC-2A	.176	.074	.024	.035	.040	1/4"				9932-C		3.69	9932-M		33.30
4-40 UNC-2A	.176	.074	.024	.035	.040	1/2"				9933-C		3.69	9933-M		33.30
4-40 UNC-2A	.176	.074	.024	.035	.040	3/4"				9934-C		3.79	9934-M		34.50
6-32 UNC-2A	.218	.091	.030	.044	.055	1/4"				9935-C		3.69	9935-M		33.30
6-32 UNC-2A	.218	.091	.030	.044	.055	3/8"				9936-C		3.79	9936-M		34.50
6-32 UNC-2A	.218	.091	.030	.044	.055	1/2"				9937-C		3.79	9937-M		34.50
6-32 UNC-2A	.218	.091	.030	.044	.055	5/8"				9938-C		3.79	9938-M		34.50
6-32 UNC-2A	.218	.091	.030	.044	.055	3/4"				9939-C		3.79	9939-M		34.50
8-32 UNC-2A	.260	.108	.035	.050	.060	3/8"				9940-C		3.86	9940-M		35.30
8-32 UNC-2A	.260	.108	.035	.050	.060	1/2"				9941-C		3.86	9941-M		35.30
8-32 UNC-2A	.260	.108	.035	.050	.060	3/4"				9942-C		3.86	9942-M		35.30
10-32 UNF-2A	.302	.124	.042	.055	.070	1/2"				9943-C		3.86	9943-M		35.30
10-32 UNF-2A	.302	.124	.042	.055	.070	1"				9944-C		4.02	9944-M		37.30

NYLON HEX NUTS

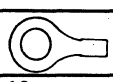
A	B	GC Part No.	Old Walsco Part No.	QTY. IN Box	Net Per Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
2-56	3/16"	1/16"				9953-C		5.84	9953-M		54.40
4-40	1/4"	3/32"				9954-C		5.96	9954-M		55.30
6-32	5/16"	7/64"				9955-C		6.07	9955-M		56.50
8-32	14/32"	1/8"				9956-C		6.18	9956-M		57.50
10-32	3/8"	1/8"				9957-C		6.26	9957-M		58.40

NYLON WASHERS



A	B	C	GC Part No.	Old Walsco Part No.	QTY. IN Box	Net Per Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
No. 4	.120	8/32"	.050				9958-C		.67	9958-M		6.20
No. 6	.150	5/16"	.050				9959-C		.74	9959-M		5.84
No. 8	.170	3/8"	.050				9960-C		.99	9960-M		9.00
No. 10	.195	7/16"	.060				9961-C		1.14	9961-M		10.50

SOLDERLESS TERMINALS



RING TONGUE — NON-INSULATED

DESCRIPTION AND SPECIFICATIONS			GC Part No.	QTY. IN Box	Net Per Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
22-16	4-6	17/32"				13-000-C		2.68	13-000-M		21.46
22-16	4-6	23/32"	13-002-S	41	.99	13-002-C		2.68	13-002-M		21.46
22-16	8	41/64"				13-004-C		2.68	13-004-M		21.46
22-16	8	23/32"				13-006-C		3.00	13-006-M		23.99
22-16	8-10	23/32"	13-008-S	41	.99	13-008-C		2.68	13-008-M		21.46
16-14	4-6	19/32"	13-012-S	41	.99	13-012-C		2.70	13-012-M		21.59
16-14	8	45/64"				13-016-C		2.70	13-016-M		21.59
16-14	10	45/64"				13-018-C		2.70	13-018-M		21.59
16-14	12-1/4	57/64"				13-020-C		3.77	13-020-M		30.12
12-10	4-6	3/4"				13-022-C		3.77	13-022-M		30.12
12-10	1/4"	1-1/32"				13-026-C		4.70	13-026-M		37.58
16-14	10	55/64"				13-030-C		7.93	13-030-M		63.44

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GC ELECTRONICS

ELECTRONIC HARDWARE

SOLDERLESS TERMINALS

RING TONGUE — INSULATED

DESCRIPTION AND SPECIFICATIONS			GC Part No.	Old Walsco Part No.	QTY. IN Box	GC Part No.	Old Walsco Part No.	Net Per 100	GC Part No.	Old Walsco Part No.	Net Per 1000
22-16	4-6	45/64″				13-050-C		6.08	13-050-M		48.65
22-16	4-6	29/32″	13-052-S	17	.99	13-052-C		6.08	13-052-M		48.65
22-16	8-10	29/32″	13-054-S	17	.99	13-054-C		6.08	13-054-M		48.65
16-14	4-6	25/32″	13-056-S	17	.99	13-056-C		6.08	13-056-M		48.65
16-14	4-6	57/64″				13-058-C		6.08	13-058-M		48.65
16-14	10	57/64″	13-060-S	17	.99	13-060-C		6.08	13-060-M		48.65
16-14	12-14	1-5/64″				13-062-C		7.11	13-062-M		56.91
12-10	8-10	1-3/64″				13-064-C		7.11	13-064-M		56.91
12-10	1/4	1-21/64″				13-066-C		8.16	13-066-M		65.31

SOLDERLESS TERMINALS

SPADE TERMINALS — NON-INSULATED

22-16	4-6	3/4″				13-100-C		2.68	13-100-M		21.46
22-16	8	3/4″				13-102-C		2.35	13-102-M		18.79
16-14	4-6	3/4″	13-104-S	41	.99	13-104-C		2.68	13-104-M		21.46
16-14	8	3/4″	13-105-S	41	.99	13-105-C		2.68	13-105-M		21.46
16-14	10	3/4″	13-106-S	41	.99	13-106-C		2.68	13-106-M		21.46

SOLDERLESS TERMINALS

SPADE TERMINALS — INSULATED

22-16	4-6	13/16″	13-108-S	17	.99	13-108-C		6.08	13-108-M		48.65
22-16	8	13/16″	13-109-S	17	.99	13-109-C		6.08	13-109-M		48.65
16-14	4-6	13/16″	13-110-S	17	.99	13-110-C		6.08	13-110-M		48.65
16-14	8	13/16″	13-111-S	17	.99	13-111-C		6.08	13-111-M		48.65
16-14	10	13/16″	13-112-S	17	.99	13-112-C		6.08	13-112-M		48.65

SOLDERLESS TERMINALS

FLANGE SPADE TERMINAL — NON-INSULATED

22-16	4-6	5/8″	13-114-S	41	.99	13-114-C		2.68	13-114-M		21.46
16-14	10	3/4″				13-116-C		3.70	13-116-M		29.59
16-14	4-6	3/4″				13-118-C		5.48	13-118-M		43.85

SOLDERLESS TERMINALS

FLANGE SPADE TERMINAL — INSULATED

Wire Size	Stud Size	Length									
22-16	4-6	13/16″	13-124-S	17	.99	13-124-C		8.98	13-124-M		71.84
22-16	8-10	13/16″				13-126-C		11.10	13-126-M		88.76
16-14	4-6	13/16″				13-128-C		9.60	13-128-M		76.77
16-14	8	13/16″				13-130-C		11.80	13-130-M		94.36
16-14	10	13/16″				13-132-C		11.80	13-132-M		94.36

SOLDERLESS TERMINALS

HOOK TERMINAL

Wire Size	Stud Size	Length									
22-16	4-6	23/32″				13-200-C		2.35	13-200-M		18.79
22-16	8-10	23/32″				13-202-C		2.73	13-202-M		21.86

SOLDERLESS TERMINALS

BUTT CONNECTOR — NON-INSULATED

Wire Size	Length									
22-16	9/16″	13-220-S	41	.99	13-220-C		2.87	13-220-M		25.79
16-14	9/16″	13-222-S	50	.99	13-222-C		2.35	13-222-M		18.79
12-10	9/16″				13-224-C		2.73	13-224-M		21.86

SOLDERLESS TERMINALS

BUTT CONNECTOR — INSULATED

Wire Size	Length									
22-16	1″	13-226-S	16	.99	13-226-C		7.11	13-226-M		56.91
16-14	1″	13-228-S	16	.99	13-228-C		6.25	13-228-M		49.98
12-10	1-1/16″				13-230-C		7.63	13-230-M		61.04

SOLDERLESS TERMINALS

PARALLEL CONNECTOR — NON-INSULATED

Wire Size	Length									
22-16	5/16″				13-240-C		2.88	13-240-M		23.06
16-14	5/16″				13-242-C		4.97	13-242-M		39.72

SOLDERLESS TERMINALS

SNAP TERMINAL

Wire Size	Length									
16-14	5/8″				13-250-C		2.38	13-250-M		19.06

SOLDERLESS TERMINALS

TAB TERMINAL — NON-INSULATED

Wire Size		Length									
18-14	male	23/32″	13-260-S	41	.99	13-260-C		2.78	13-260-M		22.26
18-14	female	23/32″	13-262-S	41	.99	13-262-C		2.78	13-262-M		22.26
18-14	90° male	9/16″				13-264-C		3.05	13-264-M		24.39
18-14	90° female	15/32″				13-266-C		2.87	13-266-M		22.92
18-14	male	7/8″	13-268-S	17	.99	13-268-C		6.41	13-268-M		51.31
18-14	female	7/8″	13-269-S	17	.99	13-269-C		6.41	13-269-M		51.31

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

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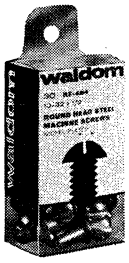
waldom HARDWARE AND FASTENING DEVICES

PACKAGED HARDWARE

PACKAGED 3 WAYS—TO MEET ALL YOUR REQUIREMENTS

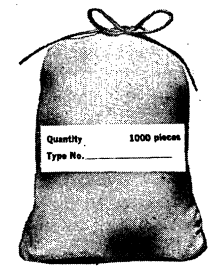


SHOW OFF PACKAGE

All packages are .59 Net. Quantity varies with item. (See listings.)

BLUE-LINE

All packages contain 100 pieces each, unless shown otherwise. Price varies with item. (See listings.)



BULK PACK

Offers greatest economy. Each bag contains 1000 pieces. Price varies with item. (See listings.)

HOW TO ORDER: Simply use correct PART NO. for quantity desired.

ROUND HEAD STEEL MACHINE SCREWS Nickel Plated	SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
						1-4	5-9
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	Per Bag	Per Bag
2-56 x 1/8″	KF-579	60	F-579-C	.74	F-579-M	5.40	4.15
2-56 x 1/4″	KF-461	60	F-461-C	.55	F-461-M	4.10	3.10
2-56 x 1/2″	KF-462	60	F-462-C	.58	F-462-M	4.45	3.40
2-56 x 3/4″	KF-463	60	F-463-C	.67	F-463-M	5.15	3.95
3-48 x 3/4″	KF-464	60	F-464-C	.67	F-464-M	5.15	3.95
4-36 x 1/4″	KF-465	60	F-465-C	.58	F-465-M	4.45	3.40
4-36 x 3/8″	KF-466	50	F-466-C	.60	F-466-M	4.65	3.55
4-36 x 1/2″	KF-467	50	F-467-C	.62	F-467-M	4.85	3.70
4-36 x 5/8″	KF-580	50	F-580-C	.66	F-580-M	5.20	4.10
4-36 x 3/4″	KF-468	50	F-468-C	.74	F-468-M	5.80	4.40
4-40 x 1/4″	KF-469	50	F-469-C	.58	F-469-M	4.45	3.40
4-40 x 3/8″	KF-581	50	F-581-C	.60	F-581-M	4.65	3.55
4-40 x 1/2″	KF-470	50	F-470-C	.62	F-470-M	4.85	3.70
4-40 x 5/8″	KF-582	50	F-582-C	.66	F-582-M	5.25	4.00
4-40 x 3/4″	KF-471	50	F-471-C	.74	F-471-M	5.30	4.40
6-32 x 1/4″	KF-472	50	F-472-C	.61	F-472-M	4.95	3.75
6-32 x 3/8″	KF-583	45	F-583-C	.66	F-583-M	5.20	3.95
6-32 x 1/2″	KF-473	45	F-473-C	.71	F-473-M	5.65	4.35
6-32 x 5/8″	KF-584	45	F-584-C	.79	F-584-M	6.25	4.80
6-32 x 3/4″	KF-474	45	F-474-C	.83	F-474-M	6.75	5.20
6-32 x 1″	KF-475	45	F-475-C	.96	F-475-M	7.65	5.90
6-32 x 1-1/4″	KF-476	45	F-476-C	1.16	F-476-M	9.30	7.10
6-32 x 2″	KF-477	30	F-477-C	1.73	F-477-M	13.90	10.60
8-32 x 1/4″	KF-478	45	F-478-C	.81	F-478-M	6.45	4.95
8-32 x 3/8″	KF-479	35	F-479-C	.90	F-479-M	7.10	5.40
8-32 x 1/2″	KF-480	35	F-480-C	.95	F-480-M	7.55	5.80
8-32 x 5/8″	KF-585	35	F-585-C	1.01	F-585-M	8.05	6.15
8-32 x 3/4″	KF-481	35	F-481-C	1.07	F-481-M	8.50	6.50
8-32 x 1″	KF-482	30	F-482-C	1.24	F-482-M	9.80	7.50
8-32 x 1-1/4″	KF-483	30	F-483-C	1.42	F-483-M	11.50	8.75
10-32 x 1/2″	KF-484	30	F-484-C	1.10	F-484-M	8.70	6.65
10-32 x 5/8″	KF-586	30	F-586-C	1.19	F-586-M	9.45	7.25
10-32 x 3/4″	KF-485	30	F-485-C	1.29	F-485-M	10.40	7.95
10-32 x 1″	KF-486	25	F-486-C	1.45	F-486-M	11.45	8.75
10-32 x 1-1/2″	KF-487	20	F-487-C	1.91	F-487-M	15.15	11.55
12-24 x 3/4″			F-587-C	1.72	F-587-M	14.10	10.75
12-24 x 1″			F-588-C	2.00	F-588-M	16.85	12.85
12-24 x 1-1/2″			F-589-C	2.66	F-589-M	21.90	16.65
12-24 x 2″			F-590-C	3.13	F-590-M	25.65	19.60
1/4-20 x 1/2″			F-488-C	2.09	F-488-M	17.10	13.05
1/4-20 x 3/4″			F-489-C	2.38	F-489-M	19.55	14.85
1/4-20 x 1″			F-490-C	2.72	F-490-M	22.25	16.95
1/4-20 x 1-1/4″			F-491-C	3.09	F-491-M	25.30	19.25
1/4-20 x 1-3/4″			F-492-C	3.74	F-492-M	30.70	23.40

ROUND HEAD BRASS MACHINE SCREWS Nickel Plated	SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
						1-4	5-9
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	Per Bag	Per Bag
2-56 x 1/4″			F-461B-C	.81	F-461B-M	6.35	4.85
2-56 x 1/2″			F-462B-C	.92	F-462B-M	7.45	5.65
2-56 x 3/4″			F-463B-C	1.07	F-463B-M	8.80	6.70
3-48 x 3/4″			F-464B-C	1.22	F-464B-M	9.90	7.60
4-36 x 1/4″			F-465B-C	.92	F-465B-M	7.45	5.65
4-36 x 3/8″			F-466B-C	1.18	F-466B-M	9.35	7.15
4-36 x 1/2″			F-467B-C	1.29	F-467B-M	9.65	7.35
4-36 x 5/8″			F-580B-C	1.39	F-580B-M	10.40	7.95
4-36 x 3/4″			F-468B-C	1.47	F-468B-M	11.35	8.65
4-40 x 1/4″			F-469B-C	.92	F-469B-M	7.45	5.65
4-40 x 1/2″			F-470B-C	1.18	F-470B-M	9.35	7.15
4-40 x 5/8″			F-582B-C	1.39	F-582B-M	10.40	7.95
4-40 x 3/4″			F-471B-C	1.47	F-471B-M	11.35	8.65
6-32 x 1/4″			F-472B-C	1.25	F-472B-M	10.00	7.60
6-32 x 3/8″			F-583B-C	1.33	F-583B-M	10.65	8.15
6-32 x 1/2″			F-473B-C	1.50	F-473B-M	11.95	9.15
6-32 x 5/8″			F-584B-C	1.74	F-584B-M	13.25	10.15
6-32 x 3/4″			F-474B-C	1.83	F-474B-M	14.75	11.20
6-32 x 1″			F-475B-C	2.17	F-475B-M	17.35	13.25
6-32 x 1-1/4″			F-476B-C	2.52	F-476B-M	20.60	15.25
6-32 x 2″			F-477B-C	4.25	F-477B-M	33.95	25.90
8-32 x 1/4″			F-478B-C	1.95	F-478B-M	15.15	11.55
8-32 x 3/8″			F-479B-C	2.00	F-479B-M	15.50	11.85
8-32 x 1/2″			F-480B-C	2.22	F-480B-M	17.75	13.55
8-32 x 5/8″			F-585B-C	2.58	F-585B-M	20.05	15.35
8-32 x 3/4″			F-481B-C	2.72	F-481B-M	21.70	16.55
8-32 x 1″			F-482B-C	3.23	F-482B-M	25.85	19.70
8-32 x 1-1/4″			F-483B-C	3.79	F-483B-M	30.35	23.15
10-32 x 1/2″			F-484B-C	2.80	F-484B-M	22.50	17.15
10-32 x 5/8″			F-586B-C	3.12	F-586B-M	25.05	19.10
10-32 x 3/4″			F-485B-C	3.41	F-485B-M	27.20	20.75
10-32 x 1″			F-486B-C	4.06	F-486B-M	32.45	24.75
OVAL HEAD STEEL MACHINE SCREWS Nickel Plated							
6-32 x 1/2″	KF-506	45	F-506-C	.71	F-506-M	5.65	4.35
6-32 x 3/4″	KF-507	45	F-507-C	.83	F-507-M	6.75	5.20
8-32 x 3/4″	KF-508	35	F-508-C	1.07	F-508-M	8.50	6.50
10-32 x 1/2″	KF-509	30	F-509-C	1.10	F-509-M	8.70	6.65
10-32 x 3/4″	KF-510	30	F-510-C	1.29	F-510-M	10.40	7.95

WRITE FOR QUOTATIONS ON LARGER QUANTITIES

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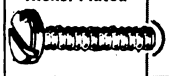
HARDWARE AND FASTENING DEVICES

waldom

PACKAGED HARDWARE (Continued)

BINDER HEAD STEEL MACHINE SCREWS Nickel Plated



	SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
2-56 x 1/8″	KF-591	60	F-591-C	.74	F-591-M	5.40	4.15
2-56 x 1/4″	KF-592	60	F-592-C	.55	F-592-M	4.10	3.10
2-56 x 1/2″	KF-593	60	F-593-C	.58	F-593-M	4.45	3.40
2-56 x 5/8″	KF-594	60	F-594-C	.67	F-594-M	5.10	3.90
4-40 x 1/4″	KF-020	50	F-020-C	.58	F-020-M	4.45	3.40
4-40 x 1/2″	KF-021	50	F-021-C	.62	F-021-M	4.85	3.70
4-40 x 3/4″	KF-022	50	F-022-C	.74	F-022-M	5.80	4.40
6-32 x 3/16″	KF-502	60	F-502-C	.64	F-502-M	4.95	3.80
6-32 x 1/4″	KF-503	50	F-503-C	.61	F-503-M	4.95	3.75
6-32 x 3/8″	KF-504	50	F-504-C	.66	F-504-M	5.20	3.95
6-32 x 1/2″	KF-014	45	F-014-C	.71	F-014-M	5.65	4.35
6-32 x 5/8″	KF-621	45	F-621-C	.79	F-621-M	6.25	4.80
6-32 x 3/4″	KF-015	45	F-015-C	.83	F-015-M	6.75	5.20
8-32 x 1/4″	KF-023	45	F-023-C	.81	F-023-M	6.40	4.90
8-32 x 5/16″	KF-505	45	F-505-C	.90	F-505-M	7.10	5.40
8-32 x 3/8″	KF-024	35	F-024-C	.90	F-024-M	7.10	5.40
8-32 x 1/2″	KF-025	35	F-025-C	.95	F-025-M	7.55	5.80
8-32 x 3/4″	KF-026	35	F-026-C	1.07	F-026-M	8.50	6.50
10-32 x 1/2″	KF-577	30	F-577-C	1.10	F-577-M	8.70	6.65
10-32 x 3/4″	KF-578	30	F-578-C	1.29	F-578-M	10.40	7.95

BINDER HEAD BRASS MACHINE SCREWS Nickel Plated

4-40 x 1/4″			F-020B-C	.92	F-020B-M	7.45	5.65
4-40 x 1/2″			F-021B-C	1.18	F-021B-M	9.35	7.15
4-40 x 3/4″			F-022B-C	1.47	F-022B-M	11.35	8.65
6-32 x 1/4″			F-503B-C	1.25	F-503B-M	10.00	7.60
6-32 x 3/8″			F-504B-C	1.33	F-504B-M	10.65	8.15
6-32 x 1/2″			F-014B-C	1.50	F-014B-M	11.95	9.15
6-32 x 3/4″			F-015B-C	1.83	F-015B-M	14.65	11.20
8-32 x 1/4″			F-023B-C	1.85	F-023B-M	15.15	11.55
8-32 x 3/8″			F-024B-C	1.94	F-024B-M	15.50	11.85
8-32 x 1/2″			F-025B-C	2.22	F-025B-M	17.75	13.55
8-32 x 3/4″			F-026B-C	2.72	F-026B-M	21.70	16.55

FILLISTER HEAD STEEL MACHINE SCREWS Nickel Plated

2-56 x 1/4″	KF-606	50	F-606-C	.55	F-606-M	4.10	3.10
2-56 x 1/2″	KF-607	50	F-607-C	.58	F-607-M	4.45	3.40
4-40 x 1/4″	KF-608	50	F-608-C	.58	F-608-M	4.45	3.40
4-40 x 1/2″	KF-609	45	F-609-C	.62	F-609-M	4.85	3.70
4-40 x 3/4″	KF-610	45	F-610-C	.74	F-610-M	5.80	4.40
6-32 x 1/4″	KF-611	45	F-611-C	.61	F-611-M	4.95	3.75
6-32 x 1/2″	KF-612	40	F-612-C	.71	F-612-M	5.65	4.35
6-32 x 3/4″	KF-613	40	F-613-C	.83	F-613-M	6.75	5.20
8-32 x 3/8″	KF-614	35	F-614-C	.90	F-614-M	7.10	5.40
8-32 x 1/2″	KF-615	35	F-615-C	.95	F-615-M	7.55	5.80
8-32 x 3/4″	KF-616	35	F-616-C	1.07	F-616-M	8.50	6.50
10-32 x 1/2″	KF-617	30	F-617-C	1.10	F-617-M	8.70	6.65

FLAT HEAD STEEL MACHINE SCREWS Nickel Plated

4-40 x 1/4″	KF-622	60	F-622-C	.58	F-622-M	4.45	3.40
4-40 x 3/8″	KF-623	50	F-623-C	.60	F-623-M	4.65	3.55
4-40 x 1/2″	KF-624	50	F-624-C	.62	F-624-M	4.85	3.70
6-32 x 1/4″	KF-625	50	F-625-C	.61	F-625-M	4.95	3.75
6-32 x 3/8″	KF-626	50	F-626-C	.66	F-626-M	5.20	3.95
6-32 x 1/2″	KF-627	45	F-627-C	.71	F-627-M	5.65	4.35
6-32 x 3/4″	KF-628	45	F-628-C	.83	F-628-M	6.75	5.20
8-32 x 3/8″	KF-629	35	F-629-C	.90	F-629-M	7.10	5.40
8-32 x 1/2″	KF-630	35	F-630-C	.95	F-630-M	7.55	5.80
8-32 x 3/4″	KF-631	35	F-631-C	1.07	F-631-M	8.50	6.50
10-32 x 1/2″	KF-632	30	F-632-C	1.10	F-632-M	8.70	6.65

PHILLIPS HEAD ROUND STEEL MACHINE SCREWS Nickel Plated

	SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
6-32 x 1/4″	KF-494	30	F-494-C	1.37	F-494-M	10.80	8.25
6-32 x 5/16″	KF-018	30	F-018-C	1.37	F-018-M	10.95	8.40
6-32 x 1/2″	KF-495	25	F-495-C	1.24	F-495-M	9.90	7.60
6-32 x 3/4″	KF-496	25	F-496-C	1.41	F-496-M	11.20	8.55
6-32 x 1″	KF-497	25	F-497-C	1.59	F-497-M	12.60	9.60
8-32 x 1/4″	KF-109	25	F-019-C	1.50	F-019-M	12.35	9.40
8-32 x 1/2″	KF-499	25	F-499-C	1.41	F-499-M	11.30	8.60
8-32 x 3/4″	KF-500	20	F-500-C	1.53	F-500-M	12.25	9.35
8-32 x 1″	KF-501	20	F-501-C	1.71	F-501-M	14.00	10.70

ORNAMENTAL HEAD STEEL MACHINE SCREWS Statuary Bronze Plated

6-32 x 3/4″	KF-511	35	F-511-C	1.48	F-511-M	12.15	9.25
6-32 x 1″	KF-512	30	F-512-C	1.62	F-512-M	13.30	10.15
6-32 x 1-1/4″	KF-513	20	F-513-C	2.22	F-513-M	18.15	13.85

HEX STEEL NUTS Nickel Plated

Thrd. Width Thk.							
2-56x3/16x1/16″	KF-554	60	F-554-C	.79	F-554-M	6.25	4.80
3-48x3/16x1/16″	KF-555	60	F-555-C	.79	F-555-M	6.25	4.80
4-36x1/4x3/32″	KF-556	60	F-556-C	.78	F-556-M	6.15	4.75
4-40x1/4x3/32″	KF-557	60	F-557-C	.78	F-557-M	6.15	4.75
6-32x1/4x3/32″	KF-559	60	F-559-C	.78	F-559-M	6.15	4.75
6-32x5/16x7/64″	KF-560	50	F-560-C	.84	F-560-M	6.70	5.15
8-32x1/4x3/32″	KF-561	50	F-561-C	.78	F-561-M	6.15	4.75
8-32x5/16x7/64″	KF-562	50	F-562-C	.84	F-562-M	6.70	5.15
10-32x3/8x1/8″	KF-563	45	F-563-C	.99	F-563-M	7.90	6.00
12-24x7/16x5/32″	KF-619	35	F-619-C	1.30	F-619-M	10.70	8.20
14-20x7/16x3/16″	KF-564	35	F-564-C	1.41	F-564-M	11.30	8.60

HEX BRASS NUTS Nickel Plated

Thrd. Width Thk.							
2-56x3/16x1/16″			F-554B-C	1.13	F-554B-M	9.10	6.95
3-48x3/16x1/18″			F-555B-C	1.03	F-555B-M	8.30	6.35
4-36x1/4x2/32″	KF-556B	50	F-556B-C	1.37	F-556B-M	10.90	8.35
4-40x1/4x3/32″	KF-557B	35	F-557B-C	1.35	F-557B-M	10.80	8.25
6-32x1/4x3/32″	KF-559B	35	F-559B-C	1.34	F-559B-M	10.75	8.25
6-32x5/16x7/64″			F-560B-C	1.62	F-560B-M	13.00	9.90
8-32x1/4x3/32″			F-561B-C	1.34	F-561B-M	10.75	8.25
8-32x5/16x7/64″	KF-562B	20	F-562B-C	1.62	F-562B-M	13.00	9.90
10-32x3/8x1/8″	KF-563B	15	F-563B-C	1.76	F-563B-M	14.25	10.85

VOLUME CONTROL AND TOGGLE SWITCH MOUNTING NUTS Nickel Plated

(For Volume Control) 3/8-32x1/2x3/32″	KF-565	20	F-565-C	1.70	F-565-M	13.90	10.60
(For Toggle Switch) 15/32-32x9/16x5/64″	KF-566	15	F-566-C	2.08	F-566-M	17.05	13.00
.475-32x19/32x1/6″	KF-567	*10	F-567-C	3.93	F-567-M	31.45	24.00

*Knurled Ring Nut—Brass Nickel

WING NUTS Nickel Plated

6-32	KF-571	15	F-571-C	3.03	F-571-M	25.25	19.25
8-32	KF-572	15	F-572-C	3.03	F-572-M	25.25	19.25
10-32	KF-573	15	F-573-C	3.03	F-573-M	25.25	19.25

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HARDWARE AND FASTENING DEVICES

PACKAGED HARDWARE (Continued)

SLOTTED HEX HEAD SHEET METAL SCREWS (Type A) Nick. Pl.	SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
4 x 3/8″	KF-016	50	F-016-C	.89	F-016-M	7.25	5.50
4 x 1/2″	KF-523	50	F-523-C	.95	F-523-M	7.75	5.95
6 x 1/4″	KF-524	45	F-524-C	1.01	F-524-M	8.40	6.40
6 x 3/8″	KF-525	35	F-525-C	1.03	F-525-M	8.45	6.45
6 x 1/2″	KF-526	35	F-526-C	1.08	F-526-M	9.00	6.85
6 x 5/8″	KF-595	35	F-595-C	1.10	F-595-M	9.05	6.90
6 x 3/4″	KF-527	30	F-527-C	1.16	F-527-M	9.20	7.00
8 x 1/4″	KF-528	30	F-528-C	1.16	F-528-M	9.20	7.00
8 x 3/8″	KF-529	30	F-529-C	1.22	F-529-M	9.65	7.35
8 x 1/2″	KF-530	30	F-530-C	1.25	F-530-M	9.90	7.60
8 x 5/8″	KF-017	25	F-017-C	1.27	F-017-M	10.15	7.70
8 x 1″	KF-531	20	F-531-C	1.63	F-531-M	12.85	9.80
10 x 3/8″	KF-532	20	F-532-C	1.35	F-532-M	10.80	8.25
10 x 1/2″	KF-533	20	F-533-C	1.47	F-533-M	11.65	8.85
10 x 3/4″	KF-534	15	F-534-C	1.62	F-534-M	12.85	9.80
HEX WASHER HEAD SHEET METAL SCREWS (Type A) Steel-Indented Slotted Head Nickel Plated							
6 x 1/4″	KF-056	35	F-056-C	1.05	F-056-M	8.05	6.50
6 x 3/8″	KF-057	35	F-057-C	1.08	F-057-M	9.00	6.85
6 x 1/2″	KF-050	35	F-050-C	1.14	F-050-M	9.15	6.95
6 x 5/8″	KF-058	30	F-058-C	1.18	F-058-M	9.65	7.35
6 x 3/4″	KF-054	25	F-054-C	1.24	F-054-M	10.15	7.70
8 x 1/4″	KF-051	25	F-051-C	1.24	F-051-M	10.15	7.70
8 x 3/8″	KF-052	25	F-052-C	1.29	F-052-M	10.60	8.10
8 x 1/2″	KF-053	25	F-053-C	1.34	F-053-M	9.80	7.50
8 x 5/8″	KF-055	25	F-055-C	1.37	F-055-M	11.20	8.55
8 x 3/4″	KF-059	25	F-059-C	1.52	F-059-M	12.50	9.55
PAN HEAD SHEET METAL SCREWS (TYPE A) Nickel Plated							
4 x 1/2″	KF-596	45	F-596-C	.89	F-596-M	7.25	5.50
6 x 1/4″	KF-033	45	F-033-C	.95	F-033-M	7.75	5.95
6 x 3/8″	KF-597	35	F-597-C	.97	F-597-M	8.00	6.10
6 x 1/2″	KF-034	35	F-034-C	1.03	F-034-M	8.45	6.45
6 x 3/4″	KF-035	30	F-035-C	1.12	F-035-M	9.10	6.95
8 x 1/4″	KF-036	30	F-036-C	1.12	F-036-M	9.10	6.95
8 x 3/8″	KF-598	30	F-598-C	1.18	F-598-M	9.55	7.25
8 x 1/2″	KF-037	30	F-037-C	1.22	F-037-M	9.65	7.35
8 x 1″	KF-038	25	F-038-C	1.54	F-038-M	12.70	9.65
ROUND HEAD STEEL WOOD SCREWS Nickel Plated							
4 x 1/2″	KF-514	35	F-514-C	.90	F-514-M	7.25	5.50
4 x 3/4″	KF-515	35	F-515-C	1.04	F-515-M	8.35	6.35
6 x 3/4″	KF-516	30	F-516-C	1.12	F-516-M	9.00	6.85
6 x 1″	KF-517	30	F-517-C	1.39	F-517-M	11.10	8.45
8 x 3/4″	KF-518	25	F-518-C	1.33	F-518-M	10.60	8.10
8 x 1″	KF-047	25	F-047-C	1.53	F-047-M	12.80	9.75
8 x 1-1/4″	KF-519	15	F-519-C	1.83	F-519-M	14.70	11.20
10 x 1-1/2″	KF-520	15	F-520-C	2.45	F-520-M	19.65	14.95
12 x 1-1/2″	KF-521	10	F-521-C	3.12	F-521-M	25.05	19.10
14 x 1-3/4″	KF-522	10	F-522-C	4.39	F-522-M	35.30	26.90
FLAT HEAD STEEL WOOD SCREWS Nickel Plated							
8 x 1/2″	KF-027	35	F-027-C	.90	F-027-M	7.25	5.50
8 x 1″	KF-048	25	F-048-C	1.56	F-048-M	12.80	9.75
8 x 1-1/4″	KF-032	15	F-032-C	1.83	F-032-M	14.70	11.20
10 x 1-1/2″	KF-044	15	F-044-C	2.45	F-044-M	19.65	14.95
7/8″ #6 STEEL SPADE BOLT Nickel Plated							
6-32 x 5/16″	KF-620	15	F-620-C	1.29	F-620-M	10.55	8.10

FLAT STEEL WASHERS Nickel Plated				SHOW OFF .59 per Pkg.		BLUE LINE Pkg. of 100		BULK PACK Bag of 1000		
Screw Size	I. D. In.	O. D. In.	Thk. In.	Part No.	Quan.	Part No.	Per Pkg.	Part No.	1-4 Per Bag	5-9 Per Bag
2	.092	7/32	.018	KMW-400	150	MW-400-C	.49	MW-400-M	4.10	3.15
4	.125	9/32	.025	KMW-401	150	MW-401-C	.38	MW-401-M	3.20	2.40
6	.150	3/8	.032	KMW-402	150	MW-402-C	.38	MW-402-M	3.20	2.40
8	.170	3/8	.032	KMW-403	150	MW-403-C	.38	MW-403-M	3.20	2.40
10	.204	7/16	.032	KMW-404	140	MW-404-C	.43	MW-404-M	3.60	2.75
1/4	.281	5/8	.050	KMW-408	90	MW-408-C	.78	MW-408-M	6.15	4.75
3/8	.392	11/16	.050	KMW-410	60	MW-410-C	.81	MW-410-M	6.50	5.00
FLAT BRASS WASHERS Nickel Plated										
2	.092	7/32	.018			MW-400B-C	.53	MW-400B-M	4.25	3.25
4	.125	9/32	.025			MW-401B-C	.55	MW-401B-M	4.45	3.40
6	.150	3/8	.032			MW-402B-C	.71	MW-402B-M	5.65	4.35
8	.170	3/8	.032			MW-403B-C	.71	MW-403B-M	5.65	4.35
10	.204	7/16	.032			MW-404B-C	.78	MW-404B-M	6.15	4.75
FLAT FIBER WASHERS										
4	.120	1/4	1/32	KFW-374	50	FW-374-C	.48	FW-374-M	3.95	3.05
6	.145	1/4	1/32	KFW-375	45	FW-375-C	.48	FW-375-M	3.95	3.05
8	3/16	3/8	1/32	KFW-376	45	FW-376-C	.52	FW-376-M	4.25	3.25
10	.192	3/8	1/32	KFW-377	45	FW-377-C	.52	FW-377-M	4.25	3.25
1/4	.255	1/2	1/32	KFW-378	35	FW-378-C	.57	FW-378-M	4.45	3.40
3/8	3/8	5/8	1/32	KFW-379	30	FW-379-C	.85	FW-379-M	6.75	5.15
7/16	.440	3/4	1/32	KFW-380	25	FW-380-C	.91	FW-380-M	7.45	5.65
EXTRUDED FIBER WASHERS										
4	1/8	9/32	5/64	KFW-384	35	FW-384-C	.96	FW-384-M	7.60	5.80
6	9/64	5/16	5/64	KFW-385	35	FW-385-C	.96	FW-385-M	7.60	5.80
8	11/64	3/8	3/32	KFW-386	30	FW-386-C	.96	FW-386-M	7.60	5.80
10	13/64	7/16	3/32	KFW-387	30	FW-387-C	1.05	FW-387-M	8.30	6.35
1/4	.256	1/2	3/32	KFW-388	30	FW-388-C	1.05	FW-388-M	8.30	6.35
3/8	.375	5/8	3/32	KFW-389	30	FW-389-C	1.08	FW-389-M	8.55	6.55
STEEL CUP WASHERS Nickel Plated										
6				KCW-6	60	CW-6-C	.56	CW-6-M	4.55	3.45
8				KCW-6	60	CW-8-C	.59	CW-8-M	4.90	3.75
10				KCW-10	50	CW-10-C	.67	CW-10-M	5.30	4.00
STEEL SPLIT LOCK WASHERS Zinc Plated										
#4 Screw				KMW-411	120	MW-411-C	.66	MW-411-M	5.20	4.00
#6 Screw				KMW-412	120	MW-412-C	.55	MW-412-M	4.45	3.40
#8 Screw				KMW-413	120	MW-413-C	.54	MW-413-M	4.35	3.30
#10 Screw				KMW-414	100	MW-414-C	.61	MW-414-M	4.95	3.75
#1/4 Screw				KMW-415	75	MW-415-C	.92	MW-415-M	7.35	5.60
METAL CABLE CLAMPS Cadmium Plated										
Mtl. In.	Ht. In.	W. In.	Wire Hold Area							
.020B	7/16	1/4	3/32	KC-201	30	C-201-C	.89	C-201-M	7.30	5.60
.032S	5/8	3/8	10/64	KC-202	30	C-202-C	1.12	C-202-M	9.20	7.00
.032S	11/16	3/8	1/4	KC-203	25	C-203-C	1.29	C-203-M	10.55	8.05
.032S	15/16	3/8	10/32	KC-204	15	C-204-C	1.43	C-204-M	11.70	8.95
SPRING CLIPS Brass, Nickel Plated										
Thick-ness	Ht. In.	W. In.	Mtg. Hole In.							
.016	45/64	7/32	.130	KC-101	20	C-101-C	1.66	C-101-M	13.15	10.00
.020	25/32	5/16	.144	KC-102	20	C-102-C	2.20	C-102-M	17.40	13.25
.022	1	3/8	.144	KC-103	10	C-103-C	3.23	C-103-M	26.90	20.50

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PACKAGED HARDWARE (Continued)

ACORN NUTS (Nickel Plated Brass)

Size	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
6-32	KF-574	15	F-574-C	3.16	F-574-M	25.95	19.80
8-32	KF-575	15	F-575-C	3.36	F-575-M	27.55	21.05
10-32	KF-576	10	F-576-C	4.06	F-576-M	33.35	25.40

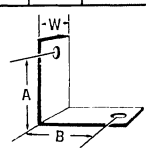
SNAP BUTTON HOLE PLUGS Nickel Plated

Hole Size							
1/4"	KHP-1	12	HP-1-C	2.42	HP-1-M	19.85	15.15
3/8"	KHP-2	12	HP-2-C	2.75	HP-2-M	22.55	17.20
1/2"	KHP-3	8	HP-3-C	2.64	HP-3-M	21.65	16.50
3/4"	KHP-4	5	HP-4-C (50)*	1.90	HP-4-M	29.75	22.70
1"	KHP-5	5	HP-5-C (25)*	1.30	HP-5-M	39.70	30.25

*Where quantities are shown in brackets ( ) in front of "Pkg. of 100" prices, this quantity, rather than 100 pieces, applies.

RUBBER HEADED TACK BUMPERS

Dia. Hd.	Ht. Hd.	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PARK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
3/8"	1/4"	KB-350	10	B-350-C	2.12	B-350-M	17.45	13.30
5/8"	5/16"	KB-352	7	B-352-C	3.65	B-352-M	29.95	22.85



ANGLE BRACKETS

.032 Thk. Material: Steel (S), Brass (B). Plating: Cadmium (C), Nickel (N), Hot-tin dipped (HT).

Mtl.	Plg.	Hole Size	W	A	B	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
B	C	#6	9/32	13/64	9/32	A-100-C	1.41	A-100-M	11.55	8.80
B	N	#6	3/8	15/64	19/64	A-101-C	1.70	A-101-M	13.90	10.60
B	N	#8	5/16	9/32	9/32	A-102-C	1.85	A-102-M	15.15	11.55
S	HT	#6	3/8	15/32	15/32	A-103-C	1.60	A-103-M	13.05	10.00
S	HT	#8	3/8	7/8	3/8	A-104-C	1.76	A-104-M	14.50	11.05

SPACERS — (Brass & Fibre) — 1/4" O.D.

For use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate #6 or #8 screw.

Length	Unthreaded For #6 Screw Part No.	For #8 Screw Part No.	Price Pkg. of 100	Threaded For #6 Screw Part No.	For #8 Screw Part No.	Price Pkg. of 100
ROUND TYPE (Brass — Cadmium Plated)						
1/4"	RS-614	RS-814	3.63	RST-146	RST-148	4.29
3/8"	RS-638	RS-838	4.79	RST-386	RST-388	5.45
1/2"	RS-612	RS-812	5.81	RST-126	RST-128	6.60
3/4"	RS-634	RS-834	6.83	RST-346	RST-348	7.92
1"	RS-610	RS-810	7.92	RST-106	RST-108	9.08
HEX TYPE (Brass — Cadmium Plated)						
1/4"	HS-614	HS-814	3.96	HST-146	HST-148	4.62
3/8"	HS-638	HS-838	5.12	HST-386	HST-388	5.78
1/2"	HS-612	HS-812	6.14	HST-126	HST-128	6.93
3/4"	HS-634	HS-834	7.43	HST-346	HST-348	8.42
1"	HS-610	HS-810	8.58	HST-106	HST-108	9.41
ROUND TYPE (Fibre)*						
1/4"	FS-614	FS-814	4.29	Not available threaded.		
3/8"	FS-638	FS-838	5.45			
1/2"	FS-612	FS-812	6.60			
3/4"	FS-634	FS-834	7.92			
1"	FS-610	FS-810	9.08			

TERMINAL AND SPADE LUGS

Supplied with hot-tin dipping in brass (B), or copper (C) as specified in Material (Mtl.) column

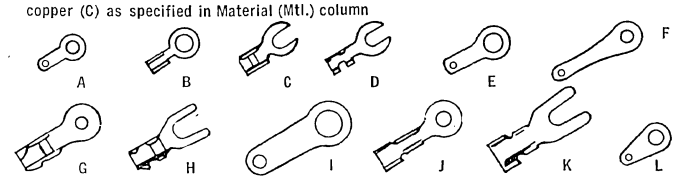
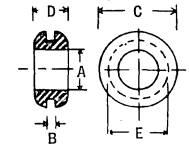


Fig.	Mtl., Thickness	Hole Size	Length In.	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
A	.015C	#2	21/64			T-251-C	.83	T-251-M	6.75	5.10
A	.020B	#6	1/2	KT-151	60	T-151-C	.92	T-151-M	7.55	5.80
A	.020B	#8	13/16	KT-152	60	T-152-C	.99	T-152-M	8.15	6.20
A	.020B	#10	13/16	KT-153	60	T-153-C	.99	T-153-M	8.15	6.20
B	.020C	#4	9/16			T-226-C	1.13	T-226-M	9.35	7.10
B	.032C	#6	1/2	KT-156	45	T-156-C	1.13	T-156-M	9.35	7.10
B	.020B	#8	21/32			T-227-C	1.13	T-227-M	9.35	7.10
B	.020B	#10	21/32			T-228-C	1.13	T-228-M	9.35	7.10
C	.020B	#8	41/64	KT-157	45	T-157-C	.97	T-157-M	7.90	6.05
D	.020B	#6	21/32	KT-158	45	T-158-C	1.07	T-158-M	8.75	6.65
D	.020B	#8	21/32	KT-159	45	T-159-C	1.07	T-159-M	8.75	6.65
D	.020B	#10	47/64			T-225-C	1.36	T-225-M	11.05	8.40
E	.015B	#8	47/64	KT-162	45	T-162-C	1.05	T-162-M	8.55	6.50
F	.025B	#6	1	KT-163	45	T-163-C	1.19	T-163-M	9.75	7.45
F	.025B	#8	1	KT-164	45	T-164-C	1.19	T-164-M	9.75	7.45
G	.020C	#6	15/16	KT-166	25	T-166-C	1.96	T-166-M	16.05	12.25
G	.020C	#8	15/16	KT-167	25	T-167-C	1.96	T-167-M	16.05	12.25
G	.020C	#10	15/16	KT-168	25	T-168-C	1.96	T-168-M	16.05	12.25
H	.020B	3/16"	25/32	KT-170	25	T-170-C	1.13	T-170-M	9.35	7.10
I	.020B	#10	1-5/32	KT-173	20	T-173-C	1.89	T-173-M	15.20	11.60
J	.032B	#8	15/16	KT-187	15	T-187-C	3.40	T-187-M	27.90	21.30
J	.032B	#10	15/16	KT-188	10	T-188-C	3.75	T-188-M	30.75	23.50
K	.032B	#8	1	KT-193	10	T-193-C	5.15	T-193-M	42.20	32.20
L	.020B	#6	9/16	KT-154	45	T-154-C	1.07	T-154-M	8.75	6.65
L	.015C	#8	17/32			T-224-C	1.18	T-224-M	9.65	7.35

VINYL GROMMETS

- Exceptional Aging Qualities*
- High Dielectric Properties
- Oil Resistant
- Durometer Hardness 45 1045
- Cost Less Than Rubber
- Will Not Stain Most Surfaces



A	B	C	D	E						
1/8	1/16	11/32	3/16	1/4	KG-401	25	G-401-C	.99	G-401-M	8.15	6.20
3/16	1/16	7/16	7/32	5/16	KG-402	20	G-402-C	1.09	G-402-M	9.10	6.90
1/4	1/16	9/16	1/4	3/8	KG-403	18	G-403-C	1.45	G-403-M	10.45	8.00
5/16	1/16	5/8	1/4	7/16	KG-404	15	G-404-C	1.58	G-404-M	11.20	8.55
3/8	1/16	5/8	1/4	1/2	KG-405	15	G-405-C	1.58	G-405-M	11.20	8.55
1/2	1/16	13/16	9/32	5/8	KG-406	10	G-406-C*	1.28	G-406-M	19.50	14.85
5/8	1/16	1-1/8	9/32	7/8			G-407-C**	1.29	G-407-M	33.45	25.85

*(50) **(25)

These grommets were tested by Underwriters Laboratories in a circulating air oven at 212°F. for seven days with no visible change.

RUBBER GROMMETS

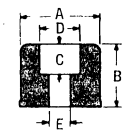
A	B	C	D	E							
1/8	1/16	11/32	3/16	1/4	KG-300	16	G-300-C	1.45	G-300-M	11.90	9.10
5/16	1/16	9/16	3/16	15/32			G-301-C	1.94	G-301-M	15.85	12.10
3/8	1/16	11/32	9/32	1/2	KG-302	10	G-302-C	2.49	G-302-M	20.40	15.55
3/16	1/16	7/16	7/32	5/16	KG-305	14	G-305-C	2.06	G-305-M	16.95	12.90
7/16	3/64	3/4	1/4	19/32			G-307-C*	1.46	G-307-M	22.55	17.20
11/32	1/16	5/8	5/16	15/32	KG-309	8	G-309-C	2.10	G-309-M	17.25	13.15
5/8	1/16	1-1/8	5/16	7/8			G-311-C**	1.80	G-311-M	49.95	38.10

*(50) **(25)

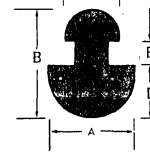
RUBBER BUMPERS

Recess Screw Type

For mounting on all types of Electronic Equipment. Prevents vibration and protects surfaces under equipment from being marred.



A	B	C	D	E	BLUE LINE		BULK PACK		
1/2	1/4	5/32	1/4	1/8	B-321-C	2.37	B-321-M	19.45	14.80
3/4	1/4	1/8	1/4	1/8	B-322-C*	1.65	B-322-M	56.25	42.90
5/8	3/8	7/32	1/4	1/8	B-323-C*	1.31	B-323-M	44.80	34.20
3/4	5/8	7/32	1/4	1/8	B-324-C*	1.84	B-324-M	16.55	47.65
					*(25)				



Button Type

A	B	C	D	E	BLUE LINE		BULK PACK		
3/8	3/8	17/64	3/16	.040	B-361-C	1.65	B-361-M	13.30	10.15
1/2	7/16	11/32	1/4	.040	B-362-C	2.43	B-362-M	19.50	14.85
5/8	9/16	15/32	5/16	.040	B-363-C	3.91	B-363-M	31.30	23.90

waldom

HARDWARE AND FASTENING DEVICES

PACKAGED HARDWARE (SHAKEPROOF® PRODUCTS)

LIVE-ACTION INTERNAL LOCKWASHERS

Spring-steel cadmium-plated

Bite on both sides, to lock tight, stay tight, where others fail.

Screw Size	Shakeproof® Part No.	O.D.	Material Thickness	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
2	1202	.185-.175	.013	KMW-428	70	MW-428-C	.84	MW-428-M	5.20	3.60
4	1204	.265-.255	.015	KMW-416	90	MW-416-C	.50	MW-416-M	3.30	2.30
6	1206	.288-.278	.018	KMW-417	90	MW-417-C	.50	MW-417-M	3.30	2.30
8	1208	.336-.325	.020	KMW-418	80	MW-418-C	.56	MW-418-M	3.45	2.40
10	1210	.381-.370	.022	KMW-419	80	MW-419-C	.56	MW-419-M	3.45	2.40
1/4	1214	.478-.466	.025	KMW-420	50	MW-420-C	.72	MW-420-M	4.65	3.25
3/8	1220	.692-.678	.035	KMW-421	35	MW-421-C	1.08	MW-421-M	8.20	5.65

LIVE-ACTION EXTERNAL LOCKWASHERS

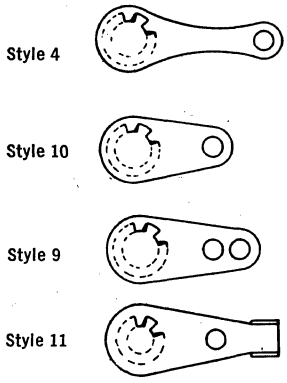
Spring-steel, cadmium-plated.

Bite on both sides, to lock tight, stay tight, where others fail.

Screw Size	Shakeproof® Part No.	O.D.	Material Thickness	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
4	1104	.255-.245	.015	KMW-422	90	MW-422-C	.50	MW-422-M	3.30	2.30
6	1106	.317-.306	.020	KMW-423	90	MW-423-C	.50	MW-423-M	3.30	2.30
8	1108	.381-.370	.020	KMW-424	80	MW-424-C	.56	MW-424-M	3.45	2.40
10	1110	.406-.395	.022	KMW-425	80	MW-425-C	.56	MW-425-M	3.45	2.40
1/4	1114	.506-.494	.025	KMW-426	50	MW-426-C	.72	MW-426-M	4.65	3.25
3/8	1120	.695-.680	.035	KMW-427	35	MW-427-C	1.08	MW-427-M	8.20	5.65

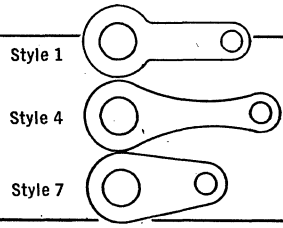
LOCKING TERMINALS Bronze hot tin-dipped, .018 thickness

Provide the economy and efficiency of a combination wire terminal and Shakeproof® lockwasher.



Screw Size	Shakeproof® Part No.	Length	Form 1. —— 2. ⌐	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
4	2101-04-00	7/8	1	KT-196	30	T-196-C	1.41	T-196-M	9.75	7.85
6	2101-06-00	7/8	1	KT-197	30	T-197-C	1.41	T-197-M	9.75	7.85
8	2101-08-00	7/8	1	KT-198	30	T-198-C	1.41	T-198-M	9.75	7.85
10	2101-10-00	57/64	1	KT-223	30	T-223-C	1.43	T-223-M	9.85	8.00
4	2103-04-00	13/16	2			T-247-C	1.41	T-247-M	9.75	7.85
6	2103-06-00	13/16	2			T-248-C	1.41	T-248-M	9.75	7.85
8	2103-08-00	13/16	2			T-249-C	1.41	T-249-M	9.75	7.85
10	2103-10-00	53/64	2			T-250-C	1.57	T-250-M	10.35	8.35
4	2106-04-00	5/8	1			T-229-C	1.32	T-229-M	9.55	7.75
6	2106-06-00	5/8	1	KT-194	30	T-194-C	1.32	T-194-M	9.55	7.75
8	2106-08-00	5/8	1	KT-195	30	T-195-C	1.32	T-195-M	9.55	7.75
4	2102-04-00	23/32	1			T-230-C	1.32	T-230-M	9.55	7.75
6	2102-06-00	23/32	1			T-231-C	1.32	T-231-M	9.55	7.75
8	2102-08-00	23/32	1			T-232-C	1.32	T-232-M	9.55	7.75
4	2104-04-00	5/8	2			T-233-C	1.32	T-233-M	9.55	7.75
6	2104-06-00	5/8	2			T-234-C	1.32	T-234-M	9.55	7.75
8	2104-08-00	5/8	2			T-235-C	1.32	T-235-M	9.55	7.75
10	2104-10-00	41/64	2			T-236-C	1.43	T-236-M	9.85	8.00
6	2108-06-00	25/32	1			T-237-C	1.55	T-237-M	10.30	8.35
10	2108-10-00	51/64	1			T-238-C	1.62	T-238-M	10.50	8.55

PLAIN TERMINALS Brass hot tin-dipped, .018 thickness



Screw Size	Shakeproof® Part No.	Length	Form	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
4	2522-04-00	21/32	1			T-239-C	.84	T-239-M	6.15	5.00
6	2522-06-00	21/32	1			T-240-C	.84	T-240-M	6.15	5.00
6	2501-06-00	7/8	1			T-241-C	.89	T-241-M	6.55	5.35
8	2501-08-00	7/8	1			T-242-C	.89	T-242-M	6.55	5.35
10	2501-10-00	57/64	1			T-243-C	.89	T-243-M	6.55	5.35
6	2506-06-00	5/8	1			T-244-C	.89	T-244-M	6.55	5.35
8	2506-08-00	5/8	1			T-245-C	.89	T-245-M	6.55	5.35
10	2506-10-00	5/8	1			T-246-C	.89	T-246-M	6.55	5.35

EXTERNAL LOCKWASHER KEPS®—STANDARD SIZES

American Standard Machine Screw Nut Series, Nut, SAE20 steel; Washer, spring steel, cadmium-plated. Lockwasher and nut are pre-assembled. Reusable, free-spinning, they drive easily, cut assembly time, lock securely.

Diameter and Thread	Shakeproof® Part No.	Across Flats	Nut Thickness	SHOW OFF .59 per Pkg. Part No.	Quan.	BLUE LINE Pkg. of 100 Part No.	Per Pkg.	BULK PACK Bag of 1000 Part No.	1-4 Per Bag	5-9 Per Bag
4-40	511-041800-00	1/4	3/32			511-041800-00-C	2.87	511-041800-00-M	21.15	17.15
6-32	511-061800-00	5/16	7/64			511-061800-00-C	2.27	511-061800-00-M	16.75	13.55
8-32	511-081800-00	11/32	1/8			511-081800-00-C	2.33	511-081800-00-M	17.15	14.00
10-32	511-101800-50	3/8	1/8			511-101800-50-C	2.45	511-101800-50-M	18.00	14.70
1/4-20	511-251800-00	7/16	3/16			511-251800-00-C	3.09	511-251800-00-M	22.70	18.50

*TRADEMARK

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.

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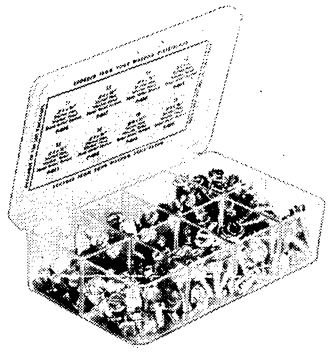
PACKAGED HARDWARE ASSORTMENTS



Selections of the fastest moving hardware items to provide handy kits for service and maintenance work. Individually compartmented, for fast selection, in reusable, plastic boxes with hinged cover and positive clasp. All metal hardware is nickel-plated steel.

HEX HEAD (SLOTTED) SHEET METAL SCREW ASSORTMENT

Type A—Maroon Label for Identification

Quantity	Description	Quantity	Description
25	4 x 3/8″	35	8 x 1/4″
25	6 x 1/4″	25	8 x 3/8″
25	6 x 1/2″	10	8 x 1/2″
10	6 x 3/4″	10	8 x 5/8″

Part No. HD-4014 Net $1.59

HEX WASHER HEAD SHEET METAL SCREW ASSORTMENT

Green Label for Identification

Slotted, Type A. The washer head prevents denting of sheet metal, conceals marks made by previous screws, provides better bearing surface for tight hold, and prevents the screw from sinking into nut driver.

15	6 x 1/4″	15	8 x 1/4″
15	6 x 3/8″	15	8 x 3/8″
15	6 x 1/2″	15	8 x 1/2″
15	6 x 3/4″	15	8 x 5/8″

Part No. HD-4011 Net $1.59

JUMBO ROUND HEAD SCREW ASSORTMENT

Black Label for Identification

Quantity	Description	Quantity	Description
100	4-40 x 1/2″ Machine Screw	75	6 x 1/2″ Sheet Metal Screw
100	6-32 x 1/4″ Machine Screw	100	4-40 x 1/4″ Nut
50	6-32 x 3/4″ Machine Screw	100	6-32 x 1/4″ Nut
50	8-32 x 1/2″ Machine Screw	100	8-32 x 1/4″ Nut

Part No. HD-4003 Net $2.92

REGULAR ROUND HEAD SCREW ASSORTMENT

Black Label for Identification

40	4-40 x 1/2″ Machine Screw	25	6 x 1/2″ Sheet Metal Screw
40	6-32 x 1/4″ Machine Screw	40	4-40 x 1/4″ Nut
20	6-32 x 3/4″ Machine Screw	40	6-32 x 1/4″ Nut
20	8-32 x 1/2″ Machine Screw	40	8-32 x 1/4″ Nut

Part No. HD-4013 Net $1.59

BINDER HEAD SCREW ASSORTMENT

Orange Label for Identification

40	4-40 x 1/2″ Machine Screw	25	6 x 1/2″ Sheet Metal Screw
40	6-32 x 1/4″ Machine Screw	40	4-40 x 1/4″ Nut
20	6-32 x 3/4″ Machine Screw	40	6-32 x 1/4″ Nut
20	8-32 x 1/2″ Machine Screw	40	8-32 x 1/4″ Nut

Part No. HD-4018 Net $1.59

WOOD SCREW ASSORTMENT—Round and Flat Types

Turquoise Label for Identification

40	4 x 1/2″ Round Head	12	8 x 1″ Round Head
25	6 x 3/4″ Round Head	10	8 x 1-1/4″ Round Head
15	6 x 1″ Round Head	12	8 x 1″ Flat Head
15	8 x 3/4″ Round Head	10	8 x 1-1/4″ Flat Head

Part No. HD-4019 Net $1.59

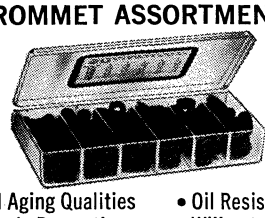
GENERAL FASTENER ASSORTMENT

Blue Label for Identification

260 pieces. Round Head, Binder Head and Phillips Head Machine Screws; Hex Nuts, Slotted Hex Head and Slotted Hex Washer Head Sheet Metal Screws; Flat and Round Head Wood Screws. Compartmented by category. Only popular diameters and lengths in all types.

Part No. HD-4020 Net $1.59

VINYL GROMMET ASSORTMENT



- Exceptional Aging Qualities
- High Dielectric Properties
- Costs less than Rubber
- Oil Resistant
- Will not stain most surfaces

Quantity	Hole Diameter	Groove Diameter
100	1/8″	1/4″
60	3/16″	5/16″
35	1/4″	3/8″
25	5/16″	7/16″
25	3/8″	1/2″
15	1/2″	5/8″

Part No. HD-4209 Net $3.25

SHOW OFF ASSORTED HARDWARE — 59¢ EACH

Each package contains a selection of the most popular sizes for servicing and general purpose use.

Part No.	Description	Quantity
KA-101	Round Head Steel Machine Screws	45
KA-103	No. 2 and No. 4 Steel Machine Screws and Nuts	45
KA-111	Oval Head Rack Screws and Cap Washers	20
KA-110	Binder Head Steel Machine Screws	45
KA-112	Ornamental Head Screws	30
KA-115	Hex Head Sheet Metal Screws	35
KA-149	Hex Washer Head Sheet Metal Screws	20
KA-113	Round Head Steel Wood Screws	35
KA-133	Hex Steel Nuts	40
KA-118	Control and Switch Mounting Nuts	15
KA-119	Acorn Nuts	12
KA-130	Snap Button Hole Plugs	10
KA-127	Flat Fibre Washers	45
KA-129	Extruded Fibre Washers	40
KA-121	Flat Steel Washers	100
KA-123	Internal Tooth Lockwashers	75
KA-136	Solder Lugs	40
KA-135	Metal Cable Clamps	30
KA-116	Slotted Set Screws	25
KA-150	Wing Nut #6 #8 #10	15

waldom HARDWARE AND FASTENING DEVICES

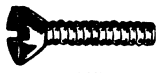
MOLDED NYLON HARDWARE

NYLON SCREWS

ROUND HEAD

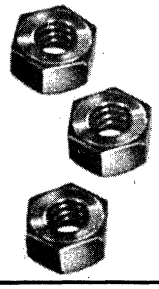
BINDER HEAD

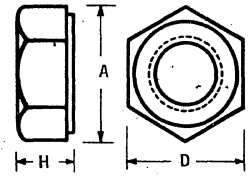
FILLISTER HEAD


FLAT HEAD

Description	Part No.				Net Prices	
	Round Head	Binder Head	Fillister Head	Flat Head	Pkg. of 100	Bulk 1000 or More, Per M
2-56 x 1/4″	FN-800	FN-815	FN-830		3.30	25.85
2-56 x 1/2″	FN-801	FN-816	FN-831		3.30	25.85
4-40 x 1/4″	FN-802	FN-817	FN-832		3.30	26.15
4-40 x 1/2″	FN-803	FN-818	FN-833	FN-845	3.30	26.25
4-40 x 3/4″	FN-804	FN-819	FN-834		3.39	26.65
6-32 x 1/4″	FN-805	FN-820	FN-835		3.30	26.30
6-32 x 3/8″	FN-806	FN-821	FN-836	FN-846	3.39	26.55
6-32 x 1/2″	FN-807	FN-822	FN-837	FN-847	3.39	26.80
6-32 x 5/8″	FN-808	FN-823	FN-838	FN-848	3.39	27.05
6-32 x 3/4″	FN-809	FN-824	FN-839		3.47	27.30
8-32 x 3/8″	FN-810	FN-825	FN-840		3.47	27.30
8-32 x 1/2″	FN-811	FN-826	FN-841	FN-849	3.47	27.70
8-32 x 3/4″	FN-812	FN-827	FN-842	FN-850	3.47	28.05
10-32 x 1/2″	FN-813	FN-828	FN-843	FN-851	3.61	28.75
10-32 x 1″	FN-814	FN-829	FN-844	FN-852	3.87	30.75

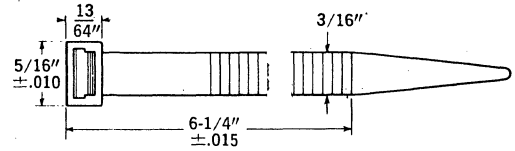
NYLON HEX NUTS





Part No.	Thread	D		A		H		Net Prices	
		Max.	Min.	Max.	Min.	Max.	Min.	Pkg. of 100	Bulk 1000 or More, Per M
FN-853	2-56	3/16	.180	.214	.208	.090	.086	5.28	42.65
FN-854	4-40	1/4	.240	.279	.272	.124	.120	5.36	43.05
FN-855	6-32	5/16	.300	.350	.343	.146	.138	5.49	44.20
FN-856	8-32	11/32	.331	.386	.379	.170	.162	5.57	44.80
FN-857	10-32	3/8	.360	.420	.412	.196	.188	5.62	45.45

WEDGE LOCKING NYLON WIRE CLAMP



Positive holding and locking action ratchet teeth on the band engage with matching teeth inside the clamp loop. A small, floating wedge, which cannot fall out, locks the teeth together. Slip clamp around cable, insert tongue, pull tight, push in wedge, and cut off extra material. It's a permanently locked, neat cable clamp. Accommodates from 1/8″ to 1-3/4″ diameter wire bundles. Natural color.

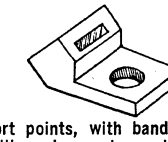
Part No.	Pkg. of 100	1000 or more Per M
BCN-25	9.90	76.55

NYLON FINISHING WASHERS

These Molded Nylon Finishing Washers are made to be used with No. 6, No. 8, No. 10 and 1/4″ countersunk metal or nylon screws. They prevent cutting and scratching of instrument and control panels, cover misaligned holes, can be used as glides, protective feet, bumpers, insulators, spacers. Smooth glossy finish. Natural nylon; special quotations for color coding.

Part No.	I.D.	O.D.	Thickness	NET PRICES	
				Pkg. of 100	Bulk 1000 or More, Per M
NW-879	#6(.143)	.437	.100	4.02	32.10
NW-890	#8(.171)	.515	.115	4.24	33.85
NW-891	#10(.191)	.580	.152	4.53	36.20

SEPARATE NYLON MOUNTING TABS



For clamp at left. May be pre-mounted at support points, with band clamps inserted later, or slipped on band clamp when bundling wires and mounted later. Never in the way when not needed.

Part No. BCN-12 Pkg. of 100—$3.30 1000 or more, per M—$24.75

FORKED TOOL FOR WEDGING BAND CLAMP

Part No. FT-27 Net Ea. $2.20

NYLON FLAT WASHERS

Stamped from extruded nylon strip. Use as insulating or cushioning washers, spacers, thrust washers. Natural color from stock, color coding at slight additional cost.

Part No.	I.D.	O.D	Thickness	NET PRICES	
				Pkg. of 100	Bulk 1000 or More, Per M
NW-875	#4(.120)	9/32	.050	.58	4.80
NW-876	#6(.150)	5/16	.050	.64	5.25
NW-877	#8(.170)	3/8	.060	.87	7.15
NW-878	#10(.195)	7/16	.060	.99	8.10

WRITE FOR QUOTATIONS ON LARGER QUANTITIES.

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NYLON & BUTYRATE CABLE CLAMPS, STRAPPING & STUD BUTTONS

NYLON CABLE CLAMPS

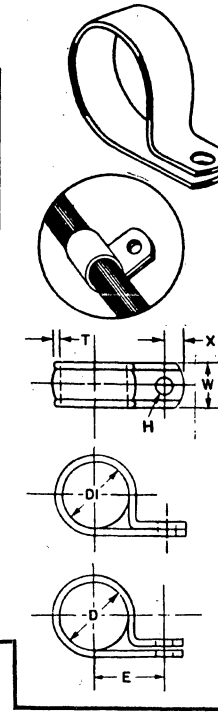
D	D_1	E	BLUE LINE Pkg. of 100 or as shown ( ) Part No.	Per Pkg.	BULK PACK Pkg. of 1000 Part No.	1-4 Per Bag	5 or more Per Bag
1/8″	.125	.310	CCN-31-C	3.14	CCN-31-M	26.75	21.15
3/16″	.188	.373	CCN-32-C	3.30	CCN-32-M	28.30	22.40
1/4″	.250	.407	CCN-33-C	3.63	CCN-33-M	30.95	24.50
5/16″	.313	.448	CCN-34-C	4.03	CCN-34-M	34.15	27.05
3/8″	.375	.479	CCN-35-C (50)	2.23	CCN-35-M	35.90	28.45
7/16″	.438	.510	CCN-36-C (50)	2.32	CCN-36-M	38.00	30.05
1/2″	.500	.542	CCN-37-C (50)	2.45	CCN-37-M	40.45	32.00
9/16″	.563	.623	CCN-38-C (25)	1.87	CCN-38-M	49.90	39.50
5/8″	.625	.638	CCN-39-C (25)	1.98	CCN-39-M	58.50	46.30
11/16″	.688	.752	CCN-40-C (20)	1.78	CCN-40-M	63.45	50.25
3/4″	.750	.783	CCN-41-C (20)	1.90	CCN-41-M	69.40	54.95
7/8″	.875	.845	CCN-42-C (20)	2.02	CCN-42-M	75.20	59.50
1″	1.000	.908	CCN-43-C (15)	1.79	CCN-43-M	84.70	67.05

Width: Up to CCN-37, 3/8″. All others are 1/2″. 3/8″ width have .167 mounting hole, 1/2″ width have 13/64″ mounting hole. 3/8″ width are .040 thickness, 1/2″ width are .060 thickness.

BUTYRATE CABLE CLAMPS

D	D_1	E	BLUE LINE Pkg. of 100 or as shown ( ) Part No.	Per Pkg.	BULK PACK Pkg. of 1000 Part No.	1-4 Per Bag	5 or more Per Bag
1/8″	.115	.310	CCB-1-C	2.06	CCB-1-M	17.65	13.95
3/16″	.172	.373	CCB-2-C	2.08	CCB-2-M	17.75	14.05
1/4″	.234	.407	CCB-3-C	2.29	CCB-3-M	19.55	15.50
5/16″	.297	.448	CCB-4-C (50)	1.33	CCB-4-M	21.60	17.10
3/8″	.359	.479	CCB-5-C (50)	1.39	CCB-5-M	23.85	18.00
7/16″	.422	.510	CCB-6-C (40)	1.20	CCB-6-M	24.80	19.65
1/2″	.484	.542	CCB-7-C (40)	1.36	CCB-7-M	26.40	20.90
9/16″	.547	.623	CCB-8-C (30)	1.35	CCB-8-M	30.90	24.45
5/8″	.609	.654	CCB-9-C (25)	1.29	CCB-9-M	35.00	28.10
11/16″	.672	.752	CCB-10-C (20)	1.25	CCB-10-M	38.05	30.10
3/4″	.734	.783	CCB-11-C (20)	1.29	CCB-11-M	39.90	31.55
7/8″	.859	.845	CCB-12-C (20)	1.36	CCB-12-M	43.30	34.25
1″	.934	.908	CCB-13-C (15)	1.23	CCB-13-M	45.95	36.
1-1/8″	1.102	.970	CCB-14-C (15)	1.23	CCB-14-M	46.10	38.85
1-1/4″	1.227	1.062	CCB-15-C (10)	1.40	CCB-15-M	51.85	41.05

Thickness .060. Width 1/2″. Mounting hole 13/64″, 7/32″ from end of clamp.

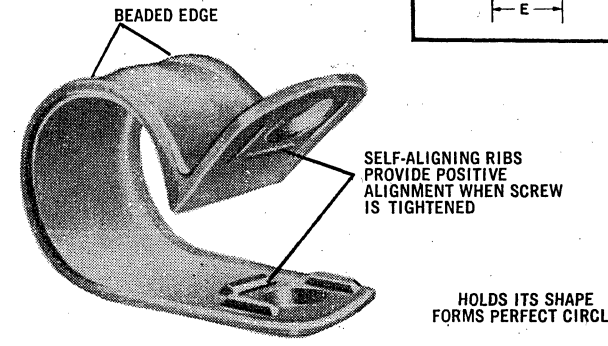


MOLDED NYLON "SELF-ALIGNING" CABLE CLAMPS

These clamps meet military specifications MIL-P-20693, NAS-1397, MIL-STD-242A and 242B. They have the same general characteristics as CCN Series.

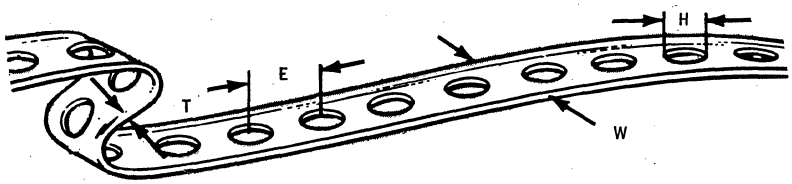
Part No.	D	D_1	E	Net Prices Pkg. of 100 or as shown	1000 to 4999 Per M	5000 or More Per M
CCS-63	5/16	.297	.448	4.13	34.80	27.70
CCS-64	3/8	.359	.479	2.19 (50)	36.90	29.40
CCS-65	1/2	.484	.542	2.40 (50)	40.35	32.15

Width 1/2″! Thickness .060



PERFORATED NYLON STRAPPING

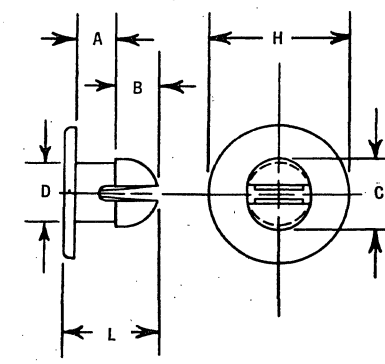
Part No.	W	T	H	E	Average Breaking Load in Pounds	Net Prices 25 ft. Roll	50 ft. Roll	Suggested Fastening and Mounting Methods
NS-932-25	9/32	.032	.096	3/16	23	$5.35		SB-4 Stud Button, #2 Machine Screw or 3/32″ Rivet
NS-932-50							$ 9.60	
NS-38-25	3/8	.040	.167	5/16	51	5.85		#8 Machine Screw or SB-5 Stud Button
NS-38-50							11.70	
NS-12-25	1/2	.060	.203	25/64	107	7.50		#10 Machine Screw or SB-6 Stud Button
NS-12-50							13.35	



STUD BUTTONS

Part No.	H	A	B	C	D	L	Net Prices 100-999 Per C	1 M—Over Per M
*SB-4	9/32	.093	.078	.105	.093	.206	$1.45	$11.50
†SB-5	11/32	.125	.137	.202	.165	.297	3.25	25.65
‡SB-6	15/32	.156	.153	.238	.200	.359	3.35	26.35

*SB-4 for use with Strapping NS-932 — 25 or 50
†SB-5 for use with Strapping NS-38 — 25 or 50
‡SB-6 for use with Strapping NS-12 — 25 or 50



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WRITE FOR QUOTATIONS ON LARGER QUANTITIES.

AMPROBE INSTRUMENT®

DIVISION OF SOSS MANUFACTURING COMPANY

ROTARY SCALE MODELS

G Case

Offer you these outstanding features. • Only the Ohms scale plus one voltage scale or current scale is visible at any one time, providing greater reading speed and accuracy; on models other than RS-3, RS-3A or RS-1000 only scale selected appears. • Magnified unbreakable window. • Pointer-lock "freezes" pointer at reading. • Accurate within ±3% full scale reading. • One hand operation.

MODEL	RANGES		PRICE
	VOLTS, AC	AMPS, AC	
RS-1	0-150/600	0-6/15/40/100	$44.85
RS-2	0-150/300	0-6/15/40/100	44.85
RS-3	0-150/300/600	0-6/15/40/100/300	58.50
RS-300	0-150/300/600	0-6/15/40/100/300	53.50
RS-1000	0-150/300/600	0-15/40/100/300/1000	77.50

A Case

RS-3 and RS-1000 OHMMETER RANGE: 25 Ohms Mid-Scale

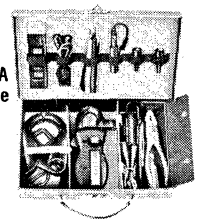
Price includes "G" carrying case (RS-1000 includes "E" Case) and Test Leads VL-11.

RS-1A	0-150/600	0-6/15/40/100	$49.85
RS-2A	0-150/300	0-6/15/40/100	49.85
RS-3A	0-150/300/600	0-6/15/40/100/300	63.50
RS-300A	0-150/300/600	0-6/15/40/100/300	58.50

RS-3A OHMMETER RANGE: 25 Ohms Mid-Scale

Price includes Extendo-Lead Pack VLK-311 and special "A" Case with space for Amprobe Energizer A-45L

AMPROBE® TEST-MASTER KITS



TM-43A U Case

Truly the sign of the professional, these good-looking rugged, sturdy cases contain all the equipment you need to do all your electrical testing jobs with precision and accuracy.

CONTAINS:	MODEL TM-33	MODEL TM-33A	MODEL TM-43	MODEL TM-43A	MODEL TM-60	MODEL TM-63	MODEL TM-53
RS-3	one	one	one	one	—	one	one
Extendo Leads	—	one	—	one	one	one	—
PSA-1	—	—	one	one	—	—	one
Energizer	one	one	one	one	one	one	one
Deca Tran	one	one	one	one	—	—	—
A Case	—	—	—	—	one	one	—
U Case	one	one	one	one	—	—	—
V Case	—	—	—	—	—	—	one
Price	$97.50	$98.50	$106.85	$107.85	$15.85	$69.85	$76.85

EXTENDO-LEADS

Ends awkward, 3 handed voltage readings. Eliminates need for someone or something to hold the instrument while test probes are applied to the circuit. VLK-311 for RS (except RS-1000) VLK-355 for Juniors. **$3.95**

PHASE SEQUENCE ADAPTOR

The Model PSA-1 Phase Sequence Adaptor is used to determine the phase sequence of polyphase circuits. When used in conjunction with any AMPROBE model it permits you to determine phase sequence of motors and other electrical equipment using three phase lines up to 550 volts. **Price** w/ case: **$12.85**

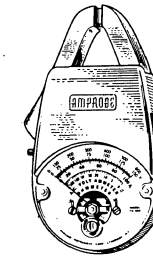
AMPROBE® DECA-TRAN, A50-1

Extends current range 10 times, up to 1200 Amps intermittent, 600 Amps continuous. **$30.50**

AMPROBE® ENERGIZER

The **Model A-45L ENERGIZER** permits current readings on permanently wired low-current electrical equipment by simplifying series connection. It increases the sensitivity of your ammeter 5x or 10x for more precise readings directly at outlets by "splitting" double conductor line cords while the appliance is connected to the line. Capacity 10 amps. **Price** w/weatherproof pouch: **$7.25**

AMPROBE® JUNIOR MODELS



Advanced, precision snap around testers that anyone can afford. These compact Juniors measure voltage, current and resistance (YO Models) instantly and accurately on easy to read scales. New "B" Case available for all Junior models. Holds Extendo-Leads VLK-355 and has space for Amprobe Energizer A-45L.

YO MODELS

1 current range, 2 voltage ranges, 25 Ohms Mid-Scale. **Price** w/test leads **$29.50**

MODEL	AMPS, AC	VOLTS, AC
YO "525"	0-25	0-150/600
YO "550"	0-50	0-150/600
YO "500"	0-100	0-150/600
YO "50"	0-50	0-125/250

Y MODELS

1 current range, 2 voltage ranges. **Price** w/test leads **$24.50**

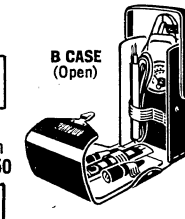
Y25	0-25	0-125/250
Y50	0-50	0-125/250
Y500	0-100	0-150/600
Y525	0-25	0-150/600
Y550	0-50	0-150/600

B CASE (Closed)

YT MODELS

2 current ranges, 2 voltage ranges. **Price** with test leads **$28.50**

YT1025	0-10/25	0-150/300
YT25100	0-25/100	0-150/300



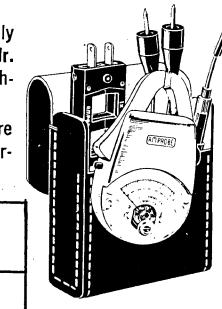
B CASE (Open)

YTB MODELS

Versatile YT Jr. and Extendo-Lead Pack VLK-355 in handy "B" case, with space for Energizer A-45L. **Price $34.50**

YTB1025	0-10/25	0-150/300
YTB25100	0-25/100	0-150/300

AMPROBE® JUNIOR TEST-MASTER KITS



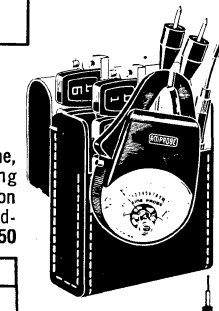
The AMPROBE Jr. Test-Master Kit consists of a specially designed case that contains one of the **YO AMPROBE Jr.** voltage testers, an **AMPROBE Energizer,** battery attachment and test leads.

The YO models are precision instruments that measure voltage, amperage and resistance, instantly and accurately on a calibrated scale. **Price: $39.85**

MODEL	3 AMMETER RANGES (full scale) BASIC INST.	2 VOLTAGE RANGES
TM-YO "525"	0-25	0-150/600
TM-YO "550"	0-50	0-150/600
TM-YO "500"	0-100	0-150/600
TM-YO "25"	0-25	0-125/250
TM-YO "50"	0-50	0-125/250
TM-YO "100"	0-100	0-125/250

OHMMETER RANGE: 25 Ohms Mid-Scale

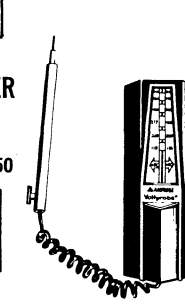
AMPROBE® JUNIOR LINE PROBE



Unique, versatile... traces up to 10 circuits at one time, measures voltage and current without interrupting service, checks for continuity. Furnished with 10 station markers, 2 station marker holders, voltage leads, grounding leads, fused battery attachment and case. **Price $41.50**

MODEL	VOLTS, AC	AMPS, AC
ALP50	0-125/250	0-50
ALP550	0-150/600	0-50

AMPROBE® VOLTPROBE® VOLTAGE TESTER



Visual readout by series of lit windows corresponding to each Voltage level; ends guesswork. Retractable coil and probe. Lightweight, fits in shirt pocket. **Price: $9.50**

Model VT-100 indicates nominal Voltage Levels
Voltage levels: 115-220-277-440-550 AC
115-220-400-600-750 DC

All prices slightly higher outside the U.S.

Net

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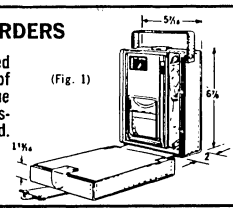
AMPROBE INSTRUMENT® SERVICE & INDUSTRIAL RECORDERS

DIVISION OF SOSS MANUFACTURING COMPANY

PORTABLE-CASED RECORDERS

Supplied with permanently attached motor line cord and one roll each of necessary strip charts. Meter line cord, extensions, adaptors, transducers, etc. supplied when indicated.

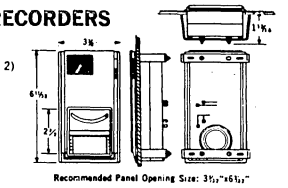
(Fig. 1)



FLUSH-MOUNTING RECORDERS

Supplied with one roll each of necessary strip charts and mounting hardware. Transducers, probes, etc. supplied when indicated. Motor leads not furnished.

(Fig. 2)



Recommended Panel Opening Size: 3⅞"x6⅛"

*Indicates the availability of this model in flush-mount version. Ranges and Specifications same as Portable cased models. See fig. 2 for configuration First prefix letter "L" of model number indicates Portable Cased. Prefix letter "F" indicates Flush-Mounting.

Model No.	Description	Range	Price
AC VOLTMETERS			
LAV2X*	Dual Range, Expanded Scale AC Voltmeter.	95-130 Volts AC 190-260 Volts AC	$103.85
LAV3X*	Three Range, Expanded Scale AC Voltmeter.	95-130 Volts AC 190-260 Volts AC 380-520 Volts AC	124.85
LAV4X*	Dual Range, Expanded Scale 220 volt, 50 cycles only	165-245 Volts AC 330-490 Volts AC	108.85
LAV8600*	Three Range, AC Voltmeter. 1380Ω/V	0-150/300/600 Volts AC	108.85
AC AMMETERS			
LAA81*	With A-70FL Transducer	0-10/50/250/500 Amps AC	114.85
LAA82*	With A-60FL Transducer	0-5/25/100/250 Amps AC	109.85
LAA1500*	With A-50FL Transducer	0-800/1500 Amps AC	138.85
LAA830*	For use with external current transformer 2VA (Not supplied).	0-5 Amps AC Scale: 0-150/300/600	107.85
LAA840*		0-5 Amps AC Scale: 0-200/400/800	107.85
LAA850*		0-5 Amps AC Scale: 0-100/250/500	107.85
AC VOLT/AMMETERS			
LAVA81*	With A-70FL Transducer	Volts: 95-130; 190-260 Amps: 0-10/50/250/500	158.85
LAVA82*	With A-60FL Transducer	Volts: 95-130; 190-260 Amps: 0-5/25/100/250	153.85
LAVA83*	With A-70FL Transducer	Volts: 95-130; 190-260; 380-520 Amps: 0-10/50/250/500	174.85
LAVA84*	With A-60FL Transducer	Volts: 95-130; 190-260; 380-520 Amps: 0-5/25/100/250	169.85
LAVA85*	With A-75FL Transducer 220 volt, 50 cycles only	Volts: 165-245/330-490 Amps: 0-10/50/250/500	159.85
LAVA86*	With A-65FL Transducer 220 volt, 50 cycles only	Volts: 165-245/330-490 Amps: 0-5/25/100/250	154.85
TEMPERATURE RECORDERS			
LT8100*	Dual Range with FL-RBT-1 Probe	−50° to +100°F +50° to +250°F	113.85
LT8101*	Dual Range with FL-RBT-1 Probe	−45 to + 40°C +10 to +120°C	113.85
LT8650	Incremental Recorder	50°F Span Probes Not Included	143.85
RBT-5	Probe for LT8650	−50° to 0°F	20.50
RBT-6	Probe for LT8650	0° to +50°F	20.50
RBT-7	Probe for LT8650	+50° to +100°F	20.50
RBT-8	Probe for LT8650	+100° to +150°F	20.50
RBT-9	Probe for LT8650	+150° to +200°F	20.50
RBT-10	Probe for LT8650	+200° to +250°F	20.50

Model No.	Description	Range	Price
DC MICROAMMETERS			
LDC850*	(Tautband Movement). Resistance: 900Ω	0-50ua DC	$101.85
LDC8100*	DC Microammeter. Resistance: 2750Ω	0-100ua DC	95.85
LDC8500*	DC Microammeter. Resistance: 103Ω	0-500ua DC	89.85
DC MILLIAMMETERS			
LDB81*	Resistance: 30Ω	0-1 ma DC	89.85
DC AMMETERS For use with 50 mv shunts. Furnished with calibrated (0.065Ω) five foot leads.			
LDM830*	DC Millivoltmeter. Resistance: 940Ω	0-50 mv DC Scale 0-30 Amps DC	95.85
LDM840*		0-50 mv DC Scale: 0-40 Amps DC	95.85
LDM850*		0-50 mv DC Scale: 0-50 Amps DC	95.85
PYROMETERS Not supplied with Thermocouples.			
LP8400*	Three Range Pyrometer. (External Resistance: 3.50Ω) Uses Iron-Constantan Type J Thermocouples.	0° to 400°F 0° to 800°F 0° to 1200°F	149.85
LP81001	(External Resistance; Adjustable up to 25 Ohms approx.) Uses Iron-Constantan Type J Thermocouples.	0° to 1000°F 0° to 530°C	149.85
LP82001	(External Resistance: Adjustable up to 40 Ohms approx.) Uses Chromel Alumel Type K Thermocouples.	0° to 2000°F 0° to 1080°C	149.85
"SELECTRO-PRINT" RECORDERS Designed to print only on a signal from an external source.			
These Recorders are available in most of the above flush-mounting models. Write factory for details on prices and specifications.			
EVENTS RECORDERS Designed to monitor and document from one to 10 separate operations.			
LEV10*	Events Recorder, 10 channel operation.		120.85
LDL10	DIRECT-O-LOG® Recorder. Features 10 self-clearing channel selector buttons with lights.		178.85
DC VOLTMETERS			
LDV8600*	Three Range DC Voltmeter 0-150/300/600 Volts DC 20,000Ω/v		108.85

AMPROBE® RECORDER STRIP CHARTS

Individually packaged 30' chart rolls packed six (6) to a box. Sold in multiples of six (6) only. Price $1.80 per roll except where indicated *$1.50.

Type	Cat. No.	Description	For Use with Model No.
Voltage	835X3A*	Marked: 95-130/190-260/380-520 Volts AC	LAV2X, FAV2X, LAV3X, FAV3X, LAVA81, FAVA81, FAVA82, LAVA82, FAVA83, LAVA83, FAVA84, LAVA84
	830AV600*	Marked: 0-150/300/600 Volts AC	LAV8600, FAV8600
	840X2	Marked: 165-245/330-490 Volts AC	LAV4X, FAV4X, LAVA85, FAVA85, LAVA86, FAVA86
Current	850A*	Marked: 0-5/25/100/250 Amps AC	LAA81, FAA81, LAA82, FAA82, LAVA81, FAVA81, FAVA82, LAVA82, LAVA83, FAVA83, LAVA84, FAVA84, LAVA85, FAVA85, LAVA86, FAVA86
	800AA*	0-800 Amps AC	LAA1500, FAA1500
	1500AA*	0-1500 Amps AC	LAA1500, FAA1500
	830AA	30 Division for AC Amperes. Marked: 0-150/300/600/1200	LAA830, FAA830
	840AA	40 Division for AC Amperes. Marked: 0-200/400/800	LAA840, FAA840
	850AA	50 Division for AC Amperes. Marked: 0-100/250/500	LAA850, FAA850
DC Variable	850D	50 Division for DC variables, (Millivolts, Milliamperes, Microamps), Marked: 0-1/5/25; 25-0-25	LDM850, FDM850, LDC850, FDC850, LDC8100, FDC8100, LDC8500, FDC8500, LDB81, FDB81

Type	Cat. No.	Description	For Use with Model No.
DC Variable	840D	40 Division for DC variables. (Millivolts, Milliamperes, Microamps). Marked: 0-20/40/80; 20-0-20	LDM840, FDM840
	830D	30 Division for DC variables. (Millivolts, Milliamperes, Microamps). Marked: 0-15/30/60; 15-0-15	LDM830, FDM830 LDV8600, FDV8600
Pyrometer	840F	Marked: 0°F to 400°F; 0°F to 800°F; 0°F to 1200°F	LP8400, FP8400
	850P1&2	Marked: 0°F to 1000°F 0°F to 2000°F	LP81000, FP81000, LP82000, FP82000 LP81001, FP81001 LP82001, FP82001
	856C1	Marked: 0 to 530°C	LP81000, FP81000 LP81001, FP81001
	857C2	Marked: 0 to 1080°C	LP82000, FP82000 LP82001, FP82001
Temperature	823T1*	Marked: −50°F to +100°F	LT8100, FT8100
	833T2*	Marked: +50°F to +250°F	LT8100, FT8100
	828T3	Marked: −45 to + 40°C	LT8101, FT8101
	822T4	Marked: +10 to +120°C	LT8101, FT8101
	850T6*	Marked: −50° to 0°F 0° to +50°F +50° to +100°F +100° to +150°F +150° to +200°F +200° to +250°F	LT8650
Events	EV10	Marked from 0 to 10	LEV10, FEV10, LDL10

SPECIFICATIONS

Strip Chart Size: 2½" wide x 30' long.

Standard Chart Speeds: 1 inch or 12 inches per hour. (Other speeds available.) Unless otherwise specified 12 inches per hour chart speed will be shipped.

Impression Rate: Once every 5 seconds at 12 inches per hour. Once every 1 minute at 1 inch per hour.

Power Requirements: 115v AC, 60 cycles, 2.5 Watts. (Unless otherwise specified.)

Accuracy:
DC Microammeter, Milliammeter and Millivoltmeter: ±2% FS.
AC ⊙ and DC Voltmeters: ± 3% on other than expanded scales.
AC Ammeters: All models EXCEPT LAA/FAA-1500: ±3% on current recorders using transducer furnished,⊙ ±5% if using transducer other than furnished.⊙
LAA/FAA-1500: ±4% using transducer furnished which has the same serial number as the recorder.⊙
Other transducers cannot be used.

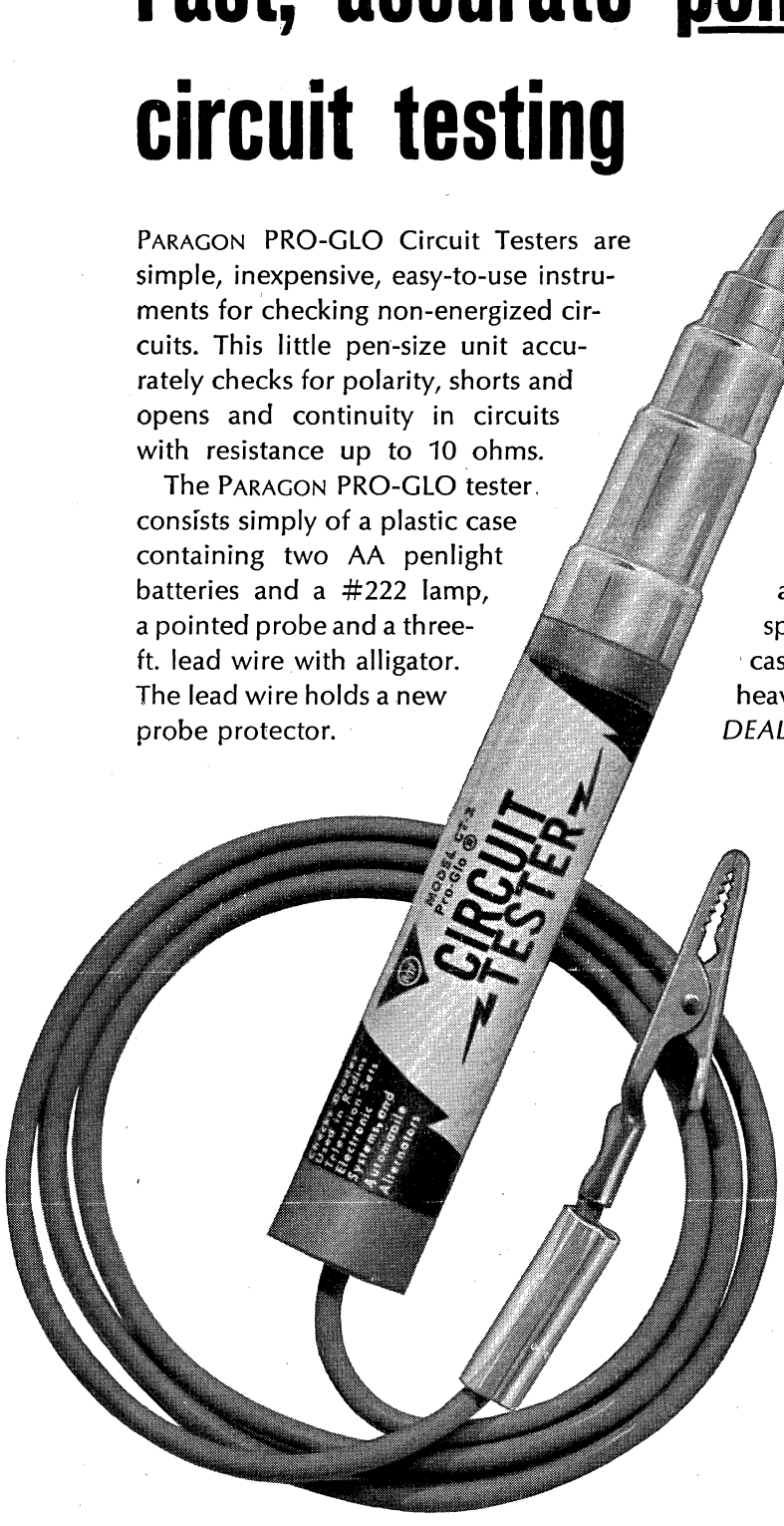
Expanded Range AC Voltmeters: ±1.25% FC⊙.
AC Voltmeters: ±3% FS⊙
Pyrometers: ± FS.
Model LT8100:
−50 to + 20°F: ± °F.
+20 to +100°F: ±3°F.
+50 to +250°F: ±5°F.
Model LT8650: ±1.5°F

Model LT8101:
−45 To — 10°C: ± 2°C
−10 To + 40°C: ±1.5°C
+10 To +120°C: ±2.5°C
⊙ On sinusoidal wave form

Fast, accurate point to point circuit testing

PARAGON PRO-GLO Circuit Testers are simple, inexpensive, easy-to-use instruments for checking non-energized circuits. This little pen-size unit accurately checks for polarity, shorts and opens and continuity in circuits with resistance up to 10 ohms.

The PARAGON PRO-GLO tester consists simply of a plastic case containing two AA penlight batteries and a #222 lamp, a pointed probe and a three-ft. lead wire with alligator. The lead wire holds a new probe protector.

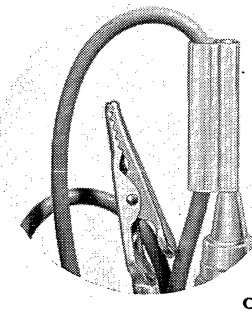


Servicemen and home repairmen appreciate the ease of use of this simple tester. Signal light at point of contact eliminates necessity for shifting eyes to read meter. Speed and accuracy of testing is increased. Low cost of device makes it practical for mass distribution in large service centers. Long operating life is assured — probe and battery contact spring are tin-plated beryllium copper, case is high-impact plastic and wire is heavy-duty, flexible test lead.

DEALER NET PRICE $1.33

- FOR SERVICE SHOPS
- HOME TESTING
- GARAGES
- HOBBYISTS
- FARM USES

Probe-Protector Included



New! Vinyl extrusion Probe - Protector glides easily on the cord—can't be mislaid. Slips over Probe when circuit tester is not being used. This prevents accidental contact with metal that could create a circuit thus minimizing unnecessary battery burn-out.

AMF
PARAGON

Net
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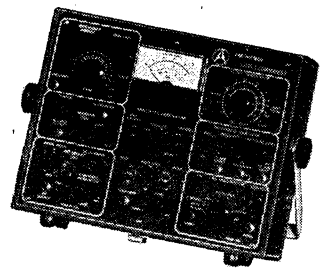
TEST INSTRUMENTS
SOLID-STATE THROUGHOUT

AMPHENOL™

Amphenol Stereo Commander — Model 880

• Seven instruments in one provide a complete FM and multiplexing testing lab.

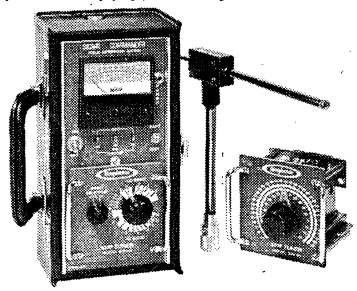
1. **audio generator** supplying sine or square wave signals.
2. **multiplex generator** controlling all necessary receiver alignment signals.
3. **RF/sweep oscillator** doubling as an FM source or 60 Hz sweep generator
4. **oscillator** generating a crystal-controlled 10.7 MHz signal.
5. **intermodulation distortion analyzer** measuring distortion to 100%.
6. **impedance bridge** measuring resistive unknowns from 1 ohm to 20,000 ohms.
7. **high impedance AC voltmeter** with a sensitivity of 100 millivolts full scale.



• Portable, solid state unit easy to use in the home or service shop.
• Compact in size: 11½" wide, 9¾" high, 6" deep.
• Composite output of 5v peak-peak stereo with 35 db channel separation up to 10 KHz.
• Model 880 Stereo Commander suggested list price **$329.95.**

Amphenol Signal Commander — Model 840

• **Solid-state field strength meter** offers broadcast quality at service equipment cost.
• Lab-type performance features classical measurements in microvolts per meter and microvolts across 300 or 75 ohm lines.
• Direct, accurate readings to 100,000 microvolts.
• Plug-in adapters for TV, FM, CB, UHF and other bands.
• Amplified audio output provides audible signal for positive check.
• Regulated penlight cell power supply, battery test switch.
• **Compact and lightweight:** 9⅓"x5"x4¾", 3½ lbs in leatherette case.

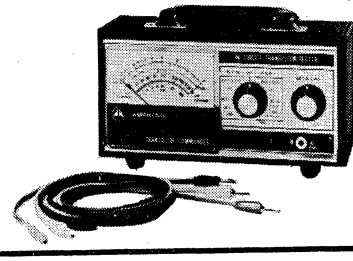


• Suggested list prices: Model 840 without modules **$149.95;** Model 840-13, VHF and FM frequency range **$69.95;** Model 840-43, UHF **$54.95;** Model 840-300, Balun for 300 ohm line **$8.95;** Model 840-1000 Dipole Antenna **$12.95.**

Amphenol Transistor Commander — Model 830

• **Transistor analyzer** with easy-to-read GOOD/BAD meter scale eliminates manual reference time.
• Compact instrument checks transistor conditions:

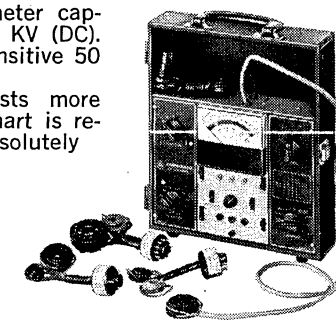
1. high and low power NPN and PNP power transistors for in-circuit dc beta characteristics.
2. high and low power NPN and PNP transistors out-of-circuit for dc beta, ICBO and ICEO leakage.
3. diodes and rectifiers for in-circuit open conditions, shorts and ability to rectify.
4. diodes out-of-circuit for forward and reverse currents.



• Unit combines semiconductor checks with the ability to measure supply voltages to 100 vdc.
• Compact in size: 9¼" wide, 5¾" high, 6⅜" deep.
• Model 830 Transistor suggested list price **$79.95** net.

Amphenol CRT Commander — Model 857

Solid-state unit tests and rejuvenates tubes — both black and white or color — with total efficiency.
• Tests every significant performance characteristic and is the first instrument to measure high voltage leakage internally.
• Equipped with a voltmeter capable of measuring to 50 KV (DC).
• Reads gas direct on sensitive 50 μ/amp meter.
• Picture tube chart lists more than 1,000 tubes. The chart is revised twice annually — absolutely free of charge.



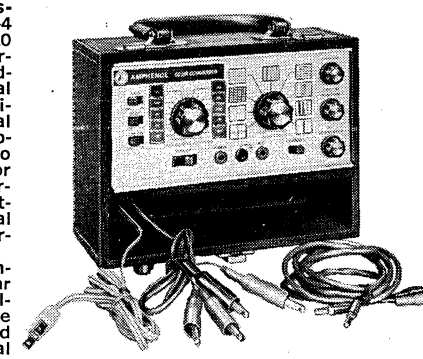
Model 857 CRT Commander suggested list price **$99.95** net.

Optional Accessory:
Model 857-9 High Voltage probe (50 KV) **$12.95** complete.

Amphenol Color Commander — Model 865

• The most complete color bar generator available provides for widest range of crystal control patterns.

1. **exclusive single-bar color pattern** is adjustable to any present or future demodulator phase angle.
2. **exclusive three-bar pattern** eliminates all but the three bars used for color demodulator alignment.
3. **single dot pattern** can be moved vertically or horizontally to the exact center of the picture tube for the most accurate possible alignment of static convergence.
4. **movable single-cross pattern** for constant reference during purity adjustments, and center vertical and horizontal dynamic convergence procedures.
5. **calibrated cross-hatch pattern.** 3-4 Aspect Ratio: 20 vertical and 15 horizontal lines. Adjustment for equal brightness of horizontal and vertical lines assures proper position of video carrier for color alignment. Also permits proper adjustment of vertical height and linearity.
6. **other patterns** included are: ten-bar gated rainbow, multiple dot, multiple vertical bar, and multiple horizontal bar.

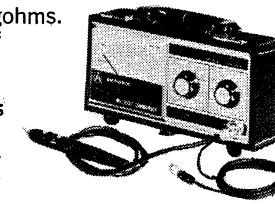


• **Two Pre-Set Channels.** • **All solid state construction on laminated glass-epoxy circuit-boards.** • **Built-in gun killers, with lead piercing clips.** • **Convenient and generous storage space for leads and tools.** • **Automatic shut-off.** • **Portable. Professional luggage-type case is 8⅜" W. x 7⅝" H. x 5½" D.** • **Weight: 4¼ lbs.**

Model 865 Color Commander suggsted list price **$189.95** net.

Amphenol Millivolt Commander — Model 870

• **Solid-state** unit features low ranges for servicing transistorized equipment.
• High sensitivity presents direct and accurate readings from: 1/10 to 1000 volts DC, full scale in 9 overlapping ranges, ±2% 1/100 to 300 volts RMS AC, full scale in 10 overlapping ranges, ±3% −40 to +50 db in 10 steps of 10 db each.
• Resistance from 10 ohm center scale to 10 megohm center scale within ±3 degrees of arc.
• Input impedance of 10.6 megohms.
• Battery life in excess of 1000 hours, continuous drain.
• **Compact and lightweight:** 9¼" x 5¾" x 6⅜", 5 pounds with batteries.



• Model 870 Millivolt Commander suggested list price **$99.95** net.

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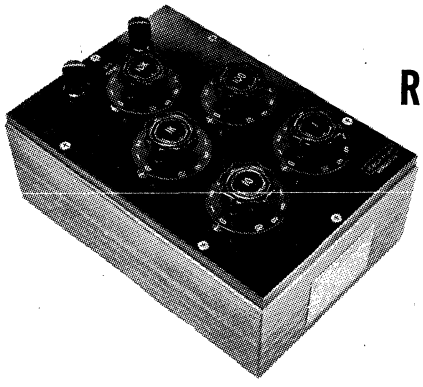
TEST AND



RESISTANCE DECADES Model DR Series

High Precision and Stability — Low Zero Resistance — Long Life Switches

DR units provide convenient selection of precise resistance values. Typical applications are found in the areas of circuit design in simulation of various factors and as standard in bridge-type measurements.

Standard units are available with 3, 5, or 7-dials. Each decade inserts a precise ohmic resistance in series with the terminals. The basic ohmic value of any decade may be multiplied by factors of 0, 1, 2, 3, thru 10 by setting its dial at the appropriate step. Switches are 12 position, 360-degree type. Actual resistance is the sum of zero-resistance and indicated resistance. Model DR units provide zero-resistance of less than 0.003 ohm per decade.

Model No.	Maximum Resistance	Decade Steps	Accuracy	Overall Dimensions	Weight Lbs. Net	Weight Lbs. Ship	Price
DR-4D	1,110	10 x (1+10+100)	±0.25 & ±0.1%	8 x 5½ x 4½	4	6	$ 78.00
DR-50D	11,111	10 x (0.1+1+10+100+1K)	±0.25 & ±0.01%	9 x 6 x 4½	5	7	100.00
DR-51D	111,110	10 x (1+10+100+1K+10K)	±0.25 & ±0.1%	9 x 6 x 4½	5	7	105.00
DR-52D	1,111,100	10 x (10+100+1K+10K+100K)	±0.1%	9 x 6 x 4½	5	7	115.00
DR-70D	1,111,111	10 x 0.1+1+10+100+1K+10K+100K)	±0.25 & ±0.1%	17¼ x 5 x 4½	6	8	165.50
DR-71D	11,111,110	10 x (1+10+100+1K+10K+100K+1M)	±0.25 & ±0.1%	17¼ x 5 x 4½	6	8	215.25

WHEATSTONE BRIDGES Model RN

Universally used for the measurement of all types of resistance devices and circuits where high accuracy is required. Models available for performing Murray-Varley Loop tests. Decade accuracy essentially ±0.1%, ratios are ±0.05%. May also be used as a 4-dial precision decade resistance.

Model	Total Resistance of Decade	Ratio Dial Settings	Circuits	Dimensions	Price
RN-1	9 x (1+10+100 +1000)	.001, .01, .1, 1, 10, 100, 1000	—	9"8"x6½"	$195.00
RN-2	9 x (1+10+100 +1000)	.001, .01, .1, 1, 10, 100, 1000, M10, M100, M1000	Murray & Varley	9"8"x6½"	210.00
RN-3	10 x (1+10+100) +9(1000)	1/1000, 1/100, 1/10, 1/9, 1/4, 1/1, 10/1, 100/1, 1000/1, M10, M100, M1000	Murray & Varley	9½"x8"x6½"	250.00

Model L MEGOHMMETERS

Type L. Megohmmeters are used for both laboratory and high speed production testing of motor and transformer winding insulation, cable insulation, high value resistors, capacitor insulation, and for the measurement of surface and volume leakage of insulating materials. These instruments meet the requirements for testing insulation resistance in accordance with ASTM D-257, and Federal Specification LP-406B, Method 4041.

Model	Test Voltage	Resistance Range Low	Resistance Range High	Power Consumption	Weight Lbs. Net	Weight Lbs. Ship	Size	Price
L-4B	200 or 500 fixed	1 meg. 2.5 meg.	100,000 meg. 250,000 meg.	50 watts	14	17	15"x8"10"	$225.00
L-6C	100 to 600*	1 meg.	100,000 meg.	80 watts	15	18	15"x8"x10"	325.00
L-7	100 to 600*	1 meg.	5 x 10^{13} ohms	75 watts	20	24	8"x10½"x11½"	400.00
L-8	10 to 1000**	10^5 ohms	10^{16} ohms	35 watts	18	22	7½"x11"x13"	480.00

* Continuously variable, built-in voltmeter for accurate setting.

** Continuously variable, selectable by switch.

Net

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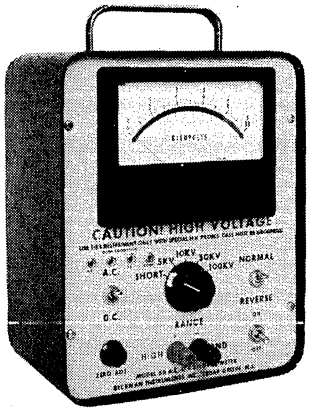
MEASURING INSTRUMENTS



KILOVOTMETER
Measures 100,000 volts AC or DC

Large rugged 6 inch precision mirror scale meter, ideal for use in lab or field testing. Completely transistorized with stabilized anti-drift circuitry resulting in sensitivity in the order of a few micro-amperes. Battery operated unit using long life, self-contained mercury batteries. Panel mounted trimmers provide for recalibration when required. Uses fast spike bypass circuitry and a novel automatic voltage coefficient compensator for the multipliers. Special high voltage probes supplied with instrument. The low voltage probe is used on the 5 and 10 KV range, with the larger high voltage probe used in the higher ranges. The accuracy of the basic instrument is ±1% of full scale on DC, ±2% of full scale on 60 Hz. The probe accuracy is ±2% on the 5 and 10 KV range and ±4% on the 50 and 100 KV range.

RANGES: 0 to 5,000/10,000/50,000/100,000 volts DC or 60 Hz AC. The Model 50-AC/DC kilovoltmeter is supplied complete with high and low voltage probes. Two Mallory TR-135R mercury cells are also supplied as the power source.

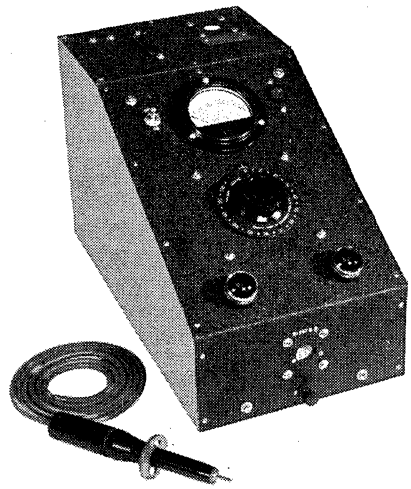
PRICE $400.00 complete, including probes and batteries.

INSULATION TEST SETS
AC or DC up to 40 kV

Used in testing insulation where both applied voltage and leakage currents may be read simultaneously. Test sets provide voltage outputs of AC only, DC only, or a combination of AC/DC. Metering accuracy is ±3%. Automatic current limiter action prevents damage to instrument or sample. The sets are designed for portability and are recommended for bench or field measurements.

Model	Voltage	Output	Current Meter	Price
3000-AC	0 to 3kV	AC	10 ma	**$170.00**
3000-AC/DC	0 to 3kV	AC/DC	10 ma	**250.00**
1000-AC	0 to 10kV	AC	10 ma	**250.00**
1000-AC/DC	0 to 10kV	AC/DC	10 ma	**375.00**
2500-DC	0 to 25kV	DC	100 ma	**420.00**
4000-DC	0 to 40kV	DC	50 ma	**600.00**

Model P-2A VOLTAGE BREAKDOWN TESTER

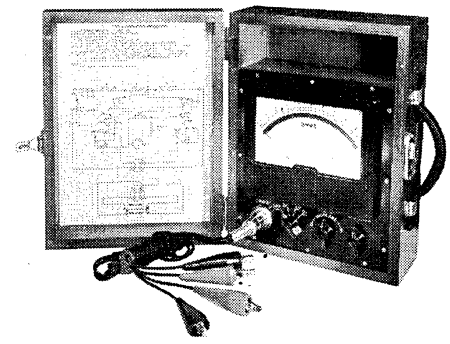


The Model P-2A Voltage Breakdown Tester is designed for safe, accurate and fast testing of materials, components and circuits both in the laboratory and on the production line. The unit has a self-contained metered high-voltage power supply with safety features including interlock switches and pilot warning lights. Load current is limited to values shown in table below. Output voltage is continuously variable over ranges listed.

VOLTAGE RANGE*			CURRENT RANGE		
Model	AC volts RMS	DC volts	AC	DC	Price
P2A	0-3000	0-4000	7 ma (max.)	5 ma (max.)	**$285.00**

*Metering accuracy ±5% full scale.

Model LRO-1 LOW RESISTANCE OHMMETER



The Model LRO-1 Low Resistance Ohmmeter is useful for the measurement of resistance of sensitive relay contacts, fuses, bus-bars and connections, rail joints, pipe or conduit, switch contacts, transformer windings, motor windings, bonding, grounding and similar applications. The current through the unknown resistance never exceeds 110 ma.

PRICE $168.00

FEATURES: Extreme accuracy for the most critical measurements • Entirely self-contained, including 1½ volt flashlight battery • Ranges: .1 ohm, 1 ohm and 10 ohms • 100 meter scale divisions • Accuracy of plus/minus 1½% on LRO-1 based on full scale values. • Full Scale Readings • Maximum current through piece under test = 0.11 amp.

Other electrical test equipment manufactured by Beckman Instruments, Inc., Cedar Grove Operations can be found in current editions of the MASTER. For complete technical details and specifications on test equipment listed here and others request a copy of Catalog RM-68.

Beckman INSTRUMENTS, INC.
CEDAR GROVE OPERATIONS

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PRICES

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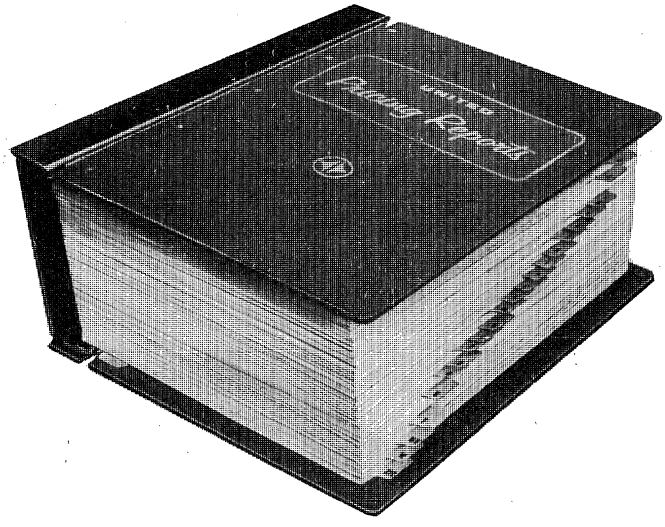

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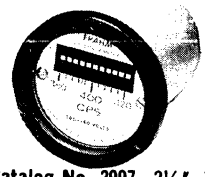
DELIVERY

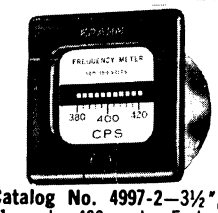
Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

BIDDLE INSTRUMENTS for FRAHM RESONANT REED FREQUENCY METERS

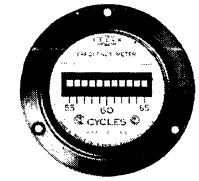
NEW . . . 1½", 5, 7, or 9 reeds, 50, 60 and 400 cycle Frahm Miniature Frequency Meter with metal case, hermetically sealed.



Catalog No. 2997—2½", 11 reeds, 400 cycle Frahm Miniature Frequency Meter with metal case.



Catalog No. 4997-2—3½", 11 reeds, 400 cycle, Frahm Frequency Meter with square plastic case.



Catalog No. 4967—3½", 11 reeds, 60 cycle, Frahm Frequency Meter with plastic case.

3½" meters available in round plastic, or metal (sealed or unsealed), or round plastic with square bezel. Portable instruments available in all ranges shown with 3½" cases.

15 to 1500 cps (Special up to 1700 cps) 2 to 63 reeds.
Molded Plastic or Metal Cases. Sealed if Required.
1½" to 8½" • Panel Mounting or Portable.

The first resonant reed instrument in the U.S.A. was introduced 50 years ago by James G. Biddle Co. We have maintained this leadership ever since, to place at your service the greatest knowledge of materials, processes, and controls—the finest facilities to produce quality instruments for unfailing accuracy and long life.

Basic specifications are shown in the table at right.

Specially designed instruments will be made to your requirements.

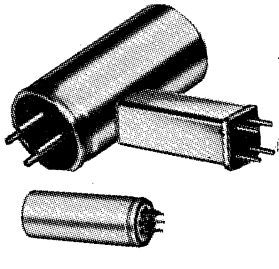
Write or phone if you have applications which require special modifications of range, methods of actuating, scale graduations or other design characteristics.

For standard specs and prices ask your distributor for BULLETIN 32 REM

Cat. Number	Range Cycles	Number of Reeds	Interval Between Reeds Cycles	Type of Case	Sealed	Accuracy %	Net Price
2864	58-62	9	0.5	1½" metal	Yes	0.3	$28.00
2896	380-420	9	5.0	1½" metal	Yes	0.3	28.00
2955	45-55	11	1.0	2½" metal	Yes	0.3	40.00
2956	47.5-52.5	11	0.5	" "	Yes	0.3	40.00
2966	57.5-62.5	11	0.5	" "	Yes	0.3	40.00
2967	55-65	11	1.0	" "	Yes	0.3	40.00
2997	380-420	11	4.0	" "	Yes	0.3	44.00
4850	49-51	21	0.1	3½" metal	Yes	0.1	130.00
4860	59-61	21	0.1	" "	Yes	0.1	130.00
4861	58-62	21	0.2	" "	Yes	0.1	130.00
4890	390-410	21	1.0	" "	Yes	0.1	130.00
4956	47.5-52.5	11	0.5	3½" plastic	No	0.3	31.00
4957	48.0-52	11	0.4	" "	No	0.3	31.00
4959	48.0-52.0	10	1.0	" "	No	0.3	29.00
	58.0-62.0		1.0	" "			
4964	58.0-62.0	9	0.5	" "	No	0.3	28.00
4965	56.0-64.0	9	1.0	" "	No	0.3	28.00
4966a	58.0-62.0	11	0.4	" "	No	0.3	31.00
4966	57.5-62.5	11	0.5	" "	No	0.3	31.00
4967	55.0-65.0	11	1.0	" "	No	0.3	31.00
4996	375-425	11	5	" "	No	0.3	38.00
4997	380-420	11	4	" "	No	0.3	38.00

Voltages 100 to 150 v — D.C. resistance 100 ohms per volt. Instruments meet MIL Specifications. Cases meet ASA standard diameter dimensions.

BIDDLE INSTRUMENTS FREQUENCY SENSITIVE for RELAYS and OSCILLATORS

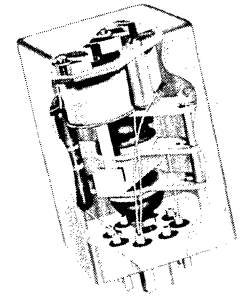


Ask your distributor for BULLETIN 33 REM

Resonant Reed Relays . . .

simplify and improve the transmission of information over a single communication circuit of any type. For example, in the range 200-500 cps, up to 16 channels can be operated with no interference between channels. Reed relays can be supplied with any nominal frequency between 200 and 1100 cps. Your inquiries are invited on special requirements.

Relay Type	Input Impedance Range	Frequency Range	Typical Input Millivolt-Amperes
RR1	1 to 10,000 ohms depending on selection of coil and frequency	67 to 640 cps	Varies over wide range depending on selection of coil and frequency
RR10	12.5 ohms d-c	300-1100 cps	Price on Request



Ask your distributor for BULLETIN 34 REM

Resonant Reed Oscillator Controls Electro-Mechanical Band Pass Filters

Maintain the output frequency of electric oscillator circuits within close limits. Made with any one nominal control frequency between 20 and 2400 cps—constant within ± 0.15% of the nominal control frequency.

New Transistorized Oscillators and Band Pass Filters

615

JAMES G. BIDDLE CO.

Electrical Testing and Speed Measuring Instruments

Tracks 'em Down Dead or Alive

ONLY THE VERSATILE DESCO* Circuitracer*

GIVES YOU A 3-IN-1 ELECTRICAL TEST LABORATORY

LIST PRICE
$5.95 Model CT1-1 Weighs only 2½ ozs.

Satisfaction Unconditionally Guaranteed

DON'T SEND A MAN TO DO A BOY'S JOB!

Are the technicians in your laboratories and shops using expensive meters and instruments for sample continuity and voltage checks? Speed up production through the use of the tool specifically designed for this application. A meter should be used only when the value of voltage, resistance or current must be known. Under any other conditions a Circuitracer will provide the required information faster and easier than expensive, bulky meters.

CIRCUIT TESTING WITH A CIRCUITRACER IS FASTER because the signal light is in the tip at the point of contact. This makes it possible to determine the existence of a circuit or voltage without removing the eyes from the test point to read a meter.

SAVE METER REPAIR MONEY BY USING DESCO CIRCUITRACERS. An overvoltage across a meter usually results in extensive damage which takes the meter out of service until repaired or replaced. The worst that can happen to your Circuitracer is a burned out lamp that can be replaced by the operator in less than a minute. Total cost, ten or fifteen cents for the lamp!

*T.M. Reg.

The CIRCUITRACER is the only electrical tester (other than expensive meters) that can test dead circuits, low voltage live circuits AND high voltage live circuits. It is made of the finest materials available and is designed for long life.

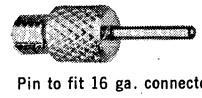
ORDER DESCO CIRCUITRACER MODEL CT2-2 FOR USE WITH THESE FITTINGS

WS-12
Socket to fit 12 ga. connector pin

WS-16
Socket to fit 16 ga. connector pin

WS-20
Socket to fit 20 ga. connector pin

WP-12
Pin to fit 12 ga. connector socket



WP-16
Pin to fit 16 ga. connector socket

WP-20
Pin to fit 20 ga. connector socket

DESCO TEST PROBE ADAPTERS

INSURE CONNECTOR RELIABILITY

Manual probing of harness connectors while circuit testing can damage connectors and impair reliability. Desco Test Probe Adapters were developed to provide a test fitting identical to the pins and sockets in the connectors being tested. They make the same electrical and mechanical contact as the mating connector, and insure against scratching, bending and warping.

The adapters are made in three sizes to fit connectors using #12, #16 and #20 wire gauges. The sockets are gold plated copper with a brass sheath which retains a beryllium copper spring. The pins are stainless steel to insure long life. All are made to rigid MIL-SPECS. The adapters will fit Desco Jumper Wires and the Desco Circuitracer* Tester interchangeably.

Several aircraft and missile manufacturers specify Desco Test Probe Adapters for most manual test connections. (names on request)

DESCO MFG. CO.

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New from DESCO...

THE ULTRA LOW CURRENT DESCO* Trantracer*

A SAFE, FAST, INEXPENSIVE "GO"—"NO GO" TESTER OF ULTRA LOW CURRENT SENSITIVE CIRCUITS:

MICRO WATT CIRCUITS • INTEGRATED CIRCUIT ASSEMBLIES •
SEMICONDUCTOR CIRCUITS • MAGNETIC CORE ASSEMBLIES

Test Sensitive Circuits Safely!

Foolproof - No Switches or Controls!

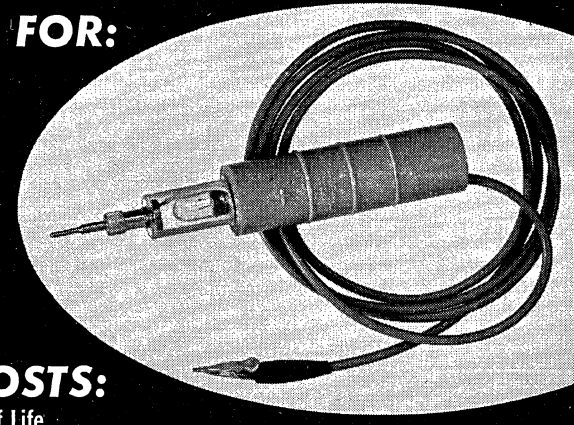
*T.M. Reg.

SATISFACTION UNCONDITIONALLY GUARANTEED

The Trantracer* checks continuity by sending less than 50 micro amperes (typically 20-40 micro amperes) through the circuits to prevent damage to solid state junctions and micro watt sensitive elements. Continuity is established as Go-No Go through circuit resistances of up to 400,000 ohms. Typically, the lamp brightness remains constant through test circuits from zero up to 100,000 ohms. The lamp dims at higher test circuit resistances, and is still giving bright indications at about 400,000 ohms circuit resistance. Maximum voltage applied to very high resistance circuits is 2 volts, low resistance circuits normally see millivolts and micro amperes.

INEXPENSIVE BASIC TOOL FOR:

Bench Testers
Production Line Assemblers
Inspectors
Technicians



FOOLPROOF AND SAFE:

No Switches or Controls
Less than 50 micro amps thru Shorts
Max. of 2 volts across Opens

MINIMUM OWNERSHIP COSTS:

Flashlight Pen Cells last approximately as long as Shelf Life
Standard Long Life Indicator Lamp
Infinite Life Solid State Circuit

DESCO MFG. CO.

EMICO

PRECISION-PLUS

PRECISION

the Recognized Leader . . .

ELECTRO-MECHANICAL INSTRUMENT CO., INC.

PRICE LIST

PRICES—Prices listed are net and include all hardware and individual boxing. Resistance approximate. If important request factory engineering confirmation.

DC AMMETERS

Range	MODEL NF-2C Approximate Resist. Ohms	Catalog Number	Dealers' Net Price	MODEL RF-2C Catalog Number	Dealers' Net Price	MODEL RF-2¼C Catalog Number	Dealers' Net Price	MODEL 13 Approximate Resist. Ohms	Catalog Number	Dealers' Net Price
0-1	.15	2101	$2.15	2201	$2.25	2301	$2.60			
0-3	.032	2101-A	2.15	2201-A	2.25	2301-A	2.60			
0-5	.016	2102	2.15	2202	2.25	2302	2.60			
0-10	.00115	2103	2.15	2203	2.25	2303	2.60	.0025	2403	$2.60
0-15	.00115	2103-A	2.15	2203-A	2.25	2303-A	2.60	.0025	2403-A	2.60
0-20	.00115	2104	2.15	2204	2.25	2304	2.60			
0-25	.00115	2104-A	2.15	2204-A	2.25	2304-A	2.60			
0-30	.00115	2105	2.15	2205	2.25	2305	2.60	.0006	2405	2.60
0-60	.000116	2106-A	2.85	2206-A	2.95	2306-A	3.30			
1-0-1	.08	2109	2.15	2209	2.25	2309	2.60			
3-0-3	.00115	2110	2.15	2210	2.25	2310	2.60			
6-0-6	.00115	2111	2.15	2211	2.25	2311	2.60			
10-0-10	.00115	2112	2.15	2212	2.25	2312	2.60			
15-0-15	.00115	2113	2.15	2213	2.25	2313	2.60			
20-0-20	.00115	2114	2.15	2214	2.25	2314	2.60	.0006	2414	2.60
30-0-30	.00115	2115	2.15	2215	2.25	2315	2.60	.0006	2415	2.60
75-0-75	.000116	2116-A	3.25	2216-A	3.35	2316-A	3.75			

DC MILLIAMMETERS

0-1	850	2120	$3.70	2220	$3.80	2320	$4.05	950	2420	$4.05
0-3	425	2121	2.90	2221	3.00	2321	3.25			
0-5	925	2125	2.65	2225	2.75	2325	3.00	130	2425	3.00
0-5	1300									
0-10	300	2126	2.50	2226	2.60	2326	2.85	75	2426	2.85
0-10	350									
0-20	95	2127	2.15	2227	2.25	2327	2.60	23	2427	2.60
0-20	105									
0-25	65	2127-A	2.15	2227-A	2.25	2327-A	2.60			
0-30	37	2128	2.15	2228	2.25	2328	2.60	12	2428	2.60
0-30	45									
0-50	14.5	2129	2.15	2229	2.25	2329	2.60	5.5	2429	2.60
0-50	18.0									
0-100	7.0	2130	2.15	2230	2.25	2330	2.60	1.8	2430	2.60
0-100	8.3									
0-150	1.8	2130-A	2.15	2230-A	2.25	2330-A	2.60	1.0	2430-A	2.60
0-150	2.15									
0-200	1.5	2130-B	2.15	2330-B	2.25	2330-B	2.60	.5	2430-B	2.60
0-200	1.7									
0-300	.61	2131	2.15	2231	2.25	2331	2.60	.35	2431	2.60
0-300	.8									
0-500	.21	2132	2.15	2232	2.25	2332	2.60	.12	2432	2.60
0-500	.27									

DC VOLTMETERS (HIGH RESISTANCE)

(100 ohms/volt except 150 and 300 volt ranges are 200 ohms per volt)

0-10	1050	2140	$3.00	2240	$3.10	2340	$3.40
0-30	2800	2141	3.00	2241	3.10	2341	3.40
0-50	4000	2142	3.25	2242	3.35	2342	3.75
0-150	28000	2143	3.35	2243	3.45	2343	3.85
0-300	55000	2144	3.45	2244	3.55	2344	4.00

DC VOLTMETERS (LOW RESISTANCE)

0-1	33	2134	$2.15	2234	$2.25	2334	$2.60			
0-3	100	2135	2.15	2235	2.25	2335	2.60	150	2435	$2.60
3-0-3	30	2136	2.15	2236	2.25	2336	2.60			
0-5	140	2136-A	2.15	2236-A	2.25	2336-A	2.60			
0-8	225	2136-B	2.15	2236-B	2.25	2336-B	2.60			
0-10	280	2137	2.15	2237	2.25	2337	2.60	500	2437	2.60
0-15	450	2137-A	2.15	2237-A	2.25	2337-A	2.60	750	2437-A	2.60
0-20	600	2137-B	2.15	2237-B	2.25	2337-B	2.60	1000	2437-B	2.60
0-30	1000	2137-C	2.15	2237-C	2.25	2337-C	2.60	1500	2437-C	2.60
0-50	1400	2138	2.15	2238	2.25	2338	2.60	2500	2438	2.60

AC AMMETERS

0-1	.365	6101	$3.35	6201	$3.45	6301	$3.75			
0-3	.078	6102	3.35	6202	3.45	6302	3.75			
0-5	.023	6103	3.35	6203	3.45	6303	3.75	.023	6403	$3.75
0-10	.013	6104	3.35	6204	3.45	6304	3.75			

AC MILLIAMMETERS

0-25	750	6125	$3.35	6225	$3.45	6325	$3.75			
0-50	175	6126	3.35	6226	3.45	6326	3.75			
0-100	58	6127	3.35	6227	3.45	6327	3.75			
0-250	12	6128	3.35	6228	3.45	6328	3.75			
0-500	1.75	6129	3.35	6229	3.45	6329	3.75	1.15	6429	$3.75

AC VOLTMETERS

0-5	50	6135	$3.35	6235	$3.45	6335	$3.75			
0-10	175	6136	3.35	6236	3.45	6336	3.75			
0-15	300	6137	3.35	6237	3.45	6337	3.75	300	6437	$3.75
0-25	920	6137-A	3.35	6237-A	3.45	6337-A	3.75			
0-50	1800	6138	3.35	6238	3.45	6338	3.75			
0-150	9530	6139	3.90	6239	4.00	6339	4.45	15000	6439	4.45
0-300	32000	6140	4.50	6240	4.55	6340	4.95	32000	6440	4.95

Net

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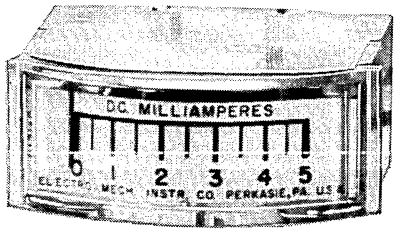
METERS

in Precision Products

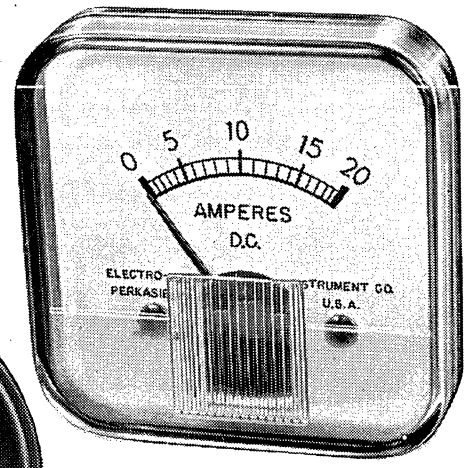
EMICO

PRECISION-PLUS

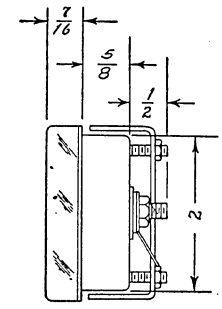
ELECTRO-MECHANICAL INSTRUMENT CO., INC.

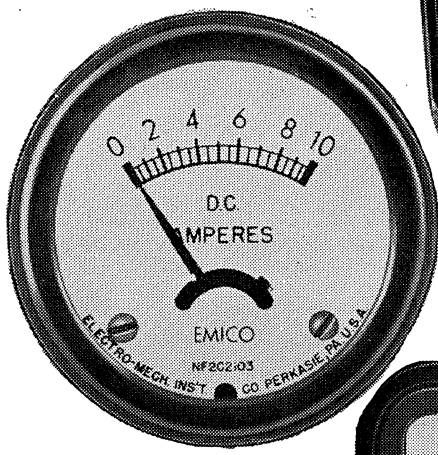


MODEL 13
Edge Reading Type

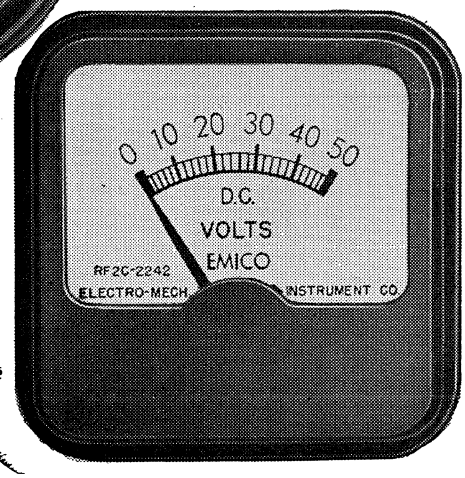


MODEL RF2¼C

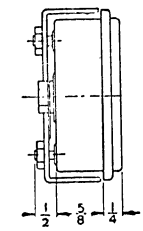


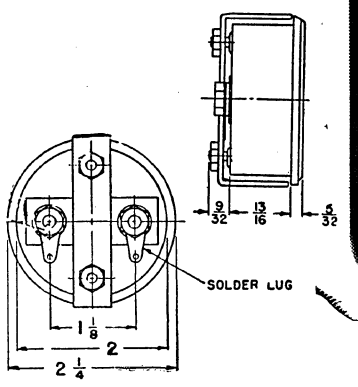


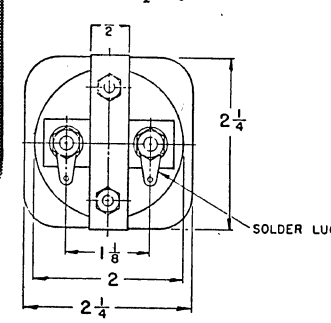
MODEL NF2C



MODEL RF2C







Precision instruments engineered for

- accuracy
- long life
- economy

EMICO Miniature Circuit Indicator
MODEL 801

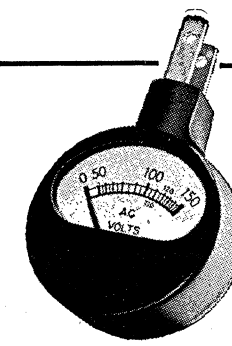
Gives snap-action response at .001 (milliwatt) to monitor all circuit malfunctions or on-off conditions. Dependable through millions of on-off cycles. Simplified panel installation.

Dealer's Net **$5.00**

EMICO A.C. Voltage Tester

Accurate, precision mechanism plug-in type with damped meter movement. Convenient 90° swivel prongs for ease of reading from any position.

Dealer's Net **$3.45**



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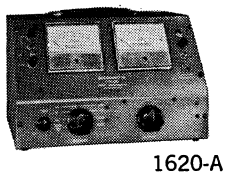
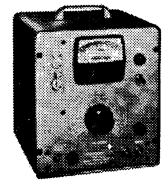
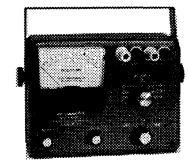
FREED TRANSFORMER CO., INC.



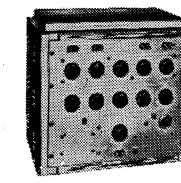
1620-A-B-C-E



1020-C



2030



1110-C

MEGOHMMETERS

Freed manufactures a complete range of insulation resistance measuring equipment with fixed and variable d.c. test voltages from 5 to 2500 volts. Insulation and leakage measurements can be made on transformers, motors, cables, electronic assemblies and components, dielectric materials, electrical appliances and tools, capacitors and resistors.

Type	Resistance Range	Test Voltage	Accuracy	Power Requirements	Size and Weight	Price
1620	0.1 to 4,000,000 megohms 1 to 2,000,000 megohms @ 500 volts	Variable 50 to 1000 volts d.c.	±5% at full scale	105-125 volts 50-60 cycles	15″ x 9″ x 7½″ 24 lbs. *	350.00
1620-A	0.01 to 4,000,000 megohms 0.1 to 200,000 megohms @ 50 volts 1 to 2,000,000 megohms @ 500 volts	Variable 5-100 volts d.c. 100-1000 volts d.c.	±5% at full scale	105-125 volts 50-60 cycles	15″ x 9″ x 7½″ 24 lbs. *	365.00
1620-B	1 to 2,000,000 megohms 10 to 2,000,000 megohms @ 2500 volts	Variable 250-2500 volts d.c.	±5% at full scale	105-125 volts 50-60 cycles	15″ x 9″ x 7½″ 24 lbs. *	395.00
1620-C	All features same as Type 1620 with additional circuitry for capacitor measurements	Variable 50 to 1000 volts d.c.	±5% at full scale	105-125 volts 50-60 cycles	15″ x 9″ x 7½″ 24 lbs. *	375.00
1620-D	0.01 to 40,000,000 megohms 0.1 to 2,000,000 megohms @ 50 volts 1 to 20,000,000 megohms @ 500 volts	Variable 5-100 volts d.c. 100-1000 volts d.c.	±5% at full scale except highest range ±10%	105-125 volts 50-60 cycles	15″ x 9″ x 7½″ 25 lbs. *	415.00
1020-C	0.1 to 2,000,000 megohms 0.1 to 200,000 megohms @ 50 or 100 volts d.c. 1 to 2,000,000 megohms @ 500 volts d.c.	Fixed 50, 100, 500 volts Regulated	±3% all ranges except highest range ±5%	105-125 volts 50-60 cycles	9½″ x 10½″ x 8″ 18 lbs. *	280.00
1020-D	0.1 to 2,000,000 megohms 0.1 to 200,000 megohms @ 100 or 200 volts d.c. 1 to 2,000,000 megohms @ 500 volts d.c.	Fixed 100, 200, 500 volts Regulated	±3% all ranges except highest range ±5%	105-125 volts 50-60 cycles	9½″ x 10½″ x 8″ 18 lbs. *	290.00
2030-A	10 to 2,000,000 megohms	Fixed 500 volts d.c.	±5% full scale	battery operated transistor supply	6″ x 8″ x 4″ 8 lbs.	205.00
2030-B	1 to 20,000,000 megohms	Fixed 500 volts d.c.	±5% full scale	battery operated transistor supply	6″ x 8″ x 4″ 8 lbs.	250.00
2030-C	0.1 to 2,000,000 megohms	Fixed 50 volts d.c.	±5% full scale	battery operated transistor supply	6″ x 8″ x 4″ 8 lbs.	225.00
2030-D	1 to 2,000,000 megohms	Fixed 100 volts d.c.	±5% full scale	battery operated transistor supply	6″ x 8″ x 4″ 8 lbs.	225.00
2030-E	1 to 2,000,000 megohms	Fixed 200 volts d.c.	±5% full scale	battery operated transistor supply	6″ x 8″ x 4″ 8 lbs.	225.00

*Rack models available, 19″ x 10½″ x 9½″. Weight 25 lbs.

Freed invites requests for quotations on special insulation testing instruments, either deviations of above listed standard units or new designs for system applications.

INCREMENTAL INDUCTANCE BRIDGES

Direct in-line readings of inductance and conductance of iron core component at audio frequencies with or without superimposed direct current. The bridge uses the Owens circuit with provisions for measuring the series or parallel inductance and conductance of the unknown inductor; five precision resistance and capacitance decades are provided to indicate these values. "Q" or storage factor can be measured as the product of the inductive reactance and the conductance.

Type	Inductance Range	Conductance Range	Frequency Range	D.C. Current	Accuracy	Dimensions and Weight	Price
1110-C	1111.1 h to 1 mh 5 decades 1.1 h to 1 μh 2 decades	0.015 μmho—100 mho "Q" = 600 max @ 100 cycles	20 cycles to 10KC	up to 2 amperes	±0.5% to 5 KC ±2% to 10 KC	21¾″ x 17½″ x 15¼″ 50 lbs.	525.00
1115	111.1 h to 100 μh 5 decades 0.11 h to 0.1 μh 2 decades	0.15 μmho—1000 mho "Q" = 600 max @ 100 cycles	20 cycles to 10 KC	up to 15 amperes	±1% to 5 KC ±3% to 10 KC	21¾″ x 28″ x 15¼″ 80 lbs.	825.00
1185	111.1 h to 100 μh 5 decades 0.11 h to 0.1 μh 2 decades	0.15 μmho—1000 mho "Q" = 600 max @ 100 cycles	20 cycles to 10 KC	up to 30 amperes	±1% to 5 KC ±3% to 10 KC	21¾″ x 33¼″ x 15¼″ 100 lbs.	1250.00

UNIVERSAL BRIDGE

The Freed Type 1150-A Universal Bridge offers the laboratory a combination of eight bridges in one instrument. This bridge will measure the reactive and resistive component of impedances, capacitance, resistance and phase angle. In the Hay and/or Owen bridge configuration the incremental permeability of an inductance can be measured.

Type	Inductance Range	Capacitance Range	Resistance Range	"D" Hay Bridge	Price
1150-A	5 μh 1110 h	5 pf-10 mf	0.05 Ω-1 MΩ	0.001-10 Q = 0.1-1000	825.00
	"Q" Maxwell 0.01-50	"Q" Series Owen 0.01-600 @ 100 cycles	"Q" Parallel Owen 80 @ 100 cycles	"Q" Parallel Resistor-Condensor Bridge 0.01-11.1	
	Accuracy Inductance ±0.5% up to 1 KC. ±2% to 10 KC. Capacitance ±1% @ 1 KC. "D"-"Q" ±5% @ 1 KC. Resistance (ac.) ±1% @ 1 KC.			Dimensions and Weight 21¾″ x 24½″ x 17″ 65 lbs.	

Prices quoted are subject to change without notice

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FREED TRANSFORMER CO., INC.

LOW FREQUENCY "Q" INDICATORS

Direct indication of "Q" at low frequencies, inductance, distributed capacity, impedance and dielectric loss can also be measured. Instrument may be used to study the magnetic properties of iron core material for stability as a function of applied voltage and losses as a function of the frequency.

Two units are available, the 1030-A indicates "Q" as a product of meter readings multiplied by dial settings, the 1030-B displays "Q" directly in digital readout.

Type	Test Frequency	Q Range	Accuracy	Test Voltage	Power Requirements	Dimensions and Weight	Price
1030-A	20 cycles to 200 K.C.	1-1000	±5% 20 cycles to 50 KC— to 200 KC at reduced accuracy	Voltage to series circuit, 0.01 to 10 volts voltage across coil variable to 100 volts	105-125 volts 50-60 cycles	21" x 23" x 15" 120 lbs.	1250.00

IMPEDANCE & ADMITTANCE BRIDGE

An audio frequency bridge for measuring the complex impedances of inductors, transformers, filter networks and capacitors.

Type	Frequency Range	Impedance and Admittance	Accuracy	Maximum Applied Voltage	Dimensions and Weight	Price
1120	20 to 20,000 cycles	XL, XC and R up to 1000 ohms, BL, BC and G up to 1000 microhms	R: ±1% G: ±2% X: ±1% up to 5 KC B: ±1% up to 5 KC	125 Volts	10½" x 12" x 12" 25 lbs.	455.00

DISTORTION METERS

The type 1410 Distortion Meter measures distortion in the ultra-sonic or carrier frequency range and features high input impedance with high sensitivity. Having a wide input voltage range it can be used for distortion measurements in low output oscillators, carrier frequency amplifiers and transmitters.

Type	Frequency Range	Input Impedance	Input Voltage	Sensitivity	Power Requirements	Dimensions and Weight	Price
1410	20 KC to 1 MC	50 KΩ shunted by 70 Pf	0.2 to 1000 volts	Distortion level of 0.1% for 0.2 volts input	105-125 volts 50-60 cycles	21" x 16¼" x 15" 60 lbs.	875.00

The type 1970 Distortion Meter is a wide range low input impedance instrument, designed with passive circuitry resulting in high stability, low residual distortion and hum levels.

Type	Frequency Range	Input Impedance	Input Voltage	Sensitivity	Dimensions and Weight	Price
1970	20 cycles to 1 megacycle	75-150 300-600	1 to 200 volts	Distortion level of 0.02% for 1 volt input	19" x 10½" x 12" 30 lbs.	525.00

NULL DETECTORS

Sensitive null detectors for bridge measurements, with self contained selective filters to limit the amplifier characteristics at various bridge measuring frequencies.

Type	Sensitivity	Frequency Range	Filter	Power Requirements	Dimensions and Weight	Price
1140-B	10μ volts @ 1 KC for 15% meter deflection filter in	20 to 20,000 cycles	Fixed 60, 400, 1000 cycles Adjustable ±5% of center Other frequencies available	105-125 volts 50-60 cycles	Cabinet 12" x 8½" x 10"—18 lbs. Rack—19" x 6" x 10"	250.00
2076	1μ volts @ 1 KC for 15% meter deflection filter in	20 to 20,000 cycles	Fixed 60, 400, 1000 cycles Adjustable ±5% of center Other frequencies available	Transistorized Battery operated	Cabinet—8" x 6" x 8" Rack—19" x 5¼" x 8"	295.00

DECADE CAPACITORS

The Freed series of Decade Capacitors cover a wide range of values and can be supplied as individual decades from 0.0001 PF. per step to 1 mf. per step or in various combinations of assembled decade boxes. All capacitors are non-inductively wound and heat treated for stability.

Type	Total Capacity	Dielectric	Dissipation Factor	Accuracy	Dimensions and Weight		Price
1415	10 μf in steps of 1 μf	Mylar	<0.005	±1%	3" x 3" x 7"	2 lbs.	40.00
1416	1 μf in steps of 0.1 μf	Polystyrene	<0.0002	±1%	3" x 3" x 7"	2 lbs.	55.00
1417	0.1 μf in steps of 0.01 μf	Polystyrene	<0.0002	±1%	3" x 3" x 7"	2 lbs.	40.00
1418	0.01 μf in steps of 0.001 μf	Polystyrene	<0.0002	±1%	3" x 3" x 7"	2 lbs.	40.00
1419	0.001 μf in steps of 0.0001 μf	Polystyrene	<0.0002	±1%	3" x 3" x 7"	2 lbs.	45.00
1250	1.110 μf in steps of 0.001 μf	Polystyrene	<0.0002	±1%	13¾" x 6" x 4½"	8 lbs.	180.00
1351	11.111 μf in steps of 0.0001 μf plus 100 pf variable air capacitor	Mylar Polystyrene Air	<0.005	±1%	19" x 10¾" x 8"	25 lbs.	305.00
1352	1.111 μf in steps of 0.0001 μf	Polystyrene	<0.0002	±1%	19" x 5¼" x 10"	13 lbs.	220.00
1353	11.111 μf in steps of 0.0001 μf	Mylar Polystyrene	<0.005	±1%	19" x 5¼" x 10"	14 lbs.	275.00

Maximum operating voltage, 500 VDC or peak. Capacitors can be supplied to better than ±1%, write for complete information.
In addtion to listed equipment, Freed manufactures a complete series of decade inductors, AC and DC regulated power supplies, comparison and limit bridges. Write for complete catalog.

DECADE INDUCTORS

Each unit is an assembly of four toroids wound on a stabilized Molybdenum permaloy dust core. The coils have a nominal inductance of 1-2-3-4 and are connected in series and switched to vary the inductance from 0-10.

Type	Frequency Range, Cycles	Maximum*	Inductance per Step	Total Inductance	Accuracy	Dimensions and Weight		Price
1220	500-20,000	230 @ 4 KC	0.001 h	0.01 h	±2%	3" x 3" x 9"	4½ lbs.	$100.00
1230	500-20,000	280 @ 3 KC	0.01 h	0.1 h	±1%	3" x 3" x 9"	4½ lbs.	95.00
1240	500-20,000	260 @ 3 KC	0.1 h	1. h	±0.5%	3" x 3" x 9"	4½ lbs.	100.00
1270	500-20,000	190 @ 2 KC	1. h	10 h	±0.25%	3" x 3" x 9"	4½ lbs.	110.00
1341	100-2,000	100 @ 1 KC	10 h	100 h	±0.25%	3" x 3" x 9"	4½ lbs.	120.00
1280	500-20,000	280 @ 3 KC	0.001 h	1.11 h	See note	13¾" x 6⅛" x 5½"	16 lbs.	325.00
1290	500-20,000	280 @ 3 KC	0.001 h	11.11 h	See note	15" x 7" x 5½"	20 lbs.	425.00
1310	500-20,000	280 @ 3 KC	0.01 h	11.1 h	See note	13¾" x 6⅛" x 5½"	16 lbs.	325.00
1164†	30-2,000	60 @ 300	0.1 h	111 h	±1%	15" x 7" x 5½"	28 lbs.	285.00

† Type 1164 inductors are wound on special nickel alloy laminated cores.

Inductance per step:	1 mh	10 mh	100 mh	1 h	10h
Nominal Accuracy:	±2%	±1%	±0.5%	±0.25%	±0.25%

*Maximum Q depending on inductance value and a.c. voltage across coil.

Prices quoted are subject to change without notice

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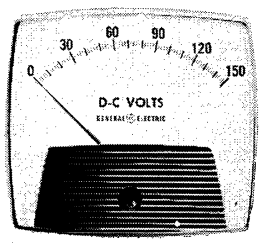
PANEL METERS

NEW IDEAS IN ELECTRONICS

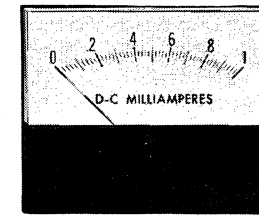


BIG LOOK¶

Handsome, easy-to-read meters in two styles for all panel and control applications. All DC meters have self-shielded movement with pivot and jewel or taut-band suspension. Taut-band designs give great resistance to shock and increased sensitivity. Zener-diode, expanded-scale voltmeters available for improved narrow-range accuracy on 3½" and 4½" sizes. Snap-on, snap-off covers on meters. All types meet ASA Specification C-39.1.

Accuracy: ±2% FS, all DC and AC iron vane; ±3% FS, AC rectifier type (with 60-cycle sine wave at 25° C); ±0.5% of midspan, expanded-scale types. **Overload:** 20% momentary and sustained, voltmeters; 10 times rated current for 10 consecutive intervals of ½-sec. with 1-min. interval between successive applications, momentary; 20% for 8 hours, sustained, ammeters. **Scale:** Pivot and jewel, 90° rotation; taut-band, 100°.

Insulation: 2600 V rms hi-pot for all but 1½" models (1600 V rms). **Response Time:** Meet or exceed ASA requirements: 3 sec. max. for microammeters; 2 sec. max. all other DC ratings; 2.5 sec. max. AC ratings. **Damping:** 40% max. overshoot; 2.5 min. damping factor. **Burden:** 5 amps, 0.5 VA, 0.5 power factor for AC ammeter; unity power factor, AC voltmeter.



HORIZON LINE¶

BIG LOOK PANEL METERS

Accurate, qick reading with wide, border-to-border scales; free from shadows. Most popular meter design with low-profile, easy-to-read sense. Aluminum frame holds reflections to a minimum. Big, bold numerals over cleanly marked divisions for fast reading. Tapered pointers assure high accuracy. Taut-band suspension provided on all models except 1½" size. Standard 2½" and 3½" models come with sealed cases to protect against hair, dust, chemicals or other foreign particles. Shelf-shielded DC mechanisms; snap-on, snap-off covers.

Meter Size and Type	Scale Length: Pivot Jewel	Scale Length: Taut-band	Max. Meter Dimensions, Inches: Face Size H. x W.	Cutout O.D.	Back* Depth	Front* Depth
1½" DW-90	1.400"	.....	1.750 x 1.750	1.530	1.230	0.375
2½" DW-91§	2.100"	2.300"	2.702 x 2.702	2.195	2.002	0.478
3½" DO-91†	2.900"	3.200"	3.512 x 3.512	2.786	2.002	0.478
4½" DO-92‡	3.930"	4.360"	4.408 x 4.846	2.786	1.965	0.573

§Or AW-91. †Or AO-91. ‡Or AO-92. *Back-of-panel and front-of-panel, respectively.

HORIZON LINE PANEL METERS

Distinctive, low profile design for sophisticated styling. Best readability with swept-back windows to deflect light from line of sight. Both 3½" and 4½" meters may be mounted semi-flush or back-of-panel, recessed with face silhouetted by half-bezel frame to conserve space and improve readability. DC types have core-magnet d'Arsonval movement with pivot and jewel, or taut-band suspensions; self-shielded for use on any panel. Zener-diode, expanded-scale voltmeters available. Snap-on, snap-off covers supplied on 4½" size.

G.E. No. 1012K11702 Bezel — For flush mtg. 2½" size. List.....**$1.25**
G.E. No. 1012K11700 Bezel — For flush mtg. 3½" size. List..... **1.50**
G.E. No. 1012K11701 Bezel — For flush mtg. 4½" size. List..... **1.50**

Meter Size and Type	Scale Length: Pivot Jewel	Scale Length: Taut-band	Max. Meter Dimensions, Inches: Face Size H. x W.	Cutout O.D.	Back* Depth	Front* Depth
2½" NO. 157	2.013"	2.284"	2.256 x 2.892	2.031	2.048	0.545
3½" NO. 167	2.725"	3.060"	3.006 x 3.756	2.781	1.963	0.740
4½" NO. 178	3.502"	3.800"	3.756 x 4.632	2.781	1.963	0.831

*Back-of-panel and front-of-panel, respectively.

DC VOLTMETERS

ZERO-LEFT, SELF CONTAINED

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price: 1½" DW-90 Prefix: 50-188 011§	2½" DW-91 Prefix: 50-152 011§	3½" DO-91 Prefix: 50-162 011§	4½" DO-92 Prefix: 50-171 011§	HORIZON LINE List Price: 2½" No. 157 Prefix: 50-157 011§	3½" No. 167 Prefix: 50-167 011§	4½" No. 178 Prefix: 50-178 011§
0-1	50		**LALA**	**$18.00**	**$18.00**	**$19.00**	**$21.00**	**$18.00**	**$19.00**	**$21.00**
0-1.5	75†		**LCLC**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
0-3	60		**LJLJ**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
0-5	50		**LSLS**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
0-8	40		**MJMJ**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
0-10	50		**MTMT**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
0-15	75†	1000	**NDND**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
0-30	60	ohms	**NLNL**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
0-50	50	per	**NTNT**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
0-80	40	volt	**PDPD**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
0-100	50		**PKPK**	**18.00**	**18.00**	**19.00**	**22.00**	**18.00**	**19.00**	**22.00**
0-150	75†		**PZPZ**	**18.00**	**18.00**	**19.00**	**22.00**	**18.00**	**19.00**	**22.00**
0-200	40		**RLRL**	**18.00**	**18.00**	**19.00**	**22.00**	**18.00**	**19.00**	**22.00**
0-250	50		**RSRS**	**18.00**	**18.00**	**19.00**	**22.00**	**18.00**	**19.00**	**22.00**
0-300	60		**RXRX**	**19.00**	**19.00**	**20.00**	**23.00**	**19.00**	**20.00**	**23.00**
0-500	50		**SFSF**	.....	.....	**21.00**	**24.00**	.....	**21.00**	**24.00**
0-600	60		**SJSJ**	.....	.....	**21.00**	**24.00**	.....	**21.00**	**24.00**
0-500*	50	125	**FASF**	**17.00**	**17.00**	.....	.....	**17.00**	.....	.....
0-600*	60	125	**FASJ**	**17.00**	**17.00**	.....	.....	**17.00**	.....	.....
0-750*	75†	125	**FASM**	**17.00**	**17.00**	**18.00**	**20.00**	**17.00**	**18.00**	**20.00**

ZERO-CENTER, SELF CONTAINED

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price: 1½" DW-90 Prefix: 50-188 012§	2½" DW-91 Prefix: 50-152 012§	3½" DO-91 Prefix: 50-162 012§	4½" DO-92 Prefix: 50-171 012§	HORIZON LINE List Price: 2½" No. 157 Prefix: 50-157 012§	3½" No. 167 Prefix: 50-167 012§	4½" No. 178 Prefix: 50-178 012§
5-0-5	50		**LSLS**	**$18.00**	**$18.00**	**$19.00**	**$21.00**	**$18.00**	**$19.00**	**$21.00**
10-0-10	40		**MTMT**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
30-0-30	60	1000	**NLNL**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
50-0-50	50	ohms	**NTNT**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
80-0-80	40	per	**PDPD**	**18.00**	**18.00**	**19.00**	**21.00**	**18.00**	**19.00**	**21.00**
150-0-150	60	volt	**PZPZ**	**18.00**	**18.00**	**19.00**	**22.00**	**18.00**	**19.00**	**22.00**
300-0-300	60		**RXRX**	**19.00**	**19.00**	**20.00**	**23.00**	**19.00**	**20.00**	**23.00**
500-0-500	50		**SFSF**	.....	.....	**21.00**	**24.00**	.....	**21.00**	**24.00**
600-0-600	60		**SJSJ**	.....	.....	**21.00**	**24.00**	.....	**21.00**	**24.00**
500-0-500*	50	64	**FASF**	**17.00**	**17.00**	.....	.....	**17.00**	.....	.....
600-0-600*	60	64	**FASJ**	**17.00**	**17.00**	.....	.....	**17.00**	.....	.....
750-0-750*	60	64	**FASM**	**17.00**	**17.00**	**18.00**	**20.00**	**17.00**	**18.00**	**20.00**

EXPANDED-SCALE, SELF CONTAINED

Zener-diode type. Accuracy ±0.5% of mid-span.

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price: 1½" DW-90 Not Available	2½" DW-91 Not Available	3½" DO-91 Prefix: 50-162 091§	4½" DO-92 Prefix: 50-171 091§	HORIZON LINE List Price: 2½" No. 157 Not Available	3½" No. 167 Prefix: 50-167 091§	4½" No. 178 Prefix: 50-178 091§
24-30	60	100	**NNNN**	.....	.....	**$52.00**	**$55.00**	.....	**$52.00**	**$55.00**
110-130	40	ohms/	**PNPN**	.....	.....	**52.00**	**55.00**	.....	**52.00**	**55.00**
220-260	40	volt	**RTRT**	.....	.....	**52.00**	**55.00**	.....	**52.00**	**55.00**

*Not self contained, for use with external resistor, not supplied; rated 0-1 mADC (or 1-0-1 mADC, center scale types); when ordering, change last prefix indicator to 111 or 112 (i.e., 50-152 111 FASF; 50-162 112 FASM; etc.).
†75 divisions on all 3½" and 4½" meters; 30 divisions on 2½" and 1½".
§**When ordering show complete number, prefix plus suffix;** example: **50-157 012 LSLS** for 5-0-5 self contained 2½" HORIZON LINE DC voltmeter.
¶Trade-mark of General Electric Co.

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PANEL METERS

NEW IDEAS IN ELECTRONICS

DC MICROAMMETERS

ZERO-LEFT, PIVOT AND JEWEL TYPE

Scale μA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Prefix: 50-188 111§	2½" DW-91 Prefix: 50-152 111§	3½" DO-91 Prefix: 50-162 111§	4½" DO-92 Prefix: 50-171 111§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 111§	3½" No. 167 Prefix: 50-167 111§	4½" No. 178 Prefix: 50-178 111§
0-20	40	3400	CFCF	$30.00	$30.00	$31.00	.....	$30.00	$31.00	.....
0-50	50	1600	CYCY	24.00	24.00	25.00	$28.00	24.00	25.00	$28.00
0-100	50	1525	DRDR	20.00	20.00	21.00	24.00	20.00	21.00	24.00
0-200	40	690	EAEA	18.00	18.00	19.00	22.00	18.00	19.00	22.00
0-500	50	220	EMEM	17.00	17.00	18.00	20.00	17.00	18.00	20.00

ZERO-LEFT, TAUT-BAND TYPE

Taut-band suspension is also available in other DC ratings; prices on request.

Scale μA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Not Available	2½" DW-91 Prefix: 50-156 111§	3½" DO-91 Prefix: 50-166 111§	4½" DO-92 Prefix: 50-173 111§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-192 111§	3½" No. 167 Prefix: 50-193 111§	4½" No. 178 Prefix: 50-194 111§
0-20	40	3400	CFCF	.....	$33.00	$34.00	$37.00	$33.00	$34.00	$37.00
0-50	50	2600	CYCY	.....	27.00	28.00	31.00	27.00	29.00	31.00
0-100	50	1170	DRDR	.....	23.00	24.00	27.00	23.00	24.00	27.00

ZERO-CENTER, PIVOT AND JEWEL TYPE

Scale μA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Prefix: 50-188 112§	2½" DW-91 Prefix: 50-152 112§	3½" DO-91 Prefix: 50-162 112§	4½" DO-92 Prefix: 50-171 112§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 112§	3½" No. 167 Prefix: 50-167 112§	4½" No. 178 Prefix: 50-178 112§
20-0-20	40	3330	CFCF	27.00	$27.00	$28.00	.....	$27.00	$28.00	.....
50-0-50	50	1525	CYCY	20.00	20.00	21.00	$24.00	20.00	21.00	$24.00
100-0-100	40	690	DRDR	18.00	18.00	19.00	22.00	18.00	18.00	22.00
200-0-200	40	221	EAEA	17.00	17.00	18.00	21.00	17.00	18.00	21.00
500-0-500	50	64	EMEM	17.00	17.00	18.00	20.00	17.00	18.00	20.00

DC MILLIAMMETERS

ZERO-LEFT, PIVOT AND JEWEL TYPE

Scale mA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Prefix: 50-188 111§	2½" DW-91 Prefix: 50-152 111§	3½" DO-91 Prefix: 50-162 111§	4½" DO-92 Prefix: 50-171 111§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 111§	3½" No. 167 Prefix: 50-167 111§	4½" No. 178 Prefix: 50-178 111§
0-1	50	64	FAFA	$17.00	$17.00	$18.00	$20.00	$17.00	$18.00	$20.00
0-1.5	75†	64	FDFD	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-3	60	2.5	FNFN	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-5	50	2.5	FXFX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-10	50	1.8	GZGZ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-20	40	1.5	HFHF	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-25	50	2.0	HJHJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-30	60	1.67	HMHM	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-50	50	1.00	HYHY	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-80	40	0.62	JJJJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-100	50	0.50	JRJR	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-150	75†	0.33	JXJX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-200	40	0.25	KAKA	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-250	50	0.20	KDKD	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-300	60	0.167	KGKG	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-500	50	0.100	KMKM	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-800	40	0.062	KWKW	17.00	17.00	18.00	20.00	17.00	18.00	20.00

ZERO-CENTER, PIVOT AND JEWEL TYPE

Scale mA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Prefix: 50-188 112§	2½" DW-91 Prefix: 50-152 112§	3½" DO-91 Prefix: 50-162 112§	4½" DO-92 Prefix: 50-171 112§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 112§	3½" No. 167 Prefix: 50-167 112§	4½" No. 178 Prefix: 50-178 112§
1-0-1	40	64	FAFA	$17.00	$17.00	$18.00	$20.00	$17.00	$18.00	$20.00
3-0-3	60	2.6	FNFN	17.00	17.00	18.00	20.00	17.00	18.00	20.00
5-0-5	50	1.8	FXFX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
10-0-10	40	1.5	GZGZ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
20-0-20	40	1.25	HFHF	17.00	17.00	18.00	20.00	17.00	18.00	20.00
25-0-25	50	1.0	HJHJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
30-0-30	60	0.83	HMHM	17.00	17.00	18.00	20.00	17.00	18.00	20.00
50-0-50	50	0.50	HYHY	17.00	17.00	18.00	20.00	17.00	18.00	20.00
100-0-100	40	0.25	JRJR	17.00	17.00	18.00	20.00	17.00	18.00	20.00
150-0-150	60	0.167	JXJX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
200-0-200	40	0.125	KAKA	17.00	17.00	18.00	20.00	17.00	18.00	20.00
250-0-250	50	0.100	KDKD	17.00	17.00	18.00	20.00	17.00	18.00	20.00
300-0-300	60	0.083	KGKG	17.00	17.00	18.00	20.00	17.00	18.00	20.00
500-0-500	50	0.050	KMKM	17.00	17.00	18.00	20.00	17.00	18.00	20.00

DC AMMETERS

ZERO-LEFT, SELF-CONTAINED

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Prefix: 50-188 111§	2½" DW-91 Prefix: 50-152 111§	3½" DO-91 Prefix: 50-162 111§	4½" DO-92 Prefix: 50-171 111§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 111§	3½" No. 167 Prefix: 50-167 111§	4½" No. 178 Prefix: 50-178 111§
0-1	50	.0500	LALA	$17.00	$17.00	$18.00	$20.00	$17.00	$18.00	$20.00
0-1.5	75†	.0333	LCLC	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-2	40	.0250	LELE	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-3	60	.0167	LJLJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-5	50	.0100	LSLS	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-10	50	.0050	MTMT	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-15	75†	.0033	NDND	.....	17.00	18.00	20.00	17.00	18.00	20.00
0-20	40	.0025	NGNG	.....	17.00	18.00	20.00	17.00	18.00	20.00
0-30	60	.00167	NLNL	.....	17.00	18.00	20.00	17.00	18.00	20.00
0-50	50	.00100	NTNT	.....	.....	18.00	20.00	.....	18.00	20.00

† 75 divisions on 3½" and 4½" sizes; 30 divisions on 1½" and 2½" sizes.
§ **When ordering show complete number, prefix plus suffix;** example: **50-188 111 LALA** for BIG LOOK 1½" DW-90 zero-left, self-contained DC ammeter with 0-1 scale.
¶ Trade-mark of General Electric Co.

GENERAL ELECTRIC

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PANEL METERS

NEW IDEAS IN ELECTRONICS

DC AMMETERS (CONT'D)

ZERO-LEFT, SHUNT-RATED

For use with 2-way shunt-lead resistance .065 ohm. Does not include shunt or shunt leads.

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Prefix: 50-188 121§	2½" DW-91 Prefix: 50-152 121§	3½" DO-91 Prefix: 50-162 121§	4½" DO-92 Prefix: 50-171 121§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 121§	3½" No. 167 Prefix: 50-167 121§	4½" No. 178 Prefix: 50-178 121§
0-20	40		ECNG	$17.00	$17.00	$18.00	.....	$17.00	$18.00	$20.00
0-30	60		ECNL	17.00	17.00	18.00	.....	17.00	18.00	20.00
0-50	50		ECNT	17.00	17.00	18.00	$20.00	17.00	18.00	20.00
0-75	75†		ECPB	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-100	50		ECPK	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-150	75†	50 mV	ECPZ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-200	40	shunt-	ECRL	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-250	50	rated	ECRS	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-300	60	12.5	ECRX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-400	40	ohms	ECSC	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-500	50		ECSF	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-600	60		ECSJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-800	40		ECSN	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-1000	50		ECVA	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-1500	75†		ECVC	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-2000	40		ECVE	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-20	40		GBNG	17.00	17.00	18.00	.....	17.00	18.00	20.00
0-40	40		GBNP	17.00	17.00	18.00	.....	17.00	18.00	20.00
0-50	50		GBNT	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-75	75†		GBPB	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-100	50		GBPK	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-150	75†	100 mV	GBPZ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-200	40	shunt-	GBRL	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-250	50	rated	GBRS	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-300	60	25	GBRX	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-400	40	ohms	GBSC	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-500	50		GBSF	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-600	60		GBSJ	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-800	40		GBSN	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-1000	50		GBVA	17.00	17.00	18.00	20.00	17.00	18.00	20.00
0-2000	40		GBVE	17.00	17.00	18.00	20.00	17.00	18.00	20.00

ZERO-CENTER, SELF CONTAINED

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Prefix: 50-188 112§	2½" DW-91 Prefix: 50-152 112§	3½" DO-91 Prefix: 50-162 112§	4½" DO-92 Prefix: 50-171 112§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 112§	3½" No. 167 Prefix: 50-167 112§	4½" No. 178 Prefix: 50-178 112§
1-0-1	40	.0500	LALA	$17.00	$17.00	$18.00	$20.00	$17.00	$18.00	$20.00
2-0-2	40	.0250	LELE	17.00	17.00	18.00	20.00	17.00	18.00	20.00
5-0-5	50	.010	LSLS	17.00	17.00	18.00	20.00	17.00	18.00	20.00
10-0-10	40	.0050	MTMT	17.00	17.00	18.00	20.00	17.00	18.00	20.00
15-0-15	60	.0033	NDND	.....	17.00	18.00	20.00	17.00	18.00	20.00
20-0-20	40	.0025	NGNG	.....	17.00	18.00	20.00	17.00	18.00	20.00
30-0-30	60	.00167	NLNL	.....	17.00	18.00	20.00	17.00	18.00	20.00
50-0-50	50	.00100	NTNT	.....	.....	18.00	20.00	17.00	18.00	20.00

ZERO-CENTER, 50 mV SHUNT-RATED

For use with 2-way shunt-lead resistance of .065 ohm. Does not include shunt or shunt leads.

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Prefix: 50-188 122§	2½" DW-91 Prefix: 50-152 122§	3½" DO-91 Prefix: 50-162 122§	4½" DO-92 Prefix: 50-171 122§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 122§	3½" No. 167 Prefix: 50-167 122§	4½" No. 178 Prefix: 50-178 122§
20-0-20	40		ECNG	$17.00	.....	.....	.....	.....	.....	.....
50-0-50	50	25	ECNT	17.00	$17.00	$18.00	$20.00	$17.00	$18.00	$20.00
75-0-75	60	ohms	ECPB	17.00	17.00	18.00	20.00	17.00	18.00	20.00
100-0-100	40		ECPK	17.00	17.00	18.00	20.00	17.00	18.00	20.00
150-0-150	60		ECPZ	17.00	17.00	18.00	20.00	17.00	18.00	20.00

AC VOLTMETERS

SELF CONTAINED, IRON VANE

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 031§	3½" AO-91 Prefix: 50-162 031§	4½" AO-92 Prefix: 50-171 031§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 031§	3½" No. 167 Prefix: 50-167 031§	4½" No. 178 Prefix: 50-178 031§
0-3	60	11.1	LJLJ	.....	$16.00	$17.00	$20.00	$16.00	$17.00	$20.00
0-5	50‡	29	LSLS	.....	16.00	17.00	20.00	16.00	17.00	20.00
0-10	50	110	MTMT	.....	16.00	17.00	20.00	16.00	17.00	20.00
0-15	75†	251	NDND	.....	16.00	17.00	20.00	16.00	17.00	20.00
0-30	60	779	NLNL	.....	16.00	17.00	20.00	16.00	17.00	20.00
0-50	50	2,500	NTNT	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-150	75†	15,000	PZPZ	.....	18.00	19.00	22.00	18.00	19.00	22.00
0-300	60	70,260	RXRX	.....	20.00	21.00	24.00	20.00	21.00	24.00
0-500	50	117,260	SFSF	.....	.....	26.00	29.00	.....	26.00	29.00
0-600	60	140,000	SJSJ	.....	.....	26.00	29.00	.....	26.00	29.00

SELF CONTAINED, 400 CYCLES

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 061§	3½" AO-91 Prefix: 50-162 061§	4½" AO-92 Prefix: 50-171 061§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 061§	3½" No. 167 Prefix: 50-167 061§	4½" No. 178 Prefix: 50-178 061§
0-150	75†	15,000	PZPZ	.....	$18.00	$19.00	$22.00	$18.00	$19.00	$22.00
0-300	60	70,260	RXRX	.....	20.00	21.00	24.00	20.00	21.00	24.00

†75 divisions, 3½" and 4½" sizes; 30 divisions, 1½" and 2½" sizes.

‡50 divisions, 3½" and 4½" sizes; 25 divisions, 2½" size.

§**When ordering show complete number, prefix plus suffix**; example: **50-171 031 LJLJ** for 4½" BIG LOOK 0-3 voltmeter.

¶Trade-mark of General Electric Co.

Trade Discount Applies To List Prices Only

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PANEL METERS

AC VOLTMETERS (CONT'D)

TRANSFORMER-RATED, 0-150 VOLTS

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 031§	3½" AO-91 Prefix: 50-162 031§	4½" AO-92 Prefix: 50-171 031§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 031§	3½" No. 167 Prefix: 50-167 031§	4½" No. 178 Prefix: 50-178 031§
0-600	60	15,000	PZSJ	.....	$18.00	$19.00	$22.00	$18.00	$19.00	$22.00
0-750	75†	15,000	PZSM	.....	18.00	19.00	22.00	18.00	19.00	22.00
0-3000	60	15,000	PZVJ	.....	18.00	19.00	22.00	18.00	19.00	22.00

SELF CONTAINED, RECTIFIER TYPE

Accuracy ±3% (60-cycle sine wave, 25°C).

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Prefix: 50-188 051§	2½" AW-91 Prefix: 50-152 051§	3½" AO-91 Prefix: 50-162 051§	4½" AO-92 Prefix: 50-171 051§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 051§	3½" No. 167 Prefix: 50-167 051§	4½" No. 178 Prefix: 50-178 051§
0-10	50		MTMT	$23.00	$23.00	$24.00	$27.00	$23.00	$24.00	$27.00
0-15	75†		NDND	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-20	40		NGNG	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-25	50		NJNJ	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-30	60	1000	NLNL	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-50	50	ohms	NTNT	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-80	40	per	PDPD	23.00	23.00	24.00	27.00	23.00	24.00	27.00
0-100	50	volt	PKPK	24.00	24.00	25.00	28.00	24.00	25.00	28.00
0-150	75†		PZPZ	24.00	24.00	25.00	28.00	24.00	25.00	28.00
0-200	40		RLRL	.....	.....	25.00	28.00	.....	25.00	28.00
0-250	50		RSRS	.....	.....	25.00	28.00	.....	25.00	28.00
0-300	60		RXRX	.....	.....	26.00	29.00	.....	26.00	29.00

Accuracy ±0.5% of mid-span.

EXPANDED SCALE

Scale Volts	Scale Div.	Term. Resis., Ohms	§ Add Suffix	Not Available	Not Available	Prefix: 50-162 071§	Prefix: 50-171 071§	Not Available	Prefix: 50-167 071§	Prefix: 50-178 071§
110-130	40	100	PNPN	.....	.....	$52.00	$55.00	.....	$52.00	$55.00
105-125	40	ohms/V	PTPT	.....	.....	52.00	55.00	.....	52.00	55.00

AC AMMETERS (SELF CONTAINED, 25-400 CYCLES)

Scale Amps	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 141§	3½" AO-91 Prefix: 50-162 141§	4½" AO-92 Prefix: 50-171 141§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 141§	3½" No. 167 Prefix: 50-167 141§	4½" No. 178 Prefix: 50-178 141§
0-1	50	0.16	LALA	.....	$17.00	$18.00	$21.00	$17.00	$18.00	$21.00
0-3	60	0.015	LJLJ	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-5	50‡	0.007	LSLS	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-8	40	0.003	MJMJ	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-10	50	0.0024	MTMT	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-15	75†	0.0016	NDND	.....	17.00	19.00	22.00	17.00	18.00	21.00
0-20	40	0.001	NGNG	.....	18.00	19.00	22.00■	18.00■	19.00■	22.00■
0-30	60	0.0006	NLNL	.....	18.00	21.00	24.00■	18.00■	19.00■	22.00■
0-50*	50	0.0004	NTNT	.....	.....	21.00	24.00■	.....	21.00■	24.00■
0-80*	.....	0.0004	PDPD	.....	.....	24.00	27.00■	.....	24.00■	27.00■

TRANSFORMER-RATED, 0-5 AMPERES, 25-400 CYCLES

0-10	50		LSM1	.....	$17.00	$18.00	$21.00	$17.00	$18.00	$21.00
0-15	75†		LSND	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-20	40		LSNG	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-30	60		LSNL	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-40	40		LSNP	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-50	50		LSNT	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-75	75†		LSPB	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-80	40		LSPD	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-100	50		LSPK	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-150	75†		LSPZ	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-200	40	0.007	LSRL	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-300	60		LSRX	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-400	40		LSSC	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-500	50		LSSF	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-600	60		LSSJ	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-800	40		LSSN	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-1000	50		LSVA	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-1200	60		LSVB	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-1500	75†		LSVC	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-2000	40		LSVE	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-3000	60		LSVJ	.....	17.00	18.00	21.00	17.00	18.00	21.00

AC MILLIAMMETERS (SELF CONTAINED, 25-400 CYCLES)

0-10 mA	50	2158	GZGZ	.....	$17.00	$18.00	$21.00	$17.00	$18.00	$21.00
0-25 mA	50	341	HJHJ	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-50 mA	50	84	HYHY	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-100 mA	50	21	JRJR	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-200 mA	40	4.1	KAKA	.....	17.00	18.00	21.00	17.00	18.00	21.00
0-500 mA	50	0.7	KMKM	.....	17.00	18.00	21.00	17.00	18.00	21.00

AC MILLIAMMETERS AND MICROAMMETERS (RECTIFIER TYPE)

Accuracy ±3% (60-cycle sine wave, 25°C).

Scale mA	Scale Div.	Term. Resis., Ohms	§ Add Suffix	BIG LOOK List Price 1½" DW-90 Not Available	2½" AW-91 Prefix: 50-152 151§	3½" AO-91 Prefix: 50-162 151§	4½" AO-92 Prefix: 50-171 151§	HORIZON LINE List Price 2½" No. 157 Prefix: 50-157 151§	3½" No. 167 Prefix: 50-167 151§	4½" No. 178 Prefix: 50-178 151§
0-1 mA	50	570	FAFA	.....	$22.00	$23.00	$26.00	$22.00	$23.00	$26.00
0-1.5 mA	75†	375	FDFD	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-2 mA	40	325	FGFG	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-3 mA	60	197	FNFN	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-5 mA	50	139	FXFX	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-10 mA	50	90	GZGZ	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-20 mA	40	62	HFHF	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-500 μA	50	985	EMEM	.....	22.00	23.00	26.00	22.00	23.00	26.00
0-800 μA	40	655	EWEW	.....	22.00	23.00	26.00	22.00	23.00	26.00

† 75 divisions, except 30 on 1½" and 2½" sizes.
‡ 50 divisions, except 25 on 2½" size.
§ **When ordering show complete number, prefix plus suffix;** example: **50-171 151 EMEM** for μA 4" BIG LOOK AC ammeter.
¶ Trade-mark of General Electric Co.
• Do not have sealed terminal studs.
■ With external magnetic shield assembled to meter base.

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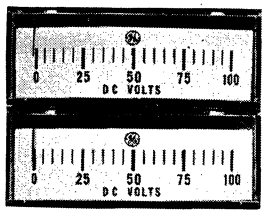
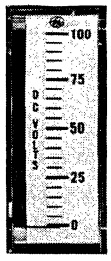
PANEL METERS

NEW IDEAS IN ELECTRONICS





NEW 185 SERIES EDGEWISE METERS

Slim, miniature design can be mounted individually or in space-saving clusters. Choice of horizontal or vertical placement. Flush sides assure tight, case-to-case stacking without mechanism bulge. Magnetically shielded to prevent interaction between meters; no need for special calibration. Optional bezel and mounting brackets available for one, two or three-unit stacking. Meet applicable portions of ASA C-39.1. **Accuracy:** ±2% of full scale, DC meters; ±3% with 60-cycle sine wave at 25°C, AC rectifier-type meters. **Overload:** 20% momentary and sustained, voltmeter; 1000% momentary and 20% sustained, ammeter. **Insulation:** 1800 V rms hi-pot. **Scale:** 1.785" long, 53° rotation. **Response Time and Damping:** Meet or exceed ASA requirements. Response time 3 sec. max., μA meters; 2 sec. max., all other DC ratings; 2.5 sec. max., AC ratings. Damping 40% max. overshoot; damping factor, 2.5 minimum. **Size:** 0.92" w. x 2.258" lg. x 3.44" D., overall. Bezel 1.255" w. x 3.005" lg., single; 2.155" w., double; 3.055" w., triple-unit mounting.

DC VOLTMETERS (SELF CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left* Number	Vertical Zero-Bottom* Number	List Price
0-10		50-185 011 MTMT	50-185 013 MTMT	$19.00
0-15		50-185 011 NDND	50-185 013 NDND	19.00
0-30	1000	50-185 011 NLNL	50-185 013 NLNL	19.00
0-50	ohms/	50-185 011 NTNT	50-185 013 NTNT	19.00
0-100	volt	50-185 011 PKPK	50-185 013 PKPK	19.00
0-150		50-185 011 PZPZ	50-185 013 PZPZ	19.00
0-300		50-185 011 RXRX	50-185 013 RXRX	20.00
15-0-15	2000	50-185 012 NDND	50-185 014 NDND	19.00
50-0-50	ohms/	50-185 012 NTNT	50-185 014 NTNT	19.00
150-0-150	volt	50-185 012 PZPZ	50-185 014 PZPZ	20.00

DC VOLTMETERS (FOR EXTERNAL RESISTORS)

Rated 0-1 mA for use with external resistor, not supplied.

0-500	40	50-185 111 FASF	50-185 113 FASF	$18.00
0-600	40	50-185 111 FASJ	50-185 113 FASJ	18.00
0-750	40	50-185 111 FASM	50-185 113 FASM	18.00

DC MICROAMMETERS (SELF CONTAINED)

0-20	2030	50-185 111 CFCF	50-185 113 CFCF	$31.00
0-50	1625	50-185 111 CYCY	50-185 113 CYCY	25.00
0-100	1350	50-185 111 DRDR	50-185 113 DRDR	21.00
0-500	200	50-185 111 EMEM	50-185 113 EMEM	18.00
50-0-50	1350	50-185 112 CYCY	50-185 114 CYCY	21.00
500-0-500	40	50-185 112 EMEM	50-185 114 EMEM	18.00

DC MILLIAMMETERS (SELF CONTAINED)

0-1	40	50-185 111 FAFA	50-185 113 FAFA	$18.00
0-5	2.0	50-185 111 FXFX	50-185 113 FXFX	18.00
0-10	1.0	50-185 111 GZGZ	50-185 113 GZGZ	18.00
0-20	0.5	50-185 111 HFHF	50-185 113 HFHF	18.00
0-50	1.0	50-185 111 HYHY	50-185 113 HYHY	18.00
0-100	0.5	50-185 111 JRJR	50-185 113 JRJR	18.00
0-300	0.167	50-185 111 KGKG	50-185 113 KGKG	18.00
0-500	0.099	50-185 111 KMKM	50-185 113 KMKM	18.00
5-0-5	1.0	50-185 112 FXFX	50-185 114 FXFX	18.00
10-0-10	0.5	50-185 112 GZGZ	50-185 114 GZGZ	18.00
50-0-50	0.5	50-185 112 HYHY	50-185 114 HYHY	18.00
500-0-500	0.049	50-185 112 KMKM	50-185 113 KMKM	18.00

DC AMMETERS (SELF CONTAINED)

0-1	0.049	50-185 111 LALA	50-185 113 LALA	$18.00
0-5	0.0099	50-185 111 LSLS	50-185 113 LSLS	18.00
0-10	0.0049	50-185 111 MTMT	50-185 113 MTMT	18.00
5-0-5	0.0049	50-185 112 LSLS	50-185 114 LSLS	18.00

DC AMMETERS (50 mV SHUNT-RATED)

Shunt not supplied. Calibrated for use with 2-way shunt-lead resistance of 0.065 ohm.

0-20	12.5	50-185 121 ECNG	50-185 123 ECNG	$18.00
0-50	12.5	50-185 121 ECNT	50-185 123 ECNT	18.00
0-300	12.5	50-185 121 ECRX	50-185 123 ECRX	18.00
0-500	12.5	50-185 121 ECSF	50-185 123 ECSF	18.00

AC RECTIFIER TYPE INSTRUMENTS

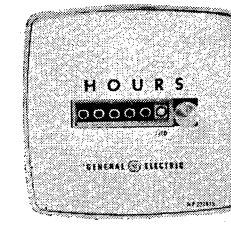
Self-contained with linear scale. Accuracy, ±3%.

0-10 V		50-185 051 MTMT	50-185 053 MTMT	$24.00
0-15 V		50-185 051 NDND	50-185 053 NDND	24.00
0-30 V	1000	50-185 051 NLNL	50-185 053 NLNL	24.00
0-50 V	ohms/	50-185 051 NTNT	50-185 053 NTNT	24.00
0-100 V	volt	50-185 051 PKPK	50-185 053 PKPK	25.00
0-150 V		50-185 051 PZPZ	50-185 053 PZPZ	25.00
0-50 μA	985	50-185 151 EMEM	50-185 153 EMEM	23.00
0-1 mA	570	50-185 151 FAFA	50-185 153 FAFA	23.00
0-5 mA	139	50-185 151 FXFX	50-185 153 FXFX	23.00
0-10 mA	90	50-185 151 GZGZ	50-185 153 GZGZ	23.00
0-20 mA	62	50-185 151 HFHF	50-185 153 HFHF	23.00

*Zero-center as listed.

¶ Trade-mark of General Electric Co.

TYPE 236 BIG LOOK¶ ELAPSED TIME METERS



Offers distinctive appearance and excellent readability; designed to match ammeters and voltmeters with "Big Look" styling. Models are available for every time-measuring application. Both 2½" and 3½" sizes for panel mounting, plus 2½" size for use with conduit type case or portable stand. All panel mounted timers meet requirements of ASA specification C39.1 for four-stud mounting. Available in reset and non-reset types, measuring either minutes or hours. Types listed are 60 cps operation, for 50 cps, add **$1.00** to list price. For 208-volt type specify model desired and add **$1.50** to list price of 240-volt model.

NONRESET TYPE — COMMERCIAL CASE

G.E. Model Number Minutes	G.E. Model Number Hours	Size In.	Voltage VAC	List Price
50-236401AAAA1	50-236402AAAA1	2½	120	$23.00
50-236401ABAA1	50-236402ABAA1	2½	240	24.00
50-236401ACAA1	50-236402ACAA1	2½	480	25.00
50-236301AAAA1	50-236302AAAA1	3½	120	23.00
50-236301ABAA1	50-236302ABAA1	3½	240	24.00
50-236301ACAA1	50-236302ACAA1	3½	480	25.00

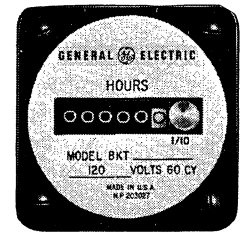
SEALED CASE

50-236421AAAA1	50-236422AAAA1	2½	120	$26.00
50-236421ABAA1	50-236422ABAA1	2½	240	27.00
50-236421ACAA1	50-236422ACAA1	2½	480	28.00
50-236321AAAA1	50-236322AAAA1	3½	120	26.00
50-236321ABAA1	50-236322ABAA1	3½	240	27.00
50-236321ACAA1	50-236322ACAA1	3½	480	28.00

RESET KNOB TYPE — COMMERCIAL CASE

50-236411AAAA1	50-236412AAAA1	2½	120	$31.00
50-236411ABAA1	50-236412ABAA1	2½	240	32.00
50-236411ACAA1	50-236412ACAA1	2½	480	33.00
50-236311AAAA1	50-236312AAAA1	3½	120	31.00
50-236311ABAA1	50-236312ABAA1	3½	240	32.00
50-236311ACAA1	50-236132ACAA1	3½	480	33.00

TYPE KT-11 TIME METERS



Ideal indicator for proper servicing and preventive maintenance in industry or for indicating component life. Available in 2½" and 3½" sizes, round or square cases, for flush mounting on panel board or in equipment case. Diecast zinc bezel with aluminized dial face. Wide temperature operating range with 6-digit register. Extra large counter numbers, white on black background for excellent readability. Last digit in contrasting color to indicate tenths. Bezel and plastic case provide dust-resistant enclosure for mechanism. Available with or without reset knob. Meet ASA panel mounting specifications. For 60 cps operation. For 50 cps operation, add **$1.00** to list price. For 208-volt type specify model desired and add **$1.50** to list price of 240-volt model.

NON-RESET TYPE — ROUND CASE

G.E. Model Number Minutes	G.E. Model Number Hours	Size In.	Voltage VAC	List Price
50-235011AAAA1	50-235012AAAA1	2½	120	$26.00
50-235011ABAA1	50-235012ABAA1	2½	240	27.00
50-235011ACAA1	50-235012ACAA1	2½	480	28.00
50-235091AAAA1	50-235092AAAA1	3½	120	26.00
50-235091ABAA1	50-235092ABAA1	3½	240	27.00
50-235091ACAA1	50-235092ACAA1	3½	480	28.00

SQUARE CASE

50-235051AAAA1	50-235052AAAA1	2½	120	$26.00
50-235051ABAA1	50-235052ABAA1	2½	240	27.00
50-235051ACAA1	50-235052ACAA1	2½	480	28.00
50-235131AAAA1	50-235132AAAA1	3½	120	26.00
50-235131ABAA1	50-235132ABAA1	3½	240	27.00
50-235131ACAA1	50-235132ACAA1	3½	480	28.00

RESET KNOB TYPE — ROUND CASE

50-235021AAAA1	50-235012AAAA1	2½	120	$34.00
50-235021ABAA1	50-125012ABAA1	2½	240	35.00
50-235021ACAA1	50-235012ACAA1	2½	480	36.00
50-235101AAAA1	50-235102AAAA1	3½	120	34.00
50-235101ABAA1	50-235102ABAA1	3½	240	35.00
50-235101ACAA1	50-235102ACAA1	3½	480	36.00

SQUARE CASE

50-235061AAAA1	50-235062AAAA1	2½	120	$34.00
50-235061ABAA1	50-235062ABAA1	2½	240	35.00
50-235061ACAA1	50-235062ACAA1	2½	480	36.00
50-235141AAAA1	50-235142AAAA1	3½	120	34.00
50-235141ABAA1	50-235142ABAA1	3½	240	35.00
50-235141ACAA1	50-235142ACAA1	3½	480	36.00

Trade Discount Applies To List Prices Only

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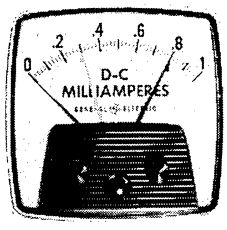
METER RELAYS

TYPE 195 AND 196 METER RELAYS

NEW IDEAS IN ELECTRONICS

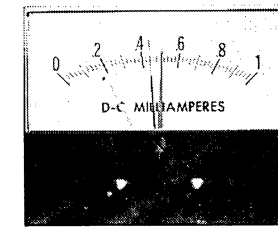


TYPE 195

New General Electric Meter Relays feature a **solid-state, light-sensitive switch** for optimum control simplicity and reliability. This switch controls the load relay directly; no amplifiers, no pointer contacts . . . no mechanical interference with meter movement. Pointer travel is unrestricted across the entire scale . . . you get **continuous indication** above and below the setpoints! Control action is dependable and repeatable over entire range!

Unique **piggy-back control modules** on 3½-inch and 4½-inch models, eliminate mounting and wiring of separate components . . . speed up and simplify installation. Control mounts directly on rear of indicator; no soldering, no complicated connections . . . just plug-in and they're mated! Control module may be removed without interrupting measurement circuit.

Other features include **ON-OFF** (automatic reset) **or Alarm** (manual reset) **Control . . . 120-volt A-C Operation!** No special power supply needed . . . **Long Lamp Life!** Conservatively estimated at 5 years . . . **Fail-safe Operation.**



TYPE 196

Rating and Scale	Meter Size 2½-inch*	3½-inch	4½-inch
	List Price (With Single Set-point)†		
D-C VOLTMETERS, ZERO-CENTER For use with external resistors. (Resistors **not** included.)			
500-0-500 Volts	$112	.....	.....
600-0-600 Volts	112	.....	.....
750-0-750 Volts	112	$108	$110
D-C MICROAMMETERS, ZERO-LEFT			
20 ua	$123	.....	.....
50 ua	119	$115	.....
100 ua	115	111	$114
200 ua	113	109	112
500 ua	112	108	110
D-C MICROAMMETERS, ZERO-CENTER			
50-0-50 ua	$115	$111	$114
100-0-100 ua	113	109	112
200-0-200 ua	112	108	110
500-0-500 ua	112	108	110
D-C MILLIAMMETERS, ZERO-LEFT			
1 Ma	$112	$108	110
1.5 Ma	112	108	110
3 Ma	112	108	110
5 Ma	112	108	110
10 Ma	112	108	110
20 Ma	112	108	110
25 Ma	112	108	110
30 Ma	112	108	110
50 Ma	112	108	110
80 Ma	112	108	110
100 Ma	112	108	110
150 Ma	112	108	110
200 Ma	112	108	110
250 Ma	112	108	110
300 Ma	112	108	110
500 Ma	112	108	110
800 Ma	112	108	110
D-C VOLTMETERS, ZERO-LEFT			
1.0 Volts	$113	$109	$111
1.5 Volts	113	109	111
3 Volts	113	109	111
5 Volts	113	109	111
8 Volts	113	109	111
10 Volts	113	109	111
15 Volts	113	109	111
30 Volts	113	109	111
50 Volts	113	109	111
80 Volts	113	109	111
100 Volts	113	109	112
150 Volts	113	109	112
200 Volts	113	109	112
250 Volts	113	109	112
300 Volts	114	110	113
500 Volts	.....	111	114
600 Volts	.....	111	114
D-C VOLTMETERS, ZERO-LEFT For use with external resistors. (Resistors **not** included.)			
500 Volts	$112	.....	.....
600 Volts	112	.....	.....
750 Volts	112	$108	$110
D-C VOLTMETERS, ZERO-CENTER			
5-0-5 Volts	$113	$109	$111
10-0-10 Volts	113	109	111
30-0-30 Volts	113	109	111
50-0-50 Volts	113	109	111
80-0-80 Volts	113	109	111
150-0-150 Volts	113	109	112
300-0-300 Volts	114	110	113
500-0-500 Volts	.....	111	114
600-0-600 Volts	.....	111	114

Rating and Scale	Meter Size 2½-inch*	3½-inch	4½-inch
	List Price (With Single Set-point)†		
D-C MILLIAMMETERS, ZERO-CENTER			
1-0-1 Ma	$112	$108	$110
3-0-3 Ma	.....	.....	110
5-0-5 Ma	112	108	110
10-0-10 Ma	112	108	110
20-0-20 Ma	112	108	110
25-0-25 Ma	112	108	110
30-0-30 Ma	112	108	110
50-0-50 Ma	112	108	110
100-0-100 Ma	112	108	110
150-0-150 Ma	112	108	110
200-0-200 Ma	112	108	110
250-0-250 Ma	112	108	110
300-0-300 Ma	112	108	110
500-0-500 Ma	112	108	110
D-C AMMETERS, ZERO-LEFT			
1 Amp	$112	$108	$110
1.5 Amp	112	108	110
2 Amp	112	108	110
3 Amp	112	108	110
5 Amp	112	108	110
10 Amp	112	108	110
15 Amp	112	108	110
20 Amp	112	108	110
30 Amp	112	108	110
50 Amp	.....	108	110
D-C AMMETERS, 50-MV SHUNT-RATED, ZERO-LEFT (Shunt and leads **not** included)			
20 Amp	$112	$108	.....
30 Amp	112	108	.....
50 Amp	112	108	$110
75 Amp	112	108	110
100 Amp	112	108	110
150 Amp	112	108	110
200 Amp	112	108	110
250 Amp	112	108	110
300 Amp	112	108	110
400 Amp	112	108	110
500 Amp	112	108	110
600 Amp	112	108	110
800 Amp	112	108	110
1 KA	112	108	110
1.5 KA	112	108	110
2.0 Ka	112	108	110
D-C AMMETERS, 100-MV SHUNT-RATED, ZERO-LEFT (Shunt and leads **not** included)			
20 Amp	$112	$108	$110
40 Amp	112	108	110
50 Amp	112	108	110
75 Amp	112	108	110
100 Amp	112	108	110
150 Amp	112	108	110
200 Amp	112	108	110
250 Amp	112	108	110
300 Amp	112	108	110
400 Amp	112	108	110
500 Amp	112	108	110
600 Amp	112	108	110
800 Amp	112	108	110
1 Ka	112	108	110
2 Ka	112	108	110
D-C AMMETERS, ZERO-CENTER			
1-0-1 Amp	$112	$108	$110
2-0-2 Amp	112	108	110
5-0-5 Amp	112	108	110
10-0-10 Amp	112	108	110
15-0-15 Amp	112	108	110
20-0-20 Amp	112	108	110
30-0-30 Amp	112	108	110
50-0-50 Amp	.....	108	110

Rating and Scale	Meter Size 2½-inch*	3½-inch	4½-inch
	List Price (With Single Set-point)†		
D-C AMMETERS, 50-MV SHUNT-RATED, ZERO-CENTER (Shunt & leads **not** included)			
50-0-50 Amp	$112	$108	$110
75-0-75 Amp	112	108	110
100-0-100 Amp	112	108	110
150-0-150 Amp	112	108	110
A-C VOLTMETERS, RECTIFIER-TYPE			
10 Volts	$118	$114	$117
15 Volts	118	114	117
20 Volts	118	114	117
25 Volts	118	114	117
30 Volts	118	114	117
50 Volts	118	114	117
80 Volts	118	114	117
100 Volts	119	115	118
150 Volts	119	115	118
200 Volts	.....	115	118
250 Volts	.....	116	119
300 Volts	.....	116	119
A-C MICROAMMETERS, RECTIFIER-TYPE			
500 ua	$117	$113	$116
800 ua	117	113	116
A-C MILLIAMMETERS, RECTIFIER-TYPE			
1 Ma	$117	$113	$116
1.5 Ma	117	113	116
2 Ma	117	113	116
3 Ma	117	113	116
5 Ma	117	113	116
10 Ma	117	113	116
20 Ma	117	113	116
A-C AMMETERS, RECTIFIER-TYPE (Rectifier-type milliammeter with external 5A/20 ma transformer **included**)			
Combined Rating 5 Amp	$129	$125	$128
TRANSFORMER-RATED AMMETERS (Same as above except scales marked as follows:)			
10 Amp	$129	$125	$128
15 Amp	129	125	128
20 Amp	129	125	128
30 Amp	129	125	128
40 Amp	129	125	128
50 Amp	129	125	128
75 Amp	129	125	128
80 Amp	129	125	128
100 Amp	129	125	128
150 Amp	129	125	128
200 Amp	129	125	128
300 Amp	129	125	128
400 Amp	129	125	128
500 Amp	129	125	128
600 Amp	129	125	128
800 Amp	129	125	128
1 Ka	129	125	128
1.2 Ka	129	125	128
1.5 Ka	129	125	128
2.0 Ka	129	125	128
3.0 Ka	129	125	128

* Two and one-half-inch meter relays are available in Type 195 styling only, and include mounting bracket and six-foot plug-in lead — accessory kit 1012K10G701.

† Prices listed are for meter relays with single set-point. For double set-point, add $25.

GENERAL ELECTRIC

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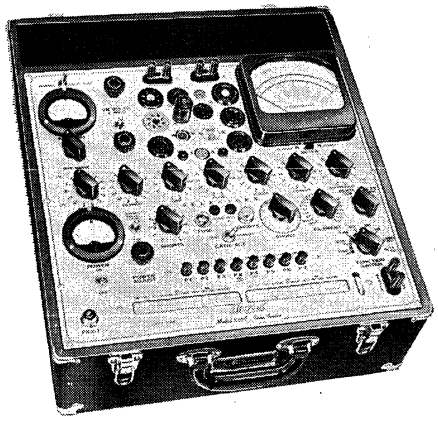
HICKOK TEST EQUIPMENT

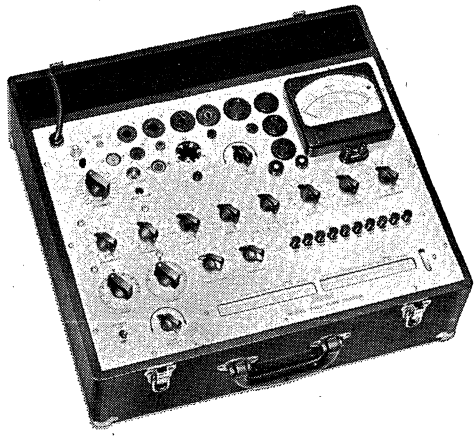


MODEL 539C

New Industrial and Laboratory Portable Tube Tester

Tests VR tubes, low power thyratrons, "4 digit" types. VR test evaluates voltage regulator tubes under actual operating conditions. Tests Nuvistors, Novars, Compactrons, 10-pin types. Provision for separate monitoring of plate current. Panel terminals provide access to grid, plate, cathode and heater circuits, permitting direct measurement of voltages and current for "non-standard" or "tailored" tests. Covers 600 to 60,000 umhos in six ranges. Dual leakage readings: directly on meter or by neon short indicators (Sensitivity to 50 megohms). Complete with socket savers. In black leatherette portable case. 16¾" x 18⅜" x 7½". 105-125v, 50-400 cycles, 40 watts. Shipping weight, 35 lbs.

Model 539C Industrial and Laboratory Tube Tester—Net Each $595.00

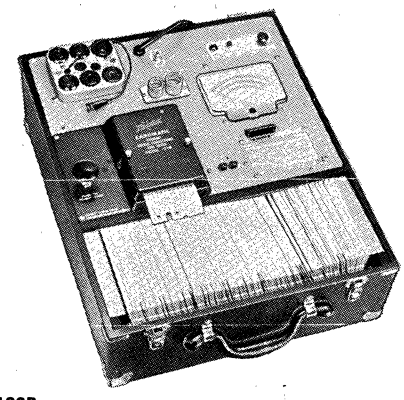


NEW MODEL 752A

New Industrial Communications Portable Tube Tester

Designed for use in maintaining communications equipment and industrial electronic apparatus. New voltage regulator test circuit tests VR tubes to handbook specifications, including firing point, regulating voltage and current range. Tests Nuvistors, Compactrons, Novars, 10-pin types. Push button test for dual-section tubes speeds selection of tubes for balanced or matched characteristics. Covers 1500 to 30,000 umhos in five ranges. Interelement leakage read directly on the meter (Sensitivity to 10 megohms). Illuminated meter and roll chart. Complete with socket savers and pin-straighteners. In black leatherette portable case, 18⅜" x 16¾" x 7½". 105-125v, 50-60 cycles, 40-70 watts. Shipping weight, 27 lbs.

Model 752A Industrial and Communication Portable Tube Tester—Net Each $415.00

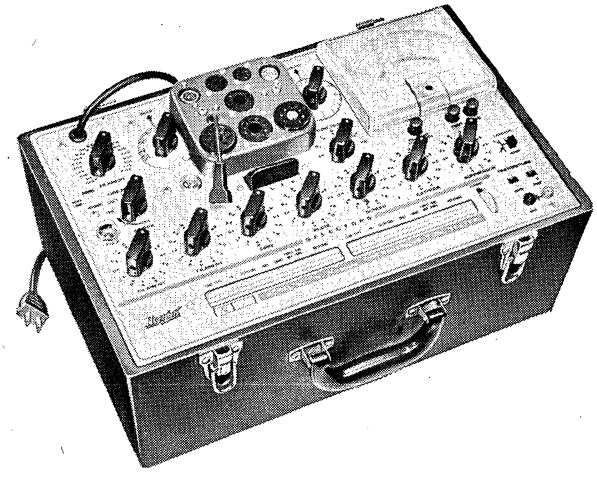


MODEL 123R

Cardmatic® Automatic Tube Tester

Ideal for Industrial and laboratory application. A genuinely complete tube tester, card-programs complete "fringe" tests, saturation and cut-off tests, in addition to basic Gm measurement. Gm ranges: 500-26,000 umhos; Current ranges: 100 ua to 510MA. Complete with pin straighteners, socket savers and 500 selected cards. In black leatherette portable case, 19½" x 16½" x 9¼". 105-125v, 50-60 cycles, 55 watts. Shipping weight, 57 lbs.

Model 123R—Cardmatic® Automatic Tube Tester—Net Each $725.00



MODEL 6000A

Service Technician's Deluxe Portable Tube and Transistor Tester

Has replaceable socket plate for obsolescence protection. Sensitive, instantaneous inter-element leakage and shorts test (Sensitivity — in excess of 3 megohms) filament continuity test. Covers 3,000 to 15,000 umhos in 3 ranges. Tests Compactrons, Nuvistors, Novars and 10-pin types. 14-position selector switches, no paralleled elements. Also tests transistors and diodes. In red leatherette portable case, 16¾" x 11¾" x 7½". 105-125v, 50-70 cycles, 40 watts. Shipping weight, 21 lbs.

Model 6000A Deluxe Portable Tube and Transistor Tester—Net Each $279.50

Model 799 Multi-Socket Tube Tester—Net Each $199.95

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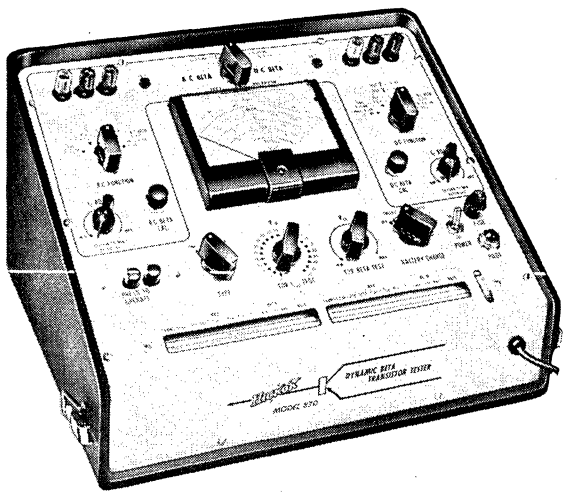
HICKOK TEST EQUIPMENT



MODEL 870

Dynamic Beta Transistor Tester

Measures AC and DC Beta. Collector test current variable up to 2 amperes, permitting Beta measurement on power transistors rated 5 amperes or more. Variable collector voltage and current permits tests according to manufacturers' specifications—Tests switching transistors, measures large signal DC Beta on power transistors—small signal AC Beta on low and medium power transistors. Icbo Ranges: 100 ua, 1 ma, 10ma; Beta Ranges: 0-100, 0-300. Complete with replaceable roll chart and test leads in black leatherette portable case 14 5/16" x 11 3/4" x 7 7/8". 115v-60 cycles, 40 watts. Shipping weight, 22 lbs.

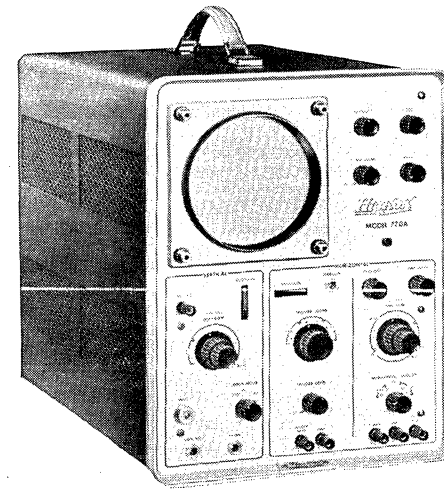
Model 870 DYNAMIC BETA Transistor Tester—Net Each $395.00

MODEL 890A

Dynamic Beta In-Circuit Transistor Test

Utilizes unique new test circuit to measure AC Beta in OR OUT of circuit with 5% accuracy. Measures these in-circuit parameters: AC Beta, Ic, Rin (transistor input impedance), Z Ohms (base-emitter circuit impedance). Measures AC Beta, Ic, Rin and Icbo out of circuit. Portable, completely self-contained, fully-transistorized — battery operated. 10 3/4" x 9" x 6 1/2". Shipping weight 8 lbs.

Model 890A Dynamic Beta In-Circuit Transistor Tester—Net Each $215.00



MODEL 770A

5", Wide-band Industrial and General Purpose Oscilloscope.

Calibrated 4MC DC vertical amplifier has Gaussian roll-off for optimum pulse response. Eight-step attenuator with ranges from 0.01V to 50V/div accurate to within 5%. Built-in square calibrator accurate to ±3%. Time base with 5X magnifier, provides 18 calibrated writing speeds from 0.2 usec/div to 1.5 sec/div at ±3% accuracy. Choice of free-running, driven, or automatic sweep modes is also provided. Has flat-face, post-accelerated CRT, illuminated graticule. 13 3/4" x 11" x 17 1/2". Shipping weight, 57 lbs.

Model 770A 5". Wide-band Industrial and General Purpose Oscilloscope—Net Each $675.00

MODEL 677

Wide-Band Service Technician's 5" AC Oscilloscope

5 cps to 4.5MC within 3db. New 1-2-3 circuit approach simplifies peak-to-peak measurements. Pre-set horizontal and vertical sweep positions. Sharp, bright trace with astigmatic correction, facilitates detailed observations of TV sync wave forms, including 3.58MC color burst. Furnished complete with detailed application and instruction book and test leads. 14"x9 1/2"x18 1/2". Shipping weight, 36 lbs.

Model 677 Wide-Band Service Technicians 5" Oscilloscope—Net Each $249.50

MODEL CA-4

Universal Adapter

For testing Compactrons, Novars, 5- and 7-pin Nuvistors, 10-pin types. Suitable for Cardmatic models and most other models except Models 532, 533, 534, 536, 538, 539A, 546, 600 and 605. Shipping weight, 6 lbs.

Model CA-4 Universal Adapter—Net Each $59.50

Model 725 Stereo Standard FM Multiplex Generator—Net Each $495.00

Model 470A Electronic Volt-Ohmmeter—Net Each $89.50

Model 209C True Vacuum Tube Volt-Ohm-Milliampere and Capacitance Meter—Net Each $199.50

Model CR-35 CRT Analyzer/Rejuvenator—Net Each $99.95

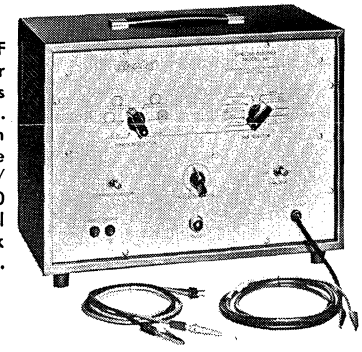
THE HICKOK ELECTRICAL INSTRUMENT CO.

HICKOK TEST EQUIPMENT

MODEL 615
Sweep and Marker Alignment Generator

For complete TV, IF and RF alignment, including color TV alignment. Also provides harmonic output on UHF. All electronic Sweep with no moving parts. Amplitude modulation less than 0.1db/MC. 110-120v, 60 cycles, 40 watts. Furnished in steel carrying case, 16¼" x 8" x 13½" complete with leads. Shipping weight 39 lbs.

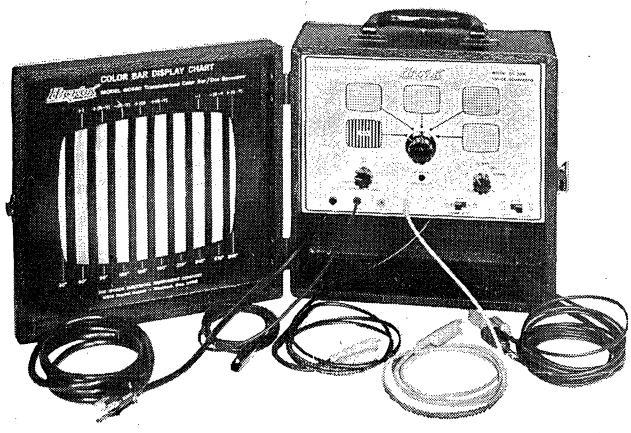
Model 615 Sweep and Marker Alignment Generator—Net Each $429.50



MODEL 661
Chrom-Aligner NTSC Color Bar-White Dot Generator

Generates individual 100% saturated color bars to NTSC standards. Provides the following demodulator alignment signals: R-Y, B-Y, G-Y, G-Y at 90°, RF output on channels 3 or 4. Crystal-controlled chroma and sync. Separate video output. 110v, 60 cycles, 20 watts. Complete with leads and 3.58MC crystal. Shipping weight, 20 lbs.

Model 661 Chrom-Aligner Generator—Net Each $379.50



MODEL GC660
Color Bar Dot/Crosshatch Generator

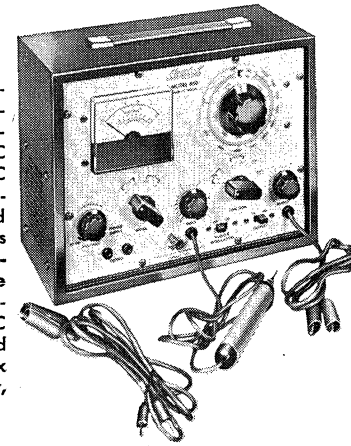
A completely new design that sets a new standard of stability through liberal use of high-speed silicon switching devices and unijunction transistors. Uses 300-dot, shortstep timer system to assure complete screen coverage, especially important on rectangular tubes. "No flicker" crosshatch pattern because of 60-cycle time base. Dot size based on 0.1 usec pulse is only one line thick and one line wide for maximum convergence accuracy. Standard 10-bar pattern with controllable chroma level for color sync and killer threshold checks. Gun killer permits fast purity checks and actually allows use of picture tube as a 'scope for chroma demodulator alignment. Tuneable RF output at 300 ohms, ±video output, special sync output for Zenith receivers, 10¾" x 10⅜" x 5". Shipping weight, 6¼ lbs.

Model GC660 Color Bar Dot/Crosshatch Generator—Net Each $179.50

MODEL 288AX
Crystal Controlled AM-FM Sweep and Marker Generator

A complete alignment instrument with built-in decibel meter and crystal frequency standard (100KC and 1000KC). Covers 35KC to 110MC in 8 bands frequency modulated and 35KC to 160MC in 8 bands amplitude modulated. **Includes new ultrasonic range** from 35KC to 125KC. Supplied with 100KC/1000KC crystal, cable assembly and meter leads. Case size 16"x 7"x13". Shipping weight, 33 lbs.

Model 288AX Crystal Controlled AM-FM Sweep and Marker Generator — Net Each $385.00



MODEL 860
"Injecto-Tracer" Signal Tracer

An all solid-state instrument for complete trouble shooting of all types of AM and FM radios, including auto radios, and TV sound circuits. Unlike other signal tracers that only inject the test signal, the 860 also picks up, amplifies and detects signals through a tuneable amplifier and allows a complete job of signal tracing. Covers range from 200KC to 1700KC, plus 10.7 MC IF. Regulated, high-current power supply is variable to permit checking distortion, oscillator drop-out, etc. 11" x 8½" x 5½". Shipping weight, 9½ lbs.

Model 860 "Injecto-Tracer" Signal Tracer—Net Each $149.50

THE HICKOK ELECTRICAL INSTRUMENT CO.

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PRICES

Prices in this MASTER should not be considered as final. INQUIRE ABOUT LATEST PRICES AND DELIVERY.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

ORDERING

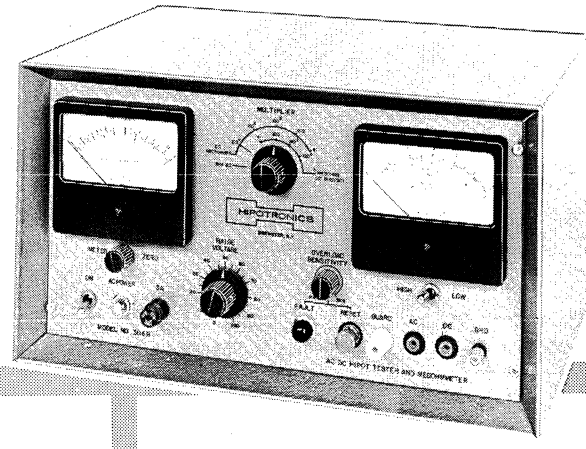
Since previous editions of the MASTER are frequently referred to, it is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

INVENTORY

While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

HIPOTRONICS AC/DC HIPOT TESTERS & MEGOHMMETERS

MODEL 306B



300 SERIES

The 300 series of Hipot Testers and Megohmmeters are voltage test sets which perform three different functions. They may be used for AC Hipot, DC Hipot and DC megohm tests. The "A" units perform IR tests to 1000 megohms and the "B" units to 100,000 megohms at 500 volts. Megohms at any other voltage may be determined from the volt and current meter readings.

- The sensitive thyratron operated overload relay adjustable from 20 microamperes to 5 milliamperes, will in many applications, permit non-destructive hipot tests to be performed.
- When the overload is set to 20 ua, the high voltage will generally trip on the build-up of leakage current before actual arc-over occurs.
- The "B" series has a quadruple range current meter which permits leakage currents as low as 0.01 ua to be read.
- The "A" series permits the reading of currents down to 1.0 ua.
- The KV meter has two ranges and is connected directly at the output for maximum accuracy.
- Other features include an AC input switch, fuse and pilot light, front panel output jacks, continuously adjustable output control, guard circuit on "B" series, and a failure light with reset button.
- Housed in a totally enclosed dust-proof cabinet.

Size: 17" W x 9½" H x 11" D
Input: 115 volts, 60 cps, 1 ampere – all models
Weight: 20 pounds

- Voltage to 6 KV, megohms to 100,000
- Overload adjustable from 20 microamperes to 5 ma.
- Performs non-destructive quantitative tests.
- continuously adjustable output from 0 to maximum
- Overload light with reset button, 2% meter accuracies

SPECIFICATIONS & MODELS

Model No.	Voltage KV DC	RMS	DC Current Meter ua.	AC Current Meter	Megohms at 500V	Size Ranges	W x H x D"	Price
301A	1.5	1.0	0-50/500	5 ma.	1-1000	2	17 x 9½ x 11	$375
301B	1.5	1.0	0-.5/5/50/500	5 ma.	1-100,000	4	17 x 9½ x 11	510
303A	3	2.5	0-50/500	5 ma.	1-1000	2	17 x 9½ x 11	395
303B	3	2.5	0-.5/5/50/500	5 ma.	1-100,000	4	17 x 9½ x 11	530
306A	6	5	0-50/500	5 ma.	1-1000	2	17 x 9½ x 11	425
306B	6	5	0-.5/5/50/500	5 ma.	1-100,000	4	17 x 9½ x 11	565

SEND FOR CATALOG **HIPOTRONICS, INC.**

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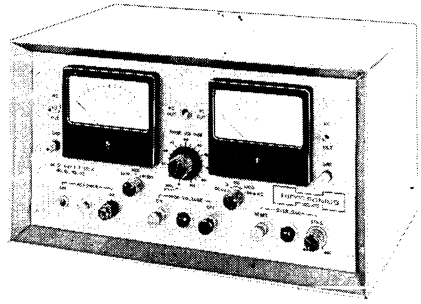
HIPOTRONICS NON-DESTRUCTIVE HIPOT & INSULATION TESTERS

NON-DESTRUCTIVE HIPOT TESTERS



Non destructive hipot tests may be made on many materials, components, test specimens etc. if a sensitive overload, coupled with a high speed HV cut-off is incorporated into an insulation tester. Hipotronics 100 series of hipot testers have a thyratron operated overload relay which cuts-out the HV in 5 milliseconds or less with leakage currents as low as 20 microamperes. The overload, when set on 20 ua, will generally trip the HV on corona and leakage currents which precede an actual breakdown, puncture or flash-over. The overload is continuously adjustable from 20 ua to 5 ma which enables the user to draw 5 milliamperes for capacitor charging, cable testing, power supply etc.

FEATURES

- **AC input switch, fuse and pilot light**
- **Continuously adjustable output control from zero to maximum**
- **Output connected KV meter, 2% accuracy**
- **Current meter in HV return, 2% accuracy**
- **Meter re-calibration facilities**
- **Continuously adjustable overload relay from 20 ua. to 5 ma.**
- **Failure light with reset button**
- **Re-entrant output jacks with shielded HV output lead and plug**
- **AC/DC meter switch on AC/DC units**
- **Surge limiting resistor in DC output**
- **115 volt, 60 cps input**
- **Deluxe 17″ W x 9″ H x 11″ D cabinet**

FEATURES — OPTIONALLY AVAILABLE

Zero start interlock with HV on and off push buttons — compels operator to always raise voltage from zero $30
Triple range KV Meter $20
Triple range current meter, 50/500/5000 ua on DC models $20
Output shorting relay with discharge resistor — A "must" when testing capacitive loads with DC $30
Audible failure signal $15
HV test probe $10
Rack Mount on 19″ x 8¾″ panel $10

AC OUTPUT

VOLTAGE	MODEL	PRICE
0-2.5KV @ 5 ma.	102A	$200
0-5KV @ 5 ma.	105A	225
0-10KV @ 5 ma.	110A	275
0-25KV @ 5 ma.	125A	500
0-15KV @ 500 ua.	115A	500

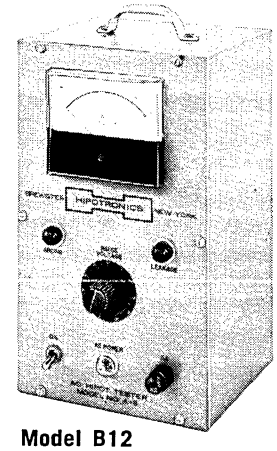
DC OUTPUT

VOLTAGE	MODEL	PRICE
0-3KV @ 5 ma	103D	$200
0-6KV @ 5 ma	106D	220
0-12KV @ 5 ma	112D	290
0-20KV @ 5 ma	120D	350
0-30KV @ 5 ma	130D	400
0-50KV @ 5 ma	150D	600

AC/DC OUTPUT

VOLTAGE	MODEL	PRICE
0-3KV DC, 2.5 KV AC	103	$230
0-6KV DC, 5 KV AC	106	250
0-15KV DC, 10 KV AC	115	330
0-25KV DC, 10 KV AC	125	425
0-40KV DC, 15 KV AC	140	600
All have 5 ma. capacity. Heavier current models available.		

PRODUCTION HIPOT TESTERS



Model B12

Designed for use by inexperienced production personnel for mass testing of components, transformers, U.L. appliances etc. Simple to operate; arcing and leakage lights readily discernable. The short circuit current is limited to a maximum of 18 ma. on AC units and 5 ma. on DC models.

FEATURES

- **Continuously adjustable output from zero to maximum**
- **Output connected KV meter for maximum accuracy**
- **Arc light employing corona pick-up network — much more sensitive than usual method**
- **Leakage current lamp factory set to fire on 1 ma. ($5 extra for continuously adjustable light from 500 ua. to 5 ma.)**
- **Three wire grounding cord and plug**
- **Shielded output lead**
- **AC input switch, fuse and pilot light**

AC MODELS

KV	MODEL	PRICE
0-1	A1	$110
0-3	A3	120
0-5	A5	135
0-10	A10	165
0-15	A15	225

DC MODELS

KV	MODEL	PRICE
0-1.5	B1	$110
0-4	B4	125
0-6	B6	145
0-12	B12	185
0-20	B20	225
0-30	B30	295

OPTIONAL EXTRAS

Audible Failure Signal $25
Test Probe $10
Continuously adjustable leakage light. 500 ua to 5 ma ..... $ 5

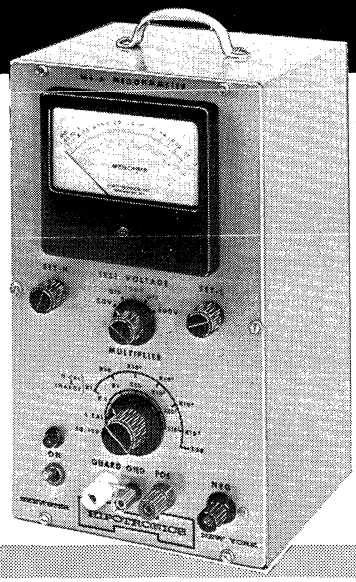
SIZE 6″ x 7″ x 12″

SEND FOR CATALOG

HIPOTRONICS, INC.

HIPOTRONICS MEGOHMMETERS

for production or laboratory testing of cables, capacitors, printed circuits, transformers, electronic assemblies, etc.



- The output voltages are both regulated with a ferro-resonant line and a solid state electronic regulator. Even with large capacitive loads on the 20 million range, there is no bounce.
- The indicating device is a high quality Weston with better than 2% accuracies on all ranges below 1 million and 3% on 10 million. The VTVM circuit driving the meter on the higher range models has no zero shift on any range.
- The short circuit protection is such that the output may be continuously shorted without injury to any component.
- Self contained calibrating resistors in the quadruple range models permit the operator to periodically verify the calibration.
- A three terminal output network (positive, negative and guard) permits grounded or ungrounded tests to be made.
- Dual color scale on multiple output voltage models improves readability.
- The units also contain a resistor and switch position for discharging both the internal and load capacitance.
- Available in 7 models, all with 115 Volt, 60 cps input and AC input switch, fuse and pilot light.

OUTPUT VOLTAGES	MEGOHMS	RANGES	MODEL	PRICE
500	1-1000	2	M-1	$150
1000	2-2000	2	M-2	160
500/1000	1-2000	2	M-4	170
50/500	.1-100 50V	2	M-1A	160
	1-1000 500V	2		
100/1000	2-200 100V	2	M-2A	175
	2-2000 1000V	2		
50/100/500	.1-10 million	7	M-6	235
50/100/500/1000	.1-20 million	7	M-3	295

OPTIONAL EXTRAS
Lever switches for mandatory two hand hold operation and rapid discharge $25
Wood instrument case $35

HIPOTRONICS HIGH VOLTAGE TRANSFORMERS

FEATURES

- Corona Free
- Small, Compact
- Epoxy encapsulated coils on Air Units
- 50 - 400 Hz input

All designed with start insulated for full voltage. May be used in one end ground, full wave bridge or full wave doubler.

TRANSFORMERS

AIR INSULATED, 115 V 50 - 400 Hz PRIMARY

Output Voltage	Current	Price
1 KV	10 ma.	$10
2 KV	10 ma.	12
2.5 KV	10 ma.	13
3 KV	10 ma.	15
4 KV	10 ma.	17
5 KV	10 ma.	19
6 KV	10 ma.	21
7 KV	10 ma.	23
8 KV	10 ma.	25
9 KV	10 ma.	27
10 KV	10 ma.	30
12 KV	10 ma.	35
15 KV	10 ma.	40
20 KV	10 ma.	50

TRANSFORMERS FOR OIL IMMERSION

ONE END NEAR GROUND

Output Voltage	Power	Price
30 KV	1 KVA	$ 60
40 KV	1 KVA	90
50 KV	1 KVA	110
60 KV	1 KVA	130
75 KV	2 KVA	200
100 KV	2 KVA	300

FULL WAVE DOUBLER @ 20 ma.

AC	DC out of Doubler	Price
20 KV	50 KV	$ 50
30 KV	75 KV	75
40 KV	100 KV	100
60 KV	150 KV	175
80 KV	200 KV	300
100 KV	250 KV	500
120 KV	300 KV	600

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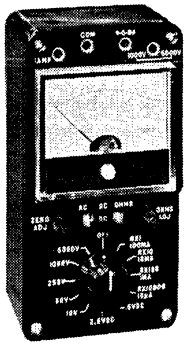
JULIE "ACCULINE"



MODEL TVOM 3

Pocket-sized, transistorized milliVolt — Ohm — Microammeter

FEATURES

- **HIGH INPUT IMPEDANCE**
  3 megohms/volt, low ranges
  27 megohms, high ranges
- **SENSITIVITY**
  500 millivolts D-C full scale
  10 μa full scale
- **BALANCED AMPLIFIER**
- **LONG BATTERY LIFE**
- **SOLID-STATE DESIGN**
- **TAUT-BAND METER**
- **HIGH IMPACT CASE**
- **BURN-OUT PROOF PROTECTION FOR AMPLIFIER & METER**
- **METER ISOLATED FROM A-C GROUND**
- **SHIELDED TEST LEADS NOT REQUIRED**
- **SMALL SIZE**

SPECIFICATIONS

12 Voltage Ranges
D-C: 0.5, 2.5, 10, 50, 250, 1000, 5000 volts full scale
A-C: 10, 50, 250, 1000, 5000 volts full scale

4 Resistance Ranges

Rx 1:	200,000 Ω mid scale
Rx 10:	200 Ω mid scale
Rx 100:	2000 Ω mid scale
Rx 10,000:	20,000 Ω mid scale

5 Current Ranges
D-C: 10 μamp, 1.0 ma, 10 ma, 100 ma, 1.0 amp (Full Scale)

Accuracy

D-C Volts:	±3% of full scale
A-C Volts:	±4% of full scale
D-C Current:	±3% of full scale
D-C Resistance:	±3° linear arc

Input Impedance
D-C Volts: 3 Megohms/volt up to 2.5 volt range
> 27 Megohms above 2.5 volt range
A-C Volts: > 0.5 Megohm at 1000 Hz

OTHER CHARACTERISTICS
Movement: 50 μa full scale taut-band
Power: 9 volt battery (Mallory TR 146X or equal)
15 volt Penlite cell (Eveready 915 or equal)
Dimensions: 3 1/16" W x 5 7/8" H x 2 3/16" D
Net Weight: Less than 1¼ lbs. with batteries
Price: $49.95

ACCESSORIES
Supplied: Test heads
Available: 9.0 volt battery
1.5 volt battery
Carrying case

MODELS RS 30A AND RSD 30A

Regulated Power Supplies

The Model RS-30A series of power supplies are 100% solid-state units. They provide highly regulated, continuously adjustable output from 0.5 volt to 30 volts at current levels of from 0 to 500 ma. The ripple level is below 3.0 millivolts rms under all operating conditions. Outputs are isolated and either polarity may be grounded. The current limiting control allows setting the maximum current the unit will deliver. The unit is short circuit proof.

FEATURES

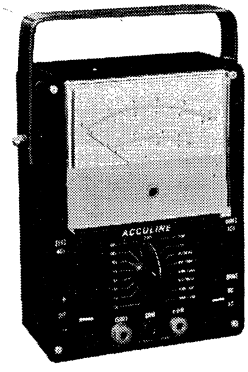
- **SHORT-CIRCUIT PROOF**
- **LOW RIPPLE**
- **GOOD REGULATION**
- **COMPACT**
- **LIGHT WEIGHT**
- **CURRENT LIMITING**
- **ISOLATED OUTPUTS**
- **RUGGED, SOLID-STATE**
- **FULLY REPAIRABLE**
- **LOW COST**

SPECIFICATIONS

Input	105 to 125V A-C 50/60 Hz
Output	0.5 to 30 volts D-C @ 0 — 500 ma
Line regulation	20 mv/5% change in line voltage
Load regulation	20 mv/10:1 change in load current
Ripple	< 3 mv rms
Operating temperature	0° to 45°C free air, full rating
Short circuit protection	current limiting to approx. 1.5 amp
Output terminals	ungrounded — either terminal may be grounded
Cooling	convection

MODEL CHARACTERISTICS

Model RS 30A Regulated supply with meter	Price: $ 55.95
Model RSD 30A Dual regulated supply with meter	Price: $111.95



MODEL TVM 4A

Transistorized Volt—Ohm—Milliammeter

FEATURES

- **HIGH INPUT IMPEDANCE**
  2 megohms/volt, low ranges
  36 megohms, high ranges
- **SENSITIVITY**
  150 millivolts D-C, full scale
- **BALANCED AMPLIFIER**
- **LONG BATTERY LIFE**
- **BURN-OUT PROOF PROTECTION FOR AMPLIFIER & METER**
- **SOLID-STATE DESIGN**
- **TAUT-BAND METER**
- **HIGH-IMPACT CASE**
- **METER ISOLATED FROM A-C GROUND**
- **SHIELDED TEST LEADS NOT REQUIRED**

SPECIFICATIONS

16 Voltage Ranges
D-C: 0.15, 0.5, 1.5 5.0, 15, 50, 150, 500, 1500 volts, full scale
A-C: 1.5, 5.0, 15, 50, 150, 500, 1500 volts, full scale

6 Resistance Ranges

Rx 1:	10 Ω mid scale
Rx 10:	100 Ω mid scale
Rx 100:	1000 Ω mid scale
Rx 1000:	10,000 Ω mid scale
Rx 10K:	100,000 Ω mid scale
Rx 100K:	1,000,000 Ω mid scale

7 Current Ranges
D-C: 1.5 μa, 15 μa, 150 μa, 1.5 ma, 15 ma, 150 ma, 1.5 amp

Accuracy

D-C Volts:	±3% of full scale
A-C Volts:	±5% of full scale
D-C Current:	±3% of full scale
D-C Resistance:	±3° linear arc

Input Impedance
D-C volts:
0.15 volt range, > 500 K ohms
0.5 volt range, > 1.5 megohms
1.5 volt range, > 5 megohms
5.0 volt range, > 17 megohms
Other ranges, > 36 megohms
A-C volts: approx. 250 K shunted by 200 pf

OTHER CHARACTERISTICS
Movement: 50 μa full scale, taut-band
Power: 9 volt Battery (Mallory TR 146X or equal)
1.5 volt Penlite cell (Eveready 915 or equal)
Dimensions: 5¼" W x 6 7/8" H x 2¼" D
Net Weight: 2 lbs. with batteries
Price: $69.95

ACCESSORIES
Supplied: Test leads
Available: 9 volt battery
1.5 volt battery
Carrying case
Temperature probe

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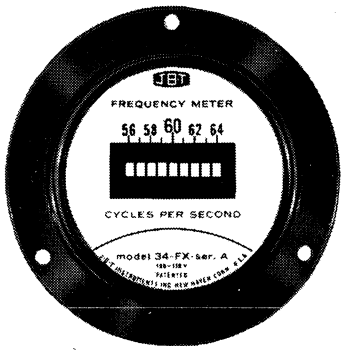
VIBRATING REED FREQUENCY METERS

J-B-T INSTRUMENTS, INC.

30th Year



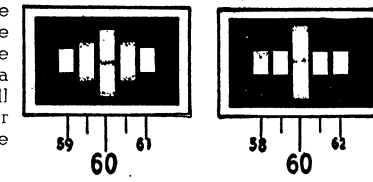
MODEL 34-FX-ser. A, a popular 9 reed meter, shown half actual size.

• **USES, Commercial and Military** — J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone, television, and radar service, on engine-generator sets and standby equipment, in laboratories, in many types of aviation and electronic equipment, on panel and control boards, in inspection setups, and in high-cycle power sources — wherever constant or known frequency is important to accurate and efficient operation of equipment. Superior performance for commercial and military applications is assured by more than 27 years of continuous experience and know-how covering the design and complete manufacturing of hundreds of thousands of these instruments in our Connecticut plant. Current production incorporates several innovations covered by recent J-B-T patents.

• **ADVANTAGES** — At reference temperature of 77°F most models have guaranteed accuracy of 0.3% or better of the frequency being measured, but the tables that follow indicate that certain models may be ordered with accuracy of ±0.1%. Accuracy on interrupted DC may be somewhat less. High fatigue strength provides a safety factor for continuous operation. Temperature compensations are not required as frequency change per °F is only .0075%, negative. For example, a 50°F temperature rise causes a 60 cps reed to read only 0.2 cps lower than at reference temperature.

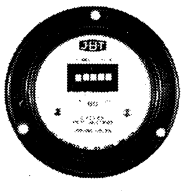
• **OPERATING PRINCIPLE** — The patented, simplified design used in the J-B-T meter operates on AC or interrupted DC. Each reed is adjusted to respond by resonance to the frequency shown on the dial. As the current excites the driving coil, the reed "in tune" with the frequency in the coil will respond by vibrating rapidly because of permanent magnet polarization and induced magnetism from the coil. The instrument is adapted to specified operating voltage by a series resistor. To determine frequency, simply read the reed.

• **RESPONSE PATTERNS** — Breadth of actuation differs with the increments of frequency between reeds. For example, at 60 cycles, half-cycle steps give the broad response shown below at left, whereas full cycle steps bring the sharp response at right. In general, the lower the frequency the greater the amplitude, the higher the frequency the less the amplitude. Thus a 25 cycle reed normally will have substantially greater amplitude than a 400 cycle or a 1000 cycle reed.

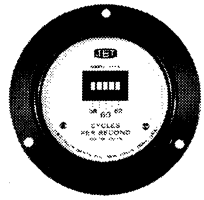


• **STABILITY** — All meters are permanently calibrated at the factory and do not require subsequent adjustment. J-B-T reeds have relatively high Q characteristics, an especially desirable factor in electronic circuits. Wave form or external fields do not ordinarily have an adverse effect. Built with no pivoted parts and with lock washers at every critical point, these rugged meters can take rougher treatment than many instruments.

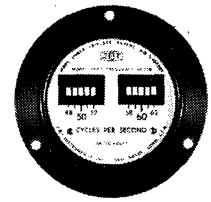
• **TRUST THE METER** — If a meter plugged in on a 60-cycle AC power line does not indicate exactly 60 cycles, trust the meter. Power supply may momentarily be off-frequency due to changing load conditions. All J-B-T Frequency Meters are meticulously calibrated at the factory, entirely independent of frequency of power supply. Production and inspection equipment are checked regularly against National Bureau of Standards frequency signals.



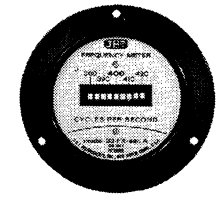
MODEL 21-FX, 5 reeds, matches other 2½" panel instruments.



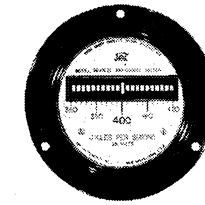
MODEL 31-FX, 5 reeds, standard. For appearance when operating, see "RESPONSE PATTERNS," above.



MODEL 30-FX, 5 reeds in each of two frequency ranges.



MODEL 33-FX-ser. A, 9 reeds for measuring frequency of high-cycle power sources.



MODEL 36-FX-21, 21 reeds for close reading over 380-420 cycle band Shown operating at 400 cy.

3½" and 2½" ROUND MOLDED CASE REED METERS

Model	Range, cps (Hz)	No. of Reeds	CPS Between Reeds	Stand. Voltage	Ohms Per Volt‡	Power Consumed Watts‡	Accuracy # ± %	Case	Drawing No.	Table of Dimens.	Price Net, Each
*30-FX	48-52 & 58-62	10	1	100-130	140	0.9	0.3	3½"	SK-154	Line 5	$29.00
30-FX-18	46-54 & 56-64	18	1	100-130	180	0.7	0.3	3½"	SK-154	Line 5	49.80
*31-FX	58-62	5	1	100-130	120	1.0	0.3	3½"	SK-50	Line 5	24.85
31-FX	59-63	5	1	100-130	120	1.0	0.3	3½"	SK-50	Line 5	24.85
*31-FX-7	57-63	7	1	100-130	140	0.9	0.3	3½"	SK-154	Line 5	27.10
*33-FX	380-420	9	5	100-130	130	0.7	0.3	3½"	SK-156	Line 5	35.80
33-FX-11	360-440**	11	**	100-130	130	0.7	0.3	3½"	SK-156	Line 5	38.00
33-FX-11	350-450***	11	***	100-130	130	0.7	0.3	3½"	SK-156	Line 5	38.00
*34-FX	56-64	9	1	100-130	140	0.9	0.3	3½"	SK-154	Line 5	28.65
*34-FX-Z	58-62	9	½	100-130	140	0.9	0.2	3½"	SK-154	Line 5	30.50
34-FX-11	55-65	11	1	100-130	140	0.9	0.3	3½"	SK-154	Line 5	31.00
34-FX-Z-11	57.5-62.5	11	½	100-130	140	0.9	0.2	3½"	SK-154	Line 5	33.75
34-FX-21	45-65	21	1	100-130	180	0.7	0.3	3½"	SK-154	Line 5	42.50
36-FX-21	380-420	21	2	28	40	0.4	0.3†	3½"	SK-156	Line 5	45.90
*36-FX-21-115	380-420	21	2	100-130	130	0.7	0.3†	3½"	SK-156	Line 5	47.25
21-FX	58-62	5	1	100-130	525	0.25	0.3	2½"	MD-20	Line 2	23.75
21-FX	116-124	5	2	100-130	525	0.7	0.3	2½"	MD-20	Line 2	26.50
23-FX	380-420	5	10	100-130	120	0.75	0.3	2½"	MD-20	Line 2	28.90
23-FX-54	390-410	5	5	100-130	120	0.75	0.3	2½"	MD-20	Line 2	28.90

†Accuracy of 0.1% at reference temperature available at necessarily higher cost. Quotation on request.
*Most popular models — normally stocked.
**360-370-380-390-395-400-405-410-420-430-440
***350-370-380-390-395-400-405-410-420-430-450
‡Approximate values; reflect minor changes based on most recent design.
#At reference temperature, see paragraph "ADVANTAGES."

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective May 1, 1968, subject to change.

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VIBRATING REED FREQUENCY METERS

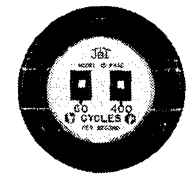
30th Year

J-B-T INSTRUMENTS, INC.

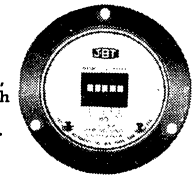
SEALED FREQUENCY METERS

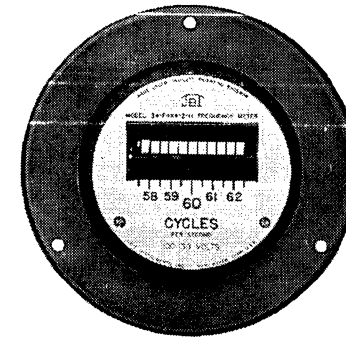
FHXX TYPE Sealed meters, glass-to-metal construction, with solder terminals and detachable flange, supersede the former FHX sealed meters. While JAN-I-6, MIL-M-6B, and MIL-M-10304B (Type MR36) do not refer specifically to frequency indicators, the FHXX series uses the front mounting dimensions of these specifications, and meets or exceeds the sealing requirements, and for 3½" meters, electrical requirements, including 3000 volt breakdown. (1½" and 2½" meters meet 1000 volt breakdown.) Electrical characteristics and accuracy are the same as for corresponding F models without the HXX designation. Sampling procedure includes a test in water where the absolute pressure of the air above the water is reduced to 2.5 inches of mercury (approx. 57,000 ft. altitude) and is maintained for one minute. Available in 3½", 2½" and 1½" cases. For dimensions, see Table, Lines 1, 3 and 8. Standard voltage is 100-130.

MODEL 15-FHAC, 1½"; widely used as frequency standard for cathode follower circuit.



MODEL 21-FHXX, 2½"; 5 reeds, cased to match other 2½" panel meters.





MODEL 34-FHXX-Z-11, shown half size. Accuracy, ±0.2%

3½", 2½" AND 1½" SEALED ROUND METAL CASE REED METERS

Model	Range, cps (Hz)	No. of Reeds	CPS Between Reeds	Standard Voltage	Ohms Per Volt‡	Power Consumed, Watts‡	Accuracy # ± %	Case	Drawing No.	Table of Dimens.	Price Net, Each
30-FHXX	48-52 & 58-62	10	1	100-130	140	0.9	0.3	3½"	SK-153	Line 8	**$36.00**
30-FHXX-14	47-53 & 57-63	14	1	100-130	140	0.9	0.3	3½"	SK-153	Line 8	**40.50**
***31-FHXX**	58-62	5	1	100-130	120	1.0	0.3	3½"	SK-51	Line 8	**31.90**
***31-FHXX-7**	57-63	7	1	100-130	140	0.9	0.3	3½"	SK-153	Line 8	**34.25**
***33-FHXX**	380-420	9	5	100-130	130	0.7	0.3	3½"	SK-155	Line 8	**42.90**
33-FHXX-11-LL	360-440	11**	**	100-130	130	0.7	0.3	3½"	SK-165	Line 8	**47.50**
***34-FHXX**	56-64	9	1	100-130	140	0.9	0.3	3½"	SK-153	Line 8	**35.75**
34-FHXX-11	55-65	11	1	100-130	140	0.9	0.3	3½"	SK-153	Line 8	**38.00**
34-FHXX-Z-11	57.5-62.5	11	½	100-130	140	0.9	0.2	3½"	SK-153	Line 8	**39.80**
36-FHXX-21	380-420	21	2	28	40.	0.4	0.3†	3½"	SK-155	Line 8	**53.10**
***36-FHXX-21-115**	380-420	21	2	100-130	130	0.7	0.3†	3½"	SK-155	Line 8	**54.40**
21-FHXX	58-62	5	1	100-130	525	0.25	0.3	2½"	SK-67	Line 3	**36.60**
***23-FHXX**	380-420	5	10	100-130	120	0.75	0.3	2½"	SK-67	Line 3	**41.80**
***15-FHAC**	60 & 400	2	—	8-10	270	0.04	0.5	1½"	SK-39	Line 1	**21.40**
15-FH-54	390-410	5	5	100-130	115	1.25	0.3	1½"	SK-55	Line 1	**27.10**
15-FH-56	58-62	5	1	100-130	540	0.25	0.3	1½"	SK-55	Line 1	**22.50**
***15-FH-400**	380-420	5	10	100-130	115	1.25	0.3	1½"	SK-55	Line 1	**26.50**

3¼" ROUND METAL CASE REED METERS (NOT SEALED)

Model	Range, cps (Hz)	No. of Reeds	CPS Between Reeds	Standard Voltage	Ohms Per Volt at 120 VAC	Power Consumed, Watts	Accuracy # ± %	Case	Dwg. No.	Table of Dimens.	Price Net, Each
***30-F**	48-52 & 58-62	10	1	100-130	140	0.9	0.3	3¼"	MD-40	Line 4	**$32.00**
31-F	58-62	5	1	100-130	115	1.0	0.3	3¼"	MD-40	Line 4	**27.85**
33-F	380-420	9	5	100-130	130	1.0	0.3	3¼"	MD-40	Line 4	**38.80**
***34-F**	56-64	9	1	100-130	140	0.9	0.3	3¼"	MD-40	Line 4	**31.65**
34-F-Z	58-62	9	½	100-130	140	0.9	0.2	3¼"	MD-40	Line 4	**33.50**

*Most popular models — normally stocked.

**360-370-380-390-395-400-405-410-420-430-440

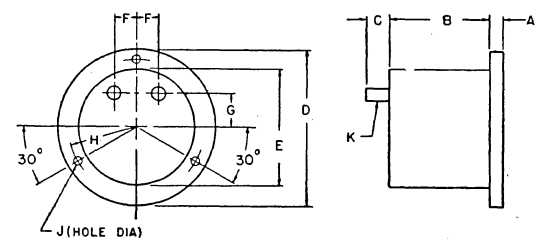
†Accuracy of ±0.1% at reference temperature available at necessarily higher cost. Quotation on request.

‡Approximate values; reflect minor changes based on most recent design.

#At reference temperature, see paragraph "ADVANTAGES."

REVISED DIAL APPEARANCE

Shipments during the life of this catalog may include meters with dials somewhat different from those pictured here. Dials are being steadily modified to use the revised trademark as adopted during J-B-T's Silver Anniversary Year. Many 3½" frequency meters also are carrying the designation Series A after the model number (as in the 34-FX-ser. A on preceding page). Such instruments have additional ruggedness and sensitivity, and unusually uniform amplitude over the entire span of the meter. However Series A are otherwise interchangeable as to mounting dimensions and circuit characteristics with other meters bearing the same model number.



FREQUENCY METERS AND FREQUENCY — TIME METERS, TABLE OF DIMENSIONS, INCHES

	MODEL	MIL-M-6B* MOUNTING	A	B	C	D	E	F	G	H	J	K	TERMINAL DESCRIPTION
Line 1	15-FH Series	—	3/32†	1 5/16	3/8	2 3/32	1 1/2	3/8	3/8	0.875	0.125		Solder, 1/16" dia. hole
Line 2	21-FX and 23-FX Series	MR24, MR25	13/64	1 3/8	23/32	2 11/16	2 5/32	7/16	9/16	1.220	0.116		10-32 NF-2A studs
Line 3	21-FHXX, 23-FHXX Series	MR26**	1/32†	1 27/32	11/16	2 11/16	2 1/8	1/2	1/2	1.220	0.125		Solder, 3/32 dia. hole
Line 4	30-F to 34-F Series	—	7/64	2 3/32	23/32	3 1/4	2 5/16	7/16	7/8	1.453	0.150		10-32 NF-2A studs
Line 5	30-FX to 36-FX Series	MR34, MR35	19/64	2	23/32	3 1/2	2 11/16	7/16	7/8	1.580	0.150		10-32 NF-2A studs
Line 6	31-FE Series	—	7/64	3 7/8	23/32	3 1/4	2 5/16	7/16	7/8	1.453	0.150		10-32 NF-2A studs
Line 7	31-FEX-1 Series	MR34, MR35	5/32	3 7/8	23/32	3 1/2	2 5/16	7/16	7/8	1.580	1.150		10-32 NF-2A studs
Line 8	30-FHXX to 36-FHXX Series	MR36**	3/32†	2 1/4	5/8	3 1/2	2 11/16	1/2	3/4	1.580	0.150		Solder, 3/32 dia. hole

*Also JAN-I-6 and ASA C39.1-1951 Mounting **Also MIL-M-10304B Mounting †Not including neoprene cushioning gasket supplied with meter.

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective May 1, 1968, subject to change.

J-B-T VIBRATING REED FREQUENCY METERS—REED RELAYS

J-B-T INSTRUMENTS, INC. 30th Year

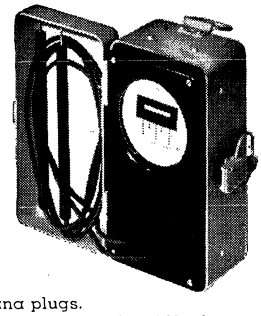
3" SQUARE-CASED FREQUENCY METERS

FS SERIES. Matching other 3" x 3" meters on a panel with square black molded cases, these meters are otherwise the same as the FX Series. For instance, 33-FS is the same as 33-FX except for the case. See Table of Dimensions, Line 10.

33-FS, 380-420 cps, 9 reeds, 3" square molded case **$36.90**

34-FS, 56-64 cps, 9 reeds, 3" square molded case **29.80**

PORTABLE FREQ. TESTERS



FP SERIES, METAL OR MOLDED CASE. Accuracy of ±0.3% meets the exacting test requirements of aviation, signal, and communication equipment. **M-Types** use anodized gray aluminum case, 6⅜" long x 4" wide x 3-9/32" deep. Leads permanently attached. See Print SK-63-10. With pertinent name plate, **33-FP-9M** is known as **TS-328 A/U. L-Types,** sturdy molded case within top grain leather carrying case 6-3/32" x 4¼" x 2¾"; 4' leads with 5" test picks and banana plugs.

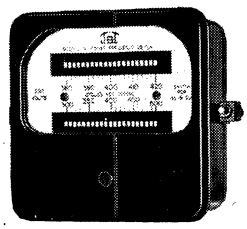
33-FP-9M, (illustrated) 380-420 cy., 9 reeds, 100-130 volts, 130 ohms per volt, 1.0 watts power consumption; coml. quality and packing.... **$52.00**

34-FP-9M, 56-64 cy., 9 reeds, 100-130 volts, 140 ohms per volt, 0.9 watt power consumption, coml. quality and packing **$44.50**

33-FP-9L, 380-420 cy., 9 reeds, 100-130 volts **$50.00**

34-FP-9L, 56-64 cy., 9 reeds, 100-130 volts **$42.75**

42- AND 50-REED 400 CYCLE INDICATORS



MODEL 41-FX-42 and **41-FX-50.** Both are widely used in commercial and military testing especially in aviation-electronic trouble-shooting. Model 41-FX-42 (supersedes Model 41-FX) has two banks of 21 reeds: one for 300-500 cps in 10 cycle steps, and for vernier effect, one for 380-420 cps in 2 cycle steps. Model 41-FX-50 has two banks of 25 reeds giving a continuous coverage from 355-600 cps in 5 cycle steps. Black molded case, flush front is 4-3/64" x 4-3/64" x 2-17/32" deep behind panel over studs. Power consumption is 2 watts at 30 volts, 4 watts at 115 volts, and 8 watts at 200 volts. For 41-FX-42, see Print MD-38-11; for 41-FX-50, Print SK-79.

41-FX-42, 100-130 volts only **$131.00**

41-FX-42, 3 voltages: 200-240; 115; and 30; 4 studs (without switch) **147.00**

41-FX-50, 3 voltages: 200-240; 115; and 30; 4 studs (without switch) **189.00**

RUGGEDIZED AND ILLUMINATED METERS

Model with "RUG" — Sealed vibrating reed frequency meters and sealed elapsed time meters are available, when so ordered, to the intent of MIL-M-10304B, covering ruggedization of other kinds of meters, and usually are specified only for extra-severe shock and vibration.

LL Construction — Requirements for lighted meter dials have led to illuminating the 3½" FHXX Series of sealed meters. Light from a source behind the panel is admitted through a sealed window built into the meter case. Inquiries are invited.

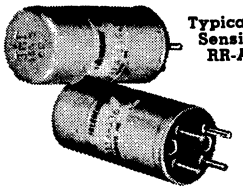
400 CYCLES, IN 1 CYCLE STEPS; 800 CYCLES

Among the variations which J-B-T produces on special order, are 21-reed, 390-410 cycles in 3½" case; and 11-reed; 780-820 cycles with 4-cycle increments. Quotations on request.

NOTE ON METER VOLTAGE

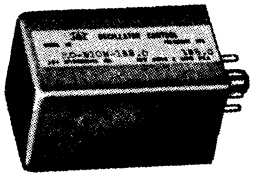
J-B-T Vibrating Reed Frequency Meters of all sizes normally are made with two studs and are designed to be connected across one phase of a multi-phase line. The single phase voltage where the meter will be used thus becomes the voltage to be specified for the meter. Special meters with extra studs are made for the purpose of using at two or more voltages, not additional phases.

RESONANT — REED RELAYS (Decoders) AND OSCILLATOR CONTROLS (Encoders)



Typical Frequency Sensitive Relays RR-A11A-136.5

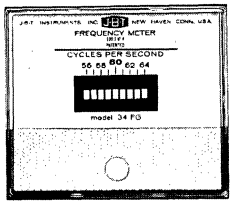
Typical Sealed Oscillator Control RO-B10B-188.0



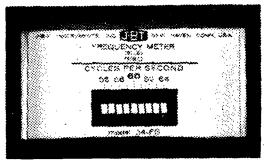
For technical description of J-B-T frequency-sensitive electromechanical control devices, see Bulletins 162R and D664A; for representative models and prices, see Section 5100 of this book.

New FG SERIES for Modern Design; Picture Window Frame Optional

FG FREQUENCY METERS. Thoroughly modern in appearance, the sparkling clear-plastic front and the bright textured metal insert below the dial add zest to any panel. FG meters not only match the 3½" wide x 3" high front of the New EG elapsed time meters on the next page, but are interchangeable as to mounting with other kinds of panel meters. Standard voltage is 100-130 volts; accuracy and electrical characteristics are the same as corresponding FX frequency meters in the table on preceding page. For example, Model 30-FG differs from Model 30-FX only in the case. FG mounting details appear in line 9 of the Table of Dimensions below and in Prints SK-160 and SK-164, available on request. Further design flexibility is provided by use of the half-bezel adapter sketched below, in which a black plastic picture window frame outlines a panel area 3.83" wide x 2.27" high . . . Three typical FG models are catalogued, but others are available on special order.



MODEL 34-FG for standard flush-type mounting (match makers) →



Same model with 13A-234 molded half-bezel

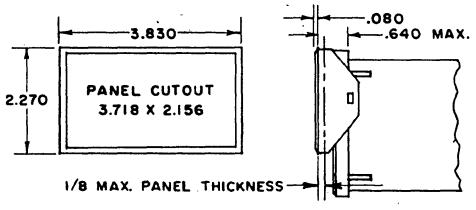
30-FG, 48-52 and 58-62 cps, 10 reeds **$32.50**

33-FG, 380-420 cps, 9 reeds ... **39.25**

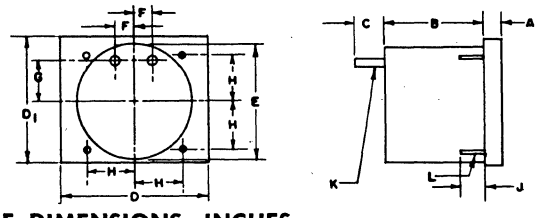
34-FG, (illus.) 56-64 cps, 9 reeds **32.25**

13A-234 Half-bezel adapter, separate black **molded** frame and hardware for picture window appearance on any FG or EG meter **$2.75**

13A-239 Half-bezel adapter, separate black **metal** frame particularly recommended for all 3½" FG frequency meters and EG elapsed time meters; with hardware **$2.75**



Panel dimensions for picture window mounting of FG and EG meters.



FREQUENCY METERS, TABLE OF DIMENSIONS, INCHES

Model		A	B	C	D	D_1	E	F	G	H	J	K	L
Line 9	30-FG to 36-FG	13/32	2 11/32	23/32	3½	3	2¾	7/16	1	1⅛	5/16	10-32NF-2A	4-40NC-2A
Line 10	30-FS to 36-FS	¼	2 3/64	23/32	3	3	2¾	7/16	⅞	1⅛	5/16	10-32NF-2A	4-40NC-2A

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective May 1, 1968, subject to change.

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ELAPSED TIME & FREQUENCY TIME METERS

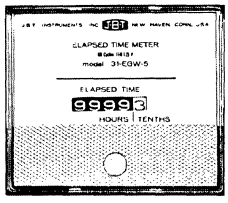
30th Year

J-B-T INSTRUMENTS, INC.

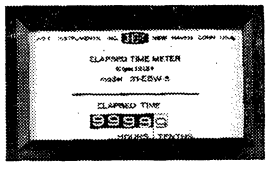
• USES AND ADVANTAGES OF ELAPSED (OR RUNNING) TIME METERS

To record operating time of AC electrical and electronic equipment, these self-starting synchronous instruments normally register in 1/10th hour steps to 9,999.9 or 99,999.9 hours, then automatically reset. They are widely used for tube life, TV equipment, punch presses, conveyors, oil burners, ground support equipment, maintenance schedules, etc. J-B-T engineers recommend the AC type of elapsed time meter for superior accuracy, especially where voltage or ambient temperature vary widely.

New EG SERIES for High Visibility; Modern Picture Window Optional



MODEL 31-EGW-5 for standard flush type mounting.



Same model with 13A-239 metal half-bezel.

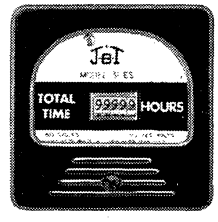
EG ELAPSED TIME METERS. These are designed to give a bright, jewel-like look to panels when used alone, in multiples, or in conjunction with other instruments such as the matching new FG series of frequency meters. A gleaming textured metal shroud below the dial and a clear-plastic case front 3½" wide x 3" high give high visibility to the numeral read out. Dimensions are same as line 9 for FG meters on opposite page. For optional picture window frame effect, on panel area 3.83" wide x 2.27" high, add preferred 13A-239 metal, or 13A-234 molded half-bezel adapter. (See panel cut-out and mounting detail drawing on preceding page.) The quiet, sturdy motors and extensively field-tested mechanisms of other J-B-T elapsed time meters are used in the EG series. Two models are catalogued. Other voltages, frequencies and numerals will be quoted.

31-EGW-5, (illus. at top) 5 wide digits, 0-9,999.9 hours, 60 cps, 110-125 volts ... **$21.50**

31-EGW 6 wide digits, 0-99,-999.9 hours, 60 cps, 110-125 volts **22.00**

13A-239 and 13A-234 half-bezel adapters, see opposite page.

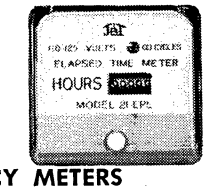
SQUARE-CASED ELAPSED TIME METERS



MODEL 31-ES. A square black molded case, matching other 3" x 3" meters, differentiates this model from the round 31-EX. Like 30-FS, Line 10 in Table on opposite page, except depth behind panel (B) is 2 1/32" and terminals are located on horizontal center line, each spaced ½" from the center (G). Variations can be made for 99,999 hours (suffix U), 230 volts, minutes, matte finish, or 50 cycles. Now supplied with tenths in red on white and units in white on black.

31-ES, 60 cy., 110-125 volts, 0-9,999.9 hours. **$18.75**

CLEAR PLASTIC ELAPSED TIME METERS

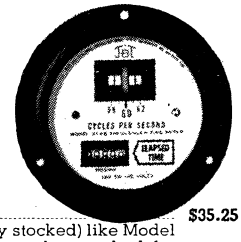


EPL TYPE. Clear-plastic to attaches to sturdy metal case with solder terminals behind panel. 21-EPL, (illus.) is 2 1/32" wide x 2 3/8" high with 2 1/8" meter barrel; 31 EPL is 3 1/32" x 3 3/32" with 2 1/16" barrel. Both 60 cy., 110-115 volts. See also EG Series, above.

21-EPL, 0-9,999.9 hours **$32.00**

31-EPL, 0-9,999.9 hours **34.00**

ELAPSED TIME — FREQUENCY METERS



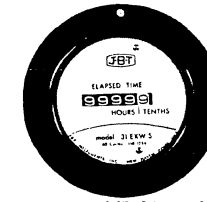
31-FE SERIES. To conserve panel space and centralize information, this instrument combines elapsed time or running time meter with frequency reeds. The J-B-T design, proved by years of field experience, uses a separate exciting coil for the reeds to achive close control of reed amplitude and frequency. Reads 0-9,999.9 hours and 58-62 cy. with 5 reeds, at 100-130 volts; self starting. Tenths shown in red on white, all other numerals in white on black. *Black metal case with front mounting per Table of Dimensions, line 6. Power consumption is 4.7 watts. For variations having 7, 9, or 11 reeds, not regularly stocked, such as Model 34-FE, see print SK-45. Rev. D.

31-FE, 3¼" metal case 4-19/32" deep **$35.25**

31-FEX-1, (per print SK-44 Rev. F—not regularly stocked) like Model 31-FE, except with 3½" metal flange permanently attached for MIL-M-6B front mounting per line 7, Table of Dimensions **36.50**

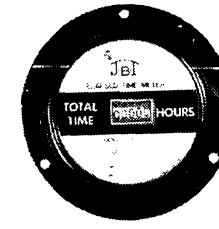
BASIC 3½" ELAPSED TIME METERS

New 5-DIGIT WIDE NUMERAL ELAPSED TIME METERS



MODEL 31-EXW-5. Newest in the J-B-T line of elapsed time meters is Model 31-EXW-5 with 5 wide, easy to read numerals. This model is particularly recommended for **new** equipment because, with superior visibility, rugged construction and attractive price, it is expected to supplant the 31-EX. The meter registers to 9,999.9 hours and automatically resets. Tenths are shown in red on white, units in white on black. Model 31-EXW-5 is interchangeable electrically and mechanically with both 31-EX (below) and 31-EXW shown below. Mounting, which is the same as type MR-34 or MR-35 to MIL-M-6B, also JAN-I-6, and terminal location are per print SK-125 Rev. C.

31-EXW-5, 5 digits, 0-9,999.9 hours, 60 cy., 110-125 volts..... **$17.50**



Model 31-EX. This instrument has been the most widely used of any J-B-T elapsed time meters and continues to be available where parts lists or production runs call for style of numeral and dial appearance, as illustrated. The black molded case, which mounts according to Print SK-80 Rev. E, is interchangeable with the new wide-numeral meters, 5-digit 31-EXW-5 and 6-digit 31-EXW.

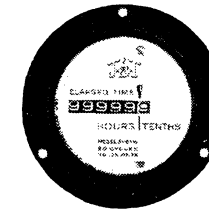
31-EX, 5 digits, 0-9,999.9 hours, 60 cy., 110-125 volts **$17.80**

31-EX-200, same except 200-240 volts. (Not regularly stocked) **19.80**

ELAPSED TIME METERS — Tenths of Minutes

MODEL 31-EXM, 60 cycles, 110-125 volts, reading 0-9,999.9 **minutes;** for short-run applications or readings at closer intervals than 31-EX. Tenths of minutes in red on white, minutes in white on black numerals, otherwise identical with 31-EX **$21.50**

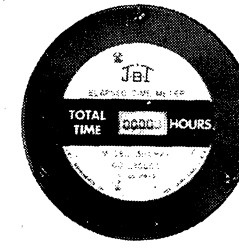
6-DIGIT WIDE-NUMERAL ELAPSED TIME METERS



MODEL 31-EXW. One of the most easily-read and most versatile of J-B-T elapsed time meters is Model 31-EXW, illustrated. Easy-to-read, wide numerals register to 99,999.9 hours then automatically reset. Distinctive contemporary dial shows tenths in red on white and units in white on black. This model is interchangeable, electrically and mechanically with Models 31-EXW-5 and 31-EX. The black molded case is also interchangeable with all 3½" FX types of frequency meter. Print SK-125 Rev. E gives mounting information.

31-EXW, 6-digits, 0-99,999.9 hours, 60 cy., 110-125 volts **$18.00**

3½" SEALED ELAPSED TIME METERS — 60 Cycles



MODEL 31-EHXX. Where rugged requirements make a completely sealed elapsed time meter desirable, this glass-to-metal construction with flat glass front and 3½" diameter separable flange, often is specified. Heavy-duty solder terminals are supplied. Every instrument is checked in a vacuum chamber. Overall dimensions and appearances match the FHXX series sealed frequency meters. Maximum voltage between terminals and case, 1,000 volts, R.M.S. The meter registers in 1/10 hour steps to 9,999.9 hours, then automatically resets. Tenths indicator is red on white, all others in white on black. Mount according to SK-85, Rev. C.

31-EHXX, 60 cy., 110-125 volts.... **$20.75**

3½" SEALED ELAPSED TIME METERS — 400 Cycles

MODEL 33-EHXX. This stable, self-starting 400-cycle elapsed time meter is extensively used for preventive maintenance and for reliability testing and checking in a wide variety of equipment. The instrument is entirely enclosed in a 3½" flanged case, glass-to-metal sealed construction with separable flange; heavy-duty solder terminals; flat glass front. 1/10 hours are shown in red on white, all other numerals white on black. The external appearance matches FHXX frequency meter series. For dimensional details see SK-61, Rev. B.

33-EHXX, 400 cy., 0-9,999.9 hours, 1/10 hour steps, 110-125 volts **$78.00**

2½" SEALED ELAPSED TIME METERS

MODEL 21-EHXX. A full size counter reading 9,999.9 hours in 1/10 hour steps and a rugged self-starting synchronous motor are built into this 2½" sealed meter. Its front mounting dimensions are the same as Type MR26 electrical indicating instruments in MIL-M-6B. Glass-to-metal seal makes the instrument completely tamper-proof. Ask for Print SK-68, Rev. G. (2½" 400-cycle meter, **Model 23-EHXX** also is made on special order per Print SK-178.)

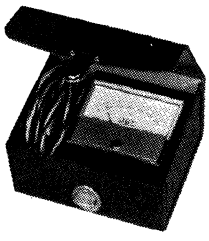
21-EHXX, 60 cy., 110-125 volts **$31.00**

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective May 1, 1968, subject to change.

J-B-T TEMPERATURE TESTERS AND ACCESSORIES

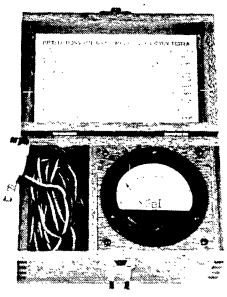
J-B-T INSTRUMENTS, INC. 30th Year

FOR APPLIANCE SERVICING, QUALITY INSPECTION, AND LABORATORY SET-UPS

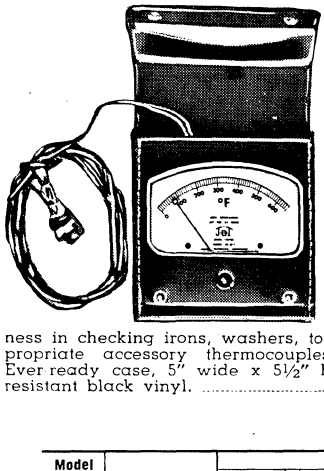


OVEN OR HEAT CHAMBER TESTERS

MODEL 23-JP-1. This popular portable indicating pyrometer saves time and furnishes reliable information in testing and setting thermostats on electric or gas ranges and other appliances by showing oven temperatures as they change. 0-650°F. dial with 2⅜" scale arc is covered by clear-plastic front (may be shipped as rectangular instead of round as illustrated). Sturdy, pliable, scuff-resistant black case is 4½" x 2⅞" x 4¼". Characteristic of more expensive pyrometers, the 23-JP-1 is automatically compensated for ambient temperature. Thus the tester eliminates calculations, avoids likelihood of serious error, as temperature changes inside the instrument itself, and gives reliable direct readings. Supplied with attached SA-116, 5½' calibrated thermocouple, clip, and convection shield **$30.00**

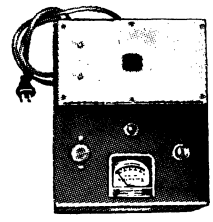


MODEL 32-JP-3. This time-tested model has an instrument-type carrying case of natural finished mahogany 6⅛" x 3⅞" x 4½" over hardware. The glass-covered indicator shows 0-650°F. range in 10° divisions readable to 2½° on a 2⅜" scale arc. Exceptionally fast, continuous response. Automatic compensation for ambient temperature is a valuable feature whether the tester is used for service work, sales demonstrations, or inspection. Attached SA-116, 5½' thermocouple, clip for affixing to grill and convection shield included **$32.50**



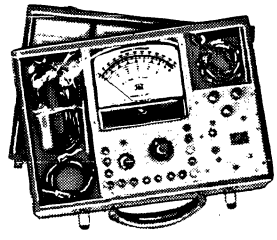
MODEL 32-JP-7. This model is recommended as the most versatile and easiest to read of this J-B-T series. The 0-650°F. scale is more than 4" long. Automatic compensation for ambient temperature is included, so that temperatures are read directly and without calculations. The 32-JP-7 also provides color-coded external binding posts. These permit quick attachment or interchanging of various J-B-T thermocouples placed in one or more of the heat zones to be checked. An SA-116 5½' thermocouple with attachment clip and convection shield is supplied and is left attached when the tester is carried. For maximum usefulness in checking irons, washers, toasters, clothes dryers, etc., use appropriate accessory thermocouples. Tester price includes stitched Ever-ready case, 5" wide x 5½" high x 2¾" deep, of sturdy, scuff resistant black vinyl. **$35.00**

IRON TESTER



MODEL 32-JIT. Self-contained bench-type tester; checks all makes of irons; measures thermostat temperatures; shows open or short circuits. Automatically compensated for room temperature. Also indicates operating temperature of the sole plate (working surface) on non-electric or cordless irons. Black metal base; overall size 10" x 12" x 5½", scale 0-650°F, 15 amp fuse, 6' cord, 110 volt, 50-60 cycles. **$38.50**

MULTI-PURPOSE TESTER

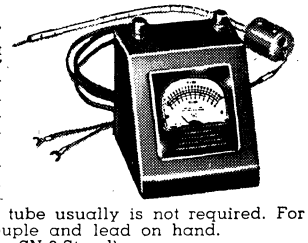


MODEL 61-JRT. A 9-in-1 tester to speed accurate temperature adjustment and electrical analysis of ranges, refrigerators, test apparatus, etc. Rapidly reads four cold zones —100°F, +80°F. up to 14' distant; two heat zones 0-600°F. up to 5½' distant; one voltage range 0-300 AC; and, with transformer, two current ranges, 0-30 and 0-60 amps, AC. Sturdy, polished walnut case, 15½" x 10-3/16" x 4¾". Two color etched metal panel. Separate switches protect bulb and ammeter circuits. Requires one standard flashlight cell, replaceable in the field. Temperature accuracy ±2% of full scale; rectified AC readings ±5%. Accessories as listed may be added for testing appliances. Includes two SA-162 resistance bulbs, two SA-116 thermocouples, electrical leads, and AS-TR-2 built-in transformer. **$135.00**

MODEL 61-JRT (LESS TRANSFORMER). Same unit, same scales except no reading in amperes; AS-TR-2 transformer omitted. **$120.00**

AS-TR-2 Transformers for use with Model 61-JRT to provide readings of two current ranges: 0-30 and 0-60 amp. AC **$19.00**

HEAT INDICATORS



MODEL 32-J PYROMETER IN SN-7 STAND. Mounted in sloping front black metal stand, 4¼" high x 4⅜" deep x 4⅛" wide. Compensated for ambient temperature. Medium resistance system, damped for quick reading on 2⅜" scale, assures ruggedness and pointer stability. For ±2% accuracy, use only the type and resistance of thermocouple and lead provided; if extra length—coil it—to maintain calibration. A protection tube usually is not required. For convenience keep an extra thermocouple and lead on hand.

MODEL 32-J IN SN-7 STAND (Supersedes SN-3 Stand)
0° — 650°F-350°C, includes SA-91 thermocouple, SA-84 lead, and CB-1 connector block **$37.00**
0°-1200°F-650°C, includes SA-87, SA-82, and CB-1 ..... **37.00**
0°-2000°F-1100°C, includes SA-87, SA-82, and CB-1 ..... **37.00**

MODEL 32-J IN SN-8 STAND (not illustrated). With 3 binding posts to accommodate flexible extra lead and thermocouple for hard-to-reach locations. 0°-650°F including SA-91 thermocouple, SA-84 lead, CB-1 connector block, and SA-86 flexible leads and thermocouple. **$41.00**

TEMPERATURE TESTER ACCESSORIES

Model No.	Range F°	CONDUCTORS: Length	Wire Gage Size	Positive	Negative	Use With	Construction	Price
LEAD WIRES†								
SA-82	194°	6'	14 Ga. Stranded	Red-Copper	Yellow-Const.	32-J in SN-7; 60-JP; 60-JPS	Compensating Lead for use with chromel-alumel thermocouples; flexible duplex with moisture and flameproof outer braid.	$2.25
SA-83	194°	26'	14 Ga. Stranded	Red-Copper	Yellow-Const.	70-J		6.00
SA-84	392°	6'	14 Ga. Stranded	White-Iron*	Red-Const.	32-J in SN-7; 32-J in SN-8	Extension lead for use with iron-constantan thermocouples; flexible duplex with moisture and flame-proof outer braid.	2.25
SA-85	392°	26'	14 Ga. Stranded	White-Iron*	Red-Const.	70-J		6.00
THERMOCOUPLES†								
AS-TH-1	0-1200	30"	20 Ga. Solid	Iron-Black*	Const.-Yellow	31-JPP; 31-JPP-C	Welded inside seamless steel tube ¼" O.D. for immersion in molten metal.	On Appl.
IT-1	0-650	—	—	—	—	32-JP-7; 61-JRT	Accessory Iron Tester, same as 32-JIT except there is no meter.	20.00
SA-86	0-650	7'	20 Solid	Iron-Black*	Const.-Yellow	32-J in SN-8; 60-JP; 60-JPS	General purpose combination thermocouple and lead.	2.50
SA-87	0-1200, 0-2000	12"	14 Solid	Chromel	Alumel	32-J in SN-7	For high temperatures, insulated and protected with 2-hole ceramic beads; fits 5/16" hole.	3.75
SA-88	0-1200, 0-2000	24"	14 Solid	Chromel	Alumel	60-JP; 60-JPS		4.75
SA-91	0-650, 0-1200	12"	14 Solid	Iron-Black*	Const.-Yellow	32-J in SN-7; 32-J in SN-8	For intermediate temperatures, insulated and protected with 2-hole ceramic beads; fits 5/16" hole.	3.50
SA-92	0-650, 0-1200	24"	14 Solid	Iron-Black*	Const.-Yellow	70-J		4.25
SA-113	0-650	35'	20 Ga. Solid	Iron-Black*	Const.-Yellow	Former Model 32-J	Disc-type junction for attachment flush to surface.	6.75
SA-114	0-650	35'	20 Ga. Solid	Iron-Black*	Const.-Yellow	Former Model 32-J	Needle-type junction for soft material or crevices. (asbestos-insulated twisted pair)	6.50
SA-115	0-650	35'	20 Ga. Solid	Iron-Black*	Const.-Yellow	Former Model 32-J	Ball-type, all-purpose junction. (asbestos-insulated twisted pair)	6.25
SA-116	0-650	5½'	22 Ga. Solid	Iron-Black*	Const.-Yellow	23-JP-1; 32-JP-3; 32-JP-7; 60-JRT; 61-JRT	Connection shield & clip for attachment. (asbestos-insulated twisted pair)	5.00 #
SA-175	0-650	5½'	22 Ga. Solid	Iron-Black*	Const.-Yellow		Ball-type tip, for roasters, waffle irons, etc. (asbestos-insulated twisted pair)	2.75
SA-176	0-650	5½'	22 Ga. Solid	Iron-Black*	Const.-Yellow		Disc-type tip, for toasters, etc. (asbestos-insulated twisted pair)	3.50
SA-188	0-650	5½'	22 Ga. Solid	Iron-Black*	Const.-Yellow		Copper tube enclosed tip, for automatic washers, etc. (asbestos-insulated twisted pair)	5.00
SA-199	0-650	5½'	22 Ga. Solid	Iron-Black*	Const.-Yellow		Shield and clip, duplex nonfraying glass braid, for frequent use above 400°F. (asbestos-insulated twisted pair)	6.00 #
SA-300	0-650	5'	22 Ga. Solid	Iron-Black*	Const.-Yellow		Spring type in transite tip with handle, for rapid reading of surfaces. (asbestos-insulated twisted pair)	9.00
SA-304	0-650	25'	20 Ga. Solid	Iron-Black*	Const.-Yellow	32-JD in SN-7	Disc-type junction for attachment flush to surface. (asbestos-insulated twisted pair)	6.00
SA-305	0-650	25'	20 Ga. Solid	Iron-Black*	Const.-Yellow	32-JD in SN-7	Needle-type junction for soft material or crevices. (asbestos-insulated twisted pair)	6.00
SA-306	0-650	25'	20 Ga. Solid	Iron-Black*	Const.-Yellow	32-JD in SN-7	Ball-type, all-purpose junction. (asbestos-insulated twisted pair)	5.75
RESISTANCE BULBS								
SA-142	—100 to +160	14'	Polyethylene Ribbon Lead	No Polarity		60-JRT only	Thin, flat, copper clad bulb 3x1⅜x1⅛"; with polyethylene ribbon lead. Doors of appliances may be closed without damaging it.	6.85
SA-162	—100 to +160	14'				61-JRT		6.85
SA-190**	—100 to +160	8'				Custom		6.85
SA-308	—100 to +160	8'				Custom		5.50
SA-309	—100 to +160	8'				Custom	Thin, fast-responding, plastic-sheathed bulb.	4.75
CONNECTOR BLOCKS								
CB-1	0-2000	1½"lg. x 1⅜" Dia.	—	As marked	As marked	All ceramic bead type thermocouples	Lava block, includes heavy brass connectors for low contact resistance.	2.25

NOTE: *Iron constantan is RP1080 calibration. **Has plug terminals; all other accessories have spade terminals.
†For best results thermocouples and leads should be as stated on instrument dials. #Price includes two in standard package.

J-B-T INSTRUMENTS, INC. Electrical Instruments, Testers, Switches and Other Components

For other J-B-T Products, see Sec. 5100

Prices shown are NET, F.O.B. New Haven, Conn. Domestic Packing, Effective October 1, 1968, subject to change.

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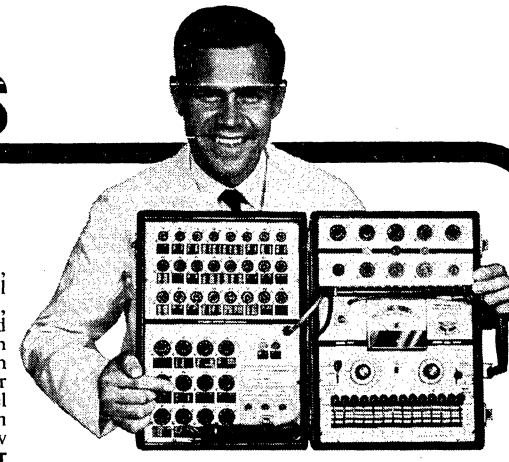
SECO TEST EQUIPMENT AND SERVICE AIDS



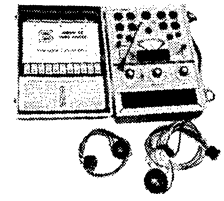
Deluxe! Only tester with "eye" tube to spot momentary shorts; constant voltage transformer for greatest stability and accuracy!

Here's the unit that gives you speed, sensitivity and reliability in a compact, portable tester. Instantaneous "eye" tube spots momentary shorts which normal meter lag misses—constant voltage transformer eliminates need for "line-adjust", provides proper filament and test voltages for greatest accuracy! Patented Grid Circuit Test makes up to 11 simultaneous checks for leaks, shorts and grid emission—locates hard-to-find faults. Dynamic Mutual Conductance and Cathode Emission Tests, too. 38 socket pre-wired panel accommodates 80 base arrangements for testing more than 1000 tubes without setup. Replaceable 10-socket plug-in panel permits complete test on all modern TV, Radio, Hi-Fi, Industrial and Foreign Tubes, including novar, nuvistor, compactron, 10-pin, magnoval, decal and low voltage hybrid types. Size: 13"x9"x7". Shipping Wt.: 12 lbs. **Model 107C . . $189.50 NET**

NEW

- **TUBE TESTER**
- **GRID CIRCUIT TESTER**

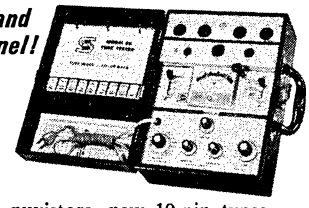
- **CHECKS B & W PICTURE TUBES**
- **CHECKS COLOR PICTURE TUBES**
- **MODEL 88A IN NEW MOLDED ROYALITE CASE**



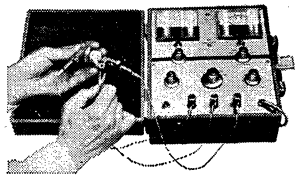
Complete coverage of all popular receiving tubes including novars, nuvistor, newest 10-pin types, compactrons, decal and magnovals — PLUS a black and white CRT Adapter and two COLOR CRT ADAPTERS. Patented Grid Circuit Test makes up to 11 simultaneous checks for leaks, shorts and grid emission-plus Tube Merit and Filament Continuity Tests. For 115 VAC operation. Complete with speed indexed setup data. Mounted in durable NEW MOLDED ROYALITE CASE. Dimensions: 9½" x 12½" x 5". Shipping weight 6 lbs.

Model 88A .....$86.50 NET

Grid Circuit, Heater Current and Merit Tester—replaceable panel!



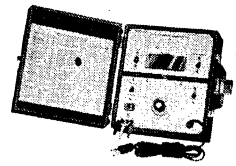
Comprehensive analysis of all modern TV and Radio tubes—measures heater current for series string tubes. Tests over 400 picture tubes, including 110° deflection types. Plug-in panel is replaceable for new tubes or customized uses! Covers novars, nuvistors, new 10-pin types, compactrons, decal and magnovals. Patented Grid Circuit; Tube Merit; and Heater Current Tests—dial controls isolate or transpose tube circuits and select test current. Removeable cover with speed-indexed setup data. Size: 9½" x 12" x 5½". Shipping Wt.: 10 lbs. **Model 98 . . . $99.50 NET**



SCR ANALYZER

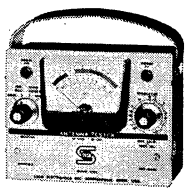
Yields rapid information on: Gate Firing Voltage and Current; Peak Forward Voltage; and Peak Reverse Voltage. Analyzes critical SCR properties to match voltage and current parameters, or for sorting to matched pairs or threes for full wave or three phase applications. Size: 9" x 10½" x 5". Shipping Wt.: 8 lbs. **Model 240 . . . $144.50 NET**

TRANSISTOR ANALYZER



Provides safe, fast and accurate method for analyzing power and signal transistors under conventional circuit conditions. Provides Dynamic go-no-go test without removing transistor from circuit—immediately lets you identify NPN and PNP types as well as lead connections. Beta test accurately measures DC gain—Iceo and Icbo Tests provides direct reading of leakage. Size: 8¾" x 7⅜" x 4¼". Shipping Wt.: 5 lbs.

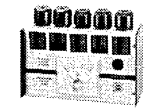
Model 260 . . . $69.50 NET



ANTENNA TESTER

Provides direct reading of forward or reflected power and SWR. For: 50 ohm lines and equipment in 3½ to 160 MC range. 1000 watts maximum RF output. Negligible insertion loss—may be left in line. Size: 6¾" x 5¼" x 2¼". Shipping Wt.: 2½ lbs.

Model 520A . . . $49.95 NET



For Horizontal Output Tubes

HC-8 PACER

NEW

FOR THE TV SERVICEMAN

- **Prolongs Convergence Quality**
- **Improves Focus Effect**
- **Accurately Sets Horizontal Linearity**
- **Extends Life of Output Tube**
- **Protects Horizontal Components**

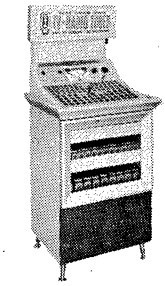
Five prewired sockets for all popular horizontal output tubes lets you plug into circuits fast — no clipping or unsoldering leads. Accurately indicates Cathode current while tuning the horizontal tank circuit for resonant dip. Tuning is accomplished with the efficiency coil or the horizontal linearity and drive.

- A MUST on all horizontal output tube, transformer, and yoke replacement jobs.
- A MUST before converging any color television receiver.

Dimensions: 7½" x 6" x 3". Shipping weight: 3 lbs.

Model HC8 .....$34.50 Net

SELF-SERVICE TUBE TESTERS



- **Most complete Self-Service Tester available! Designed for minimum obsolescence with annual chart purchase only!**
- **Builds customer satisfaction and sells more tubes . . . "Professional-Type" check spots faults other testers miss!**

Fast, easy to operate. Setup data lists over 2500 tubes—newest listings available twice yearly. Meter protected against customer error. Provides comprehensive analysis of all modern TV, Radio, Hi-Fi, Industrial and Foreign Tubes. Patented Grid Circuit Test makes up to 11 simultaneous checks—locates hard-to-find faults. Safe, low voltage tube merit test. Tests multi-section tubes individually, per section. Constant voltage transformer eliminates need for "line-adjust" and provides proper filament and test voltages for greatest accuracy! Console models offer large tube storage capacity; locked cabinet. For 115VAC operation.

MODEL 1100 — See your distributor for package price of Tester with tube stock and for program of route operation.

SECO ELECTRONICS CORPORATION

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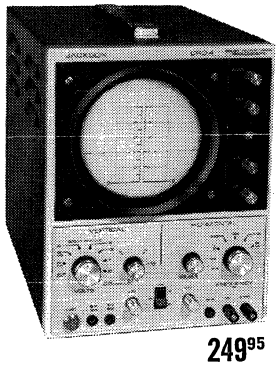
Jackson

FINEST QUALITY TEST EQUIPMENT... for SERVICE—LABORATORY—INDUSTRY

Model CRO-4—5" WIDE BAND OSCILLOSCOPE & VECTORSCOPE

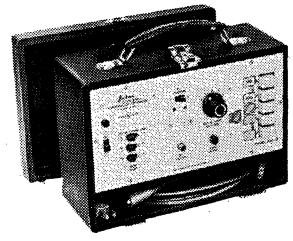


The only 5 Mc oscilloscope in the medium-low cost class which permits the technician to measure the amplitude of waveforms (as in TV servicing) as easily as using a VTVM or Volt-Ohm-Milliammeter. The "Readout" is an instant-removable graticule with 2 sets of calibrations exactly like a Meter scale-plate. Model CRO-4 is also a complete VECTORSCOPE. It incorporates simplified vectorscope calibration facilities to insure correct Horizontal/Vertical vectorscope pattern proportion. In addition to standard graticule, model CRO-4 includes a special graticule only for vectorscope use. Size: 9" W x 16" D x 11¼" H. Weight: 23 lbs.

249.95

Model X-100—SOLID STATE COLOR GENERATOR

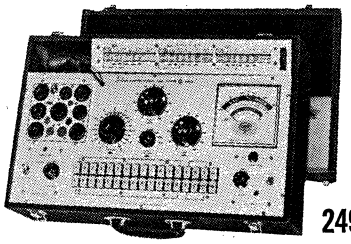
Extraordinary wide range of patterns (NTSC type colors) for faster, more accurate Color TV installation and servicing. Solid State stability under extreme temperatures • Pushbutton selector switches • Horizontal lines can be adjusted from double to single line thickness • Small uniform dot pattern for more simple and accurate convergence • Gun killer switches • Color video control • Video output • RF output on channels 3 and 4 controlled with convenient switch — adjusts for channels 2 and 5 through opening on panel • Line isolated. Size: 10" W x 6¼" H x 4½" D. Weight: 9 lbs.



149.95

Model 658-1—DYNAMIC OUTPUT TUBE TESTER

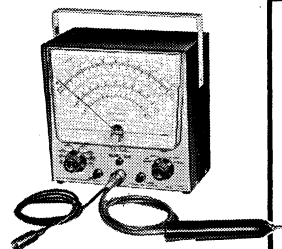
Designed for the engineer, laboratory technician and serviceman who want the finest tube tester available. Applies variable DC bias and AC signal voltage to the control grid and variable DC voltages to the plate and screen. A low impedance bridge circuit measures only the AC component of the plate current. Checks the entire output curve of the tube. • AC rectification test for diodes • 231 heater voltage settings • Grid leakage test up to 80 megohms • Tests striking point and operating range for thyratron, VR, and reference tubes • Pushbutton sequence switching for rapid set-up • Triple shorts sensitivity test • Angled view zig-zag roll chart. • Line voltage control. Size: 20⅝" W x 13" D x 7⅜" H. Weight: 25 lbs.



249.95

Model 806—VACUUM TUBE VOLTMETER—7" METER

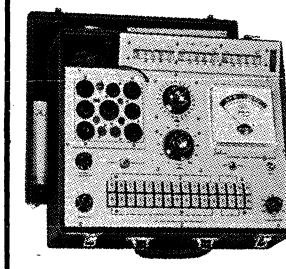
0.5 volt full scale DC range for today's solid state servicing needs. Provides direct reading of true Peak-to-Peak voltages of complex waveforms including TV sync, video pulses, color gating pulses, etc. ±3% accuracy f-s on both AC and DC. **MODEL 806 VTVM MEASURES:** Complex waveforms directly from 0.2 V to 4200 V P-P in 7 overlapping ranges • RMS values of Sine waves from 0.1 V to 1500 V in 7 overlapping ranges • DC voltages from 0.01 to 1500 volts on 2 scales in 8 overlapping 3-to-1 ranges • Input Resistance—11 megohms DC • Resistance from 0.2 ohm to 1000 megohms • 1% multiplier resistors. Size: 7½" W x 7¾" H x 4⅝" D. Weight: 7 lbs.



79.95

Accessory Probe: 85 HV High Voltage Probe **$19.95**

Model 648-1—DYNAMIC TUBE TESTER



Exclusive color keyed panel makes this unit faster to set up, easier to use • Best for servicemen — more accurate and completely versatile for all new tubes • First with pushbutton sequence switching • Semiconductor rectifier for instant warm-up • 23 separate heater voltages from .75 to line voltage • Variable sensitivity shorts tests . . . up to 2 megohms • Automatic line voltage indicator • Angled view zig-zag exclusive color keyed roll chart. Size: 16¼" W x 14" D x 6¾" H. Weight: 21½ lbs.

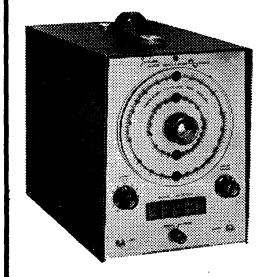
199.95

Model 607D—VARIABLE REGULATED POWER SUPPLY

A compact, easy-to-use, complete laboratory power supply. Provides heater, bias and variable regulated B+ voltages in one package. **DC Regulated Output:** Low position 150 to 225 VDC, 0 to 100 ma max. High position 225 to 300 VDC, 0 to 100 ma. Regulation—within 1.5%, no load to 100 ma. at 300V • **Ripple:** Bias supply—less than 0.003% at 20 ma. Regulated supply—less than 0.005% at 100 ma. • **Metered Output:** For Bias and Regulated B+ supply • **AC Heater Output:** 6.3 VAC at 3a • **DC Bias Output:** 30 to 275 VDC, no load; 15 to 150 VDC at 20 ma. Size: 5⅛" W x 10⅝" D x 7⅝" H. Weight: 11½ lbs.

79.95

Model 605D—AUDIO SINE/SQUARE WAVE OSCILLATOR

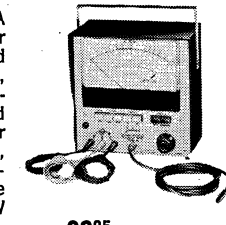


A precision Sine/Square audio generator. Square output generated by special Schmitt Trigger circuit. Pushbutton range selection and variable output. **Range:** 20 Hz to 200,000 Hz, Sine or Square wave in 4 ranges • **Output:** Sine wave 0 to 5.0 RMS volts; Square wave 20 mv to 7.0 P-P • Less than 1% distortion Sine • **Output Level:** ±1 db over full range • **Hum:** More than 50 db down • **Square Wave Rise Time:** Less than 0.2 μsec • **Square Wave Tilt:** 5% at 60 Hz. Less than 1% above 200 Hz. Size: 7⅝" W x 13⅛" D x 10⅜" H. Weight. 17½ lbs.

144.95

Model 810—DYNAMIC IN-CIRCUIT TRANSISTOR TESTER

Tests all transistors for A.C. BETA in circuit or out of circuit. Tests for leakage (Icbo). Tests diodes in and out of circuit. **Exclusive** . . . fast, simple pushbutton operation • **Exclusive** . . . Built-in transistorized signal-tracer generator • Transistor socket mounted on panel for fast, easy quantity testing • Zener regulated power supply • Wide Angle 200 microamp meter. Size: 7½" W x 7¾" H x 4⅝" D. Weight: 4½ lbs.



89.95

JACKSON ELECTRICAL INSTRUMENT COMPANY

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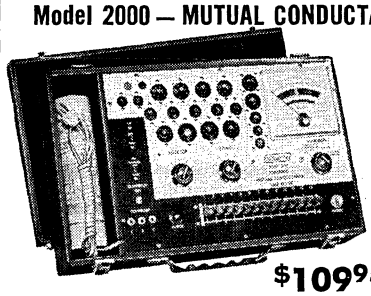
Mercury TUBE TESTERS FOR EVERY PURPOSE

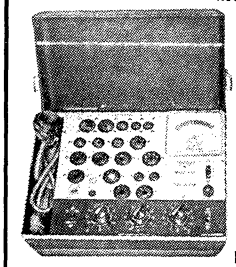
Model 2000 — MUTUAL CONDUCTANCE TUBE & TRANSISTOR TESTER



Tests all tube types plus transistors. Tests Magnovals, Nuvistors, Decals, Compactrons, Novars, 10-pin types, foreign and hi-fi tubes, thyratrons and industrial types. Tests for true dynamic mutual conductance (GM). Spots shorts, leakage and gas. Tests Color and B/W picture tubes with use of MH-3A Multi-Head Adapter (optional). Lever switch test principle overcomes obsolescence. Automatic line voltage regulation. Size: 18¼" x 10¾" x 4¾". Weight: 12½ lbs.

$109.95

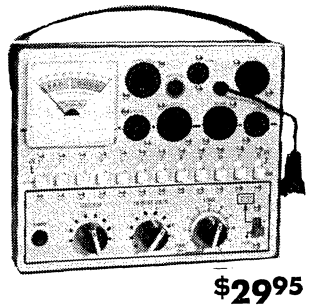
Model 1101 — DELUXE TUBE TESTER



Tests new Magnovals, Decals, Nuvistors, All Popular Picture Tubes and most other receiving tube types. Checks tubes for dynamic cathode emission, shorts, grid leakage and gas. Picture Tube Adapter. Long lasting phosphor bronze tube sockets. Exclusive 2-point test principle safeguards against obsolescence. Size: 8⅛" x 11⅜" x 3¼". Weight: 6 lbs.

Kit.... **$39.95** / Wired.... **$69.95**

Model 990 — COMPACT TUBE TESTER



Full Cathode Conductance Test. Quickly indicates Cathode to G_1 and Cathode to Filament Leakage and/or Shorts. Latest Sockets: Magnoval, Novar, Decal, Compactron, Nuvistor, Octal, 9-10 pin, 7 pin. Special unique open-circuit slide-switch Master Selection frees any and all multiple element terminations. All socket contacts terminate at unique 12 button slide switch row. Multiple element terminations are simply and effectively tested. One of the few truly Obsolescence-Proof Tube Testers available in economy price class. Size: 6½" x 7½" x 3½". Weight: 4½ lbs.

$29.95

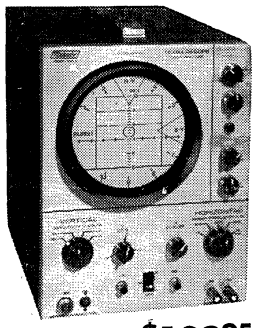
Model 1100B — TUBE TESTER

Tests more tube types than any other tester in its price range. Tests for dynamic cathode emission, shorts, grid leakage and gas. Exclusive meter bridge circuit found only in more expensive testers. Professional quality at an economical price. Size: 9" x 8¼" x 3¼". Weight: 6 lbs.

Kit..... **$24.95**
Wired..... **$39.95**

Mercury TEST EQUIPMENT...TOPS IN QUALITY, VALUE, PERFORMANCE

Model 3000 — 5" High Sensitivity 5 Mc OSCILLOSCOPE-VECTORSCOPE



Precision engineered to fill all your requirements for waveform observation — Color and B/W. Top quality construction and circuitry make model 3000 ideal for TV technicians, electronic experimenters, development engineers as well as for applications in Technical Schools and Industry. Includes Vectorscope calibrations on the calibrated Graticule, permitting vectorscope analysis through access to the deflection plates at rear of unit. A necessary tool in Color TV servicing. VERTICAL AMPLIFIER: Sensitivity . . . 10 Mv RMS/Cm • Frequency Response . . . 10 Hz to 5 Mc ±3 db • Rise Time . . . 0.08 Microsecond. HORIZONTAL AMPLIFIER: Frequency Response . . . 5 Hz to 500 KHz ±3 db • Sweep Range . . . 5 Hz to 500 KHz, continuously adjustable. Size: 11" x 9" x 16". Weight: 22 lbs.

Kit..... **$109.95**
Wired..... **$159.95**

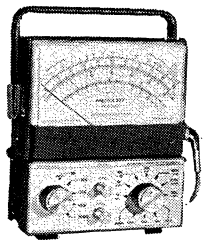
Model 1901 — Solid State, Battery Operated COLOR GENERATOR

Offers every essential feature needed to install and service Color TV. Pre-tested rock solid pattern stability under extremes of heat and cold. Crystal controlled keyed rainbow color display. Gun Killers. **EXCLUSIVE:** Line Width and Dot Size Adjustment • Sensitive front panel meter indicates power On or Off and shows conditions of batteries • All calibration can be made rapidly without removing unit from cabinet. Size: 10"x6¼" x4½". Weight: 8 lbs.

$84.95

(Available in AC operated model—$99.95)

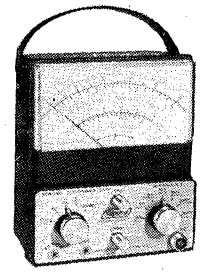
Model 4000 — FIELD EFFECT VOLT-OHM-MILLIAMMETER — 6" METER



High impedance, Solid State unit assures instant operation and permanent operating stability. Combines advantages of standard VTVM and FET circuitry, DC current ranges up to 1 Amp. Operates on both AC and Battery — choose AC for bench use or switch to battery when true Line Isolation or portability is desired. Size: 7½" x 6½" x 4". Weight: 3 lbs.

$69.95

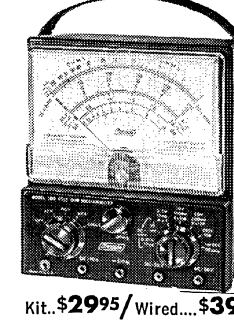
Model 1700A — VACUUM TUBE VOLTMETER



An advanced design VTVM to meet the technician's most rigid requirements. **AC RANGES:** 0 to 1.5, 5, 15, 50, 150, 1500V. **P-P:** 0-4, 14, 40, 140, 400, 1400, 4000V. **Output (DBM):** −20db to +65db. ODB = 1mw across 600Ω. **Accuracy:** ±5%. **DC RANGES:** 0 to 1.5, 5, 15, 50, 150, 500, 1500V. **Input Impedance:** 11 megohms. **Accuracy:** 3%. **RESISTANCE RANGES:** 0-1k, 10k, 100k, 1 meg, 10 meg, 1000 meg. **Accuracy:** 3%. Size: 7½" x 6½" x 4". Weight: 4 lbs.

Kit..... **$39.95**
Wired..... **$49.95**

Model 1800 — VOLT-OHM MILLIAMMETER



AC VOLTS: 0-2.5, 10, 50, 250, 1000, 5000V. **Input Resistance:** 5k Ohms/Volt. **Accuracy:** Better than 5%. **DC VOLTAGE:** 0-0.25, 1, 2.5, 10, 50, 250, 1000, 5000V. **Input Resistance:** 20,000 Ohms/Volt. **Accuracy:** ±2%. **DC CURRENT:** 0-50μa, 1-10-100-500 Ma, 10a. **Accuracy:** 3%. **OUTPUT:** Decibels −20 to +50db in 4 ranges. ODB = 1mw across 600Ω load. **RESISTANCE:** 0-2k, 200k, 20 megohms. **Accuracy:** 2%. Size: 7½" x 6½" x 4". Weight: 4 lbs.

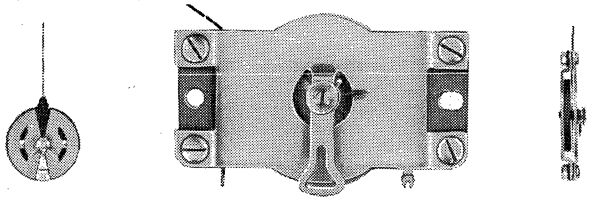
Kit..**$29.95** / Wired....**$39.95**

ALL MERCURY TEST EQUIPMENT GUARANTEED FOR ONE FULL YEAR!
UPDATED TUBE TEST DATA AVAILABLE ON ALL UNITS.

MERCURY ELECTRONICS CORP.

PARKER INSTRUMENTS

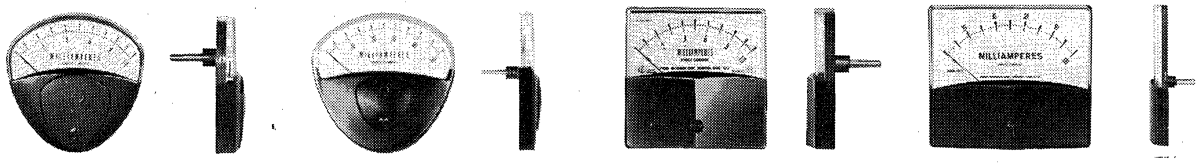
COMMON TO ALL MODELS IS THE UNIQUELY THIN PARKER MOVEMENT



CONSISTING OF AN ETCHED COIL, RING MAGNET, ANTI-SHOCK SUSPENSION AND SELF-SHIELDING. HIGH RESISTANCE TO SHOCK, VIBRATION.

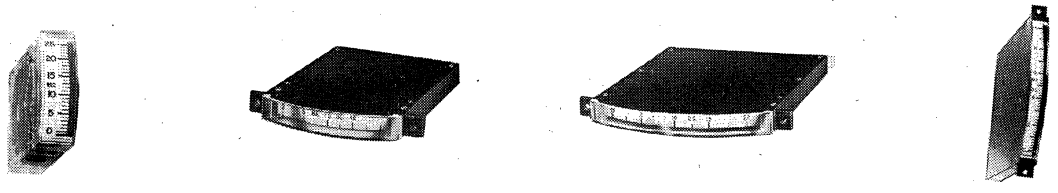
CONTINUOUS OVERLOAD UP TO 10,000% FDS. ALL THIS AND ONLY 3/8" THIN.

INDICATING PANEL METER S,SB SERIES 2½", 3½", 4½"



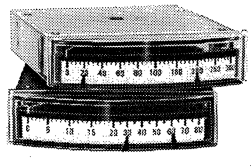
THE BARREL'S GONE TWO 3/8" HOLES AND IT'S MOUNTED

EDGEWISE INDICATING METERS E-SERIES 1½", 3", 3½", 4½"



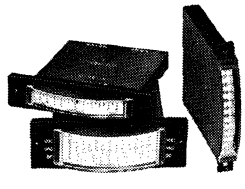
HORIZONTAL OR VERTICAL MOUNTING

CONTACTLESS CONTROL METERS ER 35 3½"



- POSITIVE REPEATABLE SWITCHING OVER ENTIRE RANGE
- 7/8" THIN; HORIZONTAL OR VERTICAL MOUNTING
- CDSE OR LIGHT ACTIVATED SCR CELLS
- DUAL OR SINGLE CONTROL POINTS WITH SIMULTANEOUS SWITCHING
- INTERNAL SWITCHING CAPABILITY TO 300 MA AT 100 V

EDGEWISE ILLUMINATED METERS EMI



- RUGGED
- LIGHT WEIGHT
- DEPENDABLE
- DESIGNED TO MEET ENVIRONMENTAL REQUIREMENTS OF MIL STD.'S 810A, 10304-C

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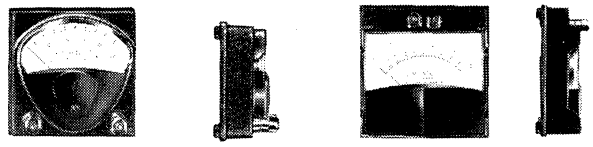
PARKER

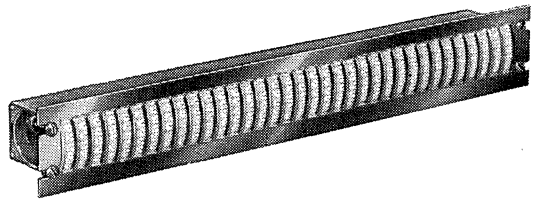
ELECTRICAL, INDICATING, CONTROL, AEROSPACE.

INDICATING METER ON A STAND



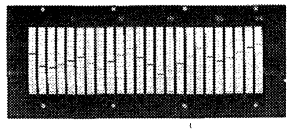
- THE FIRST REALLY "STUDENT PROOF" METER PERFECT FOR SCHOOL OR COLLEGE LABORATORY WORK.
- AVAILABLE WITH OR WITHOUT FUSE AND FUSE BLOCK.

MULTIPLE READ OUT SYSTEMS - PMR



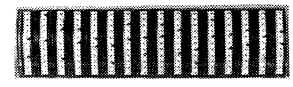
- STACKED OR RACKED
- ASSEMBLIES OF ANY NUMBER OF OUR EDGEWISE METERS MOUNTED IN A BEZEL OR 19" RACK

MULTIPLE MODULE READ OUT SYSTEM



PLUG-IN METER MODULES WITH 3" SCALES MOUNTED ON .419" CENTERS CONTAINED IN THEIR OWN HOUSING.

MULTIPLE CONTROL SYSTEM PMC 35



THE ER-35 CONTROL METER STACKS IN A BEZEL OR A 19"RACK FOR HIGH DENSITY DISPLAY.

PARTS, ACCESSORIES AND ADDITIONAL FEATURES

- SPECIAL DAMPING
- SPECIAL ACCURACIES
- OFFSET, SUPPRESSED ZERO
- SPECIAL SCALES, COLORS
- EXPANDED SCALES
- SCALES
- STANDS
- FUSES
- SHUNTS
- TRANSFORMERS
- TRANSDUCERS
- OVERLAPPING POINTER & WIDE SCALE FOR E&ER-35.
- KNIFE EDGE POINTER & MIRROR SCALE FOR PANEL METERS.
- FREQUENCY, POWER AND OTHER SPECIAL RANGES.

FOR CONTEMPORARY INSTRUMENTATION CONTACT

PARKER INSTRUMENT CORP.

RCA

TEST EQUIPMENT
MEASURING INSTRUMENTS

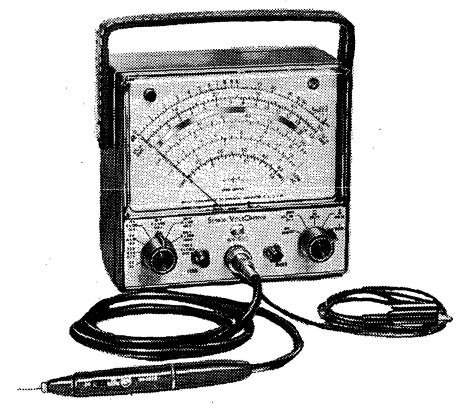
WV-98C SENIOR VOLTOHMYST® (Kit or Wired)

Application: provides direct reading of peak-to-peak voltages of complex waveforms found in video, sync and deflection circuits. Includes an improved circuit providing ±3% accuracy full scale on both ac and dc measurements with less than 1% tracking error. Separate color-coded, peak-to-peak and rms-voltage scales in two distinctive colors simplify readings. Features die-cast aluminum case; high input resistance; electronic protection against burnout; rugged 200-microampere meter movement; precision multiplier resistors with accuracy of ±1% and 0.5-volt full scale dc range for checking transistor circuits.

NEW . . . MIRRORED SCALE

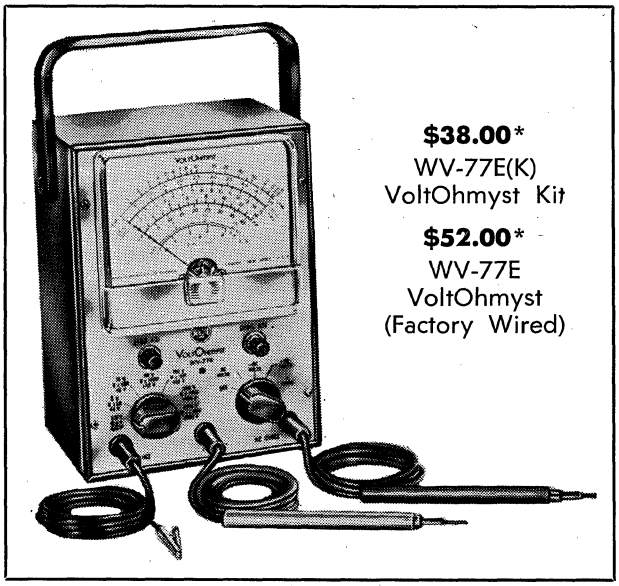
- **Large 6½" easy-to-read, full vision meter (26 sq. in.).**
- **Measures complex waveforms directly from 0.2 volt to 4200 volts peak-to-peak in 7 overlapping ranges.**
- **Measures rms values of sine waves from 0.1 volt to 1500 volts in 7 overlapping ranges.**
- **Measures from 0.01 to 1500 volts dv on two scales in 8 overlapping "3-to-1" ranges.**
- **INPUT RESISTANCE—11 megohms on all dc ranges.**
- **Measures resistance from 0.2 ohm to 1000 megohms on single scale, with 7 overlapping ranges.**
- **FREQUENCY RESPONSE — 30 Hz to 250 MHz with WG-301A Crystal-Diode Accessory Probe.**
- **Compact design: 7" wide, 3¾" deep, 6½" high. Weight: 6 lbs.**

Kit features pre-assembled DC/AC-OHMS probe — WG-361, Current Measuring Adaptor, permits current measurement with WV-98C from 1 microamp to 5 amps. $4.95*



$57.95*
WV-98C(K) Senior VoltOhmyst Kit

$88.50*
WV-98C Senior VoltOhmyst
(Factory Wired)



$38.00*
WV-77E(K)
VoltOhmyst Kit

$52.00*
WV-77E
VoltOhmyst
(Factory Wired)

WV-77E VOLTOHMYST® (Kit or Wired)

The WV-77E features flat frequency response ±5% from 40 Hz to 5 MHz on the 1.5, 5, and 15-volt rms ranges and the 4, 14, and 40-volt peak-to-peak ranges. The WV-77E measures dc from 0.02 volt to 1500 volts, rms ac from 0.1 volt to 1500 volts, peak-to-peak ac from 0.2 volt to 4000 volts, and resistance from 0.2 ohm to 1000 megohms — all in seven overlapping ranges. Full-scale accuracy is ±3% on dc and ±5% on ac. Meter is electronically protected against burnout. Separate scales are provided for low ac measurements. Input resistance is standard 11 megohms. Width 5⅝", Height 7¾", Depth 4¾", Weight 5 lbs.

- **Fuse in ohms circuit prevents accidental burnout.**
- **Circuit minimizes effect of residual gas in tube of circuit bridge.**
- **Color-coded scales for easier, faster readings.**
- **Ultra-slim probes and extra-flexible cables.**

(Prices for WV-77E(K) and WV-77E include dc probe and cable, ac/ohms probe and cable, ground lead and clip, and instruction booklet. Assembly instruction sheet is provided with the WV-77E(K) VoltOhmyst Kit.)

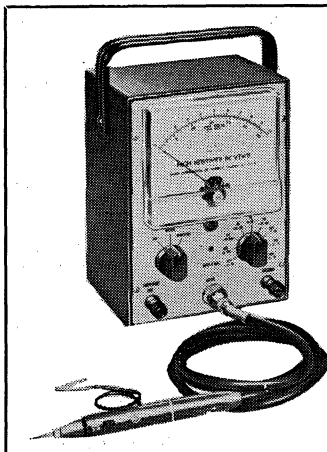
WV-76A HIGH-SENSITIVITY AC VACUUM-TUBE VOLTMETER

This RCA high-sensitivity AC Vacuum-Tube Voltmeter is designed for audio application in industry, laboratories and schools. It is also useful in broadcast, design and development, production, and servicing applications. Typical uses include frequency response test of preamplifiers, power amplifiers and tone-control circuits; feedback circuit design, signal tracing, audio-level and power-level measurements, gain measurements, amplifier balancing application and general audio voltage measurements.

- **Nine overlapping AC voltage ranges — from 10 millivolts to 100 volts full scale. When the WG-300B input probe is set in the "Low-Cap" position, up to 500 volts or +56 db may be measured.**
- **Frequency response is flat from 10 Hz to 500 MHz with "Low-Cap" probe; 10 Hz to 1.5 MHz with "Direct" probe.**
- **May be used as preamplifier: 38 db maximum gain on 10-millivolt range.**
- **High input impedance — permits measurements in circuits sensitive to loading.**
- **Probe and cable shielded throughout its length — eliminates pick-up from stray fields.**
- **Feedback loop from metering circuit provides additional stability and linearity.**
- **Heavy filtering in power-supply section keeps hum to extremely low level.**
- **Separate decibel scale for measurements of levels from −40 to +40 db.**
- **Dimensions: 5⅜" W x 7⅜" H x 4¾" D. Weight: 5 lbs.**

EQUIPMENT SUPPLIED:

The RCA WG-300B (shielded) Direct/Low Capacitance Probe and Cable is supplied with the WV-76A. A switch in the probe housing provides for switching from direct to low-capacitance input. In "DIRECT" position, probe measures up to 100 volts; in "LOW-CAP" position, probe can be used to measure up to 500 volts or +56 db.



$90.00*
WV-76A (Factory Wired)

** Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.*

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RCA

TEST EQUIPMENT
MEASURING INSTRUMENTS

WV-38A V-O-M (Kit or Wired)

NEW FEATURES:

- **Meter movement protected against burnout.**
- **New 2-color front panel.**

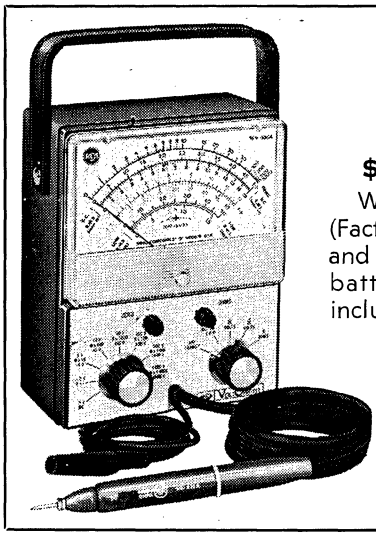
Ohms-divider network fuse-protected. Easier-to-read scales on extra-large 5¼ inch meter. Polarity reversal switch. Full-wave bridge rectifier. Less circuit loading. Standard dbm ranges. Extra 1-volt and 0.25-volt (250 mv) ranges. Handle clips accommodate probes and test leads for extra carrying convenient.

The WV-38A VOM has an input resistance of 20,000 ohms-per-volt on dc and 5,000 ohms-per-volt on ac and an accuracy of ±3% of full scale on dc, ±5% of full scale on ac. Regular scales: 2.5, 10, 50, 250, 1000, 5000 volts, ac and dc; 50 μamp, 1, 10, 100, 500 ma, 10 amps (dc); plus extra scales of 250 mv and 1-volt (dc). Frequency response (ac), flat from 10 Hz to 50 kHz within ½ db with usable response at 500 kHz. Ohms — 3 ranges — R x 1 (0-2,000 ohms), R x 100 (0-200,000 ohms), R x 10,000 (0-20,000,000 ohms). Dimensions: W 5¼" x H 6⅞" x D 3⅛". Weight: 3½ lbs.

WG-270A Accessory Carrying Case for WV-38A VOM $5.25*

$38.00*
WV-38A(K) VOM Kit (Batteries not included)

$52.00*
WV-38A VOM (Factory wired; batteries not included)



$75.00*
WV-500A
(Factory wired and calibrated; batteries not included)

WV-500A BATTERY OPERATED TRANSISTORIZED VOLTOHMYST®

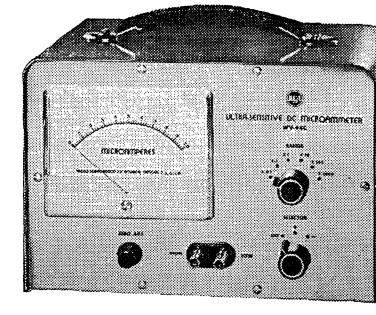
Eliminate warm-up time! Eliminate zero-shift that can occur in tube-operated voltmeters! RCA's new WV-500A VoltOhmyst is an all solid-state, battery operated, completely portable voltmeter that is ideal for service, industrial, and lab applications. Seven overlapping resistance ranges measure from 0.2 ohm to 1000 megohms. Eight overlapping dc-voltage ranges measure from 0.02 volt to 1500 volts (including special 0.5 dc volt range), ac peak-to-peak voltages of complex waveforms from 0.5 volts to 4200 volts, and ac (rms) voltages from 0.1 to 1500 volts. Input impedance of all dc ranges is 11 megohms.

All measurements are made with a sturdy, wire-in single-unit probe with fully shielded input cable. The probe is quickly adapted to either dc measurement or ac and resistance measurement with the built-in switch. And an accessory slip-on high-voltage probe (WG-411A) is also available to make possible measurements up to 50,000 dc volts. The WV-500A measures 6⅞" x 5¼" x 3⅛" and weighs 3½ lbs.

WV-84C ULTRA-SENSITIVE DC MICROAMMETER

Application: a battery-operated vacuum tube microammeter designed for measuring minute direct currents, for making current and voltage measurements in electrolysis and corrosion investigations, and for checking currents in light meters, ultra-violet and infrared detectors, and spectrophotometric devices. Self-contained batteries permit use almost anywhere. Low-drain tubes extend battery life and protect the delicate meter against burnout due to accidental overloads. When used as a voltmeter, it is especially suited to measurements in circuits where loading is a critical factor. Can also be used as an ohmmeter to measure extremely high resistances, such as leakage and insulation resistance.

- **Six direct-current ranges for measuring currents from 0.0002 to 1000 microamperes.**
- **Can be used as ohmmeter to measure resistance in the order of billions of ohms.**
- **Voltage drop for full-scale deflection only 0.5 volts.**
- **Input resistance of 100 megohms for measurement of voltages from 0.1 to 1 volt; 1000 megohms input resistance for voltages from 1 to 10 volts, 1005 megohms for voltages from 1 to 100 volts.**
- **Over-all microammeter accuracy on .01 range ±5% or better; accuracy on all other ranges ±4% or better.**
- **Size 8¾" x 10¾" x 6½". Weight: 10 lbs. including batteries.**



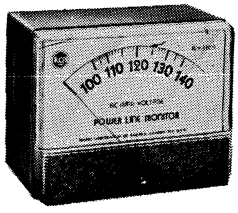
$110.00*
WV-84C
(Includes 50- and 950-megohm multiplier resistors, instruction booklet. Batteries not included.)

** Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.*

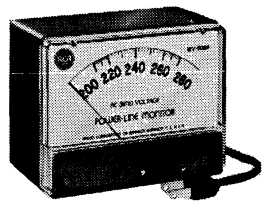
RCA

TEST EQUIPMENT
MEASURING INSTRUMENTS • OSCILLOSCOPES

WV-120A and WV-503A POWER LINE MONITORS



$18.50*
WV-120A
120-Volt Power Line Monitor



$18.50*
WV-503A
240-Volt Power Line Monitor

The RCA WV-120A and WV-503A Power-Line Monitors are designed for use by industries, laboratories, and radio-TV appliance repair shops where it is important to know the power-line voltage at all times. These instruments provide a continuous, accurate indication of the ac line voltage without the inconvenience of handling probes and switches or the necessity of selecting one of several scales to select the proper meter reading.

Used in conjunction with a variable isolation transformer, they are a valuable aid in selecting line voltages for TV and appliance servicing, test equipment calibration, and the operation of electronic equipment that requires a known line-voltage supply.

Both instruments feature:

- **Expanded 2-Color Scale (WV-120A . . . 100-140V; WV-503A . . . 200-240V).**
- **High Accuracy — ±2% center scale; ±3% Ends of scale.**
- **True RMS Reading — Moving vane type meter gives accurate RMS readings, even when line-voltage is not pure sine wave.**
- **Fast Meter Action — Reveals "bounces" and fluctuations in line-voltage.**
- **Wide Frequency Range — From 25 to 400 Hz.**
- **Large Numerals, Large Pointer, Large Scale — Provides easy reading from a distance.**
- **Convenient Wall Mounting — Mounting holes in rear of case.**

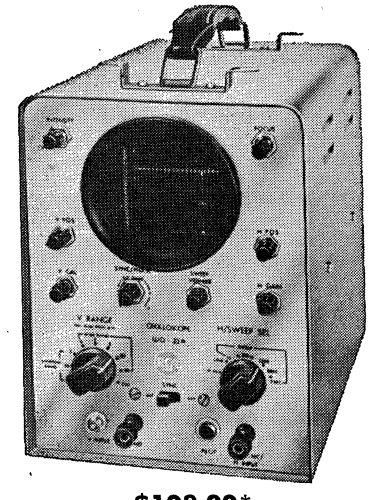
WO-33A SUPER PORTABLE OSCILLOSCOPE (Kit or Wired)

The WO-33A 3-inch Oscilloscope is the "all purpose" scope. All the bandwidth you need for servicing color-TV, video broadcast monitors and cameras; and for square-wave testing of audio and ultrasonic equipment. All the gain you need for low-level audio work — servicing pickups, microphones, preamps; plus signal-tracing radios, amplifiers — trouble shooting communications signaling systems, ham radio and hi-fi equipment, industrial electronics machinery and other applications.

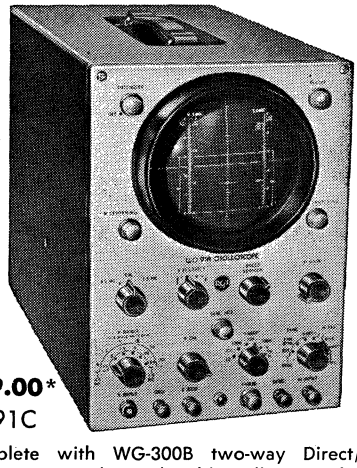
With vertical amplifier in narrow-band position, sensitivity is 3 rms millivolts/inch; bandwidth within —3 db, 20 Hz to 150 kHz. Wide band position: sensitivity 100 rms millivolts/inch; bandwidth within —3 db, 5.5 Hz to 5.5 MHz. Sweep crcuit: Sawtooth range from 15 Hz to 75 kHz; sync: external, ± internal; line sweep — 160° adjustable phase; sync range to 4.5 MHz.

- **For accuracy—voltage-calibrated frequency-compensated, 3-to-1 step attenuator.**
- **For measurements — scaled graph screen and calibrating voltage source allows direct reading of peak-to-peak voltages.**
- **For stability — "plus-minus" internal sync . . . holds sync to 4.5 MHz.**
- **For completeness — shielded input cable with low-capacitance probe included.**
- **For portability — compact size — W 6½" x H 8¾" x D 10¼" — weight only 14 lbs. Plus built-in brackets to hold power cord and cables.**

(Prices for the WO-33A(K) and WO-33A include WG-349A Direct/Low-Cap Probe and Cable, and instruction booklet.)



$108.00*
WO-33A(K) Oscilloscope Kit
$139.00*
WO-33A Oscilloscope (Factory Wired)



$269.00*
WO-91C

Complete with WG-300B two-way Direct/Low-Capacitance Probe and Cable, Alligator Clip and Insulator, Ground Cable; Green Graph Screen and Instruction booklet.

WO-91C 5" OSCILLOSCOPE

NEW FEATURE:

- **Provision for connecting signals directly to the vertical deflection plates of the CRT.**

Application: for production and servicing both black-and-white and color TV receivers. Used to measure color burst signals and for trouble-shooting wide-band color circuits, signal tracing and aligning wide-band video amplifiers, and chrominance circuits. A multi-scale graph screen makes peak-to-peak voltage measurements as simple as with a VTVM. Response: Wide-band within ±1 db from 10 Hz to 4.5 MHz; High sensitivity within —1 db from 10 Hz to 0.5 MHz: within —6 db to 1.5 MHz. Sensitivity: 0.05 volt peak-to-peak per inch (0.018 rms volts) in high-sensitivity position; 0.15 volt peak-to-peak per inch (0.053 rms volts) in wide-band position.

- **Voltage - calibrated, frequency - compensated, 3-to-1 step attenuator for "V" amplifier.**
- **Shielded vertical-input connector and shielded cable minimize hum, stray field pickup.**
- **Input Resistance—1 megohm shunted by 40 pF. Low capacitance position — 10 megohms shunted by 11 pF.**
- **Z-Axis input 12 rms volts minimum for blanking.**
- **Preset "V" and "H" sweep positions.**
- **"Plus" or "Minus" internal-sync selector.**
- **Positive-lock internal sync.**
- **Sweep Frequency: 10 Hz to 100 kHz.**
- **Maximum ac input: 600 volts peak-to-peak.**
- **Weight: 30 lbs. Size 13½" x 16½" x 9".**

** Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.*

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RCA

TEST EQUIPMENT
SIGNAL GENERATORS

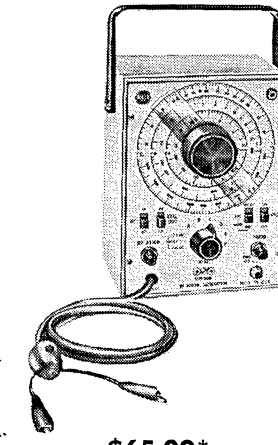
WR-50B RF SIGNAL GENERATOR (Kit or Wired)

WITH SWEEP FEATURES

The RCA WR-50B RF Signal Generator is a highly versatile, readily portable test instrument designed for use in the shop or in the field for general television and radio servicing and other applications which require a continuous-wave or modulated RF sine-wave signal from 85 kHz to 40 MHz.

The unit is particularly well suited for such applications as alignment and signal tracing of AM, FM, High-Fidelity and Citizens' Band receivers, alignment of low-frequency IF amplifiers in television receivers, and signal tracing and trouble-shooting in nearly all sections of television receivers.

- **Wide frequency range — continuous coverage 85 kHz to 40 MHz in 6 overlapping ranges.**
- **Built-in crystal calibrating oscillator circuit with front panel crystal socket.**
- **Internal 400 Hz audio oscillator.**
- **Sweep output at 10.7 MHz with return trace blanking for sweep alignment of FM receivers.**
- **Sweep output at 455 kHz with return trace blanking for sweep alignment of AM receivers.**
- **Built-in DC blocking capacitors.**
- **Two-step RF attenuator switch plus a continuously variable attenuator control.**
- **Additional switch for further attenuation of the crystal oscillator output.**
- **Size: 7¾" x 5⅜" x 4¾". Weight: 5 lbs.**



$65.00*
WR50B RF Signal Generator

$45.00*
WR-50B(K)
RF Signal Generator Kit

$129.00*
WR-64B
Complete with RF output cable, cable-carrying bracket attachment and instruction booklet.

WR-64B COLOR-BAR/DOT/CROSSHATCH GENERATOR

NEW FEATURES:

- **Crystal-controlled RF oscillator for stable picture carrier.**
- **Convenient front-panel gun killing switches.**

For checking over-all operation of Color-TV receivers. A "must" for adjusting and trouble-shooting color phasing and matrixing circuits. Generates signals for producing ten bars of different colors simultaneously. Also provides extremely stable fine-line crosshatch and dot patterns free from "jitter" and "crawl". Fixed number of bars and dots facilitate adjustment of over-scan (height and width) and linearity in both color and black-and-white sets. The Color-Bar and Dot/Crosshatch generating functions require no external sync connections. All three patterns are RF outputs, factory set to channel 3 (can be set to channel 4). A sound carrier is provided to permit accurate adjustment of the fine-tuning control on the receiver. The WR-64B features a chroma control helpful in checking color sync lock and color AFC alignment. The color sub-carrier frequency, the horizontal sync-pulse frequency, and the "bar" frequency are all crystal controlled. A shielded output cable is provided with the instrument. Width 13½", Height 10", Depth 8". Weight 13¼ pounds.

WR-52A STEREO FM SIGNAL SIMULATOR

The RCA WR-52A Stereo FM Signal Simulator is designed to generate the signals necessary for service, alignment and maintenance of Mono and Stereo FM receivers and multiplex adaptors.

- **COMPOSITE STEREO OUTPUT — for direct connection to multiplex circuit.**
  - **Choice of left stereo and right stereo signals.**
- **RF OUTPUT — for connection to receiver antenna terminals.**
  - **100 MHz carrier, tuneable.**
  - **Choice of FM signals — left stereo, right stereo, monaural FM, internal test and 60 cycle FM sweep.**
  - **FM stereo deviation adjustable from 0-75 kHz.**
  - **100 MHz sweep signal adjustable from 0 to more han 750 kHz at a 60 Hz rate.**
  - **RF output attenuator.**
- **CRYSTAL-CONTROLLED 19 kHz SUBCARRIER (±.01%).**
- **SINE WAVE FREQUENCIES.**
  - **Three low distortion frequencies — 400 Hz, 1 kHz, 5 kHz.**
  - **Two crystal-controlled frequencies — 19 and 38 kHz.**
  - **Additional frequencies — 67 and 72 kHz for trap alignment.**
- **READILY PORTABLE — weighs only 14 pounds, measures 13½" by 10" x 8".**
- **COMPLETE WITH CONNECTING CABLES.**

$248.00*
WR-52A

** Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.*

RCA

TEST EQUIPMENT
SIGNAL GENERATORS

WR-99A CRYSTAL-CALIBRATED MARKER GENERATOR

Application: supplies a fundamental frequency rf carrier of crystal accuracy for use in aligning and trouble-shooting TV (color and black-and-white) and FM receivers, and other electronic equipment operating in the range of 19 to 260 MHz in 8 bands on fundamental frequencies. Built-in crystal calibrator, heterodyne detector, amplifier and speaker provide calibrating beats at 1 MHz or 10 MHz intervals throughout entire tuning range which is covered by 8 bands. A built-in 4.5 MHz crystal provides necessary accuracy for alignment of intercarrier-if amplifiers and discriminators.

- **At least 0.1 volt output VFO ranges; 0.05 volt crystal frequencies, into a termination of 90 ohms.**
- **Provides signals for adjusting vertical or horizontal linearity.**
- **Precision matched impedance/resistance pad attenuator, 0-60 db in 5 db steps.**
- **Special modulation input available for re-transmission.**
- **Provision for use as Heterodyne Frequency Meter.**
- **Provides dual markers 4.5 MHz apart for band-width checks and rf alignment.**
- **Triple markers for sound-if alignment and bandwidth checks.**
- **Adjustable dial pointer for accurate registration with crystal-calibration check points.**
- **Size: 13½" x 10" x 7". Weight: 17 lbs.**

$256.50*
WR-99A
(Complete with rf output cable, instruction booklet.)

$96.00*
WR-70A
(Complete with four coaxial cables and instruction booklet.)

WR-70A RF/IF/VF MARKER ADDER

Application: for rf, if and video sweep alignment of both color and black-and-white TV receivers. Provides sharp, easy-to-read markers for alignment. A choice of four different marker shapes is available, permitting use of marker type best suited to the response curve. Designed for use with conventional marker and sweep generators, such as the RCA WR-39 and WR-89 series marker generators and the WR-59 and WR-69 series TV sweep generators. With the WR-70A, the marker signal is added to the sweep-response curve after the sweep signal is taken out of the receiver under test.

- **Eliminates or reduces distortion of sweep curve by the marker.**
- **Permits trap alignment without marker "suckout."**
- **Hi-Q markers — high in amplitude, narrow in width.**
- **Four marker choices — positive peak, negative peak, positive and negative peaks (wide band), positive and negative peaks (narrow band).**
- **Voltage stabilized for rock-steady trace display.**

SPECIFICATIONS:
IF/VF sweep input — 50 kHz to 50 MHz. RF input — 50 MHz to 250 MHz.
MINIMUM INPUT VOLTAGES — IF/VF sweep input — 0.1 volts rms. RF Sweep sample input — 0.005 volts rms. Marker input — 0.1 volts rms. Maximum demodulator signal input — 8 volts peak-to-peak.
MAXIMUM SIGNAL OUTPUT — Marker signal — 2.5 volts rms. Demodulator sweep signal — 10 volts peak-to-peak. Input and output impedances all 100 ohms except demodulator signal input of 0.5 megohm.
Weight: 8 lbs. Size: 7½" x 10½" x 6¼".

WR-69A TELEVISION/FM SWEEP GENERATOR

Tops for visual alignment of both TV and FM receivers, the WR-69A has preset switch positions for all VHF TV channels, the FM broadcast band, and TV video, chrominance, and if frequencies. VHF output is on fundamental frequencies only; no beat notes or harmonics are used. Exceptionally good linearity is provided by a precision vibrator capacitor. Continuously adjustable sweep width and flat output make for accurate sweep response portrayals. The WR-69A is especially suited to alignment of color receivers. Special sample-voltage terminal on panel permits use with marker-adder units in alignment. Dual-piston attenuator provides smooth even attenuation over 60 db range for TV and FM channels and 70 db range for if and video. Width 13⅝", Height 10", Depth 7". Weight: 16 lbs.

- **IF/Video output frequency continuously tunable from 50 kHz to 50 MHz in 6 ranges.**
- **Sweep-frequency bandwidth continuously adjustable from 50 kHz to 20 MHz on if/video and fm; 12 MHz max. on TV channels.**
- **Return trace blanking.**
- **Two continuously adjustable bias voltages, 0 to -12; available on front panel.**

$295.00*
WR-69A
(Complete with RF Output cable, IF/Video Output cable and instruction booklet.)

** Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.*

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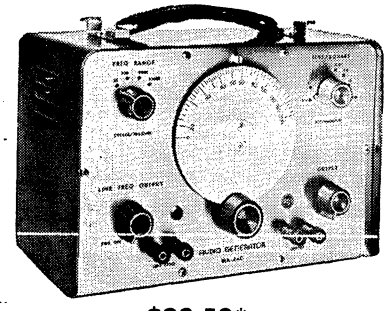
TEST EQUIPMENT
SIGNAL GENERATORS



$98.50*
WA-44C
(Complete with 20-page instruction booklet.)

WA-44C AUDIO SIGNAL GENERATOR SINE/SQUARE WAVE OUTPUT

The Compact WA-44C is ac operated from a 50-to-60 Hz, 105-125 volt source, and covers in four bands a range from 20 Hz to 200,000 Hz. Can be used for a wide variety of applications, including the measurement of frequency response characteristics of audio amplifiers, and the testing of loudspeakers and enclosures or finding the impedance of LC combinations. Width 10 11/16", Height 7", Depth 6 1/8". Weight 10 lbs.

The circuit of the sine-wave function consists of a "Bridged-T" oscillator with a cathode follower output stage. The square-wave output is developed by using the sine-wave oscillator output to drive a clipping and shaping circuit. Produces a stable signal with an amplitude variation of not more than ±1.5 db. Total harmonic distortion is limited to 0.5% over the range of 30 Hz to 15 kHz.

- **Switch selection for sinewave or squarewave output.**
- **Simple one-scale dial.**
- **Separate 60 Hz line frequency output for intermodulation distortion measurements.**
- **Wide frequency range, 20 Hz to 200,000 Hz.**
- **Less than 0.5% distortion over the audio-frequency range.**

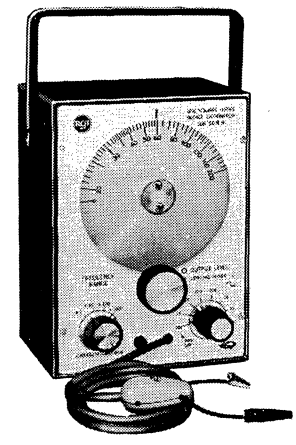
WA-504A TRANSISTORIZED AUDIO SIGNAL GENERATOR SINE/SQUARE WAVE OUTPUT

The RCA 504A Sine/Square Wave Audio Generator provides a tunable sine or square wave audio frequency signal ideally suited for service, industrial, laboratory, and educational applications. The frequency range extends from 20 Hz to 200,000 Hz.

New solid state circuit design using six transistors, including an MOS transistor, and two diodes produces a stable signal with an amplitude variation not exceeding ±1.5 db. Total harmonic distortion of the sine wave is less than 0.25%.

The WA-504A can be used in a wide variety of applications, including the direct measurement of frequency response characteristics of audio amplifiers, and testing speakers and enclosures. In addition, the instrument can be used in finding the impedance of LC combinations and in determining the frequency or speed of vibrating or rotating bodies.

- **Wide frequency range, 20 Hz to 200,000 Hz.**
- **Simple one scale dial.**
- **Switch selection of sine wave or square wave output and range of output level.**
- **Attached, shielded output cable.**
- **Size — 7¾" x 5⅜" x 4¾". Weight 3 lbs.**



$95.00*
WA-504A
Complete with instruction manual

$168.00*
WR-502A

WR-502A CHRO-BAR SOLID-STATE COLOR-BAR GENERATOR

The WR-502A CHO-BAR is designed to provide the test signals required for adjusting convergence, color-phasing, matrixing, purity, and linearity of color television receivers. The new crystal-calibrated solid-state circuitry is especially designed to provide stable patterns, with no flicker. the instrument includes slide switches for shorting out the control grids of the color picture tube. The color-bar pattern provides ten bars simultaneously, including R-Y, B-Y, I and Q signals, spaced at 30-degree phase intervals. This pattern is for use in checking color phase and matrixing circuits, and adjusting the automatic frequency phase control.

- **Patterns generated — Color bars (gated rainbow), Dots, Cross-hatch, Vertical lines, Horizontal lines, Blank Raster.**
- **All solid-state circuitry.**
- **Sound carrier, pattern, RF output, and color subcarrier all crystal controlled.**
- **Rock-solid stability.**
- **Battery operated — completely portable.**
- **Provision for spare battery with switch.**
- **Battery strength indicator.**
- **Gun killer switches.**
- **Rugged cast aluminum case.**
- **Compact, lightweight — only 4 lbs.**

** Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.*

RCA

TEST EQUIPMENT
TESTERS

$66.75*
WT-501A
Factory wired and calibrated. (Batteries not included.)

WT-501A IN-CIRCUIT/OUT-OF-CIRCUIT TRANSISTOR TESTER

Completely portable and requiring no external power source, RCA's new WT-501A tests transistors both in-circuit and out-of-circuit, tests both low and high power transistors, and has both NPN and PNP sockets to allow convenient transistor matching for complementary symmetry applications.

The instrument tests out-of-circuit transistors for dc beta from 1 to 1000, collector-to-base leakage as low as 2 microamperes, and collector-to-emitter leakage from 20 microamperes to 1 ampere. Special low impedance circuitry assures reliable in-circuit testing.

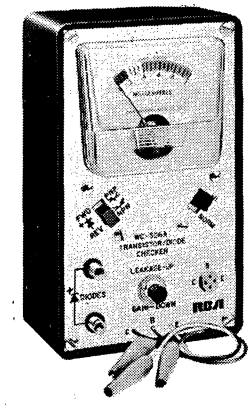
Collector current is adjustable from 20 microamperes to 1 ampere in four ranges, permitting most transistors to be tested at rated current level. A complete DC Forward Current Transfer Ratio Curve can be plotted. The three color-coded test leads are provided for in-circuit testing, and for out-of-circuit testing of those transistors that will not fit into the panel socket.

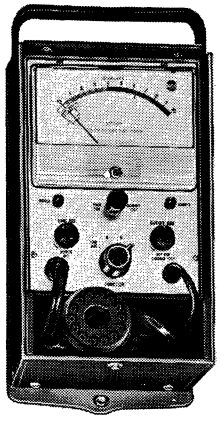
WC-506A TRANSISTOR/DIODE CHECKER

The RCA WC-506A Transistor/Diode Checker is a compact, battery-operated instrument providing quick, simple checks of relative gain and leakage levels of out-of-circuit transistors. Tests NPN and PNP types. Panel switch provides checking high-leakage transistors, such as most germanium power types. Includes a transistor socket, color coded test leads, and a large, easy-to-read meter with a single red/green scale. Check relative front-to-back current ratio of diodes by connecting to special spring terminals on the panel. MOS and FET type transistors cannot be checked with the WC-506A. Power supplied by two 1.5 volt penlite batteries. 3¾" x 6¼" x 2". Weight 14 ounces.

- **Checks NPN and PNP types.**
- **Tests out-of-circuit transistors.**
- **Large, easy-to-read meter.**

$18.00*
WC-506A
(Less Batteries.)





$75.00*
WT-115A
(Complete with sturdy laminated vinyl case with convenient cable storage compartment.)

WT-115A COLOR PICTURE TUBE TESTER

The RCA WT-115A Color Picture Tube Tester is designed specifically for the testing of color picture tubes, including types 21AXP22, 21AXP22A, 21CYP22, 21CYP22A, 21FBP22, 21FKP22, and 21FJP22 includes a socket adaptor which permits testing of the 19EXP22, 19EYP22, 25AP22, A, and 25BP22, A color picture tubes. The RCA WT-115A offers a quick, reliable means of testing each gun of the color picture tube for emission quality (including warm-up performance), interelectrode leakage, and shorted elements. Readily portable, the WT-115A provides distributors and dealers with an accurate instrument for the testing of color picture tubes in the customer's home or in the store.

- **Designed specifically for testing TV color picture tubes.**
- **Tests each gun for emission quality, interelectrode leakage, and shorts.**
- **Large, 3-color, sensitive meter with two scales:**
  - **Red/green "quality" scale, with reference marks from 0 to 10.**
  - **Separate yellow scale to indicate interelectrode leakage.**
- **Sensitive meter and cut-off adjustment control for evaluating the true emission of each gun.**
- **Neon shorts indicator.**
- **AC line-voltage adjustment for accurate measurements.**
- **Test procedure includes 2-minute and 4-minute tests for determining warm-up performance of tube.**
- **Tests color picture tube in-set or out-of-set.**
- **Built-in cable and socket assembly.**

** Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.*

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RCA

TEST EQUIPMENT
EDUCATIONAL DEVICES • ACCESSORIES

WE-93A(K) and WE-92A(K) TRANSISTOR RADIO DYNAMIC DEMONSTRATOR KIT

The RCA WE-93A(K) and WE-92A(K) are AM superheterodyne transistor radio receivers converted into kit form for educational and instructional purposes. Once assembled they become actual operating AM receivers.

Designed to provide the student with easy-to-follow, step-by-step instruction, the RCA Transistor Radio Dynamic Demonstrators are extremely easy to assemble. No previous kit assembly experience is required. The circuit diagram is drawn in a straightforward, easily understood manner on a sturdy color-coded panel. The wiring diagram on the reverse side helps avoid mistakes and speeds assembly.

- **Special silver-plated spring connectors provide mechanical and electrical connection . . . assure easy component installation.**
- **All components positioned on front panel in their proper place.**
- **Each circuit function is color-coded for easy identification.**
- **Inherent operational simplicity assures ease of service checks and tests . . . exceptionally easy component substitution.**
- **Solid mahogany frame and stand (unfinished).**
- **Includes 304 page RCA Transistor Manual and assembly instruction.**

WE-95A(K) V-O-M DYNAMIC DEMONSTRATOR KIT

Here is a dynamic aid for teaching the principles of meters and metering circuits in science classes at the high school level or in technical trade schools. RCA has taken its production-type VOM, the instrument most frequently used for electronic measurements, and converted it into an easy-to-assemble kit especially designed for classroom instruction. This kit is not simply an educational aid, but once assembled, it becomes an actual test instrument that can be used to test and service TV, AM, FM and shortwave radios, HiFi monophonic and stereo sound equipment.

- **Separate schematic and wiring diagrams printed on large, easy-to-follow layout panel.**
- **All components positioned on front of panel in their proper place.**
- **Each circuit function is color-coded for easy identification.**
- **Wiring diagram for each circuit is printed on rear of panel.**
- **Kit assembly is so simple no previous experience is required.**
- **24-page instruction manual.**

WG-307B(K) TV BIAS SUPPLY KIT

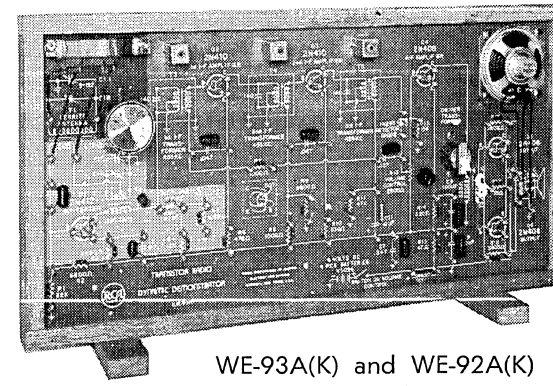
The RCA WG-307B(K) TV bias supply provides three output voltages, and is designed for use in servicing and aligning color and black-and-white TV receivers. Three separate output voltages, adjustable from 0 to −15 volts minimum are provided for application in rf, if, and agc bias circuits. The WG-307B(K) utilizes a power transformer and operates from 105-125 volts, 60 Hz.

WP-25A and WP-26A TV ISOTAP

Speeds up servicing, prevents damage to test equipment, minimizes shock hazard, cuts down costly returns. The WP-25A may be used as a high-medium-low voltage isolation transformer or as an auto-transformer for testing radio and TV receivers at various settings of line voltage. The WP-26A may be used with color TV receivers. Both units supply outputs of 130, 115, and 105 ac volts at maximum load and are tapped to match line voltages from 105 to 130 volts in six steps. Load ratings — continuous operation: direct receptacles 50 VA max.; isolated receptacles 275 VA max. for WP-25A and 400 VA max. for WP-26A — intermittent operation: direct receptacles 750 VA Max.; isolated receptacles 450 VA Max. for WP-25A and 650 VA Max. for WP-26A.

WG-295C VIDEO MULTIMARKER

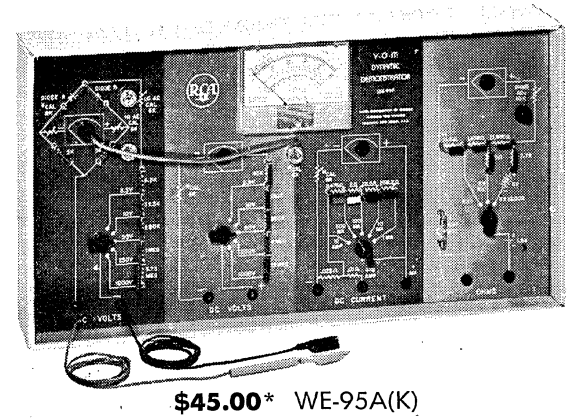
Provides seven simultaneous absorption-type markers at accurately preset frequencies for marking video response curves in color receivers. Markers are at 0.5 MHz, 1.5 MHz, 2.5 MHz, 3.08 MHz, 3.58 MHz, 4.08 MHz and 4.5 MHz. Each marker is identified simply by touching a corresponding contact on the WG-295C case. This reduces the amplitude of the particular marker. The WG-295C connect between the IF/VF output on the sweep generator and the video output cable. Equipped with shorting switch. With instruction booklet.



WE-93A(K) and WE-92A(K)

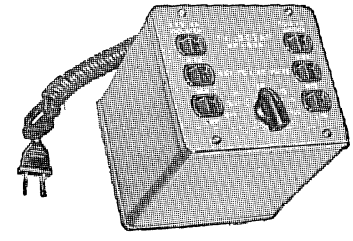
$39.00* WE-93A(K) 12″ x 12″ Student model. (Batteries not included.)

$69.50* WE-92A(K) 24″ x 48″ Instructors model. (Batteries not included.)



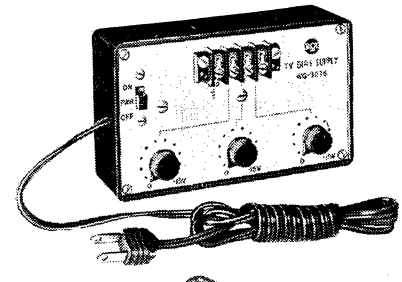
$45.00* WE-95A(K)

Includes assembly instructions and "Learning Basic Electronic Circuits" booklet. (Batteries not included.)

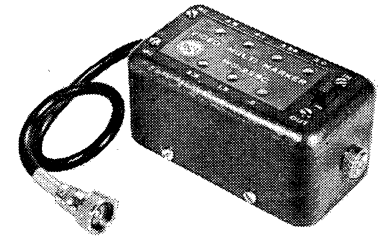


$27.50* WP-25A

$40.00* WP-26A



$11.95* WG-307B(K)

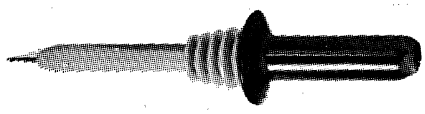


$32.50* WG-295C

** Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.*

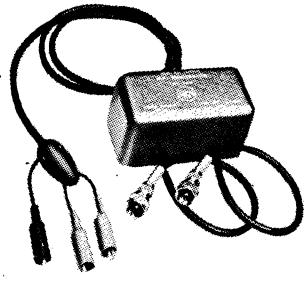
RCA

TEST EQUIPMENT
ACCESSORIES



WG-411A SLIP-ON HIGH-VOLTAGE PROBE

The WG-411A high-voltage slip-on probe was designed for use with either the WG-401A or WG-299D ac/dc ohms probes. It extends the dc voltage range of VoltOhmysts to 50,000 volts when used with WG-206 multiple-resistor. The extremely high impedance of the WG-411A is especially desirable when it is necessary to measure voltages found in geiger-counter tubes, television, and other high-impedance circuits which would not function properly if loaded down with a low-impedance voltmeter.
$13.50*



WG-304B RF MODULATOR

An accessory used to check the over-all frequency response of TV receivers from antenna to picture tube grid. The unit permits modulation of an rf marker signal from a marker generator (such as WR-89A or WR-99A) by a signal from a video sweep generator (such as WR-59C or WR-69A)..... **$18.00***

WG-301A CRYSTAL-DIODE PROBE

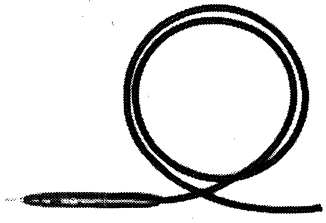
"Slip-on" type for use with the WG-299A, B, C, or DC/AC Ohms Probe and Cable extending the frequency range of VoltOhmysts® to 250 MHz ...**$8.25***

WG-299D DC/AC OHMS PROBE AND CABLE

The WG-299D is a single-unit probe for use with VoltOhmysts® except WV-77E. Switch provides instant selection of dc or ac/ohms operation. The WG-299D replaces the WG-299A, WG-299B and WG-299C **$9.00***

WG-300B DIRECT/LOW-CAPACITANCE PROBE AND CABLE

Designed for use with the RCA Scopes. Cable is 48" long, completely shielded from microphone connector to probe tip to minimize hum and stray field pick-up. Built-in switch provides instant selection of direct or low-capacitance operation. Input characteristics: 10 megohms resistance, less than 1.25 pF capacitance in low capacitance position. Includes ground lead and clip **$11.00***



WG-410A DC/AC OHMS PROBE AND CABLE

The WG-410A is supplied with the WV-500A Transistorized VoltOhmyst®, and is also available as a replacement accessory. It is a single-unit probe and cable equipped with a sliding switch to permit changing the probe characteristics to suit the type of measurement being made. It is identical to the WG-299D with the exception of the connector. **$9.00***

WG-289, WG-297 HIGH-VOLTAGE PROBES

The WG-289 extends the d-c voltage range of the WV-77A, WV-77B, WV-77C, WV-87A, WV-87B, WV-97A, WV-98A, WV-98B and WV-98C VoltOhmysts to 50,000 volts. The WG-297 extends the range of the WV-77E VoltOhmyst® and WV-38A Volt-Ohms-Milliammeter to 50,000 volts dc. The WG-289 is provided with a microphone-type connector, and the WG-297 is provided with banana-plugs for use with appropriate Volt-Ohmysts and other VTVM's, VOM's.

A choice of three multiplier resistors is available, enabling these probes to be used with many popular electronic and non-electronic volt-ohm-meters.

WG-206 — 1090-megohm multiplier resistor for VTVM's having 11-megohm input (multiplying factor 100). Use WG-206 for the WV-77, WV-87, and WV-98 series VoltOhmysts®.

WG-210 — 900-megohm resistor multiplies 5000-volt dc range of 20,000-ohms-per-volt VOM's by a factor of 10.

WG-211 — 495-megohm resistor multiplies 250-volt dc range of 20,000-ohms-per-volt VOM's by a factor of 100.

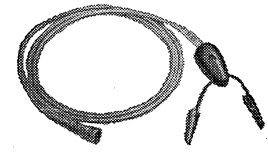
WG-289 or WG-297, Probe only, less resistor **$13.50***
WG-206 or WG-210, Multiplier Resistor (each) ..... **$ 3.75***
WG-211 — Multiplier Resistor ..... **$ 3.50***

WG-349A DIRECT/LOW-CAPACITANCE PROBE

A 48-inch, small diameter, extremely flexible shielded cable designed for use with the WO-33A Oscilloscope. The probe consists of three short leads with alligator clips for ground, direct, and low-capacitance connections. For convenient use, the WG-349A eliminates the need for switching. It connects to the oscilloscope by means of a miniature-type microphone connector. Increases input characteristics to 10 megohms, 12 pF capacitance, when used with the WO-33A and WO-33A(K).
$6.75*

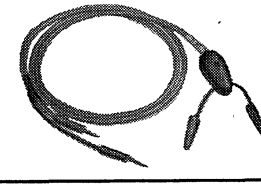
WG-302A RF/IF/VF SIGNAL TRACING PROBE

"Slip-on" type high-frequency probe designed for use with the WG-300A and B probe and cable to permit visual signal tracing for rapid isolation of trouble in radio receivers and in television if and video stages **$9.00***



WG-350A DEMODULATOR PROBE

For use with the WO-33A Super-Portable Oscilloscope for demodulation and signal tracing of radio/TV rf and if signals.
$5.25*



WG-351A CRYSTAL DIODE PROBE

For extending the rf measuring capability of the WV 77E Volt-Ohmyst, and WV77E(K) Volt-Ohmyst Kit, to over 100 MHz.
$5.25*

WG-354A CAPACITOR-TYPE VOLTAGE DIVIDER PROBE

The RCA WG-354A Capacitance-Type Voltage Divider Probe is a slip-on accessory for use with the WG-300B Direct/Low Capacitance Oscilloscope Probe. The WG-354A used with the WG-300B Probe and Cable extends the range of oscilloscopes such as the RCA WO-33A† and WO-91C so that signal pulse amplitudes up to 5000 volts can be observed. **$11.00***

† The WG-300B and WG-354A can be used with the WO-33A if the WG-271A Connector Adaptor is employed.

** Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.*

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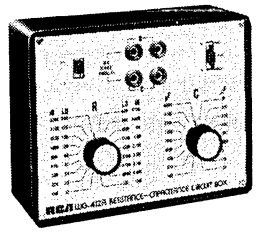
RCA

TEST EQUIPMENT
ACCESSORIES



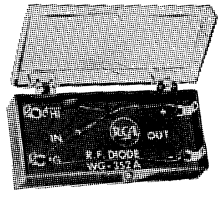
WG-412-A RC CIRCUIT BOX

- **Resistor values from .15 ohms to 10 megohms**
- **Capacitor values from 100 pF to .22 μF**
- **Compact, lightweight**

The RCA WG-412A Resistance-Capacitance Circuit Box provides convenient selection of standard resistor and capacitor values . . . separately, in series, or in parallel RC combinations. Includes 36 one-watt resistors (from 15Ω to 10 MΩ) and 18 600-volt capacitors (from 100 pF to .22 μF). Resistors and capacitors have 10% tolerance.

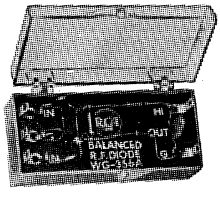
Ideal for component substitution in servicing and circuit design, and for establishing R-C circuits for checking impedance, reactance, and frequency characteristics. Also useful for classroom demonstrations of Ohm's Law, capacitive reactance, etc.

Includes plug-in test leads with alligator clip connectors. 6⅞" x 5⅜" x 2⅜". Weight 1¾ lbs. **$30.00***



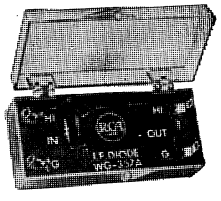
WG-352A RF DIODE

The RCA WG-352A RF Diode is designed for use with the RCA WV-38A or WV-38A(K) Volt-Ohm-Milliammeter in rf applications from approximately 100 kHz to 100 MHz. When the WG-352A is connected in a high frequency circuit, it will provide rectified output which can be read directly from the meter scales of the WV-38A **$2.95***



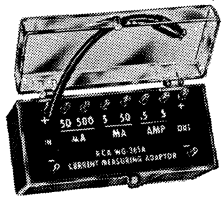
WG-356A BALANCED RF DIODE

The RCA WG-365A Balanced RF Diode is designed for use with an oscilloscope, such as the RCA WO-33A or WO-91A, in measuring the voltage output of sweep-frequency generators having balanced, 300-ohm output circuits, and for checking the bandpass and gain characteristics of VHF TV rf preamplifiers and antenna distribution amplifiers. The diode is useful through the video/if/rf frequency range up to approximately 250 MHz **$3.95***



WG-357A IF DIODE

The RCA WG-357A IF Diode is an unbalanced detector-demodulator designed primarily for use with an oscilloscope, such as the RCA WO-33A or WO-91A, in displaying the sweep output from an if/video sweep generator having an unbalanced output circuit. The WG-357A, which is usable up to approximately 100 MHz, can also be used to observe the rf/if response of individual amplifier stages. It has a maximum input signal rating of 20 rms volts, and a maximum dc voltage rating of 250 volts **$3.95***



W-361A CURRENT MEASURING ADAPTOR

The RCA WG-361A Current Measuring Adaptor is designed to permit current measurement with the RCA WV-98C Senior VoltOhmyst and other VTVMs having a 0.5-volt DC range. It permits measurements from 1 microamp to 5 amps in six ranges: 0-50 μA, 0-500 μA, 0-5 MA, 0-50 MA, 0-0.5 Amp. 0-5 Amp. Precision (±1%) shunt resistors are used for each current range **$4.95***

WG-415A (8B105) VIDEO DETECTOR

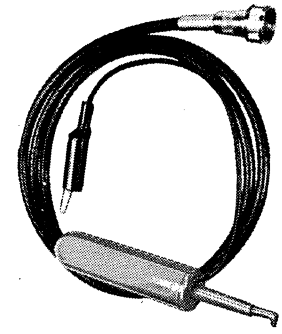
Used during chroma bandpass alignment and chroma board trouble-shooting. Connects directly from the circuit under test to the oscilloscope. Also used with VTVM and oscilloscope for adjustment of sound take-off transformer, sound I.F. transformer, sound detector and 4.5 mc trap **$13.50***

WG-416A (8B106) IF TEST BLOCK

Includes 180-ohm detector and I.F. transformer loading circuit. Used to connect a load to the plate of the 2nd I.F. amplifier and as a detector at the plate of the 1st I.F. amplifier during adjustment or checking of the overcoupled I.F. link circuit. The output connects directly to the vertical amplifier on the oscilloscope. **$15.25***

WG-417A (8B107) SOUND DETECTOR TEST BLOCK

Used during peak alignment of the sound takeoff transformer and the audio driver transformer as a detector probe for the VTVM. **$14.50***



WG-418A (8B108) MIXER GRID MATCHING PAD

Used to couple the output of both the sweep and signal generators to the mixer grid during picture I.F. alignment, link alignment, trap adjustments, chroma bandpass alignment, sound I.F., and AFC adjustments **$13.50***

WG-419A (8B109) TUNER IF INPUT HEAD

A matching pad used to couple the sweep generator to the I.F. input jack during adjustment of the 40 MHz input coil on VHF tuners used as UHF I.F. amplifiers on both color and B/W receivers **$11.50***

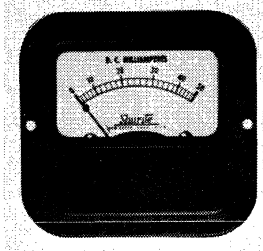
WG-420A (8B110) SOUND DETECTOR PROBE (SOLID STATE)

A very low capacitance detector for alignment of the ratio detector transformer in sets using a solid state integrated circuit sound I.F. amplifier and demodulator **$21.75***

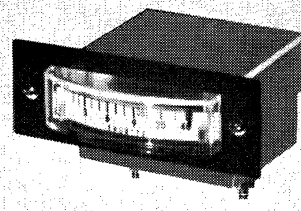
WG-414A	Clip-On Probes, set of 3, for use with WT-501A. Special clip-on connectors and thin flexible shafts for connection to transistor elements on circuit boards	**$13.50***
WG-425A	AC Adapter. Permits WR-502A to be operated on AC power line	**$9.00***
WG-210	900-Megohm Resistor for WG-297	**$3.75***
WG-211	495-Megohm Resistor for WG-297	**$3.50***
WG-206	1090-Megohm Resistor for WG-289	**$3.75***
WG-271A	Adapter for using WG-300B Cable and Probe on WO-33A, WO-33A(K)	**$2.50***
WG-270A	Carrying Case for WV-38A.....	**$5.25***

** Optional distributor resale price. All prices subject to change without notice. Prices may be slightly higher in Alaska, Hawaii and the West.*

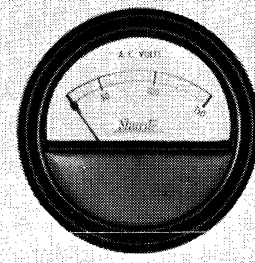
PANEL METERS



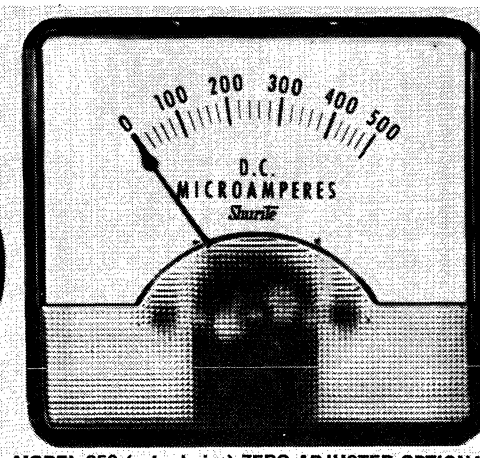
MODEL 950 SERIES (metal case) ZERO ADJUSTER OPTIONAL ON DC



MODEL 350 SERIES (crystal clear front) EDGEWISE METER



MODEL 550 SERIES (metal case) RIMLESS ROUND TYPE



MODEL 850 (actual size) ZERO ADJUSTER OPTIONAL

Manufactured in SHURITE'S new Connecticut plant, Shurite meters are attractive, rugged, dependable instruments with accuracy well within ±5%, and the ability to duplicate readings. DC meters are polarized-vane solenoid type (moving-magnet or bridge-type construction where indicated); AC meters are double-vane repulsion type with jeweled bearing. The jewel construction costs more to build, but it pays off in continuing accuracy during a longer useful life. Models 550 and 950 fit 2-5/32" hole; Model 850 fits 2-5/32" to 2-1/32" hole. All are guaranteed.

***NEW PRODUCTS** — More sensitive meters which retain high torque-to-weight ratio without sacrifice of ruggedness, include: *A) three 0-500 DC Microammeters, 1000 ohms int. res.; *B) 0-1 DC Milliammeter, Stock No. 8336, 1000 ohms int. res., with bridge-type design to minimize effects of external magnetic forces; and *C) 0-2 DC Milliammeter, Stock No. 8835, 500 ohms int. res. A handy new Cold-Zone Tester priced at less than $21.00, and a pocket type Lighting Level Indicator, calibrated for 0-300 foot candles, are listed on the opposite page.

FEATURES

GUARANTEE: Meters are guaranteed to users against defective workmanship and material, and will be repaired or replaced if sent to the factory postpaid with 50¢ handling charge within one year after purchase . . . **ALL METAL DIALS**—age and moisture resistant, lithographed in black on white for high visibility . . . **STURDY DESIGN**—with husky coil frames designed to prevent breakage, rigidly mounted in cases with anti-turning square head studs . . . **VISCOSITY DAMPING**—careful application of new silicone compound on bearing surfaces damps pointer overtravel . . . **WIDE SELECTION**—Shurite offers the broadest line of standard meters in the economy-priced field. Distributor stocks are backed by an extensive factory inventory.

CLEAR PLASTIC INSTRUMENTS

. . . The 850 snap-on front of crystal-clear high temperature polystyrene 2-17/32" wide by 2-5/16" high, admits light from all sides and accentuates the appearance of the dial which has the longest scale arc in its field. The case back is black, but of similar high-temperature, high-impact material.

TYPICAL USES

Amateur radio rigs . . . Citizens Band equipment . . . battery eliminators . . . battery chargers . . . volt-ohm-milliammeters and kits . . . model train equipment . . . tuning circuits for stereo and tape recorders . . . burglar, fire alarm, or emergency lighting systems . . . transistor testers . . . plating equipment . . . voltage regulators . . . detergent strength analyzers . . . demonstrators . . . many other applications.

DC MICROAMMETERS

RANGE Ua.	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
0-500**	1000	5902	9902	**$4.40**	8902	**$4.50**

*For zero adjuster, add 35c to price and Z to stock number.
**Sensitive type, note internal resistance. DC bridge-type construction.

DC MILLIAMMETERS

RANGE Ma.	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
0-1†	1000	5336	9336	**$4.15**	8336	**$4.25**
0-2†	500	—	—	**—**	8335	**4.25**
0-3	4460	5301	9301	**3.35**	8301	**3.45**
0-5	3740	5302	9302	**3.05**	8302	**3.15**
0-10	1380	5303	9303	**2.95**	8303	**3.05**
0-15	600	5304	9304	**2.75**	8304	**2.85**
0-25	230	5305	9305	**2.75**	8305	**2.85**
0-50	58	5306	9306	**2.75**	8306	**2.85**
0-100	14.7	5307	9307	**2.75**	8307	**2.85**
0-150	7.0	5308	9308	**2.75**	8308	**2.85**
0-200	4.7	5309	9309	**2.75**	8309	**2.85**
0-300	1.7	5310	9310	**2.75**	8310	**2.85**
0-400	.84	5311	9311	**2.75**	8311	**2.85**
0-500	.7	5312	9312	**2.75**	8312	**2.85**

*For zero adjuster add 35c to price and Z to stock number.
†Bridge-type construction; internal magnet design minimizes effects of external magnetic forces. Price does not include zero adjuster.

AC MILLIAMMETERS

RANGE Ma.	RESIST. Approx. Ohms	Model 550 Stock No.	Model 950 Stock No.	Model 950 Net Each	Model 850* Stock No.	Model 850* Net Each
0-10	4800	5607	9607	**$4.05**	8607	**$4.15**
0-25	750	5601	9601	**3.95**	8601	**4.05**
0-50	150	5602	9602	**3.95**	8602	**4.05**
0-100	37	5603	9603	**3.95**	8603	**4.05**
0-250	5.4	5604	9604	**3.95**	8604	**4.05**
0-500	1.34	5605	9605	**3.95**	8605	**4.05**

NO ZERO ADJUSTER ON AC METERS, EXCEPT ON MODEL 850.
*For zero adjuster add 35c to price and Z to stock number.

DC AMMETERS

RANGE Amps	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
0-1	.105	5201	9201	**$2.75**	8201	**$2.85**
0-3	.02 Max.	5202	9202	**2.75**	8202	**2.85**
0-5	.02 Max.	5203	9203	**2.75**	8203	**2.85**
0-8	.02 Max.	5204	9204	**2.75**	8204	**2.85**
0-10	.02 Max.	5205	9205	**2.75**	8205	**2.85**
0-15	.02 Max.	5206	9206	**2.75**	8206	**2.85**
0-25	.02 Max.	5207	9207	**3.05**	8207	**3.15**
0-50	.02 Max.	5208	9208	**3.05**	8208	**3.15**
3-0-3	.02 Max.	5210	9210	**2.85**	—	—
5-0-5	.022	5211	9211	**2.85**	—	—
6-0-6	.02 Max.	5212	9212	**2.85**	—	—
10-0-10	.02 Max.	5213	9213	**3.05**	8213	**3.15**
20-0-20	.02 Max.	5214	9214	**3.05**	8214	**3.15**
30-0-30	.02 Max.	5215	9215	**3.05**	8215	**3.15**
50-0-50	.02 Max.	5216	9216	**3.25**	8216	**3.35**

*For zero adjuster add 35c to price and Z to stock number.

AC AMMETERS

RANGE Amps	RESIST. Approx. Ohms	Model 550 Stock No.	Model 950 Stock No.	Model 950 Net Each	Model 850* Stock No.	Model 850* Net Each
0-1	.42 Max.	5501	9501	**$3.90**	8501	**$4.00**
0-3	.072 Max.	5502	9502	**3.90**	8502	**4.00**
0-5	.041 Max.	5503	9503	**3.90**	8503	**4.00**
0-10	.02 Max.	5504	9504	**3.90**	8504	**4.00**
0-15	.02 Max.	5508	9508	**3.90**	8508	**4.00**
0-30	.02 Max.	5505	9505	**4.15**	8505	**4.25**
0-50	.02 Max.	5506	9506	**4.50**	8506	**4.60**
0-80	.02 Max.	—	—	**—**	8507	**4.90**

NO ZERO ADJUSTER ON AC METERS, EXCEPT ON MODEL 850.
*For zero adjuster, add 35c to price and Z to stock number.

Prices Effective May 1, 1968; F.O.B. Factory; Individually Boxed; (Subject to Change.)

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DC VOLTMETERS

RANGE Volts	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
0-1	10	5101	9101	$2.75	—	—
0-3	93	5102	9102	2.75	8102	$2.85
3-0-3	250	5103	9103	2.75	—	—
0-5	300	5104	9104	2.75	8104	2.85
0-6	390	5105	9105	2.75	—	—
0-8	600	5106	9106	2.75	8106	2.85
0-10	880	5107	9107	2.75	8107	2.85
0-15	2370	5108	9108	2.75	8108	2.85
0-20	3500	5121	9121	2.75	8121	2.85
0-25	1420	5109	9109	2.90	8109	3.00
0-25H**	5000	5110	9110	3.35	8110	3.45
0-50	2920	5122	9122	2.85	8122	2.95
0-50H**	10000	5111	9111	3.60	8111	3.70
0-75	4280	5112	9112	2.90	—	—
0-100	5740	5113	9113	2.90	—	—
0-100H**	20000	5114	9114	3.50	—	—
0-150	8500	5115	9115	3.05	8115	3.15
0-150H**	30000	5116	9116	3.75	8116	3.85
0-300H**†	60000	5117	9117	3.90	8117	4.00
0-500H**†	100000	5118	9118	4.15	8118	4.25

*For zero adjuster add 35c to price and Z to stock number.
**H denotes high resistance.
†Supplied with external resistors.

AC VOLTMETERS

RANGE Volts	RESIST. Approx. Ohms/ Volt	Model 550 Stock No.	Model 950 Stock No.	Model 950 Net Each	Model 850* Stock No.	Model 850* Net Each
0-4	11	5401	9401	$3.95	—	—
0-6	15.8	5402	9402	3.95	—	—
0-10	27	5403	9403	3.95	8403	$4.05
0-15	35	5404	9404	3.95	8404	4.05
0-20	44	5413	9413	3.95	8413	4.05
0-25	53	5412	9412	3.95	8412	4.05
0-50	96	5405	9405	4.15	8405	4.25
0-150	100	5406	9406	4.55	8406	4.65
0-300**	100	5407	9407	4.95	8407	5.05
0-500**	100	5414	9414	5.55	8414	5.65

NO ZERO ADJUSTER ON AC METERS; EXCEPT ON MODEL 850.
*For zero adjuster add 35c to price and Z to stock number.
**Supplied with external resistors.

RESISTANCE METERS

RANGE Ohms	Volts	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
10,000	4.5**	5701	9701	$3.25	8701	$3.35

*For zero adjuster, add 35c to price and Z to stock number.
**Requires 3 flashlight cells for resistance readings but does not require resistor for voltage readings.

EDGEWISE METERS — MODEL 350 SERIES

High-temperature crystal polystyrene front adds beauty to panel designs and 1.2" scale length offers easy reading. Uses less than half the panel space of other Shurite meters. Horizontal mounting; weight under 2 ozs.; accuracy well within ±5%; black escutcheon plate supplied. Case back normally black; available in light-transmitting frosted polystyrene on special order.

RANGE	Approx. Typical RESIST. (ohms)	Stock No.	Net Each
DC MILLIAMMETERS			
0-1*	500	3300	$3.95
0-5*	100	3302	3.60
0-10*	50	3303	3.60
0-25*	20	3305	3.60
0-50*	10	3306	3.60
0-100*	5	3307	3.60
0-200*	2.5	3309	3.60
0-300*	1.7	3310	3.60
0-500*	1	3312	3.60
AC MILLIAMMETERS			
0-100	32	3603	3.95
DC AMMETERS			
0-3*	.02 Max.	3202	3.60
0-10*	.02 Max.	3205	3.60
0-15*	.02 Max.	3206	3.60
10-0-10*	.02 Max.	3213	3.70
AC AMMETERS			
0-5	.04	3503	3.95
DC VOLTMETERS			
0-5*	1000	3104	3.70
0-10*	2000	3107	3.70
0-15*	3000	3108	3.70
AC VOLTMETERS			
0-15*	1200	3404	4.40
0-150*	48000	3406	4.60
VU Meter —20 +3 VU*	1400	3801	5.75
S Meter 0-40 db*	1000	3333	3.90

*Bridge-type construction; internal magnet design minimizes effects of external magnetic forces.

POCKET TYPE METERS

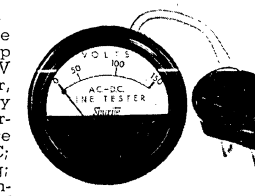
Please ask for General Catalog 47 which describes 13 types of battery testers (pocket meters). Their stock numbers begin with the digit 4. Typical is **Stock No. 4151,** 0-7 DC volts, approx. res. 670 ohms **$3.25**

Shurite®

COLD-ZONE TESTER MODERATELY PRICED

STOCK NO. 8380-RT — Place the thin, flat resistance bulb inside a refrigerator, deep freezer, air conditioner or other cooling equipment, close the door on the polyethylene ribbon lead, allow the bulb temperature to stabilize, and get a direct reading from —40 to +120°F. Saves time, builds customer confidence. Red pointer; 2⅛" scale arc, readable to ±2°; accuracy well within commercially accepted standards of ±5° (±3%). For further details, ask for Bulletin CT-1. Tester comes in gray vinyl case 5" x 5" x 4½", complete with 8 ft. Model SA-309 thin, fast responding bulb and 7½ volt standard battery **$20.50**

AC-DC LINE VOLTAGE TESTER



Stock No. 5406-LT — Plug-in to read line voltage, then demonstrate voltage drop or inadequate wiring by plugging in TV set, iron, toaster, washer, air-conditioner, shop equipment, etc. Features of this handy tester: a) attached plug receptacle permits continuous reading while loads are changed; b) reads to 150 volts AC or DC; c) cord allows convenient angle for reading; d) jewel bearing construction provides continuing accuracy **$4.85**

LIGHTING LEVEL INDICATOR

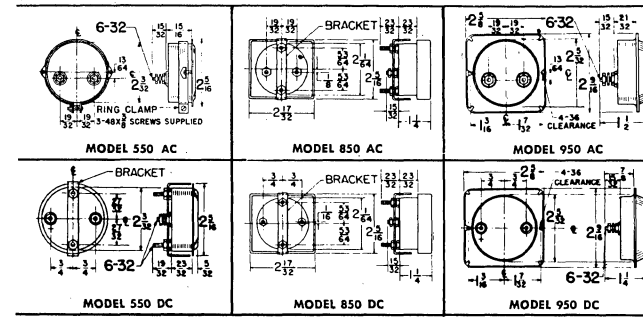
STOCK NO. 7902-FC — Simply place this pocket-size meter (3¼" x 2⅛" x 1⅛") on bench, desk, or other work surfaces and read illumination value in foot candles on a 0-300 fc scale. Individually boxed **$9.75**

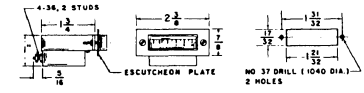
VU, S, and FIELD STRENGTH METERS

VU METERS — Reed volume levels in audio transmission circuits on scale —20 to +3 VU, red and black. AC rectifier type; pointer normally at —20 VU; 1400 ohms ±5% int. res. See Bulletin VUS-67 for application circuitry. High-temperature clear-plastic cases.
STOCK NO. 8801Z—850 Series, zero adjuster included; as illustrated **$6.10**
STOCK NO. 3801 — Edgewise case, zero adjuster not available ... **$5.75**
S METERS — To measure relative signal strength; black and red scale; basic movement 0-5 Ma. DC with 1000 ohms int. res. ±5%; for application notes and circuits, see Bulletin VUS-67. High-temperature clear plastic cases.
STOCK NO. 3333 — 350 Series, 0-40 db, shown on page 904 pointer normally at 40 ..... **$3.90**
STOCK NO. 8333* — 850 Series; 0-60 db, pointer normally at 60..... **$3.80**
*For zero adjuster, add 35c to price and Z to stock number.
NEW FIELD STRENGTH METER — When this meter — a variation of 0-1 D.C. Milliammeter — is built into an elementary circuit (supplied on request), antenna systems may be easily checked, tuned, phased, or matched to transmission lines.
STOCK NO. 8903Z — 850 Series case; top scale marked .1, .5, 1, 2, 3, 4, 5, 7, 10; bottom scale marked 2, 4, 6, 8, 10; zero adjuster included; meter only **$4.45**

3-HOLE MOUNTING ADAPTER

MODEL 5-A — 2¾" black flange attaches from front, converts Model 550 (round) meter to 3-hole flange type **$0.18**





MODEL 350 AC or DC

IMPORTANT — HOW TO ORDER

Give (1) Model Number, (2) Range, (3) Stock Number.
ZERO ADJUSTER (Z) 35c extra; see footnotes as to availability.
PANEL CALIBRATION (S) Normally for non-magnetic panels. If steel panel mounting, give thickness and size; add S to stock number.
SEE YOUR DISTRIBUTOR Authorized Shurite distributors carry most models and can obtain your other needs promptly.

SHURITE METERS

Prices Effective May 1, 1968; F.O.B. Factory; Individually Boxed; (Subject to Change.)

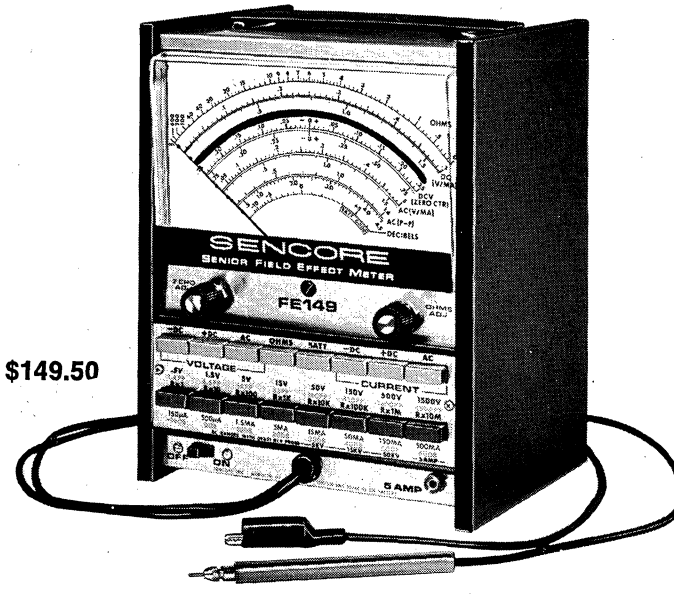
The New Standard in Meters... FET Meters... BY SENCORE

- **Only Sencore makes a true field effect meter**
- **Less circuit loading than VTVM/obsoletes VOM**
- **Greater frequency responses than most scopes**
- **Zero warm-up time — instant stability**
- **Complete circuit and meter protection**
- **Complete portability**

FE149 SENIOR FET METER

The only true Senior FET meter available today with outstanding accuracy and unbelievable ease of operation.

- **Unmatched Accuracy.** 1.5% on DC, 3% on AC, plus large 7-in. meter and mirrored scale, assure the most accurate tests possible.
- **Eight AC and DC ranges** .5V to 1500V full scale.
- **Zero center scale** with .25 v. either side assures measurements to less than .1 v. for transistor bias measurements.
- **AC peak to peak** readings to 4500V maximum with freq. response of 10HZ to 10MHZ ± 3DB.
- **Eight resistance ranges** to R x 10 megohms with 6 OHMS center scale.
- **Nine DC and nine AC current ranges** 150ma to 5 amps.
- **Eight decibel ranges** for audio measurements.
- **Three HI-Voltage ranges,** 5 KV, 15 KV, 50KV with 39A21 high voltage probe. **$14.95**
- **Absolute meter and circuit protection** against circuit overload.
- Non-breakable, scuff-proof, vinyl-clad steel case.
- **Three-way power.** Operates on AC, on self-contained rechargeable batteries, or on AC with batteries plugged in. Same readings all three ways.



$149.50

Exclusive push-button design. Just push two buttons for any test — top row selects function, bottom row selects range. Action is instant and automatic.

$69.95

FE14 — STANDARD FET METER

ACCURACY DC ± 2.5% AC ± 4.5%

- 4½-inch meter, vinyl-clad steel case.

FE14 and FE16 popular 4 1/2 inch FET Meters

- **Hi Accuracy.** For unsurpassed measurements. Mirrored scales prevent parallax errors.
- **Minimum circuit loading.** 15 megohm input resistance on DC; 10 megohm on AC.
- **Zero center scale** ± 0.5 v. readings for transistor bias measurement.
- **Full meter & circuit protection** against possible circuit overload.
- **7 DC & AC voltage ranges** 1 to 1000 volts full scale.
- **AC peak to peak readings** 2800 v. maximum with freq. response of 10HZ to 10MHZ ± 3DB.
- **5 resistance ranges** to 1000 megohms.
- **5 DC current ranges** 100ma to 1 amp.
- **3 Hi-Voltage ranges,** 3 KV, 10 KV, 30 KV, extended with 39A19 ($9.95) high voltage probe.

$84.50

FE16 HI ACCURACY FET METER

ACCURACY DC ± 1.5% AC ± 3%

- 4½-inch high-styled meter, high-styled knobs, and special meter-tilting metal handle. Vinyl-clad steel case.

SENCORE

STANDARD OF THE ELECTRONIC INDUSTRY

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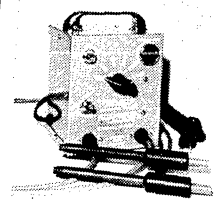
Insulation Testers

WRITE FOR DATA SHEETS ON THE INSTRUMENTS SHOWN . . . ALL ARE STANDARD PRODUCTION MODELS, AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK . . . LET US QUOTE ON YOUR REQUIREMENTS FOR MODIFIED UNITS OR SPECIAL TEST EQUIPMENT.

SLAUGHTER Company
TEST WITH CONFIDENCE

High-voltage Insulation Tester
with buzzer signal on breakdowns
. . . grounds
. . . . shorts

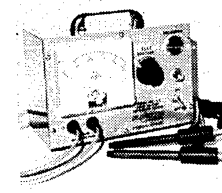


MODEL **101**

Watch what you are doing . . . not the tester

SIX TEST VOLTAGES . . 500 to 2500 V.A.C. PRICED SO YOU CAN AFFORD TO SPOT A FEW ALONG YOUR ASSEMBLY LINES.

Adjustable High-voltage Tester
with buzzer signal on breakdowns
. . . grounds
. . . . shorts

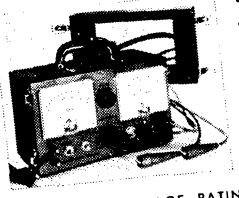


MODEL **106**

Voltmeter shows actual Test Voltage

CONTINUOUSLY VARIABLE TEST VOLTAGE RATINGS TO 10,000 VOLTS AC & DC . . RECOMMENDED FOR BREAKDOWN TESTING AT FINAL ASSEMBLY AND INSPECTION

High-voltage Leakage Tester
checks insulation for . . . leakage
. . . grounds
. . . . . arcing

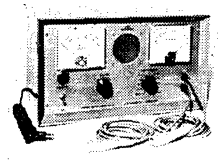


MODEL **122**

16 lb. Portable for lab and field work

VARIABLE VOLTAGE RATINGS TO 5 KV AC & DC. DUAL RANGE LEAKAGE METER 0/100/1000 μa. . . . CAPACITY COMPENSATION. . . MEASURES INSULATION RESISTANCE, CAPACITY, POWER FACTOR.

High-voltage Leakage Tester
audibly signals excess leakage
. . . grounds
. . . . . arcing

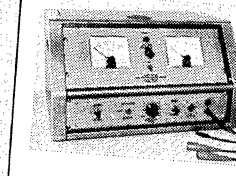


MODEL **103**

Measures Leakage . . . not capacity current

TEST VOLTAGE CONTINUOUSLY VARIABLE ADJUSTABLE LEAKAGE LIMIT. . CAPACITY COMPENSATION ON AC TESTS. . . RATINGS TO 10,000 VOLTS AC & DC. . . . LIMITED ENERGY. . NON-DESTRUCTIVE. . . FOR LAB AND PRODUCTION LINE SERVICE. . . . . .

Automatic H-V Insulation Tester
for precision checking . . . breakdowns
. . . leakage
. . . grounds



MODEL **103-MP**

Automatic Test Cycle

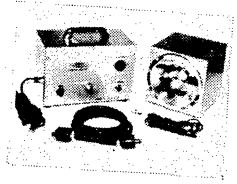
FULLY AUTOMATIC TEST CYCLE. . . CONTROLLED RATE-OF-RISE. . . ADJUSTABLE TEST VOLTAGE, DWELL TIME, & LEAKAGE LIMIT. . . CAPACITY COMPENSATION ON AC TEST. . . FOR PRECISION TEST OF CRITICAL PARTS & ASSEMBLIES. . .

Stroboscopes

WRITE FOR DATA SHEETS ON THE INSTRUMENTS SHOWN . . . ALL ARE STANDARD PRODUCTION MODELS, AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK . . . LET US QUOTE ON YOUR REQUIREMENTS FOR MODIFIED UNITS OR SPECIAL TEST EQUIPMENT.

SLAUGHTER Company
TEST WITH CONFIDENCE

Inspection Stroboscope
. . . with extra high intensity daylight lamp

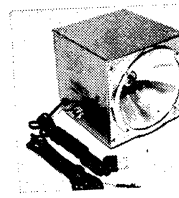


MODEL **167**

0/600 Flashes per Minute

SUPER INTENSITY TRIGGERED FLASH UNIT . . . PUSH—TO—SEE SWITCH. . . . FOR INSPECTION ON-THE-GO UNDER HIGH AMBIENT LIGHT CONDITIONS.

Inspection Stroboscope
. . . . . with high intensity daylight lamp



MODEL **161**

0/2,000 Flashes per Minute

LIGHT WEIGHT INEXPENSIVE TRIGGERED FLASH UNIT. . . . . PUSH-TO-SEE SWITCH. . . . INTENSE WHITE LIGHT FOR INSPECTION ON—THE—GO

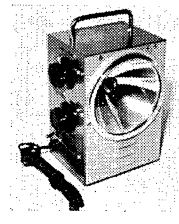
MIDGET STROBOSCOPE FLASH HEAD

MODEL **166**

0/10,000 Flashes per Minute

FOR WORK ON MINIATURIZED EQUIPMENT . . . . FOR PRINTING TRADES. . . . FOR BIO—MEDICAL WORK. . ADAPTS TO ANY SLAUGHTER STROBOSCOPE. . .

Universal Stroboscope
. . . with high intensity daylight lamp

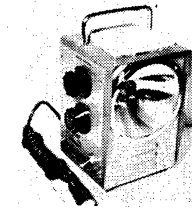


MODEL **163**

50/16,000 Flashes per Minute

UNIVERSAL UNIT FOR MOTION STUDY & INSPECTION ON-THE-GO. . . INSTANT STARTING . . . HIGH INTENSITY WHITE LIGHT . . . . TRIGGER EXTERNALLY OR OPERATE FROM INTERNAL OSCILLATOR

Metered Precision Stroboscope
. . . . . with high intensity daylight lamp

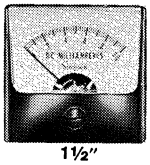


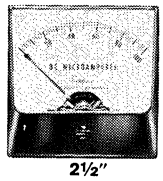
MODEL **165**

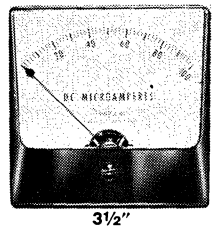
50/16,000 Flashes per Minute

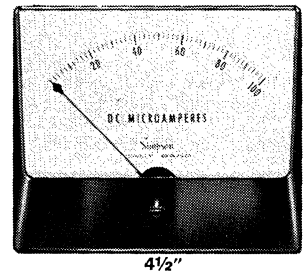
PRECISION STROBOSCOPE TACHOMETER INSTANT STARTING. . . HIGH INTENSITY WHITE LIGHT. . . OPERATES FROM EXTERNAL CONTACTS OR INTERNAL OSCILLATOR. . EASILY SYNCHRONIZED. . OUTPUT JACKS TO COUPLE SCOPE, ETC. . . .

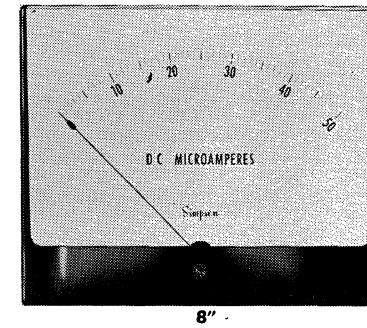
Simpson wide-vue® panel meters...


1½"


2½"


3½"


4½"


8"

The original Wide-Vue® design by Simpson is modern, yet rugged. Specially formulated plastic covers won't yellow or develop hairline cracks. Spring-loaded pivot & jewel and Taut Band movements are shock-proof.

CALIBRATION AND DIALS — All DC Wide Vue® meters listed below have the Simpson self-shielded movement (calibration not affected by stray magnetic fields or magnetic mounting). All AC Wide-Vue meters have the Simpson Iron-vane type movement. AC Milliammeters and Ammeters are calibrated for use on 25 through 800 Hz. All AC Voltmeters are calibrated for use on 25 through 125 Hz. Calibration at frequencies up to 800 Hz. can be made. Contact your local Distributor for prices.

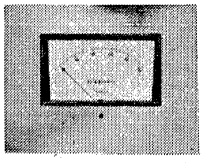
SELF-SHIELDING METER MOVEMENTS

Range	APPROX. RESISTANCE (ohms)	1½" Case Style MODEL 1212	2½" Case Style MODEL 1227	3½" Case Style MODEL 1327	4½" Case Style MODEL 1329
DC VOLTMETERS					
0-5	1000 ohms per volt	$16.95	$18.15	$18.90	$20.70
0-8		—	—	18.90	20.70
0-10		16.95	18.15	18.90	20.70
0-15		16.95	18.15	18.90	20.70
0-25		16.95	18.15	18.90	20.70
0-30		16.95	18.15	18.90	20.70
0-50		16.95	18.15	18.90	20.70
0-100		16.95	18.15	18.90	20.70
0-150		16.95	18.15	18.90	20.70
0-200		—	18.15	18.90	20.70
0-250		—	18.15	18.90	20.70
0-300		—	18.15	18.90	20.70
0-300	2000 ohms per volt	16.95	—	—	—
0-500		21.15	18.90	19.65	21.30
0-750		—	23.10	19.65	21.30
0-1000		—	23.55	24.45	26.10
DC AMMETER					
0-1	.050	$16.95	$17.40	$18.15	$19.65
0-1.5	.033	—	17.40	18.15	19.65
0-2	.025	16.95	17.40	18.15	19.65
0-3	.0166	16.95	17.40	18.15	19.65
0-5	.010	16.95	17.40	18.15	19.65
0-10	.005	16.95	17.40	18.15	19.65
0-15	.0033	16.95	17.40	18.15	19.65
0-25	.0020	16.95	17.40	18.15	19.65
0-30	.0017	—	17.40	18.15	19.65
0-50	.001	16.95	17.40	18.15	19.65
0-100	10.0	—	17.40	18.15	19.65
0-150	10.0	—	17.40	18.15	19.65
0-200	10.0	—	17.40	18.15	19.65
0-300	10.0	—	17.40	18.15	19.65
0-500	10.0	—	—	18.15	19.65
15-0-15	.0033	—	—	19.20	—
30-0-30	.0017	—	—	19.20	—
50-0-50	.001	—	—	19.20	—

Range	APPROX. RESISTANCE (ohms)	1½" Case Style MODEL 1212	2½" Case Style MODEL 1227	3½" Case Style MODEL 1327	4½" Case Style MODEL 1329	8" Case Style MODEL 728
DC MILLIAMMETERS						
0-1	43	$16.35	$17.10	$17.70	$18.90	$32.10
0-3	2.0	—	17.10	17.70	18.90	32.10
0-5	2.0	16.35	17.10	17.70	18.90	—
0-10	10.0	16.35	17.10	17.70	18.90	—
0-15	6.6	16.35	17.10	17.70	18.90	—
0-20	5.0	—	17.10	17.70	18.90	—
0-25	4.0	16.95	17.40	18.15	19.65	—
0-50	2.0	16.95	17.40	18.15	19.65	—
0-100	1.0	16.95	17.40	18.15	19.65	—
0-150	.66	16.95	17.40	18.15	19.65	—
0-200	.5	16.95	17.40	18.15	19.65	—
0-250	.4	16.95	17.40	18.15	19.65	—
0-300	.33	16.95	17.40	18.15	19.65	—
0-500	.2	16.95	17.40	18.15	19.65	—
0-750	.13	—	—	18.15	19.65	—
0-1000	.05	—	17.40	18.15	19.65	—
DC MICROAMMETERS						
0-50■	1800	$21.30	$22.05	$22.50	$24.30	—
0-100	1800	19.05	19.65	20.70	22.95	—
0-200	1100	17.25	18.00	18.90	20.70	—
0-500■	90	16.95	17.70	18.60	20.10	—
25-0-25■	1800	21.45	—	22.65	24.45	—
50-0-50	1800	19.20	20.10	20.70	23.10	—
100-0-100	1100	17.40	18.15	19.05	21.00	—
500-0-500	43	16.50	17.25	18.00	19.05	—

		MODEL 1212T	MODEL 1227T	MODEL 1327T	MODEL 1329T	MODEL 728T
***TAUT BAND* DC MICROAMMETERS**						
0-5	5750			$42.00	$44.55	—
0-10	4900		$35.40	36.90	39.90	—
0-15	1960	$32.10	32.10	33.00	36.00	—
0-25	1960	30.00	30.45	31.95	34.65	$40.05
0-50	1100	23.40	24.00	24.45	26.25	35.25
0-100	500	21.00	21.75	22.50	24.75	34.05
0-200	234	19.35	20.40	21.15	23.40	—

* External Multipliers, Model 183, are furnished on 1½" DC meters 500 volts or higher; on 2½" DC meters 750 volts or higher; and on 3½" DC meters 1000 volts or higher. All others are self-contained. † 1½" DC Ammeters are self-contained through 10 amps. 15 amps and higher are supplied as 50 MV meters to be used with external shunts. 2½", 3½" and 4½" DC ammeters are self-cnotained through 50 amps. Higher range DC ammeters are 50 MV meters to be used with used with external shunts. 2½", 3½" and 4½" DC ammeters are self-contained through 50 amps. Higher range DC ammeters are 50 MV meters to be used with external shunts. Shunts listings are on page 19. ■ Resistance of 0-50 and 25-0-25 Mic Meters in Model 1212 is 5500 ohms. Resistance of 0-500 Mic Meter in Model 1212 is 190 ohms. ‡ High flux annular taut band meter movement. • New Panel Meter Addition.



NEW BEHIND PANEL BEZELS
FOR 3½" AND 4½" WIDE VUE METERS

Integral built-in look.
Designed for behind panel mounting on material thickness of ⅛" to 3/16". Black satin finish.

SEE PAGE 908

Meter Size	For Models	Price
3½"	1327, 1337, 1347, 1357	$2.25
4½"	1329, 1339, 1349, 1359, 1379	2.25
	Illumination Kit	2.10

SIMPSON ELECTRIC CO.

Net

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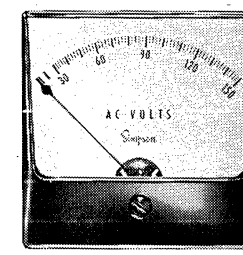
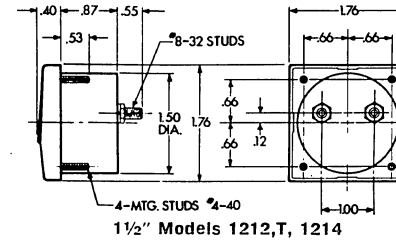
...with Simpson "stay accurate" dependability!



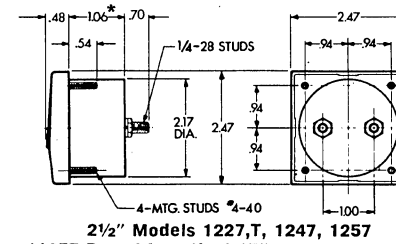
FIVE SIZES

SIZE	MODEL NO.	ACCURACY	SCALE LENGTH
1½″	1212,T	± 2% of full scale	1.5″ (38.1 mm)
	1214	± 3% F.S. @ 25° C. & 60 cy. Sine Wave	
2½″	1227,T, 1237, 1257	± 2% of full scale	2.3″ (58.4 mm)
	1247	± 3% F.S. @ 25° C. & 60 cy. Sine Wave	
3½″	1327,T,1337, 1357	± 2% of full scale	3.14″ (79.7 mm)
	1347	± 3% F.S. @ 25° C. & 60 cy. Sine Wave	
4½″	1329,T, 1339, 1359, 1379*	± 2% of full scale	3.93″ (100 mm)
	1349	± 3% F.S. @ 25° C. & 60 cy. Sine Wave	
8″	728 T	± 2% of full scale	6.9″ (174.2 mm)

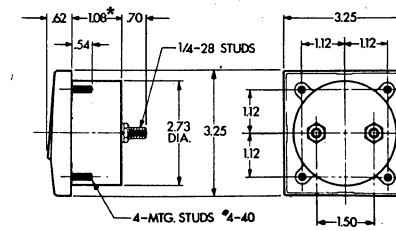
*Compensated Wattmeters ± 3%.



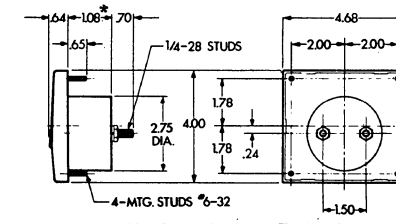
1½″ Models 1212,T, 1214



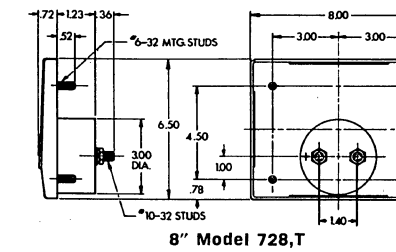
2½″ Models 1227,T, 1247, 1257
*1257 Barrel Length: 1.15″



3½″ Models 1327,T, 1337, 1347, 1357
*1357 Barrel Length: 1.22″



4½″ Models 1329,T, 1339, 1349, 1359
*1359 Barrel Length: 1.20″



8″ Model 728,T

Dimensions in inches

SELF-SHIELDING METER MOVEMENT

RANGE	APPROX. RESISTANCE (ohms)	1½″ Case Style MODEL 1212	2½″ Case Style MODEL 1227	3½″ Case Style MODEL 1327	4½″ Case Style MODEL 1329
DC MILLIVOLTMETER					
0-50	10	$16.95	$17.40	$18.15	$19.65
50-0-50	20	—	—	18.15	19.65

DC GALVANOMETERS

RANGE	SENSITIVITY MICRO-AMPERES	RESISTANCE (ohms)	MODEL 1212	MODEL 1227	MODEL 1327	MODEL 1329
50-0-50	500-0-500	43	$16.50	$17.10	$18.00	$19.05
50-0-50	75-0-75	1800	17.40	18.60	20.10	22.05

RF AMMETERS				MODEL 1337	MODEL 1339
0-1	.343	—	—	$21.00	$24.00
0-1.5	.200	—	—	21.00	24.00
0-2	.120	—	—	21.00	24.00
0-2.5	.10	—	—	21.00	24.00
0-3	.08	—	—	21.00	24.00
0-5	.045	—	—	21.00	24.00
0-8	.031	—	—	21.00	24.00
0-10	.023	—	—	21.00	24.00

RF MILLIAMMETERS

0-500	.63	—	—	$24.60	$27.90

AC VOLTMETERS RECTIFIER TYPE

		MODEL 1214	MODEL 1247	MODEL 1347	MODEL 1349
0-5	2000 OHMS PER VOLT	$23.40	$21.75	$24.75	$27.45
0-10		23.40	21.75	24.75	27.45
0-15		—	—	24.75	27.45
0-50		—	—	24.75	27.45
0-150		23.40	21.75	24.75	27.45
0-300		23.40	21.75	24.75	27.45

DECIBEL METERS

RANGE—Zero Power Level—6 MW. 500 Ohm Line

General-Purpose 5000 ohms	—	$24.30	$25.80	$26.70

VOLUME LEVEL INDICATORS V. U. METERS†

Reference Level—1 MW. 600 Ohm Line

A—Scale	$26.10	$28.80	$29.55	$32.10
B—Scale	—	—	29.55	32.10

MORE WIDE-VUE® METERS ON THE NEXT PAGE...

†Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communication and sound engineers. They are available with either type A or B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses per cent use of transmitter output and is the standard for broadcast service. Impedance is 3900Ω @ "0" VU deflection.

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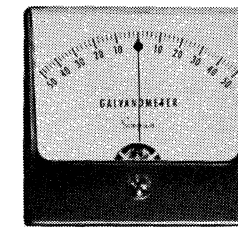
Simpson wide-vue® panel meters CONTINUED



RANGE	APPROX. RESISTANCE (ohms)	2½" Case Style MODEL 1257	3½" Case Style MODEL 1357	4½" Case Style MODEL 1359
AC VOLTMETERS Iron Vane Type Movement				
0-5	33		$17.25	$19.35
0-10	133	$16.50	17.25	19.35
0-15	300	16.50	17.25	19.35
0-25	833	16.50	17.25	19.35
0-50	3,333	16.50	17.25	19.35
0-100	16,666	16.95	18.00	19.35
0-150	25,000	17.25	18.60	19.65
0-250	41,166	17.25	18.60	19.65
0-300	50,000	17.25	18.60	19.65
0-500*	83,333	22.05	23.55	25.20
AC AMMETERS Iron Vane Type Movement				
0-1	.287	$15.60	$16.50	$19.20
0-1.5	.185	15.60	16.50	19.20
0-2	.115	—	16.50	19.20
0-3	.027	15.60	16.50	19.20
0-5	.012	15.60	16.50	19.20
0-10	.0031	15.60	16.50	19.20
0-15	.0022	15.60	16.50	19.20
0-25	.0003	16.35	17.10	19.65
0-30	.0003	16.35	17.10	19.65
0-50	.0006	16.35	17.10	19.65
0-75	.0005	—	18.60	21.15
0-100	.012	15.60	16.50	19.20
0-150	.012	15.60	16.50	19.20
0-200	.012	15.60	16.50	19.20
0-300	.012	15.60	16.50	19.20

RANGE	APPROX. RESISTANCE (ohms)	2½" Case Style MODEL 1257	3½" Case Style MODEL 1357	4½" Case Style MODEL 1359
AC MILLIAMMETERS Iron Vane Type Movement				
0-10	2,000	$15.60	$16.50	$19.20
0-50	80	15.60	16.50	19.20
0-100	20	15.60	16.50	19.20
0-250	5	15.60	16.50	19.20
0-500	.9	15.60	16.50	19.20

WATTMETERS DYNAMOMETER TYPE Single Phase

Wattmeters calibrated for either magnetic or non-magnetic panels and for a frequency range of 25-125 Hz.

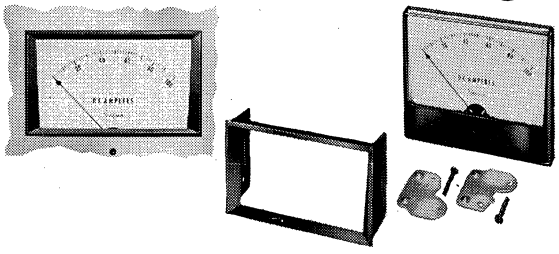
RANGE WATTS	RANGE VOLTS	MAX. AMPS	ACCURACY ±2% F.S.		MODEL 1379
0-75	150	1.0	—	—	$45.90
0-150	150	2.0	—	—	45.90
0-300	150	4.0	—	—	45.90
0-750	150	10.0	—	—	45.90
0-600	300	4.0	—	—	49.05
0-1500	300	10.0	—	—	49.05
0-3000	300	20.0	—	—	49.05

COMPENSATED WATTMETERS — ACCURACY ±3% F.S.

0-10	300	.175	—	—	$61.35
0-20	300	.400	—	—	61.35
0-30	300	.650	—	—	61.35

* External Multipliers, Model 183, are furnished on AC meters having a range of 500 volts or higher. All others are self contained.
‡ 2½" AC ammeters are self-contained through 50 amps. 3½" and 4½" AC ammeters self-contained through 75 amps. Higher range AC ammeters are 5 amp meters to be used with external current transformers. See page 19 for current transformer listings.
† WIDE-VUE® DIMENSIONS ON PRECEDING PAGE.

new wide-vue® mounting bezel and illumination kits



WIDE VUE BEZEL KITS

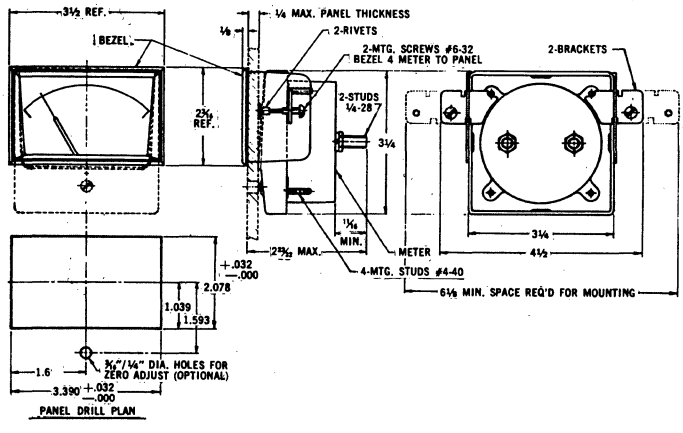
METER SIZE	FOR MODELS	PART NO.	PRICE
3½"	1327, 1337, 1347, 1357	1253	$2.25
4½"	1329, 1339, 1349, 1359, 1379	1123	2.25
	Illumination Kit	1165	2.10

NEW WIDE-VUE MOUNTING BEZEL AND ILLUMINATION KITS

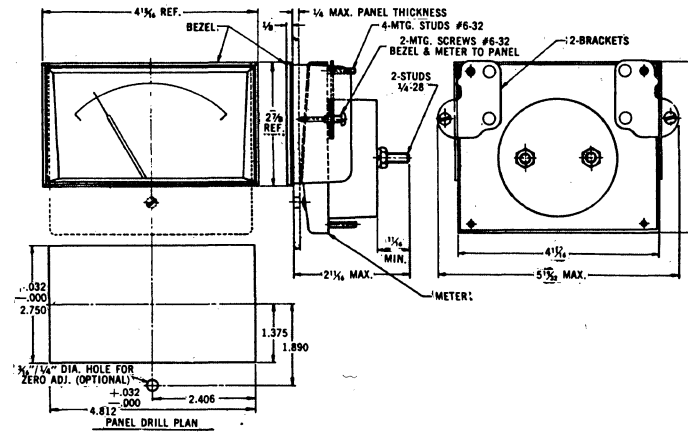
For that modern, streamlined appearance — Mounting Bezels, made for wide-vue panel meters and interchangeable with flush and recess type meters of many popular styles. Designed for behind panel mounting on material thickness of ⅛" to 3/16". Groove and flange style construction. Each bezel of die cast metal has an attractive black enamel satin finish and is supplied with mounting hardware and template.

Bezel Mount Kit consists of bezel brackets and screws and installation instructions.

3½" WIDE-VUE, BEHIND PANEL METER MOUNTING, with BEZEL



4½" WIDE-VUE, BEHIND PANEL METER MOUNTING, with BEZEL



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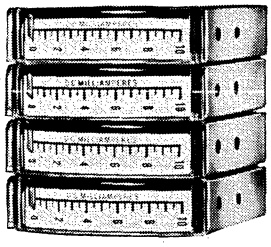
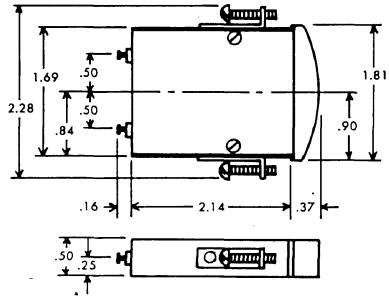
Simpson stackable edgewise panel meters

Simpson's new miniature edgewise panel meter has a unique Self-Shielding core magnet movement* that eliminates the need for the protruding barrel that is prevalent in other edgewise meter designs. It lends itself to a design that is sharp, modern, extremely compact and with a meter scale that extends nearly to the full width and height of the meter. An optimum scale display area allows for the use of large, easy-to-read numerals on a horizontal plane.

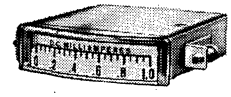
* Patent Pending

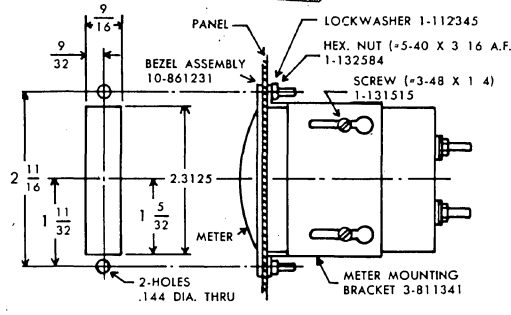
Models	1½" 1921, 1941	2½" 1622, 1642
Accuracy	±2% of full scale, AC rectifier types: ±3%	
Movement Type	Self-Shielding Core Magnet Movement	
Scale Length	1.370 inches	1.85 inches
Pointer	Lance, Black	
Case Construction	Steel Housing with rustproof finish; plastic window; insulated terminals; dustproof construction.	
Terminals	Solder Type	6-32 studs
Dielectric	1500 Volts RMS	
Panel Cut Out	.525" x 1.718"	.562 x 2.312
Hardware	Removable brackets with clamping screws.	Bezel, bracket, lockwashers & nuts.
Net Weight	3½ ounces	4½ ounces
Shipping Weight	5½ ounces	6½ ounces





1½" Model 1921





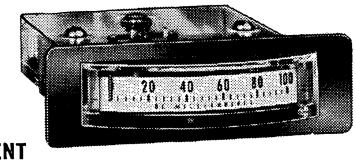
2½" Model 1622

SELF-SHIELDING METER MOVEMENT

RANGE	APPROX. RESISTANCE (Ohms)	1½" Case Style MODEL 1921	2½" Case Style MODEL 1622
DC VOLTMETERS			
0-10	5000 Ω/volt	$21.30	$22.65
0-15	5000 Ω/volt	21.30	22.65
0-25	5000 Ω/volt	21.30	22.65
0-50	5000 Ω/volt	21.30	22.65
0-150	5000 Ω/volt	21.30	22.65
0-500	5000 Ω/volt		22.80
DC MILLIAMMETERS			
0-1	18	$21.00	$22.50
0-5	2	21.00	22.50
0-10	5	21.00	22.50
0-25	2	22.05	23.40
0-50	1	22.05	23.40
0-100	.5	22.05	23.40
0-500	.1	22.05	23.40
DC MILLIVOLTMETERS			
0-50	20	$22.35	$23.70
DC MICROAMMETERS			
0-25	7760	$27.45	$28.65
0-50	2020	27.15	28.35
0-100	1060	24.30	25.80
0-200	310	22.35	23.70
0-500	63	21.75	22.95
AC VOLTMETERS			
Rectifier Type		MODEL 1941	MODEL 1642
0-150	5000 Ω/volt	$26.70	$27.90

edgewise panel meters

BARREL TYPE CONSTRUCTION

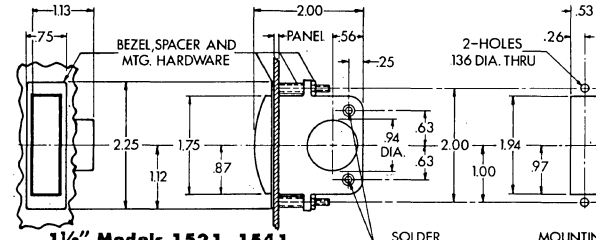


SELF-SHIELDING METER MOVEMENT

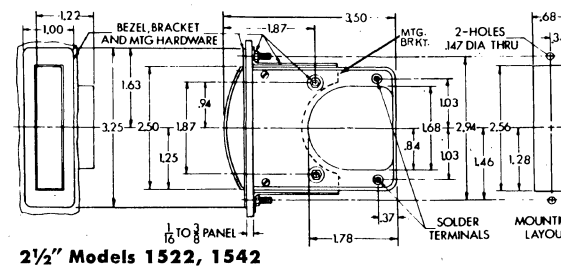
RANGE	APPROX. RESISTANCE (Ohms)	1½" Case Style MODEL 1521	2½" Case Style MODEL 1522
DC VOLTMETERS			
0-10	1000 Ω/volt	$18.15	$20.10
0-15	1000 Ω/volt	18.15	20.10
0-25	1000 Ω/volt	18.15	20.10
0-50	1000 Ω/volt	18.15	20.10
0-150	1000 Ω/volt	18.15	20.10
0-500	2000 Ω/volt	18.45	20.40
DC MILLIAMMETERS			
0-1	20	$18.00	$19.80
0-5	2.5	18.00	19.80
0-10	13.5	18.00	19.80
0-25	5.4	18.75	20.70
0-50	2.7	18.75	20.70
0-100	1.35	18.75	20.70
0-500	.27	18.75	20.70
DC AMMETERS			
0-5	.010	—	$21.15
0-25	.002	—	21.15

† Resistance of Model 1521 0-25 Mics is 5500 Ω.

RANGE	APPROX. RESISTANCE (Ohms)	1½" Case Style MODEL 1521	2½" Case Style MODEL 1522
DC MILLIVOLTMETERS			
0-50	10 Ω	$19.20	$21.15
DC MICROAMMETERS			
0-25†	3150	$27.60	$29.70
0-50	1800	24.15	25.95
0-100	1100	21.30	23.40
0-200	290	19.20	21.15
0-500	90	18.75	20.55
VOLUME LEVEL INDICATORS			
VU METERS Level 1 MW 600 Ω line		MODEL 1541	MODEL 1542
"A" SCALE		—	$33.00
"B" SCALE		—	33.00
AC VOLTMETERS Rectifier Type			
0-150	1000 Ω/volt	$23.85	$25.65
0-300	1000 Ω/volt	—	25.65



1½" Models 1521, 1541



2½" Models 1522, 1542

Models	1½" 1521, 1541	2½" 1522, 1542
Accuracy	DC ± 2% of full scale; AC rectifier type ± 3% of full scale @ 25° and 60 cycle sine wave	
Movement Type	Self-Shielding Meter Movement	
Scale Length	1⅜"	1⅞"
Pointer	Lance, Black	
Case Construction	Dustproof, molded acrylic	
Terminals	Solder (ammeters—stud type)	
Net Weight	5 ounces	

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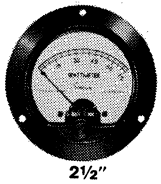
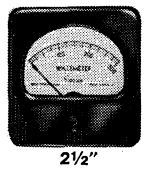
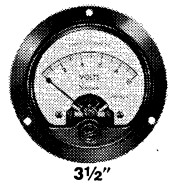
Simpson standard round and rectangular meters...

6 SIZES AND CASE STYLES...


2½"


2½"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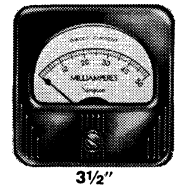
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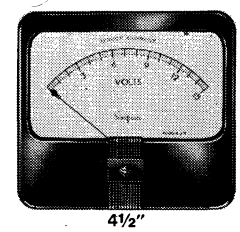
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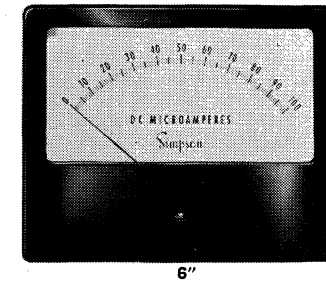

6"

CALIBRATION AND DIALS—All DC meters listed below have the Simpson self-shielding movement. (Calibration not affected by stray magnetic fields or magnetic mounting). All AC meters have the Simpson Iron Vane type movement. AC Ammeters and Milliammeters are calibrated for use on 25 through 800 Hz. AC Voltmeters are calibrated for use on 25-125 Hz. Calibration at frequencies up through 800 Hz. can be made. Contact your local Distributor for prices.

Wattmeters listed below have the Simpson dynamometer movement calibrated for either magnetic or non-magnetic panels and for a frequency range of 25-125 Hz. Standard wattmeters ±2%, compensated wattmeters ±3%.

DIMENSIONS ON NEXT PAGE.

SELF-SHIELDING METER MOVEMENT

DC MILLIVOLTMETERS

RANGE	APPROX. RESISTANCE Ohms	2½" Case Styles MODEL 125 127	3½" Case Styles MODEL 25 27	4½" Case Styles MODEL 29
0-50	10	$17.25	$18.15	$19.65
0-100	20	—	18.15	19.65

DC MILLIAMMETERS

RANGE	APPROX. RESISTANCE Ohms	2½" Case Styles MODEL 125 127	3½" Case Styles MODEL 25 27	4½" Case Styles MODEL 29
0-1	43	$17.10	$17.70	$18.90
0-1.5	2.0	17.10	17.70	18.90
0-3	2.0	17.10	17.70	18.90
0-5	2.0	17.10	17.70	18.90
0-10	10.0	17.10	17.70	18.90
0-15	6.6	17.10	17.70	18.90
0-20	5.0	—	17.70	18.90
0-25	4.0	17.40	18.15	19.65
0-50	2.0	17.40	18.15	19.65
0-75	1.3	17.40	18.15	19.65
0-100	1.0	17.40	18.15	19.65
0-150	.66	17.40	18.15	19.65
0-200	.5	17.40	18.15	19.65
0-250	.4	17.40	18.15	19.65
0-300	.33	17.40	18.15	19.65
0-500	.2	17.40	18.15	19.65
0-750	.13		18.15	19.65
0-1000	.05	17.40	18.15	19.65

DC MICROAMMETERS

RANGE	APPROX. RESISTANCE Ohms	2½" Case Styles MODEL 125 127	3½" Case Styles MODEL 25 27	4½" Case Styles MODEL 29
0-50	1800	$22.05	$22.50	$24.30
0-100	1800	19.65	20.70	22.95
0-200	1100	18.00	18.90	20.70
0-500	90	17.70	18.60	20.10
25-0-25	1800	22.95	22.65	24.45
50-0-50	1800	20.10	20.70	23.10
100-0-100	1100	18.15	19.05	21.00
500-0-500	43	17.25	18.00	19.05

TAUT BAND DC MICROAMMETERS

RANGE	APPROX. RESISTANCE Ohms	MODEL 125T 127T	MODEL 25T 27T	MODEL 29T
0-5	5750	—	$42.00	$44.55
0-10	4900	$35.40	36.90	39.90
0-15	1960	32.10	33.00	36.00
0-25	1960	30.45	31.95	34.65
0-50	1100	24.00	24.45	26.25
0-100	500	21.75	22.50	24.75

DC VOLTMETERS

RANGE	APROX. RESISTANCE Ohms	2½" Case Styles MODEL 125 127	3½" Case Styles MODEL 25 27	4½" Case Styles MODEL 29
0-1.5	1000 ohms per volt	$18.15	$18.90	$20.70
0-3		18.15	18.90	20.70
0-5		18.15	18.90	20.70
0-8		18.15	18.90	20.70
0-10		18.15	18.90	20.70
0-15		18.15	18.90	20.70
0-25		18.15	18.90	20.70
0-30		18.15	18.90	20.70
0-50		18.15	18.90	20.70
0-100		18.15	18.90	20.70
0-150		18.15	18.90	20.70
0-200		18.15	18.90	20.70
0-250		18.15	18.90	20.70
0-300		18.90	18.90	20.70
0-500		18.90	19.65	21.30
0-750	2000 ohms per volt	—	19.65	21.30
0-1000		—	24.75	26.10
0-1500		—	24.75	26.40
0-2000		23.55	25.35	27.00
0-2500		—	25.65	27.30
0-3000		—	25.95	27.60
0-4000		—	—	27.90
0-5000		—	26.70	28.35

DC AMMETERS

RANGE	APROX. RESISTANCE Ohms	2½" Case Styles MODEL 125 127	3½" Case Styles MODEL 25 27	4½" Case Styles MODEL 29
0-1	.050	$17.40	$18.15	$19.65
0-1.5	.033	17.40	18.15	19.65
0-2	.025	17.40	18.15	19.65
0-3	.0166	17.40	18.15	19.65
0-5	.010	17.40	18.15	19.65
0-10	.005	17.40	18.15	19.65
0-15	.0033	17.40	18.15	19.65
0-25	.0020	17.40	18.15	19.65
0-30	.0017	17.40	18.15	19.65
0-50	.001	17.40	18.15	19.65
0-75	10.0	17.40	18.15	19.65
0-100	10.0	17.40	18.15	19.65
0-150	10.0	17.40	18.15	19.65
0-200	10.0	17.40	18.15	19.65
0-250	10.0	—	18.15	19.65
0-300	10.0	17.40	18.15	19.65
0-500	10.0	17.40	18.15	19.65
0-750	10.0	—	18.15	19.65
0-1000	10.0	—	18.15	19.65
15-0-15	.0033	—	19.20	20.25
30-0-30	.0017	17.70	19.20	20.25
50-0-50	.001	17.70	19.20	20.25

†External Multipliers, Model 183, are furnished on 2½" DC meters 750 volts or higher, and on 3½" and 4½" DC meters 1000 volts and higher. All others are self-contained.

‡DC ammeters are self-contained for ranges up to and including 50 amperes. Higher range DC ammeters (50MV) listed above are calibrated for 5 ft. leads and require external shunts. Write for bulletin no. 2079.

‡0-100 Linear Scale.

RANGE	APPROX. IMPEDANCE (Ohms)@60 Hz.	2½" Case Styles MODEL 135 137	3½" Case Styles MODEL 35 37	4½" Case Styles MODEL 39
0-1	.343	$19.05	$21.00	$24.00
0-1.5	.200	19.05	21.00	24.00
0-2	.120	19.05	21.00	24.00
0-2.5	.10	19.05	21.00	24.00
0-3	.08	19.05	21.00	24.00
0-5	.045	19.05	21.00	24.00
0-8	.031	19.05	21.00	24.00
0-10	.023	19.05	21.00	24.00

RF AMMETERS Self-Shielding Meter Movement Internal Thermocouple Type

RANGE	APPROX. IMPEDANCE (Ohms)@60 Hz.	2½" Case Styles MODEL 135 137	3½" Case Styles MODEL 35 37	4½" Case Styles MODEL 39
0-1	.343	$19.05	$21.00	$24.00
0-1.5	.200	19.05	21.00	24.00
0-2	.120	19.05	21.00	24.00
0-2.5	.10	19.05	21.00	24.00
0-3	.08	19.05	21.00	24.00
0-5	.045	19.05	21.00	24.00
0-8	.031	19.05	21.00	24.00
0-10	.023	19.05	21.00	24.00

RF MILLIAMMETERS Self-Shielding Meter Movement Internal Thermocouple Type

RANGE	APPROX. IMPEDANCE (Ohms)@60 Hz.	2½" Case Styles MODEL 135 137	3½" Case Styles MODEL 35 37	4½" Case Styles MODEL 39
•0-115	4.0	—	$37.80	$39.60
0-150	4.5	—	24.60	27.90
0-250	3.5	—	24.60	27.90
0-500	.63	—	24.60	27.90

WATTMETERS Dynamometer Type Single Phase

Range	Volts	Amps	MODEL 175 177 ACCURACY ±2%	MODEL 75 77	MODEL 79
0-75	150	1.0	$35.10	$36.90	$45.90
0-150	150	2.0	35.10	36.90	45.90
0-300	150	4.0	35.10	36.90	45.90
0-750	150	10.0	35.10	36.90	45.90
0-600	300	4.0	38.40	40.05	49.05
0-1500	300	10.0	38.40	40.05	49.05
0-3000	300	20.0	38.40	40.05	49.05

COMPENSATED WATTMETERS Single Phase

Range	Volts	Amps			
0-10	300	.175	—	$58.95	$61.35
0-20	300	.400	—	58.95	61.35
0-20	500	.175	—	58.95	61.35
0-30	300	.650	—	58.95	61.35
0-30	500	.300	—	58.95	61.35
0-50	500	.500	—	58.95	61.35

DC GALVANOMETERS

Scale	Sensitivity Micro-Amps.	Res. Ohms	MODEL 125 127	MODEL 25 27	MODEL 29
50-0-50	500-0-500	43	$17.10	$18.00	$19.05
50-0-50	75-0-75	1800	18.60	20.10	22.05

Net
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...with rugged Taut Band or jeweled movements

SIZE	MODEL NUMBER	ACCURACY	SCALE LENGTH
2½"	125,T, 127,T, 135, 137, 145, 147	±2% of Full Scale with any model, except these types:	1.8" (45.7mm)
	155, 157, 175, 177	DB and RECTIFIER: ±3% F.S. at 25°C and 60 Hz sine wave	1.6" (41.1mm)
3½"	25,T, 27,T, 35, 37, 45, 47	COMPENSATED WATTMETER: ±3% F.S.	2.5" (63.7mm)
	55, 57, 75, 77	VOLUME LEVEL (VU): per ASA specifications.	2.3" (57.4mm)
4½"	29,T, 39, 49, 142		3.8" (97.0mm)
	59, 79		3.5" (89.0mm)
6"	1150		4.6" (114.8mm)
	1150-1 (Mirrored Scale)	±1% of Full Scale	

IRON VANE TYPE METER MOVEMENT

RANGE	APPROX. IMPEDANCE (Ohms) @ 60 Hz.	2½" Case Styles	3½" Case Styles	4½" Case Styles
		MODEL 155 157	MODEL 55 57	MODEL 59
AC VOLTMETERS				
0-1.5	3	—	—	$19.35
0-3	12	—	$17.25	19.35
0-5	33	$16.50	17.25	19.35
0-10	133	16.50	17.25	19.35
0-15	300	16.50	17.25	19.35
0-25	833	16.50	17.25	19.35
0-50	3,333	16.50	17.25	19.35
0-100	16,666	16.95	18.00	19.35
0-150	25,000	17.25	18.60	19.65
0-250	41,166	17.25	18.60	19.65
0-300	50,000	17.25	18.60	19.65
0-500	83,333	22.05	23.55	25.20
0-750	125,000	Note[1]	25.50	27.30
0-1000	166,666	Note[1]	27.30	28.35
AC AMMETERS				
0-1	.287	$15.60	$16.50	$19.20
0-1.5	.185	Note[1]	16.50	19.20
0-2	.115	15.60	16.50	19.20
0-3	.027	15.60	16.50	19.20
0-5	.012	15.60	16.50	19.20
0-10	.003	15.60	16.50	19.20
0-15	.0022	15.60	16.50	19.20
0-25	.0003	16.35	17.10	19.65
0-30	.0003	16.35	17.10	19.65
0-50	.0006	16.35	17.10	19.65
0-75	.0005	Note[1]	18.60	21.15
0-75	.012	15.60	16.50	19.20
0-100	.012	15.60	16.50	19.20
0-150	.012	15.60	16.50	19.20
0-200	.012	Note[1]	16.50	19.20
0-250	.012	15.60	16.50	19.20
0-300	.012	15.60	16.50	19.20
0-500	.012	15.60	16.50	19.20
AC MILLIAMMETERS				
0-10	2,000	$15.60	$16.50	$19.20
0-15	875	—	16.50	19.20
0-25	390	—	16.50	19.20
0-50	80	15.60	16.50	19.20
0-100	20	15.60	16.50	19.20
0-250	5	15.60	16.50	19.20
0-500	.9	15.60	16.50	19.20

SELF-SHIELDING METER MOVEMENT

RANGE	APPROX. RESISTANCE (Ohms)	3½" Case Styles	4½" Case Styles
		MODEL 45 47	MODEL 49
AC VOLTMETERS Rectifier Type			
0-1	2000 ohms per volt	$24.75	$27.45
0-3		24.75	27.45
0-5		24.75	27.45
0-10		24.75	27.45
0-15		24.75	27.45
0-50		24.75	27.45
0-100		24.75	27.45
0-150		24.75	27.45
0-300		24.75	27.45
AC MILLIAMMETERS Rectifier Type			
0-1	600	$24.00	$26.10
0-2	400	24.00	26.10
0-5	200	24.00	26.10
AC MICROAMMETERS Rectifier Type			
0-100	3400	$27.45	$29.40
0-200	2400	—	26.70
0-300	1800	24.00	26.10
0-500	1200	23.70	25.80

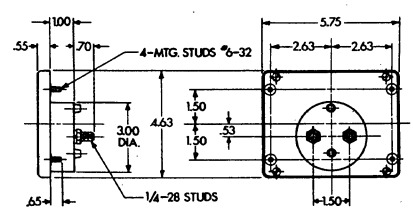
DECIBEL METERS

Zero Power Level 6 MW 500 Ohm Line

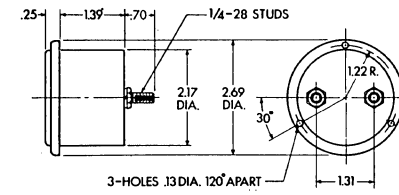
General Purpose Type −10 to +6 db 5000 ohms	$24.75	$26.85
MODELS 145, 147 2½" Case Styles		$24.60

Volume Level Indicators **VU METERS**
Reference Level 1 MW 600 Ohm Line

	MODEL 45 47	MODEL 142
"A" Scale; Not Illuminated	$29.55	$32.10
"B" Scale; Not Illuminated	29.55[1]	32.10
"A" Scale; Illuminated	—	35.10
"B" Scale; Illuminated	—	35.10



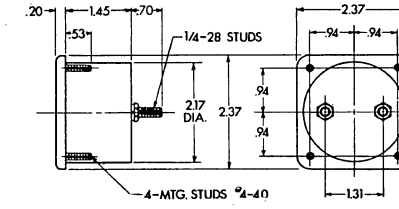
6" Model 1150



2½" Models 125, 125T, 145, 155

MODEL 135: Similar to above, but with 1.39" separation between studs.

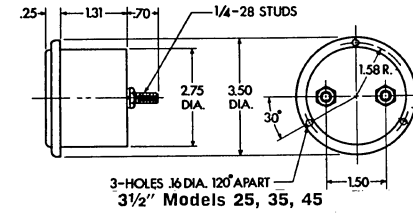
MODEL 175: Similar to above, but with four #8-32 studs, and 1.98" barrel length.



2½" Models 127, 127T, 147, 157

MODEL 137: Similar to above, but with 1.39" separation between studs.

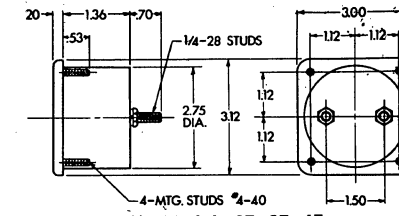
MODEL 177: Similar to above, but with four #8-32 studs, and 2.02" barrel length.



3½" Models 25, 35, 45

MODEL 55: Similar to above, but with 1.41" barrel length.

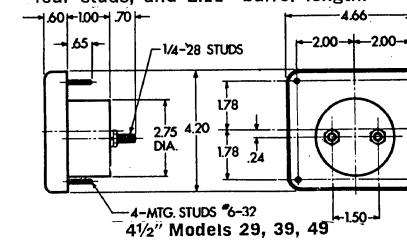
MODEL 75: Similar to above, but with four studs, and 2.06" barrel length.



3½" Models 27, 37, 47

MODEL 57: Similar to above, but with 1.45" barrel length.

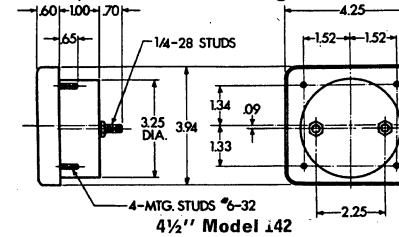
MODEL 77: Similar to above, but with four studs, and 2.11" barrel length.



4½" Models 29, 39, 49

MODEL 59: Similar to above, but with 1.09" barrel length.

Model 79: Similar to above, but with four studs, and 1.68" barrel length.



4½" Model 142

TURN THE PAGE FOR MORE ROUND AND RECTANGULAR METERS...

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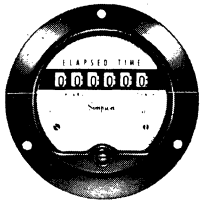
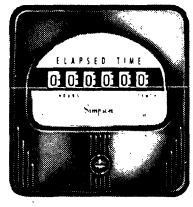
Simpson elapsed time indicators

Widely used by research labs, manufacturing plants, and broadcast stations . . . to keep life and performance records based on operating time. Models 55ET and 57ET match standard 3½" Simpson meters. New model 105 has modern appearance, with clear lucite cover. New DC model 106 gives accurate (±2%) time readouts where synchronous AC power is not available. Model 106 withstands ambient temperatures from —40°C to +65°C (—40°F to +149°F).

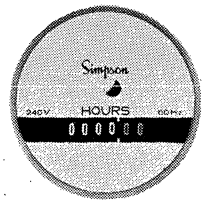
Models 105 and 106 manufactured in West Germany.



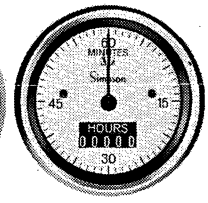
3½" Model 55ET



3½" Model 57ET



2½" AC Model 105



2½" DC Model 106

Operating Voltage	Maximum Indication (Hours)	Power Consumption	Accuracy	Model Size	Model Number	Cat. No.	Price
6V DC (+30% to —20%)	99,999	15 mA (max.)	±2%	2½"	106	13520	$20.00
12V DC (+30% to —20%)	—	—	—	—	Adapter*	13535	1.00
24V DC (+30% to —20%)	—	—	—	—	Adapter*	13538	1.00
120V AC (±15%), 60 Hz	9,999.99	2 watts	synchronous	2½"	105	13520	15.00
120V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"†	55ET	03580	25.35
120V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"‡	57ET	03590	25.35
240V AC (±15%), 60 Hz	9,999.99	2 watts	synchronous	2½"	105	13525	15.00
240V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"†	55ET	03600	25.65
240V AC (±10%), 60 Hz	99,999.9	5 watts	synchronous	3½"‡	57ET	03610	25.65

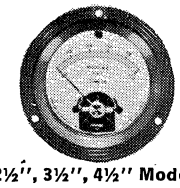
Adapter for model 106. Simply screws onto one terminal.
‡ Matches standard model 47 rectangular panel meters.
† Matches standard model 45 round panel meters.

segmental panel meters for frequency and voltage

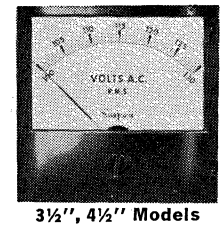
IN . . .

- **WIDE-VUE®**
- **RUGGED SEAL®**
- ***STANDARD PHENOLIC***
- **RUGGEDIZED**

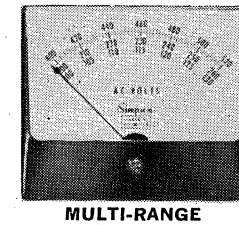
. . . MODELS



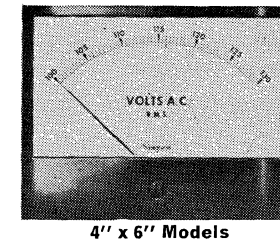
2½", 3½", 4½" Models



3½", 4½" Models



MULTI-RANGE
4½" Model 1349



4" x 6" Models

AVERAGE SENSING, TRUE RMS & DC SEGMENTAL INSTRUMENTS

Segmental Voltmeters and frequency meters make it possible to measure very small changes in input conditions.

The significant portion of the overall voltage or frequency range is expanded to occupy the full scale length. Thus, only that segment of the range that is important appears. In addition to the standard expansions and accuracies shown, special segmental voltmeters can be built on order. Write the factory for a quotation.

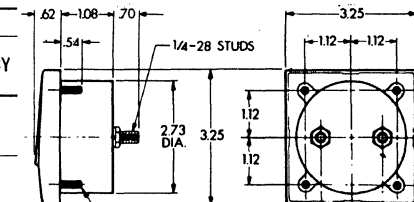
The A.C. segmental voltmeters are available in either average sensing or true R.M.S. sensing units. When working with sine wave currents or when other measurements will be made with average sensing equipment, the average sensing meters are preferred.

When working with distorted waveforms, as would be encountered in constant voltage transformers, S.C.R. circuits, D.C. to A.C. solid state inverters or similar equipment, the true R.M.S. sensing meter would probably be preferred.

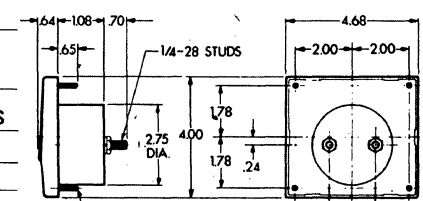
GENERAL SPECIFICATIONS

	WIDE-VUE and PHENOLIC CASE STYLES		RUGGED-SEAL and RUGGEDIZED METAL CASE STYLES				
	AVERAGE SENSING AC SEGMENTAL VOLTMETERS SINGLE RANGE	AVERAGE SENSING AC SEGMENTAL VOLTMETERS MULTI-RANGE*	RMS SENSING AC SEGMENTAL VOLTMETERS			DC SEGMENTAL VOLTMETERS	FREQUENCY METERS
RANGE	100-130 AC Volts	100-130 200-260 400-520 AC Volts	100-300 AC Volts	105-125 AC Volts	110-120 AC Volts	—	—
ACCURACY (% of Center Scale Value)	±.5%	100-130 ±.5% 200-260 ±.75% 400-520 ±.75%	±1.0%	±.5%	±.3%	±.5%	±.25%
FREQUENCY RANGE	20-2000 Hz.	50-1000 Hz.	55-550 Hz.			—	—
CENTER SCALE VALUE	115 Volts	115/230/460 Volts	115 Volts	115 Volts	115 Volts	27 Volts	60 Hz. 400 Hz.
SENSITIVITY OR POWER CONSUMPTION	.6 to 1.3 VA (Sensitivity decreases as input voltage increases)		50 OPV	65 OPV	80 OPV	100 OPV	3 VA Max.
MAX. INPUT VOLTAGE (10 Seconds)	150 Volts RMS	150/300/600 Volts RMS	150 Volts RMS			40 Volts	140 Volts RMS
Square Wave WAVEFORM INFLUENCE	11%		2.5%	2.0%	1.0%	—	.1%
Triangular Wave	5%		1.2%	.6%	.3%	—	.1%
VOLTAGE INFLUENCE 105-125 Volts	—	—	—	—	—	—	.25%
MOVEMENT TYPE	Self-Shielding		Shielded External Magnet				

* Supplied with external potential transformer.



3½" Model 1347

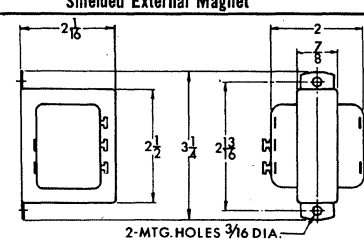


4½" Model 1349

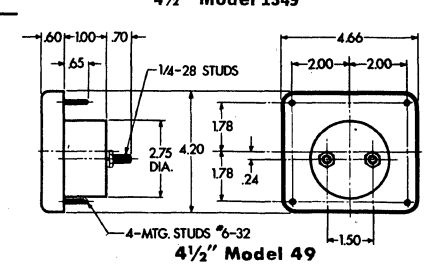
WIDE-VUE® and BAKELITE SEGMENTAL PANEL METERS Single, Multi-Range

AC VOLTMETERS Average Sensing			3½" Case Style	4½" Case Styles	
Range	Center Scale Value	Accuracy‡	MODEL 1347	MODEL 1349	MODEL 49
100-130	115V	.5%	$54.45	$54.75	$54.45
100-130 200-260 400-520	115V 230V 460V	.5% .75% .75%	—	$67.65	—

‡Accuracy is in percent of center scale value.



External Potential Transformer



4½" Model 49

MORE SEGMENTAL METERS ON THE NEXT PAGE . . .

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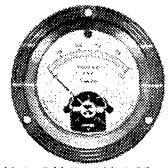
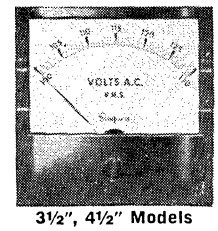
Simpson segmental panel meters for frequency and voltage

CONTINUED

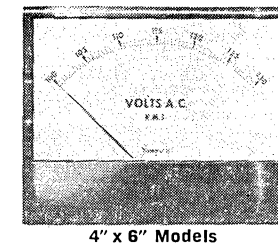
RUGGEDIZED and RUGGED SEAL® models



2½", 3½", 4½" Models



3½", 4½" Models



4" x 6" Models

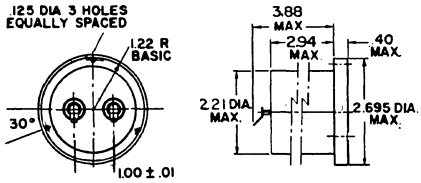
SPECIFICATIONS ON PRECEDING PAGE.

ROUND RUGGEDIZED SEGMENTAL PANEL METERS

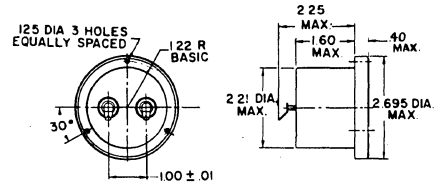
ROUND PANEL METERS Range	Center Scale Value	Accuracy‡	2½" Case Style	3½" Case Style	4½" Case Style
AC VOLTMETERS True RMS			MODEL 3282	MODEL 3283	MODEL 3284
100-130	115V	1.0%	$ 93.15	$ 85.80	$ 95.40
105-125	115V	0.5%	93.15	85.80	95.40
110-120	115V	0.3%	93.15	85.80	95.40
DC VOLTMETERS			MODEL 3222	MODEL 3223	MODEL 3224
24-30	27V	0.5%	$ 79.95	$ 72.90	$ 81.90
FREQUENCY METERS†				MODEL 3283	MODEL 3284
cps 380-420	cps 400	0.25%	—	$202.95	$212.40

SQUARE RUGGED-SEAL SEGMENTAL PANEL METERS

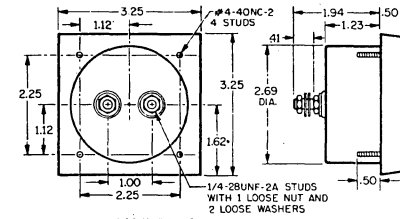
SQUARE PANEL METERS Range	Center Scale Value	Accuracy‡	3½" Case Style	4½" Case Style	4" x 6" Case Style
AC VOLTMETERS True RMS			MODEL 3383	MODEL 3384	MODEL 3386
100-300	115V	1.0%	$ 78.60	$ 86.70	$ 92.70
105-125	115V	0.5%	78.60	86.70	92.70
110-120	115V	0.3%	78.60	86.70	92.70
DC VOLTMETERS			MODEL 3323	MODEL 3324	MODEL 3326
24-30	27V	0.5%	$ 65.70	$ 73.65	$ 79.20
FREQUENCY METERS†			MODEL 3383	MODEL 3384	MODEL 3386
cps 380-420	cps 400	0.25%	$198.00	203.70	209.55



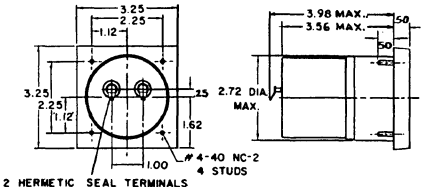
2½" Model 3282



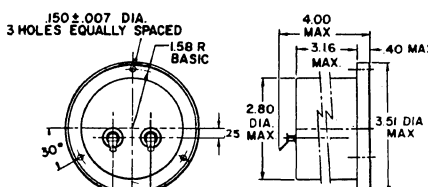
2½" Model 3222



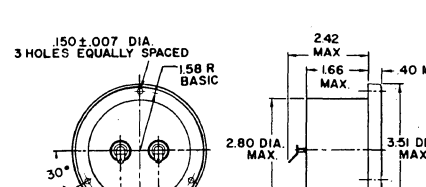
3½" Model 3323, 3343



3½" Model 3383



3½" Model 3283



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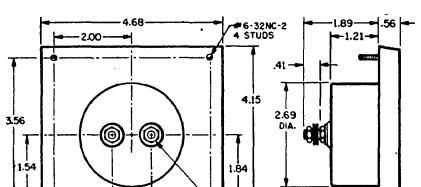
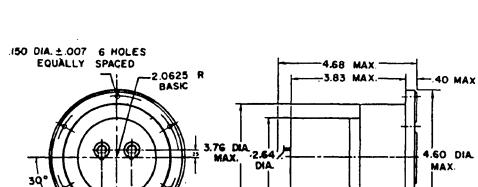
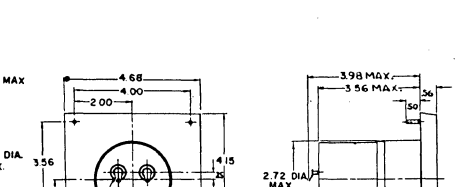


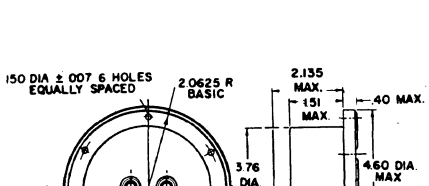
4½" Model 3324, 3344



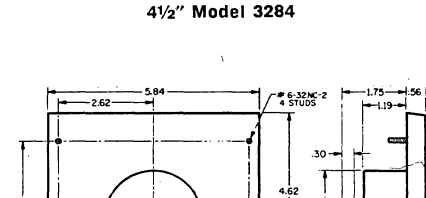
4½" Model 3284



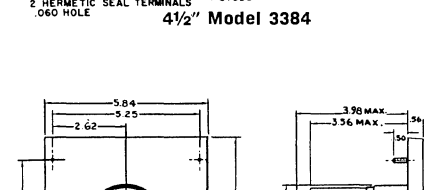
4½" Model 3384



4½" Model 3224



4" x 6" Model 3326, 3346



4" x 6" Model 3386

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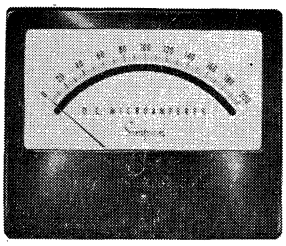
Simpson standard round and rectangular meters CONTINUED



1% and 2% Tolerance SELF SHIELDING METER MOVEMENT

6" RECTANGULAR CASE STYLE

MODELS 1150 and 1150-1

Feature long, easy-to-read 4:6" scales. 1% accuracy models have mirror scales for precise readings. Movements are self-shielding, with spring-loaded jewels. SPECIFICATIONS AND DIMENSIONS ON PRECEDING PAGE.

RANGE	APPROX. RESISTANCE Ohms	1150-1 MODEL
DC MICROAMMETERS 1% Mirrored Scale		
0-50	5200	$39.30
0-100	2100	37.80
0-200	1100	33.90
0-500	90	33.00
DC MILLIAMMETERS 1% Mirrored Scale		
0-1	43	$31.95
0-100	1.0	31.95
0-500	.2	31.95

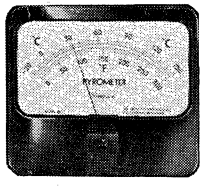
RANGE	APPROX. RESISTANCE Ohms	MODEL 1150
DC MICROAMMETERS 2%		
0-15	5500	$40.05
0-25	5500	35.85
0-50	5200	32.70
0-100	2100	31.35
0-200	1100	27.30
0-500	90	26.70
DC MILLIAMMETERS 2%		
0-1	43	$25.35
0-10	10	25.35
0-50	2.0	25.35
0-100	1.0	25.35
0-500	.2	25.35

RANGE	APPROX. RESISTANCE Ohms	MODEL 1150
DC VOLTMETERS 2%		
0-10	1000 OHMS PER VOLT	$25.35
0-25		25.35
0-50		25.35
0-100		25.35
0-150		25.35
0-300		25.35
0-500	2000 Ω/V	26.10
DC MILLIVOLTMETERS 2%		
0-50	10	$26.40
DC AMMETERS 2%		
0-1	.050	$26.40
0-5	.010	26.40
0-10	.005	26.40
0-15	.0033	26.40
0-25	.0020	26.40
0-30	.0016	26.40
0-50	.001	26.40

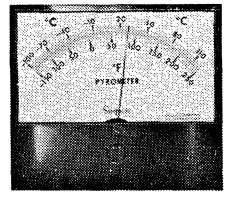
4½" pyrometers 2% ACCURACY

Available in two versions: Standard bakelite Model 29 and Model 3324 Rugged Seal for extreme conditions. Both models are compensated for ambient temperature changes and include copper circuit compensation.

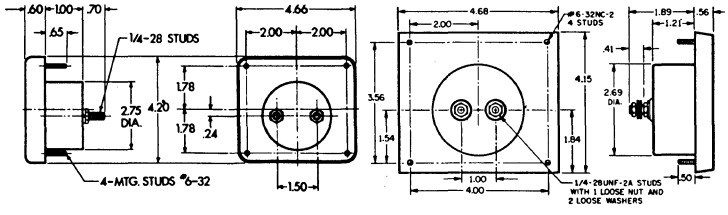
Each pyrometer is furnished with an external adjustable series resistor to permit use of lower resistance thermocouples in the field.



4½" Model 29



4½" Model 3324



MODEL 29

Temperature Range °F	Temperature Range °C	Type Thermocouple†	External Resistance Ohms (max.)	Current Sensitivity MA Approx.	Cat. No.	Price
—150 to +250	—100 to +120	I/C	10Ω	.40	21200	$36.30
0 to +300	—20 to +150	I/C	5Ω	.40	21202	36.30
0 to +500	—20 to +260	I/C	10Ω	.35	21204	36.30
0 to +750	—20 to +400	I/C	10Ω	.30	21206	36.30
0 to +1000	—20 to +540	C/A	10Ω	.28	21208	36.30
0 to +1500	—20 to +820	C/A	10Ω	.42	21209	33.75
0 to +2000	—20 to +1200	Pt/Rh	10Ω	.43	21210	33.75
0 to +2500	—20 to +1380	Pt/Rh	10Ω	.40	21211	33.75

MODEL 3324

—150 to +250	—100 to +120	I/C	10Ω	.40	21201	$49.50
0 to +300	—20 to +150	I/C	5Ω	.40	21203	49.50
0 to +500	—20 to +260	I/C	10Ω	.35	21205	49.50
0 to +750	—20 to +400	I/C	10Ω	.30	21207	49.50
0 to +1000	—20 to +540	C/A	10Ω	.28	21212	49.50
0 to +1500	—20 to +820	C/A	10Ω	.42	21213	46.95
0 to +2000	—20 to +1200	Pt/Rh	10Ω	.43	21214	46.95
0 to +2500	—20 to +1380	Pt/Rh	10Ω	.40	21215	46.95

† Thermocouple not supplied with Pyrometer. I/C types are available from stock as accessory items (see below).

THERMOCOUPLES

Stack thermocouples are iron-constantan, calibrated to 5 or 10 ohms ±1% per table.

Types 21221 and 21224 are iron constantan thermocouple wire in a stainless steel overbraid for rugged service application where flexing or abrasion would cause deterioration of standard thermocouples.

Types 21222 and 21223 are iron-constantan thermocouples with a glass cloth overbraid. These thermocouples are suited for most general purpose use or for permanent mounting in protected sheaths or conduit.

Cat. No.	Resistance	Overbraid*	Length	Gauge	Price
21221	5 ohms	SS	162 in.	20	$14.10
21222	10 ohms	GC	137 in.	24	4.95
21223	10 ohms	GC	34 in.	30	4.20
21224	10 ohms	SS	325 in.	20	25.65

*SS-Stainless Steel GC-Glass Cloth.

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rugged seal® panel meters

Metal cased panel instruments ideal for use in field test equipment or wherever rigorous environmental conditions are encountered. They are completely sealed, commercially ruggedized, glass window, metal cased and shielded, not affected by steel panel mounting.

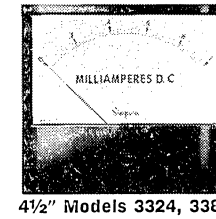
SPECIFICATIONS

SIZE	MODEL NO.	ACCURACY	SCALE LENGTH
3½"	3323, 3343*	DC METERS: ±2% F.S.	2.9" (74mm)
4½"	3324, 3344*	AC METERS: ±3% F.S.	3.9" (101mm)
4" x 6"	3326, 3346*	@ 25°C. and 60 cy. Sine Wave	4.7" (120mm)

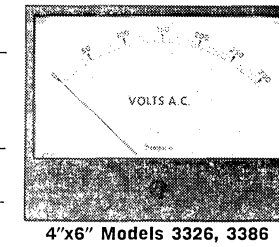
*All AC Meters are rectifier type. AC Voltmeters, Milliammeters and Microammeters maintain their rated accuracy over a range of 25 through 2500 Hz. AC Ammeters maintain their accuracy over a range of 55 through 125 Hz. DIMENSIONAL DRAWINGS ON FACING PAGE.

RANGE	APPROX. RESISTANCE (Ohms)	3½" CASE STYLE PRICE	4½" CASE STYLE PRICE	4" x 6" CASE STYLE PRICE
		MODEL 3323	MODEL 3324	MODEL 3326
DC Voltmeters				
0-1.5	1000 Ohms per Volt	$22.95	$25.05	$27.30
0-10		22.95	25.05	27.30
0-15		22.95	25.05	27.30
0-25		22.95	25.05	27.30
0-50		22.95	25.05	27.30
0-100		22.95	25.05	27.30
0-500		22.95	25.05	27.30
DC Millivoltmeters				
0-50	10	$23.10	$25.50	$27.90
DC Ammeters				
0-5	Internal Shunt 75 MV Max.	$23.40	$25.35	$28.05
0-10		23.40	25.35	28.05
DC Milliammeters				
0-1	80Ω	$22.05	$24.00	$26.85
0-100	.5Ω	23.70	25.35	28.05

RANGE	APPROX. RESISTANCE (Ohms)	3½" CASE STYLE PRICE	4½" CASE STYLE PRICE	4" x 6" CASE STYLE PRICE
		MODEL 3323	MODEL 3324	MODEL 3326
DC Microammeters				
0-50	3000Ω	$29.70	$31.80	$34.65
0-100	1300Ω	27.00	28.95	32.10
		MODEL 3343	MODEL 3344	MODEL 3346
AC Voltmeters (Rectifier Type)				
0-150	1000 Ohms per Volt	$27.60	$29.25	$32.10
0-300		27.60	29.25	32.10
AC Ammeters (Rectifier Type)				
0-1	Internal Transformer Burden 0.5 Va Max	$34.50	$36.00	$39.00
0-5		34.50	36.00	39.00
AC Milliammeters (Rectifier Type)				
0-1	600Ω	$27.30	$28.95	$34.50
AC Microammeters (Rectifier Type)				
0-100	4000Ω	$28.95	$30.15	$32.85

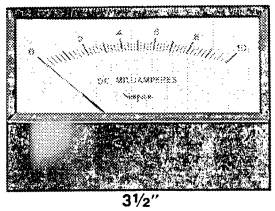


4½" Models 3324, 3384

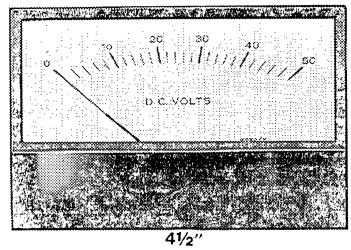


4"x6" Models 3326, 3386

new designer series ○ 40% longer scale length

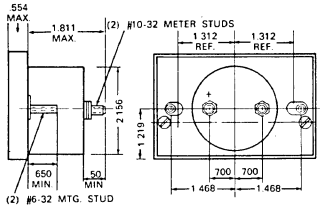


3½"

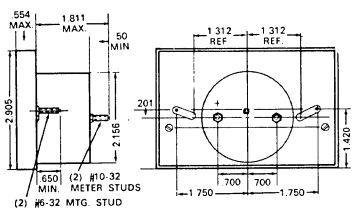


4½"

SIZE	MODEL NUMBER	ACCURACY	SCALE LENGTH
3½"	523, 543	±2% of full scale	3.129" (79.47 mm)
	553		2.822" (71.6 mm)
4½"	524, 544		3.510" (89.15 mm)
	554		3.160" (80.2 mm)



3½" MODEL 523



4½" MODEL 524

RANGE	APPROX. RESISTANCE (Ohms)	3½"		4½"	
DC Voltmeters		MODEL 523		MODEL 524	
0-5	1000 ohms per volt	15038	$18.90	15108	$20.70
0-10		15039	18.90	15109	20.70
0-15		15040	18.90	15110	20.70
0-30		15042	18.90	15112	20.70
0-50		15044	18.90	15114	20.70
0-100		15045	18.90	15111	20.70
0-150		15046	18.90	15116	20.70
DC Ammeters		MODEL 523		MODEL 524	
0-1	.050	15031	$18.15	15101	$19.65
0-3	.0166	15032	18.15	15102	19.65
0-5	.010	15033	18.15	15103	19.65
0-10	.005	15030	18.15	15100	19.65
0-15	.0033	15034	18.15	15104	19.65
0-25	.0020	15035	18.15	15105	19.65
0-50	.001	15036	18.15	15106	19.65
DC Milliammeters		MODEL 523		MODEL 524	
0-1	43.0	15000	$17.70	15070	$18.90
0-5	2.0	15001	17.70	15076	18.90
0-10	10.0	15002	17.70	15077	18.90
0-50	2.0	15003	18.15	15078	19.65
0-100	1.0	15010	18.15	15080	19.65
0-200	0.5	15004	18.15	15079	19.65
0-300	0.33	15012	18.15	15081	19.65
0-500	0.2	15013	18.15	15082	19.65

RANGE	APPROX. RESISTANCE (Ohms)	3½"		4½"	
DC Microammeters		MODEL 523		MODEL 524	
*0-15	1960	15014	$33.00	15092	$36.00
0-25	2100	15015	27.90	15085	30.75
0-50	1800	15017	22.50	15087	24.30
0-100	1800	15019	20.70	15089	22.95
0-200	1100	15021	18.90	15091	20.70
0-500	90	15022	18.60	15093	20.10
25-0-25	1800	15023	22.65	15094	24.45
50-0-50	1800	15025	20.70	15095	23.10
100-0-100	1100	15027	19.05	15097	21.00
500-0-500	43	15024	18.00	15096	19.05
DC Millivoltmeters		MODEL 523		MODEL 524	
0-50	10	15048	$18.00	15118	$19.65
AC Voltmeters		MODEL 553		MODEL 554	
0-150	25,000	15060	$18.60	15130	$19.65
0-250	41,166	15061	18.60	15131	19.65
0-300	50,000	15062	18.60	15132	19.65
AC Ammeters		MODEL 553		MODEL 554	
0-1	.287	15049	$16.50	15121	$19.20
0-5	.012	15050	16.50	15120	19.20
0-10	.0031	15052	16.50	15122	19.20
0-15	.0022	15051	16.50	15123	19.20
0-25	.0003	15053	17.10	15125	19.65
0-50	.0006	15054	17.10	15124	19.65
0-100	.012	15056	16.50	15127	19.20
0-150	.012	15057	16.50	15128	19.20
VU Meters		MODEL 543		MODEL 544	
"A" Scale		15064	$29.55	15134	$32.10

*Taut Band

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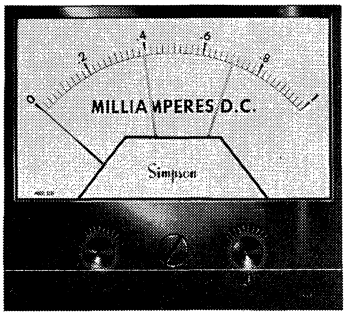
Simpson meter relays



Rugged Seal

Contactless Meter Relays

Maximum reliability design

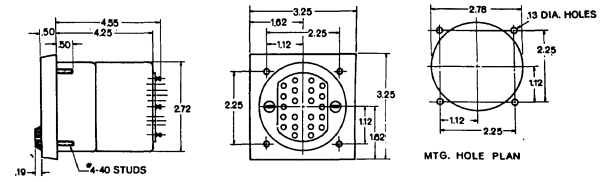
Intended for control, alarm, and limit applications — with utmost dependability. Photoconductor sensing eliminates all interference with the indicating meter. High gain transistor switch circuit provides solid state reliability, accurate switching, and extremely small dead band. Control points are adjusted from the front panel thru a gear drive. The solid-state switching circuit triggers internal 10-ampere DPDT relays (one for each control point). Ideal for unattended operation, they can be obtained from stock in a wide selection of ranges, with either dual or single control points, and in three sizes.

		3½" MODELS		4½" MODELS		4 x 6" MODELS	
Range	Approx. Resistance (Ohms)	Single Control	Double* Control	Single Control	Double* Control	Single Control	Double* Control
DC MICROAMPERES		**MODEL 3323XA**		**MODEL 3324XA**		**MODEL 3326XA**	
0-50	3000	$116.55	$146.70	$119.85	$150.00	$123.15	$153.30
0-100	1300	113.10	143.25	116.40	146.55	119.70	149.85
0-200	570	—	—	116.40	146.55	—	—
0-500	220	—	—	116.40	146.55	—	—
DC MICROAMPERES		**MODEL 3323TXA (Taut Band)**		**MODEL 3324TXA (Taut Band)**		**MODEL 3326TXA (Taut Band)**	
0-10	5500	134.70	164.85	138.00	168.15	141.30	171.45
0-25	3000	124.80	154.95	128.10	158.25	131.40	161.55
0-50	2000	119.85	150.00	123.15	153.30	126.45	156.60
0-100	570	116.55	146.70	119.80	150.00	123.60	153.15
DC MILLIAMPERES		**MODEL 3323XA**		**MODEL 3324XA**		**MODEL 3326XA**	
0-1	80	111.90	142.20	115.20	145.50	118.50	148.80
DC MILLIVOLTS		**MODEL 3323XA**		**MODEL 3324XA**		**MODEL 3326XA**	
0-50	10	112.20	142.50	115.50	145.80	118.80	149.10
AC AMPERES				**MODEL 3344XA**			
0-5	.5 VA MAX.	—	—	127.05	157.35	—	—
AC VOLTS				**MODEL 3344XA**			
0-10	1000Ω/V.	—	—	124.35	154.50	—	—

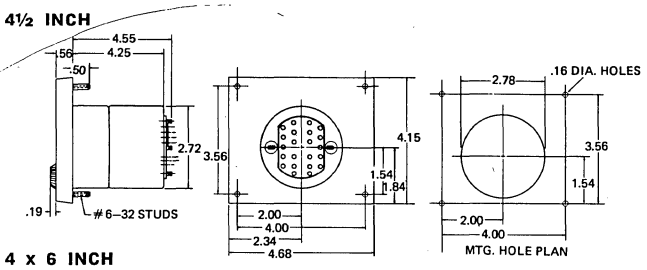
* Double control models use external power supply.

3½" 4½" 4" x 6" SIZES

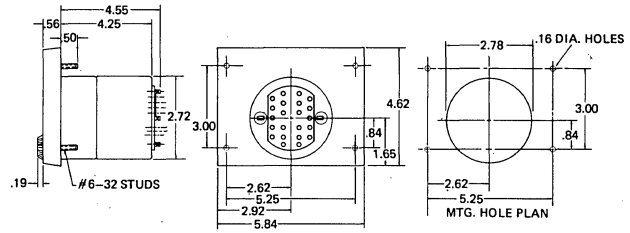
3½ INCH



4½ INCH



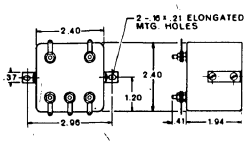
4 x 6 INCH



SPECIFICATIONS (Stock Models)

CALIBRATION ACCURACY: ±2% of Full Scale.

CONTROL POINT ADJUSTMENT: The single control is adjustable over the complete 100% arc. The double control limit is variable from 0-95% while the high limit can be located from 5% to 100%. The control points on a double control can be adjusted within 4° of each other. Control point indication is within 1% of control switching.



EXTERNAL POWER SUPPLY — Used with all two-control models (supplied with unit).

CONTROL POINT DIFFERENTIAL: Difference between "on" and "off" is within .5% of Full Scale.

POWER REQUIREMENTS: 115 Volts A.C. 50-500 CPS D.C. power required for sensing and switching is provided by the external power module furnished with dual control models. Single control models have self-contained power supply.

OUTPUT: D.P.D.T. relay contacts for each control point. Contacts rated @ 10 amperes, 115 A.C. resistive.

METER INDICATION: Continuous, unaffected by control point setting.

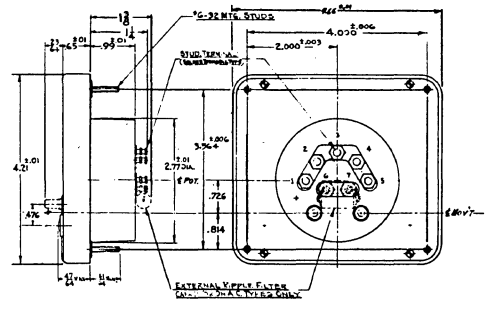
CONTROL CIRCUITRY: Fail safe. Both slave relays "open" in event of power failure.

MOVEMENT: Self-shielding pivot and jewel or Taut Band.

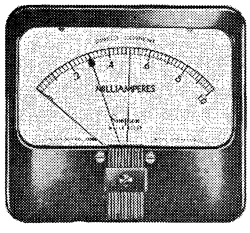
Contact Type Meter Relays

Model 29XA
for alarm control or limit applications on equipment designed for unattended applications

Contact making types are well suited to most general purpose applications in which cost and reasonable reliability are primary considerations. The contacts are the non-locking type and may be positioned along the scale arc by an external, front adjusted gear drive. Styling and mounting dimensions are designated as the Model 29XA.



RANGE	APPROX. RESIST. (Ohms)	PRICE
DC MICROAMMETERS		
0-50	5200	58.95
0-100	1800	56.40
0-200	1000	52.80
0-500	280	52.05
DC MILLIAMMETER		
0-1	140	50.85
DC MILLIVOLTMETER		
0-50	10	51.00



SPECIFICATIONS

GENERAL: Model 29XA Relays are of the D'Arsonval Type. Externally adjusted limit setting contacts are non-locking and intended for circuits with external locking provisions or for light duty non-locking applications.

CALIBRATION: Accuracies ±2% of full scale.

CONTACTS: Gold Alloy. For use @ 15 volts DC, 10 milliamperes maximum, on resistive or diode protected inductive loads.

CONTACT ADJUSTMENT: Contacts are externally adjustable over 95° of 100° scale arc, and within 5° of each other. The pointer will indicate the contact make position within 2° of actual contact intercept.

CONTACT DIFFERENTIAL: Normally, contacts will close within 2% of full scale value and break within 10% of full scale value.

INSULATION: Breakdown 300 volts AC from Relay contacts to meter circuit. 3 KV AC from Relay terminals to mounting panel. (All Tests at 60 cycles.)

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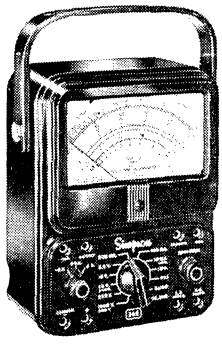
260® VOM meets today's test equipment requirements



AC-DC Volt-Ohm-Milliammeter

New Improved 260® Volt-Ohm-Milliammeter continues as the World's largest selling VOM. Known for its reliability and ruggedness, the 260 has been continually improved to meet changing market conditions. Built-in features of the 260 are:

- **Movement Overload Protection.**
- **Self-shielded Meter Movement.**
- **Increased linearity and stability.**
- **Greater repeatability.**
- **Input protected with an internal 1 amp fuse.**
- **Individual 260 instruments with special features and accuracies (Identified as 250, 255, 260-5, 5M, 261 and 270).**

Complete with test leads No. 7500 and operator's manual.

260-5 ..... **$62.00** **260-5M** (Mirror Scale) **$64.00**

NEW PROTECTED 260-5P AC/DC VOLT-OHM-MILLIAMMETER

This instrument has built-in Meter and Tester protection approaching 100% which virtually makes this VOM "GOOF PROOF." The 260-5P will be of particular value where the instrument may be used by inexperienced people; students, apprentices, and new employees. Technicians, too, will find the instrument ideal for exploring unfamiliar equipment, especially when lack of a schematic diagram poses the hazard of encountering unexpected high voltages.

Combined protection not found in any other VOM.

1. Reset button pops out to indicate overload.
2. Circuits cannot be reset while overload is present.
3. Massive overloads which can cause hidden damage are not required to activate the protective circuit.
4. All ranges are protected except those not feasible in a portable instrument — 1000 and 5000 volts DC and AC; 10 Amps DC.

The 260-5P has the same ranges and takes the same accessories as the Simpson 260-5 VOM.

Complete with test leads 7500 and operator's manual.

260-5P Protected **$94.00**
260-5PRT Protected Roll Top **$100.00**

HIGH ACCURACY 261 AND 270-3 AC/DC VOLT-OHM-MILLIAMMETERS

For applications requiring higher accuracies, Simpson has combined the latest in VOM design with strict manufacturing controls to produce the 261 and 270 Series 3. Features include:

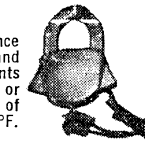
1. A new self-shielded annular meter movement.
2. Special calibration circuit that increases accuracy.
3. Diode overload protection. (Prevents movement burnout even on 200,000% overload.
4. Mirror scale with knife edge pointer.
5. Input protected with an internal 1 amp fuse.
6. TAUT BAND movement.

Complete with test leads 7500 and operator's manual.

ROLL TOP STYLES

Model 261-2 ..... **$70.00** **Model 261-RT** **$76.00**
270-3 ..... **$75.00** **270-3RT** **$81.00**

RUGGED TAUT BAND ELECTRICAL & TEMPERATURE TESTER MODEL 225 WITH AC AMMETER CLAMP-ON ADAPTER FACILITY



AC Clamp-on Adapter* Cat. No. 0531 **$30.00**

Designed specifically for servicemen in many fields: gas appliance servicing and installation, electrical utilities, and heating service and installation. By using the AC clamp-on adapter, Cat. No. 0531, AC currents through 250 amperes can be checked without disconnecting the leads or otherwise opening the circuit. Includes the important VOM functions of the 260 as well as providing a temperature range of +100°F to +1050°F. A low millivolt drop is provided on the direct current ranges.

Complete with test leads with prods (Cat. No. 0115), 5 Ft. thermocouple lead (0163), and operator's manual.

Model 255 ..... **$90.00**
AC Clamp-on Adapter, Cat. No. 0531 ..... **$30.00**
10,000 VAC High Voltage Probe, Cat. No. 0161 ..... **$16.00**

* Adapts 255 to measure 0-5, 25, 100, 250 AC amps.

RUGGED TAUT BAND 50 MILLIVOLT DROP VOM ... MODEL 250

The answer to transistor circuitry testing requiring a VOM with a low millivolt drop on current ranges. Contains all of the built-in features of the 260, together with modified range coverage designed for solid state testing, plus the provision for using add-a-tester adapters, 260 high voltage probes and other accessories.

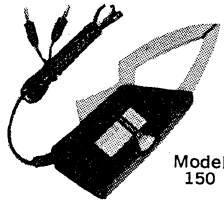
Complete with test leads and operator's manual.

Model 250 ..... **$68.00**

Roll Top VOMs
260-5RT **$68.00**
260-5MRT **70.00**
260-5PRT **100.00**
261-RT **76.00**
270-3RT **81.00**

CARRYING CASES

Ever-Redy Vinyl Carrying Case Only
No. 0805 ..... **$13.00**



Model 150

Amp-Clamp Plug-in Adapter for AC Ampere Measurements
See Page 924

Model 150 **$30.00**
Carrying Case No. 00548 **$4.80**

SPECIFICATIONS—20,000 Ω/V DC; 5,000 Ω/V AC

RANGES	250	255	260-5	260-5M	260-5P	261-2	270-3
DC VOLTS	0-0.050; 0-0.250; 0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-0.050; 0-0.250; 0-1; 0-2.5; 0-10; 0-50; 0-250; 0-1000	0-0.25; 0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000				
AC VOLTS	0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-2.5; 0-10; 0-50; 0-250; 0-1000	0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000				
DC MICROAMPERES	0-50 (Both 50 and 250 MV Drop)		0-50 (250 MV Drop)				
DC MILLIAMPERES	0-1; 0-10; 0-100; 0-500; (50 MV Drop)		0-1; 0-10; 0-100; 0-500				
DC AMPERES	0-10 (50 MV Drop)	NONE	0-10 (250 MV Drop)				
DB SCALE (1MW-600 Ω)	−20 to +10; −8 to +22; +6 to +36; +20 to +50	NONE	−20 to +10; −8 to +22; +6 to +36; +20 to +50				
OUTPUT RANGES	NONE	NONE	0.1 mfd capacitor in series with all AC voltage ranges through 250 volts.				
RESISTANCE RANGES	R X 1 0-2000 Ω (12 Ω center) R X 100 0-200K Ω (1200 Ω center) R X 10K 0-20 meg Ω (120K Ω center)						
TEMPERATURE RANGE	NONE	+100° F. to +1050° F.	NONE				
ACCURACIES:							
0-50 MV; 0-250 MV; 0-2.5 to 0-1000 V DC	±2% F.S.	±2% F.S.	±2% F.S.			±1.5% F.S.	±1.25% F.S.
0-5000 V DC			±3% F.S.			±2.5% F.S.	±2.25% F.S.
0-50 MICROAMPERES	±1% F.S.	±1% F.S.	±1.5% F.S.			±1.0% F.S.	± .75% F.S.
0-1 MA to 0-10 A DC	±2% F.S.	±2% F.S.	±2% F.S.			±1.5% F.S.	±1.25% F.S.
R× 1 R× 100, R× 10,000	±2.5° of Arc ±2.0° of Arc	±2.5° of Arc ±2.0° of Arc	±2.5° of Arc ±2.0 of Arc			±2.0° of Arc ±1.5° of Arc	±1.5° of Arc ±1.0° of Arc
0-2.5 to 0-1000 V AC	±3% F.S.	±3% F.S.	±3% F.S.			±3% F.S.	±2.0% F.S.
0-5000			±4% F.S.			±4% F.S.	±3% F.S.
MOVEMENT TYPE	Self-Shielding Annular—Taut Band						
TEMPERATURE COMPENSATED	NO	NO	NO	NO	NO	NO	YES
METER MOVEMENT PROTECTION	YES	YES	YES	YES	YES	YES	YES
RESETABLE TESTER CIRCUIT PROTECTION	NO†	NO†	NO†	NO†	YES	NO†	NO†
MIRROR SCALE	NO	NO	NO	YES	NO	YES	YES
SCALE LENGTH	4.2 Inches						
DIMENSIONS	5¼" x 7" x 3⅛"						
NET WEIGHT	3½ lbs.						
PRICE	**$68.00**	**$90.00**	**$62.00**	**$64.00**	**$94.00**	**$70.00**	**$75.00**

ACCESSORIES For 250, 255, 260-5/5M/261/270	Cat. No.	Price
10,000v DC High voltage probe	0507	$16.00
25,000v DC High voltage probe	0508	16.00
50,000v DC High voltage probe	0509	16.00
Clamp-on AC Ammeter adapter (For Model 255 only)	0531	30.00
10,000v AC High voltage probe	0161	$16.00
Banana plugs and alligator clip	7500	2.75
Banana plugs and test prods	7538	3.25
Leather Carrying Case	1818	11.00
Ever-Redy Carrying Case	0805	13.00
Roll top safety case only	0249	$11.00
Utility Carrying Case Vinyl	0549	19.00
Probe Case	0574	5.50
Thermocouple lead (5 ft.) (Model 255 only)	0163	5.50

†1 amp fuse limits maximum current.

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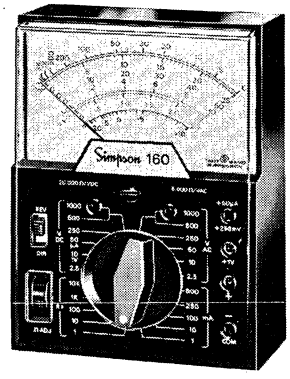
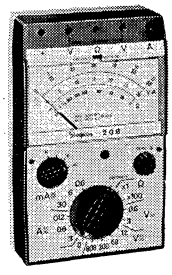
Simpson new! improved 160 Handi-VOM®

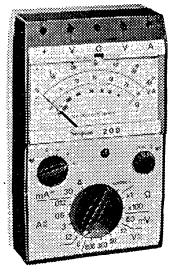


±2% DC, ±3% AC
20,000 Ω/V DC, 5,000 Ω/V AC

Now even better . . . with ±2% DC and ±3% AC accuracy. Just 3 5/16" wide, and a mere 12 ounces in weight, yet the 160 Handi-VOM® has the accuracy and sensitivity of a full size VOM. The self-shielding Taut Band movement features outstanding repeatability and freedom from stray magnetic fields. And the movement is varistor protected from even 200,000% overloads. Built for today's VOM needs, including solid-state circuit testing, the 160 has 0-0.25 VDC and 0-50 DCμA ranges. Five resistance ranges are provided for easy and accurate ohms measurements. Optional accessories include probe-tip leads, and a new vacuum-formed carrying case. The chart below lists 160 ranges and specifications.

Complete with test leads and operator's manual.
160 Handi-VOM® **$53.00**





NEW Model 208 and 209 AC-DC VOMs

Bright new ideas in hand-size VOM packages:

- AC current ranges built-in
- Illuminated scales
- Combined current-voltage measurement
- Light-up continuity checker

Both of these new Simpson VOMs have **AC current** ranges built-in. Separate inputs for voltage and current allow easy combined measurements using two sets of leads. All you need do to read current or voltage is flip the range switch. Built with Simpson's "stay accurate" dependability, both models feature shock proof self-shielding movements. Simpson 208 and 209 VOM ranges and specifications are shown in the chart below.

Complete with test leads and operator's manual.
208 ..... **$27.50**
209 ..... **$68.00**
Models 208 and 209 manufactured in West Germany.

Model 355 MIDGETESTER®

So small (2¾"x4½"x 1") it easily slips into your shirt pocket. No wonder the 355 Midgetester® — Simpson's smallest test instrument—is popular with those who must make basic voltage and resistance measurements "in the field." Features self-shielding movement, and 10,000 Ω-volt sensitivity on AC and DC ranges.

Complete with test leads and operator's manual.
355 Midgetester® **$50.00**

SPECIFICATIONS	160	208	209	355
Ranges				
DC Volts	0-0.25, 1.0, 2.5, 10, 50, 250, 500, 1000	0-0.6, 3, 12, 60, 300, 600	0-0.06, 12, 60, 300, 600	0.3, 12, 60, 300, 1200
AC Volts	0-2.5, 10, 50, 250, 500, 100	0-12, 60, 300, 600	0-12, 60, 300, 600	0.3, 12, 60, 300, 1200
DC Microamperes	0-50	NONE	NONE	NONE
DC Milliamperes	0-1, 10, 100, 500	0-0.6, 6, 30, 120, 600	0-120, 600	NONE
DC Amperes	NONE	0-3	0-3, 12	NONE
AC Milliamperes	NONE	0-0.6, 6, 30, 120, 600	0-6, 30, 120, 600	NONE
AC Amperes	NONE	0-3	0-3, 12	NONE
DB Scale (1 mW into 600 Ω)	—20 to +10, —8 to +22, +6 to +36, +20 to +50	NONE	NONE	NONE
Resistance	R x 1 (30 Ω center), R x 10, R x 100, R x 1k, R x 10k	R x 1 (128 Ω center), R x 100	R x 1 (43.9 Ω center), R x 100	R x 1 (120 Ω center), R x 10, R x 100, R x 1k
Accuracy				
DC	±2%	±1.5%	±1.5%	±3%
AC	±3%	±2.5%	±2.5%	±5%
Sensitivity				
DC	20,000 Ω/volt	10,000 Ω/volt	1,666 Ω/volt	10,000 Ω/volt
AC	5,000 Ω/volt	10,000 Ω/volt	1,666 Ω/volt	10,000 Ω/volt
Movement Type	Taut Band	Pivot and Jewel	Pivot and Jewel	Pivot and Jewel
Illuminated Scale	NO	YES	YES	NO
Light-Up Continuity Indicator	NO	YES	YES	NO
Scale Length	3.0"	3.75"	3.75"	2.26"
Dimensions (HxWxD)	4 9/16" x 3 5/16" x 1¾"	6 x 3⅝" x 1 11/16"	6 x 3⅝" x 1 11/16"	4½" x 2¾" x 1"
Net Weight	12 ounces	18 ounces	18 ounces	8 ounces
Price	**$53.00**	**$72.50**	**$68.00**	**$50.00**

Net
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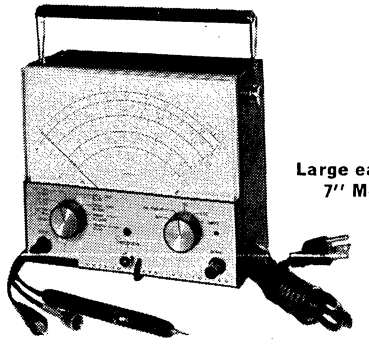
Simpson vacuum tube volt-ohmmeters

MODEL 312 VTVM
OFFERS 40% LESS CIRCUIT LOADING THAN MOST CONVENTIONAL VTVMs.



Large easy-to-read 7" Meter Scale

INPUT RESISTANCE IS 16 MEGOHMS — NOT THE USUAL 11

This Simpson VTVM, Model 312, offers a tracking error of less than 1% and provides accuracies of ±3% on all AC and DC ranges. The instrument has a specially designed circuit that protects the meter against burnout. Its ½ volt DC range meets today's solid state testing requirements.

Rugged, phenolic case and large easy-to-read seven inch scale.

Model 312 with AC ohms/DC probe No. 0150 and operator's manual **$93.00**
R. F. Probe, Cat. No. 0152 ..... **$10.75**
High Voltage Probe (30,000 V. Max.), Cat. No. 0155 ..... **$16.00**
Carrying Case, Vinyl with Lead Storage Space, Cat. No. 0577 ..... **$16.00**
Sponge Lined Leather Case, Cat. No. 01565 ..... **$16.00**

LINE VOLTAGE
105/125V, 50/60 Hz
Size: 7¾" x 6¾" x 3¾". Wt. 4¾ lbs.

VOLTAGE RANGES
DC: 0-0.5, 1.5, 5, 15, 50, 150, 500, 1500 (16 Megohms input impedance)
AC: (R.M.S.): 0-1.5, 5, 15, 50, 150, 500, 1500 (1 Megohm minimum input impedance)
AC: (Peak to Peak): 0-4, 14, 40, 140, 400, 1400, 4000

RESISTANCE RANGES
RX1 (10 Ω center), RX10, RX100, RX1K, RX10K, RX100K, RX1M

FREQUENCY RESPONSE
±3% from 15 Hz to 3 Megahertz on all AC voltage ranges through 150 volts.
With R. F. Probe: 10KHz to 250 MHz ±1 db. R.F. probe usable up to 40 volts rms.

ACCURACIES
DC: ±3% of full scale
AC: ±3% of full scale
Resistance: ±3° of arc

MODEL 311-2 AC/DC VTVM

Model 311 is the most advanced vacuum tube volt-ohmmeter in its field which features: High DC input impedance (22.0 megohm). This reduces circuit loading and permits measurements in high impedance circuits. Direct readout of RMS and peak to peak values. Excellent accuracy for low DC voltage measurements in transistorized circuitry.

LINE VOLTAGE
105/125 v, 50/60 Hz

Size: 7½" x 5⅝" x 4½" .... **Net Wt.:** 5 lbs.

Model 311-2 with DC/AC ohms probe No. 7594, ground lead No. 0733 and operator's manual..... **$91.00**
Dual Voltage Model, 220/110 v, 50/60 Hz..... **96.00**
High Frequency Probe....Cat. No. 0174..... **15.00**
High Voltage Probe (30,000 V. Max.)...Cat. No. 0732. **16.00**

RANGES

DC: 0-1.5v; 5v; 15v; 50v; 150v; 500v; 1500v. (22 meg Ω input impedance)
AC: 0-1.5v; 5v; 15v; 50v; 150v; 500v; 1500v. (RMS) (Min. 2.2 meg Ω input impedance)
PP: 0-4v; 14v; 40v; 140v; 400v; 1400v; 4000v. (Min. 2.2 meg Ω input impedance)
AF: 0-1.5v; 5v; 15v; 50v; 150v; 500v; 1500v. (30 Hz to 110KHz ±5%)
RF: 1.5v; 5v; 15v; 50v; 150v. with probe (50 Hz to 100 mc, 0-150 VRMS)

RESISTANCE RANGES
1KΩ (10Ω center); 10KΩ (100Ω center); 100KΩ (1K Ω center); 1 megΩ (10KΩ center); 10 meg Ω (100K Ω center); 100 megΩ (1 megΩ center); 1000 megΩ (10 meg Ω center).

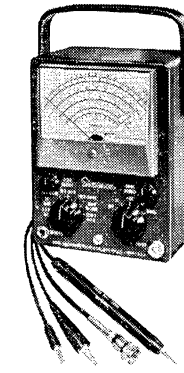
FREQUENCY RESPONSE
±5% to 100 KHz (with RF probe, usable to 250 MHz)

ACCURACY

DC VOLTS:
±3% of full scale.

AC VOLTS:
±5% of full scale.

DC RESISTANCE:
±3° of linear arc.



MODEL 303 AC/DC VTVM

Model 303 is a worthy companion to the World Famous 260 volt-ohm-milliammeter. Model 303, a ruggedly built instrument with high accuracy, features low current consumption, wide voltage and resistance ranges, and a large, easy-to-read 4½ inch scale.

LINE VOLTAGE
105/125 v, 50/60 Hz

Size: 7" x 5¼" x 3⅛"....**Net Wt.:** 4 lbs.

Model 303 with DCV probe No. 0067, ACV-ohm probe No. 0068, ground lead No. 0069 and operator's manual **$90.00**
Model 303RT (in roll top safety case)..... **97.00**
Part No. 0073....R.F. Probe..... **10.75**
High Voltage Probe, 30,000 VDC....at No. 0074 .... **16.00**
Dual Voltage Model 303, 220/110 volts, 50/60 Hz.... **96.00**
Dual Voltage Model 303RT, 220/110 volts, 50/60 Hz. **103.00**

AC-DC: 1.2v; 12v; 60v; 300v; 1200v.
AF: 1.2v; 12v; 60v.
RF: 20 volts maximum. (With RF Probe)
DB: −20 to +63 db in five ranges.

RESISTANCE RANGES
1KΩ (10Ω center); 100KΩ (1000Ω center); 1 megΩ (10K Ω center); 10 megΩ (100K Ω center); 1000 meg Ω (10 megΩ center).

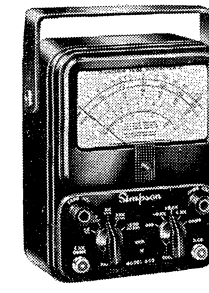
INPUT IMPEDANCE
10 megohms (all ranges) on DCV; 275K ohms shunted by 210 uuf on ACV.

FREQUENCY RESPONSE
AF: Flat to 100 KHz on the three low AC ranges
RF: 20 KHz to 100 MHz (with RF probe)

DC VOLTS:
±3% of full scale.

AC VOLTS:
±5% of full scale.

DC RESISTANCE:
±3° of linear arc.



MODEL 715 AC VTVM

High input impedance, multi-voltage ranges and wide frequency response offers a greater versatility for general purpose applications. Ideal for hi-fi and general low level audio work such as hum and ripple measurements, IF gain and vibration analyzing. Model 715 features a specially designed meter scale that provides DB markings on both the voltage range positions and the meter scale.

INPUT POWER REQUIREMENTS:
110 to 125 VRMS, 50/60 Hz @ 10 watts

SIZE: 7½" W, 5½" H, 3" D

NET WEIGHT: 3 lbs. 12 oz.

Complete with operator's manual and shielded input cable..... **$80.00**

Volts: 0-.01/.03/.1/.3/1/3/10/30/100/300 rms
Decibels: Total Range −52 to +52 DB
Zero DB: 1 milliwatt in 600 ohms
Scale Markings: −12 to +2 DB

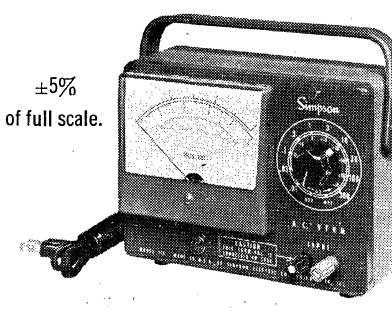
TESTER SENSITIVITY: 10 millivolts full scale on lowest range

INPUT IMPEDANCE: Minimum 1 meg @ 1 KHz shunted by 25 uuf

INTERNAL MULTIPLIERS: ±1% precision resistors

FREQUENCY RESPONSE: 10 Hz to 400 KHz ±1 DB

±5% of full scale.



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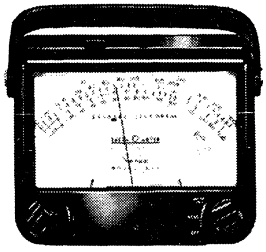
Simpson temperature testers



MODELS 388-3L, 389-3L

MODEL 385-3L

RANGE & ACCURACY	PROBES, LEADS & CARRYING CASES		
	Description	**Cat. No.**	
—50°F. to +70°F. ±1°F. @ Center Scale ±2°F. @ Either End	Surface Temperature Probe	0790	$ 7.50
	Free Air Temperature Probe	0789	11.00
	Additional Thermistor Lead	0010	7.50
	30 Ft. Thermistor Lead	0216	9.00
	50 Ft. Thermistor Lead	0415	10.00
	100 Ft. Thermistor Lead	0416	13.00
	150 Ft. Thermistor Lead	0417	17.00
	Ever-Redy Leather Carrying Case	8073	11.00

MODEL 385-3L TEMPERATURE METER
Model 385-3L is ideal for those fast, accurate temperature checks from —50°F. to +70°F. Lightweight, portable, fits easily in your hand. Three lead model. Takes temperature readings in three different locations with a simple flick of the selector knob. Standard Model has Fahrenheit scale. Supplied with one No. 0010, 15 ft. thermistor lead and operator's manual.
Size: 3"x5⅞"x2½". **Wt.** 1½ lbs. **$43.00**

—50°F. to +1000°F. —40°C. to +500°C. ±1½ Scale Divisions	General Purpose Type	0190	$ 6.50
	Surface Temperature Probe Type (1000°F. Max.)	0187	10.75
	Rugged Service Lead (8 ft.)	0496	9.00
	Ever-Redy Vinyl Carrying Case	5262	13.00

MODEL 388-3L THERM-O-METER®
Simpson's popular wide range Therm-O-Meter tester measures the temperature of practically anything within —50°F. to +1000°F. Standard model has combination °C. and °F. scale. Sensing Element: Thermocouple (Iron-Constantan). Supplied with internal battery and one 8' general purpose probe No. 0190 and operator's manual. Order additional probes as required.
Size: 7 15/16"x6"x2 15/16". **Weight:** 4 lbs.
Model 388-3L for three probes **$80.00**

—50°F. to +100°F. —40°C. to +35°C. +100°F. to +250°F. +40°C. to +120°C. Within ±2°F.	Surface Temperature Probe	0790	$ 7.50
	Free Air Temperature Probe	0789	11.00
	Additional Thermistor Lead	0010	7.50
	30 Ft. Thermistor Lead	0216	9.00
	50 Ft. Thermistor Lead	0415	10.00
	100 Ft. Thermistor Lead	0416	13.00
	150 Ft. Thermistor Lead	0417	17.00
	Ever-Redy Vinyl Carrying Case	5262	13.00

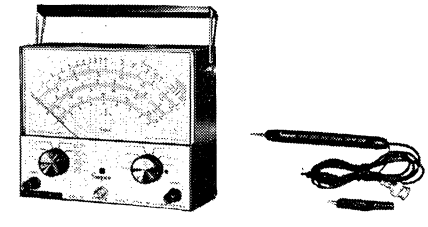
MODEL 389-3L
DUAL RANGE THERM-O-METER®
Model 389-3L temperature tester, using three leads, makes temperature readings in three different locations at the same time; i.e., in a refrigerator, one lead could be connected to the evaporator plate, another to the wall of the food compartment and the third in the center of the food compartment. Readings are made quickly in 15 to 30 seconds depending on the medium being checked. Supplied with °C. and °F. scale.

0-10, 0-30, 0-100, 0-300, 0-1000 Millivolts ±3% of Full Scale	Test Prods and Spade Terminals	8379	$ 3.25
	Alligator Clips and Spade Terminals	8376	2.75
	Ever-Redy Vinyl Carrying Case	8073	11.00

APPLIANCE TESTER
MODEL 387 MILLIVOLTMETER
Make gas unit servicing faster, more accurate. Use Simpson's Millivoltmeter. Simply place the probe across the thermocouple terminals and test for the correct value. Checks Safety Thermocouples on Gas-Fired Units.
• Furnaces • Boilers • Hot Water Heaters • Heaters • Dryers • Refrigerators
Size: 3"x5⅞"x2½". **Wt.:** 1½ lbs. **$37.00**

NEW! Model 313 solid-state VOM

VTVM FEATURES...with VOM CONVENIENCE!



Now... accuracy and high impedance in a portable instrument. Operates for over 300 hours on inexpensive, easily obtained batteries. Switch allows battery condition to be checked instantly. A "power on" indicator is also provided. Built for rugged use, the self-shielding movement is shock proof and overload protected. All voltage range inputs are fully protected, too. Even AC line voltage can be applied on ohms ranges without damage to the Field Effect Transistor input. Readouts are quick and easy on the large 7" scale. Accuracy of the new 313 is assured with bulit-in frequency and temperature compensation.

Model 313 complete with test leads, isolating probe, and operator's manual **$100.00**

Carrying Case, Vinyl with Lead Storage Space, Cat. No. 00577 ..... **16.00**

Sponge Lined Vinyl Case, Cat. No. 01565 ..... **16.00**

VOLTAGE RANGES
DC: 0-0.3, 1, 2, 10, 30, 100, 300, 1000 volts (11 Megohms input resistance)
AC: 0-0.3, 1, 2, 10, 30, 100, 300, 1000 volts (10 Megohms input resistance)
CURRENT RANGES
DC: 0-0.1, 1, 10, 100, 1000 milliamperes
RESISTANCE RANGES
RX1 (10 ohm center), RX10, RX100, RX1K, RX10K, RX100K, RX1M
FREQUENCY RESPONSE
±0.5 db from 20 Hz to 100 kHz on 0-0.3, 1, 3 volt ranges
±0.5 db from 20 Hz to 20 kHz on 0-10, 30, 100 volt ranges.
ACCURACY
DC: ±3% of full scale AC: ±3% of full scale Resistance: ±3° of arc

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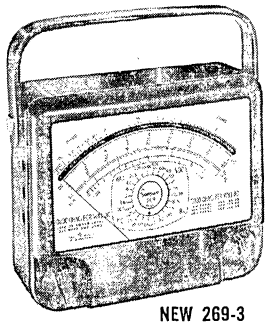
Simpson 7-inch VOMs



NEW 269-3
EASIER TO READ 7" SCALES

NEW! MODEL 269 SERIES 3
100,000 Ω/V
VOLT-OHM-MICROAMMETER

Now improved! . . . with a self-shielding Taut Band meter movement that gives better repeatability, plus faster pointer action. This new meter movement is combined with a new mirror scale; and knife-edge pointer, eliminating parallax errors. Large, readable scale is over 6 inches long. Accuracy is ±2% DC and ±3% AC, with new range coverage, too. One switch selects all 27 ranges. Battery replacement is quick and easy with the snap-on compartment. And the new 269-3 is protected from overloads with a replaceable 1.5 Ampere fuse at the input, and a varistor at the meter movement. Complete with No. 00115 test leads, 4000 volt DC probe extension, and operator's manual **$95.00**

Complete with No. 00115 test leads, 4000 volt DC probe extension, and operator's manual **$95.00**

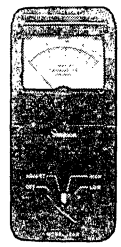
MODEL 262-3 • DC/AC VOLT-OHM-MILLIAMMETER

Model 262-3 Volt-Ohm-Milliammeter is very compact with 33 ranges on a large, easy to read 7" scale that makes accurate repetitive readings easy to attain. Meter movement furnished with diode overload protection. One control selects range and function. Self-shielded meter movement incorporates spring backed jewels which eliminates damage to the meter pivots that could result from shock and vibration — dependability and longer life are ensured.
Complete with test leads No. 0115 and operator's manual.
Model 262-3 ..... **$80.00**

MODEL 263 • NEW DUAL SENSITIVITY VOM
DC/AC VOLT-OHM-MILLIAMMETER

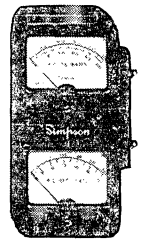
Dual sensitivity Volt-Ohm-Milliammeter with accuracies of ±1½% DC and ±3% AC F.S. Overlapping ranges offers greater accuracy expressed as a percentage of reading. Diode overload protection (Prevents movement burn-out even on 200,000% overload). External battery compartment makes battery replacement easier. Uses 1½ volt alkaline battery to insure greater stability on low ohms scale.
Complete with test leads No. 0115 and operator's manual **$94.00**

	MODEL 262-3	MODEL 263	MODEL 267	MODEL 268	MODEL 269-2
RANGES:	20,000 Ω/V DC 5,000 Ω/V AC	20,000 Ω/V DC • 10,000 Ω/V DC 10,000 Ω/V AC • 5,000 Ω/V AC	20,000 Ω/V DC 5,000 Ω/V AC		100,000 Ω/V DC 5,000 Ω/V AC
DC Volts	0-1.6/0-8/0-40/0-160/0-400/ 0-1600/0-4000	0-0.15/0-.75/0-3/0-7.5/0-30/0-75/0-300/ 0-750/0-3000 @ 20KΩ/V 0-0.3/0-1.5/0-6/0-15/0-60/0-150/0-600/ 0-1500/0-6000 @ 10KΩ/V	0-.25/0-2.5/0-10/0-50/ 0-250/0-500/0-1000	0-3/0-12/0-60/0-300/ 0-600/0-1200	0-1.6/0-8/0-40/0-160/0-400/ 0-800/0-1600/0-4000
AC Volts	0-3/0-8/0-40/0-160/0-400/0-800	0-2.5/0-7.5/0-30/0-150/0-750 @ 10KΩ/V 0-5/0-15/0-60/0-300/0-1500 @ 5KΩ/V	0-2.5/0-10/0-50/0-250 0-500/0-1000	0-3/0-12/0-60/0-300/ 0-600/0-1200	0-3/0-8/0-40/0-160/0-400/0-800
DC Microamperes	0-80/0-160	0-75 @ 150 MV; 0-150 @ 300 MV	0-50	0-60	0-16/0-160
DC Milliamperes	0-16/0-16/0-160	0-0.75/0-7.5/0-75/0-750 @ 150 MV; 0-1.5/0-15/0-150 @ 300 MV	0-1/0-10/0-100/0-500	0-12/0-12/0-120	0-1.6/0-16/0-160
DC Amperes	0-1.6/0-8	0-7.5 @ 150 MV; 0-1.5/0-15 @ 300 MV	0-10	0-12	0-1.6/0-8
DB Scale (1MW-600)	−12 to +45.5 db in four ranges	−20 to +75.5 db in 10 ranges	−20 to +10; −8 to +22 +6 to +36; +20 to +50	−12 to +11; −1 to +22 +13 to +36; +27 to +50	−12 to +45.5 db in four ranges
Output Ranges	0.1 mfd capacitor in series with all AC Voltage ranges through 160 Volts	0.1 mfd capacitor in series with all AC Voltage ranges through 300 Volts	0.1 mfd capacitor in series with all AC Voltage ranges through 300 Volts		0.1 mfd capacitor in series with all AC Voltage ranges through 160 Volts
Resistance Ranges	R×1 0-500Ω; R×10 0-5000Ω; R×100 0-50KΩ R×1K 0-500KΩ; R×10K 0-5 megΩ; R×100K 0-50 megΩ **4.5Ω center)**	R×1 0-500Ω; R×10 0-5000Ω; R×100 0-50KΩ R×1K 0-500KΩ; R×10K 0-5 megΩ; R×100K 0-50 megΩ **(4.5Ω center)**	R×1 0-2000Ω; R×100 0-200KΩ; R×10K 0-20 megΩ **(12Ω center)**		R×1 0-200Ω; R×10 0-20KΩ; R×100 0-200KΩ R×1K 0-2 megΩ; R×10K 0-20 megΩ; R×100K 0-200 megΩ **(12Ω center)**
ACCURACIES: DC Volts	±3%	0-0.15 to 1500 ±1½%; 0-3000 to 6000 ±2½%	±3%		0-1.6 to 1600 ±2%; 0-4000 ±3%
AC Volts	±4%	±3%	±5%		0.3 to 800 ±3%
DC Current	±3%	±1½%	±3%; DC MIC ±2%		All Ranges ±2%
R×1	±3° of Arc	±3° of Arc	±3° of Arc		±3° of Arc
R×10, R×100K	±2½° of Arc	±2½° of Arc	±2½° of Arc		±2½° of Arc
Scale Length	6.2		6.2 inches		
Dimensions	6" x 7¼" x 3"		6" x 7¼" x 3"		
Net Weight	4 lbs.		4 lbs.		



microtesters

16 MODELS



VOMs
WATTMETERS
BATTERY TESTER
OHMMETERS
and others

- **24 OZ.**
- **3 x 5½ x 2½"**

MODEL - PRICE	RANGES
230 VOM $43.00	DC VOLTS: 0-10, 50, 250, 1000 AC VOLTS: 0-10, 250, 1000 DC MA: 0-10, 50, 250 OHMS: R × 1, R × 100
240 VOM $43.00	DC VOLTS: 0-15, 75, 300, 750, 3000 AC VOLTS: 0-15, 150, 750, 3000 DC MA: 0-15, 150, 750 OHMS: R × 1 (30Ω center), R × 100
362 LOW-OHMS $37.00	OHMS: 0-5, 25
371 AC VOLTS $37.00	AC VOLTS: 0-150, 300, 6000
372 OHMS $37.00	OHMS: 0-500 (5Ω center), 5K, 50K, 500K, 5 Meg, 50 Meg
370 AC AMPS $37.00	AC AMPERES: 0-1, 2.5, 5, 10, 25
378 AC MILLIAMPS $37.00	AC MILLIAMPERES: 0-5, 25, 100, 250, 1000
375 DC AMPS $37.00	DC AMPERES: 0-1, 2.5, 5, 10, 25
373 DC MILLIAMPS $37.00	DC MILLIAMPERES: 0-1, 5, 10, 25, 50, 100, 250, 1000
379 BATTERY TEST $37.00	BATTERY VOLTAGES: 1.5, 1.5 (hearing aid type), 4.5, 6.0, 7.5, 9.0, 15.0, 22.5, 30.0, 45.0, 67.5, 90.0
374 DC MICROAMPS $37.00	DC MICROAMPERES: 0-50, 100, 250, 500, 1000
376 AC VOLTS $37.00	AC VOLTS: 0-5, 10, 25, 50, 100, 250, 500, 1000
377 DC VOLTS $37.00	DC VOLTS: 0-1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000
390 AC VOLT-AMP-WATTS — $65.00	AC VOLTS: 0-150, 300 DC VOLTS: 0-150, 300 AC AMPERES: 0-3, 15 AC WATTS: 0-300, 600, 1500, 3000
391 AC/DC VOLT-WATTS — $59.00 (2 Meters)	AC VOLTS: 0-130, 260 DC VOLTS: 0-130, 260 AC WATTS: 0-1500, 3000 DC WATTS: 0-1500, 3000
392 AC/DC VOLT-WATTS — $64.00 (2 Meters)	AC VOLTS: 0-130, 260 DC VOLTS: 0-130, 260 AC WATTS: 0-1000, 5000 DC WATTS: 0-1000, 5000

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Simpson industrial radio and TV test equipment

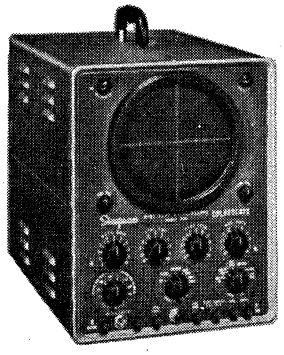
Model 466 HANDISCOPE® with 5″ Screen

- **Compact—Light Weight**
- **Rugged Construction**

Ideal for general purpose applications in radio and TV servicing and for industrial use. The Handiscope® contains horizontal push-pull amplification for the X axis, vertical push-pull amplification for the Y axis, and an intensity modulation input for the Z axis. Horizontal deflection may be obtained from either the internal sweep circuits or from the external signal voltage. Rugged construction . . . yet the Handiscope® weighs just 19 lbs.

466 HANDISCOPE® Complete with operator's manual and No. 00100 test leads (for 110 VAC operation) **$190.00**

Dual voltage 466 Handiscope® for use on 220/110 volts, 50/60 Hertz **214.00**



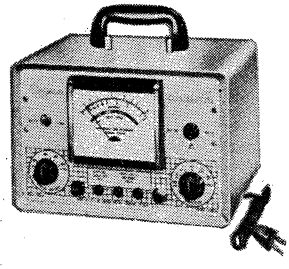
Model 458 — 7″ COLORSCOPE®

FEATURES:

- 7″ Cathode Ray Tube.
- Wide band operation, the frequency response is flat within ±1.0 db to 4.5 MHz. Faithfully displays COLOR BURST frequency with a sensitivity greater than 40 Mv rms per inch of vertical deflection.
- Narrow band operation, the frequency response is flat within ±2 db from 10 Hz to 300 kHz with a sensitivity greater than 15 Mv rms per inch.
- Good square wave response provides accurate representation of sync pulses and composite wave-form pattern for trouble-shooting video, sync, and sweep circuits.
- Horizontal sweep, to 250 kHz, for expansion of high frequency wave-form detail and color burst.
- Vernier and Compensated Decimal Step Attenuator for better signal controls.
- Provision for Intensity Modulation of CRT.
- 1 volt peak to peak calibrating voltage.

458 Colorscope® Complete with operator's manual **$420.00**
Accessory probes: See Model 739 in accessory section on back cover.
Dual Voltage 458 Colorscope® for use on 220/110 volts, 50/60 Hertz **430.00**

OSCILLOSCOPE SPECIFICATIONS	466 HANDISCOPE®	458 COLORSCOPE®
Tube Size	5″	7″
Frequency Response	15 Hz —100 kHz: Flat to within ±1 db At 250 kHz: 6 db down Useable to 1 MHz	In Wide-Band operation: Up to 4.5 MHz: Flat to within ±1 db In Narrow-Band operation: 10 Hz —300 kHz: Flat to within ±2 db
Vertical Deflection Sensitivity	30 mV RMS/inch	In Wide-Band operation: 40 mV RMS/inch In Narrow-Band operation: 15 mV RMS/inch (minimum)
Calibrating Voltage	1 volt peak-to-peak	1 volt peak-to-peak
Line Voltage Required	110 volts, 50-60 Hz (220 volt model available)	105-125 volts, 50-60 Hz. (220 volt model available)
Size	7⅞″ x 12¼″ x 16⅛″	11″ x 16½″ x 14½″
Net Weight	19 lbs.	29 lbs.
Shipping Weight	27 lbs.	38 lbs.
Price	**$190.00**	**$420.00**



Model 383A CAPACOHMETER®

IN-CIRCUIT Capacitor Leakage Tester

"ONE PACKAGE FLEXIBILITY"

- Measures the leakage resistance of defective paper, mica, or ceramic capacitors
- Indicates directly the capacitance of good paper, mica, or ceramic capacitors over a range of 10.0 pf to 10.0 mf

A pulse technique detects many marginal capacitors. All measurements are made under load conditions. No adjusting of a bridge circuit and balancing controls. Borderline capacitors which cause costly "call backs" are detected immediately with the pulse test.

Line Voltage: 105/125v, 60 Hz.
Shipping Weight 12 lbs.
Complete with test leads and operator's manual **$139.00**
Test Lead Assembly — Cat. No. 7509 ..... **3.25**

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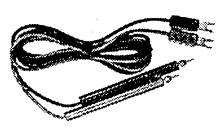
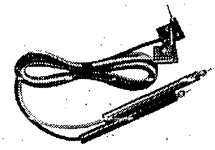
Simpson test equipment accessories





LEADS

For Models	Cat. No.	Price
260 Series 3, 4, 5, 261, 270 Banana plugs and alligator clip	7500	$2.75
260 Series 3, 267, 268 Banana plugs and test prods	7538	3.25
355 Test prods.	8600	3.00
255 only, thermocouple lead (5 ft.)	0163	5.50
385-3L, 389-3L Free Air Temperature Probe	0789	11.00
385-3L, 389-3L, 15 ft. Thermistor lead	0010	7.50
385-3L, 389-3L, 30 ft. Thermistor lead	0216	9.00
385-3L, 389-3L, 50 ft. Thermistor lead	0415	10.00
385-3L, 389-3L, 100 ft. Thermistor lead	0416	13.00
385-3L, 389-3L, 150 ft. Thermistor Lead	0417	17.00
388-3L Rugged Service Lead (8 ft.)	0496	9.00
388-3L General purpose thermocouple	0190	7.50
388-3L Surface temperature themocouple (300°F. Max.)	0187	10.75
385-3L, 389-3L Surface temperature probe	0790	7.50
650 Test Lead	7545	1.75
651 Ground Lead	0733	2.25
466, 715 Input cable	0100	4.00
Test prods and elbow terminals 230/240/260-2/372	8381	3.25
Test prods and spade terminals — all microtesters	8379	3.25
Alligator clips and elbow terminals — 230/240/260-2/372	8375	2.75
Alligator clips and spade terminals — all microtesters	8376	2.75
Combination test prods with removable alligator clips and elbow terminals 262/269	8463	3.25
263, 269-2 Combination test prods with removable alligator clips and elbow terminals	0115	3.25
"SAFE/GUARD" VOM METER OVERLOAD PROTECTOR	12621	1.95

PROBES (High Voltage Types) & MULTIPLIERS

For Models	Cat. No.	Price
221 (30,000v)	0009	$16.00
260 Series 2 (25,000v)	0007	16.00
260 Series 2 (50,000v)	0179	16.00
260 Series 3, 4, 4M, 5, 5M, 250, 255, 261, 267, 270 (10,000 V DC)	0507	16.00
260 Series 3, 4, 4M, 5, 5M, 250, 255, 261, 267, 270 (25,000 V DC)	0508	$16.00
260 Series 3, 4, 4M, 5, 5M, 250, 255, 261, 267, 270 (50,000 V DC)	0509	16.00
260 Series 3, 4, 4M, 5, 5M, 250, 255, 261, 267, 270 (10,000 V AC)	0161	16.00
262, Series 1 and 2 (16,000v)	0172	16.00
262, Series 1 and 2 (40,000v)	0180	16.00
263, 30 KV at 10K Ω/V and 15 KV at 20 Ω/V	0158	16.00
267 2500 V DC Multiplier	8568	5.50
267 5000 V DC Multiplier	8569	5.50
267 2500 V AC Multiplier	8570	5.50
267 5000 V AC Multiplier	8571	5.50
267 10,000 V DC	0507	16.00
267 25,000 V DC	0508	16.00
267 50,000 V DC	0509	16.00
268 3000 V DC Multiplier	8572	5.50
268 6000 V DC Multiplier	8573	5.50
268 3000 V AC Multiplier	8574	5.50
268 6000 V AC Multiplier	0004	5.50
268 12,000 V DC	0510	16.00
268 30,000 V DC	0511	16.00
269, Series 1 (16,000v)	0173	16.00
269, Series 1 (40,000v)	0181	16.00
269, Series 2 (16,000v)	0119	16.00
269, Series 2 (40,000v)	0157	16.00
270 (10,000v)	0161	16.00
270 (25,000v)	0508	16.00
270 (50,000v)	0509	16.00
303 (30,000v)	0074	16.00

PROBES — Miscellaneous Types

For Models	Cat. No.	Price	For Models	Cat. No.	Price
303 High frequency	0073	$10.75	312 High Frequency	0152	$10.75
303 AC Probe	0068	4.50	312 High Voltage	0155	16.00
303 DC Probe	0067	4.56	2610 Low Capacity	0299	18.00
303 Ground lead	0069	2.25	Voltage Doubler	0740	14.65
311 High Frequency	0731	16.00	Low Capacitance	0741	18.00
311 High voltage	0732	16.00	100:1 Voltage Divider	0742	19.00
311 DC-AC/OHMS	7594	11.00			
311 Ground lead	0733	2.25	Direct Resistive Dual Purpose	0743	15.00
312 DC/AC ohms	0150	10.75			

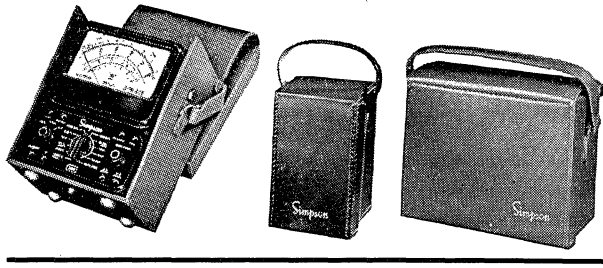
OSCILLOSCOPE PROBE KIT — Model 739

For use with Model 458 Oscilloscope. Includes *low capacity probe, voltage doubler, detector, 100:1 voltage divider and dual direct — resistive. (isolation)

Complete with 4 probes, plastic roll, and operator's manual..... $50.00

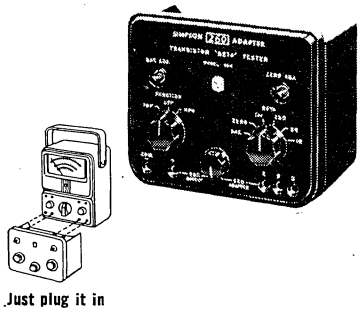
*For Model 458 only.

CARRYING CASES FOR SIMPSON TEST EQUIPMENT



For	Cat. No.	Price
250, 255, 260s, 261, 270, 303 — Utility Vinyl	0549	$19.00
0549 Snap-on High Voltage Probe Case	0574	5.50
260, 261, 270 — Leather	1818	11.00
250, 255, 260s, 261, 270, 303 — Ever-Redy Leather	0805	13.00
262, 267, 268, 269, 388-3L, 289-3L — Every-Redy Vinyl	5262	13.00
312 Vinyl	0577	16.00
385-3L — Ever-Redy Leather	8073	11.00
391, 392 — Leatherette-Covered	3413	11.00
355 — Ever-Redy Leather	6355	5.50
All Microtesters — Ever-Redy Leather	4299	10.50
All Microtesters — Leatherette-Covered	3011	7.50
Roll Top Safety Case For 260-2, 9, 10, 880's	6192	10.50
Roll Top Safety Case for 260-3, 261, 270	0249	11.00
Roll Top Safety Case For 303	6379	11.00

260 ADD-A-TESTER ADAPTERS



Just plug it in

MODEL	RANGE	ACCURACY
TRANSISTOR TESTER MODEL 650 — $41.00	BETA: 0-5, 50, 250 I_{co}: 0-100 μa	BETA: ±5%* I_{co}: ±3%*
DC VTVM MODEL 651 — $48.00	VOLTS: 0-0.5, 1.0, 2.5, 5, 10, 25, 50, 100, 250, 500 INPUT IMPEDANCE: Greater than 10megΩ on all ranges.	±3% F.S.*
TEMPERATURE TESTER MODEL 652 — $46.00	−50°F to 100°F, 100°F to 250°F Sensing Element: Thermistor.	−50°F to −30°F: ±4°F (nominal) −30°F to +90°F: ±2°F (nominal) +90°F to +100°F: ±4°F (nominal) +100°F to +220°F: ±2°F (nominal) +220°F to +250°F: ±4°F (nominal)
AC AMMETER MODEL 653 — $28.00	0-0.25, 1.0, 2.5, 12.5, 25 Amps. Frequency range: 50-3000 cycles	±3% F.S.
AUDIO WATTMETER MODEL 654 — $30.00	LOAD RANGES: 4, 8, 16, 600 ohms. WATTAGE: 25 watts (8, 600Ω), 50 watts (4, 16Ω) continuous. Intermittent duty: 50 and 100 w.	±10% (±7% with 261 and 270)
MICROVOLT ATTEN. MODEL 655 — $28.00	2.5 to 250,000 microvolts in decade steps. Frequency: DC to 20kc.	±1 DB
BATTERY TESTER MODEL 656 — $28.00	Up to 90 volts	±3% F.S.*
MILLIOHMMETER MODEL 657 — $51.00	0-0.1 (150 Ma. max. output), 0.25 (103 Ma.), 0.5 (90 Ma.), 1.0 (80 Ma.)	±2% F.S. (±1½% with 261 and 270)
DC AMMETER MODEL 661 — $30.00	DC AMPERES: 0-1.0, 2.5, 5, 10, 25	±2% F.S. (±1½% with 261 and 270)

* 1% better accuracy when used with 261 or 270.

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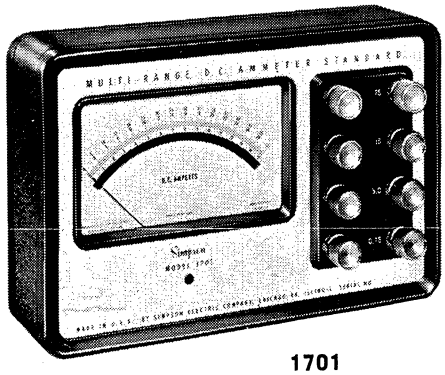
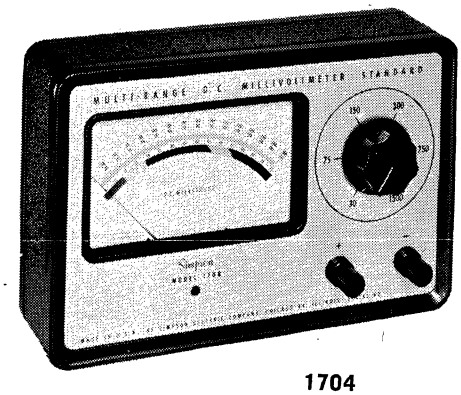
Simpson multi-range standards



1701



1704

MODEL 1699

This instrument was designed to measure low values of resistance accurately, rapidly, and at low cost. It compensates for the shortcomings of the conventional ohmmeter in the area of low-resistance measurement, while retaining the ohmmeter's simplicity of operation.

The Model 1699 Milliohmmeter determines the value of an unknown resistance by comparing it with a known standard internal resistance.

In low resistance measurements, the contact resistance of the meter probes and the resistance of the test leads become significant sources of error. These errors are avoided by using test leads terminating in Kelvin Clips coupled with a unique circuit which has separate current and voltage paths. This results in ±1% of full scale accuracy — even on the 0-0.05 ohm range.

1700 SERIES

These standards are designed for long-term accuracy under maximum usage. Spring-loaded sapphire jewels and hardened pivots insure high shock resistance and minimum friction. A high damping factor, added to high torque, provides rapid response to input level variations and minimizes overshoot.

The combination of a self-shielded, deep-core movement and a steel case makes these instruments impervious to most external magnetic fields found in industry.

These standards use a knife-edge pointer and mirror scale to eliminate parallax errors.

A large-diameter, ceramic rotary switch with solid silver contacts provides range-change in Models 1700, 1702, 1703 and 1704 so that only two binding posts are necessary. On the Model 1701 Ammeter a separate set of 3-way binding posts is provided for each range.

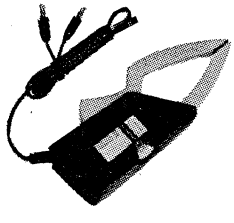
All 1700-series standards are temperature-compensated for operation from 15°C. to 35°C.

SPECIFICATIONS

FUNCTION	OHMS	DC VOLTS	DC AMPS	DC MILLIAMPS	DC MICROAMPS	DC MILLIVOLTS
Ranges	0-0.05, 0.1, 0.25, 0.5, 1.0, 5.0, 10.0, 50.0	0-1.5, 3, 7.5, 15, 30, 75, 150, 300, 750, 1500	0-0.75, 1.5, 3.0, 7.5, 15, 30, 75	0-1.5, 3, 7.5, 15, 30, 75, 150, 300, 750, 1500	0-75, 150, 300, 750, 1500	0-30, 75, 150, 300, 750, 1500
Model Number	**1699**	**1700**	**1701**	**1702**	**1703**	**1704†**
Accuracy	±1.0% fs	±0.5% fs	±0.5% fs	±0.5% fs	±0.5% fs	±0.5% fs
Maximum Loss	7.95 mW*	1 milliampere	45 mv	50 to 150 mv	.16 to .58 v	5 ma
Sensitivity	0.001 ohm	1000 Ω/v	—	—	—	200 Ω/v
Scale Length	5.5"	5.5"	5.5"	5.5"	5.5"	5.5"
Enclosure	Steel case with etched aluminum panel, 11⅜" x 7⅜" x 3¼" deep‡					
Net Weight	5¾ lbs.	5½ lbs.	8 lbs.	5½ lbs.	5½ lbs.	5½ lbs.
Catalog Number	13299	13300	13305	13310	13315	13316
Price	**$175**	**$180**	**$190**	**$180**	**$185**	**$185**

*Maximum dissipation in sample.

NEW amp-clamp for 260® VOMs



MODEL 150

PLUG-IN ADAPTER FOR AC AMPERE MEASUREMENTS

Clamp-on AC ammeter adapter allows measurement to be made without breaking circuit being tested. Simply plugs into 260®, 261, 270, 250, or 255 VOM. Ranges: 0-5, 10, 25, 50, 100, 250 AC Amperes. Readout is on VOM's 0-2.5 VAC scale. May be used with any VOM having 0-2.5, or 0-3 VAC range. (When used with 0-3 VAC adapter ranges are from 0-6 to 0-300 AC Amperes). Rugged construction, and easy to use.

Model 150 — $30.00

Carrying Case No. 00548 — $4.80

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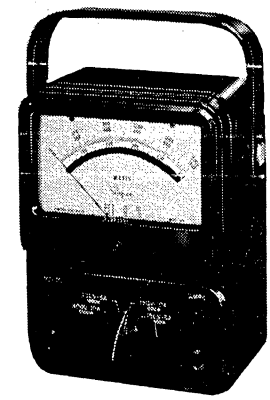
Simpson portable standards

Models 9, 10, 880 • For AC, DC Voltage, Current, Power

SPECIFICATIONS	MODEL 9	MODEL 10	MODEL 880
Parameters	DC Voltage DC Current	AC Voltage AC Current	AC/DC Power AC/DC Voltage
Accuracy*	0.5%	1%	1%
Movement	Self-shielded Annular	Iron Vane	Dynamometer
Scale	4.03" arc length; 100° arc	3.63" arc length; 90° arc	3.63" arc length; 90° arc
Voltmeter Sensitivity	1000 Ω/V	100 Ω/V	52.5 Ω/V
Size, Weight	5¼" x 3½" x 7" — approximately 2½ pounds		

*In horizontal position; temperature compensation per ASA Spec. C39.1-1964.



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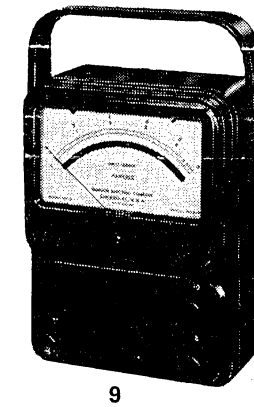

9

SINGLE RANGE UNITS

	RANGE	DC MODEL 9	CAT NO.	AC MODEL 10	CAT. NO.
VOLTMETERS	50 V	$66.00	12900	$60.50	13060
	100 V	66.00	12910	60.50	13070
	150 V	66.00	12920	60.50	13080
	300 V	71.50	12930	66.00	13090
MICROAMMETERS	50 μA	93.50	12800	—	—
	100 μA	88.00	12810	—	—
	200 μA	82.50	12820	—	—
MILLIAMMETERS	1 MA	77.00	12830	—	—
	50 MA	66.00	12840	60.50	13030
	100 MA	66.00	12850	60.50	13040
	500 MA	66.00	12860	60.50	13050
AMMETERS	5 A	66.00	12740	60.50	12990
	15 A	66.00	12750	60.50	13000
	30 A	66.00	12760	60.50	13010
	50 A	66.00	12770	60.50	13020
	100 A	71.50	12780	—	—
VOLTMETERS AC/DC	150 V	AC/DC MODEL 880 $77.00	13130	—	—

MULTI-RANGE UNITS

	RANGE	DC MODEL 9	CAT NO.	AC MODEL 10	CAT. NO.
VOLTMETERS	15-150 V	$77.00	12940	—	—
	150-300 V	77.00	12950	$77.00	13100
	300-750 V	82.50	12960	77.00	13110
	15-150-300 V	93.50	12970	—	—
	150-300-600 V	93.50	12980	77.00	13120
MILLIAMMETERS	10-100 MA	77.00	12870	—	—
	25-250 MA	77.00	12880	—	—
	100-500 MA	77.00	12890	—	—
AMMETERS	2.5-5 A	77.00	12720	—	—
	5-10 A	77.00	12710	—	—
	2.5-10-25 A	88.00	12730	—	—
	5-20-50 A	88.00	12792	—	—
VOLTMETERS AC/DC	150-300 V	AC/DC MODEL 880 $88.00	13140	—	—
	75-150-300 V	99.00	13150	—	—
	150-300-600 V	99.00	13160	—	—

POWER RANGES Single Current Range

	MAXIMUM VOLTAGE* 150 V	MAXIMUM VOLTAGE* 300 V	MAXIMUM CURRENT*	AC/DC MODEL 880	CAT. NO.
WATTMETERS AC/DC Single Phase	100 Watts	200 Watts	1.5 A	$82.50	13170
	200 Watts	400 Watts	3.0 A	82.50	13180
	500 Watts	1000 Watts	7.5 A	82.50	13190
	1000 Watts	2000 Watts	15 A	82.50	13200
	2000 Watts	4000 Watts	30 A	88.00	13210
	5000 Watts	10000 Watts	75 A	88.00	13220

POWER RANGES Double Current Range

	MAXIMUM VOLTAGE* 150 V	MAXIMUM VOLTAGE* 300 V	MAXIMUM CURRENT* Low Scale	MAXIMUM CURRENT* High Scale	AC/DC MODEL 880	CAT. NO.
	250- 500 Watts	500-1000 Watts	3.75 A	7.5 A	$104.50	13230
	500-1000 Watts	1000-2000 Watts	7.5 A	15.0 A	104.50	13240

*Maximum current and maximum voltage cannot be used simultaneously. Do not allow their product times power factor to exceed full scale of power range in use.

ACCESSORIES Roll-Top Safety Case for any model above — Catalog No. 6192 — **$11.00.**

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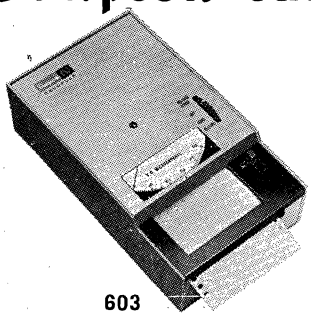
Simpson strip chart recorders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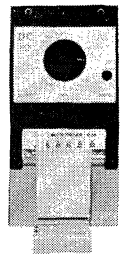
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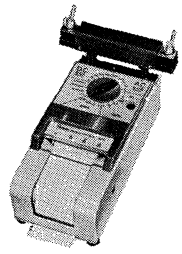
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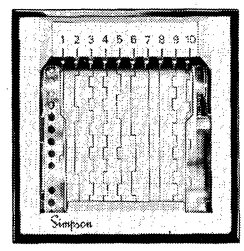

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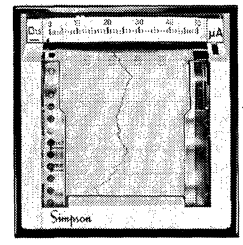

2755

SPECIFICATIONS	603	604	605	2750	2755
Accuracy of Recording DC Range	±2.5% of Full Scale	±2.5% of Full Scale	±2.5% of Full Scale	±1.5% of Full Scale	—
AC Range	±4.0% of Full Scale	±2.5% of Full Scale	±2.5% of Full Scale	±1.5% of Full Scale	—
Event channel Response Time	10 milliseconds (nominal)	—	—	—	10 milliseconds (nominal)
Event Indicator Voltage	115 volts/60 Hz.	—	—	—	115 volts/60 Hz.
Built-in Chart Speeds (Switch Selected)	3/12/24/36 in.-per hour (76/305/610/914 mm-per-hour)	1/3/12 inches-per-hour (25/76/305 mm-per-hour)		0.79/4.72 inches-per-hour (20/120 mm-per-hour)	
Impression Rate	2 seconds	2 seconds	2 seconds	3 seconds	Continuous
Chart Paper	Pressure Sensitive, 3" wide, 63 feet long	Pressure Sensitive, 2.6" wide, 50 feet long			
Take-up Reel	Optional	—	—	Built-in	
Motor Drive	Synchronous, 115 volts/60 Hz.				
Size	7½" x 4 3/16" x 2 25/32"	9¾" x 4¾" x 4"		3¾" x 9⅛" x 3¾"	
Weight	2½ lbs.	5½ lbs.		4 lbs.	

MODEL 2750 and 2755 MINIATURE RECORDERS

Panel mount, using just 3¾ x 3¾ inches of panel space. Model 2755 has ten event channels. Model 2750 is available in a selection of ranges, including a dual channel version. Both models have two built-in chart speeds.

Range	Catalog Number	Price
Model 2755 Event Recorder		
10 channels, 115 volts at 60 Hz.	22200	**$175.00**
Model 2750 Recorders		
0-10 DC Microamperes	22000	**167.00**
0-50 DC Microamperes	22002	**153.00**
0-100 DC Microamperes	22003	**147.50**
0-500 DC Microamperes	22004	**142.00**
0-1 DC Milliampere	22005	**140.00**
0-1/0-1 DC Milliampere DUAL CHANNEL	22022	**165.00**
0-50 DC Millivolts	22008	**142.00**
0-150 AC Volts	22110	**148.00**

ACCESSORIES for 2750 and 2755 RECORDERS

Portable carrying handle	22392	**$6.35**
Plastic window for direct paper feedout	22395	**2.00**
Gear unit for 30/180 mm-per-hour speeds	22303	**7.50**
Gear unit for 60/300 mm-per-hour speeds	22302	**7.50**
Gear unit for 100/600 mm-per-hour speeds	22303	**7.50**

CHART PAPER for 2750 and 2755 RECORDERS

Calibration	2755 Cat. No.	2750 Cat. No.	per box of 10 rolls
20 mm-per-hour, 30 divisions*	22380	22310	**$18.00**
20 mm-per hour, 50 divisions	——	22311	**18.00**
30 mm-per-hour, 30 divisions*	22381	22312	**18.00**
30 mm-per-hour, 50 divisions	——	22313	**18.00**
60 mm-per-hour, 30 divisions*	22382	22314	**18.00**
60 mm-per-hour, 50 divisions	——	22315	**18.00**
100 mm-per-hour, 30 divisions*	22383	22316	**18.00**
100 mm-per-hour, 50 divisions	——	22317	**18.00**

* 2755 paper has 10 channel markings.

MODEL 604 and 605 MULTICORDERS®

Both models give dependable inkless recording at less than $10 per range! One trace indicates measured value; second trace indicates range selected. Model 604: 20,000 Ω/V DC; 5,000 Ω/V AC. Model 605: 666 Ω/V DC and AC.

RANGES	MODEL 604	MODEL 605
DC Millivolts	0-100, 500	0-12, 30, 60
DC Volts	0-2.5, 10, 25, 100, 250, 500	0-3, 15, 60, 300, 600
AC Volts	0-10, 25, 100, 250, 500	0-6, 30, 150, 300, 600
DC Microamperes	0-50, 250	0-600
DC Milliamperes	0-1, 5, 25, 100, 250	0-1.5, 3, 6, 30, 150
DC Amperes	0-1	0-1.2, 6
AC Microamperes	0-200	None

MODEL 604 and 605 MULTICORDERS® (Cont'd)

AC Milliamperes	None	0-3, 15, 60, 300
AC Amperes	None	0-1.2, 6
Price	**$200.00**	**$235.00**

ACCESSORIES for model 604 and 605 recorders

	Cat. No.	Price
Ever-Redy Vinyl Carrying Case	02611	**$27.00**
Special Gear Unit, 30/60/90 inches-per-hour	00682	**30.00**

Easy to use plug-in shunts for both models 604 and 605.

Amperes	5	25	50	100
Cat. No.	6526	6527	6528	6531
Price	**15.00**	**15.00**	**15.00**	**15.00**

CHART PAPER for model 604 and 605 recorders

	Cat. No.	Price per box of 10 rolls
Calibrations: 50 divisions	02612	**$19.50**

MODEL 603 RECORDERS

Available in a wide selection of ranges. All use inkless pressure sensitive paper. Four built-in chart speeds are switch selected. Has event channel in addition to listed range. Each 603 recorder is supplied with panel mounting bracket.

	CATALOG NUMBER			
RANGE	Standard Speed	Optional Speed* Medium	Low	
0-50 DC μA	20001	20201	20101	**$107.00**
0-100 DC μA	20002	20202	20102	**102.00**
0-250 DC μA	20003	20203	20103	**98.00**
0-1 DC mA	20005	20205	20105	**90.00**
0-5 DC mA	20007	20207	20107	**97.00**
0-50 DC mA	20011	20211	20111	**97.00**
0-500 DC mA	20015	20215	20115	**97.00**
0-5 DC Amps	20018	20218	20118	**98.00**
0-50 DC mV	20019	20219	20119	**93.00**
0-15 DC Volts	20025	20225	20125	**97.00**
0-50 DC Volts	20027	20227	20127	**97.00**
0-150 DC Volts	20030	20230	20130	**96.00**
0-5 AC Amps	20050	20250	20150	**120.00**
0-5 AC Volts	20070	20270	20170	**102.00**
0-150 AC Volts	20080	20280	20180	**102.00**
0-300 AC Volts	20085	20285	20185	**104.00**
100-130 AC Volts	20086	20286	20186	**105.00**

*Optional Intermediate Speed Models: 1½/6/12/18 inches-per-hour.
Optional Low Speed Models: ¼/1/2/3 inches-per-hour.

ACCESSORIES for 603 RECORDERS

	Cat. No.	Price
Automatic take-up reel	20195	**$16.00**
Carrying case, vinyl	20196	**21.40**

CHART PAPER for 603 RECORDERS

Calibration	Cat. No.	Price per box of 6 rolls
50 divisions	20097	**$14.50**
60 divisions	20099	**14.50**
75 divisions	20098	**14.50**

Net
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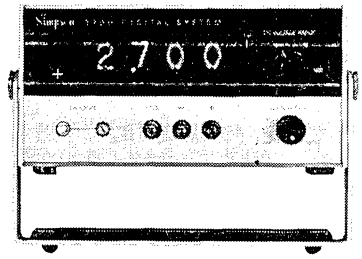
Simpson digital systems



2700

MODEL 2700 DIGITAL SYSTEM

- INTEGRATED CIRCUIT COMPACTNESS AND RELIABILITY
- ACCURACY WITHIN ±0.05%, ±1 DIGIT
- FULLY AUTOMATIC POLARITY SELECTION, WITH INDICATION
- 4 FULL-TIME DIGITS, PLUS 10% LINEAR OVERRANGE
- FAST: UP TO 5 NEW READINGS PER SECOND

SPECIFICATIONS

RANGES: 1.000 DC volts full scale; 10.00 DC volts full scale; 100.0 DC volts full scale; 1000.0 DC volts full scale. Plug-in adapters available for other ranges.

ACCURACY: ±0.05%, ±1 digit over temperature range of +20 to +30°C.

INPUT IMPEDANCE: 10.2 Megohms on all ranges.

RESOLUTION: 100μV on 1.000 volt range.

OVERRANGE: Linear to 10%.

POLARITY: Automatic selection, with indication.

RESPONSE TIME: 5 seconds, maximum

SAMPLING RATE: Variable, 20 milliseconds to "hold."

FLOATING INPUT: Up to 500 volts DC.

NOISE REJECTION:

Common Mode (with 1Ω unbalance in either input lead).
DC: 120 db AC: 90 db (60 Hz)

Normal Mode AC: 60 db (60 Hz)

TEMPERATURE INFLUENCE: Change in indication less than .05% for 20°C change in temperature.

NUMBER OF FULL TIME DIGITS: 4.

READOUTS: Cold gas glow tubes, 200,000 hour rated life.

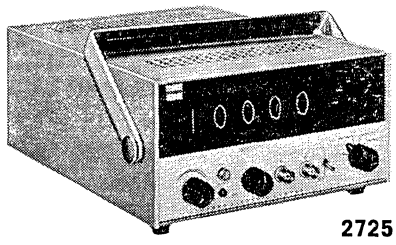
CIRCUITRY: Solid-state and Integrated circuits.

POWER REQUIRED: 115/230 VAC ±10%, 50-60 Hz, at 11.5 watts.

SIZE: 4 x 8¼ x 11 inches.

WEIGHT: 8 lbs.

2700 DIGITAL SYSTEM **$615.00**



2725

MODEL 2725 DIGITAL COUNTER

Integrated Circuit Electronic Counter measures frequency, time intervals, frequency ratios, and totalizes. Six time bases are switch selected. Display time is adjustable from 0.1 second to "hold." 5 full-time digits, with automatic decimal point indication and overrange indication. Built with the same high quality as the 2700 Digital Meter, the 2725 has dependable ±0.01% ±1 digit accuracy.

SPECIFICATIONS

MEASURES:
AVERAGE FREQUENCY, 5 Hz to 20 MHz.
TIME INTERVAL, 300 μ seconds to 1.9999 x 10^5 seconds.
PERIOD, 300 μ seconds to 1.9999 x 10^5 seconds.
FREQUENCY RATIOS, 1 to 1.9999 x 10^5.
TOTALIZES FROM 0 to 1.9999 x 10^5 counts.

ACCURACY: ±0.01%, ±1 digit.

TIME BASES: 0.0001, 0.001, 0.01, 0.1, 1, and 10 seconds.

INPUT IMPEDANCE: Main input: 1 Megohm shunted by 30 pf.
Secondary input: 10 K ohms.

SENSITIVITY: 0.1 volt RMS.

DISPLAY TIME: 0.1 second to "hold."

INPUT COUPLED: AC.

INTERNAL LOCK: Crystal controlled.

DIGITS: 5 full-time cold gas glow tubes. 200,000 hour rated life.

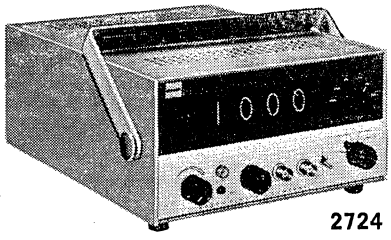
OTHER INDICATIONS: Overrange, Gate Time, and Decimal Point. All automatic.

POWER REQUIRED: 117 VAC (±10%), 50-60 Hz.

AMBIENT TEMPERATURE RANGE: +15°C to +55°C.

SIZE: 4 x 8¼ x 11 inches.

2725 DIGITAL COUNTER, complete with operator's manual **$525.00**

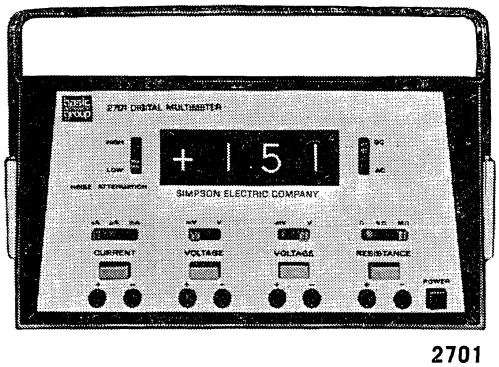


2724

MODEL 2724 DIGITAL COUNTER

Reliable Integrated Circuit Electronic Counter with the same features as the model 2725 (above), except with 4 full-time digits. Automatic decimal point indication and overrange.

2724 DIGITAL COUNTER, complete with operator's manual **$450.00**



2701

MODEL 2701 DIGITAL VOM

The new Simpson 2701 Digital Volt-Ohm-Milliammeter displays AC and DC voltage in six ranges, AC and DC current in nine ranges, and resistance in seven ranges . . . all at the touch of a button. Even unskilled personnel can make fast, accurate measurements with this VOM. Simply set the magnitude switch, then press the button — reading appears as a three digit number, complete with polarity sign and and decimal point. No errors. No time consuming scale interpolation.

RANGES

DC/AC VOLTAGE	Range
Millivolt	0.01-9.99†
	10.0-99.9
	100.-999.
Volts	1.00-9.99
	10.0-99.9
	100.-600.

DC/AC CURRENT	Range
Nano Amps	100.-999.
Micro Amps	1.00-9.99
	10.0-99.9
	100.-999.
Milliamps	1.00-9.99
	10.0-99.9
	100.-999.

RESISTANCE	Range
Ohms	10.0-99.9
	100.-999.
K Ohms	1.00-9.99
	10.0-99.9
	100.-999.
Megohms	1.00-9.99
	10.0-99.9
	100.-999.

Operating Temperature —10°C to +35°C
Response Time (A) Without filter — 1 second
(B) With filter — 4 seconds

Power Required 105-130 VAC, 60 Hz, 60 Watts
Polarity: Automatic with Indication
Size: 5½"H x 10"W x 10"D (Approx.)
Weight: Approx. 14.3 lbs.

*Plus or minus 0.2% of F.S.

†AC Millivolt range begins at 1.00

2701 DIGITAL VOM **$835.00**

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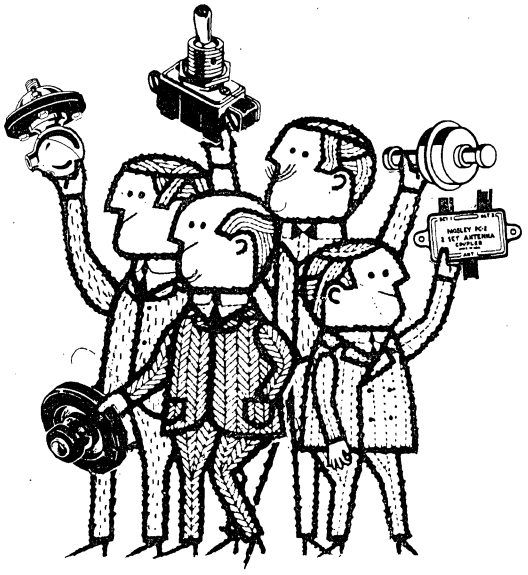
You can depend on your local

ELECTRONIC DISTRIBUTOR for ...

- *Instant off-the-shelf delivery*
- *In-depth inventories*
- *Wide varieties*
- *Prompt service*
- *Technical assistance*



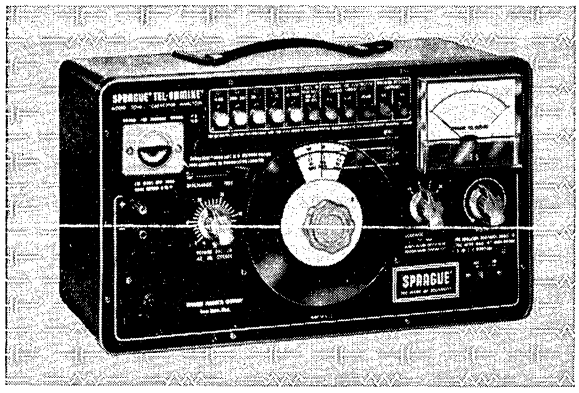
- *Availability of the latest products*
- *Speedy purchasing — one order does the job*

Contact your local ELECTRONIC DISTRIBUTOR

for all your requirements!

SPRAGUE TEST EQUIPMENT

TO-6 TEL-OHMIKE® CAPACITOR ANALYZER



The TO-6 TEL-OHMIKE capacitor analyzer is a must for checking all capacitors. It is a moderately priced instrument with laboratory quality and accuracy—the highest accuracy of any instrument of its type available to the service trade!

- **LEAKAGE CURRENT** of electrolytics measured directly on meter. Four ranges; .06, .6, 6, and 60mA. Three ranges of DC voltage (continuously variable within each range) permit testing capacitors at exact rated voltage up to 600 volts.
- **POWER FACTOR** of electrolytics, up to 50% measured by Wien Bridge.
- **METER PROTECTOR** of solid-state design allows severe accidental over-loads without burn-outs.
- **MAGIC-EYE TUBE** simplifies bridge balancing for capacitance and power factor measurements. High gain amplifier provides greatly improved sensitivity.
- **PUSH-BUTTONS** color-keyed for instant range selection.
- **MODERN CASE:** Silver-grey hammertone finish, panel is charcoal grey with highly contrasting white designations. Measures 8⅞" high, 14⅝" wide, 6⅛" deep. Weight only 13 pounds.

MODEL TO-6 ..... **115 VAC/50-60 cy**
MODEL TO-6S ..... **115-230V/50 cy**

Call Your Sprague Distributor for Current Prices

- **CAPACITANCE BRIDGE** measures up to 2000 μF. Five overlapping ranges include exclusive 1 pF to 100 pF range. Special shielded transformer for bridge voltage. Extremely low AC voltage; 1.35 volts for electrolytic capacitors, 2.85 for all others, permits safe testing of all low voltage capacitors.
- **INSULATION RESISTANCE** of papers, ceramics and micas directly read on large meter. No guessing with neon lamps. Dual range—to 10KMΩ@ 30V for low voltage units . . . to 50KMΩ@ 150V for higher voltage components. Fast charge feature speeds testing of high capacitance units.

TEL-OHMIKES FOR RACK MOUNTING

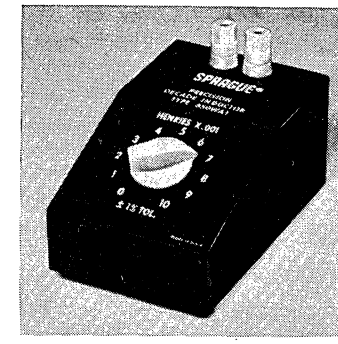
Electrically identical to TO-6 and TO-6S. These models have a standard 19"w. x 10½"h. panel so that it can be mounted in standard relay racks.

MODEL TO-6RM.....**115 VAC/50-60 cy**
MODEL TO-6SRM.....**115-230 V/50 cy**

Call Your Sprague Distributor for Current Prices

TYPE 850W PRECISION DECADE INDUCTORS

- Indispensable For Design and Experimental Work on Audio Filters, Equalizers, and Tuned Circuits. Frequency Range is 150 to 20,000 Cycles per Second
- Excellent Stability With Respect to Current and Ambient Temperature Changes
- All Four Decade Inductors May Be Connected in Series to Provide 11,110 Steps of Inductance
- Housed in Blue Aluminum Case with Sloping Front to Facilitate Bench-Top Readings. Measures 3" Wide, 2½" High, 5½" Long. Fitted with Five-way Binding Posts.
- For Complete Technical Data, Refer to Latest Issue of Engineering Bulletin 90,500.
- Call Your Sprague Industrial Distributor for Current Quantity Prices



Cat. No.	Inductance Steps	Optimum Freq. Range in cps	Average Q Factor at 1000 cps	Average Q Factor at 4500 cps	Max. D-C	Milliamperes A-C
850WA1	10 x 0.001H	400 to 20,000	40	75	250	700
850WA2	10 x 0.01H	400 to 20,000	60	125	79	220
850WA3	10 x 0.1H	400 to 20,000	60	125	25	70
850WA4	10 x 1.0H	400 to 5,000	60	125	8	22

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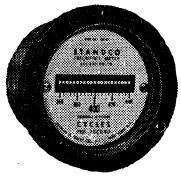
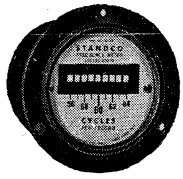
STICHT INSTRUMENTS

"STANDCO" VIBRATING REED FREQUENCY METERS





PANEL MOUNTING

3½" Bakelite Case

- Rugged
- Dependable
- Accuracy ±0.5%
- Reeds aged

HERMETICALLY SEALED

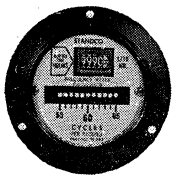
2½" and 3½"

All MIL-Specs. Also Ruggedized Types.

Cat. No.	No. Reeds	Interv. CPS	Range CPS
351	5	1	48-52
352	7	1	47-53
349	9	0.5	48-52
353	11	0.5	47.5-52.5
348	11	1	45-55
356	9	0.5	58-62
357	11	0.5	57.5-62.5
358	21	0.5	55-65
359	5	1	58-62
360	7	1	57-63
361	9	1	56-64
362	11	1	55-65
363	21	1	50-70

Bulletin 806

Cat. No.	No. Reeds	Interv. CPS	Range CPS
DUAL RANGE			
369	5	1	48-52
	5	1	58-62
400 CYCLES			
374	5	10	380-420
380	5	5	390-410
364	9	5	380-420
366	11	4	380-420
365	11	5	375-425
379	11	8	360-440
376	11	2	390-410
375	17	2.5	380-420
378	17	5	360-440
367	21	2	380-420
368	21	4	360-440



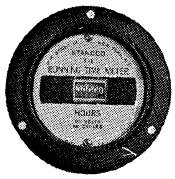
Bulletin 811

"STANDCO" COMBINATION FREQUENCY AND RUNNING TIME METERS

In 3½" flush mounting, round bakelite cases

Cat. No.	Freq. Range	No. of Reeds.	Time Range
TF-362	55-65 CPS	11 Reeds	9999.9 hrs.
TF-356	58-62 CPS	9 Reeds	9999.9 hrs.
TF-360	57-63 CPS	7 Reeds	9999.9 hrs.
TF-359	58-62 CPS	5 Reeds	9999.9 hrs.

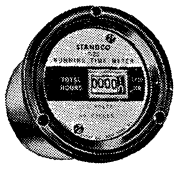
"STANDCO" RUNNING TIME METERS



Bulletin 810

ALTERNATING CURRENT

3½" Round Flush		2⅝" Round Flush with U-Clamp
Type T-1	9999.9 hrs.	Type T-45
Type T-3	99,999 hrs.	9999.99 Hours
Type T-4	99,999 min.	115 V 60 cycles
115V, 220V, 440V, 60 or 50 cycles		230 V 60 cycles



Bulletin 810

AC HERMETICALLY SEALED TYPE

3½" Round Flush		2½" Round Flush	
Type T-1	9999.9 hrs.	Type T-25	9999.9 hrs.
Type T-3	99,999 hrs.	Type T-30	99,999 hrs.
Type T-4	99,999 min.	Type T-35	99,999 min.

115V, 220V, 440V, 60 or 50 cycles

DIRECT CURRENT TYPE T-60

2⅝" Round Flush with U-Clamp

Reading Minutes and Hours to 99999 Hours

Bulletin 9160

Standard 12 volts DC
Specials 6, 24, 36 volts DC

AC MINIATURE TYPE T-40

1⅞" x 1⅞" Square Flush with U-Clamp

Register to 9999.99 Hours

Bulletin 9140

115 V 60 cycles
230 V 60 cycles
24 V 60 cycles

VIBRATION TYPE T-75

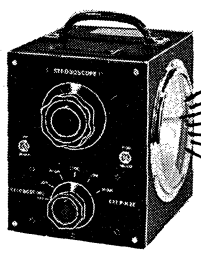
2⅝" Round Flush

Operates without electric power source. Application wherever vibrations occur during operation.

Bulletin 9175

99999 Hours

"STANDCO" TACHOMETERS



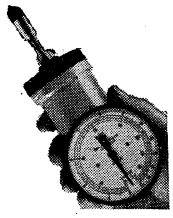
HIGH INTENSITY STROBOSCOPE

MODEL 510-AL

STOPS MOTION
MEASURES RPM
without contact

With brilliant daylight flasher unit for maximum readability.
With 4 ranges - 60-15,000 RPM
"Industry's Seeing Eye"

Bulletin 781



PORTABLE HAND TACHOMETERS

CENTRIFUGAL AND CHRONOMETRIC TYPES

With one, two, three, five or six ranges in one instrument. All speeds 0-100,000 RPM.

Bulletins 735, 750, 751, 756, 765, 790

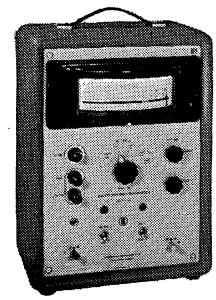
"MEGOHMER" INSULATION TESTERS

DC GENERATOR (HAND CRANK) TYPES

"DWARF" Megohmer, 500 volts DC

Cat. No. 701, 0.1-100 megohms
Cat. No. 702, 0.1-100 megohms
0-10,000 ohms

Bulletin 420



HIGH RESISTANCE MEGOHMMETER

MODEL 29-U

20,000,000 MEGOHMS

Direct Reading: Unusual stability, fast in operation, high accuracy.

11 Ranges: From 300,000 ohms to 20 million megohms.

Power Supply: 115 volts DC, 60 cycles.

Test Potentials: 100 volts DC and 500 volts DC. Also: 0.5 volts to 1000 volts by external supply.

Bulletin 1029U

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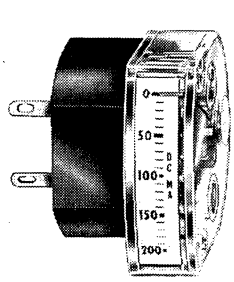
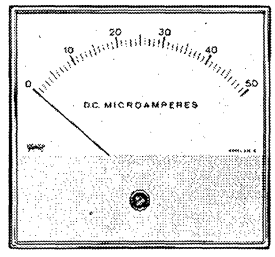
TRIPLETT INSTRUMENTS

MINIATURE 1½" PANEL METERS





Model 120: Edgewise meter for horizontal mounting. Scale length, 1.15". Panel hole required, 1.605" x .516". Self-shielded, dustproof case. Solder terminals. **Model 120-G:** Panel meter with large dial area, aluminum insert panel. Scale length, 1.48". Flange, 1.75" sq. Body, 1.5" dia. x 1.3" deep. Solder terminals. **Model 150:** VU meter, same size as Model 120.

DC VOLTMETERS (1000 OHMS/VOLT)

Range	Scale Div.	120 Number	120-G Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	20	.....	1041102	$18.00	$14.40	$13.50
0–3	30	.....	1041106	18.00	14.40	13.50
0–5	25	.....	1041108	18.00	14.40	13.50
0–10	20	1040310	1041110	18.00	14.40	13.50
0–15	30†	.....	1041111	18.00	14.40	13.50
0–25	25	.....	1041113	18.00	14.40	13.50
0–30	30†	1040314	1041114	18.00	14.40	13.50
0–50	25	1040315	1041115	18.00	14.40	13.50
0–100	20	.....	1041118	18.00	14.40	13.50
0–150	30†	1040319	1041119	18.00	14.40	13.50
0–200	40	.....	1041120	18.00	14.40	13.50
0–250	25	.....	1041121	18.00	14.40	13.50
0–300	30	.....	1041122	18.00	14.40	13.50
0–500*	25	.....	1041125	18.50	14.80	13.87
0–750*	30	.....	1041127	18.50	14.80	13.87
0–1000*	20	.....	1041129	23.50	18.80	17.62
0–2000*	40	.....	1041130	23.50	18.80	17.62
0–3000*	30	.....	1041131	23.50	18.80	17.62
0–5000*	25	.....	1041133	23.50	18.80	17.62

*2000 ohms/volt. †Model 120 has 15 scale divisions.

DC AMMETERS

Drop, 50 millivolts.

0–1	20	1020302	1021102	$17.00	$13.60	$12.75

DC MICROAMMETERS (PIVOT AND JEWEL)

Range	Model 120 Ohms	Model 120 Number	Model 120-G Ohms	Model 120-G Number	Net Each, Lots of 1-24	25-49	50 Up
0–50	2300	1060315	4000	1061115	$21.50	$17.20	$16.12
0–100	825	1060318	1170	1061118	20.00	16.00	15.00
0–200	360	1060320	400	1061120	18.50	14.80	13.87
0–500	156	1060325	210	1061125	17.50	14.00	13.12

DC MILLIAMMETERS

Range	Resis., Ohms	120 Number	120-G Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	55	1010302	1011102	$16.50	$13.20	$12.37
0–1.5	30	.....	1011103	16.50	13.20	12.37
0–3	14	.....	1011106	16.50	13.20	12.37
0–5	8.5	.....	1011108	16.50	13.20	12.37
0–10	3.1	1010310	1011110	16.50	13.20	12.37
0–15	3.3	.....	1011111	16.50	13.20	12.37
0–25	2.0	1010313	1011113	16.50	13.20	12.37
0–50	1.0	1010315	1011115	16.50	13.20	12.37
0–75	0.67	.....	1011116	16.50	13.20	12.37
0–100	0.50	1010318	1011118	16.50	13.20	12.37
0–150	0.33	1010319	1011119	16.50	13.20	12.37
0–200	0.25	1010320	1011120	16.50	13.20	12.37
0–250	0.2	.....	1011121	16.50	13.20	12.37
0–300	0.17	1010322	1011122	16.50	13.20	12.37
0–400	0.12	.....	1011123	16.50	13.20	12.37
0–500	0.10	1010325	1011125	16.50	13.20	12.27
0–750	0.07	.....	1011127	16.50	13.20	12.37
0–1000	0.05	.....	1011129	16.50	13.20	12.37

DC MILLIVOLTMETERS

0–50	6.7	1030315	1031115	$17.00	$13.60	$12.75
0–100	13.5	.....	1031118	17.00	13.60	12.75
0–150	20.2	.....	1031119	17.00	13.60	12.75

VU METERS

Triplett Number	Model	Scale Type	Resis., Ohms	Net Each, Lots of 1-24	25-49	50 Up
1090346	150	A	3900	$29.00	$23.20	$21.75
1090348	150	B	3900	29.00	23.20	21.75

DO-NUT TRANSFORMERS FOR AC AMMETERS

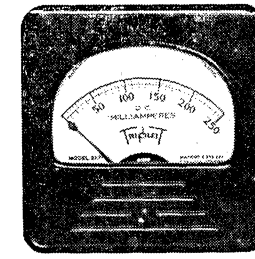
For extending range of all AC ammeters. (See AC Ammeters Page 3.)

Triplett Number	Ampere Range	Size, Inches I.D.	O.D.	Thick.	Net Each, Lots of 1-24	25-49	50 Up
23-66	0–75	1⅝	3¼	1	$14.70	$11.76	$11.03
7099	0–100	1⅝	3¼	1	14.70	11.76	11.03
7100	0–200	1⅝	3¼	1	14.70	11.76	11.03
2446-16	0–250	1⅝	3¼	1	14.70	11.76	11.03
7093	0–300	1⅝	3¼	1	14.70	11.76	11.03
7091	0–400	1½	3⅜	1¼	14.70	11.76	11.03
7092	0–500	1½	3⅜	1¼	19.30	15.44	14.48
23-11	0–750	2¼	5	1⅜	27.00	21.60	20.25
23-38	0–1000	2¼	5	1⅜	27.00	21.60	20.25

GENERAL PANEL METER INFORMATION

Triplett meters offer ±2% accuracy, rugged construction, high overload capacity and long-term reliability. **DC meters** are D'Arsonval type with pivot & jewel construction except for certain microammeters with high-sensitivity suspension movement; linear scales; extra light moving coil; self-shielded Bar-Ring magnet; one-piece diecast frame. **AC meters** are moving iron vane type, air damped, with light moving parts. All have jewel bearings; specially treated pivots; white enameled metal dials; ceramic pointer stops; molded zero adjusters, case and base.

Accuracy: ±2% except AC rect. type, ±3%. **Repeatability:** Suspension type, ±0.5%; pivot, ±2%. **Overload Capacity:** 1 second: current, 1000% except AC rect. and RF, 150%; voltage, 0–100V, 1000% except AC rect., 150%. **Continuous Overload:** 120% except DC current, 150%. **Damping Factor:** 2.5 minimum. **G-Series Meters (Fig A):** Flexible and interchangeable design with optional mounting bezel for mounting behind panel. Large dial area for multiple scales. Natural aluminum insert.

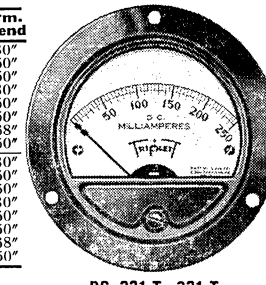


DC 227-T, 327-T
AC 237-S, 337-S

DC PANEL METERS—2.5", 3.5" AND 4.5" SIZES

Four basic styles, in three nominal sizes. Table below indicates dimensions of DC and RF meters. **To Order:** Specify both Model and Triplett Part Number, from appropriate tables below. Example: Model 220-G, Number 1049602, is a DC ammeter, 0–1 range, in a G-Series case.

Model	Meter Type	Nom. Size	Fig.	Scale Lgth.	Flange Size, In., W. x H.	Body Size, In. Dia. x Depth	Term. Extend
220-G	DC	2½"	A	2.48"	2.77 x 2.39	2.2 x 1.39	.730"
221-T	DC	2½"	B	1.76"	2.687 dia.	2.203 x .937	.750"
227-T	DC	2½"	C	1.76"	2.375 sq.	2.156 x 1.0	.750"
320-G	DC	3½"	A	3.16"	3.5 x 2.99	2.75 x 1.39	.730"
321-T	DC	3½"	B	2.49"	3.5 dia.	2.75 x .92	.750"
327-T	DC	3½"	C	2.49"	3.0 sq.	2.75 x .987	.750"
420-G	DC	4½"	A	4.03"	4.55 x 4.068	2.75 x 1.39	.968"
420	DC	4½"	D	4.04"	4.625 x 4.187	2.75 x .843	.750"
240-G	RF	2½"	A	2.48"	2.77 x 2.39	2.2 x 1.39	.730"
241-T	RF	2½"	B	1.76"	2.687 dia.	2.203 x .937	.750"
247-T	RF	2½"	C	1.76"	2.375 sq.	2.156 x 1.0	.750"
340-G	RF	3½"	A	3.16"	3.5 x 2.99	2.75 x 1.39	.730"
341-T	RF	3½"	B	2.49"	3.5 dia.	2.75 x .92	.750"
347-T	RF	3½"	C	2.49"	3.0 sq.	2.75 x .987	.750"
440-G	RF	4½"	A	4.03"	4.55 x 4.068	2.75 x 1.39	.968"
440	RF	4½"	D	4.04"	4.625 x 4.187	2.75 x .843	.750"



DC 221-T, 321-T
AC 231-S, 331-S

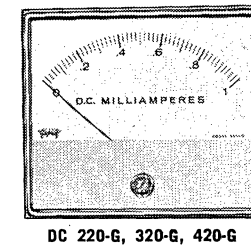
Half Bezels for G-Series Meters: For behind-panel mtg. in panels to ⅛".

Number	For Meter	Material	Size, W. x H.	Panel Hole	1-24	25-49	50 Up
13A-233	2½" G-Series	Plastic	3.09 x 1.69"	3.000 x 1.593"	$1.70	$1.36	$1.28
13A-238	2½" G-Series	Metal	3.09 x 1.69"	3.000 x 1.593"	2.10	1.68	1.58
13A-234	3½" G-Series	Plastic	3.83 x 2.27"	3.718 x 2.156"	1.70	1.36	1.28
13A-239	3½" G-Series	Metal	3.83 x 2.27"	3.718 x 2.156"	2.10	1.68	1.58
13A-235	4½" G-Series	Plastic	4.92 x 2.85"	4.812 x 2.750"	1.70	1.36	1.28
13A-236	4½" G-Series	Metal	4.92 x 2.85"	4.812 x 2.750"	2.10	1.68	1.58

DC MICROAMMETERS

2.5" MODELS 220-G, 221-T AND 227-T

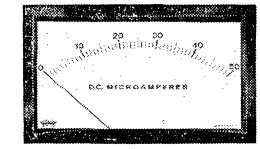
Range	Resis., Ohms	220-G Number	221-T Number	227-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–50*	2300	1069615	1062515	1062815	$21.50	$17.20	$16.12
0–100*	825	1069618	1062518	1062818	20.00	16.00	15.00
0–200*	360	1069620	1062520	1062820	18.50	14.80	13.87
0–500*	156	1069625	1062525	1062825	17.50	14.00	13.12
0–5	15000	8069608	8062508	8062808	41.50	33.20	31.12
0–10	7500	8069610	8062510	8062810	35.50	28.40	26.62
0–20	2500	8069612	8062512	8062812	30.50	24.40	22.87
0–50	825	8069615	8062515	8062815	24.00	19.20	18.00
0–100	360	8069618	8062518	8062818	21.50	17.20	16.12
0–200	156	8069620	8062520	8062820	20.50	16.40	15.37
0–500	40	8069625	8062525	8062825	20.00	16.00	15.00
0–1000†	12.5	8069629	8062529	8062829	19.50	15.60	14.62
0–50‡	360	8069639	8062539	8062839	21.50	17.20	16.12
0–100‡	156	8069640	8062540	8062840	20.50	16.40	15.37
0–500‡	12.5	8069643	8062543	8062843	19.50	15.60	14.62



DC 220-G, 320-G, 420-G
AC 230-G, 330-G, 430-G

3.5" MODELS 320-G, 321-T AND 327-T

Range	Resis., Ohms	320-G Number	321-T Number	327-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–50*	2300	1069715	1065615	1065715	$22.50	$18.00	$16.87
0–100*	825	1069718	1065618	1065718	21.00	16.80	15.75
0–200*	360	1069720	1065620	1065720	19.50	15.60	14.62
0–500*	156	1069725	1065625	1065725	18.50	14.80	13.87
0–5	15000	8069708	8065608	8065708	42.50	34.00	31.87
0–10	7500	8069710	8065610	8065710	36.50	29.20	27.37
0–20	2500	8069712	8065612	8065712	31.50	25.20	23.62
0–50	825	8069715	8065615	8065715	25.00	20.00	18.75
0–100	360	8069718	8065618	8065718	22.50	18.00	16.87
0–200	156	8069720	8065620	8065720	21.50	17.20	16.12
0–500	40	8069725	8065625	8065725	21.00	16.80	15.75
0–1000†	12.5	8069729	8065629	8065729	20.50	16.40	15.37
0–50‡	360	8069739	8065639	8065739	22.50	18.00	16.87
0–100‡	156	8069740	8065640	8065740	21.50	17.20	16.12
0–500‡	12.5	8069743	8065643	8065743	20.50	16.40	15.37

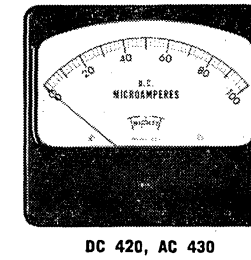


DC 220-G, 320-G, 420-G
AC 230-G, 330-G, 430-G
BEZEL MOUNTED

4.5" MODELS 420-G AND 420

Range	Resis., Ohms	420-G Number	420 Number	Net Each, Lots of 1-24	25-49	50 Up
0–50*	2300	1069815	1066215	$23.50	$18.80	$17.62
0–100*	825	1069818	1066218	22.00	17.60	16.50
0–200*	360	1069820	1066220	20.50	16.40	15.37
0–500*	156	1069825	1066225	19.50	15.60	14.62
0–5	15000	8069808	8066208	43.50	34.80	32.62
0–10	7500	8069810	8066210	37.50	30.00	28.12
0–20	2500	8069812	8066212	32.50	26.00	24.37
0–50	825	8069815	8066215	26.00	20.80	19.50
0–100	360	8069818	8066218	23.50	18.80	17.62
0–200	156	8069820	8066220	22.50	18.00	16.87
0–500	40	8069825	8066225	22.00	17.60	16.50
0–1000†	12.5	8069829	8066229	21.50	71.20	16.12
0–50‡	360	8069839	8066239	23.50	18.80	17.62
0–100‡	156	8069840	8066240	22.50	18.00	16.87
0–500‡	12.5	8069843	8066243	21.50	17.20	16.12

*Indicates pivot and jewel movement; all others suspension type.
†Scale: 0–1 mA. ‡Zero-center scale (50–0–50, etc.).
★Quantity prices available on request.

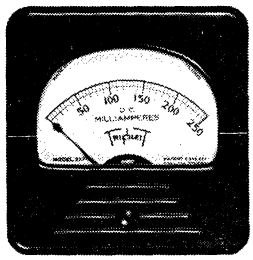


DC 420, AC 430

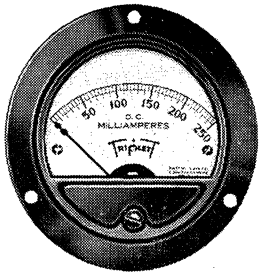
ALL PRICES ARE SUGGESTED U.S.A. USER NET, SUBJECT TO CHANGE, SPECIFICATIONS SUBJECT TO REVISION.

TRIPLETT ELECTRICAL INSTRUMENT COMPANY

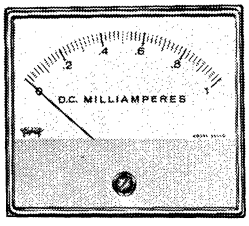
TRIPLETT INSTRUMENTS



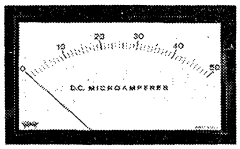
DC 227-T, 327-T
AC 237-S, 337-S



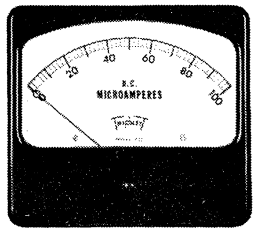
DC 221-T, 321-T
AC 231-S, 331-S



DC 220-G, 320-G, 420-G
AC 230-G, 330-G, 430-G



DC 220-G, 320-G, 420-G
AC 230-G, 330-G, 430-G
BEZEL MOUNTED



DC 420, AC 430

SELF-CONTAINED DC AMMETERS

For higher ranges, use external shunts (below).

2.5" MODELS 220-G, 221-T AND 227-T

Range	Scale Div.	220-G Number	221-T Number	227-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	50	1029602	1022502	1022802	$17.00	$13.60	$12.75
0–3	60*	1029606	1022506	1022806	17.00	13.60	12.75
0–5	50	1029608	1022508	1022808	17.00	13.60	12.75
0–10	50	1029610	1022510	1022810	17.00	13.60	12.75
0–15	75*	1029611	1022511	1022811	17.00	13.60	12.75
0–25	50	1029613	1022513	1022813	17.00	13.60	12.75
0–30	60*	1029614	1022514	1022814	17.00	13.60	12.75
0–50	50	1029615	1022515	1022815	17.00	13.60	12.75

*For 220-G only; scale division, 30 for 221-T and 227-T.

3.5" MODELS 320-G, 321-T AND 327-T

Range	Scale Div.	320-G Number	321-T Number	327-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	50	1029702	1025602	1025702	$18.00	$14.40	$13.50
0–3	60	1029706	1025606	1025706	18.00	14.40	13.50
0–5	50	1029708	1025608	1025708	18.00	14.40	13.50
0–10	50	1029710	1025610	1025710	18.00	14.40	13.50
0–15	75	1029711	1025611	1025711	18.00	14.40	13.50
0–25	50	1029713	1025613	1025713	18.00	14.40	13.50
0–30	60	1029714	1025614	1025714	18.00	14.40	13.50
0–50	50	1029715	1025615	1025715	18.00	14.40	13.50

4.5" MODELS 420-G AND 420

Range	Scale Div.	420-G Number	420 Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	50	1029802	1026202	$19.00	$15.20	$14.25
0–3	60	1029806	1026206	19.00	15.20	14.25
0–5	50	1029808	1026208	19.00	15.20	14.25
0–10	50	1029810	1026210	19.00	15.20	14.25
0–15	75	1029811	1026211	19.00	15.20	14.25
0–25	50	1029813	1026213	19.00	15.20	14.25
0–30	60	1029814	1026214	19.00	15.20	14.25
0–50	50	1029815	1026215	19.00	15.20	14.25

DC AMMETER SHUNTS

Number	Amps	mV	Net*	Number	Amps	mV	Net*
91A-599	0–1	50	$ 9.40	91A-608	0–500	50	$ 16.50
91A-600	0–2	50	9.40	91A-609	0–600	50	19.30
91A-601	0–5	50	9.40	91A-610	0–750	50	22.90
91A-602	0–10	50	9.40	91A-611	0–800	50	23.90
91A-603	0–20	50	9.40	91A-585	0–1000	50	41.60
91A-604	0–50	50	9.40	91A-586	0–1200	50	43.00
91A-605	0–100	50	9.40	91A-587	0–1500	50	50.20
91A-606	0–150	50	9.40	91A-588	0–2000	50	60.20
91A-607	0–200	50	9.40	91A-589	0–2500	50	77.90
91A-593	0–250	50	9.90	91A-590	0–3000	50	92.30
91A-594	0–300	50	10.90	91A-591	0–4000	50	152.20
91A-595	0–400	50	13.50	91A-592	0–5000	50	180.00

NULL METERS

Suspension-type, in G-Series case. Sensitivity at null point, 0.3 μA per degree. End scale value is 40–0–40 (±20%). Center spot mirrored to eliminate parallax. Resistance, 1700 ohms.

Triplett Number 8069752—Model 320-G, 3½". Net Ea. **$39.00***
Triplett Number 8069852—Model 420-G, 4½". Net Ea. **40.40***

DC VOLTMETERS

Film type resistors; 1000 ohms/volt.

2.5" MODELS 220-G, 221-T AND 227-T

Range	Scale Div.	220-G Number	221-T Number	227-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	50	1049602	1042502	1042802	$18.00	$14.40	$13.50
0–3	60†	1049606	1042506	1042806	18.00	14.40	13.50
0–5	50	1049608	1042508	1042808	18.00	14.40	13.50
0–10	50	1049610	1042510	1042810	18.00	14.40	13.50
0–15	75†	1049611	1042511	1042811	18.00	14.40	13.50
0–25	50	1049613	1042513	1042813	18.00	14.40	13.50
0–30	60†	1049614	1042514	1042814	18.00	14.40	13.50
0–50	50	1049615	1042515	1042815	18.00	14.40	13.50
0–100	50	1049618	1042518	1042818	18.00	14.40	13.50
0–150	75†	1049619	1042519	1042819	18.00	14.40	13.50
0–200	40	1049620	1042520	1042820	18.00	14.40	13.50
0–250	50	1049621	1042521	1042821	18.00	14.40	13.50
0–300	60†	1049622	1042522	1042822	18.00	14.40	13.50
0–500*	50	1049625	1042525	1042825	18.50	14.80	13.87
0–750*	75†	1049627	1042527	1042827	18.50	14.80	13.87
0–1000*	50	1049629	1042529	1042829	23 50	18.80	17.62
0–2000*	40	1049630	1042530	1042830	23.50	18.80	17.62
0–3000*	60†	1049631	1042531	1042831	23.50	18.80	17.62
0–5000*	50	1049633	1042533	1042833	23.50	18.80	17.62

3.5" MODELS 320-G, 321-T AND 327-T

Range	Scale Div.	320-G Number	321-T Number	327-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	50	1049702	1045602	1045702	$19.00	$15.20	$14.25
0–3	60	1049706	1045606	1045706	19.00	15.20	14.25
0–5	50	1049708	1045608	1045708	19.00	15.20	14.25
0–10	50	1049710	1045610	1045710	19.00	15.20	14.25
0–15	75	1049711	1045611	1045711	19.00	15.20	14.25
0–25	50	1049713	1045613	1045713	19.00	15.20	14.25
0–30	60	1049714	1045614	1045714	19.00	15.20	14.25
0–50	50	1049715	1045615	1045715	19.00	15.20	14.25
0–100	50	1049718	1045618	1045718	19.00	15.20	14.25
0–150	75	1049719	1045619	1045719	19.00	15.20	14.25
0–200	40	1049720	1045620	1045720	19.00	15.20	14.25
0–250	50	1049721	1045621	1045721	19.00	15.20	14.25
0–300	60	1049722	1045622	1045722	19.00	15.20	14.25
0–500	50	1049725	1045625	1045725	19.50	15.60	14.62
0–750*	75	1049727	1045627	1045727	19.50	15.60	14.62
0–1000*	50	1049729	1045629	1045729	24.50	19.60	18.37
0–2000*	40	1049730	1045630	1045730	24.50	19.60	18.37
0–3000*	60	1049731	1045631	1045731	24.50	19.60	18.37
0–5000*	50	1049733	1045633	1045733	24.50	19.60	18.37

4.5" MODELS 420-G AND 420

Range	Scale Div.	420-G Number	420 Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	50	1049802	1046202	$20.00	$16.00	$15.00
0–3	60	1049806	1046206	20.00	16.00	15.00
0–5	50	1049808	1046208	20.00	16.00	15.00
0–10	50	1049810	1046210	20.00	16.00	15.00
0–15	75	1049811	1046211	20.00	16.00	15.00
0–25	50	1049813	1046213	20.00	16.00	15.00
0–30	60	1049814	1046214	20.00	16.00	15.00
0–50	50	1049815	1046215	20.00	16.00	15.00
0–100	50	1049818	1046218	20.00	16.00	15.00
0–150	75	1049819	1046219	20.00	16.00	15.00
0–200	40	1049820	1046220	20.00	16.00	15.00
0–250	50	1049821	1046221	20.00	16.00	15.00
0–300	60	1049822	1046222	20.00	16.00	15.00
0–500	50	1049825	1046225	20.50	16.40	15.37
0–750	75	1049827	1046227	20.50	16.40	15.37
0–1000*	50	1049829	1046229	25.50	20.40	19.12
0–2000*	40	1049830	1046230	25.50	20.40	19.12
0–3000*	60	1049831	1046231	25.50	20.40	19.12
0–5000*	50	1049833	1046233	25.50	20.40	19.12

*2000 ohms/volt; external resistor board supplied. †Scale division for 220-G only; 30 divisions for 221-T and 227-T.

DC MILLIVOLTMETERS

2.5" MODELS 220-G, 221-T AND 227-T

Range	Resis., Ohms	220-G Number	221-T Number	227-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–50	6.7	1039615	1032515	1032815	$17.00	$13.60	$12.75
0–100	13.5	1039618	1032518	1032818	17.00	13.60	12.75
0–150	20.2	1039619	1032519	1032819	17.00	13.60	12.75

3.5" MODELS 320-G, 321-T AND 327-T

Range	Resis., Ohms	320-G Number	321-T Number	327-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–50	6.7	1039715	1035615	1035715	$18.00	$14.40	$13.50
0–100	13.5	1039718	1035618	1035718	18.00	14.40	13.50
0–150	20.2	1039719	1035619	1035719	18.00	14.40	13.50

4.5" MODELS 420-G AND 420

Range	Resis., Ohms	420-G Number	420 Number	Net Each, Lots of 1-24	25-49	50 Up
0–50	6.7	1039815	1036215	$19.00	$15.20	$14.25
0–100	13.5	1039818	1036218	19.00	15.20	14.25
0–150	20.2	1039819	1036219	19.00	15.20	14.25

DC MILLIAMMETERS

Ranges above 10 mA are shunted and have a drop of approximately 100 mV. Special resistances to order.

2.5" MODELS 220-G, 221-T AND 227-T

Range	Resis., Ohms	220-G Number	221-T Number	227-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	55	1019602	1012502	1012802	$16.50	$13.20	$12.37
0–1.5	30	1019603	1012503	1012803	16.50	13.20	12.37
0–3	14	1019606	1012506	1012806	16.50	13.20	12.37
0–5	8.5	1019608	1012508	1012808	16.50	13.20	12.37
0–10	3.1	1019610	1012510	1012810	16.50	13.20	12.37
0–15	3.3	1019611	1012511	1012811	16.50	13.20	12.37
0–25	2.0	1019613	1012513	1012813	16.50	13.20	12.37
0–50	1.0	1019615	1012515	1012815	16.50	13.20	12.37
0–75	0.67	1019616	1012516	1012816	16.50	13.20	12.37
0–100	0.5	1019618	1012518	1012818	16.50	13.20	12.37
0–150	0.33	1019619	1012519	1012819	16.50	13.20	12.37
0–200	0.25	1019620	1012520	1012820	16.50	13.20	12.37
0–250	0.2	1019621	1012521	1012821	16.50	13.20	12.37
0–300	0.17	1019622	1012522	1012822	16.50	13.20	12.37
0–400	0.12	1019623	1012523	1012823	16.50	13.20	12.37
0–500	0.1	1019625	1012525	1012825	16.50	13.20	12.37
0–750	0.07	1019627	1012527	1012827	16.50	13.20	12.37
0–1000	0.05	1019629	1012529	1012829	16.50	13.20	12.37

3.5" MODELS 320-G, 321-T AND 327-T

Range	Resis., Ohms	320-G Number	321-T Number	327-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	55	1019702	1015602	1015702	$17.50	$14.00	$13.12
0–1.5	30	1019703	1015603	1015703	17.50	14.00	13.12
0–3	14	1019706	1015606	1015706	17.50	14.00	13.12
0–5	8.5	1019708	1015608	1015708	17.50	14.00	13.12
0–10	3.1	1019710	1015610	1015710	17.50	14.00	13.12
0–15	3.3	1019711	1015611	1015711	17.50	14.00	13.12
0–25	2.0	1019713	1015613	1015713	17.50	14.00	13.12
0–50	1.0	1019715	1015615	1015715	17.50	14.00	13.12
0–75	0.67	1019716	1015616	1015716	17.50	14.00	13.12
0–100	0.5	1019718	1015618	1015718	17.50	14.00	13.12
0–150	0.33	1019719	1015619	1015719	17.50	14.00	13.12
0–200	0.25	1019720	1015620	1015720	17.50	14.00	13.12
0–250	0.2	1019721	1015621	1015721	17.50	14.00	13.12
0–300	0.17	1019722	1015622	1015722	17.50	14.00	13.12
0–400	0.12	1019723	1015623	1015723	17.50	14.00	13.12
0–500	0.1	1019725	1015625	1015725	17.50	14.00	13.12
0–750	0.07	1019727	1015627	1015727	17.50	14.00	13.12
0–1000	0.05	1019729	1015629	1015729	17.50	14.00	13.12

4.5" MODELS 420-G AND 420

Range	Resis., Ohms	420-G Number	420 Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	55	1019802	1016202	$18.50	$14.80	$13.87
0–1.5	30	1019803	1016203	18.50	14.80	13.87
0–3	14	1019806	1016206	18.50	14.80	13.87
0–5	8.5	1019808	1016208	18.50	14.80	13.87
0–10	3.1	1019810	1016210	18.50	14.80	13.87
0–15	3.3	1019811	1016211	18.50	14.80	13.87
0–25	2.0	1019813	1016213	18.50	14.80	13.87
0–50	1.0	1019815	1016215	18.50	14.80	13.87
0–75	0.67	1019816	1016216	18.50	14.80	13.87
0–100	0.5	1019818	1016218	18.50	14.80	13.87
0–150	0.33	1019819	1016219	18.50	14.80	13.87
0–200	0.25	1019820	1016220	18.50	14.80	13.87
0–250	0.2	1019821	1016221	18.50	14.80	13.87
0–300	0.17	1019822	1016222	18.50	14.80	13.87
0–400	0.12	1019823	1016223	18.50	14.80	13.87
0–500	0.1	1019825	1016225	18.50	14.80	13.87
0–750	0.07	1019827	1016227	18.50	14.80	13.87
0–1000	0.05	1019829	1016229	18.50	14.80	13.87

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TRIPLETT INSTRUMENTS

SELF-CONTAINED AC AMMETERS

For use on frequencies from 25 to 500 Hz. For ranges above 50, use Do-Nut current transformers (First page.)

2.5" MODELS 230-G, 231-S AND 237-S

Range	Resis., Ohms	230-G Number	231-S Number	237-S Number	Net Each, Lots of 1-24	25-49	50 Up
0-1	.38	1109602	1102502	1102802	$16.00	$12.80	$12.00
0-2	.092	1109604	1102504	1102804	16.00	12.80	12.00
0-3	.039	1109606	1102506	1102806	16.00	12.80	12.00
0-5	.014	1109608	1102508	1102808	16.00	12.80	12.00
0-10	.004	1109610	1102510	1102810	16.00	12.80	12.00
0-15	.003	1109611	1102511	1102811	16.00	12.80	12.00
0-25	.002	1109613	1102513	1102813	16.00	12.80	12.00
0-30	.001	1109614	1102514	1102814	16.00	12.80	12.00
0-50	.00035	1109615	1102515	1102815	16.00	12.80	12.00

3.5" MODELS 330-G, 331-S AND 337-S

Range	Resis., Ohms	330-G Number	331-S Number	337-S Number	Net Each, Lots of 1-24	25-49	50 Up
0-1	.38	1109702	1105602	1105702	$17.00	$13.60	$12.75
0-2	.092	1109704	1105604	1105704	17.00	13.60	12.75
0-3	.039	1109706	1105606	1105706	17.00	13.60	12.75
0-5	.014	1109708	1105608	1105708	17.00	13.60	12.75
0-10	.004	1109710	1105610	1105710	17.00	13.60	12.75
0-15	.003	1109711	1105611	1105711	17.00	13.60	12.75
0-25	.002	1109713	1105613	1105713	17.00	13.60	12.75
0-30	.001	1109714	1105614	1105714	17.00	13.60	12.75
0-50	.00035	1109715	1105615	1105715	17.00	13.60	12.75
0-75	.0002	1109716	1105616	1105716	17.00	13.60	12.75

4.5" MODELS 430-G AND 430

Range	Resis., Ohms	430-G Number	430 Number	Net Each, Lots of 1-24	25-49	50 Up
0-1	.38	1109802	1106202	$18.00	$14.40	$13.50
0-2	.092	1109804	1106204	18.00	14.40	13.50
0-3	.039	1109806	1106206	18.00	14.40	13.50
0-5	.014	1109808	1106208	18.00	14.40	13.50
0-10	.004	1109810	1106210	18.00	14.40	13.50
0-15	.003	1109811	1106211	18.00	14.40	13.50
0-25	.002	1109813	1106213	18.00	14.40	13.50
0-30	.001	1109814	1106214	18.00	14.40	13.50
0-50	.00035	1109815	1106215	18.00	14.40	13.50
0-75	.0002	1109816	1106216	18.00	14.40	13.50

AC MILLIAMMETERS

For use on frequencies from 25 to 500 Hz.

2.5" MODELS 230-G, 231-S AND 237-S

Range	Resis., Ohms	230-G Number	231-S Number	237-S Number	Net Each, Lots of 1-24	25-49	50 Up
0-10	4000	1129610	1122510	1122810	$16.00	$12.80	$12.00
0-15	1600	1129611	1122511	1122811	16.00	12.80	12.00
0-25	470	1129613	1122513	1122813	16.00	12.80	12.00
0-50	120	1129615	1122515	1122815	16.00	12.80	12.00
0-100	40	1129618	1122518	1122818	16.00	12.80	12.00
0-200	9.5	1129620	1122520	1122820	16.00	12.80	12.00
0-250	5.9	1129621	1122521	1122821	16.00	12.80	12.00
0-500	1.55	1129625	1122525	1122825	16.00	12.80	12.00

3.5" MODELS 330-G, 331-S AND 337-S

Range	Resis., Ohms	330-G Number	331-S Number	337-S Number	Net Each, Lots of 1-24	25-49	50 Up
0-10	4000	1129710	1125610	1125710	$17.00	$13.60	$12.75
0-15	1600	1129711	1125611	1125711	17.00	13.60	12.75
0-25	470	1129713	1125613	1125713	17.00	13.60	12.75
0-50	120	1129715	1125615	1125715	17.00	13.60	12.75
0-100	40	1129718	1125618	1125718	17.00	13.60	12.75
0-200	9.5	1129720	1125620	1125720	17.00	13.60	12.75
0-250	5.9	1129721	1125621	1125721	17.00	13.60	12.75
0-500	1.55	1129725	1125625	1125725	17.00	13.60	12.75

4.5" MODELS 430-G AND 430

Range	Resis., Ohms	430-G Number	430 Number	Net Each, Lots of 1-24	25-49	50 Up
0-10	4000	1129810	1126210	$18.00	$14.40	$13.50
0-15	1600	1129811	1126211	18.00	14.40	13.50
0-25	470	1129813	1126213	18.00	14.40	13.50
0-50	120	1129815	1126215	18.00	14.40	13.50
0-100	40	1129818	1126218	18.00	14.40	13.50
0-200	9.5	1129820	1126220	18.00	14.40	13.50
0-250	5.9	1129821	1126221	18.00	14.40	13.50
0-500	1.55	1129825	1126225	18.00	14.40	13.50

AC VOLTMETERS (RECTIFIER TYPE)

3.5" MODELS 350-G, 351-T AND 357-T

Range	Ohms/ Volt	350-G Number	351-T Number	357-T Number	Net Each, Lots of 1-24	25-49	50 Up
0-1	2000	1179702	1175602	1175702	$27.00	$21.60	$20.25
0-3	2000	1179706	1175606	1175706	27.00	21.60	20.25
0-5	1000	1179708	1175608	1175708	25.00	20.00	18.75
0-10	1000	1179710	1175610	1175710	25.00	20.00	18.75
0-15	1000	1179711	1175611	1175711	25.00	20.00	18.75
0-50	1000	1179715	1175615	1175715	25.00	20.00	18.75
0-100	1000	1179718	1175618	1175718	25.00	20.00	18.75
0-150	1000	1179719	1175619	1175719	25.00	20.00	18.75
0-300	1000	1179722	1175622	1175722	25.00	20.00	18.75

4.5" MODELS 450-G AND 450

Range	Ohms/ Volt	450-G Number	450 Number	Net Each, Lots of 1-24	25-49	50 Up
0-1	2000	1179802	1176202	$28.00	$22.40	$21.00
0-3	2000	1179806	1176206	28.00	22.40	21.00
0-5	1000	1179808	1176208	26.00	20.80	19.50
0-10	1000	1179810	1176210	26.00	20.80	19.50
0-15	1000	1179811	1176211	26.00	20.80	19.50
0-50	1000	1179815	1176215	26.00	20.80	19.50
0-100	1000	1179818	1176218	26.00	20.80	19.50
0-150	1000	1179819	1176219	26.00	20.80	19.50
0-300	1000	1179822	1176222	26.00	20.80	19.50

AC VOLTMETERS

Self-contained. For use on frequencies from 25 to 133 Hz.

2.5" MODELS 230-G, 231-S AND 237-S

Range	Ohms/ Volt	230-G Number	231-S Number	237-S Number	Net Each, Lots of 1-24	25-49	50 Up
0-1.5	1.33	1119603	1112503	1112803	$16.00	$12.80	$12.00
0-3	3.33	1119606	1112506	1112806	16.00	12.80	12.00
0-5	4	1119608	1112508	1112808	16.00	12.80	12.00
0-10	10	1119610	1112510	1112810	16.00	12.80	12.00
0-15	16	1119611	1112511	1112811	16.00	12.80	12.00
0-25	20	1119613	1112513	1112813	16.00	12.80	12.00
0-50	50	1119615	1112515	1112815	16.00	12.80	12.00
0-100	91	1119618	1112518	1112818	16.00	12.80	12.00
0-150	125	1119619	1112519	1112819	17.00	13.60	12.75
0-250	144	1119621	1112521	1112821	17.00	13.60	12.75
0-300	144	1119622	1112522	1112822	17.00	13.60	12.75
0-500	125*	1119625	1112525	1112825	22.50	18.00	16.87

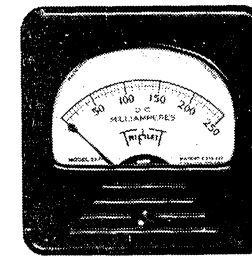
3.5" MODELS 330-G, 331-S AND 337-S

Range	Ohms/ Volt	330-G Number	331-S Number	337-S Number	Net Each, Lots of 1-24	25-49	50 Up
0-1.5	1.33	1119703	1115603	1115703	$17.00	$13.60	$12.75
0-3	3.33	1119706	1115606	1115706	17.00	13.60	12.75
0-5	4	1119708	1115608	1115708	17.00	13.60	12.75
0-10	10	1119710	1115610	1115710	17.00	13.60	12.75
0-15	16	1119711	1115611	1115711	17.00	13.60	12.75
0-25	20	1119713	1115613	1115713	17.00	13.60	12.75
0-50	50	1119715	1115615	1115715	17.00	13.60	12.75
0-100	91	1119718	1115618	1115718	17.00	13.60	12.75
0-150	125	1119719	1115619	1115719	18.00	14.40	13.50
0-250	144	1119721	1115621	1115721	18.00	14.40	13.50
0-300	144	1119722	1115622	1115722	18.00	14.40	13.50
0-500	125*	1119725	1115625	1115725	23.50	18.80	17.62

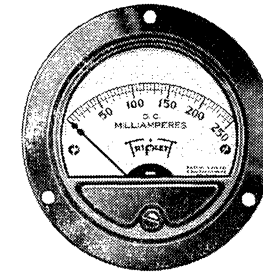
4.5" MODELS 430-G AND 430

Range	Ohms/ Volt	430-G Number	430 Number	Net Each, Lots of 1-24	25-49	50 Up
0-1.5	1.33	1119803	1116203	$18.00	$14.40	$13.50
0-3	3.33	1119806	1116206	18.00	14.40	13.50
0-5	4	1119808	1116208	18.00	14.40	13.50
0-10	10	1119810	1116210	18.00	14.40	13.50
0-15	16	1119811	1116211	18.00	14.40	13.50
0-25	20	1119813	1116213	18.00	14.40	13.50
0-50	50	1119815	1116215	18.00	14.40	13.50
0-100	91	1119818	1116218	18.00	14.40	13.50
0-150	125	1119819	1116219	19.00	15.20	14.25
0-250	144	1119821	1116221	19.00	15.20	14.25
0-300	144	1119822	1116222	19.00	15.20	14.25
0-500	125*	1119825	1116225	24.50	19.60	18.37

*Supplied with external resistor board.



DC 227-T, 327-T
AC 237-S, 337-S

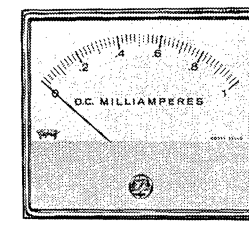


D.C. 221-T, 321-T
A.C. 231-S, 331-S

VU METERS

For measuring sound or noise levels. Essentially a low range rectifier type voltmeter with D'Arsonval element. Internal impedance, 3900 ohms. Steady state reference, 1 mW. For 600 ohm line. Available with "A" (−20+3 VU top arc, 0-100%) or "B" (−20+3 VU bottom arc, 0-100%) scale.

Triplett Number	Model	Size	Scale Type	Net Each, Lots of 1-24	25-49	50 Up
1099746	350-G	3½"	A standard	$30.00	$24.00	$22.50
1099748	350-G	3½"	B standard	30.00	24.00	22.50
1095646	351-T	3½"	A standard	30.00	24.00	22.50
1095647	351-T	3½"	A illuminated	32.50	26.00	24.37
1095648	351-T	3½"	B standard	30.00	24.00	22.50
1095649	351-T	3½"	B illuminated	32.50	26.00	24.37
1095746	357-T	3½"	A standard	30.00	24.00	22.50
1095747	357-T	3½"	A illuminated	32.50	26.00	24.37
1095748	357-T	3½"	B standard	30.00	24.00	22.50
1095749	357-T	3½"	B illuminated	32.50	26.00	24.37
1099846	450-G	4½"	A standard	31.00	24.80	23.25
1099848	450-G	4½"	B standard	31.00	24.80	23.25
1096246	450	4½"	A standard	31.00	24.80	23.25
1096247	450	4½"	A illuminated	33.50	26.80	25.12
1096248	450	4½"	B standard	31.00	24.80	23.25
1096249	450	4½"	B illuminated	33.50	26.80	25.12

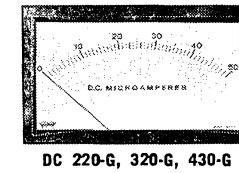


DC 220-G, 320-G, 420-G
AC 230-G, 330-G, 430-G

dB METERS

Power level indicators. Standard range reads up 6, down 10 dB. Zero dB = 1.73 V. Reference level, 6 mW. Internal resistance, 5000 ohms; 2,500 ohms on special order. For 500-ohm line. Standard damping; special high or low damping on special order, at extra cost.

Triplett Number	Model	Size	Type	Net Each, Lots of 1-24	25-49	50 Up
1089750	350-G	3½"	Standard	$26.00	$20.80	$19.50
1089751	350-G	3½"	Illuminated	28.50	22.80	21.37
1085650	351-T	3½"	Standard	26.00	20.80	19.50
1085651	351-T	3½"	Illuminated	28.50	22.80	21.37
1085750	351-T	3½"	Standard	26.00	20.80	19.50
1085751	357-T	3½"	Illuminated	28.50	22.80	21.37
1089850	450-G	4½"	Standard	27.00	21.60	20.25
1086250	450	4½"	Standard	27.00	21.60	20.25
1086251	450	4½"	Illuminated	29.50	23.60	22.12



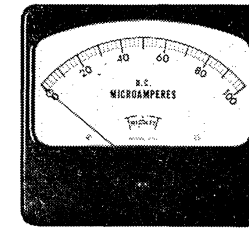
DC 220-G, 320-G, 430-G
AC 230, 330-G, 430-G
BEZEL MOUNTED

SINGLE-PHASE WATTMETERS

Electrodynamometer type; 3½" size, in choice of three styles.

Range, Watts	Normal V	Normal A	361 Number	367-A Number	Net Ea. 1-24*	360-G1 Number	Net 1-24*
0-75	150	0.5	1185601	1185701	$33.60	1189701	$37.30
0-150	150	1	1185602	1185702	33.60	1189702	37.30
0-300	150	2	1185603	1185703	33.60	1189703	37.30
0-750	150	5	1185604	1185704	33.60	1189704	37.30
0-1500	150	10	1185605	1185705	33.60	1189705	37.30
0-150	300	0.5	1185606	1185706	37.10	1189706	40.90
0-300	300	1	1185607	1185707	37.10	1189707	40.90
0-600	300	2	1185608	1185708	37.10	1189708	40.90
0-1500	300	5	1185609	1185709	37.10	1189709	40.90
0-3000	300	10	1185610	1185710	37.10	1189710	40.90
0-75–150	*	0.5	1185611	1185711	44.70	1189711	48.50
0-150–300	*	1	1185612	1185712	44.70	1189712	48.50
0-300–600	*	2	1185613	1185713	44.70	1189713	48.50
0-750–1500	*	5	1185614	1185714	44.70	1189714	48.50
0-1500–3000	*	10	1185615	1185715	49.10	1189715	52.90

*150/300 volts. ***Quantity prices available on request.**



DC 420, AC 430

ALL PRICES ARE SUGGESTED U.S.A. USER NET, SUBJECT TO CHANGE, SPECIFICATIONS SUBJECT TO REVISION.

TRIPLETT ELECTRICAL INSTRUMENT COMPANY

TRIPLETT INSTRUMENTS

RF THERMOAMMETERS

2.5" MODELS 240-G, 241-T AND 247-T

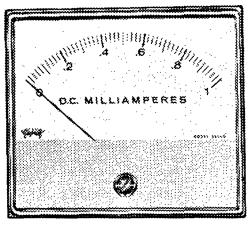
Range	Resis., Ohms	240-G Number	241-T Number	247-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–0.5	.93	1079601	1072501	1072801	$20.50	$16.40	$15.37
0–1	.35	1079602	1072502	1072802	20.50	16.40	15.37
0–1.5	.21	1079603	1072503	1072803	20.50	16.40	15.37
0–2.5	.13	1079605	1072505	1072805	20.50	16.40	15.37
0–5	.06	1079608	1072508	1072808	20.50	16.40	15.37
0–10	.03	1079610	1072510	1072810	20.50	16.40	15.37

3.5" MODELS 340-G, 341-T AND 347-T

Range	Resis., Ohms	340-G Number	341-T Number	347-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–0.5	.93	1079701	1075601	1075701	$21.50	$17.20	$16.12
0–1	.35	1079702	1075602	1075702	21.50	17.20	16.12
0–1.5	.21	1079703	1075603	1075703	21.50	17.20	16.12
0–2.5	.13	1079705	1075605	1075705	21.50	17.20	16.12
0–5	.06	1079708	1075608	1075708	21.50	17.20	16.12
0–10	.03	1079710	1075610	1075710	21.50	17.20	16.12

4.5" MODELS 440-G AND 440

Range	Resis., Ohms	440-G Number	440 Number	Net Each, Lots of 1-24	25-49	50 Up
0–0.5	.93	1079801	1076201	$22.50	$18.00	$16.87
0–1	.35	1079802	1076202	22.50	18.00	16.87
0–1.5	.21	1079803	1076203	22.50	18.00	16.87
0–2.5	.13	1079805	1076205	22.50	18.00	16.87
0–5	.06	1079808	1076208	22.50	18.00	16.87
0–10	.03	1079810	1076210	22.50	18.00	16.87

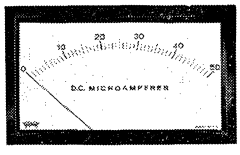


RF 240-G, 340-G, 440-G
DC 520-G, AC 530-G

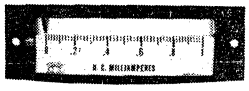
EDGEWISE 3½" AND 4½" METERS

Two popular sizes, designed for strikingly clean appearance. Occupy minimum panel space, with the performance of conventional meters. Bar-Ring movement permits meter stacking for maximum instrumentation in minimum space. Anti-parallax pointer minimizes reading error. **Scale Length:** 3½" models, 2.75"; 4½" models, 3.87". **Panel Hole Required:** 3½" models, 3.421" x 1.281"; 4½" models, 4.25" x 1.5". **Depth Behind Panel:** 3½" models, 2.583"; 4½" models, 3.53".
To Order: Specify both Model and Triplett Part Number from tables below. Example: Model 320-E, Number 1013502, is a 3½" DC milliammeter, range 0–1 mA.

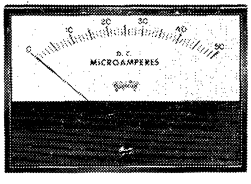
Mounting Bezels for Edgewise Meters: For behind-panel mtg.
Triplett Number 11977A—For 3½" meter. Net Each....**$1.60**
Triplett Number 11967A—For 4½" meter. Net Each.... **1.60**



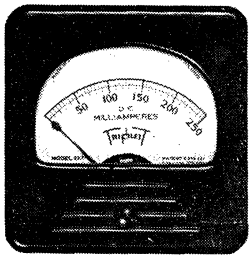
RF 240-G, 340-G, 440-G
DC 520-G, AC 530-G
BEZEL MOUNTED



DC 320-E, 420-E
AC 330-E, 430-E



DC 320-R, 420-R
AC 330-R, 430-R



RF 247-T, 347-T

DC MILLIAMMETERS

Range	Resis., Ohms	3½" Edgewise Model 320-E Number	3½" Edgewise Model 320-E Net	4½" Edgewise Model 420-E Number	4½" Edgewise Model 420-E Net
0–1	55	1013502	$27.00	1017002	$28.00
0–5	8.5	1013508	27.00	1017008	28.00
0–10	3.1	1013510	27.00	1017010	28.00
0–50	1.0	1013515	27.00	1017015	28.00
0–100	.5	1013518	27.00	1017018	28.00
0–200	.25	1013520	27.00	1017020	28.00
0–300	.17	1013522	27.00	1017022	28.00
0–500	.1	1013525	27.00	1017025	28.00

DC MILLIVOLTMETERS

0–50	6.7	1033515	$27.50	1037015	$28.50

DC MICROAMMETERS (PIVOT AND JEWEL)

0–50	2000	1063515	$32.00	1067015	$33.00
0–100	825	1063518	30.50	1067018	31.50
0–200	360	1063520	29.00	1067020	30.00
0–500	156	1063525	28.00	1067025	29.00

DC MICROAMMETERS (SUSPENSION TYPE)

Range	3½" Model 320-E Resis., Ohms	3½" Model 320-E Triplett Number	3½" Model 320-E Net Each	4½" Model 420-E Resis., Ohms	4½" Model 420-E Triplett Number	4½" Model 420-E Net Each
0–10	7500	8063510	$46.00	15000	8067010	$47.00
0–20	2500	8063512	41.00	7500	8067012	42.00
0–50	825	8063515	34.50	2300	8067015	35.50
0–100	360	8063518	32.00	825	8067018	33.00
0–200	156	8063520	31.00	360	8067020	32.00
0–500	40	8063525	30.50	156	8067025	31.50

DC AMMETERS (50 MILLIVOLT)

Range	Scale Div.	3½" Edgewise Model 320-E Number	3½" Edgewise Model 320-E Net	4½" Edgewise Model 420-E Number	4½" Edgewise Model 420-E Net
0–1	50	1023502	$27.50	1027002	$28.50
0–5	50	1023508	27.50	1027008	28.50
0–10	50	1023510	27.50	1027010	28.50
0–25	50	1023513	27.50	1027013	28.50
0–50	50	1023515	27.50	1027015	28.50

DC VOLTMETERS (1000 OHMS/VOLT)

0–5	50	1043508	$28.50	1047008	$29.50
0–10	50	1043510	28.50	1047010	29.50
0–25	50	1043513	28.50	1047013	29.50
0–50	50	1043515	28.50	1047015	29.50
0–150	75	1043519	28.50	1047019	29.50
0–300	60	1043522	28.50	1047022	29.50
0–500	50	1043525	28.50	1047025	29.50

AC EDGEWISE METERS

Range	Resis., Ohms /Volt	3½" Edgewise Model 330-E Number	3½" Edgewise Model 330-E Net	4½" Edgewise Model 430-E Number	4½" Edgewise Model 430-E Net
0–1 amps	.38	1103502	$26.50	1107002	$27.50
0–10 mA	4000	1123510	26.50	1127010	27.50
0–150 V	125	1113519	27.50	1117019	28.50

R-SERIES 3½"-4½" AND G-SERIES 5½" METERS

R-Series (Fig. A): Distinctive modern design in transparent and black molded plastic. Provides dominant scale in limited panel space. Self-shielded for accuracy and reliability. DC meters have Bar-Ring movement for high torque, fast response. Fluted shroud, shatterproof window, screw-fastened front.
G-Series (Fig. B): 5½" meter with modern design for greater flexibility and interchangeability. DC meters have self-shielded Bar-Ring magnet and one-piece diecast frame.
To Order: Specify both Model and Triplett Number. Example: Model 320-R, No. 1015102, a 3½" R-Series 0–1 DC milliammeter.

Model	Meter Type	Nom. Size	Fig.	Scale Lgth.	Flange Size, In., W. x H.	Body Size, In. Dia. x Depth
320-R	DC	3½"	A	2.96"	3.954 x 2.673	2.156 x 1.311
420-R	DC	4½"	A	3.456"	4.500 x 2.970	2.203 x 1.311
520-G	DC	5½"	B	5.00"	5.611 x 4.484	2.750 x 1.390
330-R	AC	3½"	A	2.5"	3.954 x 2.673	2.156 x 1.311
430-R	AC	4½"	A	2.874"	4.500 x 2.970	2.203 x 1.311
530-G	AC	5½"	B	4.25"	5.611 x 4.484	2.750 x 1.390

G-Series Half Bezel: For behind-panel mtg. in panels to ⅛". Size, 6.060" x 3.300". For panel hole, 5.875" x 3.156".
Triplett Number 13A-240—Net Each.....**$2.10**

DC MILLIAMMETERS

Range	Resis., Ohms	3½" R-Series Model 320-R Number	3½" R-Series Model 320-R Net	4½" R-Series Model 420-R Number	4½" R-Series Model 420-R Net	5½" G-Series Model 520-G Number	5½" G-Series Model 520-G Net
0–1	55	1015102	$17.50	1017802	$18.50	1019902	$25.00
0–5	8.5	1015108	17.50	1017808	18.50	1019908	25.00
0–10	3.1	1015110	17.50	1017810	18.50	1019910	25.00
0–50	1.0	1015115	17.50	1017815	18.50	1019915	25.00
0–100	.5	1015118	17.50	1017818	18.50	1019918	25.00
0–200	.25	1015120	17.50	1017820	18.50	1019920	25.00
0–300	.17	1015122	17.50	1017822	18.50	1019922	25.00
0–500	.1	1015125	17.50	1017825	18.50	1019925	25.00

DC MICROAMMETERS (PIVOT AND JEWEL)

0–50	2000	1065115	$22.50	1067815	$23.50	1069915	$30.00
0–100	825	1065118	21.00	1067818	22.00	1069918	28.50
0–200	360	1065120	19.50	1067820	20.50	1069920	27.00
0–500	156	1065125	18.50	1067825	19.50	1069925	26.00

DC MICROAMMETERS (SUSPENSION TYPE)

0–5	15000	8065108	$42.50	8067808	$43.50		
0–10	7500	8065110	36.50	8067810	37.50	8069912	$44.00
0–20	2500	8065112	31.50	8067812	32.50	8069912	39.00
0–50	825	8065115	25.00	8067815	26.00	8069915	32.50
0–100	360	8065118	22.50	8067818	23.50	8069918	30.00
0–200	156	8065120	21.50	8067820	22.50	8069920	29.00
0–500	40	8065125	21.00	8067825	22.00	8069925	28.50

DC MILLIVOLTMETERS

0–50	6.7	1035115	$18.00	1037815	$19.00	1039915	$25.50

DC AMMETERS (50 MILLIVOLT)

Range	Scale Div.	3½" R-Series Model 320-R Number	3½" R-Series Model 320-R Net	4½" R-Series Model 420-R Number	4½" R-Series Model 420-R Net	5½" G-Series Model 520-G Number	5½" G-Series Model 520-G Net
0–1	50	1025102	$18.00	1027802	$19.00	1029902	$25.50
0–5	50	1025108	18.00	1027808	19.00	1029908	25.50
0–10	50	1025110	18.00	1027810	19.00	1029910	25.50
0–25	50	1025113	18.00	1027813	19.00	1029913	25.50
0–50	50	1025115	18.00	1027815	19.00	1029915	25.50

DC VOLTMETERS (1000 OHMS/VOLT)

0–5	50	1045108	$19.00	1047808	$20.00	1049908	$26.50
0–10	50	1045110	19.00	1047810	20.00	1049910	26.50
0–25	50	1045113	19.00	1047813	20.00	1049913	26.50
0–50	50	1045115	19.00	1047815	20.00	1049915	26.50
0–150	75	1045119	19.00	1047819	20.00	1049919	26.50
0–300	60	1045122	19.00	1047822	20.00	1049922	26.50
0–500	50	1045125	19.00	1047825	20.00	1049925	26.50

AC AMMETERS

Range	Resis., Ohms	3½" R-Series Model 330-R Number	3½" R-Series Model 330-R Net	4½" R-Series Model 430-R Number	4½" R-Series Model 430-R Net	5½" G-Series Model 530-G Number	5½" G-Series Model 530-G Net
0–1	.38	1105102	$17.00	1107802	$18.00	1109902	$24.50
0–5	.014	1105108	17.00	1107808	18.00	1109908	24.50
0–10	.004	1105110	17.00	1107810	18.00	1109910	24.50
0–15	.003	1105111	17.00	1107811	18.00	1109911	24.50
0–25	.002	1105113	17.00	1107813	18.00	1109913	24.50
0–30	.001	1105114	17.00	1107814	18.00	1109914	24.50
0–50	.00035	1105115	17.00	1107815	18.00	1109915	24.50

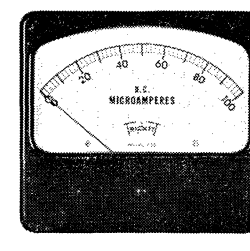
AC MILLIAMMETERS

0–10	4000	1125110	$17.00	1127810	$18.00	1129910	$24.50
0–100	40	1125118	17.00	1127818	18.00	1129918	24.50
0–500	1.55	1125125	17.00	1127825	18.00	1129925	24.50

AC VOLTMETERS

Range	Ohms/ Volt	3½" R-Series Model 330-R Number	3½" R-Series Model 330-R Net	4½" R-Series Model 430-R Number	4½" R-Series Model 430-R Net	5½" G-Series Model 530-G Number	5½" G-Series Model 530-G Net
0–10	10	1115110	$17.00	1117810	$18.00	1119910	$24.50
0–50	50	1115115	17.00	1117815	18.00	1119915	24.50
0–150	125	1115119	18.00	1117819	19.00	1119919	25.50
0–300	144	1115122	18.00	1117822	19.00	1119922	25.50
0–500	125*	1115125	18.00	1117825	19.00	1119925	25.50

*External resistor board supplied.



RF 440

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TRIPLETT ELECTRICAL INSTRUMENT COMPANY

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TRIPLETT INSTRUMENTS

6½", 7½" AND 8½" PANEL METERS

Models 626 and 636: Functional phenolic meter design, for switchboard instrumentation. Long scale length, large glass area. Scale Length: 626, 5.6"; 636, 5.1". Flange: 6.000" w. x 5.375" h. Body, 3.125" dia. x 1.031" deep.
Models 726 and 736: Similar to above, but 7½" size. Scale Length: 726, 6.11"; 736, 5.47". Flange, 7.531" w. x 6.906" h. Body, 3.500" dia. x 1.062" deep (736, 1.125" deep).
Model 820-M 8½": Scale Length: 7.00". Flange, 7.64" w. x 6.4" h. Body, 3.27" x 2.718" x 1.18" deep.
To Order: Specify both Model and Triplett Part Number.

DC MILLIAMMETERS

Range	Resis., Ohms	6½" Model 626 Number	Net	7½" Model 726 Number	Net	8½" Model 820-M Number	Net
0–1	55	1018602	$25.00	1018902	$27.00	1019402	$30.00
0–5	8.5	1018608	25.00	1018908	27.00	1019408	30.00
0–10	3.1	1018610	25.00	1018910	27.00	1019410	30.00
0–50	1.0	1018615	25.00	1018915	27.00	1019415	30.00
0–100	0.5	1018618	25.00	1018918	27.00	1019418	30.00
0–200	0.25	1018620	25.00	1018920	27.00	1019420	30.00
0–300	0.17	1018622	25.00	1018922	27.00	1019422	30.00
0–500	0.1	1018625	25.00	1018925	27.00	1019425	30.00

DC MICROAMMETERS

0–50*	2300	1068615	$30.00	1068915	$32.00	1069415	$35.00
0–100*	825	1068618	28.50	1068918	30.50	1069418	33.50
0–200*	360	1068620	27.00	1068920	29.00	1069420	32.00
0–500*	156	1068625	26.00	1068925	28.00	1069425	31.00
0–10	15000	8068610	44.00	8068910	46.00	8069410	49.00
0–20	7500	8068612	39.00	8068912	41.00	8069412	44.00
0–50	2300	8068615	32.50	8068915	34.50	8069415	37.50
0–100	825	8068618	30.00	8068918	32.00	8069418	35.00
0–200	360	8068620	29.00	8068920	31.00	8069420	34.00
0–500	156	8068625	28.50	8068925	30.50	8069425	33.50

*Pivot and jewel type; all others suspension type.

DC MILLIVOLTMETERS

0–50	6.7	1038615	$25.50	1038915	$27.50	1039415	$30.50

DC VOLTMETERS (1000 OHMS/VOLT)

Range	Scale Div.	6½" Model 626 Number	Net	7½" Model 726 Number	Net	8½" Model 820-M Number	Net
0–5	50	1048608	$26.50	1048908	$28.50	1049408	$31.50
0–10	50	1048610	26.50	1048910	28.50	1049410	31.50
0–25	50	1048613	26.50	1048913	28.50	1049413	31.50
0–50	50	1048615	26.50	1048915	28.50	1049415	31.50
0–150	75	1048619	26.50	1048919	28.50	1049419	31.50
0–300	60	1048622	26.50	1048922	28.50	1049422	31.50
0–500	50	1048625	26.50	1048925	28.50	1049425	31.50

DC AMMETERS

0–1	50	1028602	$25.50	1028902	$27.50	1029402	$30.50
0–5	50	1028608	25.50	1028908	27.50	1029408	30.50
0–10	50	1028610	25.50	1028910	27.50	1029410	30.50
0–25	50	1028613	25.50	1028913	27.50	1029413	30.50
0–50	50	1028615	25.50	1028915	27.50	1029415	30.50

AC VOLTMETERS

Range	Ohms/ Volt	6½" Model 636 Number	Net	7½" Model 736 Number	Net
0–10	10	1118610	$24.50	1118910	$26.50
0–50	50	1118615	24.50	1118915	26.50
0–150	125	1118619	25.50	1118919	27.50
0–300	125*	1118622	25.50	1118922	27.50
0–500	125*	1118625	25.50	1118925	27.50

*External resistor board supplied.

AC AMMETERS

Range	Resis., Ohms	6½" Model 636 Number	Net	7½" Model 736 Number	Net
0–1	.38	1108602	$24.50	1108902	$26.50
0–5	.014	1108608	24.50	1108908	26.50
0–10	.004	1108610	24.50	1108910	26.50
0–15	.003	1108611	24.50	1108911	26.50
0–25	.002	1108613	24.50	1108913	26.50
0–30	.001	1108614	24.50	1108914	26.50
0–50	.00035	1108615	24.50	1108915	26.50

AC MILLIAMMETERS

0–10	4000	1128610	$24.50	1128910	$26.50
0–100	40	1128618	24.50	1128918	26.50
0–500	1.55	1128625	24.50	1128925	26.50

RUGGEDIZED 1½", 2½" AND 3½" METERS

Model 127-HR: Rugged, modern construction with meter front designed for maximum readability. Meets government specifications. Nom. size, 1½". Scale Length: 1.5". Flange, 1.75" sq. Body, 1.51" dia. x .400" deep.
Model 221-HR: 2½" meter meets MIL-M-10304-C specifications. Heavy diecast window bezel seals window to case with gasket and screws for easy servicing. Gasket-sealed studs provide additional protection. Scale Length: 1.76". Flange, 2.695" dia. Body, 2.21" dia. x 1.281" deep.
Model 321-HR: Same as 221-HR, but 3½" size. Scale Length: 2.38". Flange, 3.51" dia. Body, 2.8" dia. x 1.281" deep.
To Order: Specify both Model and Triplett Part Number.

DC MILLIAMMETERS

Range	Resis., Ohms	Model 127-HR Number	Net	Model 221-HR Number	Net	Model 321-HR Number	Net
0–1	55	1011202	$26.00	1011602	$27.00	1014102	$28.00
0–5	8.5	1011208	26.00	1011608	27.00	1014108	28.00
0–10	3.1	1011210	26.00	1011610	27.00	1014110	28.00
0–50	1.0	1011215	26.00	1011615	27.00	1014115	28.00
0–100	0.5	1011218	26.00	1011618	27.00	1014118	28.00
0–200	0.25	1011220	26.00	1011620	27.00	1014120	28.00
0–300	0.17	1011222	26.00	1011622	27.00	1014122	28.00
0–500	0.1	1011225	26.00	1011625	27.00	1014125	28.00

DC MICROAMMETERS

0–50	2500†	1061215	$31.00	1061615	$32.00	1064115	$33.00
0–100	1170	1061218	29.50	1061618	30.50	1064118	31.50
0–200	400	1061220	28.00	1061620	29.00	1064120	30.00
0–500	210	1061225	27.00	1061625	28.00	1064125	29.00
0–20*	7500	8061212	40.00	.....	.....	.....	.....
0–50*	2300	8061215	33.50	.....	.....	.....	.....

*Suspension type; others pivot and jewel. †127-HR, 4000 ohms.

DC MILLIVOLTMETERS

0–50	6.7	1031215	$26.50	1031615	$27.50	1034115	$28.50

DC VOLTMETERS (1000 OHMS/VOLT)

Range	Scale Div.	Model 127-HR Number	Net	Model 221-HR Number	Net	Model 321-HR Number	Net
0–5	25*	1041208	$27.50	1041608	$28.50	1044108	$29.50
0–10	20*	1041210	27.50	1041610	28.50	1044110	29.50
0–25	25*	1041213	27.50	1041613	28.50	1044113	29.50
0–50	25*	1041215	27.50	1041615	28.50	1044115	29.50
0–150	30	1041219	27.50	1041619	28.50	1044119	29.50
0–300	30	1041222	27.50	1041622	28.50	1044122	29.50
0–500	25*	1041225	27.50	1041625	28.50	1044125	29.50

DC AMMETERS

0–1	25*	1021202	$26.50	1021602	$27.50	1024102	$28.50
0–5	50	.....	.....	1021608	27.50	1024108	28.50
0–10	50	.....	.....	1021610	27.50	1024110	28.50

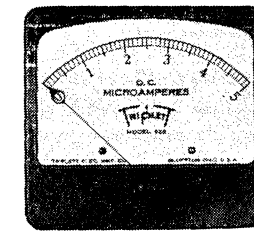
*127-HR only; all others 50 divisions.

G/P PORTABLE LAB INSTRUMENTS

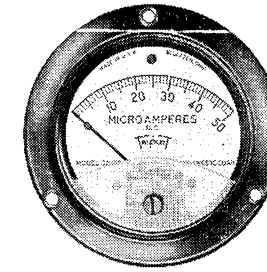
Consists of G-Series 3½" panel meter, mounted in molded plastic case. Choice of 25 models, with 55 standard ranges. Ideal for schools, labs or shop use. DC meters have Bar-Ring self-shielding movements, with diode overload protection. AC movements are fuse-protected. Accuracy, ±2% except AC Rectifier and Ohm models, ±3%. Knife-edge pointers. Aluminum panels, 5-way binding posts. Size, 4¼" x 3⅞" x 4¼". Special ranges available on order, at extra cost.

Triplett Number	Range	Net Each
1193001	0–1–5–25 volts DC (1000 ohms/volt)	$33.90
1193002	0–25–100–500 volts DC (1000 ohms/volt)	34.70
1193003	0–6–60–600 volts DC (1000 ohms/volt)	34.70
1193004	0–10–50–250 μA (suspension type) DC	64.80
1193005	0–50 μA DC	31.60
1193006	500–25–0–25–500 μA DC	35.80
1193007	0–0.25–1–5 mA DC	33.00
1193008	0–25–100–500 mA DC	33.40
1193009	0–1–10–100 mA DC	33.40
1193010	0–1–2–25 amps DC	33.90
1193011	0–50–100–250 mV DC†	33.40
1193012	0–3–15 amps DC	30.60
1193013	40–0–40 μA DC null meter (suspension)	44.50
1193112	0–6–60–600 VAC (rectifier; 1000 ohms/V)	55.00
1193213	0–120–600 VAC (83 ohms/V); 0–12 mA	45.80
1193214	0–5–25 VAC (4 ohms/V); 0–250 mA	34.20
1193215	0–30–120 VAC (17 ohms/V); 0–60 mA	35.50
1193216	0–150 VAC (125 ohms/volt)	27.20
1193217	0–1 amp AC	25.70
1193218	0–5 amps AC	25.70
1193219	0–25 amps AC	25.70
1193320	0–1K–100K ohms (10–1000 center scale)*	37.50
1193321	0–1 meg–100 meg (5K–500K center scale)*	43.30
1193422	0–2.5 volts RF (240 ohms/volt)	52.10
1193523	0–150 watts max. (150 V, 2 amps)	55.10
T-79-127	Test leads for all models	3.30

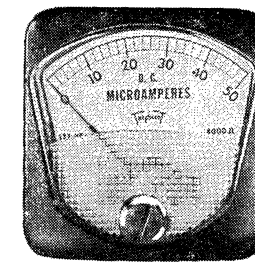
*With battery and test leads. †Can be used with standard switchboard shunts for higher ranges.



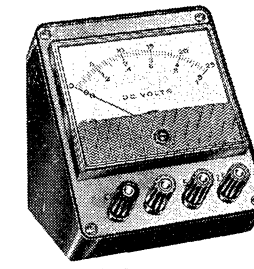
DC 626, 726
AC 636, 736



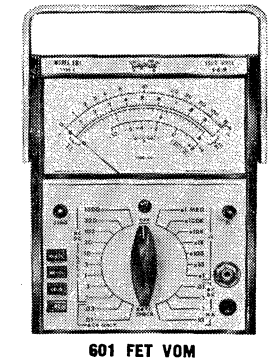
DC 221-HR, 321-HR



DC 127-HR



G/P PORTABLE


601 FET VOM

MODEL 601 SOLID STATE V-O-M 11 MEG INPUT

1. **14 Ohmmeter ranges with 7 Low-Power ranges (LPΩ) at 75 mV DC for Transistorized and Integrated circuits.**
2. **Voltage ranges from 10 mV AC and 100 mV DC full scale; plus AC & DC Current ranges from 10 ua full scale.**
3. **Modern easy-to-use push button selection of DC polarity, AC and Low-Power Ohms (LPΩ) functions.**

Single range selector switch, easy to use. Large 4½" Suspension meter movement. Special Low-Power Ohms circuit has only 0.1 mW of power, permits in-circuit resistance measurements in solid state circuitry. Simple to read uncluttered dial provides quick readings using only four scales for all 52 ranges. 11 Megohm input resistance on all voltage ranges. AC and DC curent ranges never before available on a similar unit. Accuracy is ±2% of Full Scale on DC, ±3% AC, (Current, ±3% and ±4%).

RANGES

Nine DC Volt Ranges: 0-0.1-0.3-1-3-10-30-100-300-1,000 at 11 Meg. **Eleven AC Volt Ranges:** 0-0.01-0.03-0.1-0.3-1-3-10-30-100-300-1,000 at 11 Meg. **Fourteen Ohms Ranges:** 0-1K-10K-100K-1 Meg-10 Meg-100 Meg-1,000 Meg (Standard 1.5 V, 55 mW.) 0-1K-10K-100K-1 Meg-10 Meg-100 Meg-1,000 Meg (Low-Power 0.1 mW, 75 mV). Center Scale value 10 ohms on x1 range. **Four DC Current Ranges:** 0-10-100-1,000-10,000 uA at 100 mV. **Four AC Current Ranges:** 0-10-100-1,000-10,000 uA at 100 mV. **Eleven dB Ranges:** −40 to +60 dB in 10 dB steps. **Case:** Molded, black high impact material, 3-16" x 5⅛" x 6½".

Batteries: 10 "AA" cells NEDA #815. Complete with leads, alligator clips, batteries, instruction manual with complete calibration instructions. Shipping weight 5 lbs.

Model 601 Catalog No. 3033	$125.00
High Voltage Probe, 30 kV, Cat. No. 79-270	$25.20
RF Probe, 250 MHz/20 V, Cat. No. 79-271	$9.00

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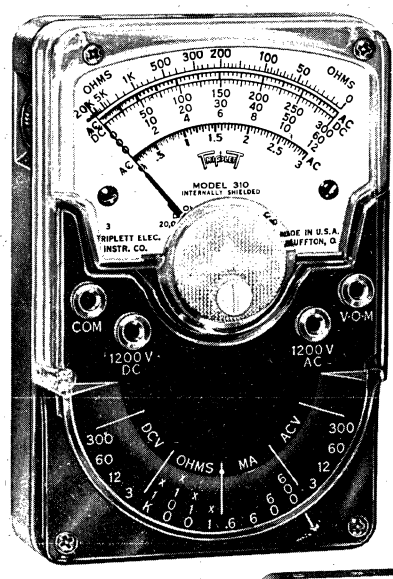
TRIPLETT ELECTRICAL INSTRUMENT COMPANY

WORLD'S MOST POPULAR MINIATURE V-O-M



310

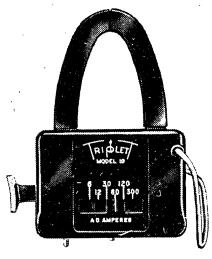
Volt-Ohm-Milliammeter MODEL 310

1. **Hand size V-O-M with provision for attaching AC clamp-on ammeter.**
2. **20,000 Ohms per volt DC sensitivity; 5,000 AC.**
3. **One selector switch minimizes chance of incorrect settings and burnouts.**

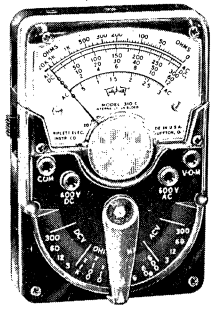
Self-shielded for checking in strong magnetic fields.
Rugged, high torque, bar-ring instrument.
Unbreakable plastic meter window.
Fitting interchangeable test prod into top of tester makes it the common probe, freeing one hand.
Standard sensitivity 20,000 ohms per volt DC, and 5,000 ohms per volt AC.
Spring-backed instrument jewels for ruggedness.
Accuracy 3% DC, 4% AC.

RANGES

DC Volts: 0-3-12-60-300-1,200 (at 20,000 ohms per volt). **AC Volts:** 0-3-12-60-300-1,200 (at 5,000 ohms per volt). **Ohms:** 0-20,000-200,000. **Megohms:** 0-2-20. **DC Microamperes:** 0-600 at 250 millivolts. **DC Milliamperes:** 0-6-60-600 at 250 millivolts. **Weight**—Approx. 14 oz., complete with batteries.
Case—Molded, black, 2¾" x 4¼" x 1 5/16".
Complete with leads, battery and instruction manual. Shipping wt. 2 lbs.
Model 310 Catalog No. 3018 **$44.00**



Model 10



310-C

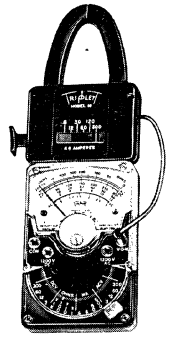
Volt-Ohm-Milliammeter MODEL 310-C

New 310-C is the same as Model 310, above, (except 600 volt ranges replace 1200 volt ranges of model 310) plus the following features:

1. **Hand size V-O-M with provision for attaching AC clamp-on ammeter.**
2. **15,000 Ohms per volt AC sensitivity; (20,000 DC same as 310).**
3. **Single fully enclosed lever range switch, plus DC polarity reversing.**

Model 310-C Catalog No. 3022 **$56.00**

100

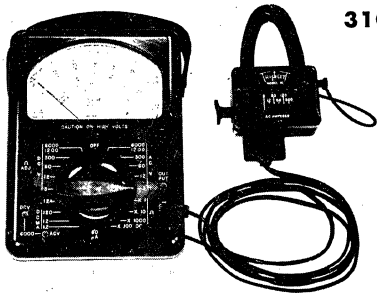


310-10

V-O-M and Clamp-On Ammeter Set MODEL 100

Handsomely packaged set includes: Model 310 V-O-M, Model 10 Clamp-on Ammeter Adapter; Model 101 Line Separator; Model 379 Leather Case; Model 311 Leads. ($83.20 Value Separate Unit Purchase Price.)

Model 100, as above, you save $5.20 over individual purchase price. Shipping wt. 7 lbs.
Model 100 Catalog No. 3014 **$78.00**
Model 100-C Same as above but with Model 310-C.
Model 100-C Catalog No. 3010 **$88.00**



630 Series VOM & Model 10

Clamp-On Adapter MODEL 10

CHECKS LINE LOADS WITH MODEL 310 OR 310-C

(Also can be used with Models 630, 630-A, 630-NA, 631, 630-PL, 630-APL, 630-M, 630-NS, 630-PLK, 630-L by means of 611 leads.)

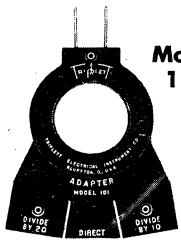
Checks all line loads instantly, accurately, safely—without breaking the circuit or interrupting work. Easy range switching. Model 10 Clamp-On Adapter AC Ammeter ranges: 0-6-12-30-60-120-300. Clips around single wire to read A.C. Amperes direct. Used with Adapter 101 to divide instantly two-conductor cords. A lever securely locks the Model 10 to Model 310 when used in combination. Model 10 can be left attached to Model 310 when the latter tester is used as an AC-DC V-O-M only. The only change is to remove the lead plug from the Model 310 V-O-M jack and insert it in the jack provided in the Model 10 housing.
Case black molded plastic with engraved white markings.
Model 10 Catalog No. 60211 **$20.00**

No. 611 LEADS

In addition to use with the Model 310, the No. 10 Adapter also can be used as a Clamp-On Ammeter with any Volt-Ohm-Milliammeter having a 3 AC Volt scale at 5,000 Ohms per Volt or above, such as Triplett Models 630, 630-A, 630-NA, 630-PL, 630-APL, 630-NS, 630-M, 630-PLK, 630-L, 631, etc. (see illustration). This is done by means of a long lead attachment (No. 611) making possible easy readings in difficult locations.
611 Leads Catalog No. 79-160 **$3.20**

No. 311 LEADS

The Model 10 can be separated from the Model 310 (in the same way as above) by using No. 311 lead attachment. This permits readings in difficult locations.
311 Leads Catalog No. 79-161 **$3.20**



Model 101

611 Leads

Line Separator MODEL 101

Plugs into AC outlet to divide instantly two-conductor cords. Increases ammeter sensitivity 10X and 20X. Use up to 30 AC Amperes from 0.3 to 30 in nine steps. Also has provision for Voltmeter prods for voltage measurements. Case, black molded plastic with engraved markings.
Model 101 Catalog No. 60218 **$8.00**

All Prices Are Suggested U.S.A. User Net Subject To Change. Specifications Subject To Revision. (Slightly Higher West of Rockies and in Canada)

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THE WORKHORSE OF THE ELECTRONIC INDUSTRY

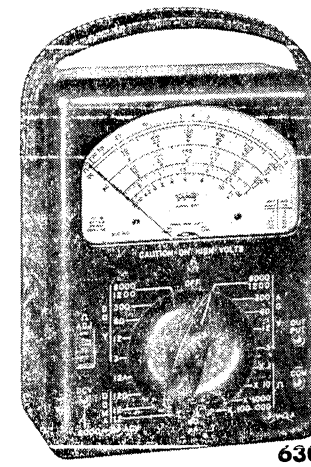
VOLT-OHM-MILLIAMMETER — MODEL 630

1. **One selector switch minimizes chance of incorrect settings and burnouts.**
2. **4.4 Ohm center scale, reads from 0.1 ohm up to 100 megohms resistance in 4 ranges.**
3. **20,000 ohms per volt DC sensitivity; 5,000 AC.**

Popular streamlined tester with long meter scales arranged for easy reading. Outstanding resistance ranges: low reading .1 ohm, high 100 megs. Fuse affords protection to the resistors in the ohmmeter circuit, especially the X1 setting.
Spring-backed instrument jewels for ruggedness. Accuracy ±2% DC, ±3% AC.

RANGES

DC Volts: 0-3-12-60-300-1,200-6,000 at 20,000 ohms per volt.
AC Volts: 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.
Ohms: 0-1,000-10,000.
Megohms: 0-1-100.
DC Microamperes: 0-60 at 250 millivolts.
DC Milliamperes: 0-1.2-12-120 at 250 millivolts.
DC Amperes: 0-12.
DB: −20 to +77 (600 ohm line at 1 MW).
Output Volts: 0-3-12-60-300-1,200; jack with condenser in series with AC ranges.
Usable with frequencies through 500 kHz.
Case: Molded, black, 3 7/32" x 5½" x 7½".
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.
Model 630 Catalog No. 3030 **$61.00**


630

POCKET VOLT-OHM-MILLIAMMETER — MODEL 666-R

1. **One selector switch.**
2. **Three resistance ranges to 3 megohms.**
3. **Five volt ranges to 5,000 AC and DC volts.**

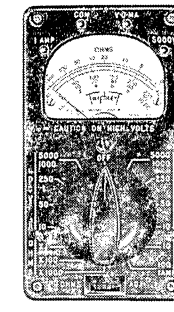
Hand-size — the ideal tester for electrical maintenance. Recessed range knob enables tester to fit in tool kit.

AC rectifier pre-calibrated unit for easy replacement.

Banana jacks at top of the panel lessen possibility of leads falling over the meter dial. Accuracy 3% DC, 4% AC.

RANGES

DC Volts: 0-10-50-250-1,000-5,000 at 1,000 ohms per volt.
AC Volts: 0-10-50-250-1,000-5,000 at 1,000 ohms per volt.
Ohms: 0-3,000-300,000.
Megohms: 0-3.
DC Milliamperes: 0-10-100 at 250 MV.
DC Amperes: 0-1 at 250 MV.
Output Volts: 0-10-50-250-1,000.
Case: Black molded, streamlined, handy pocket size, 3 1/16" x 5⅞" x 2 3/16".
Complete with leads, alligator clips, batteries and instruction manual. Shipping wt. 4 lbs.
Model 666-R Catalog No. 3066 **$44.00**


666-R

VOLT-OHM-MILLIAMMETER — MODEL 630-PL TYPE 2

1. **One selector switch minimizes chance of incorrect settings and burnouts. Polarity reversing for DC.**
2. **4.4 Ohms center scale, 0.1 ohm to 100 megohms resistance.**
3. **Meter movement diode protected against instantaneous overloads.**

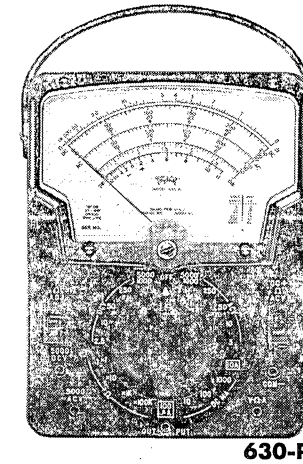
Polarity reversing switch. Tester usable with frequencies through 500 kHz. Instant-vision, wider spread scales; streamlined case, handsome modern design. Unbreakable plastic window.

Fuse affords extra protection to the resistors in the ohmmeter circuit, especially the X1 setting. Spring-backed instrument jewels for ruggedness. High Sensitivity: 5,000 ohms per volt AC; 20,000 ohms per volt DC.

Accuracy ±2% DC, ±3% AC.

RANGES

DC Volts: 0-2.5-10-50-250-1,000-5,000 — at 20,000 ohms/volt. 0-0.25 at 100 microamperes.
AC Volts: 0-3-10-50-250-1,000-5,000 — at 5,000 ohms/volt.
Decibels: −20 to +11, +21, +35, +49, +61, +75; "0" DB at 1 MW on 600 ohm line.
DC Microamperes: 0-100 — at 250 millivolts.
DC Milliamperes: 0-10-100-1,000 — at 250 millivolts.
DC Amperes: 0-10 — at 250 millivolts.
Ohms: 0-1,000-10,000 — (4.4-44 at center scale).
Megohms: 0-1-100—(4,400-440,000 at center scale).
Output V (AC): 0-3-10-50-250-1,000 — at 5,000 ohms/ volt, jack with condenser in series with AC ranges.
Case: Molded, black, 3 11/32" x 5½" x 7½".
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.
Model 630-PL Catalog No. 3050 **$61.00**


630-PL

COMBINATION V-O-M AND VTVM — MODEL 631

1. **One selector switch.**
2. **Complete V-O-M in combination with battery operated VTVM.**
3. **11 megohm input to VTVM.**

Two fundamental units at the price of a single tester; VTVM stability assured by long life battery operation.

Sensitivity plus—sensitivity of the 1.2 volt (VTVM) range is equal to over nine million ohms per volt. Usable with frequencies through 500 Kc.

A V-O-M for general use and a VTVM when needed; ranges entirely adequate for servicing needs.

Large meter easy to read; unbreakable meter face. Spring-backed instrument jewels for ruggedness. Accuracy 3% DC, 4% AC, VTVM 4%.

V-O-M RANGES

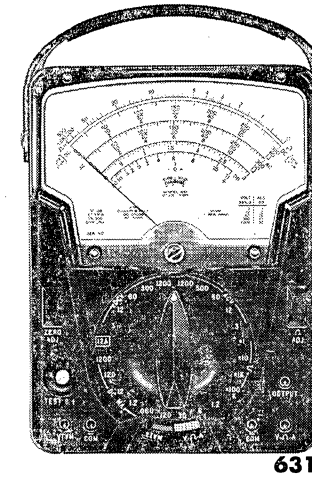
DC Volts: 0-3-12-60-300-1,200 (20,000 ohms per volt).
AC Volts: 0-3-12-60-300-1,200 (5,000 ohms per volt).
Ohms: 0-1,500-15,000.
Megohms: 0-1.5-150.
DC Microamperes: 0-60 at 250 MV.
DC Milliamperes: 0-1.2-12-120-1,200 at 250 MV.
DC Amperes: 0-12 at 250 MV.
DB: −20 to +63. (600 ohm line at 1 MW).
Output Volts: 0-3-12-60-300-1,200; jack with condenser in series with AC ranges.

VTVM RANGES

DC Volts: 0-1.2-6-30-120.
Case: Molded, black, 3 11/32" x 5½" x 7½".
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.
Catalog No. 3058 **$78.00**

RF PROBE FOR 631

With this probe and Model 631 RF measurements can be made up to 20 volts at 250 MC. Pt. T-79-A-145. Catalog No. 79-145 **$9.00**


631

All Prices Are Suggested U.S.A. User Net Subject To Change. Specifications Subject To Revision. (Slightly Higher West of Rockies and in Canada)

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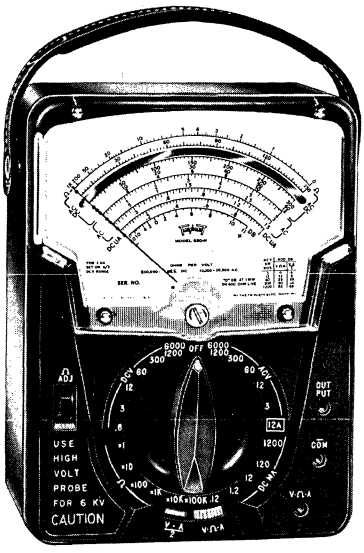
LABORATORY ACCURACY V-O-Ms

ONE MILLION OHMS PER VOLT SENSITIVITY

Volt-Ohm-Milliammeter

MODEL 630-M
TYPE 1



630-M

1. **1,000,000 Ohms per volt DC for greater accuracy on high resistance circuits. 20,000 ohms per volt AC.**
2. **1 μa Suspension Meter Movement. No pivots, bearings, or rolling friction. Extremely rugged. Greater sensitivity and repeatability.**
3. **61 Ranges, usable with frequencies through 100 kHz. Temperature compensated. 1½% DC accuracy, 3% AC in horizontal position.**

Now the input impedance of a VTVM with the convenience of a V-O-M. Reads as low as 20 nanoamperes. Components mounted on quality glass epoxy etched circuit board. Meter protected by diodes against accidental overload.

RANGES

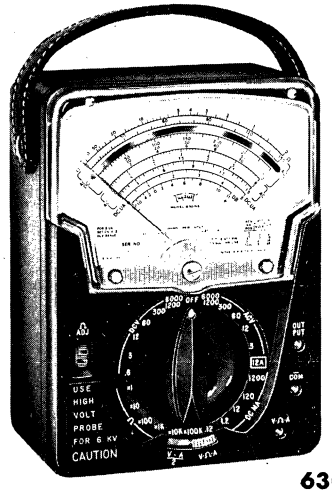
D.C. Volts: 0-0.6-3-12-60-300 at 500,000 Ohms/Volt.
0-0.3-1.5-6-30-150 at 1,000,000 Ohms/Volt.
0-1200 at 125,000 Ohms/Volt.
0-600 at 250,000 Ohms/Volt.
A.C. Volts: 0-3-12-60-300-1200 at 10,000 Ohms/Volt.
0-1.5-6-30-150-600 at 20,000 Ohms/Volt.
DB: −20 to +63 in 10 ranges
D.C. Microamperes: 0-1 at 300 M.V.
0-60-600 at 300 M.V.
0-120 at 600 M.V.
D.C. Milliamperes: 0-6-60-600 at 300 M.V.
0-1.2-12-120-1200 at 600 M.V.
D.C. Amperes: 0-6 at 300 M.V.
0-12 at 600 M.V.
Ohms: 0-1K-10K-100K (4.4-44-440 at center scale)
Megohms: 0-1-10-100 (4400-44,000-440,000 Ohms center scale)
Output: Condenser in series with AC Volt ranges
Case—Heavy, molded black case, 3-11/32" x 5½" x 7½", with removable black leather strap handle. Shipping wt. 5 lbs.

Model 630-M Cat. No. 3108 **$220.00**

NOT 20,000 BUT 200,000 OHMS PER VOLT

Volt-Ohm-Milliammeter

MODEL 630-NS



630-NS

1. **200,000 Ohms per volt DC sensitivity for greater accuracy on high resistance circuits. 20,000 ohms per volt AC.**
2. **Suspension Meter Movement. No pivots, no bearings, no hairsprings; no rolling friction. Extremely rugged.**
3. **62 Ranges. Temperature and frequency compensated. ±1½% DC Accuracy, ±3% AC.**

The unit is precision designed to give maximum covergge, to withstand accidental overloads and to offer greater reading accuracy. Usable with frequencies through 100 kHz. Accuracy 1½% DC, 3% AC.

RANGES

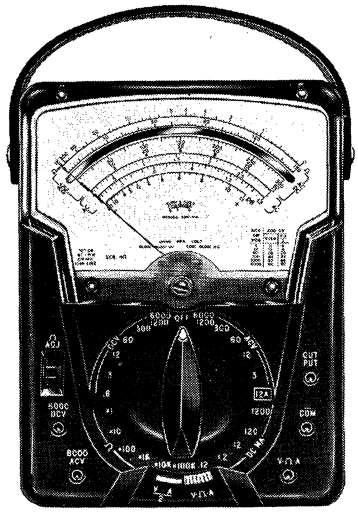
DC Volts: 0-0.6-3-12-60-300-1200 at 100,000 Ohms/Volt.
0-0.3-1.5-6-30-150-600 at 200,000 Ohms/Volt.
0-0.150 at 60 microamperes.
AC Volts: 0-3-12-60-300-1200 at 10,000 Ohms/Volt.
0-1.5-6-30-150-600 at 20,000 Ohms/Volt.
DB: −20 to +63 in 10 ranges.
DC Microamperes: 0-60-600 at 150 Mv.
0-5-120 at 300 Mv.
DC Milliamperes: 0-6-60-600 at 150 Mv. 0-1.2-12-120-1200 at 300 Mv.
DC Amperes: 0-6 at 150 Mv. 0-12 at 300 Mv.
Ohms: 0-1K-10K-100K (4.4-44-440 at center scale).
Megohms: 0-1-10-100 (4400-44,000-440,000 Ohms center scale).
Output: Condenser in series with AC Volt ranges.
CASE—Molded, black, 3-11/32" x 5½" x 7½". Shipping wt. 5 lbs.

Model 630-NS Cat. No. 3102 **$110.00**

Volt-Ohm-Milliammeter

MODEL 630-NA
TYPE 2

Suspension Movement



630-NA Type 2

1. **One selector switch minimizes chance of incorrect settings and burnouts.**
2. **70 Ranges: 1½% DC accuracy on meter; with mirrored scale and diode overload protection.**
3. **Temperature and frequency compensation.**

The super deluxe of V-O-Ms. Usable with frequencies through 500 kHz.
Large open front meter easy to read.
Unbreakable window. Mirror scale.
Meter has special diode protection against the most severe overloads. A fuse affords protection to resistors in the ohmmeter circuit (especially the X1 setting) should too high a voltage be applied.
Accuracy 1½% DC, 3% AC.

RANGES

DC Volts: 0-.6-3-12-60-300-1,200-6,000 at 10,000 ohms per volt.
0-.3-1.5-6-30-150-600-3,000 at 20,000 ohms per volt.
0-0.120 at 60 microamperes.
AC Volts: 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.
0-1.5-6-30-150-600-3,000 at 10,000 ohms per volt.
Ohms: 0-1K-10K-100K.
Megohms: 0-1-10-100.
DC Microamperes: 0-120 at 240 millivolts.
0-60-600 at 120 millivolts.
DC Milliamperes: 0-1.2-12-120-1,200 at 240 millivolts.
0-6-60-600 at 120 millivolts.
DC Amperes: 0-12 at 240 millivolts.
0-6 at 120 millivolts.
DB: −20 to +77 (600 ohm line at 1 MW).
Output Volts: 0-3-12-60-300-1,200; jack with condenser in series with AC ranges.
Case—Molded, black, 3-11/32" x 5½" x 7½".
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.

Model 630-NA Cat. No. 3042 **$93.00**

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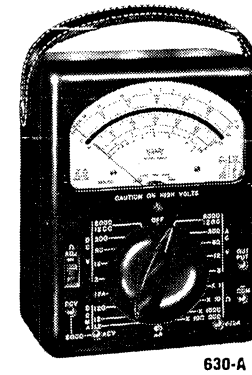
1½-3% ACCURACY; 5,000 TO 1 MILLION Ω/V SENSITIVITY

LABORATORY TYPE V-O-M
Volt-Ohm-Milliammeter

MODEL 630-A
TYPE 2



630-A

1. **±1½% DC, ±3% AC accuracy.**
2. **One selector switch minimizes chance of incorrect settings and burnouts.**
3. **Rugged 5½" suspension meter movement with 4½" mirrored scale.**

Other features same as Model 630.

RANGES

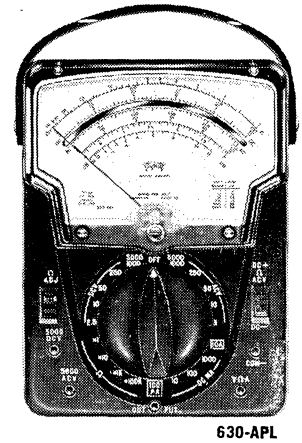
DC Volts: 0-3-12-60-300-1,200-6,000 at 20,000 ohms per volt.
AC Volts: 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.
Ohms: 0-1,000-10,000.
Megohms: 0-1-100.
DC Microamperes: 0-60 at 250 millivolts.
DC Milliamperes: 0-1.2-12-120 at 250 millivolts.
DC Amperes: 0-12.
DB: −20 to +77 (600 ohm line at 1 MW).
Output Volts: 0-3-12-60-300-1,200; jack with condenser in series with AC ranges.
Usable with frequencies through 500 kHz.

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.

Model 630-A Catalog No. 3034 **$71.00**

Laboratory Type V-O-M

MODEL 630-APL
TYPE 3



630-APL

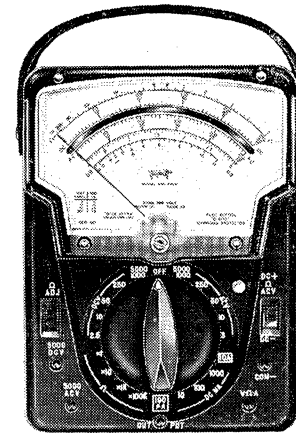
1. **±1½% DC, ±3% AC accuracy.**
2. **One selector switch minimizes chance of incorrect settings and burnouts. Polarity reversing for DC.**
3. **Suspension meter movement diode protected against instantaneous overloads.**

A laboratory type V-O-M featuring ½% resistors for greater accuracy. Ranges and other features same as Model 630-PL above. **Carrying Cases—Page 9**

Model 630-APL Cat. No. 3038 **$71.00**

LABORATORY TYPE V-O-M WITH OVERLOAD PROTECTION
Volt-Ohm-Milliammeter

MODEL 630-APLK
TYPE 1



630-APLK

1. **Burnout proof solid state overload protection.**
2. **One selector switch minimizes chance of incorrect settings. DC polarity reversing.**
3. **4.4 Ohm center. scale, 0.1 ohm to 100 megohms resistance in 4 ranges.**

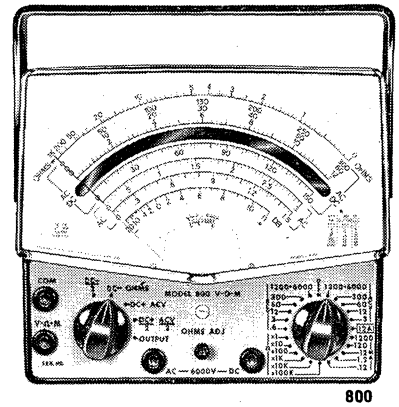
Suspension meter movement, 4½" mirror scale. Lab type V-O-M with ½% resistors for greater accuracy.

±1½% DC, ±3% AC accuracy. Other features same as described for Model 630-PLK.

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.

Model 630-APLK Cat. No. 3120 **$105.00**

DELUXE LAB STYLE
Volt-Ohm-Milliammeter MODEL 800 TYPE 2


800

1. **8" Suspension Meter with 6.95" mirror scale for greater readability plus diode overload protection.**
2. **1½% DC and 3% AC accuracy with temperature and frequency compensation.**
3. **67 Ranges with a DC polarity reversing switch and fused ohmmeter circuit.**

No other V-O-M offers all the Deluxe features of the Model 800. 3% AC ACCURACY to 1200 volts; mirror and knife-edge pointer to eliminate parallax; USABLE with frequencies to 100 kHz; WIRED CIRCUIT, HIGH FLUX BARRING self shielded magnet; DUAL SENSITIVITY provides extra ranges, DC volts at 20,000 and 10,000 ohms per volt, AC at 10,000 and 5,000 ohms per volt. Shatterproof meter window, molded transparent plastic; fully antistat treated.

RANGES

DC Volts: 0-0.6-3-12-60-300-1200-6000 at 10,000 Ohms per Volt. 0-0.3-1.5-6-30-150-600-3000 at 20,000 Ohms per Volt. 0-.120 at 60 Microamperes. **AC Volts:** 0-3-12-60-300-1200-6000 at 5,000 Ohms per Volt. 0-1.5-6-30-150-600-3000 at 10,000 Ohms per Volt. **DB:** −20 to +70 in 10 ranges. **DC Microamperes:** 0-60-600 at 120 MV. 0-120 at 240 MV. **DC Milliamperes:** 0-6-60-600 at 120 MV. 0-1.2-12-120-1200 at 240 MV. **DC Amperes:** 0-6 at 120 MV. 0-12 at 240 MV. **Ohms:** 0-1K-10K-100K (4.4-44-440 at center scale). **Megohms:** 0-1-10-100 (4400-44,000-440,000 Ohms center scale). **Output:** Condenser in series with AC volt ranges.

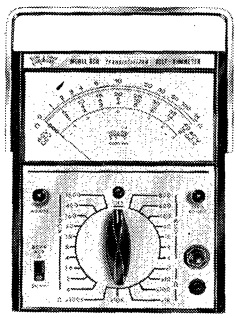
CASE—Heavy, molded black case, 7½" x 6¼" x 3⅞", with an insulated, movable handle, which can also serve as a tester stand. Shipping wt. 7 lbs.

Model 800 Cat. No. 3070 **$110.00**

ALL PRICES ARE SUGGESTED U.S.A. USER NET, SUBJECT TO CHANGE, SPECIFICATIONS SUBJECT TO REVISION.

TRIPLETT ELECTRICAL INSTRUMENT COMPANY

TVO TRANSISTORIZED VOLT-OHMMETER — MODEL 600



600

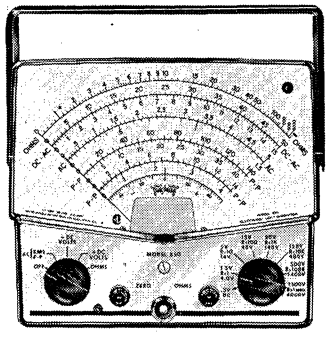
1. **F-E-T Circuitry — Battery Operated with 11 Megohm Input Impedance (Field Effect Transistor).**
2. **400 DC Mv range at 2.7 Megohm Impedance for Solid State circuit testing.**
3. **One Selector Switch with 23 ranges plus a Polarity Reversing Switch.**

Superior voltage Measuring Capabilities plus resistance ranges to 100 Megohms. .4 Volt full scale range on DC. Exceptional for use in low voltage solid state circuits with greater overlapping of ranges providing better reading accuracy. Accuracy is ±3% on both AC and DC. Single unit probe with built-in switch for AC/DC/OHMS. 11 Megohm input resistance on all DC Voltage ranges except .4 and .8. AC impedance is minimum of .75 megohms.

RANGES

DC Volts: 0-0.4-0.8-1.6-4-8-16-40-160-400-1,600.
AC Volts: 0-4-8-16-40-160-400-800.
Ohms: 0-1,000-10,000-100,000-1 Meg.-10 Meg-100 Meg. Center scale value 10 Ohms at X1. Complete with leads, batteries, and instruction manual.
Model 600 Catalog No. 3032 **$82.00**

ELECTRONIC VOLT-OHMMETER — MODEL 850



850

1. **Long 7" easy-to-read scale.**
2. **.5 DCV range for transistor circuits.**
3. **High stability — meter connected in cathode circuit of 12AU7.**

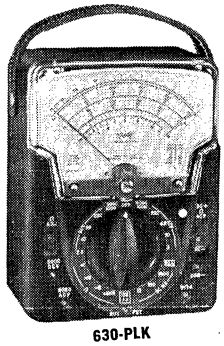
This extremely versatile Electronic Volt-Ohmmeter has superior voltage measuring capabilities, plus resistance ranges to 1000 Megohms.
ELECTRICAL PROTECTION of meter against burnout. FREQUENCY RANGE — from 15 Hz to 3 MHz. SEPARATE SCALE on easy-view meter for Peak-to-peak readings. SINGLE UNIT PROBE — with built-in switch for AC/DC/OHMS. 11 MEGOHM INPUT RESISTANCE on all DC Voltage ranges. Line voltage: 115 VAC 50-60 cycles. Ground type plug. Spring-backed instrument jewels for ruggedness.
Accurate within ±3% on AC and DC. Ohms accurate within ±3% of full scale based on DC scale.

RANGES

Eight DC Volts Ranges: 0-.5-1.5-5-15-50-150-500-1,500.

Seven AC RMS Volts Ranges: 0-1.5-5-15-50-150-500-1,500.
Seven Peak-to-Peak Volts Ranges: 0-4-14-40-140-400-1,400-4,000.
Seven Resistance Ranges: 0-1,000-10,000-100,000-1 Meg-10 Meg-100 Megohms-1,000 Megohms.
Frequency Range: 15 Hz to 3 MHz; (up to 250 MHz with accessory diode probe available extra).
Input Impedance: DC Volts 11 Megohms; AC Volts minimum of .83 Megohms.
CASE — Molded black case, 7⅝" x 6$^{7}/_{16}$" x 3¾". Carrying handle also can be used to place the tester at 25° angle for ease in reading.
PANEL — Etched aluminum. Shipping wt. 7 lbs.
Model 850 Catalog No. 3074 **$93.00**
Model 850 (Foreign — 220V, 50 to 60 Hz.) Catalog No. 3075 **$100.00**
Auxiliary Diode Probe for voltages to 20 volts with frequencies to 250 MHz. Catalog No. 79-215 **$9.00**
High Voltage Probe for DC voltages to 50 KV. Catalog No. 79-196 **$25.20**

BURN-OUT PROOF VOLT-OHM-MILLIAMMETER — MODEL 630-PLK TYPE 3



630-PLK

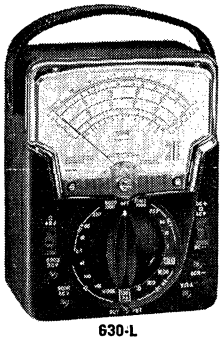
1. **Burnout proof solid state overload protection.**
2. **One selector switch minimizes chance of incorrect settings. DC polarity reversing.**
3. **4.4 Ohm center scale, 0.1 ohm to 100 megohms resistance in 4 ranges.**

Transistorized electronic switching circuit (patent #3,359,457) guards against accidental burn-outs. Now you can virtually eliminate bent pointers, burned-out resistors, damaged pivots, overheated springs, burned-out coils, changes in accuracy due to overheating, in fact nearly any need for repairs. Life of transistor circuit battery is nearly that of shelf-life. Automatically checked by using X100K ohms range. Overload protection on meter in addition to transistorized circuit that protects tester.
Accuracy ±2% on DC, ±3% AC. High sensitivity: 20,000 Ω/V DC; 5,000 Ω/V AC. Shipping weight 5 lbs.

RANGES

DC Volts: 0-2.5-10-50-250-1,000-5,000 at 20,000 ohms/volts; 0-0.25 at 100 microamperes.
AC Volts: 0-3-10-250-1,000-5,000 at 5,000 ohms/volt.
Decibels: −20 to +11, +21, +35, +49, +61, +75; "0" DB at 1 MW on 600 ohm line.
DC Microamperes: 0-100 at 250 Mv.
DC Milliamperes: 0-10-100-1000 at 250 Mv.
DC Amperes: -10 at 250 Mv.
Ohms: 0-1,000-10,000 (4.4-44 at center scale).
Megohms: 0-1-100 (4,400-440,000 at center scale)
Output Volts (AC): 0-3-10-50-250-1,000 at 5,000 ohms/volt; jack with condenser in series with AC ranges.
Case: Molded, black, 3$^{11}/_{32}$" x 5½" x 7½".
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.
Model 630-PLK Cat. No. 3055 **$93.00**

LOW OHMS V-O-M VOLT-OHM-MILLIAMMETER — MODEL 630-L



630-L

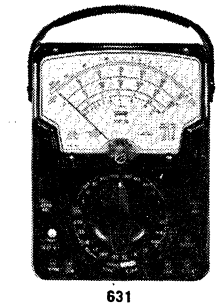
1. **2 Low power ohms ranges (X1 and X10). 140 Mv. ohmmeter circuit voltage.**
2. **One selector switch minimizes chance of incorrect settings and burnouts.**
3. **Designed for testing in solid-state circuitry.**

RANGES

DC Volts: 0-2.5-10-50-250-1,000-5,000 at 20,000 ohms/volt.
AC Volts: 0-3-10-50-250-1,000-5,000 at 5,000 ohms per volt.

Decibels: −20 to +75; "0" Db at 1 Mw on 600 ohm line.
DC Microamperes: 0-100 at 120 millivolts.
DC Amperes: 0-10 at 120 millivolts.
Ohms: 0-1,000-10,000 (13-130 at center scale).
Megohms: -1-100 (4,400-440,000 at center scale).
Output V (AC: 0-3-10-50-250-1,000 at 5,000 ohms/volt, jack with condenser in series with AC ranges.
Case: Black molded, 3$^{11}/_{32}$" x 5½" x 7½".
Model 630-L Cat. No. 3040 **$66.00**

VTVM COMBINATION V-O-M AND VTVM — MODEL 631



631

1. **Combination Volt-Ohm-Milliammeter and battery operated Vacuum Tube Voltmeter.**
2. **11 Megohm input to VTVM.**
3. **One selector switch, 34 ranges.**

Two fundamental units at the price of a single tester; VTVM stability assured by long life battery operation. Sensitivity plus — sensitivity of the 1.2 volt (VTVM) range is equal to over nine million ohms per volt. Usable with frequencies through 500 kHz.
A V-O-M for general use and a VTVM when needed; ranges entirely adequate for servicing needs.
Spring-backed instrument jewels for ruggedness. Accuracy 3% DC, 4% AC, VTVM 4%.

V-O-M RANGES

DC Volts: 0-3-12-60-300-1,200 (20,000 ohms per volt).
AC Volts: 0-3-12-60-300-1,200 (5,000 ohms per volt).
Ohms: 0-1,500-15,000.

Megohms: 0-1.5-150.
DC Microamperes: 0-60 at 250 MV.
DC Milliamperes: 0-1.2-12-120-1,200 at 250 MV.
DC Amperes: 0-12 at 250 MV.
DB: −20 to +63. (600 ohm line at 1 MW).
Output Volts: 0-3-12-60-300-1,200; jack with condenser in series with AC ranges.

VTVM RANGES

DC Volts: 0-1.2-6-30-120.
Case: Molded, black, 3$^{11}/_{32}$" x 5½" x 7½".
Complete with leads, alligator clips, rubber feet, batteries and instruction manual. Shipping wt. 5 lbs.
Model 631 Catalog No. 3058 **$82.00**

RF PROBE FOR 631

With this probe and Model 631 RF measurements can be made up to 20 volts at 250 MHz.
RF Probe Catalog No. 79-145 **$9.50**

All Prices Are Suggested U.S.A. User Net Subject To Change. Specifications Subject To Revision. (Slightly Higher West of Rockies and in Canada)

TRIPLETT ELECTRICAL INSTRUMENT COMPANY

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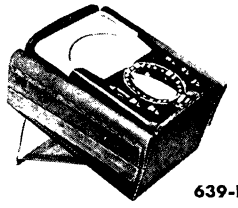
ACCESSORIES
Leather Cases

For Testers 630, 630-A, 630-PL, 630-APL, 630-NA, 630-M, 630-NS, 631, 630-L, 630-PLK, 630-APLK

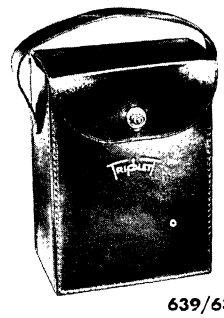


639-N

MODEL 639-N

Model 639-N black cowhide leather carrying case. Center-cover flaps snap back allowing full view of scales and permitting complete access to instrument without removal from case. Tester stand is included at no extra cost.

Model 639-N
Catalog Number 10-1189
$12.60



639/639-P

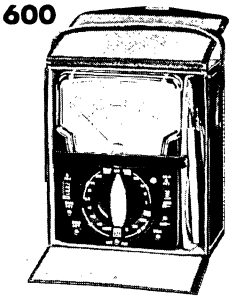
Model 639 black leather case.

Model 639
Catalog Number 10-823
$12.60

Model 639-P black cowhide leather carrying case lined with ⅜" sponge rubber.

Model 639-P
Catalog Number 10-921
$17.90

600

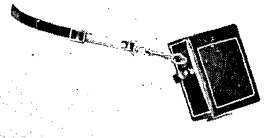


639-OS

Model 639-OS — Black leather case, has built-in stand on back. Flaps open to permit use of tester in case. Compartment for accessories. Used with Model 600.

Model 639-OS
Catalog Number 10B-1793
$14.70

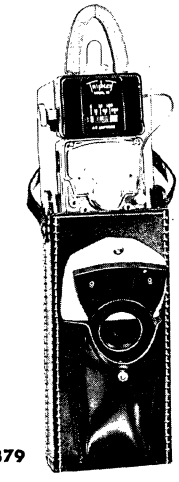
For Models 310-310-C



LEATHER CASE 369-S

Model 369-S leather carrying case for use with Models 310 or 310-C. Has removable leather shoulder strap. The case flap folds back to form a handy stand. Contains a retractable hook for hanging from nails, pipes, etc., freeing both hands. Test leads store in case and remain plugged into tester jacks while flap is closed keeping your 310 or 310-C ready for instant use. Soft shock absorbent lining.

Model 369-S
Catalog Number 10-1791
$10.00



379

Model 379 as above, large 310-10 in combination. Has pocket for 101.

Model 379
Catalog Number 10-1456
$8.00

Model 369-T Neckstrap Carrying Case for Model 310.

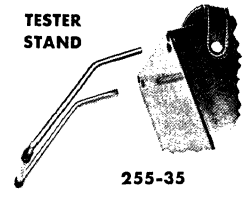
Model 369-T
Catalog Number 10B-1608
$9.50

369

369-T

Model 369 — Handsome black cowhide leather carrying case for Model 310. Trouser belt slips through loop on back of the case for out-of-the-way carrying.

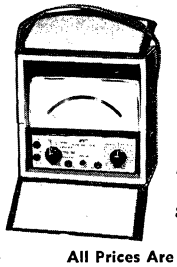
Catalog Number 10-1258
$4.20



TESTER STAND

255-35

For Models 800 and 850
Model 859-OP



Black Leather Carrying Case, lined with sponge rubber. Flaps open to permit use of tester without removal from case. Built-in stand on back. Model 859-OP.

Model 859-OP
Catalog Number 10-1669
859-OP **$23.10**

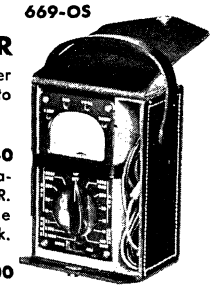
For Model 666-R

Model 669 black leather case for 666-R. (Similar to Model 639 above).

Model 669
Cat. No. 5616 **$8.40**

Model 669-OS black leather case for Model 666-R. Tester can be used in the case. Built-in stand on back.

Model 669-OS
Cat. No. 10B-1792 **$9.00**



669-OS

ACCESSORIES

	Cat. No.	Price
EXTERNAL SHUNTS—for 630, 630-A		
30 Amperes (Plug-in)	91-247	$12.60
60 Amperes (Portable)	91-248	15.80
120 Amperes (Portable)	91-255	15.80
EXTERNAL SHUNTS FOR 631		
60 Amperes (Portable)	91-248	$15.80
120 Amperes (Portable)	91-255	15.80
EXTERNAL SHUNTS FOR 630-NA, 800		
0-15-30 Amperes (Plug-in)	91-429	$16.80
0-30-60 Amperes (Portable)	91-430	22.10
0-60-120 Amperes (Portable)	91-431	22.10
EXTERNAL SHUNTS FOR 666-R, 630-PL, 630-APL, 630-PLK		
25 Amperes (Plug-in)	91-243	$12.60
50 Amperes (Portable)	91-244	15.80
100 Amperes (Portable)	91-191	15.80

REPLACEMENT LEADS

LEADS for Models 630, 630-A, 630-PL, 630-APL, 630-PLK, 630-APLK, 631, 666-R, 630-NA, 630-M & 630-NS, 630-L, 800 ....79-127 **$3.20**

REPLACEMENT LEADS for Models 310, 310-C 79-153 **$3.20**

REPLACEMENT AC-DC — Ohms probe lead assembly for Model 850 .....79-192 **$7.40**

RF PROBE FOR 631

With this probe and Model 631 RF measurements can be made up to 20 volts at 250 MHz. 79-145 **$9.50**

HIGH VOLTAGE PROBES

Completely insulated polystyrene test probe with guard-type handle. Probe is 11¾" long, with 48" high-voltage wire lead with banana plug at tester end.

MODELS 630, 630-A, and 631		
0-30,000 D.C. Volts	79-70	$17.90
0-30,000 A.C. Volts	79-71	17.90
0-60,000 A.C. Volts	79-152	17.90
Models 630-PL, 630-APL, 630-PLK, 630-L		
0-10,000 D.C. Volts	79-83	$17.90
0-25,000 D.C. Volts	79-130	17.90
0-25,000 A.C. Volts	79-166	17.90
Models 630-NA and 800		
0-30,000 D.C. Volts	79-152	$17.90
0-30,000 A.C. Volts	79-71	17.90
0-60,000 A.C. Volts	79-152	17.90
For Model 630-NS		
0- 6,000 D.C. Volts	79-229	$17.90
0- 6,000 A.C. Volts	79-230	17.90
0-30,000 A.C. Volts	79-152	17.90
For Model 630-M		
0-30,000 A.C. Volts	79-152	$17.90
0- 6,000 A.C. Volts	79-230	17.90
0- 6,000 D.C. Volts	79-247	17.90

TESTER STAND

Metal stand holds Model 630, 630-A, 630-PL, 630-APL, 630-NA, 630-NS, 630-PLK, 630-APLK, 631, 630-M or 630-L tester in approximately a 45° angle; will enable you to make easier readings.

STAND ONLY—Shipping wt. 1 lb. 255-A-35 **$2.10**

PROBES FOR MODELS 310 AND 310-C

PROBE EXTENSIONS for 310 & 310-C leads, insulated, 3 inches long. 11968A **$1.70**
MINIATURE ALLIGATOR CLIPS for use with 310-310-C Probe extensions. 2451A-59 **$.70**

PROBES FOR MODEL 850

Auxiliary Diode Probe for voltages to 20 volts with frequencies to 250 MHz. 79-215 **$9.00**

High Voltage Probe for DC Voltages to 50 KV 79-196 **$25.20**

All Prices Are Suggested U.S.A. User Net Subject To Change. Specifications Subject To Revision. (Slightly Higher West of Rockies and in Canada)

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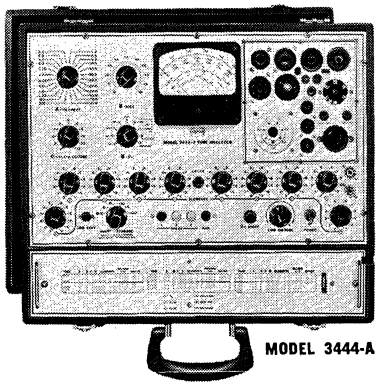
TRIPLETT TEST EQUIPMENT



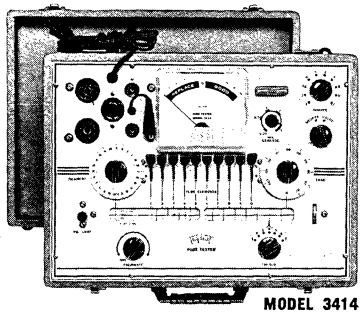
MODEL 3444-A

TRUE DYNAMIC MUTUAL CONDUCTANCE TUBE ANALYZER
MODEL 3444-A

1. **Measures the characteristics at variable currents and voltages.**
2. **Snap-in roll chart in separate compartment for easy removal and updating.**
3. **Reads directly in micromhos with a self-checking true Gm circuit.**

The only tube tester under $1,000 that is simple and fast to operate and will measure tube characteristics at KNOWN readable potentials. Provides readings to: (a) Plot the tube characteristic curves. (b) Measure grid current at known potentials. (c) Compare cutoff characteristics of dual tubes. Reads directly in micromhos with a self checking Gm circuit. CHECKS PLATE current cutoff. CHECKS GAS under actual operating conditions (measures to approximately one UA of gas current). CHECKS RECTIFIERS under load. CHECKS THYRATRON firing voltage and grid current. (To 50 ma. anode current.) CHECKS DUAL section tubes with only one lever movement. PROVIDES SHORTS and leakage measurements from 0-10 megohms using a filtered DC supply of 85 volts. PROVIDES cutoff measurements on voltage amplifiers. **RECESSED SOCKET SAVERS** (under-the-panel-mounted) are easily removable for replacement.

Case: Wood, gray leatherette covered, 15 3/16" x 18 13/16" x 7 3/4". Shipping wt. 30 lbs. **$470.00**



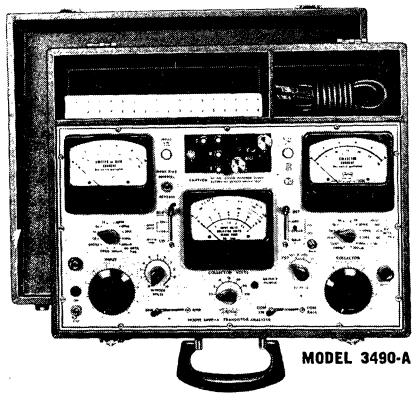
MODEL 3414

FASTER, FLEXIBLE TUBE TESTER
MODEL 3414

1. **Fast, easy to use, GO-NO-GO testing.**
2. **Input filament continuity test.**
3. **Wide range of filament voltages prevents obsolescence.**

Modified circuit for better correlation on Gm. Rejects burned out tubes instantly without waiting for the filament to heat. NEON INDICATOR SHORTS TEST, new, fast and accurate. Full range filament voltages — 0.65 to 117 in 23 steps. Improved lever switching for complete control of each tube element. Quick-change roll chart. TV picture tube test by means of adapter (available extra, see below) without removing tube from receiver. Large, clearview meter has three-color GOOD-?-BAD scale.

COUNTER-PORTABLE TYPE CASE. Ultra-professional appearance; Wood, dark gray leatherette covered; 15 7/8" x 11 1/2 x 6 1/2. Hinged removable cover. Chrome hardware and feet. Etched panel. Shipping wt. 17 lbs. **$132.00**



MODEL 3490-A

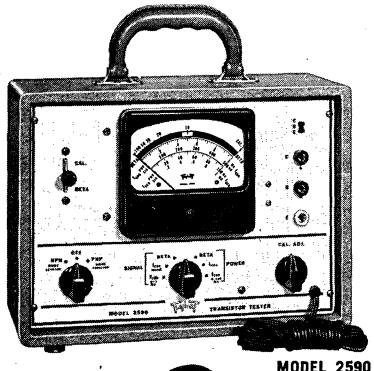
TRANSISTOR ANALYZER FOR COMPLETE TRANSISTOR ANALYSES
MODEL 3490-A

1. **Ideal for schools and labs. Makes H parameter measurements.**
2. **High current and high voltage AC and DC beta measurements.**
3. **Reads leakage current in NANO-AMPERE region.**

Test DC Beta, AC Beta at 1KC, leakages (Ico, Ieo, Iceo), Alpha, Reach Through Voltage, Saturation Voltage, Floating Potential. The 3490-A's flexibility allows plotting of transistor characteristic curves along with setting up nearly any type of transistor test. Input bias reversing switch gives added versatility. THREE INDEPENDENT Power Supplies. Model 3490-A also tests diodes, rectifiers, zener diodes, SCR, etc.

RANGES

Input Current (Emitter or Base): 0-100-300 ua, 0-1-3-10-30 Ma, 0-.1-.3-1-3 Amp.
Collector Current: 0-300 ua, 0-1-10-30 Ma, 0-.1-.3-1-3-10-30 Amp.
Iceo, Ico (Icbo): 0-6 Ma, 0-600 ua, 0-60 ua, 0-6 ua.
Collector Voltage: 0-120 V, 0-60 V, 0-30 V, 0-12 V, 0-6 V, 0-3 V, 0-1.2 V.
Emitter or Base Voltage: 0-12 V, 0-1.2 V.
Tetrode: 0-10 V Calibrated Control. Shipping wt.: 30 lbs.
Case: Wood, gray leatherette covered, 18 13/16" x 15 7/16" x 8" with removable cover, and sloping etched aluminum panel. **$441.00**



MODEL 2590

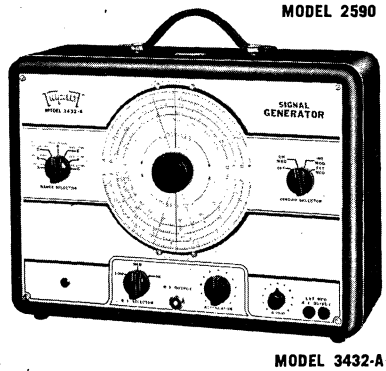
TRANSISTOR TESTER
MODEL 2590

1. **Tests Beta amplification, Icbo, Iceo for both power and signal type transistors. Tests for shorts and leakage. Checks and forward currents on diodes.**
2. **Simulated operating test conditions.**
3. **Simple and straightforward operation. No roll chart or special data needed, always up-to-date.**

Case: 11 5/8" x 8 5/8" x 5 1/8".

FIVE SCALES

0-1 MA for Signal Transistor ICEO
0-100 MA for Power Transistor ICEO
0-500 Microamp for Signal Transistor ICBO
0-1 MA for Power Transistor ICBO
5-100 Beta Range; also shows on GOOD—?—BAD scale
Shipping wt. 9 lbs. Power—115 volts, 50-60 cycle AC. **$71.00**



MODEL 3432-A

SIGNAL GENERATOR
MODEL 3432-A

1. **High RF output.**
2. **Fundamentals to 110 MHz, harmonics to 220.**
3. **Ideal as marker generator for TV alignment.**

Complete frequency coverage 160 KC to 10 MC fundamental with seven bands (220 MC harmonics). R.F. circuits are double shielded with copper steel shields. Large easily read etched aluminum dial. Cathode follower output provides good stability by acting as a buffer to the oscillator. 400 cycle audio frequency with variable control for 0-100 per cent modulation.

Band

A	160-370 KC
B	360-735 KC
C	715-1875 KC
D	1825-4950 KC
E	4.85-13 MC
F	12.5-35 MC
G	34-110 MC
G (Harmonics)	68-220 MC

Case: Metal with black baked enamel suede finish, 15 11/32" x 11 1/32" x 6 1/4". Black leather strap handle, rubber feet. Shipping wt. 30 lbs. **$144.00**

All Prices Are Suggested U.S.A. User Net Subject To Change. Specifications Subject To Revision.

TRIPLETT ELECTRICAL INSTRUMENT COMPANY

Net

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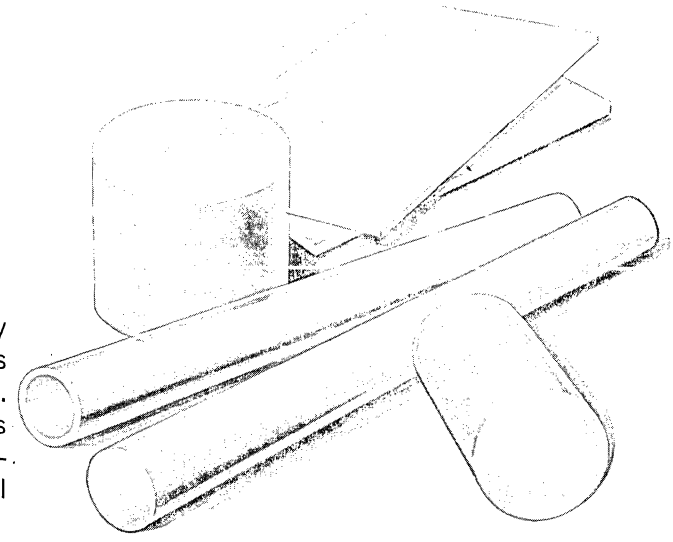
JB® Polystyrene

ROD TUBING SHEET



For radio and electronic applications, because of its very low loss factor at ultra high frequencies, Polystyrene is the ideal material for insulators, coil forms, shields, etc. It has excellent arc resistance, is non-tracking and has splendid insulating properties. Because its water absorption is practically zero it has excellent dimensional stability.

POLYSTYRENE ROD — Transparent
AVAILABLE IN 12" OR 48" LENGTHS

Catalog Number	Diameter	Net Price 12" lgth.	48" lgth.
JB-100	1/8"	$ .03	$ .12
JB-101	3/16"	.07	.28
JB-102	1/4"	.12	.48
JB-103	5/16"	.18	.72
JB-104	3/8"	.26	1.04
JB-106	1/2"	.48	1.92
JB-107	5/8"	.72	2.88
JB-108	3/4"	1.00	4.00
JB-109	7/8"	1.42	5.68
JB-110	1"	1.90	7.60
JB-111	1 1/8"	2.50	10.00
JB-112	1 1/4"	3.00	12.00
JB-113	1 3/8"	3.60	14.40
JB-114	1 1/2"	4.30	17.20
JB-116	1 3/4"	6.00	24.00
JB-118	2"	7.50	30.00

POLYSTYRENE TUBING — Satin Finish
AVAILABLE IN 12" OR 48" LENGTHS

Catalog Number	O.D.	I.D.	Net Price 12" lgth.	48" lgth.
JB-201	1/4"	1/8"	$ .10	$ .40
JB-202	5/16"	3/16"	.14	.56
JB-203	3/8"	1/4"	.18	.72
JB-205	1/2"	3/8"	.26	1.04
JB-206	5/8"	1/2"	.32	1.28
JB-207	3/4"	5/8"	.40	1.60
JB-208	1"	7/8"	.56	2.24
JB-220	1 1/2"	1 1/4"	1.50	6.00
JB-222	2"	1 3/4"	2.20	8.80

POLYSTYRENE SHEET*

Catalog Number	Thickness	Sheet Size	Net Price
JB-125	1/16"	12" x 12"	$ 4.15
JB-126	3/32"	12" x 12"	4.80
JB-127	1/8"	12" x 12"	5.50
JB-128	3/16"	12" x 12"	7.15
JB-129	1/4"	12" x 12"	8.15
JB-245	1/16"	12" x 24"	7.80
JB-246	3/32"	12" x 24"	9.15
JB-247	1/8"	12" x 24"	10.50
JB-248	3/16"	12" x 24"	13.15
JB-249	1/4"	12" x 24"	15.65
JB-315	1/32"	24" x 24"	9.65
JB-301	1/16"	24" x 24"	11.15
JB-302	3/32"	24" x 24"	13.00
JB-303	1/8"	24" x 24"	14.80
JB-304	3/16"	24" x 24"	18.75
JB-305	1/4"	24" x 24"	23.00
JB-309	3/8"	24" x 24"	31.25
JB-311	1/2"	24" x 24"	38.65
JB-317	5/8"	24" x 24"	50.00
JB-318	3/4"	24" x 24"	69.25
JB-319	1"	24" x 24"	94.15

*Sheets are all crystal clear with smooth surfaces fully protected against abrasion by masking paper on both sides.

JULIUS BLUM & CO., INC.

DABURN

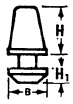
DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

INSULATORS

Ceramic • Steatite • Standoffs • Feed-thrus • Antenna • Beads

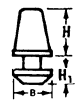
DABURN FEED-THRU INSULATORS



These are quality porcelain insulators smoothly glazed. Heavy nickel plated brass hardware used. Cushion washers supplied.

DABURN No.	Hgt. H	B	H_1	Mounting Hole	H'dwe	Std. Pkg.
10-58	5/8"	11/16"	1/4"	5/16"	6-32	50
10-78	1"	13/16"	5/16"	7/16"	10-32	25
10-125	1 1/4"	7/8"	3/8"	7/16"	10-32	25
10-234	2 3/4"	2"	1"	1 1/4"	1/4-20	10

CORRUGATED FEED-THRU INSULATOR



These numbers have twice the leakage path of the straight type due to the increased surface area. Brass nickel plated hardware and cushion washers supplied.

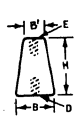
DABURN No.	Hgt. H	B	H_1	Mounting Hole	H'dwe	Std. Pkg.
10-79	1 3/8"	1 1/4"	11/16"	9/16"	10-32	25
10-76	2 3/4"	1 5/8"	1"	3/4"	1/4-20	10
10-52	4 1/2"	2 1/8"	1 1/2"	1"	1/4-20	5

DABURN METAL BASE INSULATORS

Made of hi tensile strength, low absorption ceramic, fully glazed corrugated surface. Provides longer leakage path. Drawn metal bases.

Daburn No.	Hgt. H	B	D	Mtg. Screw	H'dwe	Std. Pkg.
10-67	1 3/8"	1 7/8" x 1 3/4"	1 1/2"	2 #8	10-32	25
10-176	2 3/4"	1 3/4" x 1 3/4"	1 3/8"	4 #10	1/4-20	10
10-451	4 1/2"	2 1/4" x 2 1/4"	1 3/4"	4 #10	1/4-20	5

DABURN STEATITE CONE INSULATORS



Steatite cones have smooth glaze white. Come complete with brass nickel plated screws and cushion washers

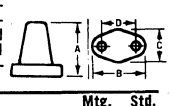
Daburn No.	Hgt. H	B	B_1	T	Mtg. Hole	Std. Pkg.
10-30	5/8"	5/8"	3/16"	6-32	5/32"	100
10-31	1"	11/16"	1/2"	8-32	3/16"	50
10-32	1 1/2"	7/16"	5/8"	10-32	7/32"	50
10-33	2 3/4"	1 1/4"	3/4"	1/4-20	9/32"	25

DABURN LEADIN INSULATORS

Sections are each 2 3/4" high hi vitrified porcelain glazed. Comes thru with 2 additional bushings 1/4" and 1/2" long, permitting complete insulation of the threaded rod of any length in multiples of 1/4". Complete with brass nickel plated hardware. Lead and cushion washers permit a water tight seal.

Daburn No.	Description	Std. Pkg.
10-237	10" Rod/Bushings	10
10-238	15" Rod/Bushings	10

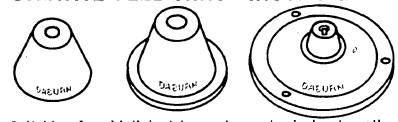
DABURN STANDOFF INSULATORS



Quality glazed porce- insulators — mounting surface ground flat. Brass nickel plated hardware supplied.

Daburn No.	A	B	C	D	Hole	Mtg. H'dwe	Std. Pkg.
10-16	1"	1 3/8"	7/8"	1"	5/32"	8-32	50
10-17	1 1/2"	1 3/4"	1 1/8"	1 1/4"	5/32"	10-32	25

STEATITE FEED-THRU INSULATORS



Suitable for hi-dielectric and mechanical strength. Made of L5 glazed Steatite. No hardware included.

Daburn No.	Figure	Hgt. H.	Base Diam.	Screw Size Max.	Std. Pkg.
10-200	I	7/8"	1 1/4"	10-32	25
10-201	I	1 1/8"	1 3/4"	1/4-20	25
10-202	II	1 5/8"	2 1/2"	3/8-16	25
10-203	III	1"	3 1/8"	8-32	12

DABURN STEATITE FEED-THRU INSULATORS

Feedthrus come thru with tops and bottoms for chassis, panel, shields, rack mounting. No hardware included. Made of L5 glazed Steatite.

Daburn No.	Hgt. Top	Diam.	Hole Panel	T'kness Panel To	Screw Size Max.	Std. Pkg.
10-204	1/8"	1/2"	5/16"	1/8"	6-32	50
10-205	7/32"	5/8"	7/16"	1/8"	8-32	50
10-206	3/8"	1/2"	1/4"	3/16"	6-32	50
10-207	3/8"	5/8"	3/8"	3/8"	8-32	50
10-208	3/4"	1 1/8"	3/4"	3/8"	10-32	50
10-209	1 5/8"	1 1/4"	1/2"	2"	10-32	50

DABURN FISH SPINE BEADS

Made of L5 Steatite. Suitable for buss and heavy lines insulation. Beads follow bends and curves because of ball and socket style interlocks. Four beads cover approximately 1". 100 will cover 25" of wire. Size: 5/16" O.D. x 1/8" I.D. Beads treated with Dow Corning compound to prevent accumulation of surface moisture.

Daburn No.		Std. Pkg.
10-215	Fish Spine Beads	100, 1000

DABURN AIRPLANE INSULATORS

Suitable for mobile and aircraft or guy wire application. compression type strain insulators. Nos. 10-73, 10-74 made of white glazed low absorption porcelain. No. 10-72 made of wet process porcelain.

10-73, 10-74

10-72

Daburn No.	Description	Std. Pkg.
10-73	2" White	100
10-74	1 1/2" White	100
10-72	2 1/4" Brown	25

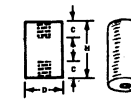
DABURN STEATITE AIRPLANE INSULATOR

Compression type Steatite insulator has small wind resistance. Fully glazed.

Daburn No.	Description	Std. Pkg.
10-63	1 1/2" Lgth.; 17/32" Diam. 3/4" Line Spacing	25

DABURN STEATITE STANDOFFS

JAN-I-8 AND JAN-I-10 SPECS.

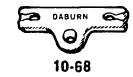


These threaded Steatite pillars are made of L5 glazed Steatite with threaded holes on both sides have one hole mounting.
COLOR: White

Daburn No.	Conforms to NEW Type	Hgt.	Diam.	L'gth of Thr'd	Thr'd
10-41		1/4"	1/4"	All	6-32
10-41B		3/8"	1/4"	5/32"	6-32
10-41A		1/2"	1/4"	5/32"	6-32
10-44A		3/4"	1/4"	1/4"	6-32
10-45A		1"	1/4"	1/4"	6-32
10-42		3/8"	3/8"	5/32"	6-32
10-42A	NL633W01-004	1/2"	3/8"	5/32"	6-32
10-43A	NL633W01-005	5/8"	3/8"	1/4"	6-32
10-44B	NL633W01-006	3/4"	3/8"	1/4"	6-32
10-45B	NL644W01-008	1"	3/8"	3/8"	6-32
10-46B	NL633W01-010	1 1/4"	3/8"	3/8"	6-32
10-46A	NL633W01-012	1 1/2"	3/8"	3/8"	6-32
10-46C	NL633W01-016	2"	3/8"	3/8"	6-32
10-43		1/2"	1/2"	1/4"	6-32
10-44		3/4"	1/2"	1/4"	6-32
10-45		1"	1/2"	3/8"	6-32
10-46		1 1/2"	1/2"	3/8"	6-32
10-47		2 1/2"	1/2"	3/8"	6-32
10-40	NL633W02-005	5/8"	1/2"	3/16"	8-32
10-40A	NL633W02-006	3/4"	1/2"	1/4"	8-32
10-40B	NL633W02-008	1"	1/2"	3/8"	8-32
10-40C	NL633W02-010	1 1/4"	1/2"	3/8"	8-32
10-40D	NL633W02-012	1 1/2"	1/2"	3/8"	8-32
10-40E	NL633W02-016	2"	1/2"	3/8"	8-32
10-40F	NL633W02-020	2 1/2"	1/2"	3/8"	8-32
10-40G	NL633W02-024	3"	1/2"	3/8"	8-32
10-44C		3/4"	3/4"	1/4"	10-32
10-45C	NL633W03-002	1"	3/4"	3/8"	10-32
10-45D	NL633W03-010	1 1/4"	3/4"	3/8"	10-32
10-45E	NL633W03-012	1 1/2"	3/4"	3/8"	10-32
10-45F	NL633W03-016	2"	3/4"	3/8"	10-32
10-45G	NL633W03-020	2 1/2"	3/4"	3/4"	10-32
10-45H	NL633W03-024	3"	3/4"	3/8"	10-32
10-45S	NL633W03-032	4"	3/4"	3/8"	10-32
10-47B	NL633W04-012	1 1/2"	1"	1/2"	1/4-20
10-47D	NL633W04-016	2"	1"	5/8"	1/4-20
10-47E	NL633W04-020	2 1/2"	1"	5/8"	1/4-20

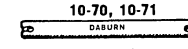
STD. PKG: 100 except 10-47B, D, E, which are 50.

ANTENNA STRAIN INSULATORS



10-68

10-69



10-70, 10-71

Porcelain glazed to prevent moisture absorption. All have long leakage path — small cross section strength under continuous tension — white glaze prevents accumulation of dirt and ice.

Daburn No.	Description	Std. Pkg.
10-68	4 1/2" Long Center Ins.	10
10-69	4 1/4" Long	25
10-70	7" Long	10
10-71	12" Long	10

FEEDER SPREADER INSULATORS

Made of highly vitrified — low absorption — hi tensile strength porcelain, with white glaze overall.

Daburn No.	Description	Std. Pkg.
10-62	2" Long Spreader	25
10-64	4" Long Spreader	25
10-65	6" Long Spreader	25

ANTENNA INSULATORS

10-06

10-0

Daburn No.	Description	Std. Pkg.
10-0	Glass Insulator	100
10-06	Porcelain Insulator — White	100

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The
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IRC® VINYL ELECTRICAL TAPE

DIVISION OF TRW INC.

- Saves space in confined areas . . . ends "twice-around" wraps with bulky tapes,
- Provides a tight insulated plastic seal . . . resistant to abrasion, water, acids, alkalies, corrosion and aging.
- Gives a neater wrap . . . adheres readily to irregular surfaces and contours.
- Makes an excellent wrap for insulating tools.

NEW TAPE-AND-TEAR DISPENSER. For one-hand taping IRC Vinyl Electrical Tape. Comes in a sturdy tape-and-tear dispenser that keeps tape clean and prevents stretching. Cutting blade is shielded. New shape is easy to hold, won't roll. Dispenser is loaded with 66 feet of ¾" tape. Also available in cellophone wrapped rolls:

STOCK NUMBER	SIZE	PACKAGING
VT 104 "All-Weather"	¾" x 66'	Dispenser
VT 103	¾" x 66'	Dispenser
VT 103	¾" x 20'	Cellophane Wrapped
VT 103	⅜" x 20'	Cellophane Wrapped
VT 103	⅜" x 36 YDS.	Cellophane Wrapped

PROPERTIES OF IRC VINYL ELECTRICAL TAPE

DESCRIPTION	GENERAL PURPOSE TYPE 103	ALL-WEATHER TYPE 104
PHYSICAL PROPERTIES		
Thickness	.007"	.0085"
Tensile Strength	19 lb./in. of width	22 lb./in. of width
Elongation at Break	150%	200%
Adhesion to Steel	32 oz./in. of width	20 oz./in. of width
Low Temperature (4 hrs. @ −20°C)		Unrolling & Application Excellent
ELECTRICAL PROPERTIES		
Dielectric Strength	10,000v/mil (min.)	12,000v/mil (min.)
Power Factor @ 60 Cycles	.07	.07
Power Factor @ 10^6 Cycles	.03	.03
Dielectric Constant at 60 Cycles	3.2	3.2
Dielectric Constant at 10^6 Cycles	2.3	2.3
Insulation Resistance	Over 10^6 Megohms	Over 10^6 Megohms
Electrolytic Corrosion Factor	1.0	1.0
Resistance to Penetration at Elevated Temperatures	50°C (Avg.)	90°C (Avg.)
CHEMICAL PROPERTIES		
Sunlight	Not Affected	Not Affected
Corrosive Effect on Electrical Conductors	None	None
Resistance to Water	Excellent	Excellent
Resistance to Acids	Excellent	Excellent
Resistance to Alkalies	Excellent	Excellent
Resistance to Oils	Excellent	Excellent
Resistance to Aging at Room Temperature	Excellent	Excellent

Both Types 103 and 104 Meet MIL-I-7798A
SAVES TIME. Quicker than friction and rubber tape combinations. Takes only one operation instead of two. Adheres readily to irregular surfaces and contours. Makes a neater job.

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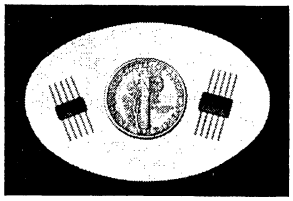
SPRAGUE SEMICONDUCTORS

UNICIRCUIT® INTEGRATED CIRCUITS



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- Unicircuits With Temperature Range of —55 C to +125 C Meet or Exceed Requirements of MIL-S-19500D
- For Complete Technical Data Refer to Applicable Sprague Engineering Bulletins
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UTILOGIC ELEMENTS (+10C to +55C)

Type Number	Case	Description
LU300K	TO-100	Dual 3-Input Gate Expander
LU305K	TO-100	6-Input AND Gate
LU306K	TO-100	Dual 3-Input AND Gate
LU314K	TO-100	7-Input NOR Gate
LU315K	TO-100	Dual 3-Input NOR Gate
LU316K	TO-100	Dual 2-Input NOR Gate*
LU320K	TO-100	J-K Binary Element
LU331K	TO-100	Dual 2-Input OR Gate*
LU332K	TO-100	Dual 3-Input OR Gate

COMPATIBLE DTL ELEMENTS (OC to +70C)

NE106A	DIP	Dual 5-Input Gate Expander
NE112A	DIP	Dual 3-Input High Fan-Out NAND Gate*
NE116A	DIP	Dual 4-Input NAND Gate*
NE124A	DIP	RST Binary Element
NE125A	DIP	J-K Binary Element
NE156A	DIP	Dual 4-Input Clock/Capacitive Line Driver*
NE161A	DIP	One-Shot Multivibrator
NE162A	DIP	One-Shot Multivibrator
NE170A	DIP	Triple 3-Input NAND Gate
NE180A	DIP	Quadruple 2-Input NAND Gate

COMPATIBLE DTL ELEMENTS (OC to +70C)

NE106J	TO-88	Dual 5-Input Gate Expander
NE112J	TO-88	Dual 3-Input High Fan-Out NAND Gate*
NE116J	TO-88	Dual 4-Input NAND Gate*
NE124J	TO-88	RST Binary Element
NE125J	TO-88	J-K Binary Element
NE156J	TO-88	Dual 4-Input Clock/Capacitive Line Driver*
NE161J	TO-88	One-Shot Multivibrator
NE162J	TO-88	One-Shot Multivibrator
NE170J	TO-88	Triple 3-Input NAND Gate
NE180J	TO-88	Quadruple 2-Input NAND Gate

COMPATIBLE LOW-POWER DTL/TTL ELEMENTS (O C to +70C)

NE415J	TO-88	Dual 5-Input DTL NAND Gate—No Collector Load
NE416J	TO-88	Dual 4-Input Expandable DTL NAND Gate
NE417J	TO-88	Dual 3-Input Expandable DTL NAND Gate—No Collector Load
NE424J	TO-88	Dual A-C DTL Binary Element
NE440J	TO-88	Dual AND-OR Invert TTL Gate
NE455J	TO-88	Dual 4-Input TTL NAND Buffer Gate
NE470J	TO-88	Triple 3-Input TTL NAND Gate
NE471J	TO-88	Triple 3-Input TTL NAND Gate—No Collector Load
NE480J	TO-88	Quad 2-Input NAND TTL Gate
NE481J	TO-88	Quad 2-Input NAND TTL Gate—No Collector Load

LINEAR CIRCUITS (O C to +70C)

NE501G	TO-91	Video Amplifier
NE501K	TO-100	Video Amplifier
NE518G	TO-91	Voltage Comparator
NE518K	TO-100	Voltage Comparator

COMPATIBLE DCL HIGH-SPEED LOW-POWER ELEMENTS (OC to +75C)

NE8162A	DIP	One-Shot Multivibrator
NE8280A	DIP	Decade Counter
NE8281A	DIP	Binary Counter
NE8415A	DIP	Dual 5-Input DTL NAND Gate—No Collector Load

*Element incorporates fan-in expansion provision.

Type Number	Case	Description
NE8416A	DIP	Dual 4-Input Expandable DTL NAND Gate
NE8417A	DIP	Dual 3-Input Expandable DTL NAND Gate—No Collector Load
NE8424A	DIP	Dual A-C DTL Binary Element
NE8440A	DIP	Dual AND-OR-Invert TTL Gate
NE8455A	DIP	Dual 4-Input TTL NAND Buffer Gate
NE8470A	DIP	Triple 3-Input TTL NAND Gate
NE8471A	DIP	Triple 3-Input TTL NAND Gate—No Collector Load
NE8480A	DIP	Quad 2-Input TTL NAND Gate
NE8481A	DIP	Quad 2-Input TTL NAND Gate—No Collector Load
NE8731A	DIP	Quad 2-Input Diode Expander
NE8806A	DIP	Dual 4-Input TTL Expander
NE8808A	DIP	Single 8-Input TTL NAND Gate
NE8816A	DIP	Dual 4-Input TTL NAND Gate
NE8825A	DIP	D-C Clocked J-K TTL Binary Element
NE8826A	DIP	Dual J-K TTL Binary Element
NE8828A	DIP	Dual Delay TTL Binary Element
NE8840A	DIP	Dual 2-Wide 2-Input AND-OR-Invert TTL Gate
NE8855A	DIP	Dual 4-Input TTL NAND Buffer Gate
NE8870A	DIP	Triple 3-Input TTL NAND Gate
NE8880A	DIP	Quad 2-Input TTL NAND Gate

COMPATIBLE DCL HIGH-SPEED LOW-POWER ELEMENTS (OC to +75C)

NE8162J	TO-88	One-Shot Multivibrator
NE8280J	TO-88	Decade Counter
NE8281J	TO-88	Binary Counter
NE8415J	TO-88	Dual 5-Input DTL NAND Gate—No Collector Load
NE8416J	TO-88	Dual 4-Input Expandable DTL NAND Gate
NE8417J	TO-88	Dual 3-Input Expandable DTL NAND Gate—No Collector Load
NE8424J	TO-88	Dual A-C DTL Binary Element
NE8440J	TO-88	Dual AND-OR-Invert TTL Gate
NE8455J	TO-88	Dual 4-Input TTL NAND Buffer Gate
NE8470J	TO-88	Triple 3-Input TTL NAND Gate
NE8471J	TO-88	Triple 3-Input TTL NAND Gate—No Collector Load
NE8480J	TO-88	Quad 2-Input TTL NAND Gate
NE8481J	TO-88	Quad 2-Input TTL NAND Gate—No Collector Load
NE8731J	TO-88	Quad 2-Input Diode Expander
NE8806J	TO-88	Dual 4-Input TTL Expander
NE8808J	TO-88	Single 8-Input TTL NAND Gate
NE8816J	TO-88	Dual 4-Input TTL NAND Gate
NE8825J	TO-88	D-C Clocked J-K TTL Binary Element
NE8826J	TO-88	Dual J-K TTL Binary Element
NE8828J	TO-88	Dual Delay TTL Binary Element
NE8840J	TO-88	Dual 2-Wide 2-Input AND-OR-Invert TTL Gate
NE8855J	TO-88	Dual 4-Input TTL NAND Buffer Gate
NE8870J	TO-88	Triple 3-Input TTL NAND Gate
NE8880J	TO-88	Quad 2-Input TTL NAND Gate

COMPATIBLE DTL ELEMENTS (—55C to +125C)

SE106J	TO-88	Dual 5-Input Gate Expander
SE111J	TO-88	Dual 4-Input High Fan-Out NAND Gate
SE112J	TO-88	Dual 3-Input High Fan-Out NAND Gate*
SE116J	TO-88	Dual 4-Input NAND Gate*
SE124J	TO-88	RST Binary Element
SE125J	TO-88	J-K Binary Element
SE155J	TO-88	Dual 4-Input Clock/Capacitive Line Driver*
SE156J	TO-88	Dual 4-Input Clock/Capacitive Line Driver*
SE161J	TO-88	One-Shot Multivibrator
SE162J	TO-88	One-Shot Multivibrator
SE170J	TO-88	Triple 3-Input NAND Gate
SE180J	TO-88	Quadruple 2-Input NAND Gate

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SPRAGUE SEMICONDUCTORS

Type Number	Case	Description
COMPATIBLE LOW-POWER TTL ELEMENTS (−55C to +125C)		
SE415J	TO-88	Dual 5-Input DTL NAND Gate—No Collector Load
SE416J	TO-88	Dual 4-Input Expandable DTL NAND Gate
SE417J	TO-88	Dual 3-Input Expandable DTL NAND Gate—No Collector Load
SE424J	TO-88	Dual A-C DTL Binary Element
SE440J	TO-88	Dual AND-OR-Invert TTL Gate
SE455J	TO-88	Dual 4-Input TTL NAND Buffer Gate
SE470J	TO-88	Triple 3-Input TTL NAND Gate
SE471J	TO-88	Triple 3-Input TTL NAND Gate—No Collector Load
SE480J	TO-88	Quad 2-Input NAND TTL Gate
SE481J	TO-88	Quad 2-Input NAND TTL Gate—No Collector Load
LINEAR CIRCUITS (−55C to +125C)		
SE501G	TO-91	Video Amplifier
SE501K	TO-100	Video Amplifier
SE518G	TO-91	Voltage Comparator
SE518K	TO-100	Voltage Comparator
COMPATIBLE DCL HIGH-SPEED LOW-POWER ELEMENTS (−55C to +125C)		
SE8162A	DIP	One-Shot Multivibrator
SE8280A	DIP	Decade Counter
SE8281A	DIP	Binary Counter
SE8415A	DIP	Dual 5-Input DTL NAND Gate—No Collector Load
SE8416A	DIP	Dual 4-Input Expandable DTL NAND Gate
SE8417A	DIP	Dual 3-Input Expandable DTL NAND Gate—No Collector Load
SE8424A	DIP	Dual A-C DTL Binary Element
SE8440A	DIP	Dual AND-OR-Invert TTL Gate
SE8455A	DIP	Dual 4-Input TTL NAND Buffer Gate
SE8470A	DIP	Triple 3-Input TTL NAND Gate
SE8471A	DIP	Triple 3-Input TTL NAND Gate—No Collector Load
SE8480A	DIP	Quad 2-Input TTL NAND Gate
SE8481A	DIP	Quad 2-Input TTL NAND Gate—No Collector Load
SE8731A	DIP	Quad 2-Input Diode Expander
SE8806A	DIP	Dual 4-Input TTL Expander
SE8808A	DIP	Single 8-Input TTL NAND Gate
SE8816A	DIP	Dual 4-Input TTL NAND Gate
SE8825A	DIP	D-C Clocked J-K TTL Binary Element
SE8826A	DIP	Dual J-K TTL Binary Element
SE8828A	DIP	Dual Delay TTL Binary Element
SE8840A	DIP	Dual 2-Wide 2-Input AND-OR-Invert TTL Gate
SE8855A	DIP	Dual 4-Input TTL NAND Buffer Gate
SE8870A	DIP	Triple 3-Input TTL NAND Gate
SE8880A	DIP	Quad 2-Input TTL NAND Gate
COMPATIBLE TTL HIGH-SPEED LOW-POWER ELEMENTS (−55C to +125C)		
SE8162J	TO-88	One-Shot Multivibrator
SE8280J	TO-88	Decade Counter
SE8281J	TO-88	Binary Counter
SE8415J	TO-88	Dual 5-Input DTL NAND Gate—No Collector Load
SE8416J	TO-88	Dual 4-Input Expandable DTL NAND Gate
SE8417J	TO-88	Dual 3-Input Expandable DTL NAND Gate—No Collector Load
SE8424J	TO-88	Dual A-C DTL Binary Element
SE8440J	TO-88	Dual AND-OR-Invert TTL Gate
SE8455J	TO-88	Dual 4-Input TTL NAND Buffer Gate
SE8470J	TO-88	Triple 3-Input TTL NAND Gate
SE8471J	TO-88	Triple 3-Input TTL NAND Gate—No Collector Load
SE8480J	TO-88	Quad 2-Input TTL NAND Gate
SE8481J	TO-88	Quad 2-Input TTL NAND Gate—No Collector Load
SE8731J	TO-88	Quad 2-Input Diode Expander
SE8806J	TO-88	Dual 4-Input TTL Expander
SE8808J	TO-88	Single 8-Input TTL NAND Gate
SE8816J	TO-88	Dual 4-Input TTL NAND Gate
SE8825J	TO-88	D-C Clocked J-K TTL Binary Element
SE8826J	TO-88	Dual J-K TTL Binary Element
SE8828J	TO-88	Dual Delay TTL Binary Element
SE8840J	TO-88	Dual 2-Wide 2-Input AND-OR-Invert TTL Gate
SE8855J	TO-88	Dual 4-Input TTL NAND Buffer Gate
SE8870J	TO-88	Triple 3-Input TTL NAND Gate
SE8880J	TO-88	Quad 2-Input TTL NAND Gate
COMPATIBLE DTL ELEMENTS (+15C to +55C)		
SP616A	DIP	Dual 4-Input Expandable NAND Gate
SP620A	DIP	J-K Binary Element
SP629A	DIP	RST Binary Element—Split Clock
SP631A	DIP	Quad 2-Input Gate Expander
SP659A	DIP	Dual 4-Input Expandable Buffer/Driver
SP670A	DIP	Triple 3-Input NAND Gate
SP680A	DIP	Quad 2-Input NAND Gate
UTILOGIC ELEMENTS (−20C to +85C)		
SU300G	TO-91	Dual 3-Input Gate Expander
SU305G	TO-91	6-Input AND Gate
SU306G	TO-91	Dual 3-Input AND Gate
SU314G	TO-91	7-Input NOR Gate
SU315G	TO-91	Dual 3-Input NOR Gate
SU316G	TO-91	Dual 2-Input NOR Gate*
SU320G	TO-91	J-K Binary Element
SU331G	TO-91	Dual 2-Input OR Gate*
SU332G	TO-91	Dual 3-Input OR Gate
UTILOGIC ELEMENTS (−20C to +85C)		
SU300K	TO-100	Dual 3-Input Gate Expander
SU305K	TO-100	6-Input AND Gate
SU306K	TO-100	Dual 3-Input AND Gate
SU314K	TO-100	7-Input NOR Gate
SU315K	TO-100	Dual 3-Input NOR Gate
SU316K	TO-100	Dual 2-Input NOR Gate*
SU320K	TO-100	J-K Binary Element
SU331K	TO-100	Dual 2-Input OR Gate*
SU332K	TO-100	Dual 3-Input OR Gate
DIGITAL-TO-ANALOG CONVERSION CIRCUITS (−55C to +125C)		
UD4001	TO-91	4 Bit Ladder Switch
UD4024	TO-87	4 Bit Buffer Amplifier
UD4036	TO-87	5 Bit Ladder Switch
UD4037	TO-87	5 Bit Buffer Amplifier
UD4074	FLAT PACK	Dual Positive Reference Buffer Switch
UD4080	FLAT PACK	Dual Positive Reference Buffer Switch
UD4131	FLAT PACK	Quad Power Driver
LINEAR CIRCUITS		
ULN-2111A	DIP	FM Detector and Limiter
ULN-2300M	DIP	8-Lead Amplifier—SCR Firing Circuit
ULX-2102A	DIP	Variable Electronic Attenuator
ULX-2102J	TO-88	Variable Electronic Attenuator
COMPATIBLE DTL ELEMENTS (−55C to +125C)		
US720J**	TO-88	Quadruple 2-Input NAND Gate—No Collector Load
US721J**	TO-88	Triple 3-Input NAND Gate—No Collector Load
US727J**	TO-88	Triple 2-Input NAND Gate*
US729J**	TO-88	RST Binary Element
US730J**	TO-88	Dual 5-Input NAND Gate
US731J**	TO-88	Quadruple 2-Input Gate Expander
US732J**	TO-88	12-Input Gate Expander
COMPATIBLE LOW-POWER RTL ELEMENTS (−55C to +125C)		
US-0908D	TO-78	Adder (A)
US-0909D	TO-78	Buffer (B)
US-0910D	TO-78	Dual 2-Input Gate (D)
US-0911D	TO-78	4-Input Gate (G)
US-0912D	TO-78	Half Adder (H)
US-0913D	TO-78	Register (R)
US-0921D	TO-78	Expander (E)
US-0940D	TO-78	J-K Binary Element (JK)
US-0960D	TO-78	Twin Buffer (T)

**Completely interchangeable with Signetics parts prefixed by CS, e.g., Sprague US720J and CS720J are identical except for part numbers.
*Element incorporates fan-in expansion provision.

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SPRAGUE SEMICONDUCTORS

Type Number	Case	Description
COMPATIBLE LOW-POWER RTL ELEMENTS (0C to +70C)		
USN-908D	TO-78	Adder (A)
USN-909D	TO-78	Buffer (B)
USN-910D	TO-78	Dual 2-Input
USN-911D	TO-78	4-Input Gate (G)
USN-912D	TO-78	Half Adder (H)
USN-913D	TO-78	Register (R)
USN-921D	TO-78	Expander (E)
USN-940D	TO-78	J-K Binary Element (JK)
USN-960D	TO-78	Twin Buffer (T)
SUPER-SPEED TTL ELEMENTS (0C to +75C)		
USN-1050A	DIP	60MHz and Input J-L Flip-Flop
USN-1050J	TO-88	60MHz and Input J-K Flip-Flop
USN-74H00J	TO-88	Quad 2-Input NAND Gate
USN-74H00A	DIP	Quad 2-Input NAND Gate
USN-74H20A	DIP	Dual 4-Input NAND Gate
USN-74H20J	TO-88	Dual 4-Input NAND Gate
COMPATIBLE TTL ELEMENTS (0C to +70C)		
USN-7400A	DIP	Quad 2-Input NAND Gate
USN-7401A	DIP	Quad 2-Input NAND Gate—No Collector Load
USN-7402A	DIP	Quad 2-Input NOR Gate
USN-7410A	DIP	Triple 3-Input NAND Gate
USN-7420A	DIP	Dual 4-Input NAND Gate
USN-7430A	DIP	Single 8-Input NAND Gate
USN-7440A	DIP	Dual 4-Input TTL NAND Buffer Gate
USN-7441B	DIP	BCD-to-Decimal Decoder—Driver
USN-7450A	DIP	Dual 2-Wide, 2-Input Expandable AND-OR-Invert Gate
USN-7451A	DIP	Dual 2-Wide, 2-Input AND/OR Gate
USN-7453A	DIP	4-Wide, 2-Input Expandable AND-OR-Invert Gate
USN-7454A	DIP	4-Wide, 2-Input AND-OR-Invert Gate
USN-7460A	DIP	Dual 4-Input Expander
USN-7470A	DIP	D-C Clocked J-K Flip-Flop
USN-7472A	DIP	J-K Master Slave Flip-Flop
USN-7473A	DIP	Dual J-K Master Slave Flip-Flop
USN-7474A	DIP	Dual D-Type Edge Triggered Flip-Flop
USN-7475B	DIP	Quadruple Latch
USN-7476B	DIP	Dual Master Slave Flip-Flop With Pre-Set and Clear
USN-7479A	DIP	Dual A-C Clocked J-K Flip-Flop
USN-7480A	DIP	Full Adder
USN-7482A	DIP	2-Bit Binary Adder
USN-7483B	DIP	4-Bit Binary Adder
USN-7490A	DIP	Decade Counter
USN-7491A	DIP	8-Bit Shift Register
USN-7492A	DIP	Divide-By-12 Counter
USN-7493A	DIP	4-Bit Binary Counter
USN-74107A	DIP	Dual J-K Master Slave Flip-Flop
COMPATIBLE TTL ELEMENTS (0C to +70C)		
USN-7400J	TO-88	Quad 2-Input NAND Gate
USN-7401J	TO-88	Quad 2-Input NAND Gate—No Collector Load
USN-7402J	TO-88	Quad 2-Input NOR Gate
USN-7410J	TO-88	Triple 3-Input NAND Gate
USN-7420J	TO-88	Dual 4-Input NAND Gate
USN-7430J	TO-88	Single 8-Input NAND Gate
USN-7440J	TO-88	Dual 4-Input TTL NAND Buffer Gate
USN-7450J	TO-88	Dual 2-Wide, 2-Input Expandable AND-OR-Invert Gate
USN-7451J	TO-88	Dual 2-Wide, 2-Input AND-OR-Invert Gate
USN-7453J	TO-88	4-Wide, 2-Input Expandable AND-OR-Invert Gate
USN-7454J	TO-88	4-Wide, 2-Input AND-OR-Invert Gate
USN-7460J	TO-88	Dual 4-Input Expander
USN-7470J	TO-88	D-C Clocked J-K Flip-Flop
USN-7472J	TO-88	J-K Master Slave Flip-Flop
USN-7473J	TO-88	Dual J-K Master Slave Flip-Flop
USN-7474J	TO-88	Dual D-Type Edge Triggered Flip-Flop
USN-7479J	TO-88	Dual A-C Clocked J-K Flip-Flop
USN-7490J	TO-88	Decade Counter
USN-7492J	TO-88	Divide-By-Twelve Counter
USN-7493J	TO-88	4-Bit Binary Counter
SUPER-SPEED TTL ELEMENTS (−55C to +125C)		
USS-1050A	DIP	60MHz and Input J-K Flip-Flop
USS-1050J	TO-88	60MHz and Input J-K Flip-Flop
USS-74H00A	DIP	Quad 2-Input NAND Gate
USS-74H00J	TO-88	Quad 2-Input NAND Gate
USS-74H20A	DIP	Dual 4-Input NAND Gate
USS-74H20J	TO-88	Dual 4-Input NAND Gate
COMPATIBLE TTL ELEMENTS (−55C to +125C)		
USS-5400A	DIP	Quad 2-Input NAND Gate
USS-5401A	DIP	Quad 2-Input NAND Gate—No Collector Load
USS-5402A	DIP	Quad 2-Input NOR Gate
USS-5410A	DIP	Triple 3-Input NAND Gate
USS-5420A	DIP	Dual 4-Input NAND Gate
USS-5430A	DIP	Single 8-Input NAND Gate
USS-5440A	DIP	Dual 4-Input NAND Buffer Gate
USS-5450A	DIP	Dual 2-Wide, 2-Input Expandable AND-OR-Invert Gate
USS-5451A	DIP	Dual 2-Wide, 2-Input AND-OR-Invert Gate
USS-5453A	DIP	4-Wide, 2-Input Expandable AND-OR-Invert Gate
USS-5454A	DIP	4-Wide, 2-Input AND-OR-Invert Gate
USS-5460A	DIP	Dual 4-Input Expander
USS-5470A	DIP	D-C Clocked J-K Flip-Flop
USS-5472A	DIP	J-K Master Slave Flip-Flop
USS-5473A	DIP	Dual J-K Master Slave Flip-Flop
USS-5474A	DIP	Dual D-Type Edge Triggered Flip-Flop
USS-5479A	DIP	Dual A-C Clocked J-K Flip-Flop
USS-5490A	DIP	Decade Counter
USS-5492A	DIP	Divide-By-Twelve Counter
USS-5493A	DIP	4-Bit Binary Counter
USS-54107A	DIP	Dual J-K Master Slave Flip-Flop
COMPATIBLE TTL ELEMENTS (−55C to +125C)		
USS-5400J	TO-88	Quad 2-Input NAND Gate
USS-5401J	TO-88	Quad 2-Input NAND Gate—No Collector Load
USS-5402J	TO-88	Quad 2-Input NOR Gate
USS-5410J	TO-88	Triple 3-Input NAND Gate
USS-5420J	TO-88	Dual 4-Input NAND Gate
USS-5430J	TO-88	Single 8-Input NAND Gate
USS-5440J	TO-88	Dual 4-Input NAND Buffer Gate
USS-5450J	TO-88	Dual 2-Wide, 2-Input Expandable AND-OR-Invert Gate
USS-5451J	TO-88	Dual 2-Wide, 2-Input AND/OR-Invert Gate
USS-5453J	TO-88	4-Wide, 2-Input Expandable AND-OR-Invert Gate
USS-5454J	TO-88	4-Wide, 2-Input AND-OR-Invert Gate
USS-5460J	TO-88	Dual 4-Input Expander
USS-5470J	TO-88	D-C Clocked J-K Flip-Flop
USS-5472J	TO-88	J-K Master Slave Flip-Flop
USS-5473J	TO-88	Dual J-K Master Slave Flip-Flop
USS-5474J	TO-88	Dual D-Type Edge Triggered Flip-Flop
USS-5479J	TO-88	Dual A-C Clocked J-K Flip-Flop
USS-5490J	TO-88	Decade Counter
USS-5492J	TO-88	Divide-By-Twelve Counter
USS-5493J	TO-88	4-Bit Binary Counter
DIGITAL-TO-ANALOG CONVERSION CIRCUITS (−55C to +125C)		
UT-1000	TO-90	4-Bit Ladder Network
UT-1001	TO-86	5-Bit Ladder Network
UT-1001A	TO-86	5-Bit Ladder Network
UT-1002	TO-90(3)	12-Bit Ladder Network

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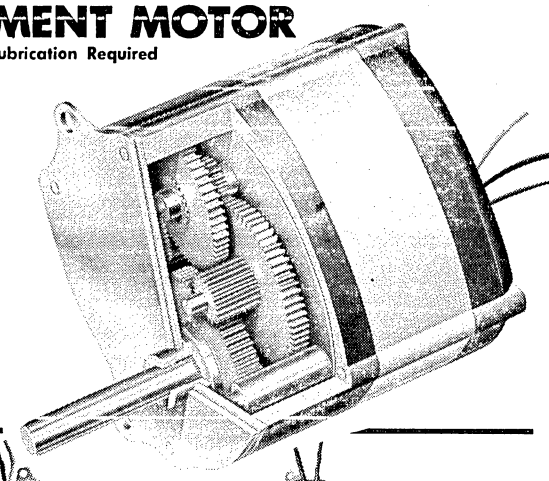
SECTION 3500

NEW Hurst 600 In. Oz. Model GA HYSTERESIS REVERSIBLE SYNCHRONOUS INSTRUMENT MOTOR

● Heavy Duty Gearing ● Can Be Stalled Without Overheating ● No Lubrication Required

HEAVY DUTY SYNCHRONOUS MOTORS

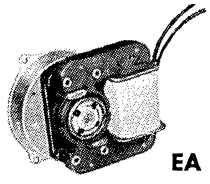


RATED 600 INCH-OUNCE AT 1 RPM (GA Series) Dimensions: 2 13/16" diam. x 3".

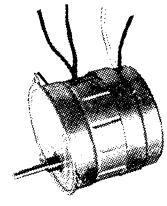
OUTPUT SPEEDS: 1, 2, 3, 4, 5, 6, 10, 18, 30, 60, 100, 120, 150, 180, 225, 300 and 3600 RPM (3600 direct drive, no gear train, 1/8" shaft).

QUANTITY	1 RPM THRU 10 RPM	18 RPM THRU 59 RPM	60 RPM THRU 300 RPM	3600 RPM
1- 9	$30.50	$28.65	$26.45	$20.40
10- 24	28.98	27.22	25.13	19.38
25- 49	27.46	25.79	23.81	18.36
50- 74	25.94	24.36	22.49	17.34
75- 99	24.42	22.93	21.17	16.32
100-249	21.37	20.07	18.52	14.28

OTHER MODELS:

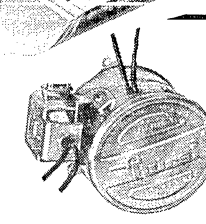


EA



CA

DA SM



PC-DA
PC-SM
AR-DA
AR-SM

150 INCH-OUNCE (EA Series — open frame) shaded pole. Completely accurate clockwise rotation. An extremely cool running timing motor with same gear units specified above. Torque, 150 inch-ounce at 1 RPM. Dimensions, 3 1/4" long x 2 5/8" wide x 1 5/8" high. Output shaft 3/16" dia. x 1" long flattened. (Exception: 3600 RPM speed has 3/32" output shaft x 1" long flattened. Shipping Wt. 1 lb. 3 oz.

OUTPUT SPEEDS: 1, 2, 4, 6, 8, 10, 12, 20, 30, 60 and 120 RPM. 3600 RPM.

EA	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	$ 9.35	8.41	7.99	7.59	7.21
3600 RPM Only	$ 6.93	6.24	5.93	5.63	5.35

120 INCH-OUNCE REVERSIBLE. (DA Series) Instantly reversible (with SPDT switching). Completely accurate both clockwise and counter-clockwise. 100g shock resistance. Vibration resistant, accurate synchronization of 10-55 cps at .065" excursion. Good magnetic shielding. Torque, 120 inch-ounce at 1 rpm. Case dimensions, 2 1/2" dia. x 1 3/4". Output shaft 3/16" dia. x 1" long flattened. Shipping Wt., 1 lb. 1 oz.

OUTPUT SPEEDS: 1, 2, 4, 6, 8, 10, 12, 20, 30, 60 and 120 RPM.

DA	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	$14.60	13.14	12.48	11.86	11.27

(Price includes capacitor)

POSITIVE CLUTCH DA SERIES. Basic DA motor with Positive Clutch and instantaneous Brake. Starts in 20 milliseconds — stops 60 rpm shaft in 12°; 1 rpm, 1/5°. Shipping Wt. 1 lb. 5 oz.

OUTPUT SPEEDS: 1, 2, 4, 6, 8, 10, 12, 20, 30, 60 and 120 RPM.

PC-DA	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	$20.18	18.16	17.25	16.39	15.57

(Price includes capacitor)

POSITIVE CLUTCH SM SERIES. Basic SM motor with Positive Clutch and Instantaneous Brake. Starts in 20 milliseconds — stops 60 rpm shaft in 12°, 1 rpm 1/5°.

OUTPUT SPEEDS: 1/2, 1, 2, 3, 4, 5, 6, 10, 15, 30 and 60 RPM.

PC-SM	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	$17.86	16.07	15.27	14.50	13.78

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

100 INCH-OUNCE REVERSIBLE. (CA Series) Instantly reversible (with SPDT switching). Completely accurate both clockwise and counter-clockwise. 1200 rpm rotor speed for quiet performance. Torque, 100 inch-ounce at 1 rpm. Case dimensions, 2 1/2" dia. x 2 1/8". Output shaft 3/16" dia. x 1" long flattened. Shipping Wt., 1 lb. 2 oz. Most versatile and economical motor in its field!

OUTPUT SPEEDS: 1/3, 1/2, 1, 1 1/2, 2, 2 1/2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 20, 24, 25, 30, 32, 33 1/3, 40, 48, 50, 60, 64, 80, 100, 120, 150, 160, 200, 240, 400, 600, 800 and 1000 RPM.

CA	Net Each, Lots or				
	1-9	10-24	25-49	50-99	100-249
PRICE	$12.51	11.26	10.70	10.17	9.67

(Price includes capacitor)

40 INCH-OUNCE UNIDIRECTIONAL. (SM Series) Shaded pole. Clockwise rotation. Instant start at full torque at 40 inch-ounce at 1 rpm. 100g shock resistance. Vibration resistant, accurate synchronization at 10-55 cps at .065" excursion. Case dimensions, 2 1/2" dia. x 1 3/4". Output shaft 3/16" dia. x 1" long flattened. Shipping Wt., 1 lb.

OUTPUT SPEEDS: 1/2, 1, 2, 3, 4, 5, 6, 10, 15, 30 and 60 RPM.

SM	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	$12.28	11.05	10.50	9.98	9.48

100 INCH-OUNCE REVERSIBLE (AR-DA Series) or 40 INCH-OUNCE UNIDIRECTIONAL (AR-SM Series) Each is an Automatic Reset motor when a return spring is attached to the output shaft. When clutch is de-energized the shaft is free for manual or automatic reset. Note: The clutch mechanism is lubricated and completely enclosed. AR Series is designed for heavy applications and will easily handle full torque on model SM or DA (either directional rotation). Physical size and appearance same as PC Series. Accurate within 1/3 second at 1 RPM and more accurate at higher speeds. Max. error in seconds $\frac{.5625}{\text{RPM}}$. Case dimensions, 2 1/2" dia. x 2 1/16". Clutch actuator 7/8" height x 1 3/16" width. Output shaft 3/16" dia. x 1" long flattened. Mounting same as standard motor shown in sketch. Shipping Wt., 1 lb. 6 oz.

OUTPUT SPEEDS: 1, 4, 6, 10, 30 and 60 RPM.

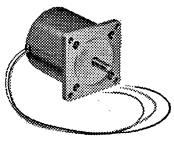
AR-DA	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	$23.80	21.42	20.35	19.33	18.36

AR-SM	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
PRICE	$21.50	19.35	18.38	17.46	16.59

SUPERSEDES PREVIOUS LISTING

hurst MANUFACTURING CORP.

SLO-SYN®



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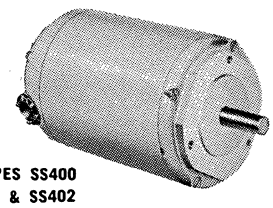
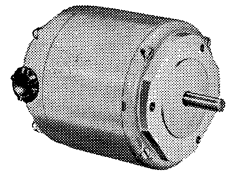
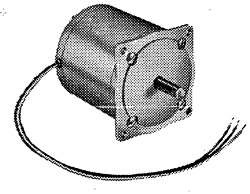


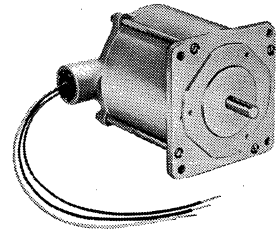
TYPES SS400 & SS402



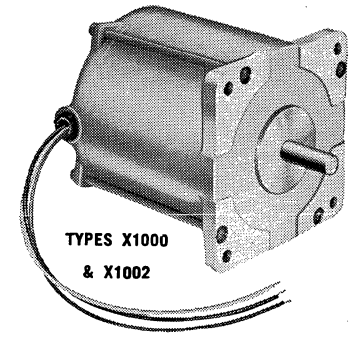
TYPES SS150 & SS152



TYPES HS50 & HS52



TYPES X250 & X252



TYPES X1000 & X1002

A-C OPERATION — Standard SLO-SYN Synchronous/Stepping Motors are permanent magnet a-c motors having extremely rapid starting, stopping and reversing characteristics and a slow basic shaft speed of 72 rpm synchronous with a line frequency of 60 hertz. Three-lead types need only a single-pole, three-position switch for complete forward, reverse and "off" control. No excessive inrush current when energized because starting and operating current are nearly identical. Can be completely stalled without overheating and with no harmful effects on components. Starts or stops in less than 5° of shaft rotation; no need for mechanical or electrical braking. When used with an auxiliary high speed motor, the SLO-SYN motor can remain coupled to the load and safely overdriven. Phase shifting resistor and capacitor must be used when operating from a single-phase source but not from two-phase. All standard motors are rated for continuous duty at maximum ambient temperature of 40°C. Types SS150 and SS152 use Class A insulation; all others have Class B.

D-C STEPPING — When used for phase-switched d-c stepping, the motors can be connected to provide either 100 or 200 steps per revolution. Accuracy of the steps is ±.09° noncumulative. Three-lead types require a center-tapped d-c supply and single-pole, double-throw switching; four-lead types require a single-ended power supply and single pole, double-throw switching. Bifilar motors can also be used with transistorized switching circuits. With a suitable control potentiometer instead of switches, a SLO-SYN motor can be made to rotate steplessly, permitting extremely accurate positioning. All motors have lubricated-for-life bearings.

PRECISION STEPPING

For phase-switched d-c stepping, types HS25, HS50, HS50D and HS50L make 200 steps per shaft revolution. Each 1.8° step is accurate within ±3% (.06°) noncumulative. May be operated at speeds greater than 500 steps per second if accelerating and decelerating circuits are used. With proper circuitry, the motors may be operated at speeds of 1000 steps per second or higher without missing any steps.

200 RPM

Types TS25, TS50 and TS52 are similar to standard models but operate at synchronous speeds of 200 rpm and take 36 or 72 steps per revolution when used for d-c stepping.

RATINGS AND SPECIFICATIONS FOR A-C APPLICATIONS

TYPE	MAXIMUM AMPERES	TORQUE (Oz-In)	MAXIMUM MOMENT OF INERTIA OF A RIGIDLY ATTACHED LOAD (Lb-In²)	PHASE-SHIFTING COMPONENTS*				APPROXIMATE MOTOR WEIGHT (POUNDS)	
				RESISTOR	RESISTOR PART NUMBER	CAPACITOR	CAPACITOR PART NUMBER	NET	SHIPPING
120 Volts, 50/60 hertz, 1 Phase, 200 RPM at 60 hertz									
TS25	0.2	25	0.12	300 ohm, ±5%, 25 watt	R-TS25/50	1.5 mfd ±6%, 330 VAC	C-TS25	2	2½
TS50	0.3	50	0.25	300 ohm, ±5%, 25 watt	R-TS50	3.75 mfd ±6%, 330 VAC	C-SS150/TS50	4¾	5¾
120 volts, 50/60 hertz, 1 phase, 72 RPM at 60 hertz									
SS25§	0.1	25	0.15	500 ohm ±5%, 5 watt	R-SS25	0.75 mfd ±6%, 330 VAC	C-SS25	1¼	1½
SS50§	0.3	50	0.5	250 ohm ±5%, 25 watt	R-SS50/150	2.6 mfd ±6%, 330 VAC	C-SS50	3	3½
SS50M†§	0.3	50	0.5	250 ohm ±5%, 25 watt	R-SS50M/150M	2.6 mfd ±6%, 330 VAC	C-SS50M	3	3½
SS150	0.4	150	1.5	250 ohm ±5%, 25 watt	R-SS50/150	3.75 mfd ±6%, 330 VAC	C-SS150/TS50	6½	8
SS150M†	0.4	150	1.5	250 ohm ±5%, 25 watt	R-SS50M/150M	3.75 mfd ±6%, 330 VAC	C-SS150M	6½	8
SS250	0.6	250	3	150 ohm ±5%, 50 watt	R-SS250/400	6.5 mfd ±6%, 330 VAC	C-SS250/400	6½	8
SS250M†	0.6	250	3	150 ohm ±5%, 50 watt	R-SS250M	6.5 mfd ±6%, 330 VAC	C-SS250M	6½	8
X250‡	0.6	250	3	150 ohm ±5%, 50 watt	R-SS250/400	6.5 mfd ±6%, 330 VAC	C-SS250/400	7¾	9
SS400	0.6	400	4.5	150 ohm ±5%, 50 watt	R-SS250/400	6.5 mfd ±6%, 330 VAC	C-SS250/400	12¼	13¾
X1000‡	3.0	1000	9	65 ohm ±5%, 160 watt	R-X1000	30 mfd ±6%, 330 VAC	C-X1000	31	33
X1500	3.0	1500	12	50 ohm ±5%, 375 watt	R-X1500	30 mfd ±5%, 330 VAC	C-X1000/1500	38	41
SS1800	4.0	1800	16	40 ohm ±5%, 375 watt	R-SS1800	60 mfd ±6%, 330 VAC	C-SS1800	45	50
240 Volts, 50/60 hertz, 1 Phase, 200 RPM at 60 hertz									
TS52	0.2	50	0.25	1200 ohm ±5%, 25 watt	R-SS152/TS52	1.0 mfd ±6%, 660 VAC	C-SS152/TS52	4¾	5¾
240 Volts, 50/60 hertz, 1 Phase, 72 RPM at 60 hertz									
SS52§	0.2	50	0.5	1000 ohm ±5%, 10 watt	R-SS52	0.67 mfd ±6%, 660 VAC	C-SS52	3	3½
SS152	0.2	150	1.5	1200 ohm ±5%, 25 watt	R-SS152/TS52	1.0 mfd ±6%, 660 VAC	C-SS152/TS52	6½	8
SS252	0.3	250	3	500 ohm ±5%, 50 watt	R-SS252/402	1.75 mfd ±6%, 660 VAC	C-SS252/402	6½	8
X252‡	0.3	250	3	500 ohm ±5%, 50 watt	R-SS252/402	1.75 mfd ±6%, 660 VAC	C-SS252/402	7¾	9
SS402	0.3	400	4.5	500 ohm ±5%, 50 watt	R-SS252/402	1.75 mfd ±6%, 660 VAC	C-SS252/402	12¼	13¾
X1002‡§	1.5	1000	9	250 ohm ±5%, 200 watt	R-X1002	8 mfd ±6%, 660 VAC	C-X1002	31	33
SS1802	2.0	1800	16	130 ohm ±5%, 320 watt	R-SS1802	15 mfd ±6%, 660 VAC	C-SS1802	45	50

*External resistor and capacitor must be ordered separately. †Militarized. ‡Explosion-proof. §For 60 hertz. Other phase-shifting components required for 50 hertz.

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Synchronous / Stepping Motors FOR A-C CONSTANT SPEED • FOR D-C STEPPING

THREE-LEAD SLO-SYN SYNCHRONOUS/STEPPING MOTORS — RATINGS FOR STEPPING APPLICATIONS

MOTOR TYPE	TS25	TS50	TS52	SS25	SS50 SS50M	SS52	SS150 SS150M	SS152	SS250 SS250M X250	SS252 X252	SS400	SS402	X1000	X1002	SS1800	SS1802
D-C VOLTS	60	50	100	80	50	100	35	70	32	64	30	60	11.5	23	9.5	19
AMPERES PER WINDING	0.15	0.25	0.13	0.07	0.15	0.08	0.35	0.18	0.50	0.25	0.60	0.30	3.2	1.6	4.7	2.4

FOUR-LEAD SLO-SYN SYNCHRONOUS/STEPPING MOTORS RATINGS FOR STEPPING APPLICATIONS

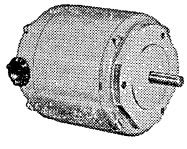
TYPES	D-C INPUT VOLTS PER WINDING	AMPERES PER WINDING
SS25-1014	16	0.35
SS25-1012	40	0.14
SS25-1013	80	0.07
SS50-1012	2.5	3.1
SS50-1011	10	0.75
SS50-1002	25	0.30
SS50-1014	50	0.15
SS150-1007	2	6.3
SS150-1018	7	1.75
SS150-1015	17.5	0.70
SS150-1025	35	0.35
SS250-1010	3	5.3
SS250-1009	8	2.0
SS250-1008	16	1.0
SS250-1007	32	0.50
SS400-1005	15	1.2
SS400-1007	30	0.6
X1000-1005	11.5	3.2
X1000-1008	23	1.6
SS1800-1004	9.5	4.7
SS1800-1005	19	2.4

SLO-SYN PRECISION STEPPING MOTORS RATINGS FOR DC STEPPING APPLICATIONS

TYPES	DC VOLTS	AMPERES PER WINDING
HS25	5.4	1.5
HS50	3	4
HS50L	4.5	3.5

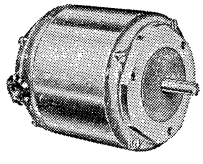
BIFILAR SLO-SYN SYNCHRONOUS/STEPPING MOTORS RATINGS FOR STEPPING APPLICATIONS

TYPE	D-C VOLTS	AMPERES PER WINDING
TS50-1001	3	4.0
SS25-1002	5.9	0.88
SS25-1001	11.8	0.44
SS25-1011	23.6	0.22
SS50-1010	2	3.3
SS50-1009	5.5	1.3
SS50-1008	8	0.85
SS50-1001	14	0.53
SS50-1007	35	0.21
SS150-1023	1.4	8.5
SS150-1009	2.5	4.0
SS150-1010	10	1.25
SS150-1017	25	0.5
SS250-1006	2.5	5.0
SS250-1027	4.6	3.1
SS250-1002	9	1.55
SS250-1004	22.5	0.61
X250-1003	4.6	3.1
X250-1002	9	1.55
SS400-1021	5.3	3.4
SS400-1002	8.3	2.2
SS400-1006	21.2	0.85
X1000-1002	10	3.6
X1000-1007	25.4	1.42
SS1800-1007	11.5	3.9
SS1800-1002	14.4	3.1
SS1800-1006	23	2.0



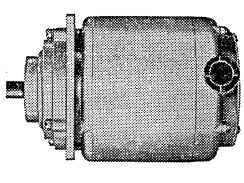
BIFILAR

Used for d-c stepping where use of push-pull circuitry and center-tapped power supply is not possible or where increased torque at high stepping speeds is required.



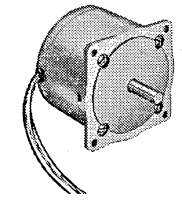
SPECIAL ENVIRONMENT

High Vacuum types for vacuums to 10^{-6} Torr; High Temperature types for temperatures to 130°C; High Radiation types withstand dosage of 3,000 megarads. All available from 50 to 1800 oz-in; High Vacuum 25 oz-in also.



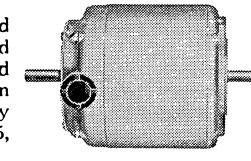
PLANETARY GEAR

Basic 50 and 150 oz-in types and type X250 available with planetary gear assemblies in speeds of 16.6, 3.32, 0.665, 0.133 or 0.027 rpm; 16.6 rpm available in other 250 and on 400 oz-in types.



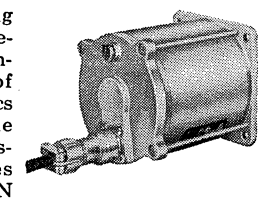
FOUR-LEAD

Designed for d-c stepping to provide the flexibility needed for use with equipment requiring isolated windings with no common connection.



DOUBLE END

Three-lead, bifilar and four-lead types with output shaft at each end of motor available in all listed torque ratings. 50, 150 and 250 oz-in types available also with planetary gear assemblies in 16.6, 3.32, 0.665, 0.133 or 0.027 rpm speeds.



VISCOUS DAMPED

Type HS50D precision stepping motor has a unique fluid system resulting in a step function approaching critical damping. Speed of response and running characteristics are essentially unaffected by the silicone viscous damping fluid. Possesses characteristics of types described under PRECISION STEPPING on facing page.

PAGES IN SECTIONS 2100, 4000 AND 5600

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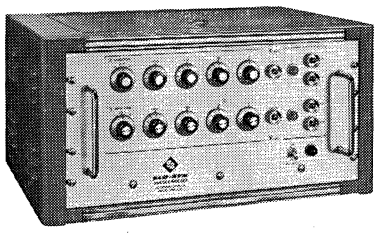
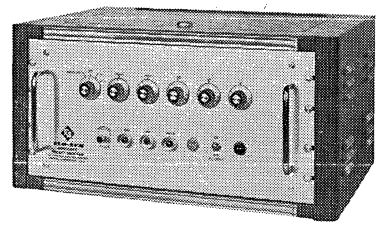
SLO-SYN® *Preset Indexers*



TWO-AXIS
TYPE 2SP1800-4

SINGLE-AXIS
TYPE SP1800B-4

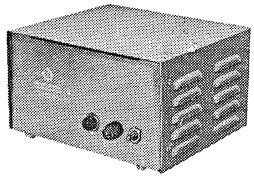


ABSOLUTE
TYPE SA1800-5

Used to control indexing of SLO-SYN bifilar motors. The index angle, or position, can be preset by dial setting on the control panel the number of 1.8° steps to be driven. Have provision for actuating any external equipment needed to perform related operations. Index, jog and free run can be initiated manually from the control panel or from an external switch. Can be made to cycle automatically with proper external switching. Single- and two-axis models are available with counting ranges to 99,999 steps. Two-axis models provide independent control of two SLO-SYN motors. Speed adjustable from 4 steps/second up to maximum possible with motor used. Optional backlash take-up circuit.

ABSOLUTE PRESET INDEXERS permit either absolute or incremental positioning modes. In the absolute positioning mode, the number set on the controls determines the final position of the motor relative to the starting, or "zero" point. When incremental positioning is used, the motor will move the preselected number of steps each time the INDEX button is pressed. Optional backlash take-up circuit.

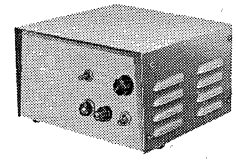
SLO-SYN® *Translator*



TYPE ST1800B

Pulse-to-step converter designed for use with appropriate bifilar SLO-SYN motors converted for incremental stepping. Convert low level signal pulses or square waves into the correct switching sequence needed to step a SLO-SYN motor at 200 steps/revolution (1.8° per step). Input is 105-125 volts a-c, 1 ampere. Signal input impedance is 500 ohms. Used for programmed positioning, indexing and indicating operations.

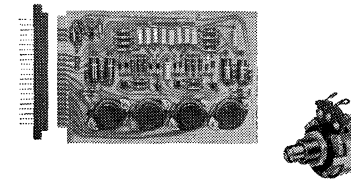
SLO-SYN® *Adjustable Speed Drive*



TYPE ST1800BV

Essentially, SLO-SYN Adjustable Speed Drive type ST1800BV is a translator which includes a built-in oscillator to supply the triggering signals. Oscillator frequency can be adjusted to vary the speed from 4 steps/second up to the maximum permissible with the motor used. Direction of rotation can be controlled either from the front panel or from a remotely located switch.

SLO-SYN® *Translator Module*



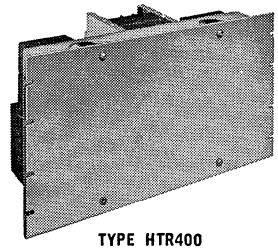
TYPE STM1800V

Plug-in circuit boards with logic capabilities for stepping a SLO-SYN motor in 1.8° increments. Type STM1800 is a basic translator which will provide bi-directional motor operation. Type STM1800V is similar but includes a built-in oscillator which can be adjusted to drive the motor at speeds from 4 steps/second up to maximum at which the motor will drive the load.

SLO-SYN® *High Speed Drives*

Translator

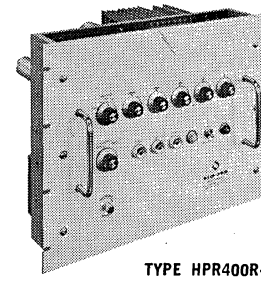
Drive SLO-SYN Precision Stepping Motors up to 2000 steps per second without losing any steps. Triggering the translator circuits is an internal oscillator which can supply a variable frequency range adjustable from 50 to 2000 steps per second. Triggering pulses can be supplied by tape readers, computers, oscillators, pulse generators and other signal producing equipment.



TYPE HTR400

Preset Indexer

Drive SLO-SYN Precision Stepping Motors in indexing and other positioning operations. Acceleration and deceleration circuits permit driving motors up to 2000 steps per second without missing any steps. Decade counter controls on front panel allow the operator to select any desired positioning increment. Optional backlash take-up circuit.



TYPE HPR400R-5

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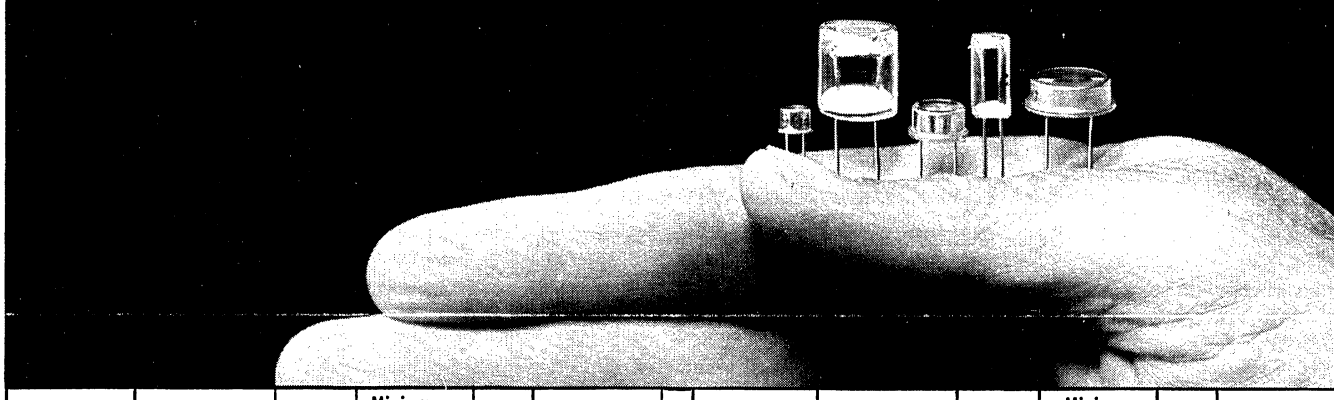
Photoconductive Cells

This listing represents less than half of the Clairex standard and special photocells available. A 16-page design manual is available on request.



Photocell ordering abbreviation	Diam. X Length (inches)	Resistance @ 2 fc ± 33⅓%	Minimum resistance ratio from 2 ftc to Dark within 5 sec.	Maximum voltage	Power Dissipation @ 25°C (mw)
CL5M2	.55 X .18	55K	1:100	250	2000-500[1]
CL602	.25 X .5	1 meg.		300	75
CL702	.36 X .18	1 meg.		300	125
CL902	.21 X .15	1 meg.		250	50

Type 2 CdS (photosensitive material designated by last number in ordering abbreviation, i.e. CL5M2). Peak spectral response 5150 angstroms, bluest response photosensitive material, high stability, lowest temperature error.

CL503	.5 X .5	7.2K	1:10,000	250	500-250[1]
CL5M3	.55 X .18	7.2K		250	2000-500[1]
CL603	.25 X .5	133K		300	75
CL603A	.25 X .5	75K		300	75
CL603AL	.25 X .5	3.5K		170	75
CL703	.36 X .18	133K		300	125
CL703A	.36 X .18	67K		300	125
CL703L	.36 X .18	2.7K		100	125
CL903	.21 X .15	133K		250	50
CL903A	.21 X .15	67K		250	50
CL903L	.21 X .15	6.0K		100	50

Type 3 CdSe, peak spectral response 7350 angstroms, fast response, and very high light-to-dark resistance ratio. Can be used for high speed switching or counting. Sensitive to near infra red. For use with incandescent or neon lamps.

CL504	.5 X .5	1.5K	1:1000	250	500-250[1]
CL5M4	.55 X .18	1.5K		250	2000-500[1]
CL504L	.5 X .5	0.25K		170	500-250[1]
CL5M4L	.55 X .18	0.25K		170	2000-500[1]
CL604	.25 X .5	30K		300	75
CL604L	.25 X .5	1.5K		170	75
CL704	.36 X .18	30K		300	125
CL704L	.36 X .18	0.6K		100	125
CL904	.21 X .15	30K		250	50
CL904L	.21 X .15	2K		100	50

Type 4 CdSe, peak spectral response 6900 angstroms, lowest resistance photocells available. Can be used for "on-off" applications when low resistance is desired. For use with incandescent or neon lamps.

CL505	.5 X .5	9K	1:100	250	500-250[1]
CL5M5	.55 X .18	9K		250	2000-500[1]
CL505L	.5 X .5	1.5K		170	500-250[1]
CL5M5L	.55 X .18	1.5K		170	2000-500[1]
CL605	.25 X .5	166K		300	75
CL605L	.25 X .5	7.5K		170	75
CL705	.36 X .18	166K		300	125
CL705L	.36 X .18	3.3K		100	125
CL905	.21 X .15	166K		250	50
CL905L	.21 X .15	10K		100	50

Type 5 CdS, peak spectral response 5500 angstroms (closely matches the human eye), most stable, lowest memory photocell available. Can be used in light measuring applications and precision low speed switching. For use with incandescent, fluorescent or neon lamps.

CL705HL	.36 X .18	28K	1:1000	100	125
CL905HL	.21 X .15	100K		100	50
CL905HN	.21 X .15	700K		100	50

Type 5H CdS, peak spectral response 5500 angstroms (closely matches the human eye). Combines high speed, stability, linearity, and uniform color temperature response.

Photocell ordering abbreviation	Diam. X Length (inches)	Resistance @ 2 fc ± 33⅓%	Minimum resistance ratio from 2 ftc to Dark within 5 sec.	Maximum voltage	Power Dissipation @ 25°C (mw)
CL507	.5 X .5	7.2K	1:1000	250	500-250[1]
CL5M7	.55 X .18	7.2K		250	2000-500[1]
CL607	.25 X .5	133K		300	75
CL707	.36 X .18	133K		300	125
CL707L	.36 X .18	2.7K		100	125
CL907	.21 X .15	133K		250	50
CL907N	.21 X .15	66K		100	50

Type 7 CdS, peak spectral response 6150 angstroms, moderate speed and ratio. Can be used in general beam breaking applications. For use with incandescent, neon or fluorescent lamps.

CL707H	.36 X .18	500K	1:1000	300	125
CL707HM	.36 X .18	100K		250	125
CL707HL	.36 X .18	10K		100	125
CL907H	.21 X .15	600K		250	50
CL907HN	.21 X .15	300K		100	50
CL907HL	.21 X .15	24K		100	50

Type 7H CdS Peak Spectral response 6200 angstroms. Very fast decay time coupled with low resistance and high linearity. Ideal for beam breaking applications.

Photocell ordering abbreviation	Diam. X Length (inches)	Resistance @ 2 fc ± 33⅓%	Minimum resistance ratio from 2 ftc to Dark within 5 sec.	Maximum voltage	Power Dissipation @ 25°C (mw)	Type
CL703/2	.36 X .18	50K	1:10,000	300	125	3 CdSe
CL703L/2	.36 X .18	6.5K	1:10,000	100	125	3 CdSe
CL704/2	.36 X .18	17K	1:1000	300	125	4 CdSe
CL704L/2	.36 X .18	1.5K	1:1000	100	125	4 CdSe
CL705/2	.36 X .18	166K	1:100	300	125	5 CdSe
CL705L/2	.36 X .18	7.5K	1:100	100	125	5 CdS

DUAL ELEMENT

Photocells contain two separate elements with two separate leads and one common lead.

PHOTOMOD®

PHOTOCELL-LAMP ASSEMBLIES

Part No.	Rated Lamp Voltage	Resistance (Max. Ohms) @ Rated Lamp Voltage	Max. Allowable Cell Voltage @ Peak AC
CLM3006A	6	160	120V
CLM4006A	6	55	120V
CLM4012A	12	30	120V
CLM3012A	12	160	120V
CLM5H10A	10	3000	120V
CLM7H16A	16	550	170V
CLM3120A	120	1150	120V
CLM4120A	120	160	120V

FOOTNOTE: [1] With and without heat sink.

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AUTOTRON

Transistorized A725 ON/OFF Control A750 and A750DA Timing Controls

AUTOTRON, INC.,

Features of A725, A750 and A750DA

One connection changes from LIGHT- to DARK-energized operation (or vice versa).

5.8, 4.7, 3.3, 2.5, 2.2 and 1.1 Light Source Voltages makes available minimum suitable voltage for maximum lamp life and maximum speed of sensing cell response.

Rugged, 5-amp DPDT Plug-in Relay.

a. **Plug-in mounting** permits replacement in seconds without special skill or tools

b. **Transparent enclosure** protects against dust, physical injury and tampering.

Rectified output current for positive and QUIET operation of control relay.

Transistors protected from transient voltages.

Cad Cells are exceptionally well shielded from extraneous light.

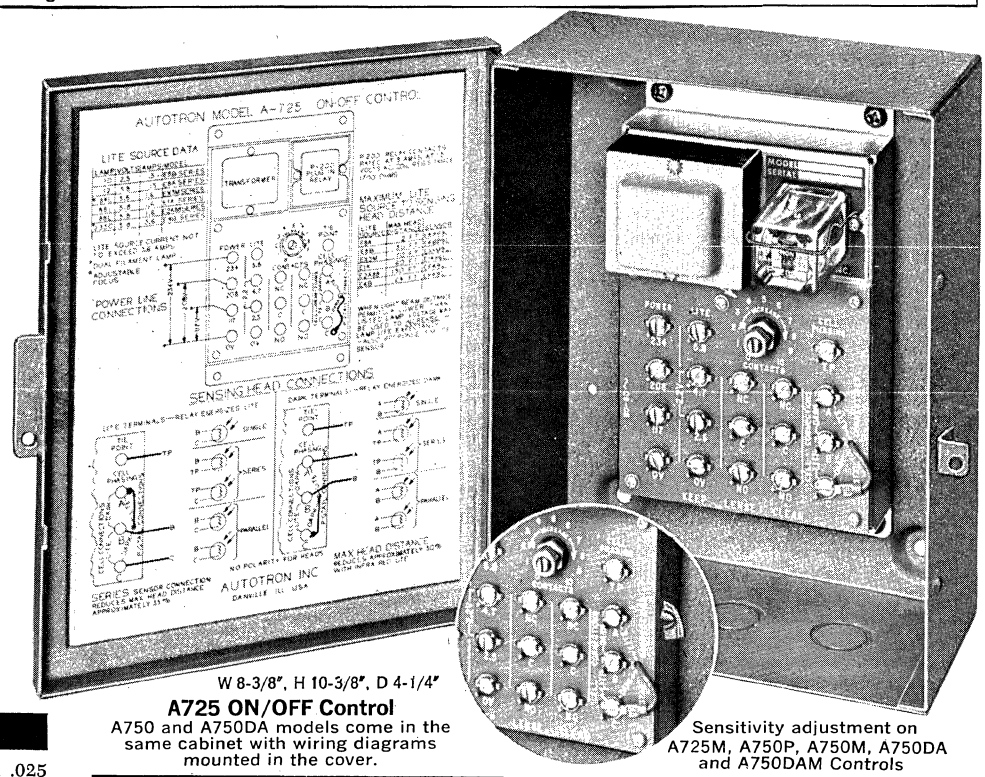
All circuit components are securely mounted on a modern circuit board.

All contacts of the DPDT Relay wired to large, screw type terminals.

Operate at ambient temperatures to 115°F.

In JIC enclosures at $12.50 extra.

Operate from 234, 208 and 117 V, 50-60 c.



W 8-3/8", H 10-3/8", D 4-1/4"

A725 ON/OFF Control
A750 and A750DA models come in the same cabinet with wiring diagrams mounted in the cover.

Sensitivity adjustment on A725M, A750P, A750M, A750DA and A750DAM Controls

A725 ON/OFF Control

FAST ACTING – .025 sec. light time and .025 sec. dark time minimum.

SENSITIVE – Adjustment has shaft lock.

Power Consumption, 25 VA.

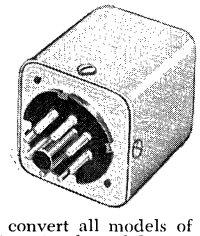
Energizes LIGHT connected to LIGHT terminals.

Energized DARK connected to DARK terminal.

A725 ON/OFF Control less heads.....$69.50
■A725M ON/OFF Control less heads..... 79.50

Control-Pak Numbers Control-Sensor-Light Source	Max. Feet betw. heads	Control-Pak Net Price
A725-E8AAP10LC-E8AC	2	$102.50#
A725-E8AP9LC-E8AC	2	102.50#
A725-E8BAP9LC-E8BAC	10	102.50#
A725-E8BP9LC-E8BC	20	102.50#
●A725-E8ZP10-E8Z10	20	159.50
■A725M-E8BP5AC-E8BC	20	127.50
■●A725M-E8ZP5A-E8Z10	20	184.50
A725-EXPM9LC-EX3ME	50	109.50
A725-E1AP10LC-E1AE	45	104.50
A725-EPB10LC-E3BE	100	109.50
A725-EPB10LC-E4CE	20	127.50
A725-EBP10LC-EBC	2	102.50
A725-EAP12G-ELG	3 in.	93.00
A725-PF10LC-LFE	5	157.50
A725-ELA10TH	‡†10	▲98.25
A725-A700EH-7C		107.00

A870 Solid State AC Switch



Replaces plug-in relay to convert all models of A725, A750 and A750DA series for solid state operation **from 117 VAC power supply ONLY.** Wiring diagram included with each switch.

Output: 117 VAC; 400 watt, 3.4 amperes maximum load, 100 milliamperes minimum.

Ambient Temperature: 115° maximum.

Module temperature increases with load current. At 3 amp. load current, case temperature is normally 130° max.

A870 Solid State AC Switch including Jumper Wires and Fuse Holder with Fuse.....**$52.50**

A870 Solid State Switch can also be furnished for other applications. Information on request.

A750 Timing Control

Timing Ranges (specify)

Range No. .7 adjustable 1 to 8 seconds, approx.
Range No. 1.0—2 to 16 seconds, approx.
(other ranges available—tell us what you need)
Timing adjustment has shaft lock.

Energizes LIGHT and times out DARK connected to LIGHT terminal. Recycle time is almost instant (.015 sec. max.) and is independent of light level on the sensing cell. Timing control is voltage regulated and variation in timing between 100 and 130 volts is negligible.

Energizes DARK and times out LIGHT connected to DARK terminal. Recycle time is 50 milliseconds min. depending on light intensity on the sensing cell. For minimum recycle time reduce light intensity to minimum operating value.

Power consumption, 25 VA.

A750 Timing Control less heads $88.00
■A750M Timing Control less heads..... 98.00

Control-Pak Numbers Control-Sensor-Light Source	Max. Feet betw. heads	Control-Pak Net Price
A750-E8AAP10C-E8AC	1	$121.00#
A750-E8AP9LC-E8AC	1	121.00#
A750-E8BAP9LC-E8BAC	7.5	121.00#
A750-E8BP9LC-E8BC	15	121.00#
●A750-E8ZP10-E8Z10	15	178.00
■A750M-E8BP5AC-E8BC	15	146.00
●■A750M-E8ZP5A-E8Z10	15	203.00
A750-EXPM9LC-EX3ME	35	128.00
A750-E1AP10LC-E1AE	30	123.00
A750-EPB10LC-E3BE	75	126.50
A750-EPB10LC-E4CE	12	146.00
A750-EBP10LC-EBC	1	121.00
A750-EAP12G-ELG	1.5 in.	111.50
A750-PF10LC-LFE	2.5	176.00
□ A750P-ELA10TH	††6	▲126.75
A750-A700EH-7C		125.50

■The suffix "M" in A725M, A750M, and A750DAM identifies extremely sensitive controls **with sensitivity adjustment** that operate with very short light change. The "M" type controls have been developed for operation by photo sensors that have the **"5A Feature"** described on the opposite page. This combination is used for scanning register marks, for sensing fast moving objects and other applications where light change is short. **Sensors with the 5A Feature are also used where the sensing head is exposed to high temperature.**

A750DA Extra Fast Timed Output Pulse Width Control

Timing Ranges same as A750

The Control Relay of the A750DA energizes instantaneously with adequate light change and de-energizes at expiration of pre-set timing period as follows:

With LIGHT Terminal connection the control relay energizes instantly when the cell receives enough light; remains energized even though the cell goes **dark** and de-energizes when the Timing Period expires, except: while the relay is energized, if the cell goes **DARK and then goes LIGHT** before the Timing Period expires the relay remains energized **and a NEW Timing Period starts.**

With DARK terminal connection, DARK on the cell produces the same relay action as LIGHT does in the above.

Timing and Sensitivity Adjustments are inside cabinet.
Adjustable time delay repeat accuracy 1%. Time Delay adjustment has shaft lock.

Power consumption, 25 VA.

A750DA Timing Control less heads.....$124.00
■A750DAM Timing Control less heads.. 134.00

Control-Pak Numbers Control-Sensor-Light Source	Max. Feet betw. heads	Control-Pak Net Price
A750DA-E8AAP10LC-E8AC	2	$157.00#
A750DA-E8AP9LC-E8AC	2	157.00#
A750DA-E8BAP9LC-E8BAC	10	157.00#
A750DA-E8BP9LC-E8BC	20	157.00#
●A750DA-E8ZP10-E8Z10	20	214.00
■A750DAM-E8BP5AC-E8BC	20	182.00
●■A750DAM-E8ZP5A-E8Z10	20	239.00
A750DA-EXPM9LC-EX3ME	50	164.00
A750DA-E1AP10LC-E1AE	45	159.00
A750DA-EPB10LC-E3BE	100	162.50
A750DA-EPB10LC-E4CE	20	180.50
A750DA-EBP10LC-EBC	2	157.00
A750DA-EAP12G-ELG	3 in.	147.50
A750DA-PF10LC-LFE	5	212.00
A750DA-ELA10TH	‡†10	▲152.75

● E8ZP10, E8ZP5A and E8Z10 Heads are UL listed explosion proof but the control is not. Information on explosion proof enclosures furnished on request.

‡Distance between Scanner Lens and Reflector
†When used with No. P380 Retro-Reflector
▲No. P38C Retro-Reflector, 3" diameter, $1.50 additional.
□A750P has sensitivity adjustment with shaft lock.

All Sensors and Light Sources listed in these tables are illustrated and described on the opposite page.

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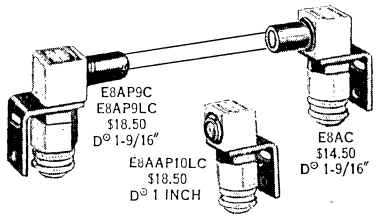
Remote Sensing and Light Source Heads including UL listed, Fiber Optic and Retro-reflective.

AUTOTRON

E8AP/E8A Remote Heads



Series E8A and E8B Construction

Housings are machined from aluminum. Lenses are ground and polished. Lens assemblies are easily removed without dismounting to provide accessibility for inspection or replacement of cell or lamp.

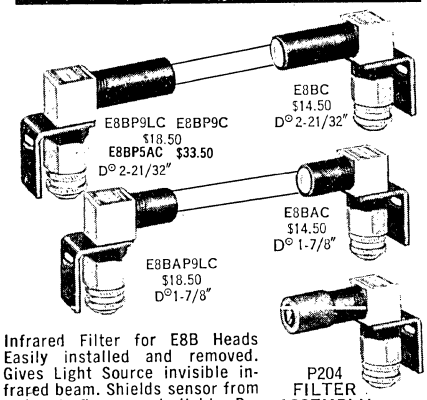
Heads can be turned to any position in the mounting brackets. Overall height, including bracket, 2¼″; including cord grip, approx. 2½″; overall width, including bracket, 15/16″. Dimensional diagrams on request.

The 5A Feature for High Speed Sensing and High Temperatures.

Sensing Heads with the **5A Feature** rise in 4 microseconds and decay in 60 microseconds. **The sensing cell withstands temperatures up to 270°F.** When required, practically any AUTOTRON photo sensing head can be furnished with the 5A Feature at extra cost.

Sensors with the 5A Feature are designed for use with A725M, A750M and A750 DAM described on the facing page.

E8BP/E8B Remote Heads

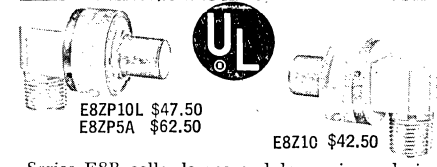


Infrared Filter for E8B Heads Easily installed and removed. Gives Light Source invisible infrared beam. Shields sensor from ambient fluorescent light. Reduces max. distance about 50%

EBP10LC-EBC Subminiature Heads

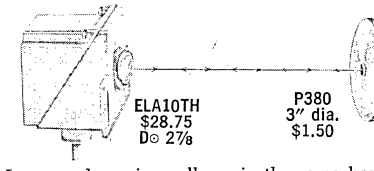
Each head is ¾″ diameter by 2½″ long; equipped with 6-foot cord potted to the head, equipped with ¾ NPT fitting for connection to control. Lamp rating; .38 amps at 2.5 volts. Life expectancy, 7,500 hours. Cell and lamp is easily replaceable.

UL listed E8Z Series Heads



Series E8B cells, lamps and lenses in explosion proof housings, for use in hazardous locations. Underwriters' Laboratories listing: Class I, Groups C and D; Class II, Groups E, F, and G. E8Z10 rated 4.25 w, 2.5 v; E8ZP10L rated 0.125 va. maximum, 40 v. maximum; E8ZP5A rated 0.250 va maximum, 10 v, dc maximum. Mounting threaded for ½-14 NPT. Potted leads, 24″ long. Overall size: Approx. 2 15/16″ long; 2″ high, 1 9/16″ wide.

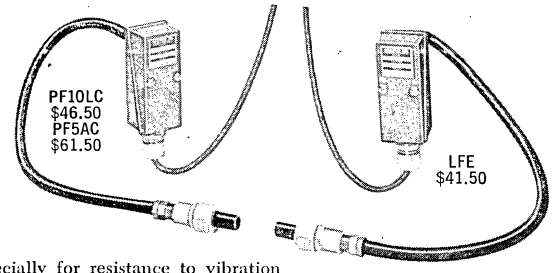
ELA10TH Retro-Reflective Sensor



Lamp and sensing cell are in the same housing. Light projected through the lens strikes a retro-reflective surface and returns through the same lens to the sensing cell. The retro-reflective surface may be tilted up to 15° from perpendicular to the light path.

Gasket-sealed, cast aluminum case with 6-foot multi-conductor cable. Slots in mounting flanges are 1″ long on 3 7/16″ centers. Overall width 3 15/16″, height 2 13/16″.

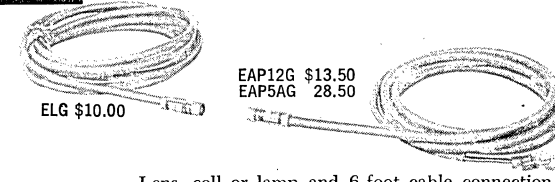
PF10LC-LFE Fiber Optic Remote Heads.



Developed especially for resistance to vibration as well as simplicity of application and alignment in hard-to-get-at places. The Fiber Optic Cables may be bent in any direction with curves of ¾″ radius or more.

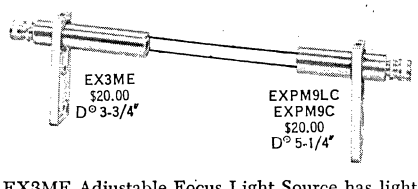
Each sensing head or light source has a gasket sealed case housing the lamp or cell. The lens tube is assembled to a Fiber Optic Cable, 24″ long which is connected to the housing. A 6-foot factory installed cable connects the lamp or cell housing to the control. The heads are equipped with infrared filters for screening out fluorescent light. The lamp is rated .38 amperes at 2.5 volts. Life expectancy is 7,500 hours.

EAP12G-ELG Assemblies



Lens, cell or lamp and 6-foot cable connection are potted in a tube, 9/32″ diameter by 1″ long. Potting for protection against application conditions and mechanical injury makes the assembly permanent. In case of failure the entire assembly must be replaced. Lamp rating; .38 amps. at 2.5 volts. Life expectancy, 7,500 hours.

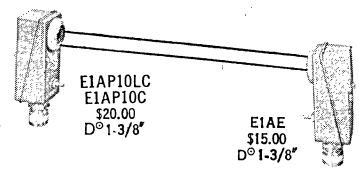
EXPM/EX3M Remote Heads



EX3ME Adjustable Focus Light Source has light beam **adjustable from focal size of** ⅛″ x ¼″ at 2″ focal length to 7/16″ x 1″ focal size at 6″ focal length. Also adjustable to straight light beam. No. 88, 1.6 ampere lamp is housed with ¾″ diameter lens in brass tube mounted in aluminum bracket. Height 4¾″; width 1½″.

EXPM9C Sensing Head has cad cell housed with ¾″ diameter lens in brass tube mounted in aluminum bracket. Height, 4¾″; width, 1½″.

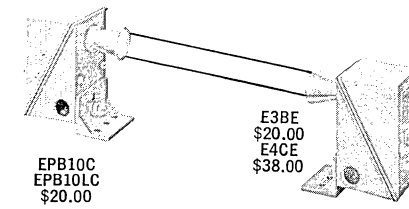
E1AP/E1A Remote Heads



Series E1A heads have ¾″ diameter lenses mounted in flexible silicon rubber. Gasket sealed aluminum cases are tapped for ½″ conduit. May be adjusted with rigidly positioned on ½″ pipe or conduit with lock nut. Case easily opened for inspection of lamp or cell with mounting undisturbed. Depth of case in direction of light beam, 1⅜″; width, 1-7/16″; height 3⅝″.

In the illustrations and in the Control-Paks photo sensors and light sources are shown in matched pairs for simplicity of arrangement. Any sensing head can be used with any light source if the light source provides enough light to operate the sensor.

EPB10C-E3BE and E4CE



Each above unit has 1½ inch diameter lens in an aluminum lens holder mounted in a gasket sealed cast aluminum case with adjustable mounting bracket. Case is tapped for ¾″ conduit. Weight 3½ lbs. Depth 5 11/16″, Width 4″, Height 5¼″.

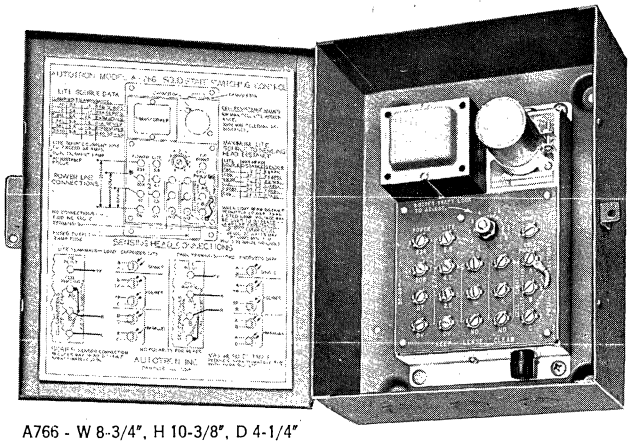
E3BE has No. 88L lamp, rated 1.6 amp. at 5.8 v. Focusing adjustment provides ⅛x⅛″ focal size at 12″ focal length; ⅞x¼″ focal size at 24″ and 1¼x⅜″ focal size at 36″ focal length.

E4CE has No. 2330B **prefocused two-filament** lamp rated 3.6 amps. at 5.8 v. The two filaments maintain light source continuity; when one fails a built-in relay switches on the other filament and a signal lamp; also operates SPDT contacts which may be used for remote warning control. The prefocused lamp is replaceable with minimum change in light beam. **Extra** low voltage connection for prolonged life.

AUTOTRON

Page 3

A766 Photo-Control with Solid State Switching
A741B High-Speed Counting Eye



A766 - W 8-3/4", H 10-3/8", D 4-1/4"

A766 Transistorized Photo Control with Solid State Switching

A766 Photoelectric Control uses Solid State Switching instead of conventional relays, thereby avoiding weaknesses inherent with mechanical contactors.

Features

24 VDC Fused Output, 30 watt max.—20-ohm load min.

LIGHT- or DARK-actuated—a single connection adjusts phasing.

FAST ACTING—.04 second DARK time; .02 second LIGHT time.

Sensitivity Adjustment with shaft lock.

Transistors are protected from transient voltage.

Choice of 5.8, 4.7, 3.3, 2.5, 2.2 and 1.1 Light Source Voltage provides optimum operating voltage for prolonged lamp life and increased speed of sensing cell response.

All circuit components are securely mounted on printed circuit board.

Operates at ambient temperatures up to 115°F.

Furnished in JIC enclosures at $12.50 extra.

Power consumption, 45 watts, maximum.

Operates from 234, 208, and 117 V, 50-60 C.

A766 Control without pick-up.....**$88.50**

Control-Pak Numbers Control-Sensor-Light Source	Max. Feet betw. heads	Control-Pak Net Prices
A766-E8AP9LC-E8AC	2 ft.	$121.50#
A766-E8BP9LC-E8BC	20 ft.	121.50#
●A766-E8ZP10-E8Z10	20 ft.	178.50
A766-EXPM9LC-EX3ME	50 ft.	128.50
A766-E1AP10LC-E1AE	45 ft.	123.50
A766-EPB10LC-E3BE	100 ft.	127.00
A766-EPB10LC-E4CE	20 ft.	145.00
Reflective Sensors		
A766-ELA10TH	‡†10 ft.	▲117.25
A766-E8LP12G*	3 in.	117.25
A766-E8S12G*	3 in.	117.25
A766-E8S12G-6A*	fl 3¼ in.	120.75
A766-E8S12G-4A*	fl ⅞ in.	120.75

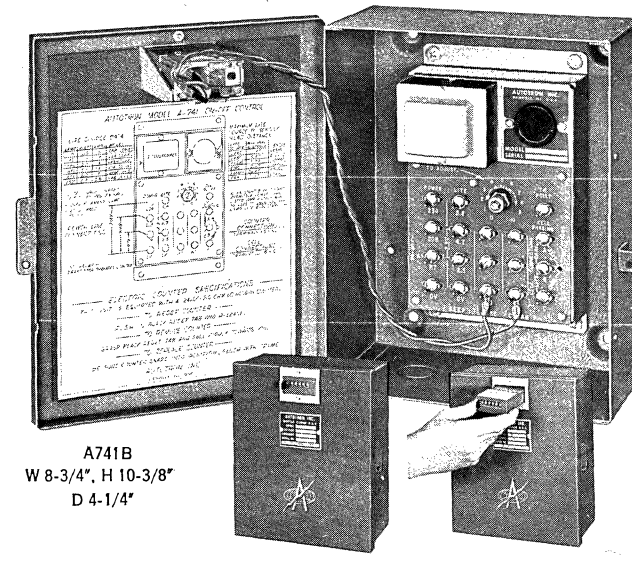
*Described on page 3
†Distance between Scanner Lens and Reflector
‡When used with No. P380 Retro-Reflector
▲No. P380 Retro-Reflector, 3" diameter, $1.50 additional.
fl Focal length

#Mounting bracket and cord grip are standard. Furnished with cord assembly potted inside housing, without mounting bracket at no extra charge when specified.

Use of infrared filters reduces maximum distance between heads approximately 50%

All sensing, light source and reflector type heads are equipped with factory installed 6-foot cables for connecting to controls.

D⊙ Dimension in direction of Light Beam



A741B
W 8-3/4", H 10-3/8"
D 4-1/4"

A741B Hi-Speed Transistorized Counting Eye

Rectified output current for positive DC actuation of F043 Counter—no relay contacts to maintain.

25 counts per sec. (.015 sec. min. Light, .025 sec. min. Dark).

Instant Reset 6-digit Plug-in Counter—counts up to 40 million counts without missing a count. Life expectancy 150 million counts. Easily removed for inspection or replacement.

Provides 5.8, 4.7, 3.3, 2.5, 2.2, and 1.1 Light Source Voltages.

Transistors are protected from transient voltages.

All circuit components are securely mounted on printed circuit board.

Operate at ambient temperatures up to 115°F.

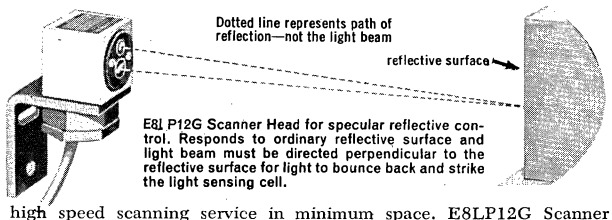
Operate from 234, 208 and117 v, 50-60 c.

Power Consumption 20 watts.

A741B—Includes A741 Control with F043C Counter, Socket and Frame assembly mounted in Control Door Panel and wired as illustrated. $122.00

Counting Eye Pack No. Counter Photo Light Control Sensor Source	Maximum distance	Counting Eye Pack Prices
A741B-E8AP9C-E8AC	1 ft.	$155.00#
A741B-E8BP9C-E8BC	8 ft.	155.00#
●A741B-E8ZP10-E8Z10	8 ft.	212.00
A741B-EXPM9C-EXME	15 ft.	162.00
A741B-E1AP10C-E1AE	10 ft.	157.00
A741B-EPB10C-E3BE	30 ft.	162.00
A741B-EPB10C-E4CE	12 ft.	180.00
Reflective Sensors		
A741B-E8LP12G*	3 in.	150.75
A741B-E8S12G*	3 in.	150.75
A741B-E8S12G-6A*	fl 3¼ in.	154.25
A741B-E8212G-4A*	fl ⅞ in.	154.25

E8LP12G Specular Reflective Scanner Head



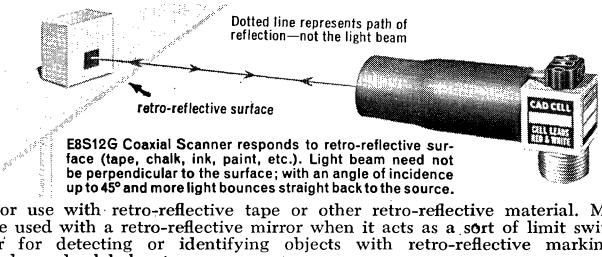
E8LP12G Scanner Head for specular reflective control. Responds to ordinary reflective surface and light beam must be directed perpendicular to the reflective surface for light to bounce back and strike the light sensing cell.

For high speed scanning service in minimum space. E8LP12G Scanner Head combines the fast acting cadmium selenide cell and the light source lamp in a single miniature housing (approximately ⅞ inch in all three dimensions plus ⅜" male pipe thread connection. See dimensional diagram below.)

The light sensing element is a fast response, cadmium selenide cell. The lamp has a built-in lens. An infrared filter helps protect against ambient light. The lamp rating is 2.5 volts at .5 amperes-life expectancy up to 75,000 hours depending on operating voltage.

E8LP12G Scanner Head including mounting bracket, also 6-foot factory-connected cable with cable grip and seal for connecting to 800 control. **$28.75**

E8S12G Retro-Reflective Scanner Head



E8S12G Coaxial Scanner responds to retro-reflective surface (tape, chalk, ink, paint, etc.). Light beam need not be perpendicular to the surface; with an angle of incidence up to 45° and more light bounces straight back to the source.

For use with retro-reflective tape or other retro-reflective material. May be used with a retro-reflective mirror when it acts as a sort of limit switch or for detecting or identifying objects with retro-reflective markings, code marks, labels, etc.

The light beam does not need to be perpendicular to the retro-reflective surface; beams at angles up to 15° and more (depending on conditions) bounce straight back to the cell.

E8S12G Scanner Head† with mounting bracket, 6-foot factory connected cable, cable grip and seal for connection to the control.....**$28.75**

E8S12G-6A has a fixed pin-point beam; focal size 1/16x5/16 at 3¼"

E8S12G-4A has 1/32x⅛" focal size at ⅞" from the end of the light shield.

E8S12G-6A and **E8S12G-4A** complete with mounting bracket, 6-foot factory connected cable, cable seal and grip.....each **$32.25**

Net

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High Sensitivity, Transistorized, Compact Photoelectric Controls

AUTOTRON

A579C ON/OFF and A579CP Timing Controls

Features of above controls

Transistorized. Light Energized

Powerful Cad Cell is shock-protective mounted in fixed alignment.

Cad Cell is exceptionally well shielded from extraneous light.

Fast Acting — .02 second light; .03 second dark time, minimum.

Sensitive—5 fc minimum light.

Rugged, 5-ampere DPDT plug-in relay, in plastic enclosure.

Lens, ¾" diameter, mounted in flexible silicon rubber.

Power consumption, 5 VA. For 115/230 v, 50-60 c.

Terminals for 2.5 v light source.

Rectified output for **positive and QUIET** DC control relay operation.

Transistors are protected from transient voltage.

All circuit components are securely mounted on printed circuit board.

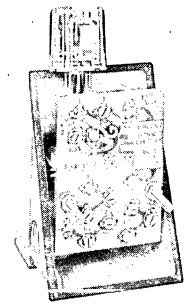
All relay contacts are wired to large, screw type terminals.

Cast aluminum case is gasket-sealed.

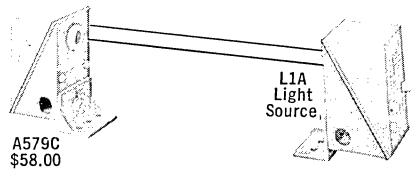
Maximum ambient temperature is 115°F.

Gasket-sealed cast aluminum case, tapped for ¾" conduit, has adjustable mounting bracket.

D° 3 9/16, W 4", H 5½". Weight 3 lb.



A579C ON/OFF Control



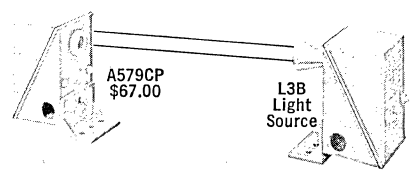
Control relay energizes when light is on the cell; de-energizes when light beam is interrupted.

Time Delay is easily added by connecting capacitor to marked terminals. The delay times out DARK (delays de-energizing of control relay when light beam is interrupted). Instructions included with each control.

Control-Pak Numbers Control-Light Source	Max. Feet betw. heads	Control-Pak Net Prices
A579C-L1A	15	$ 77.75
A579C-L2B	30	81.80
A579C-L3B	30	85.50
A579C-L4	15	107.50
A579C-L6C		94.00
A579C-L6R		106.00

Light Sources are described on page 6

A579CP Timing Control



Relay energizes LIGHT: times out DARK (when light beam is interrupted timing elapses before relay de-energizes) Time Delay adjustment from outside case; equipped with shaft lock.

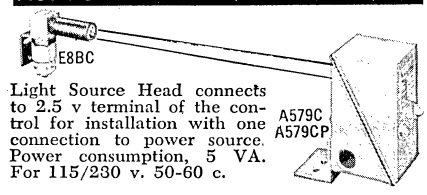
Repeat accuracy 4%.

Adjustable Timing Ranges { No. 0.4: 0.1 to 5 sec. No. 2.0: 1.0 to 20 sec.

Control-Pak Numbers Control-Light Source	Max. Feet betw. heads	Control-Pak Net Prices
A579CP-L1A	15	$ 86.75
A579CP-L2B	30	90.80
A579CP-L3B	30	94.50
A579CP-L4	15	116.50
A579CP-L6C		103.00
A579CP-L6R		115.00

Specify Adjustable Timing Range listed above

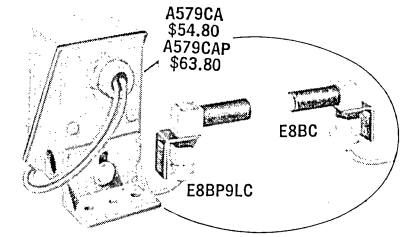
A579C and A579CP-E8BC C-Paks



Light Source Head connects to 2.5 v terminal of the control for installation with one connection to power source. Power consumption, 5 VA. For 115/230 v. 50-60 c.

Control-Pak Numbers Control-Light Head	Max. Feet betw. heads	Control-Pak Net Prices
A579C-E8BC	6	$ 72.50
●A579C-E8Z10	6	100.50
Timing Controls—Specify Timing Range		
A579CP-E8BC	3	81.50
●A579CP-E8Z10	3	109.50

A579CA A579CAP Control-Paks



A579CA and A579CAP have the same features as A579C and A579CP except the lens and sensing element are omitted and terminals are provided for connecting a remote sensing head and a 2.5 v light source.

Control-Pak Numbers Control-Sensor-Light	Max. Feet	Control-Pak Net Prices
A579CA-E8BAP9LC-E8BAC	6	$ 87.80
A579CA-E8BP9LC-E8BC	12	87.80
●A579CA-E8ZP10L-E8Z10	12	144.80
Timing Controls—Specify Timing Range		
A579CAP-E8BAP9LC-E8BAC	3	96.80
A579CAP-E8BP9LC-E8BC	6	96.80
●A579CAP-E8ZP10L-E8Z10	6	153.80

Sensing and Light Source Heads described on Page 2

800C and 800CM Dark-energized ON/OFF Controls

Energizes with the sensing cell **DARK.**

Chatter free relay operation—**due to square wave signal sent to relay coil.**

The latest silicon transistors assure extreme temperature stability.

FAST ACTING: .02 second light, .03 second dark, minimum. **800CM is exceptionally fast; 4 microseconds rise time, 60 microseconds decay time.**

Sensitivity adjustment has shaft lock.

De-energizing delay can be added by user. Instructions included with each control.

Operate at temperatures up to 115°F. **800CM operates at temperatures to 200°F.**

Has terminals for 2.5 v light source.

Rugged 5-ampere DPDT Relay, plug-in mounted with "see-thru" plastic cover.

All contacts of the relay wired to screw type terminals.

Transistors are protected from transient voltage.

All circuit components are mounted on a circuit board.

Gasket-sealed cast aluminum case, tapped for ¾" conduit, has adjustable mounting bracket.

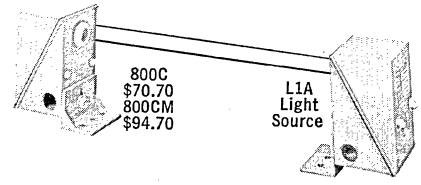
Lens, ¾" diameter, mounted in flexible silicon rubber.

Power Consumption, 5 VA. For 115/230 v, 50-60 c.

D° 3 9/16", W 4", H 5½". Weight 3 lbs.

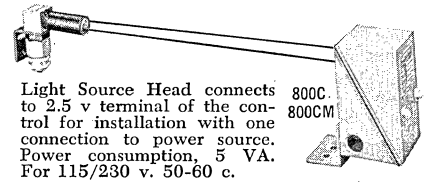
■M suffix identifies extremely sensitive controls **with sensitivity adjustment** that operate with very short light change. The "M" type controls have been developed for operation by photo sensors that have the **"5A Feature"** described on **Page 2** This combination is used for scanning register marks, for sensing fast moving objects and other applications where light change is short.

800C ON/OFF Control-Paks



Control-Pak Numbers Control-Light Source	Max. Feet betw. heads	Control-Pak Net Prices
800C-L1A	15	$ 90.45
800C-L2B	30	94.50
800C-L3B	30	98.20
800C-L4	15	120.20
800C-L6C		106.70
800C-L6R		118.70

Light Sources are described on page 6

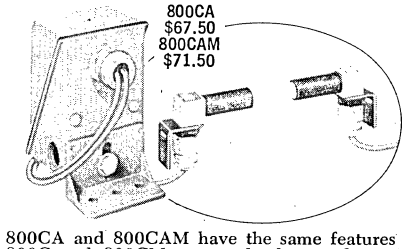


Light Source Head connects to 2.5 v terminal of the control for installation with one connection to power source. Power consumption, 5 VA. For 115/230 v. 50-60 c.

Control-Pak Numbers Control-Light Source	Max. Feet betw. lenses	Control-Pak Net Prices
800C-E8BC	6	$ 85.20
■800CM-E8BP5AC	6	128.20
●800C-E8Z10	6	113.20

Sensors with the 5A Feature are also used where the sensing head is exposed to high temperature.

800CA ON/OFF Control-Paks



800CA and 800CAM have the same features as 800C and 800CM except the lens and sensing element are omitted and terminals are provided for connecting a remote sensing head and a 2.5 v. light source.

Control-Pak Numbers Control-Sensor-Light Source	Max. Feet betw. heads	Control-Pak Net Prices
800CA-E8BP9LC-E8BC	12 ft.	$100.50
●800CA-E8ZP10L-E8Z10	12 ft.	157.50
■800CAM-E8BP5AC-E8BC	12 ft.	119.50
800CA-PF10LC-LFE	6 ft.	155.50
800CA-EBP10LC-EBC	2 ft.	100.50
800CA-EAP12G-ELG	4 in.	91.00
800CA-A700EH-7C		105.00
800CA-E8LP12G	6 in.	96.25
800CA-E8S12G	30 in.	96.25
800CA-E8S12G-6A	3¼ in.	99.75
800CA-E8S12G-4A	⅞ in.	99.75
■●800CAM-E8ZP5A-E8Z10	12 ft.	176.50

● E8ZP10, E8ZP5A and E8Z10 Heads are UL listed explosion proof but the control is not. Information on controls in explosion proof enclosures furnished on request.

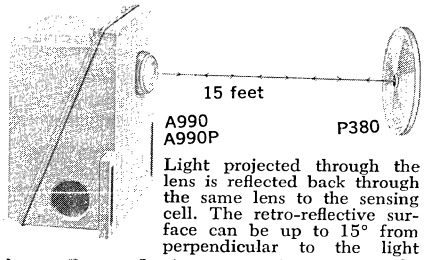
Sensor and Light Source Heads described on Pages 2 and 3

AUTOTRON

Retro-Reflective Photoelectric Controls
Tube Type Photoelectric Controls

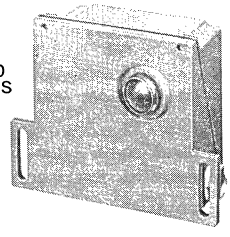
A990 ON/OFF and A990P Timing Controls

A900 and **A900P** each is a Control-Pak in one case. Sensing cell, light source, amplifiers, sensitivity adiustment and control relay are all in the same housing. Only one connection to power is required. A retro-reflective surface completes the installation.



Light projected through the lens is reflected back through the same lens to the sensing cell. The retro-reflective surface can be up to 15° from perpendicular to the light beam. Retro-reflective tape, paint, etc. may be used. Retro-reflective quality of the target affects operating distance.

A990 ON/OFF Controls



Control relay energizes LIGHT; de-energizes DARK.

Fast Acting: .02 second light; .03 second dark, minimum.

Maximum distance, lens to P380 Retro-reflector, 15 feet.

A990 Retro-Reflective ON/OFF Control
Has pre-adjusted sensitivity.....**$59.00***

A990S Retro-Reflective ON/OFF Control
Has sensitivity adjustment from outside case.....**$65.00***

***P380 Retro-reflector is $1.50 additional**

A990 and A990P Features

High Sensitivity. Available with and without sensitivity adjustment.
Provides dependable operation when objects block the light beam; also with limited light change such as may be provided by retro-reflective tape on a moving carton.

Transistorized.

Rugged 5-amp DPDT plug-in relay, with dust cover.

Rectified output for DC operation of Relay.

Transistors protected from transient voltage.

All circuit components securely mounted on modern printed circuit board.

All Relay Contacts wired to screw type terminals.

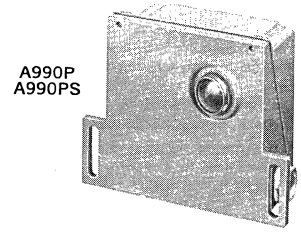
Maximum ambient operating temperature, 115°F.

Gasket-sealed cast aluminum case tapped for ¾" conduit.

D (direction of light beam) 3⅛", W 6¼", H 5 1/16". Shipping weight, 3½ lbs.

Power Consumption, 10 VA. For 115/230 v, 50-60 c.

A990P Timing Controls



Control relay energizes LIGHT; times out DARK

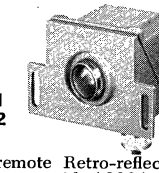
Timing Range
No. 0.5 — 0.5 to 4.5 seconds
No. 0.7 — 1 to 8 seconds

Maximum distance, lens to P380 Retro-reflector 15 feet.

A990P Retro-Reflective Timing Control
Has pre-adjusted sensitivity.....**$69.00***

A990PS Retro-Reflective Timing Control
Has sensitivity adjustment from outside case.....**$75.00***

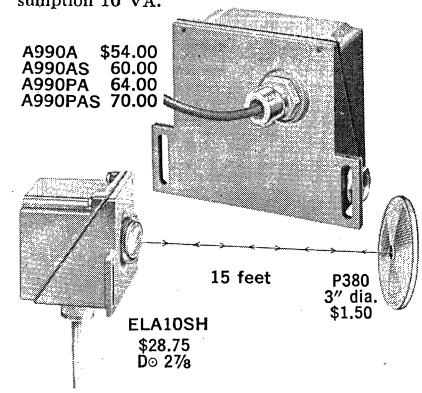
Retro-Reflective Control-Paks



ELA10SH is a remote Retro-reflective Sensing Head designed for use with **A990A** and **A990PA** Controls described below.

A990A and **A990PA** have the same features as **A990** and **A990P** respectively except the sensing element is omitted and terminals are provided for connecting ELA10SH Retro-reflective Scanner Head. For 115-230 v., 50-60 c. Power consumption 10 VA.

A990A $54.00
A990AS 60.00
A990PA 64.00
A990PAS 70.00



Retro-Reflective ON/OFF C Paks

A990A-ELA10SH A990A has pre-adjusted sensitivity **$82.75***

A990AS-ELA10SH A990AS has sensitivity adjustment from outside case.....**$88.75***

Retro-Reflective Timing C-Paks

A990PA-ELA10SH A990PA has pre-adjusted sensitivity **$92.75***

A990PAS-ELA10SH A990PAS has sensitivity adjustment from outside case.....**$98.75***

With above controls maximum distance between ELA10SH and P380 Retro-reflector is 15 feet.

ON/OFF and Timing Photo Controls with Tube Type Sensors

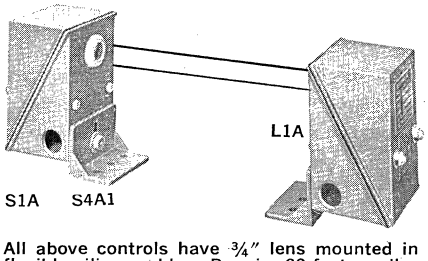
S Series ON/OFF Controls

Rugged, industrial Photoelectric Controls, factory adjusted for use where object interrupts the light beam 100%. Minimum dark time, .06 second; minimum light time, .06 second. Control relay contacts, SPDT, rated 8 amps. at 115 VAC, noninductive load. Splashproof cast aluminum case with adjustable bracket; tapped for ¾" conduit. Power consumption 10 watts.

S Series Control-Paks

Control-Paks energized		max. ft. between lenses	Min. Dark Time	Min. Light Time	Net per Set
DARK	LIGHT				
S1A-L1A	S4A1-L1A	8	.06	.06	$63.50
S1A-L2B	S4A1-L2B	8	.06	.06	67.55
S2B-L1A	S5B1-L1A	12	.06	.06	69.50
S2B-L2B	S5B1-L2B	20	.06	.06	73.55
S2B-L3B	S5B1-L3B	20	.06	.06	77.25
S2B-L4	S5B1-L4	norm. 12 / low 4	.06	.06	99.25

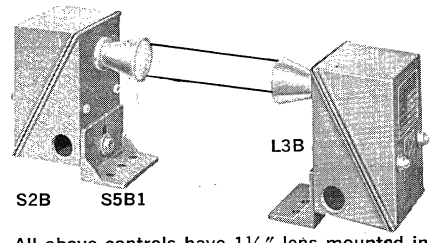
S1A and S4A1 ON/OFF Controls



All above controls have ¾" lens mounted in flexible silicon rubber. Require 20 foot-candles minimum light. Weight, 2 lb. Dimensions, diagram 24A.

DARK† energized	LIGHT† energized	50-60 cycles VOLTS	NET each
S1A	S4A1	115/220	$43.75

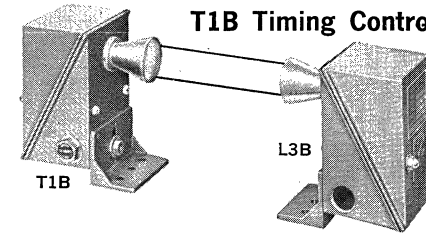
S2B and S5B1 ON/OFF Controls



All above controls have 1½" lens mounted in aluminum lens tube. Requires 10 foot-candles minimum light. Weight, 3 lb. Dimensions, diagram 24B.

DARK† energized	LIGHT† energized	50-60 cycles VOLTS	NET each
S2B	S5B1	115/230	$49.75

T1B Timing Control



Relay energizes DARK—unit times out DARK. Time delay with shaft lock adjustment from 1 to 10 seconds. Repeat accuracy 4% Minimum light 40 foot-candles. Control Relay contacts SPDT, rated 8 amps at 115 VAC, non-inductive. Splashproof aluminum case tapped for ¾" conduit. Adjustable mounting bracket. Lens dia. 1½" Power consumption 10 watts. 115/230 V., 50-60 cycles. Weight 3 lbs. Dimensions, Diagram 24B.

T1B Timing Control.....$62.50

T1B Timing Control-Paks

Control-Paks	max. ft. between lenses	Min. dark time	Min. light time	Price per set
T1B-L1A	5 ft.	—	.5	$82.25
T1B-L2B	10 ft.	—	.5	86.30
T1B-L3B	10 ft.	—	.5	90.00

Light Sources are described on page 6

Net

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Light Sources for use with Photoelectric Controls
Compact Photoelectric Controls

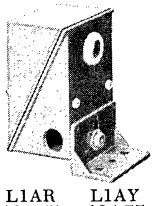
AUTOTRON

Series L1 Light Sources

L1A, L1D and L1DA Light Sources all have these features—

- Lens, ¾" diameter, mounted in flexible silicon rubber.
- Lamp, 88L, rated 1.6 amps. at 5.8 volts.
- 5.8V. and 4.8V. transformer tap leads for lamp operation; the EXTRA 4.8V. lead permits low voltage operation where feasible to prolong lamp life.
- Gasket-sealed cast aluminum case that provides access to the lamp with mounting alignment undisturbed.

L1A Light Source



D⊙3⅜, W 4, H 5½

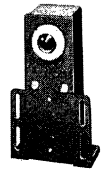
Has gasket-sealed cast aluminum case tapped for ¾" conduit with adjustable and reversible mounting bracket. Weight, 3½ lbs.

L1A Light Source.....$19.75

L1AR	L1AY	L1ARY	L1ABA	L1ARBA
$31.75	$24.75	$36.75	$29.75	$41.75

L1D Light Source

L1D: D⊙ 1.93", W 3.28", H 5.62"



Space-saving gasket-sealed cast aluminum case has mounting flanges front and bottom. Front flanges have four mounting slots; bottom flanges have four mounting holes for ¼" bolts on ⅞" x 2⅝" centers.

Lamp operates at low voltage for extended life. Case is tapped for ½" conduit. For 115/230V 50-60C. Weight 1¾ lbs.

L1D Light Source Net $18.50

L1DA Light Source

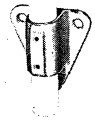
L1DA: D⊙ 2.18", W 1.96", H 5.62"

Another space saver—Gasket-sealed cast aluminm case is tapped in center of bottom for ¾" pipe. Use of lock nut permits rigid positioning. Adjustable bracket described below. For 115/230V 50-60C. Weight 1¼ lbs.

Lamp operates at low voltage for extended life.

L1DA Light Source Net $18.50

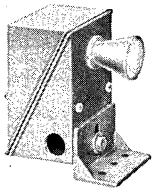
Adjustable Mounting Bracket



For L1DA Light Source and BC3A Control. Clamp fits ¾" pipe which screws into tapped opening in bottom of above housings. Pipe may be raised, lowered and rotated. Two socket-head set screws lock pipe in desired position.

P381 Adjustable Mounting Clamp ..... Net $3.25

L2B Light Source



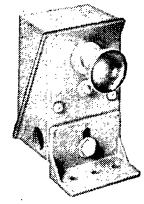
D⊙5⅝, W 4, H 5½

Has 88L lamp, rated 1.6 amps. at 5.8V. 1½" diameter lens in aluminum lens holder. Splashproof cast aluminum case tapped for ¾" conduit with adjustable and reversible mounting bracket. Weight 3½ lbs.

L2A Light Source .....Net each $23.80

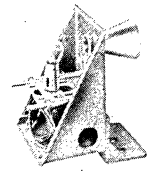
L2BR	L2BY	L2BRY	L2BBA	L2BRBA
$35.80	$28.80	$40.80	$33.80	$45.80

L3B Adjustable Focus Light Source



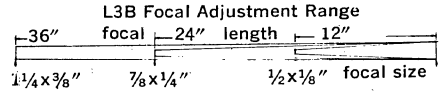
D⊙5⅝, W 4, H 5½

Has 1½" diameter lens in an aluminum lens holder. Gasket sealed cast aluminum case; tapped for ¾" conduit and with adjustable and reversible mounting bracket. Has 88L lamp rated 1.6 amps. at 5.8V. Transformer taps for 5.8 and 4.8 volt lamp operation which permits low voltage operation where feasible to prolong lamp life. Also has 3-way lamp positioning adjustment shown below with focusing adjustment from ½x⅛" beam at 12" focal length, and ⅞x¼" beam at 24" focal length to 1¼x⅜" beam at 36" focal length. Weight, 3½ lbs.



Three-Way Lamp-positioning Bracket provided in L3B Adjustable Focus Light Source. The lamp can be positioned to adjust alignment without moving the case. Moving the lamp closer or farther from the lens changes the focus, depending on the size of the lens, as shown in the diagram.

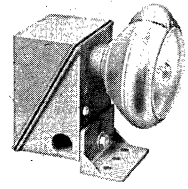
L3B Focal Adjustment Range



L3B Light Source.....$27.50

L3BR	L3BBA	L3BRBA
$39.50	$37.50	$49.50

L6C Hi Intensity Light Source



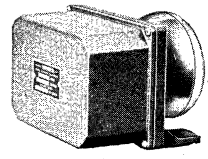
D⊙6¾, W 4½, H 6

L6C Light Source is recommended for adverse conditions such as steam, vapor, fog, and rain fall where extra light intensity is required. Has #4515 sealed beam spot light swivel-mounted for alignment adjustment. Transformer has 5V and 3.8V taps for lamp operation. Average lamp life is 3000 hours at normal voltage and 10000 hours at low voltage. Gasket-sealed cast aluminum case has adjustable and reversible mounting bracket and is tapped for ¾" conduit. Weight, 6 lbs.

L6C High Intensity Light Source.....$36.00

L6R Hi Intensity Light Source

Has High-Intensity Lamp and SAFETY RELAY.



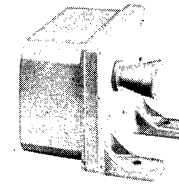
D⊙ 6,
W 7-1/4
H 5-1/4

L6R has the same operating features as L6C **plus a built-in SAFETY RELAY.** The SAFETY RELAY energizes when the lamp comes on; de-energizes when the lamp fails or goes off. The Safety Relay may be arranged to stop a machine, close a valve, operate a signal or other circuit in case the lamp burns out. Relay contacts are SPDT, rated 5 amperes at 115 VAC, non-inductive. Gasket-sealed cast-aluminum case with rigid mounting feet, tapped for ½" conduit. Weight 7 lbs.

L6R Light Source.....$48.00

L4 Dual Filament Light Source

Has Two-filament Lamp to avoid shutdowns.



D⊙7⅜, W 7¼, H 5¼

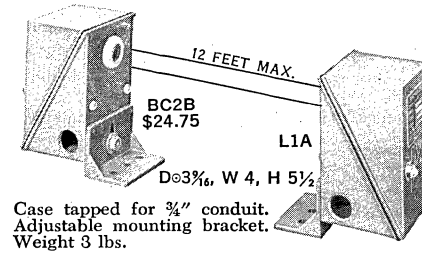
Has 2330B **prefocused two-filament** lamp rated 3.6 amps. at 5.8V. **The two filaments maintain light source continuity:** when one fails, a built-in relay switches on the other filament and a signal lamp in the housing; also operates SPDT contacts which may be used for remote warning control.

The prefocused lamp permits replacement with minimum change in light beam. Extra low voltage connection for prolonged lamp life. 1½" lens in aluminum lens holder. Gasket-sealed cast aluminum case with rigid mounting feet, tapped for ½" conduit. Weight, 6 lbs.

L4 Light Source.....$49.50

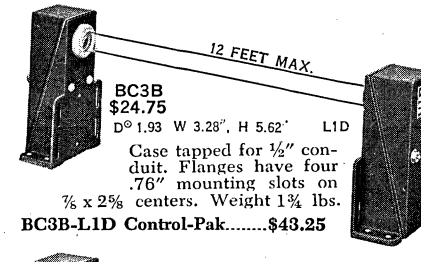
BC2B, BC3B and BC3AB Controls

Light-Energized. Cad Cell sensing element.
¾" lens mounted in flexible silicone rubber
Min. dark time .06 sec.; min. light time .06 sec.
Contacts SPDT, 3-amps at 115 VAC resistive.
Relay plastic enclosed. Power Consumption 0.5 w.
Gasket-sealed cast aluminum cases.
For 115 v. 50-60 cycle operation only.



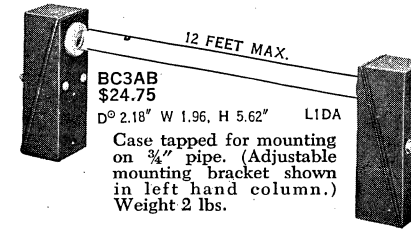
Case tapped for ¾" conduit. Adjustable mounting bracket. Weight 3 lbs.

BC2B-L1A Control-Pak.....$44.50



Case tapped for ½" conduit. Flanges have four .76" mounting slots on ⅞ x 2⅝ centers. Weight 1¾ lbs.

BC3B-L1D Control-Pak.....$43.25



Case tapped for mounting on ¾" pipe. (Adjustable mounting bracket shown in left hand column.) Weight 2 lbs.

BA feature: BEAM INTENSITY ADJUSTMENT

Built-in potentiometer inside light source case but adjustable with screwdriver from outside case, for dimming lamp. To order add suffix BA to Light Source Number and add $10.00 to Price. Example: L1ABA, $29.75.

R feature: SAFETY RELAY

Safety Relay built into the Light Source which may be used to stop a machine, close a valve, operate a signal or other circuit in case the lamp burns out.

The Safety Relay energizes when the light comes on; de-energizes when the lamp fails or goes off. Relay contacts are SPDT, rated 5 amperes at 115 VAC, non-inductive. To order, add suffix R to Light Source number and add $12.00 to price.

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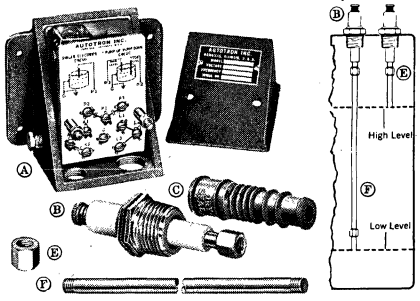
AUTOTRON

Specialized Electronic Controls

Electronic Liquid Level Control



For use with liquids up to 750,000 ohms resistance such as acids, bases, salts, milk, beer, water, alcohols, ammonia, distilled water, anti-biotics.

Ⓐ **A744 Control** supplies 20VDC (safe for personnel) maximum probe voltage. Stepless sensitivity adjustment with shaft lock. Plug-in 5 amp. SPDT relay, plastic enclosed. Gasket-sealed cast aluminum case 6-3/16″ wide, 5⅜″ high, 3⅜″ deep. 4 mounting holes for ¼″ bolts on 5⅛″ x 3″ centers. Power Consumption, 5 W. For 115 or 230v (specify) 50-60c.....**Each $74.50**

Ⓑ **P-304 Electrode** has ½″ pipe threads—may be installed in top or side of tank....**Each $10.60**

Ⓒ **P-305 Elastic Seal** for electrode wiring connection ..... **Each $1.00**

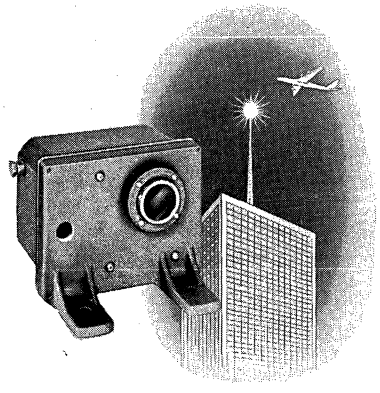
Ⓔ **P-310 hex nut,** stainless steel, ⅝″ long—¼-20 thread.....**Each $1.00**

Ⓕ **P-309 18-8 stainless steel rod** ¼″ x 12″—¼-20 thread both ends.....**Each $1.50**

Type of System Components	One Electrode Quan.	One Electrode Price	Two Electrode Quan.	Two Electrode Price
Ⓐ A744 Control	1	$74.50	1	$ 74.50
Ⓑ P-304 Electrode	1	10.60	2	21.20
Ⓒ P-305 Dri-Seal	1	1.00	2	2.00
Connecting Cable	10 ft.	3.00	20 ft.	6.00
Price Totals		$89.10*		$103.70*

*P-309 Rod and P-310 Nuts not included

A2BX Solar ON/OFF Control



Automatically turns lights "ON" at preset light value—and turns lights "OFF" when light exceeds preset value.

DPDT Control Relay energizes when light exceeds intensity for which control is set; de-energizes when light falls below the preset level.

In case of tube failure the relay de-energizes; providing same control action as when light falls below preset level.

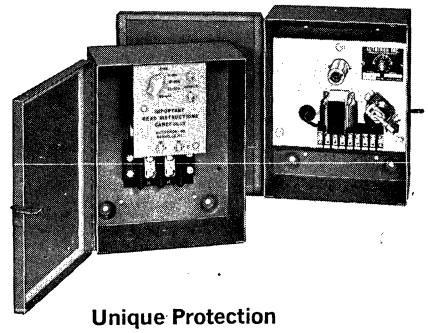
Dual Time Delays prevent operation by either momentary light flashes or shadows. Modern, simple circuitry uses one rugged, premium type power tube. Light intensity adjustment from outside of housing. Gasket-sealed cast aluminum housing, tapped for ½″ conduit. For 115/230 v, 50-60 c. Power consumption, 20 watts

Available with three adjustment ranges:

No. A2BX-.2; 1 to 5 fc for street lighting, parking lots
No. A2BX-.5; 15 to 50 fc for signs, parking lots
No. A2BX-1; 20 to 150 fc for obstruction or tower lights

A2BX Solar Control (all models) Net $76.95

Current Surge Overload Protection



Unique Protection for tools, equipment, personnel

The Surj-Switch uses electronic amplification for instant reaction to variations from normal load current. Easily adjusted on the job to operate at the desired value.

The 10-amp, SPDT Control Relay may operate a warning signal, a lubricating circuit, feeding rate control, etc. without interrupting operation or may be used to stop operation.

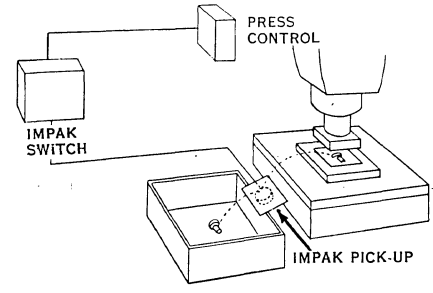
Used on surface grinders to warn when excessive pressures are applied; on machine tools to warn when tools become dull; on automated installations; **whenever load change indicates trouble.**

Model K1 Surj-Pick-up. Required for operation of Surj-Switch Controls—for 50-60 cycle, 0 to 80 amperes, one or 3-phase, any voltage..**$35.00**

Model J Surj-Switch. For overloads,.....**$55.00**

Model JA Surj-Switch. For under loads....**$65.00**

Impak-Switch Die Protection



In the above diagram each piece properly ejected from the die strikes the impact sensing plate which actuates the Impak Control and the Control re-cycles the press control for another stroke.

The impact of falling parts against the sensing plate of the Impak-Pick-up activates the Impak-Switch. Objects may be of practically any reasonably uniform size, ranging from ball bearings to heavy stampings, etc.

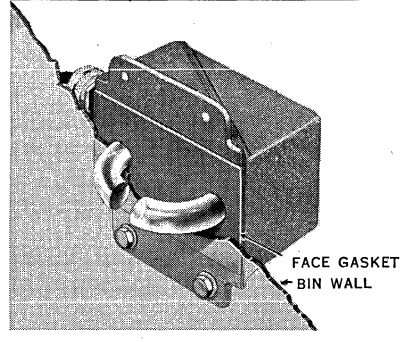
In other die protection applications the Impak Control has time delay set to barely exceed the complete stroke cycle of the press. Each properly ejected piece re-cycles the Impak Control before the timing period expires.

Model V Impak-Pick-up—with 6-ft. shielded plastic-covered cable.....**Net $30.00**

Model Z Impak-Switch—for use where impact is not less than one ounce falling 2 inches and each object strikes only once.....**Net $60.00**

Model C3 Impak-Switch—for use where impact force is limited, where high speed is required or where objects may strike more than once. **Net $145.00**

Tubeless Bin Level Control



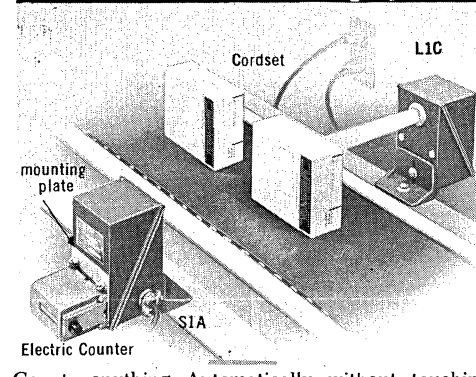
Tubeless Photoelectric actuation—unaffected by pressure of material in the bin. Only rigid, non-moving Lucite probes project into the bin. Cast aluminum, gasket-sealed housing mounts to bin wall as shown. Removal of cover makes all parts accessible. Dust-covered plug-in DPDT 8-ampere relay provides ON/OFF control for either high or low bin level. All wiring connections brought out of case in 3-foot oil-proof cable. For 115/230V, 50-60 C.

A700—Relay operates from cad cell output, light-energized. Power Consumption, 10 watts. .....**Net $68.00**

A700S—has transistor circuit and sensitivity adjustment—dark-energized. Power Consumption, 5 watts.....**Net $98.75**

Includes 3-ft cable, face gasket and template.

AUTOTRON Counting Eye



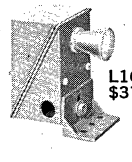
Counts anything—Automatically—without touching the object. Each object must interrupt the light beam .06 second or more. Space between objects must permit restoration of the light beam .06 second or more. Max. distance between lenses, 8 feet.

Counting Eye Components	
S1A Photoelectric Control (see page 5)	$43.75
L1A Light Source (see page 6)	19.75
Cordset: two 6-foot rubber covered cords with plugs and attachment clamps	3.00
Plate and hardware for mounting counter (4 mounting holes on 3-15/16 x 1-23/64″ centers)	1.50
CE-600AS602 Electric Counter (6-digit, knob reset)	34.60

A-138A Counting Eye, 115v, 50-60c. **Net $108.50**

Includes above items wired ready to plug in.

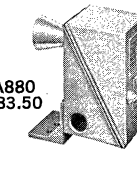
Photoelectric Controls with Infrared Light Beams



L160A $37.50

For burglar alarms, safety and other applications where an invisible light beam offers advantages. The control lens is shielded from normal light so operation continues night or day whether lights are on or off.

A880-L160A Infrared Control-Pak.....**$121.00**
For 115/230v, 50-60c. Daylight Range, 50 feet; Night Range, 100 feet.



A880 $83.50

Net

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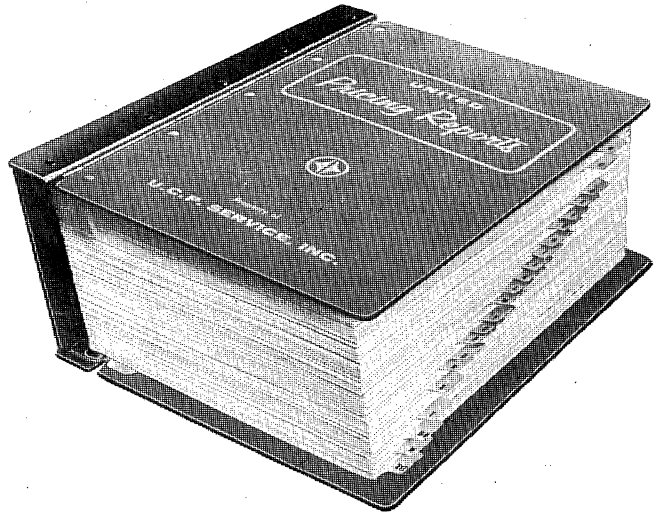

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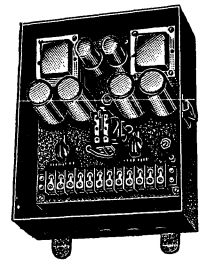
THREE-UNIT CONTROLS

For All General Applications

Model 63 Series represents a line of four high speed, precision Amplifiers; each engineered for a highly specialized use. Selection enables the user to get the amplification his application requires. Each amplifier is designed for amplification of energy developed by one set of Series 33/23 Fotolectric Heads listed below. Each Amplifier will also respond to light radiance (other than light projected from a Light Source unit) when reflected to the Photocell. Model 63 Series Amplifiers are heavy duty construction throughout, size 9¼" x 11½" x 5". Engineered for 110/120v. 50/60 cy. a.c.



Model 63 Amplifier Door removed to show components.

Model 63, the Worner Master Unit, serves most industrial uses. It is generally recommended for supervising fast moving objects and will operate normally up to 750 times a minute.....**Each $144.12**

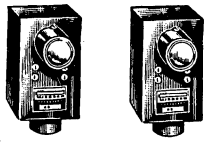
Model 63-A, equipped with Time Delay Circuit giving delay from 0 to 45 seconds .....**Each $160.77**

Model 63-B, has added amplification to operate on less active change of light .....**Each $171.87**

Model 63-C, same as Model 63 but is "dark-energized", and operates when the photocell is dark.....**Each $146.73**

Model 64. Economy Unit. Operates up to 450 times a minute..**Each $87.90**

WIDE RANGE OF FOTOLECTRIC HEADS



Series 33 Light Sources
Series 23 Photocells

Sharp Detection

Selection of any of the following seven combinations, with current flow amplified by a choice of any of the above Amplifiers, provides unbeatable control supervision. Both units are alike externally. Mounting brackets supplied.

Model 33 Series Light Sources and Model 23 Series Photocells are heavy duty units. Components are housed in solid metal castings equipped with conduit fitting. Size of case 3" x 3" x 4½".

CROSS-OVER BEAM supervises small objects under 2" square at high speed. Distances listed are from lens to (cross-over) point of supervision. Moisture-proof units.

DISTANCE	LIGHT SOURCE	EACH		PHOTOCELL	EACH
Up to 3"	**Model 33-3**	**$28.95**	use with	**Model 23-3**	**$36.00**
3" to 6"	**Model 33-6**	**28.95**	use with	**Model 23-10**	**28.80**
6" to 9"	**Model 33-9**	**28.95**	use with	**Model 23-10**	**28.80**
9" to 12"	**Model 33-12**	**28.95**	use with	**Model 23-10**	**28.80**

DIRECTIONAL BEAM for objects over 2" square. Distances listed cover area of supervision (between units).

DISTANCE	LIGHT SOURCE	EACH		PHOTOCELL	EACH
1 to 10 ft.	**Model 33-10**	**$23.40**	use with	**Model 23-10**	**$28.80**
	Made moisture-proof upon order at $7.50 per unit.				
10 to 25 ft.	**Model 33-25w**	**$39.78**	use with	**Model 23-25w**	**$40.32**
	These units are moisture-proof.				

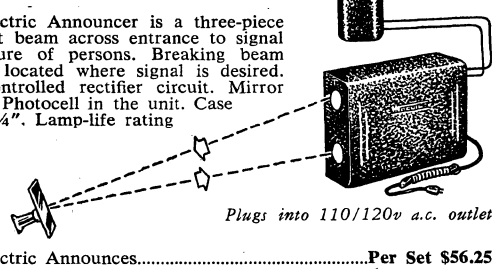
FOR SUPERVISING LARGE OBJECTS UP TO 75 FT.

Model 33-C Light Source and Model 23-C Photocell supervise over an indoor distance over 25 ft. up to 75 ft. from unit to unit. 6¼" x 7" x 4½". Use with any of the above Amplifiers.

Model 33-C.....**each $23.88**.....use with **Model 23-C**.....**each $32.76**

THE ELECTRONIC RECEPTIONIST

Model 61 Fotolectric Announcer is a three-piece set. Projects light beam across entrance to signal entry or departure of persons. Breaking beam activates Chime, located where signal is desired. Efficient grid controlled rectifier circuit. Mirror reflects beam to Photocell in the unit. Case 8¼" x 6½" x 3¾". Lamp-life rating 1000 hours.



Plugs into 110/120v a.c. outlet

Model 61. Fotolectric Announces.....**Per Set $56.25**

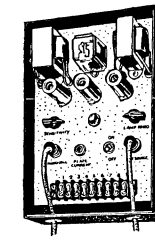
Model 61-T. Fully transistorized. Size 7¾" x 5¾" x 3⅛"....**Per Set $64.80**

AMPLIFIERS FOR MINIATURE HEADS

Model 66/67 Series Amplifiers are available in a choice of four units. For positive and accurate performance, the maximum speed rating of each unit can be regulated provided light projected to the Photocell will have an "on-period" equal to the "off-period" with wiring to Photocell having zero (0) capacity. 110/120v. 50/60 cy. a.c.

Model 67 Amplifier for general applications where fine detection at high speeds is not a factor or Relay is not required to operate in excess of 450 times per minute .....**Each $97.83**

Model 66 Amplifier, operates up to 900 counts a minute. Double-pole, double-throw relay with contact rating 110v. 60 cy. a.c., 10 amp.-non-inductive and 5 amp. inductive. Has light beam intensity control .....**Each $154.80**



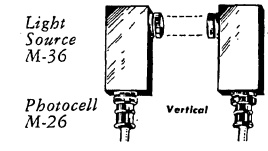
Model 66 Amplifier Door removed to show components.

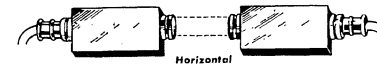
Model 66-A Amplifier, designed for use with ultra high speed electronic decade counters. Accurate counts of light beam interruption or variation of intensity up to 10,000 counts per minute. Output pulses up to 50 volts d.c. regulated by the sensitivity control.....**Each $166.95**

Model 66-T Amplifier, same operating features as Model 66 with added Time Delay circuit to give regulated time delay from 0 to 45 seconds. Efficient for synchronizing operations.....**Each $186.45**

"MINIATURE" FOTOLECTRIC HEADS

Designed for use with Models 66/67 Amplifiers





Light Source M-37
Photocell M-27

Machined out of solid aluminum blocks. Light weight, unbreakable, one-piece, dependable. Only 1¼" x 2½" x ¾". Unsurpassed for pin-point detection. Distance to cross-over point 3" to 12". Distance of directional beam up to 8 feet. For desired speed, select Amplifier accordingly. Six-foot cable equipped both ends with prong-type connectors having screw-band tighteners. For 110/120v. 50/60 cy. a.c.

Model M-36 Vertical Light Source.....**$37.23**

Model M-26 Vertical Photocell Receiver..... **41.34**

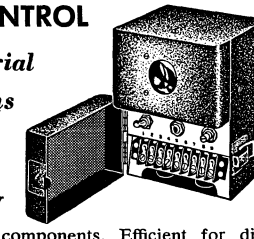
Model M-37 Horizontal Light Source..... **37.23**

Model M-27 Horizontal Photocell Receiver..... **41.34**

TWO-UNIT CONTROL

For Industrial Applications (Indoors)

Light Source

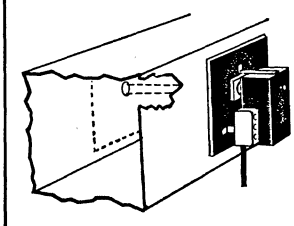


Amplifier

Amplifier includes photocell, Relay and components. Efficient for distances from a few inches to 75 ft. For use where Relay is not required to operate over 400 times a minute, such as; counting, sorting large objects; limit switches; start, stop operations; opening doors, etc.

Model 62 R & L "Two-Unit Set".....**Per Set $110.25**

STOP FIRE BEFORE IT SPREADS



Automatic Control when light beam projected across duct, detects smoke.

Most catastrophic fires are due to sparks drawn into or originating in air-conditioning ducts, resulting in flames fan-driven throughout a building. The Worner Fan Motor Stop minimizes this hazard by early detection, stopping of fans and sounding alarm. Consists of Light Source, Photocell Receiver and Control Cabinet. Meets requirements of National Board of Fire Underwriters, Factory Insurance Ass'n. Listed by U.L. Send for Bulletin 650.

Write For information On Solid State Equipment

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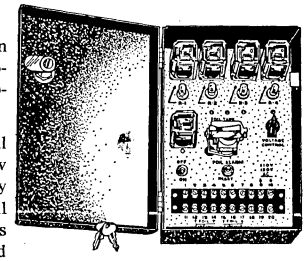
THE WORNER MASTER CONTROL SYSTEM

MODEL 9000 SERIES



Consists of Model 9000-S Master Control Panel. Can supervise ONE to FOUR Light Source and Photocell detection sets, hereafter referred to as "Fotoelectric Sets".

On separate circuit, the Master Control Panel will also supervise foil tape, door traps and window switch systems. Both circuits operate independently and simultaneously. Sounds continuous alarm (until reset) when either of these detection circuits is opened or wiring of Fotolectric system is tampered with.

This control panel prevents false alarms should power fail or drop momentarily and resets automatically when power is restored. Also operates with any type electrical devices employed by professional burglar alarm companies.

The unit contains Relays which energize alarm circuits. The cabinet size is 7" x 10¼" x 4⅜" and its operation is safeguarded by a pick-proof lock. The unit is installed remotely. Designed for 110/120v. 50/60 cy. a.c.

Illustration shows FOUR Relay plug-in location for 1, 2, 3 and 4 Relays as needed; one Relay for each Fotolectric (detection) Set used. Model 9000-S Master Control Panel is priced "less Relays," as only ONE Relay is automatically supplied with each Model No. 9000 series Fotolectric Set ordered.

Model 9000-S Master Control Panel .....**Each $91.08**

Model	Range	Fotolectric Set	Per Set
9100	100 ft.	Light Source & Photocell	**134.67**
9150	150 ft.	Light Source & Photocell.....	**153.57**
9075	75 ft.	Light Source & Photocell.....	**167.73**
9250	250 ft.	Light Source & Photocell.....	**175.71**
9500	500 ft.	Light Source & Photocell.....	**207.00**

MODEL 7000 SERIES

Comprises (light Source and Photocell) Fotolectric Sets that operate in conjunction with burglar alarm companies' central control equipment. The Fotolectric Sets do not interfere with operation of Central Alarm Companies', foil tapes or window traps. For 110/120v. 50/60 cy. a.c. For 24v. 60 cy. use Worner Step-Down Transformer.

Model	Range	Fotolectric Set	Per Set
7100	100 ft.	Light Source & Photocell.....	**$134.67**
7150	150 ft.	Light Source & Photocell.....	**153.57**
7075	75 ft.	Light Source & Photocell.....	**167.73**
7250	250 ft.	Light Source & Photocell.....	**175.71**
7500	500 ft.	Light Source & Photocell.....	**207.00**

MODEL 5000 SERIES

There are 2 Models. Each model has Light Source and Photocell units. The Photocell unit of each Model contains all amplifier components. Thus each Model is a Two-Unit alarm set. Each is designed for indoor use and not intended for use with foil systems, etc.

Has on-off switch, phone jack to test plate current, sensitivity control. Lock. Alarm can be turned off or trespass trap reset only by the possessor of the key. For 110/120v. 50/60 cy. a.c.

Model	Range	Fotolectric Set	Per Set
5100	100 ft.	Two-Unit System	**$134.67**
5150	150 ft.	Two-Unit System	**153.57**

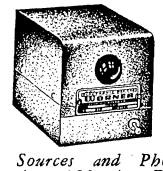
LIGHT SOURCE & PHOTOCELL SETS

All light beams are infra-red (invisible) light.

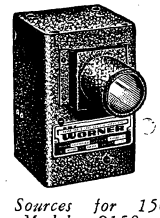
Sets for 100 and 150 ft. ranges are for indoor use. Sets for 75, 250, and 500 ft. ranges are for both indoor and outdoor use.

Sets for 75, 150, 250 and 500 ft. ranges have unwanted light rejector for maximum daytime operating efficiency.

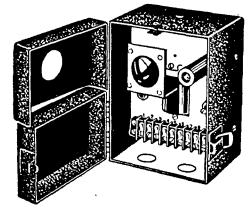
Some cases are similar, but circuits vary greatly.



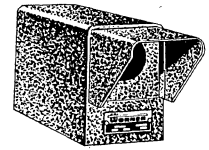
Light Sources and Photocell Units for 100 ft. Ranges. Models: 9100, 7100, 5100.



Light Sources for 150 ft. Range. Models: 9150, 7150, 5150.

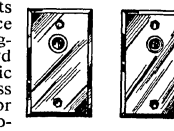


Photocells for 150 ft. Range. Models: 9150, 7150, 5150.



Sets for 75, 250 and 500 foot ranges have hooded weatherproof cases. Photocell cases have locks.

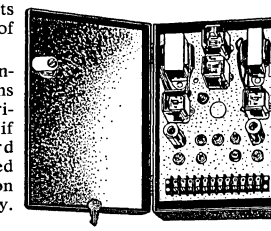
BURGLAR DETECTION UNITS CONCEALED IN THE WALL



Light Source and Photocell Receiver units concealed behind light-switch-type face plates. Projects invisible light beam ranging up to 30 feet (indoors). Standard size wall plates concealing Fotolectric detection units are high finish stainless steel. Light bulb rated 2000 hours. For guaranteed efficiency Model 81/82 Fotolectric sets must be used only with specially engineered Amplifiers listed below. Complete installation instructions enable any electrician to install.

Model 81 "In-Wall" Light Source.....**Each $32.67**
Model 82 "In-Wall" Photocell Receiver.....**Each 38.22**

AMPLIFIERS FOR ABOVE FOTOLECTRIC SET

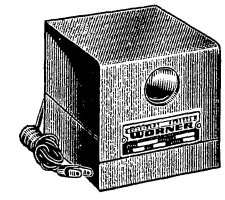


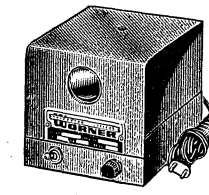
Two specially engineered units for amplifying the energy of the above concealed units.

Circuits with no-voltage control relay prevent false alarms due to line voltage irregularities and will sound alarm if tampered with. Standard alarm continuous, Regulated warning signal "special" upon order. For 110/120v. 60 cy. a.c.

Model 86-1 is a single channel Amplifier Panel that will amplify current flow of one Fotolectric Set.....**Each $140.76**

Model 86-2 is a dual channel Amplifier Panel that will amplify current flow of two Fotolectric Sets, guarding separate areas. Will also supervise one Fotolectric Set, providing for future addition of a second Fotolectric Set **Each $214.83**





TWO-UNIT WORNER WATCHMAN

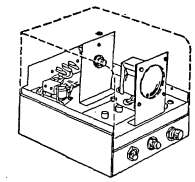
This Two-Unit Set consists of a Light Source and a Photocell unit that supplies 6-volt energy for activating the alarm circuit.

The Light Source is equipped with removable infrared filter providing visible light beam ranging up to 50 feet. The Photocell unit is equipped with toggle switch for either continuous alarm or to sound only while light beam is broken. Extraneous light rejector maintains daylight range. Two-piece case construction enables removal of cover without mounting. Identical cases 5" x 5" x 5½" welded steel, mahogany hammerloid finish. For indoor use; 110/120v. 60 cycle a.c.

Model 4000 Two-Unit Watchman (Indoors).....**Per Set $ 96.30**
Model 4100 Two-Unit Alarm (Weatherproof)..**Per Set 167.73**

TRANSISTORIZED BURGLAR ALARM

Two-Unit Combination. Indoor Use.



Photocell - Amplifier has 2-piece case for convenient installation and servicing.

The Photocell unit supplies 6-volt a.c. energy to activate a 6-volt a.c. alarm, thus providing a Two-Unit alarm set.

Alarm may be sounded at one or more remote locations. Knob control for continuous, limited or reset alarm. Built-in device minimizes unwanted light. Infrared filter provides invisible light beam ranging up to 50 feet. Both units are externally alike, 5" x 5" x 5½". Two-piece hammerloid cases simplify installation and servicing.

Model 8002 R & L, Transistorized Burglar Alarm Set.....**$99.00**

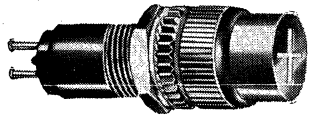
Write For Information On Solid State Equipment

The Complete Line of DIALCO® Indicator Lights — Foremost Manufacturer of Indicator Lights — DIALIGHT CORPORATION

(Illustrations are approx. actual size)

See Catalog L-160

DATALITES® — Ultra-Miniature Indicator Lights with Data Caps



250-8738-1471-504

INCANDESCENT

MOUNT IN 3/8" CLEARANCE HOLE

INCANDESCENT ■ COMPLETE ASSEMBLIES WITH TURRET TERMINALS		
▲ DATA CAP LENS COLOR	SHORT CYLINDRICAL FOR USE WITH HOT-STAMPED LEGENDS (TRANSLUCENT)	SHORT CYLINDRICAL WITH DIFFUSING RINGS (TRANSPARENT)
Red	250-8738-1471-504	250-8738-3331-504

■ To obtain solder cup terminals change "87" in catalog number to "75". For amp "53" taper pin receptacles, change to "90". Example: 250-9038-1471-504.

DATALAMP CARTRIDGES

INCANDESCENT DATALAMP CARTRIDGES FOR USE IN DATA CAP ASSEMBLIES				
CATALOG NOS. SHORT CYLINDRICAL LENS SHAPE TRANSPARENT-COLORLESS	VOLTS	MA.	C.P.*	LIFE HOURS
LONG LIFE—HIGH RELIABILITY				
507-3907-1437-600	6.3	40	.03	50,000
507-3909-1437-600	6.3	200	.40	50,000
507-3914-1437-600	14.0	80	.30	50,000
507-3918-1437-600	28.0	40	.30	25,000
STANDARD RATINGS				
507-3902-1437-600	2.5	200	.20	500
507-3906-1437-600	6.0	200	.60	1,000
507-3908-1437-600	6.3	75	.23	500
507-3913-1437-600	14.0	80	.50	750
507-3916-1437-600	18.0	40	.15	1,000
507-3917-1437-600	28.0	40	.34	1,000

*C.P. is the mean spherical candle power of the lamp used. Values are useful for relative effectiveness.

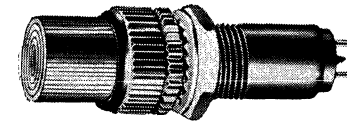
▲ LENS COLOR: To obtain Data Cap with color other than red, change digit before last dash in catalog number (-1471-) to: Green-2; Amber-3; White Translucent-5; Clear Colorless-7.

Example: 250-8738-1473-504 (Amber)

Note: Green is not recommended for use with Neon lamps.

NEON

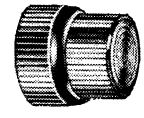
MOUNT IN 3/8" CLEARANCE HOLE



250-8745-1631-504

FEATURES

A Datalite Indicator consists of three parts: (a) the main body or **Datalamp Holder** which is adapted for permanent mounting on the panel; (b) the **Datalamp cartridge** which telescopes into the Datalamp Holder and makes electrical contact as the pins enter the receptacle in the holder; and (c) the screw-on **Data Cap.** The Data Cap secures the Datalamp and its lens controls the light emission.



NEON DATALAMP CARTRIDGES		
LAMP BRIGHTNESS	CARTRIDGES WITH BUILT-IN RESISTOR	CARTRIDGES WITH NO RESISTOR
HIGH	507-4538-0937-610	507-3836-0937-600
STANDARD	507-4537-0937-640	507-3835-0937-600

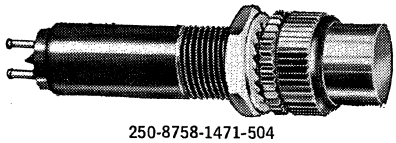
SHORT CYLINDRICAL DATA CAP with diffusing rings.

NEON ■ COMPLETE ASSEMBLIES WITH TURRET TERMINALS			
DATA CAP LENS SHAPE	▲ LENS COLOR	ACCOMMODATES CARTRIDGES WITH BUILT-IN RESISTOR	ACCOMMODATES CARTRIDGES WITH NO RESISTOR
Long Cylindrical	Red	250-8745-1631-504	250-8738-1631-504
Short Cylindrical	Red	250-8745-3331-504	250-8738-3331-504

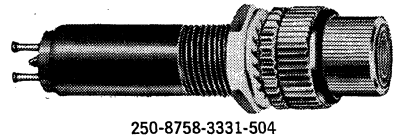
■ To obtain solder cup terminals change "87" in catalog number to "75". For amp "53" taper pin receptacles, change to "90". Example: 250-9038-3331-504.

▲ See **LENS COLOR** data at left.

INCANDESCENT — For use on 6 - 120V Circuits



250-8758-1471-504



250-8758-3331-504

Mount in 3/8" Clearance Hole

This series accommodate longer cartridges that employ telephone type bulbs for higher voltages. Sufficient light is produced to be effective with either transparent or translucent Data Caps.

Datalamp cartridges are provided with 6 supply voltages. For levels between nominal ratings, cartridges of the next higher value should be chosen.

DATALAMP CARTRIDGES

CATALOG NUMBER	VOLTS	MA.	LIFE HOURS**	RELATIVE LUMINOSITY END-ON
507-5819-0747-600	6	140	5000+	0.7
507-5820-0747-600	12	170	5000+	2.1
507-5821-0747-600	28	40	5000+	1.2
507-5822-0747-600	48	53	5000+	1.5
507-5823-0747-600	60	50	5000+	2.2
507-5824-0747-600	120	25	5000+	1.5

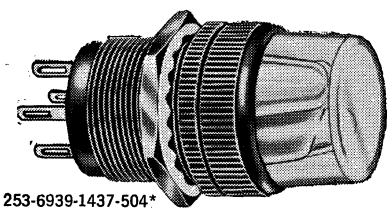
**Based on the lamp manufacturer's statement: "Engineered to give a minimum of 5000 hours under static conditions." Lamps giving this performance are comparable with those rated at 25,000 hours "average" life. All Catalog Numbers above designate Datalamp Cartridges with clear (colorless) convex lens with matted back.

*INDICATOR LIGHTS WITH TURRET TERMINALS		
LENS COLOR	TRANSLUCENT LENS FOR USE WITH HOT-STAMPED LEGENDS	TRANSPARENT LENS WITH REFRACTIVE INNER SURFACES
Red	250-8758-1471-504	250-8758-3331-504
Green	250-8758-1472-504	250-8758-3332-504
Yellow (Amber)	250-8758-1473-504	250-8758-3333-504
Blue	250-8758-1474-504	250-8758-3334-504
White (Translucent)	250-8758-1475-504	250-8758-3335-504
Clear (Colorless)	———	250-8758-3337-504

*To specify Datalites with solder cup terminals, change so much of the catalog number that reads -8758- to -7558-. Example: 250-7558-1473-504.

DATA TWIN INDICATOR LIGHT

Accommodates 2 Neon or Incandescent DATALAMP Cartridges



253-6939-1437-504*

MOUNTS IN 3/4" CLEARANCE HOLE

The Data Twin Indicator Light houses 2 Datalamp Cartridges. Each cartridge may be operated independently thus indicating 4 possible conditions. The cartridge is removable from front of panel. The light barrier (between the 2 lamps) is an integral part of the lens cap.

***Examples:** 253-6939-1437-504 — For use with all Incandescent or most Neon cartridges without built-in resistor. 253-6945-1437-504 — For use with Neon cartridges with built-in resistor only.

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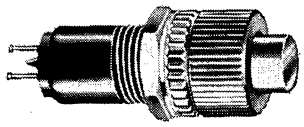
The Complete Line of DIALCO® **Indicator Lights** — Foremost Manufacturer of Indicator Lights — DIALIGHT CORPORATION

(Illustrations are approx. actual size)

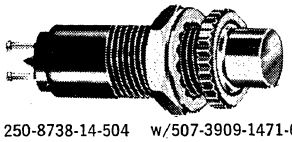
See Catalog L-160

DATALITES® – Ultra-Miniature Indicator Lights

Incandescent Datalites—For use on 1.35V - 28V Circuits**

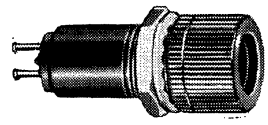


508-8738-504 w/507-3909-1471-600



250-8738-14-504 w/507-3909-1471-600

DATALAMP HOLDER

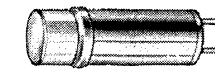


508-8738-504

TERMINAL TYPE*	DATALAMP HOLDER WITH COLLAR	DATALAMP HOLDER WITHOUT COLLAR
Turret	508-8738-504	250-8738-14-504

*To obtain Datalmp Holder with other than turret terminals change "87" in catalog No. to "75" (solder cup terminals). For amp "53" taper pin receptacles, change to "90". Example: 508-9038-504.

507-3909-0371-600



507-3909-1471-600

Mount 3/8" Clearance Hole

Incandescent Datalight Indicator Lights consist of: (1) **Datalamp Cartridges** — a plug-in, replaceable light source, with either short cylindrical or flat lens shape (see chart at right); accommodated by (2) **Datalamp Holders** — with or without collar (see chart above).

Standard Finish: Aluminum, black anodize finish. To obtain optional clear anodize finish, change the first digit in the catalog number suffix from **-5** to **-6**. Example: 508-8738-**6**04.

**Datalamp Cartridges are also available with T-2 type lamps in a range of voltages from 6-120V. For more data, see preceding page. Also, request *Catalog L-160*.

LENS COLOR: See listing below.

DATALAMP CARTRIDGES

CATALOG NOS. SHORT CYLINDRICAL LENS SHAPE *(TRANSLUCENT)	CATALOG NOS. ▲FLAT LENS SHAPE *(TRANSLUCENT)	VOLTS	MA.	C.P.**	LIFE HOURS
LONG LIFE—HIGH RELIABILITY					
507-3907-1471-600	507-3907-0371-600	6.3	40	.03	50,000
507-3909-1471-600	507-3909-0371-600	6.3	200	.40	50,000
507-3914-1471-600	507-3914-0371-600	14.0	80	.30	50,000
507-3918-1471-600	507-3918-0371-600	28.0	40	.30	25,000
STANDARD RATINGS					
507-3902-1471-600	507-3902-0371-600	2.5	200	.20	500
507-3906-1471-600	507-3906-0371-600	6.0	200	.60	1,000
507-3908-1471-600	507-3908-0371-600	6.3	75	.23	500
507-3913-1471-600	507-3913-0371-600	14.0	80	.50	750
507-3916-1471-600	507-3916-0371-600	18.0	40	.15	1,000
507-3917-1471-600	507-3917-0371-600	28.0	40	.34	1,000
LOW POWER RATINGS (TRANSPARENT ONLY)					
507-3901-1431-600	507-3901-0331-600	1.35	60	.006	500
507-3903-1431-600	507-3903-0331-600	2.7	60	.04	500
507-3904-1431-600	507-3904-0331-600	3.0	15	.005	20,000
507-3910-1431-600	507-3910-0331-600	10.0	14	.004	100,000
507-3911-1431-600	507-3911-0331-600	10.0	40	.08	10,000
507-3912-1431-600	507-3912-0331-600	14.0	17	.03	50,000
507-3915-1431-600	507-3915-0331-600	18.0	20	.08	20,000

*If transparent lens is desired, change "7" in the catalog number to "3". Examples: 507-3909-1431-600; 507-3909-0331-600.
▲ Not for use with Datalamp Holders or Data Twin Assembly. Use only with separate 515-0050 or 515-0012 Cartridge Connector and 515-0051 Speed Clip.
**C.P. is the mean spherical candle power of the lamp used. Values are useful for relative effectiveness.

NEON DATALITES

For use on

105-125V AC-DC or

110-125V AC CIRCUITS

Mount in 3/8" Clearance Hole

Neon Datalite Indicator Lights consist of: (1) **Datalamp Cartridges** — a plug-in, replaceable light source, with either stovepipe or long cylindrical lens shape — **with or without** built-in current limiting resistor (see recommended resistance values and appropriate code nos. below). (2) accommodated by **Datalamp Holders** of shorter length when cartridge **without** built-in resistor is used; by Datalamp Holders of longer length when cartridges **with** built-in resistor are used. See charts at right for available selections.

Standard Finish: Black anodize. To obtain optional clear anodize finish, change the first digit in the catalog number suffix from **-5** to **-6**.

Example: 508-8745-**6**04.

LENS COLOR: The digit **before** the last dash in the catalog number indicates that the color of the Datalamp Cartridge is RED. When color other than red is desired, change this digit to a figure from the listing below.

Red—1; Green—2; Yellow (Amber)—3; Blue—4; White Translucent—5; Yellow—6; Clear (Colorless)—7.

Examples: 507-3901-1432-600 (green).
507-4538-1533-610 (yellow amber)

Note: **Blue** or **green** lens colors are not available for use with Neon light sources.

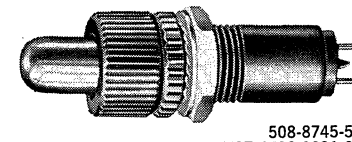
NEON DATALAMP CARTRIDGES		
LENS SHAPE	BUILT-IN RESISTOR HIGH BRIGHTNESS	BUILT-IN RESISTOR STANDARD BRIGHTNESS
Stovepipe	507-4538-0931-610	507-4537-0931-640
Long Cylindrical	507-4538-1531-610	507-4537-1531-640

TERMINAL TYPE*	DATALAMP HOLDER WITH COLLAR	DATALAMP HOLDER WITHOUT COLLAR
Turret	508-8745-504	250-8745-14-504

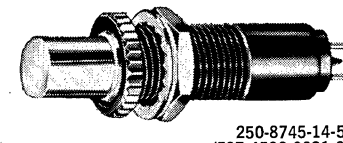
*To obtain Datalamp Holder with other than turret terminals change "87" in catalog No. to "75" (solder cup terminals). For amp "53" taper pin receptacles, change to "90". Example: 250-9045-15-504.

▲ NEON DATALAMP CARTRIDGES		
	WITHOUT BUILT-IN RESISTOR	
LENS SHAPE	HIGH BRIGHTNESS	STANDARD BRIGHTNESS
Stovepipe	507-3836-0931-600	507-3835-0931-600
Long Cylindrical	507-3836-1531-600	507-3835-1531-600

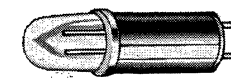
▲ These Datalamp Cartridges are accommodated by Datalamp Holders listed in table for Incandescent Datalites.



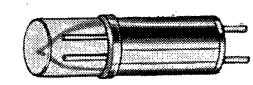
508-8745-504
w/507-4538-0931-610



250-8745-14-504
w/507-4538-0931-610



507-3836-0931-600
(without built-in resistor)



507-4538-1531-610
(with built-in resistor)

NEON LAMPS and RESISTOR VALUES					
		Bright Light		Long Life	
Neon Lamp	Volts Applied to Terminals	Resistor and Approx. Life		Resistor and Approx. Life	
Standard Brightness	105-125 AC or DC	56K	3000 hrs.	100K	15,000 hrs.
High Brightness	110-125 AC only	22K	5000 hrs.	33K	25,000 hrs.

Change 2nd digit in code no. suffix as follows: (56K) — 640; (22K) — 610; (100K) — 670; (33K) — 630; Example: 507-4538-0931-630.

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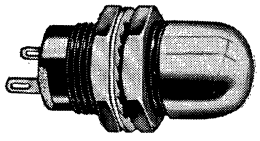
The Complete Line of DIALCO® **Indicator Lights** — DIALIGHT CORPORATION — Foremost Manufacturer of Indicator Lights

(Illustrations are approx. actual size)

Sub-Miniature Indicator Lights for T-1¾ Bulbs

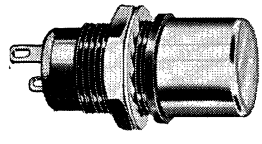
With Midget Flanged Base — INCANDESCENT

MOUNT IN 15/32" CLEARANCE HOLE FRONT OR BACK OF PANEL INSERTION WITH MOVABLE FLANGE



101-3830-0931-201

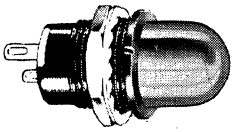
MOUNT IN 15/32" CLEARANCE HOLE FRONT OF PANEL INSERTION WITH FIXED FLANGE



140-8430-1471-201

TYPE MOUNTING	LENS SURFACE	CATALOG NUMBER STOVEPIPE LENS SHAPE	CATALOG NUMBER CYLINDRICAL LENS SHAPE
Front or Back Mtg. in 15/32" Clearance Hole	Transparent	101-3830-0931-201	140-3830-1431-201
	Translucent	101-3830-0971-201	140-3830-1471-201
Front Mtg. in 17/32" Clearance Hole	Transparent	101-5030-0931-201	140-5030-1431-201
	Translucent	101-5030-0971-201	140-5030-1471-201
Front Mtg. in 15/32" Clearance Hole	Transparent	101-8430-0931-201	140-8430-1431-201
	Translucent	101-8430-0971-201	140-8430-1471-201

MOUNT IN 15/32" CLEARANCE HOLE • FRONT OF PANEL INSERTION WITH FIXED FLANGE • MS25256 2-12



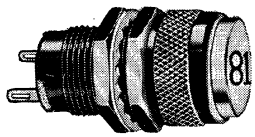
162-8430-0931-502

Note: The inclusion of lamp MS25237-327 in MS25256, formerly designated by the use of odd numbered suffixes, -1 through -11 inclusive, is now superseded by suffix -327 (28 volts .04 amp) or -328 (6 volts .20 amp) after the even numbered dash number. Examples: MS25256-2-327; MS25256-10-328.

CATALOG NUMBER	MS. NO. WITHOUT LAMP*	LENS CAP COLOR**
162-8430-0933-502	MS25256-2	Aviation Yellow
162-8430-0932-502	MS25256-4	Aviation Green
162-8430-0931-502	MS25256-6	Identification Red
162-8430-0937-502	MS25256-8	Aviation White
162-8430-0975-502	MS25256-10	Translucent White
162-8430-0934-502	MS25256-12	Aviation Blue

To specify translucent stovepipe or cylindrical; or transparent cylindrical lens cap **(not covered by MS designations)** write for Cat. L-178.

*Marking: Part number marked on the assembly is the part number for the complete assembly **less lamp.** — **All lens cap colors are transparent with the exception of white.



134-3830-0351-201

ROTATABLE LENS

Specially designed spring mounting facilitates rotation of lens and alignment of legend — **after** installation of the Indicator Light.

LENS SHAPE	LENS FINISH	CATALOG NO. (FRONT OR BACK MTG. 15/32" CLEARANCE HOLE)	CATALOG NO. (FRONT MTG. 17/32" CLEARANCE HOLE)	CATALOG NO. (FRONT MTG. 15/32" CLEARANCE HOLE)
FLAT	Transparent	134-3830-0331-201	134-5030-0331-201	134-8430-0331-201
	Translucent	■134-3830-0351-201	■134-5030-0351-201	■134-8430-0351-201
CONVEX	Unfrosted	134-3830-0131-201	134-5030-0131-201	134-8430-0131-201
	Back Frosted	134-3830-0111-201	134-5030-0111-201	134-8430-0111-201
FACETED	Unfrosted	134-3830-2131-201	134-5030-2131-201	134-8430-2131-201

■ Specify translucent as follows: Red — 0351 . . . Green — 0352 . . . Yellow (Amber) — 0373 . . . Blue — 0374 . . . White — 0375 . . . Light Yellow — 0376.

LENS COLOR: The figure before the last dash in the catalog number indicates that the lens is RED. When a color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

RED—1 . . . Green—2 . . . Yellow (Amber)—3 . . . Blue—4 . . .
White Translucent—5 . . . Light Yellow—6 . . . Clear (Colorless)—7.

Example: 101-3830-0932-201 (Green)

Two Terminals — Fully Insulated

Meet or exceed environmental and operational requirements of MIL-L-6723 and MIL-L-3661.

RUGGED CONSTRUCTION

Lamp, socket, and all connections are completely insulated from the bushing and panel to which it is attached. The use of phenolic material for military specification grade assures permanent isolation from ground. These assemblies are solidly made to withstand usual vibration and corrosion resistance tests.

Order Complete with Lamp. Specify Lamp Number.

MANUFACTURER'S RATINGS (Values given are approx.)

LAMP NO.	VOLTS	AMPERES	HOURS	CANDLE-POWER
▲331	1.35	.06	500	.006
▲338	2.7	.06	500	.04
▲375	3.0	.015	20,000	.004
*328	6.0	.20	1,000	.63
345	6.0	.04	1,000	.03
349	6.3	.20	3,000	.55
380	6.3	.04	50,000	.02
381	6.3	.20	50,000	.40
▲344	10.0	.014	50,000	.002
367X	10.0	.04	20,000	.08
330	14.0	.08	750	.50
382	14.0	.08	50,000	.30
370	18.0	.04	1,000	.15
*327	28.0	.04	1,000	.34
**387	28.0	.04	25,000	.30

▲ These lamps **only** are for use with transparent lens caps **without** legends.

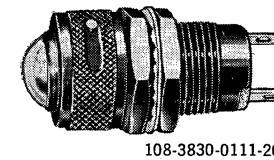
*Conforms to MS25237. **MS18209 (BuShips)

DIMMERS — MECHANICAL or POLAROID

Choice of mechanical or polaroid dimming device. Polaroid produces some reduced intensity at all settings, but gives full diameter opening.

Mechanical varies opening size to complete blackout or has permanent small opening as in "semi-blackout" type.

MOUNT IN 15/32" CLEARANCE HOLE FRONT OR BACK OF PANEL INSERTION WITH MOVABLE FLANGE



108-3830-0111-201

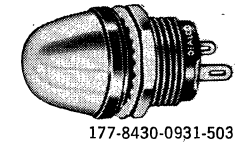
DIMMER TYPE	GLASS LENS TYPE	LENS SURFACE	CATALOG NO. (FRONT OR BACK MTG. 15/32" CLEARANCE HOLE)	CATALOG NO. (FRONT MTG. 17/32" CLEARANCE HOLE)	CATALOG NO. (FRONT MTG. 15/32" CLEARANCE HOLE)
Complete Blackout	Convex	Unfrosted	108-3830-0131-201	108-5030-0131-201	108-8430-0131-201
		Back Frosted	108-3830-0111-201	108-5030-0111-201	108-8430-0111-201
Semi-Blackout	Convex	Unfrosted	109-3830-0131-201	109-5030-0131-201	109-8430-0131-201
		Back Frosted	109-3830-0111-201	109-5030-0111-201	109-8430-0111-201
Polaroid	Convex	Unfrosted	112-3830-0131-201	112-5030-0131-201	112-8430-0131-201
		Back Frosted	112-3830-0111-201	112-5030-0111-201	112-8430-0111-201

NON-DIMMING TYPE	GLASS LENS TYPE	LENS SURFACE	COMPLETE ASSEMBLIES
Front or Back Mtg. in 15/32" Clearance Hole	Convex	Unfrosted	111-3830-0131-201
		Back Frosted	111-3830-0111-201
Front Mtg. in 17/32" Clearance Hole	Convex	Unfrosted	111-5030-0131-201
		Back Frosted	111-5030-0111-201
Front Mtg. in 15/32" Clearance Hole	Convex	Unfrosted	111-8430-0131-201
		Back Frosted	111-8430-0111-201

WATER-TIGHT ASSEMBLIES

Water-tight construction: These Sub-Miniature Lights are completely water-tight on the face of the panel. Water-tightness is achieved by means of **retained O-ring seals.** One **O-ring** is retained within the back of the lens cap, the other behind the flange on the mounting bushing.

MOUNT IN 15/32" CLEARANCE HOLE. FRONT OF PANEL INSERTION WITH FIXED FLANGE

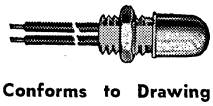


177-8430-0931-503

WATER-TIGHT DIMMERS

On the Dimmer type assembly, a third **O-ring** is mounted within the dimmer cap — so positioned as to assure absolutely no leakage through the dimmer slot. For data, request Catalog L-178.

LENS COLOR	COMPLETE ASSEMBLIES: TRANSPARENT COLORS	COMPLETE ASSEMBLIES: TRANSLUCENT COLORS
Red	177-8430-0931-503	177-8430-0971-503
Green	177-8430-0932-503	177-8430-0972-503
Yellow (Amber)	177-8430-0933-503	177-8430-0973-503
Blue	177-8430-0934-503	177-8430-0974-503
White (Translucent)	177-8430-0935-503	177-8430-0975-503
Light Yellow	177-8430-0936-503	177-8430-0976-503
Clear (Colorless)	177-8430-0937-503	———



Sub-Sub-Miniatures

Series 252-9951-0971

Conforms to Drawing MS25446 2-7 . . . Requires only .193" Panel Mounting Clearance Hole . . . For complete data, refer to Catalog L-168.

Translucent Lens Cap Color	DIALCO Catalog No.	Military Number	Translucent Color Lens Cap	Catalog No. DIALCO	Number Military
Blue	252-9951-0974	MS25446-2	White	252-9951-0975	MS25446-5
Green	252-9951-0972	MS25446-3	Yellow (Amber)	252-9951-0973	MS25446-6
Red	252-9951-0971	MS25446-4	Clear (Transparent)	252-9951-0937	MS25446-7

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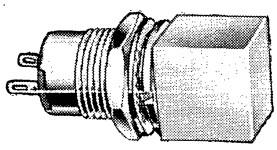
The Complete Line of DIALCO® **Indicator Lights** — Foremost Manufacturer of Indicator Lights — DIALIGHT CORPORATION

(Illustrations are approx. actual size)

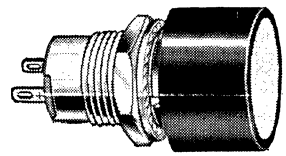
Sub-Miniature Indicator Lights for T-1¾ Bulbs with midget flanged base — INCANDESCENT

Use 1/2" or 3/4" Round or Square Friction-Fit Plastic Lens Caps

MOUNT IN 15/32" CLEARANCE HOLE — FRONT OF PANEL INSERTION — WITH FIXED FLANGE

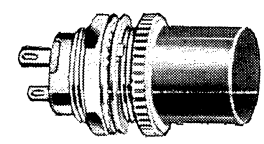


185-9730-1871-602

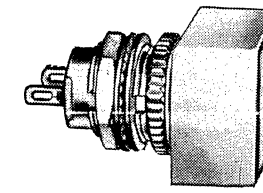


188-9730-5071-602

MOUNT IN 1/2" CLEARANCE HOLE FRONT OR BACK OF PANEL INSERTION — WITH MOVABLE FLANGE



183-9830-1471-604



187-9830-1871-604

The lens cap is effectively lighted by T-1¾ bulb with midget flanged base, which extends completely into the luminous portion. Fine solid color effects are obtained. The two-part construction permits opaque sides with lighted colored faces.

Lens caps may be rotated, permitting legends or cap edges to be easily brought into alignment after installation of the assembly; or they may be keyed, thus permitting them to be pushed into place only in a **predetermined** position.

Unique anti-rotation (locked) construction provides for secure keyed mounting of mounting bushing on panels.

***LENS FACE COLOR:** See listings at bottom of page.

See lamp listing and range of voltages on Page 968.

WITH 1/2" FRICTION FIT LENS CAP - KEYED (NON-ROTATABLE)

CAP COLOR COMBINATION	CAP SHAPE	FRONT MOUNTING 15/32" CLEARANCE HOLE	FRONT OR REAR MTG. 1/2" CLEARANCE HOLE
Solid Color, Translucent Face and Sides	Round	186-9730-1471-602	186-9830-1471-604
	Square	184-9730-1871-602	184-9830-1871-604
Translucent Colored Face, Black Opaque Sides	Round	186-9730-5071-602	186-9830-5071-604
	Square	184-9730-5071-602	184-9830-5071-604
Translucent Colored Face, Gray Opaque Sides	Round	186-9730-5171-602	186-9830-5171-604
	Square	184-9730-5171-602	184-9830-5171-604

WITH 3/4" FRICTION FIT LENS CAP - KEYED (NON-ROTATABLE)

CAP COLOR COMBINATION	CAP SHAPE	FRONT MOUNTING 15/32" CLEARANCE HOLE	FRONT OR REAR MTG. 1/2" CLEARANCE HOLE
Solid Color, Translucent Face and Sides	Round	188-9730-1471-602	188-9830-1471-604
	Square	187-9730-1871-602	187-9830-1871-604
Translucent Colored Face, Black Opaque Sides	Round	188-9730-5071-602	188-9830-5071-604
	Square	187-9730-5071-602	187-9830-5071-604
Translucent Colored Face, Gray Opaque Sides	Round	188-9730-5171-602	188-9830-5171-604
	Square	187-9730-5171-602	187-9830-5171-604

WITH 1/2" FRICTION FIT LENS CAP - ROTATABLE

CAP COLOR COMBINATION	CAP SHAPE	FRONT MOUNTING 15/32" CLEARANCE HOLE	FRONT OR REAR MTG. 1/2" CLEARANCE HOLE
Solid Color, Translucent Face and Sides	Round	183-9730-1471-602	183-9830-1471-604
	Square	185-9730-1871-602	185-9830-1871-604
Translucent Colored Face, Black Opaque Sides	Round	183-9730-5071-602	183-9830-5071-604
	Square	185-9730-5071-602	185-9830-5071-604
Translucent Colored Face, Gray Opaque Sides	Round	183-9730-5171-602	183-9830-5171-604
	Square	185-9730-5171-602	185-9830-5171-604

WITH 3/4" FRICTION FIT LENS CAP - ROTATABLE

CAP COLOR COMBINATION	CAP SHAPE	FRONT MOUNTING 15/32" CLEARANCE HOLE	FRONT OR REAR MTG. 1/2" CLEARANCE HOLE
Solid Color, Translucent Face and Sides	Round	191-9730-1471-602	191-9830-1471-604
	Square	190-9730-1871-602	190-9830-1871-604
Translucent Colored Face, Black Opaque Sides	Round	191-9730-5071-602	191-9830-5071-604
	Square	190-9730-5071-602	190-9830-5071-604
Translucent Colored Face, Gray Opaque Sides	Round	191-9730-5171-602	191-9830-5171-604
	Square	190-9730-5171-602	190-9830-5171-604

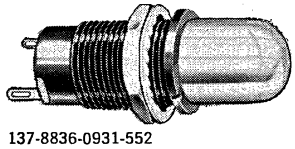
When Connecting a Neon Light to a Circuit Having One Side Grounded, Always Connect the Hot Side of the Circuit to the Terminal Marked + (Center Contact).

Sub-Min. Indicator Lights for T-2 Bulb with midget flanged base — NEON

C7A (NE-2D)—Standard Brightness
C9A (NE-2J)—High Brightness

TWO TERMINALS — FULLY INSULATED . . . Meet or exceed environmental and operational requirements of MIL-L-6723 and MIL-L-3661.

MOUNT IN 15/32" CLEARANCE HOLE FRONT OF PANEL INSERTION WITH FIXED FLANGE



137-8836-0931-552

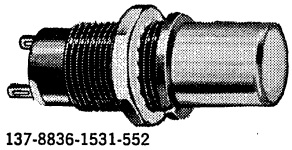
With Built-in Resistor

(A patented DIALCO feature— U.S. Pat No. 2,421,321)

Conform to MS25257

Accommodates a T-2 Neon Glow Lamp: C7A (NE-2D) (MS25252) for 105-125 Volts A.C. or D.C.; **for Catalog Numbers see below...C9A (NE-2J)** (High Brightness) for 110-125 Volts — A.C. only.

CATALOG NO. WITHOUT LAMP	MS NO. WITHOUT LAMP	MS NO. WITH LAMP MS25252- C7A (NE-2D)	LENS COLOR
137-8836-0933-552	MS25257-2	MS25257-1	Aviation Yellow
137-8836-0931-552	MS25257-4	MS25257-3	Identification Red
137-8836-0937-552	MS25257-6	MS25257-5	Clear (Colorless)



137-8836-1531-552

These assemblies are similar in every respect to the MS assemblies (137-8836-0931-552 Series) above, except that they offer **optional** features not covered by MS. Finishes: Standard — black anodize; **optional** — clear anodize. **Lamps — C7A (NE-2D)** (standard brightness) for 105-125 volts A.C. or D.C.; **C9A (NE-2J)** (high brightness) for 110-125 Volts — A.C. only.

LENS COLOR	COMPLETE ASSEMBLIES			
	ACCOMMODATE C7A (NE-2D) LAMP		ACCOMMODATE C9A (NE-2J) LAMP	
	STOVEPIPE	CYLINDRICAL	STOVEPIPE	CYLINDRICAL
Identification Red	137-8836-0931-552	137-8836-1531-552	137-8864-0931-512	137-8864-1531-512
Aviation Yellow	137-8836-0933-552	137-8836-1533-552	137-8864-0933-512	137-8864-1533-512
White	137-8836-0935-552	137-8836-1535-552	137-8864-0935-512	137-8864-1535-512
Light Yellow	137-8836-0936-552	137-8836-1536-552	137-8864-0936-512	137-8864-1536-512
Clear (Colorless)	137-8836-0937-552	137-8836-1537-552	137-8864-0937-512	137-8864-1537-512

LIGHT SOURCE: Tiny Neon Glow Lamps C7A (NE-2D) or C9A (NE-2J)

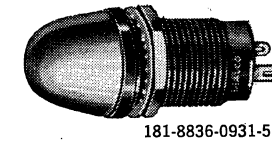
Recommended resistor values:

FOR C7A (NE-2D) AT 105-125 VOLTS AC OR DC	
Bright Light	Long Life
■62,000 ohms	100,000 ohms
FOR C9A (NE-2J) - HIGH BRIGHTNESS - AT 110-125 VOLTS AC ONLY	
Bright Light	Long Life
■22,000 ohms	33,000 ohms

■ Standard values of patented built-in resistors; other values optional.

WATER-TIGHT NEON INDICATOR LIGHTS — with RETAINED O-RING SEALS

MOUNT IN 15/32" CLEARANCE HOLE FRONT OF PANEL INSERTION WITH FIXED FLANGE With Built-in Resistor



181-8836-0931-553

LENS COLOR	COMPLETE ASSEMBLIES		
	WITH BUILT-IN RESISTOR		WITHOUT BUILT-IN RESISTOR
	ACCOMMODATE C7A (NE-2D) LAMP	ACCOMMODATE C9A (NE-2J) LAMP	
Red	181-8836-0931-553	181-8864-0931-513	181-8536-0931-503
Yellow (Amber)	181-8836-0933-553	181-8864-0933-513	181-8536-0933-503
White (Translucent)	181-8836-0935-553	181-8864-0935-513	181-8536-0935-503
Light Yellow	181-8836-0936-553	181-8864-0936-513	181-8536-0936-503
Clear (Colorless)	181-8836-0937-553	181-8864-0937-513	181-8536-0937-503

***LENS COLOR:** The figure before the last dash in the catalog number indicates that the lens is RED. When a color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are always furnished unfrosted. Example: 191-9730-1873-602 (Yellow Amber)

RED—1 . . . Green—2 . . . Yellow (Amber)—3 . . . Blue—4 . . .
White Translucent—5 . . . Light Yellow—6 . . . Clear (Colorless)—7.
Green and Blue are not recommended for use with Neon Lamps.

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The Complete Line of DIALCO® **Indicator Lights** — Foremost Manufacturer of Indicator Lights — DIALIGHT CORPORATION

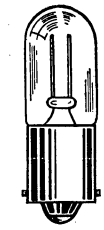
(Illustrations are approx. actual size)

When Connecting a Neon Light to a Circuit Having One Side Grounded, Always Connect the Hot Side of the Circuit to the Terminal Marked + (Center Contact).

ASSEMBLIES with BUILT-IN RESISTORS (U. S. Patent No. 2,421,321)

"Recognized under the component program of Underwriters' Labs Inc." 75W., 125V — 75W., 250V

For T-3¼ Bulb with Miniature Bayonet Base—NEON



B1A (NE–51)
B2A (NE–51H)
(High Bright.)

For operation on 105-125V AC-DC . . . 110-125V AC . . . 210-250V AC-DC

Assemblies conform to MIL-L-3661.

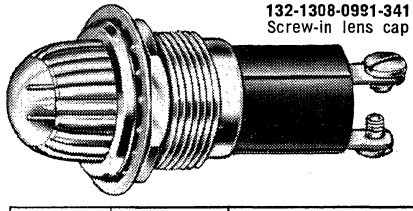
PROPER CHOICE OF LAMP AND BUILT-IN RESISTOR VALUES: The NE-51 glow lamp types are shown with resistor table. Lamps are the **standard brightness** NE-51 and the **high brightness** NE-51H. The latter may be operated at about three times the level of current that may be applied to the standard lamp and it will produce more than **8 times** as much brightness.

BUILT-IN RESISTOR VALUES (in ohms) for NEON GLOW LAMPS

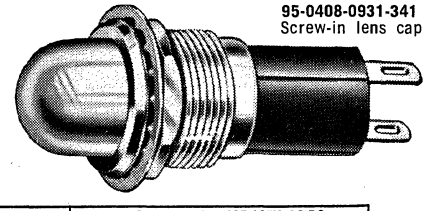
B2A (NE–51H)—High Brightness			B1A (NE–51)—Standard Brightness	
Circuit volts applied to terminals	110–125 AC	210–250 AC-DC	Circuit volts applied to terminals	105–125 AC-DC
BRIGHT LIGHT	■ 22,000	68,000	BRIGHT LIGHT	■ 56,000
LONG LAMP LIFE	33,000	100,000	LONG LAMP LIFE	100,000

■ **Standard values of patented built-in resistors.**

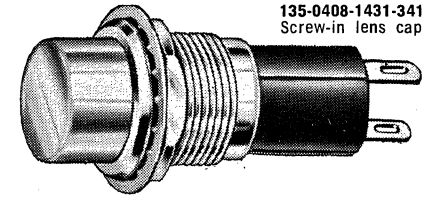
132-1308-0991-341
Screw-in lens cap



95-0408-0931-341
Screw-in lens cap

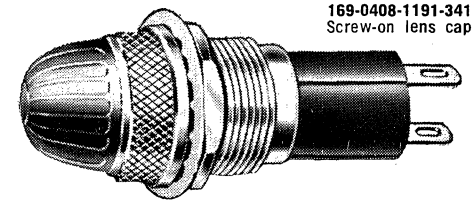


135-0408-1431-341
Screw-in lens cap

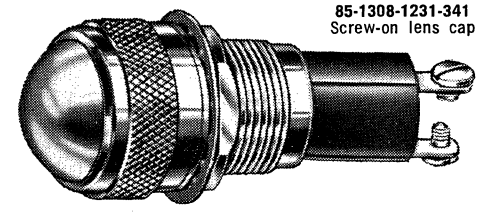


LENS HOLDER AND PLASTIC LENS STYLE	LENS FINISH	FOR B2A (NE–51H)—110-125V. AC		FOR B1A (NE–51)—105-125V. AC-DC	
		CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
STOVEPIPE (Screw-in)	Internal Fluting	52–1363–0991–311	52–0463–0991–311	52–1308–0991–341	52–0408–0991–341
STOVEPIPE (Screw-in)	Special Internal Fluting	132–1363–0991–311	132–0463–0991–311	132–1308–0991–341	132–0408–0991–341
CYLINDRICAL (Screw-in)	Transparent	135–1363–1431–311	135–0463–1431–311	135–1308–1431–341	135–0408–1431–341
FLAT (Screw-in)	Transparent	81–1363–0331–311	81–0463–0331–311	81–1308–0331–341	81–0408–0331–341
STOVEPIPE (Screw-in)	Transparent	95–1363–0931–311	95–0463–0931–311	95–1308–0931–341	95–0408–0931–341
DOME (Screw-on)	Transparent +	85–1363–1231–311	85–0463–1231–311	85–1308–1231–341	85–0408–1231–341
	Matted Back	85–1363–0841–311	85–0463–0841–311	85–1308–0841–341	85–0408–0841–341
STOVEPIPE (Screw-on)	Internal Fluting +	169–1363–1191–311	169–0463–1191–311	169–1308–1191–341	169–0408–1191–341
	Transparent +	169–1363–1131–311	169–0463–1131–311	169–1308–1131–341	169–0408–1131–341

169-0408-1191-341
Screw-on lens cap



85-1308-1231-341
Screw-on lens cap



+ To specify white translucent color, change so much of the catalog number that reads **–1231–** to **–0835–**; from **–1131–** to **–0935–**; from **–1191–** to **–0995–**. Example: 169–1363–**0935**–311.

WATER-TIGHT CONSTRUCTION: The assemblies on this page may be made **water-tight** on the face of the panel. To specify, change the last digit in the catalog number suffix to **3**. Example: 95-1308-0931-**343**.

HOW TO DESIGNATE THE THREE DIGIT CATALOG NUMBER SUFFIX (-XXX)

FINISH	RESISTOR	HARDWARE
-1 white nickel	1 - 22K	1 - brass
-2 black nickel	3 - 33K	3 - water-tight on the face of the panel.
-3 polished chrome	4 - 56K	
-4 satin chrome	6 - 68K	
	7 - 100K	

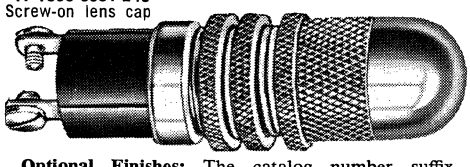
NOTE: The part numbers given in this catalog indicate **standard** indicator lights. The table at left provides the standard and optional designations for **Finish, Resistor** and **Hardware** where appropriate. Example: 85-1308-1231-**273** (black nickel finish, 100K resistor, water-tight construction).

LENS COLOR—The last digit before the 3 digit catalog number suffix indicates that the lens is RED. When color other than red is desired, change this digit to a figure from the listing below.

Red — 1; Yellow (Amber) — 3; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.

9/16" Assemblies mount from BACK of panel only

17-1308-0931-245
Screw-on lens cap



Optional Finishes: The catalog number suffix designates an assembly with **standard black nickel** finish. To specify optional finish, change the first digit of the catalog number suffix to **-3** (polished chrome finish), or **-4** (satin chrome finish).

Example: 17-1308-0931-345

SAMPLES ON REQUEST AT ONCE — NO CHARGE

WITH SCREW-ON LENS CAP

LENS STYLE	LENS FINISH	FOR B2A (NE–51H)—110-125V. AC		FOR B1A (NE–51)—105-125V. AC-DC	
		CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
STOVEPIPE	Transparent	17–1363–0931–215	17–0463–0931–215	17–1308–0931–245	17–0408–0931–245
	Internal Fluting	17–1363–0991–215	17–0463–0991–215	17–1308–0991–245	17–0408–0991–245
STOVEPIPE	Transparent +	70–1363–1131–215	70–0463–1131–215	70–1308–1131–245	70–0408–1131–245
	Internal Fluting +	70–1363–1191–215	70–0463–1191–215	70–1308–1191–245	70–0408–1191–245
FLAT	Transparent	37–1363–0331–215	37–0463–0331–215	37–1308–0331–245	37–0408–0331–245

+ See footnote above.

Standard Hardware: 3 knurled rings . . . **Optional Hardware:** 1 ring, 1 lockwasher, 1 mounting nut. To designate an assembly with "optional hardware," change the last digit in the catalog number suffix to **6** . . . Example: 37-0408-0331-**246**.

Also Available: Assemblies for T-3¼ Bulb with Miniature Bayonet Base — INCANDESCENT — 2 to 55V

For Mounting in 5/16" Clearance Hole . . . Refer to Catalog L-161.

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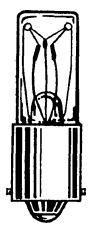
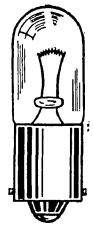
For details, refer to Catalog L-161.

(Illustrations are approx. actual size)



120 MB—(3W.) T-3 Bulb with Miniature Bayonet Base—Incandescent for 120 Volts.



T-3-1/4 Bulb with Miniature Bayonet Base—Incandescent 2 to 55V.

"Recognized under the component program of Underwriters' Labs Inc."

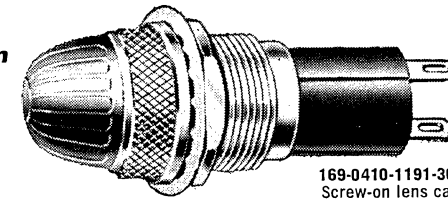
75W., 125V.

▲ LEGENDS: Hot-stamped or engraved letters, number or symbols can be supplied **only** on these lenses.

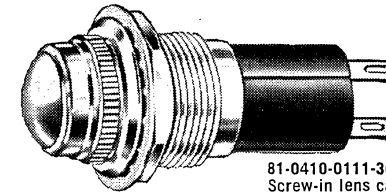
ASSEMBLIES For T-3-1/4 BULB with MIN. BAYONET BASE - INCANDESCENT - 2 to 55 V and T-3 Bulb with Min. Bayonet Base for 120V.

Mount in 11/16" Clearance Hole *For Front of Panel Insertion*

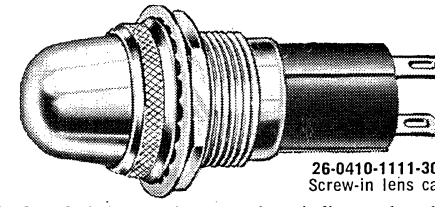
LENS STYLE	LENS FINISH	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH QUICK CONNECT TERMINALS
STOVEPIPE	Transparent	95-1310-0931-301	95-0410-0931-301	95-5710-0931-301
	Translucent	95-1310-0971-301	95-0410-0971-301	95-5710-0971-301
STOVEPIPE	Internal Fluting	52-1310-0991-301	52-0410-0991-301	52-5710-0991-301
STOVEPIPE	Special Internal Fluting	132-1310-0991-301	132-0410-0991-301	132-5710-0991-301
CYLINDRICAL▲	Transparent	135-1310-1431-301	135-0410-1431-301	135-5710-1431-301
CONVEX *	Unfrosted	81-1310-0131-301	81-0410-0131-301	81-5710-0131-301
	Back Frosted	81-1310-0111-301	81-0410-0111-301	81-5710-0111-301
FLAT *	Back Frosted	81-1310-0211-301	81-0410-0211-301	81-5710-0211-301
	Unfrosted	81-1310-0231-301	81-0410-0231-301	81-5710-0231-301
FLAT▲	Translucent	■81-1310-0351-301	■81-0410-0351-301	■81-5710-0351-301
	Transparent	81-1310-0331-301	81-0410-0331-301	81-5710-0331-301
STOVEPIPE *	Unfrosted	26-1310-1131-301	26-0410-1131-301	26-5710-1131-301
	Back Frosted	26-1310-1111-301	26-0410-1111-301	26-5710-1111-301
	Internal Fluting	26-1310-1191-301	26-0410-1191-301	26-5710-1191-301
STOVEPIPE *	Transparent	169-1310-1131-301	169-0410-1131-301	169-5710-1131-301
	Internal Fluting	169-1310-1191-301	169-0410-1191-301	169-5710-1191-301
DOME	Transparent	85-1310-1231-301	85-0410-1231-301	85-5710-1231-301
	Matted Back	85-1310-0841-301	85-0410-0841-301	85-5710-0841-301



169-0410-1191-301
Screw-on lens cap



81-0410-0111-301
Screw-in lens cap



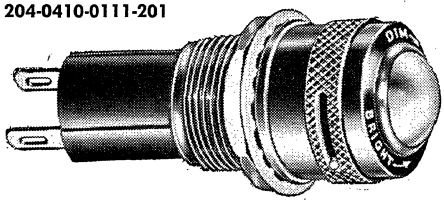
26-0410-1111-301
Screw-in lens cap

* These assemblies should be specified when lamps **rated over 2 watts** are used.

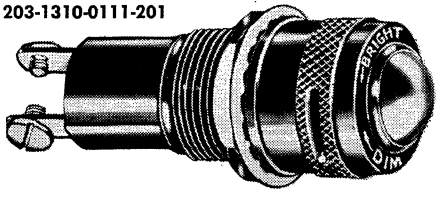
■ Specify **translucent** colors as follows: Red — 0351; Green — 0352; Yellow (Amber) — 0373; Blue — 0374; Light Yellow — 0376. Example: 81-1310-**0374**-301.

LENS COLOR: The **final figure before the last dash** in the above numbers indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted. Red — 1; Green — 2; Yellow (Amber) — 3; Blue — 4; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.

with MECHANICAL dimmer
204-0410-0111-201



with MECHANICAL dimmer
203-1310-0111-201



Mechanical Dimmers

LENS STYLE AND FINISH	MECHANICAL DIMMER TYPE	WITH ROUND FLANGE		WITH OCTAGON FLANGE	
		CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
		WITH SCREW-IN LENS CAP			
CONVEX Unfrosted	Semi-Blackout Water-Tight	204-1310-0131-203	204-0410-0131-203	204-5910-0131-203	204-2210-0131-203
	Semi-Blackout Not Water-Tight	204-1310-0131-201	204-0410-0131-201	204-5910-0131-201	204-2210-0131-201
	Complete Blackout Water-Tight	203-1310-0131-203	203-0410-0131-203	203-5910-0131-203	203-2210-0131-203
	Complete Blackout Not Water-Tight	203-1310-0131-201	203-0410-0131-201	203-5910-0131-201	203-2210-0131-201
CONVEX Back Frosted	Semi-Blackout Water-Tight	204-1310-0111-203	204-0410-0111-203	204-5910-0111-203	204-2210-0111-203
	Semi-Blackout Not Water-Tight	204-1310-0111-201	204-0410-0111-201	204-5910-0111-201	204-2210-0111-201
	Complete Blackout Water-Tight	203-1310-0111-203	203-0410-0111-203	203-5910-0111-203	203-2210-0111-203
	Complete Blackout Not Water-Tight	203-1310-0111-201	203-0410-0111-201	203-5910-0111-201	203-2210-0111-201

To obtain assemblies with **screw-on** lens cap, change 204- to 208-; 203- to 207-. Note: Assemblies with screw-on lens caps are **not** available with watertight construction.
LENS COLOR: See Description above.

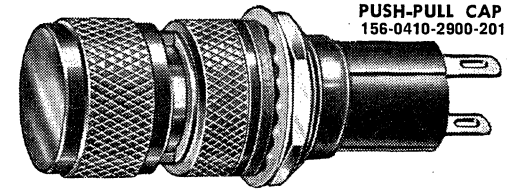
Assemblies with Light Shield Caps

TYPE OF LIGHT SHIELD CAP	SIZE OF OPENING IN CAP	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
PUSH-IN CAP WITH SNAP LOCK (1 Opening)	3/16" x 9/16"	89-1310-2900-301	89-0410-2900-301
	3/32" x 1/2"	22-1310-2900-301	22-0410-2900-301
	3/16" x 1/2"	90-1310-2900-301	90-0410-2900-301
	1/2" x 1/2"	21-1310-2900-301	21-0410-2900-301
PUSH-PULL ACTION (Variable Opening)	From 0" to 1/4" x 3/8"	156-1310-2900-201	156-0410-2900-201

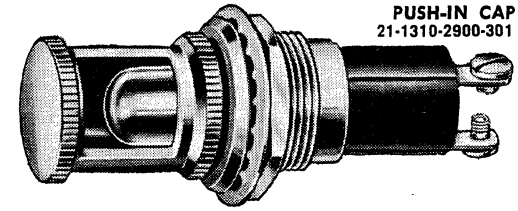
Finishes: **Push-In Cap** — Standard Finish is polished chrome. To obtain optional finish, change the first digit in the catalog number suffix to **2-** black nickel or **4-** satin chrome. **Push-Pull Cap** — Standard finish **2-** black nickel. Optional — **3-** polished chrome.

Examples: 89-1310-2900-201; 156-0410-2900-301.

PUSH-PULL CAP
156-0410-2900-201



PUSH-IN CAP
21-1310-2900-301



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The Complete Line of DIALCO® **Indicator Lights** — Foremost Manufacturer of Indicator Lights — DIALIGHT CORPORATION

(Illustrations are approx. actual size)

"Recognized under the component program of Underwriters' Labs Inc."

ASSEMBLIES for INCANDESCENT LAMPS

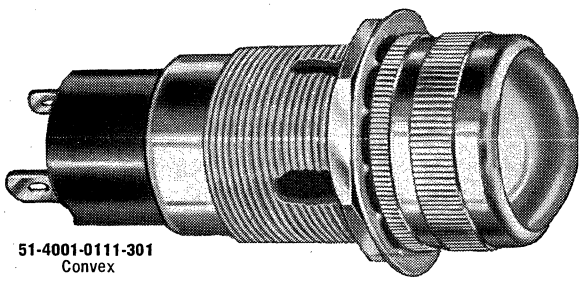
For details, refer to Catalog L-161.

(with double contact bayonet base or candelabra screw base)

Mount in 1" Clearance Hole • Range of Voltage 6 to 145V • Refer to Cat. L-161

75W., 125V.

G-6 with Double Contact Bayonet Base — 6 to 32 volts max. **S-6** (at 6 watts) with Double Contact Bayonet Base or Candelabra Screw Base — 6, 12, 24, 32, 48, 70-80, 125, 130, 135 and 145 volts.



51-4001-0111-301
Convex

Standard Finish — Polished Chrome. To specify **optional finish** change the **first digit** of the catalog number suffix to **-2** (black nickel finish) or **-4** (satin chrome finish). Example: 51-0901-0231-201.

LENS COLORS: See listing below.

Accommodate S-6 Bulb with Candelabra Screw Base

LENS STYLE	LENS FINISH	CATALOG NO. WITH SCREW TERMINALS (SIDE POSITION)	CATALOG NO. WITH SCREW TERMINALS (PROTRUDING)	CATALOG NO. WITH SOLDER TERMINALS	CATALOG NO. WITH QUICK CONNECT TERMINALS
CONVEX	Unfrosted	51-0901-0131-301	51-3101-0131-301	51-4001-0131-301	51-6701-0131-301
	Back Frosted	51-0901-0111-301	51-3101-0111-301	51-4001-0111-301	51-6701-0111-301
FLAT	Unfrosted	51-0901-0231-301	51-3101-0231-301	51-4001-0231-301	51-6701-0231-301
	Back Frosted	51-0901-0211-301	51-3101-0211-301	51-4001-0211-301	51-6701-0211-301
LARGE CONVEX	Unfrosted	61-0901-0231-301	61-3101-0231-301	61-4001-0231-301	61-6701-0231-301
	Back Frosted	61-0901-0211-301	61-3101-0211-301	61-4001-0211-301	61-6701-0211-301
TORPEDO	Unfrosted	80-0901-0531-301	80-3101-0531-301	80-4001-0531-301	80-6701-0531-301
	Back Frosted	80-0901-0511-301	80-3101-0511-301	80-4001-0511-301	80-6701-0511-301
DOME	Unfrosted	80-0901-1231-301	80-3101-1231-301	80-4001-1231-301	80-6701-1231-301
	Back Frosted	80-0901-1211-301	80-3101-1211-301	80-4001-1211-301	80-6701-1211-301
TORPEDO FACETED	Unfrosted	80-0901-1331-301	80-3101-1331-301	80-4001-1331-301	80-6701-1311-301
LARGE TORPEDO	Unfrosted	19-0901-0531-301	19-3101-0531-301	19-4001-0531-301	19-6701-0531-301
FACETED	Unfrosted	51-0901-0431-301	51-3101-0431-301	51-4001-0431-301	51-6701-0431-301

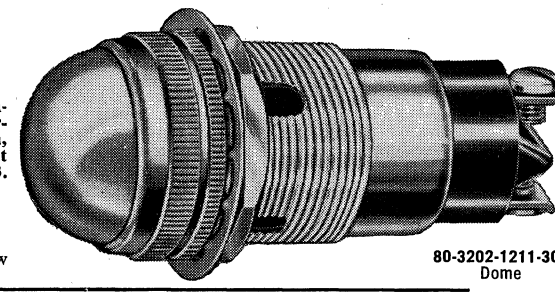
LENS STYLE	LENS FINISH	CATALOG NO. WITH FIXED SCREW TERMINALS	CATALOG NO. WITH FIXED SOLDER TERMINALS	CATALOG NO. WITH QUICK CONNECT TERMINALS
FLAT	Back Frosted	51-3202-0211-301	51-3402-0211-301	51-6602-0211-301
CONVEX	Unfrosted	51-3202-0131-301	51-3402-0131-301	51-6602-0131-301
	Back Frosted	51-3202-0111-301	51-3402-0111-301	51-6602-0111-301
LARGE CONVEX	Unfrosted	61-3202-0231-301	61-3402-0231-301	61-6602-0231-301
	Back Frosted	61-3202-0211-301	61-3402-0211-301	61-6602-0211-301
LARGE TORPEDO	Unfrosted	19-3202-0531-301	19-3402-0531-301	19-6602-0531-301
DOME	Unfrosted	80-3202-1231-301	80-3402-1231-301	80-6602-1231-301
	Back Frosted	80-3202-1211-301	80-3402-1211-301	80-6602-1211-301
TORPEDO FACETED	Unfrosted	80-3202-1331-301	80-3402-1331-301	80-6602-1331-301

Accommodate S-6 Bulb with Double Contact Bayonet Base

To obtain assemblies with **water-tight construction,** change the **last digit** in Cat. No. to **3.**

Example: 61-3202-0211-303

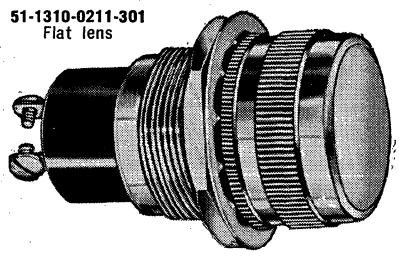
LENS COLOR: See listing below



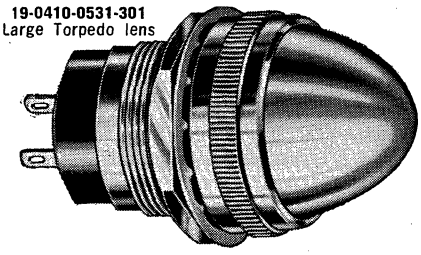
80-3202-1211-301
Dome

For T-3¼ Bulb with Min. Bay. Base—INCANDESCENT—2-55V. For T-3 Bulb with Min. Bay. Base—INCANDESCENT—120V. • Mount in 1" Clearance Hole

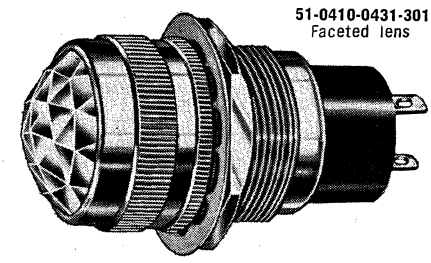
51-1310-0211-301
Flat lens



19-0410-0531-301
Large Torpedo lens



51-0410-0431-301
Faceted lens



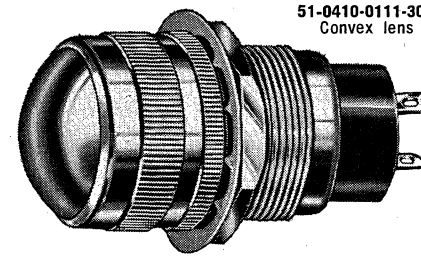
LENS STYLE	LENS FINISH	CATALOG NO. WITH SCREW TERMINALS	CATALOG NO. WITH SOLDER TERMINALS
FLAT	Unfrosted	51-1310-0231-301	51-0410-0231-301
	Back Frosted	51-1310-0211-301	51-0410-0211-301
TORPEDO	Unfrosted	80-1310-0531-301	80-0410-0531-301
	Back Frosted	80-1310-0511-301	80-0410-0511-301
LARGE CONVEX	Unfrosted	61-1310-0231-301	61-0410-0231-301
	Back Frosted	61-1310-0211-301	61-0410-0211-301
DOME	Unfrosted	80-1310-1231-301	80-0410-1231-301
	Back Frosted	80-1310-1211-301	80-0410-1211-301
CONVEX	Unfrosted	51-1310-0131-301	51-0410-0131-301
	Back Frosted	51-1310-0111-301	51-0410-0111-301
FACETED	Transparent	51-1310-0431-301	51-0410-0431-301
TORPEDO FACETED	Unfrosted	80-1310-1331-301	80-0410-1331-301
LARGE TORPEDO	Unfrosted	19-1310-0531-301	19-0410-0531-301

LENS COLOR: The last digit **before** the 3 digit catalog number suffix indicates that the lens is RED. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

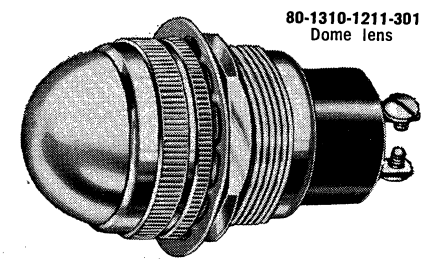
RED — 1; Green — 2; Yellow (Amber) — 3; Blue — **4**; White Translucent — 5; Light Yellow — 6; Clear (Colorless) — 7.

The catalog numbers given indicate **Standard finish.** To obtain **optional finishes,** see description above.

51-0410-0111-301
Convex lens



80-1310-1211-301
Dome lens



The catalog numbers listed indicate complete assemblies with screw-on lens cap. These assemblies may also be obtained with **water-tight construction.** To specify, change, the **last digit** in the catalog number to **3.** Example: 80-1310-1331-303. These assemblies are also available with **friction-fit** or **bayonet lock** lens caps . . . but can not be furnished with water-tight construction.

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The Complete Line of DIALCO® **Indicator Lights** — Foremost Manufacturer of Indicator Lights — DIALIGHT CORPORATION

(Illustrations are approx. actual size)

"Recognized under the component program of Underwriters' Labs Inc."

75W., 125V.

OIL-TIGHT INDICATOR LIGHTS

OIL-TIGHT • WATER-TIGHT • DUST-TIGHT

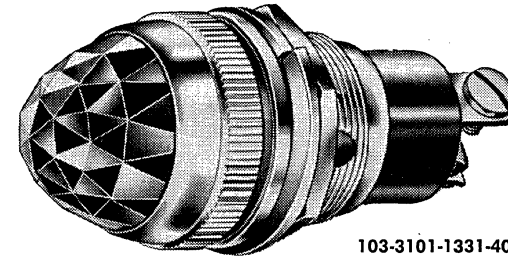
With Retained "O" Ring Seal Construction • Mount in 1" Clearance Hole

Rugged, designed for severe vibration conditions. 3 types of Incandescent Lamps may be used: S-6 with Candelabra Screw Base or with Double Contact Bayonet Base; or 10C7/1DC with Double Contact Bayonet Base. The latter is designed to **withstand severe vibration and shock.**

Assemblies feature: 3 retained oil-proof elastometer seals (1 gasket and 2 "O" rings); high impact phenolic insulation; use of legend discs inserted behind a flat lens shape to display letters, numbers or symbols.

Assemblies for Incandescent Lamps (**S6 Bulb** with **Candelabra Screw Base**)

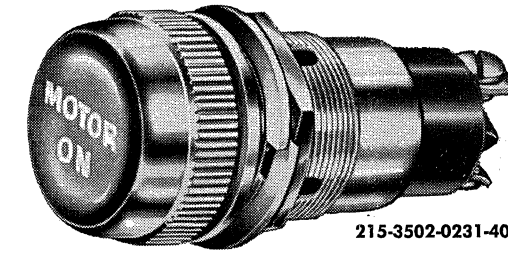
LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals in protruding position	CATALOG NO. with SCREW terminals in side position	CATALOG NO. with SOLDERING terminals
FLAT	unfrosted back (with disc)	215-3101-0231-403	215-901-0231-403	215-4001-0231-403
	back frosted	104-3101-0211-403	104-901-0211-403	104-4001-0211-403
TORPEDO	unfrosted	103-3101-0531-403	103-901-0531-403	103-4001-0531-403
	back frosted	103-3101-0511-403	103-901-0511-403	103-4001-0511-403
TORPEDO FACETED	unfrosted	103-3101-1331-403	103-901-1331-403	103-4001-1331-403
DOME	unfrosted	103-3101-1231-403	103-901-1231-403	103-4001-1231-403
	back frosted	103-3101-1211-403	103-901-1211-403	103-4001-1211-403



103-3101-1331-403

Assemblies for Incandescent Lamps (**S6 Bulb** with **Double Contact Bayonet Base**)

LENS TYPE	LENS SURFACE	CATALOG NO. with MOVABLE SCREW terminals	CATALOG NO. with FIXED SCREW terminals	CATALOG NO. with MOVABLE SOLDER. terminals	CATALOG NO. with FIXED SOLDER. terminals
FLAT	unfrosted back (with disc)	215-3502-0231-403	215-3202-0231-403	215-3602-0231-403	215-3402-0231-403
	back frosted	104-3502-0211-403	104-3202-0211-403	104-3602-0211-403	104-3402-0211-403
TORPEDO	unfrosted	103-3502-0531-403	103-3202-0531-403	103-3602-0531-403	103-3402-0531-403
	back frosted	103-3502-0511-403	103-3202-0511-403	103-3602-0511-403	103-3402-0511-403
TORPEDO FACETED	unfrosted	103-3502-1331-403	103-3202-1331-403	103-3602-1331-403	103-3402-1331-403
DOME	unfrosted	103-3502-1231-403	103-3202-1231-403	103-3602-1231-403	103-3402-1231-403
	back frosted	103-3502-1211-403	103-3202-1211-403	103-3602-1211-403	103-3402-1211-403



215-3502-0231-403

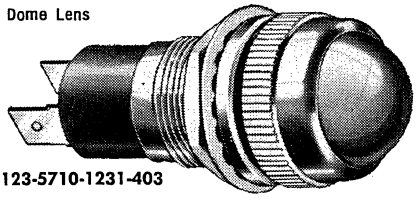
Assemblies for Incandescent Lamps (**C7 Bulb** with **Double Contact Bayonet Base**)

LENS TYPE	LENS SURFACE	CATALOG NO. with MOVABLE SCREW terminals	CATALOG NO. with FIXED SCREW terminals	CATALOG NO. with MOVABLE SOLDER. terminals	CATALOG NO. with FIXED SOLDER. terminals
FLAT	unfrosted back (with disc)	215-3527-0231-403	215-3227-0231-403	215-3627-0231-403	215-3427-0231-403
	back frosted	104-3527-0211-403	104-3227-0211-403	104-3627-0211-403	104-3427-0211-403
TORPEDO	unfrosted	103-3527-0531-403	103-3227-0531-403	103-3627-0531-403	103-3427-0531-403
	back frosted	103-3527-0511-403	103-3227-0511-403	103-3627-0511-403	103-3427-0511-403
TORPEDO FACETED	unfrosted	103-3527-1331-403	103-3227-1331-403	103-3627-1331-403	103-3427-1331-403
DOME	unfrosted	103-3527-1231-403	103-3227-1231-403	103-3627-1231-403	103-3427-1231-403
	back frosted	103-3527-1211-403	103-3227-1211-403	103-3627-1211-403	103-3427-1211-403

ASSEMBLIES for T-3¼ BULB with MIN. BAYONET BASE INCANDESCENT or NEON

For Mounting in 11/16" Clearance Hole

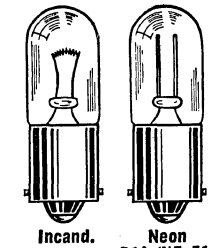
Dome Lens



123-5710-1231-403

In these Oil-Tight Indicator Lights, a high degree of resistance to shock and vibration is achieved by the use of the rugged *Neon* lamps on 120 and 240 V; and by choosing low voltage *Incandescent* lamps with short filaments, such as No. 44 or No. 1866 for circuits powered by transformers stepping down to 6.3 V.

Exclusive Features: Assemblies for use with BIA(NE51) Neon Glow Lamps have *"built-in"* resistors—an exclusive *Dialco* feature (U.S. Pat. No. 2,421,321). *Options include:* binding screw, soldering or quick connect terminals. 7 lens colors are available; see bottom of page 972 for method of specifying color.



Incand. **Neon** B1A (NE-51) B2A (NE-51H) (High Bright.)

Assemblies for the **T-3¼ BULB with Miniature Bayonet Base—INCANDESCENT**

LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals	CATALOG NO. with SOLDER terminals	CATALOG NO. with QUICK CONNECT terminals
DOME	unfrosted	123-1310-1231-403	123-0410-1231-403	123-5710-1231-403
	back frosted	123-1310-1211-403	123-0410-1211-403	123-5710-1211-403
STOVEPIPE	unfrosted	125-1310-1131-403	125-0410-1131-403	125-5710-1131-403
	back frosted	125-1310-1111-403	125-0410-1111-403	125-5710-1111-403
	inside fluted	125-1310-1191-403	125-0410-1191-403	125-5710-1191-403

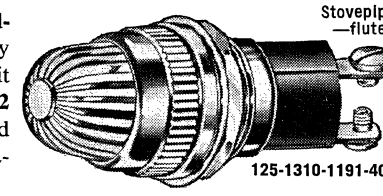
		ASSEMBLIES FOR USE WITH B2A (NE-51H) NEON GLOW LAMP		
LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals (210-250V. AC-DC)	CATALOG NO. with SOLDER terminals (210-250V. AC-DC)	CATALOG NO. with QUICK CONNECT terminals (210-250V. AC-DC)
DOME +	unfrosted	123-9363-1231-463	123-9463-1231-463	123-5863-1231-463
STOVEPIPE	unfrosted	125-9363-1131-463	125-9463-1131-463	125-5863-1131-463
	inside fluted	125-9363-1191-463	125-9463-1191-463	125-5863-1191-463

OPTIONAL FINISHES (All assemblies on this page)

The part numbers given indicate **standard** satin chrome finish. To specify optional finish, change the first digit in the catalog number suffix to **-2** black nickel finish; or **-3** polished chrome finish. Examples: 103-3502-1231-**203**; 125-9363-1191-**363**.

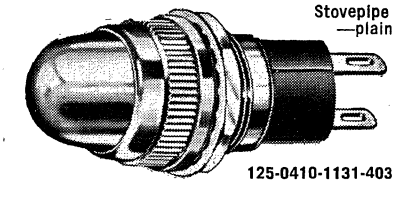
When Connecting a Neon Light to a Circuit Having One Side Grounded, Always Connect the Hot Side of the Circuit to the Terminal Marked + (Center Contact).

Stovepipe —fluted



125-1310-1191-403

Stovepipe —plain



125-0410-1131-403

		ASSEMBLIES FOR USE WITH B2A (NE-51H) NEON GLOW LAMP			ASSEMBLIES FOR USE WITH B1A (NE-51) NEON GLOW LAMP		
LENS TYPE	LENS SURFACE	CATALOG NO. with SCREW terminals (110-125V. AC)	CATALOG NO. with SOLDER terminals (110-125V. AC).	CATALOG NO. with QUICK CONNECT terminals (110-125V. AC)	CATALOG NO. with SCREW terminals (105-125V. AC-DC)	CATALOG NO. with SOLDER terminals (105-125V. AC-DC)	CATALOG NO. with QUICK CONNECT terminals (105-125V. AC-DC)
DOME +	unfrosted	123-1363-1231-413	123-0463-1231-413	123-5763-1231-413	123-1308-1231-443	123-0408-1231-443	123-5708-1231-443
STOVEPIPE	unfrosted	125-1363-1131-413	125-0463-1131-413	125-5763-1131-413	125-1308-1131-443	125-0408-1131-443	125-5708-1131-443
	inside fluted	125-1363-1191-413	125-0463-1191-413	125-5763-1191-413	125-1308-1191-443	125-0408-1191-443	125-5708-1191-443

† See Footnote on Page 970

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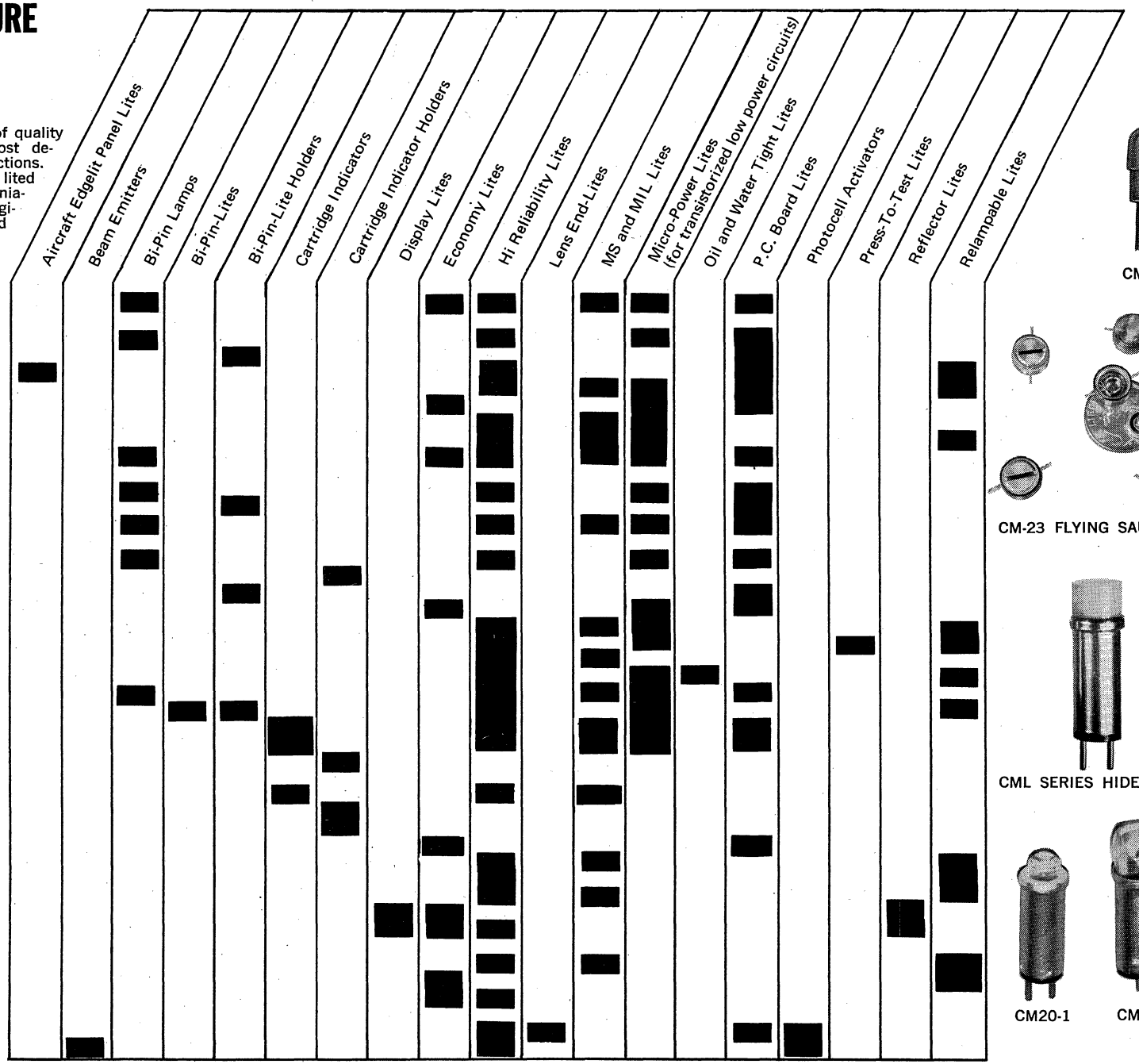
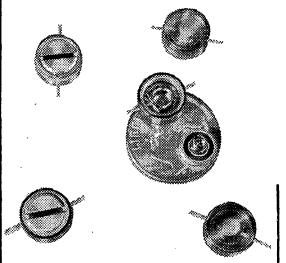
CHICAGO MINIATURE LAMP WORKS

Chicago Miniature offers a complete line of quality miniature lited devices to meet the most demanding indicator, display and signal functions. This reference chart covers the majority of lited device characteristics, however, Chicago Miniature also has complete research and engineering facilities to develop lamp and lited devices for your specialized needs. Just forward drawings or specifications to us or write for complete catalogs.

T-¾
CM39 Series Lamp Filters
T-1
CM7 Series Bi-Pin Lamps
CM21 Series Sockets
CM23 Series Flying Saucer
CM25 Series Brite-Lites
CM26 Series Migi-Lites
CM34 Series Relia-Lites
CM35 Series Relamp-A-Lites
CM39 Series Lamp Filters
T-1¼
CM7 Series Bi-Pin Lamps
CM21 Series Sockets
CM39 Series Lamp Filters
T-1¾
CM7 Series Bi-Pin Lamps
CM21 Series Cartridge Connectors
CM21 Series Sockets
CM22 Series Peanut-Lites
CM30 Series Incandescent Industri-Lites
CM31 Series Press-To-Test Industri-Lites
CM32 Series Neon Industri-Lites
CM33 Series Oil/Water Tight Industri-Lites
CM39 Series Lamp Filters
CM40 Series Bi-Pin-Lites
CML Series Cartridges
CML Series Hide-A-Lites
CML Series Cartridge Holders
T-2
CML Series Cartridges
CML Series Cartridge Holders
CM21 Series Cartridge Connectors
CM22 Series Peanut-Lites
CM30 Series Incandescent Industri-Lites
CM31 Series Press-To-Test Industri-Lites
CM32 Series Neon Industri-Lites
CM38 Series Reflect-O-Lites
CM39 Series Lamp Filters
T-3¼
CM36 Series DeLux-Lites
CM37 Series Econo-Lites
CM39 Series Lamp Filters
Lens End Assemblies
CM20 Series Lens End-Lites
CM20 Series Beam Emitters



CM26


CM-23 FLYING SAUCERS

CML SERIES HIDE-A-LITE

CM20-1

CM20-2

SECTION 3900

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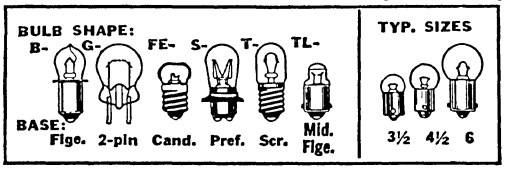
MINIATURE LAMPS

PANEL, PILOT, AND FLASHLIGHT LAMPS

NEW IDEAS IN ELECTRONICS



Lamp No.	Bulb	Base§	Design Volts	Design Amps.	Sugg. Price Each	Sugg. Price Box 10
PR2•	B-3½	S.C. Min. flanged	2.38	0.50	**$0.20**	**$1.23**
PR3•	B-3½	S.C. Min. flanged	3.57	.50	**.20**	**1.23**
PR4•	B-3½	S.C. Min. flanged	2.33	.27	**.20**	**1.23**
PR6•	B-3½	S.C. Min. flanged	2.47	.30	**.20**	**1.23**
PR7	B-3½	S.C. Min. flanged	3.7	.30	**.26**	**1.53**
PR12•	B-3½	S.C. Min. flanged	5.95	.50	**.20**	**1.23**
PR13	B-3½	S.C. Min. flanged	4.75	.50	**.20**	**1.23**
6	S-8	D.C. bayonet	6.4	3.00	**.36**	**2.11**
8	S-8	D.C. bayonet	8.0	2.20	**.36**	**2.11**
10	G-3½	Min. two-pin	2.5	.50	**.27**	**1.60**
13	G-3½	Min. screw	3.7	.30	**.17**	**1.05**
14•	G-3½	Min. screw	2.47	.30	**.17**	**1.05**
27	G-4½	Min. screw	4.9	.30	**.20**	**1.23**
31	G-4½	Min. screw	6.15	.30	**.22**	**1.34**
39	T-3¼	Min. bayonet	6.3	.36	**.36**	**2.01**
40•	T-3¼	Min. screw	6.3	.15	**.15**	**.86**
41	T-3¼	Min. screw	2.5	.20	**.22**	**1.35**
43	T-3¼	Min. bayonet	2.5	.50	**.22**	**1.35**
44•	T-3¼	Min. bayonet	6.3	.25	**.15**	**.86**
45•	T-3¼	Min. bayonet	3.2	.35	**.18**	**1.13**
46•	T-3¼	Min. screw	6.3	.25	**.15**	**.86**
47•	T-3¼	Min. bayonet	6.3	.15	**.15**	**.86**
48	T-3¼	Min. screw	2.0	.06	**.22**	**1.35**
49•	T-3¼	Min. bayonet	2.0	.06	**.18**	**1.13**
50	G-3½	Min. screw	7.5	.22	**.16**	**.92**
51•	G-3½	Min. bayonet	7.5	.22	**.14**	**.84**
53•	G-3½	Min. bayonet	14.4	.12	**.14**	**.84**
55•	G-4½	Min. bayonet	7.0	.41	**.14**	**.84**
57•	G-4½	Min. bayonet	14.0	.24	**.14**	**.84**
57X•	G-4½	Min. bayonet	14	.24	**.18**	**1.07**
67•	G-6	S.C. bayonet	13.5	.59	**.18**	**1.07**
67K	G-6	Candelabra screw	13.5	.41	**.46**	**2.66**
71K	G-6	Candelabra screw	22	.18	**.36**	**2.01**
112	TL-3	Min. screw	1.2	.22	**.17**	**1.05**
123	G-3½	Min. screw	1.25	.30	**.17**	**1.05**
131	G-3½	Min. screw	1.3	.10	**.18**	**1.13**
136	G-4½	Min. screw	1.25	.60	**.20**	**1.23**
159	T-3¼	Wedge	6.3	.15	**.22**	**1.34**
222•	TL-3	Min. screw	2.25	.25	**.17**	**1.05**
223•	FE-3¾	Min. screw	2.25	.25	**.20**	**1.23**
224	TL-2¾	Special 1½-turn thd.	2.15	.22	**.20**	**1.23**
233	G-3½	Min. screw	2.33	.27	**.20**	**1.23**
243	TL-3	Min. screw	2.33	.27	**.20**	**1.23**
259	T-3¼	Wedge	6.3	.25	**.20**	**1.23**
307IF•	S-8	S.C. bayonet	28	.67	**.60**	**3.53**
313•	T-3¼	Min. bayonet	28	.17	**.30**	**1.80**
327•	T-1¾	S.C. midget flanged	28	.04	**.71**	**4.20**
328•	T-1¾	S.C. midget flanged	6	.20	**.55**	**3.29**
331	T-1¾	S.C. midget flanged	1.35	.06	**.89**	**5.32**
338	T-1¾	S.C. midget flanged	2.7	.06	**.89**	**5.32**
345	T-1¾	S.C. midget flanged	6	.04	**1.54**	**9.30**
363	G-4½	Min. bayonet	14	.20	**.22**	**1.34**
401	G-4½	Min. screw, flasher	1.25	.22	**.37**	**2.11**
405	G-4½	Min. screw, flasher	6.5	.50	**.29**	**1.77**
406	G-4½	Min. screw, flasher	2.6	.30	**.23**	**1.41**
407	G-4½	Min. screw, flasher	4.9	.30	**.21**	**1.29**
425	G-4½	Min. screw	5	.50	**.20**	**1.23**
428	G-4½	Min. screw	12.5	.25	**.17**	**1.05**
431R†	G-4½	Min. bayonet	14	.25	**.28**	**1.68**
432	G-4½	Min. screw	18	.25	**.22**	**1.34**
432G‡	G-4½	Min. screw	18	.25	**.36**	**2.01**
432R†	G-4½	Min. screw	18	.25	**.28**	**1.68**
433	G-4½	Min. bayonet	18	.25	**.28**	**1.68**
502	G-4½	Min. screw	5.1	.15	**.17**	**1.05**
509K	G-6	Candelabra screw	24	.18	**.28**	**1.68**
605	G-4½	Min. screw	6.15	.50	**.20**	**1.23**
965	T-4½	Min. screw	9.84	.50	**.26**	**1.54**
1000	RP-11	D.C. bayonet	6.2	3.87	**1.18**	**7.06**
1034•	S-8	D.C. indexing (2-pos. taillight)	12.8 14	1.80 .51	**.34**	**2.04**
1154•	S-8	D.C. indexing (2-pos. taillight)	6.4 7.0	2.63 .75	**.40**	**2.39**
1224K	G-6	Candelabra screw	32	.16	**.55**	**3.32**
1240	G-16½	D.C. prefocus	32	3.5	**1.96**	**11.67**
1404	G-6	S.C. bayonet	10	.09	**.50**	**2.99**
1408	T-3¼	Min. bayonet	10	.13	**.28**	**1.68**
1446	G-3½	Min. screw	12	.20	**.26**	**1.54**
1447	G-3½	Min. screw	8	.15	**.20**	**1.23**
1449	G-3½	Min. screw	14	.20	**.16**	**1.00**
1458	G-5	Min. bayonet	20	.25	**.28**	**1.68**
1474	T-3	Min. screw	14	.17	**.36**	**2.15**
1476	T-3	Min. screw	18	.17	**.46**	**2.66**
1477	T-3	Min. screw	24	.17	**.55**	**3.32**
1487	T-3¼	Min. screw	14	.20	**.26**	**1.54**
1488	T-3¼	Min. bayonet	14	.15	**.28**	**1.68**
1490	T-3¼	Min. bayonet	3.2	.16	**.18**	**1.13**
1491	G-8	D.C. bayonet	2.4	.80	**.50**	**2.99**
1493	S-8	D.C. bayonet	6.5	2.75	**1.08**	**6.45**
1630	S-8	D.C. prefocus	6.5	2.75	**1.44**	**8.60**
1651	S-8	S.C. bayonet	5	.60	**.67**	**4.00**
1724	S-11	D.C. bayonet	6.2	4.50	**.89**	**5.32**
1763	S-11	S.C. prefocus	6.1	4.10	**1.28**	**8.08**
1768	T-1¾	Midget screw	6	.20	**.92**	**5.53**
1769	T-1¾	Midget screw	2.5	.20	**.89**	**5.32**
1775	T-1¾	Midget screw	6.3	.075	**.89**	**5.32**
1809	T-3¼	Min. bayonet	2	.06	**.55**	**3.32**
1813	T-3¼	Min. bayonet	14.4	.10	**.26**	**1.54**
1815•	T-3¼	Min. bayonet	14	.20	**.20**	**1.23**
1819•	T-3¼	Min. bayonet	28	.04	**$0.35**	**$2.10**
1822	T-3¼	Min. bayonet	36	.10	**.62**	**3.69**
1828	T-3¼	Min. bayonet	37.5	.05	**.67**	**4.00**
1829•	T-3¼	Min. bayonet	28	.07	**.36**	**2.15**
1835	T-3¼	Min. bayonee	55	.05	**.67**	**4.00**
1847•	T-3¼	Min. bayonet	6.3	.15	**.18**	**1.13**
1850	T-3¼	Min. bayonet	5	.09	**.26**	**1.54**
1855	T-4½	Min. bayonet	6.3	.80	**.36**	**2.01**
1866	T-3¾	Min. bayonet	6.3	.25	**.22**	**1.34**
1881	T-3¼	Min. bayonet	15.5	.24	**.19**	**1.14**
1891•	T-3¼	Min. bayonet	14	.24	**.17**	**1.02**
1892	T-3¼	Min. bayonet	14.4	.12	**.26**	**1.55**
1898	T-3¼	Min. bayonet	14	.33	**.36**	**2.18**

†Outside coated red. ‡Outside coated green. §S.C. indicates single contact; D.C., double contact; Min., miniature. **•Popular Types.**

NEON INDICATING GLOW LAMPS

Gaseous-discharge type for use as indicators. Average useful life, 25,000 hours AC; Types NE-17, 45, 48, 57, 58, 7,500 hours; Types NE-30, 34, 56, 79, 10,000 hours; Type NE-51, 15,000 hours. DC is approximately 60% of AC values. **Ambient Temperature:** Not to exceed 300°F.

Lamp No. △	Nom. Watts	Volts (Circ.)	Bulb (Clear)	Base	Res.¶ Ohms	Sugg. Each
A1A (NE-2)	1/17	105-125	T-2	Wire Term.	150K	**$0.10**
A1B	1/25	105-125	T-2	Wire Term.	200K	**.13**
A1Cπ	1/10	105-125	T-2	Wire Term.	68K	**.13**
A2A (NE-2A)	1/25	105-125	T-2	Wire Term.	200K	**.10**
A2B (NE-2V)	1/15	105-125	T-2	Wire Term.	100K	**.13**
A9A (NE-2E)	1/15	105-125	T-2φ	Wire Term.	100K	**.10**
B1A (NE-51)	1/25	105-125	T-3¼	Min. Bay.	200K	**.20**
B2A (NE-51H)π	1/7	105-125	T-3¼	Min. Bay.	47K	**.22**
B4A (NE-7)	¼	105-125	T-4½	Wire Term.	30K	**.69**
B5A (NE-17)	¼	105-125	T-4½	DC Bay.	30K	**.86**
B6A (NE-21)	¼	105-125	T-4½	S.C. Bay.	30K	**.90**
B7A (NE-45)	¼	105-125	T-4½	Cand. Scr.	None	**.81**
B8A (NE-47)	¼	105-125	T-4½	S.C. Bay.	30K	**.81**
B9A (NE-48)	¼	105-125	T-4½	DC Bay.	30K	**.67**
C2A (NE-2H)π	¼	105-125	T-2φ	Wire Term.	30K	**.11**
C7A (NE-2D)	1/15	105-125	T-2φ	S.C. Mid. Flge.	110K	**.78**
C9A (NE-2J)π	¼	105-125	T-2φ	S.C. Mid. Flge.	30K	**.78**
F1A (NE-49)	¼	105-125	T-4½	Min. Bay. Skirt	30K	**.90**
F2A (NE-54)	¼	105-125	T-4½	Wire Term.	30K	**.57**
F3A (NE-57)	¼	105-125	T-4½	Cand. Scr. #	None	**.94**
F4A (NE-58)	½	210-250	T-4½	Cand. Scr.	None	**.90**
J5A (NE-30)	1	105-125	S-11	Med. Scr. #	None	**1.14**
J9A (NE-56)	1	210-250	S-11	Med. Scr. #	None	**1.19**
K2A (NE-2M)	1/17	105-125	T-2θ	Wire Term.	150K	**.32**
K3A (NE-2P)π	¼	105-125	T-2θ	Wire Term.	33K	**.32**
L5A (NE-32)	1	105-125	G-10	DC Bay.	7.5K	**1.14**
L9A (NE-31)	1	105-125	G-10	Cand. Skirt.	7.5K	**2.83**
R1A (NE-79)	1	105-125	S-7	DC Bay.	7.5K	**1.28**
R2A (NE-34)	2	105-125	S-14	Med. Scr.	None	**1.76**
R5A (NE-36)	2	105-125	S-14	DC Bay. Skirt.	3.5K	**2.28**
R6A (NE-40)	3	105-125	S-14	Med. Scr.	None	**2.56**
R9A (NE-42)	6	105-125	S-14	DC Bay. Skirt.	2.2K	**2.52**

AC-DC ARGON INDICATOR LAMPS

J2A (AR-3)π	¼	110-125	T-4½	Cand. Scr.	None	**$0.85**
J3A (AR-4)π	¼	110-125	T-4½	DC Bay.	15K	**.75**
K4A (AR-9)	1/25	110-125	T-2	Wire Term.	200K	**.20**
W1A (AR-1)	2	110-125	S-14	Med. Scr.	None	**1.90**

¶Lamps with screw base have proper ballast built-in. Those with bayonet base or wire terminals do not have them, but are to be supplied and attached by user. Resistance shown for normal operation at indicated circuit volts. φFormed tip bulb. πUse 135 v. minimum for satisfactory DC operation. θRound end bulb. #Center electrode connected to base shell. ΔNumbers shown supersede those in parentheses.

CIRCUIT COMPONENT NEON LAMPS

For use as voltage indicators, regulators, switching, etc. All ratings below are DC; all bulb types are T-2 except: NE-51S, NE-67 (T-4½). All have parallel-post electrodes (W-11), except NE-16, fireman's hat electrodes (P-3). **Ambient Temperature:** —00° F +165° F, limit.

Lamp No. △	Starting Volts DC	Operating Volts DC	DC Ma	Base	Sugg. Each
2AA (NE-99)	60-80	52-62	0.3	Wire Term.	**$0.32**
3AD (NE-98)	65-80	50	0.3	Wire Term.	**.14**
3AG	60-90	58	0.4	Wire Term.	**.10**
3AG-A	60-80	50-65	0.4	Wire Term.	**.20**
3AG-B	65-73	52-62	0.4	Wire Term.	**.36**
3AG-C	68-76	52-62	0.4	Wire Term.	**.40**
3AH	75-135	70	2.0	Wire Term.	**.10**
4AB (NE-96)	120-150	60-80	0.5	Wire Term.	**.20**
4AC (NE-97)	110-140	60-80	0.5	Wire Term.	**.20**
5AB (NE-23)	60-90	59τ	0.3	Wire Term.	**.16**
5AB-A	60-80	50-65	0.3	Wire Term.	**.18**
5AB-B	62-72	50-60	0.3	Wire Term.	**.26**
5AB-C	68-78	55-65	0.3	Wire Term.	**.32**
5AC (NE-68)	60-90	52-65	0.3	Wire Term.	**.40**
5AG (NE-81)	64-80	50-60	0.3	Wire Term.	**.40**
5AG-A (NE-76)	68-76	50-60	0.4	Wire Term.	**.50**
5AH (NE-83)	60-100	65τ	10.0	Wire Term.	**.20**
5AH-A	60-85	52-67	10.0	Wire Term.	**.28**
5AH-B	75-85	60-68	10.0	Wire Term.	**.40**
5AH-C	75-100	52-67	10.0	Wire Term.	**.32**
5AJ (NE-86)	55-90	55τ	1.5	Wire Term.	**.16**
5AJ-A	55-75	45-65	1.5	Wire Term.	**.28**
5AJ-B	70-90	55-75	1.5	Wire Term.	**.30**
6AC (NE-67)	55-90	56τ	0.2	Min. Bay.	**.20**
7AA (NE-16)	67-87	53-65	1.5	DC Bay.	**.63**
8AA1 (NE-3)	55-90	55τ	0.3	Tel. Slide	**.63**
8AB1 (NE-4)	60-90	59τ	0.3	Tel. Slide	**.40**
8AC1 (NE-5)	120-150	60-80	0.5	Tel. Slide	**.43**
8AE1	60-100	61τ	10.0	Tel. Slide	**.56**

τAverage, after 100 hours burning at rated current, individual lots may vary from average. ΔNumbers shown supersede those in parentheses.

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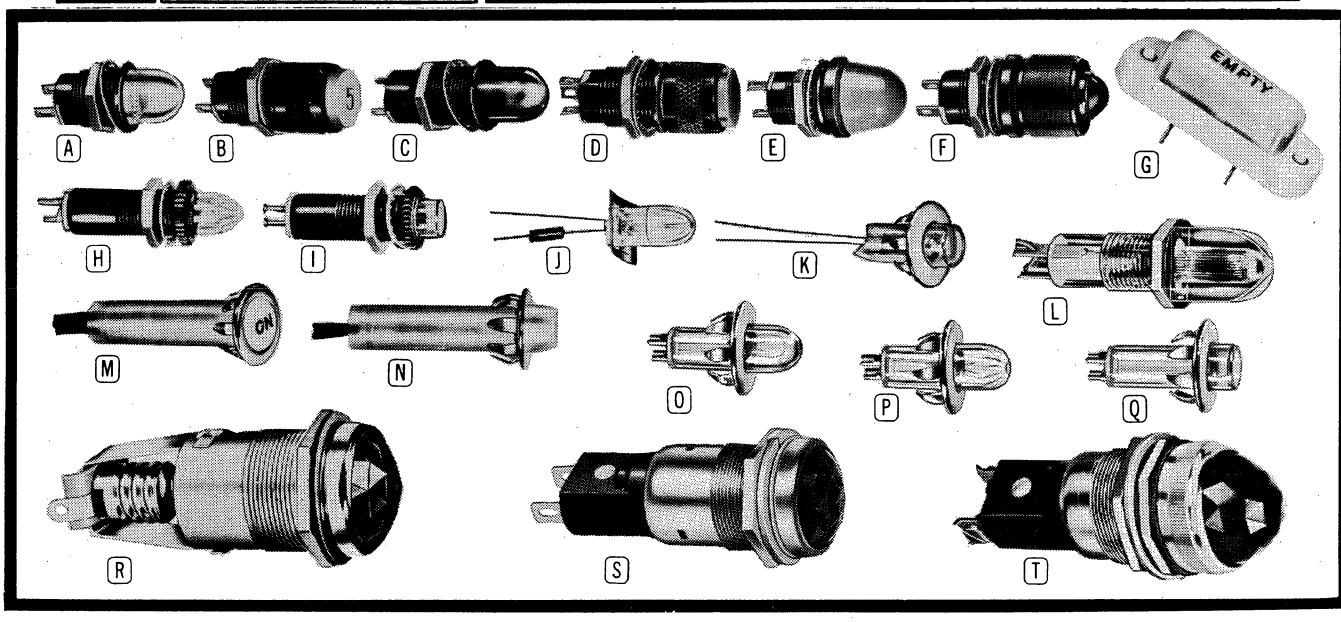
DRAKE

INDICATOR LIGHTS, LAMPHOLDERS & LENSES



"MF" SERIES INDICATOR LIGHTS

MIDGET FLANGE BASE UNITS

Incandescent except for neon -703. Front mounted in 15/32" hole; aluminum body. Both lugs insulated from mounting. Threaded shank lens. Commercial units, clear finish; MIL units, black anodized: †LH-73-LC12, ‡LH73-LC11 and §LH74-LC13 respectively.

Drake Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
5131-038-303†	A	7/16"	29/64"	3/4"	$1.09	$ .98	$ .91
5131-038-544‡	B	15/32"	35/64"	3/4"	1.48	1.33	1.23
5133-048-703§*	C	7/16"	17/32"	63/64"	1.65	1.49	1.38

*Built-in 62K-ohm resistor. Max. panel th., 15/32"; others, 9/32".

"MF" PRESS-TO-TEST UNITS

Provides reliable, instantaneous check of lamp condition. Maximum panel thickness, 3/16".

5131-638-503	D	15/32"	37/64"	13/16"	$1.90	$1.71	$1.59

"MF" OIL-TITE/WATER-TITE UNITS

Recessed rubber "O" rings will withstand up to 25 p.s.i. pressure. Type 5150 has salt shaker dimmer in lens assembly. Maximum panel thickness, 3/16". Per MIL drawing: #D5-15-3217; •SM-B-450166; •SM-C-415155; •ONO20148.

5139-038-304#	E	37/64"	15/32"	25/32"	$1.33	$1.19	$1.11
5150-038-101•	F	15/32"	21/32"	25/32"	2.01	1.81	1.68

NEON INDICATOR LIGHTS — 115 VOLTS

"FLUSHLITE" — U/L AND CSA APPROVED

"One-of-a-kind". Built-in neon lamp and 25K ohm resistor. To be flush with face of panel, mount from rear in panel, up to 11/32" thick, on 9/16" or 1 7/8" centers; or, may be mounted on panel top.

Drake Number	Fig.	Lens Size	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
110-025	G	13/32" x 1 1/4"	11/32" or 9/16"	17/32 or 5/16"	$ .50	$ .45	$ .42

"MINEON"

Similar to "Econoglo"; mounted in black-anodized aluminum body with two turret or solder (*) lugs (specify on order). Mount from rear of panel, up to 3/8" thick, in 3/8" dia. hole on 5/8" centers. Hi-Brite, built-in neon lamp with 22K-ohm resistor; 115 v. AC.

HR118-323*	H	11/32"	15/32"	13/16"	$ .84	$ .76	$ .70
HR118T-323	----	11/32"	15/32"	13/16"	.92	.83	.77
HR118T-603	I	11/32"	9/32"	13/16"	.92	.83	.77

"POSTLITE"

Extremely decorative. Built-in series resistor, 25K ohms, and neon lamp for 110-125 v. AC. Mount from front of panel, up to 9/16" thick, in 1/2" dia. hole on 7/8" centers. Hi-Brite lamp.

105-025	L	5/8" sq.	3/4"	1 9/16"	$ .69	$ .62	$ .58

"GLO-LITES"

One-piece nylon body and lens with built-in Hi-Brite neon lamp. With two lead terminations, 22 ga. plastic-insulated wire. Mount from front of panel, up to .080" thick, in 1/2" dia. hole on 1/16" centers. Built-in resistor: 25K for 115 V; 100K for 250 V (*).

Drake Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
6073-001-544	M	27/64"	1/8"	1 15/32"	$ .58	$ .52	$ .49
6073-001-634	N	27/64"	5/16"	1 9/32"	.49	.44	.41
6075-001-544	M	27/64"	1/8"	1 15/32"	.63	.57	.53
6075-001-634	N	27/64"	5/16"	1 9/32"	.53	.48	.45

*PRICES LESS LAMPS UNLESS BUILT-IN.

WRITE FOR O.E.M. DISCOUNTS ON LARGER QUANTITY ORDERS.

NEON INDICATOR LIGHTS (CONT'D)

"ECONOGLO" — WIRE LEADS

Mount from front of panel. For type 116, mount in 3/16" hole on panel up to 3/16" thick (fastened with tinnerman nut). For type 117, mount in 1/2" hole on panel up to 1/16" thick (chrome snap-in). Lens shapes (last 3 digits) interchangeable on types 116 and 117. Termination; two-wire leads. Built-in 22K-ohm resistor (*); others require external resistors, not supplied. Built-in neon lamp. Low cost 115 v. AC indicator lights.

Drake Number	Fig.	Lens Size	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
116-603	----	11/32"	3/8"	15/32"	$ .22	$ .19	$ .18
HR116-323*	J	11/32"	3/16"	11/16"	.28	.25	.23
117-603	K	11/32"	1/4"	5/8"	.29	.26	.24
HR117-323*	----	11/32"	7/16"	13/32"	.34	.31	.29

NEW "ECONOGLO" WITH LUGS

TINNERMAN NUT OR PLUG BUTTON MOUNTING

Mount from front of panel. For type 6140, mounts in 5/16" D hole on panel up to 3/16" thick (fasten with Tinnerman nut). For type 6150, mounts in 1/2" D hole on panel up to 1/16" thick (chrome snap-in plug button). Lens shapes (last three digits) interchangeable on type 6140 and 6150. Termination: Two lugs. Incandescent built-in lamp: Low-cost 28 v. AC—lamp rating .04A (6146 or 6156 types) Also 6.3 v. AC lamp rating .04A (6148 or 6158 types).

Drake Number	Fig.	Lens Size	Projection Front	Projection Rear	Selling Prices Per Each 1-9	10-24	25-99
6146-000-303	----	11/32"	3/8"	45/64"	$1.01	$ .91	$ .85
6146-000-323	----	11/32"	3/8"	45/64"	1.01	.91	.85
6146-000-603	----	11/32"	7/16"	55/64"	1.01	.91	.85
6148-000-303	----	11/32"	3/8"	45/64"	.83	.75	.69
6148-000-323	----	11/32"	3/8"	45/64"	.83	.75	.69
6148-000-603	----	11/32"	3/16"	55/64"	.83	.75	.69
6156-000-303	O	11/32"	7/16"	41/64"	1.08	.97	.90
6156-000-323	P	11/32"	7/16"	41/64"	1.08	.97	.90
6156-000-603	Q	11/32"	1/4"	51/64"	1.08	.97	.90
6158-000-303	O	11/32"	7/16"	41/64"	.89	.80	.75
6158-000-323	P	11/32"	7/16"	41/64"	.89	.80	.75
6158-000-603	Q	11/32"	1/4"	51/64"	.89	.80	.75

1" LENS INDICATOR LIGHTS

CANDELABRA SCREW S-6 — 115 VOLTS
MONEY-SAVER — U/L AND CSA APPROVED

Polished chrome lens holder. Lamps replaceable from front or rear. Mount from front of panel, up to 1/2" thick, in 1" dia. hole on 1 3/8" centers. Slip-fit bezel (*).

Drake Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
75-110*	R	1"	7/16"	2 1/4"	$1.11	$1.00	$ .93

STANDARD — U/L AND CSA APPROVED

Easy front replacement of pop-forward lamps. Snap-in lens assembly.

5756-522-110	S	1"	7/16"	2 9/16"	$1.31	$1.18	$1.10

"TITELITE"

Neoprene gaskets seal out oil, water, dust and dirt.

5796-522-410	T	1"	13/16"	1 27/32"	$2.04	$1.84	$1.70

SPECIFY COLOR ON ORDER: Incandescent and Neon—Red, Yellow (Amber), White or Colorless. Incandescent Only—Green or Blue.

Lenses 503, 504, 603 and 604 may be Imprinted; change 0 (2nd digit) to 4 (e.g., 543). Prices on Request.

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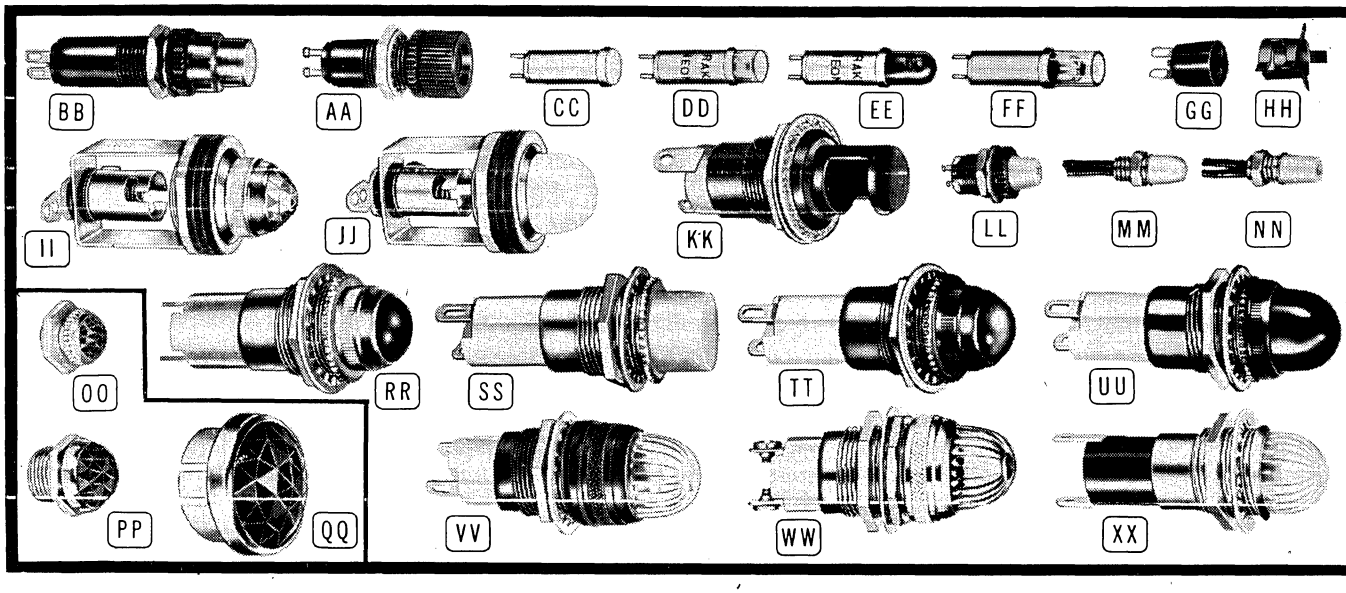


BI-PIN CARTRIDGE LAMPHOLDER

Lampholder has lamp cartridge replaceable from front. Mount from rear of panel, up to 1¼" thick, in ⅜" dia. hole on 3½" centers. Two tinned turret lugs.

Drake Number	Fig.	Projection Front	Projection Rear	Resis., Ohms	Net Each, Lots of* 1-9	10-24	25-99
4428-001	AA	⅜"	51/64"	None	$.92	$.83	$.77

NEW MIDGET BI-PIN CARTRIDGE — 120 VOLTS INCANDESCENT INDICATOR LIGHTS

Relamped from front. Rear mounted in ¾" dia. "D" hole. Black anodized body and lens holder. Two turret lugs. Translucent (*) or transparent refracting lenses. Maximum panel thickness, 5/16".

Drake Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
5300-428-607*	BB	13/32"	33/64"	15/32"	$1.19	$1.07	$ .99
5300-428-696	BB	13/32"	33/64"	15/32"	1.19	1.07	.99

"BI-PIN CARTRIDGE LAMPS"

Small size, easy-plug-in neon or incandescent lamp sealed into aluminum casing. Stainless steel pins. Neon cartridges require a series resistor. Nos. 5-(*) have built-in 22K ohm resistor.

NEON

Drake Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Volts	Net Each, Lots of* 1-9	10-24	25-99
1-603	DD	9/32"	17/64"	53/64"	115	$ .83	$ .75	$ .70
5-703*	EE	9/32"	15/32"	53/64"	115	1.10	.99	.92
5-803*	FF	9/32"	31/64"	53/64"	115	1.10	.99	.92

INCANDESCENT

6-604	DD	9/32"	17/64"	53/64"	6	$ .95	$ .86	$ .80
7-503	CC	9/32"	7/64"	53/64"	10	1.40	1.26	1.17
11-604	DD	9/32"	17/64"	53/64"	28	1.00	.90	.84

CONNECTORS AND FASTENERS

Drake No. 399-058 Connector (Fig. GG)—Used with 763 fastener to mount "Bi-Pin Cartridge Lamps" where conventional method is impractical; or, to save money. Net Each, Lots 1-9 ..... $ .14
Lots 10-24 ..... $ .13 Lots 25-99 ..... $ .12
Drake No. 763 Fastener (Fig. HH)—Net Each, Lots 1-9 ..... $ .04
Lots 10-24 ..... $ .04 Lots 25-99 ..... $ .03

"MONEY-SAVER" INDICATOR LIGHTS

MINIATURE BAYONET BASE T-3¼ — 6 TO 28 VOLTS

Nickel-plated lens holder. Lamps replaceable from front. Mount from front of panel, up to ¼" thick, in 1/16" dia. hole on 1" centers. Rated 2 watts.

Drake Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
50-113	II	1/2"	17/32"	13/32"	$ .50	$ .45	$ .42
51-304	JJ	5/8"	1/2"	17/32"	.41	.37	.35

INSTRUMENT LIGHT

MINIATURE BAYONET BASE T-3¼ — 6 TO 28 VOLTS

Threaded hood. Lamps replaceable from front. Mount from front of panel, to 13/32" th., in 1/16" dia. hole on 3½" ctrs.; 2 solder lugs.

168E	KK	.....	1 1/16"	1 3/8"	$1.42	$1.28	$1.19

NEW "GEMLITE"

Replaceable, long-life, sub-midget incandescent lamp T-1, 5 V. Front mounted in 3/16" hole. Brass body; two lugs insulated from ground. Meets MIL applications. Max. panel thickness, 1/32".

5160-458-604	.....	1/4"	1/4"	15/32"	$1.74	$1.57	$1.45
5160-458-644	LL	1/4"	1/4"	15/32"	1.83	1.65	1.53

NEW "ASTROLITE"

Built-in T-1 incandescent lamp with 60,000 hours life, 5 V. Mounts in .191" dia. "D" hole. Stainless steel body. Two Teflon® insulated, 6" leads. Translucent, butyrate lens per MS25446. Maximum panel thickness, 3/16". ®Registered DuPont trademark.

6026-704	MM	1/32"	9/32"	17/64"	$2.30	$2.07	$1.92
6026-844	NN	1/32"	1/16"	17/64"	2.40	2.16	2.00

DRAKE LENSES

The last three digits of most Drake numbers identify lens shapes and other variations. Below are three popular lenses.

Drake Number	Fig.	Lens Dia.	Shank O.D.	Shank I.D.	Shank Lgth.	Net Each, Lots* 1-9	10-24	25-99
14-15-113	OO	5/16"	5/16"-32 thd.	15/64"	1/4"	$.13	$.11	$.11
16-17-113	PP	1/2"	3/16"-27 thd.	11/64"	3/8"	.16	.15	.14
75A-110	QQ	1"	.887/.889	53/64"	5/16"	.53	.48	.45

"DELUXE MOLDED" INDICATOR LIGHTS

MINIATURE BAYONET BASE T-3¼ — 6 TO 28 VOLTS
NEON NE-51H — 115 & 250 V. — U/L & CSA APPROVED

Polished chrome finish. Assured dependability; fine appearance. Feature E-Z-Tite flange for quick assembly with Drake No. 32 wrench. Lamp replaceable from front. Mount from front of panel, up to 13/32" thick, in 1/16" dia. hole on 3½" centers. Neon lamps have built-in series resistor. Two solder lugs.

Drake Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Resis., Ohms	Net Each, Lots* 1-9	10-24	25-99
5200-222-101‡	RR	1/2"	17/32"	15/8"	.....	$1.02	$ .92	$ .85
5200-222-604	SS	5/8"	1/2"	15/8"	.....	.82	.74	.69
5200-228-101*	TT	1/2"	17/32"	15/8"	.....	1.27	1.15	1.06
5200-228-301*	UU	5/8"	1 1/16"	15/8"	.....	1.51	1.36	1.26
5200-232-623	....	5/8"	1/2"	15/8"	22K	.97	.87	.81
5200-242-603	SS	5/8"	1/2"	15/8"	100K	.97	.87	.81
5202-222-301‡	....	5/8"	1 1/16"	1 7/16"	.....	1.33	1.20	1.11

MAXIMUM VISIBILITY SERIES

Female thread in lens holder permits neon lamp to project into macrodome lens for maximum visibility. U/L and CSA Approved.

5204-238-320*	VV	5/8"	29/32"	1 3/32"	27K	$1.74	$1.57	$1.45

*MIL unit (black nickel-plated)—5200-228-101 (LH75-LC14); 5200-228-301 (LH75-LC15), or 5204-238-320 (LH78-LC20).

"TITELITE" SERIES

Neoprene gasket seals out oil, water and dust. Front or rear panel mount.

5205-223-320‡	WW	5/8"	29/32"	1 3/32"	.....	$1.62	$1.46	$1.35

STANDARD SERIES INDICATOR LIGHTS

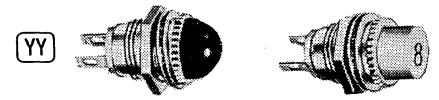
MINIATURE BAYONET T-3¼ — 6 TO 28 VOLTS
NEON NE-51H — 115 & 250 V. — U/L & CSA APPROVED

Nickel-plated lens holder and flange. Replace lamps from front. Front-mount in 1/16" hole on 3½" centers in panel up to 13/32" thick. Two solder lugs.

5100-182-110‡	....	1/2"	17/32"	1 21/32"	.....	$ .76	$ .69	$ .64
5100-182-304	....	5/8"	1/2"	1 21/32"	.....	.61	.55	.51
5100-192-323	XX	5/8"	1/2"	1 23/32"	25K	.71	.64	.59
5100-202-323	XX	5/8"	1/2"	1 23/32"	100K	.71	.64	.59

‡NEW—For the first time—these Drake units can use 120 v, min. bay. incandescent lamp; 3 watts, T-2 bulb, 1500 ft.-candles, life 3000 hrs. (twice cand. screw). Lamp prices on request.

"TINYLITE" SERIES INDICATOR LIGHTS



MIDGET SCREW BASE LAMPS G-2 7 TO 28 VOLTS INCANDESCENT

Lamps replaceable from front. Mount from front of panel, up to 9/32" thick, in 7/16" dia. hole on 13/32" centers. Lamps built-in: 7 V in 121-7; 28 V in 121-28.

Drake Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Net Each, Lots of* 1-9	10-24	25-99
121-7-204	YY	7/16"	21/64"	13/16"	$ .74	$ .66	$ .62
121-7-604†	....	3/8"	21/64"	13/16"	.74	.66	.62
121-7-644	ZZ	3/8"	21/64"	13/16"	.83	.75	.70
121-28-204	YY	7/16"	21/64"	29/32"	.86	.78	.72
121-28-604†	....	3/8"	21/64"	29/32"	.86	.78	.72
121-28-644	ZZ	3/8"	21/64"	29/32"	.96	.86	.80

†Same as -644 type, but unprinted.

***PRICES LESS LAMPS UNLESS BUILT-IN.**

WRITE FOR O.E.M. DISCOUNTS ON LARGER QUANTITY ORDERS.

Lenses 503, 504, 603 and 604 may be Imprinted; change 0 (2nd digit) to 4 (e.g., 543). Prices on Request.

SPECIFY COLOR ON ORDER: **Incandescent and Neon**—Red, Yellow (Amber), White or Colorless. **Incandescent Only**—Green or Blue.

ALL DRAKE PRICES subject to CHANGE WITHOUT NOTICE — check "United Pricing Reports" at your DISTRIBUTOR

ELDEMA DIVISION

GENISCO TECHNOLOGY CORPORATION

ELDEMA INDICATOR LITES

C-LITES

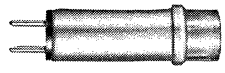
Eldema C-Lites are 2-pin cartridge lamps that are easily inserted from the front of the panel into the D-Holder assembly. C-Lites are in three basic series: CF—incandescent, CG—neon, and CR—neon with built-in resistor.
Clear anodized aluminum case — stainless steel pins — plastic lens cap — high dielectric insulation — meets Mil-L-3661. Mate with all DH Series holders.

INCANDESCENT C-LITES

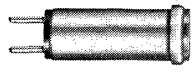
SERIES CF - Mates with all DH Holders

STYLE

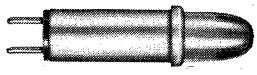
CF03
Short Flat



CF02
Flush



CF01
Dome



LENS COLORS

ACS	Amber Clear
BCS	Blue Clear
CCS	Cloudy Clear
GCS	Green Clear
RCS	Red Clear
WCS	Water Clear
YCS	Yellow Clear
ATS	Amber Translucent
BTS	Blue Translucent
GTS	Green Translucent
RTS	Red Translucent
WTS	White Translucent
YTS	Yellow Translucent

SPECIFY STYLE — LENS COLOR AND LAMP NUMBER

Example: CF03-RTS-2187

LAMP NO.	VOLTS	M.A.	LIFE HRS
2158*	3	15	10,000
680	5	60	50,000
1730	6	40	1,000
2114	6	60	3,000
1784	6	200	1,000
2180	6.3	40	50,000
2181	6.3	200	50,000
1869*	10	15	50,000
2107*	10	40	5,000
2174	12	40	3,000
1705	14	80	750
2182	14	80	50,000
2102	18	40	1,000
1762	28	40	1,000
2187	28	40	25,000

*Use with clear colors only.

NEON C-LITES Mates with DH Holders

SERIES CG- SERIES CR

STYLE

CG03 or CR03

CG01 or CR01

CG04 or CR04

LENS COLORS

CLEAR ONLY

ACS	Amber Clear
CCS	Cloudy Clear
RCS	Red Clear
WCS	Water Clear
YCS	Yellow Clear

SPECIFY STYLE — LENS COLOR LAMP OR LAMP/RESISTOR

Examples: CG03-RCS-N110
CR01-ACS-N123

NEON LAMP-CG SERIES

N110	- Standard brightness
N120	- High brightness

NEON LAMP/RESISTOR-CR SERIES

N114	- Standard brightness medium life - 56K
N117	- Standard brightness long life - 100K
N121	- High brightness medium life - 22K
N123	- high brightness long life - 33K

C-LITES

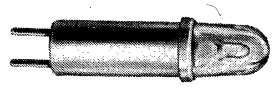
SERIES CN, CL AND CM

These are special purpose C-Lite types, each with mating single lamp D-Holders. The CL and CM have long life, higher voltage incandescent telephone type lamp bulbs. The CN is an older style neon C-Lite with resistor.

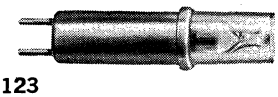
NEON C-LITES

SERIES CN - - neon lamp built-in resistor
Mate with DN Holders

CN01-RCS-N117



CN04-WCS-N123



Slightly longer than new CR series. Otherwise the two types are identical. Specify in same manner except use CN instead of CR. CN03 style is available.

INCANDESCENT C-LITES

TYPE CL24

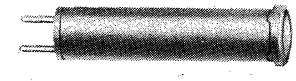
Mate with DL lampholders with D06, D09 or D25 lens caps. Bulb end exposed.

PART NO.	VOLTS	MA	LIFE HRS
CL24-6PS	6	140	5,000+
CL24-12PS	12	170	5,000+
CL24-24PS	24	73	5,000+
CL24-28PS	28	40	5,000+
CL24-48PS	48	53	5,000+
CL24-60PS	60	50	5,000+
CL24-120PS	120	25	5,000+

INCANDESCENT C-LITES

TYPE CM65

Mate with DM lampholders with D06, D09 or D25 lens caps. Light diffusing frosted lens.



PART NO.	VOLTS	MA	LIFE HRS
CM65-6PS	6	140	5,000+
CM65-12PS	12	170	5,000+
CM65-28PS	28	40	5,000+
CM65-48PS	48	53	5,000+
CM65-60PS	60	50	5,000+
CM65-120PS	120	25	5,000+

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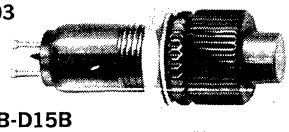
ELDEMA INDICATOR LITES

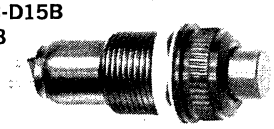
D-HOLDER

Eldema D-Holders mate with the plug-in C-Lite cartridge lamps. The standard DH Series is available in single lampholders, dual lampholders and matching switchlites. Other special length single lamp holders — Series DN, DL and DM to mate with the longer C-Lites are included. Anodized housings, nickel plated hardware — high temperature plastic lens caps — meets Mil-L-3661.

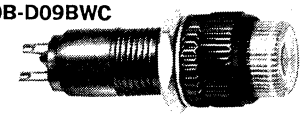
DHO-10B-D14B with CF03



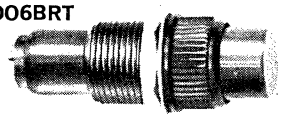
DHN-10B-D15B with CF03



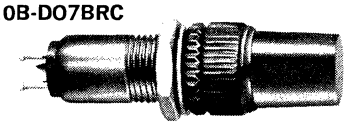
DHO-30B-D09BWC



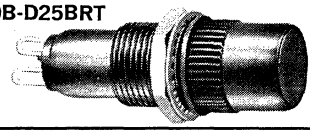
DHN-60B-DO6BRT



DHO-10B-DO7BRC



DHN-60B-D25BRT



DH SERIES SINGLE LAMPHOLDERS

Mate with CF, CG and CR C-Lites

HOLDER STYLE

DHO - Rear mounting, 3/8″ hole
DHN - Front mounting, 15/32″ hole

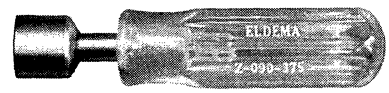
HOLDER TERMINAL AND FINISH

10B - Turret pin black housing
20B - #53 socket black housing
30B - Solder cup black housing
60B - Solder lug black housing

SPECIFY HOLDER STYLE — TERMINAL AND FINISH THEN LAMP COLLAR OR LENS CAP STYLE AND LENS COLOR.

For example: DHO-10B-D14B
DHN-60B-D06BRT

For clear anodized finish change letter B in terminal - finish and in lamp collar or lens cap to S - DHN-60S-D06SRT.



Installation wrench mates with knurled ring on rear mounting holders and switchlite. Part number – Z-090-375

LAMP COLLARS

D14B - Use with DHO
D15B - Use with DHN or DHO

Note: No lens color specified for collars. For use with C-Lite cartridges with colored lenses.

LENS CAP STYLE

D06B - Smooth lens
D07B - Long smooth lens
D09B - Fluted lens, clear colors only
D25B - Shroud lens, translucent colors only.

Note: For use with C-Lite cartridges with water clear lenses.

LENS COLORS

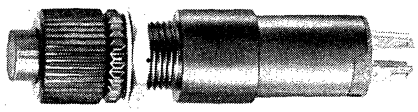
AC - Amber Clear*
BC - Blue Clear
CC - Cloudy Clear*
GC - Green Clear
RC - Red Clear*
WC - Water Clear*
YC - Yellow Clear*

*Recommended for neon C-Lites

AT - Amber Translucent
BT - Blue Translucent
GT - Green Translucent
RT - Red Translucent
WT - White Translucent
YT - Yellow Translucent

DH SERIES - TYPE DHS MOMENTARY SWITCH-LITE

Rear mounting, 3/8″ hole
Mate with CF, CG and CR C-Lites



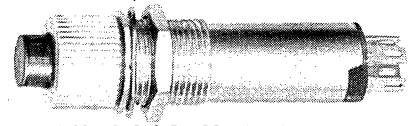
DHS-60B-A-D16B with CF03
Black anodized finish

DHS-60B-A-D16B normally open
DHS-60B-B-D16B normally closed
DHS-60B-P-D16B press-to-test

Black or clear finish — specify B — black, S — clear (underlined letters in part numbers by illustrations, 2 places)

DH SERIES - TYPE DHT MOMENTARY SWITCH-LITE

Front mounting, 15/32″ hole
Mate with CF, CG and CR C-Lites



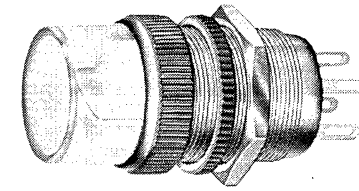
DHT-61S-A-D16S with CF03
Clear anodized finish

DHT - 61B-A-D16B normally open
DHT - 61B-B-D16B normally closed
DHT - 61B-P-D16B press-to-test

Four lug terminals — separate light and switch circuit — 1/2 amp rating for normally open and closed types.

DH SERIES - TYPE DHF DUAL LAMPHOLDER

Front or rear mounting 3/4″ hole.

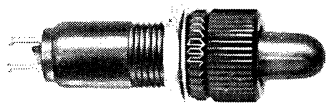


DHF-61B-D17BWC

Mates with any two CF, CG, or CR C-Lites. Four lug terminals — clear lens. Black anodized finish.

DN SERIES SINGLE LAMPHOLDERS

Mate with CN neon C-Lites

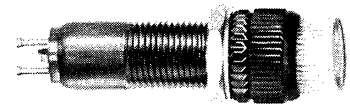


DNO-10B-D14B with CN01

Slightly longer than DHO holder, otherwise identical and specified in same manner except use DNO instead of DHO. Rear mounting 3/8″ hole only.

DL SERIES SINGLE LAMPHOLDERS

Mate with CL24 C-Lites

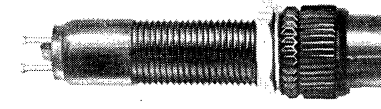


DLO-10B-D09BWC

Medium length holder for high voltage incandescent CL24. Rear mounting DLO and front mounting DLN styles available. Identical to DHO and DHN except for length. Specify in same manner — requires lens cap.

DM SERIES SINGLE LAMPHOLDERS

Mate with CM65 C-Lites



DMO-10B-D06BRT

Long length holder for high voltage incandescent CM65 C-Lites. Front and rear mounting types DMN and DMO available. Specify in same manner as DHN and DHO — requires lens cap.

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ELDEMA INDICATOR LITES

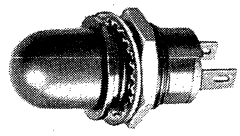
R — LITES

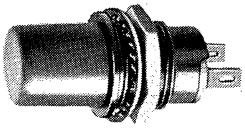
R-Lites are Eldema's product family of relampable holders and lens caps for the midget flange based T-1 ¾ incandescent and T-2 neon bulbs. The lamps and lens caps are replaceable from the front of the panel. There are five R-Lite groups — each with its own features — the holder and lens cap part numbers in each group start with the same two letters to insure mating parts.

RM AND RN SERIES

The RM-RN groups meet MIL-L-3661. The RM is for incandescent lamps — the RN Series with a built in resistor is for neon lamps. Standard types RMA and RNA — waterproof types RMW and RNW — two tin plated lug terminals — black anodized aluminum cases — high impact plastic lenses. Mount from the front in 15/32″ holes. Equivalent Military numbers are listed.

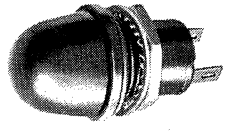
RMA-64BO-RM120RC

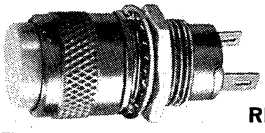




RMA-64BO-RM160RC

RMW-63BO-RM130RC





RMA-64BO-RM22BRC

RM SERIES

HOLDER P/N		MIL. TYPE
RMA - 64BO	Standard — black finish	LH73/1
RMW - 63BO	Waterproof — black finish	LH89/1

LENS CAP STYLE		MIL. TYPE
RM120	Dome	LC12
RM160	Flat top	LC29
RM22B	Rotating type	LC11
	(Lens marking can be aligned)	
RM130	Waterproof dome	LC35

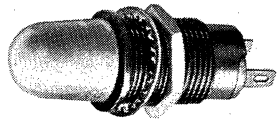
LENS COLORS		MIL. TYPE
AC	Amber Clear	YN2
BC	Blue Clear	BN2
CC	Cloudy Clear	—
GC	Green Clear	GN2
RC	Red Clear	RN2
WC	Water Clear	CN2
YC	Yellow Clear	—
AT	Amber Translucent	YT2
BT	Blue Translucent	BT2
GT	Green Translucent	GT2
RT	Red Translucent	RT2
WT	White Translucent	WT2
YT	Yellow Translucent	—

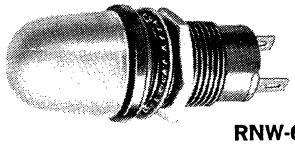
SPECIFY HOLDER
LENS STYLE AND LENS COLOR

For example:
RMA-64B0-RM120RC is Eldema
LH73/1- LC12RN2 is Military

NOTE: RMA-64B0-RM120 meets MS25256. Designate lens color.

RNA-64B5-RN120RC





RNW-63B5-RN130RC

RN SERIES

HOLDER P/N		MIL. TYPE
RNA - 64B5	Standard — black finish with 62KΩ for NE2D lamp	LH74/1
RNA - 64B2	Standard — black finish with 27KΩ for NE2J lamp	LH74/2
RNW - 64B5	Waterproof — black finish with 62KΩ for NE2D lamp	LH88/1
RNW - 64B2	Waterproof — black finish with 27KΩ for NE2J lamp	LH88/2

LENS CAP STYLE		MIL. TYPE
RN120	Dome	LC13
RN130	Waterproof dome	LC33

LENS COLORS		MIL. TYPE
AC	Amber Clear	YN2
CC	Cloudy Clear	WT2
RC	Red Clear	RN2
WC	Water Clear	CN2
YC	Yellow Clear	—

SPECIFY HOLDER
LENS STYLE AND LENS COLOR

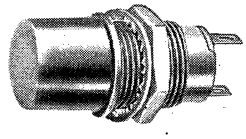
For example:
RNA-64B5-RN120RC is Eldema
LH74/1- LC13RN2 is Military

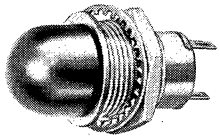
NOTE: RNA-64B5-RN120 meets MS25257. Designate lens color.

RA SERIES

The RA Series is for flange based T-1 ¾ incandescent bulbs. Three mounting styles are available and three metal finishes. Rugged two terminal lamp holders — brass housings — tin plated lug terminals — high impact strength plastic lens caps.

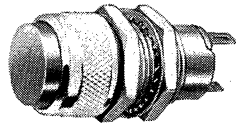
RAA-6020-RA220RT





RAB-6010-RA210RT

RAC-6030-RA343RT



HOLDER STYLE

RAA - 15/32″ Front mounting
RAB - 17/32″ Front mounting
RAC - 15/32″ Front or rear mounting

HOLDER FINISH

6010 Bright nickel
6020 Black nickel
6030 Polished chrome

ALL PLASTIC LENS CAP STYLE

RA210 Dome
RA220 Flat top

ROTATING LENS CAP STYLE

(Lens marking can be aligned)

RA341 Bright nickel ring
RA342 Black nickel ring
RA343 Polished chrome ring

LENS COLORS

AC Amber Clear
BC Blue Clear
CC Cloudy Clear
GC Green Clear
RC Red Clear
WC White Clear
YC Yellow Clear
AT Amber Translucent
BT Blue Translucent
GT Green Translucent
RT Red Translucent
WT White Translucent
YT Yellow Translucent

SPECIFY HOLDER STYLE
HOLDER FINISH
LENS STYLE AND LENS COLOR

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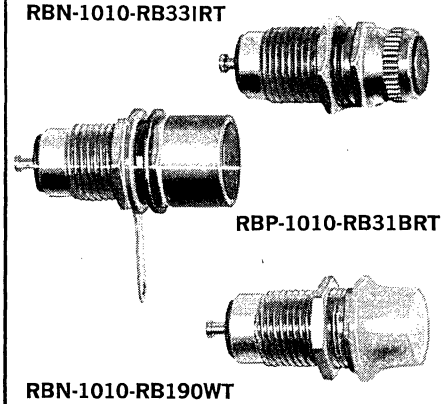
ELDEMA INDICATOR LITES

RB SERIES

Low cost relampable holders and lens caps for T-1 ¾ based incandescent lamps. The holder is one piece nickel plated brass construction — Type RBN, single center terminal grounded to panel — Type RBP, with insulating washers and external lug terminal added to electrically isolate holder from the panel.

RBN-1010-RB33IRT



RBP-1010-RB31BRT

RBN-1010-RB190WT

HOLDER PART NUMBER

RBN - 1010	Single center terminal Front mounting 3/8″ hole.
RBP - 1010	Insulating washers Two terminals, 27/64″ hole.

SPECIFY HOLDER, LENS STYLE AND LENS COLOR

NOTE: Special bi-color lens caps — white when off and colored when lighted are available — see series RB data sheet.

LENS CAP STYLE

RB190	All plastic, bell shape
RB31B	Black shroud lens End on viewing only
RB331	Flat top lens, bright nickel plated ring.

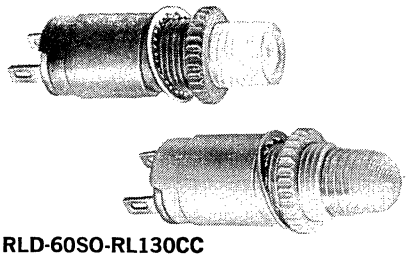
LENS COLORS

AT	Amber	RT	Red
BT	Blue	WT	White
GT	Green	CC	Cloudy

RL SERIES

In the RL Series the lamp holders and lens caps accommodate either based incandescent or neon lamps for uniform appearance. Neon holders may have built in resistors. Two tin plated lug terminals — black or clear anodized housings — fresnel ring light diffusing lens caps give maximum brilliance.

RLD-60BO-RL090WC



RLD-60SO-RL130CC

RLA-60BO-RL150RC

HOLDER STYLE

RLA - Front mounting, 15/32″ Hole
RLD - Rear mounting, 3/8″ Hole, 1/8″ Panel
RLE - Rear mounting, 3/8″ Hole, 3/16″ Panel

HOLDER FINISH AND RESISTOR

60B0	- Black finish	No Resistor
60S0	- Clear finish	No Resistor
60B2	- Black finish	with 27KΩ for NE2J lamp
60S2	- Clear finish	with 27KΩ for NE2J lamp
60B5	- Black finish	with 62KΩ for NE2D lamp
60S5	- Clear finish	with 62KΩ for NE2D lamp

SPECIFY HOLDER STYLE, FINISH AND RESISTOR-LENS STYLE AND LENS COLOR

FRESNEL RING LENS CAPS

STYLE	COLORS
RL090 Flat top	AC - Amber Clear*
	BC - Blue Clear
RL130 Dome	CC - Cloudy Clear*
	GC - Green Clear
RL150 Skirted	RC - Red Clear*
	WC - Water Clear*
	YC - Yellow Clear*

*Recommended for neon lamps

SMOOTH FACE LENS CAPS

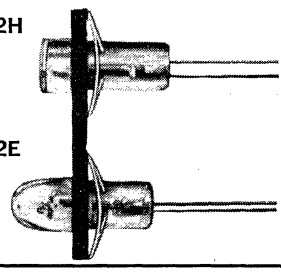
STYLE	COLORS
RL100 Flat top	AT Amber Translucent
	BT Blue Translucent
RL140 Dome	GT Green Translucent
	RT Red Translucent
RL160 Skirted	WT White Translucent
	YT Yellow Translucent

B — LITES

Commercial neon indicators permanently clip mounted — 5/16″ mounting hole all plastic construction — inexpensive — two basic types — neon lamp with resistor and attached wire leads and neon lamps only with bare wire leads.

BG90-RC-NE2H

BG20-RC-NE2E



STYLE	COLORS	LAMP
BG20 Dome	AC Amber Clear	NE2E Medium brightness
	CC Cloudy Clear	NE2H High brightness
BG90 Flat top	RC Red Clear	
	WC Water Clear	

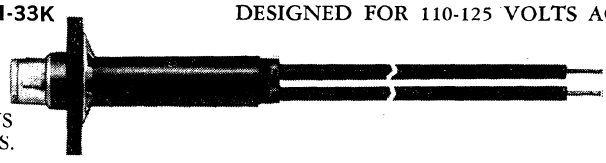
REQUIRES EXTERNAL RESISTOR 100KΩ FOR NE2E, 33KΩ FOR NE2H.

SPECIFY STYLE, COLOR AND LAMP.

MOUNTING CLIPS FURNISHED

BG03-RCS-NE2H-33K

DESIGNED FOR 110-125 VOLTS AC OPERATION 25,000 HOUR LIFE RATING.



FLAT TOP LENS
6″ WIRE LEADS.

CLEAR ALUMINUM COLLAR

MOUNTING CLIPS FURNISHED

PART NUMBER	LENS COLORS
BG03 - ACS - NE2H - 33K	Amber Clear
BG03 - CCS - NE2H - 33K	Cloudy Clear
BG03 - RCS - NE2H - 33K	Red Clear
BG03 - WCS - NE2H - 33K	Water Clear

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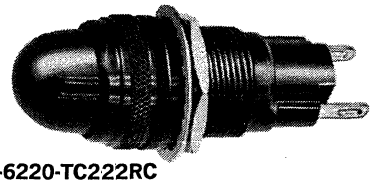
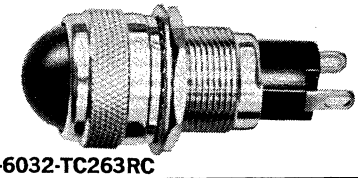
ELDEMA INDICATOR LITES

T-SERIES

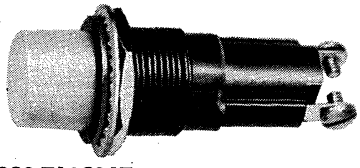
Eldema T-Series lampholders and lens caps are for the T-3¼ bayonet based incandescent and neon lamps. Four basic types — TAF and TCF for incandescents — TAG and TCG with built-in resistors for neons. Meets Mil-L-3661 — polished chrome, black nickel or bright nickel finish — front mounting in 11/16" holes water proof types — lug or screw terminals.



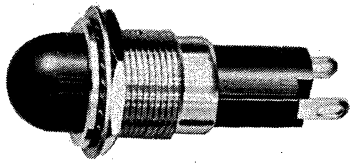
TCF-6220-TC222RC



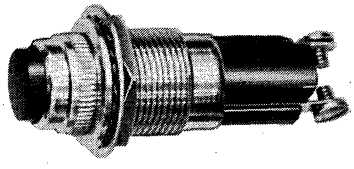
TCG-6032-TC263RC



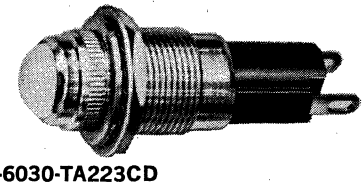
TAF-7020-TA160AT



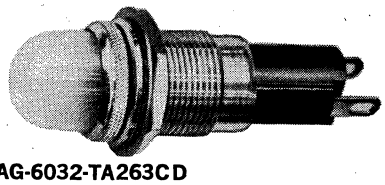
TAF-6030-TA120RT



TAF-7030-TA243RT



TAF-6030-TA223CD



TAG-6032-TA263CD

HOLDER STYLE

TAF - Incandescent lampholder Screw-in lens caps

TAG - Neon lampholder Screw-in lens caps

TCF - Incandescent lampholder Screw-on lens caps

TCG - Neon lampholder Screw-on lens caps

NOTE: TAF and TAG holders mate with lens caps starting with letters TA. TCF and TCG holders mate with TC lens caps.

HOW TO SPECIFY HOLDER FEATURES:

Example — 6010

First digit: (Terminals)	6 = Solder lug 7 = Screw terminal
Second digit: (Mounting)	0 = Standard part 2 = Water proof
Third digit: (Finish)	1 = Bright nickel 2 = Black nickel 3 = Polished chrome
Fourth digit: (Resistor)	0 = None (TAF & TCF) 2 = 27KΩ for NE51H lamp 4 = 56KΩ for NE51 lamp 7 = 100KΩ for NE51 lamp 25,000 hour life rating

SCREW-IN LENS CAP STYLE

TA120	- Smooth dome — clear or translucent colors
TA130	- Fluted dome — clear colors only
TA140	- Semi-Fluted dome — clear colors only
TA160	- Flat top — clear or translucent colors
TA223†	- Convex — clear or diffusing colors
TA243†	- Flat top — clear, translucent or diffusing colors
TA263†	- Fluted dome — clear colors only

SCREW-ON LENS CAP STYLE

TC223†	Smooth dome — clear or diffusing colors
TC243†	Fluted dome — clear colors only
TC263†	Large dome — clear or diffusing colors

† These lens caps have a metal ring with polished chrome finish specified by the digit 3. For bright nickel, change to 1, black nickel, change to 2. For example: TA221RC and TC242RC.

LENS COLORS

AC — Amber Clear*	AT — Amber Translucent	AD — Amber Diffusing
BC — Blue Clear	BT — Blue Translucent	BD — Blue Diffusing
GC — Green Clear	GT — Green Translucent	GD — Green Diffusing
RC — Red Clear*	RT — Red Translucent	RD — Red Diffusing
WC — Water Clear*	WT — White Translucent	WT — White Translucent
YC — Yellow Clear*	YT — Yellow Translucent	YD — Yellow Diffusing
CC — Cloudy Clear*		CD — Clear Diffusing

* These colors recommended for neon lamps

Diffusing colors have surface nearest lamp frosted — Note white is translucent only.

SPECIFY HOLDER STYLE — HOLDER FEATURES — LENS STYLE AND LENS COLOR

SEE PART NUMBERS BY ILLUSTRATIONS FOR EXAMPLES

MILITARY VERSIONS

Certain configurations of the T-Series lampholders and lens caps carry MS numbers and specifications. Contact Eldema for complete cross-reference information. RFI/EMI shielded versions are also available in this series for all of the lampholder types.

WATERPROOF LENS CAP

To specify water proof lens caps in the TA styles change the first digit as follows: TA100 series to TA400, TA200 series to TA300. For example: TA120RC to TA420RC, TA223RC to TA323RC. Standard TC lens cap may be used. All necessary sealing gaskets are on the TC holder when it is specified water proof.

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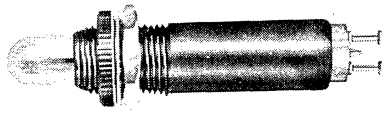
ELDEMA INDICATOR LITES

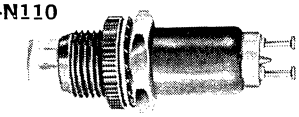
E-LITES

Two basic types — Series EG, neon lamp only — Series ER, neon lamp with built-in resistor — permanent neon lamp indicators — military type construction — black anodized aluminum body — tin plated turret terminals, high impact plastic lens — five lens colors. Use wrench Part number Z-090-375 to simplify installation.

ER01-WCB-N117



EG03-WCB-N110



STYLE - NO RESISTOR

EG01 Dome lens
EG03 Flat lens

STYLE WITH RESISTOR

ER01 Dome lens
ER03 Flat lens

LENS COLORS

ACB Amber Clear
CCB Cloudy Clear
RCB Red Clear
WCB Water Clear
YCB Yellow Clear

LAMP - EG SERIES

N110 Medium brightness
N120 High brightness

LAMP/RESISTOR - ER SERIES

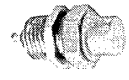
N117 Medium brightness; 25,000 hr — 100KΩ
N123 High brightness, 25,000 hr — 33KΩ

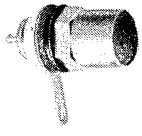
SPECIFY STYLE — LENS COLOR — LAMP OR LAMP/RESISTOR

H-LITES

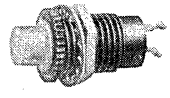
Eldema Series HL holders and lens caps are for sub-miniature based T-1 incandescent lamps. Military type construction — brass housing — either single or two terminal style — relampable from the front of the panel — mount on centers as close as 0.360. RFI/EMI shielded versions available-see H-Lite brochure.

HLA-1010-HL230WT

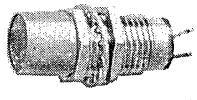




HLB-1010-HL321RT



HLC-2020-HL230WT



HLD-1010-HL321RT

HOLDER PART NUMBER

HLA-1010 Front mounting ¼" hole, single terminal, bright finish.
HLB-1010 Front mounting 5/16" hole, lug and center terminal — bright finish — insulating washers.
HLC-2010 Two terminal — front mounting 5/16" hole, bright finish.
HLC-2020 Two terminal — front mounting 5/16" hole, black finish.
HLD-1010 Two terminal — front or rear mounting — 5/16" hole — bright finish
HLD-1020 Two terminal — front or rear mounting — 5/16" hole — black finish.

LENS CAP STYLE

HL230 All plastic
HL321 Shroud, bright finish
HL321 Shroud, black finish

LENS COLORS

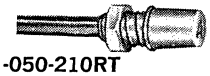
AT Amber Translucent
BT Blue Translucent
GT Green Translucent
RT Red Translucent
WT White Translucent
YT Yellow Translucent
WC Water Clear
CC Cloud Clear

SPECIFY HOLDER — LENS STYLE AND LENS COLOR.

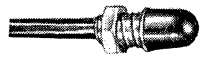
J-LITES

Permanent mounting indicators with built-in long life sub-miniature T-1 incandescent lamps. Front panel mounting in 0.193 hole — moisture and dust proof — completely sealed — 6 inch leads — commercial and military versions.

JK8111-050-220WT



JK9151-050-210RT



SPECIFY HOUSING — LAMP NO. LENS SHAPE — LENS COLOR

NOTE: JK9151-050-210 meets MS25446. Specify lens color.

HOUSING STYLE

JK8111 Commercial - brass case
JK9151 Military - steel case

LAMP NO.	VOLTS	M.A.	LIFE HRS
-050-	5	60	100M
-100-	10	27	10M
-120-	12	60	16M
-280-	28	24	16M

LENS STYLE

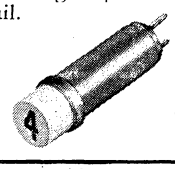
210 Dome
220 Flat top

LENS COLORS

AT Amber Translucent
BT Blue Translucent
GT Green Translucent
RT Red Translucent
WT White Translucent
YT Yellow Translucent
WC Water Clear

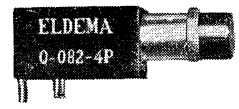
LENS MARKING

Eldema flat top lens styles may be provided with hot stamped legends. Normal markings in black-other colors to order. Specify marking requirements in complete detail.

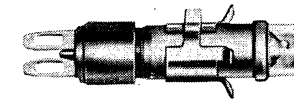


Q-SERIES

CLIPS AND SOCKETS



Q-082-4P P.C. Board Socket with CF03 C-Lite. Socket Mounts in 4 040 Holes on .200 Centers.



Mounts C-Lites in 19/64" hole — ½" centers.
Requires access to both sides of panel.
Q-081-905, Spring steel clip.
Q-082-2K, Socket with solder lug terminal.
Q-082-1M, Socket with solder cup terminals (not illustrated).

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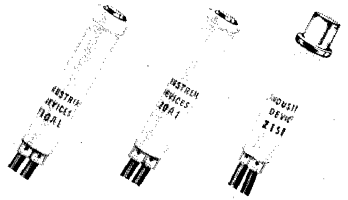
distributor catalog-
stock items...off the shelf

neon pilot lights

■ Enhance as well as beautify any product ■ Complement and highlight design ■ Invite attention
■ Rugged and long lived — 10,000 hour life unaffected by vibration or shock ■ Tamper proof housings
■ Mount quickly, securely ■ UL recognized, CSA approved

GLO — DOT
Mounting hole— 5/16" diameter.

Series 2110A Series 2120A Series 2150A

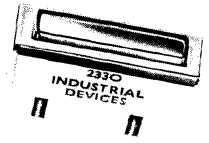


STOCK MODELS AVAILABLE

B2110A1 Red	B2120A1 Red	B2150A1 Red
B2110A2 Clear	—	—
B2110A3 Amber	B2120A3 Amber	B2154A3 Amber
B2110A4 White	B2120A4 White	B2150A4 White

LINE-O-LITE
*Mounting hole— 19/32" x .395/.400".

Series 2330D



STOCK MODELS AVAILABLE

MODEL NO.	LENS COLOR
B2330D1	Red
B2330D3	Amber
B2330D4	White

*Will snap-fit into panels .055—.070" thick without speednut

OMNI — GLOW
Mounting hole— 1/2" diameter.

Series 1050A Series 1050C Series 1050N

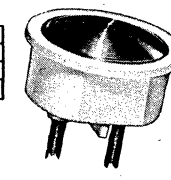
STOCK MODELS AVAILABLE

B1050A1 Red	B1050C1 Red	B1050N1 Red
B1050A2 Clear	—	—
B1050A3 Amber	B1050C3 Amber	B1050N3 Amber
B1050A4 White	B1050C4 White	B1050N4 White

OMNI-GLOW Series 2600
Mounting hole— 7/8" diameter.

STOCK MODELS AVAILABLE

MODEL NO.	LENS COLOR
B2620K1	Red
B2620K3	Amber
B2620K4	White



SPECIFICATIONS (COMMON TO ALL STOCK NEON PILOT LIGHTS)

Voltage: 105—125 A.C.
Leads: 4½" 105°C plastic stripped ½" 22AWG for GLO-DOT, 18AWG for OMNI-GLOW & LINE-O-LITE.
Lamp: High brightness neon with built-in resistor.
Speednut: Hardened spring steel, rust-resistant finish.

MINI-SLIDE pilot light assemblies

■ Bright, highly visible ■ Long-lived — rated 5000 hours ■ Available complete with lamps from 6 to 120 volts ■ Variety of colors ■ Utilize miniature slide base incandescent lamps ■ Foolproof installation ■ UL recognized, CSA approved

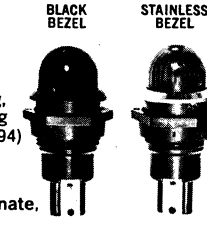
Model 2800 Series			Model 3060 Series	
Black Bezel	Stainless Bezel	Lens Color	Round Lens	Square Lens
B2800A1 •_v	B2801A1 •_v	Red	B3060C1 •_v	B3060D1 •_v
B2800A2 •_v	B2801A2 •_v	Clear	B3060C2 •_v	B3060D2 •_v
B2800A3 •_v	B2801A3 •_v	Amber	B3060C3 •_v	B3060D3 •_v
B2800A4 •_v	B2801A4 •_v	White	B3060C4 •_v	B3060D4 •_v
B2800A5 •_v	B2801A5 •_v	Green	B3060C5 •_v	B3060D5 •_v
B2800A6 •_v	B2801A6 •_v	Blue	B3060C6 •_v	B3060D6 •_v
B2800A7 •_v	B2801A7 •_v	Yellow	B3060C7 •_v	B3060D7 •_v

***Important** — These units shipped complete with lamp, specify voltage when ordering. See lamps listing below.

SPECIFICATIONS

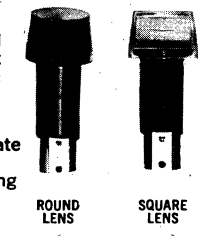
Model 2800 Series

Mounting nut: Nylon, self-locking, torque limiting (U.S. Patent 3352194)
Mtg. Hole: 11/16" Diameter
Lens: Molded polycarbonate, screw in (for easy relamping)



Model 3060 Series

Mounting nut: Speednut, hardened spring steel, rust resistant finish
Mtg. Hole: ½" Diameter
Lens: Molded polycarbonate snap-on for easy front panel relamping



short slide base "pilot" lamps

FOR USE WITH MINI-SLIDE

Design Volts	Lamp Number	Design AMPS	Approx. Hrs. Life	Wattage at Design Volts	Rated End Foot Candles
6	6 PSB	.140	5,000	.8	800
12	12 PSB	.170	5,000	2.0	2400
24	24 PSB	.073	5,000	1.7	2200
28	28 PSB	.040	5,000	1.1	1900
48	48 PSB	.053	5,000	2.5	1500
60	60 PSB	.050	5,000	3.0	2400
120	120 PSB	.025	5,000	3.0	1600

■ Complete line
■ Rugged-long life
■ Miniature up to 120 volts ratings to 3 watts

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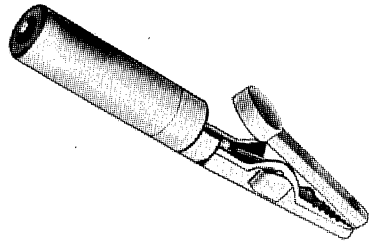
TEST ACCESSORIES



SAFE-T-KLIP

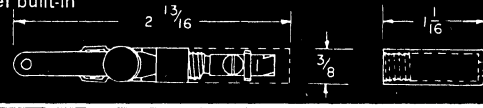
Many models are available to offer a practical solution to the problem of protecting valuable test equipment against accidental shorts or contact with power leads. Thoroughly insulated with tough nylon, they provide safe operation in excess of 600 volts—yet retain their design ability to reach hard-to-get-to recesses common to all electronic chassis.

Safe-t-klip supplied packaged in pairs. Pair is one red, one black.

- Absolute protection from shocks or shorts
- Meets military requirements
- Clips are cadmium plated steel
- U.S. Patent No. 2,754,490

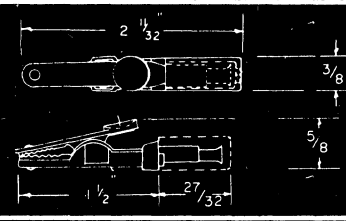
MODEL B1410A—for lead wires

- Provision for mechanical or solder joint with test wires
- Strain relief built-in



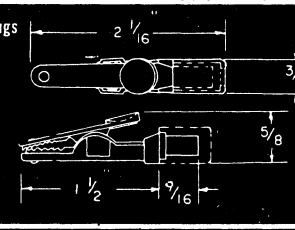
MODEL B1410B—for test prod

- Use in conjunction with standard .080" test prods
- Threaded entrance hole assures positive connection—will not slide off prod



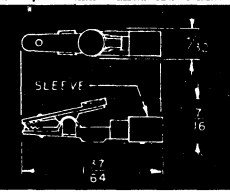
MODEL B1410C—for standard banana plugs

- Provision for positive electrical connection with standard banana plugs.



B1410M—MINIATURIZED For Test Leads

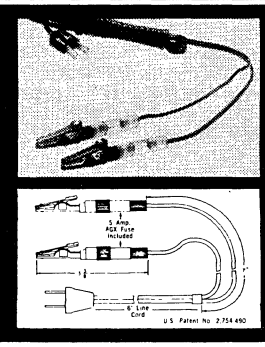
- For leads up to 22 AWG, solder joint
- Built-in strain relief



SAFE-T-KORD

MODEL 1480—for fused power protection

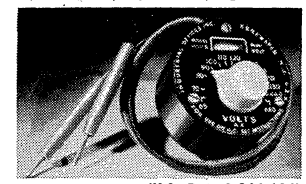
- Eliminate shorts and shocks —dangerous bare leads
- Protect equipment from burn out
- Apply line voltage to components not having line cords
- Thread-on clear Lexan housing for visual inspection and quick replacement of fuse
- Supplied complete with two 5 amp. fuses.



VOLTAGE TESTERS

Rugged, long-lasting. Completely eliminates conventional (and delicate) meter movements — test lamps ruggedized for toolbox use.

MINI-VOLT VOLTMETER Model #B400B



(U.S. Pat. 2,644,134)

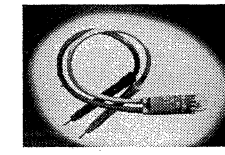
"Abuseproof" voltmeter, sufficiently accurate to indicate a 2 or 3 volt drop on 110 volt line. Virtually burn-out proof, unit has wide application for all equipment whose proper operation requires correct voltage. Used by electricians, radio and TV repairmen, refrigeration and air conditioning servicemen, experimentors, lab technicians, handymen.

In addition to measuring the exact voltage over the range from 65 to 660 volts, Model #400B is used to identify AC or DC lines, check rectifiers, filter capacitors, chokes; test for blown fuses, grounded components, DC polarity, measure voltage drops with load, and 1001 other uses.

For use on AC (any frequency) or DC, MINI-VOLT, with an impedance of approximately ½ megohm, draws negligible current and can therefore provide dependable voltage readings even on circuits used in electronic apparatus.

Provides lifetime of service — glow lamp is guaranteed for 25,000 hours of actual operation. Furnished complete with extra-heavy insulated 12-inch flexible test leads and test prods.

LINE-VOLT TEST LITE Model #1310

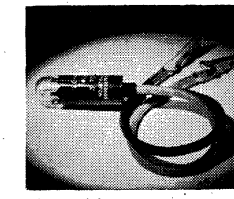


LINE-VOLT Model No. 1310 is a rugged, compact test light covering the wide range of 55-550 VAC or 90-600 VDC.

LINE-VOLT tells immediately whether there is power in the line, checks fuses, can identify AC or DC lines, grounded components, continuity of line circuits.

Leads are 12" long overall and are heavy-duty flexible wire terminating in 3½" insulated prods with really sharp points — able to pierce insulation, paint, or oxidation. Bright lamp provides immediate positive indication.

LO-VOLT TEST LITE Model #1300



LO-VOLT Test Lite No. 1300 is a compact test light for ready use in many applications.

Operating over a wide range of 3-28 volts AC or DC, LO-VOLT supplies the instant answer to whether there is an available power supply for thermostatic controls, model train equipment, other stepped-down AC voltages as well as battery supplies such as automotive.

A continuity tester when used in conjunction with a power supply to detect the presence of an open.

Completely enclosed so that lamp is not exposed. LO-VOLT is supplied with flexible leads terminating spring clips for ready tie-in to test circuit.

INDUSTRIAL DEVICES, INC.

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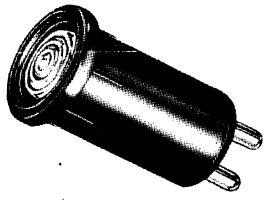
E. F. JOHNSON CO.

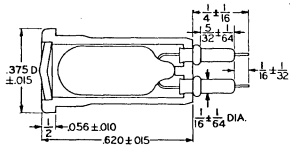
Pilot lights

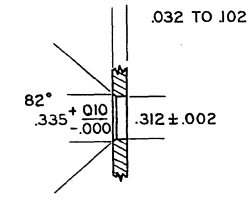
E. F. Johnson pilot lights have been classified as "PREFERRED TYPES", and are immediately available at parts distributors throughout the country. Specials, including types meeting military specifications, are available in production quantities.

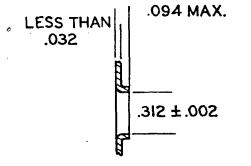
When ordering -1 indicates clear jewel (i.e. 147-1000-1); -2 transparent red; -3 transparent green; -4 transparent amber; -5 transparent blue; -6 opal. Green and blue not recommended for use with neon lamps. In pilot light sockets with built-in resistors for neon bulbs, higher resistance values give longer life; lower resistance values give greater brilliance.

For detailed specifications covering the entire Johnson pilot light line, write for complete catalog using your company letterhead.









MOUNTING HOLE DETAILS

RIB-LOC MINIATURE PRESS-IN INDICATOR LIGHT

New RIB-LOC light simply presses into place in a .312" diameter round hole. Typical push-in force in 1/16" thick aluminum panel is 15 lbs.; push-out force, 20 lbs.; torque to rotate, 32 oz. in. Ribs bite into sharp edges of hole to provide positive retention. Durable polycarbonate lens in six colors. Long-life incandescent bulb. Black polyamide housing. Terminations are 1/16" diameter terminals staked to body.

Cat. No.	Housing Color	Operating Voltage	Lens Color	Net Price
147-2203-100	Black	4-6 Volts	(See	**$0.70**
147-2203-300	Black	10-14 Volts	color	**.80**
147-2203-400	Black	22-28 Volts	table)	**.80**

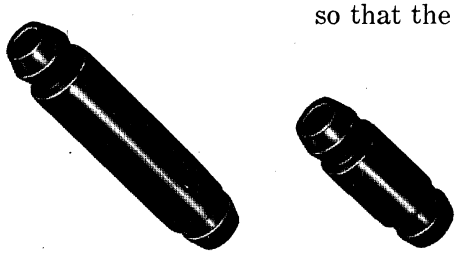
Lens color:
Add one of the following numbers to the last two digits of the catalog number to indicate lens color:

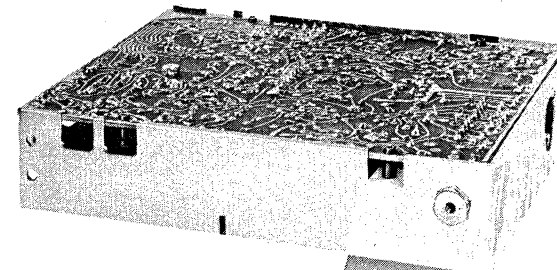
01 Clear	04 Amber
02 Red	05 Blue
03 Green	06 Opal (translucent)

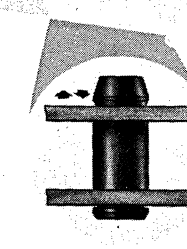
For example: 6-Volt with amber lens is Cat. No. 147-2203-104.

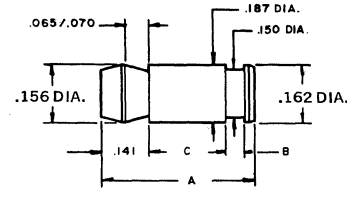
Polyamide spacers

These convenient polyamide spacer bushings make it possible to snap PC boards to a chassis and provide a choice of stand-off heights from .125" to .750". They provide mechanically secure, insulated mounting, yet PC boards can be quickly removed. Machined from nylon, the design provides permanent, snap-in insertion into pre-drilled or punched holes in any 1/16" chassis or panel. (Also available as specials for other panel and board thicknesses.) The other end of the spacer snaps in or out of the PC board so that the board can be removed for service or modification.









POLYAMIDE SPACER/BUSHINGS

Cat. No.	Dim. A	B	C	Net Price
115-260-1	.396	.065/.070	.125	**$0.04**
115-260-3	.521	.065/.070	.250	**.04**
115-260-5	.646	.065/.070	.375	**.05**
115-260-7	.771	.065/.070	.500	**.05**
115-260-9	.896	.065/.070	.625	**.06**
115-260-11	1.021	.065/.070	.750	**.06**

Recommended mounting hole .152" ± .002".

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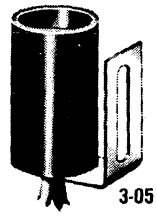
MINIATURE BAYONET

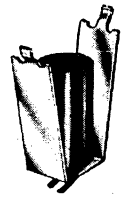
3-00 SERIES



3-05

TYPICAL MOUNTING

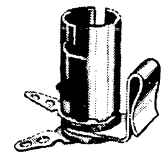
2-00 SERIES



2-15

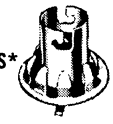
TYPICAL MOUNTING

7-00 SERIES



7-01

2-00-1 SERIES* 2-40-1



*Sockets can be supplied with one lead or one terminal for use in grounded circuits.

Example: To specify grounded socket 7-01 becomes 7-01-1, 2-15 becomes 2-15-1, etc.

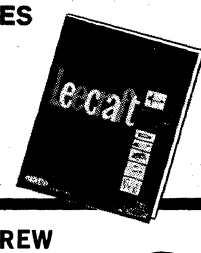
LEECRAFT®

LAMPHOLDERS

PILOT LIGHT SOCKETS

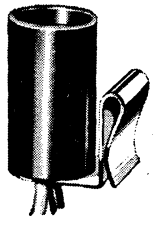
SPECIAL ASSEMBLIES

- **WRITE FOR PRODUCT LIGHTING GUIDE**
- **PROTOTYPE SAMPLES available on request**



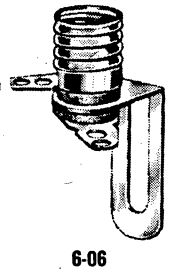
CANDELABRA SCREW

4-00 SERIES



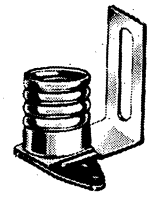
4-45

6-00 SERIES

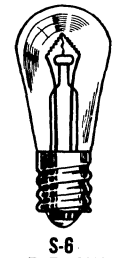


6-06

18-00 SERIES

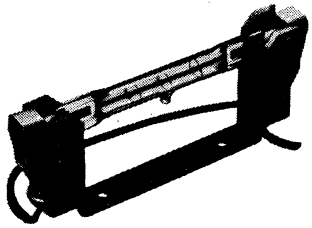


18-79



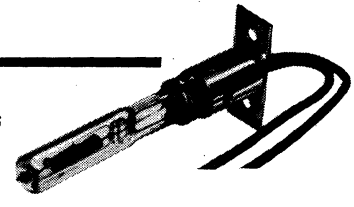
S-6
7C7-120V
10C7-120V

LAMPHOLDERS FOR SINGLE-ENDED and DOUBLE-ENDED QUARTZ IODINE LAMPS



Recessed Single Contact • 2600 Series

Complete assembly — two holders mounted on common bracket, or separate sockets. Brackets in all lengths.



Double Contact • 2200 Series

Positions lamp more accurately, prevents shaking loose from vibration.

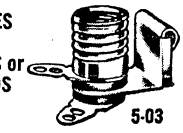
MIDGET SCREW

16-00 SERIES SOLDER, TERM.
•
16-200 SERIES WIRE LEADS

16-08

MINIATURE SCREW

5-00 SERIES SOLDER TERMINALS or WIRE LEADS



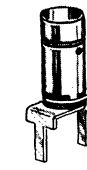
5-03

MIDGET GROOVED

25-200 SERIES WIRE LEADS

25-00 SERIES SOLDERING TERMINALS

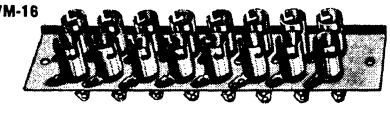
Used in data processing and automation fields with Lens-End Lamp Nos. 253, 253X, and 261.



25-35

Send for Data Sheet No. 25A.

No. 7M-16

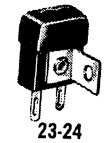


MULTIPLE ASSEMBLIES

Can be made to your specifications.

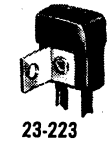
WEDGE BASE

23-00 SERIES



23-24

23-200 SERIES



23-223

24-00 SERIES

24-07A

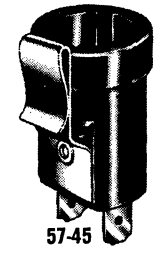
#159—6V
#161—12V
#158—12V
#259—6.3V

23-00 SERIES — Molded housing, terminal.
23-200 SERIES — Molded housing with wire leads.
24-00 SERIES — Wafer type terminals.

CANDELABRA BAYONET

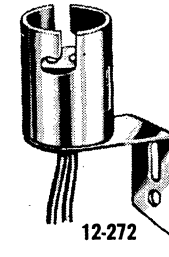
DOUBLE CONTACT

57-00 SERIES



57-45

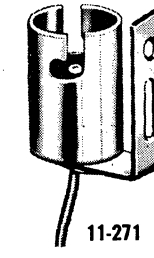
12-200 SERIES



12-272

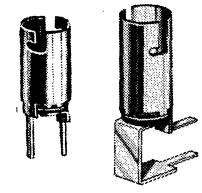
SINGLE CONTACT

11-200 SERIES



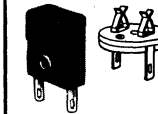
11-271

PRINTED CIRCUIT LAMPHOLDERS



BAYONET
7-35 7-35XP11

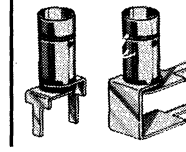
WEDGE BASE



23-07 24-07A

SUBMINIATURE, MIDGET-GROOVED BASE

25-35 25-35XP11



Terminals permit fast, easy soldering, especially wave soldering. Wire leads, solder-type or quick-connect.

LEECRAFT® **Leecraft MANUFACTURING CO., INC.**

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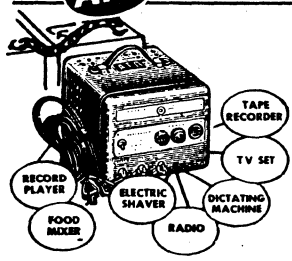
ATR Inverters, Vibrators, "A" Eliminators, etc.



ATR DC TO AC UNIVERSAL INVERTERS

New, universal inverters for operating 110-v., 60 cycle AC equipment from DC voltages in autos, buses, trucks, boats, trains, planes and DC districts. Designed especially for standard 110-volt AC tape recorders, TV sets, radios, PA systems, electric razors, test equipment, etc. Units are carefully engineered and ruggedly constructed to provide long life operation. All feature complete RF interference suppression and exceptional frequency stability. Have operating efficiency in excess of 75%. Four-point voltage regulator corrects output voltage for minimum and maximum loads, and also helps compensate for input voltages lower or higher than normal. Inverters are recommended for use with loads having power factors in excess of 70%. Built-in toggle switch selects most efficient operation for use with TV sets or tape recorders. Inverters are not recommended for use with large motor driven appliances such as refrigerators, washing machines, etc. All have ON-Off switches. Housed in attractive gray hammerloid metal cabinet with convenient leather carrying strap. Sizes: Standard Model RSF, 8½x9⅞x5¼"; Heavy-Duty Model RHG 6⅞x11¼x8½", Extra-Heavy-Duty Model HSJ, 6½x12⅞x8½". With battery clips for instant connection to power source. Models with "P" suffix equipped with adapter cord for use in auto cigarette lighter receptacles. *Recommended for24 volt battery operation. **Before ordering, check wattage of equipment with which inverter will be used.**

Stock No.	Mfr's Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Watt. Int.	Output Watt. Cont.	Shipping Weight	List Price	Net Price
	6U-RSF	6	110 Volts	100	80	22 lbs.	$ 82.50	$ 55.00
	6U-RSF-P	6	110	100	80	22	82.50	55.00
	6U-RHG	6	110	150	125	27	109.50	73.00
	6U-HSJ	6	110	175	150	37	137.25	91.50
	12U-RSF	12	110	125	100	22	82.50	55.00
	12U-RSF-P	12	110	125	100	22	82.50	55.00
	12U-RHG	12	110	175	150	27	109.50	73.00
	12U-HSJ	12	110	250	200	37	137.25	91.50
*	28U-RSF	28	110	125	100	22	99.00	66.00
*	28U-RHG	28	110	175	150	27	131.25	87.50
*	28U-HSJ	28	110	250	200	37	155.25	103.50
	32U-RSF	32	110	150	100	22	99.00	66.00
	32U-RHG	32	110	200	180	30	116.25	77.50
	32U-HSJ	32	110	325	225	37	155.25	103.50
	50U-RSF	50	110	150	100	22	99.00	66.00
	50U-RHG	50	110	225	200	27	131.25	87.50
	110U-RSF	110	110	250	150	22	82.50	55.00
	110AU-RHG	110	110	325	250	27	99.00	66.00
	110BU-RHG	110	110	450	350	30	116.25	77.50
	110U-HSJ	110	110	600	400	37	155.25	103.50
	220U-RSF	220	110	250	150	22	87.37	58.25
	220U-RHG	220	110	325	250	27	109.50	73.00
	220U-HSJ	220	110	500	300	37	155.25	103.50

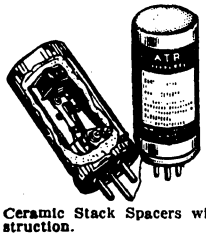
PORTABLE PLUG-IN TYPE INVERTERS

SPECIALLY DESIGNED FOR OPERATING STANDARD A. C. DICTATING MACHINES, RECORD PLAYERS, INCANDESCENT LAMPS, ELECTRIC RAZORS, ELECTRONIC TEST EQUIPMENT, AND OTHER SMALL ELECTRICAL AND ELECTRONIC DEVICES FROM D. C. VOLTAGES IN AUTOMOBILES, BUSES, TRUCKS, BOATS, PLANES, TRAINS, AND D. C. DISTRICTS.

Lightweight inverters for operating 110 v. AC equipment from DC voltage sources. Feature excellent frequency stability and high efficiency. 6 and 12-volt units plug into cigarette lighter receptacle of any vehicle; others are equipped with standard 2-prong plugs. All are designed especially for use with dictating machines; record players, electric razors, test equipment, etc. Not recommended for tape recorders and large motor driven appliances such as refrigerators, washing machines, etc. Gray Hammerloid case with leather carrying strap. Sizes: DME, 5¼x4¾x2¾"; RME and RMF, 8⅜x8x3¾". *Recommended for 24-volt operation. **Check wattage rating of equipment before ordering. RMF/RME Model Inverters equipped with voltage regulator.**

Stock No.	Mfr's Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Watt. Int.	Output Watt. Cont.	Shipping Weight	List Price	Net Price
	6-DME (1)	6	110 Volts	40	30	5 lbs.	$27.75	$18.50
	6C-DME (1)	6/12	110	40	30	5	31.87	21.25
	6-RMF (2)	6	110	80	60	12	54.75	36.50
	6C-RMF (2)	6/12	110	80	60	12	60.37	40.25
	12-DME (1)	12	110	50	40	5	27.75	18.50
	12T-RME (2) (3)	12	110	125	90	12	54.75	36.50
*	28-RME (2)	28	110	100	80	12	69.75	46.50
	32-RME (2)	32	110	100	80	12	69.75	46.50
	110-RME (2)	110	110	150	100	12	65.25	43.50
	220-RME	220	110	150	100	12	69.75	46.50

(1) These Inverters primarily recommended for Edison VP dictating machines. May also be used with Model 200 Sound-scriber (with engine of car not running).
(2) Primarily recommended for Dictaphone's Time Master, DeJur Stenorette, and Gray Audograph dictating machines or other similar types. Also recommended for use with Norelco tape recorder Model EL-3516 and Geloso Model G 255-S tape Recorder.
(3) **This Inverter specially designed and recommended also for use with RCA 8½" portable TV set or G.E. 9" portable TV set in an automobile.**



ATR VIBRATORS

FOR ALL AUTO RADIO SETS SINCE 1954 USE ONE OF THE ATR VIBRATORS LISTED BELOW ... ATR VIBRATORS FEATURE

Ceramic Stack Spacers with Two-Bolt Stack construction.

Instant Starting—as a result of highly efficient magnetic circuit with formed base for more uniform operation on both high and low voltages.

Large Oversize Tungsten Contacts having Full Wiping Action—for greater reliability and longer life.

Perforated Reed of Highest Quality Swedish Spring Steel.

Highest Precision Construction and Workmanship—Practically all parts used are held to within a tolerance of 0.0005 of inch.

Value Plus—as readily evidenced by the Larger Contacts, Ceramic Spacers and Precision Construction and Workmanship. Available in TEN-PAK.

ATR No. 1400 (Bulk), 4-Prong, 6-Volt For All 6-Volt Sets Since 1954

ATR No. 1843 (Bulk), 3-Prong, 12-Volt For All 12-Volt General Motors Since 1954

ATR No. 1843 also used in following automobiles: 1956 Ford (Philco), Lincoln (Bendix), and Mercury (Bendix); 1956 Chrysler (Philco); 1955-57 Packard; 1956-57 Plymouth (Philco); 1956 Studebaker (Philco) and 1957 Mercury (Philco)

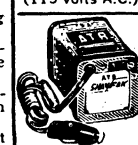
ATR No. 1840 (Bulk), 4-Prong, 12-Volt For 12 Volt Cars other Than GM Since 1954

Vibrator Prices subject to Excise Taxes, if applicable.

ATR ELECTRONIC TUBE PROTECTOR

A "MUST" FOR EVERY TV HOME! WILL DOUBLE OR TRIPLE THE LIFE OF ALL TYPES OF ELECTRONIC TUBES, INCLUDING TV PICTURE TUBE. Automatic in operation, for use with any electronic equipment having input wattage of 100 to 300 watts. Fuse protected; rugged construction; and enclosed in interior decorator's golden brown hammerloid-finish metal case. Available in two models. Our Floor Model 300 is 4"x2⅜"x2¾" and weighs 2 lbs. Has 6 ft. cord set to plug into wall socket. Wall Model 250 is 1 - 15/16" OD x 3 ½" in length and plugs directly into wall socket. Shipping weight is 1 lb.

—**Wall Model 250**
(115 volt A.C.) . . . . . **Net $2.63**
—**Floor Model 300**
(115 volts A.C.) . . . . . **Net $3.30**



ATR SHAV-PAKS

Every man should have this lightweight ATR Inverter in his car for that "Keep Clean-Shaved Look." Will operate standard A.C. Electric Shavers from your CAR or Boat*. Complete with 3 ft. cord set. Plugs into cigarette lighter receptacle. Fuse protected, rugged construction, and attractively housed in grey hammerloid-finish steel case. Size 4"x2⅜"x 2¾". Shipping weight 2½ lbs.

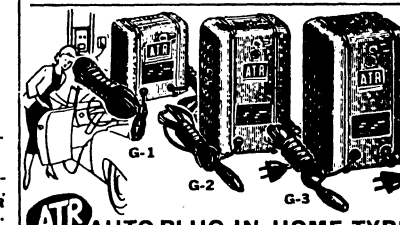
Model 6-SPB (6 volt) . . . . . **Net $8.63**
Model 12-SPB (12 volt) . . . . . **Net 8.63**

ATR "A" BATTERY ELIMINATOR

FOR DEMONSTRATING AND TESTING TRANSISTOR OR VIBRATOR-TYPE AUTO RADIOS. Designed for testing D.C. Electrical Apparatus on regular 110 volt A. C. lines . . . equipped with full-wave dry disc-type rectifier, assuring noiseless, interference-free operation. Fully Automatic and Fool-Proof; has voltmeter, ammeter, and 8-position voltage control. Fuse protected, and housed in heavy gauge grey hammerloid-finish metal case. 6 ft. cord set included. Size: Model 610C-ELIF, 6½"x9⅛"x8½"—shipping weight 22 lbs.; Model 620C-ELIT, 6½"x12⅞"x8½"—shipping weight 33 lbs.

IDEAL AS A POWER SUPPLY FOR MODEL RAILROAD TRAINS, RADIO SETS, ELECTRO PLATING OUTFITS, AND OTHER 6 OR 12 VOLT, D.C. EQUIPMENT. MAY ALSO BE USED AS A BATTERY CHARGER.

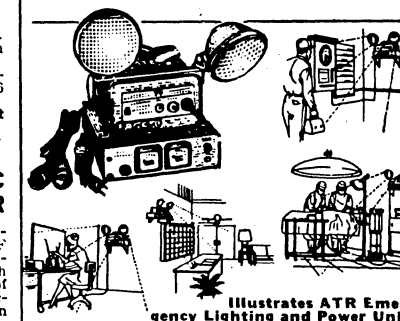
—**Model 610C-ELIF** (6 volt at 10 amps. or 12 volt at 6 amps.) . . . . . **Net $55.00**
—**Model 620C-ELIT** (6 volt at 20 amps. or 12 volt at 10 amps.) . . . . . **Net $73.50**



ATR AUTO PLUG-IN, HOME-TYPE PORTABLE BATTERY CHARGERS

No installation . . . just plug into cigarette lighter receptacle! Makes motor starting easy! Keeps your car battery fully charged in your own garage. Operates directly from standard 110 volt A.C. Household Current. Available in three portable sizes for both 6 or 12 volt cars. Light in weight, rugged in construction, economical, and built to last. Each battery charger is housed in grey hammerloid-finish metal case. Complete with cord sets. Size of G1 is 5¾"x4¼"x2¾"—shipping weight is 6 lbs.; G2 is 8½"x5½"x3 ⅞"—shipping weight is 8 lbs.; and G3 is 8½"x5½"x5¼"—shipping weight is 10 lbs.

(G-1) —**Model 612CA4** (4 amp.) 6 or 12 volt . . . . . **Net $19.46**
(G-2) —**Model 612CA6** (6 amp.) 6 or 12 volt . . . . . **Net $22.46**
(G-3) —**Model 612CA10** (10 amp.) 6 or 12 volt . . . . . **Net $27.71**



Illustrates ATR Emergency Lighting and Power Unit, Model ETS complete with lamps.

ATR EMERGENCY LIGHTING and POWER UNIT

Completely Automatic Standby-Power Units Specially Designed to Permit the Instantaneous Continued Operation of Critical Lighting Equipment, PA Systems, Amplifiers, Intercom Systems, Burglar Alarms, Fire Alarms, Synchronous Electric Clocks, Electric Time and Recording Clocks, Incubators, Gas Valves, Telephone and Test Equipment, and Similar Critical Devices in the Event of 115 Volt AC Commercial Power Line Failure. For Use: In Hospitals, Banks, Hotels, Theatres, Factories, Office Buildings, Schools, Homes, and Many Other Areas of Operation.

Type	*Storage Battery Input	A.C. Output 60 Cycles	Output Wattage Int.	Output Wattage Cont.	Net With Lamps
661-ETM	6-volts	110-volts	80	60	$113.00
662-ETS	6	110	100	80	131.67
663-ETH	6	110	150	125	149.67
1232-ETS	12	110	125	100	131.67
1233-ETH	12	110	175	150	149.67
1234-ETJ	12	110	250	200	168.34

For Units Without Lamps Deduct $14.66 Net

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Need custom power supplies?

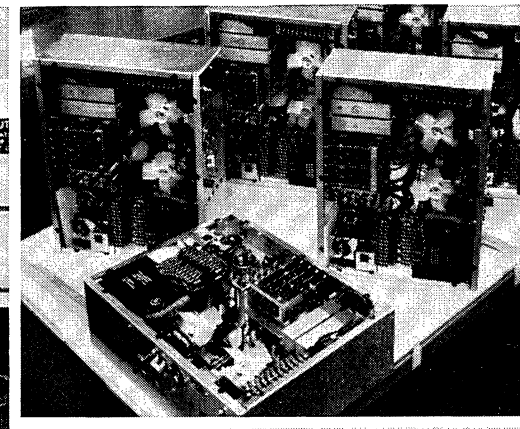
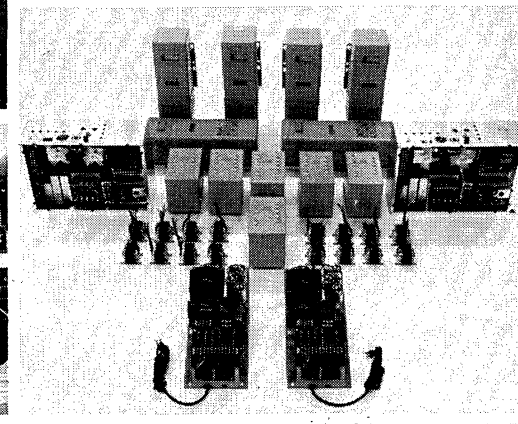
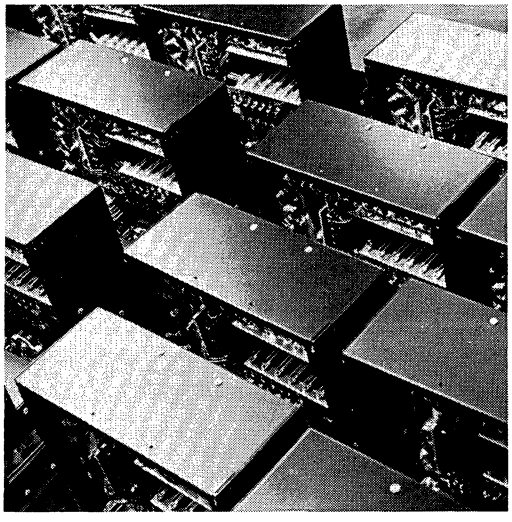
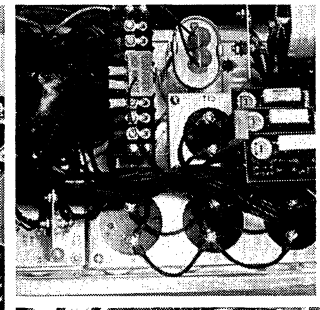
Acme Electric can design and build to your specs.

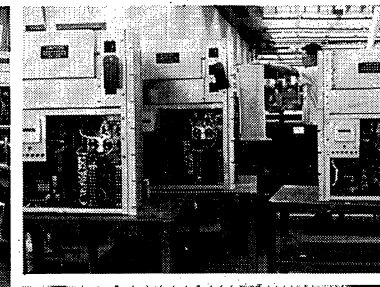
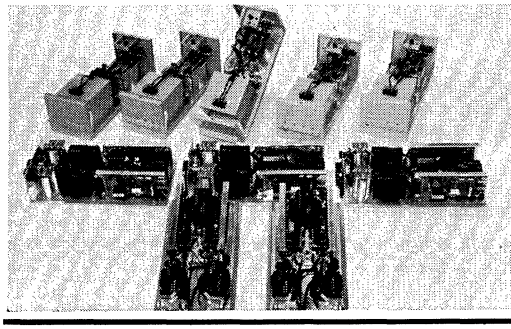
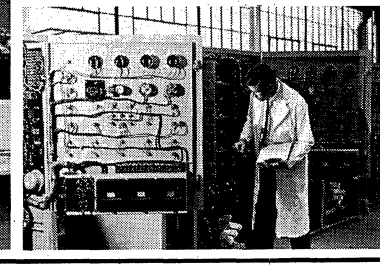
Acme Electric's engineering and experience have developed thousands of custom designed regulated DC power supplies for a variety of industrial markets. You'll find our power supplies in computers and data processing, communications, nuclear research, machine tools, photography, medical apparatus, to name but a few.

In these and other fields we have solved such knotty power supply problems as: dynamic load regulation of 3000 DC amps at .002%; economically achieved high efficiency at extremely low voltage and high current for IC's; tough packaging problems and programming requirements; many others. We're also specialists at designing and manufacturing CVT regulated power supplies.

So, if you're looking for high quality, soundly engineered custom units, yet want them made with production line efficiency, why not draw on the engineering know-how of Acme Electric Corporation? Our business is to satisfy the functions of power control, conversion and/or regulation, whatever the industry or application.

Acme Electric
ACME ELECTRIC CORPORATION

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BURGESS BATTERIES

P6

2U6

Hg-9

2

Y15

4FH

BURGESS Number	NEDA Number	Other	Volts	Terminal Type	Overall Dimensions L	W	H	Unit Package Quantities	Weight of Unit Package in Pounds	Sugg. Dealer Each	Sugg. List Price Each
BURGESS ACTIVATORS FOR TRANSISTOR CIRCUITS											
130-Disp. 12	14	1035	1½	Flashlight	63/64 (diam.)		1 15/16	12	1 3/8	$.19	$.30
2MN6-Disp. 12	1604D	222	9	Snap Type	1	39/64	1 7/8	12	1	.65	.98
2N6	1602	246	9	Snap Type	1 3/8	1 3/8	2 3/4	1	3/10	1.30	1.85
2U6-Disp. 12	1604	216	9	Snap Type	1	39/64	1 7/8	12	1	.48	.69
2Z3	1610	243	4½	Snap Type	1 3/8	1 3/8	2 3/4	1	3/10	4.18	6.25
230-Disp. 12	13	1050	1½	Flashlight	1 21/64 (diam.)		2 25/64	12	2 5/8	.19	.30
4D4	1400	274	6	Snap	2 17/32	2	7 5/16	1	2½	4.82	6.90
930-Disp. 12	15	1015	1½	Flashlight	35/64 (diam.)		1 31/32	12	½	.155	.25
A4	———	.....	6	Flat Contacts	1 9/32	1 9/32	2 11/32	1	¼	2.48	3.50
C6X	1612	2356N	9	Snap Type	2 5/16	1 1/32	6 1/16	1	5/8	1.64	2.35
D5	26	707	7½	Snap Type	2 9/16	2	2 23/32	1	7/8	2.00	2.90
D6	1603	276	9	Snap Type	2 9/16	2	3 5/32	1	1	1.36	1.95
D6PI	1601	2506	3, 6, 9	Socket	2 19/32	1 7/16	7 27/32	1	1 3/8	4.20	6.30
D6S	1608	2761N	9	Socket	2 1/4	1 1/4	7 29/32	1	1 1/8	4.80	7.20
L6	1611	206	9	Flat Contacts	47/64 (diam.)		1 31/32	6	½	.62	.89
M6	1605	266	9	Snap Type	1 13/16	1 13/16	2 7/16	1	2/5	1.36	1.95
NE-Disp. 6	910	904	1½	Flashlight	7/16 (diam.)		1 11/64	6	1/8	.08	.125
P6-Disp. 6	1600	226	9	Snap Type	1 (diam.)		1 15/16	6	3/8	.62	.89
PM6-Disp.6	1600D	.....	9	Snap Type	1 (diam.)		1 15/16	6	5/8	.80	1.19
PM8	1810	228	12	Snap Type	1 (diam.)		2 7/16	1	1/8	1.05	1.50
XX9	1900	239	9, 13½	Socket	3/5	3/5	1 9/10	1	1/8	1.77	2.55
Y6	1606	.....	9	Snap Type	1 9/32	29/32	2 17/32	12	½	.83	1.20
BURGESS MERCURY ACTIVATORS Information on additional Mercury Batteries not listed below is available.											
Hg-1	1100	E1	1.4	Flat	5/8 (diam.)		21/32	4	.13	.57	.85
Hg-1R	.....	E1N	1.35	Flat	5/8 (diam.)		21/32	4	.13	.64	.95
Hg-3R	.....	E3	1.35	Flat	1 (diam.)		21/32	4	.30	1.05	1.50
Hg-4R	.....	E4	1.35	Flat	1 13/64 (diam.)		21/32	4	.45	1.31	1.95
Hg-9-4PK.	15M	E9	1.4	Flat	17/32 (diam.)		1 31/32	4	.30	.64	.95
Hg-12	1101	E12	1.4	Flat	5/8 (diam.)		2	2	.25	.92	1.35
Hg-12R	.....	E12N	1.35	Flat	5/8 (diam.)		2	2	.25	1.05	1.50
Hg-42R	.....	E42N	1.35	Flat	1 13/64 (diam.)		2 3/8	1	.50	3.15	4.50
H114R	.....	E114	5.4	Flat	43/64 (diam.)		1 3/32	2	.15	1.85	2.65
H115R	.....	E115N	6.75	Flat	43/64 (diam.)		1 21/64	2	.15	2.06	2.75
H126-Disp. 6	1611M	E126	8.4	Flat	47/64 (diam.)		2	6	.50	1.32	1.95
H132R	.....	E132N	2.7	Flat	43/64 (diam.)		1 5/16	2	.15	1.17	1.65
H133-Disp. 6	1306M	E133	4.2	Flat	21/32 (diam.)		2	12	1.20	1.32	1.95
H133R	.....	E133N	4.05	Flat	21/32 (diam.)		2	2	.20	1.35	1.95
H134R	.....	E134N	5.4	Flat	43/64 (diam.)		2 5/8	2	.25	1.72	2.50
H135R	.....	E135N	6.75	Flat	43/64 (diam.)		3 9/32	2	.30	2.00	2.95
H136R	.....	E136N	8.1	Flat	43/64 (diam.)		3 15/16	2	.35	2.40	3.50
H137R	.....	E137N	9.45	Flat	43/64 (diam.)		4 19/32	1	.20	2.76	3.95
H146X-Disp. 6	1604M	E146X	8.4	Snap	1 1/32	21/32	1 3/4	6	.75	1.32	1.95
H152R	.....	E152N	2.7	Flat	31/32 (diam.)		1 9/64	2	.075	1.05	1.50
H162R	.....	E162	2.7	Flat	43/64 (diam.)		57/64	2	.15	1.05	1.50
H163	1305	E163	4.2	Flat	21/32 (diam.)		1 5/16	2	.15	1.32	1.95
H163R	.....	E163N	4.05	Flat	21/32 (diam.)		1 5/16	2	.15	1.57	2.25
H164-Disp. 6	1404	E164	5.6	Flat	21/32 (diam.)		1 3/4	6	.40	1.32	1.95
H164R	.....	E164N	5.4	Flat	21/32 (diam.)		1 3/4	2	.20	1.57	2.25
H165	1500	E165	7.0	Flat	21/32 (diam.)		2 13/64	2	.20	1.70	2.50
H165R	.....	E165N	6.75	Flat	21/32 (diam.)		2 13/64	2	.20	1.90	2.75
H177-Disp. 6	1606M	.....	9.8	Snap	35/64 (diam.)		1 29/32	6	.15	1.32	1.95
H233	1300	E233	4.2	Flat	1 1/64 (diam.)		1 31/32	1	.20	2.34	3.50
Hg-312	.....	E312	1.4	Flat	5/16 (diam.)		9/64	6	.024	.24	.35
Hg-400	1106	E400	1.4	Flat	29/64 (diam.)		9/64	6	.024	.24	.35
Hg-400R	.....	E400N	1.35	Flat	29/64 (diam.)		9/64	6	.024	.35	.50
Hg-401	910M	E401	1.4	Flat	29/64 (diam.)		1 1/8	3	.09	.51	.75
Hg-401R	.....	E401N	1.35	Flat	29/64 (diam.)		1 1/8	2	.05	.60	.85
Hg-450R	.....	E450	1.35	Flat	29/64 (diam.)		9/16	4	.01	.53	.75
Hg-502R	.....	E502	1.35	Flat	17/32 (diam.)		1 31/32	2	.16	.87	1.25
Hg-520	.....	E520	1.40	Flat	½ (diam.)		9/32	6	.024	.20	.30
Hg-575	.....	.....	1.4	Flat	29/64 (diam.)		1/8	6	.05	.24	.35
Hg-625	.....	E625	1.4	Flat	5/8 (diam.)		1/4	4	.05	.42	.60
Hg-625R	.....	E625N	1.35	Flat	5/8 (diam.)		1/4	4	.05	.53	.75
Hg-630	1104	E630	1.4	Flat	5/8 (diam.)		1/4	4	.05	.42	.60
Hg-630R	.....	E630N	1.35	Flat	5/8 (diam.)		1/4	4	.05	.53	.75
Hg-640	1105	E640	1.4	Flat	5/8 (diam.)		7/16	4	.15	.42	.60
Hg-640R	.....	E640N	1.35	Flat	5/8 (diam.)		7/16	4	.15	.53	.75
Hg-675	.....	E675	1.4	Flat	29/64 (diam.)		13/64	6	.022	.32	.45
HPX-13	.....	EPX13	1.35	Flat	5/8 (diam.)		1/4	4	.05	.50	.75
HPX-14	.....	EPX14	2.70	Flat	21/32 (diam.)		5/8	4	.34	1.05	1.50
303314	.....	.....	16.8	Flat	2 7/8	1 13/16	1 5/16	1	.80	11.20	16.00

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BURGESS BATTERIES

BURGESS Number	NEDA Number	Other	Volts	Terminal Type	Overall Dimensions L	W	H	Unit Pkg. Quant.	Wgt. Unit Pkg. in Lbs.	Sugg. Dealer Each	Sugg. List Price Each
BURGESS SEALED RECHARGEABLE NICKEL CADMIUM CELLS AND BATTERIES											
Information on additional Nickel Cadmium Batteries not listed below is available.											
CD1			1.25		.460 (diam.)		.225	1		$ 1.05	$ 1.50
CD2			1.25		.610 (diam.)		.236	1		.74	1.06
CD8			1.25		.984 (diam.)		.232	1		.85	1.21
*CD8L	*(L indicates types		1.25		.984 (diam.)		.257	1		.95	1.36
CD3			1.25		.984 (diam.)		.275	1		.87	1.24
*CD3L	with solder lugs		1.25		.984 (diam.)		.300	1		.97	1.39
CD4			1.25		.984 (diam.)		.350	1		.88	1.26
*CD4L	on terminals).		1.25		.984 (diam.)		.375	1		1.03	1.47
CD5			1.25		1.700 (diam.)		.300	1		1.47	2.10
*CD5L			1.25		1.700 (diam.)		.325	1		1.60	2.29
CD6(AA)			1.25		.560 (diam.)		1.950	1		1.93	2.75
*CD6L(AA)			1.25		.560 (diam.)		2.275	1		2.10	3.00
CD9			1.25		.550 (diam.)		3.680	1		3.17	4.55
CD7(D)			1.25		1.310 (diam.)		2.425	1		4.06	5.80
*CD7L(D)			1.25		1.310 (diam.)		2.775	1		4.19	6.00
CD10(D)			1.25		1.300 (diam.)		2.425	1		5.69	8.15
*CD10L(D)			1.25		1.300 (diam.)		2.775	1		5.84	8.34
CD11(D)			1.25		1.300 (diam.)		2.425	1		4.53	6.50
CD12 (short C)			1.25		.876 (diam.)		1.672	1		2.58	3.70
CD12L(short C)			1.25		.876 (dia.)		1.672+L	1		2.71	3.90
CD13 (half D)			1.25		1.273 (diam.)		1.440	1		5.18	7.40
CD13L(half D)			1.25		1.273 (dia.)		1.440+L	1		5.31	7.60
CD14 (C)			1.25		1.01 (diam.)		1.945	1		3.40	4.85
CD21			6		1.065 (diam.)		1.525	1		5.32	7.60
CD22			6		1.065 (diam.)		1.975	1		5.32	7.60
CD23			6		1.800 (diam.)		1.725	1		9.48	13.54
CD24			9.6		1.065 (diam.)		2.650	1		9.22	13.17
CD25			9.6		1.065 (diam.)		3.200	1		9.16	13.09
*CD25L			9.6		1.065 (diam.)		3.200	1		9.09	12.99
CD26			9.6		1.800 (diam.)		2.575	1		15.52	22.17
CD27			12		1.065 (diam.)		2.925	1		11.04	15.77
CD28			12		1.065 (diam.)		3.600	1		11.82	16.89
CD29			12		1.800 (diam.)		3.100	1		17.86	25.51
CD30			6		1½		1½	3 13/16	1	19.96	28.51
CD31			6		3 13/16		1 17/32	3⅝	1	25.65	36.64
CD33			6		5⅜		2⅞	4 15/16	1	27.70	39.50
CD100			1.25		1.36		.75	3.36	1	6.43	9.19
CD101			1.25		1.36		1.36	2.40	1	6.05	8.64
CD102			1.25		1.36		1.36	3.36	1	7.12	10.17
CD104			1.25		1.93		1.67	3.13	1	9.35	13.36
CD105			1.25		1.93		1.67	3.65	1	10.19	14.56
CD107			1.25		1.93		1.67	4.25	1	11.17	15.96
CD108			1.25		3.56		1.05	4.90	1	13.83	19.76
CD109			1.25		3.56		1.34	4.90	1	16.56	23.66
CD110			1.25		3.56		1.66	4.90	1	19.87	28.39
CD111			1.25		3.56		1.97	4.90	1	22.92	32.74
BURGESS INDUSTRIAL - ELECTRONIC - TRANSISTOR - RADIO "A" BATTERIES											
2BBP	...	...	1½	Binding Post	1 19/32	27/32	2 11/16	1	¼	$2.90	$4.30
2D	18	720	1½	Socket	2 9/16	1 3/32	2 3/32	1	⅖	1.21	1.80
2F	11	W353	1½	Socket	2 19/32	1 3/8	4 1/4	1	¾	1.22	1.75
2F2BP	...	...	3	Binding Post	5 3/16	1 5/16	4 3/32	1	1⅘	5.35	7.65
2F2H	703	W356	3	Binding Post	2 5/8	2 5/8	4 1/16	5	7	1.92	2.75
2FH	700	711	1½	Binding Post	2 5/8	1 11/32	4 1/8	5	3 3/5	.79	1.15
2F4	1	718	6	Socket	4	2 13/16	5 7/16	1	2½	2.87	4.10
2R	813	950	1½	Flashlight	1 21/64	(diam.)	2 25/64	48	11	.1625	.25
2Z	...	1016E	1½	Flashlight	1⅛	19/32	1 63/64	1	1 oz.	.71	1.05
20F	719	740	1½	Socket	7 5/8	2 9/16	6 15/16	1	6⅘	7.65	10.95
21R	20	964	1½	Flashlight	1 21/64	(diam.)	4 1/8	1	⅖	.52	.75
37	...	...	1½	Flashlight	1 5/16	(diam.)	6 1/8	1	9/16	1.86	2.80
4D	...	...	1½	Socket	2 5/8	2 5/8	2 13/16	1	⅞	1.35	1.93
4F	4	742	1½	Socket	2 5/8	2 5/8	4 3/32	1	1⅖	1.15	1.65
422	704	750	3	Brass Straps	1 11/32	23/32	2 5/16	1	2 ozs.	.79	1.15
432	705	751	4½	Brass Straps	1 3/32	2/32	2 1/4	1	3 ozs.	2.90	4.35
5R	...	...	1½	Flashlight	49/64	(diam.)	2 15/64	12	¾	1.28	1.90
532	706	703	4½	Brass Straps	2 15/32	13/16	2 23/32	1	3/10	1.36	1.95
6F	5	743	1½	Socket	4 3/32	2 3/4	4 1/16	1	2⅙	2.69	3.85
8F	17	741	1½	Socket	3 29/32	2 23/32	5 1/2	1	3	2.76	3.95
8R	23	960P	1½	Socket	1 3/32	(diam.)	3 15/16	1	¼	1.85	2.65
B2BP	...	...	3	Binding Post	1 5/8	13/16	2 11/16	1	¼	2.42	3.45
B5	8	713	7½	Socket	3 29/32	⅞	2 27/32	1	½	2.27	3.25
C5	9	717	7½	Socket	2 7/32	1 15/16	3 1/32	6	4¾	1.23	1.75
D3	19	726	4½	Socket	3 7/8	1 5/16	2 15/16	1	¾	2.22	3.30
F2BP	701	W352	3	Binding Post	2 21/32	1 3/8	4 1/32	5	4	1.33	1.90
F3	3	736	4½	Socket	4	1 7/16	4 1/8	1	1	1.65	2.40
F4BP	915	510S	6	Binding Post	2 5/8	2 5/8	4	1	1⅖	.92	1.39
F4PI	6	744	6	Socket	2 21/32	2 21/32	4 1/8	1	1½	1.15	1.65
G3	7	746	4½	Socket	4 1/16	1 7/8	4 1/16	1	1⅕	3.18	4.75
Z4	2	724	6	Flat Contacts	1 3/16	1 3/16	2 7/32	1	⅕	.87	1.25

CD3

CD7

CD25

2R

C5

XX45

P45

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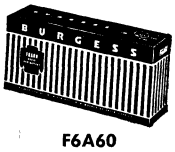
BURGESS BATTERIES



F6A60

F2BP

XX30PI

5308

5540

5360

BURGESS Number	NEDA Number	Other	Volts	Terminal Type	Overall Dimensions L	W	H	Unit Pkg. Quant.	Wgt. Unit Pkg. in Lbs.	Sugg. Dealer Each	Sugg. List Price Each
BURGESS INDUSTRIAL - ELECTRONIC - TRANSISTOR - RADIO "B" BATTERIES											
10308SC	716	W363F	45	Spring Clip	8 1/32	4 1/32	7 3/16	1	12	$7.66	$10.95
10308PI	726	W363P	45	Socket	8 1/32	4 1/32	7 3/16	1	11 1/2	7.66	10.95
21308SC	715	W364F	45	Spring Clip	8 1/8	4 15/32	7 9/32	1	12-4/5	8.25	11.70
21308PI	727	W364P	45	Socket	8 1/8	4 15/32	7 9/32	1	12-4/5	8.14	12.15
2308SC	723	W365F	45	Spring Clip	8 3/32	2 31/32	7 1/4	1	7 1/2	7.66	10.95
2308PI	717	W365P	45	Socket	8 3/32	2 31/32	7 1/4	1	7-4/5	11.98	17.90
4156	710	763	22 1/2	Binding Post	3 17/32	2 1/8	2 29/32	1	1	1.61	2.35
5156PI	721	...	22 1/2	Socket	4 7/64	2 3/8	2 55/64	1	1 3/5	4.16	5.95
5156SC	708	778	22 1/2	Spring Clip	4 1/8	2 1/2	2 3/4	5	8	4.16	5.95
5308	709	762S	45	Binding Post	4 1/16	2 9/16	5 1/8	1	2 1/2	3.05	4.35
A30	206	W359	45	Socket	3 9/16	2 1/4	4 5/16	2	3 1/2	3.46	4.95
A60	...	...	90	Socket	4 7/16	3 3/8	4 1/2	1	3 1/3	14.50	20.75
B30	207	484	45	Socket	4 1/16	2 17/32	5 5/16	2	4 1/2	5.40	7.75
D30	...	487	45	Socket	5 1/16	2 1/32	7 5/16	1	4 1/2	7.70	11.25
K10	224	417	15	Flat Contact	1 1/4	7/8	1 17/32	1	2 ozs.	1.28	1.75
K15	225	420	22 1/2	Flat Contact	1 1/4	7/8	2 9/32	1	2 ozs.	1.44	1.95
K20	226	430	30	Flat Contact	1 1/4	15/16	2 23/32	1	3 ozs.	1.72	2.35
K45	203	457	67 1/2	Snap Type	2 1/16	1 5/16	2 1/4	6	3	2.97	4.25
M30	202	482	45	Socket	3 9/16	1 3/4	5 1/2	6	3	2.97	4.25
N60X	216	495	90	Snap Type	1 7/8	1 1/32	7 1/8	1	1	6.50	9.70
P45	211	477	67 1/2	Snap Type	1 29/32	1	5 9/32	1	3/4	2.70	3.85
P60	214	479	90	Snap Type	1 29/32	1	7 13/32	1	4/5	2.97	4.25
U10	208	411	15	Flat Contact	1	39/64	1 7/16	1	1 oz.	.81	1.15
U15	215	412	22 1/2	Flat Contact	1	39/64	1 31/32	1	1 oz.	1.05	1.50
U20	210	413	30	Flat Contact	1	39/64	2 17/32	1	2 ozs.	1.23	1.75
U200	722	493	300	Pin Jacks	2 3/4	2 9/32	3 7/8	1	1	8.37	11.95
U30	213	415	45	Snap Type	1 9/32	1 9/32	3 17/32	1	1/8	1.75	2.50
UX45	217	416	67 1/2	Snap Type	1 7/32	31/32	3 31/32	1	1/4	2.07	2.95
V45	200C	468	67 1/2	Snap Type	2 3/4	1 11/32	3 43/64	6	4 1/2	2.77	3.95
V60	204	490	90	Snap Type	3 23/32	1 9/32	3 11/16	1	1-3/10	3.15	4.50
W20PI	...	...	30	Socket	1 5/16	1 13/16	3 7/32	1	1/2	5.15	7.35
W30	...	...	45	Binding Post	3	1 1/4	3 25/32	1	3/5	4.78	7.15
W30BPX	...	W358	45	Binding Post	3	1 1/4	3 25/32	1	3/5	6.05	8.65
XX15	...	425P	22 1/2	Socket	1 11/32	15/16	3 7/8	1	1/4	1.75	2.50
XX22	...	433P	33	Socket	2 17/32	31/32	3 1/8	1	1/3	5.65	8.45
XX30	201	455	45	Snap Type	2 17/32	31/32	3 21/32	1	1/2	2.27	3.25
XX30PI	...	455P	45	Socket	2 17/32	31/32	4 1/32	1	1/2	2.84	4.25
XX45	200	467	67 1/2	Snap Type	2 3/4	1 11/32	3 43/64	1	3/4	2.70	3.85
XX50	212	437	75	Snap Type	1 27/32	1 5/16	6 5/16	1	9/10	5.50	8.20
XX69	227	W361	103 1/2	Flashlight Brass	1 11/32	1 11/32	11 23/32	1	1	4.86	6.95
Y10	220	504	15	Flat Contact	19/32	19/32	1 23/64	1	1 oz.	.81	1.15
Y15	221	505	22 1/2	Flat Contact	19/32	19/32	1 31/32	1	1 oz.	1.05	1.50
Y20	223	506	30	Flat Contact	1 3/16	19/32	1 13/32	1	1 oz.	1.30	1.85
Y20S	222	507	30	Flat Contact	19/32	19/32	2 9/16	1	1 oz.	1.30	1.85
Z30	205	738	45	Socket	3	2 5/16	4 1/16	1	1 1/4	4.95	7.25
Z30NX	711	W350	45	Binding Post	3 1/32	1 7/8	4 19/32	5	7 3/5	2.69	3.85
BURGESS INDUSTRIAL AND ELECTRONIC "C" BATTERIES											
2156	702	766	22 1/2	Spring Clips	6 21/32	4 1/16	2 31/32	1	3	9.20	13.25
2370	712	761T	4 1/2	Binding Post	3 15/16	1 3/8	2 7/8	5	3 7/10	2.10	3.00
2370PI	718	771	4 1/2	Socket	4 1/64	1 27/64	2 63/64	1	3/4	3.52	5.25
5360	714	781	4 1/2	Binding Post	2 13/32	27/32	2 21/32	1	1/4	1.23	1.75
5540	713	773	7 1/2	Bndg Post Neg	4	7/8	2 3/4	5	1 9/10	1.80	2.50
A3BPX	-----	-----	4 1/2	Binding Post	1 31/32	23/32	2 1/4	1	1/4	4.60	6.60
A8BP	-----	-----	12	Binding Post	2 25/32	1 25/64	2 15/32	1	1/2	10.20	14.60
W5BP	-----	W362	7 1/2	Binding Post	2 31/32	23/32	1 3/4	6	4/5	5.80	8.65
BURGESS "A & B" PACKS FOR RADIO AND OTHER ELECTRONIC APPLICATIONS											
4TZ60	425	729	1 1/2A, 90B	Socket	7 5/8	2 1/8	3 3/4	1	3 4/5	14.85	21.95
6TA60	410	W369	1 1/2A, 90B	Socket	9 31/32	2 1/4	4 7/16	1	4 4/5	11.40	16.95
G6B60	400	752	9A, 90B	Recessed Plug	13 29/32	2 13/16	4 21/32	1	6 3/10	12.00	17.90
BURGESS POCKET TAPE RECORDER BATTERIES											
2VT8(3XX7)	1700	.....	12	Flat Contact	1 5/16	1 5/16	3 19/32	1	3/8	2.00	3.00
2X62X	.....	.....	1 1/2, 9	Snap Type	2 1/2	1 25/32	2 11/32	1	1/2	7.45	11.10
2X7	.....	.....	10 1/2	Snap Type	2 1/2	1 25/32	2 11/32	1	1/2	4.00	5.90
BURGESS ALKALINE BATTERIES											
AL1-Disp. 6	14A	E93	1 1/2	Flat Contact	63/64 (diam.)		1 15/16	6	1	.43	.65
AL133-Disp. 6	1306A	523	4 1/2	Flat Contact	21/32 (diam.)		2	6	1/2	.84	1.25
AL2-Disp. 6	13A	E95	1 1/2	Flat Contact	1 21/64 (diam.)		2 13/32	6	2	.60	.90
AL7-Disp. 24	24A	E92	1 1/2	Flat Contact	13/32 (diam.)		1 3/4	24	1/2	.325	.50
AL9-4PK.	15A	E91	1 1/2	Flat Contact	17/32 (diam.)		1 31/32	24	2	.325	.50
ALN-2PK.	910A	E90	1 1/2	Flat Contact	29/64 (diam.)		1 1/8	2	1 oz.	.27	.40
APX19-2PK.	1307	531	4 1/2	Snap Type	21/32 (diam.)		2 13/32	2	3/8	.84	1.25
APX21-2PK.	.....	523	4 1/2	Flat Contact	21/32 (diam.)		2 1/32	2	3/8	.84	1.25
APX24-2PK.	1308	532	3	Flat Contact	21/32 (diam.)		2	2	3/8	.67	1.00
APX825-2PK.	.....	.....	1 1/2	Flat Contact	29/32 (diam.)		15/64	2	1 oz.	.33	.50
AL912	.....	.....	18	Flat Contact	2 55/64	2 49/64	1 9/32	1	3/4	5.70	8.15

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BURGESS BATTERIES

BURGESS FLASHLIGHT AND LANTERN BATTERIES

BURGESS Number	NEDA Number	Other	Volts	Terminal Type	Overall Dimensions L	W	H	Unit Pkg. Quant.	Wgt. Unit Pkg. in Lbs.	Sugg. Dealer Each	Sugg. List Price Each
2-Disp. 24	13F	950	1½	Flashlight	1 21/64 (diam.)		2⅜	48	10½	$ .1625	$ .25
2-Bulk 50	13F	950	1½	Flashlight	1 21/64 (diam.)		2⅜	50	10½	.1625	.25
210-Disp. 24	13C	1150	1½	Flashlight	1 21/64 (diam.)		2⅜	48	11	.1675	.29
210-Bulk 50	13C	1150	1½	Flashlight	1 21/64 (diam.)		2⅜	50	10¾	.1675	.29
1-Disp. 24	14F	935	1½	Flashlight	63/64 (diam.)		1 15/16	24	2⅝	.1625	.25
Z-Disp. 24	15E	515	1½	Flashlight	35/64 (diam.)		1 31/32	24	1	.095	.15
910-Disp. 12	15F	915	1½	Flashlight	35/64 (diam.)		1 31/32	12	½	.13	.20
7-Disp. 12	24F	912	1½	Flashlight	13/32 (diam.)		1¾	12	¼	.13	.20
NE-Disp. 6	910	904	1½	Flashlight	7/16 (diam.)		1 11/64	6	⅛	.08	.125
F4M (Metal)	908	509	6	Spring	2⅝	2⅝	4⅜	12	19	.92	1.39
F4BP	915	510S	6	Binding Post	2⅝	2⅝	4	1	1 2/5	.92	1.39
F4SC	917	510F	6	Spring Clip	2⅝	2⅝	4½	1	1¼	1.40	2.10
TW1	918	731	6	Binding Post	5⅜	2⅞	4 15/16	1	3⅕	1.96	2.95
TW1-X	.....	.....	6	Binding Post	5⅜	2⅞	4 15/16	1	3⅕	2.40	3.75
TW2	926	732	12	Binding Post	5⅜	2⅞	4 15/16	1	3⅕	1.96	2.95
Z46	.....	.....	69	Flat Contact	2½	2 1/16	8 1/32	2	6¼	2.93	4.40

TW1

No. 6 Ignition

BURGESS IGNITION - TELEPHONE AND PROTECTIVE SYSTEM BATTERIES

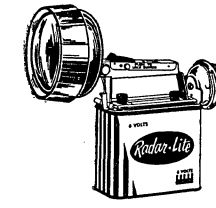
* Battery also available with spring clip terminals ** Battery also available with screw terminals

2F8H	.....	.....	12	Binding Post	8 5/16	2 13/16	5 13/16	1	6¼	4.25	6.35
2G8H	922	1463	12	Binding Post	10½	2¾	7 13/32	1	7½	4.01	5.98
4FH	900E	.....	1½	Screw Terminal	2⅝	2⅝	4	12	16	.84	1.25
4F2H	901	W357	3	Spring Clip	3 29/32	2 11/16	5 13/32	1	2⅖	1.92	2.75
4F4H	902	706	6	Binding Post	8 5/16	2 13/16	5 13/16	1	6⅕	3.85	5.75
4F5H	903	715	7½	Binding Post	7 3/16	3 31/32	5 13/16	1	7⅖	4.86	7.25
4F6H	904	716	9	Binding Post	8½	3 31/32	5 13/16	1	9	5.53	8.25
*6 Ign.	905	6 Ign. S	1½	Screw Terminal	2½ (diam.)		6⅝	12	21 3/10	.91	1.35
**6 Tel.	906	6 GL	1½	Spring Clip	2½ (diam.)		6⅝	12	24⅖	.91	1.35
6 Ind.	911	6 R.R.	1½	Screw Terminal	2½ (diam.)		6⅝	12	25	.90	1.35
S461	907	1461	6	Binding Post	10½	2¾	7 13/32	4	37½	3.85	5.75

220

BURGESS PHOTO-FLASH BATTERIES

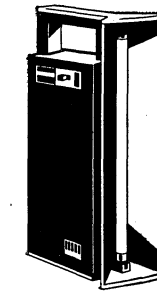
120-Disp. 12	14P	835	1½	Flashlight	1 (diam.)		1 15/16	24	2¼	.19	.30
220-Disp. 12	13P	850	1½	Flashlight	1 11/32 (diam.)		2 25/64	12	2½	.19	.30
720-Disp. 24	24P	812	1½	Flashlight	13/32 (diam.)		1¾	24	1	.13	.20
920-Disp. 24	15P	815	1½	Flashlight	35/64 (diam.)		1 31/32	24	1	.13	.20
U15	215	412	22½	Flat Contact	31/32	9/16	1 31/32	1	1 oz.	1.05	1.50
Y10	220	504	15	Flat Contact	19/32	19/32	1 23/64	1	1 oz.	.81	1.15
Y15	221	505	22½	Flat Contact	19/32	19/32	1 31/32	1	1 oz.	1.05	1.50
U10	208	411	15	Flat Contact	1	31/64	1 7/16	1	1 oz.	.81	1.15
U20	210	413	30	Flat Contact	1	39/64	2 17/32	1	2 ozs.	1.23	1.75
XX150	.....	489	225	Pin Jacks	4¼	2⅝	4¼	1	2½	7.20	10.25
U160	.....	491	240	Flat Contact	2 9/16	1 5/16	4 13/32	1	⅘	7.20	10.25
N150	.....	492	225	Pin Jacks	3 9/16	2¾	4¾	1	2½	12.80	19.00
U320	.....	497	510	Flat Contact	2 15/16	1 17/32	5 7/16	1	1½	13.00	18.50
K30P-K	.....		45	Battery & Bulb				1	⅖	1.67	2.50



TW3

BURGESS SAFARI LITE AND RADAR LIGHTS (complete with batteries)

BURGESS Number	Description	Pkg. Unit Quan.	Wt. of Un. Pkg. in Lbs.	Sugg. Dealer Each	Sugg. List Price Each
165 Comp.	Safari Lite Fluorescent Light with 2 No. Z46 Batteries	1	11	$18.31	$29.50
TW3 Comp.	Radar-Lite Spot-Flasher with 1 No. TW1 Battery (Lamp 4546, 407)	1	5 1/10	8.96	13.95
TW4 Comp.	Radar-Lite Spot-Without Flasher with No. TW1 Battery (Lamp 4546)	1	4¾	7.06	11.50
TW7 Comp.	Radar-Lamp Chrome-Finish, TW8 Copper-Finish with 1 No. TW1 Battery (Lamp 1651)	1	4⅕	6.36	9.95
TW9 Comp.	Radar Bearcat Focusing Lantern with 1 No. TW1 Battery (Lamp 425 or 502)	1	4⅛	5.06	7.95
TW11 Comp.	Radar-Lite (Bulb Reflector Model) with 1 No. TW1 Battery (Lamp 425)	1	4¾	6.25	9.95
TW12 Comp.	12 Volt Radar-Lite with 1 No. TW2 Battery (Lamp 965)	1	5	7.14	11.50
TW6E Comp.	Power Failure Operated Lantern (Flood Beam with 1 No. TW1 Battery (Lamp 4512)	1	6	14.60	21.45
TW34 Comp.	Radar-Flash with 1 No. TW1 Battery (Lamp 407)	1	4	4.49	6.90


165

BURGESS DOLPHIN, RADAR-MATE AND FLASHLIGHTS (less batteries)

164	Dolphin Lantern. Uses 1 No. F4M battery (Lamp PR13)	1	½	1.97	2.95
JR1	4½ Volt Radar-Mate Lantern. Uses 3 No. 2 (Size D) batteries (Lamp PR3)	6	7½	3.32	4.98
163	Tuffy-Plastic Flashlight—2 Cell Prefocused (Lamp PR2 or PR4)	6	1⅝	.69	.99
257	Satellite Torch—2 Cell Junior Prefocused (Lamp PR2 or PR4)	3	1	1.30	1.95
357	Satellite Torch—2 Cell Prefocused (Lamp PR2 or PR4)	6	2¾	1.30	1.95
263	2 Cell Magnet-Tough Plastic Industrial Flashlight (Lamp PR2)	6	2½	1.33	1.99
453	2 Cell Industrial—Safety Light (Lamp PR2)	1	½	3.33	5.00
563	Penlight (AAA size) (Lamp 224)	12	1½	.82	1.25
663	Penlight (Heavy Duty AA size) (Lamp 222)	12	1½	.82	1.25
667	Magnet Lazer Lite — 2 Cell Prefocused (Lamp PR2 or PR4)	6	3	1.98	2.95
763	Snap-Lite Pocket Light (AAA size) (Lamp 224)	12	1½	.82	1.25

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Beckman® HIGH VOLTAGE POWER SUPPLIES

PORTABLE HIGH VOLTAGE DC POWER SUPPLIES

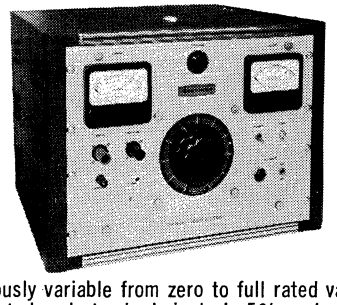
These general purpose supplies are particularly suited for laboratory or production line use to provide a convenient source of high voltage, low current dc power. Widely used for such applications as powering photo-multiplier tubes, image intensifiers, condenser charging, and routine insulation breakdown testing.

Voltage readings are indicated by a 6" precision mirror scale kilovoltmeter of 1% accuracy. Polarity is reversible from the front panel (patent applied for). An ac input protection fuse is included as well as a built-in limiting ballast lamp restricting maximum current output levels. These levels may be adjusted by changing ballast. A single control allows continuous adjustment of output voltage from zero to maximum rated voltage.

The output is unregulated (regulation is 20% for 10 to 100% loading). Current rating is 5 milliamperes. The ripple is 5% (rms) at full voltage and current load.

Model	Output Voltage	Output Current	Price
6000-1ma-ms	0 to 1kV	5ma	$250.00
6000-5ma-ms	0 to 2.5kV	5ma	275.00
6005-5ma-ms	0 to 5kV	5ma	300.00
6010-5ma-ms	0 to 10kV	5ma	325.00
6015-5ma-ms	0 to 15kV	5ma	350.00
6025-5ma-ms	0 to 25kV	5ma	400.00

HEAVY DUTY DC POWER SUPPLIES

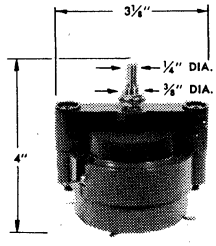


These industrial type power supplies are built for service and efficiency. All are of the transformer type and employ husky components that have been selected for their power handling capacity. Controls are arranged so that operation is simple and the units contain a number of safety features for protection of personnel and equipment. Output is continuously variable from zero to full rated values. These supplies are unregulated and standard ripple is 5% or less. Ripple of from 0.01% to 1%, and regulated supplies are available on special order. All power supplies have automatic overload cutout control circuits.

Model	Voltage	Current	Price
F-6001	0-1000	2 Amp.	$ 950.00
F-6002	0-2000	1 Amp.	1050.00
F-6003-A1	0-3000	100 MA.	600.00
F-6003-AV	0-3000	500 MA.	700.00
F-6003-AK	0-3000	1 Amp.	1150.00
F-6005-A1-H	0-5000	100 MA.	650.00
F-6005-AV	0-5000	500 MA.	850.00
F-6005-A1K	0-5000	1 Amp.	1250.00
F-6010-AV	0-10,000	500 MA.	2100.00
F-6020-A05	0-20,000	50 MA.	1050.00
F-6030-A3	0-30,000	300 MA.	3500.00

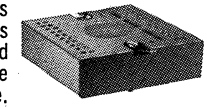
HIGH VOLTAGE SWITCHES

For high voltage, low current circuits requiring complete isolation; nominal rating 5,000 volts (D.C. or A.C.) Model A or D may be used in lower duty circuits to 10,000 volts D.C. Steady state current rating 500 milliamperes — 5Ma when switching. Isolated for 15,000 volts D.C. test to ground . . . made of modified Diallyl Phthalate. May be ganged together for 2 gang operations.

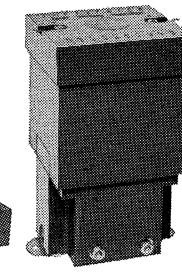


Model	Type	Price
A	2 Pole reversible (for polarity reversing of power supplied)	$22.00
B	D.P.D.T.	24.00
D	4 Position (1 Gang)	22.00
E	6 Position (1 Gang)	24.00
F	8 Position (1 Gang)	28.00
G	10 Position (1 Gang)	30.00

PACKAGED POWER SUPPLIED AND ZENER REGULATORS



ZENER REGULATOR



PACKAGED POWER SUPPLY

These new low-cost units make D.C. voltage problems easy. Just wire input and output connections and the unit is ready to operate. Building block construction provides a basic transformer, a rectifier unit, and where necessary a regulating device. These three elements bolt together quickly and maintenance is simplified should any of the components fail. Each of the three basic building blocks are mechanically constructed in a molded Diallyl Phthalate shell and encapsulated with epoxy resin.

The output is completely isolated and either post may be grounded or the unit operated as a floating supply. The D.C. voltage is filtered and provides 5% or less ripple. Output may be varied from full rating down to zero by simply inserting a small adjustable transformer in the input. Most units are rated for 5 MA current. Power supplies 7.5 KV and higher have modified mechanical construction from that described above. Input 115 V. 60 Hz.

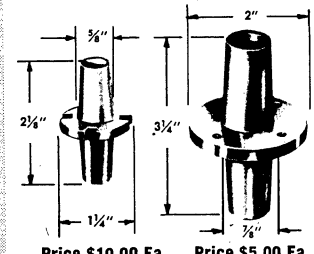
Use with High Voltage Zener Regulators to obtain 1% line and load regulation.

Simply connect in parallel* with any high voltage power supply and automatically obtain line and load voltage regulation as well as ripple reduction. Nominal current rating is 0.5 to 1 MA for better than 1% stabilization. Regulation over range of 0 to 5 MA is 3%. Can be wired in series for high voltage service (five 4,000 volt types to regulate a 20,000 volt power supply). Twenty built-in taps included, each provides a regulated voltage to an accuracy of 20%. Ideal for photomultiplier tubes. Use as a high voltage reference in conjunction with regulator amplifier circuitry.

*If necessary, insert a series resistor to limit zener current to under 5 MA.

	Model	Output Voltage	Total Voltage	Volts at Each Tap	Price
POWER SUPPLY	05-KV-5 MA	500 volts DC			$ 50.00
	1-KV-5 MA	1-KV-DC			60.00
	2-KV-5 MA	2-KV-DC			65.00
	3-KV-5 MA	3-KV-DC			70.00
	5-KV-5 MA	5-KV-DC			75.00
	10-KV-5 MA	10-KV-DC			100.00
	15-KV-5 MA	15-KV-DC			110.00
	20-KV-5 MA	20-KV-DC			180.00
	30-KV-5 MA	30-KV-DC			210.00
ZENER REGULATORS	ZA-1K		1,000 volts	50 volts	60.00
	ZA-2K		2,000 volts	100 volts	70.00
	ZA-3K		3,000 volts	100 & 200	80.00
	ZA-4K		4,000 volts	200 volts	100.00
	ZA-5K		5,000 volts	200 volts	110.00

HIGH VOLTAGE CONNECTORS



Price $10.00 Ea. Sample Kit of 10 (1 of each color) $60.00

Price $5.00 Ea. Sample Kit of 10 (1 of each color) 30.00

Modified Diallyl Phthalate construction for superior arc resistance and low power factor; convenient miniature size with extra long air paths; sealed center conductor handles up to 20 amperes; neoprene gasket for mounting on oil filled tanks. For quick disconnect (easily mated with standard banana jack) or for permanent service with 10/32" machine bolt; neat styling—available in 10 colors—ideal for mounting on front panels.

Model C-1 rated for 25,000 volts D.C. max.
Model C-0 rated for 5,000 volts D.C. max.

Beckman® INSTRUMENTS, INC.
CEDAR GROVE OPERATIONS

Net

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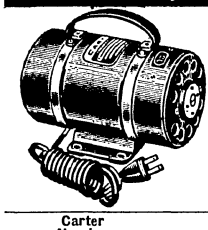
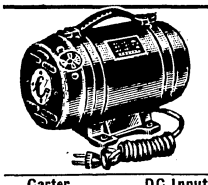
DC-AC CONVERTERS FREQUENCY CHANGERS — Carter Motor — FHP MOTORS TACH-GENERATORS



"MARK II" SUPER CONVERTERS

Designed for high PF non-inductive AC loads such as amplifiers, lab and medical equipment, standby emergency lighting, telephone and marine communications. Not damaged by intermittent transients or sudden overloads. 70% PF models available. Will not operate refrigerators, large AC motors or low PF transformers. Ball bearing, con. duty. Size 8¼" x 4½" x 5" high. Weight 13 lbs. (*10¼" long, 4½" wide, 5" high. Weight 19 lbs.)

Carter Number	DC Input Volts	DC Input Amps	Watts, AC at 60 cps, 115 v.	List Price
D1040CB	115	.7	40	$153.00
D1010CB	115	1.7	100	156.00
D1015CB	115	2.0	150	160.00
B1040CB	12	8	40	144.00
B1010CB	12	15	100	148.00
B1015CB	12	23	150	150.00
D1020CB*	115	2.6	200	175.00
D1025CB*	115	3.2	250	180.00
B1020CB*	12	30	200	170.00
B1025CB*	12	34	250	172.00



"CUSTOM" CONVERTERS

Dependable rotary power for operating office business machines, professional tape recorders, railroad, mobile and marine radio and radar equipment. Finest construction. Sealed ball bearings require no lubrication. Long life, continuous duty, high efficiency on all models. Only popular models listed here. For 50-cycle output, add $7.50 to list prices. All models 100% power factor. Size: 200 watts, 12⅝" w. x 6¾" d. x 7¼" h.; 210 and 300 watts, 11⅝" w; 500 watts, 12⅝" w.; 750 watts, 13⅞" w.

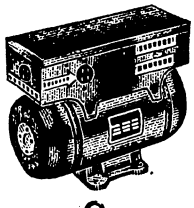
Carter Number	DC Input Volts	DC Input Amps	List Price	Carter Number	DC Input Volts	DC Input Amps	List Price
KSX1020C5P	230†	1.3†	$310.00	D1030CP	115§	4.6§	$260.00
DSX1020C5P	115†	2.6†	300.00	E1050CP	24¶	33¶	295.00
HSX1020C5P	64†	5†	300.00	C1050CP	32¶	25¶	295.00
CSX1020C5P	32†	9†	300.00	D1050CP	115¶	7¶	295.00
B1030CP	12§	45§	260.00	C1075CP	32•	32•	325.00
E1030CP	24§	22§	260.00	D1075CP	115•	8.8•	325.00
C1030CP	32§	19§	260.00	K1075CP	230•	4.4•	340.00

Watts At 115 v. AC. 60 cps: †200 §300 ¶500 •750.
Filter available; add $50.00 to list prices. Add $15.00 for built in capacitor filter.

STAND-BY LOAD-TRANSFER CONVERTERS

Starts automatically should AC power fail. Shuts off when power restored. Runs from batteries. Operates paging and control circuits for hospitals, schools, utilities, etc. Popular models listed. Other ratings from 200 to 750 watt output.

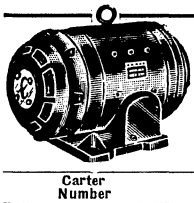
	DC Input		AC	List
B1030CPY	12 v	22 A	300 w	$350.00
W1050CPY	48 v	16 A	500 w	385.00
D1050CPY	115 v	7 A	500 w	385.00
D1075CPY	115 v	8.8A	750 w	415.00



REFRIGERATOR-APPLIANCE MARINE CONVERTERS

Operates standard refrigerators, compressors (up to 1/6 hp only), vacuum cleaners and other appliances from DC; for use aboard commercial and pleasure boats. Converter operates only when power is called for. Has handy AC outlet to run most appliances from DC. Input, from 24 to 230 v. DC. Size: 14" x 6¾" x 11" high. Net Weight, 65 lbs. 750 w. con. duty rating. Models from 24 to 230 v. DC input.

Number	Input	List	Number	Input	List
RF34	34 v.	$540.00	RF115	115 v.	$540.00



"MONARCH" CONVERTERS

1000-1500 and 2000 watt output, 24 to 230 volt input models. The Monarch series is ideal for heavy-duty industrial service, marine, mine, crane and railroad communications. Slow speed (1800 rpm), long life. 4-pole design; ball bearing equipped. No filter is necessary for most application. Size: 19" x 11" x 12" high. Three-phase output available, add $60 to list. 24 and 28 v. Input available at 1500 w. rating.

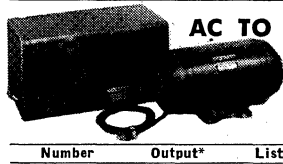
Carter Number	DC Input Volts	DC Input Amps	Watts, AC at 60 cps, 115 v.	List Price
J10150M	28	80	1500	$725.00
C10150M	32	69	1500	725.00
D10200M‡	115	25	2000	800.00
K10200M‡	230	12.5	2000	825.00

‡ Reduced voltage starters necessary, add $110.00 to list price.

"CUSTOM" DYNAMOTORS

For railroad and marine radio-telephone, industrial communications systems, locomotives, telephone emergency standby power, etc. Heavy duty construction. Low rpm speed, small temperature rise assure extra long life. Filter not normally required. Size: 12⅝" x 6-11/16" x 7¼". Weight, 47 lbs.

Number	DC Input	DC Output	Recv.	Trans.	List
KS1220P	236-264 v	12.8 v	5 A	18 A	$320.00
DS1220P	118-132 v	12.8 v	5 A	18 A	310.00
HS1220P	67-74 v	12.8 v	5 A	18 A	310.00
CS1220P	33-37 v	12.8 v	5 A	18 A	310.00
B2820P	14 v	28 v		20 A.	310.00

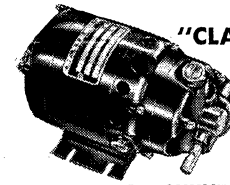


AC TO AC FREQUENCY CHANGERS

Produces 115 v., 50 or 60 cycle AC output from 25 to 400 cycle input. For operating standard equipment on non-standard frequencies. Standard units are for single phase input and output. Three-phase output available on order. For frequency control (meter), add $50.00 to list price. Non regulated.

Number	Output*	List	Number	Output*	List
FC1025CP	250 w	$650.00	FC10100M	1000 w	$1,310.00
FC1050CP	500 w	685.00	FC10150M	1500 w	1,375.00
FC1075CP	750 w	715.00	FC10200M	2000 w	1,450.00

* 60 cy. output. 50 cy. available.



"CLASSIC" MOTORS & GEARMOTORS

Available up to 1/7 hp. Gearmotors from 1 to 750 rpm, up to 8 in. lbs. torque, continuous duty. Universal and DC shunt models, induction and variable speed types, base or flange mounted. Ball bearing, high quality, die cast construction. Ideal for SCR motor controllers, pumps, lab stirrers, dental drills. 3-5/16" dia., 6-1/16" long. Shaft, 5/16" dia. wt. 5 lbs. Ask for Classic catalog.

115 V. DC SHUNT MOTORS
4 lead reversible totally enclosed

115 V. AC/DC UNIVERSAL MOTORS
2 lead — uni-directional ventilated only

Model	HP	RPM	List	Model	HP	RPM	Rot.	List
CSA1840A	1/40	1800	$46.50	CUA3620A	1/20	3600	CCW	$41.50
CSB3620A	1/20	3600	48.00	CUA7510A	1/10	7500	CCW	43.00
CSB5015A	1/15	5000	48.00	CUB1007A	1/7	10000	CCW	43.00

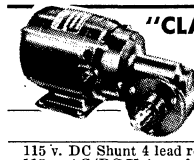
Other ratings and rotation available.

115 V. DC SHUNT GEAR MOTORS
4 lead reversible — totally enclosed.

115 V. AC/DC UNIVERSAL GEAR MOTORS
2 lead — uni-directional

Model	Torque in. lbs.	RPM	List	Model	Torque in. lbs.	RPM	Rot.	List
CSA066E3	6	60	$63.50	CUA203R3	3	200	CCW	$58.00
CSA105E3	5	100	63.50	CUA302R3	2.5	300	CCW	58.00
CSA302E3	2.5	300	63.00	CUA0051A2	1.0	5	CCW	66.50
CSA0057E2	7	5	72.00	CUA024A2	4	20	CCW	66.50
CSA036E2	6	30	72.00	CUA054A2	4	50	CCW	66.50

Other ratings and rotation available up to 750 RPM.

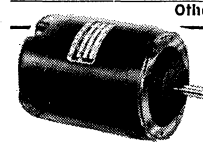


"CLASSIC" HEAVY DUTY GEARMOTOR

Classic gearmotor for outputs up to 13 in. lbs. torque. Universal and DC Shunt Models. Hardened ground steel worms with laminated bakelite gear for long life, quiet operation. 3-5/16" dia., 7⅜" long with ½" dia. shaft. Wt. 5½ lbs.

	Model	Torque in. lbs.	RPM	Rot.	List
115 v. DC Shunt 4 lead reversible	CSA4512A5	12	45	Rev.	$82.00
115 v. AC/DC Universal 2 lead	CUA1312A5	12	130	CW	73.50
115 v. AC/DC Universal 2 lead	CUA504A5	4.5	500	CW	73.50

Other ratings and rotation available.



"REGENT" FHP MOTORS

Universal motor ¼ to ⅝ hp. 5000-10000 RPM. Model for 12 v. to 230 v. input. DC shunt models from 12 v. to 115 v. DC, 1800 to 5000 RPM. 1/15 to 1/6 hp. Face, base or resilient mount. Ideal for machine tool drives, grinders, SCR motor controllers. 3⅞" dia., 6-5/32" long. Shaft ⅜" dia. Ask for Regent bulletin.

115 V. DC SHUNT MOTORS
4 lead reversible

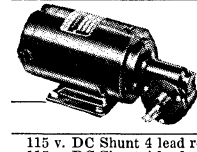
Face mount listed. Base mount available, same price. Totally enclosed.

115 V. AC/DC UNIVERSAL MOTORS
2 lead uni-directional

Ventilated only. Face mount. Base mount available, same price.

Model	HP	RPM	List	Model	HP	RPM	Rot.	List
MSB1815EF	1/15	1800	$70.00	MUB504AF	1/4	5000	CCW	$67.00
MSB367EF	1/7	3600	70.00	MUB1002AF	1/2	10000	CCW	67.00
MSC1812EF	1/12	1800	73.00	MUB753AF	1/3	7500	CCW	67.00
MSC366EF	1/6	3600	73.00	MUC503AF	1/3	5000	CCW	70.00
MSD188EF	1/8	1800	78.00	MUC10058AF	5/8	10000	CCW	70.00
MSD364EF	1/4	3600	78.00	MUD502AF	1/2	5000	CCW	75.00

Other ratings and rotation available.



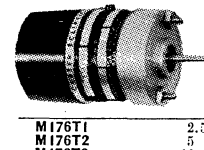
"REGENT" GEARMOTOR

Regent gearmotor delivers up to 20 in. lbs. torque. Universal and DC Shunt models. Hardened ground steel worm with laminated bakelite gear for long life, quiet operation. 3⅞" dia. 9-9/16" long with ½" dia. shaft. Wt. 12 lbs.

	Model	Torque in. lbs.	RPM	Rot.	List
115 v. DC Shunt 4 lead reversible	MSB4520A5	20	45	Rev.	$105.00
115 v. DC Shunt 4 lead reversible	MSB1811A5	12	180	Rev.	105.00
115 v. AC/DC Universal 2 lead	MUB5008A5	8	500	CW	102.00

Note: Above Classic and Regent models 5000 RPM armature speed or less can be supplied with PM DC Tach Generator mounted to frame for speed reference voltage. Ideal for SCR Feedback Motor Control Applications. Write for details.

"ECLIPTIC" TACHOMETER GENERATORS



Converts rotation rate into reference voltage for speed indication. Ideal for motor controllers and various industrial applications such as variable speed drives, textile machines, machine tools, etc. Couples direct to drive motor, requires no belts or gears. 2 lead, reversible. Linearity below 1%. May be connected to a DC meter calibrated for RPM, FPM, GPH or other measurements. Size 1⅜" x 2¼" plus shaft .118 dia. 19/32" long.

M176T1	2.5	v. per 1000 RPM —	10,000 Max.	$51.00
M176T2	5	v. per 1000 RPM —	10,000 Max.	53.00
M176T3	12	v. per 1000 RPM —	4,000 Max.	56.00
M176T4	20	v. per 1000 RPM —	2,500 Max.	70.00
M176T5	1.25	v. per 1000 RPM —	10,000 Max.	51.00
M176T6	10	v. per 1000 RPM —	5,000 Max.	56.00

"CLASSIC" PM DC TACH-GENERATORS

A high output DC Tachometer-Generator for slow speed industrial and commercial purposes. Barium ferrite magnet. Couples to motor shaft and to meter for direct readings without belts or gears to step up speed. Requires no batteries, transistors or other external excitation. 2 lead reversible. Face or flange mount available.

Code No.	DC output per/1000	Mounting	Max. Speed RPM	List
CTA60AA	60 v.	base	5000	$78.00
CTA50AA	50 v.	base	6000	76.00
CTA25AA	25 v.	base	10000	74.00

Models rated less than 4000 RPM maximum speed supplied with built-in capacitor filter to assure ripple of less than 3%. Unfiltered models will average 5% or less AC ripple.

ELECTRO REGULATED AND INDUSTRIAL POWER SUPPLIES

ELECTRO

Stocked at your franchised* ELECTRO *distributor.

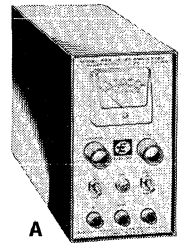
PRECISION BUILT

The ELECTRO line provides a wide range of DC outputs up to 125 volts with adequate filtering for requirements ranging from critical transistor circuitry to applications permitting up to 5% ripple.

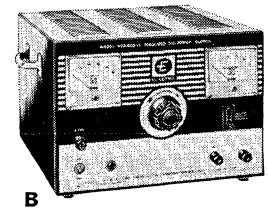
Every model is engineered to give unusual performance life per dollar. Each has an adjustable output voltage range. Meters indicating voltage and current are large, easy to read. Controls clearly marked. Output terminals are isolated from the cabinet . . . several are rack mounted. A one-year warranty on every ELECTRO power supply. Designed for production line, industrial and educational laboratory applications.

REGULATED

Models PSR-12-25 and PSR-12-50 Regulated Supplies. (Fig. A) Solid state units with continuously variable outputs. Line regulation ±0.01% + 2mV over 105-125V input range. Load regulation 0.01%, no load to full load, max. ripple 100 microvolts. Ideal for transistor circuit development and testing. Front panel controls include: on-off switch; meter function switch, coarse and fine voltage controls for precise adjustment. Rack-mount accessory for up to 4 units available. PSR-12-25 output: 0-25v, 0-500mA; PSR-1250 output: 0-50v, 0-250mA. Input: 105-125 VAC, 60 Hz.



A



B

Model PSR-500 Series (Fig. B) delivers 500 watts of DC power with output voltage regulated to less than 1% for load and 0.1% for line changes. Maximum ripple less than 0.5%. All solid-state circuitry. Uses silicon rectifiers and SCR regulation. Fused input, circuit-breaker output protection.

Three models are available with output voltage ranges: 2-32v, 2-55v, and 2-125v. Input: 105-125 VAC, 60 Hz.

INDUSTRIAL

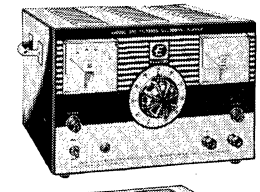
Model EF (Fig. C) provides variable voltage 0-28v or 0-14v at 5 amps continuous, 10 amps. intermittent load. Ripple less than 1%. Uses selenium rectifiers. Input: 117 VAC, 60 Hz.

Models EFB and EFBR (Figs. C, G) designed for very low ripple requirements of transistor work. Continuously variable voltage control. Selenium rectifiers. Employs chokes and capacitors in ripple filter. Model EFB Federal stock number 6130-957-1450. Model EFBR (Fig. G) same except with standard EIA rack panel. Input: 117 VAC, 50/60 Hz.

Models NFB and NFBR (Figs. D, G) for continuous heavy-duty. Continuously variable output, 0-32v for loads to 15 amps. Ripple: less than 0.75% at 15 amps. Ripple filter circuit uses chokes and capacitors. Variable autoformer for smooth control. Bridge-type silicon rectifiers. Model NFBR same except with standard EIA rack panel. (Federal stock number 6130-853-3127.) Input: 117 VAC, 50/60Hz.

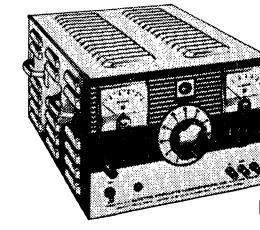
Models GFL and GFLR (Figs. D, G) low cost, semi-regulated, low ripple, higher voltage. Ideal for designing and testing DC appliances, telephone circuits, relays and solenoids; laboratory work. Continuously variable output 0-125v DC at 5 amps. Ripple: 0.5%. Silicon rectifiers. Overload protection. Model GFLR same except with standard EIA rack panel. Input: 117 VAC, 50/60 Hz.

Models PS-5 and PS-5R (Figs. D, G) designed for 48-volt applications. Delivers 550 watts well-filtered DC output continuously variable 0-55v DC. Ripple: 0.5% rms at 10 amps. Silicon rectifiers. Model PS-5R same except with standard EIA rack panel. Input: 117 VAC, 50/60 Hz.



D

PS-1000 Series (Fig. F) For continuous heavy duty. Continuously variable output. Low ripple. Filter circuit uses chokes and capacitors. Variable autoformer for smooth control. Bridge-type silicon rectifiers. Three models are available with output voltage ranges 0-32v DC at 30 amps, 0-55v DC at 20 amps and 125v DC at 8 amps. Input: 117 VAC, 50/60 Hz.



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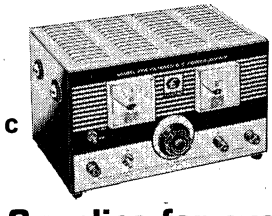

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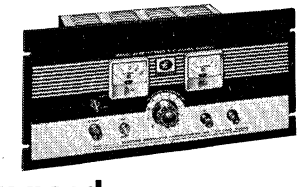

G

Selection Guide — Power Supplies for every need

REGULATED

Model	Figure	Output Volts	Output Current	Line Reg.**	Load Reg.*	Max. Ripple, RMS	Meters††	DC Imp. Ohms*	Size (HxWxD)	Shpg. Wt. Lbs.	Price (net)
PSR-12-25	A	0-25	0-500mA	0.01%+2mV	0.01%	100uV	0-30V/600mA	.006	5-1/4x3-1/8x10	7	$110.00
PSR-12-50	A	0-50	0-250mA	0.01%+2mV	0.01%	100uV	0-60V/300mA	.02	5-1/4x3-1/8x10	7	110.00
PSR-500-32	B	2-32	0-15A	0.1%	1.0%	0.5%	0-50V, 0-25A	.02	9-3/4x14-1/4x14-1/4	89	395.00
PSR-500-55	B	2-55	0-10A	0.1%	1.0%	0.5%	0-75V, 0-15A	.06	9-3/4x14-1/4x14-1/4	88	395.00
PSR-500-125	B	2-125	0-5A	0.1%	1.0%	0.5%	0-150V, 0-5A	.25	9-3/4x14-1/4x14-1/4	93	425.00

INDUSTRIAL

Model	Figure	Voltage Output	Amps Output	Load Regulation* (V/A)†	Max. Ripple %	Meters††	DC Impedance (ohms)*	Size (HxWxD) inches	Weight lbs. (net)	Price (net)
EF	C	0-28 0-14	0-5 0-5	0.9 (1-5A) 0.6 (1-5A)	1.0 1.0	0-50V, 0-6A	0.9 (1-5A) 0.6 (1-5A)	7x12x8-1/2	25	$125.00
EFB	C	0-32 0-16	0-4 0-8	1.25 1.0	0.1 0.1	0-40/20V 0-10A	1.25 1.0	7x12x8-1/2	36	165.00
EFBR	G	0-32 0-16	0-4 0-8	1.25 1.0	0.1 0.1	0-40, 20V 0-10A	1.25 1.0	8-3/4x19x8-1/2	47	185.00
GFL	D	0-125	0-5	1.5	0.5	0-150V, 0-5A	1.5	9-3/4x14-1/4x14-1/4	88	325.00
GFLR	G	0-125	0-5	1.5	0.5	0-150V, 0-5A	1.5	10-1/2x19x14-1/4	100	345.00
NFB	D	0-32	0-15	0.4	0.75	0-50V, 0-25VA	0.4	9-3/4x14-1/4x14-1/4	84	300.00
NFBR	G	0-32	0-15	0.4	0.75	0-50V, 0-25A	0.4	10-1/2x19x14-1/4	97	320.00
PS-5	D	0-55	0-10	0.8	0.5	0-75V, 0-15A	0.8	9-3/4x14-1/4x14-1/4	70	325.00
PS-5R	G	0-55	0-10	0.8	0.5	0-75V, 0-15A	0.8	10-1/2x19x14-1/4	89	345.00
PS-1000-32	F	0-32	0-30	0.2	0.75	0-50V, 0-30A	0.2	9-3/4x14-1/4x19-1/4	103	398.00
PS-1000-55	F	0-55	0-20	0.5	0.5	0-75V, 0-30A	0.5	9-3/4x14-1/4x19-1/4	113	398.00
PS-1000-125	F	0-125	0-8A	1.0	Less than 1%	0-150V, 0-10A	1.0	9-3/4x14-1/4x19-1/4	120	425.00

*No-load to full-load unless otherwise specified.

**From 105-125 VAC.

†Output voltage change for each ampere of output current change.

††All 2% accuracy except 5% for general purpose units. Rectifiers: Selenium and Silicon ("avalanche" characteristics on industrial units).

ELECTRO PRODUCTS LABORATORIES, INC.

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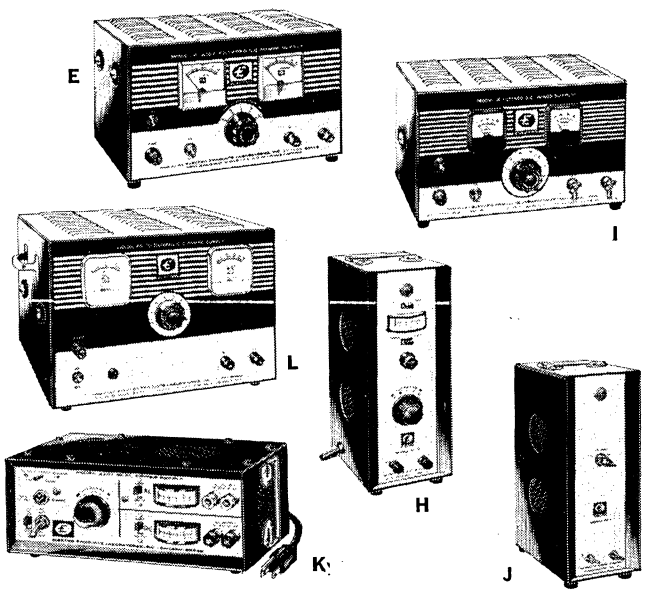
ELECTRO GENERAL PURPOSE POWER SUPPLIES • INVERTERS

ELECTRO

Available through your electronic distributor. Prices and models subject to change.

GENERAL PURPOSE



Model D-612T (Fig. E), **Model H** (Fig. I) low ripple, less than ½% rms up to 5 amps; for servicing transistor auto and portable radios. Maximum output power in this price range. Ideal for citizens' band transceivers, battery charging, solenoids, etc., requiring up to 16v DC. Model H heavy duty; dual range. Ideal as storage battery replacement in school laboratories, thermoelectric power source, and other high-current, low-voltage applications. Both types have voltage and current output meters. Input: 117 VAC, 60 Hz.

Model EC-1 (Fig. J) reliable, low cost. 12v DC with 5 amp output for school labs and industrial research, production testing, etc. Low-cost source for FM and AM auto radio demonstrations. Maximum ripple ½%. Four-position voltage adjustment switch; off, low, medium and high. EPL patented rectifier conduction cooling. Used vertically or horizontally. Input: 117 VAC, 60 Hz.

Model EC-2 (Fig. H) low priced unit for auto, tape disk and transistor radio servicing. Wide applications in research and development. Continuously variable voltage adjustment provides versatility. Maximum ripple ½% rms at 5 amps. Patented conduction cooling. Used vertically or horizontally. Output: 0-16 VDC combination edge-view voltmeter/ammeter. Input: 117 VAC, 60 Hz.

Models PS-30 and PS-50 (Fig. L) heavy duty adjustable 12-volt units for servicing auto, aircraft and marine communications equipment. Useful in industrial and educational labs, thermoelectric cooling power source, etc. Maximum ripple at maximum current 1%. Eight-position tap switch output voltage adjustable. Model PS-50 delivers 50 amps continuously. Model PS-30 delivers 30 amps continuously. Input: 117 VAC, 50/60 Hz.

Model 3301 (Fig. K) specifically designed for high school and college electrical and electronic experiments in science labs. Provides both AC and DC low-voltage outputs, adjustable and metered. Two circuit breakers protect primary and outputs, and line isolated transformer and three-wire line cord are safety features. Free 48-page manual of experiments supplied with each unit. Input: 117 VAC, 60 Hz.

GENERAL PURPOSE

Model	Figure	Voltage Output	Amps Output	Load Regulation* (V/A)†	Max. Ripple %	Meters††	DC Impedance (ohms)*	Size (HxWxD) inches	Weight lbs. (net)	Price (net)
D-612T	E	0-16 0-8	0-10 0-10	0.44 (3-10A) 0.3 (3-10A)	0.5@5A 2@10A	0-20V, 0-10A	0.44 (3-10A) 0.3 (3-10A)	7x12x8-1/2	22	$79.50
H	I	12 (adj.) 6 (adj.)	0-10 0-20	0.23 (3-10A) 0.15 (3-20A)	5 5	0-20V, 0-30A	0.23 (3-10A) 0.15 (3-20A)	7x12x8-1/2	30	99.50
EC-1	J	12 (adj.)	0-5	1.4	0.5	None	1.4	10-3/4x4-3/8x6-1/2	12	37.50
EC-2	H	0-16	0-5	1.8	0.5	0-20V/10A	1.8	10-3/4x4-3/8x6-1/2	11	49.50
PS-30	L	12 (adj.)	0-30	0.12 (6-30A)	1	0-20V, 0-50A	0.27	9-3/4x14-1/4x14-1/4	68	198.00
PS-50	L	12 (adj.)	0-50	0.17	1	0-20V, 0-50A	0.17	9-3/4x14-1/4x19-1/4	87	298.00
3301	K	0-16DC 0-20AC	0-3	1.8 (1-3A)	0.5	0-20V/0-5A DC 0-20V/0-5A AC	2.4 DC 0.5 AC	4-3/4x10-3/4x6-1/2	11	79.50

†Output voltage change for each ampere of output current change. ††All 2% accuracy except 5% for general purpose units. *No-load to full-load unless otherwise specified.

ELECTRO

ELECTRO DC TO AC TRANSISTORIZED INVERTERS

Convert 12v DC to 117v AC from car, boat or plane battery. Ample power for TV sets, lights, recorders, PA systems, etc.

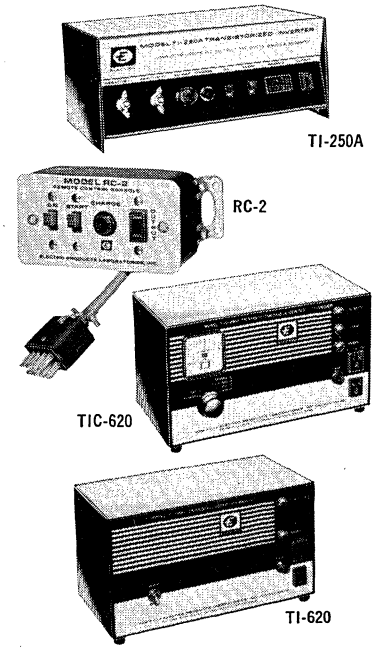
Operate portable TV, radio, lights, PA systems, tape recorders, CB, small appliances, etc., from car, boat or truck battery. All models feature on-off switch, AC receptacle on control panel, battery-protecting fuse. Automatic electronic turn-off circuitry protects transistors from overload. Charge indicator light gives low charge or overload warning. Compact, lightweight, rugged metal cases.

INVERTERS

Model	Conversion	Output	Freq. Reg.	Size (in.)	Sh. wt. (lb.)	Price
TI-250A	12 Volt DC to 117V 60 Hz	250 VA	4 Hz NL to FL	4½x10x7½	11	$ 99.75
TI-620		620 VA	.5 Hz	6⅝x12x8⅞	25	$416.00
TIC-620	INVERT 12 VDC to 117V 60 Hz	620 VA	.5 Hz	6⅝x12x8⅞	30	$520.00
	CHARGE 117 VAC to 14 VDC	25 Amp. Max.				

ACCESSORIES

Model	Description	Size (in.)	Sh. wt. (lb.)	Price
RC-2	Remote Control Console for Model TI-250A (with 8-ft. cord for operation from remote location)	2⅛x4⅛x2⅛	2	$ 17.75
BCA-2	Battery Clip Adaptor for Model TI-250A	4 ft. cable	1	$ 6.49



Model TI-250A has 250 watt output for a wide range of applications. Features (1) relay in circuit insures 100% reverse polarity protection, (2) electronic overload protection, (3) start switch, (4) battery indicator light, (5) includes cables for connection to battery or DC source.

Model RC-2 Remote Control. A remote control console is available for the Model TI-250A inverter. An 8 ft. cord is provided for operation from remote location.

New Dual Purpose TIC-620 Inverter/Charger incorporates a built-in 25 amp charger. A three-position switch provides low, medium and high charge rate. The 620 VA rated inverter has a nominal output of 5 amps at 120 volts. A fused secondary circuit protects the inverter and battery from overload.

TI-620 Inverter only. Identical with TIC-620 except without charger.

ELECTRO PRODUCTS LABORATORIES, INC.

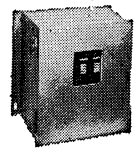
GATES POWER SUPPLIES

SILICON POWER RECTIFIER

For transistor circuits & electronic equipment
MODEL G92F

INPUT: 115 volts AC 60 cycles, 1 phase
OUTPUT: 0-32 Volts DC, 0-10 Amperes D.C. continuous duty
REGULATION: No load to full load 15%
RIPPLE: Less than 0.3% RMS
METERS: 2% Accuracy
DIMENSIONS: 17" x 9" x 9"
PRICE: $169.50 NET
*Also available in 5 Amperes
PRICE: $114.50 NET

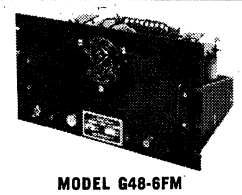
INDUSTRIAL POWER UNITS



MODEL A10

INPUT 115 or 230 AC Volts, 60 cycles—Single Phase.
DC OUTPUT 115 Volts DC 125 Watts
APPLICATION: Power sources for operating DC Motors, Relays, Solenoids, Magnetic Chucks.
DIMENSIONS: 11" H x 9" W x 6½" D
PRICE $63.00 NET
250 Watts — **$72.50**

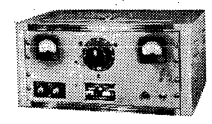
SELENIUM POWER SUPPLY



MODEL G48-6FM

INPUT: 115 Volts AC 60 Cycles—Single Phase
OUTPUT: 0-48 Volts DC, 0-6 Amperes
CONTROL: Continuously variable over entire range
RIPPLE: 1% RMS
DIMENSIONS: 19" W x 13" D x 10½" H, Fits RETMA, Western Electric racks
PRICE: $190.00 NET

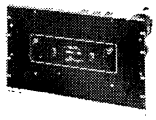
SILICON POWER SUPPLY



MODEL #GS 14-15F

INPUT: 115 Volts AC, 1 Phase, 60 cycles
OUTPUT: 0-14 Volts DC, 0-15 Amperes, continuous duty
RIPPLE: Less than 1% RMS
METER ACCURACY: 2%
DIMENSIONS: 9" H x 17½" W x 9" D
PRICE: $159.50 NET
Rack Model Same Price

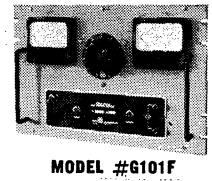
SILICON RACK MOUNT SUPPLY



MODEL #GX30-10

INPUT: 115 Volts AC 60 Cycles, Single Phase
OUTPUT: 26, 28, 30 Volts DC 0-10 Amperes Continuous Duty
REGULATION: 10% No Load to Full Load
RIPPLE: 0.3% RMS
DIMENSIONS: 8¾" H x 19" W x 10" D
PRICE: $137.50 NET

AIRCRAFT BATTERY ELIMINATOR



MODEL #G101F

INPUT: 115 Volts AC 60 cycles, single phase
OUTPUT: 0-32 Volts DC, 0-20 Amperes, continuous duty
RIPPLE: 0.5% RMS
Unique overload device prevents needle slam and shows overload condition
REGULATION: D.C.V. at full load: 30
D.C.V. at 1/10 load: 35
METERS: 2% Accuracy
DIMENSIONS: 19" x 14¼" x 12¼"
PRICE: $275.00 NET
May be used for Rack or Bench

ECONOMY RANGE DC POWER SUPPLIES — Less Than 1% Ripple - Good Regulation - Rack Mount Type - Heavy Duty Construction - Powerstat - Fused 2% Meters - 115 Vac Input

MODEL GT 12-5:	Output 0.12V,	5A	$ Inquire
MODEL GT 12-10:	Output 0-12V,	10A	$ Inquire
MODEL GT 12-15:	Output 0-12V,	15A	$ Inquire
MODEL GT 12-25:	Output 0-12V,	25A	$ Inquire
MODEL GT 12-100:	Output 0-12V,	100A	$ Inquire
MODEL GT 14-5:	Output 0-14V,	5A	$ Inquire
MODEL GT 14-15:	Output 0-14V,	15A	$ Inquire
MODEL GT 14-20:	Output 0-14V,	20A	$ Inquire
MODEL GT 14-30:	Output 0-14V,	30A	$ Inquire
MODEL GT 14-40:	Output 0-14V,	40A	$ Inquire
MODEL GT 14-50:	Output 0-14V,	50A	$ Inquire
MODEL GT 14-75:	Output 0-14V,	75A	$ Inquire
MODEL GT 14-100:	Output 0-14V,	100A	$ Inquire
MODEL GT 16-5:	Output 0-16V,	5A	$ Inquire
MODEL GT 16-10:	Output 0-16V,	10A	$ Inquire
MODEL GT 16-25:	Output 0-16V,	25A	$ Inquire
MODEL GT 16-30:	Output 0-16V,	30A	$ Inquire
MODEL GT 16-40:	Output 0-16V,	40A	$ Inquire
MODEL GT 16-50:	Output 0-16V,	50A	$ Inquire
MODEL GT 16-70:	Output 0-16V,	70A	$ Inquire
MODEL GT 16-80:	Output 0-16V,	80A	$ Inquire
MODEL GT 28-5:	Output 0-28V,	5A	$ Inquire
MODEL GT 28-12:	Output 0-28V,	12A	$ Inquire
MODEL GT 28-24:	Output 0-28V,	24A	$ Inquire
MODEL GT 32-5:	Output 0-32V,	5A	$ Inquire
MODEL GT 32-8:	Output 0-32V,	8A	$ Inquire
MODEL GT 32-12:	Output 0-32V,	12A	$ Inquire
MODEL GT 32-15:	Output 0-32V,	15A	$ Inquire
MODEL GT 32-24:	Output 0-32V,	24A	$ Inquire
MODEL GT 32-30:	Output 0-32V,	30A	$ Inquire
MODEL GT 32-50:	Output 0-32V,	50A	$ Inquire
MODEL GT 48-5:	Output 0-48V,	5A	$ Inquire
MODEL GT 48-10:	Output 0-48V,	10A	$ Inquire
MODEL GT 48-15:	Output 0-48V,	15A	$ Inquire
MODEL GT 48-35:	Output 0-48V,	35A	$ Inquire
MODEL GT 80-5:	Output 0-80V,	5A	$ Inquire
MODEL GT 80-10:	Output 0-80V,	10A	$ Inquire
MODEL GT 80-20:	Output 0-80V,	20A	$ Inquire
MODEL GT 115-5:	Output 0-115V,	5A	$ Inquire
MODEL GT 115-10:	Output 0-115V,	10A	$ Inquire
MODEL GT 130-2:	Output 0-130V,	2A	$ Inquire
MODEL GT 120-5:	Output 0-120V,	5A	$ Inquire
MODEL GT 130-5:	Output 0-130V,	5A	$ Inquire
MODEL GT 130-10:	Output 0-130V,	10A	$ Inquire

PRICES SUBJECT TO CHANGE

GATES
ELECTRONIC COMPANY, INC.

3 PHASE MODEL POWERSTAT METERS

MODEL GP 125-40:	Output	40A, 0-125V	$ Inquire
MODEL GP 125-80:	Output	80A, 0-125V	$ Inquire
MODEL GP 125-125:	Output	125A, 0-125V	$ Inquire
MODEL GP 250-15:	Output	15A, 0-250V	$ Inquire
MODEL GP 250-25:	Output	25A, 0-250V	$ Inquire
MODEL GP 250-40:	Output	40A, 0-250V	$ Inquire
MODEL GP 250-75:	Output	75A, 0-250V	$ Inquire
MODEL GP 500-5:	Output	5A, 0-500V	$ Inquire
MODEL GP 500-10:	Output	10A, 0-500V	$ Inquire
MODEL GP 500-25:	Output	25A, 0-500V	$ Inquire
MODEL GP 500-35:	Output	35A, 0-500V	$ Inquire
MODEL GT 32-60:	Output 0-32V,	60A	$ Inquire
MODEL GT 48-25:	Output 0-48V,	25A	$ Inquire
MODEL GT 48-50:	Output 0-48V,	50A	$ Inquire
MODEL GT 48-60:	Output 0-48V,	60A	$ Inquire
MODEL GT 48-80:	Output 0-48V,	80A	$ Inquire
MODEL GT 48-100:	Output 0-48V,	100A	$ Inquire
MODEL GT 115-15:	Output 0-115V,	15A	$ Inquire
MODEL GT 115-20:	Output 0-115V,	20A	$ Inquire
MODEL GT 115-25:	Output 0-115V,	25A	$ Inquire
MODEL GT 115-30:	Output 0-115V,	30A	$ Inquire
MODEL GT 115-40:	Output 0-115V,	40A	$ Inquire
MODEL GT 115-50:	Output 0-115V,	50A	$ Inquire
MODEL GT 115-60:	Output 0-115V,	60A	$ Inquire
MODEL GT 115-70:	Output 0-115V,	70A	$ Inquire
MODEL GT 200-10:	Output 0-220V,	10A	$ Inquire
MODEL GT 80-50:	Output 0-80V,	50A	$ Inquire
MODEL GT 80-100:	Output 0-80V,	100A	$ Inquire

LOW-COST BASIC / OEM SUPPLIES

MODEL L6.3-30	6.3VDC @	30A/1%	$ Inquire
MODEL L12-12	12VDC @	12A/Rip. 1Mv/.01%	$ Inquire
MODEL L12-15	12VDC @	15A/1%	$ Inquire
MODEL L12-24	12VDC @	24Amp.	$ Inquire
MODEL L12-24	12VDC @	24A/1%	$ Inquire
MODEL L12-50	12VDC @	50Amp.	$ Inquire
MODEL L12-50	12VDC @	50A/Rip. 1%	$ Inquire
MODEL L24-30	24VDC @	30A/Rip. 1%	$ Inquire
MODEL L28-1	28VDC @	1A/0.5%	$ Inquire
MODEL L28-2	28VDC @	1A/Rip. .05%	$ Inquire
MODEL L28-5	28VDC @	5Amp.	$ Inquire
MODEL L28-8	28VDC @	8Amp.	$ Inquire
MODEL L28-12	28VDC @	12Amp.	$ Inquire
MODEL L28-24	28VDC @	24Amp. (N.F.)	$ Inquire
MODEL L28-24	28VDC @	24Amp.	$ Inquire
MODEL L28-30	28VDC @	30Amp.	$ Inquire
MODEL L28-50	28VDC @	50Amp. (N.F.)	$ Inquire
MODEL L28-50	28VDC @	50Amp.	$ Inquire
MODEL L28-50	28VDC @	50Amp. −1% R.	$ Inquire
MODEL L28-100	28VDC @	100Amp.	$ Inquire
MODEL L115-2.5	115VDC @	2.5A	$ Inquire
MODEL L115-5	115VDC @	5A	$ Inquire
MODEL L115-10	115VDC @	10A (N.F.)	$ Inquire
MODEL L115-10	115VDC @	10A	$ Inquire
MODEL L220-5	220VDC @	5A	$ Inquire
MODEL L220-10	220VDC @	10A	$ Inquire
MODEL L440-5	440VDC @	5A	$ Inquire

(N.F.) means not filtered

12 VOLT POWER SUPPLIES — 1% Ripple

MODEL GS 12-1,	Output	1A, 12V	$ Inquire
MODEL GS 12-3,	Output	3A, 12V	$ Inquire
MODEL GS 12-5,	Output	5A, 12V	$ Inquire
MODEL GS 12-10,	Output	10A, 12V	$ Inquire
MODEL GS 12-15,	Output	15A, 12V	$ Inquire
MODEL GS 12-20,	Output	20A, 12V	$ Inquire
MODEL GS 12-25,	Output	25A, 12V	$ Inquire
MODEL GS 12-30,	Output	30A, 12V	$ Inquire

Net
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ALL TYPES OF POWER SUPPLIES

SILICON POWER RECTIFIER
Model G50-50R

INPUT: 220 Volts AC, 60 cycles, 3 phase

OUTPUT: 0-50 volts DC, 0-50 amperes continuous duty

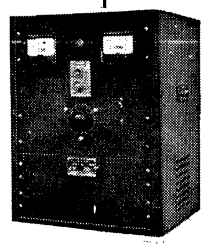
RIPPLE: .3% RMS

REGULATION: No Load to Full Load 8%

METERS: 2% Accuracy

DIMENSIONS: 21" x 15" x 19"

SILICON INDUSTRIAL POWER UNIT
Model G30-100



INPUT: 220 Volts AC, 60 cycles, 3 phase

OUTPUT: 0-32 Volts DC, 0-100 amperes continuous duty

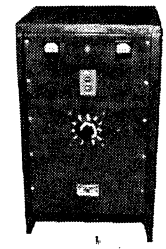
RIPPLE: .3% RMS

REGULATION: 5-8% 1/10th load to full load with constant input and at maximum output voltage setting

METERS: 2% Accuracy

DIMENSIONS: 21" x 15" x 19"

SILICON AIRCRAFT BATTERY ELIMINATOR
Model G30-200



INPUT: 220 Volts AC, 60 cycles, 3 phase

OUTPUT: 0-32 Volts DC, 0-200 amperes continuous duty also avail. 300A

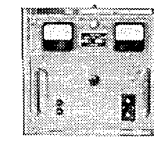
RIPPLE .5% RMS

REGULATION: 5-8% 1/10th load to full load with constant input and maximum output voltage setting

METERS: 2% Accuracy

DIMENSIONS: 25" x 25" x 43"

SILICON REGULATED POWER SUPPLY
Model G530-40M



INPUT: 115 Volts AC, 60 cycles, 1 phase

OUTPUT: 5-30 Volts DC, 0-40 amperes

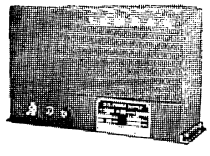
RIPPLE: 1% RMS

REGULATION: ±1% from no load to full load

METERS: 2% Accuracy

DIMENSIONS: 21" x 15" 19"

SILICON POWER SUPPLY



MODEL GX 30-5

INPUT: 115 Volts AC 60 cycles, single phase

OUTPUT: 28-30-32 Volts DC, 0-5 Amperes, DC Continuous Duty

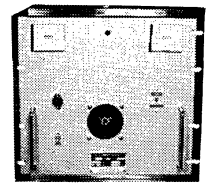
REGULATION: 12% No Load to Full Load

RIPPLE: .5% RMS

DIMENSIONS: 5" W x 13½" L x Overall Height 9"

PRICE: $85.00 — 6 Amps $95.00

SILICON GENERAL PURPOSE RECTIFIER



MODEL G-115

INPUT: 115 Volts AC 60 cycles, 1 Phase

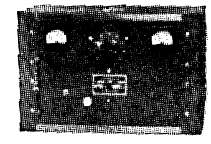
OUTPUT: 0-32 Volts DC, 0-50 Amperes DC, Continuous duty variable over entire range

RIPPLE: 1% RMS

DIMENSIONS: 22"H x 19"W x 15"D

PRICE: $522.00 NET

DC POWER SUPPLY



MODEL G94F

INPUT: 115 Volts AC 60 cycles, 1 Phase DC

OUTPUT: 0-300 Volts DC Continuous Variable 0-1 Amperes.

RIPPLE: 3 MV RMS

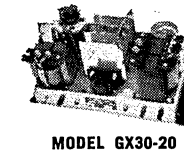
DIMENSIONS: Rack 8¾" H x 19" L x 9½" D

CABINET: 10½"Hx22"Lx12"D

PRICE: $275.00

Also 0-2 Amp. **PRICE:** $340.00

SILICON POWER SUPPLY



MODEL GX30-20

INPUT: 115 Volts, 1 Phase, 60 cycles

OUTPUT: 0-34, Volts, DC 0-20 Amperes, continuous duty

REGULATION: No load to full load: 18%

RIPPLE: Below 1% Silicon Rectifiers, High Efficiency

DIMENSIONS: 10" x 17" x 3"

PRICE: $185.00 NET

3 PHASE — BENCH MODEL PLATING SUPPLIES

MODEL GL 6-50	6V	50A	$ Inquire
MODEL GL 9-50	9V	50A	$ Inquire
MODEL GL 12-50	12V	50A	$ Inquire
MODEL GL 18-50	18V	50A	$ Inquire
MODEL GL 6-75	6V	75A	$ Inquire
MODEL GL 9-75	9V	75A	$ Inquire
MODEL GL 12-75	12V	75A	$ Inquire
MODEL GL 18-75	18V	75A	$ Inquire
MODEL GL 6-100	6V	100A	$ Inquire
MODEL GL 9-100	9V	100A	$ Inquire
MODEL GL 12-100	12V	100A	$ Inquire
MODEL GL 18-100	18V	100A	$ Inquire
MODEL GL 6-150	6V	150A	$ Inquire
MODEL GL 9-150	9V	150A	$ Inquire
MODEL GL 12-150	12V	150A	$ Inquire
MODEL GL 18-150	18V	150A	$ Inquire
MODEL GL 6-200	6V	200A	$ Inquire
MODEL GL 9-200	9V	200A	$ Inquire
MODEL GL 12-200	12V	200A	$ Inquire
MODEL GL 6-250	6V	250A	$ Inquire
MODEL GL 9-250	9V	250A	$ Inquire
MODEL GL 12-250	12V	250A	$ Inquire

24 VOLT POWER SUPPLIES — Rack Type — 1% Ripple

MODEL G 24-6R	24VDC	6A	$ Inquire
MODEL G 24-15R	24VDC	15A	$ Inquire
MODEL G 24-25R	24VDC	25A	$ Inquire
MODEL G 24-50R	24VDC	50A	$ Inquire

PRICES SUBJECT TO CHANGE

GATES
ELECTRONIC COMPANY, INC.

GR LINE REGULATED POWER SUPPLIES — 2% Meters 1% Ripple

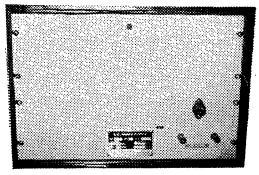
MODEL GR 12-5	0-12V	5A	$ Inquire
MODEL GR 12-10	0-12V	10A	$ Inquire
MODEL GR 12-20	0-12V	20A	$ Inquire
MODEL GR 12-30	0-12V	30A	$ Inquire
MODEL GR 16-5	0-16V	5A	$ Inquire
MODEL GR 16-10	0-16V	10A	$ Inquire
MODEL GR 8-10	0-8V	10A	$ Inquire
MODEL GR 28-5	0-28V	5A	$ Inquire
MODEL GR 14-5	0-14V	5A	$ Inquire
MODEL GR 32-4	0-32V	4A	$ Inquire
MODEL GR 16-8	0-16V	8A	$ Inquire
MODEL GR 32-15	0-32V	15A	$ Inquire
MODEL GR 55-10	0-55V	10A	$ Inquire
MODEL GR 125-1	0-125V	1A	$ Inquire
MODEL GR 125-5	0-125V	5A	$ Inquire
MODEL GR 125-10	0-125V	10A	$ Inquire

INDUSTRIAL POWER UNITS — SINGLE PHASE

MODEL GK 115-125A	Output 115V	125W	Input 115V	$ Inquire
MODEL GK 115-125B	Output 115V	125W	Input 230V	$ Inquire
MODEL GK 115-125C	Output 115V	125W	Input 440V	$ Inquire
MODEL GK 115-250A	Output 115V	250W	Input 115V	$ Inquire
MODEL GK 115-250B	Output 115V	250W	Input 230V	$ Inquire
MODEL GK 115-250C	Output 115V	250W	Input 440V	$ Inquire
MODEL GK 115-375A	Output 115V	375W	Input 115V	$ Inquire
MODEL GK 115-375B	Output 115V	375W	Input 230V	$ Inquire
MODEL GK 115-375C	Output 115V	375W	Input 440V	$ Inquire
MODEL GK 115-500A	Output 115V	500W	Input 115V	$ Inquire
MODEL GK 115-500B	Output 115V	500W	Input 230V	$ Inquire
MODEL GK 115-500C	Output 115V	500W	Input 440V	$ Inquire
MODEL GK 115-750A	Output 115V	750W	Input 115V	$ Inquire
MODEL GK 115-750B	Output 115V	750W	Input 230V	$ Inquire
MODEL GK 115-750C	Output 115V	750W	Input 440V	$ Inquire
MODEL GK 115-1000A	Output 115V	1000W	Input 115V	$ Inquire
MODEL GK 115-1000B	Output 115V	1000W	Input 230V	$ Inquire
MODEL GK 115-1000C	Output 115V	1000W	Input 440V	$ Inquire
MODEL GK 230-125A	Output 230V	125W	Input 115V	$ Inquire
MODEL GK 230-125A	Output 230V	125W	Input 230V	$ Inquire
MODEL GK 230-125C	Output 230V	125W	Input 440V	$ Inquire
MODEL GK 230-250A	Output 230V	250W	Input 115V	$ Inquire
MODEL GK 230-250B	Output 230V	250W	Input 230V	$ Inquire
MODEL GK 230-250C	Output 230V	250W	Input 440V	$ Inquire
MODEL GK 230-375A	Output 230V	375W	Input 115V	$ Inquire
MODEL GK 230-375B	Output 230V	375W	Input 230V	$ Inquire
MODEL GK 230-375C	Output 230V	375W	Input 440V	$ Inquire
MODEL GK 230-500A	Output 230V	500W	Input 115V	$ Inquire
MODEL GK 230-500B	Output 230V	500W	Input 230V	$ Inquire
MODEL GK 230-500C	Output 230V	500W	Input 440V	$ Inquire
MODEL GK 230-750A	Output 230V	750W	Input 115V	$ Inquire
MODEL GK 230-750B	Output 230V	750W	Input 230V	$ Inquire
MODEL GK 230-750C	Output 230V	750W	Input 440V	$ Inquire
MODEL GK 230-1000A	Output 230V	1000W	Input 115V	$ Inquire
MODEL GK 230-1000B	Output 230V	1000W	Input 230V	$ Inquire
MODEL GK 230-1000C	Output 230V	1000W	Input 440V	$ Inquire

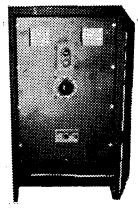
GATES POWER SUPPLIES

MODEL G230-25



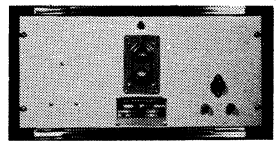
INPUT: 208/440, 3ph 60 cy
OUTPUT: 230 @ 25A
RIPPLE: 4.5%
REGULATION: 1/10 Load 8%
METERS: None
DIMENSIONS: 21″ W x 15″ D x 14″ H
PRICE: $575.00
METERS $50.00 EXTRA

MODEL G12-250



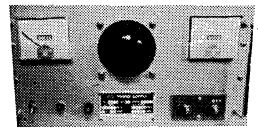
INPUT: 208, 3ph 60 cy
OUTPUT: 0-12V @ 250A
RIPPLE: 4.5%
REGULATION: 1/10 Load 8%
METERS: YES
DIMENSIONS: 20″ W x 20″ D x 35″ H
PRICE: $575.00

MODEL G220-10



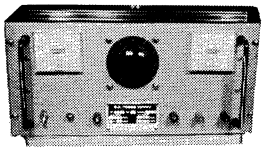
INPUT: 115VAC
OUTPUT: 220VDC @ 10A
RIPPLE: 48%
METERS: NONE
DIMENSIONS: 21″ W x 15″ D x 10″ H
PRICE: $425.00
METERS $50.00 EXTRA

SILICON INDUSTRIAL POWER UNIT MODEL G30-40F



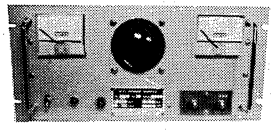
INPUT: 115 Volts AC, 60 cycles, single phase.
OUTPUT: 0-32 Volts DC, 0-40 Amperes DC, continuous duty
RIPPLE: 1% RMS
DIMENSIONS: 12¼″H x 19″W x 13″D
REGULATION: D.C.V. at full load: 32 minimum D.C.V. at 1/10 load: 35 maximum
PRICE: $425.00

MODEL GT125-5F



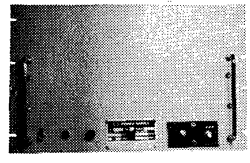
INPUT: 115VAC
OUTPUT: 0-125 @ 5A
RIPPLE: 0.5%
REGULATION: UNREGULATED
METERS: YES
DIMENSIONS: 21″ W x 15″ D x 10½″ H
PRICE: $325.00

MODEL GT14-40



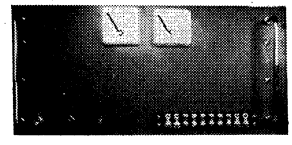
INPUT: 115VAC
OUTPUT: 0-14 @ 40A
RIPPLE: 0.1%
REGULATION: UNREGULATED
METERS: YES
DIMENSIONS: 19″ W x 13½″ D x 8-3/6″ H
PRICE: $275.00 — RACK MOUNTED

MODEL GX28-50

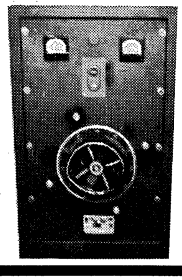


INPUT: 115VAC
OUTPUT: 28 @ 50A
RIPPLE: 0.5%
REGULATION: UNREGULATED
METERS: NONE
DIMENSIONS: 19″ W x 13½″ D x 12¼″ H
PRICE: $325.00 — RACK MOUNTED

MODEL G45-30



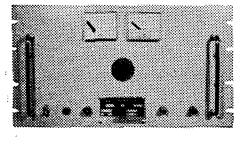
INPUT: 115VAC
OUTPUT: 45, 42, 40, 36, 32, 30, 29, 28, 26 @ 30A
RIPPLE: 1%
REGULATION: FAN COOLED
METERS: 5%
DIMENSIONS: 19″ W x 10″ D x 8-3/6″ H
PRICE: $375.00



MODEL GT20-200

INPUT: 220 VAC 60 cy. 1 Phase
OUTPUT: 0-22 VDC @ 200A
RIPPLE: 1%
CABINET: 35″ x 20″ x 20″
METERS: VOLT & AMP.
PRICE $625.00

NEW SCR REGULATED POWER SUPPLIES



GCR32-30 115VAC 24-32 @ 30A 1% ±1% Meters 19″Wx17″Dx12¼″H
PRICE: $550.00 — Cabinet $25.00 more

GCR32-25 115VAC 24-32 @ 25A 1% ±1% Meters 19″Wx17″Dx12¼″H
PRICE: $505.00 — Cabinet $25.00 more

GCR32-20 115VAC 24-32 @ 20A 1% ±1% Meters 19″Wx17″Dx10¼″H
PRICE: $475.00 — Cabinet $25.00 more

HIGH VOLTAGE DC POWER SUPPLIES

1% Ripple - Good Regulation - Cabinets - Meters - Heavy Duty Construction - Powerstat - Fused 2% Meters

MODEL GP	32-5	Input 115V, 60c, 1ph.	Output 0-32V	@	5A	.....$	Inquire
MODEL GP	32-10	Input 115V, 60c, 1ph.	Output 0-32V	@	10A	.....$	Inquire
MODEL GP	32-20	Input 115V, 60c, 1ph.	Output 0-32V	@	20A	.....$	Inquire
MODEL GP	32-40	Input 115V, 60c, 1ph.	Output 0-32V	@	40A	.....$	Inquire
MODEL GP	32-100	Input 220V, 60c, 3ph.	Output 0-32V	@	100A	....$	Inquire
MODEL GP	32-150	Input 220V, 60c, 3ph.	Output 0-32V	@	150A	....$	Inquire
MODEL GP	60-6	Input 115V, 60c, 1ph.	Output 0-60V	@	6A	.....$	Inquire
MODEL GP	60-10	Input 115V, 60c, 1ph.	Output 0-60V	@	10A	.....$	Inquire
MODEL GP	60-12	Input 115V, 60c, 1ph.	Output 0-60V	@	12V..	....$	Inquire
MODEL CP	60-20	Input 115V, 60c, 1ph.	Output 0-60V	@	20A	.....$	Inquire
MODEL GP	60-50	Input 220V, 60c, 3ph.	Output 0-60V	@	50A	.....$	Inquire
MODEL GP	60-80	Input 220V, 60c, 3ph.	Output 0-60V	@	80A	.....$	Inquire
MODEL GP	60-250	Input 220V, 60c, 3ph.	Output 0-60V	@	250A	....$	Inquire
MODEL GP	125-2.5	Input 117V, 60c, 1ph.	Output 0-125V	@	2.5A	....$	Inquire
MODEL GP	125-3	Input 117V, 60c, 1ph.	Output 9-124V	@	3A	.....$	Inquire
MODEL GP	125-5	Input 117V, 60c, 1ph.	Output 0-125V	@	5A	.....$	Inquire
MODEL GP	125-10	Input 117V, 60c, 1ph.	Output 0-125V	@	10A	.....$	Inquire
MODEL GP	125-20	Input 117V, 60c, 1ph.	Output 0-124V	@	20A	.....$	Inquire
MODEL GP	125-24	Input 220V, 60c, 3ph.	Output 0-125V	@	24A	.....$	Inquire
MODEL GP	125-40	Input 220V, 60c, 3ph.	Output 0-125V	@	40A	.....$	Inquire
MODEL GP	125-80	Input 220V, 60c, 3ph.	Output 0-125V	@	80A	.....$	Inquire
MODEL GP	125-120	Input 220V, 60c, 3ph.	Output 0-125V	@	120A	....$	Inquire
MODEL GP	250-5	Input 117V, 60c, 1ph.	Output 0-250V	@	5A	.....$	Inquire
MODEL GP	250-10	Input 117V, 60c, 1ph.	Output 0-250V	@	10A	.....$	Inquire
MODEL GP	250-12	Input 220V, 60c, 3ph.	Output 0-250V	@	12A	.....$	Inquire
MODEL GP	250-20	Input 220V, 60c, 3ph.	Output 0-250V	@	20A	.....$	Inquire
MODEL GP	250-40	Input 220V, 60c, 3ph.	Output 0-250V	@	40A	.....$	Inquire
MODEL GP	250-60	Input 220V, 60c, 3ph.	Output 0-250V	@	60A	.....$	Inquire
MODEL GP	300-1	Input 220V, 60c, 3ph.	Output 0-250V	@	1A	.....$	Inquire
MODEL GP	300-1.5	Input 220V, 60c, 3ph.	Output 0-250V	@	1.5A	....$	Inquire
MODEL GP	300-2	Input 220V, 60c, 3ph.	Output 0-250V	@	2A	.....$	Inquire
MODEL GP	300-3	Input 220V, 60c, 3ph.	Output 0-250V	@	3A	.....$	Inquire
MODEL GP	300-5	Input 220V, 60c, 3ph.	Output 0-250V	@	5A	.....$	Inquire
MODEL GP	500-1	Input 220V, 60c, 3ph.	Output 0-500V	@	1A	.....$	Inquire
MODEL GP	500-1.5	Input 220V, 60c, 3ph.	Output 0-500V	@	1.5A	....$	Inquire
MODEL GP	500-2	Input 220V, 60c, 3ph.	Output 0-500V	@	2A	.....$	Inquire
MODEL GP	500-3	Input 220V, 60c, 3ph.	Output 0-500V	@	3A	.....$	Inquire
MODEL GP	500-5	Input 220V, 60c, 3ph.	Output 0-500V	@	5A	.....$	Inquire
MODEL GP	500-5	Input 220V, 60c, 3ph.	Output 0-500V	@	5A	.....$	Inquire
MODEL GP	500-10	Input 220V, 60c, 3ph.	Output 0-500V	@	10A	.....$	Inquire
MODEL GP	500-20	Input 220V, 60c, 3ph.	Output 0-500V	@	20A	.....$	Inquire
MODEL GP	500-30	Input 220V, 60c, 3ph.	Output 0-500V	@	30A	.....$	Inquire

GATES
ELECTRONIC COMPANY, INC.

FIXED VOLTAGE, 1% LINE AND LOAD REGULATED POWER SUPPLIES

SPECIFICATIONS

AC INPUT: 105 - 125V, 57 - 63 Hz, 1 phase
REGULATION: ±1% for ±10% line change
±1% for no load to full load
RIPPLE: 0.1% +10MV rms maximum
GROUNDING: Floating output; either positive or negative may be grounded.
PROTECTION: Automatic short-circuit protection

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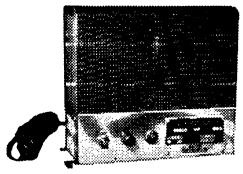
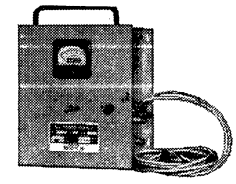
HIGHEST QUALITY-LOWEST PRICE



SILICON POWER SUPPLY
Model GX24-1

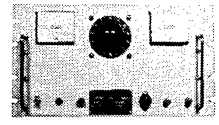
INPUT: 115 Volts AC, 60 cycles, 1 phase
OUTPUT: 24 Volts DC, 0-1 ampere DC, continuous duty
RIPPLE: 0.3% RMS
REGULATION: 8% no load to full load
DIMENSIONS: 3″ x 5″ x 10″
PRICE: $75.00
0-2 Amps **PRICE: $85.00**



PORTABLE SILICON BATTERY CHARGER
Model G612-20

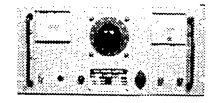
INPUT: 115 volts AC, 60 cycles, 1 phase
OUTPUT: 6/12 Volts DC, 20 amperes continuous duty
METER: Amp. meter 2% Accuracy
DIMENSIONS: 11″H x 9″W x 6½″D
PRICE: $57.50

SILICON RECTIFIER
Model GT32-30



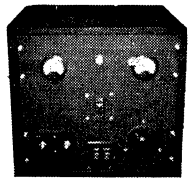
INPUT: 115 Volts, 50-60 cycles, 1 phase
OUTPUT: 30 amperes, 0-32 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 1% RMS
VOLTAGE CONTROL: Powerstat
METERS: 2% Accuracy volt meter, amp. meter
DIMENSIONS: 10½″ x 13½″ x 19″
PRICE: $350.00 — WT. 92 Lbs.

SILICON RECTIFIER
Model GT32-24



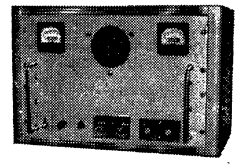
INPUT: 115 Volts, 50-60 cycles, 1 phase
OUTPUT: 24 amperes, 0-32 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 1%
VOLTAGE CONTROL: Powerstat
DIMENSIONS: 8¾″ x 13½″ x 19″
METERS: 2% Accuracy volt meter, amp. meter
PRICE: $325.00 — WT. 75 Lbs.

BENCH PLATING RECTIFIER
Model G50-8



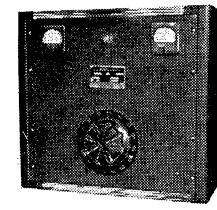
INPUT: 115 volts, 50-60 cycles, 1 phase
OUTPUT: 50 amperes, 0-8 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 2% $75. extra
VOLTAGE CONTROL: Powerstat
METER: 2% Accuracy, volt meter, amp. meter
DIMENSIONS: 21″ x 15″ x 10″
PRICE: $175.00

BENCH PLATING RECTIFIER
Model G100-8



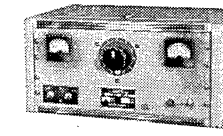
INPUT: 115 Volts, 50-60 cycles, 1 phase
OUTPUT: 100 amperes, 0-8 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 2% $75. extra
VOLTAGE CONTROL: Powerstat
METERS: 2% Accuracy, volt meter, amp. meter
DIMENSIONS: 21″ x 15″ x 10″
PRICE: $275.00

BENCH PLATING RECTIFIER
Model G200-6



INPUT: 115 Volts, 50-60 cycles, 1 phase
OUTPUT: 200 amperes, 0-6 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 2% $100 extra
COOLING: Fan
VOLTAGE CONTROL: Powerstat
METERS: 2% Accuracy, volt meter, amp. meter
DIMENSIONS: 21″ x 15″ x 19″
PRICE: $385.00

BENCH PLATING RECTIFIER
Model G50-15



INPUT: 115 Volts, 50-60 cycles, 1 phase
OUTPUT: 50 amperes, 0-15 Volts DC
RECTIFIER: Full wave silicon rectifier
RIPPLE: 2% $125 extra
VOLTAGE CONTROL: Powerstat
METERS: 2% Accuracy, volt meter, amp. meter
DIMENSIONS: 21″ x 15″ x 10″
PRICE: $210.00

SILICON RECTIFIERS FOR EXITATION OF SYNCHRONOUS MOTORS. HEAVY DUTY, INDUSTRIAL CONSTRUCTION. PROVEN IN USE.

3.5 KW 125 DCV 28 DCA	$ Inquire
5 KW 125 DCV 40 DCA	$ Inquire
7 KW 125 DCV 56 DCA	$ Inquire
10 KW 125 DCV 80 DCA	$ Inquire
22 KW 125 DCV 168 DCA	$ Inquire
55 KW 125 DCV 440 DCA	$ Inquire

HIGH CURRENT POWER SUPPLIES†

MODEL G 300 Output 300A, 24-30V	$ Inquire
MODEL G 500 Output 500A, 24-30V	$ Inquire
MODEL G 1000 Output 1000A, 24-30V	$ Inquire

† Saturable Reactor.

MAGNETIC AMP. REG. UNITS CONTROL
Max. reg. 1%

5-30 VDC 40A 115 VAC In.	$ Inquire
5-30 VDC 50A 220 VAC In. 1ϕ	$ Inquire
5-30 VDC 75A 208 VAC In. 3ϕ	$ Inquire

BENCH MODEL PLATING SUPPLIES

MODEL GI 10-6	6V	10A	$ Inquire
MODEL GI 10-6F*	6V	10A	$ Inquire
MODEL GI 10-9	9V	10A	$ Inquire
MODEL GI 10-9F	9V	10A	$ Inquire
MODEL GI 10-12	12V	10A	$ Inquire
MODEL GI 10-12F	12V	10A	$ Inquire
MODEL GI 25-6	6V	25A	$ Inquire
MODEL GI 25-6F	6V	25A	$ Inquire
MODEL GI 25-9	9V	25A	$ Inquire
MODEL GI 25-9F	9V	25A	$ Inquire
MODEL GI 25-12	12V	25A	$ Inquire
MODEL GI 25-12F	12V	25A	$ Inquire
MODEL GI 25-18	18V	25A	$ Inquire
MODEL GI 25-18F	18V	25A	$ Inquire
MODEL GI 25-24	24V	25A	$ Inquire
MODEL GI 25-24F	24V	25A	$ Inquire
MODEL GI 35-6	6V	35A	$ Inquire
MODEL GI 35-6F	6V	35A	$ Inquire
MODEL GI 35-9	9V	35A	$ Inquire
MODEL GI 35-9F	9V	35A	$ Inquire
MODEL GI 35-12	12V	35A	$ Inquire
MODEL GI 35-12F	12V	35A	$ Inquire
MODEL GI 35-18	18V	35A	$ Inquire
MODEL GI 35-18F	18V	35A	$ Inquire
MODEL GI 35-24	24V	35A	$ Inquire
MODEL GI 35-24F	24V	35A	$ Inquire
MODEL GI 50-6	6V	50A	$ Inquire

(continued)

FIXED VOLTAGE, 1% LINE AND LOAD REGULATED POWER SUPPLIES

MODEL	OUTPUT	RATING
G-30-1	3.6 - 9V	30 Watts
G-30-2	9 - 17V	or 2.5
G-30-3	17 - 30V	Amperes
G-30-4	30 - 60V	Maximum
G-60-1	3.6 - 9V	60 Watts
G-60-2	9 - 17V	or 5
G-60-3	17 - 30V	Amperes
G-60-4	30 - 60V	Maximum
G-120-1	3.6 - 9V	120 Watts
G-120-2	9 - 17V	or 10
G-120-3	17 - 30V	Amperes
G-120-4	30 - 60V	Maximum

GATES
ELECTRONIC COMPANY, INC.

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ALL TYPES OF POWER SUPPLIES

BENCH MODEL PLATING SUPPLIES (continued)

MODEL GI 50-6F	6V	50A	.....	$ Inquire
MODEL GI 50-9	9V	50A	.....	$ Inquire
MODEL GI 50-9F	9V	50A	.....	$ Inquire
MODEL GI 50-12	12V	50A	.....	$ Inquire
MODEL GI 50-12F	12V	50A	.....	$ Inquire
MODEL GI 50-18	18V	50A	.....	$ Inquire
MODEL GI 50-18F	18V	50A	.....	$ Inquire
MODEL GI 75-6	6V	75A	.....	$ Inquire
MODEL GI 75-6F	6V	75A	.....	$ Inquire
MODEL GI 75-9	9V	75A	.....	$ Inquire
MODEL GI 75-9F	9V	75A	.....	$ Inquire
MODEL GI 75-12	12V	75A	.....	$ Inquire
MODEL GI 75-12F	12V	75A	.....	$ Inquire
MODEL GI 75-18	18V	75A	.....	$ Inquire
MODEL GI 75-18F	18V	75A	.....	$ Inquire
MODEL GI 100-6	6V	100A	.....	$ Inquire
MODEL GI 100-6F	6V	100A	.....	$ Inquire
MODEL GI 100-9	9V	100A	.....	$ Inquire
MODEL GI 100-9F	9V	100A	.....	$ Inquire
MODEL GI 100-12	12V	100A	.....	$ Inquire
MODEL GI 100-12F	12V	100A	.....	$ Inquire
MODEL GI 100-18	18V	100A	.....	$ Inquire
MODEL GI 100-18F	18F	100A	.....	$ Inquire
MODEL GI 150-6	6V	150A	.....	$ Inquire
MODEL GI 150-6F	6V	150A	.....	$ Inquire
MODEL GI 150-9	9V	150A	.....	$ Inquire
MODEL GI 150-9F	9V	150A	.....	$ Inquire
MODEL GI 150-12	12V	150A	.....	$ Inquire
MODEL GI 150-12F	12V	150A	.....	$ Inquire
MODEL GI 200-9	9V	200A	.....	$ Inquire
MODEL GI 200-9F	9V	200A	.....	$ Inquire
MODEL GI 200-12	12V	200A	.....	$ Inquire
MODEL GI 200-12F	12V	200A	.....	$ Inquire

* FILTERED (F)

PRICES SUBJECT TO CHANGE

TECHNICIAN SPECIALS

MODEL G28-2	28V	2A	1% R	..... $37.50
MODEL G48-3	48V	3A	1% R	..... $39.50
MODEL G115-1	115V	1A	1% R	..... $49.50

MAGNETICALLY REGULATED D.C. POWER SUPPLIES

REGULATION: Line ±1% for ±15% line voltage change load ±2% for any load change between ½ load and full load. Ripple 1% RMS Maximum. Rack or cabinet types.

VOLTS	D.C. OUTPUT AMPS	VA	CATALOG NUMBER	LOAD REGULATION 20% F.L.	50% F.L.	PRICE
6	10	60	6GDCV10	9	7	$130.00
6	15	90	6GDCV15	9	7	140.00
12	5	60	12GDCV5	7	5	92.00
12	10	120	12GDCV10	7	5	120.00
12	15	180	12GDCV15	7	5	155.00
18	5	90	18GDCV5	5	4	96.00
18	10	180	18GDCV10	7	5	141.00
24	6	144	24GDCV6	5	4	116.00
24	10	240	24GDCV10	6	4	144.00
24	15	360	24GDCV15	5	4	200.00
24	25	600	24GDCV25	6	4	275.00
28	8	224	28GDCV8	6	4	144.00
28	15	420	28GDCV15	7	5	200.00
48	4	192	48GDCV4	3.5	2.5	109.00
48	4	480	48GDCV4	4	2	149.00
48	20	960	48GDCV20	3	2	223.00
125	2	250	125GDCV2	2.5	1.5	117.00
150	2	300	150GDCV2	2	1.5	117.00
150	1	200	200GDCV1	3	2	112.00
250	1	250	250GDCV1	3	2	120.00

A single source for all possible types of "brute" force" and regulated power supplies that can fill 90% of your design and application needs. Gates Power Supplies give you absolutely lowest cost and long life. The units are excellently constructed of high rated components for trouble free, years of service.

Silicon or Selenium. Single and three-phase units. 1 to 1000 volts, 1 to 1000 Amps. Metered and unmetered Static or variable outputs. Rack, cabinet or chassis mounts. Unit or hundred quantities 48 hour delivery. Two year guarantees. Power supplies for OEM Application, Testing Prototype, Lab type units, Plating, Motor Control, Cathode Protection, Transistor power, Anodizing, Battery Charging, Battery Conversions, Marine types, Aircraft Starting.

GATES

ELECTRONIC COMPANY, INC.

Net

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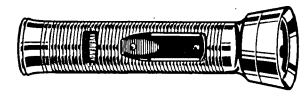
FLASHLIGHTS, LANTERNS and BATTERIES

the world's most trusted brand for over 50 years!

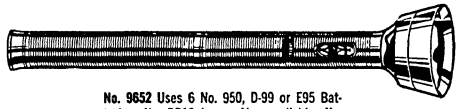
ALL PRICES WITHOUT BATTERIES.

"CAPTAIN" FLASHLIGHTS... Classic Design

- Heavy-Duty Copper/Nickel/Chrome/Plated Steel
- Exclusive 3-Way Lock Switch and Flasher
- End-Loading... Ring Hanger



No. 9951 Magnet Lite. Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp.



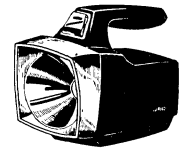
No. 9652 Uses 6 No. 950, D-99 or E95 Batteries, No. PR18 Lamp. Also available: **No. 9352**—Uses 3 No. 950, D-99 or E95 Batteries, No. PR3 Lamp.

No. 9251 Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Also available: **No. 9351**—Uses 3 No. 950, D-99 or E-95 Batteries, No. PR3 Lamp and **No. 9231**—Uses 2 No. 935 or E93 Batteries, No. PR4 Lamp.

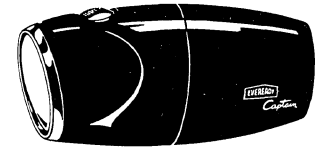
	No. 9231	No. 9251	No. 9351	No. 9352	No. 9652	No.9951
List Each	$2.29	$2.29	$2.95	$3.95	$5.95	$2.95
Sugg. Dealer	1.53	1.53	1.97	2.64	3.81	1.97

Rechargeable Devices

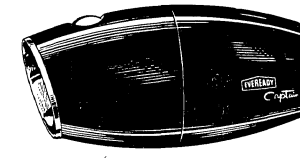
—Never need batteries
—Retain a charge up to a year when not in use
—One year warranty



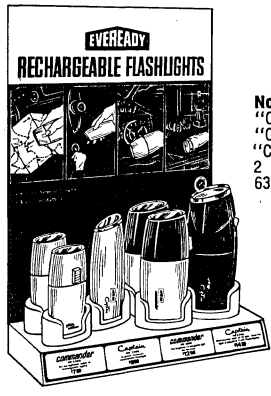
No. 3112 "Commander" Rechargeable Lantern — Modern, easy-to-hold, cantilever handle with thumb-tip, pushbutton control.



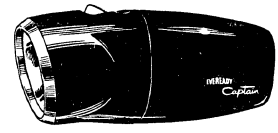
No. 3210 "Captain" Rechargeable Mini-Spotlight — Smooth roll action switch. Ideal for pocket or purse. Available in Harbor Blue or Jet Black.



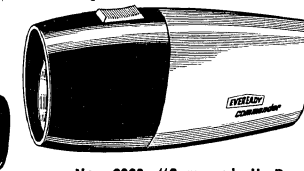
No. 3200 "Captain" Rechargeable Flashlight-Compact. Never needs batteries. Available in Blue or Black. Gift boxed.



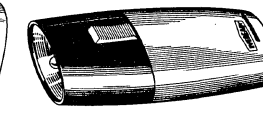
No. 71 Display 1 "Captain" 3200BL, 1 "Captain" 3300, 2 "Commander" 6200's, 2 "Commander" 6300's.



No. 3300 "Captain" Rechargeable Flashlight—Twice the light of standard 2-Cell Flashlights . . . never needs batteries! Uses rechargeable battery, No. PR-3 Lamp. Gift boxed or blister packed.



No. 6300 "Commander" Rechargeable Flashlight—Handy for pocket or purse. Available in Diablo Red/Oyster White finish. Gift boxed or blister packed.

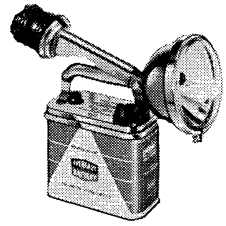


No. 6200 "Commander" Compact Rechargeable Flashlight —Personal size . . . fits pocket or purse. Low cost, high quality. Available in Frost Blue/Oyster White finish. Gift boxed or blister packed.

No. 3400 "Captain" Rechargeable Lantern—Twice the light of other rechargeable lanterns, powerful sealed beam lamp generates 13,000 candle power, ruggd carrying case. Easy grip cantilever handle with finger tip switch.

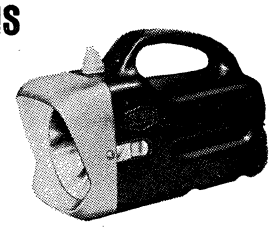
	No. 71	No. 3112	No. 3200	No. 3210BP	No. 3300	No. 3400	No. 6200	No. 6300
List Each	$66.70	$19.95	$9.95	$10.95	$14.95	$39.95	$7.95	$12.95
Sugg. Dealer	40.02	11.97	5.97	6.57	8.97	23.97	4.77	7.77

WEATHERPROOF LANTERNS



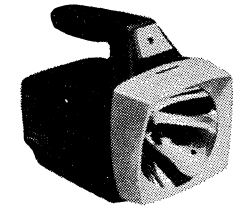
No. 100WB "Big Jim" Lantern w/flasher and 1 No. 731 Battery, No. 4546 Lamp, No. 407 Signal Lamp.

No. 101WB Same without flasher.



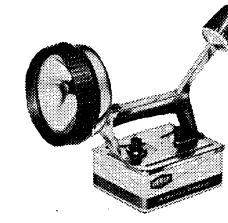
No. 108A All American Lantern. "Cordahide" polyethylene construction. Uses 1 No. 509 Battery. No. PR13 Lamp.

No. 68A Display—Contains 3 No. 108A All American Lanterns in Colors (white, red, black).



No. 112 individually boxed (red) All American Lantern with unique power cartridge. "Cordahide" polyethylene construction. Uses No. PR12 Lamp, 5 No. 950, D99 or E95 batteries.

No. 72 Display. 3 No. 112 All American Lanterns in colors (red, blue, gray).



No. 150 "Captain" Stainless Steel Lantern. Uses 1 No. 520 Alkaline Battery and No. 4618 1-ampere Lamp for Double Brilliance, Longer Service, No. 407 Signal Lamp.

No. 151 Same without flasher.

	No. 68A	No. 72	No. 100WB	No. 101WB	No. 108A	No. 112	No. 150	No. 151
List Each	$15.92	$8.94	$13.95	$11.95	$3.98	$2.98	$14.00	$12.00
Sugg. Dealer	10.60	5.97	8.90	7.55	2.65	1.99	8.39	7.19

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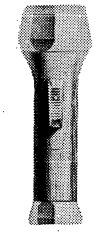
"CORDAHIDE" polyethylene FLASHLIGHTS—

Insulated, Withstand Abuse, Resists Oils, Greases, Most Chemicals.

No. 330 Utility Lite. Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Available individually boxed (**No. 330**).

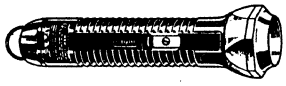


No. 349 Handy Lite. Uses 2 No. 935 or E-93 Batteries, No. PR4 Lamp. Available in assortment of 6 (**No. 49**) in colors.

No. 337 Magnet Utility Lite. Uses 2 No. 950, D-99 or E95 Batteries, No. PR2 Lamp. Available individually boxed (**No. 337**) or in display of 12 (**No. 51**) in Colors.

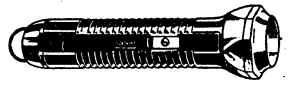
	No. 49	No. 51	No. 330	No. 337
List Each	$5.94	$16.68	$0.99	$1.39
Sugg. Dealer	4.14	11.16	0.70	0.94

INDUSTRIAL and SPECIAL PURPOSE LITES



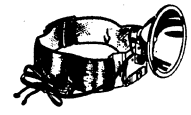
Industrial Flashlights

No. 1251—2 Cell, No. PR6 Lamp. **No. 1351**—3 Cell, No. PR7 Lamp. Uses Nos. 950, 1050, D99 or E95 Batteries. Will not shatter crack or dent.

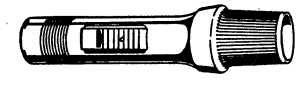


Safety Flashlights

No. 1259—2 Cell, No. PR6 Lamp. **No. 1359**—3 Cell, No. PR7 Lamp. Uses Nos. 950, 1050, D99 or E95 Batteries. Approved by U.S. Bureau of Mines, Listed by Underwriters' Laboratories, Inc.



No. 3452 Head-Lite. Uses 1 No. 510S Battery and No. PR13 Lamp. Rainproof pouch also available (No. 1348).



Torch Lite

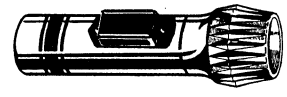
No. 2T3—3" wand. **No. 2T5**—5" wand. Uses 2 No 950, D99 or E95 Batteries and No. PR2 Lamp.

	No. 2T3	No. 2T5	No. 1251	No. 1259	No. 1348	No. 1351	No. 1359	No. 345z
List Each	$1.49	$1.59	$2.89	$4.15	$0.79	$3.29	$4.35	$3.29
Sugg. Dealer	.99	1.05	1.93	2.74	0.53	2.19	2.89	2.14

HEAVY-GAUGE, CHROME-PLATED METAL FLASHLIGHTS

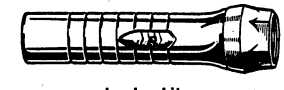
America's Standard

No. 2251 All-Purpose Flashlight—2 Cell, No. PR2 Lamp. Use Nos. 950, D-99 or E95 Batteries. Available individually.



Magnet Lites

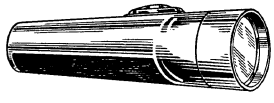
No. 5MF Magnet Lite—2 Cell, No. PR2 Lamp. No. 7MF—3 Cell, No. PR3 Lamp. Use Nos. 950, D-99 or E95 Batteries. Available individually boxed. **No. 5MF** available in display of 6 with Selling Tags (**No. 6-5MF**).



Leader Lites

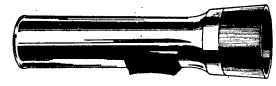
No. 356 Leader Lite—Uses 2 No. 950, D-99 or E95 Batteries. No. PR2 Lamp. Available in Displayer **No. 16A** (containing 12 No. 356 Lites).

	No. 4MF	No. 5MF	No. 5	No. 6-5MF	No. 7MF	No. 16A	No. 44	No. 26	No. 131	No. 2251	No. 4251	No. 5251
List Each	$2.29	$1.99	$11.88	$11.94	$2.49	$11.88	$13.74	$11.94	$14.28	$1.95	$1.99	$.99
Sugg. Dealer	1.53	1.33	7.14	7.98	1.66	7.56	9.18	7.98	9.48	1.30	1.33	.595

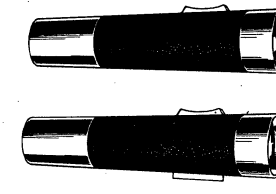


No. 26 Offer 6 "Eveready" Wrangler No. 4251 flashlights in pre-packed, pre-loaded displayer.

No. 4251 Wrangler Flashlight Luxurious, inset, walnut grain vinyl, chrome-plated lens ring, 4-position switch, optically perfect reflector. Available individually boxed. Uses 2 No. 950, D-99 or E95 Batteries. No. PR-2 lamp.



No. 5251 "Commander" Flashlight Triple-plated chrome finish, sturdy, safety-glow lens ring. Positive action switch. Uses 2 No. 950, D-99 or E95 batteries. No. PR-2 Lamp.



No. 44 Assortment—Contains 6 No. 4MF "Eveready" Magnet Lites (2 red, 2 gold, 2 blue).

No. 4MF "Pop-Out" Magnet Flashlight Hidden magnet bulb into sleek case pops out when placed near steel, retracts into case when removed.

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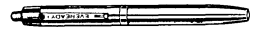
ALL PRICES WITHOUT BATTERIES.

MINIATURE FLASHLIGHTS

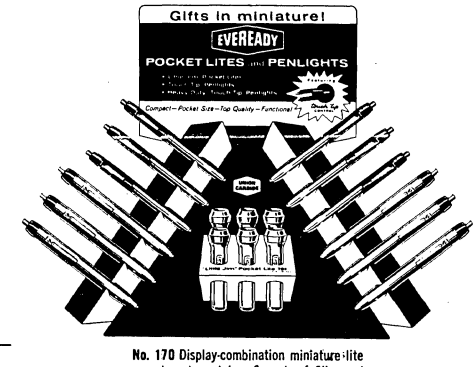
No. 115 "Little Jim" Pocket Lite—Uses 1 No. 915 or E91 Battery, No. 112 Lamp. Available in Counter Display of 12 (No. 15).

No. 315 Heavy-Duty Penlite. Uses 2 No. 915 or E91 Batteries and No. 222 Lamp. Available individually boxed or in Counter Display of 12 (No. 22).



No. 312 Slim Penlite. Uses 2 No. 912 or E92 Batteries and No. 224 Lamp. Available individually boxed or in Counter Display of 12 (No. 12).

	No. 12	No. 15	No. 22	No. 170	No. 312	No. 315
List Each	$15.48	$9.48	$15.48	$20.22	$1.29	$1.29
Sugg. Dealer	10.20	6.30	10.20	13.35	.85	0.85



No. 170 Display-combination miniature-lite assortment contains: 6 each of Slim and Heavy Duty Penlites and 6 "Little Jim" Pocket Lites.

EVEREADY® BATTERIES with *POWER TO SPARE*

(See complete line listing for prices)

POPULAR FLASHLIGHT BATTERIES

No. 915 Size AA

No. 935 Size C

No. 950 Size D

No. D99 Heavy-Duty Size D

ENERGIZERS FOR TRANSISTOR RADIOS

and other electronic applications

No. 206 9 Volts

No. 216 9 Volts

No. 226 9 Volts

No. 333 4½ Volts

Io. 1035 Size C ½ Volts

No. 1015 Size AA 1½ Volts

SUPER POWER ALKALINE BATTERIES

for radios, cameras, toys, flashlights, and high drain applications, rechargeable TV

No. E90 Size N 1½ Volts

No. E91 Size AA 1½ Volts

No. 563 4½ Volts

No. E93 Size C 1½ Volts

No. E95 Size D 1½ Volts

No. E92 Size AAA 1½ Volts

No. 523 4½ Volts

No. 561 15 Volts

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EVEREADY COMPLETE LINE SPECIFICATIONS EVEREADY

MERCURY BATTERIES

No. E9
1.4 Volts

No. E146X
8.4 Volts

No. E133
4.2 Volts

SEALED NICKEL CADMIUM RECHARGEABLE BATTERIES

B50
1.25 Volts

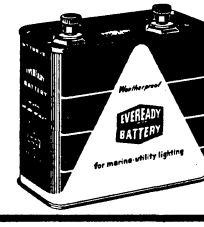
C450
1.25 Volts

CH4
1.25 Volts

R2
1.25 Volts

LANTERN BATTERIES

No. 509 — Spring
No. 510S — Screws
No. 510F — Fahnestock
6 Volts



No. 731
6 Volts

No. 520
6 Volts
Alkaline

OTHER BATTERIES

No. 6 "Ignitor"
1½ Volts

"HOT SHOT"
No. 1461 6 Volts
No. 1462 6 Volts
No. 1463 12 Volts
No. 1562 7½ Volts
No. 1662 9 Volts

EMERGENCY LIGHTING
No. 715 7½ Volts
No. 706 6 Volts
No. 716 9 Volts

"Eveready" Battery Number	NEDA Number		Overall Dimensions in Inches L W H	Terminals & Voltages	Battery Weight lbs.	Battery Weight ozs.	Unit Pkg. Quan.	Sugg. Dealer Each	List Each	Major Use
B1	—	Nickel Cad.	1.980 Diam. x 0.394	Flat Contacts—, +1.25	—	2.0	1	2.66	3.80	
•B1T	—	Nickel Cad.	1.980 Diam. x 0.406	Solder Tabs—, +1.25	—	2.0	1	2.79	4.00	
BH1	—	Nickel Cad.	1.980 Diam. x 0.394	Flat Contacts—, +1.25	—	2.0	1	2.79	4.00	Instr., Hobby, Trans. Appl., Misc.
•BH1T	—	Nickel Cad.	1.980 Diam. x 0.406	Solder Tabs—, +1.25	—	2.0	1	2.92	4.20	
CH1.0	—	Nickel Cad.	1.034 Diam. x 1.167	Flat Contacts—, +1.25	—	1.8	1	2.32	3.35	
•CH1.0T	—	Nickel Cad.	1.034 Diam.. x 1.177	Solder Tabs—, +1.25	—	1.8	1	2.45	3.55	
E1	1100	Mercury	0.625 Diam. x 0.650	Flat Contacts—, +1.35	—	0.43	4	0.57	0.85	
E1N	—	Mercury	0.625 Diam. x 0.650	Flat Contacts—, +1.35	—	0.43	4	0.64	0.95	Meters, Instr., Misc.
EPX-1	—	Mercury	0.625 Diam. x 0.650	Flat Contacts—, +1.35	—	0.43	4	0.66	0.95	
C1.2	—	Nickel Cad.	0.900 Diam. x 1.684	Flat Contact—, Solder Tab +1.25	—	1.7	1	2.32	3.35	Instr., Trans.
•C1.2T	—	Nickel Cad.	0.900 Diam. x 1.689	Solder Tabs—, +1.25	—	1.7	1	2.45	3.55	Appl., Misc.
CH1.2	—	Nickel Cad.	0.900 Diam. x 1.684	Flat Contact—, Solder Tab +1.25	—	1.7	1	2.58	3.70	
CH1.2T	—	Nickel Cad.	0.900 Diam. x 1.689	Solder Tabs—, +1.25	—	1.7	1	2.71	3.90	Camera Light Meter
CH1.5	—	Nickel Cad.	1.031 Diam. x 1.969	Flat Contact—, Solder Tab +1.25	—	2.3	1	4.06	5.80	
•CH1.5T	—	Nickel Cad.	1.031 Diam. x 1.974	Solder Tabs—, +1.25	—	2.3	1	4.19	6.00	
RH1.6	—	Nickel Cad.	1⅝ x 4¾₄ x 2¹⁷⁄₃₂	Nut & Stud—, +1.25	—	4.1	1	3.53	5.00	
B2	—	Nickel Cad.	1.984 Diam. x 0.689	Flat Contact—, +1.25	—	3.3	1	4.69	6.70	
•B2T	—	Nickel Cad.	1.984 Diam. x 0.701	Solder Tabs—, +1.25	—	3.3	1	4.82	6.90	
C2	—	Nickel Cad.	1.344 Diam. x 2.406	Flat Contact—, Solder Tab +1.25	—	5.0	1	4.06	5.80	Instr., Hobby, Trans. Appl., Misc.
•C2T	—	Nickel Cad.	1.344 Diam. x 2.416	Solder Tabs—, +1.25	—	5.0	1	4.19	6.00	
R2	—	Nickel Cad.	1²⁵⁄₆₄ x 1²⁵⁄₆₄ x 2¹⁵⁄₃₂	Nut, Stud & Tab—, +1.25	—	6.0	1	5.97	8.50	
RH2.6	—	Nickel Cad.	1⅝ x 4¾₄ x 4¼₄	Nut & Stud—, +1.25	—	6.8	1	5.51	7.95	
B3	—	Nickel Cad.	1.984 Diam. x 0.984	Flat Contacts—, +1.25	—	5.0	1	5.70	8.15	
•B3T	—	Nickel Cad.	1.984 Diam. x 0.996	Solder Tabs—, +1.25	—	5.0	1	5.83	8.35	
E3	—	Mercury	0.985 Diam. x 0.660	Flat Contacts—, +1.35	—	.93	4	1.05	1.50	Meters, Instr., Misc.
NP3.5-6T	—	Lead Acid	2¹³⁄₁₆ x 1⅞ x 4⅝₂	Solder Tabs—, +6	1	10.0	1	12.94	18.50	
PDA3.5-6W	—	Lead Acid	2¹³⁄₁₆ x 1⅞ x 3¹³⁄₁₆	Wire Leads—, +6	1	5.0	1	8.62	12.50	Appl., Instr., Misc.
R3.5	—	Nickel Cad.	1²⁵⁄₆₄ x 1²⁵⁄₆₄ x 3⁷⁄₁₆	Nut, Stud & Tab—, +1.25	—	9.2	1	7.12	10.15	
CH4	—	Nickel Cad.	1.344 Diam. x 2.406	Flat Contact—, Solder Tab +1.25	—	5.4	1	5.69	8.15	Instr., Hobby, Trans. Appl., Misc.
•CH4T	—	Nickel Cad.	1.344 Diam. x 2.416	Solder Tabs—, +1.25	—	5.4	1	5.82	8.35	
E4	—	Mercury	1.195 Diam. x 0.660	Flat Contacts—, +1.25	—	1.6	4	1.31	1.95	Meters, Instr., Misc.
EPX-4	—	Mercury	0.662 Diam. x 1.965	Flat Contacts—, +5.4	—	1.16	1	1.57	2.25	Camera
RH4	—	Nickel Cad.	1⅝ x 6¼₄ x 4¼₄	Nut & Stud—, +1.25	—	9.5	1	8.40	12.00	
R4.5	—	Nickel Cad.	1³¹⁄₃₂ x 1⁴⁵⁄₆₄ x 3⁵⁄₃₂	Nut & Stud—, +1.25	—	13.4	1	9.35	13.35	Instr., Trans. Appl., Misc.
No. 6 "Ignitor" Gen. Purpose	905 914	Carb. Zinc	2⅝ Diam. x 6²¹⁄₃₂	**Knurled Nut & Screw—, +1.5	2	1.0	1	0.91	1.35	Ign. Lighting
No. 6 "Gray Label" Telephone	906	Carb. Zinc	2⅝ Diam. x 6²¹⁄₃₂	***Fahnestock—, +1.5	2	2.0	1	0.91	1.35	Tele.
No. 6 Railroad & Industrial	911	Carb. Zinc	2⅝ Diam. x 6²¹⁄₃₂	**Knurled Nut & Screw—, +1.5	2	3.0	1	0.94	1.40	Ign., Tele.
EPX-6	—	Mercury	0.662 Diam. x 4.415	Flat Contacts—, +4.05, +8.1	—	1.6	1	2.75	3.95	Camera
NPA6-6T	—	Lead Acid	4½ x 2⅛ x 3²¹⁄₃₂	Solder Tabs—, +6	2	3.0	1	18.83	26.95	Appl., Instr., Misc.

*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping.
**Equipped with screw terminals unless Fahnestock spring terminals are specified.
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• Items differ from corresponding sizes in that they have tabs enabling the user to solder leads to battery without damage.
□Flashlight types.

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EVEREADY

COMPLETE LINE SPECIFICATIONS

EVEREADY

"Eveready" Battery Number	NEDA Number	Chemical System	Overall Dimensions in Inches L W H	Terminals & Voltages	Battery Weight lbs.	Battery Weight ozs.	Unit Pkg. Quan.	Sugg. Dealer Each	List Each	Major Use
R6	—	Nickel Cad.	2 3/32 x 1 45/64 x 3 45/64	Nut & Stud—, +1.25	—	15.7	1	10.21	14.60	Instr., Trans. Appl., Misc.
RH7	—	Nickel Cad.	1 5/8 x 1 33/64 x 4 1/64	Nut & Stud—, +1.25	—	14.7	1	11.96	17.10	
R7.5	—	Nickel Cad.	2 3/32 x 1 45/64 x 4 1/4	Nut & Stud—, +1.25	1	1.0	1	11.17	15.95	
NPA8-T	—	Lead Acid	6 x 2 x 3 7/8	Solder Tabs—, +6	3	6.0	1	20.55	29.50	Appl., Instr., Misc.
E9	15M	Mercury	0.550 Diam. x 1.968	Flat Contacts—, +1.4	—	1.05	4	0.64	0.95	Trans. Radio
R11	—	Nickel Cad.	3 1/32 x 1 1/16 x 4 5/64	Nut & Stud—, +1.25	1	12.0	1	13.79	19.70	Instr., Trans. Appl., Misc.
E12	1101	Mercury	0.640 Diam. x 1.968	Flat Contacts—, +1.4	—	1.6	2	0.92	1.35	Trans. Radio
E12N	—	Mercury	0.640 Diam. x 1.968	Flat Contacts—, +1.35	—	1.6	2	1.05	1.50	Instr., Misc.
E13	—	Mercury	0.310 Diam. x 0.210	Flat Contacts—, +1.4	—	0.04	6	0.27	0.40	Electr. Dev.
S13	—	Silver	0.310 Diam. x 0.210	Flat Contacts—, +1.5	—	0.04	6	0.30	0.45	Electr. Dev.
EPX-13	—	Mercury	0.615 Diam. x 0.238	Flat Contacts—, +1.35	—	0.14	4	0.50	0.75	Camera Light Meter
EPX-14	—	Mercury	0.655 Diam. x 0.607	Flat Contacts—, +2.7	—	0.27	4	1.05	1.50	
R15	—	Nickel Cad.	3 1/32 x 1 25/64 x 4 5/64	Nut & Stud—, +1.25	2	3.0	1	16.78	23.95	Instr., Trans. Appl., Misc.
RH15	—	Nickel Cad.	3 1/32 x 1 3/16 x 4 3/32	Nut & Stud—, +1.25	1	11.0	1	21.57	30.75	
R19	—	Nickel Cad.	3 1/32 x 1 45/64 x 4 5/64	Nut & Stud—, +1.25	2	10.0	1	19.90	28.45	
B20	—	Nickel Cad.	0.457 Diam. x 0.213	Flat Contacts—, +1.25	—	.4	1	1.05	1.50	
•B20T	—	Nickel Cad.	0.457 Diam. x 0.223	Solder Tabs—, +1.25	—	.4	1	1.18	1.70	
EPX-23	—	Mercury	0.590 Diam. x 0.767	Flat Contacts—, +5.6	—	0.12	6	0.60	0.85	Photoflash
R23	—	Nickel Cad.	3 1/32 x 2 1/64 x 4 5/64	Nut & Stud—, +1.25	3	2.0	1	22.94	32.75	Instr. Misc.
EPX25	—	Mercury	0.660 Diam. x 0.845	Flat Contacts—, +4.05	—	0.45	2	1.75	2.50	Photo.
EPX29	—	Mercury	0.475 Diam. x 0.680	Flat Contacts—, +4.05	—	0.3	2	1.15	1.65	Photo.
T35	—	Carb. Zinc	1 1/32 Diam. x 1 15/16	Flat Contacts—, +1.5	—	1.4	6	0.39	0.60	Elec. Clock
E41	—	Mercury	0.455 Diam. x 0.162	Flat Contacts—, +1.4	—	0.07	6	0.27	0.40	Electr. Dev.
S41	—	Silver	0.455 Diam. x 0.165	Flat Contacts—, +1.5	—	0.06	6	0.30	0.45	Novelties
E42	13M	Mercury	1 19/32 Diam. x 2.390	Flat Contacts—, +1.4	—	5.85	1	2.85	4.25	Instr., Trans. Appl., Misc.
E42N	—	Mercury	1 19/32 Diam. x 2.390	Flat Contacts—, +1.35	—	5.85	1	2.85	4.25	
B50	—	Nickel Cad.	0.610 Diam. x 0.235	Flat Contacts—, +1.25	—	0.12	1	0.70	1.00	
•B50T	—	Nickel Cad.	0.610 Diam. x 0.245	Solder Tabs—, +1.25	—	0.12	1	0.83	1.20	
T50	—	Carb. Zinc	1 1/32 Diam. x 2 13/32	Flat Contacts—, +1.5	—	3.3	6	0.48	0.75	
N63	—	Nickel Cad.	2.81 x 2.81 x 1.32	Spade Terminals—, +14.4	—	12.5	1	26.60	38.00	Elec. Clock
N65	—	Nickel Cad.	7.32 x 3.1 x 1.46	Socket—, +13.75	1	11.0	1	101.28	145.00	Instr., Trans. Appl., Misc.
N67	—	Nickel Cad.	1 31/64 x 1 33/64 x 4 13/64	Wire Leads—, +6.25	—	8.3	1	18.38	26.50	
N70	—	Nickel Cad.	3 7/8 x 1 3/16 x 4 1/32	Wire Leads—, +6.25	1	12.0	1	29.62	42.50	
S76	—	Silver	0.455 Diam. x 0.200	Flat Contacts—, +1.5	—	0.08	6	0.33	0.50	Novelties
EPX77	1107A	Alkaline	0.455 Diam. x 0.220	Flat Contacts—, +1.5	—	0.08	6	0.66	1.00	Camera Lt. Meter
E89	1107A	Alkaline	0.563 Diam. x 1.087	Flat Contacts—, +1.25	—	0.4	2	0.27	0.40	Trans. Appl.
E90	910A	Silver	0.470 Diam. x 1.130	Flat Contacts—, +1.5	—	0.35	2	0.27	0.40	Radio, Electr. Dev.
E91	15A	Alkaline	3/16 Diam. x 1 31/32	Flat Contacts—, +1.5	—	0.75	24	0.325	0.50	
E92	24A	Alkaline	0.410 Diam. x 1.745	Flat Contacts—, +1.5	—	0.4	12	0.325	0.50	Electr. Photoflash
E93	14A	Alkaline	1 1/32 Diam. x 1 15/16	Flat Contacts—, +1.5	—	2.2	12	0.4225	0.65	Radio, Electr. Dev.
E94	927	Alkaline	1 1/32 Diam. x 1 13/64	Flat Contacts—, +1.5	—	1.8	12	0.49	0.75	Spec. Lighting Appl.
E95	13A	Alkaline	1 1/32 Diam. x 2 13/32	Flat Contacts—, +1.5	—	4.5	12	0.585	0.90	Electr. Photoflash, Comm. Equip.
□D99	13D	Carb. Zinc	1 1/32 Diam. x 2 13/32	Flat Contacts—, +1.5	—	3.3	48	0.19	0.30	Flashlight, Toys
B100	—	Nickel Cad.	0.992 Diam. x 0.252	Flat Contacts—, +1.25	—	0.32	1	0.77	1.10	Instr.
•B100T	—	Nickel Cad.	0.992 Diam. x 0.264	Solder Tabs—, +1.25	—	0.32	1	0.90	1.30	
E113	—	Mercury	0.660 Diam. x 0.845	Flat Contacts—, +4.05	—	0.45	2	1.72	2.50	
E114	—	Mercury	0.660 Diam. x 1.08	Flat Contacts—, +5.40	—	0.59	2	1.85	2.65	
E115	—	Mercury	0.660 Diam. x 1.4	Flat Contacts—, +7	—	0.73	2	2.00	2.85	
E115N	—	Mercury	0.660 Diam. x 1.4	Flat Contacts—, +6.75	—	0.73	2	2.06	2.95	
E126	1611M	Mercury	0.724 Diam. x 2	Flat Contacts—, +8.4	—	1.65	1	1.32	1.95	Trans. Radio
E132	1200	Mercury	0.662 Diam. x 1.315	Flat Contacts—, +2.8	—	0.9	2	1.05	1.50	
E132N	—	Mercury	0.662 Diam. x 1.315	Flat Contacts—, +2.7	—	0.9	2	1.17	1.65	
E133	1306M	Mercury	0.662 Diam. x 1.965	Flat Contacts—, +4.2	—	1.4	12	1.32	1.95	
E133N	—	Mercury	0.662 Diam. x 1.965	Flat Contacts—, +4.05	—	1.4	2	1.37	2.00	Instr., Trans. Appl.
E134	—	Mercury	0.662 Diam. x 2.620	Flat Contacts—, +5.6	—	1.9	2	1.57	2.25	
E134N	—	Mercury	0.662 Diam. x 2.620	Flat Contacts—, +5.4	—	1.9	2	1.72	2.50	
E135	—	Mercury	0.662 Diam. x 3.275	Flat Contacts—, +7	—	2.4	2	2.06	2.75	
E135N	—	Mercury	0.662 Diam. x 3.275	Flat Contacts—, +6.75	—	2.4	2	2.06	2.95	
E136	—	Mercury	0.662 Diam. x 3.930	Flat Contacts—, +8.4	—	2.9	2	2.27	3.25	
E136N	—	Mercury	0.662 Diam. x 3.930	Flat Contacts—, +8.1	—	2.9	2	2.40	3.50	
E137	—	Mercury	0.662 Diam. x 4.585	Flat Contacts—, +9.8	—	3.3	1	2.62	3.75	
E137N	—	Mercury	0.662 Diam. x 4.585	Flat Contacts—, +9.45	—	3.3	1	2.80	4.00	
E145	—	Mercury	21/32 Diam. x 1 3/16	Flat Contacts—, +7	—	0.7	2	1.98	2.90	
E146X	1604M	Mercury	1 1/32 x 5/8 x 2	Min. Snap—, +8.4	—	1.6	6	1.32	1.95	Trans. Radio
B150	—	Nickel Cad.	0.992 Diam. x 0.272	Flat Contacts—, +1.25	—	0.4	1	0.80	1.15	Instr., Trans. Appl., Misc.
•B150T	—	Nickel Cad.	0.992 Diam. x 0.284	Solder Tabs—, +1.25	—	0.45	1	0.93	1.35	
E152	—	Mercury	0.485 Diam. x 1.140	Flat Contacts—, +2.8	—	0.42	2	0.87	1.25	
E152N	—	Mercury	0.485 Diam. x 1.140	Flat Contacts—, +2.7	—	0.42	2	1.05	1.50	
E153	—	Mercury	0.485 Diam. x 1.708	Flat Contacts—, +4.2	—	0.6	2	1.27	1.85	Instr.
E153N	—	Mercury	0.485 Diam. x 1.708	Flat Contacts—, +4.5	—	0.6	2	1.39	2.00	
E162	—	Mercury	0.662 Diam. x 0.887	Flat Contacts—, +2.7	—	0.58	2	1.05	1.50	Instr., Trans. Appl.
E163	1305	Mercury	0.662 Diam. x 1.327	Flat Contacts—, +4.2	—	0.87	2	1.32	1.95	
E163N	—	Mercury	0.662 Diam. x 1.327	Flat Contacts—, +4.05	—	0.87	2	1.65	2.45	
E164	1404	Mercury	0.662 Diam. x 1.767	Flat Contacts—, +5.6	—	1.16	12	1.32	1.95	
E164N	—	Mercury	0.662 Diam. x 1.767	Flat Contacts—, +5.4	—	1.16	2	1.57	2.25	
E165	1500	Mercury	0.662 Diam. x 2 21/32	Flat Contacts—, +7	—	1.45	2	1.70	2.50	
E165N	—	Mercury	0.662 Diam. x 2 21/32	Flat Contacts—, +6.75	—	1.45	2	1.90	2.75	
E169	1901	Mercury	0.622 Diam. x 3 43/64	Flat Contacts—, +12.6	—	4.2	1	3.50	4.95	
E175	1501	Mercury	1/2 Diam. x 1 3/32	Flat Contacts—, +7	—	1.0	1	1.05	1.50	
E177	1606A	Alkaline	35/64 Diam. x 1 29/32	Min. Snap—, +9	—	0.67	1	1.29	1.98	
206	1611	Carb. Zinc	3/4 Diam. x 2	Flat Contact, Neg. Recess.—, +9	—	1.2	6	0.62	0.89	Trans. Radio
216	1604	Carb. Zinc	1 1/32 x 2 1/32 x 1 29/32	Min. Snap—, +9	—	1.3	12	0.48	0.69	
222	1604D	Carb. Zinc	1 1/32 x 2 1/32 x 1 29/32	Min. Snap—, +9	—	1.3	12	0.64	0.98	
B225	—	Nickel Cad.	0.992 Diam. x 0.35	Flat Contacts—, +1.25	—	0.45	1	0.83	1.20	Instr., Hobby Trans. Appl., Misc.
•B225T	—	Nickel Cad.	0.992 Diam. x 0.363	Solder Tabs—, +1.25	—	0.45	1	0.97	1.40	
BH225	—	Nickel Cad.	0.992 Diam. x 0.358	Flat Contacts—, +1.25	—	0.46	1	0.97	1.40	
•BH225T	—	Nickel Cad.	0.992 Diam. x 0.370	Solder Tabs—, +1.25	—	0.46	1	1.10	1.60	
226	1600	Carb. Zinc	1 Diam. x 1 15/16	Snap Type—, +9	—	2.0	6	0.68	0.98	Trans. Radio
228	1810	Carb. Zinc	1 Diam. x 2 7/16	Snap Type—, +12	—	2.3	1	1.05	1.50	Instr.
E233	1300	Mercury	1 1/64 Diam. x 1 31/32	Flat Contacts—, +4.2	—	3.0	1	2.34	3.50	
E233N	—	Mercury	1 1/64 Diam. x 1 31/32	Flat Contacts—, +4.05	—	3.0	1	2.62	3.75	
E234	—	Mercury	1 1/64 Diam. x 2 5/8	Flat Contacts—, +5.6	—	3.88	1	2.70	3.95	
E234N	—	Mercury	1 1/64 Diam. x 2 5/8	Flat Contacts—, +5.4	—	3.88	1	3.15	4.50	
E235N	—	Mercury	1.015 Diam. x 3 5/16	Flat Contacts—, +6.75	—	5.0	1	3.64	5.50	
E236N	—	Mercury	1.015 Diam. x 3 29/32	Flat Contacts—, +8.1	—	5.6	1	4.12	5.95	
239	1900	Carb. Zinc	1 21/64 x 1 1/32 x 2 11/16	Socket—, +9, +13.5	—	3.0	1	1.30	1.85	
243	1610	Carb. Zinc	1 13/32 x 1 11/32 x 2 3/4	Min. Snap—, +4.5	—	4.5	1	1.30	1.85	
246	1602	Carb. Zinc	1 13/16 x 1 13/16 x 2 3/4	Min. Snap—, +9	—	4.5	1	1.30	1.85	Trans. Radio Instr.
266	1605	Carb. Zinc	1 13/16 x 1 13/16 x 2 7/16	Snap Type—, +9	—	7.0	1	1.36	1.95	
276	—	Carb. Zinc	2 7/16 x 2 1/32 x 3 5/32	Snap Type—, +9	—	15.0	1	1.36	1.95	
E286	—	Mercury	1 Diam. x 1 15/16	Flat Contacts—, +8.4	—	1.6	1	1.35	1.95	
E289	1810M	Mercury	1 Diam. x 2 13/32	Snap Type—, +12.6	—	3.6	1	2.70	3.95	
E312	—	Mercury	0.312 Diam. x 0.140	Flat Contacts—, +1.4	—	0.02	6	0.245	0.35	

*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping.

□Flashlight types.

•Items differ from corresponding sizes in that they have tabs enabling the user to solder leads to battery without damage.

◆Furnished with Fahnestock spring terminals. If socket terminals required specify W-363P, W-364P, W-365P.

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EVEREADY

COMPLETE LINE SPECIFICATIONS

EVEREADY

"Eveready" Battery Number	NEDA Number	Chemical System	Overall Dimensions in Inches L	W	H	Terminals & Voltages	Battery Weight lbs.	Battery Weight ozs.	Unit Pkg. Quan.	Sugg. Dealer Each	List Each	Major Use
S312	—	Silver	0.312 Diam. x 0.140			Flat Contacts—, +1.4	—	0.02	6	0.27	0.40	Electr. Dev.
333	1306	Carb. Zinc	0.662 Diam. x 1.965			Flat Contacts—, +4.5	—	0.9	6	0.68	0.98	
W-350	*	Carb. Zinc	3 1/16	x 1 7/8	x 4 31/32	Knurled Nut & Screw—, +22.5+45	—	14.5	1	2.69	3.85	
W-352	701	Carb. Zinc	2 5/8	x 1 5/16	x 4 1/32	Knurled Nut & Screw—, +22.5+45	—	12.0	1	1.33	1.90	Electr. Dev. Instr.
W-353	11	Carb. Zinc	2 1/32	x 1 3/8	x 4 3/32	Socket—, +1.5	—	12.5	1	1.22	1.75	Port. Radio
W-356	*	Carb. Zinc	2 5/8	x 2 5/8	x 4 3/16	Knurled Nut & Screw—, +3	1	6.0	1	1.92	2.75	Radio & Electr. Dev.
W-357	901	Carb. Zinc	3 25/32	x 2 1/16	x 5 13/16	Fahnestock—, +3	2	12.0	1	1.92	2.75	Model Ign., Tele.
W-359	*	Carb. Zinc	3 3/16	x 2 1/4	x 4 1/2	Socket—, +45	1	11.8	1	3.46	4.95	Port. "B"
W-361	227	Carb. Zinc	1 3/8	x 1 3/8	x 11 23/32	Flat Contacts—, +103.5	1	4.0	1	4.86	6.95	Port. "B"
W-362	—	Carb. Zinc	2 27/32	x 1 9/32	x 1 29/32	Knurled Nut & Screw+, —4.5, —7.5	—	1.5	1	2.45	3.50	Radio "C"
◆W-363F	*	Carb. Zinc	8 1/32	x 4 1/16	x 7 5/8	Fahnestock—, +22.5, +45	10	5.0	1	7.66	10.95	Heavy Duty Radio "B"
W-364F	*	Carb. Zinc	8 1/16	x 4 7/16	x 7 11/16	Fahnestock—, +22.5, +45	11	14.0	1	8.37	11.95	Heavy Duty Radio "B"
◆W-365F	723	Carb. Zinc	8 1/16	x 2 1/4	x 4 23/32	Fahnestock—, +22.5, +45	7	7.5	1	7.66	10.95	Ind. "B"
E400	1106	Mercury	0.455 Diam. x 0.135			Flat Contacts—, +1.4	—	0.04	6	0.24	0.35	Trans. Appl.
E400N	—	Mercury	0.455 Diam. x 0.135			Flat Contacts—, +1.35	—	0.04	6	0.35	0.50	Trans. Appl.
E401	910M	Mercury	0.470 Diam. x 1.130			Flat Contacts—, +1.4	—	0.4	3	0.50	0.75	Trans. Appl.
E401N	—	Mercury	0.470 Diam. x 1.130			Flat Contacts—, +1.35	—	0.4	2	0.60	0.85	Trans. Appl.
409	908C	Carb. Zinc	2 5/8	x 2 5/8	x 4 13/32	Coil Springs—, +6	1	6.5	1	—	—	Lanterns
411	208	Carb. Zinc	1 1/32	x 5/8	x 1 29/64	Flat Contacts—, +15	—	0.95	1	0.81	1.15	Port. Radio "B" Instr.
412	215	Carb. Zinc	1 1/32	x 5/8	x 2	Flat Contacts—, +22.5	—	1.3	1	1.05	1.50	Port. Radio "B" Instr.
413	210	Carb. Zinc	1 1/32	x 5/8	x 2 9/16	Flat Contacts—, +30	—	1.6	1	1.23	1.75	Port. Radio "B" Instr.
415	213	Carb. Zinc	1 3/64	x 5/8	x 3 1/16	Min. Snap—, +45	—	2.5	1	1.75	2.50	Port. Radio "B" Instr.
416	217	Carb. Zinc	1 31/64	x 63/64	x 3 1/2	Min. Snap—, +67.5	—	4.0	1	2.07	2.95	Port. Radio "B" Instr.
417	224	Carb. Zinc	1 21/64	x 63/64	x 3 1/2	Flat Contacts—, +15	—	1.8	1	1.56	2.25	Port. Radio "B" Instr.
420	225	Carb. Zinc	1 5/16	x 3 1/32	x 1 9/16	Flat Contacts—, +22.5	—	2.5	1	1.65	2.35	Port. Radio "B" Instr.
425P	—	Carb. Zinc	1 23/64	x 1 1/32	x 3 15/16	Socket—, +22.5	—	4.1	1	2.10	3.00	Instr.
430	*	Carb. Zinc	1 5/16	x 1 x	2 13/16	Flat Contacts—, +30	—	3.2	1	1.92	2.75	Port. Radio "B"
437	212	Carb. Zinc	1 15/16	x 1 15/32	x 6 15/32	Snap Type—, +75	—	14.8	1	3.15	4.50	Port. Radio "B"
B450	—	Nickel Cad.	1.697 Diam. x 0.315			Flat Contacts—, +1.25	—	1.17	1	1.47	2.10	Instr., Hobby, Trans. Appl., Misc.
•B450T	—	Nickel Cad.	1.697 Diam. x 0.327			Solder Tabs—, +1.25	—	1.17	1	1.60	2.30	Instr., Hobby, Trans. Appl., Misc.
C450	—	Nickel Cad.	0.563 Diam. x 1.969			Flat Contacts—, +1.25	—	0.8	1	1.93	2.75	Instr., Hobby, Trans. Appl., Misc.
•C450T	—	Nickel Cad.	0.563 Diam. x 1.969			Solder Tabs—, +1.25	—	0.8	1	2.10	3.00	Instr., Hobby, Trans. Appl., Misc.
E450	—	Mercury	0.455 Diam. x 0.570			Flat Contacts—, +1.35	—	0.18	4	0.53	0.75	Instr.
455	*	Carb. Zinc	2 31/32	x 1 x	3 1/16	Snap Type—, +45	—	7.8	1	2.27	3.25	Port. Radio "B"
455P	—	Carb. Zinc	2 21/32	x 1 1/64	x 3 29/32	Sockets—, +45	—	8.6	1	2.27	3.25	Instr.
457	203	Carb. Zinc	2 13/16	x 1 3/8	x 2 1/2	Suap Type—, +67.5	—	7.4	1	2.70	3.85	Port. Radio "B"
†460	—	Carb. Zinc	1 29/64	x 1 3/8	x 2 3/8	Flat Contacts—, +45	—	5.3	1	1.67	2.50	Photoflash
467	200	Carb. Zinc	2 13/16	x 1 3/8	x 3 45/64	Snap Type—, +67.5	—	12.0	1	2.70	3.85	Port. Radio "B"
468	200C	Carb. Zinc	2 13/16	x 1 3/8	x 3 45/64	Snap Type—, +67.5	—	12.0	1	2.77	3.95	Radio, Electr. Dev.
477	211	Carb. Zinc	1 29/32	x 63/64	x 5 7/16	Snap Type—, +67.5	—	8.6	1	2.70	3.85	Port. Radio "B"
479	214	Carb. Zinc	1 31/32	x 1 1/32	x 7 15/32	Snap Type—, +90	—	12.0	1	2.97	4.25	Port. Radio "B"
482	202	Carb. Zinc	3 1/32	x 1 27/32	x 5 1/2	Socket—, +45	1	15.0	1	2.97	4.25	Port. Radio "B"
484	207	Carb. Zinc	3 31/32	x 2 1/32	x 5 5/32	Socket—, +45	3	2.0	1	3.47	4.95	Fluor. Lantern
487	—	Carb. Zinc	5 1/16	x 2 1/16	x 7 1/4	Socket—, +22.5, +45	4	2.0	1	3.84	5.50	Farm Radio "B"
489	—	Carb. Zinc	4 11/32	x 2 11/16	x 4 3/16	Socket—, +225	2	12.0	1	6.96	9.95	Electr. Flash
490	204	Carb. Zinc	3 23/32	x 1 3/8	x 3 45/64	Snap Type—, +90	—	15.0	1	3.15	4.50	Port. Radio "B"
491	—	Carb. Zinc	2 19/32	x 1 5/16	x 4 1/2	Flat Recessed & Socket—, +240	—	13.0	1	5.56	7.95	Electr. Flash
492	—	Carb. Zinc	3 5/16	x 2 29/32	x 4 29/32	Socket—, +180, +225	2	8.0	1	7.65	10.95	Electr. Flash
493	722	Carb. Zinc	2 11/16	x 2 7/32	x 3 29/32	Pinjacks—, +300	—	14.5	1	8.37	11.95	Geiger Counter
495	*	Carb. Zinc	1 15/16	x 1 13/32	x 7 1/8	Snap Type—, +90	1	—	1	3.47	4.95	Port. Radio "B"
497	—	Carb. Zinc	3 x 1 1/32	x 5 5/8		Flat Recessed—, +180, +510	1	10.0	1	11.16	15.95	Electr. Flash
BH500	—	Nickel Cad.	1.360 Diam. x 0.394			Flat Contacts—, +1.25	—	1.0	1	1.75	2.50	Instr., Hobby, Trans. Appl., Misc.
•BH500T	—	Nickel Cad.	1.360 Diam. x 0.416			Solder Tabs—, +1.25	—	1.0	1	1.88	2.70	Instr., Hobby, Trans. Appl., Misc.
CH500	—	Nickel Cad.	0.563 Diam. x 1.969			Flat Contacts—, +1.25	—	0.8	1	1.93	2.75	Instr., Hobby, Misc.
•CH500T	—	Nickel Cad.	0.563 Diam. x 1.974			Solder Tabs, +1.25	—	0.8	1	2.10	3.00	Instr., Hobby, Misc.
E502	—	Mercury	0.550 Diam. x 1.968			Flat Contacts—, +1.35	—	1.05	2	0.87	1.25	Trans. Appl.
504	220	Carb. Zinc	5/8	x 1 9/32	x 1 3/8	Flat Contacts—, +15	—	0.6	1	0.81	1.15	Instr.
505	221	Carb. Zinc	5/8	x 1 9/32	x 1 63/64	Flat Recessed—, +22.5	—	0.8	1	1.05	1.50	Instr.
506	223	Carb. Zinc	1 1/64	x 5/8	x 1 17/64	Flat Contacts—, +30	—	0.9	1	1.75	2.50	Instr.
507	*	Carb. Zinc	5/8	x 1 9/32	x 2.605	Flat Contacts—, +30	—	0.9	1	1.30	1.85	Instr.
509	908	Carb. Zinc	2 5/8	x 2 5/8	x 4 13/32	Coil Springs—, +6	1	5.5	1	0.92	1.39	Lantern
510F	917	Carb. Zinc	2 5/8	x 2 5/8	x 4 15/16	Fahnestock—, +6	1	4.0	1	0.92	1.39	Misc.
510S	*	Carb. Zinc	2 5/8	x 2 5/8	x 4 5/16	Knurled Nut & Screw—, +6	1	7.0	1	0.92	1.39	Misc.
520	930	Alkaline	5 17/32	x 4 21/32	x 2 21/32	Ins. Screw—, +6	2	8.0	1	3.31	4.95	Lanterns
E520	—	Mercury	0.495 Diam. x 0.286			Flat Contacts—, +1.4	—	0.07	6	0.21	0.30	Trans. Appl.
523	1306A	Alkaline	0.662 Diam. x 1.965			Flat Contacts—, +4.5	—	1.17	1	0.82	1.25	Photoflash, Trans. Radio
531	1307	Alkaline	0.664 Diam. x 2.290			Min. Snap—, +4.5	—	1.25	1	0.82	1.25	Automatic Camera
532	1308	Alkaline	0.664 Diam. x 1.670			Snap Type—, +3	—	0.8	1	0.70	1.00	Automatic Camera
544	1460A	Silver Oxide	0.510 Diam. x 0.990			Flat Contacts—, +6	—	0.5	1	1.75	2.50	Photo.
560	—	Alk. Sec.	2 21/32	x 1 17/32	x 7 5/32	Socket—, +7.5	1	9.0	1	4.62	6.95	Electr. Dev.
561	—	Alk. Sec.	8 5/16	x 2 13/16	x 5 7/8	Socket—, +15	6	—	1	10.62	15.95	Micro Television
563	—	Alk. Sec.	1 23/64	Diam. x 7 5/32		Flat Contacts—, +4.5	—	15.0	3	2.76	4.15	Micro Television
564	—	Alk. Sec.	8 5/16	x 2 13/16	x 5 7/8	Socket—, +13.5	5	8.0	1	9.94	14.95	Micro Television
596	—	Alk. Sec.	1.375 Diam. x 3713			Flat Contacts—, +1.5	—	7.5	1	1.20	1.75	Micro Television
E601	—	Mercury	0.627 Diam. x 1.140			Flat Contacts—, +1.35	—	1.22	2	0.83	1.30	Instr.
621	—	Carb. Zinc	2 5/16	Diam. x 13		Knurled Nut & Screw—, +3	4	10.0	1	3.68	5.50	Fishing Buoy
E625	—	Mercury	0.615 Diam. x 0.238			Flat Contacts—, +1.4	—	0.15	4	0.42	0.60	Trans. Appl.
E625N	—	Mercury	0.615 Diam. x 0.238			Flat Contacts—, +1.35	—	0.15	4	0.53	0.75	Trans. Appl.
EPX-625	—	Mercury	0.615 Diam. x 0.238			Flat Contacts—, +1.4	—	0.15	4	0.51	0.75	Camera Light Meter
E630	1104	Mercury	0.615 Diam. x 0.238			Flat Contacts—, +1.4	—	0.17	4	0.42	0.60	Trans. Radio
E630N	—	Mercury	0.615 Diam. x 0.238			Flat Contacts—, +1.35	—	0.17	4	0.53	0.75	Instr.
E640	1105	Mercury	0.625 Diam. x 0.440			Flat Contacts—, +1.4	—	0.38	4	0.42	0.60	Trans. Radio
E640N	—	Mercury	0.625 Diam. x 0.440			Flat Contacts—, +1.35	—	0.38	4	0.53	0.75	Instr.
EPX640	—	Mercury	0.625 Diam. x 0.440			Flat Contacts—, +1.35	—	0.13	2	0.53	0.75	Photo.
E675	—	Mercury	0.455 Diam. x 0.210			Flat Contacts—, +1.4	—	0.07	6	0.32	0.45	Instr.
EPX675	—	Mercury	0.445 Diam. x 0.210			Flat Contacts—, +1.35	—	0.09	6	0.42	0.60	Photo.
703	*	Carb. Zinc	2 7/16	x 2 7/32	x 3 1/16	Spring—, +4.5	—	5.0	1	1.36	1.95	Instr.
706	902	Carb. Zinc	8 5/16	x 2 13/16	x 6 7/16	Ins. Screw—, +6	5	14.0	1	4.01	5.98	Ign., Emerg. Lighting
707	26	Carb. Zinc	2 5/16	x 2 1/32	x 2 13/16	Snap Type—, +7.5	—	12.0	1	1.15	1.65	Port. Radio "A"
711	700	Carb. Zinc	2 5/8	x 1 5/16	x 4 1/32	Knurled Nut & Screw—, +1.5	—	12.0	1	0.79	1.15	Model Ign. "Glo-Plug"
713	8	Carb. Zinc	3 29/32	x 53/64	x 2 27/32	Socket—, +7.5	—	6.3	1	2.27	3.25	Port. Radio "A"
714	—	Carb. Zinc	3 31/32	x 1 11/32	x 3 1/2	Knurled Nut & Screw—, +4.5	—	14.5	1	1.57	2.25	Tele. Test Sets
715	903	Carb. Zinc	7 1/4	x 4 1/16	x 6 7/16	Ins. Screw—, +7.5	7	10.0	1	4.86	7.25	Ign., Emerg. Lighting
716	*	Carb. Zinc	8 31/64	x 4 1/16	x 6 7/16	Ins. Screw—, +9	8	8.0	1	5.53	8.25	Ign., Emerg. Lighting
717	9	Carb. Zinc	2 5/32	x 1 15/16	x 3 1/32	Socket—, +7.5	—	8.0	6	1.23	1.75	Port. Radio "A"
718	1	Carb. Zinc	3 1/32	x 2 3/4	x 5 7/16	Socket—, +6	2	4.0	1	2.87	4.10	Port. Radio "A"
720	18	Carb. Zinc	2 25/32	x 1 13/32	x 3 1/32	Socket—, +1.5	—	6.5	1	1.15	1.65	Port. Radio "A"
724	2	Carb. Zinc	1 7/32	x 1 7/32	x 2 11/32	Flat Contacts—, +6	—	2.5	1	0.87	1.25	Port. Radio "A"
726	19	Carb. Zinc	4 1/32	x 1 1/16	x 2 13/16	Socket—, +4.5	—	10.5	1	1.23	1.75	Port. Radio "A"

*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping.

**Equipped with screw terminals unless Fahnestock spring terminals are specified.

***Equipped with Fahnestock spring terminals unless screw terminals are specified.

•Items differ from corresponding sizes in that they have tabs enabling the user to solder leads to battery without damage.

□Flashlight types.

◆Furnished with Fahnestock spring terminals. If socket terminals required specify W-363P, W-365P.

†Contains 1 "Eveready" No. 460 battery, and 1 No. 428 lamp.

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EVEREADY

COMPLETE LINE SPECIFICATIONS

EVEREADY

"Eveready" Battery Number	NEDA Number	Chemical System	Overall Dimensions in Inches L W H	Terminals & Voltages	Battery Weight lbs.	Battery Weight ozs.	Unit Pkg. Quan.	Sugg. Dealer Each	List Each	Major Use
729	425	Carb. Zinc	3 27/32 x 2 7/32 x 7 13/16	Socket— "A", +1.5 "A", —"B", +90 "B"	2	7.0	1	5.33	7.65	Port. Radio "A-B"
731	918	Carb. Zinc	5 1/32 x 2 27/32 x 4 15/16	Ins. Screw—, +6	3	4.0	1	1.96	2.95	Lantern
732	926	Carb. Zinc	5 1/32 x 2 27/32 x 4 15/16	Ins. Screw—, +12	3	4.0	1	1.96	2.95	Lantern
735	900	Carb. Zinc	2 5/8 x 2 5/8 x 4 3/4	Knurled Nut & Screw—, +1.5	1	7.0	1	0.84	1.25	Model Ign. "Glo-Plug"
736	3	Carb. Zinc	3 15/16 x 1 5/16 x 4	Socket—, +4.5	1	—	1	1.23	1.75	Port. Radio "A"
738	205	Carb. Zinc	3 x 2 5/16 x 4 1/8	Socket—, +22.5, +45	7	3.0	1	2.76	3.95	Port. Radio "B"
741	17	Carb. Zinc	3 25/32 x 2 1/16 x 5 3/8	Socket—, +1.5	2	10.0	1	2.76	3.95	
742	4	Carb. Zinc	2 5/8 x 2 5/8 x 3 27/32	Socket—, +1.5	1	6.0	1	1.15	1.65	
743	5	Carb. Zinc	3 13/16 x 2 5/8 x 4 1/32	Socket—, +1.5	1	15.0	1	2.69	3.85	Port. Radio "A"
744	*	Carb. Zinc	2 5/8 x 2 5/8 x 3 27/32	Socket—, +6	1	6.0	1	1.15	1.65	
746	7	Carb. Zinc	3 15/16 x 1 15/16 x 4 21/32	Socket—, +4.5	1	3.0	1	1.76	2.50	
750	*	Carb. Zinc	1 1/32 x 1 1/16 x 2 21/32	Spring—, +3	—	2.0	1	0.79	1.15	Instr.
CH750	—	Nickel Cad.	0.900 Diam. x 1.684	Flat Contacts—, +1.25	—	1.7	1	2.08	3.00	Instr., Trans. Appl., Misc.
•CH750T	—	Nickel Cad.	0.900 Diam. x 1.689	Solder Tabs—, +1.25	—	1.7	1	2.21	3.20	Instr., Trans. Appl., Misc.
751	705	Carb. Zinc	2 x 1 1/16 x 2 21/32	Spring—, +4.5	—	3.0	1	0.87	1.25	Instr.
752	400	Carb. Zinc	14 1/16 x 2 1/16 x 4 1/16	Recessed Plug— "A", +9 "A", —"B", +90 "B"	6	2.0	1	6.35	9.25	
753	401	Carb. Zinc	9 1/32 x 2 23/32 x 4 5/16	Socket— "A", +7.5 "A", +9 "A", —"B", +90 "B"	4	12.0	1	6.22	8.95	
755	403	Carb. Zinc	8 1/16 x 3 3/4 x 2 7/16	Socket— "A", +6 "A", +7.5 "A", —"B", +75 "B"	3	9.0	1	5.78	8.25	Port. Radio "A-B"
756	405	Carb. Zinc	8 7/8 x 2 1/8 x 3 25/32	Socket— "A", +7.5 "A" +9 "A", —"B" +90 "B"	2	14.0	1	5.43	7.75	
757	406	Carb. Zinc	9 1/32 x 2 23/32 x 4 7/32	Recessed Plug— "A", +9 "A", —"B", +90 "B"	4	12.0	1	6.35	9.25	
759	*	Carb. Zinc	15 11/16 x 4 1/32 x 6 15/16	Socket— "A", +1.5 "A", —"B", +90 "B"	16	4.0	1	7.95	10.65	Farm Radio "A-B"
761T	712	Carb. Zinc	4 1/16 x 1 13/32 x 3 1/2	Knurled Nut & Screw—, +1.5, +3, +4.5	—	14.0	1	1.76	2.50	Tele. Test Sets
762S	709	Carb. Zinc	4 3/32 x 2 3/16 x 5 7/16	Knurled Nut & Screw—, +22.5, +45	2	12.0	1	3.05	4.35	Instr.
763	710	Carb. Zinc	3 1/2 x 2 3/32 x 2 15/16	Knurled Nut & Screw—, +22.5	—	14.0	1	1.61	2.35	Instr.
766T	*	Carb. Zinc	6 3/4 x 4 1/8 x 3 15/16	Fahnestock—, +16.5, +18, +19.5, +21, +22.5	4	10.0	1	5.56	7.95	Switchbd. Testing
773	*	Carb. Zinc	3 29/32 x 7/8 x 3 1/8	5 Knurled Nut & Screws, 1 wire+, —1.5, —3, —4.5, —6, —7.5	—	9.0	1	1.75	2.50	Radio "C"
778	*	Carb. Zinc	4 1/8 x 2 17/32 x 3 7/16	Fahnestock+, —3, —4.5, —6, —9, —10.5, —16.5, —22.5	1	8.0	1	4.16	5.95	Instr.
781	*	Carb. Zinc	2 15/32 x 55/64 x 3	Knurled Nut & Screw—, +4.5	—	5.0	1	1.23	1.75	Instr.
789	—	Carb. Zinc	5 9/32 x 1 7/16 x 3 1/4	Flat Contacts—, +3	1	1.5	1	2.97	4.25	Fingerprint Camera
799	—	Carb. Zinc	8 5/32 x 4 1/4 x 8 19/32	Fahnestock—, +22.5, +45, +49.5	13	5.0	1	10.47	14.95	Camera Cranking
812	24P	Carb. Zinc	13/32 Diam. x 1 3/4	Flat Contacts—, +1.5	—	0.3	12	.1625	0.25	
815	15P	Carb. Zinc	9/16 Diam. x 1 31/32	Flat Contacts—, +1.5	—	0.6	24	0.1625	0.25	
EPX-825	—	Alkaline	0.905 Diam. x 0.228	Flat Contacts—, +1.5	—	0.026	2	0.33	0.50	Photoflash
835	14P	Carb. Zinc	1 1/32 Diam. x 1 15/16	Flat Contacts—, +1.5	—	1.4	24	0.19	0.30	
850	13P	Carb. Zinc	1 11/32 Diam. x 2 13/32	Flat Contacts—, +1.5	—	3.3	12	0.19	0.30	
C900	—	Nickel Cad.	9/16 Diam. x 3 35/64	Solder Tabs—, +1.25	—	1.4	1	3.17	4.55	Trans. Appl.
□904	910F	Carb. Zinc	0.455 Diam. x 1.180	Flat Contacts—, +1.5	—	0.22	6	0.08	0.125	Novelties
□912	24F	Carb. Zinc	13/32 Diam. x 1 3/4	Flat Contacts—, +1.5	—	0.3	12	0.13	0.20	
□915	15 F	Carb. Zinc	9/16 Diam. x 1 31/32	Flat Contacts—, +1.5	—	0.6	24	0.13	0.20	
□935	14F	Carb. Zinc	1 1/32 Diam. x 1 15/16	Flat Contacts—, +1.5	—	1.4	24	.1625	0.25	Flashlight, Toys
□950	13F	Carb. Zinc	1 11/32 Diam. x 2 13/32	Flat Contacts—, +1.5	—	3.0	48	.1625	0.25	
960P	23	Carb. Zinc	1 11/32 Diam. x 4 1/16	Socket—, +1.5	—	5.0	1	0.87	1.25	
964	20	Carb. Zinc	1 11/32 Diam. x 4	Flat Contacts—, +1.5	—	5.9	1	0.52	0.75	Port. Radio "A"
1007	—	Nickel Cad.	6 13/32 x 3 7/32 x 3 1/8	Socket—, +10	3	13.0	1	42.00	50.00	Port. Tools
1010	—	Nickel Cad.	2 3/16 x 1 3/16 x 3 15/16	Ins. Screw—, +1.25	—	4.0	1	5.30	7.95	Model Ign. "Glo-Plug"
1015	15	Carb. Zinc	9/16 Diam. x 1 31/32	Flat Contacts—, +1.5	—	0.6	24	0.155	0.25	
1035	14	Carb. Zinc	1 1/32 Diam. x 1 15/16	Flat Contacts—, +1.5	—	1.4	24	0.19	0.30	Trans. Radio
1050	13	Carb. Zinc	1 11/32 Diam. x 2 13/32	Flat Contacts—, +1.5	—	3.3	48	0.19	0.30	
□1150	13C	Carb. Zinc	1 11/32 Diam. x 2 13/32	Flat Contacts—, +1.5	—	3.3	48	—	—	Ind. Flashlights
1461	907	Carb. Zinc	10 7/16 x 2 23/32 x 7 7/32	Knurled Nut & Screw—, +6	9	4.0	1	3.85	5.75	Ign., Fence Cont.
1462	—	Carb. Zinc	5 1/4 x 5 1/4 x 7 1/4	Knurled Nut & Screw—, +6	9	7.0	1	4.01	5.98	Ign., Fence Cont.
1463	922	Carb. Zinc	10 7/16 x 2 23/32 x 7 7/32	Knurled Nut & Screw—, +12	7	8.0	1	4.01	5.98	Toy Cars
1562	*	Carb. Zinc	7 27/32 x 4 31/32 x 7 7/32	Knurled Nut & Screw—, +7½	11	4.0	1	4.86	7.25	Ign., Lights
1662	913	Carb. Zinc	7 13/16 x 5 9/32 x 7 1/4	Knurled Nut & Screw—, +9	13	8.0	1	5.53	8.25	Ign., Lights
2356N	1612	Carb. Zinc	2 3/16 x 1 5/32 x 6 1/4	Snap Type—, +9	—	11.0	1	1.64	2.35	
2506	1601	Carb. Zinc	8 x 2 13/16 x 1 9/16	Socket—, +3, +6, +9	1	8.0	1	1.92	2.75	
2709N	1613	Carb. Zinc	1 13/32 x 47/64 x 4 11/16	Snap Type—, +9	—	2.5	1	1.05	1.50	Trans. Radio
2713N	1403	Carb. Zinc	1 13/32 x 47/64 x 4 11/16	Min. Snap—, +6	—	3.5	1	1.36	1.95	
2731N	1303	Carb. Zinc	2 13/16 x 1 3/4 x 8 11/32	Socket—, +4.5	1	9.0	1	2.76	3.95	
2744N	920	Carb. Zinc	2 5/8 x 2 5/8 x 3 27/32	Socket—, +6	1	7.0	1	0.85	1.29	Flasher, Misc.
2745N	924	Carb. Zinc	2 5/8 x 2 5/8 x 4 13/32	Coil Spring—, +6	1	7.0	1	0.85	1.29	Flasher, Misc.
2746N	925	Carb. Zinc	2 5/8 x 2 5/8 x 4 5/16	Knurled Nut & Screw—, +6	1	7.0	1	0.85	1.29	Lighting, Misc.
2761N	1608	Carb. Zinc	2 3/32 x 1 1/4 x 7 1/32	Socket—, +9	1	3.0	1	2.76	3.95	
2762N	1609	Carb. Zinc	2 13/16 x 1 3/4 x 8 11/32	Socket—, +9	1	9.0	1	2.76	3.95	Trans. Radio
2780N	923	Carb. Zinc	5 11/32 x 2 27/32 x 4 5/32	Socket—, +12	3	—	1	2.37	3.40	Flasher, Misc.
E302157	—	Mercury	2 1/2 x 1 3/8 x 4 1/4	Socket—, +1.35	—	13.5	1	12.50	17.75	Rad. Det. Equip.
E302250	—	Mercury	1 1/16 Diam. x 1 29/32	Tabs—, +9.45	—	1.0	1	3.15	4.50	Rad. Det. Equip.
E302351	—	Mercury	1 1/16 Diam. x 2 5/8	Flat Contacts—, +5.4	—	4.5	1	6.53	9.35	Fire Alarm
E302358	—	Mercury	3/4 Diam. x 2 5/32	Wire Leads—, +10.8	—	0.87	1	4.10	5.95	
E302362	—	Mercury	23/32 Diam. x 3 5/32	Wire Leads—, +16.2	—	1.13	1	5.60	8.00	Rad. Det. Equip.
E302435	—	Mercury	1 1/16 Diam. x 1 1/2	Flat Contacts—, +6.75	—	0.75	1	3.46	4.95	
E302462	—	Mercury	2 13/16 x 1 17/32 x 6 3/8	Wire Leads—, +97.2	2	—	1	40.00	56.00	Transmt. "B"
E302465	—	Mercury	2 3/16 Diam. x 3 1/4	Wire Leads—, +47.25	1	1.0	1	22.50	32.00	Geophys.
E302478	—	Mercury	1 3/32 Diam. x 3 5/8	Flat Contacts—, +9.8	—	9.0	1	6.90	9.80	Wire Recorder
E302497	—	Mercury	1 1/16 Diam. x 4 1/8	Screw—, +6.75	—	6.0	1	9.33	13.35	Test Equip.
E302579	—	Mercury	1 13/32 x 3/4 x 3 1/16	Wire Leads—, +29.7	—	5.0	1	12.50	18.00	Test Equip.
E302580	—	Mercury	2 23/32 x 2 23/32 x 3 29/32	Sockets—, +27.0	2	1.6	1	33.60	48.00	
E302642	—	Mercury	1 3/32 Diam. x 2 5/8	Flat Contacts—, +7	—	5.0	1	5.33	7.60	Instr.
E302651	—	Mercury	1 5/16 Diam. x 2 7/16	Special Leads—, +1.35	—	6.14	1	4.80	6.90	Instr.
E302702	—	Mercury	1 1/8 Diam. x 1 5/8	Wire Leads—, +2.7	—	2.0	1	4.00	5.70	Geophys.
E302904	—	Mercury	1 11/32 Diam. x 2 31/32	Wire Leads—, +5.4	—	6.0	1	7.33	10.45	Meter
E302905	—	Mercury	1 11/32 Diam. x 3 19/32	Wire Leads—, +6.75	—	9.0	1	8.40	12.00	Test Equip.
E302907	—	Mercury	1 5/16 Diam. x 4 7/8	Wire Leads—, +9.45	—	11.6	1	10.67	15.25	Instr.
E302908	—	Mercury	1 11/32 Diam. x 5 5/16	Wire Leads—, +10.8	—	12.0	1	12.00	17.15	Rad. Det. Equip.
E303145	1614	Mercury	2 3/16 x 7/8 x 4 7/16	Snap Type—, +8.4	—	8.82	1	6.75	9.95	Depth Finder
E303219	—	Mercury	.515 Diam. x 1 5/8	Flat Contacts—, +9.8	—	1.0	1	2.06	2.95	Radio Conv. (FM)
E303236	—	Mercury	23/32 x 23/32 x 1 29/32	Flat Contacts—, +4.2	—	1.28	1	1.31	1.85	Paging Sys.
E303314	—	Mercury	2.81 x 2.85 x 1.320	Recessed Flat Contacts—, +16.8	—	13.0	1	10.80	15.40	Comm. Equip.
E303394	—	Mercury	2 1/2 x 1 3/4 x 2 1/4	Snap Type—, +11.2	—	14.0	1	10.15	14.50	Tape Recorder
E303462	—	Mercury	2.14 x 2.12 x 1.8	Reces. Flat Contacts—, +15.4	1	0.8	1	9.10	16.50	Transceiver
E303496	—	Mercury	0.655 Diam. x 1.300	Flat Recessed—, +4.2	—	0.87	1	1.31	1.85	Paging Dev.

*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping.

□Flashlight types.

These complete line specifications contain the basic data on all "Eveready" batteries in production at the time of preparation. Since the characteristics of individual batteries are sometimes modified, manufacturers who are designing their product to use a particular battery should contact the nearest Union Carbide Consumer Products Division Sales Office for verification of specifications.

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AC VOLTAGE STABILIZERS

For Electronic and Electric Equipment

NEW IDEAS IN ELECTRONICS

General Electric a-c voltage stabilizers are static-magnetic transformer-type products which provide voltage maintained within ±1% variation while input line voltage fluctuates ±15%. They are offered in the following variations:

Unfiltered output: output voltage waveform is relatively flat-topped, with harmonic content from 15 to 20%.

Harmonic filtered output: output voltage is filtered to near sinusoidal waveshape, with a maximum of 3% harmonic content.

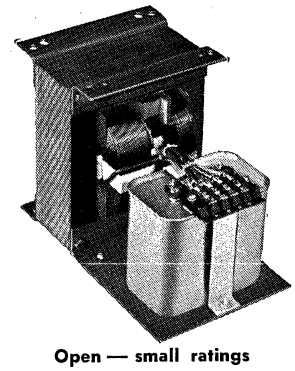
Enclosed construction: completely metal enclosed for safe external mounting.

Open construction: for installation within electronic or electric equipment.

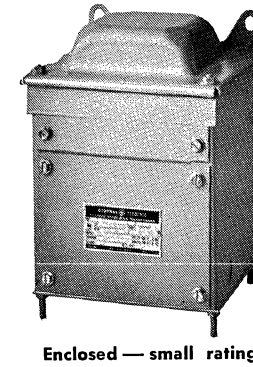
Cord/Receptacle units: for convenient temporary connections.

SINGLE PHASE — Magnetic-capacitor circuitry is frequency sensitive. Stabilizers designed for one frequency are not suitable for use on another.

THREE PHASE — Standard single-phase a-c voltage stabilizers can be connected for 3-phase, 4-wire loads with input connected delta. However, single-phase models cannot be connected for 3-phase, 3-wire loads: select from 3-phase delta-delta models.



Open — small ratings



Enclosed — small ratings

Single Phase

Volt-amp Output Capacity	Input Voltage Range	Stabilized Output Voltage	Unfiltered Output Model Number	Unfiltered Output List Price	Harmonic Filtered Output Model Number	Harmonic Filtered Output List Price
ENCLOSED — FOR 60 CYCLES						
15	95-130	118	9T91Y4070	**$15.10**	.....	.....
30	95-130	118	9T91Y4090	**17.30**	.....	.....
60	95-130	118	9T91Y4110	**22.80**	.....	.....
120	95-130	118	9T91Y4130	**31.40**	.....	.....
250	95-130	118	9T91Y4140‡	**52.40**	9T91Y7140‡	**$54.10**
250	190-260	118	9T91Y4142‡	**52.40**	.....	.....
250	190-260X380-520	118/236	9T91Y4144‡	**58.20**	.....	.....
250	380-520	118	9T91Y4145‡	**52.40**	.....	.....
500	95-130	118	9T91Y4150‡	**82.20**	9T91Y7150‡	**84.90**
500	190-260	118	9T91Y4152‡	**82.20**	.....	.....
500	380-520	118	9T91Y4155‡	**82.20**	.....	.....
1000	95-130	118	9T91Y4170	**126.00**	9T91L7170	**130.00**
1000	95-130X175-235X190-260	118/236	.....	.....	9T91Y7173	**146.00**
1000	190-260	118	9T91Y4172	**126.00**	9T91Y7172	**130.00**
1000	190-260X380-520	118/236	.....	.....	9T91Y7174	**144.00**
1000	380-520	118	9T91Y4175	**126.00**	.....	.....
2000	95-130X175-235X190-260	118/236	9T91Y4183	**253.00**	9T91Y7183	**265.00**
2000	190-260X380-520	118/236	9T91Y4184	**249.00**	9T91Y7184	**261.00**
2000	380-520	236/472	9T91Y4186	**242.00**	.....	.....
3000	95-130X175-235X190-260	118/236	9T91Y4193	**340.00**	9T91Y7193	**357.00**
3000	190-260X380-520	118/236	9T91Y4194	**333.00**	.....	.....
3000	380-520	236/472	9T91Y4196	**324.00**	.....	.....
5000	190-260X380-520	118/236	9T91Y4204	**513.00**	9T91Y7204	**541.00**
5000	95-130X175-235X190-260	118/236	9T91Y4203	**521.00**	9T91Y7203	**551.00**
5000	380-520	236-472	9T91Y4206	**497.00**	.....	.....
7500	95-130X175-235X190-260	118/236	9T91Y4213	**777.00**	.....	.....
7500	190-260X380-520	118/236	9T91Y4214	**762.00**	9T91Y7214	**840.00**
10000	95-130X175-235X190-260	118/236	.....	.....	9T91Y7223	**1114.00**
10000	190-260X380-520	118/236	9T91Y4224	**995.00**	9T91Y7224	**1093.00**
15000	190-260X380-520	118/236	9T91Y4244	**1461.00**	9T91Y7244	**1612.00**
OPEN — FOR 60 CYCLES						
15	95-130	118	9T91Y5070	**$14.30**	.....	.....
30	95-130	118	9T91Y5090	**16.30**	.....	.....
60	95-130	118	9T91Y5110	**21.30**	.....	.....
120	95-130	118	9T91Y5130	**29.50**	.....	.....
250	95-130	118	9T91Y5140	**49.30**	9T91Y8140	**$50.90**
250	190-260	118	9T91Y5142	**49.30**	.....	.....
500	95-130	118	9T91Y5150	**77.40**	9T91Y8150	**78.80**
500	190-260	118	9T91Y5152	**77.40**	.....	.....
750	95-130	118	9T91Y5160	**97.60**	9T91Y8160	**101.00**
1000	95-130	118	9T91Y5170	**118.00**	9T91Y8170	**122.00**
1000	190-260	118	9T91Y5172	**118.00**	9T91Y8172	**122.00**
1500	95-130	118	9T91Y5010	**164.00**	9T91Y8010	**172.00**
2000	95-130X175-235X190-260	118/236	9T91Y5183	**237.00**	9T91Y8183	**249.00**
ENCLOSED — FOR 50 CYCLES						
250	95-130	118	9T91Y4147‡	**$60.40**	9T91Y7147‡	**$62.20**
250	95-130X175-235X190-260	118/236	9791Y4148‡	**68.30**	9T91Y7148‡	**70.30**
500	95-130X175-235X190-260	118/236	9T91Y4158	**107.00**	9T91Y7158	**110.00**
500	190-260X380-520	118/236	9T91Y4159	**105.00**	9T91Y7159	**108.00**
1000	95-130X175-235X190-260	118/236	9T91Y4178	**164.00**	9T91Y7178	**169.00**
2000	95-130X175-235X190-260	118/236	9T91Y4188	**291.00**	9T91Y7188	**305.00**
3000	95-130X175-235X190-260	118/236	9T91Y4198	**391.00**	9T91Y7198	**410.00**
5000	95-130X175-235X190-260	118/236	9T91Y4208	**600.00**	9T91Y7208	**630.00**
7500	95-130X175-235X190-260	118/236	9T91Y4218	**892.00**	9T91Y7218	**981.00**
7500	190-260X380-520	118/236	9T91Y4219	**877.00**	9T91Y7219	**965.00**

‡ Can be used with adapter kit for quick conversion to a cord and receptacle unit.

3 Phase Delta Delta

Freq.	VA	Input Voltage Range	Stabilized Output Voltage*	Model Number	List Price
ENCLOSED					
60	6000†	190 to 260/380 to 520 delta	230/236 delta	9T91Y3506	**$1098**
60	10000†	190 to 260 delta	236 delta	9T91Y3501G2	**1583**
50	10000†	190 to 260 delta	236 delta	9T91Y3510	**1730**

* Maximum harmonic content — 5%. † Minimum recommended load — 20% of rated.

Cord/Receptacle Units

Integral single-phase units with a 2-prong cord set and female receptacle in the case.

Volt-amp Output Capacity	Input Voltage Range	Stabilized Output Voltage	Model Number	List Price
ENCLOSED — UNFILTERED OUTPUT — FOR 60 CYCLES				
15	95-130	118	9T91Y4070G19	**$17.30**
30	95-130	118	9T91Y4090G19	**19.50**
60	95-130	118	9T91Y4110G19	**24.90**
120	95-130	118	9T91Y4130G19	**33.60**

Adapter kits are available for use with 250 and 500 volt-amp stabilizers to provide quick conversion to a cord and receptacle unit.

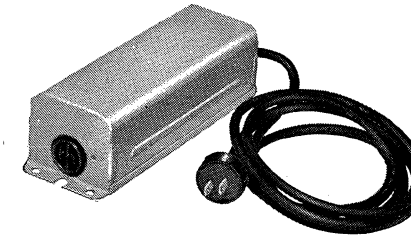
For Use With Stabilizer Model Number	Order Adapter Kit Model Number 2-prong	Order Adapter Kit Model Number 3-prong	List Price
9T91Y4140	9T91Y4140G55	9T91Y4140G75	
9T91Y4142	9T91Y4140G55	9T91Y4140G75	
9T91Y4144	9T91Y4140G55	9T91Y4140G75	2-prong
9T91Y4145	9T91Y4140G55	9T91Y4140G75	Kits
9T91Y4147	9T91Y4140G55	9T91Y4140G75	**$2.10**
9T91Y4148	9T91Y4140G55	9T91Y4140G75	
9T91Y4150	9T91Y4140G55	9T91Y4140G75	
9T91Y4152	9T91Y4140G55	9T91Y4140G75	
9T91Y4155	9T91Y4140G55	9T91Y4140G75	
9T91Y7140	9T91Y7140G55	9T91Y7140G75	3-prong
9T91Y7150	9T91Y7150G55	9T91Y7150G75	Kits
9T91Y7147	9T91Y7147G55	9T91Y7147G75	**$2.60**
9T91Y7148	9T91Y7147G55	9T91Y7147G75	

Filament Ratings—Single Phase—60 Cycles

For stabilized power for 6-volt nominal filaments, these stabilizers are suitable for operation with other 6-volt loads of rated or lower output current requirements. Current-limiting characteristic protects cold filaments from high current surges.

Volt-amp Output Capacity	Input Voltage Range	Output Volts	Output Amps	Model Number	List Price
ENCLOSED					
15	95-130	6	2.5	9T91Y366	**$15.10**
15	95-130	6.3	2.4	9T91Y368	**15.10**
OPEN					
15	95-130	6	2.5	9T91Y365	**$14.30**
15	95-130	6.3	2.4	9T91Y367	**14.30**
31.5	95-130/190-260	6.3	5.0	9T91Y369	**16.30**
63	95-130/190-260	6.3	10.0	9T91Y370	**21.30**
94.5	95-130/190-260	6.3	15.0	9T91Y371	**24.40**
157.5	95-130/190-260	6.3	25.0	9T91Y372	**35.70**

Typical cord/receptacle unit



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GENERAL ELECTRIC

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STABILTRON* AC VOLTAGE STABILIZERS

NEW IDEAS IN ELECTRONICS

For Electronic and Electric Equipment Requiring PRECISE Voltage Control

General Electric Stabiltron a-c voltage stabilizers can be used in a wide variety of electronic equipment applications where precise control of voltage is required. The Stabiltron consists entirely of static components — there are no tubes to burn out or moving parts to replace or maintain.

The Stabiltron senses deviations from a predetermined output voltage level by an error detector. The error signal, through the silicon-controlled rectifier circuit, augments the voltage stabilizer action and provides almost instantaneous correction of output voltage.

Typical applications include computers, radar and communications equipment, industrial process control, and X-ray equipment.

Input Voltage — The most common power source voltages can be handled by the standard models listed. Stabiltron units can be provided for special voltage levels on request.

Output Voltage — Stabiltron voltage stabilizers maintain extremely precise voltage output in spite of wide fluctuations of line voltage, frequency, load, load power factor, and ambient temperatures.

The table below illustrates the effect on the output of the maximum steady state excursions, within rated limits of some of these variables.

TABLE 1 — TYPICAL OUTPUT VOLTAGE CHARACTERISTICS

Variable	Excursion	Output Voltage Bandwidth¶
Line voltage†	95 to 130	0.02 to 0.2%
Frequency	57 to 63 cycles	0.15 to 0.4%
Load	0 to 100% rated load	0.02 to 0.1%
Load power factor	0.4 lagging to unity	0.01 to 0.1%
Ambient temperature	−25C to 40C	0.01%/degree C

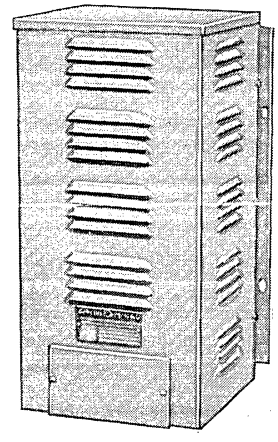
¶ A range is indicated because exact amounts are dependent on the static level of other variables.

† When the Stabiltron unit is operated at less than rated load, the line voltage can be reduced considerably below 95 volts without serious deterioration of the output voltage.

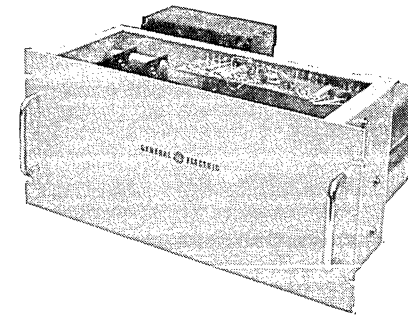
Response — Under transient line or load conditions, elapsed time for correction of output voltage and transient excursion from the normal bandwidth are key considerations to equipment operation.

The Stabiltron provides fast response and small transient excursion through its unique combination of solid state and magnetic circuitry.

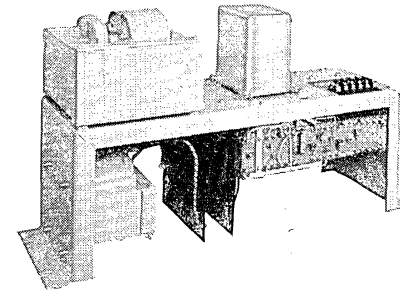
* Trade-name of General Electric Co.



ENCLOSED CONSTRUCTION - 2-kva units are suitable for either wall or floor mounting. 5- and 10-kva units can be floor mounted only.



PANEL CONSTRUCTION is suitable for standard 19-inch rack mounting.



OPEN CONSTRUCTION is suitable for horizontal or vertical mounting surfaces in equipment enclosures.

57-63CPS; 3% HARMONIC: 0.4 LAG TO UNITY LOAD PF

Kva	Model Number	List Price	Input Voltage Range	Output Voltage (Adjustable ±4%)	Approx. Net Weight (Pounds)	Construction Type	Approx. Dim. (in.) H	W	D
0.5	9T91Y3021	$422	95-130/190-260	118	70	Panel	7	19	14¾
0.5	9T91Y3021G2	414	95-130/190-260	118	70	Open	7	19	13¼
1.0	9T91Y3022	497	95-130/190-260	118	125	Panel	8¾	19	15½
1.0	9T91Y3022G2	490	95-130/190-260	118	125	Open	8¾	19	14
2.0	9T91Y3023	665	95-130/190-260	118/236	185	Enclosed	25	14½	11¼
2.0	9T91Y3023G2	654	95-130/190-260	118/236	180	Open	23½	14½	10¼
5.0	9T91Y3027	1428	95-130/175-235/190-260	118/236	570	Enclosed	26½	28	14
10.0	9T91Y3030	2206	190-260/380-520	118/236	975	Enclosed	28	39	17

TABLE 2 — TYPICAL TRANSIENT RESPONSE CHARACTERISTICS

Transient Change	Percent Peak Output Voltage Excursion	Response‡ Time	Total Recovery§ Time
0 to 115V input	14%	4 cycles	13 cycles
95 to 130V input	14%	3 cycles	8 cycles
130 to 95V input	9%	5 cycles	9 cycles
0 to 100% rated load	24%	1 cycle	2 cycles
20% to 100% rated load	21%	1 cycle	2 cycles
100% to 20% rated load	34%	1 cycle	10 cycles

‡ The time required for the output to recover 63.3% from its maximum excursion.

§ The time required for the output to recover to normal bandwidth limits.

Harmonic Content — Under all rated ranges of line variation and most load conditions, the total harmonic content of the output wave form will not exceed three percent for a sine wave power source. Even under adverse conditions, when the power source is not a sine wave, the Stabiltron voltage stabilizer will correct the wave form to the load to approximately three percent harmonic content.

Rectifier-filter Loading — Since the output wave form is low in harmonic content, the Stabiltron voltage stabilizer can be connected successfully to a rectifier (capacitor input) filter load to the input of a d-c power supply having capacitor input filters.

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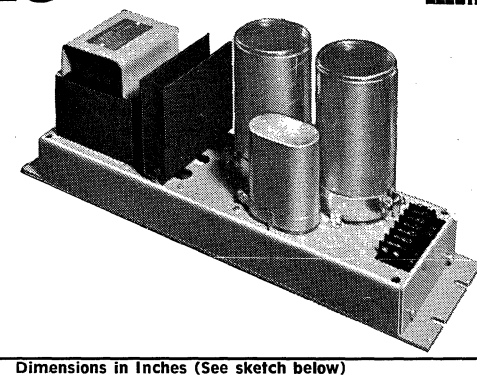
REGULATED DC POWER SUPPLIES

NEW IDEAS IN ELECTRONICS

Improve Performance of Computers and Other Electronic Equipment

These component power supplies can be used in a wide variety of applications where relatively constant d-c voltage is required despite fluctuating line voltages. Computers, process control equipment, and electronic measuring devices are typical applications where demands for accuracy require constant regulation of voltage.

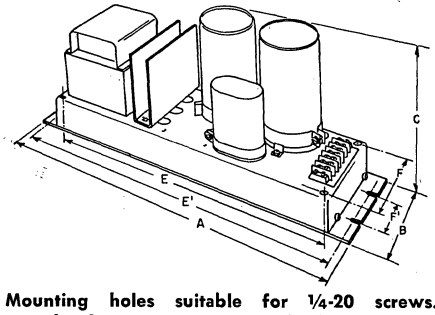
Performance-proved GE d-c power supplies can be designed to suit your needs for either 50- or 60-cycle power sources.



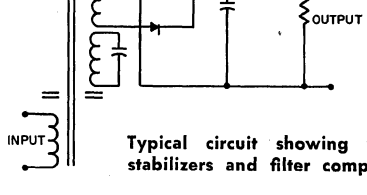
97- TO 130-VOLT INPUT RANGE, 40C AMBIENT

DC OUTPUT†				LOAD REGULATION‡		Dimensions in Inches (See sketch below)							NET
						OVER-ALL			MOUNTING				
									Chassis		Rack		WGT.
Volts	Amps	MODEL NO.	List Price	100% to 50% load	100% to 20% load	A	B	C	F	E	F′	E′	LBS.
60 CYCLES													
10.0	16.0	9T66Y8	**$165.00**	5%	8%	19	7	6⅝	6¼	16¼	4	18⅜	25
12.0	5.0	9T66Y51	**140.00**	5%	6%	19	3½	7⅝	2¾	16¼	3	18⅜	16
12.0	15.0	9T66Y53	**170.00**	5%	7%	19	5¼	8	4½	16¼	2¼	18⅜	25
12.0	20.0	9T66Y978	**185.00**	5%	7%	19	7	8	6¼	16¼	4	18⅜	35
18.0	5.0	9T66Y61	**128.00**	4%	5%	19	3½	7⅝	2¾	16¼	3	18⅜	19
18.5	6.0	9T66Y966	**133.00**	4%	5%	19	5¼	7	4½	16¼	2¼	18⅜	20
18.5	12.0	9T66Y967	**158.00**	5%	7%	19	5¼	7¾	4½	16¼	2¼	18⅜	20
±18.5	24.0	9T66Y965	**373.00**	5%	8%	19	8¾	7	8	16¼	5¾	18⅜	45
24.0	2.5	9T66Y987	**121.00**	4%	6%	19	3½	6⅛	2¾	16¼	3	18⅜	16
24.0	6.0	9T66Y988	**143.00**	3%	5%	19	5¼	6½	4½	16¼	2¼	18⅜	25
24.0	10.0	9T66Y989	**166.00**	3%	5%	19	5¼	8	4½	16¼	2¼	18⅜	28
24.0	20.0	9T66Y990	**217.00**	3%	5%	19	7	9⅜	6¼	16¼	4	18⅜	45
24.0	50.0	9T66Y991	**383.00**	3%	5%	19	10½	11⅜	9¾	16¼	§	18⅜	105
28.0	8.0	9T66Y83	**159.00**	3%	5%	19	5¼	8	4½	16¼	2¼	18⅜	25
28.0	20.0	9T66Y85	**236.00**	3%	5%	19	7	9⅜	6¼	16¼	4	18⅜	50
28.0	50.0	9T66Y6	**429.00**	3%	5%	19	10½	12⅛	10½	17½	10½	18⅜	105
48.0	4.0	9T66Y93	**133.00**	3%	5%	19	5¼	8	4½	16¼	2¼	18⅜	25
48.0	10.0	9T66Y94	**182.00**	2%	4%	19	5¼	8	4½	16¼	2¼	18⅜	35
90.0	1.0	9T66Y69	**115.00**	2%	3%	19	3½	7⅛	2⅝	16¼	3	18⅜	19
90.0	10.0	9T66Y985	**253.00**	3%	4%	20⅞	7⅜	7	6⅛	20	¶	¶	100
125.0	2.0	9T66Y980	**143.00**	2%	3%	19	5¼	6½	4½	16¼	2¼	18⅜	26
125.0	4.0	9T66Y970	**185.00**	2%	3%	19	7	7⅝	6½	16¼	4	18⅜	48
150.0	2.0	9T66Y981	**151.00**	2%	3%	19	5¼	6½	4½	16¼	2¼	18⅜	28
200.0	1.0	9T66Y982	**134.00**	2%	3%	19	5¼	6½	4½	16¼	2¼	18⅜	24
50 CYCLES													
12.0	15.0	9T66Y53G5	**$179.00**	5%	7%	19	5¼	6½	4½	16¼	2¼	18⅜	27
24.0	10.0	9T66Y989G5	**174.00**	3%	5%	19	5¼	8	4½	16¼	2¼	18⅜	30
24.0	20.0	9T66Y990G5	**228.00**	3%	5%	19	7	8½	6½	16¼	4	18⅜	50
28.0	8.0	9T66Y83G5	**167.00**	2%	5%	19	5¼	8	4½	16¼	2¼	18⅜	25
48.0	4.0	9T66Y93G5	**140.00**	3%	5%	19	4¼	8	4½	16¼	2¼	18⅜	30
48.0	10.0	9T66Y94G5	**191.00**	2%	4%	19	5½	9	4½	16¼	2¼	18⅜	38
125.0	2.0	9T66Y980G5	**150.00**	2%	3%	19	5¼	7⅜	4½	16¼	2¼	18⅜	28

† May vary ±1%. All standard units come equipped with a plate for 19-inch rack mounting.
‡ Indicates approximate percent increase in output voltage due to decrease of load current from full load.
§ Rack mounting plate has four mounting slots on each end. Distance between centers of two outer slots is 7½ in., between two inner slots 3 in.
¶ Not available for 19-inch rack mounting.



Mounting holes suitable for ¼-20 screws. Length of screw may vary with chassis height.



Typical circuit showing voltage stabilizers and filter components.

EFFECT OF INPUT VOLTAGE VARIATION

D-c power supplies can be designed for various input voltages and ranges. With all other variables constant, the output voltage will not vary more than ±1 percent for a change in input voltage over the rated range of 97 to 130 volts input.

EFFECT OF TEMPERATURE CHANGE

For every 40C change in the ambient temperature, the output voltage level will change approximately one percent.

EFFECT OF FREQUENCY

A change of one percent in frequency will change output voltage level approximately one and one-half percent.

ISOLATION

All d-c power supplies provide electrical isolation between the a-c power source and the d-c load.

POLARITY

GE d-c power supplies can be designed with the polarity you require. All standard units listed can be installed with either plus or minus grounded.

RIPPLE

Ripple levels of one percent RMS meet most requirements. However, other levels of ripple content can be designed into G-E power supplies.

EFFICIENCY

Efficiency ranges from 70 to 85 percent for normal output voltage levels. For unusually low output voltages or low power ratings, some decrease in efficiency may occur.

REGULATION

Load regulation characteristics depend on the rated output voltage and rated power level of the power supply.

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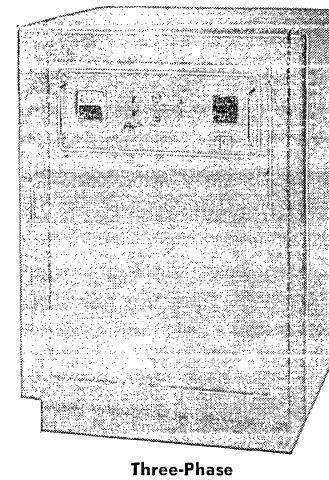
volt-pac® VOLTAGE REGULATORS

NEW IDEAS IN ELECTRONICS

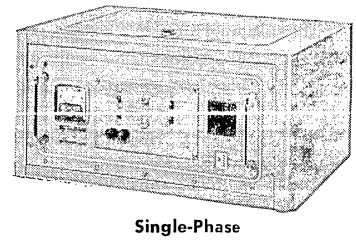
- New solid-state control
- Precise output voltage control
- Fast voltage-correction rate
- Cabinet or rack-mounted models
- Magnetic circuit-breaker protection



Three-Phase

General Electric's new automatic voltage regulator line provides closely regulated output voltages from varying input voltages. They normally include a motor-operated Volt-Pac variable transformer, associated buck-boost transformers which handle a wide range of input-voltage variation, and a new solid-state SCR control.

These automatic regulators maintain a preselected output voltage level within 1 percent bandwidth, and are temperature compensated from −20 to +40C. They can be bench or floor mounted, or in smaller sizes, mounted in standard relay racks.



Single-Phase

Input Voltage Range		Nom. Output Volt-	Adjustable Output Voltage†		Correction Rate Volts/	Load		Rack-mounted						Cabinet-mounted					
										Approximate Dimensions (In.)						Approximate Dimensions (In.)			
Min.	Max.	age	Min.	Max.	Sec.	Max. Amps	KVA ‡	Model No.	List Price	Width	Height	Depth	Net Wt.	Model No.	List Price	Width	Height	Depth	Net Wt.
115 VOLTS — SINGLE-PHASE																			
95	135	115	110	120	10.4	10	1.15	9T92Y130G3	$430	19	6¾	12¼	50	9T92Y130G1	$460	22½	9⅛	17	70
95	135	115	110	120	10.4	25	2.9	9T92Y131G3	460	19	8¾	15¼	70	9T92Y131G1	490	22½	10⅞	17	95
95	135	115	110	120	10.4	50	5.75	9T92Y132G3	515	19	8¾	15¼	100	9T92Y132G1	545	22½	10⅞	17	125
95	135	115	110	120	10.4	100	11.5	9T92Y133G3	625	19	12¼	19⅛	120	9T92Y133G1	655	22½	14	19⅝	150
95	135	115	110	120	10.4	150	17.2	.....	.....	....	.....	.....	.....	9T92Y134G1	700	21½	20	18¼	170
230 VOLTS — SINGLE-PHASE																			
200	260	230*	220	240	17.2	13	3.0	9T92Y135G3	$515	19	8¾	15¼	70	9T92Y135G1	$545	22½	10⅞	17	95
200	260	230*	220	240	17.2	32.5	7.5	9T92Y136G3	570	19	8¾	15¼	100	9T92Y136G1	600	22½	10⅞	17	125
200	260	230*	220	240	17.2	52	12.0	9T92Y137G3	660	19	12¼	19⅛	120	9T92Y137G1	690	22½	14	19⅝	150
200	260	230*	220	240	17.2	130	30.0	.....	.....	....	.....	.....	.....	9T92Y138G1	800	22½	20	18¼	170
460 VOLTS — SINGLE-PHASE																			
400	520	460	440	480	34.4	13	6.0	9T92Y139G3	$675	19	8¾	18⅝	85	9T92Y139G1	$705	22½	10½	19¾	110
400	520	460	440	480	34.4	32.5	15.0	9T92Y140G3	745	19	8¾	18⅝	115	9T92Y140G1	775	22½	10½	19¾	140
400	520	460	440	480	34.4	52	24.0	.....	.....	....	.....	.....	.....	9T92Y141G1	890	21¾	20	18¼	220
400	520	460	440	480	34.4	130	60.0	.....	.....	....	.....	.....	.....	9T92Y142G1	1110	25¾	30⅝	18½	350
230 VOLTS — THREE-PHASE																			
200	260	230*	220	240	17.2	12.5	5.0	9T92Y143G3	$995	19	8¾	18⅝	75	9T92Y143G1	$985	22½	10½	19¾	100
200	260	230*	220	240	17.2	34	13.5	.....	.....	....	.....	.....	.....	9T92Y144G1	1095	25¾	13⅝	17¼	140
200	260	230*	220	240	17.2	68	27.0	.....	.....	....	.....	.....	.....	9T92Y145G1	1325	25¾	13⅝	17¼	200
200	260	230*	220	240	17.2	136	54.0	.....	.....	....	.....	.....	.....	9T92Y146G1	1755	20¾	30⅜	18½	300
200	260	230*	220	240	7.5	170	67.5	.....	.....	....	.....	.....	.....	9T92Y147G1	1950	25¾	30⅝	18½	500
460 VOLTS — THREE-PHASE																			
400	520	460	440	480	34.4	13	10.4	.....	.....	....	.....	.....	.....	9T92Y148G1	$1115	25¾	13⅝	17¼	140
400	520	460	440	480	34.4	32.5	26.0	.....	.....	....	.....	.....	.....	9T92Y149G1	1245	25¾	13⅝	17¼	200
400	520	460	440	480	34.4	52	41.5	.....	.....	....	.....	.....	.....	9T92Y150G1	1600	20¾	30⅜	18½	300
400	520	460	440	480	34.4	100	80.0	.....	.....	....	.....	.....	.....	9T92Y151G1	1900	25¾	30⅝	18½	500
400	520	460	440	480	15.0	130	104.0	.....	.....	....	.....	.....	.....	9T92Y152G1	2000	28⅜	30⅜	18½	600

* 208-volt nominal output voltage operation requires no change in power connection, but does require selecting correct control transformer ratio. When operated at a nominal 208 volts output, the regulator will correct for an input range of 181 to 236 volts, with the output voltage adjustable from 199 to 217 volts.

† The specified input voltage range is applicable for nominal output voltage. When operating at any other output voltage within specified range, the input voltago range will change proportionately with the change in output voltage level selected.

‡ Load kva based on nominal output voltage.

No Waveform Distortion

No harmonic waveform distortion is introduced at any load or with any input voltage. The output voltage waveform is a precise reproduction of applied input waveform.

Adjustable Output Voltage

Output voltage for units nominally rated 115 volts is adjustable from 110 to 120 volts. Output voltage also is adjustable from 220 to 240 volts for units rated 230 volts; from 440 to 480 volts for nominally ratetd units of 460 volts. Please note that the specified input-voltage range is applicable for nominal output voltage. When operating at any other output voltage within specified range, the input voltage range shifts in proportion with the selected output voltage.

Accurate Static-sensing Control

Solid-state control combined with the new Sylvan-Kettler static-sensing device achieve the optimum in automatic accuracy. The voltage regulator is governed automatically by a dead-band-type voltage-sensitive control utilizing either lamp or zener bridges. The circuit includes magnetic input circuit breakers and an output voltmeter.

TYPICAL SPECIFICATIONS

Regulation Accuracy	±1.0%
Speed of correction	10.4 volt/sec
Output voltage	Adjustable from 110-120 volts
Input voltage	95 to 135, single-phase
Frequency	60-cycle
Load Range	Zero to full load
Efficiency	Up to 99%
Power Factor Range	0 to 100%
Wave Form Distortion	None
Output Meter	0-150 Volts AC
Ambient Temperature Operating Range	−20C to +40C
Protection	Magnetic Circuit Breaker in Power Input Line — Control Circuitry Fused

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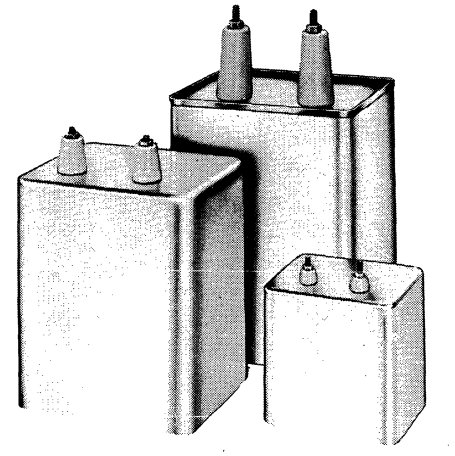
HIPOTRONICS HIGH VOLTAGE POWER PACKS



The Hipotronics wide range of compact miniaturized power packs with output voltages from 2 to 100 KV and current ratings of 2, 5 or 10 milliamperes are designed for long life and trouble free operation. Advanced high voltage techniques developed by Hipotronics permit greater size and weight reduction than previously possible.

All units are housed in a hermetically sealed MIL-T-27A can and vacuum filled with mineral type transformer oil or epoxy. The insulating medium insures corona-free operation and allows for running the supply at 3 or 4 times normal current rating for long periods of time. The corona free operation precludes component failure caused by long term corona degradation of insulation and guarantees a pure DC output free of any interfering high frequency signals which might possibly influence or affect the system which it is powering.

Every component in the supply is operated at well below its design rating and pre-assembly hipotted at one and one half times its operating voltage.

The output connections are high voltage ceramic type on models 30 KV and below and through plug in re-entrant receptacles for coaxial cables on greater than 30 KV units. Three foot cable assemblies are supplied with each re-entrant bushing type and longer ones are easily assembled if required.

Output Voltage Kilovolts	Current Milliamperes	Model	Height	Width	Depth	Price
2.5 KV	2 ma.	2.5A	3½″	3¾″	2¾″	$ 50
2.5 KV	5 ma.	2.5B	3½″	3¾″	2¾″	60
2.5 KV	10 ma.	2.5C	4⅜″	3¾″	2¾″	70
5 KV	2 ma.	5A	4⅜″	3¾″	2¾″	65
5 KV	5 ma.	5B	4⅜″	3¾″	2¾″	75
5 KV	10 ma.	5C	4⅜″	4″	3⅜″	90
7.5 KV	10 ma.	7.5C	5″	4¾″	4″	110
10 KV	2 ma.	10A	5¼″	4″	3¼″	75
10 KV	5 ma.	10B	8″	6″	5″	95
10 KV	10 ma.	10C	8″	6″	5″	125
15 KV	5 ma.	15B	8″	6″	5″	125
15 KV	10 ma.	15C	8″	6″	5″	150
20 KV	2 ma.	20A	8″	6″	5″	135
20 KV	5 ma.	20B	8″	6″	5″	180
25 KV	10 ma.	25C	10″	6″	5″	350
30 KV	2 ma.	30A	10″	6″	5″	190
30 KV	5 ma.	30B	10″	6″	5″	250
40 KV	2 ma.	40A	12″	6″	5″	270
50 KV	5 ma.	50B	10″	6″	8″	390
60 KV	2 ma.	60A	10″	6″	8″	325
100 KV	2 ma.	100A	15½″	8⅛″	9¼″	625

FEATURES

- **Hermetically sealed, oil or epoxy filled**
- **Solid state rectifiers**
- **10 year life**
- **Low ripple**
- **Good regulation**
- **Compact, highly miniaturized**
- **Reversible polarity**

Inquiries are invited for units with outputs different than our standards, with built in line regulation, short circuit current limited units, lower output ripple, with 220V, 50/60 cycle inputs or with center tapped output etc.

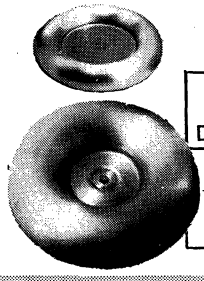
SPECIFICATIONS FOR ALL MODELS

Input	0-125 volts, output voltages and currents stated for nominal 117 volt input.
Regulation	10 to 15% no load to full load
Ripple	1/2% rms per milliampere output
Life	10 years at 25°C ambient with rated output voltage and current
Terminations	Ceramic bushings on 30 KV and below models Re-entrant receptacles with 3 foot mating coaxial cables on 40 KV and up models

HV TERMINATIONS

SPHERES
Nickel plated with threaded insert

Diameter		Diameter	
1″	$2.00	6″	$10.00
2″	3.00	8″	20.00
3″	4.00	10″	40.00
4″	5.00	12″	50.00



TOROIDS

Cross Section Diameter	Outside Diameter	Inside Diameter	Price
2″	10″	6″	$ 30.00
5″	20″	10″	$125.00

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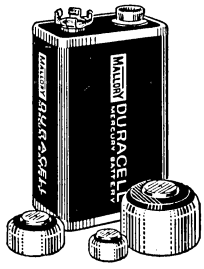
MALLORY Duracell® Batteries



MERCURY DURACELL BATTERIES

Mercury Duracell batteries offer more power per unit of volume than any other type. Sizes range from the RM312, which is aspirin tablet size, up thru the Power-Pak types. Voltage stability is excellent, as is storage life. Types with **R** in the suffix are rated at 1.35 volts per cell; all others rated 1.4 V. All have flat terminals unless otherwise noted. Types with suffix **T** have solder tab on negative terminal; suffix **T2** types have solder tabs on both terminals.

Mallory Number	Volts	Cap., mAH	Use	Size, Inches L. x W. x H.	Wt., Oz.	List Pr.
RM1	1.4	1000	Phys. hndcp.	5/8 dia. x 21/32	0.43	**$0.75**
RM1R	1.35	1000	Electronic	5/8 dia. x 21/32	0.43	**.95**
RM1RT†	1.35	1000	Electronic	5/8 dia. x 21/32	0.43	**1.00**
RM1RT2‡	1.35	1000	Electronic	5/8 dia. x 21/32	0.43	**1.05**
RM3R	1.35	2200	Electronic	1 dia. x 21/32	0.93	**1.50**
RM4R	1.35	3400	Electronic	1.2 dia. x 21/32	1.6	**1.95**
RM4RT†	1.35	3400	Electronic	1.2 dia. x 21/32	1.6	**2.00**
RM4Z	1.4	2400	Electronic	1.2 dia. x 1/2	1.2	**1.50**
RM12	1.4	3600	Tape rcrdr.	5/8 dia. x 161/64	2.0	**1.25**
RM12R	1.35	3600	Tachometer	5/8 dia. x 161/64	2.0	**1.50**
RM12RT†	1.35	3600	Electronic	5/8 dia. x 161/64	2.0	**1.55**
RM12RT2‡	1.35	3600	Electronic	5/8 dia. x 161/64	2.0	**1.60**
RM42	1.4	14000	Elec. "D"	1.2 dia. x 23/8	5.9	**3.95**
RM42R	1.35	14000	Elec. "D"	1.2 dia. x 23/8	5.9	**4.50**
RM42RT†	1.35	14000	Elec. "D"	1.2 dia. x 23/8	5.9	**4.55**
RM42RT2‡	1.35	14000	Elec. "D"	1.2 dia. x 23/8	5.9	**4.60**
RM312	1.4	36	Phys. hndcp.	5/16 dia. x 9/64	0.02	**.35**
RM400	1.4	75	Phys. hndcp.	29/64 dia. x 9/64	0.04	**.35**
RM400R	1.35	75	Electronic	29/64 dia. x 9/64	0.04	**.50**
RM400RT2‡	1.35	75	Electronic	29/64 dia. x 9/64	0.04	**.60**
RM401	1.4	800	Radio "N"	29/64 dia. x 11/8	0.4	**.75**
RM401R	1.35	800	Electronic	29/64 dia. x 11/8	0.4	**.85**
RM411	14	160	Electronic	1 x 19/32 x 127/64	1.08	**2.95**
RM412	22.5	160	Electronic	1 x 19/32 x 1331/32	1.65	**3.95**
RM413	28	160	Electronic	1 x 19/32 x 21/2	2.04	**4.95**
RM415*	42	160	Electronic	1 x 19/32 x 31/2	3.03	**7.50**
RM450R	1.35	350	Electronic	29/64 dia. x 9/16	0.18	**.75**
RM502R	1.35	2400	Electronic	1/2 dia. x 131/32	1.05	**1.25**
RM520	1.4	130	Phys. hndcp.	1/2 dia. x 9/32	0.07	**.25**
RM575	1.4	100	Phys. hndcp.	.455 dia. x .129	0.05	**.35**
RM601R	1.35	1800	Electronic	5/8 dia. x 15/32	1.2	**1.30**
RM601RT2‡	1.35	1800	Electronic	5/8 dia. x 15/32	1.2	**1.40**
RM625	1.4	350	Phys. hndcp.	5/8 dia. x 1/4	0.14	**.60**
RM625R	1.35	250	Electronic	5/8 dia. x 1/4	0.14	**.75**
RM625RT†	1.35	250	Electronic	5/8 dia. x 1/4	0.14	**.80**
RM625RT2‡	1.35	250	Electronic	5/8 dia. x 1/4	0.14	**.85**
RM630	1.4	350	Phys. hndcp.	5/8 dia. x 1/4	0.17	**.60**
RM630R	1.35	250	Electronic	5/8 dia. x 1/4	0.17	**.75**
RM640	1.4	500	Radio	5/8 dia. x 7/16	0.26	**.60**
RM640R	1.35	500	Electronic	5/8 dia. x 7/16	0.26	**.75**
RM640RT2‡	1.35	500	Electronic	5/8 dia. x 7/16	0.26	**.85**
RM675	1.4	160	Phys. hndcp.	29/64 dia. x 13/64	0.07	**.45**
TR112	2.8	350	Electronic	21/32 dia. x 19/64	0.29	**2.25**
TR113R	4.05	250	Electronic	21/32 dia. x 53/64	0.45	**2.50**
TR114R	5.4	250	Electronic	21/32 dia. x 11/16	0.59	**2.65**
TR114RT2‡	5.4	250	Electronic	21/32 dia. x 11/16	0.59	**2.75**
TR115	7.0	350	Dictating	21/32 dia. x 15/16	0.73	**2.95**
TR115R	6.75	250	Electronic	21/32 dia. x 15/16	0.73	**2.75**
TR118	11.2	350	Medical	21/32 dia. x 21/32	1.13	**3.95**
TR126	8.4	600	Radio	3/4 dia. x 2	1.6	**1.95**
TR132	2.8	1000	Paging	21/32 dia. x 15/16	1	**1.50**
TR132R	2.7	1000	Electronic	21/32 dia. x 15/16	1	**1.65**
TR133	4.2	1000	Radio, Pag.	21/32 dia. x 2	1.4	**1.65**
TR133R	4.05	1000	Radio, Pag.	21/32 dia. x 2	1.4	**1.95**
TR134	5.6	1000	Gar. door	21/32 dia. x 239/64	1.9	**2.25**
TR134T2‡	5.6	1000	Electronic	21/32 dia. x 29/64	1.9	**2.35**
TR134R	5.4	1000	Electronic	21/32 dia. x 29/64	1.9	**2.50**
TR135	7.0	1000	Gar. door	21/32 dia. x 31/4	2.4	**2.75**
TR135R	6.75	1000	Electronic	21/32 dia. x 31/4	2.4	**2.95**
TR136	8.4	1000	Gar. door	21/32 dia. x 329/32	2.9	**3.25**
TR136R	8.1	1000	Electronic	21/32 dia. x 329/32	2.9	**3.50**
TR137	9.8	1000	Electronic	21/32 dia. x 49/16	3.4	**3.75**
TR137R	9.45	1000	Electronic	21/32 dia. x 49/16	3.4	**3.95**
TR145	7	250	Electronic	21/32 dia. x 13/16	0.58	**2.50**
TR146X*	8.4	575	Radio	1 x 21/32 x 123/32	2.0	**1.95**
TR152	2.8	350	Electronic	15/32 dia. x 11/8	0.42	**1.25**
TR152R	2.7	350	Electronic	15/32 dia. x 11/8	0.42	**1.50**
TR153	4.2	350	Electronic	15/32 dia. x 111/16	0.6	**1.65**
TR153R	4.05	350	Electronic	15/32 dia. x 111/16	0.6	**1.95**
TR162R	2.7	500	Electronic	21/32 dia. x 7/8	0.58	**1.50**
TR163	4.2	500	TV tuner	21/32 dia. x 15/16	0.87	**1.65**
TR163R	4.05	500	Electronic	21/32 dia. x 15/16	0.87	**1.85**
TR164	5.6	500	Radio	21/32 dia. x 13/4	1.16	**1.95**
TR164R	5.40	500	Electronic	21/32 dia. x 13/4	1.16	**2.25**
TR165	7	500	TV tuner	21/32 dia. x 23/16	1.45	**2.50**
TR165R	6.75	500	Electronic	21/32 dia. x 23/16	1.45	**2.75**
TR169	12.6	500	Electronic	21/32 dia. x 37/8	2.88	**4.95**
TR175	7	350	Radio	31/64 dia. x 11/32	0.4	**1.50**
TR177*	9.8	160	Radio	35/64 dia. x 1229/32	0.67	**1.95**
TR233	4.2	2200	Radio	11/64 dia. x 131/32	3	**3.25**
TR233R	4.05	2200	Electronic	11/64 dia. x 131/32	3	**3.75**
TR234	5.4	2200	Electronic	11/64 dia. x 219/32	3.88	**3.95**
TR234R	5.6	2200	Electronic	11/64 dia. x 219/32	3.88	**4.50**
TR235R	6.75	2200	Electronic	11/64 dia. x 31/4	4.63	**5.25**
TR236R	8.10	2200	Electronic	11/64 dia. x 37/32	4.76	**5.95**
TR286*	8.4	750	Radio	1 dia. x 115/16	1.6	**1.95**
TR289*	12.6	750	CB radio	1 dia. x 225/64	3.6	**3.25**
TR431*	11.2	1000	Dictation	1 dia. x 27/8	5	**3.95**
ZM9	1.4	2400	Radio "AA"	1/2 dia. x 131/32	1	**.95**
ZM12	1.4	3600	Clock	5/8 dia. x 2	2.0	**1.35**

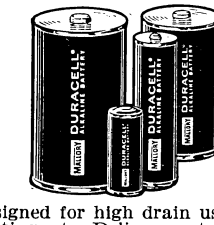
*Snap terminals. †1 tab, 1 flat terminal. ‡2 tab terminals.

MERCURY POWER-PAK★ BATTERIES

Mercury Power-Pak batteries are used in heavy duty industrial applications where extreme reliability is required. Detailed drawings of terminals and precise specifications are available on request.

Mall. No.	Volts	mAH	Use	Terminals	List
302157	1.35	28,000	Radiation eqpt.	Socket	**$17.75**
302250	9.45	250	Radiation eqpt.	Tabs	**4.40**
302351	5.4	2,200	Fire alarm	Flat	**9.00**
302358	10.8	250	Radiation eqpt.	Leads	**5.95**
302362	16.2	250	Radiation eqpt.	Leads	**8.00**
302435	6.75	250	Radiation eqpt.	Flat	**4.95**
302462	97.2	1,000	Transmitter "B"	Leads	**56.00**
302465	47.25	1,000	Geophysical	Leads	**32.00**
302478	9.8	2,400	Recorder	Flat	**9.80**
302497	6.75	2,200	Test equipment	Posts	**12.50**
302579	29.7	250	Test equipment	Leads	**18.00**
302580	27	3,400	Electronic	Socket	**48.00**
302642	7.0	2,400	Fire alarm	Flat	**7.40**
302651	1.35	14,000	Electronic	Leads	**6.90**
302702	2.7	2,200	Geophysical	Leads	**5.40**
302904	5.4	3,400	Meter	Leads	**9.95**
302905	6.75	3,400	Test equipment	Leads	**11.50**
302907	9.45	3,400	Electronic	Leads	**15.00**
302908	10.8	3,400	Radiation eqpt.	Leads	**16.50**
303145	8.4	3,600	Depth finder	Snap	**9.95**
303219	9.8	175	Electronic	Flat	**2.95**
303236	4.2	1,000	Electronic	Flat	**1.80**
303314	16.8	2,400	Transceiver	Flat	**15.40**
303394	11.2	3,600	Electronic	Snap	**14.50**
303462	15.4	2,400	Transceiver	Flat	**16.50**

ALKALINE DURACELL BATTERIES



Designed for high drain use such as photoflash, movie cameras, lighting, etc. Deliver up to 10 times longer life than zinc-carbon types. Add suffix **B** for blister pack (e.g., MN1300**B**).

STANDARD ALKALINE DURACELL BATTERIES

Mallory No.	Volts	Use	Wt., Oz.	List Pr.
MN1300	1.5	All purpose "D"	51/4	**$0.75**
MN1300C	1.5	Clock "D"	51/4	**1.25**
MN1306	4.5	Transistor radio	11/3	**1.25**
MN1400	1.5	All purpose "C"	21/3	**.60**
MN1400C	1.5	Clock "C"	21/3	**.95**
MN1500	1.5	All purpose "AA"	.82	**.50**
MN1604	9.0	Transistor radio	11/2	**1.25**
MN1611	9.0	Radio	11/2	**1.25**
MN2400	1.5	All purpose "AAA"	.4	**.50**
MN9100	1.5	All purpose "N"	.34	**.40**

RECHARGEABLE ALKALINE DURACELL BATTERIES

Used in portable TV sets, record players, etc. Provide low cost rechargeable power, but require special recharging circuit. For details on circuit, ask for Bulletin 6-136. **NOT interchangeable with other rechargeable batteries.**

Mallory No.	Volts	Size, Inches (Cell)	Wt., Oz.	List
SA13D	1.5	1.3 dia. x 2.367 h. (D)	5	**$1.50**
SA14C	1.5	1.01 dia. x 1.93 h. (C)	21/2	**1.25**
SA15AA	1.5	0.55 dia. x 1.94 h. (AA)	1	**.75**

DURACELL PHOTO BATTERIES

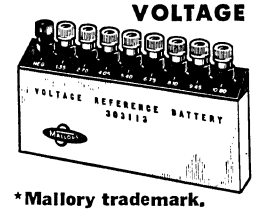
Mallory Number	Volts	Wt. Oz.	List Price	Mallory Number	Volts	Wt. Oz.	List Price
PX1	1.35	0.6	**$0.95**	**PX25**	4.05	0.5	**$2.25**
PX4	5.6	3.2	**2.25**	**PX28**	6.0	0.13	**1.98**
PX6	8.1	4.0	**3.95**	**PX29**	4.05	0.22	**1.70**
PX13B	1.35	0.14	**.75**	**PX450**	1.35	0.3	**.75**
PX14	2.7	0.3	**1.50**	**PX625**	1.35	0.15	**.75**
PX18	45	5.3	**5.95**	**PX640**	1.35	0.38	**.75**
PX19*	4.5	1.2	**1.25**	**PX675B**	1.35	0.07	**.60**
PX21*	4.5	1.2	**1.25**	**PX825***	1.5	0.38	**.50**
PX23	5.6	2.0	**.85**	**TR112R**	2.7	0.29	**1.90**
PX24*	3.0	1.0	**1.00**				

*Alkaline; all others mercury.

SILVER OXIDE DURACELL BATTERIES

Mallory Number	Volts	Size, In.	List Pr.
MS13	1.5	.21 x .31	**40c**
MS41	1.5	.16 x .46	**40c**
MS76	1.5	.21 x .46	**45c**

VOLTAGE REFERENCE BATTERY



The voltage reference battery uses high reliability mercury cells to achieve an exceptionally high degree of stability. Voltage accuracy is ± ½% for periods up to 2 years when used as directed. Supplied in lined leatherette case with instructions. Eight voltages from 1.35 to 10.80 V in 1.35-volt steps.

Mallory No. 303113—List . . **$36.50**

★**Mallory trademark.**

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RCA

BATTERIES

RADIO • FLASHLIGHT • FARM • TRANSISTOR HEARING AID • INDUSTRIAL • PHOTO FLASH

FEBRUARY 15, 1968

PORTABLE "A" TYPES

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA● Type No.	Replaces Eveready	Burgess	Mallory
VS004	1.15	1.65	1.5	0-1000	2 5/8	2 5/8	3 27/32	12	17	4	742	4F	M4
VS034A♦	.13	.20	1.5	0-25	—	9/16	1 31/32	144	5.3	15F	915	Z	M15F
VS035A♦	.1635	.25	1.5	0-80	—	1 1/32	1 15/16	240	22.5	14F	935	1	M14F
VS036♦	.1625	.25	1.5	0-150	—	1 1/32	2 13/32	192	39	13F	950	2R	M13F
VS065	1.23	1.75	7.5	0-70	2 5/32	1 15/16	3 1/32	12	7.3	9	717	C5	M9
VS067	1.23	1.75	4.5	0-250	3 15/16	15/16	4 3/32	6	6	3	736	F3	—
VS068♦	.87	1.25	6	0-250	1 7/32	1 7/32	2 11/32	6	1	2	724	Z4	—
VS069	1.15	1.65	1.5	0-300	2 23/32	1 13/32	3 1/32	6	3	18	720	2D	—
VS070	.87	1.25	1.5	0-250	—	1 1/32	4 1/16	6	4.5	23	960P	8R	—
VS072	1.23	1.75	4.5	0-150	4 3/32	1 7/16	2 13/16	3	2	19	726	D3	—
VS129	2.27	3.25	7.5	0-50	3 29/32	53/64	2 27/32	6	2.5	8	713	B5	—
VS141	1.22	1.75	1.5	0-500	2 1/32	1 3/8	4 5/32	6	4.5	11	W353	2F	—
VS236♦	.52	.75	1.5	0-300	—	1 1/32	4 3/16	12	4.5	20	964	21R	M20
VS315▲	1.15	1.65	7.5	0-80	2 1/16	2 1/32	2 13/16	6	4.7	26	707	D5	—
VS343♦	.19	.30	1.5	0-150	—	1 1/32	2 13/32	192	40	13D	D99	—	—
VS345	1.15	1.65	6	0-250	2 5/8	2 5/8	3 27/32	12	17	6	744	F4P1	—
VS734♦	.16	.25	1.5	0-25	—	9/16	1 31/32	144	5.4	15P	815	920	M15P
VS735♦	.19	.30	1.5	0-80	—	1 1/32	1 15/16	72	7	14P	835	120	M14P
VS736♦	.19	.30	1.5	0-150	—	1 1/32	2 13/32	72	13	13P	850	220	M13P

PORTABLE "B" TYPES

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA● Type No.	Replaces Eveready	Burgess	Mallory
VS013	2.97	4.25	45	0-40	3 19/32	1 27/32	5 1/2	6	13.8	202	482	M30	—
VS014	3.46	4.95	45	0-40	3 9/16	2 1/4	4 1/2	5	9.5	206	W359	A30	—
VS015	2.76	3.95	22.5, 45	0-25	3	2 15/16	4 1/8	6	6.5	205	738	Z30	—
VS016▲	2.70	3.85	67.5	0-10	2 13/16	1 3/8	3 45/64	12	10.5	200	467	XX45	M200
VS055▲	2.27	3.25	45	0-10	2 3/32	1	3 1/16	12	6.7	201	455	XX30	—
VS082▲	2.70	3.85	67.5	0-6	2 13/16	1 3/8	2 1/2	12	6.3	203	457	K45	—
VS084	1.05	1.50	22.5	0-25	1 1/32	5/8	2	12	1	215	412	U15	M215
VS086▲	1.75	2.50	45	0-4	1 3/64	5/8	3 1/16	12	2	213	415	U30	—
VS090▲	3.15	4.50	90	0-10	3 23/32	1 3/8	3 45/64	6	6.5	204	490	V60	—
VS125▲	2.77	3.95	67.5	0-10	2 13/16	1 3/8	3 23/32	12	9.8	200C	468	V45	—
VS217▲	3.15	4.50	75	0-10	1 15/16	1 15/32	6 15/32	12	12.6	212	437	XX50	—
VS218▲	2.70	3.85	67.5	0-8	1 29/32	63/64	5 7/16	12	6.4	211	477	P45	M211P
VS219▲	2.97	4.25	90	0-8	1 31/32	1 1/32	7 15/32	12	9.1	214	479	P60	—
VS316▲	3.47	4.95	90	0-10	1 15/16	1 15/32	7 1/8	6	6.5	216	495	N60X	—
VS318▲	2.07	2.95	67.5	0-3	1 21/64	63/64	3 1/2	6	1.5	217	416	UX45	—
VS344	3.47	4.95	45	0-70	3 31/32	2 17/32	5 5/16	6	19.3	207	484	B30	—

PORTABLE "A-B" TYPES

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts A	Volts B	Suggested Current Range mA A	mA B	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA● Type No.	Replaces Eveready	Burgess	Mallory
VS019	6.22	8.95	7.5, 9	90	0-50	0-15	9 7/32	2 23/32	4 5/16	1	5.3	401	753	F6A60	—
VS047	6.35	9.25	9	90	0-50	0-15	14 1/16	2 11/16	4 1/16	1	6.5	400	752	G6B60	—
VS050	5.78	8.25	6, 7.5	75	0-50	0-12	8 7/16	2 7/16	3 3/4	1	2.4	403	755	T5Z50	—
VS057W	5.43	7.75	7.5, 9	90	0-50	0-12	8 7/8	2 1/8	3 25/32	1	2.9	405	756	T6Z60	—
VS058	6.35	9.25	9	90	0-50	0-15	9 7/32	2 23/32	4 7/32	1	5.5	406	757	F6A60P	—
VS064	5.33	7.65	1.5	90	0-300	0-14	3 27/32	2 1/32	7 13/16	1	2.3	425	729	4TZ60	—

HEARING AID TYPES

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA● Type No.	Replaces Eveready	Burgess	Mallory
VS312■	.24	.35	1.4	—	—	0.312	0.140	60	3	—	E312	HG312	RM312
VS400■	.24	.35	1.4	0-7	—	0.455	0.135	60	0.5	1106	E400	HG400	RM400
VS401■	.50	.75	1.4	0-50	—	0.470	1.130	24	1	910M	E401	HG401	RM401
VS575■	.24	.35	1.4	—	—	0.455	0.132	60	0.5	—	E575	HG575	—
VS625■	.42	.60	1.4	—	—	0.615	0.238	40	0.5	—	E625	HG625	RM625
VS630■	.42	.60	1.4	0-20	—	0.615	0.238	40	0.5	1104	E630	HG630	RM630
VS675■	.32	.45	1.4	0-10	—	0.455	0.210	60	0.5	—	E675	HG675	RM675
VS1713	.30	.45	1.5	—	—	0.310	0.206	60	0.5	—	S13	—	MS13
VS1741	.30	.45	1.5	—	—	0.455	0.160	60	0.5	—	S41	—	MS41
VS1776	.34	.50	1.5	—	—	0.455	0.210	60	0.5	—	S76	—	MS76

TYPES FOR TRANSISTOR APPLICATIONS

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA● Type No.	Replaces Eveready	Burgess	Mallory
VS1■	.57	.85	1.4	0-75	—	0.627	0.650	40	2	1100	E1	HG1	RM1
VS9■	.64	.95	1.4	0-200	—	0.555	1.968	24	1 3/4	15M	E9	HG9	ZM9
VS12■	.92	1.35	1.4	0-250	—	0.640	1.968	10	1 1/4	1101	E12	HG12	RM12
VS126■	1.32	1.95	8.4	0-50	—	0.730	2.000	24	2	1611M	E126	H126	TR126
VS132■	1.05	1.50	2.8	0-75	—	0.662	1.315	10	3/4	1200	E132	H132	TR132
VS133■	1.32	1.95	4.2	0-75	—	0.662	1.965	24	2.3	1306M	E133	H133	TR133
VS146X■	1.32	1.95	8.4	0-30	1.031	0.660	1.641	24	1 1/4	1604M	E146X	H146X	TR146X
VS163■	1.32	1.95	4.2	0-50	—	0.662	1.327	10	3/4	1305	E163	H163	TR163
VS164■	1.32	1.95	5.6	0-50	—	0.662	1.767	24	2 1/4	1404	E164	H164	TR164
VS165■	1.70	2.50	7	0-50	—	0.662	2.217	10	1	1500	E165	H165	TR165
VS177■	1.32	1.95	9.8	0-10	—	0.547	1.906	24	1	1606M	E177	H177	TR177
VS233■	2.34	3.50	4.2	0-60	—	1.016	1.969	10	2.5	1300	E233	H233	TR233
VS300A	.68	.98	9	0-9	—	1	1 15/16	36	4	1600	226	P6	M1600
VS301	1.92	2.75	3, 6, 9	0-150	8	1 9/16	2 13/16	6	8	1601	2506	D6P1	—
VS304	1.30	1.85	13.5	0-10	1 11/32	1 1/32	2 11/16	12	2.3	1900	239	XX9	—
VS305	1.30	1.85	9	0-15	1 13/32	1 1/32	2 3/4	12	3.8	1602	246	2N6	M1602
VS306	1.36	1.95	9	0-30	2 5/16	2 1/32	3 5/32	6	5.6	1603	276	D6	M1603
VS322	1.36	1.95	9	0-20	1 13/16	1 13/16	2 7/16	12	5.3	1605	266	M6	M1605
VS323	.48	.69	9	0-8	1 1/32	21/32	1 29/32	72	6	1604	216	2U6	M1604
VS324	1.30	1.85	4.5	0-40	1 13/32	1 1/32	2 3/4	6	1.5	1610	243	2Z3	—
VS327	.62	.89	9	0-7	—	3/4	2	12	1	1611	206	L6	M1611
VS329	1.05	1.50	12	0-9	—	1	2 1/16	12	1.8	1810	228	PM8	—
VS330	1.64	2.35	9	0-80	2 3/16	1 5/32	6 1/4	6	6.5	1612	2356N	C6X	—
VS331	2.76	3.95	9	0-30	2 9/32	1 1/4	7 31/32	6	8 1/4	1608	2761N	D6S	—
VS332	.68	.98	4.5	0-12	—	0.662	1.965	12	0.9	1306	333	—	—
VS334	.155	.25	1.5	0-25	—	9/16	1 31/32	144	5.5	15	1015	930	M15R
VS335	.19	.30	1.5	0-80	—	1 1/32	1 15/16	72	7	14	1035	130	M14R
VS336	.19	.30	1.5	0-150	—	1 1/32	2 13/32	192	40	13	1050	230	M13R
VS337	2.76	3.95	4.5	0-200	2 13/16	1 3/4	8 1/32	6	15.5	1303	2731N	APX19	—
VS338	1.36	1.95	6	0-25	1 15/32	47/64	4 1/16	6	1.4	1403	2713N	APX21	—
VS339	1.05	1.50	9	0-20	1 13/32	47/64	4 1/16	6	1.5	1613	2709N	APX24	—
VS640■	.42	.60	1.4	0-50	—	0.625	0.440	20	3/4	1105	E640	HG640	RM640

* Optional. ● National Electronic Distributors Association. ♦ Flashlight Type Terminals. ■ Mercury Types. ▲ 2 snap-fasteners.

Trade Discount Applies To List Prices Only

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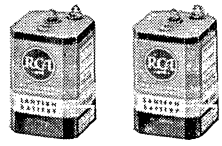
RCA

BATTERIES

RADIO • FLASHLIGHT • FARM • TRANSISTOR HEARING AID • INDUSTRIAL • PHOTO FLASH

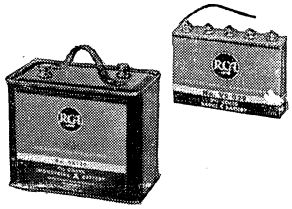
LANTERN TYPES



Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	Max. Dimensions Inches L.	W. or Dia.	Overall Ht.	Standard Package Units	Lbs. (Appr.)	NEDA° Type No.	Replaces Eveready	Burgess	Mallory
VS034A◆	.13	.20	1.5	0-25	—	9/16	1 31/32	144	5.3	15F	915	Z	M15F
VS035A◆	.1625	.25	1.5	0-80	—	1 1/32	1 15/16	240	22.5	14F	935	I	M14F
VS036◆	.1625	.25	1.5	0-150	—	1 11/32	2 13/32	192	39	13F	950	2R	M13F
VS040C	.92	1.39	6	0-250	2 5/8	2 5/8	4 13/32	12	17	908	509	F4H	M908
VS040S	.92	1.39	6	0-250	2 5/8	2 5/8	4 5/16	12	18	915	510S	F4BP	M915
VS073	.08	.125	1.5	0-20	—	0.445	1.180	96	1.5	910	904	N	910F
VS074	.13	.20	1.5	0-20	—	13/32	1 3/4	48	1	24F	912	7	M24F
VS103	4.01	5.98	6	0-1000	8 5/16	2 13/16	6 7/16	4	26	902	706	4F4H	—
VS134	.79	1.15	3	0-25	1 7/32	5/8	2 21/32	10	1	704	750	422	—
VS138	1.92	2.75	3	0-1000	3 7/8	2 11/16	5 13/16	5	13.5	901	W357	4F2H	—
VS139	4.86	7.25	7.5	0-1000	7 1/4	4 1/16	6 7/16	4	30	903	715	4F5H	M903
VS140	5.53	8.25	9	0-1000	8 13/32	4 1/16	6 7/16	4	37	904	716	4F6H	M904
VS142	.87	1.25	4.5	0-25	1 25/32	5/8	2 21/32	10	1.5	705	751	432	—
VS317	1.96	2.95	6	0-500	5 11/32	2 27/32	4 15/16	6	20	918	731	TW1	M918
VS342	1.96	2.92	12	0-250	5 11/32	2 27/32	4 15/16	6	20	926	732	TW2	—
VS343	.19	.30	1.5	0-150	—	1 11/32	2 13/32	192	40	13D	D99	—	—

FARM TYPES

INDUSTRIAL and SPECIAL-PURPOSE TYPES

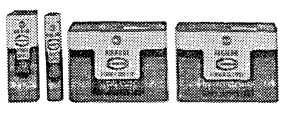


Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts A	Volts B	Current Range mA A	Current Range mA B	L.	W. or Dia.	Overall Ht.	Units	Lbs. (Appr.)	NEDA° Type No.	Eveready	Burgess	Mallory
VS022	7.95	10.65	1.5	90	0-300	0-12	15 11/16	4 1/32	6 15/16	1	16.5	413	759	17GD60	—
VS1	.57	.85	1.4		0-75		—	0.627	0.650	40	2	1100	E1	HG1	RM1
VS12	.92	1.35	1.4		0-250		—	0.640	1.968	10	1 1/4	1101	E12	HG12	RM12
VS006C	.91	1.35	1.5		0-1500		—	2 5/8	6 21/32	12	26	906	6GL	6TEL	M906
VS006S	.91	1.35	1.5		0-1500		—	2 5/8	6 21/32	12	25	905	6IGN	6IGN	M905
VS028	1.23	1.75	4.5		0-50		2 7/16	27/32	3	5	1 1/2	714	781	5360	—
VS029	1.75	2.50	1.5, 3, 4.5, 6, 7.5		0-50		3 29/32	27/32	3	5	2 1/2	713	773	5540	—
VS039	3.75	5.75	6		0-1500		10 7/16	2 23/32	7 7/32	4	37.5	907	1461	—	M907
VS040C	.92	1.39	6		0-250		2 5/8	2 5/8	4 13/32	12	17	908	509	F4H	M908
VS040S	.92	1.39	6		0-250		2 5/8	2 5/8	4 5/16	12	18	915	510S	F4BP	M915
VS070	.87	1.25	1.5		0-250		—	1 11/32	4 1/16	6	4.5	23	960P	8R	—
VS083	.81	1.15	15		0-2.5		1 1/32	5/8	1 29/64	6	0.4	208	411	U10	M208
VS084	1.05	1.50	22.5		0-2.5		1 1/32	5/8	2	12	1	215	412	U15	M215
VS085	1.23	1.75	30		0-2.5		1 1/32	5/8	2 9/16	12	1.3	210	413	U20	M210
VS093	8.37	11.95	300		0-2.5		2 11/16	2 7/32	3 29/32	3	3.7	722	493	U200	—
VS100	1.33	1.90	3		0-250		2 21/32	1 11/32	4 9/16	5	3.5	701	W352	F2BP	—
VS101	.79	1.15	1.5		0-500		2 5/8	1 5/16	4 1/32	5	4	700	711	2FH	—
VS102	1.61	2.35	22.5		0-40		3 1/2	2 3/32	3 1/16	5	4.7	710	763	4156	—
VS103	4.01	5.98	6		0-1000		8 5/16	2 13/16	6 7/16	4	26	902	706	4F4H	—
VS106	.84	1.25	1.5		0-1000		2 5/8	2 5/8	4 13/32	12	18	900	735	4FH	M900
VS112	3.05	4.35	22.5, 45		0-50		4 3/32	2 9/16	5 7/16	5	16.9	709	762S	5308	—
VS114	2.69	3.85	22.5, 45		0-20		3 1/16	1 7/8	4 31/32	5	5	711	W350	Z30NX	—
VS127W	7.66	10.95	22.5, 45		0-250		8 1/32	4 1/16	7 5/8	4	44	724	W363F	10308SC	—
VS130	1.76	2.50	1.5, 3, 4.5		0-150		4 1/16	1 11/32	3 1/32	5	4.5	712	761T	2370ST	—
VS131	4.16	5.95	3, 4.5, 6, 9, 10.5, 16.5, 22.5		0-50		4	2 7/16	3 1/8	4	6.5	708	778	5156SC	—
VS132	1.05	1.50	2.8		0-75		—	0.662	1.315	10	3/4	1200	E132	H132	TR132
VS133	1.32	1.95	4.2		0-75		—	0.662	1.965	24	2.3	1306M	E133	H133	TR133
VS134	.79	1.15	3		0-25		1 7/32	5/8	2 21/32	10	1	704	750	422	—
VS136	1.92	2.75	3		0-500		2 5/8	2 5/8	4 9/16	5	7.5	703	W356	2F2H	—
VS138	1.92	2.75	3		0-1000		3 25/32	2 11/16	5 13/16	5	13.5	901	W357	4F2H	—
VS139	4.86	7.25	7.5		0-1000		7 1/4	4 1/16	6 7/16	4	30	903	715	4F5H	M903
VS140	5.53	8.25	9		0-1000		8 37/64	4 1/16	6 7/16	4	37	904	716	4F6H	M904
VS142	.87	1.25	4.5		0-25		1 25/32	5/8	2 21/32	10	1.5	705	751	432	—
VS157W	8.37	11.95	22.5, 45		0-300		8 1/8	4 7/16	7 11/16	4	51	715	W364F	21308SC	—
VS163	1.32	1.95	4.2		0-50		—	0.662	1.327	10	3/4	1305	E163	H163	TR163
VS164	1.32	1.95	5.6		0-50		—	0.662	1.767	24	2 1/4	1404	E164	H164	TR164
VS317	1.96	2.95	6		0-500		5 11/32	2 27/32	4 15/16	6	20	918	731	TW1	M918
VS340	4.01	5.98	12		0-600		10 7/16	2 23/32	7 7/32	4	32	922	1463	2G8H	—
VS342	1.96	2.95	12		0-250		5 11/32	2 27/32	4 15/16	6	20	926	732	TW2	—
VS346	1.36	1.95	4.5		0-50		2 7/16	27/32	3 1/16	10	3	706	703	532	—
VS400	.24	.35	1.4		0-7		—	0.455	0.135	60	1/2	1106	E400	HG400	RM400
VS630	.42	.60	1.4		0-20		—	0.615	0.238	40	1/2	1104	E630	HG630	RM630
VS640	.42	.60	1.4		0-50		—	0.625	0.440	20	3/4	1105	E640	HG640	RM640

PHOTO FLASH

Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	L.	W. or Dia.	Overall Ht.	Units	Lbs. (Appr.)	NEDA° Type No.	Eveready	Burgess	Mallory
VS704	.81	1.15	15	0-1.5	5/8	1 9/32	1 3/4	12	0.4	220	504	Y10	M504
VS705	1.05	1.50	22.5	0-1.5	5/8	1 9/32	2	12	0.5	221	505	Y15	M505
VS734◆	.16	.25	1.5	0-25	—	9/16	1 31/32	144	5.4	15P	815	920	M15P
VS735◆	.19	.30	1.5	0-80	—	1 1/32	1 15/16	72	7	14P	835	120	M14P
VS736◆	.19	.30	1.5	0-150	—	1 11/32	2 13/32	72	13	13P	850	220	M13P

ALKALINE TYPES



Type	Distr. Resale Price Ea.*	List Price Ea.*	Volts	Suggested Current Range mA	L.	W. or Dia.	Overall Ht.	Units	Lbs. (Appr.)	NEDA° Type No.	Eveready	Burgess	Mallory
VS1073	.27	.40	1.5	0-150	—	0.470	1.130	24	.6	910	E90	AL-N	Mn9100
VS1074	.33	.50	1.5	0-25	—	0.410	1.735	48	2	824	E92	AL-7	Mn2400
VS1149▲	.84	1.25	4.5	0-100	—	0.662	1.965	24	2	815	523	AL-133	Mn1306
VS1323▲	.84	1.25	9	—	—	—	—	24	2.5	—	—	—	Mn1604
VS1334	.33	.50	1.5	0-300	—	0.550	1.960	96	5	1306	E91	AL-9	Mn1500
VS1335	.43	.65	1.5	0-500	—	1 1/32	1 15/16	48	8	814	E93	AL-1	Mn1400
VS1336	.60	.90	1.5	0-1000	—	1 5/16	2 3/8	48	18	813	E95	AL-2	Mn1300
VS1337	.84	1.25	4.5	—	—	—	—	10	2	—	531	APX-19	PX19
VS1338	.84	1.25	4.5	—	—	—	—	10	2	—	—	APX-21	PX21
VS1339	.75	1.00	3	—	—	—	—	10	1	—	532	APX-24	PX24
RECHARGEABLE													
VS1560	4.62	6.95	7.5	—	2.656	1.531	7.156	12	19.5	—	560	—	—
VS1561	10.62	15.95	15	—	8.313	2.813	5.875	4	25.5	—	561	—	—
VS1563	2.76	4.15	4.5	—	—	1.359	7.156	12	11.0	—	563	—	—
VS1564	9.94	14.95	13.5	—	8.313	2.813	5.875	4	24.0	—	564	—	—

* Optional. ▲ Alkaline types specially designed for transistor radios. ◆ Flashlight-type terminals. ° National Electronic Distributors Association.

HIGH VOLTAGE POWER PACKS

COMPACT "M" SERIES 2 TO 75 KVDC

The "M" series Power Packs are a completely new design. Long life and a small package directed the use of the latest techniques and advanced materials. Many features have been incorporated with the highest quality materials, at the same time maintaining economy of cost.

Standard input voltage is 118 at frequencies from 50 to 500 cycles per second inclusive. Available also are input voltages of 220, 230 and 240 volts from 50 to 500 cycles per second inclusive. For 220 volts suffix the desired part number with "X", 230 volts "Y" and 240 Volts "Z". All units may be modified for other input voltages.

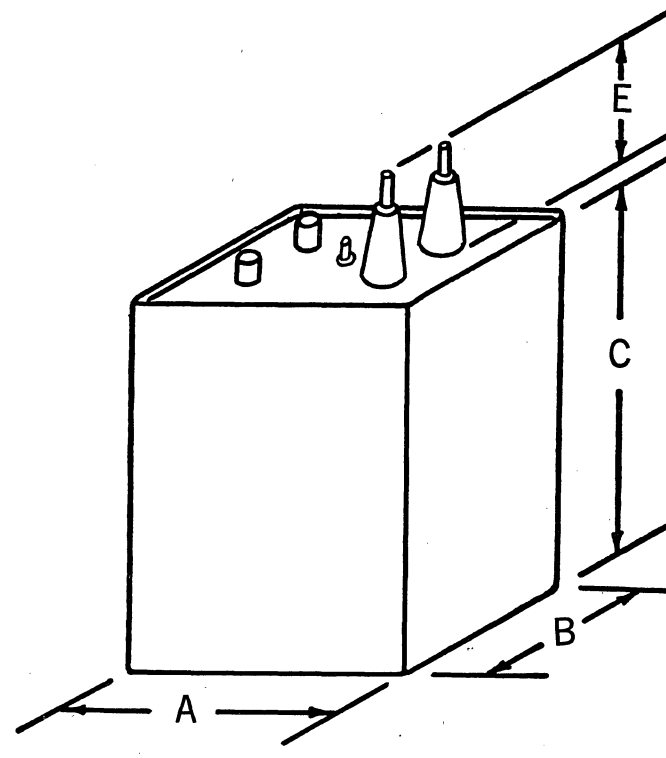
The output is filtered DC and standard potentials and current ratings are listed below. All units can be modified for any required potential and current below the values specified in the listing. The output potential can be varied from zero to the rated voltage and load by means of a variable auto transformer at the primary.

Ripple is 1% RMS or 2.75% peak to peak at rated current and voltage.

Design life is 40,000 hours at 35°C and 5,000 hours at 85°C.

Case finish is light blue gray lacquer per MIL-L-7178.

All units except the 75 KV, have two output terminals isolated from the container, permitting either terminal to be operated at ground or an intermediate point between them can be tied to ground. The 75 KV unit has a single high voltage terminal for the output. The Power Pack is normally furnished to deliver a positive output potential relative to ground. If a negative output is desired it can be shipped as such from the factory upon request. The polarity can be easily reversed as required by opening the top access port and reversing the selenium rectifier board. The remaining output terminal at low potential is left ungrounded so that the lead current be monitored if required.



PART NUMBER	KV RANGE	MAX. MA.	DIMENSIONS				MOUNTING AREA		WEIGHT LBS.
			A	B	C	E	L	W	
HV20-152M	0-2	1.5	3¾	1¾	3⅜	⅜	1¾	5¼	2 LBS.
HV50-152M	0-5	1.5	3¾	2¼	3⅜	⅝	2¼	5¼	2 LBS.
HV100-152M	0-10	1.5	3¾	3 3/16	4½	1 1/16	3 3/16	5¼	4 LBS.
HV150-152M	0-15	1.5	3¾	3 3/16	5½	1 1/16	3 3/16	5¼	5 LBS.
HV200-152M	0-20	1.5	3¾	4 5/16	5⅞	2⅛	4 5/16	5¼	9 LBS.
HV300-152M	0-30	1.5	3¾	4 5/16	7½	3¼	4 5/16	5¼	11 LBS.
HV500-152M	0-50	1.5	4 11/16	6	8½	4 5/16	6	6¼	18 LBS.
HV750-152M	0-75	1.5	5⅝	7⅝	12 3/16	7½	7⅜	7¼	45 LBS.
HV20-502M	0-2	5	3¾	2¼	3⅜	⅜	2¼	5¼	2 LBS.
HV50-502M	0-5	5	3¾	2¼	3¾	⅝	2¼	5¼	3 LBS.
HV100-502M	0-10	5	3¾	4 5/16	5⅞	1 1/16	4 5/16	5¼	8 LBS.
HV150-502M	0-15	5	3¾	4 5/16	6⅛	1 1/16	4 5/16	5¼	10 LBS.
HV200-502M	0-20	5	3¾	4 5/16	8	2⅛	4 5/16	5¼	14 LBS.
HV300-502M	0-30	5	4 11/16	6	8½	3¼	6	6¼	22 LBS.
HV500-502M	0-50	5	5⅝	7⅜	12 3/16	4 5/16	7⅜	7¼	45 LBS.
HV750-502M	0-75	5	11⅛	14 1/16	16¼	7 1/2	14 1/16	11⅛	124 LBS.
HV10-103M	0-1	10	3¾	2¼	3⅜	⅜	2¼	5¼	2 LBS.
HV25-103M	0-2.5	10	3¾	2¼	3¾	⅝	2¼	5¼	3 LBS.
HV50-103M	0-5	10	3¾	4 5/16	5⅞	⅝	4 5/16	5¼	10 LBS.
HV100-103M	0-10	10	3¾	4 5/16	8	1 1/16	4 5/16	5¼	14 LBS.
HV150-103M	0-15	10	4 11/16	6	8½	1 1/16	6	6¼	22 LBS.
HV250-103M	0-25	10	5⅝	7⅝	12 3/16	3¼	7⅝	7¼	45 LBS.
HV375-103M	0-37.5	10	11⅛	14 1/16	16¼	4 5/16	14 1/16	11⅛	124 LBS.

SURFACE AREA REQUIRED FOR MOUNTING INCLUDING AREA REQUIRED FOR FOOTED BRACKETS

SEE SECTION 1500, PAGES 344, 345

HIGH & LOW VOLTAGE CAPACITORS

Plastic Capacitors, Inc.

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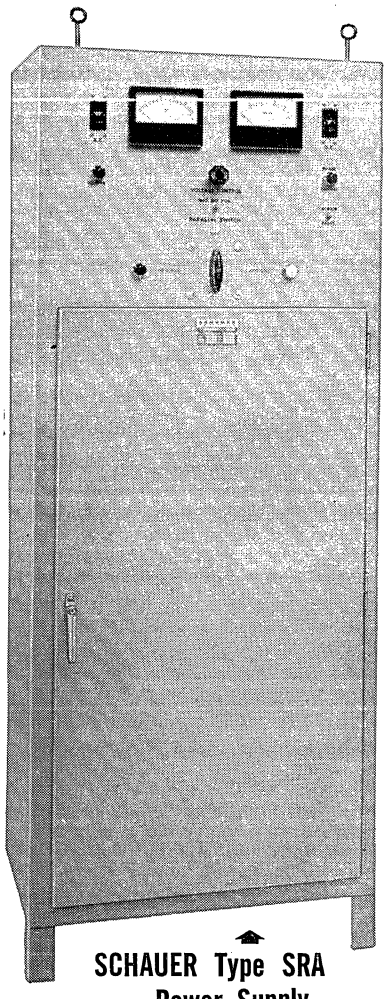
SCHAUER POWER SUPPLIES

New in design and applied engineering technology are Schauer standard and custom-engineered power supplies for communication, industrial and laboratory use. Among a wide range of types are fully transistorized series regulated and magnetic amplifier regulated, output regulated and non-regulated units. Illustrated here are but a few of the types and designs that are available.

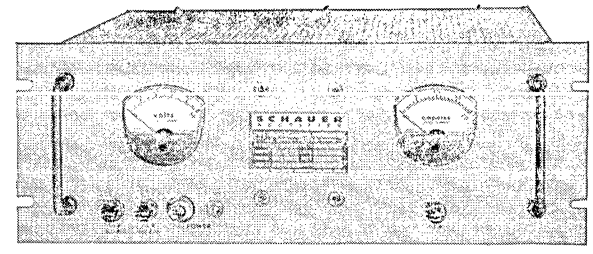
Special features that can be incorporated include alarm circuits, current limiting circuit, bus switching, etc. All units are built of quality components, conservatively rated and completely wired for maximum reliability under continuous duty conditions.

Your power supply problems can be readily solved by consulting with Schauer — manufacturers of quality products since 1907. Ask your distributor for Schauer Catalog No. 640.



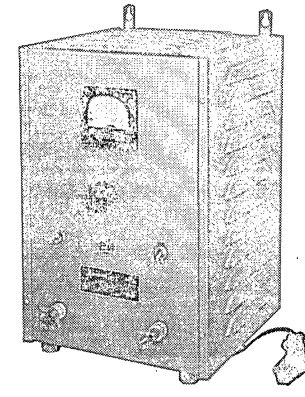
SCHAUER Type SRA Power Supply

Magnetic amplifier regulated input and output with alarm circuit and provisions for switching to either positive or negative bus of a 3-wire D.C. system. Regulation is maintained within 1% total band for load variations from no load to 125% of full load and for input voltage variations of ± 10%. Available in capacities from 10 through 250 amperes in 48, 60 and 125 volt models for 3 phase, 60 cycle input lines at standard commercial voltages.



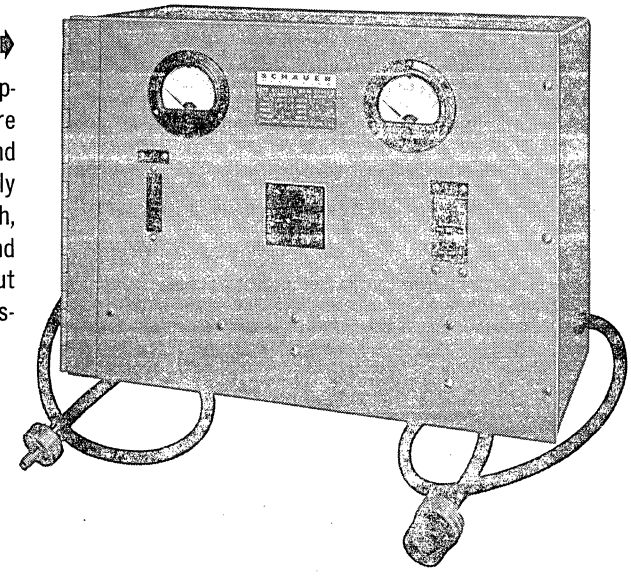
SCHAUER Type TRPS Power Supply

Transistorized regulated power supply for relay rack mounting, providing exceptionally close output regulation. Can be supplied in capacities up to 25 amperes maximum at voltage ratings up to 125 volts D.C. and in a variety of packaging and mounting arrangements.



SCHAUER Type SA48006 Power Supply

For operating and testing AM and FM 2-way and marine radios. Provides maximum 48 amperes at 6 volts D.C. or 24 amperes at 12 volts D.C. by switching. Output adjustable by multiple tap switch. The ventilated steel case for bench or wall mounting is 10″ wide x 9½″ deep x 15″ high.



SCHAUER Type SK Power Supply

General purpose power supplies for applications where close output regulation and a highly filtered D.C. supply are not required. Bench, wall and floor mountings and many variations in output and characteristics are possible.

Rectifier Division

SCHAUER MANUFACTURING CORP.

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SPELLMAN

HIGH VOLTAGE POWER SUPPLIES

FOR INDUSTRY,
SCIENCE,
INSTRUMENTATION,
EDUCATION,
AEROSPACE,
DEFENSE,
DISPLAYS

RACK AND CABINET STYLES

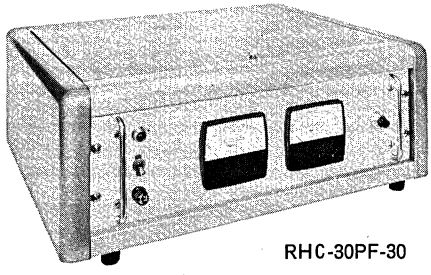
HIGH VOLTAGE POWER SUPPLIES

Series **RHR** and **UHR** – Rack Mounted Units

• All solid state • All silicon • Unique circuitry
• High performance • Low Price • 82 Models

	RHR/RHC	UHR/UHC
REGULATION	0.01% or 100mV, whichever is greater	Less than 20% of max rated voltage
RIPPLE (RMS=p-p/2.82)	0.02% RMS or 200mV RMS, whichever is greater	0.1% RMS of max rated output voltage
INPUT	105-125V; 50-60Hz; single phase	

Ask for Bulletins 6810 and 6820 for more detailed technical information.



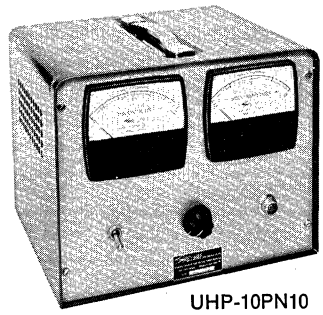
RHC-30PF-30

0-30 KV/Regulated Focus Tap. Used in flying spot scanners and photomultipliers.

*Cabinet models RHC & UHC also available with same ratings. Models with reversible polarity available at additional cost.

PARTIAL LISTING

MAX RATINGS KV	MA.	REGULATED RACK MOUNTED *		UNREGULATED RACK MOUNTED		REGULATED PORTABLE		UNREGULATED PORTABLE	
5	2					RHP-5P10	$300	UHP-5P10	$175
5	6	RHR-5P30	$425	UHR-5P30	$300	RHP-5P30	$425	UHP-5P30	$300
5	10	RHR-5P60	$475	UHR-5P60	$350	RHP-5P60	$475	UHP-5P60	$350
10	1					RHP-10P10	$325	UHP-10P10	$175
10	3	RHR-10P30	$495	UHR-10P30	$320	RHP-10P30	$495	UHP-10P30	$320
10	6	RHR-10P60	$535	UHR-10P60	$350	RHP-10P60	$535	UHP-10P60	$350
10	10	RHR-10P120	$575	UHR-10P120	$380				
15	0.67					RHP-5P10	$480	UHP-5P10	$200
15	2	RHR-15P30	$620	UHR-15P30	$340	RHP-15P30	$620	UHP-15P30	$340
15	4	RHR-15P60	$670	UHR-15P60	$380	RHP-15P60	$670	UHP-15P60	$380
15	8	RHR-15P120	$720	UHR-15P120	$420				
20	0.50					RHP-20P10	$550	UHP-20P10	$250
20	1.5	RHR-20P30	$685	UHR-20P30	$360	RHP-20P30	$685	UHP-20P30	$360
20	3	RHR-20P60	$735	UHR-20P60	$400	RHP-20P60	$735	UHP-20P60	$400
20	6	RHR-20P120	$785	UHR-20P120	$440				
30	0.33					RHP-30P10	$600	UHP-30P10	$300
30	1	RHR-30P30	$750	UHR-30P30	$380	RHP-30P30	$750	UHP-30P30	$380
30	2	RHR-30P60	$800	UHR-30P60	$420	RHP-30P60	$800	UHP-30P60	$420
30	4	RHR-30P120	$850	UHR-30P120	$460			UHP-30P120	$460
40	0.25					RHP-40P10	$700	UHP-40P10	$400
40	0.75	RHR-40P30	$800	UHR-40P30	$480	RHP-40P30	$800	UHP-40P30	$480
40	1.5	RHR-40P60	$850	UHR-40P60	$520	RHP-40P60	$850	UHP-40P60	$520
40	3	RHR-40P120	$925	UHR-40P120	$560				
60	0.17					RHP-60P10	$1000	UHP-60P10	$600
60	0.50	RHR-60P30	$1150	UHR-60P30	$690	RHP-60P30	$1150	UHP-60P30	$690
60	1	RHR-60P60	$1250	UHR-60P60	$750	RHP-60P60	$1250	UHP-60P60	$750
60	2	RHR-60P120	$1350	UHR-60P120	$810				
90	1	RHR-90P90	$1600	UHR-90P90	$1100				



UHP-10PN10

Unregulated. Portable. Reversible Polarity.

PORTABLE STYLE

HIGH VOLTAGE POWER SUPPLIES

Series **RHP** Regulated
UHP Unregulated

• All Solid State • All Silicon • Compact and dependable designs • Lightweight • Built-in safety features • Voltage and current meters • 38 standard models

	RHP	UHP
REGULATION	Less than 0.1% or ±1 Volt, whichever is greater, for either line or load regulation	Less than 20% of max rated voltage
RIPPLE	0.1% or 1VRMS, whichever is greater	0.1% RMS of maximum rated output voltage
INPUT	105-125, 50-400Hz, single phase	

Ask for Bulletin 6830 for more detailed technical information

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MODULAR STYLE

HIGH VOLTAGE POWER SUPPLIES

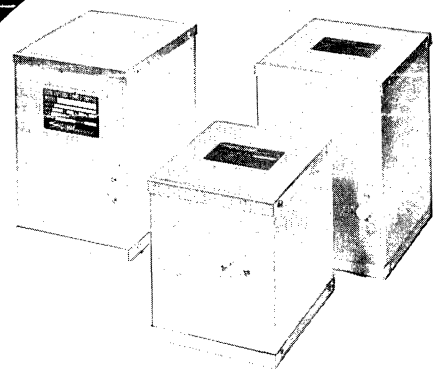
Series

RHM Narrow-Range-Adjustable REGULATED

FRHM Fixed output REGULATED

UHM UNREGULATED (Input-Controllable)

- All Solid State design • 87 standard models (29 in each series) • Heavy gage aluminum housing



	RHM	FRHM	UHM
REGULATION	0.01%	0.01%	Less than 20% of max rated voltage
RIPPLE (RMS=p-p/2.82)	0.02% RMS	0.02% RMS	0.1% RMS of max rated output voltage
INPUT			
AC (50-400 Hz)	105-125V	105-125V	0-115V
DC	24-32V	24-32V	1-30V

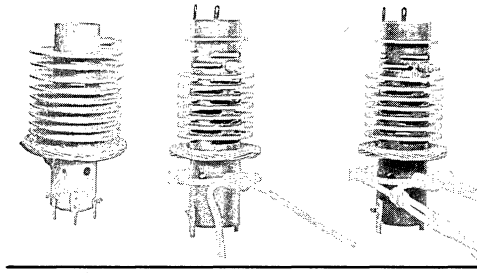
Ask for Bulletin 6840 for more detailed technical information

PARTIAL LISTING

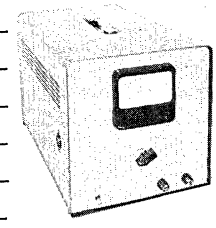
MAX. RATING KV	MA.	ADJ. REGULATED MODULE (AC INPUT)		FIXED, REGULATED MODULE (AC INPUT)		UNREGULATED MODULE (DC INPUT)	
5	2	RHM-5P10	$260	FRHM-5P10	$235	UHM-5P10D	$ 75
5	6	RHM-5P30	$385	FRHM-5P30	$360	UHM-5P30D	$200
5	10	RHM-5P60	$455	FRHM-5P60	$430		
10	1	RHM-10P10	$285	FRHM-10P10	$260	UHM-10P10D	$ 75
10	3	RHM-10P10	$455	FRHM-10P30	$430	UHM-10P30D	$220
10	6	RHM-10P60	$520	FRHM-10P30	$495		
10	10	RHM-10P120	$555	FRHM-10P120	$530		
15	0.67	RHM-15P10	$510	FRHM-5P10	$485	UHM-15P10D	$125
15	2	RHM-15P30	$580	FRHM-15P30	$555	UHM-15P30D	$240
15	4	RHM-15P60	$650	FRHM-15P60	$625		
15	8	RHM-15P120	$700	FRHM-15P120	$675		
20	0.50	RHM-20P10	$510	FRHM-20P10	$485	UHM-20P10D	$125
20	1.5	RHM-20P30	$645	FRHM-20P30	$620	UHM-20P30D	$260
20	3	RHM-20P30	$715	FRHM-20P60	$690		
20	6	RHM-20P120	$765	FRHM-20P120	$740		
30	0.33	RHM-30P10	$560	FRHM-30P10	$535	UHM-30P10D	$150
30	1	RHM-30P30	$710	FRHM-30P30	$685	UHM-30P30D	$280
30	2	RHM-30P60	$780	FRHM-30P60	$755		
30	4	RHM-30P120	$830	FRHM-30P120	$805		

HV POWER STEP-UP COILS

Furnished with complete technical data and schematic diagram for construction of self-oscillating RF circuit at approximately 120kHz; circuit includes recommended output rectification/filtering stages, to provide indicated HVDC output. Vacuum-tube designs include auxiliary filament windings for 1B3 rectifier tubes in recommended circuit (separate self-resonant RF autotransformers for 1B3 filament also available.) TRF-10 is for transistor oscillators, all others for vacuum-tube circuits.



MODEL NO.	OUTPUT VOLTS DC 1mA.	INPUT REQUIRED
TRF-10	0-15KV	0-28VDC @ approx 1A
5KV	1-7½KV	Up to 300VDC 50mA. max
10-15KV	10-15KV	Up to 425VDC 100mA. max
10-15KV-1 (1 rectifier)	10-15KV	Up to 425VDC 100mA, max
10-15KV-2 (2 rectifiers)	10-15KV	Up to 425VDC 100mA. max
25KV	25KV	Up to 425VDC 300mA. max
35KV	35KV (at 2mA.)	Up to 425VDC 500mA. max
70KV	70KV	Up to 425VDC 500mA. max



Model ST-60 Special-Purpose Heavy-Duty 60Hz Industrial Solid-State. 0-60KV, 0.25mA (1ma @ 20KV) portable HV supply. Low-priced stock item for industrial and similar process, test applications. Price **$395**

APPLICATIONS

INDUSTRIAL ELECTROSTATIC PROCESSES: Spray Painting; Flocking Systems; Particle Precipitation; Vacuum Deposition; Corona Testing; Electrostatic Printing; De-emulsifying; Insulation Fault Detection; High Voltage Forming; Plastic Pinning; Powder Deposition; Spot Knocking.

SCIENTIFIC RESEARCH: Nuclear Apparatus; Radiation Counters; Electron Microscopes; Lasers; High-Vacuum Processes; Ionization Chambers; Plasma Research; Mass Spectroscopes; Capacitor-Bank Charging For Plasma/Pinch Research; Acoustic/Oceanographic Equipment.

AEROSPACE: Radar Displays; Image Intensification Systems; BWO, TWT, Klystron Power; Radiation Detection; Infra-red Excitation; Projection Television; Flying-Spot Scanners.

INSTRUMENTATION: Air Pollution Instrumentation; Oscilloscopes; Mass Spectrometers; High-Resolution X-Ray; Electron Microscopes; Voltmeter, Voltbox Calibrators; Corona Testers; Insulation Testers; Photomultiplier Instrumentation.

EDUCATION: Physics Laboratories; Classroom Demonstrations; Large-Screen CRT Displays; Experimental Assemblies; Electronics Courses.

COMPUTER AND TACTICAL DISPLAYS: Area-grid Tactical Displays; CRT Storage; Image Intensifiers; Waveform Generators, Stabilized Pattern Displays; Flying-Spot Pattern Detection and Generation.

SPELLMAN

HIGH-VOLTAGE ELECTRONICS CORPORATION

OUR THIRD DECADE OF LEADERSHIP IN HIGH-VOLTAGE TECHNOLOGY.

SOLA® CVDC power supplies, available off-the-shelf.

Sola offers a wide range of CVDC type power supplies which are available from stock of your local electronic parts distributor or the factory. These standard designs are available in any quantity and are the result of Sola custom engineering efforts.

Inherently highly reliable, the CVDC supplies are ruggedly built and use simple circuitry. Fast and dependable regulation, current limiting, and high efficiency are provided by the heart of the supply: the famous Sola Constant Voltage Transformer.

CHARACTERISTICS

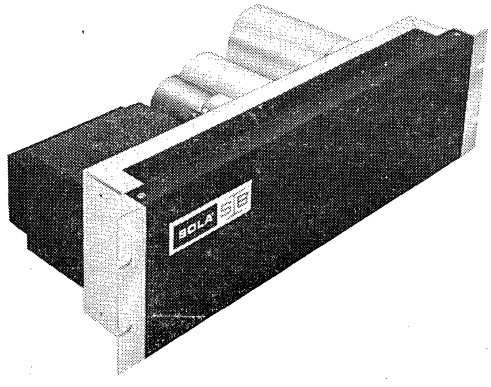
- Fast, dependable line-voltage regulation: within ±1% for fluctuations of ±15%; voltage will return to regulation envelope in approximately 50 milliseconds.
- Load regulation: from 1/2% to 8%, one half to full load.
- Automatic current limiting: short circuit protection; withstands load faults; high overloads cannot damage power supply or equipment components.
- High efficiency: upwards of 75%; low input-power requirements.
- Simplified operation: no adjustments or maintenance; continuous duty.
- Convection cooling.
- Ripple: 1% rms maximum.
- Ambient operating temperature: 50° C maximum.

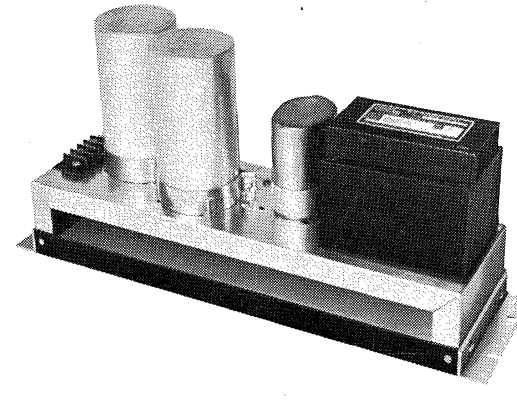
Constant-voltage Sola transformer provides ±1% regulation for line voltage variations as great as ±15%, serves as the heart of CVDC power supplies for voltage-sensitive equipment.

STANDARD CVDC MODELS

(fixed output for pulse, variable, intermittant and fixed loads-Inputs 100-130 volts, 60Hz)

CATALOG NO.	OUTPUT RATINGS			PANEL HT.	WT. LBS.	PRICE 1-4
	VOLTS	AMPS	VA			
281513-2	6	10	60	3½	27	$105.00
282123	6	15	90	5¼	38	115.00
281514-2	12	5	60	3½	18	105.00
282124	12	10	120	5¼	31	120.00
281515-2	18	5	90	3½	20	110.00
282125	18	10	180	5¼	45	145.00
281024-1	24	6	144	5¼	30	105.00
282126	24	10	240	5¼	48	125.00
281203-1	24	15	360	7	64	155.00
282127	24	25	600	8¾	72	202.00
28626 -1	28	8	224	5¼	42	120.00
282128	28	15	420	7	55	195.00
281048	48	4	192	5¼	32	110.00
281561	48	10	480	5½	48	155.00
282129	48	20	960	8¾	95	250.00
281125	125	2	250	5¼	44	125.00
281150	150	2	300	5¼	48	130.00
281200	200	1	200	5¼	39	110.00
281250	250	1	250	5¼	45	115.00





SOLA ELECTRIC SB
DIVISION OF SOLA BASIC INDUSTRIES

Also manufacturers of AC & DC Power Supplies ● Sola Constant-Voltage Transformers ● Solatron Line-Voltage Regulators ● DC-to-AC Inverters ● Lighting Ballasts

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TABTRON

"TECHNICAL APPARATUS BUILDERS"

A Division of Power Alternating Direct Corp.

For all DC Power Requirements write Eng. Dept. Specialists in Design. Mfgrs. of D.C. Power Supplies. "TABTRON"®, "TABPAK"®, "REG-O-TAB®", "REG-O-VAC"®, "TABSTAT"®. "TABGLO"®,"TABLITE"®, "VOLTAB"®,"AMPTAB"®.

PACKAGED AC & DC POWER

"TABTRON" VARIABLE DC POWER SUPPLIES, COMPLETELY BUILT, DESIGNED FOR CONTINUOUS SERVICE, READY TO USE. "VARIAC"® VARIABLE TRANSFORMER, ISOLATION RECTIFIER TRANSFORMER, FULL WAVE BRIDGE RECTIFIER. METERS, VOLTS AND AMP., PILOT LIGHT, SWITCH, TERMINALS AND FUSE. CABINET OR RACK MT'D (RP). STD 115/60Cy INPT. OTHER INPTS TO ORDER.

Model	DESCRIPTION Variable DC Volts & Amps Ripple & Regulation	Price	Fig*
T10V35A	0 to 10VDC @ 35Amp	$126	4
T10V500AV	0 to 9VDC @ 500Amp/4% Rip/3 ϕ inpt	936	4
T12V10ACE	0 to 12VDC @ 10A/0.1% Rip @ 2A	57	2
T12V15ARM	0 to 12VDC @ 15A/1% Rip ±5% Reg	207	5
T12V20A	0 to 12VDC @ 20Amp/int up to 30A	117	4
T12V20ARM	0 to 12VDC @ 20Amp/1% Rip ±5% Reg	162	4
T12V50A	0 to 12VDC @ 50Amp	189	4
T12V100A	0 to 12VDC @ 100Amp	306	5
T12V200AY	0 to 12VDC @ 200Amp/inpt 3 φ	441	6
T12V300AY	0 to 12VDC @ 300Amp/inpt 3 ϕ	585	8
T14V30ARM	0 to 14VDC @ 30A/1% Rip ±5% Reg	378	5
T14V40ARC	0 to 14VDC @ 40A/0.1% Rip	396	5
T16V250AY	0 to 16VDC @ 250Amps/4% Rip/3 ϕ inpt	954	8
T16V5ACE	0 to 16VDC @ 5A/0.5% Rip	69	2
T16V10ACC	0 to 16VDC @ 10A/0.5% Rip @ 2Amps	90	2
T16V50A	0 to 16VDC @ 50Amps	210	5
T24V25A	0 to 24VDC @ 25Amps	190	5
T24V50A	0 to 24VDC @ 50Amps	270	5
T24V100A	0 to 24VDC @ 100A/220V inpt	522	6
T24V200AY	0 to 24VDC @ 200A/4% Rip/3 ϕ inpt	756	8
T32V5A	0 to 32VDC @ 5Amps	66	2
T32V5ACC	0 to 32VDC @ 5Amp/0.5% Rip/160Mv	88	3
T28V5ARC	0 to 28VDC @ 5Amp/0.05% Rip/14Mv	144	3
T32V12A	0 to 32VDC @ 12Amp	126	4
T32V12ACC	0 to 32VDC @ 12Amp/0.5% Rip	171	4
T28V12ARC	0 to 28VDC @ 12Amp/0.05% Rip 14Mv	234	5
T32V15ARM	0 to 32VDC @ 15Amp/1% Rip/±5% Reg	243	5

Model	DESCRIPTION Variable DC Volts & Amps Ripple & Regulation	Price	Fig*
T30V20ACE	0 to 30VDC @ 20Amp/1% Rip @ 5A	$198	3
T32V24A	0 to 32VDC @ 24Amps	189	4
T32V24ACC	0 to 32VDC @ 24Amp/0.5% Rip 160Mv	252	5
T32V30ARM	0 to 32VDC @ 30A/1% Rip/±5% Reg	387	5
T32V50A	0 to 32VDC @ 50Amps	360	6
T32V50ACC	0 to 32VDC @ 50A/1% Rip/160Mv	420	6
T28V100AY	0 to 28VDC @ 100A/4% Rip/inpt 3 ϕ	720	6
T28V200AY	0 to 28VDC @ 200A/4% Rip/inpt 3 φ	819	8
T32V60ARMY	0 to 32VDC @ 60A/1% Rip ±5% Reg/3 ϕ	666	6
T48V5ACC	0 to 48VDC @ 5A/0.5% Rip/240Mv	135	4
T48V10ACC	0 to 48VDC @ 10A/0.5% Rip/240Mv	162	4
T48V15ARM	0 to 48VDC @ 15A/1% Rip ±5% Reg	342	5
T60V5ACC	0 to 60VDC @ 5A/0.5% Rip/300Mv	207	5
T60V15ARM	0 to 60VDC @ 15A/1% Rip ±5% Reg	441	6
T60V10ACC	0 to 60VDC @ 15A/1% Rip ±5% Reg	324	5
T90V15ARM	0 to 90VDC @ 15A/2% Rip ±5% Reg	522	6
T130V2ACC	0 to 130VDC @ 2A/1% Rip/1.3V	119	4
T120V5ACC	0 to 120VDC @ 5A/1% Rip/1.2V	270	5
T130V10ACC	0 to 130VDC @ 10A/1% Rip/1.3V	387	6
T150V10ARM	0 to 150VDC @ 10A/1% Rip/±5% Reg	486	6
T220V10A	0 to 220VDC @ 10Amps	405	6
T220V10ACC	0 to 220VDC @ 10A/1% Rip/2.2V	495	6
T300V1ACC	0 to 300VDC @ 1A/0.03% Rip/90Mv	225	4
T300V2ACC	0 to 300VDC @ 2A/0.03% Rip/90Mv	351	4

* Size: Fig 1, 4Hx5Wx6D; Fig 2, 5Hx9Wx6D; Fig 3, 7Hx6½ Wx12D; Fig 4, 9Hx15Wx7D; Fig 5, 10½ Hx22Wx15D; Fig 6, 19Hx22Wx15D; Fig 7, 14½ Hx14Wx10D; Fig 8, 37Hx22Wx18D.

REGULATED FIXED CONSTANT VOLTAGE DC SUPPLIES

1% Ripple & 1% Line Regulation — 100 to 130VAC at 60 cys & 1 Phase

F6V4½	6V @ 4½ A	$ 72	
F6V9	6V @ 9A	79	
F6V16	6V @ 16A	84	
F6V40	6V @ 40A	108	
F12V2	12V @ 2A	72	
F12V4½	12V @ 4½ A	79	
F12V9	12V @ 9A	84	
F12V20	12V @ 20A	108	
F15V2	15V @ 2A	75	
F15V3.5	15V @ 3.5A	79	
F15V8	15V @ 8A	$ 84	
F15V16	15V @ 16A	108	
F15V30	15V @ 30A	162	
F18V6	18V @ 6A	84	
F18V13	18V @ 13A	108	
F24V1.2	24V @ 1.2A	72	
F24V2.1	24V @ 2.1A	79	
F24V4.5	24V @ 4.5A	84	
F24V11	24V @ 11A	108	
F24V20	24V @ 20A	162	
F28V1	28V @ 1A	$ 72	
F28V2	28V @ 2A	79	
F28V4	28V @ 4A	84	
F28V9	28V @ 9A	108	
F28V16	28V @ 16A	171	
F36V1.2	36V @ 1.2A	75	
F36V3.2	36V @ 3.2A	84	
F36V6	36V @ 6A	108	
F48V2.5	48V @ 2.5A	84	
F48V5	48V @ 5A	108	
F60V.5	60V @ .5A	$ 72	
F60V1.2	60V @ 1.2A	79	
F60V2	60V @ 2A	84	
F60V4	60V @ 4A	108	
F60V8	60V @ 8A	171	
F120V.3	120V @ .3A	75	
F120V.6	120V @ .6A	81	
F120V1	120V @ 1A	90	
F120V2	120V @ 2A	108	
F120V4	120V @ 4A	169	

ADD ® FOR RACK MTG OR Ⓜ FOR MODULE VIZ FM12V2 = 12V @ 2A MODULE! WRITE FOR DETAILS!

REGULATED DC SUPPLIES "MR" MAGNETIC or "Q" TRANSISTORIZED & HI VOLTAGE SUPPLIES!

MRT12V50ACC	0 to 12V @ 50A/1% Rip/10 to 12V Regulated	$459	5
MRT32V25ACC	0 to 32V @ 25A/1% Rip/24 to 28V Regulated	468	5
MRT32V50ACC	0 to 32V @ 50A/1% Rip/24 to 28V Regulated	603	6
QBA30	25 to 30VDC @ 1Amp/Rip & Reg 500Mv	81	1
QT30V3A	0 to 30VDC @ 3Amp/10Mv Rip/0.5V/Reg	144	3
QT36V25L	0 to 36VDC @ 25Amp/1Mv Rip & Reg	666	5
HIV2.5K	0 to 2500VDC @ 5MA/2% Rip	Query	2
HIV5K	0 to 5000VDC @ 5MA/2% Rip	"	2
HIV10K	0 to 10,000VDC @ 5MA/2% Rip	"	3
QT25D5	0 to 25VDC @ 0.5Amp/5Mv Rip/0.25V Reg	"	1
QT120D5L	0 to 120VDC @ 500MA/1Mv Rip & Reg	"	4
QT36V50L	0 to 36VDC @ 50A/1Mv Rip & Reg	"	5

VARIABLE AC & DC "VOLTAB" SCHOOL — COLLEGE — LAB & INDUSTRIAL AC & DC POWER!

VOLTAB-I	0 to 16VAC & DC & 0-130VAC @ 2.5A	$ 75	2
VOLTAB-II	0 to 16VAC & DC @ 10A & 0-140VAC/3.75A	130	3
VOLTAB-III	0 to 50VAC & DC @ 5A & 0-140VAC/7.5A	189	3
VARI-TAB6	0 to 36VAC & 0 to 32VDC @ 6A	$ 63	2
VARI-TAB15	0 to 36VAC & 0 to 32VDC @ 15A	126	3
LAB-TAB	0 to 35VDC @ 200Ma/1% Rip	19	

INDUSTRIAL BASIC DC SUPPLIES OEM/INBUILT, BENCH or SPECIAL ORDER RACK MTG. (RP)!

B6V30ACC	6.3VDC @ 30A/1% Ripple	$ 99	
B12V12ARC	12VDC @ 12A/1Mv Ripple	156	
B12V15AM	12VDC @ 15A/1% Rip ±5% Reg	162	
B12V24A	12VDC @ 24A	98	
B12V24ACC	12VDC @ 24A/2% Ripple	140	
B12V50A	12VDC @ 50A	132	
B12V50ACC		216	
B12V30AM	24VDC @ 30A/1% Rip/5% Reg	300	
B28V1ARC	28-24VDC @ 1A/.1% Rip	36	
B28V2ARC	28-24VDC @ 2A/.1% Rip	54	
B28V5A	28VDC @ 5A	$ 43	
B28V5ACC	28VDC @ 5A/1% Rip	60	
B28V5ARC	28VDC @ 5A/3Mv Rip	108	
B28V12A	28VDC @ 12A	115	
B28V12ACC	28VDC @ 12A/1% Rip	153	
B28V24A	28VDC @ 24A	126	
B28V24ACC	28VDC @ 24A/1% Rip	171	
B28V30AM	28VDC @ 30A/1% Rip/±5% Reg	333	
B28V50A	28VDC @ 50A	200	
B28V50AC	28VDC @ 50A/Filtered	261	
B28V50ACC	28VDC @ 50A/1% Rip	$324	
B28V100A/P	28VDC @ 100A/4% Rip	400	
B115V2.5A	115V @ 2.5A	81	
B115V5A	115V @ 5A	120	
B115V5ACC	115V @ 5A/1% Rip	243	
B115V10A	115V @ 10A	185	
B115V10ACC	115V @ 10A/1% Rip	336	
B220V2.5A	$207; B220V5A	243	
B220V5ACC	220VDC @ 5A/1% Rip	378	
B220V10A	$330; B220V10ACC	459	

LOW-COST "TAB-PAKS" DC POWER for PILOT LIGHTS, RELAYS & SOLENOIDS!

B12VER	12VDC @ 2Amp	$ 15	
B12V2BF	12VDC @ 2Amp Filtered	22	
B12VGR	12VDC @ 4Amp	24	
B12VNR	12VDC @ 24Amp	64	
B24VAR	24VDC @ 1Amp	16	
B24VER	24VDC @ 2Amps	$ 18	
B24V2BF	24VDC @ 2Amps Filtered	27	
B24VJR	24VDC @ 6Amps	32	
B24V6BF	24VDC @ 6Amps Filtered	45	
B24VLR	24VDC @ 12Amps	56	
B48VAR	48VDC @ 1Amp	$ 30	
B48VER	48VDC @ 2Amp	40	
B60V2BF	60VDC @ 2Amp Filtered	66	
B115VAR	115VDC @ 1Amp	63	
B115VER	115VDC @ 2Amp	72	

BATTERY CHARGERS for NICKEL CADMIUM "NBC", LEAD, SILVER, ALKALI "ABC" AUTOMATIC SENSING TO 0.06V!

NBC75D04	"NICAD" ADJ one to 75 Cells up to 40Ma	$ 10	
NBC25V1A	"NICAD" & other ADJ/1 to 25V up to 1Amp	20	
NBC60D5A	"NICAD" & others ADJ 1 to 60 Cells to 500Ma	36	
BC612A3	6 & 12V to 3A (115 & 230V/50-60 cys) & trickle	15	
BC612A5	6 & 12V to 5A (115V/50 to 800 cys) & trickle	28	
BC12-24VT5A	12 & 24V to 5A (115V/50 to 800 cys) & trickle	48	
ABC6V3A	Automatic CHG. 6V to 3A & Trickle	45	
ABC12V4A	Automatic CHG. 12V to 4A & ADJ Trickle	$ 50	
ABC24V4A	Automatic CHG. 24V to 4A & ADJ Trickle	72	
ABC12V20A	Automatic CHG. 12V to 20A & ADJ Trickle	117	
ABC12V70AR	up to 12V @ 70Amp & ADJ Float	261	
ABC14V3AR	up to 14V @ 3A & ADJ 20Ma/Float	90	
ABC14V50AR	up to 14V @ 50A & ADJ to 5A/Float	300	
ABC30V8AR	up to 30V @ 8Amp & Float 0.8A	180	

SOLID-STATE INVERTERS, CONVERTERS & DC to DC SUPPLIES!

Y225L	Inverter 12VDC to 115VAC/SQ.W @ 225 Watts	$ 45	
Y350L	Inverter 12VDC to 115VAC/SQ.W @ 350 Watts	70	
Y450L	Inverter 12VDC to 115VAC/SQ.W @ 450 Watts	108	
Y450M	Inverter 24VDC to 115VAC/SQ.W @ 450 Watts	144	
C250K	DC to DC Converter 6VDC to 250 & 125VDC @ 150Ma	$ 48	
C600L	DC to DC Converter 12VDC to 600 & 250VDC @ 200Ma	72	
C50KL	DC to DC 6 to 12VDC Converter 50 Watts	36	
C25LM	DC to DC 12 to 24VDC Converter 50 Watts	48	

SINCE 1945 RECTIFIER ENGINEERING! AC & DC POWER! OEM MANUFACTURER!

TECHNICAL APPARATUS BUILDERS — A DIVISION OF POWER ALTERNATING DIRECT CORP.

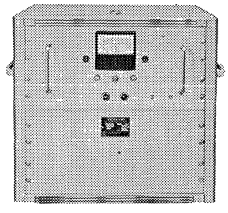
STABILINE® automatic VOLTAGE REGULATORS

- **THE MOST EXTENSIVE LINE OF AUTOMATIC VOLTAGE REGULATORS**
- **RATED OUTPUTS FROM 0.25 TO 275 KVA**

Deliver a constant output voltage regardless of variations in input voltage or changes in load current. Conservatively rated, ruggedly built, precision products. Submit specifications for ratings desired but not given in the charts. Input voltage ranges shown are at nominal output voltage; input voltage range shifts with output voltage setting. All are cabinet types; those with other construction also are indicated.

EMT series

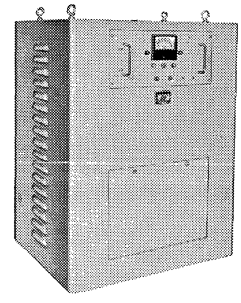
Electro Mechanical Transistorized types in ratings from 2.3 to 118 kva. Control circuit is completely transistorized. POWERKOTE Coils in power section permit higher output ratings. Rated accuracy ±0.75% for all variations of line voltage or load current within stated range of unit.



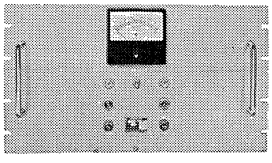
TYPE EMT4115B

EMS series

Electro Mechanical Transistorized types for single or three phase duty with ratings from 25 to 275 kva. Several types available with individual line control for greater application flexibility. Plug-in transistorized control circuit permits quick replacement in event of malfunction.



TYPE EMS42100

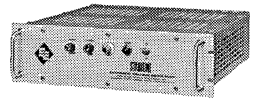


TYPE EMK4105R

EMK series

Electro Mechanical high speed, high accuracy assemblies in ratings of 2.5/5.0 KVA. Accuracy ±1.0% of nominal output voltage.

IES series

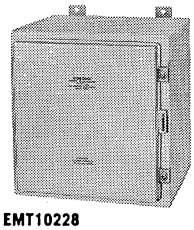


TYPE IES9101

Solid-state types with accuracy within 100 millivolts bandwidth, efficiency up to 95%, fast response, low distortion and wide operating frequency range. No vacuum tubes, motors, blowers or relays are used. All units have provision for remote sensing and have removable plug-in solid-state circuit boards.

All-boost Marine

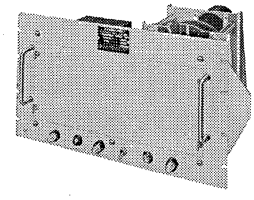
Electro Mechanical Transistorized type EMT10228 is fully enclosed in a weatherproof cabinet. Well suited for marine or industrial applications where equipment must withstand effects of dust and moisture. Has 6 KVA rated output.



TYPE EMT10228

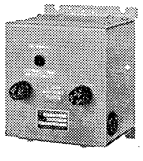
Militarized

Standard Electro Mechanical and Electro Mechanical Transistorized types that meet the requirements of applicable military specifications. Type EMTH41007MH is 3½ x 6 x 4½"; type EM4108MCR fits standard 19" relay rack. Accuracy ±1.0%.



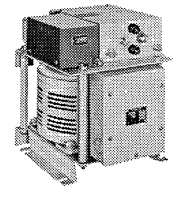
TYPE EM4108MCR

Overvoltage Detector OVK100



TYPE OVK100

Solid-state voltage level detector used with STABILINE Automatic Voltage Regulators. Actuates relay contacts when monitored voltage exceeds preset level. Relay contacts can be used to actuate protective equipment in a latching (relay remains closed) or nonlatching (relay automatically resets) connection. Trip level adjustable from 110 to 150 volts. Adaptable for higher voltage operation.



TYPE EMT4104BUT

Types EMT4104B, (U), (UT)

Have two primary windings for parallel or series (120 or 240 volt) duty. Type EMT4104B is cabinet enclosed; EMT4104BU is of open construction; EMT4104BUT has components screened or enclosed.

THE SUPERIOR ELECTRIC COMPANY

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EMT SERIES

NOMINAL OUTPUT VOLTAGE	OUTPUT VOLTAGE (ADJUSTABLE)	INPUT VOLTAGE RANGE‡‡	MAXIMUM OUTPUT AMPERES	RATED OUTPUT KVA	CORRECTION RATE AT 60 HERTZ (SECONDS/VOLT)	TYPE
50/60 HERTZ, SINGLE PHASE OPERATION						
115	110-120	95-135	20	2.3	0.075	EMT4102B†
			57	6.6	0.075	EMT4106C§
		90-115	52	6.0	0.12	EMT10228
		105-125	114	13.0	0.15	EMT4112B§*
		95-135	144	16.6	0.125	EMT4115B
120¶	110-120	108-137	35	4.2	0.10	EMT4104B††
230‡	220-240	195-255	36	8.3	0.083	EMT4207B
			93	21.4	0.083	EMT4220
		205-250	130	29.9	0.111	EMT4228C
240‡¶	220-240	228-256	35	8.4	0.10	EMT4104B††
460	440-480	400-520	20	9.2	0.041	EMT4407B
			45	20.7	0.041	EMT4418B
50/60 HERTZ, THREE PHASE OPERATION						
230‡	220-240	195-255	33	13.1	0.083	EMT6210YB
			48	19.1	0.083	EMT6215YB
			63	25.1	0.083	EMT6220YB
			145	57.8	0.25	EMT6245YB
			188	74.9	0.25	EMT6270DB
460	440-480	400-520	18	14.3	0.041	EMT6412YB
			24	19.1	0.041	EMT6417YB
			35	27.9	0.041	EMT6425YB
			75	59.8	0.125	EMT6450YB
			100	75.0	0.125	EMT6475YB
		420-500	148	118	0.188	EMT64100YB

EMS SERIES

60 HERTZ, SINGLE PHASE, 2-WIRE						
115	110-120	103.5-126.5	833	100	0.65	EMS41100
230‡	220-240	218.5-241.5	435	100	0.22	EMS42100‡
50/60 HERTZ, SINGLE PHASE, 3-WIRE, INDIVIDUAL LINE CONTROL						
240/120	230-250/115-125	204-276/102-138	104	25.0	.03/.06	EMSI4225
			250	60.0	.03/.06	EMSI4260
	220-240/110-120	228-252/114-126	417	100	.10/.21	EMSI42100††
50/60 HERTZ, THREE PHASE, SINGLE CONTROL						
230‡	220-240	203-257	339	135	0.28	EMS62135Y‡
460	440-480	445-495	230	180	0.30	EMS64180Y
			347	275	0.30	EMS64275Y
50/60 HERTZ, THREE PHASE, INDIVIDUAL LINE CONTROL						
208/120	191-217/115-125	177-239/102-138	250	90.0	.08/.14	EMSI6290Y
		165-233/95-135	525	190	.37/.22	EMSI62190Y††

EMK SERIES

50/60 HERTZ, SINGLE PHASE						
115	110-120	95-135	23	2.6	0.02	EMK4105†
		105-125	46	5.3	0.04	

IES SERIES

50 OR 60 HERTZ ±10%, SINGLE PHASE						
115	110-120	95-135**	4.4	0.5	—	IES91005
			8.7	1.0	—	IES9101
			26.1	3.0	—	IES9103
			52.2	6.0	—	IES9106
			87.0	10.0	—	IES9110
			130	15.0	—	IES9115
230	220-240	195-255**	13	3.0	—	IES9203
			26.1	6.0	—	IES9206
			43.5	10.0	—	IES9210
			65	15.0	—	IES9215

MILITARIZED TYPES

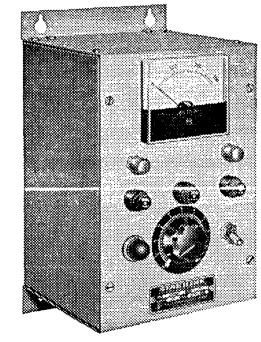
45-66 HERTZ, SINGLE PHASE						
120	115-125	105-135	66.6	8.0	0.10	EM4108MCR
380-420 HERTZ, SINGLE PHASE						
115	115	103.5-126.5	6	0.69	0.13▲	EMTH41007MH

▲At 400 hertz. †Also available as rack model (suffix R when ordering). ¶For 60 hertz operation only.
*Can also be operated on an input range of 95 to 135 volts with a rating of 57 amperes, 6.6 kva and a correction rate of 0.075 seconds per volt.
§Also available as rack (suffix R when ordering) or wall mounted (suffix W when ordering) models.
‡Unit can be converted for 208 volt operation by simple tap changes. Input and output voltage ranges change proportionally.
**At nominal output. Shifts with output voltage setting but not proportionally.
††Also available in open construction (suffix U) and with screened and enclosed (suffix UT) construction.
‡‡At nominal output. Shifts proportionally with output voltage setting.

IN SECTIONS 2100, 3500 AND 5600

STABILINE®

FULL RANGE REGULATOR CONTROLLERS



TYPE FR500MP

For use with any motor-driven

POWERSTAT® Variable Transformer to provide full range:

1

REGULATED AC VOLTAGE

—Regulates output voltage from any motor-driven 120 or 240 volt 50/60 hertz, single phase POWERSTAT Variable Transformer. For three phase, the unit monitors one line-to-neutral or one line-to-line voltage. Can be used for 480 volt duty by using step-down transformer. Output voltage remains within a 2-volt band on 120 volts and within 4-volt band on 240 volts.

2

REGULATED AC CURRENT

—Combined with POWERSTAT Variable Transformer, current/voltage transformer and current transformer, the unit will maintain constant output current accurate within ±1% of the maximum current setting.

3

REGULATED DC VOLTAGE—

Combined with a POWERSTAT Variable Transformer and a user-supplied d-c power supply, the unit provides regulated d-c voltage. Supplied for d-c use.

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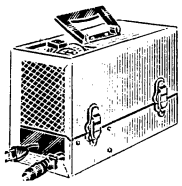
terado CHARGERS, INVERTERS AND VOLTAGE ADJUSTERS

CHANGES BATTERY CURRENT TO 110 VAC, 60 CYCLE, ±½ CYCLE, REGARDLESS OF LOAD*

INVERTER-BATTERY CHARGER

TRAV-ELECTRIC*



Operates anything using 117 VAC, 60 cps from 25 amps rechargeable wet storage battery enclosed. Capacity, 175 watts; 125 watts continuous. Frequency stable within ½ cps with load change. Plugs into AC outlet or car cigarette lighter to recharge battery. Charger has automatic overcharge protection. Meter shows charge rate and hours of anticipated output. Size: 12"x 5½"x8". Wt.: Net, 30 lbs. including battery; shpg., 36 lbs.
Terado No. 50-160— Net Each **$63.40**

INVERTERS

DUAL CONTINENTAL*
Transistorized, 600 watts

Converts 12 VDC to 110 V, 60 cycle, 550 to 600 watts. Filtered for tape recorders. Frequency stable within ½ cycle with changing input voltage load. Includes battery cables, remote control, variable AC output. Size: 10¾" w. x 13" d. x 6" h. Shpg. Wt., 60 lbs. **$323.16**
Terado No. 50-202—Net Each.....

CONTINENTAL*
Transistorized, 300 watts

Same as DUAL CONTINENTAL except: 275-300 watts capacity. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 30 lbs. **$153.13**
Terado No. 50-191—Net Each.....

ATLAS*
Transistorized, 200 watts

Same as DUAL CONTINENTAL except: 175-200 watts capacity. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 21 lbs. **$114.53**
Terado No. 50-200—Net Each.....

TITAN*
Transistorized, 175 watts

Same as DUAL CONTINENTAL except: less remote control; 150-175 watts capacity; on-off switch; AC receptacle. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 20 lbs. **$100.51**
Terado No. 50-201—Net Each.....

SUPREME*

Non-transistorized. Converts 12 VDC to AC. Power output, 175-200 W, filtered. Remote control has variable AC output switch and signal light. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 20 lbs. **$84.07**
Terado No. 50-153—Net Each.....

RECORDER*

150-175 watt version of SUPREME, less remote control. Plugs into cigarette lighter. Size: 10¾" w. x 6" d. x 6" h. Shpg. Wt., 21 lbs. **$76.67**
Terado No. 50-175—Net Each.....

AUTOMATIC*

Operates automatically from 6 or 12 VDC without vibrator change or switching (6 V, 55-75 watts; 12 V, 85-110 watts). Easy installation into cigarette lighter. For dictation machines, radios, tape recorders, phonographs, heating pads, etc. Steel case. Seal brown baked enamel. Size: 3½" w. x 6½" d. x 4" h. Shpg. Wt., 8 lbs. **$44.52**
Terado No. 50-134—Net Each.....

SUPER*

Single input version of AUTOMATIC above. Size: 3½" w. x 6½" d. x 4" h. Shpg. Wt., 8 lbs.
Terado No. 50-126—Input, 6 V; AC power output, 60-75 watts. Net Each..... **$38.47**
Terado No. 50-127—Input, 12 V; AC Power output, 75-100 watts. Net Each.....$38.47

MASTER*

Voltage input, 12 V; AC power output, 60-75 watts. Size: 3½" w. x 6½" d. x 4" h. Shpg. Wt., 6 lbs. **$31.96**
Terado No. 50-122—Net Each.....

CHIEF*

Operates tape recorders, power tools, dictation machines, mixers, blenders, etc. Front AC receptacle connects direct to battery. Toggle switch output control. Ventilated steel case. Size: 3½" w. x 6½" d. x 4" h. Shpg. Wt., 8 lbs.
Terado No. 50-137—Input, 6 V; AC power output, 75-100 watts. Net Each..... **$53.90**
Terado No. 50-138—Input, 12 V; AC power output, 100-125 watts. Net Each.....$53.90

ELECTRAL*

Glove compartment size inverter, available in 12 volt input. Easy installation into cigarette lighter. Vinyl coated steel case with leatherette appearance. Size: 3" w. x 2¼" d. x 5½" h. Shpg. Wt., 3 lbs.
Terado No. 50-167—Voltage input, 12 V; AC power output, 42-52 watts. Net Each..... **$20.77**

SENIOR*

Operates radios, lights, phonographs and small tape recorders. Available in 6 V or 12 V input. Simple to install into cigarette lighter. Aluminum case. Seal brown baked enamel. Size: 2½" w. x 4½" d. x 2¼" h. Shpg. Wt., 3 lbs.
Terado No. 50-115—Voltage input, 6 V; AC power output, 35-40 watts. Net Each..... **$18.47**
Terado No. 50-116—Voltage input, 12 V; AC power output, 40-50 watts. Net Each.....$18.47

DYNAMO*

Permits operating AC radios and electric shavers on 12 VDC battery. Power output, 25-30 watts. Size: 2" x 2" x 3¾". Shpg. Wt., 2 lbs. **$12.95**
Terado No. 50-197—Net Each.....

AUTO SHAVER*

Operates all electric shavers. Available in 6 V (10-15 W) or 12 V (15-20 W) input. Plugs into cigarette lighter. Polyethylene non-breakable case. Size: 3⅝" w. x 2¼" d. x 4¼" h. Shpg. Wt., 2 lbs. **$9.31**
Terado No. 50-102—6 V. Net Each.....
Terado No. 50-103—12 V. Net Each.....$9.31

TRANSISTORIZED
Frequency Not Stabilized

GEMINI
(Transistorized, 450 to 500 watts)

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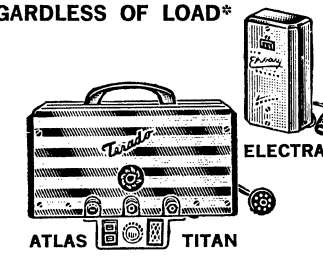

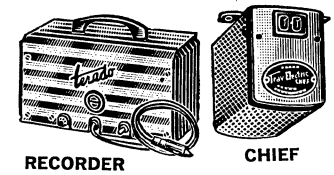

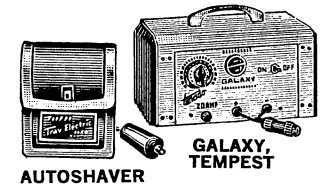

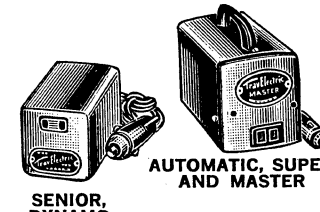

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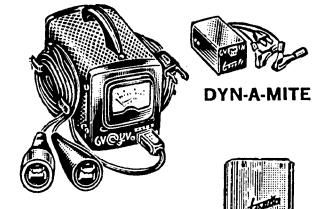

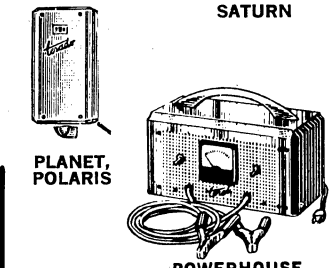

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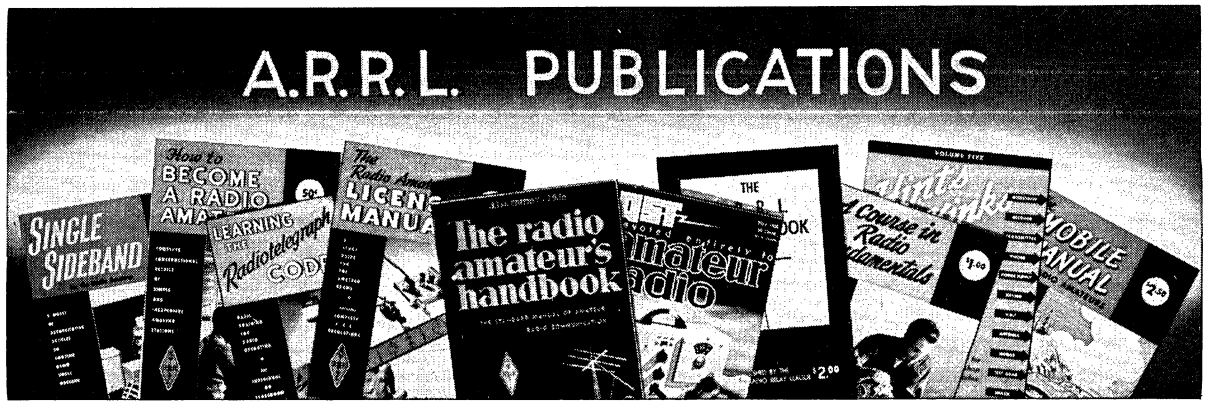

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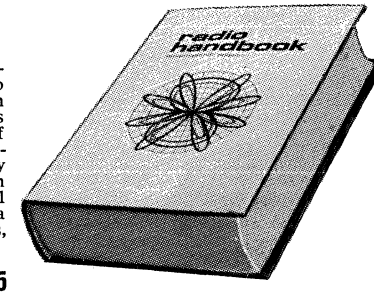

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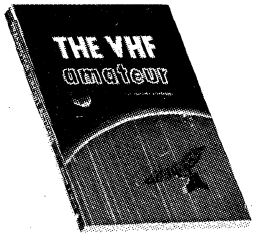

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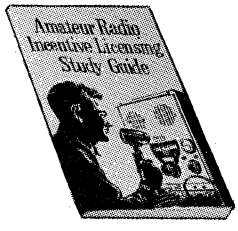

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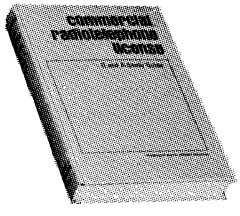

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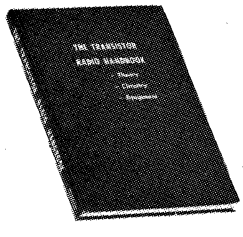

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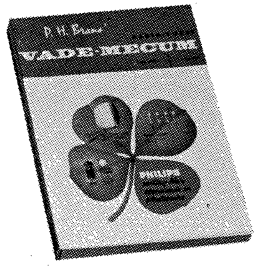

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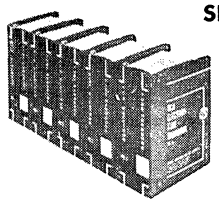

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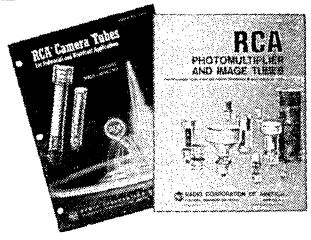

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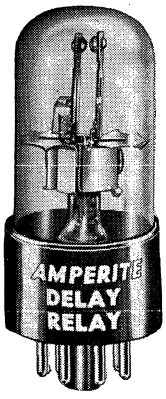

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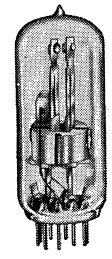

MINIATURE

AMPERITE THERMOSTATIC DELAY RELAYS

Amperite Thermostatic Delay Relays are manufactured on automatic high production equipment — resulting in a low price — and top quality. Quality is not sacrificed at any point. For example, although contacts are rated at 3 amps, 10 amp contacts are actually used. Similarly with all other parts—only the best available are used.

Amperite Thermostatic Delay Relays are actuated by a heater . . . and therefore can be used on A.C., D.C., or pulsating current. Being hermetically sealed, Amperite Relays are not affected by altitude, moisture, or other atmospheric conditions. REPLACED AS EASILY AS A RADIO TUBE.

CIRCUITS SPST: Available only — normally open or normally closed.

HEATER VOLTAGES AVAILABLE: 2.5, 5.0, 6.3, 12.6, 26, 50, 115V.
For 220V use a 6500 ohm-5 watt resistor in series, with 115V heater.

HEATER WATTAGE: Standard and Miniature Relays—all voltages—2w prox. All heaters may be operated continuously. Heaters will not be damaged by a 50% voltage overload for duration of 1 hour or less.

Amperite Delay Relays are approved for all voltages up to and including 115V under the component regulations of Underwriters' Laboratories, Inc.

VARIATION OF DELAY WITH HEATER VOLTAGE

FIG. 1—Effect of change in heater voltage on delay in seconds. Only low voltage heaters (2.5 to 26 V.) incorporate heater voltage regulations as shown in diagram.

For 22 to 30 V. supply: We recommend Amperite Delay Relays with 26 V. heaters for airplanes and similar power supplies. These heaters are regulated for battery variation of 22 to 30 V. as shown in this diagram.

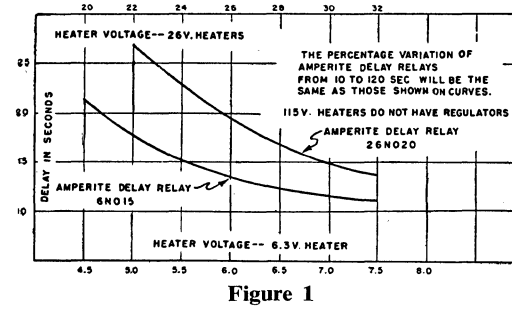

Figure 1

CONTACT RATING

	Delay	Contact Rating Non-Inductive	DC Voltage Breakdown Contact-to-Contact	Heater-to-Contact
STANDARD	2 to 10 Sec.	115V - 3a AC	250V	500V
RELAYS	15 to 180 Sec.	115V - 3a AC	800V	800V
		220V - 1a AC	800V	800V
MINIATURE	2 to 10 Sec.	115V - 2a AC	250V	500V
RELAYS	15 to 180 Sec.	115V - 2a AC	800V	800V
		220V - 1a AC	800V	800V
FLASHERS		- ½a AC		

AMBIENT TEMPERATURES: Relays are compensated for temperatures of −55° to +80°C. (Relays can be operated from −80°C to +125°C without damage). Ambient temperature tolerances depend on type. Low voltage heaters 26V or less have better ambient compensation than relays with 115V heaters.

If the relays are actually to be used over ambients of −55°C to +80°C it is advisable to have each relay tested at the factory over the ambient. A nominal charge is made for this service.

CONTACT DROP: — 0.1V — Prox. at 1A.

DELAYS AVAILABLE:—From 2 to 180 seconds. Relays can be used in series to obtain longer delays. The delay of any individual relay up to 120 seconds can be increased up to 25% by using a resistor in series with the heater. Delays above 120 seconds cannot be increased. Relays with short delays such as 2 to 5 seconds can be increased 50%.

LIFE of any individual relay will depend on the service the contacts are subjected to. With a 115V — 2A A.C. non inductive load the contacts will withstand at least 250,000 operations. SHELF LIFE of Amperite Delay Relays is over 10 years.

INDUCTIVE A.C. LOADS: When breaking an inductive A.C. load, use a condenser of .01 to .1 mfd across contacts. In some cases, putting a 20,000 ohm, 5w. resistor across the contacts reduces the arcing considerably.

Relay Contacts should not be used on voltages above 220V.

FOR INSTANTANEOUS RECYCLE AND ELIMINATION OF CHATTER

For instantaneous recycle and elimination of chatter. Cannot be used with Sensitive Relays.

Magnetic Relay requires extra N.O. contact as shown at "E".

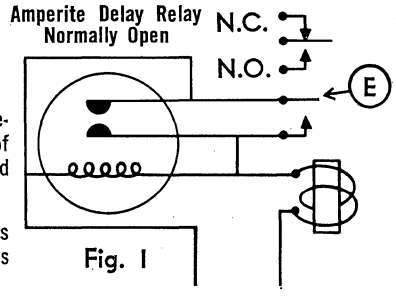

Fig. 1

For instantaneous recycle and elimination of chatter when Sensitive Relay is used.

Magnetic Relay requires an extra SPDT contact as shown at "F".

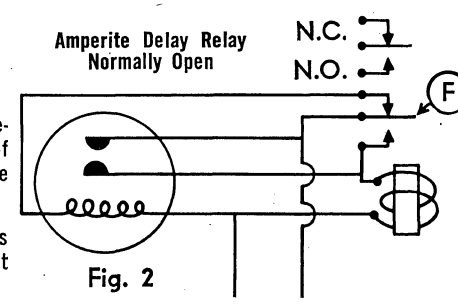

Fig. 2

INSTANTANEOUS RECYCLE: This can be obtained by using a normally open Amperite Delay Relay in conjunction with a Magnetic Relay as shown above. If normally closed is required — use a **normally open** Amperite Delay Relay — and use the NC contacts on the magnetic relay. Choose the Amperite Delay Relay for the voltage required and the delay required (e.g. — 115N030 — would be used on 115 volt supply — for a 30 second delay).

LONG CYCLE RELAYS: are also available. For example, Amperite Delay Relay 115N07T has a delay in closing of 3 to 7 seconds. After heater is disconnected, contacts will remain closed for 30 seconds minimum. Write us about your requirements.

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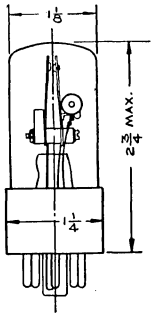
THERMOSTATIC AMPERITE DELAY RELAYS

GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT

BREAKING D.C. CURRENT: When Relay contacts open D.C. Current above 50 volts, a condenser with a resistor in series with the condenser must be connected across the conatcts. The following condenser values are approximate.

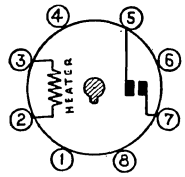
	50 V. D.C.	115 V. D.C.	230 V. D.C.
0 to .5 Amp.	None	.1 MF	.25 MF
.5 to 1.5 Amps.	"	.25 "	.25 "
1.5 to 3 Amps.	.25 MF	1 "	.5 "



Standard Octal Base

SPECIFICATIONS:

STANDARD

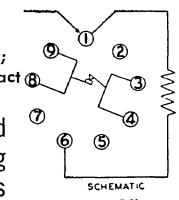


Bottom View
Schematic Diagram

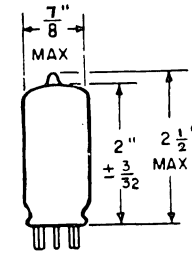
Base Wiring:
Standard Radio Octal:
Prongs 2-3-heater;
Prongs 5-7-contacts.

Base Wiring:
9-Pin Miniature:
Prongs 1-6 heater;
Prongs 3-4, 1 contact;
Prongs 8-9, 2nd contact

MINIATURE



Bottom View
Schematic Diagram



9-Pin Miniature Base

Amperite Delay Relays are approved for all voltages up to and including 115V under component regulations of Underwriters' Laboratories, Inc.

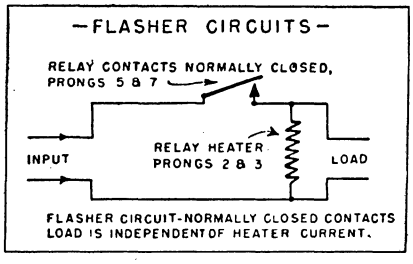
STANDARD AND MINIATURE TYPES OF AMPERITE DELAY RELAYS AND FLASHERS . . . Net $2.40 each

STANDARD RELAYS: Available in 2 to 180 Seconds Delay. MINIATURE RELAYS: Available in 2 to 120 Seconds Delay.

Types shown in Bold type in the chart below are more popular relays and are more readily available.

MINIATURE TYPES: Designated by letter T (e.g. 6N05T)

Delay-Seconds	Tolerance Seconds at 20°C	NORMALLY OPEN CONTACTS — HEATER VOLTAGES							NORMALLY CLOSED CONTACTS — HEATER VOLTAGES						
		2.5 V.	5.0 V.	6.3 V.	12.6 V.	26 V. (22-30)	50 V.	115 V.	2.5 V.	5.0 V.	6.3 V.	12.6 V.	26 V. (22-30)	50 V.	115 V.
2	± 1½	2N02	5N02	6N02	12N02	26N02	50N02	115N02	2C2	5C2	6C2	12C2	26C2	50C2	115C2
3	± 1½	2N03	5N03	**6N03**	12N03	**26N03**	50N03	**115N03**	2C3	5C3	**6C3**	12C3	**26C3**	50C3	**115C3**
5	± 2½	2N05	5N05	**6N05**	12N05	**26N05**	50N05	**115N05**	2C5	5C5	**6C5**	12C5	**26C5**	50C5	**115C5**
8	± 3	2N08	5N08	**6N08**	12N08	**26N08**	50N08	**115N08**	2C8	5C8	**6C8**	12C8	**26C8**	50C8	**115C8**
10	± 4	2N010	5N010	**6N010**	12N010	**26N010**	50N010	**115N010**	2C10	5C10	**6C10**	12C10	**26C10**	50C10	**115C10**
15	± 4	2N015	5N015	**6N015**	12N015	**26N015**	50N015	**115N015**	2C15	5C15	**6C15**	12C15	**26C15**	50C15	**115C15**
20	± 5	2N020	5N020	**6N020**	12N020	**26N020**	50N020	**115N020**	2C20	5C20	**6C20**	12C20	**26C20**	50C20	**115C20**
30	±10	**2N030**	**5N030**	6N030	**12N030**	26N030	50N030	**115N030**	2C30	5C30	**6C30**	12C30	**26C30**	50C30	**115C30**
45	±10	2N045	5N045	**6N045**	12N045	**26N045**	50N045	**115N045**	2C45	5C45	**6C45**	12C45	**26C45**	50C45	**115C45**
60	±15	**2N060**	5N060	**6N060**	12N060	**26N060**	50N060	**115N060**	2C60	5C60	**6C60**	12C60	**26C60**	50C60	**115C60**
75	±15	2N075	5N075	**6N075**	12N075	**26N075**	50N075	**115N075**	2C75	5C75	**6C75**	12C75	**26C75**	50C75	**115C75**
90	±20	2N090	5N090	**6N090**	12N090	**26N090**	50N090	**115N090**	2C90	5C90	**6C90**	12C90	**26C90**	50C90	**115C90**
120	±35	2N0120	5N0120	**6N0120**	12N0120	**26N0120**	50N0120	**115N0120**	2C120	5C120	**6C120**	12C120	**26C120**	50C120	**115C120**
150	±35	2N0150	5N0150	**6N0150**	12N0150	**26N0150**	50N0150	**115N0150**	2C150	5C150	**6C150**	12C150	**26C150**	50C150	**115C150**
180	±45	2N0180	5N0180	**6N0180**	12N0180	**26N0180**	50N0180	**115N0180**	2C180	5C180	**6C180**	12C180	**26C180**	50C180	**115C180**



Flashers operate approximately ⅓ on, ⅔ off. The percentage time on can be increased by reducing voltage of heater.

115V Flashers ONLY made in quantities of 12 or less. Cannot be supplied in production quantities.

Normally closed flashers are standard, and are indicated by the letter "F." The number following letter "F" denotes flashes per minute. *For example a 6F30 flasher,* has 6.3V heater, normally closed 30 FPM with a ± 15 flashes per minute tolerance. A 6F30T, would be the same type but in 9-pin miniature. Flashers are available from *30 to 90 Flashes per minute* with tolerances as shown in the chart below:

FLASHERS have contact rating of ½a 115V AC, non-inductive.

Tol. FPM — 20°C	Standard Flashers Available		
30 ± 15	6F30	26F30	115F30
45 ± 15	6F45	26F45	115F45
60 ± 20	6F60	26F60	115F60
75 ± 20	6F75	26F75	
90 ± 25	6F90	26F90	

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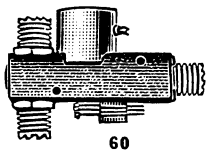
DOW-KEY COAXIAL RELAYS, SWITCHES AND CONNECTORS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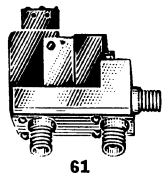
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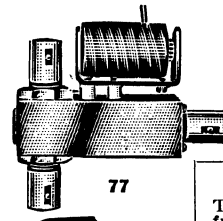
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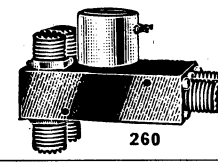
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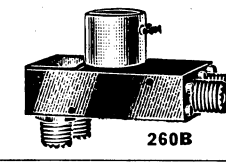
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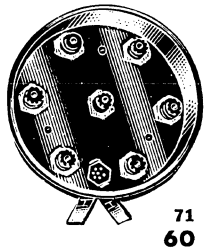
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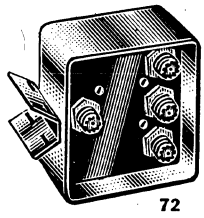
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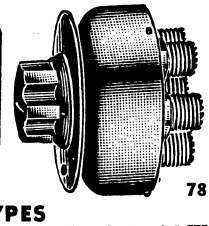
78

60 SERIES SPDT TYPES

Remote-operation SPDT coaxial relays for low-level to 1-kW operation. Available with 2 Form C auxiliary contacts, and with high isolation "G" connector at NC or receive position in transmit-receive applications. The "G" connector increases isolation to greater than −100 dB at up to 500 MHz, reduces the power rating to 20 W, and increases VSWR above 400 MHz. Range, 0 to 1000 MHz (UHF types not recommended for use above 400 MHz). RF power rating, 1 kW to 100 MHz; 750 W at 400 MHz; 500 W at 1000 MHz. VSWR, 1.05:1 0–50 MHz; 1.3:1 at 1000 MHz. Impedance, 50 ohms. Body size, 3.00″ x 0.88″ x 0.88″. **Specify Coil Voltage:** 6, 12, 26, 48 or 110 VDC; or 115, 220, 6 or 24 VAC. **See Coil Voltage Table.**

Dow-Key Model	Conn. Type	With 2 Form C Aux Contacts	Net Each, Lots of 1-4	5-9	10-24	25-49
60-XX04*	UHF	No	$14.85	$13.50	$12.15	$10.80
60-XX0442*	UHF	Yes	16.50	15.00	13.50	12.00
60-XX28*†	UHF	No	16.35	14.85	13.35	11.90
60-XX2842*†	UHF	Yes	18.00	16.35	14.70	13.10
60-XX02*	BNC	No	16.60	15.05	13.55	12.05
60-XX0242*	BNC	Yes	18.25	16.55	14.90	13.25
60-XX26*†	BNC	No	18.05	16.40	14.80	13.15
60-XX2642*†	BNC	Yes	19.70	17.90	16.15	14.35
60-XX19	Solder	No	16.10	14.60	13.15	11.70
60-XX1942	Solder	Yes	17.75	16.10	14.50	12.90
60-XX35†	Solder	No	17.55	15.95	14.35	12.80
60-XX3542†	Solder	Yes	19.20	17.45	15.70	14.00

61 SERIES SPDT TYPES

Small switches for military and severe environmental requirements. Withstand applicable requirements of MIL-S-3928B specifications. Balanced armature actuator prevents contact chatter under high-frequency vibration and severe shock. Offered with many connector types and 1 or 2 Form C microswitch aux contacts. RF power rating, 150 W to 50 MHz; 75 W at 1000 MHz. VSWR, 1.03:1 0–50 MHz; 1.18:1 at 1000 MHz. Operating time, 15 msec max. Aux contact rating, 5 A at 115 VAC. Life expectancy, 1,000,000 cycles. Body size, 1.58″ x 0.64″ x 1.20″ h. max. Wt., 3½ to 4 oz. **Specify Coil Voltage:** 6, 12, 26, 48 or 110 VDC; or 115 VAC. **See Coil Voltage Table.**

Dow-Key Model	Conn. Type	With Aux Cont. 1 Form C	With Aux Cont. 2 Form C	Net Each, Lots of 1-4	5-9	10-24	25-49
61-XX02*	BNC	No	No	$28.95	$26.30	$23.70	$21.05
61-XX0212*	BNC	Yes	No	29.80	27.05	24.35	21.65
61-XX0222*	BNC	No	Yes	30.60	27.80	25.05	22.25
61-XX03	TNC	No	No	28.95	26.30	23.70	21.05
61-XX0312	TNC	Yes	No	29.80	27.05	24.35	21.65
61-XX0322	TNC	No	Yes	30.60	27.80	25.05	22.25
61-XX19	Solder	No	No	27.20	24.75	22.25	19.80
61-XX1912	Solder	Yes	No	28.05	25.50	22.95	20.40
61-XX1922	Solder	No	Yes	28.85	26.25	23.60	21.00

77 SERIES SPDT TYPES

Medium-size, lightweight, low-priced coaxial switches for industrial and less critical military uses. T-shaped connector configuration has common connector at one end and NO and NC types 180° apart at other. Available with or without 1 Form C aux contact. RF power rating, 150 W to 50 MHz; 60 W at 1200 MHz. Impedance, 50 ohms. Size, 1.88″ x 0.68″ x 0.68″. Weight, 3 oz. (Other specifications similar to 61 Series above.) **Specify Coil Voltage:** 6, 12, 26, 48 or 110 VDC (115 VAC available at additional cost). **See Coil Voltage Table.**

Dow-Key Model	Conn. Type	With 1 Form C Aux Cont.	Net Each, Lots of 1-4	5-9	10-24	25-49
77-XX0202*	BNC	No	$11.50	$10.50	$ 9.45	$8.40
77-XX0232*	BNC	Yes	12.75	11.60	10.45	9.30
77-XX0302	TNC	No	11.50	10.50	9.45	8.40
77-XX0332	TNC	Yes	12.75	11.60	10.45	9.30
77-XX0902	Phono	No	10.50	9.60	8.65	7.70
77-XX0932	Phono	Yes	11.75	10.70	9.65	8.60

*Available with mating plugs; prices on request. †With NC "G" connector as described.

Space does not permit listing various modifications or variations of the standard relays shown. The following types and variations of relays however, are also available.
1. Additional types of coaxial connectors on many relays.
2. 72-ohm type in some relays (50-ohm standard).
3. Gold plated contacts and others (silver contacts standard).

COIL VOLTAGE TABLE

To specify voltage desired, substitute two digits (**21** thru **29**) from this table for **XX** in the Dow-Key Model No.; e.g., 260-XX04 with 6 VDC coil becomes 260-**21**04, etc.

Model No. Digits	Nominal Voltage	Model No. Digits	Nominal Voltage	Model No. Digits	Nominal Voltage
21	6 VDC	24	48 VDC	27	220 VAC
22	12 VDC	25	110 VDC	28	6 VAC
23	26 VDC	26	115 VAC	29	24 VAC

260/260B SERIES DPDT TYPES

Remote-operation switches for low-level to 1-kW operation. The 260B Series is a standard DPDT switch with six connectors; 260B Series similar but has internal connection between its NC contacts, leaving only four connectors; 260B is widely used for inserting a circuit element between two normally connected elements (e. g., inserting power amplifier between exciter and antenna). RF power rating, 1 kW to 100 MHz; 750 W at 400 MHz. VSWR, 1.05:1 0–50 MHz; 1.06:1 100 MHz; 1.12:1 at 400 MHz. Impedance, 50 ohms. Aux contacts rated 5 A, 115 VAC. Operating time 25 msec approx. Life, 1,000,000 cycles. With UHF connectors (others available). Body size, 3.00″ x 1.75″ x 0.88″. Weight, 12 oz. approx. **Specify Coil Voltage:** 6, 12, 26, 84 or 100 VDC; or 115, 220, 6 or 24 VAC. **See Coil Voltage Table.**

Dow-Key Model	With 2 Form C Aux Contacts	Net Each, Lots of 1-4	5-9	10-24	25-49
260-XX04	No	$24.75	$22.50	$20.25	$18.00
260-XX0442	Yes	26.40	24.00	21.60	19.20
260B-XX04	No	23.90	21.75	19.55	17.40
260B-XX0442	Yes	25.55	23.25	20.90	18.60

71/72 SERIES MULTI-POSITION TYPES

Weatherproof, high power switches for switching antennas, transmitters or receivers up to 500 MHz. Separate actuating coil for each position. RF power rating, 1 kW to 200 MHz; 750 W at 500 MHz. VSWR, 1.06:1 0–50 MHz; 1.3:1 at 500 MHz. Impedance, 50 ohms. Operating time, 25 msec approx. Life, 500,000 cycles per position. With UHF connectors (BNC, C, N, TNC connectors available). Body size, 71 Series, 4″ x 3.5″ x 2.62″; 72 Series, 5.75″ dia. x 2.75″ d. Wt., 71 Series, 3 lbs. approx.; 72 Series, 1½ lbs. approx. **Specify Coil Voltage:** 6, 12, 26, 48 or 110 VDC; or 115, 220, 6 or 24 VAC. **See Coil Voltage Table.**

Dow-Key Model	Description	Net Each, Lots of 1-4	5-9	10-24	25-49
71-XX0401	SP6T shorting	$57.75	$52.50	$47.25	$42.00
71-XX0402	SP6T non-shorting	61.85	56.25	50.60	45.00
72-XX0401	SP3T shorting	27.20	24.75	22.25	19.80
72-XX0402	SP3T non-shorting	31.35	28.50	25.65	22.80

78 SERIES MULTI-POSITION TYPES

Manually operated switches with true coaxial switching members (not wafer switches). Useful frequency range, 0 to 500 MHz. RF power rating, 1.5 kW at 50 MHz; 1 kW at 100 and 400 MHz. VSWR, 1.05:1 at 50 MHz; 1.15:1 at 400 MHz. Impedance, 50 ohms. Crosstalk, 60 dB at 50 MHz; 45 dB at 400 MHz. Insertion loss, .03 dB at 50 MHz; .05 dB at 400 MHz. Dial plate and knob included. With UHF connectors (also available with BNC, C, N, TNC connectors). Size, 3″ dia. x 1″ deep. Weight, 10 oz. approx.

Dow-Key Model	Function	Net Each, Lots of 1-4	5-9	10-24	25-49
78-0204	SPDT	$14.00	$12.75	$11.45	$10.20
78-0304	SP3T	14.45	13.10	11.80	10.50
78-0404	SP4T	15.05	13.80	12.40	11.05
78-0604	SP6T	15.65	14.25	12.80	11.40
78-0704	D&DT	17.65	16.10	14.50	12.90
78-0904	Transfer	16.65	15.20	13.70	12.20

UHF CONNECTORS AND ADAPTERS

A B C D E F

Types C-201, C-60P and C-60PT have UHF female or male connector to solder terminal, and mount through panels ⅛″ thick max. C-201 mounts through ⅝″ hole. C-60P mounts into ⅝-24 tapped hole or through ⅝″ hole. C-60PT similar to C-60P except Teflon* insulation and better impedance match.

*Registered DuPont TM.

Dow-Key Model	Fig.	Description	Lg., In.	Net Each, Lots of 1-4	5-9	10-24	25-49
A-F2	A	UHF double male	1.00	$0.76	$0.69	$0.62	$0.54
C-60P	B	UHF panel-mount female	1.19	.69	.63	.57	.50
C-60PT	B	UHF panel-mount female	1.19	.99	.90	.81	.72
C-201	C	UHF panel-mount male	1.40	1.07	.97	.87	.78
A-202	D	UHF double female	1.12	.82	.75	.67	.60
A-210	E	UHF fem. to male phono	1.30	1.24	1.12	1.01	.90
A-211	F	UHF male to male phono	1.34	1.32	1.20	1.08	.96

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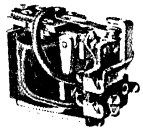
ALLIED CONTROL

ALLIED CONTROL COMPANY INC.

RELAYS AND SOCKETS

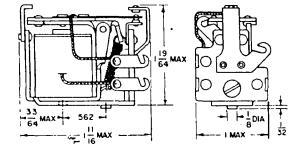
GENERAL PURPOSE RELAYS

AS



RELAY TYPE[1]	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS[2]	COIL POWER AT 25°C	COIL RESIST. OHMS[3]	NET PRICE
AS-3A	115v a-c	SPDT	5	3.5 va	850	$5.40
AS-3D	26.5v d-c	SPDT	5	1.3 w	528	4.60

OUTLINE DRAWING



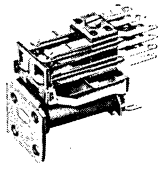
Compact design, single hole mounting, terminal board on the front and contacts on top for easy inspection.

Terminals: .078 x .107 hook

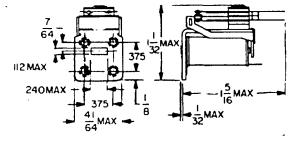
Weight: 2.0 ounces max.

Mounting: (1) 6-32 NC-2B tapped hole 7-32 deep

TAT



RELAY TYPE[1]	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS[2]	COIL POWER AT 25°C	COIL RESIST. OHMS[3]	NET PRICE
TAT-2C	6v d-c	DPDT	2	700 mw	52	2.96
TAT-2C	12v d-c	DPDT	2	700 mw	185	2.96
TAT-2C	24v d-c	DPDT	2	700 mw	700	2.96
TAT-2C	48v d-c	DPDT	2	700 mw	2500	2.96
TAT-2C	115v d-c	DPDT	2	700 mw	15000	4.66



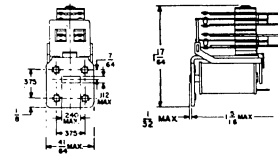
Subminiature with the performance of a miniature plus extra long life

Terminals: Elongated holes .080 x .040

Weight: 0.70 ounces max.

Mounting: (4) 4-48 NF-2B tapped holes

TAT-4C	6v d-c	4PDT	2	700 mw	52	3.34
TAT-4C	12v d-c	4PDT	2	700 mw	185	3.34
TAT-4C	24v d-c	4PDT	2	700 mw	700	3.34
TAT-4C	48v d-c	4PDT	2	700 mw	2500	3.34
TAT-4C	115v d-c	4PDT	2	700 mw	15000	5.04



Subminiature with the performance of a miniature plus extra long life

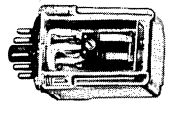
Terminals: Elongated holes .080 x .040

Weight: 0.75 ounces max.

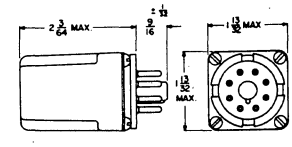
Mounting: (4) 4-48 NF-2B tapped holes

TFMDO

TEFDO



TFMDO-2C	6v d-c	DPDT	5	700 mw	52	6.02
TFMDO-2C	12v d-c	DPDT	5	700 mw	185	6.02
TFMDO-2C	24v d-c	DPDT	5	700 mw	700	6.02
TFMDO-2C	115v d-c	DPDT	5	700 mw	15000	7.72
TEFDO-2C	6v a-c	DPDT	5	1.2 va	6.4	4.92
TEFDO-2C	12v a-c	DPDT	5	1.2 va	31.8	4.92
TEFDO-2C	24v a-c	DPDT	5	1.2 va	112.5	4.92
TEFDO-2C	115v a-c	DPDT	5	1.2 va	2580.0	4.92
TEFDO-2C	220v a-c	DPDT	5	2.4 va	6000.0	5.42



Enclosed in a transparent polycarbonate cover and rigidly secured to base.

Enclosure: Dust cover

Weight: 2.5 ounces

Socket: Any std. RETMA or EIA octal

ALLIED CONTROL

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GENERAL PURPOSE RELAYS

RELAY TYPE[1]	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS[2]	COIL POWER AT 25°C	COIL RESIST. OHMS[3]	NET PRICE	OUTLINE DRAWING	DESCRIPTION
TF154-2C								Features no internal wiring, contact arms extended to form combination solder and plug-in terminals **Terminals:** Elongated holes .080 x .040 **Enclosure:** Dust cover **Weight:** 0.80 ounces max. **Socket:** Allied type 30055-1
TF154-2C	6v d-c	DPDT	5	700 mw	52	$3.37		
TF154-2C	12v d-c	DPDT	5	700 mw	185	3.37		
TF154-2C	24v d-c	DPDT	5	700 mw	700	3.37		
TF154-2C	48v d-c	DPDT	5	700 mw	2500	3.37		
TF154-2C	115v d-c	DPDT	5	700 mw	15000	5.07		
TF154-4C								Features no internal wiring, contact arms extended to form combination solder and plug-in terminals **Terminals:** Elongated holes .080 x .040 **Enclosure:** Dust cover **Weight:** 0.95 ounces max. **Socket:** Allied type 30055-2
TF154-4C	6v d-c	4PDT	5	700 mw	52	3.87		
TF154-4C	12v d-c	4PDT	5	700 mw	185	3.87		
TF154-4C	24v d-c	4PDT	5	700 mw	700	3.87		
TF154-4C	48v d-c	4PDT	5	700 mw	2500	3.87		
TF154-4C	115v d-c	4PDT	5	700 mw	15000	5.57		
TF154-6C								Features no internal wiring, contact arms extended to form combination solder and plug-in terminals **Terminals:** Elongated holes .080 x .040 **Enclosure:** Dust cover **Weight:** 1.0 ounces max. **Socket:** Allied type 30055-20
TF154-6C	6v d-c	6PDT	5	1.5 w	25	5.02		
TF154-6C	12v d-c	6PDT	5	1.5 w	90	5.02		
TF154-6C	24v d-c	6PDT	5	1.5 w	430	5.02		
TF154-6C	48v d-c	6PDT	5	1.5 w	1550	5.02		
TF154-6C	115v d-c	6PDT	5	1.5 w	9000	5.92		

CRADLE MAGNETIC LATCHING

T351—SINGLE COIL						Designed for pulse operation. In the single coil version a pulse of 10 milliseconds minimal duration is required to activate the armature. **Weight:** 2C-2 oz. 4C-4 oz. **Socket:** 2C-30055-1 4C-30055-2
T351-2C	6v d-c	DPDT	1	900 mw	40	$5.00
T351-2C	12v d-c	DPDT	1	900 mw	166	5.00
T351-2C	24v d-c	DPDT	1	900 mw	630	5.00
T351-2C	48v d-c	DPDT	1	900 mw	2640	5.20
T351-2C	110v d-c	DPDT	1	900 mw	13800	6.40
TF351-2C	6v d-c	DPDT	5	900 mw	40	5.12
TF351-2C	12v d-c	DPDT	5	900 mw	166	5.12
TF351-2C	24v d-c	DPDT	5	900 mw	630	5.12
TF351-2C	48v d-c	DPDT	5	900 mw	2640	5.32
TF351-2C	110v d-c	DPDT	5	900 mw	13800	6.52
T351-4C	6v d-c	4PDT	1	900 mw	40	5.50
T351-4C	12v d-c	4PDT	1	900 mw	166	5.50
T351-4C	24v d-c	4PDT	1	900 mw	630	5.50
T351-4C	48v d-c	4PDT	1	900 mw	2640	5.70
T351-4C	110v d-c	4PDT	1	900 mw	13800	6.90
T351—DUAL COIL						The dual coil functions similarly to the single wound version except that while the armature is actuated by a pulse applied to one winding it is reset by pulsing the second winding. **Weight:** 2C-2 oz. 4C-4 oz. **Socket:** 2C-30055-1 4C-30055-2
T351-2C	2/6v d-c	DPDT	1	1.2 w	31.5	6.00
T351-2C	2/12v d-c	DPDT	1	1.2 w	134	6.00
T351-2C	2/24v d-c	DPDT	1	1.2 w	485	6.00
T351-2C	2/48v d-c	DPDT	1	1.2 w	1760	6.40
T351-2C	2/110v d-c	DPDT	1	1.2 w	9600	8.80
T351-4C	2/6v d-c	4PDT	1	1.2 w	31.5	6.74
T351-4C	2/12v d-c	4PDT	1	1.2 w	134	6.74
T351-4C	2/24v d-c	4PDT	1	1.2 w	485	6.74
T351-4C	2/48v d-c	4PDT	1	1.2 w	1760	7.14
T351-4C	2/110v d-c	4PDT	1	1.2 w	9600	9.54
TF351-2C	2/6v d-c	DPDT	5	1.2 w	31.5	6.12
TF351-2C	2/12v d-c	DPDT	5	1.2 w	134	6.12
TF351-2C	2/24v d-c	DPDT	5	1.2 w	485	6.12
TF351-2C	2/48v d-c	DPDT	5	1.2 w	1760	6.52
TF351-2C	2/110v d-c	DPDT	5	1.2 w	9600	8.92

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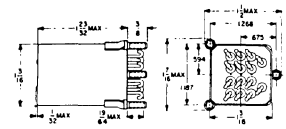
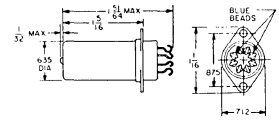
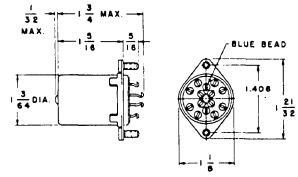
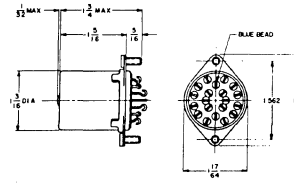
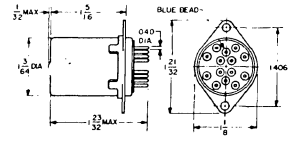
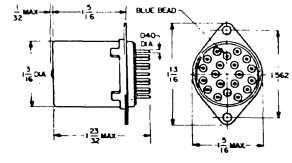
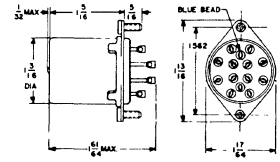
MINIATURE TYPE RELAYS

RELAY TYPE[1]	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS[2]	COIL POWER AT 25°C	COIL RESIST. OHMS[3]	NET PRICE	OUTLINE DRAWING	DESCRIPTION
CH								**Vibration:** 20g to 2000 cps **Shock:** 50g operational **Operate:** 15 milliseconds **Release:** 10 milliseconds **Temp:** —65°C to +125°C **Weight:** 5.0 ounces max. **Mounting:** (3) 6-32 NC-2A thd. studs
CH-12D	26.5v d-c	4PDT	10	4.0 w	180	$30.00		
MH-6								**Vibration:** 15g to 1000 cps **Shock:** 50g operational **Operate:** 8 milliseconds **Release:** 5 milliseconds **Temp.** MH: —55°C to +85°C MHB: —65°C to +125°C **Weight:** 2.0 ounces max. **Mounting:** (2) 0.125 dia. holes
MH-6D	26.5v d-c	DPDT	5	1.75 w	400	$14.25		
MHB-6D	26.5v d-c	DPDT	5	1.25 w	325	14.25		
MH-12*								**Vibration** 15g to 1000 cps **Shock:** 50g operational **Operate:** 10 milliseconds **Release:** 5 milliseconds **Temp. MH:** —55°C to +85°C MHB: —65°C to +125°C **Weight:** 3.0 ounces max. **Mounting:** (3) 6-32 NC-2A thd. studs
MH-12D	26.5v d-c	4PDT	5	2.5 w	300	$20.90		
MHB-12D	26.5v d-c	4PDT	5	3.0 w	250	20.90		
MH-18*								**Vibration** 15g to 1000 cps **Shock:** 50g operational **Operate:** 10 milliseconds **Release:** 5 milliseconds **Temp. MH:** —55°C to +85°C MHB: —65°C to +125°C **Weight:** 4.2 ounces max. **Mounting:** (3) 6-32 NC-2A thd. studs
MH-18D	26.5v d-c	6PDT	5	3.0 w	240	$23.75		
MHB-18D	26.5v d-c	6PDT	5	3.5 w	200	23.75		
MHUO-12								**Vibration:** 15g to 1000 cps **Shock:** 50g operational **Operate:** 10 milliseconds **Release:** 5 milliseconds **Temp:** —55°C to +85°C **Weight:** 3.0 ounces max. **Mounting:** (2) .144 dia. holes **Socket:** Allied type 16188-1 above chassis mtg.
MHUO-12D	26.5v d-c	4PDT	5	2.5 w	300	$20.90		
MHUO-18								**Vibration:** 15g to 1000 cps **Shock:** 50g operational **Operate:** 10 milliseconds **Release:** 5 milliseconds **Temp:** —55°C to +85°C **Weight:** 4.2 ounces max. **Mounting:** (2) .144 dia. holes **Socket:** Allied type 16189-1 above chassis mtg.
MHUO-18D	26.5v d-c	6PDT	5	3.0 w	240	$23.75		
MHY								**Vibration:** 20g to 500 cps **Shock:** 50g operational **Operate:** 10 milliseconds **Release:** 5 milliseconds **Temp:** —65°C to +125°C **Weight:** 4.2 ounces max. **Mounting:** (2) #6-32 NC-2A thd. studs
MHY-12D	26.5v d-c	4PDT	10	3.5 w	200	$25.41		

*Also available as MHJ-12D & MHJ-18D for 20G up to 2000 CPS vibration.

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SENSITIVE and PLATE CIRCUIT RELAYS

RELAY TYPE[1]	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS[2]	COIL POWER AT 25°C	COIL RESIST. OHMS[3]		OUTLINE DRAWING	DESCRIPTION
WJS								**Vibration:** 15g to 2000 cps **Shock:** 50g operational **Operate:** 15 milliseconds **Release:** 10 milliseconds **Temp:** −65°C to +125°C **Weight:** 1.0 ounces max. **Welded Construction**
	WJS-3D 3.2 ma d-c	SPDT	3	25 mw	2500	$11.57		
	WJS-3D 2.2 ma d-c	SPDT	3	25 mw	5000	11.57		
	WJS-3D 1.6 ma d-c	SPDT	3	25 mw	10000	13.50		
	WJS-6D 4.0 ma d-c	DPDT	3	40 mw	2500	11.83		
	WJS-6D 2.8 ma d-c	DPDT	3	40 mw	5000	11.83		
	WJS-6D 2.0 ma d-c	DPDT	3	40 mw	10000	13.83		
WJSO								**Vibration:** 15g to 2000 cps **Shock:** 50g operational **Operate:** 15 milliseconds **Release:** 10 milliseconds **Temp:** −65°C to +125°C **Weight:** 1.0 ounces max. **Socket:** Armel type HRC-1 or equiv. **Welded Construction**
	WJSO-6D 2.8 ma d-c	DPDT	3	40 mw	5000	11.83		
	WJSO-6D 2.0 ma d-c	DPDT	3	40 mw	10000	13.83		
TFMDO								Inclosed in a transparent polycarbonate cover and rigidly secured to base. **Enclosure:** Dust cover **Weight:** 2.5 ounces max. **Socket:** Any std. RETMA or EIA octal
	TFMDO-2C 9.5 ma d-c	DPDT	5	220 mw	2500	6.32		
	TFMDO-2C 7.0 ma d-c	DPDT	5	250 mw	5000	6.83		
	TFMDO-2C 5.5 ma d-c	DPDT	5	300 mw	10000	7.22		
TFT								Subminiature with small size moving parts resulting in quick release and exceptional contact rating. **Terminals:** Elongated holes .080 x .040 **Weight:** 0.70 ounces max. **Mounting:** (4) 4-48NF 2B tapped holes
	TFT-2C 9.5 ma d-c	DPDT	5	220 mw	2500	3.39		
	TFT-2C 7.0 ma d-c	DPDT	5	250 mw	5000	3.89		
	TFT-2C 5.5 ma d-c	DPDT	5	300 mw	10000	4.29		
TS154-2C								Features no internal wiring. Contact arms extend to form combination solder and plug in terminals. **Terminals:** Printed circuit available as type TSP-154 **Enclosure:** Dust cover **Weight:** 0.80 ounces max. **Socket:** Allied type 30055-1
	TS154-2C 5.8 ma d-c	DPDT	1	85 mw	2500	3.55		
	TS154-2C 4.1 ma d-c	DPDT	1	85 mw	5000	4.05		
	TS154-2C 3.1 ma d-c	DPDT	1	85 mw	10000	4.45		
TS154-4C								Features no internal wiring. Contact arms extend to form combination solder and plug in terminals. **Terminals:** Printed circuit available as type TSP-154 **Enclosure:** Dust cover **Weight:** 0.95 ounces max. **Socket:** Allied type 30055-2
	TS154-4C 8.4 ma d-c	4PDT	1	175 mw	2500	3.96		
	TS154-4C 6.2 ma d-c	4PDT	1	175 mw	5000	4.46		
	TS154-4C 4.5 ma d-c	4PDT	1	175 mw	10000	4.86		

SUBMINIATURE TYPE RELAYS

WKJ								**Vibration:** 20g to 2000 cps **Shock:** 100g operational **Operate:** 5 milliseconds **Release:** 3 milliseconds **Temp:** 65°C to +125°C **Weight:** 0.5 ounces max. **Plug-in:** Type WKJO (not shown) **Socket:** Armel type HRC-1 or equivalent
	WKJ-6D 6v d-c	DPDT	3	1.5 w	40	$ 8.25		
	WKJ-6D 12v d-c	DPDT	3	1.5 w	150	8.25		
	WKJ-6D 26.5v d-c	DPDT	3	1.5 w	600	8.25		
	WKJ-6D 48v d-c	DPDT	3	1.5 w	2320	8.75		
	WKJ-6D 115v d-c	DPDT	3	1.5 w	10000	10.17		
	WKJO-6D 26.5v d-c	DPDT	3	1.5 w	600	8.25		

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ALLIED CONTROL

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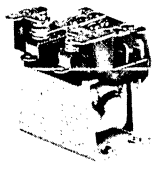
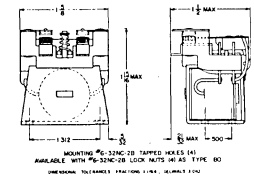
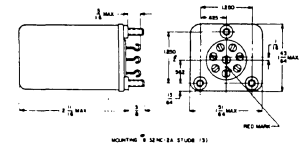
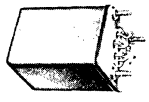
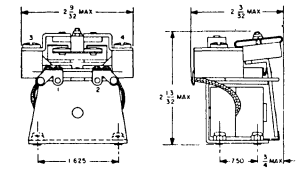
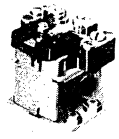
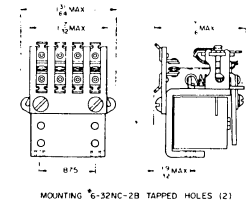
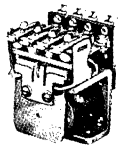
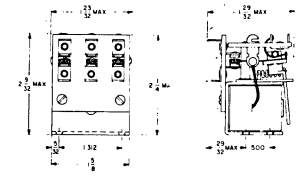
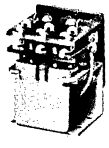
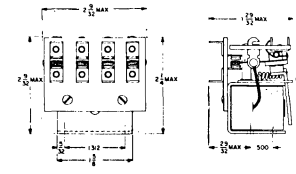
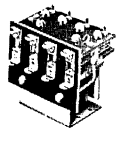
POWER RELAYS

	RELAY TYPE[1]	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS[2]	COIL POWER AT 25°C	COIL RESIST OHMS[3]	NET PRICE	OUTLINE DRAWING	DESCRIPTION
BOT (BO not shown)	BO-6A	6v a-c	DPDT	15	5.0 va	1.07	$5.80		Compact, rugged design for industrial control applications. **Terminals:** .096 diameter holes, tin dipped **Weight:** 5.5 ounces max. **Mounting:** (4) 6-32 elastic stop nuts
	BO-6A	24v a-c	DPDT	15	5.0 va	17	5.80		
	BO-6A	115v a-c	DPDT	15	5.0 va	445	5.80		
	BO-6A	220v a-c	DPDT	15	5.0 va	1700	5.92		
	BO-6D	6.3v d-c	DPDT	15	2.5 w	14.2	5.12		
	BO-6D	13.2v d-c	DPDT	15	2.5 w	70	5.12		
	BO-6D	26.5v d-c	DPDT	15	2.5 w	230	5.12		
	BO-6D	115v d-c	DPDT	15	2.5 w	5000	5.70		
	BOT-6A	6v a-c	DPDT	15	5.0 va	1.07	5.50		Compact, rugged design for industrial control applications. **Terminals:** .096 diameter holes, tin dipped **Weight:** 5.0 ounces max. **Mounting:** #6-32NC-2B tapped holes (4)
	BOT-6A	24v a-c	DPDT	15	5.0 va	17	5.50		
	BOT-6A	115v a-c	DPDT	15	5.0 va	445	5.50		
	BOT-6A	220v a-c	DPDT	15	5.0 va	1700	5.62		
	BOT-6D	6v d-c	DPDT	15	2.5 w	14.2	4.82		
	BOT-6D	12v d-c	DPDT	15	2.5 w	70	4.82		
	BOT-6D	26.5v d-c	DPDT	15	2.5 w	230	4.82		
	BOT-6D	110v d-c	DPDT	15	2.5 w	5000	5.40		
BOHR	BOHR-6A	115v a-c	DPDT	10	5.0 va	445	11.33		**Vibration:** 10-55 cps at .062" double amplitude **Shock:** 30g operational **Temp:** −55°C to +71.5°C **Weight:** 9.5 ounces max. **Plug-in:** Type BOHRO (not show **Socket:** Any std. RETMA or EIA octal
	BOHR-6D	26.5v d-c	DPDT	10	2.5 w	230	10.88		
	BOHRO-6A	115v a-c	DPDT	15	5.0 va	445	11.33		
	BOHRO-6D	26.5v d-c	DPDT	15	2.5 w	230	10.88		
CNA	CNA-13A	115v a-c	SPST NO DB	25	10.5 va	145	8.60		Heavy duty, compact relay with double break contact construction eliminating pigtails **Terminals:** Coil (1 & 2) 3-32 dia. holes Contacts (3 & 4) 10-32 screw type **Weight:** 9.5 ounces max. **Mounting:** (4) 6-32 elastic stop nuts
	CNAS-13A	115v a-c	SPST NO DB	50	10.5 va	145	10.60		
PB	PB-9A	115v a-c	3PDT	10	6.0 va	380	7.60		Small design with semi-balanced armature construction **Operate:** 25 milliseconds **Release:** 4 milliseconds **Temp:** —55°C to +71.5°C **Weight:** 4.0 ounces max.
	PB-12A	115v a-c	4PDT	10	6.0 va	380	8.10		
PO-9	PO-9A	24v a-c	3PDT	15	10.5 va	8.0	7.03		Low cost, compact, multi pole **Terminals:** .079 x .164 hook, tin dipped **Weight:** 7.5 ounces max. **Mounting[5]:** (4) 6-32 tapped holes (as shown) Type PON-(4) 6-32 elastic stop nuts
	PO-9A	115v a-c	3PDT	15	10.5 va	145.0	7.03		
	PO-9D	13.2v d-c	3PDT	15	2.5 w	70	6.71		
	PO-9D	24 v d-c	3PDT	15	2.5 w	230	6.71		
	PO-9D	115 v d-c	3PDT	15	2.5 w	5000	7.38		
PO-12	PO-12A	115v a-c	4PDT	15	10.5 va	145	7.90		Low cost, compact, multi pole **Terminals:** .079 x .164 hook, tin dipped **Weight:** 8.0 ounces max. **Mounting[5]:** (4) 6-32 tapped holes (as shown) Type PON-(4) 6-32 elastic stop nuts
	PO-12D	13.2v d-c	4PDT	15	2.5 w	70	7.44		
	PO-12D	24v d-c	4PDT	15	2.5 w	230	7.44		

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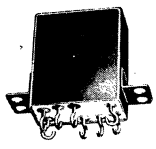
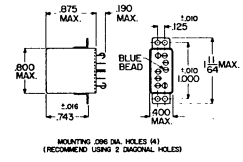
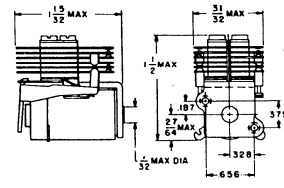
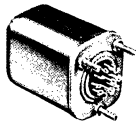
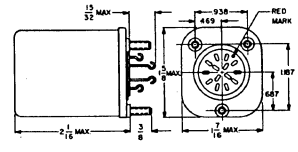
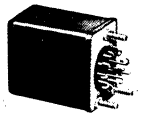
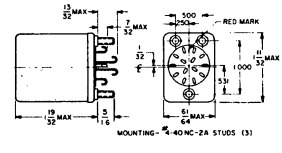
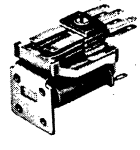
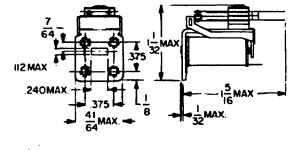
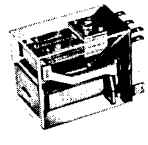
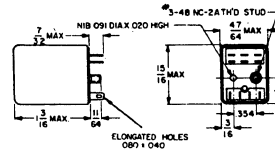
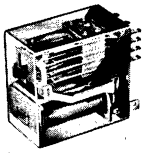
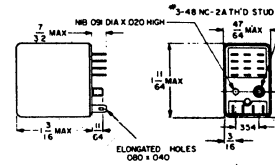
WELDED SUBMINIATURE TYPE RELAYS

	RELAY TYPE[1]	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS[2]	COIL POWER AT 25°C	COIL RESIST. OHMS[3]	NET PRICE	OUTLINE DRAWING	DESCRIPTION
WKY 	WKY-60	6v d-c	DPDT	3	1.5 w	40	$10.08		**Vibration:** 20g to 2000 cps **Shock:** 50g operational **Operate:** 5 milliseconds **Release:** 3 milliseconds **Temp:** −65°C to +125°C **Weight:** 0.5 ounces max. **Plug-in:** Type WKYO (not shown) **Socket:** Armel type HRK-1 or equivalent
	WKY-60	12v d-c	DPDT	3	1.5 w	150	10.08		
	WKY-60	26.5v d-c	DPDT	3	1.5 w	600	10.08		
	WKY-60	48v d-c	DPDT	3	1.5 w	2320	10.58		
	WKY-60	115v d-c	DPDT	3	1.5 w	10000	11.80		
	WKYO-6D	26.5v d-c	DPDT	3	1.5 w	600	10.08		

NOTE: Conforms to MIL-R-5757-10.

TELEPHONE TYPE RELAYS

SK	SK-4C	24v d-c	4PDT	2	1.5 w	425	$6.30		Miniature size for front of panel wiring with an efficient metal to metal hinge. **Terminals:** elongated holes .062 x .125 **Weight:** 2.5 ounces max. **Mounting:** (2) 4-40 NC-2B tapped holes
SKH 	SKH-4C	24v d-c	4PDT	2	1.5 w	425	12.80		SK type hermetically sealed. **Temp:** −55°C to +85°C **Weight:** 5.0 ounces max. **Mounting:** (3) 6-32 NC-2A studs
TAH 	TAH-2C	24v d-c	DPDT	2	700 mw	700	7.41		Compact, rugged design with extremely long life **Operate:** 15 milliseconds **Release:** 8 milliseconds **Temp:** —55°C to +71°C **Weight:** 2.5 ounces max.
	TAH-4C	24v d-c	4PDT	2	700 mw	700	8.90		
TAT-2C 	TAT-2C	6v d-c	DPDT	2	700 mw	52	2.96		Subminiature with the performance of a miniature plus extra long life **Terminals:** Elongated holes .080 x .040 **Weight:** 0.70 ounces max. **Mounting:** (4) 4-48 NF-2B tapped holes
	TAT-2C	12v d-c	DPDT	2	700 mw	185	2.96		
	TAT-2C	24v d-c	DPDT	2	700 mw	700	2.96		
	TAT-2C	48v d-c	DPDT	2	700 mw	2500	2.96		
	TAT-2C	115v d-c	DPDT	2	700 mw	15000	4.66		
***T154-2C** 	T154-2C	6v d-c	DPDT	2	700 mw	52	3.25		Features no internal wiring, contact arms extended to form combination solder and plug-in terminals **Terminals:** Printed circuit available as type TP-154 **Enclosure:** Dust cover **Weight:** 0.80 ounces max. **Socket:** Allied type 30055-1
	T154-2C	12v d-c	DPDT	2	700 mw	185	3.25		
	T154-2C	24v d-c	DPDT	2	700 mw	700	3.25		
	T154-2C	48v d-c	DPDT	2	700 mw	2500	3.25		
	T154-2C	115v d-c	DPDT	2	700 mw	15000	4.95		
***T154-4C** 	T154-4C	6v d-c	4PDT	2	700 mw	52	3.63		Features no internal wiring, contact arms extended to form combination solder and plug-in terminals **Terminals:** Printed circuit available as type TP-154 **Enclosure:** Dust cover **Weight:** 0.95 ounces max. **Socket:** Allied type 30055-2
	T154-4C	12v d-c	4PDT	2	700 mw	185	3.63		
	T154-4C	24v d-c	4PDT	2	700 mw	700	3.63		
	T154-4C	48v d-c	4PDT	2	700 mw	2500	3.63		
	T154-4C	115v d-c	4PDT	2	700 mw	15000	5.33		

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ALLIED CONTROL

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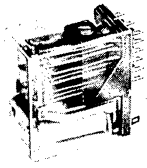
TELEPHONE TYPE RELAYS

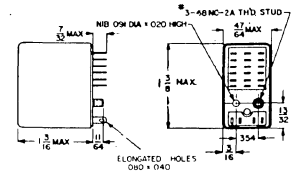
*T154-6C



RELAY TYPE[1]	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS[2]	COIL POWER AT 25°C	COIL RESIST. OHMS[3]	NET PRICE
T154-6C	6v d-c	6PDT	2	1.5 w	25	$4.66
T154-6C	12v d-c	6PDT	2	1.5 w	90	4.66
T154-6C	24v d-c	6PDT	2	1.5 w	430	4.66
T154-6C	48v d-c	6PDT	2	1.5 w	1550	4.66
T154-6C	115v d-c	6PDT	2	1.5 w	9000	5.56

*Available with bifurcated contacts type T163

OUTLINE DRAWING



DESCRIPTION

Features no internal wiring, contact arms extended to form combination solder and plug-in terminals

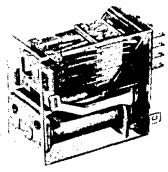
Terminals: Printed circuit available as type TP-154

Enclosure: Dust cover

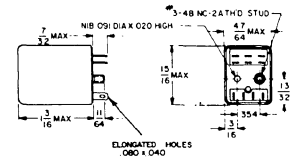
Weight: 1.0 ounces max.

Socket: Allied type 30055-20

T-163

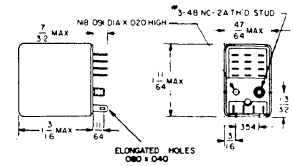


T-163-2C	6v d-c	DPDT	2	700 mw	52	3.65
T-163-2C	12v d-c	DPDT	2	700 mw	185	3.65
T-163-2C	24v d-c	DPDT	2	700 mw	700	3.65
T-163-2C	48v d-c	DPDT	2	700 mw	2500	3.65
T-163-2C	115v d-c	DPDT	2	700 mw	15000	5.35



Same as T-154-2C except for bifurcated contacts.

T-163-4C	6v d-c	4PDT	2	700 mw	52	4.16
T-163-4C	12v d-c	4PDT	2	700 mw	185	4.16
T-163-4C	24v d-c	4PDT	2	700 mw	700	4.16
T-163-4C	48v d-c	4PDT	2	700 mw	2500	4.16
T-163-4C	115v d-c	4PDT	2	700 mw	15000	5.86



Same as T-154-4C except for bifurcated contacts.

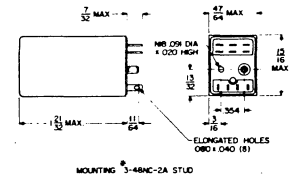
ALSO AVAILABLE WITH 6PDT CONTACTS AS TYPE T-163-6C WITH LOWER RESISTANCE VALUES

A. C. CRADLE SERIES

TF255

RELAY TYPE[1]	COIL VOLTAGE OR CURRENT	CONTACTS FORMS	CONTACTS AMPS[2]	NOMINAL COIL POWER MAX.	COIL RESISTANCE OHMS[3]	NET PRICE
T255-2C	6v a-c	DPDT	2	1.2 va	6.4	$4.28
T255-2C	12v a-c	DPDT	2	1.2 va	31.8	4.28
T255-2C	24v a-c	DPDT	2	1.2 va	112.5	4.28
T255-2C	48v a-c	DPDT	2	1.2 va	460.0	4.28
T255-2C	115v a-c	DPDT	2	1.2 va	2580.0	4.28
TF255-2C	6v a-c	DPDT	5	1.2 va	6.4	4.40
TF255-2C	12v a-c	DPDT	5	1.2 va	31.8	4.40
TF255-2C	24v a-c	DPDT	5	1.2 va	112.5	4.40
TF255-2C	115v a-c	DPDT	5	1.2 va	2580.0	4.40
TF255-2C	220v a-c	DPDT	5	2.4 va	6000.0	4.90

OUTLINE DRAWING



DESCRIPTION

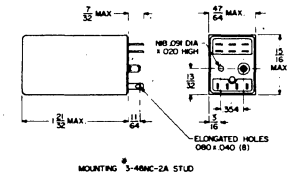
New design for quiet hum-free operation, long life, low cost versatile cradle series relay.

Enclosure: Dust cover

Weight: 1.3 ounces max.

Socket: 30054-1

T255-4C	6v a-c	4PDT	2	1.2 va	6.4	4.88
T255-4C	12v a-c	4PDT	2	1.2 va	31.8	4.88
T255-4C	24v a-c	4PDT	2	1.2 va	112.5	4.88
T255-4C	48v a-c	4PDT	2	1.2 va	460.0	4.88
T255-4C	115v a-c	4PDT	2	1.2 va	2580.0	4.88
TF255-4C	6v a-c	4PDT	5	2.4 va	4.45	5.12
TF255-4C	12v a-c	4PDT	5	2.4 va	20.0	5.12
TF255-4C	24v a-c	4PDT	5	2.4 va	65.0	5.12
TF255-4C	115v a-c	4PDT	5	2.4 va	1575.0	5.12
TF255-4C	220v a-c	4PDT	5	2.4 va	6000.0	5.62



New design for quiet hum-free operation, long life, low cost versatile cradle series relay.

Enclosure: Dust cover

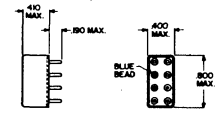
Weight: 1.3 ounces max.

Socket: 30054-2

NOTE: Available without dust cover type TE and TEF. with bifurcated contacts type TEB (open) and T266 (dust cover) Retainer springs for above type 30040-4 T255-2C 30040-5 T255-4C

S

S6A1	26.5v d-c	DPDT	2	1w	700	$9.91
S6H3	26.5v d-c	DPDT	2	1w	700	9.91
SL6A1	26.5v d-c	DPDT	2	1w	700	9.91
SL6H3	26.5v d-c	DPDT	2	1w	700	9.91



Half crystal can relay in all welded construction with solder hook or plug in terminals.

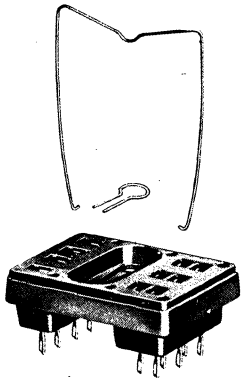
Weight: 0.3 ounces

NOTE: relay conforms to MIL-R-5757/9

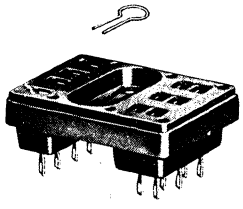
ALLIED CONTROL

ALLIED CONTROL COMPANY INC.

SOCKETS – RETAINERS



SOCKET NUMBER	RELAY TYPE		
30055-1	T154-2C	30055-1	$.55
30055-1	T163-2C	30055-2	.60
30055-1	T351-2C	30055-3	.72
30055-2	T154-4C	30055-4	.88
30055-2	T163-4C	30055-5	.55
30055-2	T351-4C	30055-6	.70
30055-20	T154-6C	30055-8	.70
30055-20	T163-6C	30055-20	.95
		30055-24	.95



SOCKET NUMBER	RELAY TYPE		
30054-1	T154-2C	30054-1	.50
30054-1	T163-2C	30054-2	.55
30054-1	T255-2C	30054-20	.90
30054-2	T154-4C	30040-1	.05
30054-2	T163-4C	30040-2	.05
30054-2	T255-4C	30040-3	.05
30054-20	T154-6C	30040-4	.05
30054-20	T163-6C	30040-5	.05

SOCKET NUMBER	RELAY TYPE		
30040-1	T154-2C	16479-1	1.25
30040-1	T163-2C	16185-1	1.42
30040-2	T154-4C	16188-1	1.42
30040-2	T163-4C	16187-1	1.64
30040-3	T154-6C	16189-1	1.64
30040-3	T163-6C		
30040-4	T255-2C		
30040-5	T255-4C		

NOTE: STANDARD PACKAGE FOR SOCKETS—20
STANDARD PACKAGE FOR RETAINERS—100

DESCRIPTION

Hardware: Ground wire
Hardware Material: Stainless steel 18-8, Type 302
Contacts: Beryllium copper, gold plated
Insulator: Black phenolic per Mil-P-14D CFG
Chassis Thickness: .062 recommended

SOCKET NUMBER	RELAY TYPE	PANEL LAYOUT
16479-1	MHO-6D (Above chassis mtg.)	.136 DIA. HOLE 2 FOR MOUNTING; 21/32 DIA. HOLE; .437; .875
16185-1	MHLO-12D (Below chassis mtg.)	.219 DIA. HOLE 2 FOR MOUNTING; 1 3/32 DIA. HOLE; .765; 1.531
16188-1	MHUO-12 (Above chassis mtg.)	.166 DIA. HOLE 2 FOR MOUNTING; 1 1/32 DIA. HOLE; .703; 1.406
16187-1	MHLO-18D (Below chassis mtg.)	.219 DIA. HOLE 2 FOR MOUNTING; 1 7/32 DIA. HOLE; .843; 1.687
16189-1	MHUO-18 (Above chassis mtg.)	.166 DIA. HOLE 2 FOR MOUNTING; 1.140 DIA. HOLE; .781; 1.562

DESCRIPTION

Hardware: Saddle, spacers, screws and washers
Hardware Finish: Cadmium plated
Contacts: Beryllium copper, silver plated, tin dipped
Insulator: Mica-filled phenolic
Chassis Thickness: .062 recommended

GENERAL INFORMATION

1—Relay type—the letter H designates a hermetically sealed unit.
2—Contact ratings are for a resistive load at 29 volts d-c. Low level contacts are available except on Power Relays and Types AS, BJ, CH, MHY and MHYO.
3—Ohms—d-c resistance, standard tolerance ±10%
4—Contact ratings are for a resistive load at 29 volts d-c or 115 volts a-c.
5—Other mounting variations are available.

How to order: Specify Allied relay type and coil voltage or current Example: MHYO-12D 26.5v d-c TS154-4C 8.4 ma d-c

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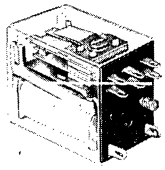
HART/Advance

HART/Advance RELAY DIVISION
OAK ELECTRO/NETICS CORP.

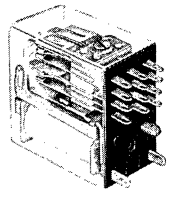
Formerly
PHILLIPS-ADVANCE
and
HART MANUFACTURING CO.

MINIATURE INDUSTRIAL RELAYS

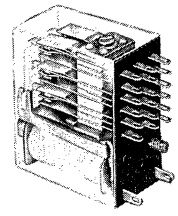
"VersaPac" 67 Designed for industrial applications requiring 1 to 8 form C where space, weight, and cost are important. Single and bifurcated contacts rated at 3 and 5 amps are available. The use of armco magnetic ingot iron and a one piece frame and core provide for unusually precise adjustments. Mechanical life expectancy is in excess of 100 million operations. A plastic cover protects the relay, and sockets are available.



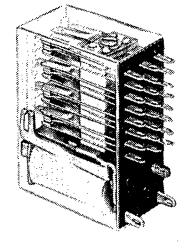
2 Form C
1 3/16 x 3/4 x 15/16



4 Form C
1 3/16 x 3/4 x 1 3/16



6 Form C
1 3/16 x 3/4 x 1 3/8



8 Form C
1 3/16 x 3/4 x 1 5/8

POWER ADJUSTMENT

2 FORM C	Nominal Voltage (DC)	Coil Res. (Ohms)	Contact Rating (Amps)	Resale
67DP-A-2C3	6	52	3	$3.40
67DP-D-2C3	12	185	3	3.40
67DP-G-2C3	24	700	3	3.40
67DP-K-2C3	48	2500	3	3.40
67DP-N-2C3	115	15,000	3	4.80
67DP-A-2C5	6	52	5	3.50
67DP-D-2C5	12	185	5	3.50
67DP-G-2C5	24	700	5	3.50
67DP-K-2C5	48	2500	5	3.50
67DP-N-2C5	115	15,000	5	4.90
67DP-A-2C3B	6	52	3*	3.80
67DP-D-2C3B	12	185	3*	3.80
67DP-G-2C3B	24	700	3*	3.80
67DP-K-2C3B	48	2500	3*	3.80
67DP-N-2C3B	115	15,000	3	5.20
67DP-A-2C5B	6	52	5*	3.90
67DP-D-2C5B	12	185	5*	3.90
67DP-G-2C5B	24	700	5*	3.90
67DP-K-2C5B	48	2500	5*	3.90
67DP-N-2C5B	115	15,000	5*	5.30

*Denotes Bifurcated Contacts.

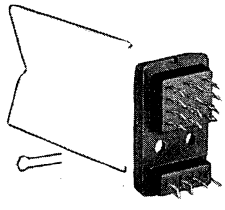
4 FORM C	Nominal Voltage (DC)	Coil Res. (Ohms)	Contact Rating (Amps)	Resale
67DP-A-4C3	6	52	3	$3.80
67DP-D-4C3	12	185	3	3.80
67DP-G-4C3	24	700	3	3.80
67DP-K-4C3	48	2500	3	3.80
67DP-N-4C3	115	15,000	3	5.20
67DP-A-4C5	6	52	5	4.00
67DP-D-4C5	12	185	5	4.00
67DP-G-4C5	24	700	5	4.00
67DP-K-4C5	48	2500	5	4.00
67DP-N-4C5	115	15,000	5	5.40
67DP-A-4C3B	6	52	3*	4.30
67DP-D-4C3B	12	185	3*	4.30
67DP-G-4C3B	24	700	3*	4.30
67DP-K-4C3B	48	2500	3*	4.30
67DP-N-4C3B	115	15,000	3*	5.70
67DP-A-4C5B	6	52	5*	4.45
67DP-D-4C5B	12	185	5*	4.45
67DP-G-4C5B	24	700	5*	4.45
67DP-K-4C5B	48	2500	5*	4.45
67DP-N-4C5B	115	15,000	5*	5.85

*Denotes Bifurcated Contacts.

POWER ADJUSTMENT

6 FORM C	Nominal Voltage (DC)	Coil Res. (Ohms)	Contact Rating (Amps)	Resale
67DP-B-6C3	6	25	3	$4.90
67DP-E-6C3	12	90	3	4.90
67DP-H-6C3	24	430	3	4.90
67DP-L-6C3	48	1550	3	4.90
67DP-P-6C3	115	9000	3	5.85
67DP-B-6C5	6	25	5	5.20
67DP-E-6C5	12	90	5	5.20
67DP-H-6C5	24	430	5	5.20
67DP-L-6C5	48	1550	5	5.20
67DP-P-6C5	115	9000	5	6.15
67DP-B-6C3B	6	25	3*	5.40
67DP-E-6C3B	12	90	3*	5.40
67DP-H-6C3B	24	430	3*	5.40
67DP-L-6C3B	48	1550	3*	5.40
67DP-P-6C3B	115	9000	3*	6.35
67DP-B-6C5B	6	25	5*	5.60
67DP-E-6C5B	12	90	5*	5.60
67DP-H-6C5B	24	430	5*	5.60
67DP-L-6C5B	48	1550	5*	5.60
67DP-P-6C5B	115	9000	5*	6.55

8 FORM C	Nominal Voltage (DC)	Coil Res. (Ohms)	Contact Rating (Amps)	Resale
67DP-C-8C3	6	20	3	$7.00
67DP-F-8C3	12	72	3	7.00
67DP-J-8C3	24	350	3	7.00
67DP-M-8C3	48	1250	3	7.00
67DP-R-8C3	115	8000	3	7.95
67DP-C-8C5	6	20	5	7.40
67DP-F-8C5	12	72	5	7.40
67DP-J-8C5	24	350	5	7.40
67DP-M-8C5	48	1250	5	7.40
67DP-R-8C5	115	8000	5	8.35
67DP-C-8C3B	6	20	3*	7.70
67DP-F-8C3B	12	72	3*	7.70
67DP-J-8C3B	24	350	3*	7.70
67DP-M-8C3B	48	1250	3*	7.70
67DP-R-8C3B	115	8000	3*	8.65
67DP-C-8C5B	6	20	5*	7.90
67DP-F-8C5B	12	72	5*	7.90
67DP-J-8C5B	24	350	5*	7.90
67DP-M-8C5B	48	1250	5*	7.90
67DP-R-8C5B	115	8000	5*	8.85



MOUNTING HARDWARE

SENSITIVE ADJUSTMENT

	Operate Current (Amps)	Coil Res. (Ohms)	Contact Rating (Amps)	Resale
67DS-S-2C3	.0085	1000	3	$3.70
57DS-K-2C3	.0058	2500	3	3.70
67DP-T-2C3	.0041	5000	3	4.20
67DP-V-2C3	.0031	10,000	3	4.60
67DP-N-2C3	.0026	15,000	3	4.60
67DS-S-4C3	.0130	1000	3	4.15
67DS-K-4C3	.0084	2500	3	4.15
67DS-T-4C3	.0062	5000	3	4.65
67DS-V-4C3	.0045	10,000	3	5.05
67DS-N-4C3	.0035	15,000	3	5.05

MOUNTING HARDWARE
(Includes Socket, Retaining Clip and Ground Clip)

Part No.	Description	Resale
6-1313-9	2 Pole Solder Terminal	$ .55
6-1313-10	2 Pole Printed Circuit Terminal	.65
6-1313-11	4 Pole Solder Terminal	.60
6-1313-12	4 Pole Printed Circuit Terminal	.70
6-1313-13	6 Pole Solder Terminal	.95
6-1313-14	6 Pole Printed Circuit Terminal	1.05
6-1313-15	8 Pole Solder Terminal	1.30
6-1313-16	8 Pole Printed Circuit Terminal	1.40

ALL SOCKET TERMINALS ARE GOLD PLATED. DIMENSIONAL DETAILS AVAILABLE FROM HART-ADVANCE.

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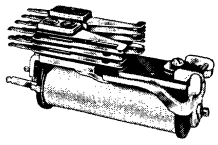
IMMEDIATE IN STOCK DELIVERY THROUGH LEADING INDUSTRIAL ELECTRONIC DISTRIBUTORS

TELEPHONE RELAYS



LONG FRAME

TYPE 2 Dependable and versatile, the Type 2 is the "workhorse" of relays. It operates millions of times with reliability and requires little attention during its long life. An unusually large number of variations in contact assemblies, contact materials, coils, adjustments, and mounting arrangements are available.

On special order:

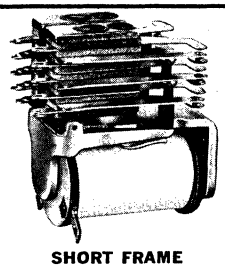
Operating Voltage: Up to 750 volts DC. Up to 440 volts AC, 60 cycles.

Resistance: Up to 50,000 ohms, single or double wound.

Standard Contacts: 18 ga. palladium, rated 3 amps, 150W. resistive. (Gold Flashed)

Type (DC)	Coil Voltage	Contact Arrange.	Coil Res. (Ohms)	Operate Curr. (Amps)	Operate Time (Sec.)	Resale
2DC-6-2C	6	DPDT	50	.048	.030	7.20
2DC-6-6C	6	6PDT	50	.090	.065	11.20
2DC-24-2C	24	DPDT	600	.015	.025	7.50
2DC-24-6C	24	6PDT	600	.024	.050	11.50
2DC-48-4C	48	4PDT	2,000	.011	.040	7.70
2DC-48-6C	48	6PDT	2,000	.013	.050	11.70
2DC-115-1C	115	SPDT	3,600	.0045	.010	7.00
2DC-115-3C	115	3PDT	3,600	.008	.015	9.25
2DC-230-2C	230	DPDT	10,000	.004	.010	8.80
2DC-230-4C	230	4PDT	10,000	.006	.050	10.80

Type (AC)	Coil Voltage	Contact Arrange.	Coil Res. (Ohms —DC)	Curr. Drain (Amps—AC)	Pick-up Volt. 60 Cy.	Resale
2AC-6-1C	6	SPDT	0.2	1	4.5	7.10
2AC-6-4C	6	4PDT	0.2	1	4.5	8.60
2AC-24-2C	24	DPDT	4	.24	21	7.55
2AC-24-4C	24	4PDT	4	.24	21	8.60
2AC-115-1C	115	SPDT	100	.08	100	7.50
2AC-115-3C	115	3PDT	100	.08	100	9.70



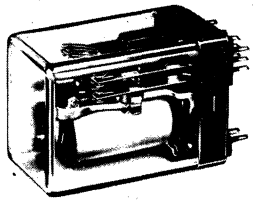
SHORT FRAME

TYPE 4C Relays constructed on the same general design of compact assembly and possess similar specifications. The heelpiece, armature and coil core are made of annealed magnetic iron, with the heelpiece acting as a return path for the magnetic circuit. The armature is pivoted on long-life bearings to insure constant pickup and drop-out adjustment. Standard relays are supplied with solder terminals for contact springs and coils.

Standard Contacts: 18 ga. palladium, rated 3 amps, 150W. resistive. (Gold Flashed)

TYPE (DC)	CONTACT ARRANGE.	COIL RES. OHMS	Resale
4CDC-6-2C	DPDT	30	5.30
4CDC-12-2C	DPDT	75	5.30
4CDC-24-2C	DPDT	425	5.30
4CDC-115-2C	DPDT	6500	5.80
4CDC-6-4C	4PDT	30	7.05
4CDC-12-4C	4PDT	75	7.05

TYPE (DC)	CONTACT ARRANGE.	COIL RES. OHMS	Resale
4CDC-24-4C	4PDT	425	7.05
4CDC-115-4C	4PDT	6500	7.65
4CDC-12-6C	6PDT	75	8.60
4CDC-24-6C	6PDT	425	8.65
4CDC-115-6C	6PDT	6500	9.20



TYPE 8PI

TYPE 8PI Small versatile multi-contact telephone type relays. They have specific spring forms, mating flush-mounted sockets and clear plastic covers that snap over the socket: offer prewiring of sockets; fast installation or removal. Available with many variations in coils, contact assemblies, contact ratings, adjustments, terminal arrangements and mountings for a variety of applications. Standard contact blades are made of spring temper nickel silver, designed to give true independent twin contact operation. Available in: 1.) Plug in; 2.) Taper Tab; 3.) Solder Terminal. Supplied less socket and cover.

Operating Voltage: Up to 300 volts D.C., 115 volts A.C.
Resistance: Up to 21,000 ohms. Single or double wound.
Standard Contacts: Twin palladium, rated 4 amps, 175W. resistive (Gold Flashed.)

TYPE (DC)	COIL RES. (OHMS)	CONTACT ARRANGE.	Resale
8DC-PI-12-4C	100	4PDT	8.25
8DC-PI-12-6C	100	6PDT	11.30
8DC-PI-12-8C	100	8PDT	13.75
8DC-PI-24-4C	300	4PDT	8.25
8DC-PI-24-6C	300	6PDT	11.30
8DC-PI-24-8C	300	8PDT	13.75
8DC-PI-115-4C	8000	4PDT	9.80
8DC-PI-115-6C	8000	6PDT	12.15
8DC-PI-115-8C	8000	8PDT	14.60

TYPE (AC)	COIL RES. (OHMS)	CONTACT ARRANGE.	Resale
8AC-PI-115-4C	1300	4PDT	10.60
8AC-PI-115-6C	1300	6PDT	13.65
8AC-PI-115-8C	1300	8PDT	16.10

BRKT. 29-331
USED WITH COVER
LESS SOCKET

SOCKETS

PART NUMBER	TOTAL CONTACTS	PLATING
218-14-1	16 (12 SPRINGS, 4 COILS) +	CADMIUM
218-14-2	16 (12 SPRINGS, 4 COILS) +	GOLD
218-15-1	28 (24 SPRINGS, 4 COILS) ±	CADMIUM
218-15-2	28 (24 SPRINGS, 4 COILS) ±	GOLD

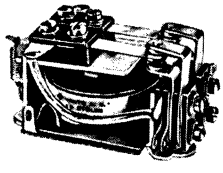
+ WILL ACCOMMODATE 4 C'S
± WILL ACCOMMODATE 8 C'S

DIMENSIONAL DETAILS AVAILABLE FROM HART-ADVANCE.

PLASTIC COVERS

PART NUMBER	DIMENSIONS
65-85-1	1 25/64 X 1 45/64 X 2 5/8
67-85-2	1 25/64 X 2 7/64 X 2 5/8

POWER RELAYS



TYPE PC Compact and positive-acting relays for either AC or DC. Used in air conditioning and lighting systems, small motor starting, transformers, garage door openers—wherever dependable circuit switching is necessary. Contacts rated at 15 Amps resistive, 5 Amps inductive at 115VAC or 26.5 VDC.

Dimensions: H. 1⅝", W. 1⅝", L. 2⅝"—1 & 2 pole.
H. 1⅝", W. 2¾", L. 3⅛"—3 & 4 pole.

Mounting Data: 2 tapped holes 6-32 NC-2; 2" centers.

Weight: 8 oz.

TYPE	COIL RESISTANCE (OHMS)	CONTACTS— FORM	RATING (AMPS)	Resale
PC/1C/6VA	1.6	SPDT	15	4.55
PC/1C/12VA	4	SPDT	15	4.55
PC/1C/24VA	16	SPDT	15	4.55
PC/1C/115VA	450	SPDT	15	4.55
PC/1C/220VA	1600	SPDT	15	5.70
PC/1C/6VD	16	SPDT	15	4.55
PC/1C/12VD	63	SPDT	15	4.55
PC/1C/24VD	250	SPDT	15	4.55
PC/1C/110VD	4000	SPDT	15	5.15
PC/2C/6VA	1.6	DPDT	15	6.85
PC/2C/12VA	4	DPDT	15	6.85
PC/2C/24VA	16	DPDT	15	6.85

TYPE	COIL RESISTANCE (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
PC/2C/115VA	450	DPDT	15	6.85
PC/2C/220VA	1600	DPDT	15	8.00
PC/2C/6VD	16	DPDT	15	6.85
PC/2C/12VD	63	DPDT	15	6.85
PC/2C/24VD	250	DPDT	15	6.85
PC/2C/110VD	4000	DPDT	15	7.55
PC/3C/6VA	1.6	3PDT	15	9.75
PC/3C/24VA	16	3PDT	15	9.75
PC/3C/115VA	450	3PDT	15	9.75
PC/3C/220VA	1600	3PDT	15	11.05
PC/3C/6VD	16	3PDT	15	9.75
PC/3C/12VD	63	3PDT	15	9.75
PC/3C/24VD	250	3PDT	15	9.75
PC/3C/110VD	4000	3PDT	15	10.30
PC/4C/6VA	1.6	4PDT	15	12.60
PC/4C/24VA	16	4PDT	15	12.60
PC/4C/115VA	450	4PDT	15	12.60
PC/4C/220VA	1600	4PDT	15	14.35
PC/4C/6VD	16	4PDT	15	12.60
PC/4C/12VD	63	4PDT	15	12.60
PC/4C/24VD	250	4PDT	15	12.60
PC/4C/110VD	4000	4PDT	15	13.20

Note: PC/3C and PC/4C not available in 12 volts AC.

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HART/Advance RELAY DIVISION

LATCHING

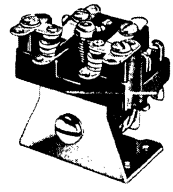
TYPE LE The LE Series relays are employed in industrial and power control applications where it is desirable to eliminate continuous use of current consumption by the duty coil.

The latching mechanism in these relays is positive, and assures consistent performance. The units are assembled on a heavy bakelite base.

Dimensions: H. 2⅜", W. 2½", L. 3⅜".

Mounting Data: 2 holes .152 dia.; clearance for 6-32 NC-2 screws; 2" centers.

Type	Coil Resistance	Contacts*	Resale
LE/2C/115VA	160 ohms	DPDT 15 amps	13.80
LE/2C/24VD	100 ohms	DPDT 15 amps	13.40



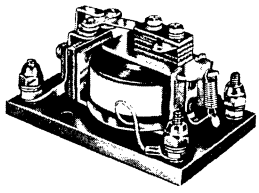
TYPE PG A continuous duty general purpose relay, available in AC or DC with DPDT (2C) and SPDT-DB (1Z) contact arrangements. Excellent for general industrial power control circuits and withstand vibration and shock because of special armature and frame design. 30 amp contact rating is achieved on the PG/1Z by including a jumper between blades, effecting a single pole design.

Dimensions: H. 1⅞", W. 1⅝", L. 1½".

Mounting Data: 4 tapped holes 6-32 NC-2; ½" x 1-5/16" centers.

Weight: 4.4 oz.

TYPE	COIL RESISTANCE (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
PG/2C/6VA	1.4	DPDT	15	8.65
PG/2C/24VA	25	DPDT	15	8.65
PG/2C/115VA	400	DPDT	15	8.65
PG/2C/220VA	1600	DPDT	15	9.15
PG/2C/6VD	16	DPDT	15	7.95
PG/2C/12VD	63	DPDT	15	7.95
PG/2C/24VD	250	DPDT	15	7.95
PG/1Z/6VD	16	SPDT	30	10.30
PG/1Z/115VA	400	SPDT	30	11.95



TYPE PV Very heavy-duty power-transfer relays—excellent for motor starting, lighting circuits and numerous applications where heavy double make contacts are needed. "T" blade is equipped with two ⅜" silver-cadmium oxide contacts, with ample contact gap. These contacts minimize pitting and burning under heavy non-inductive or inductive loads.

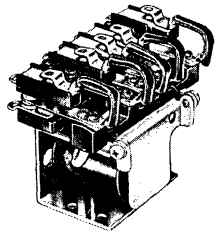
Dimensions: H. 1⅝", W. 2¼", L. 3¼".

Mounting Data: 2 holes .169 dia. clearance for 8-32 NC-2 screws, 1⅞" centers.

Weight: 6.8 oz.

TYPE	COIL RESISTANCE (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
PV/1X/6VD	16	SPST-NO	30	8.45
PV/1X/115VA	450	SPST-NO	30	8.85
PV/1Z/6VD	16	SPDT	30	9.85
PV/1Z/115VA	450	SPDT	30	10.00

TYPE 33B Designed and constructed with a variety of features which contribute to the sensitivity and longevity of this relay. Contacts and terminals are mounted on molded phenolic blocks with integral barriers. Moveable contact blades are made of spring temper phosphor bronze for high conductivity and long life. Adjusting screws on each blade permit close adjustment in the factory for contact gap, over-travel, and pressure. Armature pivots on machined phosphor bronze bearing pins and pivot holes are precision reamed. Adjustment of the armature and yoke assembly allows proper alignment between the armature and pole face. Four 6-32 N. C. tapped mounting holes in the base allow easy mounting on chassis or bracket.



AVAILABLE THRU 5 FORM C (AC OR DC)

Dimensions: H. 2¾", W. 2¾" (5 Pole), L. 2".

Mounting Data: 4 Tapped Holes 6-32NC-2, ½" x 1¾" centers.

Weight: 6 ounces max.

Contact Rating: Code 14—20 Amps Resistive at 115 VAC.

Stock Numbers are coded: 33BDC-24-5C-14.

A Type 33 relay for 24 volt DC operation with a 5C contact assembly using code number 14 contacts.

Type (DC)	Coil Res. (Ohms)	Operate Curr. (Amps)	Watts	Operate Time (Sec.)	Contact Arrange.	Resale
33BDC-6-3C-14	18	.185	.62	.019	3PDT	7.60
33BDC-6-5C-14	18	.225	.91	.025	5PDT	9.30
33BDC-24-3C-14	250	.064	1.02	.025	3PDT	7.60
33BDC-24-5C-14	250	.070	1.22	.029	5PDT	9.30
33BDC-230-3C-14	10,000	.010	1.0	.014	3PDT	9.90
33BDC-230-5C-14	10,000	.011	1.21	.016	5PDT	11.60

Type (AC)	Coil Res. (Ohm —DC)	Curr. Drain (Amps)	Pick-up Volt. 60 Cy.	Contact Arrange.	Resale
33BAC-6-3C-14	1	.720	4.5	3PDT	7.60
33BAC-6-5C-14	1	.720	4.5	5PDT	9.30
33BAC-24-3C-14	9	.390	21	3PDT	7.60
33BAC-24-5C-14	9	.390	21	5PDT	9.30
33BAC-115-3C-14	215	.070	100	3PDT	7.60
33BAC-115-5C-14	215	.070	100	5PDT	9.30

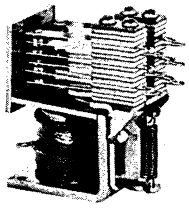
GENERAL PURPOSE RELAYS

TYPE 12 Low cost general purpose relay with multiple contacts. Used widely in commercial applications such as industrial controls, communications equipment, and automatic vending machines. On special order available in resistances up to 12,000 ohms. AC or DC, 230 volts, maximum. Coil dissipation, 3 watts maximum.

Dimensions: H. 2¾"; L. 1²³⁄₃₂"; W. 1".

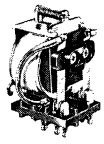
Mounting: 4 6-32 tapped holes on ¾" x ⅞" centers.

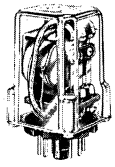
Standard Contacts: ¼" silver. Rated 10 amperes resistive at 115 VAC.



TYPE	COIL VOLTAGE (DC)	CONTACT ARRANGE.	RATING (AMPS)	Resale
12DC-6-2C-10	6	DPDT	10	2.45
12DC-12-2C-10	12	DPDT	10	2.55
12DC-24-2C-10	24	DPDT	10	2.65
12DC-115-2C-10	115	DPDT	10	2.95
12DC-6-3C-10	6	3PDT	10	2.80
12DC-12-3C-10	12	3PDT	10	2.90
12DC-24-3C-10	24	3PDT	10	2.95
12DC-115-3C-10	115	3PDT	10	3.30
12DC-6-4C-10	6	4PDT	10	3.15
12DC-12-4C-10	12	4PDT	10	3.20
12DC-24-4C-10	24	4PDT	10	3.25
12DC-115-4C-10	115	4PDT	10	3.75
12DC-6-6C-10	6	6PDT	10	3.75
12DC-12-6C-10	12	6PDT	10	3.80
12DC-24-6C-10	24	6PDT	10	3.85
12DC-115-6C-10	115	6PDT	10	4.20

TYPE	COIL VOLTAGE (AC)	CONTACT ARRANGE.	RATING (AMPS)	Resale
12AC-6-2C-10	6	DPDT	10	2.55
12AC-12-2C-10	12	DPDT	10	2.65
12AC-24-2C-10	24	DPDT	10	2.70
12AC-115-2C-10	115	DPDT	10	2.90
12AC-6-3C-10	6	3PDT	10	2.90
12AC-12-3C-10	12	3PDT	10	2.95
12AC-24-3C-10	24	3PDT	10	3.05
12AC-115-3C-10	115	3PDT	10	3.20
12AC-6-4C-10	6	4PDT	10	3.20
12AC-12-4C-10	12	4PDT	10	3.25
12AC-24-4C-10	24	4PDT	10	3.40
12AC-115-4C-10	115	4PDT	10	3.50
12AC-6-6C-10	6	6PDT	10	3.80
12AC-12-6C-10	12	6PDT	10	3.85
12AC-24-6C-10	24	6PDT	10	3.90
12AC-115-6C-10	115	6PDT	10	4.10



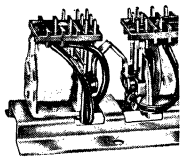


TYPES—GHA—GHP Low-cost continuous-duty general purpose relay. Contacts rated at 5 amps resistive load. Available as an open relay (GHA) or with a dustite plastic enclosure (GHP). Enclosed types with SPDT and DPDT contacts have 8 pin octal plug-in bases while the 3PDT types use 11 pin plug-in bases. Open relays supplied with axial type solder lugs. UL (Underwriters Laboratories) approval granted on types GHA1C and GHA2C.

Dimensions: Open Style—1 47/64" x 1 7/64" x 1 3/16"".
Enclosed Style—1 13/32" x 1 13/32" x 2 1/8".

TYPE	COIL RESISTANCE (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
GHA/1C/6VA	4	SPDT	5	3.20
GHA/1C/12VA	16	SPDT	5	3.20
GHA/1C/24VA	63	SPDT	5	3.20
GHA/1C/115VA	1600	SPDT	5	3.20
GHA/1C/220VA	5000	SPDT	5	3.75
GHA/1C/6VD	25	SPDT	5	3.20
GHA/1C/12VD	100	SPDT	5	3.20
GHA/1C/24VD	400	SPDT	5	3.20
GHA/1C/110VD	8000	SPDT	5	3.75
GHA/2C/6VA	4	DPDT	5	3.75
GHA/2C/12VA	16	DPDT	5	3.75
GHA/2C/24VA	63	DPDT	5	3.75
GHA/2C/115VA	1600	DPDT	5	3.75
GHA/2C/220VA	5000	DPDT	5	4.25
GHA/2C/6VD	25	DPDT	5	3.50
GHA/2C/12VD	100	DPDT	5	3.50
GHA/2C/24VD	400	DPDT	5	3.50
GHA/2C/110VD	8000	DPDT	5	4.05
GHA/3C/6VA	4	3PDT	5	4.25
GHA/3C/12VA	16	3PDT	5	4.25
GHA/3C/24VA	63	3PDT	5	4.25
GHA/3C/115VA	1600	3PDT	5	4.25

TYPE	COIL RESISTANCE (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
GHA/3C/220VA	5000	3PDT	5	4.80
GHA/3C/6VD	25	3PDT	5	4.05
GHA/3C/12VD	100	3PDT	5	4.05
GHA/3C/24VD	400	3PDT	5	4.05
GHA/3C/110VD	8000	3PDT	5	4.45
GHP/1C/6VA	4	SPDT	5	5.35
GHP/1C/12VA	16	SPDT	5	5.35
GHP/1C/24VA	63	SPDT	5	5.35
GHP/1C/115VA	1600	SPDT	5	5.35
GHP/1C/6VD	25	SPDT	5	5.40
GHP/1C/12VD	100	SPDT	5	5.40
GHP/1C/24VD	400	SPDT	5	5.40
GHP/1C/110VD	8000	SPDT	5	5.95
GHP/2C/6VA	4	DPDT	5	6.05
GHP/2C/12VA	16	DPDT	5	6.05
GHP/2C/24VA	63	DPDT	5	6.05
GHP/2C/115VA	1600	DPDT	5	6.05
GHP/2C/220VA	5000	DPDT	5	6.55
GHP/2C/6VD	25	DPDT	5	5.95
GHP/2C/12VD	100	DPDT	5	5.95
GHP/2C/24VD	400	DPDT	5	5.95
GHP/2C/110VD	8000	DPDT	5	6.45
GHP/3C/6VA	4	3DPT	5	7.40
GHP/3C/24VA	63	3PDT	5	7.40
GHP/3C/115VA	1600	3PDT	5	7.40
GHP/3C/220VA	5000	3PDT	5	7.95
GHP/3C/6VD	25	3PDT	5	7.30
GHP/3C/12VD	100	3PDT	5	7.30
GHP/3C/24VD	400	3PDT	5	7.30
GHP/3C/110VD	8000	3PDT	5	7.85

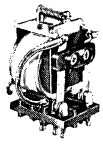


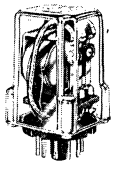
LATCHING

TYPE LGA Used in industrial and power control applications where it is desirable to eliminate continuous use of current consumption by the duty coil. Latching mechanism is positive and assures consistent performance. Both operate and reset coils are electrically operated.

Dimensions: 1 3/4" x 1 5/8" x 3 1/2".
Two 6-32 mounting holes on 1 3/8" centers.

TYPE	COIL RESISTANCE (BOTH COILS) (OHMS)	FORM	CONTACTS RATING (AMPS)	Resale
LGA/4C/24VA	40	4PDT	5	11.00
LGA/4C/115VA	1000	4PDT	5	11.00
LGA/4C/6VD	16	4PDT	5	9.85
LGA/4C/12VD	63	4PDT	5	9.85
LGA/4C/24VD	250	4PDT	5	9.85
LGA/4C/110VD	5000	4PDT	5	11.05
LGA/6C/24VA	40	6PDT	5	13.15
LGA/6C/115VA	1000	6PDT	5	13.15
LGA/6C/6VD	16	6PDT	5	11.95
LGA/6C/12VD	63	6PDT	5	11.95
LGA/6C/24VD	250	6PDT	5	11.95
LGA/6C/110VD	5000	6PDT	5	13.20



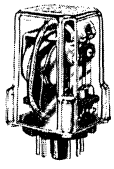


TYPES GHB—GHH Similar in size and mounting to the GHA and GHP types shown above with contacts rated at 10 amps resistive. GHB is open style with axial leads and GHH utilizes plastic enclosure and plug-in base. UL Listing granted on types GHB/1C and GHB/2C.

Dimensions: Open Style—1 47/64" x 1 7/64" x 1 3/16".
Enclosed Style—1 13/32" x 1 13/32" x 2 1/8".

TYPE	COIL RESISTANCE (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
GHB/1C/6VA	4	SPDT	10	3.70
GHB/1C/24VA	63	SPDT	10	3.70
GHB/1C/115VA	1600	SPDT	10	3.70
GHB/1C/6VD	25	SPDT	10	3.70
GHB/1C/12VD	100	SPDT	10	3.70
GHB/1C/24VD	400	SPDT	10	3.70
GHB/2C/6VA	4	DPDT	10	4.25
GHB/2C/24VA	63	DPDT	10	4.25
GHB/2C/115VA	1600	DPDT	10	4.25
GHB/2C/6VD	25	DPDT	10	4.00
GHB/2C/12VD	100	DPDT	10	4.00
GHB/2C/24VD	400	DPDT	10	4.00
GHB/3C/6VA	4	3PDT	10	4.85

TYPE	COIL RESISTANCE (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
GHB/3C/24VA	63	3PDT	10	4.85
GHB/3C/115VA	1600	3PDT	10	4.85
GHB/3C/6VD	25	3PDT	10	4.65
GHB/3C/12VD	100	3PDT	10	4.65
GHB/3C/24VD	400	3PDT	10	4.65
GHH/2C/6VA	4	DPDT	10	6.35
GHH/2C/24VA	63	DPDT	10	6.35
GHH/2C/115VA	1600	DPDT	10	6.35
GHH/2C/6VD	25	DPDT	10	6.10
GHH/2C/12VD	100	DPDT	10	6.10
GHH/2C/24VD	400	DPDT	10	6.10
GHH/3C/6VA	4	3PDT	10	7.60
GHH/3C/12VA	16	3PDT	10	7.60
GHH/3C/24VA	63	3PDT	10	7.60
GHH/3C/115VA	1600	3PDT	10	7.60
GHH/3C/6VD	25	3PDT	10	7.60
GHH/3C/12VD	100	3PDT	10	7.60
GHH/3C/24VD	400	3PDT	10	7.60



TYPE GHE A plate circuit current operated unit having extremely good sensitivity. Standard GHE enclosed in dustite plastic enclosure and mounts with either an 8 pin or 11 pin plug-in base. Nominal power of 130 milliwatts per 1C (single pole) is required.

Dimensions: 1 13/32" x 1 13/32" x 2 1/8".

TYPE	COIL RESISTANCE (OHMS)	COIL CURRENT	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
GHE/1C/2500D	2500	7.2 MA	SPDT	5	4.65
GHE/1C/5000D	5000	5.0 MA	SPDT	5	5.10
GHE/1C/10000D	10000	3.6 MA	SPDT	5	5.50
GHE/2C/2500D	2500	10.0 MA	DPDT	5	5.45
GHE/2C/5000D	5000	7.2 MA	DPDT	5	5.50
GHE/2C/10000D	10000	5.0 MA	DPDT	5	5.95
GHE/3C/2500D	2500	11.8 MA	3PDT	5	6.95
GHE/3C/5000D	5000	8.3 MA	3PDT	5	7.05
GHE/3C/10000D	10000	5.8 MA	3PDT	5	7.45

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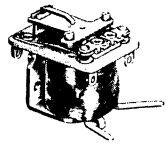
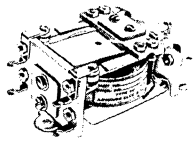


TYPE MK Ultra-small and feather-light, these direct current devices require less than ½ cubic inch mounting space. All switching is entirely above ground . . . insulated material is silicone glass. Beryllium copper armature hinges assure stable performance under vibration and shock.
Dimensions: H. 51/64", W. 41/64", L. 53/64".
Mounting Data: Relay supplied with single 2-56 NC-2 machine screw.
Weight: 11 grams.

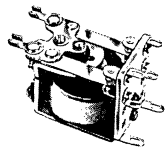
TYPE	COIL RESISTANCE	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
MK/1C/6VD	50	SPDT	1	4.95
MK/1C/12VD	200	SPDT	1	4.95
MK/1C/24VD	800	SPDT	1	4.95
MK/2C/6VD	30	DPDT	1	5.95
MK/2C/12VD	120	DPDT	1	5.95
MK/2C/24VD	500	DPDT	1	5.95
MK/2C/5000D	5000	DPDT	1	6.95

ANTENNA • COAXIAL RELAYS



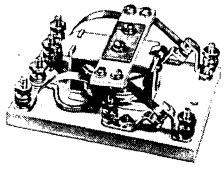
TYPE AH A changeover relay designed specifically for RF operation. The small size of this relay makes it ideal for use in compact sets where the load does not exceed ½ KW. Low-Loss handling of RF energy is assured by the Steatite insulation used throughout, and by adequate spacing between contacts. Units are fast and positive in action, and will operate in any position.
Dimensions: H. 1 7/16", W. 1 5/8", L. 2 3/4".
Mounting Data: 2 tapped holes; 6-32 NC-2; 2" centers.

TYPE	COIL RES. (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
AH/2C/6VD	16	DPDT	10	13.50
AH/2C/12VD	63	DPDT	10	13.50
AH/2C/24VD	250	DPDT	10	12.50
AH/2C/115VA	450	DPDT	10	14.95
AH/2C1C/115VA	450	DPDT & SPDT (aux)	10	16.40



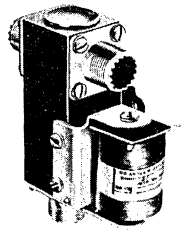
TYPE AM Space-saving "transmit-receive" antenna relays for many different low-power RF applications. They fill the need for 300-ohm circuit switching in mobile, marine, aircraft, television, communication and fixed-station service. Conically-shaped silver contacts assure low resistance paths for either "receive" or "transmit" positions.
Dimensions: H. 1-9/16", W. 15/16", L. 1-15/16".
Mounting Data: Relay supplied with single 6-32 NC-2 mounting stud with hex nut.
Weight: 2 oz.

TYPE	COIL RES. (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
AM/2C/6VA	4	DPDT	2	5.40
AM/2C/115VA	1600	DPDT	2	5.80
AM/2C/6VD	25	DPDT	2	4.85
AM/2C/12VD	100	DPDT	2	4.85
AM/2C/24VD	250	DPDT	2	4.85



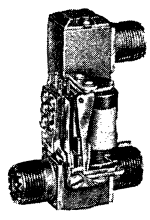
TYPE AT For heavy-duty RF transmitter antenna changeover applications. Primarily designed for fixed-station usage, with a conservative 1-kilowatt RF rating. Insulated with ceramic Steatite. Excellent wiping action of contacts assures flow of most minute currents for receiving positions. High efficiency. Available with auxiliary single-pole, normally open contacts.
Dimensions: H. 1-11/16", W. 2-13/16", L. 3-9/16".
Mounting Data: 4 holes .157 dia.; clearance for 6-32 screws.
Weight: 12.6 oz.

TYPE	COIL RES. (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
AT/2C/115VA	450	DPDT	10	15.20



TYPE CB Unsurpassed for meeting problems of coaxial cable switching. Designed for performance on 52-ohm coaxial lines. Low standing-wave ratios permit usage on frequencies up to 300 megacycles. Units operate equally well in any position. The CB/1000 is a kit for converting CB/1C to CB/1C2C contact arrangement. All types CB, with exception of CB/1C2C/115VA(N), supplied with SO-239 connectors. CB/1C2C/115VA(N) supplied with "N" connectors.
Dimensions: H. 1 7/8", W. 3 1/16", L. 3 7/8".
Mounting Data: 2 tapped holes 6-32 NC-2; 1 7/16" centers.
Weight: 11.1 oz.

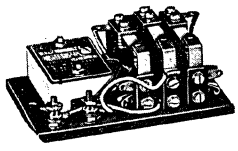
TYPE	COIL RESISTANCE (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
CB/1C/6VD	18	SPDT	5	23.00
CB/1C/12VD	70	SPDT	5	23.00
CB/1C/24VD	280	SPDT	5	23.00
CB/1C/115VA	280	SPDT	5	24.15
CB/1C2C/6VD	18	SPDT (int) DPDT (aux)	5	27.15
CB/1C2C/12VD	70	SPDT (int) DPDT (aux)	5	27.15
CB/1C2C/24VD	280	SPDT (int) DPDT (aux)	5	27.15
CB/1C2C/115VA	280	SPDT (int) DPDT (aux)	5	28.25
CB1000		DPDT	5	5.75
CB/1C2C/115VA (N)	280	SPDT (int) DPDT (aux)	5	28.75



TYPE CE Designed for coaxial line switching where space is a problem. The standing wave ratio is extremely low for efficient transfer of RF energy. These relays are ideally suited for use in mobile, aircraft, marine, experimental, and fixed-station communications equipment. The CE relay is designed for performance on 52 ohm coaxial lines but may also be used on lines of other impedances. This unit is rated for continuous duty operation in any position. The 3/16" dia. silver internal contacts are rated at 2 amps resistive and external contacts of 2 form C max. are available with 2 amp rating for auxiliary circuit switching.
Dimensions: H. 1 13/16", W. 2 1/16", L. 3" (Including connectors).
Mounting Data: 2 Tapped Holes 6-32NC-2, ¾" centers.
Weight: 4 ounces max.

	Coil Res. (Ohms)	Form	CONTACTS Rating (Amps)	Resale
CE/1C/6VD	20	SPDT	2	24.95
CE/1C/12VD	80	SPDT	2	24.95
CE/1C/24VD	300	SPDT	2	24.95
CE/1C/115VA	750	SPDT	2	28.25
CE/1C2C/6VD	20	SPDT (Int) DPDT (Aux)	2	26.55
CE/1C2C/12VD	80	SPDT (Int) DPDT (Aux)	2	26.55
CE/1C2C/24VD	300	SPDT (Int) DPDT (Aux)	2	26.55
CE/1C2C/115VA	750	SPDT (Int) DPDT (Aux)	2	27.95

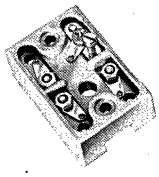
TIME DELAY • SENSITIVE • HIGH VOLTAGE RELAYS



TYPES DB & DM With their adjustable time-delay range, these relays excellent for use in preheating tube-filaments; for specialized lighting circuits, photographic controls, protection applications, etc. DB provides time-delay before break. DM provides delay before make. Both series utilize bi-metal thermal units which can be adjusted for delays from 5 to 60 seconds. Cooling of the thermal units for proper re-cycling requires 8 to 10 times the delay period.
Dimensions: H. 1⅝", W. 2⅝", L. 3¾".
Mounting Data: 2 holes .152 dia.; 3 5/16" centers.
Weight: 7.8 oz.

TYPE	COIL RES. (OHMS)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
DB/2C/115VA	450	DPDT	15	15.65
DM/2C/115VA	450	DPDT	15	16.50

HART/Advance RELAY DIVISION



TIME DELAY

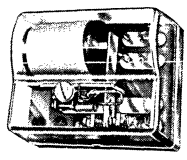
TYPE DT Efficient, low-cost units used in conjunction with various relays for delayed making or breaking of controlled circuits. Applicable wherever a time delay of 5 to 60 seconds is needed. Units are adjustable with a range of 8 to 20 cycles per minute. Operating on the bi-metal thermal principle, these types are housed in unglazed porcelain, and are obtainable with either normally-open or normally-closed contacts.

Dimensions: H. 1 3/16"; W. 1 17/64", L. 1 57/64".

Mounting Data: 2 holes .154 dia. for 6-32 NC-2 screws; 1 3/8" centers.

Weight: 1.4 oz.

TYPE	COIL VOLT	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
DT/1A/115VA	115VAC	SPST	2	3.15
DT/1B/115VA	115VAC	SPST-NC	2	3.15



SENSITIVE

TYPE SV For use in any DC circuit restricted to a few thousandths of a watt power consumption.

Transparent, molded plastic cover guards against dust or dirt reaching the contacts or other working parts.

Adjustments are quickly made with the vernier screws which vary relay sensitivity from the 5-milliwatt factory setting. Both the two stationary contacts and the spring tension can be accurately and permanently set—yet easily changed.

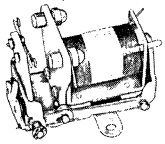
Dimensions: H. 1½", W. 2", L. 2 1/16".

Mounting Data: 2 holes .52 dia.

Weight: 6.5 oz.

Sensitivity: 5 Milliwatts.

TYPE	COIL RESISTANCE (OHMS)	COIL CURRENT (MA)	CONTACTS FORM	CONTACTS RATING (AMPS)	Resale
SV/1C/.005D	.005	1000	SPDT	1	9.15
SV/1C/1000D	1000	2.25	SPDT	1	9.60
SV/1C/1600D	1600	1.80	SPDT	1	9.60
SV/1C/2200D	2200	1.50	SPDT	1	9.60
SV/1C/3500D	3500	1.20	SPDT	1	9.70
SV/1C/5500D	5500	0.95	SPDT	1	10.10
SV/1C/8700D	8700	0.75	SPDT	1	11.30
SV/1C/10000D	10000	0.70	SPDT	1	11.30
SV/1C/14000D	14000	0.60	SPDT	1	11.60
SV/1C/20000D	20000	0.50	SPDT	1	12.75
SV/1C/30000D	30000	0.40	SPDT	1	13.62
SV/1C/40000D	40000	0.35	SPDT	1	15.30



HIGH VOLTAGE

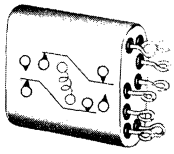
TYPE HV Applicable where "standard" design high voltage units occupy too much space. Contact assembly mounted on Steatite to insure high insulation and low energy loss. Will break up to 5000 volts RMS at 200 milliamperes current. Available in SPDT (double break-double make DM-DB) contact arrangement.

Dimensions: 1 29/32" x 2 7/32" x 3 1/16".

Mounting data: 2 holes 3/16" diameter on 1¾" centers.

TYPE	COIL RESISTANCE	CONTACTS	Resale
HV/1Z/24VD	120 Ohms	SPDT DB-DM	20.30
HV/1Z/110VD	3000 Ohms	SPDT DB-DM	21.00

MICRO-MINIATURE RELAYS

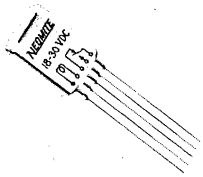


CRYSTAL CAN

TYPE MV Hermetically sealed rotary action DPDT (2 Form C) DC relay for severe military and industrial applications. All units are designed to meet requirements of MIL-R-5757 D. Occupies ¼ cubic inch. Contains new spring leaf contact blades which insure longer life with rapid heat dissipation. This Series, is available from stock with wide variety of terminal and mounting arrangements.

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Resale
MV/2C/30D-13	Sol. Head. w/Side Brkt. (2 Hole)	30	6	$13.50
MV/2C/30D-15	Sol. Head. w/Side Brkt. (4 Hole)	30	6	13.50
MV/2C/30D-24	Plug In—Plain Can	30	6	13.50
MV/2C/30D-34	3" Leads—Plain Can	30	6	13.80
MV/2C/120D-11	Solder Header w/2 Side Studs	120	12	13.50
MV/2C/120D-12	Solder Header w/2 Top Studs	120	12	13.50
MV/2C/120D-13	Sol. Head. w/Side Brkt. (2 Hole)	120	12	13.50
MV/2C/120D-16	Solder Header w/2 Mtg. Brkts.	120	12	13.50
MV/2C/120D-24	Plug In—Plain Can	120	12	13.50
MV/2C/120D-26	Plug In w/2 Mtg. Brackets	120	12	13.50
MV/2C/120D-31	3" Leads w/2 Side Studs	120	12	13.80
MV/2C/120D-33	3" Leads w/Side Brkt (2 Hole)	120	12	13.80
MV/2C/120D-34	3" Leads—Plain Can	120	12	13.80
MV/2C/600D-11	Solder Header w/2 Side Studs	600	26	13.50
MV/2C/600D-12	Solder Header w/2 Top Studs	600	26	13.50
MV/2C/600D-13	Sol. Head. w/Side Brkt. (2 Hole)	600	26	13.50
MV/2C/600D-14	Solder Header—Plain Can	600	26	13.50
MV/2C/600D-15	Sol. Head. w/Side Brkt. (4 Hole)	600	26	13.50

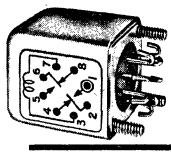
Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Resale
MV/2C/600D-16	Solder Header w/2 Mtg. Brkts.	600	26	13.50
MV/2C/600D-17	Solder Header w/Flange Bracket	600	26	13.50
MV/2C/600D-21	Plug In w/2 Side Studs	600	26	13.50
MV/2C/600D-22	Plug In w/2 Top Studs	600	26	13.50
MV/2C/600D-24	Plug In—Plain Can	600	26	13.50
MV/2C/600D-31	3" Leads w/2 Side Studs	600	26	13.80
MV/2C/600D-33	3" Leads w/Side Bracket (2 Hole)	600	26	13.80
MV/2C/600D-34	3" Leads—Plain Can	600	26	13.80
MV/2C/1000D-11	Solder Header w/2 Side Studs	1000	35	13.50
MV/2C/1000D-12	Solder Header w/2 Top Studs	1000	35	13.50
MV/2C/1000D-13	Solder Header w/Side Brkt. (2 Hole)	1000	35	13.50
MV/2C/1000D-15	Solder Header w/Side Brkt. (4 Hole)	1000	35	13.50
MV/2C/1000D-17	Solder Header w/Flange Bracket	1000	35	13.50
MV/2C/1000D-24	Plug In—Plain Can	1000	35	13.50
MV/2C/2500D-12	Solder Header w/2 Top Studs	2500	55	13.60
MV/2C/2500D-13	Solder Header w/Side Brkt. (2 Hole)	2500	55	13.60
MV/2C/2500D-24	Plug In—Plain Can	2500	55	13.60
MV/2C/5000D-16	Solder Header w/2 Mtg. Brkts.	5000	78	13.95
MV/2C/5000D-21	Plug In w/2 Side Studs	5000	78	13.95
MV/2C/5000D-24	Plug In—Plain Can	5000	78	13.95
MVT/2C/-10,000D-13	Solder Header w/Side Brkt. (2 Hole)	10,000	110	18.50
MV7033	Conforms to RY4NA3B3L02 of MIL-R-5757D	600	26.5	13.50



NEOMITE

TYPE NM Hermetically sealed SPDT (form C) DC relay for missiles, aircraft, control equipment and printed circuits. Occupying only 0.04 of a cubic inch, it is ideal where space is at a minimum and long life is important. Contact resistance is extraordinarily low, making it invaluable in dry circuit switching. Available from stock with a screw down mounting bracket or a bend-over-tab mounting bracket for printed circuit board use.

TYPE	RESISTANCE (OHMS)	PULL-IN CURRENT MAX. (MA)	COIL NOMINAL VOLTAGE (VDC)	Resale
NM/1C/50	50	44	4	24.15
NM/1C/200	200	22	8	24.15
NM/1C/500	500	14	12	24.15
NM/1C/1K	1000	10	16	24.15
NM/1C/2K	2000	7	24	24.15
6B 346000 Two hole Bracket				.50
6B 347000 Tab Bracket				.50



TYPE VGS Miniature sealed rotary action DPDT (2 form C) relay for missile and aircraft use. A more sensitive version of its forerunner, the VG. VGS occupies less than a cubic inch of space and withstands 15 G's to 2000 cycles vibration, utilizing only 125 milliwatts of power at 25 degrees C. Contacts rated at 5 amps resistive at 115 VAC or 26.5 VDC. Contact material is silver magnesium nickel alloy, gold flashed.

TYPE	COIL RESISTANCE (OHMS)	Resale
VGS/2C/2000D	2000	25.90

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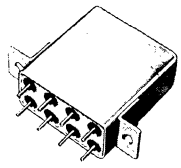
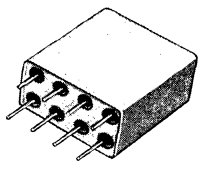


HIGH SHOCK AND VIBRATION CRYSTAL CAN

TYPE VR A 0.2 inch grid-spaced hermetically sealed relay, designed to meet the requirements of Military Specification MIL-R-5757D. Will withstand 35 G's vibration and 100 G's shock. The standard catalog item has a pull-in power of 250 milli-watts at 25 degrees C, and a nominal operating power of 1.25 watts. The double-pole double-throw contacts are of silver magnesium nickel, gold plated and have a rating of 3 amperes resistive at 28 volts DC or 115 volts AC.

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Resale
VR/2C/35D-10	Solder Header w/2 Mtg. Brkts.	35	6.3	$14.95
VR/2C/35D-24	Plug In—Plain Can	35	6.3	14.95
VR/2C/125D-10	Solder Header w/2 Mtg. Brkts.	125	12.5	14.95
VR/2C/125D-12	Solder Header w/2 Top Studs	125	12.5	14.95
VR/2C/125D-13	Solder Header w/Side Bracket	125	12.5	14.95
VR/2C/125D-14	Solder Header—Plain Can	125	12.5	14.95
VR/2C/125D-24	Plug In—Plain Can	125	12.5	14.95
VR/2C/125D-31	3" Leads w/Side Studs	125	12.5	15.30
VR/2C/125D-34	3" Leads—Plain Can	125	12.5	15.30
VR/2C/675D-10	Solder Header w/2 Mtg. Brkts.	675	26.5	14.95
VR/2C/675D-11	Solder Header Side Studs	675	26.5	14.95
VR/2C/675D-12	Solder Header w/2 Top Studs	675	26.5	14.95
VR/2C/675D-13	Solder Header w/Side Bracket	675	26.5	14.95
VR/2C/675D-14	Solder Header—Plain Can	675	26.5	14.95
VR/2C/675D-20	Plug In w/2 Mtg. Brackets	675	26.5	14.95
VR/2C/675D-24	Plug In—Plain Can	675	26.5	14.95
VR/2C/675D-33	3" Leads w/Side Bracket	675	26.5	15.30
VR/2C/675D-34	3" Leads—Plain Can	675	26.5	15.30
VR/2C/1500D-24	Plug In—Plain Can	1500	48.0	14.95
VR/2C/2450D-14	Solder Header—Plain Can	2450	60.0	15.05
VR/2C/2450D-24	Plug In—Plain Can	2450	60.0	15.05
VR/2C/9100D-24	Plug In—Plain Can	9100	110.0	16.10
VR/2C/9100D-31	3" Leads w/Side Studs	9100	110.0	16.45

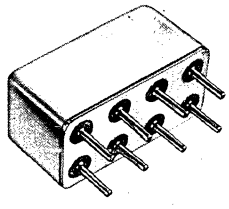


CRYSTAL CAN MEETS MIL-R-5757/10

TYPE 30 Phillips micro-miniature Type 30 provides rugged, dependable performance from a compact, hermetically sealed relay. It is ideal for applications involving computer systems, missile or aircraft control circuits, communications equipment and general electronic circuitry.

Quality controlled production and precision components assembled and tested under dust-free, super clean manufacturing conditions assures you that the Phillips micro-miniature Type 30 will uphold the high quality standards of your products. Conforms to MIL-5757 D. Meets the following low level requirements: 30 microvolts open circuit voltage; 10 microamperes contact current.

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Resale
30-01D	Solder Header w/2 Mtg. Brkts.	200	12.6	$7.25
30-01G	Solder Header w/2 Mtg. Brkts.	700	26.5	7.25
30-01M	Solder Header w/2 Mtg. Brkts.	9100	110.0	8.25
30-02D	Solder Header w/Side Bracket	200	12.6	7.25
30-02G	Solder Header w/Side Bracket	700	26.5	7.25
30-02M	Solder Header w/Side Bracket	9100	110.0	8.25
30-04D	Solder Header w/2 Side Studs	200	12.6	7.25
30-04G	Solder Header w/2 Side Studs	700	26.5	7.25
30-04M	Solder Header w/2 Side Studs	9100	110.0	8.25
30-05D	Solder Header w/2 Top Studs	200	12.6	7.25
30-05G	Solder Header w/2 Top Studs	700	26.5	7.25
30-05M	Solder Header w/2 Top Studs	9100	110.0	8.25
30-07D	Plug In—Plain Can	200	12.6	7.25
30-07G	Plug In—Plain Can	700	26.5	7.25
30-07M	Plug In—Plain Can	9100	110.0	8.25

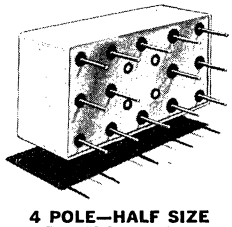


HALF SIZE MEETS MIL-R-5757/9

TYPE 62 A unique half-size microminiature relay having these eleven specific advantages: (1) diagonally mounted coil allows larger coil for greater sensitivity; (2) uniquely designed armature assures maximum sensitivity and magnetic uniformity; (3) massive pole pieces provide higher heat dissipation; (4) contacts of gold-flashed silver magnesium nickel for high temperature stability and low level performance; (5) single coil design provides greater reliability; (6) single stamping forms integral return spring and back stop. Fewer parts, greater dependability; (7) Welded, spade-type coil terminations; (8) greater rigidity thru unitized, welded construction; (9) designed for optimum magnetic characteristics; (10) balanced armature provides higher resistance to vibration and shock; (11) sensitivity level below 200 milliwatts.

Dimensions: H. 0.400"; L. 0.390"; W. 0.800".

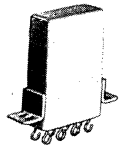
Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Resale
62-01D	Solder Header w/Mtg. Brackets	145	12.0	$14.25
62-01G	Solder Header w/Mtg. Brackets	700	26.5	14.25
62-02D	Solder Header w/Mtg. Brackets	145	12.0	14.25
62-02G	Solder Header w/Mtg. Bracket	700	26.5	14.25
62-07D	Plug In—Plain Can	145	12.0	14.25
62-07G	Plug In—Plain Can	700	26.5	14.25



4 POLE—HALF SIZE MEETS MIL-R-5757/12

TYPE 64 The Type 64 embodies engineering advances truly unique among today's four-pole, double throw relays—twice the versatility of conventional 2PDT's, half the size of conventional 4PDT's, with no sacrifice in performance. Designed specifically to meet aero-space needs, the Type 64 features all-welded construction and "Thermo-Dri" nitrogen backfilling to assure contamination-free operation. Symmetrical circuitry simplifies wiring. Available in various coil resistances and all popular header styles. Meets MIL-R-5757/12A.

Type	Mounting	Coil Res. (Ohms)	Nominal Volts	Resale
64-01E	Solder Header w/Mtg. Brackets	120	12.6	$26.95
64-01H	Solder Header w/Mtg. Brackets	500	26.5	26.95
64-01Q	Solder Header w/Mtg. Brackets	11300	110.0	26.95
64-07E	Plug In—Plain Can	120	12.6	26.95
64-07H	Plug In—Plain Can	500	26.5	26.95
64-07Q	Plug In—Plain Can	11300	110.0	26.95



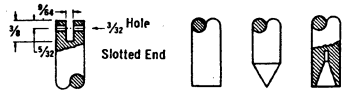
SENSITIVE MEETS MIL-R-5757/13

TYPE 80 A 40 milliwatt micro-miniature relay using latest manufacturing techniques, including back-filling with "Thermo-Dry" nitrogen and precise adjustments to obtain an operate time of less than 10 milliseconds. This unit meets all requirements of military specifications, MIL-R-5757/13A. Vibration, 20 G's through 2000 CPS. Shock, 65 G's for 11 milliseconds. Operating temperature range, —65 C to +125 C.

Type	Mounting	Coil Res. (Ohms)	Operating Current (Amps)	Resale
80-01A	Solder Header w/2 Mount. Brackets	20	.0450	$13.00
80-01M	Solder Header w/2 Mount. Brackets	1000	.0064	13.00
80-01P	Solder Header w/2 Mount. Brackets	2000	.0045	13.00
80-01Q	Solder Header w/2 Mount. Brackets	2500	.0040	13.00
80-01R	Solder Header w/2 Mount. Brackets	4000	.0035	13.00
80-01S	Solder Header w/2 Mount. Brackets	5000	.0030	13.00
80-01T	Solder Header w/2 Mount. Brackets	8000	.0025	13.00
80-01U	Solder Header w/2 Mount. Brackets	10,000	.0020	13.00
80-07A	Plug In—Plain Can	20	.0450	13.00
80-07M	Plug In—Plain Can	1000	.0064	13.00
80-07P	Plug In—Plain Can	2000	.0045	13.00
80-07Q	Plug In—Plain Can	2500	.0040	13.00
80-07R	Plug In—Plain Can	4000	.0035	13.00
80-07S	Plug In—Plain Can	5000	.0030	13.00
80-07T	Plug In—Plain Can	8000	.0025	13.00
80-07U	Plug In—Plain Can	10,000	.0020	13.00
80-09A	3" Leads—Side Strap	20	.0450	13.30
80-09M	3" Leads—Side Strap	1000	.0064	13.30
80-09P	3" Leads—Side Strap	2000	.0045	13.30
80-09Q	3" Leads—Side Strap	2500	.0040	13.30
80-09R	3" Leads—Side Strap	4000	.0035	13.30
80-09S	3" Leads—Side Strap	5000	.0030	13.30
80-09T	3" Leads—Side Strap	8000	.0025	13.30
80-09U	3" Leads—Side Strap	10,000	.0020	13.30

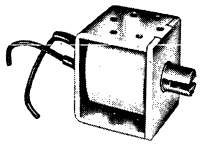
SOLENOIDS

STANDARD PLUNGER STYLES AVAILABLE



TYPES 38, 39, 40, 41, 42, 51 Solid frame solenoids using high-grade steel in all parts of the magnetic circuit. Carefully controlled annealing, after all machining operations are completed, assures maximum efficiency. The frame is dovetailed and staked to the end plate, adding mechanical strength and increasing the performance of the magnetic circuit. Plungers and plunger stops, which are made of annealed and specially processed steel, are available in three standard types for specific operating requirements. Type 51 is a laminated frame solenoid and has been designed and engineered to meet all of the requirements of the highest quality A. C. solenoid. Special production techniques and rigid quality control combine to provide a highly efficient unit. The frame is composed of silicon steel laminations securely riveted to a steel frame. Pole faces are precision ground and equipped with copper shading rings. Silicon steel laminations are also used for the plunger.

Type	41	42	38	39	40	51
size	1 x 1 7/32 x 1 1/4	1 x 1 7/32 x 2	1 9/16 x 1 27/32 1 5/8	1 9/16 x 1 27/32 x 2 1/8	1 9/16 x 1 27/32 x 2 5/8	2 1/16 x 1 13/16 x 3 1/2
weight (oz.)	6	8	12	16	20	16
coil watts max. at 25°C.	3	6	10	12	15	60 VA
std. plunger	AC AX / DC AX	AC AX / DC AU	AC AX / DC AY	AC AX / DC AY	AC AX / DC AY	
max. stroke inches	3/8"	1/2"	1/2"	5/8"	7/8"	1"
plunger dia.	7/16"	7/16"	1/2"	1/2"	1/2"	



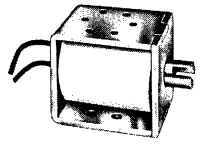
TYPE 38

DC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
38C06DC-AY	6	6	4.50	—	—	—	—
38C12DC-AY	12	21	4.50	382512DC-AY	12	6	4.50
38C24DC-AY	24	66	4.50	382524DC-AY	24	21	4.50
38C48DC-AY	48	300	4.50	382548DC-AY	48	66	4.50
38C115DC-AY	115	1500	4.50	3825115DC-AY	115	400	4.50

AC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
38C0660-AX	6	0.75	4.50	—	—	—	—
38C1260-AX	12	2.5	4.50	38251260-AX	12	0.75	4.50
38C2460-AX	24	10	4.50	38252460-AX	24	2.5	4.50
38C11560-AX	115	135	4.50	382511560-AX	115	50	4.50
38C23060-AX	230	470	4.50	382523060-AX	230	135	4.50



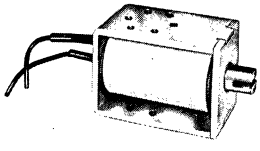
TYPE 39

DC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
39C06DC-AY	6	4	5.10	—	—	—	—
39C12DC-AY	12	10	5.10	392512DC-AY	12	4	5.10
39C24DC-AY	24	60	5.10	392524DC-AY	24	10	5.10
39C48DC-AY	48	250	5.10	392548DC-AY	48	60	5.10
39C115DC-AY	115	1600	5.10	3925115DC-AY	115	300	5.10

AC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
39C0660-AX	6	.4	5.10	—	—	—	—
39C1260-AX	12	1.5	5.10	39251260-AX	12	.4	5.10
39C2460-AX	24	7	5.10	39252460-AX	24	1.5	5.10
39C11560-AX	115	105	5.10	392511560-AX	115	30	5.10
39C23060-AX	230	400	5.10	392523060-AX	230	105	5.10



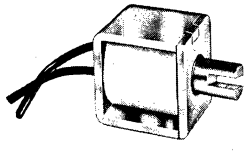
TYPE 40

DC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
40C06DC-AY	6	3.6	6.00	—	—	—	—
40C12DC-AY	12	12	6.00	402512DC-AY	12	3.6	6.00
40C24DC-AY	24	47.5	6.00	402524DC-AY	24	12	6.00
40C48DC-AY	48	225	6.00	402548DC-AY	48	47.5	6.00
40C115DC-AY	115	1570	6.00	4025115DC-AY	115	417	6.00

AC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
40C0660-AX	6	0.8	6.00	—	—	—	—
40C1260-AX	12	1.5	6.00	40251260-AX	12	0.8	6.00
40C2460-AX	24	8.8	6.00	40252460-AX	24	1.5	6.00
40C11560-AX	115	84	6.00	402511560-AX	115	25	6.00
40C23060-AX	230	417	6.00	402523060-AX	230	84	6.00



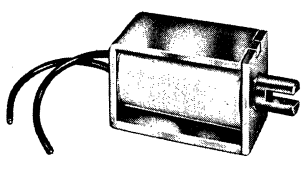
TYPE 41

DC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
41C06DC-AU	6	12	4.10	—	—	—	—
41C12DC-AU	12	60	4.10	412512DC-AU	12	12	4.10
41C24DC-AU	24	200	4.10	412524DC-AU	24	60	4.10
41C48DC-AU	48	830	4.10	412548DC-AU	48	200	4.10
41C115DC-AU	115	4500	4.10	4125115DC-AU	115	1400	4.10

AC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
41C0660-AX	6	1	4.10	—	—	—	—
41C1260-AX	12	10	4.10	41251260-AX	12	1	4.10
41C2460-AX	24	45	4.10	41252460-AX	24	10	4.10
41C11560-AX	115	740	4.10	412511560-AX	115	230	4.10
41C23060-AX	230	2700	4.10	412523060-AX	230	740	4.10



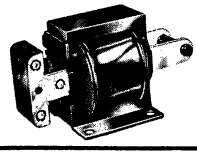
TYPE 42

DC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
42C06DC-AU	6	8	4.50	—	—	—	—
42C12DC-AU	12	30	4.50	422512DC-AU	12	8	4.50
42C24DC-AU	24	115	4.50	422524DC-AU	24	30	4.50
42C48DC-AU	48	420	4.50	422548DC-AU	48	115	4.50
42C115DC-AU	115	2300	4.50	4225115DC-AU	115	675	4.50

AC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
42C0660-AX	6	1	4.50	—	—	—	—
42C1260-AX	12	3.5	4.50	42251260-AX	12	1	4.50
42C2460-AX	24	30	4.50	42252460-AX	24	3.5	4.50
42C11560-AX	115	370	4.50	422511560-AX	115	125	4.50
42C23060-AX	230	1100	4.50	422523060-AX	230	370	4.50



TYPE 51 AC SOLENOIDS

CONTINUOUS DUTY Type	Volt.	Coil Res.	Resale	25% INTERMITTENT DUTY * Type	Volt.	Coil Res.	Resale
51C11560	115	30	7.20	512511560	115	15	7.20
51C23060	230	150	7.20	512523060	230	65	7.20
51C46060	460	650	7.20	512546060	460	285	7.20

*DUTY BASED ON 4 MINUTE CYCLE

GENERAL DESCRIPTION The series W is a double-pole, double-throw relay, available with socket for plug-in application or for use without socket with standard quick-connect terminals for simplicity and ease in wiring. Rated to 1 and 2 HP motor loads, it offers high quality, dependable performance and long life.

These relays are ideal for use in appliances, automation equipment, motor starting, heater circuits, clock controlled systems, laundry equipment, vending machines, machine tools, furnace controls, panel boards and air conditioners.

Type	Coil Voltage	Contacts Form	Rating (Amps)	Resale
WU012D3	12VOLTS D.C.	DPDT	25	8.00
WU024D2	24VOLTS D.C.	DPDT	25	8.00
WU024D3	24VOLTS D.C.	DPDT	25	8.00
WU0115A2	115VOLTS A.C.	DPDT	25	8.00
WU0115A3	115VOLTS A.C.	DPDT	25	8.00
WUP220A3	220VOLTS A.C.	DPDT	25	8.30
WHU115A4	115VOLTS A.C.	NOTE 1	25	8.95

NOTE 1 SERIES WHU RELAYS ARE PROVIDED WITH A HOLDING CIRCUIT CONTACT.

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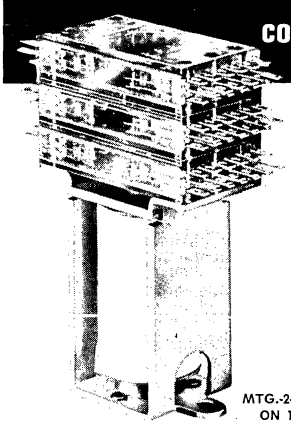
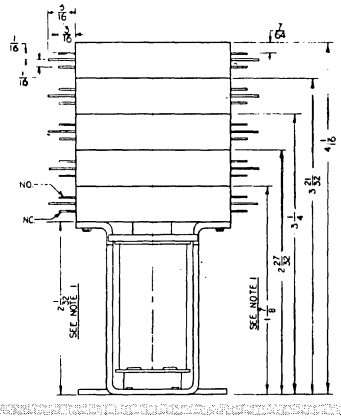
electronic controls, inc.

T-BAR® Switch/Relays



MTG.-2-#6-32 NF HOLES ON 1.375 CENTERS

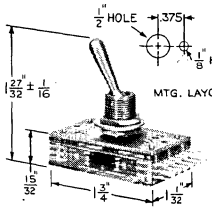
T-BARS are for switching more circuits in less space ...up to 60 circuits simultaneously!



SERIES 801 T-BAR RELAY COIL CHARACTERISTICS*

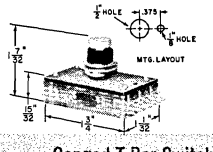
	12 POLES 1 WAFER RELAY Wt: 4.5 oz.			24 POLES 2 WAFER RELAYS Wt: 6.75 oz.			36 POLES 3 WAFER RELAYS Wt: 7.25 oz.			48 POLES*** 4 WAFER RELAYS Wt: 8.5 oz.			60 POLES 5 WAFER RELAYS Wt: 9 oz.		
Voltage	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts	Resistance Ohms	Current Amps	Power Watts
6 VDC	11.9	0.504	3.01	11.09	0.541	3.24	7	0.857	5.06	5.5	1.09	6.54	5.5	1.09	6.54
12 VDC	49.1	0.244	2.96	45	0.267	3.19	28	0.429	5.16	22	.545	6.54	22	.545	6.54
24 VDC	193	0.124	2.98	174	0.138	3.32	111	0.216	5.15	94	.255	6.12	94	.255	6.12
28 VDC	258	0.109	3.03	227	0.123	3.44	150	0.187	5.23	120	.233	6.52	120	.233	6.52
48 VDC	778	0.062	2.98	674	0.071	3.41	438	0.110	5.26	350	.137	6.58	350	.137	6.58
110 VDC	3963	0.028	3.05	3450	0.032	3.54	2355	0.047	5.18	1930	.057	6.27	1930	.057	6.27
115 VAC**	3963	0.024	2.80	3450	0.027	3.10	2355	0.041	4.72	1930	.049	5.62	1930	.049	6.27

*All characteristics are nominal and subject to normal manufacturing tolerances, other voltages available on special order.
**115 VAC units are made with a full wave bridge rectifier and use the same coils as listed under 110 VDC units.
***Four-wafer relays with all "A" form contacts use three-wafer relay coils.
NOTE 1: ONE WAFER RELAYS USE A SHORTER ACTUATOR ASS'Y. — INSTEAD OF 2-1/32 AS SHOWN. THE ACTUATOR IS 1-15/32 HIGH.



SERIES 802
Bat Handle T-Bar Switches

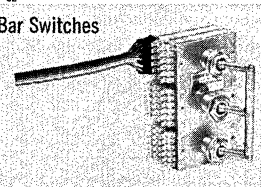
SERIES 803
Push Button Switch



Series 802 & 803

No. of Poles	Weights Oz. Approx.
12	2.0
24	2.5
36	3.0

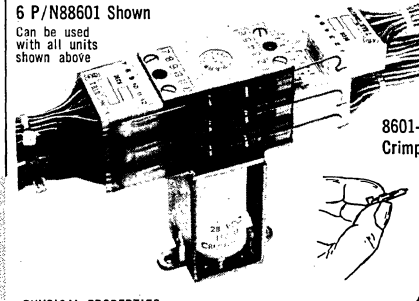
Ganged T-Bar Switches



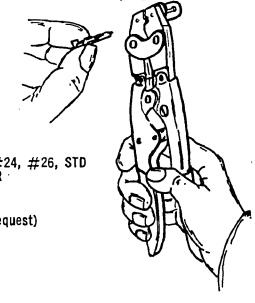
Toggles may be ganged for controlling additional circuits . . . 48, 72, 108, etc. Shown here, 108 poles.

T-BAR Connectors save time and reduce installation costs using individual snap-in crimp terminals crimped to pre-stripped wire and then snapped into a contact block, which forms the connector. The connector is pushed onto the wafer terminals, eliminating soldering. Because we offer a connector, rather than a receptacle, harness work can be completed outside the chassis and therefore no fancy chassis work is required to accept a receptacle. It not only makes the metal work simpler, but it also saves layout engineering and drafting time. Since T-Bar Switch/Relays are so easily mounted, they are often found on the back of meter panels or on their own brackets.

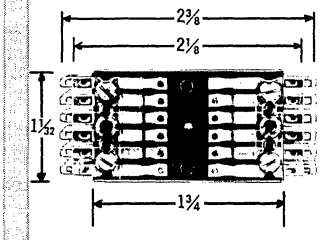
6 P/N88601 Shown
Can be used with all units shown above



8601-51 Crimping Tool



PHYSICAL PROPERTIES:
Wire Accommodated: (1) #18, #20, #22, #24, #26, STD (2) #22, #24, #26 STR
Connector Material: Nylon Zytel or Lexan®
Snap-in Contact Material: Phosphor Bronze
Snap-in Contact Finish: Tin Plated (other on request)
Retaining Clip Material: Stainless Steel
Connector Weight: Approximately 0.3 oz.



GENERAL FEATURES:

The series 801 T-Bar Relays are solenoid actuated multi-pole relays with a unique design permitting stack-up of enclosed contact "wafers." Each wafer has a maximum of 12 pole double throw contacts thereby allowing ECI to supply the 801 relay with any combination from 4 to 60 poles.

CONTACT RATING:
3 amp, resistive load 150 watt maximum make or break;
5 amp, 500 watt maximum carry.

CONTACT MATERIAL:
Gold bonded, fine silver, standard. Others available on special order.

CONTACT FORMS:
"A" single throw N.O.
"B" single throw N.C.
"C" double throw, break before make
"D" double throw, make before break

NUMBER OF POLES (RELAYS):
One Wafer — 12 poles
Two Wafers — 24 poles
Three Wafers — 36 poles
Four Wafers — 48 poles
Five Wafers — 60 poles
("A" form only)

OPERATE VOLTAGE:
Min. voltage: 80% of nominal at 25°C

RELEASE VOLTAGE:
Max. voltage: 20% of nominal at 25°C

OPERATE TIME:
One Wafer Relay — 15 ms. max.
Two Wafer Relay — 25 ms. max.
Three Wafer Relay — 30 ms. max.
Four Wafer Relay — 35 ms. max.
Five Wafer Relay — 40 ms. max.

RELEASE TIME:
5 ms. max. (36 pole) — 10 ms. max. (12 pole)

TERMINALS:
Solder tab that also mates with T-Bar connector P/N 88601 (two required per wafer)

ENCLOSURE:
Contacts enclosed in dust tight plastic enclosure that is separated from the actuator assembly. Withstands Mil. Std. — 202 method 106B moisture resistance test.

LIFE:
Mechanical — 20,000,000 operations minimum for relay
Electrical — 20,000,000 operations minimum at 100 milliamps to 100,000 minimum at 5 amps, 150 watts resistive load.

DIELECTRIC:
1000 vrms terminals to case at sea level and 25°C
1000 vrms terminal to terminal at sea level and 25°C
1000 vrms coil to case at sea level and 25°C

TEMPERATURE RANGE:
−55°C to +85°C

INSULATION RESISTANCE:
5,000 megohms @ 25°C minimum

ORDERING INFORMATION:
Specify Series No. — number of poles plus contact form letter-coil voltage. For example a 36 pole double throw relay with a 24 VDC coil is: 801-36C-24

MANUFACTURED BY:
electronic controls, inc.
T-Bar Switch/Relay Div. •

Manufactured under 1 or more of the following patents: 3,206,990, 3,226,508

® "T-Bar" — Reg. T.M.

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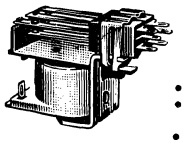
GUARDIAN® ELECTRIC



SERIES 900 & 910 10 AMP RELAY

- *U/L Recognized Component
- Designed with reduced number of parts for long, trouble-free service
- Has keyed and locked lifters

Series 910 is exactly the same as the 900 relay, both electrically and mechanically, but with 3/16 quick disconnects instead of soldered termination.

Dependable, low cost, DPDT relay featuring new, trouble-free design that incorporates a minimum of parts. Contacts all rated 10 amps, 115V., AC resistive load. Has molded switches, one-piece mounting clip and return spring; molded bobbin and coil cover. Average shpg. wt., 6 oz.

SIZE: 2 11/16" x 1 11/16" x 1 25/32"

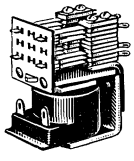
Guardian No.	Coil Res.	Coil Voltage	QUANTITIES Net Each, Lots of 1-9	10-24	25-49
900-2C-24A	24	24 AC	$1.75	$1.66	$1.49
900-2C-115A	550	115 AC	1.75	1.66	1.49
900-2C-230A	2950	230 AC	1.75	1.66	1.49
905-2C-6D	8	6 DC	1.75	1.66	1.49
905-2C-12D	32	12 DC	1.75	1.66	1.49
905-2C-24D	130	24 DC	1.75	1.66	1.49

*U/L Recognition File #E-23524B

Guardian No.	Coil Res.	Coil Voltage	QUANTITIES Net Each, Lots of 1-9	10-24	25-49
910-2C-24A	24	24 AC	$1.75	$1.66	$1.49
910-2C-115A	550	115 AC	1.75	1.66	1.49
910-2C-230A	2950	230 AC	1.75	1.66	1.49
915-2C-6D	8	6 DC	1.75	1.66	1.49
915-2C-12D	32	12 DC	1.75	1.66	1.49
915-2C-24D	130	24 DC	1.75	1.66	1.49

*U/L Recognized Component File #E-23524B

Further savings are available when Series 900 relays are purchased in bulk packs of 50 units. Relays are supplied nested in new, convenient "form fitted" assembly line trays . . . one package of 50—$70.00; 2 and up—$61.50 ea.



ALL PURPOSE ECONOMY RELAY

IR-640U AC—IR-645U DC—10 AMPERE

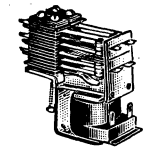
A compact, lightweight relay capable of unusually heavy power control for its size. Long life, high quality relay available in a variety of AC and DC voltages with a selection of contact combinations. All contact ratings are 10 amps. Contact ratings at 60 cycles, 115V. non-inductive load. 8-32 single screw, center pole mounting. Shpg. wt., 3.5 oz.

*U/L Recognized Component File #E-17260

SIZE: 1 11/16" x 1 1/2" x 1"

Guardian No.	Coil Res.	Coil Voltage	Cont. Comb.	QUANTITIES Net Each, Lots of 1-24	25-49	50-99	100-249	250-up
IR-640U-A-6A	1.7	6AC	SPST*	$2.90	$2.61	$2.47	$2.32	$2.03
IR-640U-C-6A	1.7	6AC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-640U-2C-6A	1.7	6AC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-640U-4C-6A	1.7	6AC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-640U-A-24A	24	24AC	SPST*	2.90	2.61	2.47	2.32	2.03
IR-640U-C-24A	24	24AC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-640U-2C-24A	24	24AC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-640U-4C-24A	24	24AC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-640U-A-120A	550	120AC	SPST*	2.90	2.61	2.47	2.32	2.03
IR-640U-C-120A	550	120AC	SPDT	3.15	2.84	2.68	2.52	2.77
IR-640U-2C-120A	550	120AC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-640U-4C-120A	550	120AC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-640U-2C-240A	2950	240AC	DPDT	4.20	3.78	3.57	3.36	2.94
IR-645U-A-6D	12	6DC	SPST*	2.90	2.61	2.47	2.32	2.03
IR-645U-C-6D	12	6DC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-645U-2C-6D	12	6DC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-645U-4C-6D	12	6DC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-645U-A-12D	50	12DC	SPST*	2.90	2.61	2.47	2.32	2.03
IR-645U-C-12D	50	12DC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-645U-2C-12D	50	12DC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-645U-4C-12D	50	12DC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-645U-A-24D	200	24DC	SPST*	2.90	2.61	2.47	2.32	2.03
IR-645U-C-24D	200	24DC	SPDT	3.15	2.84	2.68	2.52	2.21
IR-645U-2C-24D	200	24DC	DPDT	3.40	3.06	2.89	2.72	2.38
IR-645U-4C-24D	200	24DC	4PDT	5.00	4.50	4.25	4.00	3.50
IR-645U-A-110D	4000	110DC	SPST*	3.40	3.06	2.89	2.72	2.38
IR-645U-C-110D	4000	110DC	SPDT	3.70	3.33	3.15	2.96	2.59
IR-645U-2C-110D	4000	110DC	DPDT	3.95	3.56	3.36	3.16	2.77
IR-645U-4C-110D	4000	110DC	4PDT	5.25	4.73	4.46	4.20	3.68

*Normally Open.



SERIES 240U AC—245U DC

Designed for contact ratings up to 15 amps, Guardian series 240 AC and 245 DC relays are compact, reliable, inexpensive. Factory pretested and adjusted to be ready for assembly into your product. Contact rating is 15 amp, 115V., 60 cycles non-inductive load. Easy assembly with 8-32 single-screw, center-hole mounting. Shpg. wt., 4.5 oz.

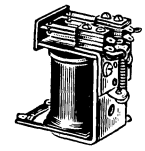
*U/L Recognized Component File #E-23524A

SIZE: (4PDT) 2 23/32" x 1 3/32" x 2 5/16"

Guardian No.	Coil Res.	Coil Voltage	Cont. Comb.	QUANTITIES Net Each, Lots of 1-24	25-49	50-99	100-249	250-up
240U-A-6A	1.7	6AC	SPST*	$3.15	$2.84	$2.68	$2.52	$2.21
240U-2C-6A	1.7	6AC	DPDT	3.95	3.56	3.36	3.16	2.77
240U-4C-6A	1.7	6AC	4PDT	5.80	5.22	4.93	4.64	4.06
240U-A-24A	24	24AC	SPST*	3.15	2.84	2.68	2.52	2.21
240U-2C-24A	24	24AC	DPDT	3.95	3.56	3.36	3.16	2.77
240U-4C-24A	24	24AC	4PDT	5.80	5.22	4.93	4.64	4.06
240U-A-120A	550	120AC	SPST*	3.15	2.84	2.68	2.52	2.21
240U-2C-120A	550	120AC	DPDT	3.95	3.56	3.36	3.16	2.77
240U-4C-120A	550	120AC	4PDT	5.80	5.22	4.93	4.64	4.06
245U-A-6D	12	6DC	SPST*	3.15	2.84	2.68	2.52	2.21
245U-2C-6D	12	6DC	DPDT	3.95	3.56	3.36	3.16	2.77
245U-4C-6D	12	6DC	4PDT	5.80	5.22	4.93	4.64	4.06
245U-A-12D	50	12DC	SPST*	3.15	2.84	2.68	2.52	2.21
245U-2C-12D	50	12DC	DPDT	3.95	3.56	3.36	3.16	2.77
245U-4C-12D	50	12DC	4PDT	5.80	5.22	4.93	4.64	4.06
245U-A-24D	200	24DC	SPST*	3.15	2.84	2.68	2.52	2.21
245U-2C-24D	200	24DC	DPDT	3.95	3.56	3.36	3.16	2.77
245U-4C-24D	200	24DC	4PDT	5.80	5.22	4.93	4.64	4.06

*Normally Open.

PLATE CIRCUIT DC RELAY IR-625—10 AMPERE

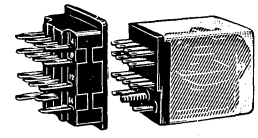


Has extra long coil for greater sensitivity. Adaptable to voltage operation as well as sensitive plate circuit control installations. Coil impregnated for reliability and longer life. Average power requirement, 0.2 watt. Contacts, fine silver. Contact ratings, 10 amps. Mounting: One 8-32 (NC-2) center hole. Shpg. wt., 5.5 oz.

SIZE: 2 1/16" x 2" x 1 1/2"

Guardian No.	Oper. Mils.	Coil Res.	Cont. Comb.	QUANTITIES Net Each, Lots of 1-24	25-49	50-99	100-249	250-up
IR-625-2.5	9 M.A.	2,500	DPDT	$4.45	$4.01	$3.78	$3.56	$3.12
IR-625-5	6.3 M.A.	5,000	DPDT	4.75	4.28	4.04	3.80	3.33
IR-625-10	4.5 M.A.	10,000	DPDT	5.80	5.22	4.93	4.64	4.06

LONG LIFE 4PDT, 3 AMP-MINIATURE RELAY 1310 AC, 1315 DC

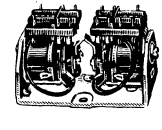


4DPT . . . 3 AMP Plug-In Relay available AC or DC. Contacts rated 3 amps at 30VDC or 115VAC resistive. Heat resistant; Lexan cover; Life in excess of 100 million operations. A/C size: 1 17/64" x 55/64" x 1 17/64". Weight: 1 1/8 oz.

Guardian No.	Coil Voltage	1-24	25-49	Net Each, Lots of 50-99	100-249	250-499	500-up
1310-4C	6AC	$5.50	$4.95	$4.67	$4.40	$3.85	$3.58
1310-4C	12AC	5.50	4.95	4.67	4.40	3.85	3.58
1310-4C	24AC	5.50	4.95	4.67	4.40	3.85	3.58
1310-4C	120AC	5.85	5.26	4.97	4.68	4.09	3.80
1315-4C	6DC	$4.50	$4.05	$3.82	$3.60	$3.15	$2.93
1315-4C	12DC	4.50	4.05	3.82	3.60	3.15	2.93
1315-4C	24DC	4.50	4.05	3.82	3.60	3.15	2.93
1315-4C	110AC	5.25	4.72	4.46	4.20	3.67	3.41

1310-1 Series Relay Socket (PRINTED CIRCUIT)..... .60¢ ea.
1310-2 Series Relay Socket (SOLDER TERMINAL)..... .60¢ ea.

INTERLOCKING RELAY — AC IR-1200/1200 — 10 AMPERE



Two interlocking AC relays in sturdy metal frame bracket. Used to maintain circuits continuously without coil power consumption. Unit is electrically pulse operated with mechanical hold and electrical release. Contacts rated for 10 amps, at 60 cycles, 115V., AC, non-inductive load. Coil resistance is 1,100 ohms. Shpg. wt., 5.5 oz.

SIZE: 1 11/16" x 1 3/8" x 3 3/16"

Guardian No.	Cont. Comb.	Coil Voltage	QUANTITIES Net Each, Lots of: 1-24	25-49	50-99	100-249	250-up
IR-1200/1200-4C-120A	4PDT	120AC	$10.40	$9.36	$8.84	$8.32	$7.28

Net

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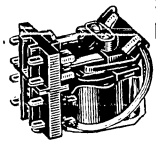
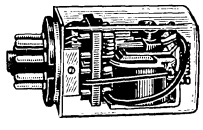


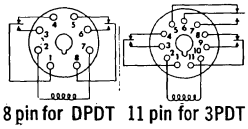
SMALL SIZE—EFFICIENT MEDIUM POWER AC-DC RELAY—1200 AC—1205 DC—10 AMPERE

Small-sized, highly efficient relay applicable to automation, communications, remote control, switching devices and experimental uses. Heavy solder lug type terminals molded in phenolic block, with barriers for over-surface insulation. Contacts rated 10 amps at 60 cycles, 115V., AC, non-inductive load. Mounting: Single mounting hole, 6-32 TAP. Shpg. wt., 2.5 oz.

*U/L Recognized Component File #E-17260A (AC only)

SIZE: 1⅝" x 1" x 1¼"				QUANTITIES					
Guardian No.	Coil Res.	Coil Voltage	Cont. Comb.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-up
1200-2C-6A	8	6AC	DPDT	$3.75	$3.38	$3.19	$3.00	$2.63	$2.44
1200-3C-6A	4	6AC	3PDT	4.25	3.83	3.61	3.40	2.98	2.76
1200-2C-24A	59	24AC	DPDT	3.75	3.38	3.19	3.00	2.63	2.44
1200-3C-24A	50	24AC	3PDT	4.25	3.83	3.61	3.40	2.98	2.76
1200-2C-120A	1,190	120AC	DPDT	3.75	3.38	3.19	3.00	2.63	2.44
1200-3C-120A	1,000	120AC	3PDT	4.25	3.83	3.61	3.40	2.98	2.76
1200-2C-240A	5,340	240AC	DPDT	4.00	3.60	3.40	3.20	2.80	2.60
1200-3C-240A	4,750	240AC	3PDT	4.50	4.05	3.83	3.60	3.15	2.93
1205-2C-6D	18	6AC	DPDT	3.40	3.06	2.89	2.72	2.38	2.21
1205-3C-6D	18	6DC	3PDT	3.85	3.47	3.27	3.08	2.70	2.50
1205-2C-12D	75	12DC	DPDT	3.40	3.06	2.89	2.72	2.38	2.50
1205-3C-12D	75	12DC	3PDT	3.85	3.47	3.27	3.08	2.70	2.50
1205-2C-24D	300	24DC	DPDT	3.40	3.06	2.89	2.72	2.38	2.21
1205-3C-24D	300	24DC	3PDT	3.85	3.47	3.27	3.08	2.70	2.50
1205-2C-110D	6,500	110DC	DPDT	3.75	3.38	3.19	3.00	2.63	2.44
1205-3C-110D	6,500	110DC	3PDT	4.25	3.83	3.61	3.40	2.98	2.76





ENCLOSED PLUG-IN RELAY 1210 AC—1215 DC—10 AMPERE

A powerful and economical relay enclosed in a transparent, lightweight Lexan case which has high impact strength, unaffected by weather, and is resistant to temperatures of 200°F. Relay available with 8 pin octal plug for DPDT and 11 pin for 3PDT. Contacts rated for 10 amps at 60 cycles, 115V., AC, non-inductive load. Shpg. wt., 3.5 oz.

8 pin for DPDT 11 pin for 3PDT

*U/L Recognized Component File #E-17260A (AC only)

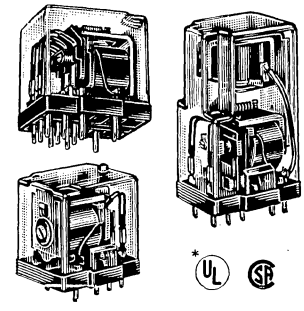
SIZE: 2²³⁄₃₂" x 1⅜" x 1⅜"				QUANTITIES					
Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-up
1210-2C-6A	6AC	33	DPDT	$6.00	$5.40	$5.10	$4.80	$4.20	$3.90
1210-3C-6A	6AC	33	3PDT	7.50	6.75	6.38	6.00	5.25	4.88
1210-2C-24A	24AC	54	DPDT	6.00	5.40	5.10	4.80	4.20	3.90
1210-3C-24A	24AC	54	3PDT	7.50	6.75	6.38	6.00	5.25	4.88
1210-2C-120A	120AC	1,100	DPDT	6.00	5.40	5.10	4.80	4.20	3.90
1210-3C-120A	120AC	1,100	3PDT	7.50	6.75	6.38	6.00	5.25	4.88
1210-2C-240A	240AC	5,000	DPDT	6.25	5.63	5.31	5.00	4.38	4.06
1210-3C-240A	240AC	5,000	3PDT	7.75	6.98	6.59	6.20	5.43	5.04
1215-2C-6D	6DC	18	DPDT	6.00	5.40	5.10	4.80	4.20	3.90
1215-3C-6D	6DC	18	3PDT	7.50	6.75	6.38	6.00	5.25	4.88
1215-2C-12D	12DC	75	DPDT	6.00	5.40	5.10	4.80	4.20	3.90
1215-3C-12D	12DC	75	3PDT	7.50	6.75	6.38	6.00	5.25	4.88
1215-2C-24D	24DC	300	DPDT	6.00	5.40	5.10	4.80	4.20	3.90
1215-3C-24D	24DC	300	3PDT	7.50	6.75	6.38	6.00	5.25	4.88
1215-2C-110D	110DC	6,500	DPDT	6.50	5.85	5.53	5.20	4.55	4.23
1215-3C-110D	110DC	6,500	3PDT	8.00	7.20	6.80	6.40	5.60	5.20

ENCLOSED PLATE CIRCUIT PLUG-IN RELAY

SIZE: 2²³⁄₃₂" x 1⅜" x 1⅜"					QUANTITIES					
Guardian No.	Coil Mills	Coil Res.	Cont. Comb.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-up
1215-2C-2.5	10 MA	2,500	DPDT	$6.20	$5.58	$5.27	$4.96	$4.43	$4.03
1215-3C-2.5	12 MA	2,500	3PDT	7.25	6.53	6.16	5.80	5.08	4.71
1215-3C-5	7.2 MA	5,000	DPDT	6.30	5.67	5.36	5.04	4.41	4.10
1215-3C-5	8.5 MA	5,000	3PDT	7.50	6.75	6.38	6.00	5.25	4.88
1215-2C-10	5 MA	10,000	DPDT	6.50	5.85	5.53	5.20	4.55	4.23
1215-3C-10	5 MA	10,000	3PDT	7.75	6.98	6.59	6.20	5.43	5.04

SERIES 1220 AC — 1225 DC RELAY

VERSATILE ENCLOSED RELAYS • PLUG-IN • SOLDER TO OR QUICK CONNECT TERMINALS 1220AC — 1225DC — 10 AMP 1220/1220AC — 1225/1225DC LATCHING — 1220M - AC — 1225M - DC MANUAL RESET



Newly designed relay is reduced in height and cost by the elimination of the radio-type plug, extra wiring and sub-assembly between relay and plug. Features "UNI-GUARD," continuous loop moving blades; snap lock cover; and terminals that can be used as solder lug, AMP Faston 110 Series quick connect or socket plug-in. The 1220 Relay comes complete with mounting bracket. 1220/1220 is an electrical reset relay. 1220M is a manual reset relay with same concept design as the standard 1220 series.

* U/L Recognized Component File #E-23524

SIZE: 1⁵⁄₃₂" x 1¹¹⁄₁₆" x 1⁵⁄₁₆"				QUANTITIES					
Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-up
IR-1220-2C-6A	6AC	3.3	DPDT	$4.00	$3.60	$3.40	$3.20	$2.80	$2.60
IR-1220-2C-24A	24AC	54	DPDT	4.00	3.60	3.40	3.20	2.80	2.60
IR-1220-2C-120A	120AC	1,100	DPDT	4.00	3.60	3.40	3.20	2.80	2.60
IR-1220-2C-240A	240AC	5,000	DPDT	4.25	3.83	3.61	3.40	2.98	2.76
IR-1220-3C-6A	6AC	3.3	3PDT	4.50	4.05	3.83	3.60	3.15	2.93
IR-1220-3C-24A	24AC	54	3PDT	4.50	4.05	3.83	3.60	3.15	2.93
IR-1220-3C-120A	120AC	1,100	3PDT	4.50	4.05	3.83	3.60	3.15	2.93
IR-1220-3C-240A	240AC	5,000	3PDT	4.75	4.28	4.04	3.80	3.33	3.09
IR-1225-2C-6D	6DC	18	DPDT	4.00	3.60	3.40	3.20	2.80	2.60
IR-1225-2C-12D	12DC	75	DPDT	4.00	3.60	3.40	3.20	2.80	2.60
IR-1225-2C-24D	24DC	300	DPDT	4.00	3.60	3.40	3.20	2.80	2.60
IR-1225-2C-110D	110DC	6,500	DPDT	4.25	3.83	3.61	3.40	2.98	2.76
IR-1225-3C-6D	6DC	18	3PDT	4.50	4.05	3.83	3.60	3.15	2.93
IR-1225-3C-12D	12DC	75	3PDT	4.50	4.05	3.83	3.60	3.15	2.93
IR-1225-3C-24D	24DC	300	3PDT	4.50	4.05	3.83	3.60	3.15	2.93
IR-1225-3C-110D	110DC	6,500	3PDT	4.75	4.28	4.04	3.80	3.33	3.09
IR-1220/1220-2C-24A	24A	54	DPDT						
IR-1220/1220-2C-120A	120A	1100	DPDT	$12.50	$11.25	$10.62	$10.00	$8.75	$6.87
IR-1225/1225-2C-24D	24D	300	DPDT						
1220M-2C-24A	24A	54	DPDT						
1220M-2C-120A	120A	1110	DPDT	$5.50	$4.95	$4.67	$4.40	$3.85	$3.75
1225M-2C-24D	24D	300	DPDT						

SOC-1

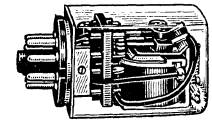
IR-1220 — SOCKET

1 - 9 — Net 60¢ each 10 - up — Net 55¢ each

The 1220 snap-in socket has U/L component recognition. Socket terminal lugs can be soldered to or will accept AMP Series 110 quick connects.

SOC-2

ENCLOSED PLUG-IN AC RELAY — 1210-N

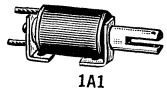


With Built-In Neon Lamp to Indicate Circuit Faults—10 AMPERE

This plug-in relay utilizes a miniature neon lamp connected across coil terminals. The lamp lights each time the coil is energized, or indicates a circuit fault when lamp is "dark." Ideal for detecting circuit faults in relay banks, mass relay arrangements, or where relays are visibly located at intermediate switching points of the circuitry. Precludes the use of circuit testers. Available with 8 pin octal plug for DPDT and 11 pin for 3PDT. Contacts rated 10 amps at 115V., AC, 60 cycles, non-inductive load. Shpg. wt., 3.5 oz.

SIZE: 2²³⁄₃₂" x 1⅜" x 1⅜"				QUANTITIES				
Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-up
1210N-2C-115A	120AC	1,100	DPDT	$6.75	$6.08	$5.74	$5.40	$4.73
1210N-3C-115A	120AC	1,100	3PDT	8.00	7.20	6.80	6.40	5.60

GUARDIAN® ELECTRIC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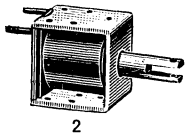
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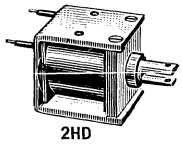
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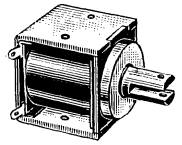
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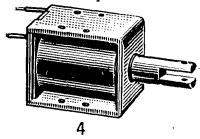
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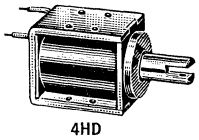
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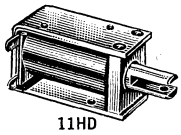
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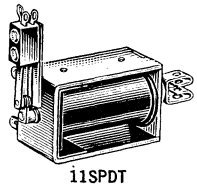
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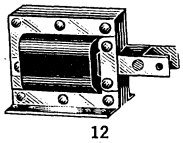
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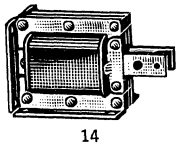
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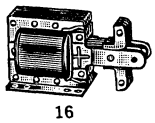
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GUARDIAN AC SOLENOIDS and SOLENOID SWITCHES

Solenoids available in both intermitttent and continuous duty types. Intermittent types should not be energized for more than 5 consecutive minutes, or be permitted to rise more than 85°C. above 24°C. ambient, without giving sufficient time to cool between operation cycles. Continuous duty types are designed so they will not rise more than 85°C. above the 24°C. ambient temperature when operated at rated load. Plunger has slotted end with ⅛" diameter hole for coupling.

When Ordering give the following information: (1) Solenoid Number; (2) Operating voltages and AC or DC current; (3) Continuous or intermittent duty (if intermittent, give the cycle of operation, length of time current will be passed through the coil, and any other pertinent information); (4) Maximum stroke and maximum pull required.

Pull Data listed in this bulletin obtained during "cold" operation.

"S" indicates single pole double throw switch, rated at 10 amps 115 vac.

MFG. NO.	VOLTS DC	DUTY	OHMS	MINIMUM — MAXIMUM STROKES and LIFT		SIZE, INCHES L. x W. x H.	SHIPPING WT. OZS.	NET EACH, LOTS OF 1-24	25-49	50-99	100-249	250-499	500-up
1A1	115A	Inter.	300	8 oz. at ⅛"	2 oz. at ½"	1¾ x 1 5/16 x 1 1/16	4.5	$3.15	$2.84	$2.68	$2.52	$2.21	$2.05
1A1	115A	Cont.	675	3 oz. at ⅛"	.5 oz. at ⅜"	1¾ x 1 5/16 x 1 1/16	4.5	3.15	2.84	2.68	2.52	2.21	2.05
2	115A	Inter.	60	33 oz. at ⅛"	4.5 oz. at ⅞"	1 9/16 x 1 7/16 x 1 5/8	10	3.68	3.31	3.13	2.95	2.58	2.39
2	115A	Cont.	166	10.5 oz. at ⅛"	3 oz. at ⅞"	1 9/16 x 1 7/16 x 1 5/8	10	3.68	3.31	3.13	2.95	2.58	2.39
2HD	115A	Inter.	39	38 oz. at ⅛"	16 oz. at ¾"	1 5/32 x 1 7/16 x 1 5/8	13	8.66	7.79	7.36	6.93	6.06	5.63
2HD	115A	Cont.	113	17 oz. at ⅛"	4 oz. at ¾"	1 5/32 x 1 7/16 x 1 5/8	13	8.66	7.79	7.36	6.93	6.06	5.63
3HD	115AC	Inter.	25	96 oz. at 1/16"	13 oz. at ⅞"	2 19/32 x 1 7/16 x 1 5/8	14	6.00	5.40	5.10	4.80	4.50	3.90
3HD	115AC	Cont.	100	24 oz. at 1/16"	2 oz. at ⅞"	2 19/32 x 1 7/16 x 1 5/8	14	6.00	5.40	5.10	4.80	4.50	3.90
4	115A	Inter.	37	24 oz. at ⅛"	22 oz. at 1"	2 x 1 7/16 x 1 5/8	14.5	4.20	3.78	3.57	3.36	2.94	2.73
4	115A	Cont.	133	8 oz. at ⅛"	6 oz. at 1"	2 x 1 7/16 x 1 5/8	14.5	4.20	3.78	3.57	3.36	2.94	2.73
4HD	115AC	Inter.	15	107 oz. at 1/16"	30 oz. at 1¼"	2 1/64 x 1 7/16 x 1 5/8	15	6.41	5.77	5.45	5.13	4.81	4.17
4HD	115AC	Cont.	53	26 oz. at ⅛"	8 oz. at 1¼"	2 1/64 x 1 7/16 x 1 5/8	15	6.41	5.77	5.45	5.13	4.81	4.17
11	24A	Inter.	5.1	10 oz. at ⅛"	3 oz. at 1"	1 5/16 x 1 27/32 x 1 3/16	7.5	3.15	2.84	2.68	2.52	2.21	2.05
11	24A	Cont.	12	26 oz. at ⅛"	3 oz. at 1"	1 5/16 x 1 27/32 x 1 3/16	7.5	3.15	2.84	2.68	2.52	2.21	2.05
11	115A	Inter.	125	10 oz. at ⅛"	3 oz. at 1"	1 5/16 x 1 27/32 x 1 3/16	7.5	3.15	2.84	2.68	2.52	2.21	2.05
11	115A	Cont.	300	26 oz. at 1/16"	3 oz. at 1"	1 5/16 x 1 27/32 x 1 3/16	7.5	3.15	2.84	2.68	2.52	2.21	2.05
11S-SPDT	115A	Inter.	125	26 oz. at ⅛"	3 oz. at 1"	1¾ x 1 27/32 x 2 15/64	7.5	4.15	3.73	3.53	3.32	2.90	2.69
11S-SPDT	115A	Cont.	300	10 oz. at ⅛"	3 oz. at 1"	1¾ x 1 27/32 x 2 15/64	7.5	4.15	3.73	3.53	3.32	2.90	2.69
12	115A	Inter.	100	32 oz. at ⅛"	4 oz. at 1"	1 5/8 x 1 13/16 x 1 7/16	6	4.46	4.01	3.79	3.57	3.12	2.90
12	115A	Cont.	150	22 oz. at ⅛"	3 oz. at ⅞"	1 5/8 x 1 13/16 x 1 7/16	6	4.46	4.01	3.79	3.57	3.12	2.90
14	115A	Inter.	11	110 oz. at ⅛"	52 oz. at 1½"	2 1/16 x 1 7/16 x 2 1/16	19	6.04	5.44	5.13	4.83	4.23	3.93
14	115A	Cont.	18	65 oz. at ⅛"	37 oz. at 1½"	2 1/16 x 1 7/16 x 2 1/16	19	6.04	5.44	5.13	4.83	4.23	3.93
16	115A	Inter.	41	96 oz. at ⅛"	35 oz. at ¾"	1 5/8 x 1 1/8 x 1 7/16	7.5	3.68	3.31	3.13	2.94	2.58	2.39
16	115A	Cont.	85	50 oz. at ⅛"	10 oz. at ¾"	1 5/8 x 1 1/8 x 1 7/16	7.5	3.68	3.31	3.13	2.94	2.58	2.39
16	230A	Inter.	200	96 oz. at ⅛"	35 oz. at ¾"	1 5/8 x 1 1/8 x 1 7/16	7.5	3.94	3.55	3.35	3.15	2.76	2.56
16	230A	Cont.	350	50 oz. at ⅛"	10 oz. at ¾"	1 5/8 x 1 1/8 x 1 7/16	7.5	3.94	3.55	3.35	3.15	2.76	2.56
18	115A	Inter.	8.8	280 oz. at ⅛"	80 oz. at 1"	2½ x 1 13/16 x 2 1/16	16.5	4.99	4.49	4.24	3.99	3.49	3.24
18	115A	Cont.	19.7	145 oz. at ⅛"	40 oz. at 1"	2½ x 1 13/16 x 2 1/16	16.5	4.99	4.49	4.24	3.99	3.49	3.24
18	230A	Inter.	45	280 oz. at ⅛"	80 oz. at 1"	2½ x 1 13/16 x 2 1/16	16.5	5.25	4.73	4.46	4.20	3.68	3.41
18	230A	Cont.	78	145 oz. at ⅛"	40 oz. at 1"	2½ x 1 13/16 x 2 1/16	16.5	5.25	4.73	4.46	4.20	3.68	3.41
24	115A	Inter.	310	16 oz. at 1/16"	3 oz. at ⅝"	1¼ x 27/32 x 5/64	3	3.41	3.07	2.90	2.73	2.39	2.22
24	115A	Cont.	500	10.5 oz. at 1/16"	2 oz. at ⅝"	1¼ x 27/32 x 5/64	3	3.41	3.07	2.90	2.73	2.39	2.22
24S-SPDT	115A	Inter.	310	16 oz. at 1/16"	3 oz. at ⅝"	1 1/16 x 27/32 x 2 3/64	3	4.41	3.97	3.75	3.52	3.09	2.87
24S-SPDT	115A	Cont.	500	10.5 oz. at 1/16"	2 oz. at ⅝"	1 1/16 x 27/32 x 2 3/64	3	4.41	3.97	3.75	3.52	3.09	2.87
26	115AC	Inter.	140	28 oz. at 1/16"	3 oz. at ⅞"	2 3/32 x ⅞ x 1 5/16	4	3.60	3.24	3.06	2.88	2.70	2.34
26	115AC	Cont.	250	13 oz. at 1/16"	4 oz. at ¾"	2 3/32 x ⅞ x 1 5/16	4	3.60	3.24	3.06	2.88	2.70	2.34
28	24A	Inter.	7.5	35 oz. at 1/16"	5 oz. at ½"	1⅛ x 1 5/16 x 1 3/16	3.5	3.15	2.84	2.68	2.52	2.21	2.05
28	24A	Cont.	17.4	20 oz. at 1/16"	2.5 oz. at ½"	1⅛ x 1 5/16 x 1 3/16	3.5	3.15	2.84	2.68	2.52	2.21	2.05
28	115A	Inter.	220	35 oz. at 1/16"	5 oz. at ½"	1⅛ x 1 5/16 x 1 3/16	3.5	3.41	3.07	2.90	2.73	2.39	2.22
28	115A	Cont.	400	20 oz. at 1/16"	2.5 oz. at ½"	1⅛ x 1 5/16 x 1 3/16	3.5	3.41	3.07	2.90	2.73	2.39	2.22
28S-SPDT	115A	Inter.	220	35 oz. at 1/16"	5 oz. at ½"	1 9/16 x 1 5/16 x 2 15/64	3.5	3.94	3.54	3.30	3.15	2.75	2.56
28S-SPDT	115A	Cont.	400	20 oz. at 1/16"	2.5 oz. at ½"	1 9/16 x 1 5/16 x 2 15/64	3.5	3.94	3.54	3.30	3.15	2.75	2.56
34	115A	Inter.	400	15 oz. at 1/16"	1 oz. at ½"	1⅛ x ¾ x 1 7/64	2.5	2.31	2.08	1.96	1.85	1.62	1.50
34	115A	Cont.	865	7 oz. at 1/16"	.5 oz. at ½"	1⅛ x ¾ x 1 7/64	2.5	2.31	2.08	1.96	1.85	1.62	1.50
34S-SPDT	115A	Inter.	400	15 oz. at 1/16"	1 oz. at ½"	1 9/16 x ¾ x 2 3/64	2.5	3.31	2.98	2.81	2.65	2.32	2.15
34S-SPDT	115A	Cont.	865	7 oz. at 1/16"	5 oz. at ½"	1 9/16 x ¾ x 2 3/64	2.5	3.31	2.98	2.81	2.65	2.32	2.15

Net

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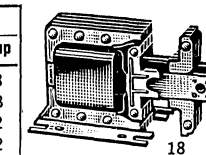
GUARDIAN DC SOLENOIDS

MFG. NO.	VOLTS DC	DUTY	OHMS	MINIMUM — MAXIMUM STROKES and LIFT		SIZE, INCHES L. x W. x H.	SHIPPING WT. OZS.	NET EACH, LOTS OF 1-24	25-49	50-99	100-249	250-499	500-up
1A1	24D	Inter.	42.6	5 oz. at 1/8"	1 oz. at 3/8"	1 3/4 x 1 5/16 x 1 1/16	4.5	$2.89	$2.60	$2.46	$2.31	$2.02	$1.88
1A1	115D	Cont.	74.4	2 oz. at 1/8"	.5 oz. at 1/4"	1 3/4 x 1 5/16 x 1 1/16	4.5	2.89	2.60	2.46	2.31	2.02	1.88
1A1	115D	Inter.	803	5 oz. at 1/8"	1 oz. at 3/8"	1 3/4 x 1 5/16 x 1 1/16	4.5	3.41	3.07	2.90	2.73	2.39	2.22
1A1	115D	Cont.	2070	2 oz. at 1/8"	.5 oz. at 1/4"	1 3/4 x 1 5/16 x 1 1/16	4.5	3.41	3.07	2.90	2.73	2.39	2.22
2HD	24D	Inter.	1.2	120 oz. at 1/8"	5 oz. at 3/4"	1 25/32 x 1 7/16 x 1 1/16	13	8.93	8.04	7.59	7.14	6.25	5.81
2HD	24D	Cont.	.4	60 oz. at 1/8"	1 oz. at 5/8"	1 25/32 x 1 7/16 x 1 1/16	13	8.93	8.04	7.59	7.14	6.25	5.81
3HD	24DC	Inter.	21	160 oz. at 1/16"	8 oz. at 3/4"	2 19/36 x 1 7/16 x 1 5/8	14	6.00	5.40	5.10	4.80	4.50	3.90
3HD	24DC	Cont.	52	100 oz. at 1/16"	3 oz. at 3/4"	2 15/16 x 1 7/16 x 1 5/8	14	6.00	5.40	5.10	4.80	4.50	3.90
4	24D	Inter.	15	90 oz. at 1/8"	4 oz. at 1"	2 1/64 x 1 7/16 x 1 5/8	14.5	4.20	3.78	3.57	3.36	2.94	2.73
4	24D	Cont.	50	55 oz. at 1/8"	2.5 oz. at 7/8"	2 1/64 x 1 7/16 x 1 5/8	14.5	4.20	3.78	3.57	3.36	2.94	2.73
4	115D	Inter.	346	90 oz. at 1/8"	4 oz. at 1"	2 1/64 x 1 7/16 x 1 5/8	14.5	4.46	4.01	3.79	3.57	3.12	2.90
4	115D	Cont.	1210	55 oz. at 1/8"	2.5 oz. at 7/8"	2 1/64 x 1 7/16 x 1 5/8	14.5	4.46	4.01	3.79	3.57	3.12	2.90
4HD	24D	Inter.	15	156 oz. at 1/8"	21 oz. at 3/4"	2 1/64 x 1 7/16 x 1 5/8	15	6.41	5.77	5.45	5.13	4.49	4.17
4HD	24D	Cont.	50	86 oz. at 1/8"	1 oz. at 3/4"	2 1/64 x 1 7/16 x 1 5/8	15	6.41	5.77	5.45	5.13	4.49	4.17
4HD	110D	Inter.	330	156 oz. at 1/8"	21 oz. at 3/4"	2 1/64 x 1 7/16 x 1 5/8	15	6.41	5.77	5.45	5.13	4.49	4.17
4HD	110D	Cont.	1200	86 oz. at 1/8"	1 oz. at 3/4"	2 1/64 x 1 7/16 x 1 5/8	15	6.41	5.77	5.45	5.13	4.49	4.17
11	6D	Inter.	2	34 oz. at 1/8"	2 oz. at 7/8"	1 5/16 x 1 27/32 x 1 3/16	7.5	3.15	2.84	2.68	2.52	2.21	2.05
11	6D	Cont.	5	25 oz. at 1/8"	1 oz. at 5/8"	1 5/16 x 1 27/32 x 1 3/16	7.5	3.15	2.84	2.68	2.52	2.21	2.05
11	24D	Inter.	32	25 oz. at 1/8"	1 oz. at 3/4"	1 5/16 x 1 27/32 x 1 3/16	7.5	3.15	2.84	2.68	2.52	2.21	2.05
11	24D	Cont.	72	34 oz. at 1/8"	2 oz. at 3/4"	1 5/16 x 1 27/32 x 1 3/16	7.5	3.15	2.84	2.68	2.52	2.21	2.05
11S-SPDT	24D	Inter.	32	34 oz. at 1/8"	2 oz. at 3/4"	1 3/4 x 1 27/32 x 2 15/64	7.5	4.15	3.73	3.53	3.32	2.90	2.69
11S-SPDT	24D	Cont.	72	25 oz. at 1/8"	2 oz. at 3/4"	1 3/4 x 1 27/32 x 2 15/64	7.5	4.15	3.73	3.53	3.32	2.90	2.69
22	6D	Inter.	4.7	24 oz. at 1/16"	1 oz. at 3/8"	1 1/8 x 3/4 x 3/4	2.5	2.94	2.65	2.50	2.35	2.06	1.91
22	6D	Cont.	9	13 oz. at 1/16"	.5 oz. at 1/4"	1 1/8 x 3/4 x 3/4	2.5	2.94	2.65	2.50	2.35	2.06	1.91
22	24D	Inter.	60	24 oz. at 1/16"	1 oz. at 7/16"	1 1/8 x 3/4 x 3/4	2.5	2.94	2.65	2.50	2.35	2.06	1.91
22	24D	Cont.	144	13 oz. at 1/16"	.5 oz. at 3/8"	1 1/8 x 3/4 x 3/4	2.5	2.94	2.65	2.50	2.35	2.06	1.91
22S-SPDT	24D	Inter.	60	24 oz. at 1/16"	1 oz. at 7/16"	1 5/16 x 3/4 x 2 1/64	2.5	3.94	3.54	3.30	3.15	2.75	2.56
22S-SPDT	24D	Cont.	144	13 oz. at 1/16"	5 oz. at 3/8"	1 5/16 x 3/4 x 2 1/64	2.5	3.94	3.54	3.30	3.15	2.75	2.56
24	24DC	Inter.	52	36 oz. at 1/16"	3 oz. at 1/2"	1 1/4 x 27/32 x 5/64	3	3.41	3.07	2.90	2.73	2.56	2.22
24	24DC	Cont.	114	18 oz. at 1/16"	.5 oz. at 1/2"	1 1/4 x 27/32 x 5/64	3	3.41	3.07	2.90	2.73	2.56	2.22
24S-SPDT	24D	Inter.	52	32 oz. at 1/16"	2 oz. at 1/2"	1 11/16 x 27/32 x 2 3/64	3	4.41	3.97	3.75	3.52	3.09	2.87
24S-SPDT	4D	Cont.	114	17 oz. at 1/16"	5 oz. at 3/8"	1 11/16 x 27/32 x 2 3/64	3	4.41	3.97	3.75	3.52	3.09	2.87
26	24DC	Inter.	30	65 oz. at 1/16"	3 oz. at 3/4"	2 3/32 x 7/8 x 15/16	3	3.40	3.06	2.89	2.72	2.55	2.21
26	24DC	Cont.	85	36 oz. at 1/16"	1.5 oz. at 1/2"	2 3/32 x 7/8 x 15/16	3	3.40	3.06	2.89	2.72	2.55	2.21
28	6D	Inter.	3.3	41 oz. at 1/16"	2 oz. at 1/2"	1 1/8 x 15/16 x 1 3/16	3.5	2.94	2.65	2.50	2.35	2.06	1.91
28	6D	Cont.	7.7	24 oz. at 1/16"	1 oz. at 3/8"	1 1/8 x 15/16 x 1 3/16	3.5	2.94	2.65	2.50	2.35	2.06	1.91
28	12D	Inter.	13	41 oz. at 1/16"	2 oz. at 1/2"	1 1/8 x 15/16 x 1 3/16	3.5	2.94	2.65	2.50	2.35	2.06	1.91
28	12D	Cont.	27	24 oz. at 1/16"	1 oz. at 3/8"	1 1/8 x 15/16 x 1 3/16	3.5	2.94	2.65	2.50	2.35	2.06	1.91
28	24D	Inter.	50	41 oz. at 1/8"	1 oz. at 3/8"	1 1/8 x 15/16 x 1 3/16	3.5	2.94	2.65	2.50	2.35	2.06	1.91
28	24D	Cont.	104	24 oz. at 1/16"	2 oz. at 1/2"	1 1/8 x 15/16 x 1 3/16	3.5	2.94	2.65	2.50	2.35	2.06	1.91
28S-SPDT	24D	Inter.	50	41 oz. at 1/8"	2 oz. at 1/2"	1 3/4 x 15/16 x 2 15/16	3.5	3.94	3.54	3.30	3.15	2.75	2.56
28S-SPDT	24D	Cont.	104	24 oz. at 1/16"	1 oz. at 3/8"	1 3/16 x 15/16 x 2 15/16	3.5	3.94	3.54	3.30	3.15	2.75	2.56
34	6D	Inter.	4.3	17 oz. at 1/16"	1 oz. at 7/16"	1 1/8 x 3/4 x 1 7/64	2.5	2.31	2.08	1.96	1.85	1.62	1.50
34	6D	Cont.	9.1	8.5 oz. at 1/16"	.5 oz. at 1/4"	1 1/8 x 3/4 x 1 7/64	2.5	2.31	2.08	1.96	1.85	1.62	1.50
34	24D	Inter.	66	17 oz. at 1/16"	1 oz. at 7/16"	1 1/8 x 3/4 x 1 7/64	2.5	2.31	2.08	1.96	1.85	1.62	1.50
34	24D	Cont.	145	8.5 oz. at 1/16"	.5 oz. at 1/4"	1 1/8 x 3/4 x 1 7/64	2.5	2.31	2.08	1.96	1.85	1.62	1.50
34S-SPDT	24D	Inter.	66	17 oz. at 1/16"	1 oz. at 7/16"	1 5/16 x 3/4 x 2 5/64	2.5	3.31	2.98	2.81	2.65	2.32	2.15
34S-SPDT	24D	Cont.	145	8.5 oz. at 1/8"	5 oz. at 1/4"	1 5/16 x 3/4 x 2 5/64	2.5	3.31	2.98	2.81	2.65	2.32	2.15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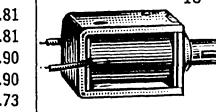
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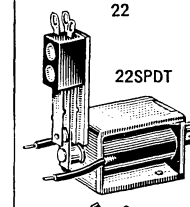
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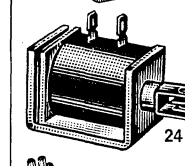
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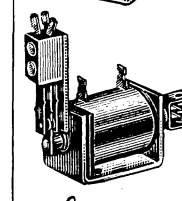
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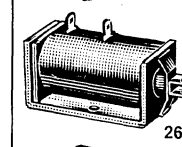
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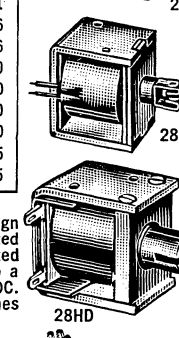
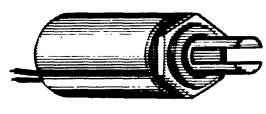
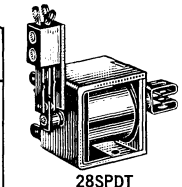

28HD

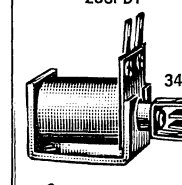
GUARDIAN NEW TUBULAR SOLENOIDS - 24VDC



New tubular type solenoids pull type with lift up to 11 lbs. Clean design permits side-by-side mounting with ease. Threaded bushing is inserted through mounting hole and secured with furnished nut. Life at rated load 10,000,000 operations minimum. Tubular solenoids from a 7/16 to a 1 1/2" diameter available in both Intermittent and Continuous Duty 24VDC. Computers, Aircraft and Missiles, Office Equipment and Copy Machines are some of the typical applications.

MFR. TYPE	VOLTS	DUTY	STROKE and LIFT MINIMUM	STROKE and LIFT MAXIMUM	SIZE, INCHES L x DIA.	OHMS	WATTS	NET EACH, LOTS OF 1-24	25-49	50-99	100-249	250-499	500-up
T3.5 x 9	24VDC	Inter.	11 oz. at 1/32"	.5 oz. at 1/2"	1 1/8 x 3/16"	57	10	$3.10	$2.79	$2.64	$2.48	$2.17	$2.01
T3.5 x 9	24VDC	Cont.	8 oz. at 1/32"	.25 oz. at 5/16"	1 1/8 x 3/16"	195	3	3.20	2.88	2.72	2.57	2.24	2.08
T4 x 7	24VDC	Inter.	10 oz. at 1/32"	.5 oz. at 1/4"	7/8 x 1/2"	82	7	4.20	3.78	3.57	3.36	2.94	2.73
T4 x 7	24VDC	Cont.	4 oz. at 1/32"	.25 oz. at 5/32"	7/8 x 1/2"	240	2.4	4.30	3.87	3.65	3.44	3.01	2.80
T4 x 12	24VDC	Inter.	15 oz. at 1/32"	.5 oz. at 5/8"	1 1/2 x 1/2"	48	12	4.50	4.05	3.83	3.60	3.15	2.92
T4 x 12	24VDC	Cont.	6 oz. at 1/32"	.25 oz. at 5/16"	1 1/2 x 1/2"	220	2.6	4.60	4.14	3.91	3.68	3.22	3.05
T4 x 16	24VDC	Inter.	17 oz. at 1/32"	.5 oz. at 13/16"	2 x 1/2"	29	20	4.80	4.32	4.08	3.84	3.36	3.12
T4 x 16	24VDC	Cont.	10 oz. at 1/32"	.5 oz. at 7/8"	2 x 1/2"	145	4	4.90	4.41	4.16	3.92	3.43	3.18
T6 x 12	24VDC	Inter.	35 oz. at 1/16"	1 oz. at 5/8"	1 1/2 x 3/4"	48	12	5.00	4.50	4.25	4.00	3.50	3.25
T6 x 12	24VDC	Cont.	20 oz. at 1/16"	1 oz. at 1/2"	1 1/2 x 3/4"	125	4.8	5.10	4.59	4.33	4.08	3.57	3.31
T8 x 9	24VDC	Inter.	50 oz. at 1/16"	1 oz. at 9/16"	1 1/8 x 1"	30	19	5.15	4.63	4.38	4.12	3.60	3.35
T8 x 9	24VDC	Cont.	15 oz. at 1/16"	1 oz. at 3/8"	1 1/8 x 1"	130	4.5	5.20	4.68	4.42	4.16	3.64	3.38
T8 x 16	24VDC	Inter.	80 oz. at 1/16"	2 oz. at 1 1/4"	2 x 1"	15	38	5.40	4.86	4.59	4.32	3.78	3.51
T8 x 16	24VDC	Cont.	40 oz. at 1/16"	2 oz. at 1 1/16"	2 x 1"	95	6	5.50	4.95	4.65	4.40	3.85	3.57
T12 x 13	24VDC	Inter.	150 oz. at 1/8"	4 oz. at 7/8"	1 5/8 x 1 1/2"	14	40	6.50	5.85	5.52	5.20	4.55	4.22
T12 x 13	24VDC	Cont.	48 oz. at 1/8"	1 oz. at 3/4"	1 5/8 x 1 1/2"	90	6.6	6.70	6.03	5.69	5.36	4.69	4.35
T12 x 19	24VDC	Inter.	175 oz. at 1/8"	6 oz. at 1 1/2"	2 3/8 x 1 1/2"	9.5	60	7.10	6.39	6.03	5.68	4.97	4.61
T12 x 19	24VDC	Cont.	80 oz. at 1/8"	1 oz. at 1 1/4"	2 3/8 x 1 1/2"	59	10	7.20	6.48	6.12	5.76	5.04	4.68


28SPDT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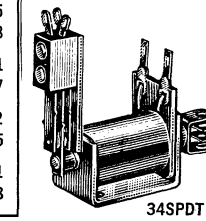
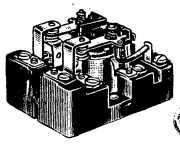

34SPDT

GUARDIAN POWER RELAYS



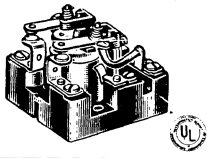
2100U DPDT — **Contacts:** double pole, double throw. **Size:** 3⅜" L. x 2½" W. x ¾" H. **Shipping Weight:** 11 ounces.

Series 2100 and 2110 power relays are rated at 25 amperes, continuous duty at 230 Volts AC, with 75% power factor. Operating power requirement for AC is 9.5 volt amperes, 60 cycles. Coil drain approximately .080 amperes at 115 volts, 60 cycles. Approximate weight of replacement coil assemblies is 6 ounces.

MOUNTING: 2 holes .196" dia. on 1⅞" centers.

*UL/Recognized Component File #E23524

Guardian	Volts	QUANTITIES 1-24	25-49	50-99	100-249	250 UP
2100U-DPDT-6	6AC	$6.75	$6.08	$5.74	$5.40	$4.73
2100U-DPDT-24	24AC	6.75	6.08	5.74	5.40	4.73
2100U-DPDT-120	120AC	6.75	6.08	5.74	5.40	4.73
2100U-DPDT-240	240AC	7.25	6.53	6.16	5.80	5.08

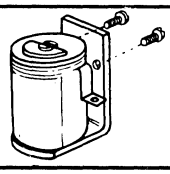


2110U DPSTNO

Contacts: Double pole, single throw, normally open. **Size:** 2¹¹⁄₁₆" L. x 2½" W. x ¾" H. **Shipping Weight:** 10 ounces.

*UL/Recognized Component File #E23524

Guardian	Volts	1-24	25-49	50-99	100-249	250 UP
2110U-DPST-N.O.-6	6AC	$5.75	$5.18	$4.89	$4.60	$4.03
2110U-DPST-N.O.-24	24AC	5.75	5.18	4.89	4.60	4.03
2110U-DPST-N.O.-120	120AC	5.75	5.18	4.89	4.60	4.03
2110U-DPST-N.O.-240	240AC	6.10	5.49	5.19	4.98	4.37



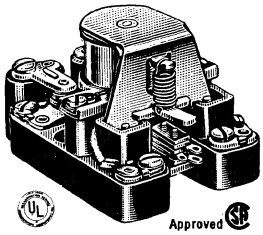
Interchangeable Coil Assemblies (No Solder Connections) . . . By removing two easy accessible screws, coil assembly can be replaced by coil of another value. Complete instructions for this operation are included with each unit. Solder connections are not required when changing coils.

REPLACEMENT COILS FOR EITHER RELAY

Guardian	Volts	QUANTITIES 1-24	25-49	50-99	100-249	250 UP
2100-6A	6AC	$2.35	$2.12	$2.00	$1.88	$1.65
2100-24A	24AC	2.35	2.12	2.00	1.88	1.65
2100-120A	120AC	2.35	2.12	2.00	1.88	1.65
2100-240A	240AC	2.65	2.39	2.25	2.12	1.86

Power Relay Replacement Contact Switch Parts — Available for Series 2100, only — Replacement Contact Switch Parts for easy right or left SPDT assembly. No solder needed. Package contains one normally open and one normally closed contact bracket, complete moving blade and terminal. Left or Right Switch Assemblies determined by viewing relay from armature hinge end with contacts up.

Guardian	QUANTITIES 1-24	25-49	50-99	100-249	250 UP
CS-2100 — LEFT	$1.95	$1.76	$1.66	$1.56	$1.37
CS-2100 — RIGHT	1.95	1.76	1.66	1.56	1.37



GUARDIAN SERIES 2300U AC SERIES 2305 DC POWER RELAY

15 Amperes

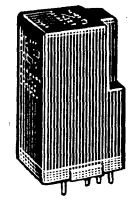
Size: 3⅝" x 2½" x 2¹⁄₁₆". **Shipping Weight:** 8 ounces. **Mounting:** Two .196" Diam. holes on 1⅞" centers.

In power applications that require up to 15 ampere contacts the Guardian Series 2300 AC, or Series 2305 DC Power Relays are Specified. Both have standard DPDT contacts rated for 15 amperes non-inductive, or 1 HP at 115/230 volts, 60 cycles. Series 2300 standard coil voltages are 6, 12, 24 and 120 VAC. Series 2305 standard coil voltages are 6, 12, 24 and 110 VDC. Inverted coil construction protects armature and contacts. Armature extension permits manual circuit testing. Screw type terminals easily accessible for top or bottom connections. Easy to mount recessed auxiliary switch, up to SPDT for 10 ampere operation, available for both AC and DC versions.

*U/L Recognized Component File #E-23524

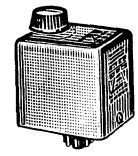
Guardian No.	Volts	Rating Amps.	QUANTITIES 1-24	25-49	50-99	100-249	250 Up
2300U-DPDT-6	6AC	15	$6.25	$5.63	$5.31	$5.00	$4.38
2300U-DPDT-24	24AC	15	6.25	5.63	5.31	5.00	4.38
2300U-DPDT-120	120AC	15	6.25	5.63	5.31	5.00	4.38
2300U-DPDT-240	240AC	15	6.50	5.85	5.53	5.20	4.55
2305-DPDT-6	6DC	15	6.25	5.63	5.31	5.00	4.38
2305-DPDT-12	12DC	15	6.25	5.63	5.31	5.00	4.38
2305-DPDT-24	24DC	15	6.25	5.63	5.31	5.00	4.38
2305-DPDT-110	110DC	15	6.75	6.08	5.74	5.40	4.73
2300-SPDT-AUX Auxiliary Switch		10	1.35	1.22	1.15	1.08	.95

GUARDIAN TIME DELAY RELAYS



SERIES TD — This is the most accurate and compact solid-state time-delay available commercially from stock. 3DPT contacts handle up to 10 amp resistive load. Six standard model relays for 24V., DC and 115V., AC 50/60 cycles provide delays from 1 to 180 seconds. All units utilize silicon semi-conductors and precision tantalum capacitors for reliability. 15-turn screw-type potentiometer furnishes high resolution and accuracy. Accurate to 5% of a nominal setting over its complete temperature and voltage range. Repeatability is 2% after a line interruption of 50 milliseconds. Termination can be quick disconnects, socket or solder connections. Size: 3" x 1⅝" x 1¹⁵⁄₁₆". Shpg. wt., 5 oz.

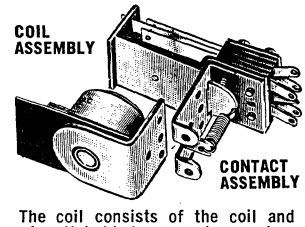
Guardian No.	Coil Voltage	Adjustment Range	Net Each, Lots of 1-49	50-99	100 Up
TD33C15-24D	24VDC±10%	1 to 15 sec.	$24.20	$21.88	$19.69
TD33C60-24D	24VDC±10%	10 to 60 sec.	25.19	22.67	20.40
TD33C180-24D	24VDC±10%	50 to 180 sec.	32.09	29.88	26.90
TD63C15-115A	115VAC±10%	1 to 15 sec.	29.70	26.73	24.06
TD63C60-115A	115VAC±10%	10 to 60 sec.	30.06	27.54	24.79
TD63C180-115A	115VAC±10%	50 to 180 sec.	36.85	33.16	29.84

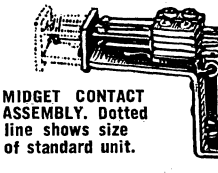


SERIES TDO — Incorporates many features of more expensive units, but is the most economical 5 amp DPDT 115V., AC solid-state adjustable time-delay relay ever offered. Delay is adjustable from 0.5 to 30 seconds on attract and is controlled by a 10-turn potentiometer for high resolution, easy reset and accuracy. Unit terminates in octal plug. Accurate within 10% of a nominal setting over its entire temperature and voltage range. Repeatability is within 2% after a line interruption of 100 milliseconds. Size: 3" x 2⅝" x 2¹⁄₁₆". Shpg. wt., 8 oz.

Guardian No.	Coil Voltage	Adjustment Range	Net Each, Lots of 1-49	50-99	100 Up
TDO-62C30-115A	115V ±%	50/60 cycle 0.5 to 30 sec.	$16.32	$15.69	$14.12

SERIES 200 RELAY WITH COMPLETELY INTERCHANGEABLE COIL AND CONTACT ASSEMBLIES





MIDGET CONTACT ASSEMBLY. Dotted line shows size of standard unit.

The coil consists of the coil and field piece; the contact assembly consists of switch blades, armature, return spring and mounting bracket. The Guardian Midget Assembly is interchangeable with the standard Series 200 coil assembly. Available with SPDT, DPDT or 4PDT contact switch assemblies, each interchangeable with all AC or DC coils.

SERIES 200 RELAY

Guardian No.	Volts	Coil	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
200-6A	6	AC	$1.85	$1.67	$1.57	$1.48	$1.30
200-12A	12	AC	1.85	1.67	1.57	1.48	1.30
200-24A	24	AC	1.85	1.67	1.57	1.48	1.30
200-115A	115	AC	2.15	1.94	1.83	1.72	1.51
200-230A	230	AC	2.85	2.57	2.42	2.28	2.00
200-6D	6	DC	2.00	1.80	1.70	1.60	1.40
200-12D	12	DC	2.00	1.80	1.70	1.60	1.40
200-24D	24	DC	2.00	1.80	1.70	1.60	1.40
200-32D	32	DC	2.00	1.80	1.70	1.60	1.40
200-110D	110	DC	2.65	2.39	2.25	2.12	1.86
200-5,000D	†	DC	2.30	2.07	1.96	1.84	1.61
200-10,000D	†	DC	2.65	2.39	2.25	2.12	1.86

† Plate.

CONTACT SWITCH ASSEMBLIES

Guardian No.	Type	Cont. Amps	Cont. Comb.	Net Each, Lots of 1-24	15-49	50-99	100-249	250 Up
200-1	Standard	8	SPDT	$1.60	$1.44	$1.36	$1.28	$1.12
200-2	Standard	8	DPDT	2.10	1.89	1.79	1.68	1.47
200-4	Standard	12.5	DPDT	2.35	2.12	2.00	1.88	1.65
200-5	Standard	8	4PDT	3.70	3.33	3.15	2.96	2.59
200-M1	Midget	10	SPDT	1.50	1.35	1.28	1.20	1.05
200-M2	Midget	10	DPDT	1.85	1.67	1.57	1.48	1.30
200-M5	Midget	8	4PDT	3.00	2.70	2.55	2.40	2.10

CONTACT SWITCH PARTS

Guardian No.	Type	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
200-3	Standard	$1.60	$1.99	$1.36	$1.28	$1.12
200-M3	Midget	1.60	1.99	1.36	1.28	1.12

Use contact switch parts 200-3 for adding poles to contact switch assemblies 200-1 and 200-2. Use midget contact switch parts 200-M3 for adding poles to midget contact switch assemblies 200-M1 and 200-M2.

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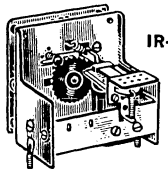
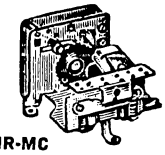
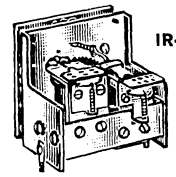
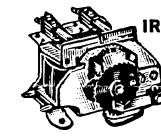
STEPPING CONTROLS—For accurate sequence selecting, pulse multiplying, pulse dividing, circuit selecting, automatic homing, remote homing, counting and latching. Guardian steppers are specified for automatic control of electrically operated business machines, accumulators (coin and other), animated displays, electrical scoreboards, automatic overhead garage doors, assembly line controls, automatic packaging (loading) controls, sump pump controls, commercial slide projectors, among others. All Guardian steppers are **intermittent duty** direct-drive units with switching operations completed upon energization.


IR-PC


IR-MC


IR-PER

MER


IR-MAS

CONTINUOUS ROTATION

The circuit selection wiper on Continuous Rotation Steppers moves in one direction only, upon energization of the step coil. This type of stepper is available in standard 24 point (MC) or 40 point (PC). The Guardian MC Midget Continuous Rotation Stepper is particularly adaptable to repetitive sequence functions. The 24 bridging contact deck is evenly divisible by eight possible sequences. The PC stepper features self-stepping speeds up to 30 steps per second and mechanical life expectancy of over 4,000,000 steps.

All stepper contact points are rated 1½ amps resistive, at 115 V., 60 cps. Coil* Voltages are 120 AC, 60 Hz and 24 DC

ELECTRICAL RESET

The circuit selecting wiper on Electrical Reset Steppers can be reset to zero or home from any desired position, by energization of the reset magnet. They are frequently employed to record counts by various numerical groups, then resetting automatically.

Type M.E.R. A direct drive (steps on energization) with positive mechanical reset interlock actuated by the reset magnet and unlocked on the first energization of the step magnet. Assures positive reset on as short a pulse as one-hundreth of a second. By interconnecting two or more Steppers, count can be increased to any desired total counting by tens, or any convenient multiple. Will control a sequence of operation and then automatically reset to starting position.

Type P.E.R. Operation same as M.E.R. but with up to 36 active contacts.

ADD AND SUBTRACT

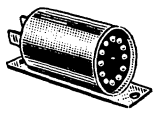
Add and subtract steppers are basically continuous rotation types with the added feature of being able to reserve the movement of the selecting wiper when required.

Type IR-MAS A midget add and subtract stepper incorporating a cam actuated switch which operates at zero position. Used primarily to indicate a zero balance between pulses supplied to the "add" coil as compared to pulses received by the "subtract" coil.

Guardian No.	Watts	Volt Amperes	No. of Points	No. of Active Contacts***	Max. Steps Per Second	Shipping Weight Ounces	SIZE Length	Width	Height	QUANTITIES Net Each, Lots of 1-24	25-49	50-99	100-249	250-up
IR-PC-120AC	30	40	40	40	20	17	3⅜	3⅜	3 1/32	$19.95	$17.96	$16.96	$15.96	$13.97
IR-MC-120AC	17	30	24	24	20	9½	3¼	3	2 3/16	14.75	13.28	12.54	11.80	10.32
IR-PER-120AC	35-7**	50-10**	40	36	20	22	3	3⅜	3 1/16	26.25	23.63	22.31	21.00	18.37
MER-120AC	20-8**	35-9**	24	22	20	11½	2 3/16	3 5/16	2 3/16	15.75	14.18	13.39	12.60	11.03
MER-24DC	20-8**	35-9**	24	22	20	11½	2 3/16	3 5/16	2 3/16	15.75	14.18	13.39	12.60	11.03
IR-MAS-120AC	9	12	30	****	10	11	3¼	3⅛	1 15/16	17.35	15.62	14.75	13.88	12.15

NOTE— *Steppers will operate satisfactorily at 15% below or 10% above rated voltage. **Listings are for stepping coil and reset coil, respectively. ***Includes Zero (0) position. ****Zero (0) position switch only.

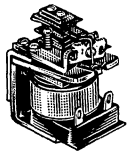
ROTOMITE STEPPER—DC IR-705-12P



An entirely new concept in stepper design, the Guardian "Rotomite" is first with maxmium stepper control in minimum space. Offering high contact rating of 3 amps resistive, 1 amp inductive (50% PF). Featuring **continuous duty operation** with life well in excess of one million steps, the completely enclosed Rotomite is geared for continuous rotation of 12 positions. A few Rotomite applications presently include computers, business machines, lighting and vending controls, counting and sorting devices, and model trains. Shpg. wt., 5 oz.

SIZE: 2" Long x 1 1/16" Dia.			QUANTITIES Net Each, Lots of				
Guardian No.	No. Points	Coil Voltage	1-24	25-49	50-99	100-249	250-up
IR-705-12P-6D	12	6DC	$6.60	$5.94	$5.61	$5.28	$4.62
IR-705-12P-12D	12	12DC	6.60	5.94	5.61	5.28	4.62
IR-705-12P-24D	12	24DC	6.60	5.94	5.61	5.28	4.62

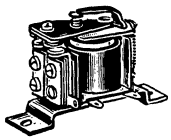
LATCHING ON/OFF RELAY—AC—IR-640L—5 AMPERE



Midget Latching Relay with single coil and 5 amp contact rating for SPST, or SPDT, contact combinations. Recommended for positive ON/OFF control of positioning devices, remote controls, lighting circuits and many additional applications. Impulse as short as 20 M.S. energizes coil to reverse position of snap-action switches. Holds last position of switch with coil de-energized. Contacts rated for 5 amps, at 60 cycles, 115 V., AC, non-inductive load. Shpg. wt., 4 oz.

SIZE: 2 1/16" x 1⅛" x 1⅝"			QUANTITIES Net Each, Lots of				
Guardian No.	Cont. Comb.	Coil Voltage	1-24	25-49	50-99	100-249	250-up
IR-640L-A-120A	SPST	115AC	$4.45	$4.01	$3.78	$3.56	$3.12
IR-640L-C-120A	SPDT	115AC	4.75	4.28	4.04	3.80	3.33

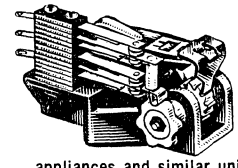
HEAVY DUTY INDUSTRIAL AC RELAY—IR-220—20 AMPERE



This rugged unit makes and breaks up to 20 amps, at 230 volts. Armature is equipped with phenolic contact mounting block carrying 5/16" dual contacts. Phenolic is tested at 1500 volts breakdown to ground. Contacts are silver alloy. Relay is available in dual SPST, normally open contact combination only. Contact rating 20 amps at 60 cycles, 230V., AC, non-inductive load. Mounting: Mounting holes—clearance for 8-32 with 2 19/32" centers. Shpg. wt., 5.5 oz.

SIZE: 3" x 1 7/8" x 1¾"				QUANTITIES Net Each, Lots of				
Guardian No.	Coil Voltage	Coil Res.	Cont. Comb.	1-24	25-19	50-99	100-249	250 Up
IR-220-A-24A	24AC	25	SPST*	$4.50	$4.05	$3.83	$3.60	$3.15
IR-220-A-115A	120AC	600	SPST*	5.05	4.55	4.29	4.04	3.54
IR-220-A-230A	240AC	2,500	SPST*	5.55	5.00	4.72	4.44	3.89

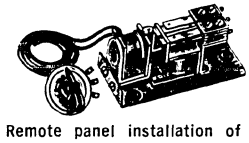
* Normally Open.



SERIES 660 AC— 665 DC SEQUENCE RELAY

Intended to perform switching operations in a desired, repetitive sequence. Each electrical impulse moves the relay contacts to the next position in the sequence. Applications include lights, signs, motors, appliances and similar units. Contacts rated up to 12½ amps, 115V., 60 cycles, non-inductive load. Shpg. wt., 8 oz. Mounting: 4 holes 8-32 (NC-2B).

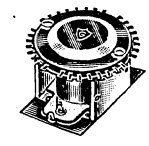
SIZE: (DPDT) 3" x 1¾" x 2 1/16"			QUANTITIES Net Each, Lots of				
Guardian No.	Coil Voltage	Cont. Comb.	1-24	25-49	50-99	100-249	250-up
660-C-24A	24AC	SPDT	$6.85	$6.17	$5.82	$5.48	$4.80
660-2C-24A	24AC	DPDT	7.40	6.66	6.29	5.92	5.18
660-4C-24A	24AC	4PDT	10.75	9.68	9.14	8.60	7.53
660-C-120	115VAC	SPDT	6.85	6.17	5.82	5.48	4.80
660-2C-120	115VAC	DPDT	7.40	6.66	6.29	5.92	5.18
660-4C-120	115VAC	4PDT	10.75	9.68	9.14	8.60	7.53
665-C-24D	24DC	SPDT	6.85	6.17	5.82	5.48	4.80
665-2C-24D	24DC	DPDT	7.40	6.66	6.29	5.92	5.18
665-4C-24D	24DC	4PDT	10.75	9.68	9.14	8.60	7.53



ELECTRICAL RESET OVERLOAD RELAY—X-300-ER

Applicable for use in industrial panel installation, provides precise protection from current surges and continuous overloads. Remote panel installation of control potentiometer simplifies adjustment of relay to operate on any current value from 250 to 750 milliamperes, DC. Auxiliary for pilot light indication of "overload" or "clear" position. Reset relay can be operated from any point convenient to operator. Insulation between coil and ground rated at 3,000 volts. Shpg. wt., 13 oz.

SIZE: 4¾" x 2" x 1 15/16"		QUANTITIES Net Each, Lots of				
Guardian No.	Reset Coil	1-24	25-49	50-99	100-249	250-up
X-300-ER	6VAC	$10.00	$8.55	$8.50	$8.00	$7.00



32 POLE GROUP SELECTOR DC RELAY—IR-805-S

Group selector relay can simultaneously make common up to 32 circuits. All circuits insulated from ground. Contact blades molded in thermosetting phenolic. All contacting members completely enclosed. Shipping weight 6 oz.

SIZE: 2 7/32" x 1 17/32" x 2⅛"			QUANTITIES Net Each, Lots of				
Guardian No.	Coil Voltage	Coil Res.	1-24	25-49	50-99	100-249	250-up
IR-805-S	24VDC	72	$5.00	$4.50	$4.25	$4.00	$3.50

GUARDIAN PROTECTIVE SENSOR DEVICES

Fast-acting voltage, frequency and phase rotation sensors provide accurate repeat cycle characteristic of solid state input sensors, plus dependable 3PDT relay output. For use in visual or audible indicating devices or transfer switches. Sensors are non-latching; electrical latch and unlatch can be obtained by interwiring Guardian 24 VDC or 115 VAC enclosed relays. Versatile mounting; accepts printed-circuit socket, chassis mount, clip or chassis-mounted socket. 3PDT contacts rated 10 amps resistive at 115 VAC. Temperature range, 0°C to 50°C. Life expectancy, 100,000 operations min. Protected for transient voltages: 600 volts on 3-phase models, 2500 volts on all other types. With plastic dust cover.

3-PHASE, 4-WIRE VOLTAGE SENSING DEVICE

Detects from 3-phase source of 95 VAC when sufficient voltage available and loss of any line or drop-in average to 50 VAC. For use as warning or lockout device to protect 3-phase motors and systems. Designed for pull-in and drop-out; will repeat close values, allowing for unevenly loaded lines which can cause drastic rise and fall in other lines.

Guardian No. IR-AV2-611 — For 115 VAC, 60 Hz. .....Net **$34.20**
Guardian No. IR-AV2-621 — For 115 VAC, 400 Hz. .....Net **34.20**

CLOSE DIFFERENTIAL VOLTAGE SENSING DEVICE

Output relay energizes as input voltage rises to adjusted sense-point, de-energizes as input drops to adjusted differential release point. Non-latching output; energizes when voltage is returned to normal. Both sense-point and differential are adjusted through top of cover.

Guardian Number	Nominal Input	Adjustable Voltage Ranges		Net Each
		Sense-Point	Differential	
IR-VS3-610	115 VAC, 60 Hz	105 - 130 VAC	2.5 - 15 VAC	$54.80
IR-VS3-620	115 VAC, 400 Hz	105 - 130 VAC	2.5 - 15 VAC	54.80
IR-VS3-300	24 VDC	23 - 32 VDC	1 - 5 VDC	53.40
IR-VS3-410	24 VAC, 60 Hz	23 - 32 VAC	1 - 5 VAC	54.15
IR-VS3-420	24 VAC, 400 Hz	23 - 32 VAC	1 - 5 VAC	54.15

OVER-VOLTAGE SENSING DEVICE

Output relay energizes as input voltage rises to adjusted sense-point. De-energizes as input voltage drops approx. 2.5% below sense-point. Permits sensor to function as under or over-voltage detector. Adjustment through cover.

Guardian Number	Nominal Input	Adjustable Voltage Range	Net Each
IR-VS1-610	115 VAC, 60 Hz	90 - 130 VAC	$42.90
IR-VS1-620	115 VAC, 400 Hz	90 - 130 VAC	42.90
IR-VS1-300	24 VDC	18 - 32 VDC	41.70
IR-VS1-410	24 VAC, 60 Hz	18 - 32 VAC	42.15
IR-VS1-420	24 VAC, 400 Hz	18 - 32 VAC	42.15

UNDER-VOLTAGE SENSING DEVICE

Output relay energizes at low voltage pull-in point, independent of control circuit; remains energized until voltages rise to adjusted sense-point.

Guardian Number	Nominal Input	Adjustable Voltage Range	Net Each
IR-VS2-610	115 VAC, 60 Hz	90 - 130 VAC	$42.90
IR-VS2-620	115 VAC, 400 Hz	90 - 130 VAC	42.90
IR-VS2-300	24 VDC	18 - 32 VDC	41.70
IR-VS2-410	24 VAC, 60 Hz	18 - 32 VAC	42.15
IR-VS2-420	24 VAC, 400 Hz	18 - 32 VAC	42.15

4-WIRE PHASE ROTATION SENSOR DEVICE

With ABC phase rotation, output relay is energized by 75 VAC balanced phase inputs. Non-latching. Designed to monitor power input to 3-phase motors or systems.

Guardian No. IR-PR1-610 — For 115 VAC, 60 Hz. .....Net **$39.95**
Guardian No. IR-PR1-620 — For 115 VAC, 400 Hz. .....Net **39.95**

ADJUSTABLE FREQUENCY SENSOR DEVICE

Use as under or over-frequency detector; ideal as AC generator speed detector, destructive frequency trip-out or AC power loss detector. Output relay of types IR-FS1 energizes as frequency rises to the adjusted sense-point and de-energizes when frequency drops to approx. 1.5% of sense-point; output relay of types IR-FS2 energizes at its low-voltage pull-in point, independent of control circuit and remains energized until frequency rises to the adjusted sense-point. Adjustable through cover.

Guardian Number	Nominal Input	Adjustable Frequency Range	Net Each
IR-FS1-610	115 VAC, 60 Hz	45 - 66 Hz	$55.20
IR-FS1-620	115 VAC, 400 Hz	360 - 440 Hz	55.20
IR-FS2-610	115 VAC, 60 Hz	45 - 66 Hz	55.20
IR-FS2-620	115 VAC, 400 Hz	360 - 440 Hz	55.20

GUARDIAN RELAYS & SOLENOIDS

GENERAL PURPOSE
POWER
STEPPING
TIME DELAY
SOLENOIDS
SENSORS

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Your Authorized Guardian Distributor

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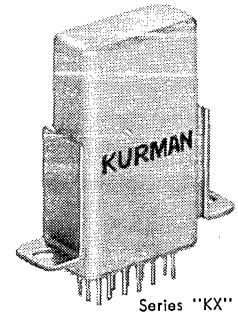
KEEP PACE WITH KURMAN RELAYS



Series "KX"

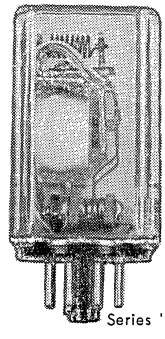
CRYSTAL CAN RELAYS

- General Purpose 6, 12, & 24 vdc
- Multipole—to 4pdt
- Sensitive—2.0/2.3/2.8/4.0/4.5/5.2/6.5/9.0/20/45 ma
- Low Level—available in all models

Crystal Can Relays, a favorite of Aerospace and Military, are now specified by OEM and Industrial Design Engineers for applications requiring high reliability and compact size. Available with solder lug or plug-in pin terminals.

SPECIFICATIONS:
Contact Rating: 2 amp (28 vdc)
Ambient Temperature: —65 to +125°C
Vibration: 20 g's (10 g's Sensitive)
Shock: 50 g's (15 g's Sensitive)
Weight: 20 g's (31 grams Sensitive)
Operate Time: 6 msec (15 msec Sensitive)
Release Time: 6 msec (10 msec Sensitive)

IN STOCK NOW


Series "26"

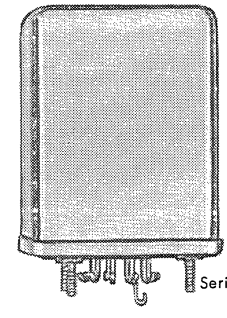
GENERAL PURPOSE RELAYS

- OPEN
- DUST COVER
- HERMETICALLY SEALED

General Purpose Relays are available in a wide range of voltages, terminal styles and cases for maximum versatility in application. Open and Hermetically Sealed Relays have 20-ampere-rated contacts, Dust Cover Relays have 10 ampere rated contacts.

SPECIFICATIONS:
Contact Rating: 20 amp (10 amp for Dust Cover)
Ambient Temperature: —55°C to +85°C
Switching Arrangements: spdt to 4pdt contacts (spdt to 3pdt for Dust Cover)
Operate/Release time: 16 seconds
Vibration: 10 g's
Shock: 15 g's
Weight: 4 oz (Open), 3 oz. (Dust Cover), 7 oz. (Hermetic)

IN STOCK NOW


Series "5"

SENSITIVE RELAYS

- OPEN
- DUST COVER
- HERMETICALLY SEALED

Sensitive Relays are available in a wide range of designs for low power switching requirements. Standard designs include spdt, dpdt, 3pdt, 4pdt, 5pdt, and 6pdt contacts.

SPECIFICATIONS:
Contact Rating: 5 amp (2 amp for spdt)
Ambient Temperature: —55 to +85°C
Time: 20 millisec operate, 10 millisec release
Vibration: 10 g's (10 to 55 Hz)
Shock: 15 g's
Max. Weight: 2 oz (Open), 3 oz (Dust Cover), 6 oz (Hermetic)

IN STOCK NOW

CUSTOM RELAYS
Because all our products are designed and manufactured "in-house," Kurman can furnish custom relays to specific coil, contact or case requirements. An extensive library of already-available custom designs for special applications is available. Consult factory for further details.

KURMAN INSTRUMENTS CORP.

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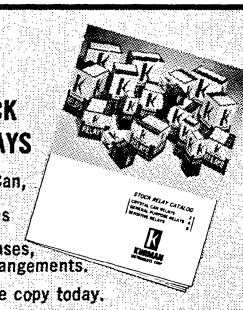

Includes Crystal Can, General Purpose and Sensitive types with available terminal styles, cases, and switching arrangements.

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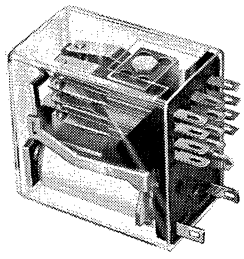
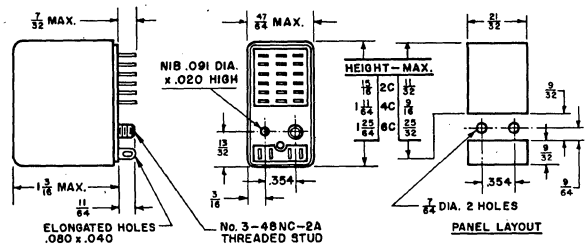
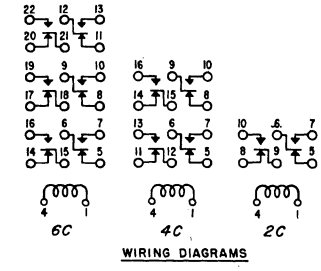
INDUSTRIAL PRODUCTS

SERIES CR...MINIATURE INDUSTRIAL RELAYS...DUST PROTECTED

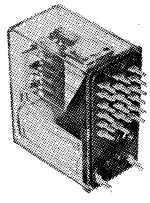


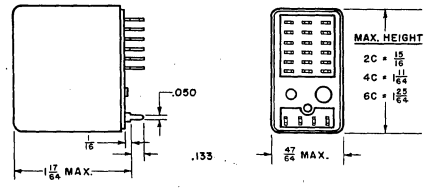


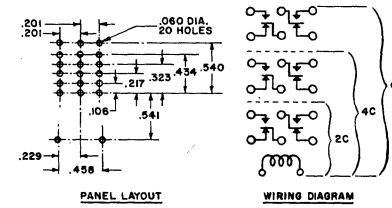


Part Number	Contact Form	Rating Amps	Nominal Volts DC	Resistance (ohms ± 10%)	List Price
2 AMP					
CR2DDSA- 6VDN	DPDT	2	6	52	$3.20
CR2DDSA- 12VDN	DPDT	2	12	185	3.20
CR2DDSA- 24VDN	DPDT	2	24	700	3.20
CR2DDSA- 48VDN	DPDT	2	48	2500	3.20
CR2DDSA- 115VDN	DPDT	2	115	15000	4.90
CR4DDSA- 6VDN	4PDT	2	6	52	3.60
CR4DDSA- 12VDN	4PDT	2	12	185	3.60
CR4DDSA- 24VDN	4PDT	2	24	700	3.60
CR4DDSA- 48VDN	4PDT	2	48	2500	3.60
CR4DDSA- 115VDN	4PDT	2	115	15000	5.30
CR6DDSA- 6VDN	6PDT	2	6	25	4.60
CR6DDSA- 12VDN	6PDT	2	12	90	4.60
CR6DDSA- 24VDN	6PDT	2	24	430	4.60
CR6DDSA- 48VDN	6PDT	2	48	1550	4.60
CR6DDSA- 115VDN	6PDT	2	115	9000	5.50
5 AMP					
CR2DDSF- 6VDN	DPDT	5	6	52	3.30
CR2DDSF- 12VDN	DPDT	5	12	185	3.30
CR2DDSF- 24VDN	DPDT	5	24	700	3.30
CR2DDSF- 48VDN	DPDT	5	48	2500	3.30
CR2DDSF- 115VDN	DPDT	5	115	15000	5.00
CR4DDSF- 6VDN	4PDT	5	6	52	3.80
CR4DDSF- 12VDN	4PDT	5	12	185	3.80
CR4DDSF- 24VDN	4PDT	5	24	700	3.80
CR4DDSF- 48VDN	4PDT	5	48	2500	3.80
CR4DDSF- 115VDN	4PDT	5	115	15000	5.50
CR6DDSF- 6VDN	6PDT	5	6	25	4.90
CR6DDSF- 12VDN	6PDT	5	12	90	4.90
CR6DDSF- 24VDN	6PDT	5	24	430	4.90
CR6DDSF- 48VDN	6PDT	5	48	1550	4.90
CR6DDSF- 115VDN	6PDT	5	115	9000	5.80
Bifurcated Contacts					
CR2DDSB- 6VDN	DPDT	2	6	52	3.60
CR2DDSB- 12VDN	DPDT	2	12	185	3.60
CR2DDSB- 24VDN	DPDT	2	24	700	3.60
CR2DDSB- 48VDN	DPDT	2	48	2500	3.60
CR2DDSB- 115VDN	DPDT	2	115	15000	5.30
CR4DDSB- 6VDN	4PDT	2	6	52	4.00
CR4DDSB- 12VDN	4PDT	2	12	185	4.00
CR4DDSB- 24VDN	4PDT	2	24	700	4.00
CR4DDSB- 48VDN	4PDT	2	48	2500	4.00
CR4DDSB- 115VDN	4PDT	2	115	15000	5.70

SENSITIVE Part Number	Contact Form	Rating Amps	Resistance (ohms ± 10%)	Pickup I (maDC)	List Price
CR2DDSS- 1000RDS	DPDT	1	1000	8.5	$3.50
CR2DDSS- 2500RDS	DPDT	1	2500	5.8	3.50
CR2DDSS- 5000RDS	DPDT	1	5000	4.1	4.00
CR2DDSS- 10000RDS	DPDT	1	10000	3.1	4.40
CR4DDSS- 1000RDS	4DPT	1	1000	13.0	3.95
CR4DDSS- 2500RDS	4PDT	1	2500	8.4	3.95
CR4DDSS- 5000RDS	4PDT	1	5000	6.2	4.45
CR4DDSS- 10000RDS	4PDT	1	10000	4.5	4.85
CR6DDSS- 1000RDS	6PDT	1	1000	16.0	5.50
CR6DDSS- 2500RDS	6PDT	1	2500	10.0	5.50
CR6DDSS- 5000RDS	6PDT	1	5000	7.2	6.00
CR6DDSS- 10000RDS	6PDT	1	10000	5.0	6.40







PRINTED CIRCUIT TERMINALS

Part Number	Contact Form	Rating Amps	Nominal Volts DC	Resistance (ohms ± 10%)	List Price
CR2DDCA- 6VDN	DPDT	2	6	52	$3.20
CR2DDCA- 12VDN	DPDT	2	12	185	3.20
CR2DDCA- 24VDN	DPDT	2	24	700	3.20
CR2DDCA- 48VDN	DPDT	2	48	2500	3.20
CR2DDCA- 115VDN	DPDT	2	115	15000	4.90
CR4DDCA- 6VDN	4PDT	2	6	52	3.60
CR4DDCA- 12VDN	4PDT	2	12	185	3.60
CR4DDCA- 24VDN	4PDT	2	24	700	3.60
CR4DDCA- 48VDN	4PDT	2	48	2500	3.60
CR4DDCA- 115VDN	4PDT	2	115	15000	5.30
CR6DDCA- 6VDN	6PDT	2	6	25	4.60
CR6DDCA- 12VDN	6PDT	2	12	90	4.60
CR6DDCA- 24VDN	6PDT	2	24	430	4.60
CR6DDCA- 48VDN	6PDT	2	48	1550	4.60
CR6DDCA- 115VDN	6PDT	2	115	9000	5.50

Trade Discount Applies To List Prices Only
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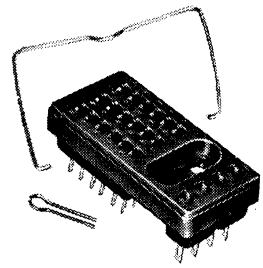
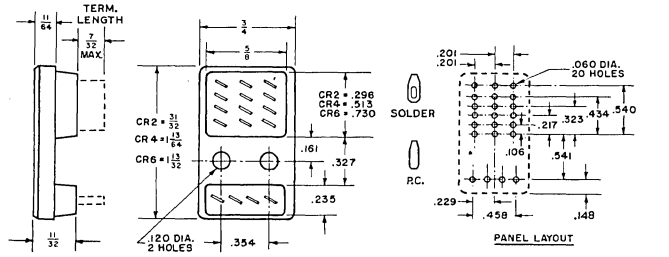
INDUSTRIAL PRODUCTS

SERIES CR...SOCKET ORDERING GUIDE

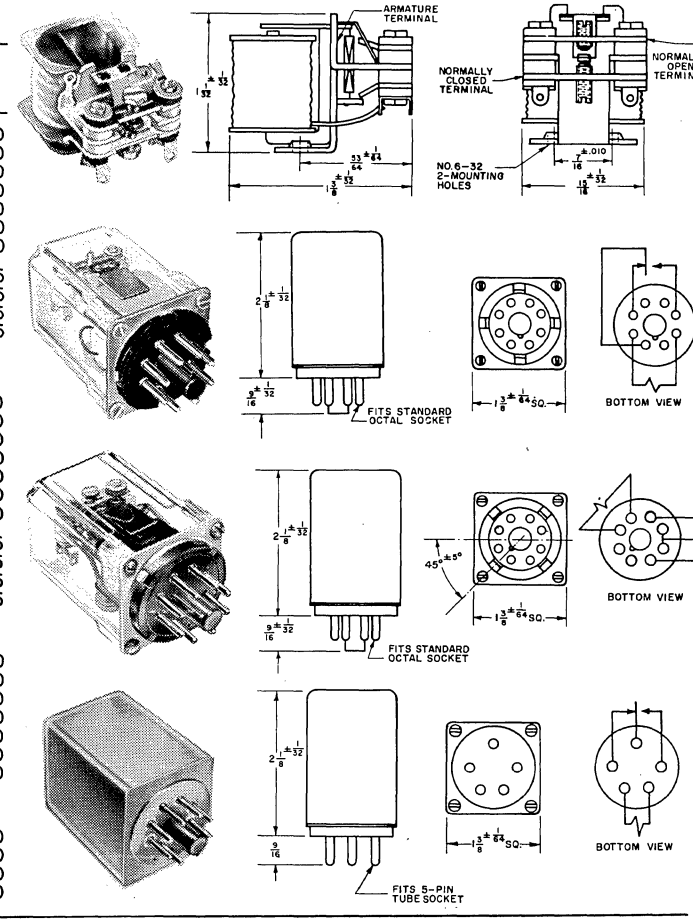
Relay Series	Socket No. (Inc. grnd clip & retainer) Solder Term	P.C. Term	List Price
CR2	CR2 SO1	CR2 SO2	$.55
CR4	CR4 SO1	CR4 SO2	.60
CR6	CR6 SO1	CR6 SO2	.95





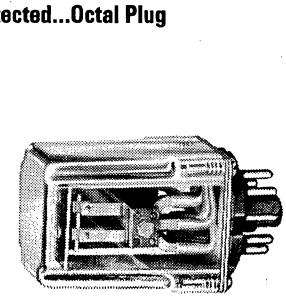
SERIES SRI...MINIATURE SENSITIVE RELAY

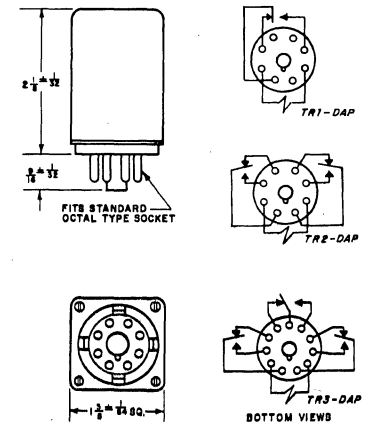
Part Number	Contact Form	Rating Amps	Resistance (ohms ± 10%)	Pickup I (maDC)	List Price
SR1AAS- 500RDN	SPDT	2	500	4.5	$4.20
SR1AAS- 1000RDN	SPDT	2	1000	3.2	4.20
SR1AAS- 2000RDN	SPDT	2	2000	2.2	4.20
SR1AAS- 2500RDN	SPDT	2	2500	2.0	4.40
SR1AAS- 5000RDN	SPDT	2	5000	1.4	4.70
SR1AAS- 8000RDN	SPDT	2	8000	1.1	4.90
SR1AAS- 10000RDN	SPDT	2	10000	1.0	5.20
SR1AAS- 1000RDS	SPDT	1	1000	2.3	4.55
SR1AAS- 5000RDS	SPDT	1	5000	1.0	5.05
SR1AAS- 10000RDS	SPDT	1	10000	0.7	5.55
SR1AAS- 13000RDS	SPDT	1	13000	0.6	5.55
Dust Protected...Octal Plug...90° Rotation					
SR1DAP- 500RDN	SPDT	2	500	4.5	5.90
SR1DAP- 1000RDN	SPDT	2	1000	3.2	5.90
SR1DAP- 2000RDN	SPDT	2	2000	2.2	5.90
SR1DAP- 2500RDN	SPDT	2	2500	2.0	6.10
SR1DAP- 5000RDN	SPDT	2	5000	1.4	6.40
SR1DAP- 8000RDN	SPDT	2	8000	1.1	6.60
SR1DAP- 10000RDN	SPDT	2	10000	1.0	6.90
SR1DAP- 1000RDS	SPDT	1	1000	2.3	6.25
SR1DAP- 5000RDS	SPDT	1	5000	1.0	6.75
SR1DAP- 10000RDS	SPDT	1	10000	0,7	7.25
SR1DAP- 13000RDS	SPDT	1	13000	0.6	7.25
Dust Protected...Octal Plug...45° Rotation					
SR1DBP- 500RDN	SPDT	2	500	4.5	5.90
SR1DBP- 1000RDN	SPDT	2	1000	3.2	5.90
SR1DBP- 2000RDN	SPDT	2	2000	2.2	5.90
SR1DBP- 2500RDN	SPDT	2	2500	2.0	6.10
SR1DBP- 5000RDN	SPDT	2	5000	1.4	6.40
SR1DBP- 8000RDN	SPDT	2	8000	1.1	6.60
SR1DBP- 10000RDN	SPDT	2	10000	1.0	6.90
Dust Protected...5 Pin Plug					
SR1DCT- 1000RDN	SPDT	2	1000	3.2	6.20
SR1DCT- 2500RDN	SPDT	2	2500	2.0	6.40
SR1DCT- 5000RDN	SPDT	2	5000	1.4	6.70
SR1DCT- 10000RDN	SPDT	2	10000	1.0	7.20



SERIES TR...MINIATURE GENERAL PURPOSE RELAY...5 Amp...Dust Protected...Octal Plug

Part Number	Contact Form	Rating Amps	Nominal Volts	Resistance (ohms ± 10%)	List Price
TR1DAPF- 6VDN	SPDT	5	6DC	52	$5.50
TR1DAPF- 12VDN	SPDT	5	12DC	185	5.50
TR1DAPF- 24VDN	SPDT	5	24DC	700	5.50
TR1DAPF- 48VDN	SPDT	5	48DC	2500	5.50
TR1DAPF- 110VDN	SPDT	5	110DC	10000	6.20
TR1DAPF- 115VAN	SPDT	5	115AC	——	5.60
TR2DAPF- 6VDN	2PDT	5	6DC	52	6.10
TR2DAPF- 12VDN	2PDT	5	12DC	185	6.10
TR2DAPF- 24VDN	2PDT	5	24DC	700	6.10
TR2DAPF- 48VDN	2PDT	5	48DC	2500	6.10
TR2DAPF- 110VDN	2PDT	5	110DC	10000	6.80
TR2DAPF- 115VAN	2PDT	5	115AC	——	6.20
TR3DAPF- 6VDN	3PDT	5	6DC	52	7.60
TR3DAPF- 12VDN	3PDT	5	12DC	185	7.60
TR3DAPF- 24VDN	3PDT	5	24DC	700	7.60
TR3DAPF- 48VDN	3PDT	5	48DC	2500	7.60
TR3DAPF- 110VDN	3PDT	5	110DC	10000	8.30
TR3DAPF- 115VAN	3PDT	5	115AC	——	7.70





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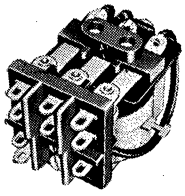
RELAYS • BUZZERS • FOOT SWITCHES

GENERAL PURPOSE RELAYS



MINIATURE OPEN TYPE (SERIES MK)

Open type relay in standard contact arrangements up to 3PDT. 5 or 10 amp contact rating. Voltages up to 230 volts, A.C. or D.C. Factory adjusted to pull in at 75% max. of nominal voltage D.C. and 80% max. of nominal voltage A.C. Designed to pass 1,000 volt A.C. Hipot test between all elements. UL File #36213

	5 amp contact rating	6, 12, 24, 115V	220V
AC	MK1A SPDT	$3.10	$3.55
	MK2A DPDT	3.75	4.15
	MK3A 3PDT	4.15	4.55

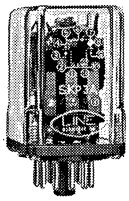
	5 amp contact rating	6, 12, 24V	110V
DC	MK1D SPDT	$3.05	$3.45
	MK2D DPDT	3.40	3.85
	MK3D 3PDT	3.85	4.25

PLATE CIRCUIT RELAYS 5 amp. open type

	2500Ω	5000Ω	10,000Ω	20,000Ω
MKC-1 SPDT	$3.15	$3.25	$3.80	$4.05
MKC-2 DPDT	3.65	3.80	4.30	4.55
MKC-3 3PDT	4.10	4.20	4.75	5.00

10 amp models ask for series MKCO

All models available in 10 amps. DIMENSIONS: 1-11/16 × 1-3/16 × 29/32
All models available in 10 amps. Ask for series MKO.



MINIATURE PLUG-IN (SERIES MKP)

Plug-in type relay, same factory tested, quality features as above. Will operate continuously in ambient temperature ranges of 45° to 75°C. for D.C. coils and −45° to 55°C. for A.C. coils. Metal or clear C-11 Styrene dust cover.
UL File #36213

	5 amp contact rating	6, 12, 24, 115V	220V
AC	MKP1A SPDT	$5.45	$5.90
	MKP2A DPDT	6.05	6.45
	MKP3A 3PDT	7.50	7.95

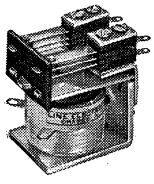
	5 amp contact rating	6, 12, 24V	110V
DC	MKP1D SPDT	$5.40	$5.85
	MKP2D DPDT	6.00	6.40
	MKP3D 3PDT	7.45	7.90

PLATE CIRCUIT RELAYS 5 amp. enclosed type

	2500Ω	5000Ω	10,000Ω	20,000Ω
MKF-1 SPDT	$5.90	$6.00	$6.40	$6.65
MKF-2 DPDT	6.30	6.40	6.80	7.10
MKF-3 3PDT	7.75	7.90	8.40	8.65

10 amp models ask for series MKFO

All models available in 10 amps. Ask for series MKH. DIMENSIONS: 2-1/4 × 1-5/8 × 1-3/8



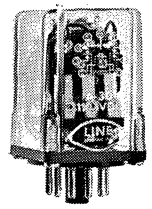
MINIATURE MULTIPLE LEAF (SERIES MW)

A small, versatile relay available in a variety of contact configurations consisting of forms A, B, C or D. (make before break), up to a maximum of 12 springs. Coils can be supplied for operation on D.C. or A.C. 60 cps. Operation on 400 cps. source is available with self-contained rectifiers on relays with covers.

	10 amp contact rating	6, 12, 24, 115V	220V
AC	MW1A SPDT	$2.70	$3.10
	MW2A DPDT	3.30	3.75
	MW3A 3PDT	3.80	4.20
	MW14A 4PDT	6.35	6.75

		6, 12, 24V	110V
DC	MW1D SPDT	$2.60	$3.10
	MW2D DPDT	3.25	3.65
	MW3D 3PDT	3.75	4.15
	MW14D 4PDT	6.35	6.80

DIMENSIONS: 1-17/32 × 1-21/32 × 1-0



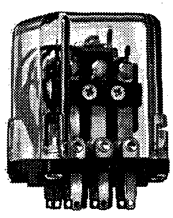
SPOTLIGHT RELAYS (SERIES A)

High quality, general purpose plug-in relay with built-in circuit indicator lamp. Available in C-11 Styrene colored cases for circuit identification or in metal can. Saves panel space, reduces costly labor. UL File #36213.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	A-1A SPDT	$6.40	$6.85
	A-2A DPDT	7.00	7.40
	A-3A 3PDT	8.45	8.85

		6, 12, 24V	110V
DC	A-1D SPDT	$6.35	$6.75
	A-2D DPDT	6.95	7.35
	A-3D 3PDT	8.40	8.80

All models available in 10 amps. AH series.
DIMENSIONS: 2-1/4 × 1-3/8 × 1-3/8



SPOTLIGHT RELAYS. LOW COST. (SERIES ATR)

A plug-in relay which is identical in construction to our miniaturized low profile SERIES MKTR (see page 3) but with built-in circuit indicator lamp. It can be used in conjunction with our 92-67 or 92-82 sockets and 91-49 spring clip. UL File #36213.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	ATR1A SPDT	$5.25	$5.60
	ATR2A DPDT	5.90	6.30
	ATR3A 3PDT	6.35	6.80

	5 amp contact rating	6, 12, 24V	110V
DC	ATR1D SPDT	$5.15	$5.55
	ATR2D DPDT	5.55	6.00
	ATR3D 3PDT	6.05	6.45

All models available in 10 amps AHTR Series.
DIMENSIONS: 1-3/16 × 1-3/8 × 1-3/8

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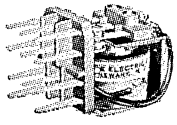
GENERAL PURPOSE RELAYS

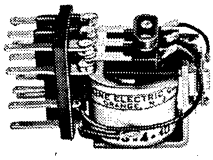


PRINTED CIRCUIT or TAPER TAB (SERIES MKT)

Printed circuit type relay incorporating coil, frame and load contacts of standard Series MK. Connector lugs fit standard amp terminal #41355. Series MKTE is the MKT with plastic dust cover. Available with studs for chassis mount or taper tab connectors. Price same as MKTR . UL File #36213

	5 amp contact rating	6, 12, 24, 115V	220V
AC	MKT1A SPDT	$3.25	$3.65
	MKT2A DPDT	3.95	4.35
	MKT3A 3PDT	4.40	4.85
		6, 12, 24V	110V
DC	MKT1D SPDT	3.20	$3.60
	MKT2D DPDT	3.60	4.05
	MKT3D 3PDT	4.10	4.50

All models available in 10 amps. Series MKTO
DIMENSIONS: 2-1/32 × 1-7/32 × 29/32
Also available as a Plate Circuit Relay



QUICK CONNECT TERMINAL RELAYS (SERIES MKA)

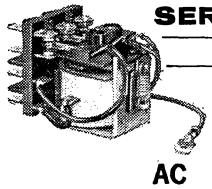
Quick connect terminal type miniature relay incorporating coil, frame and load contacts of the standard Series MK. The connector lugs fit standard .110" quick connect terminals. UL File #36213

(SERIES MKD

The MKD has the same quality features as our SERIES MK (see page 1) but the panel is wider and .187 quick connect lugs are used throughout the series. This is also an open type relay. UL File #36213

	5 amp contact rating	6, 12, 24, 115V	220V
AC	MKA1A SPDT	$3.25	$3.65
	MKA2A DPDT	3.95	4.35
	MKA3A 3PDT	4.40	4.85
DC	MKA1D SPDT	$3.20	$3.60
	MKA2D DPDT	3.60	4.05
	MKA3D 3PDT	4.10	4.50

All models available in 10 amps. DIMENSIONS: 29/32 × 1-7/32 × 1-11/16
Also available as a Plate Circuit Relay



SERIES MKD. OPEN TYPE WITH .187 QUICK CONNECT LUGS

	5 amp contact rating	6, 12, 24, 115V	220V
AC	MKD-1A SPDT	$3.25	$3.65
	MKD-2A DPST	3.95	4.35
	MKD-3A 3PDT	4.40	4.80
	MKD-4A SPST-NO	3.20	3.60
	MKD-5A DPST-NO	3.85	4.25
	MKD-6A 3PST-NO	4.25	4.65
	MKD-7A SPST-NC	3.20	3.60
	MKD-8A DPST-NC	3.85	4.25
	MKD-9A 3PST-NC	4.25	4.65

	5 amp contact rating	6, 12, 24V	110V
DC	MKD-1D SPDT	$3.20	$3.60
	MKD-2D DPDT	3.60	4.05
	MKD-3D 3PDT	4.10	4.50
	MKD-4D SPST-NO	3.15	3.55
	MKD-5D DPST-NO	3.50	3.95
	MKD-6D 3PST-NO	3.95	4.35
	MKD-7D SPST-NC	3.15	3.55
	MKD-8D DPST-NC	3.50	3.95
	MKD-9D 3PST-NC	3.95	4.35

SERIES MKDO. OPEN TYPE WITH .187 QUICK CONNECT LUGS

	10 amp contact rating	6, 12, 24, 115V	220V
AC	MKDO-1A SPDT	$3.30	$3.75
	MKDO-2A DPDT	4.05	4.45
	MKDO-3A 3PDT	4.55	5.00
	MKDO-4A SPST-NO	3.25	3.70
	MKDO-5A DPST-NO	3.95	4.35
	MKDO-6A 3PST-NO	4.40	4.85
	MKDO-7A SPST-NC	3.25	3.70
	MKDO-8A DPST-NC	3.95	4.35
	MKDO-9A 3PST-NC	4.40	4.85

	10 amp contact rating	6, 12, 24V	110V
DC	MKDO-1D SPDT	$3.25	$3.65
	MKDO-2D DPDT	3.75	4.15
	MKDO-3D 3PDT	4.25	4.65
	MKDO-4D SPST-NO	3.20	3.60
	MKDO-5D DPST-NO	3.65	4.05
	MKDO-6D 3PST-NO	4.10	4.50
	MKDO-7D SPST-NC	3.20	3.60
	MKDO-8D DPST-NC	3.65	4.05
	MKDO-9D 3PST-NC	4.10	4.50

SERIES MKDC. PLATE CIRCUIT RELAYS WITH .187 QUICK CONNECT LUGS

5 amp open type	2500Ω	5000Ω	10,000Ω	20,000Ω
MKDC-1 SPDT	$3.30	$3.45	$4.05	$4.30
MKDC-2 DPDT	3.85	4.00	4.55	4.85
MKDC-3 3PDT	4.25	4.60	5.00	5.25
MKDC-4 SPST-NO	3.25	3.40	4.00	4.25
MKDC-5 DPST-NO	3.75	3.90	4.45	4.75
MKDC-6 3PST-NO	4.10	4.45	4.85	5.10
MKDC-7 SPST-NC	3.25	3.40	4.00	4.25
MKDC-8 DPST-NC	3.75	3.90	4.45	4.75
MKDC-9 3PST-NC	4.10	4.45	4.85	5.10

10 amp open type	2500Ω	5000Ω	10,000Ω	20,000Ω
MKDCO-1 SPDT	$3.35	$3.50	$4.10	$4.35
MKDCO-2 DPDT	3.95	4.10	4.65	4.95
MKDCO-3 3PDT	4.40	4.75	5.15	5.40
MKDCO-4 SPST-NO	3.30	3.45	4.05	4.30
MKDCO-5 DPST-NO	3.85	4.00	4.55	4.85
MKDCO-6 3PST-NO	4.25	4.60	5.00	5.25
MKDCO-7 SPST-NC	3.30	3.45	4.05	4.30
MKDCO-8 DPST-NC	3.85	4.00	4.55	4.85
MKDCO-9 3PST-NC	4.25	4.60	5.00	5.25

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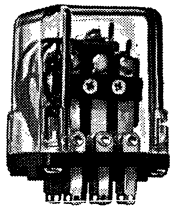
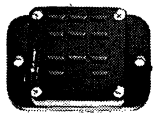
GENERAL PURPOSE RELAYS





MINIATURE PLUG-IN *LOW PROFILE LOW COST*

(SERIES MKTR)

Despite its compact size this new totally enclosed, low cost, low profile miniature relay has not compromised the high quality of its progenitor the Series MK open relay. The low mounting profile (dust cover included) has been made possible by incorporating the frame of the relay with the connector-header. Thus a certain basic hardware has been eliminated resulting in important size reduction. Versatility is also assured since the standard terminals can be used with Amp snap-on connectors, printed circuits, or plug-in receptacles. Also available with studs for chassis mounting. Termination can be used for soldered connections. The plug-in-receptacle is true 10 ampere construction. Lugs can be used for either solder or snap-on connections.

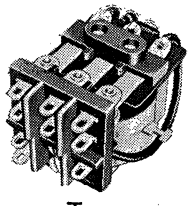
UL File #36213 10 Amps series MKTRO

	5 amp contact rating	6, 12, 24, 115V	220V
AC	MKTR1A SPDT	$4.25	$4.65
	MKTR2A DPDT	4.95	5.35
	MKTR3A 3PDT	5.40	5.85
		6, 12, 24V	110V
DC	MKTR1D SPDT	$4.20	$4.60
	MKTR2D DPDT	4.60	5.05
	MKTR3D 3PDT	5.10	5.50

AVAILABLE 3 WAYS: Plate circuit relay. Spotlight relay (with or without colored dust cover). Hermetic seal or any combination.
DIMENSIONS: 1-27/32 × 1-3/8 × 1-3/8

92-67 RECEPTACLE .30 net.
92-82 Clip-on Receptacle .50
91-49 Hold down Spring .12

NEW MINIATURE SENSITIVE RELAYS (SERIES SK) 60 MILLIWATTS PER POLE



Type SK
Type SKA
Type SKD
Type SKT

This entire series of SK type relays is identical in construction to our MK series miniature relays, with one essential difference —the special alloy used in pole and frame increases the magnetic flux many times thus making the relays very sensitive to very low power levels—only 60 milliwatts per pole.

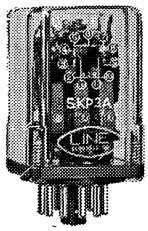
UL File #39077

SERIES SK OPEN TYPE 5 AMPS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SK-1 SPDT	$4.15	$4.25	$4.80	$4.80	$5.05
SK-2 DPDT	4.65	4.80	5.30	5.30	5.55
SK-3 3PDT	5.10	5.20	5.75	5.75	6.00
SK-4 SPST-NO	4.10	4.20	4.75	4.75	5.00
SK-5 DPST-NO	4.55	4.70	5.20	5.20	5.45
SK-6 3PST-NO	4.95	5.05	5.60	5.60	5.85
SK-7 SPST-NC	4.10	4.20	4.75	4.75	5.00
SK-8 DPST-NC	4.55	4.70	5.20	5.20	5.45
SK-9 3PST-NC	4.95	5.05	5.60	5.60	5.85

SERIES SKT PRINTED CIRCUIT TYPE 5 AMPS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SKT-1 SPDT	$4.30	$4.45	$5.10	$5.10	$5.30
SKT-2 DPDT	4.85	5.00	5.55	5.55	5.85
SKT-3 3PDT	5.25	5.40	6.00	6.00	6.25
SKT-4 SPST-NO	4.25	4.40	5.05	5.05	5.25
SKT-5 DPST-NO	4.75	4.90	5.45	5.45	5.75
SKT-6 3PST-NO	5.10	5.25	5.85	5.85	6.10
SKT-7 SPST-NC	4.25	4.40	5.05	5.05	5.25
SKT-8 DPST-NC	4.75	4.90	5.45	5.45	5.75
SKT-9 3PST-NC	5.10	5.25	5.85	5.85	6.10



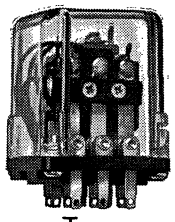
Type SKP

SERIES SKA OPEN TYPE 5 AMPS .110 QUICK CONNECT LUGS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SKA-1 SPDT	$4.30	$4.45	$5.05	$5.05	$5.30
SKA-2 DPDT	4.85	5.00	5.55	5.55	5.85
SKA-3 3PDT	5.25	5.60	6.00	6.00	6.25
SKA-4 SPST-NO	4.25	4.40	5.00	5.00	5.25
SKA-5 DPST-NO	4.75	4.90	5.45	5.45	5.75
SKA-6 3PST-NO	5.10	5.45	5.85	5.85	6.10
SKA-7 SPST-NC	4.25	4.40	5.05	5.05	5.25
SKA-8 DPST-NC	4.75	4.90	5.45	5.45	5.75
SKA-9 3PST-NC	5.10	5.45	5.85	5.85	6.10

SERIES SKD OPEN TYPE 5 AMPS .187 QUICK CONNECT LUGS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SKD-1 SPDT	$4.30	$4.45	$5.05	$5.05	$5.30
SKD-2 DPDT	4.85	5.00	5.55	5.55	5.85
SKD-3 3PDT	5.25	5.60	6.00	6.00	6.25
SKD-4 SPST-NO	4.25	4.40	5.00	5.00	5.25
SKD-5 DPST-NO	4.75	4.90	5.45	5.45	5.75
SKD-6 3PST-NO	5.10	5.45	5.85	5.85	6.10
SKD-7 SPST-NC	4.25	4.40	5.00	5.00	5.25
SKD-8 DPST-NC	4.75	4.90	5.45	5.45	5.75
SKD-9 3PST-NC	5.10	5.45	5.85	5.85	6.10



Type SKTR

SERIES SKP PLUG-IN PLASTIC HOUSING 5 AMPS

	up to 2500Ω	5000Ω	10,000Ω	15,000Ω	20,000Ω
SKP-1 SPDT	$6.90	$7.00	$7.40	$7.40	$7.65
SKP-2 DPDT	7.30	7.40	7.80	7.80	8.10
SKP-3 3PDT	8.75	8.90	9.40	9.40	9.65
SKP-4 SPST-NO	6.85	6.95	7.35	7.35	7.60
SKP-5 DPST-NO	7.20	7.30	7.70	7.70	8.00
SKP-6 3PST-NO	8.60	8.75	9.25	9.25	9.50
SKP-7 SPDT-NC	6.85	6.95	7.35	7.35	7.60
SKP-8 DPST-NC	7.20	7.30	7.70	7.70	8.00
SKP-9 3PST-NC	8.60	8.75	9.25	9.25	9.50

SERIES SKTR LOW COST PLATE CIRCUIT RELAYS

PLUG-IN TYPE

5 AMP. DC	Up to 2500Ω	5000Ω	10,000Ω	20,000Ω
SKTR1 SPDT	$5.30	$5.45	$6.05	$6.30
SKTR2 DPDT	5.85	6.00	6.55	6.85
SKTR3 3PDT	6.25	6.60	7.00	7.25

PRINTED CIRCUIT TYPE ENCLOSED

SKTE1 SPDT	$5.30	$5.45	$6.05	$6.30
SKTE2 DPDT	5.85	6.00	6.55	6.85
SKTE3 3PDT	6.25	6.60	7.00	7.25

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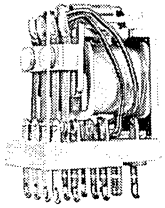
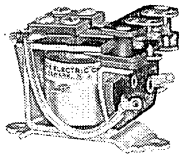
GENERAL PURPOSE RELAYS



MINIATURE 4-POLE RELAY (SERIES JA)

The series JA is a high quality, miniature 4PDT relay for AC or DC operation. The JA relay features nylon dust cover, gold flashed fine silver contacts rated at 3 amps. This imported relay features exceptional quality and rugged design to meet the most exacting requirements. It is excellent for computers, logic systems and data processing. Standard configuration features solder terminals and 3-48, 23/64" mounting stud. Can be used with our 92-79 solder lug socket or 92-80 P.C. socket (50c each)

	Voltage	Resistance	Nominal Power	Price
DC	6 VDC	40 OHMS	800 MW	$4.10
	12 VDC	160 OHMS	800 MW	4.10
	24 VDC	650 OHMS	800 MW	4.10
	48 VDC	2500 OHMS	800 MW	4.20
	90 VDC	10000 OHMS	800 MW	4.90
	110 VDC	10000 OHMS	800 MW	4.90
AC	6 VAC	10.5 OHMS	1.1 VA	$4.40
	12 VAC	43 OHMS	1.1 VA	4.40
	24 VAC	160 OHMS	1.1 VA	4.40
	115 VAC	3900 OHMS	1.1 VA	4.90



MEDIUM POWER RELAY OPEN TYPE (SERIES LR)

Open type, heavy-duty type relay designed for many applications. Standard fine silver contacts rated at 10 amperes, optional Silver Cadmium load contacts rated at 15 amps. Ambient temperature operating range, continuous duty: A.C., —45° to 55°C.; D.C., —45° to 75°C.

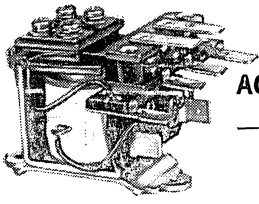
AC

10 amp contact rating	6, 12, 24, 115V	220V
LR1A SPDT	$4.00	$4.20
LR2A DPDT	4.85	5.05
LR12A SPDT-DB(15A)	5.05	5.25

DC

10 amp contact rating	6, 12, 24V	110V
LR1D SPDT	$3.80	$4.00
LR2D DPDT	4.65	4.85
LR12D SPDT-DB(15A)	5.85	5.05

DIMENSIONS: 2-3/8 × 1-1/2 × 1-21/32



NEW

MEDIUM POWER RELAY OPEN TYPE (SERIES LRT)

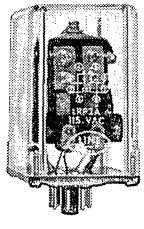
Same quality features of the LR series (above) but in a special configuration utilizing .250 quick connect terminals.

AC

10 amp contact rating	6, 12, 24, 115V	220V
LRT-1A SPDT	$4.50	$4.70
LRT-2A DPDT	5.35	5.55
LRT-12A SPDT-DB	5.55	5.75

DC

10 amp contact rating	6, 12, 24V	110V
LRT-1D SPDT	$4.30	$4.50
LRT-2D DPDT	5.15	5.35
LRT-12D SPDT-DB	5.35	5.55



MEDIUM POWER RELAY PLUG-IN TYPE (SERIES LRP)

This relay is available in either metal or plastic enclosures, equipped with a standard octal plug in header for single and double pole types. Eleven pin headers are also available. The standard LRP plastic enclosure is a clear C-11 Styrene, colors are available at no extra charge. Female sockets for 8 and 11 pin headers are also available.

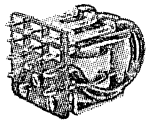
AC

10 amp contact rating	6, 12, 24, 115V	220V
LRP1A SPDT	$7.00	$7.10
LRP2A DPDT	8.20	8.50
LRP12A SPDT-DB(15A)	8.80	9.00

DC

10 amp contact rating	6, 12, 24V	110V
LRP1D SPDT	$6.80	$7.00
LRP2D DPDT	8.00	8.40
LRP12D SPDT-DB(15A)	8.70	8.80

DIMENSIONS: 3-1/4 × 1-15/16 × 1-15/16



HEAVY DUTY RELAY OPEN TYPE (SERIES LG)

Open type relay, specifically designed for extremely heavy-duty applications. Standard Fine Silver load contacts are rated at 15 amps. with optional Silver Cadmium Oxide contacts where larger inrush loads are encountered. Loads are rated at 115/60 non-inductive. All load contacts are factory gold-flashed to prevent contact oxidation prior to use.

AC

15 amp contact rating	6, 12, 24, 115V	220V
LG1A SPDT	$4.30	$4.50
LG2A DPDT	4.85	5.05
LG3A 3PDT	5.40	5.60

DC

15 amp contact rating	6, 12, 24V	110V
LG1D SPDT	$4.20	$4.40
LG2D DPDT	4.75	4.95
LG3D 3PDT	5.30	5.60

DIMENSIONS: 1-1/2 × 2-3/8 × 1-13/16

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GENERAL PURPOSE RELAYS

HEAVY DUTY RELAY PLUG-IN TYPE (SERIES LGP)

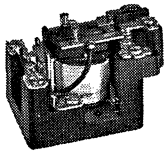
Plug-in type relay, with same quality features as above. Also available in either metal or clear bUC-11 Styrene enclosure. Ambient temperature operating range, continuous duty; A.C., —45° to 55°C.; D.C.,—45° to 75°C.

AC

10 amp contact rating	6, 12, 24, 115V	220V
LGP1A SPDT	$7.30	$7.50
LGP2A DPDT	7.85	8.05
LGP3A 3PDT	8.40	8.60

DC

10 amp contact rating	6, 12, 24V	110V
LGP1D SPDT	$7.20	$7.40
LGP2D DPDT	7.75	8.05
LGP3D 3PDT	8.40	8.60



HEAVY DUTY POWER RELAYS* (SERIES STA)

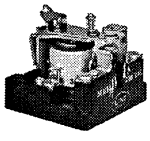
A 25 amp. power relay ideally suited for starting motors up to 1 hp, elevator controls, and many other applications which require high current or high voltage switching with maximum dependability. One piece molded base, sturdy two-hole mounting. Top removable coil.

Available with one or two auxiliary 5 ampere contacts.

*See new miniature power relay (series PF) on Pg. 7 of this listing.

	25 amp contact rating	6, 12, 24, 115V	220V
AC	STA2A DPDT	$6.55	$6.85
	STA3A (1. aux. con.)	8.55	8.85
	STA14A (2. aux. con.)	10.05	10.35
		6, 12, 24VDC	110VDC
DC	STA2D DPDT	$6.55	$6.85
	STA3D (1. aux. con.)	8.55	8.85
	STA14D (2. aux. con.)	10.05	10.35

DIMENSIONS: 2-1/2 × 2-15/16 × 3-3/8



HEAVY DUTY POWER RELAYS (SERIES STM)

Same quality features as Series ST, but assembled on a compact base. Available with one or two auxilliary 5 amp contacts.

AC

25 amp contact rating	6, 12, 24, 115V	220V
STM1A SPDT	$4.25	$4.75
STM4A SPST NO	3.90	4.40
STM5A DPST NO	4.65	5.15
STM7A SPST NC	3.90	4.40
STM10A SPST NO DB	4.15	4.65

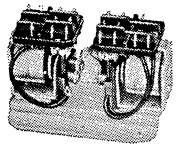
STMC AVAILABLE WITH 1 AUX. CON.
STMCC AVAILABLE WITH 2 AUX. CON.

DC

25 amp contact rating	6, 12, 24V	110V
STM1D SPDT	$4.25	$4.95
STM4D SPST NO	3.90	4.50
STM5D DPST NO	4.65	5.50
STM7D SPST NC	3.90	4.50
STM10D SPST NO DB	4.15	4.75

DIMENSIONS: 2-1/8 × 2-1/2 × 2-5/16

MECHANICAL LATCH RELAYS



OPEN TYPE (SERIES RL)

Open type for use where a sustained relay closure is required, and current drain of a relay coil is to be eliminated. Incorporates two coils, one to close load contacts, the other to reset them. Requires only momentary electrical contact to operate or release. Provides positive mechanical latch, eliminating chatter during sustained relay closure.

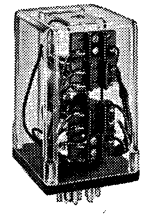
AC

5 amp contact rating	6, 12, 24, 115V	220V
RL1A SPDT	$7.15	$8.00
RL2A DPDT	8.25	9.00
RL3A 3PDT	9.15	9.95
RL14A 4PDT	10.45	11.30
RL15A 5PDT	11.45	12.30
RL16A 6PDT	12.55	13.35

DC

5 amp contact rating	6, 12, 24V	110V
RL1D SPDT	$6.50	$7.75
RL2D DPDT	7.50	8.75
RL3D 3PDT	8.50	9.75
RL14D 4PDT	9.50	10.75
RL15D 5PDT	10.50	11.75
RL16D 6PDT	11.50	12.75

Available in 10 amp contact rating. ASK FOR SERIES RLO DIMENSIONS: 2-11/16 × 1-3/4 × 1-3/4



PLUG-IN TYPE (SERIES RLP)

Plug-in type, same factory-tested quality features as above. Available in clear C-11 Styrene enclosure up to 5PDT.

AC

5 amp contact rating	6, 12, 24, 115V	220V
RLP1A SPDT	$9.40	$10.25
RLP2A DPDT	10.50	11.30
RLP3A 3PDT	14.75	15.60
RLP14A 4PDT	16.15	17.00
RLP15A 5PDT	17.25	18.00

DC

5 amp contact rating	6, 12, 24V	110V
RLP1D SPDT	$8.75	$10.05
RLP2D DPDT	9.85	11.15
RLP3D 3PDT	14.10	15.40
RLP14D 4PDT	15.55	16.80
RLP15D 5PDT	16.65	17.90

All models available 3PDT, 4PDT, 5PDT, and in 10 amp contact rating. ASK FOR SERIES RLH

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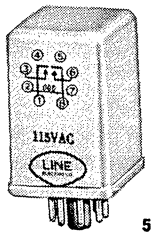
HERMETICALLY SEALED RELAYS



PLUG-IN TYPE (SERIES HKP)

The Series HKP relay incorporates the basic MK frame into hermetically sealed plug-in configuration. All units are thoroughly vacuum baked and out-gassed and back filled with nitrogen before sealing. The HK series will fit any standard octal based receptacle and is in the classification of a general purpose relay.

PLATE CIRCUIT RELAYS 5 Amp

	2500Ω	5000Ω	10,000Ω	20,000Ω
HKF1 SPDT	$8.90	$9.00	$9.40	$9.65
HKF2 DPDT	9.30	9.40	9.80	10.10
HKF3 3PDT	10.75	10.90	11.40	11.65

	5 amp contact rating	6, 12, 24, 115V	220V
AC	HKP1A SPDT	$8.45	$8.90
	HKP2A DPDT	9.05	9.45
	HKP3A 3PDT	10.50	10.95
		6, 12, 24V	110V
DC	HKP1D SPDT	$8.40	$8.85
	HKP2D DPDT	9.00	9.40
	HKP3D 3PDT	10.45	10.90

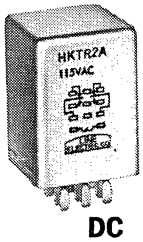
	10 amp contact rating	6, 12, 24,115V	220V
AC	HKH1A SPDT	$8.50	$8.95
	HKH2A DPDT	9.15	9.55
	HKH3A 3PDT	10.60	11.10
		6, 12, 24V	110V
DC	HKH1D SPDT	$8.45	$8.90
	HKH2D DPDT	9.10	9.50
	HKH3D 3PDT	10.60	10.95

DIMENSIONS: 2-1/16 x 1-21/32 x 1-7/16

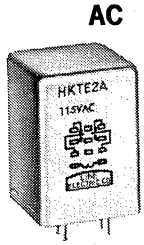
PLUG-IN TYPE. LOW COST

(Series HKTR. 5 AMP) (Series HKTRO. 10 AMP)

These relays are hermetically sealed counterparts of our MKTR relays (see page 3) but they are especially designed for use with our 92-67 socket. Low profile general purpose applications.



	5 amp contact rating	6, 12, 24, 115V	220V
AC	HKTR-1A SPDT	$ 8.45	$ 8.90
	HKTR-2A DPDT	9.05	9.45
	HKTR-3A 3PDT	10.50	10.95
	HKTR-4A SPST-NO	8.40	8.85
	HKTR-5A DPST-NO	8.95	9.35
	HKTR-6A 3PST-NO	8.10	10.80
	HKTR-7A SPST-NC	8.40	8.85
	HKTR-8A DPST-NC	8.95	9.35
	HKTR-9A 3PST-NC	8.10	10.80
	5 amp contact rating	6, 12, 24V	110V
DC	HKTR-1D SPDT	$ 8.40	$ 8.85
	HKTR-2D DPDT	9.00	9.40
	HKTR-3D 3PDT	10.45	10.90
	HKTR-4D SPST-NO	8.35	8.80
	HKTR-5D DPST-NO	8.90	9.30
	HKTR-6D 3PST-NO	10.30	10.75
	HKTR-7D SPST-NC	8.35	8.80
	HKTR-8D DPST-NC	8.90	9.30
	HKTR-9D 3PST-NC	10.45	10.75



	10 amp contact rating	6, 12, 24, 115V	220V
AC	HKTRO-1A SPDT	$ 8.50	$ 8.95
	HKTRO-2A DPDT	9.15	9.55
	HKTRO-3A 3PDT	10.60	11.10
	HKTRO-4A SPST-NO	8.45	8.90
	HKTRO-5A DPST-NO	9.05	9.45
	HKTRO-6A 3PST-NO	10.45	10.95
	HKTRO-7A SPST-NC	8.45	8.90
	HKTRO-8A DPST-NC	9.05	9.45
	HKTRO-9A 3PST-NC	10.45	10.95
	10 amp contact rating	6, 12, 24V	110V
DC	HKTRO-1D SPDT	$ 8.45	$ 8.90
	HKTRO-2D DPDT	9.10	9.50
	HKTRO-3D 3PDT	10.60	10.95
	HKTRO-4D SPST-NO	8.40	8.85
	HKTRO-5D DPST-NO	9.00	9.40
	HKTRO-6D 3PST-NO	10.45	10.80
	HKTRO-7D SPST-NC	8.40	8.85
	HKTRO-8D DPST-NC	9.00	9.40
	HKTRO-9D 3PST-NC	10.45	10.80

PRINTED CIRCUIT TYPE. LOW COST

(Series HKT. 5 AMP) (Series HKTO. 10 AMP)

The same construction as HKTR and HKTRO (on left) but especially designed for use on printed circuit boards, mounting by means of .030 diameter pins.

	5 amp contact rating	6, 12, 24, 115V	220V
AC	HKT-1A SPDT	$ 8.25	$ 8.65
	HKT-2A DPDT	9.95	9.35
	HKT-3A 3PDT	10.40	10.85
	HKT-4A SPST-NO	8.20	8.60
	HKT-5A DPST-NO	9.85	9.25
	HKT-6A 3PST-NO	10.25	10.70
	HKT-7A SPST-NC	8.20	8.60
	HKT-8A DPST-NC	9.85	9.25
	HKT-9A 3PST-NC	10.25	10.70
	5 amp contact rating	6, 12, 24V	110V
DC	HKT-1D SPDT	$ 8.20	$ 8.60
	HKT-2D DPDT	9.60	10.00
	HKT-3D 3PDT	10.10	10.50
	HKT-4D SPST-NO	8.15	8.55
	HKT-5D DPST-NO	9.50	9.90
	HKT-6D 3PST-NO	9.95	10.35
	HKT-7D SPST-NC	8.15	8.55
	HKT-8D DPST-NC	9.50	9.90
	HKT-9D 3PST-NC	9.95	10.35

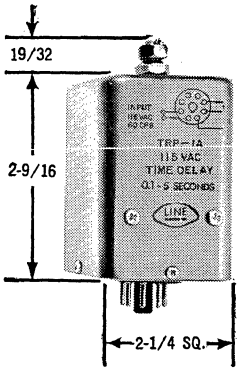
	10 amp contact rating	6, 12, 24, 115V	220V
AC	HKTO-1A SPDT	$ 8.25	$ 8.65
	HKTO-2A DPDT	9.70	10.10
	HKTO-3A 3PDT	10.25	10.65
	HKTO-4A SPST-NO	8.20	8.60
	HKTO-5A DPST-NO	9.65	10.00
	HKTO-6A 3PST-NO	10.10	10.50
	HKTO-7A SPST-NC	8.20	8.60
	HKTO-8A DPST-NC	9.65	10.00
	HKTO-9A 3PST-NC	10.10	10.50
	10 amp contact rating	6, 12, 24V	110V
DC	HKTO-1D SPDT	$ 8.20	$ 8.60
	HKTO-2D DPDT	9.50	9.90
	HKTO-3D 3PDT	10.10	10.50
	HKTO-4D SPST-NO	8.15	8.55
	HKTO-5D DPST-NO	9.40	9.80
	HKTO-6D 3PST-NO	9.95	10.35
	HKTO-7D SPST-NC	8.15	8.55
	HKTO-8D DPST-NC	9.40	9.80
	HKTO-9D 3PST-NC	9.95	10.35

8 PAGE LISTING (7)

LINE ELECTRIC COMPANY

RELAYS • BUZZERS • FOOT SWITCHES

TIME DELAY RELAYS



PLUG-IN TYPE (SERIES TRP)

The series TRP Time Delay Relay provides a pre-set delay between the closing of one set of contacts and the subsequent operation of a set of SPDT load contacts.

The series TRP initiates from a sustained switch closure to L1 and L2. The unit resets instantaneously when this circuit is opened; ready for another timing operation.

The series TRP is available in two operational options:

Type "A"—If sustained closure is interrupted during time cycle, unit will not reset. When closure is again made, timing will continue to give originally selected time delay.

Type "B"—If sustained closure is interrupted during time cycle, unit will instantaneously reset.

Information Required When Ordering
Time Cycle selected from chart.

$18.50 List

SPECIFICATIONS

Plug in only using standard 8 pin octal receptacle.

TIME CYCLES

Model	Minimum Setting	Maximum Setting
TRP-5	0.1 sec.	5 seconds
TRP-10	0.1 sec.	10 seconds
TRP-15	0.1 sec.	15 seconds
TRP-30	0.1 sec.	30 seconds
TRP-60	0.1 sec.	60 seconds

Note: Time Cycles exceeding 60 seconds available, contact factory for details.

Voltages 115/60 only.

Load Contacts SPDT rated at 5 amps., non-inductive — Note: 10 amps available, contact factory.

REED RELAYS — 3 STANDARD TYPES

In computer, data processing and guidance system development, design engineers are enthusiastically applying dry reed relays in place of switching diodes. The reasons: miniature profile—life expectancy exceeding 100,000,000 operations—less heat generated compared with switching diodes—3 millisecond operating time and very high resistance in the open contact stage.

To efficiently serve the growing demand for dry reed relays in these and other applications, Line Electric now stocks these 3 standard types for immediate delivery in prototype quantities.

Open Coil Type—Series FR

6 VDC & 12 VDC & 24 VDC. 6 Contact Arrangements

FR1-SPDT, $ 5.50 ea. FR4-SPST NO, $3.30 ea.
FR2-2PDT, $ 9.00 ea. FR5-2PST NO, $4.50 ea.
FR3-3PDT, $12.75 ea. FR6-3PST NO, $5.50 ea.

Plug-In Type—Series FRP

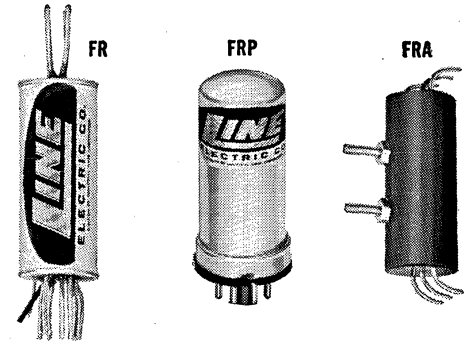
6 VDC & 12 VDC & 24 VDC. 6 Contact Arrangements

FRP1-SPDT, $ 8.50 ea. FRP4-SPST NO, $6.00 ea.
FRP2-2PDT, $12.00 ea. FRP5-2PST NO, $7.50 ea.
FRP3-3PDT, $16.00 ea. FRP6-3PST NO, $8.50 ea.

Lug Mount Type—Series FRA

6 VDC & 12 VDC & 24 VDC. 2 Contact Arrangements

FRA1-SPDT, $7.50 ea. FRA4-SPST NO, $4.50 ea.



SPECIFICATIONS

CONTACT RATING
10 volt-amperes resistive
3 watts D.C. resistive

MAXIMUM CURRENT
0.5 amperes

DIELECTRIC STRENGTH
250 volts
60 cps R.M.S.

MAXIMUM VOLTAGE
110 volts

LIFE EXPECTANCY
Rated load - - -
1 x 10^6 operations
Dry circuit - - -
100 x 10^6 operations

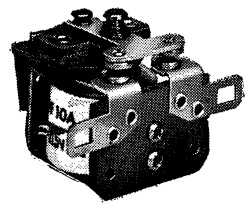
OPERATE TIME
3 milliseconds maximum, including bounce

CONTACT RESISTANCE
50 millohms

INSULATION RESISTANCE
1000 megohms minimum

RELEASE TIME
5 milliseconds maximum, including bounce

NEW MINIATURE POWER RELAY (SERIES PF)



The PF Series Relays are especially designed for applications where limited space is a factor. This relay, although small in size, is ideally suited for heavy duty industrial control applications where long life and fast action are a requirement. The PF Relay is supplied with ¼" quick connect terminals on the contacts for ease of installation. Other type terminals are available upon request. Consult factory for details.

CONTACTS

Material ¼" dia. silver cadmium oxide gold flashed.
Contact Terminals ¼" quick connect. Pierced for soldering.

COILS

Dielectric Strength 750 V.R.M.S.
Nominal Power D.C. relays - 1.1 watts avg.
A.C. relays - 2.5 volt amps avg.
Over-Voltage D.C. - 140% of nominal. A.C. - 125% of nominal.
Operate Time 15 milliseconds or less.
Weight 3 ounces
Temperature Range —40° C. to +50° C.
Coil Terminals Solder type.

25 amp. contact rating	6-12-24-115V	220V
AC PF10A SPST-NO-DB	$3.90	$4.30
DC PF10D SPST-NO-DB	3.70	4.30

Trade Discount Applies To List Prices Only
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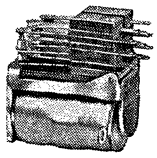
8 PAGE LISTING (8)

LINE ELECTRIC COMPANY

RELAYS • BUZZERS • FOOT SWITCHES

MINIATURE TELEPHONE RELAYS



(SERIES GT)

Fast acting miniature telephone type relay. Highly versatile, supplied in contact arrangements up to 6PDT, and in a variety of styles including open, dust cover, and hermetically sealed. Factory will supply enclosure details.

AC

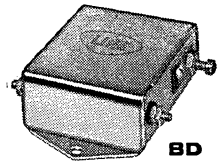
	6, 12, 24V	115V
GT1A SPDT	$5.55	$5.95
GT2A DPDT	6.50	6.75
GT3A 3PDT	7.00	7.45
GT14A 4PDT	7.40	7.85
GT15A 5PDT	8.10	8.50
GT16A 6PDT	8.80	9.30

DC

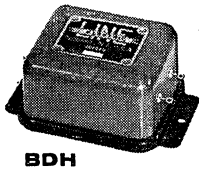
	6, 12, 24V	110V
GT1D SPDT	$3.55	$4.00
GT2D DPDT	4.50	4.75
GT3D 3PDT	5.00	5.45
GT14D 4PDT	5.40	5.85
GT15D 5PDT	6.10	6.50
GT16D 6PDT	6.80	7.30

DIMENSIONS: Max. 1-9/16 × 17/32 × 3/4

BUZZERS D.C. - A.C.



BD



BDH

VARIABLE SOUND AND PITCH D.C. - A.C.

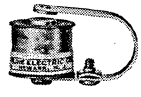
The series BD buzzers are designed for use in offices, plants, etc., where quality, good appearance and dependable operation is demanded. Three sizes of buzzers are available, each size varying in tone and volume of sound. However, the volume of sound and pitch of each size buzzer can be varied by means of double, locking adjustments. The three sizes of buzzers are equipped with phospher bronze springs and pure hard-drawn silver contacts. They are bug and dust-proof with tight-fitting polished chrome covers.

Model No.	6-8VDC	12VDC	24VDC	48VDC
BD-0	$3.25	$3.50	$3.75	$5.25
BD-1	3.15	3.25	3.40	4.80
BD-2	3.25	3.50	3.75	5.20

(BD-0 Low tone, BD-1 Medium tone, BD-2 Loud tone)

Hermetic Seal BDH	8.50	9.00	9.50	10.00

DIMENSIONS: BD0—1-5/8 × 1-1/8 ×1-1/2
BD1—2-1/8 × 2 × 11/16
BD2—2-7/8 × 2-1/2 × 1
BDH—1-9/16 × 3-13/16 × 2-13/16

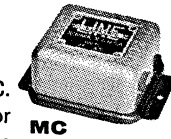


MD

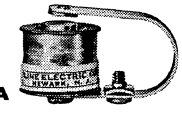
MB

AC BUZZERS

Available for 6, 12, 24, 115, 220, and 440 volts A.C. 60 cps operation, these buzzers are ideally suited for paging, warning, starting and dismissal signals. These buzzers are a non-contact type therefore suitable for continuous duty, providing a clear, penetrating signal.



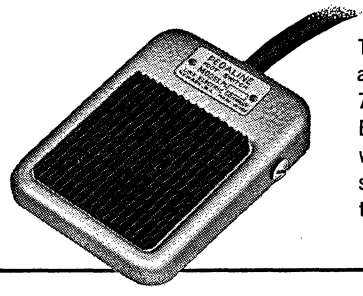
MC



MA

	6, 12, 24, 115 VAC/60 cy	220VAC/60 cy
MA	$2.25	$2.80
MB	2.50	3.05
MC	3.15	3.70
MD	1.60	2.40
MCH Hermetic Seal	10.00	11.00

PEDALINE FOOT SWITCH



The Pedaline is a compact light weight foot operated switch. The single switch type weighs only 7 ounces; the double switch type 7½ ounces. Baked on light gray hammertone enamel finish with black foot pad. Available with a single pole snap action switch or two single pole double throw switches which operate in sequence.

#PL1 single switch only	$3.15
#PL-1C single switch w/line cord	$4.45
#PL5 double switch	$4.80
#PL-5C double switch w/line cord	$5.65

DIMENSIONS: 3-1/2 × 2-5/8 × 1

LINE ELECTRIC CO.

Division of Industrial Timer Corporation

IN CANADA: Sperry Gyroscope Ottawa Ltd.

MAGNECRAFT RELAYS

The *relays* you can *rely* on

444 different Relay Models

Immediate Delivery from STOCKING DISTRIBUTORS

MAGNECRAFT ELECTRIC CO.

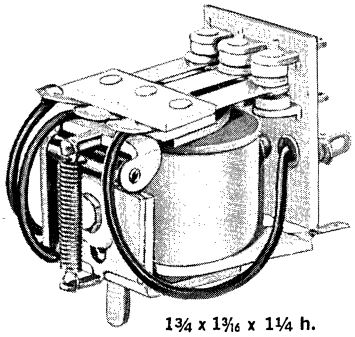
All prices and specifications effective January 6, 1968 and subject to change without notice.

All prices are NET for 1 to 9 Relays except Mercury-Wetted Contact and Dry Reed Relay prices are NET for 1 to 24.

All contact ratings based on 115 VAC or 28 VDC, non-inductive load.

ORDER BY CATALOG NUMBER. Labels on MAGNECRAFT STOCK RELAY CARTONS carry Catalog Number, contact combination and rating; coil voltage or current.
All enclosed relays are identified by catalog number and wiring diagram.

NOTE. Order MAGNECRAFT STOCK RELAYS from STOCKING DISTRIBUTORS. Their stocks are supplemented by complete stocks maintained at the MAGNECRAFT plant in Chicago.



1¾ x 1⁹⁄₁₆ x 1¼ h.

Class 88

AC and DC Small, 10-amp. General Purpose Relay

Open Type Relay. Has 10 ampere silver alloy contacts. Tinned solder terminals, spaced for easy wiring. One #6-32 tapped mounting hole with locating boss. Weight 2 ounces.

The General Purpose Relay with Telephone Type Reliability

The MAGNECRAFT 88 Relay is an abrupt departure in clapper type relay design. Dimensionally interchangeable with relays made by others the 88 has been developed to **provide Telephone Type Relay reliability at general purpose relay prices.**

Unique in relays of this type MAGNECRAFT 88 Relays have **rugged, precision-built hinge-pin armature bearings** with oversize bearing surfaces—the same construction used in the finest telephone type relays for **lowest friction** and **maximum contact effectiveness** with **stabilized adjustment over long life.**

Glass insulation provides **great di-electric strength unaffected by humidity and temperature changes.**

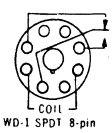
Molded Nylon bobbins with ruggedized coil terminal inserts **eliminate possibility of shorts.**

Built-in contact wipe with riveted contacts further **advance reliability through long life.**

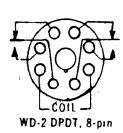
The many refinements, plus MAGNECRAFT Quality Control and Inspection Standards, **give you hidden values beyond price** —unseen values that keep making friends through years of dependable service.

When you inspect and compare you will soon see that many MAGNECRAFT 88 **extra values are not hidden.**

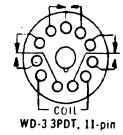
Wiring diagrams for Class 88 Plug-in Mounted Relay



WD-1 SPDT 8-pin

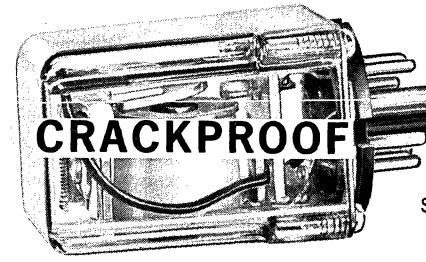


WD-2 DPDT, 8-pin



WD-3 3PDT, 11-pin

h* is overall dimension above socket **WD is abbreviation for Wiring Diagram**
†Voltage operated relays pull in at 85% of nominal voltage.



Class 88CP

AC and DC Small, Plug-in in Crackproof plastic cover

See wiring diagrams at lower left

1⅜ x 1⅛ x 2⅛ h*

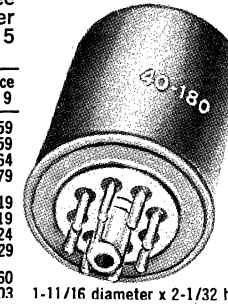
Enc. **40-279 CRACKPROOF,** clear as glass, tough as steel dust cover of polycarbonate resin housing **Class 88** relay with 8- or 11-pin standard octal plug. Silver alloy contacts, 10 amp. rating. Weight, 3 ounces.

contact arrangement	COIL †volt. or current	COIL res. ohms	COIL nominal power	10 ampere silver alloy contacts OPEN RELAY Stock Part No.	OPEN RELAY Price 1 to 9	with Enclosure 40-279 Stock Part No.	with Enclosure 40-279 Plug	with Enclosure 40-279 Price 1 to 9
alternating current voltage actuated								
SPDT WD-1	6VAC			W88AX1	3.45	W88ACPX1		5.56
	12VAC			W88AX2	3.45	W88ACPX2		5.56
	24VAC		3 VA	W88AX3	3.50	W88ACPX3	8-pin	5.61
	115VAC			W88AX4	3.66	W88ACPX4		5.79
	230VAC			W88AX34	4.12	W88ACPX76		6.31
DPDT WD-2	6VAC			W88AX5	4.07	W88ACPX5		6.24
	12VAC			W88AX6	4.07	W88ACPX6		6.24
	24VAC		3 VA	W88AX7	4.12	W88ACPX7	8-pin	6.29
	115VAC			W88AX8	4.27	W88ACPX8		6.44
	230VAC			W88AX32	4.74	W88ACPX32		6.99
3PDT WD-3	6VAC			W88AX9	4.56	W88ACPX9		7.66
	12VAC			W88AX10	4.56	W88ACPX10		7.66
	24VAC		3 VA	W88AX11	4.62	W88ACPX11	11-pin	7.81
	115VAC			W88AX12	4.77	W88ACPX12		7.97
	230VAC			W88AX36	5.26	W88ACPX39		8.51
direct current voltage actuated								
SPDT WD-1	6VDC	25		W88X2	3.20	W88CPX1		5.35
	12VDC	100		W88X3	3.20	W88CPX2		5.35
	24VDC	400	1.5W	W88X4	3.28	W88CPX3	8-pin	5.40
	110VDC	8000		W88X5	3.85	W88CPX4		5.95
DPDT WD-2	6VDC	25		W88X6	3.73	W88CPX5		5.85
	12VDC	100		W88X7	3.73	W88CPX6		5.85
	24VDC	400	1.5W	W88X8	3.79	W88CPX7	8-pin	5.95
	110VDC	8000		W88X9	4.36	W88CPX8		6.51
3PDT WD-3	6VDC	25		W88X10	4.17	W88CPX9		7.23
	12VDC	100		W88X11	4.17	W88CPX10		7.28
	24VDC	400	1.5W	W88X12	4.21	W88CPX11	11-pin	7.38
	110VDC	8000		W88X13	4.77	W88CPX12		7.95
DC current actuated for plate circuit operation								
SPDT WD-1	7.2 MA	2500		W88X14	3.75	W88CPX13		5.90
	5.0 MA	5000	125MW	W88X15	3.85	W88CPX14	8-pin	6.00
	3.6 MA	10000		W88X16	4.25	W88CPX15		6.40
DPDT WD-2	10 MA	2500		W88X17	4.01	W88CPX16		6.30
	7.2 MA	5000	250MW	W88X18	4.11	W88CPX17	8-pin	6.40
	5 MA	10000		W88X19	4.51	W88CPX18		6.80
3PDT WD-3	12.3 MA	2500		W88X20	4.44	W88CPX19		7.70
	8.7 MA	5000	375MW	W88X21	4.54	W88CPX20	11-pin	7.80
	6.1 MA	10000		W88X22	4.94	W88CPX21		8.20

Class 88HP—Hermetically Sealed Enclosure Plug-in Mounted—10 amps.—AC and DC

40-180 enclosure, hermetically sealed, housing Class **88** high reliability relay (see above) with standard 8-pin octal plug. Silver alloy contacts, 10-ampere rating. Weight 5 ounces.

88HP



1-11/16 diameter x 2-1/32 h.

Stock Part No.	contactcs 10 amps.	COIL †Volts	COIL Ohms	nom. power	Price 1 to 9
W88AHPX-21	DPDT	6VAC	—		8.59
W88AHPX-22	WD-2	12VAC	—	3VA	8.59
W88AHPX-23		24VAC	—		8.64
W88AHPX-24		115VAC	—		8.79
W88HPX-32		6VDC	25		8.19
W88HPX-33	DPDT	12VDC	100	1.5W	8.19
W88HPX-34	WD-2	24VDC	400		8.24
W88HPX-35		110VDC	8000		9.29
W88AHPX-36	3PDT	115VAC	—	3VA	10.60
W88HPX-51	WD-3	24VDC	400	1.5W	10.03

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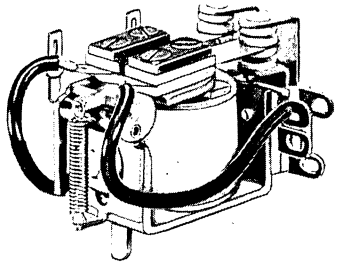
MAGNECRAFT RELAYS

General Purpose Relays

Small—Power—AC and DC—15 amps.

88R



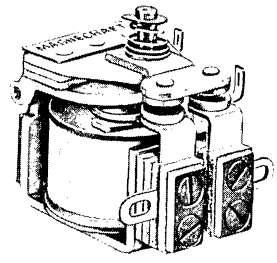
1⅞ x 1-15/32 x 1-5/32 high

Class **88R** extra quality, high reliability clapper type relay with 15 ampere heavy duty silver alloy contacts for industrial control applications. Has the exclusive quality features of Class 88 relays described on page one. Tinned solder terminals. One #6-32 tapped mounting hole and locating boss. Weight 3 ounces.

Stock Part No.	contacts 15 amps.	COIL †volts	COIL ohms	nominal power	Price 1 to 9
W88ARX1	DPDT	6VAC	—	3VA	5.97
W88ARX2		12VAC	—		5.97
W88ARX3		24VAC	—		6.02
W88ARX4		115VAC	—		6.17
W88RX1	DPDT	6VDC	25	1.5W	5.90
W88RX2		12VDC	100		5.90
W88RX3		24VDC	400		5.95
W88RX4		110VDC	8000		6.40

Power—AC and DC—50 amps.

88D

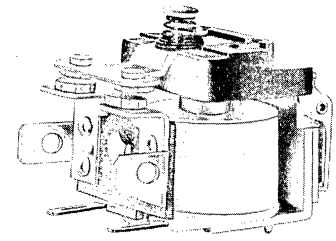


1-13/16 x 1¼ (less soldering tabs) x 1-7/16 high

The popular high reliability Class 88 Relay (see page 1) specially designed with 50-ampere SPST, Double Break, Normally Open contacts. Developed especially for switching heavy current in minimum space reliably and economically. Unique contact structure provides positive wiping action. One 6-32 tapped mounting hole and locating boss. Weight, 3 ounces.

Stock Part No.	contacts 50 amps.	COIL †volts	COIL ohms	nominal power	Price 1 to 9
W88ADX-1	50 amperes SPST Double break Normally Open	24VAC	—	3VA	5.15
W88ADX-2		115VAC	—		5.25
W88ADX-3		230VAC	—		5.70
W88DX-1		6VDC	25	1.5W	4.65
W88DX-2		12VDC	100		4.65
W88DX-3		24VDC	400		4.70
W88DX-4		110VDC	8000		5.94

Low Cost—50 Amps—AC and DC



1-15/16 x 1-1/16 x 1½ high

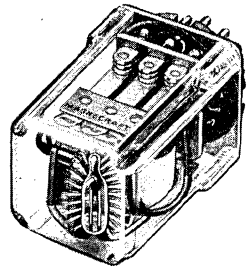
50 ampere heavy duty silver cadmium oxide, gold flashed contacts for power switching. Contacts assembled to glass terminal board and molded phenolic blade insulator. Terminal boards designed to accept AMP Faston "250" series receptacles on the contacts and "110" series receptacles on the coil, or equivalent thereof. If desired, standard soldering connections can be used. Tapped with one 6-32 mounting hole and locating boss. Weight, 3 oz.

Stock Part No.	contacts 50 Amps	COIL †volts	COIL *ohms	nom. power	Price 1 to 9
W88KDX-1	SPST-NO-DB	6VDC	25	2W	4.14
W88KDX-2		12VDC	100		4.17
W88KDX-3		24VDC	400		4.27
W88KDX-4		110VDC	8000		5.08
W88KADX-1	SPST-NO-DB	24VAC	—	3VA	4.67
W88KADX-2		115VAC	—		4.82
W88KADX-3		230VAC	—		5.16

Small—AC—10-amp.—plug-in relay with neon "ON" light

88ANCP

CRACKPROOF clear as glass tough as steel!



1⅜ x 1⅜ x 2⅛ h*

Enc. 40-279 CRACKPROOF, clear as glass, tough as steel dust cover of polycarbonate resin with 8- or 11-pin standard octal plug housing Class 88 high reliability relay (see page 1) with built-in neon circuit indicator light. Indicator light comes on when coil is energized.

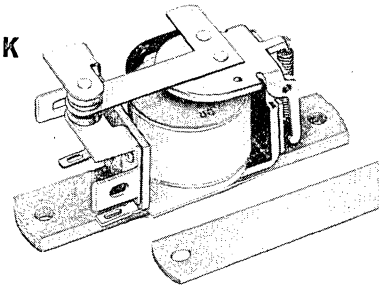
- Eliminates need for expensive pilot lamp assemblies
- Circuit condition can be seen at a glance
- Saves panel space

Silver alloy contacts, 10 ampere rating. Weight, 3 ounces.

Stock Part No.	contacts 10 amps.	wiring diagrams	†volt. AC	nominal power	Price 1 to 9
W88ANCPX-1	SPDT	WD-1	115	3VA	6.64
W88ANCPX-2	DPDT	WD-2	115		7.29
W88ANCPX-3	3PDT	WD-3	115		8.81

Low Cost—15 Amps—AC and DC

88K



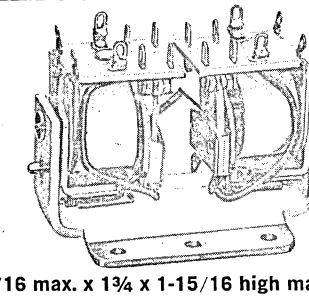
2⅝ (including mounting base) x 1 15/64 x 1¼ high

15 ampere silver cadmium oxide, gold flashed contacts for power switching. Contacts are assembled to glass insulated terminal board. Terminals are designed to accept AMP Faston "250" series receptacles on the contacts and "110" series receptacles on the coil, or equivalent thereof. If desired, standard soldering connections can be used. Mounting base insulator furnished. Weight, 3 ounces.

Stock Part No.	Contacts 15 amps	COIL †volts	COIL * ohms	nominal power	Price 1 to 9
W88AKX-1	SPDT	24VAC		3VA	4.48
W88AKX-2		115VAC			4.65
W88AKX-3		230VAC			5.63
W88KX-1	SPDT	6VDC	25	1.5W	4.31
W88KX-2		12VDC	100		4.36
W88KX-3		24VDC	400		4.46
W88KX-4		110VDC	8000		5.16

Latch-in—AC and DC—Small

88L



2-11/16 max. x 1¾ x 1-15/16 high max.

Two class 88 relays (see page 1) with interlocking latch-in levers mounted on a common base. Each armature latches when pulled in. Energizing one armature releases (rests) the other. Each relay is complete with independent operating coil. Contacts are silver alloy, 10 ampere rating. Relay coils are designed for continuous duty operation. Weight 6½ ounces.

Stock Part No.	contacts 10 amps.	COIL †volts	COIL ohms	nominal power	Price 1 to 9
W88ALX-2	4PDT	6VAC	—	6VA prox.	10.60
W88ALX-3		24VAC	—		10.60
W88ALX-4		115VAC	—		10.60
W88ALX-5	6PDT	6VAC	—	6VA prox.	12.80
W88ALX-6		24VAC	—		12.80
W88ALX-7		115VAC	—		12.80
W88LX-1	4PDT	6VDC	12	3W	9.65
W88LX-2		12VDC	50		9.65
W88LX-3		24VDC	200		9.65
W88LX-4		110VDC	4000		10.85
W88LX-5	6PDT	6VDC	12	3W	11.75
W88LX-6		12VDC	50		11.75
W88LX-7		24VDC	200		11.75
W88LX-8		110VDC	4000		12.95

*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.

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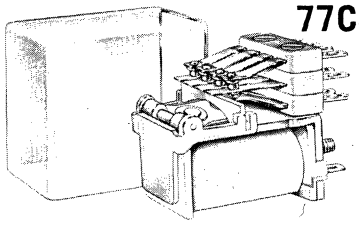
Telephone Type Relays — MAGNECRAFT RELAYS

Miniature—5 Amp—4pdt Dust Cover and Sockets

77CS

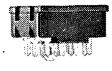


1-7/64 x 1-19/32 x 55/64

Switches up to 5 amps—has greater contact pressure without increasing coil operating power. No internal wiring, solder connections or pigtails. Hinge-pin armature bearings with oversize bearing surfaces guarantee longer life. Insulation of contact terminals provides higher dielectric strength. Comes in molded insulated snap-on dust cover.

Stock Part No.	contacts 5 Amps	COIL †volts	COIL *ohms	nominal power	Prices 1 to 9
W77CSX-1	4PDT	6VDC	40	1.0W	5.30
W77CSX-2		12VDC	160		5.30
W77CSX-3		24VDC	600		5.40
W77CSX-4		48VDC	2500		5.55
W77CSX-5		110VDC	10000		5.97
W77ACSX-1		115VAC	—	3VA	5.60

Sockets



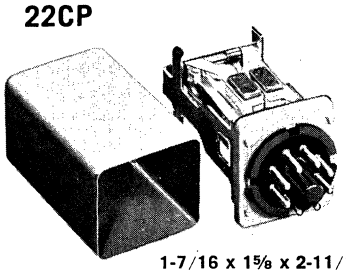
Solder Terminal **PC Terminal**

70-161-1 Solder Terminal Socket with Retainer ..... .58

70-161-3 Printed Circuit Terminal Socket ..... .58

Small—AC and DC—Plug-in with removable dust cover

22CP



1-7/16 x 1⅝ x 2-11/16 h*

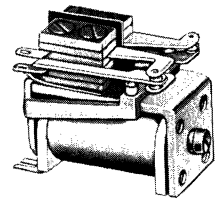
40-284 enclosure with removable dust cover housing Class 22 relay with 8- or 11-pin standard octal plug. Internal bracket supports cover and protects relay. One screw holds cover in place. Silver alloy contacts, 5 ampere rating. Weight, 6 ounces.

Stock Part No.	contacts 5 amps.	COIL †volts	COIL ohms	nominal power	Price 1 to 9
alternating current voltage actuated					
W22ACPX60	DPDT WD-5	115VAC		5VA	10.23
direct current voltage actuated					
W22CPX49	DPDT WD-5	12VDC	80	2.0W	9.85
W22CPX50		24VDC	375	1.5W	9.90
W22CPX51		110VDC	8000	1.5W	11.14
W22CPX54	3DPT WD-6	24VDC	375	1.5W	11.92
W22CPX56	DPDT WD-5	4.5 MA	10000	200MW	11.14

h* is overall dimension above socket

Sub-miniature—DC—3 amps.

33



1-11/32 x 11/16 x 1¾ h. max.

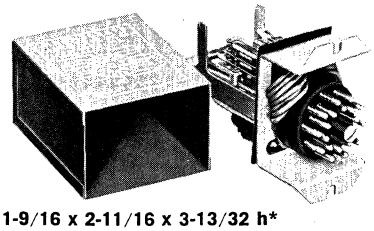
Class **33** midget sub-miniature; the smallest telephone type MAGNECRAFT Relay and one of the smallest telephone type relays on the market. Class 33 is also the fastest operating and inherently more shock resistant and vibration resistant. Long life, reliability and accuracy fit Class 33 relays for a wide range of small space requirements. They are extensively used for aircraft, computer and mobile applications where small size, light weight and resistance to shock and vibration are essential.

Palladium contacts; 3 ampere rating. Four 4-40 tapped mounting holes on ⅜ x ⅜ centers. Weight 1 ounce.

Stock Part No.	contacts 3 amps.	COIL—DC †Volts	COIL—DC ohms	nominal power	Price 1 to 9
W33X237	DPDT	6VDC	17	2.0W	4.87
W33X238		12VDC	75		4.87
W33X239		24VDC	280		4.92
W33X240		110VDC	6500		5.50
W33X241	4DPT	6VDC	17	2.0W	6.58
W33X242		12VDC	75		6.58
W33X243		24VDC	280		6.63
W33X244		110VDC	6500		7.23

Small—DC—Plug-in with removable dust cover

22CP



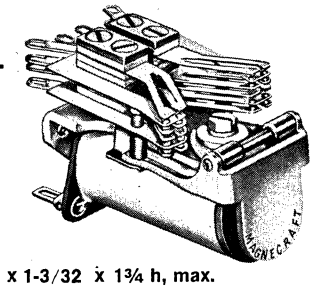
1-9/16 x 2-11/16 x 3-13/32 h*

45-176 removable dust cover with Class 22 relay and 20-pin octal plug. Hold-down bracket permits mounting in any position. Internal bracket supports cover. One screw holds cover. Rubber gasket seals out dust. Silver alloy contacts, 5 ampere rating. Hold down bracket has two mounting holes for 6-32 screws on 2²¹⁄₃₂ centers. Weight, 8 ounces.

Stock Part No.	contacts 5 amps.	COIL †volts	COIL ohms	nominal power	Price 1 to 9
W22CPX61	6PDT WD-7	6VDC	12	3.0W	16.72
W22CPX62		12VDC	50		16.72
W22CPX63		24VDC	225		16.77
W22CPX64		110VDC	5000		17.35

Small—AC and DC—Twin Contacts

22T



2-1/16 x 1-3/32 x 1¾ h, max.

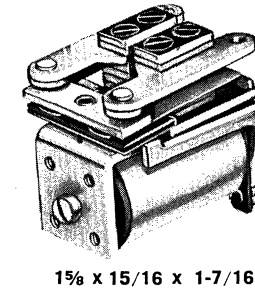
Class **22T**—miniature long form relay with accuracy reliability and long life equal and sometimes superior to larger relays. A unique, pin type armature hinge of heavy duty design and precision construction assures stabilized adjustment through millions of operations. Twin Palladium contacts with long, flexible bifurcated contact springs assure the ultimate in switching reliability.

Twin Palladium contacts, 4 ampere rating. All mounting and wiring at heel end. Tinned solder terminals with easy-to-wire spacing. Two #6-32 tapped mounting holes on ¾ centers. Weight, 5 ounces.

Stock Part No.	contacts 4 amps.	COIL +V or C	COIL ohms	nominal power	Price 1 to 9
direct current voltage actuated					
W22TX267	4PDT	6VDC	20	2.0W	8.44
W22TX268		12VDC	80	2.0W	8.44
W22TX269		24VDC	375	1.5W	8.49
W22TX270		110VDC	8000	1.5W	9.97
W22TX271	6PDT	6VDC	12	3.0W	11.87
W22TX272		12VDC	50		11.87
W22TX273		24VDC	250		11.92
W22TX274		110VDC	5000		12.91
DC current actuated for plate circuit operation					
W22TX275	DPDT	4.5 MA	10000	200MW	6.93

Miniature Power—DC 50 amps.—SPST-NO-DB

11D



1⅝ x 15/16 x 1-7/16 h.

Class **11D** miniature telephone type relay with heavy brass contact arms and large 50-ampere silver alloy, single pole, single throw, normally open, double break contacts. The Class 11 is a small size relay with big relay reliability accuracy and long life.

Solder terminals, spaced for easy wiring. Four 4-40 tapped mounting holes on ⅜ x 7⁄16 centers. Weight, 3 ounces.

Stock Part No.	contacts 50 amps.	COIL †volts	COIL ohms	nominal power	Price 1 to 9
W11DX39	SPST-NO double break	12VDC	100	1.5W	5.45
W11DX40		24VDC	400		5.45

*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.

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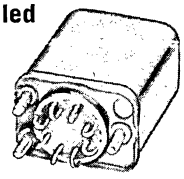
MAGNECRAFT RELAYS

Hermetically Sealed Relays

Hermetically Sealed Sub-miniature DC—5 amps.

33HS

31/32 x 1-11/32 x 1-41/64 h*



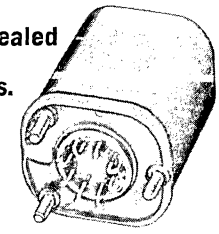
40-157 enclosure, hermetically sealed, housing Class 33 miniature relay with 8- or 14-pin high compression, glass insulated, solder terminal header. Silver alloy contacts, 5-ampere rating. Three 4-40 tapped mounting holes on ½ x1 centers. Weight, 3 ounces.

Stock Part No.	contacts 5 amps.	COIL—DC †Volts	COIL—DC ohms	nominal power	Price 1 to 9
W33HSX177	2PDT WD-8	6VDC	17	2.0W	13.21
W33HSX178		12VDC	280		13.21
W33HSX179		24VDC	280		13.26
W33HSX180		110VDC	6500		13.87
W33HSX181	4PDT WD-9	6VDC	17	2.0W	16.65
W33HSX182		12VDC	75		16.65
W33HSX183		24VDC	280		17.70
W33HSX184		110VDC	6500		17.36

Hermetically Sealed Miniature DC—5 amps.

11HS

1⅝ x 1-7/16 x 2-1/16 h*

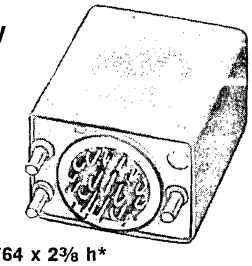


40-102 enclosure, hermetically sealed, housing Class 11 miniature relay with 14-pin high compression, glass insulated solder terminal header. Silver alloy contacts, 5 ampere rating. Three #6-32 NC-2 threaded mounting studs on 1⅝ x 1⅜ centers. Weight, 6 ounces.

Stock Part No.	contacts 5 amps.	COIL—DC †V or C.	COIL—DC ohms	nominal power	Price 1 to 9
W11HSX321	4PDT WD-9	6VDC	25	1.5W	15.92
W11HSX322		12VDC	100		15.97
W11HSX323		24VDC	400		15.97

Hermetically Sealed Miniature DC 5 amps.

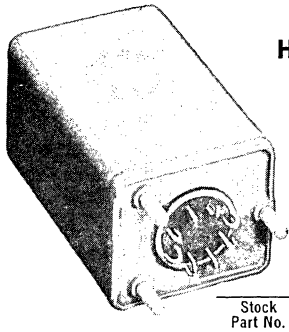
11HS



1-15/64 x 1-47/64 x 2⅜ h*

40-188 enclosure, hermetically sealed, housing. Class 11 miniature relay with 20-pin high compression glass insulated solder terminal header. Silver alloy contacts, 5 ampere rating. Three #6-32 NC-2 threaded mounting studs on ½ x 1 13/32 centers. Weight, 6 ounces.

Stock Part No.	contacts 5 amps.	COIL—DC †volts	COIL—DC ohms	nominal power	Price 1 to 9
W11HSX327	6PDT WD-10	12VDC	56	2.5W	19.91
W11HSX328		24VDC	280		19.96



Hermetically Sealed—small—AC and DC—5 amps.

22HS

1-7/16 x 1⅝ x 2-11/16 h*

40-158 enclosure, hermetically sealed, housing Class 22 relay with 14-pin glass insulated solder terminal header. Silver alloy contacts, 5 ampere rating. Three #6-32 threaded mounting studs on 1⅝ x 1⅜ centers. Weight, 7 ounces.

Stock Part No.	contacts 5 amps.	COIL †volts	COIL ohms	nominal power	Price 1 to 9
alternating current voltage actuated					
W22AHSX32	4PDT WD-9	115VAC	500	5VA	17.30
direct current voltage actuated					
W22HSX144	4PDT WD-9	6VDC	20	2.0W	17.00
W22HSX145		12VDC	80	2.0W	17.00
W22HSX146		24VDC	375	1.5W	17.05
W22HSX147		110VDC	8000	1.5W	18.03

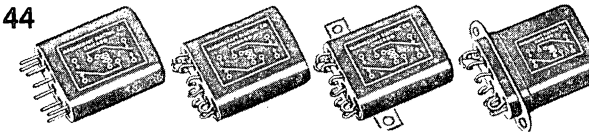
Micro-Miniature Rotary Relays

MAGNECRAFT Class 44 Rotary Relays have been developed to provide increased reliability in the crystal can size. Here are a few of many areas in which improvement has been made:

1. Frame and header assembly of rugged bridge-type construction—assures greatly increased resistance to distortion from shock, vibration and temperature—to military specifications.
2. Balanced armature—minimizes the effect of gravity, shock and vibration on operating reliability.
3. Hinge design—oversize, instrument type bearings at BOTH ends.
   a. Minimizes friction for increased sensitivity and greater contact pressure.
   b. Increases operating reliability and life.
4. The finest development in high temperature insulation.
5. Hermetically sealed in inert gas for maximum protection against severe ambient conditions.

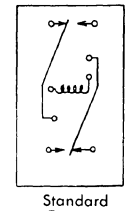
Contact combination: Double Pole, Double Throw
Contact rating: 2 amperes at 28 VDC or 115 VAC, non-inductive.
Operate Time: 5 milliseconds maximum with nominal voltage.
Release Time: 5 milliseconds maximum.

44



Enc. 40-227 plug-in header no bracket | Enc. 40-222 solder terminals no bracket | Enc. 40-224 soder terminals side bracket | Enc. 40-234 solder terminals flange bracket

Case Dimensions .875 x .797 x .359



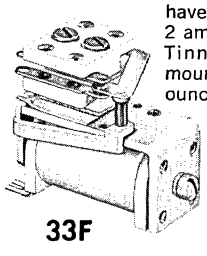
Standard Contact Arrangement

COIL—DC volts	COIL—DC ohms	nomi. power	Stock Part No.	Price 1 to 9	Stock Part No.	Price 1 to 9
			Enc. 40-227		Enc. 40-222	
6.5	34		W44HPX-34	17.60		
11	92		W44HPX-35	17.60	W44HSX-104	17.60
26.5	552	1.2W	W44HPX-36	17.60		
38.5	1278		W44HPX-37	18.00		
76	5000		W44HPX-38	19.90		
			Enc. 40-224		Enc. 40-234	
6.5	34		W44HSX-108	17.95	W44HSX-113	17.95
11	92		W44HSX-109	17.95	W44HSX-114	17.95
26.5	552	1.2W	W44HSX-110	17.95	W44HSX-115	17.95

Class 33F, RF Switching, Subminiature

Class **33** telephone type relay designed especially for lowest capacitance between springs and minimum losses at high frequencies. Suitable for antenna change-over switching. Contact springs have ceramic insulation. Contacts are Palladium, 2 ampere rating.

Tinned solder terminals. Four #4-40 tapped mounting holes on ⅜ x ⅜ centers. Weight, 1 ounce. 1 1/32 l, 1 1/16 w, 1¼ h.

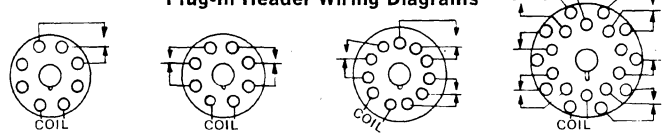


33F

Stock Part No.	contacts 2 amps.	COIL—DC †volts	COIL—DC ohms	nominal power	Price 1 to 9
W33FX20	SPDT	6VDC	28	1.5W	4.06
W33FX21		12VDC	100		4.11
W33FX22		24VDC	500		4.16
W33FX23		110VDC	6500		4.69

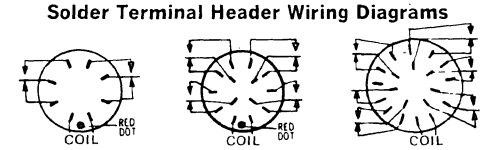
h* is dimension above mounting base. WD is abbreviation for Wiring Diagram
†Voltage operated relays pull in at 85% of nominal voltage.

Plug-in Header Wiring Diagrams



WD-4, SPDT, 8-pin | WD-5 DPDT, 8-pin | WD-6 3PDT, 11-pin | WD-7 6PDT, 20-pin

Solder Terminal Header Wiring Diagrams



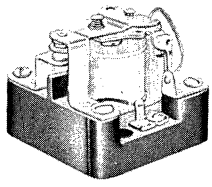
WD-8 DPDT, 8-hook | WD-9 4PDT, 14-hook | WD-10 6PDT, 20-hook

*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.

Heavy Duty Relays — MAGNECRAFT RELAYS

Class 99—Heavy Duty Industrial Control Power Relays

Class 99 with 25 Ampere SPDT Contacts

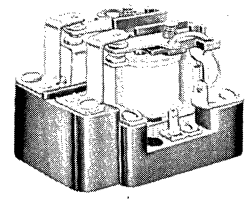


2½ x 2½ x 2½ high

Dimensionally interchangeable with relays made by others. Superior quality hinge-pin design, molded nylon bobbin and adjustment stability features give it longer life. 5/16" contacts of silver cadmium oxide, gold flash. Standard dielectric strength: 1500 VAC, RMS. Screw type terminals and molded phenolic base. Weight, 8 ounces.

Stock Part No.	Contacts Amps	COIL †Volts	COIL *Ohms	Nominal Power	Price 1 to 9
W99AX-1	SPDT 25 Amps	24VAC	—	3VA	5.66
W99AX-2		115VAC	—		5.68
W99AX-3		230VAC	—		5.86
W99X-1		6VDC	18	2.0W	5.42
W99X-2		12VDC	70		5.42
W99X-3		24VDC	290		5.44
W99X-4		110VDC	6000		5.83

Class 99 with 25 Ampere DPDT Contacts

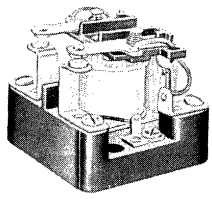


3-3/16 x 2½ x 2-5/16 high

Dimensionally interchangeable with relays made by others. Superior quality hinge-pin design, molded nylon bobbin and adjustment stability features give it longer life. 5/16" contacts of silver cadmium oxide, gold flash. Standard dielectric strength: 1500 VAC, RMS. Screw type terminals and molded phenolic base. Weight, 11 ounces.

Stock Part No.	Contacts Amps	COIL †Volts	COIL *Ohms	Nominal Power	Price 1 to 9
W99AX-4	DPDT 25 Amps	24VAC	—	3VA	8.43
W99AX-5		115VAC	—		8.43
W99AX-6		230VAC	—		8.63
W99AX-7		440VAC	—		8.68
W99X-5		6VDC	18	2.0W	8.12
W99X-6		12VDC	70		8.12
W99X-7		24VDC	290		8.14
W99X-8		110VDC	6000		8.53

Class 99 with 25 Ampere DPST-NO Contacts

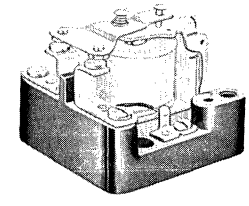


2½ x 2½ x 2-5/16 high

Dimensionally interchangeable with relays made by others. Superior quality hinge-pin design, molded nylon bobbin and adjustment stability features give it longer life. 5/16" contacts of silver cadmium oxide, gold flash. Standard dielectric strength: 1500 VAC, RMS. Screw type terminals and molded phenolic base. Weight, 9 ounces.

Stock Part No.	Contacts Amps	COIL †Volts	COIL *Ohms	Nominal Power	Price 1 to 9
W99AX- 8	DPST 25 Amps	24VAC	—	3VA	6.65
W99AX- 9		115VAC	—		6.67
W99AX-10		230VAC	—		6.85
W99X- 9		6VDC	18	2.0W	6.36
W99X-10		12VDC	70		6.36
W99X-11		24VDC	290		6.38
W99X-12		110VDC	6000		6.77

Class 99 with 50 Ampere SPST-NO-DB Contacts



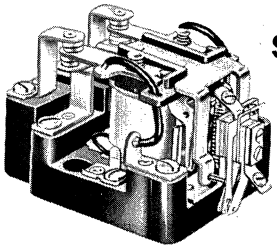
2½ x 2½ x 2-3/32 high

Dimensionally interchangeable with relays made by others. Superior quality hinge-pin design, molded nylon bobbin and adjustment stability features give it longer life. 5/16" contacts of silver cadmium oxide, gold flash. Standard dielectric strength: 1500 VAC, RMS. Screw type terminals and molded phenolic base. Weight, 8 ounces.

Stock Part No.	Contacts Amps	COIL †Volts	COIL *Ohms	Nominal Power	Price 1 to 9
W99ADX-1	SPST-NO-DB 50 Amps	24VAC	—	3VA	5.64
W99ADX-2		115VAC	—		5.64
W99ADX-3		230VAC	—		5.85
W99DX-1		6VDC	18	2.0W	5.35
W99DX-2		12VDC	70		5.35
W99DX-3		24VDC	290		5.37
W99DX-4		110VDC	6000		5.74

Class 99 Power Relay with Auxiliary Contacts

99 DPDT Relay with SPDT Aux. Contacts



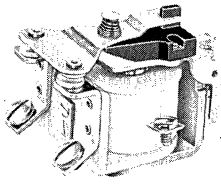
2½ x 4-3/32 x 2-5/16 high

Basic Class 99 DPDT alternating current relay with same specifications shown above. Auxiliary contacts rated 5 amperes with screw type terminals. (DPDT relay with SPDT auxiliary contacts are available on special order.) Weight 11½ ounces.

Stock Part No.	Contacts 25 Amps	COIL †Volts	COIL *Ohms	Nom. Power	Price 1 to 9
W99AX-15	DPDT (Relay)	115VAC	—	3VA	10.43
W99AX-16		230VAC	—		10.63

Class 99 Space-Saver Power Relays

99SD 50 Amperes

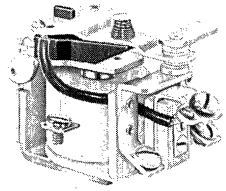


2 x 2½ x 1⅞ high

Space-Saver in every sense of the word. Specification-wise it is same as Class 99 D power relay featured above. Tapped with one 6-32 mounting hole and locating boss. Weight, 6 ounces.

Stock Part No.	Contacts 50 Amps	COIL †Volts	COIL *Ohms	Nom. Power	Price 1 to 9
W99SADX-1	SPST-NO-DB 50 Amps	24VAC	—	3VA	6.26
W99SADX-2		115VAC	—		6.34
W99SADX-3		230VAC	—		6.56
W99SDX-1	SPST-NO-DB 50 Amps	6VDC	18	2.0W	6.10
W99SDX-2		12VDC	70		6.10
W99SDX-3		24VDC	290		6.14
W99SDX-4		110VDC	6000		6.44

99S 25 Amperes



2 x 2⅞ x 1⅞ high

Space-Saver without phenolic base. Specification-wise it is same as Class 99 power relay featured above. Tapped with one 6-32 mounting hole and locating boss. Weight, 6 ounces.

Stock Part No.	Contacts 50 Amps	COIL †Volts	COIL *Ohms	Nom. Power	Price 1 to 9
W99SAX-1	SPDT 25 Amps	24VAC	—	3VA	7.35
W99SAX-2		115VAC	—		7.40
W99SAX-3		230VAC	—		7.60
W99SX-1	SPDT 25 Amps	6VDC	18	2.0W	7.11
W99SX-2		12VDC	70		7.13
W99SX-3		24VDC	290		7.13
W99SX-4		110VDC	6000		7.46

*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.

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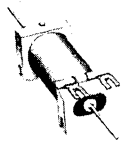
MAGNECRAFT RELAYS

In-Line Lead Reed Relays

101M SPST-NO, Miniature

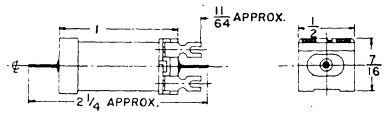
Molded Bobbin Dry Reed Relay with In-Line Leads



Nom. Power, 600MW
Weight, 1 oz.

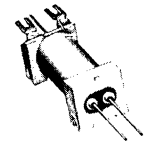
Operate, 1 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than ½ ms. aver.
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.
Contact Resistance, 150 milliohms aver.
Life Expectancy, 5 million cycles at full load; 20 million at ½ load.
Capacitance across contacts, 0.3 pf. aver.
Operates in any position.

Stock Part No.	Contacts	‡MA	COIL—DC †Volts	*Ohms	Price 1 to 24
W101MX-1	SPST-NO	—	6	100	2.20
W101MX-2		—	12	250	2.25
W101MX-3		—	24	500	2.25
W101MX-4		9	—	2500	2.43



104M SPDT, Miniature

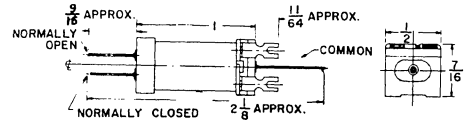
Molded Bobbin Dry Reed Relay with In-Line Leads



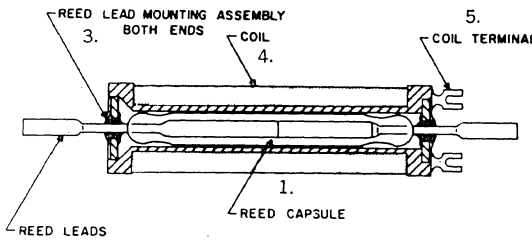
Nom. Power, 500MW
Weight, 1 oz.

Operate, 1 ms. aver. Release, 1 ms. aver.
Contact Bounce, less than ½ ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts.
Contact Load Rating, 3 VA max. at .25 amp. max. or 28V max., non-inductive.
Contact Resistance, 150 milliohms, aver.
Capacitance across contacts, 1.3 pf. aver.
Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	‡MA	COIL—DC †Volts	*Ohms	Price 1 to 24
W104MX-1	SPDT	—	6	100	5.63
W104MX-2		—	12	250	5.68
W104MX-3		—	24	500	5.68
W104MX-4		9	—	2500	5.87



195 Reed Relays In Stock for Immediate Delivery! We Have Them... The Greatest Selection of Mercury-Wetted and Dry Reed Relays Stocked by Any Manufacturer!

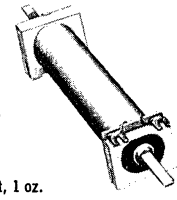


MOLDED OPEN STYLE CROSS SECTION

1. **Reed Capsule** contacts are hermetically sealed with inert gas in glass capsule to completely protect them from dust, contamination, moisture or tampering.
2. **Reed Leads** are gold plated or tinned for ease in soldering connecting lead wires.
3. **Reed Lead Mounting Assembly** provides fastening reed lead to bobbin for stress relief to minimize forces begin exerted to glass capsule during soldering.
4. **Coil** is accurately wound on specially designed one-piece molded bobbin insulated for excellent dielectric characteristics.
5. **Coil Terminals** are molded into bobbin to give maximum strength and avoid shorts and open connections. Terminals are tinned for ease of soldering.

102M SPST-NO, Standard Size

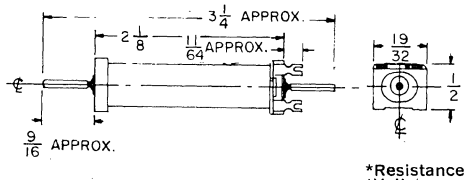
Molded Bobbin Dry Reed Relay with In-Line Leads



Nom. Power, 300MW Weight, 1 oz.

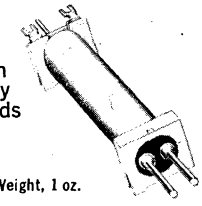
Operate, 3 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than 1 ms. aver.
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 milliohms, aver.
Life Expectancy, 20 million cycles at full load; 100 million at ½ load.
Capacitance across contacts, 0.9 pf. aver.
Operating position, any.

Stock Part No.	Contacts	‡MA	COIL—DC †Volts	*Ohms	Price 1 to 24
W102MX-1	SPST-NO	40	—	100	2.18
W102MX-2		—	6	200	2.25
W102MX-3		—	12	500	2.25
W102MX-4		—	24	2000	2.47
W102MX-5		5.5	—	5000	2.63



103M SPDT, Standard Size

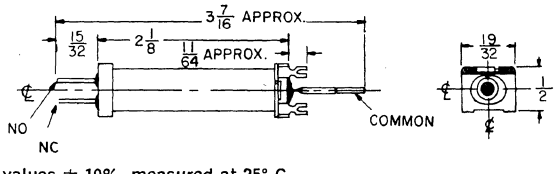
Molded Bobbin Dry Reed Relay with In-Line Leads



Nom. Power, 300MW Weight, 1 oz.

Operate, 2 ms. aver. Release, ½ ms. aver.
Contact Bounce, 4 ms. average on release, normally closed contacts.
Contact Load Rating, 10VA at ½ amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 Milliohms, aver.
Life Expectancy, 25 million cycles at full load; 50 million at ½ load.
Capacitance across contacts, 3.0 pf. aver.
Operating position, any.

Stock Part No.	Contacts	‡MA	COIL—DC †Volts	*Ohms	Price 1 to 24
W103MX-1	SPDT	—	6	200	4.23
W103MX-2		—	12	500	4.23
W103MX-3		—	24	2000	4.45
W103MX-4		5.5	—	5000	4.62



Remember — Magnecraft Sales Engineering Dept. Can Provide You With Custom Built Relays To Your Specifications. Call Us Or Write For Our Special Order Relays Today.

Magnecraft Electric Co.

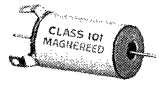
*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.
††Current operated relays pull in at specified value or less.

Miniature Form A Reed Relays — MAGNECRAFT RELAYS

101 SPST-NO, Miniature

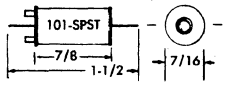
Open type miniature dry reed relay with solder terminals.

Nom. Power, 600MW
weight, 1 oz.



Operate, 1 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than ½ ms. aver.
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.
Contact Resistance, 150 milliohms aver.
Life Expectancy, 5 million cycles at full load; 20 million at ½ load.
Capacitance across contacts, 0.7 pf. aver.
Operates in any position.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W101X-1	SPST-NO	—	6V	100	3.29
W101X-2		—	12V	250	3.29
W101X-3		—	24V	500	3.85
W101X-4		9MA	—	2500	4.25



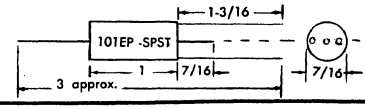
101EP SPST-NO, Miniature

Encapsulated dry reed relay with axial leads.

Nominal Power, 600MW
Weight, 1 oz.

Operate, 1 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than ½ ms. aver.
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.
Contact Resistance, 150 milliohms aver.
Life Expectancy, 5 million cycles at full load; 20 million at ½ load.
Capacitance across contacts, 0.5 pf. aver.
Operates in any position.

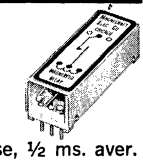
Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W101EPX-5	SPST-NO	—	6V	65	3.62
W101EPX-6		—	12V	225	3.62
W101EPX-7		—	24V	1000	4.24
W101EPX-8		8MA	—	5000	4.68



101MPC SPST-NO, Miniature

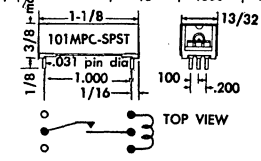
MPC high reliability Printed Circuit Construction

Nom. Power, 500MW
Weight, 1 oz.

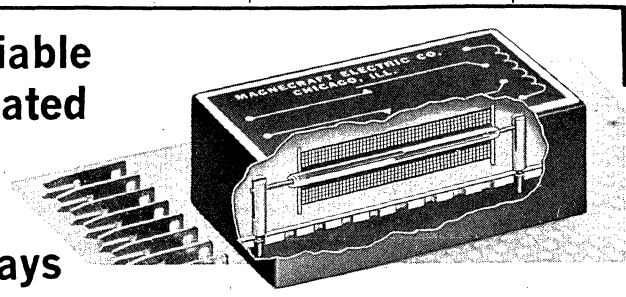


Operate, 1 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than ½ ms. aver.
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.
Contact Resistance, 150 milliohms aver.
Life Expectancy, 5 million cycles at full load; 20 million at ½ load.
Capacitance across contacts, 0.8 pf. aver.
Operates in any position.

Stock Part No.	Contacts	COIL—DC †Volts	*Ohms	Price 1 to 24
W101MPCX-1	SPST-NO	6	70	3.60
W101MPCX-2		12	300	3.60
W101MPCX-3		24	1100	3.63
W101MPCX-4		48	4300	3.77



Ultra-Reliable Encapsulated Printed Circuit Reed Relays



The package illustrated is a Class 102PC, DPST-NO Standard Size Relay (page 7) cut away to show typical assembly of one reed.

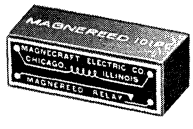
Construction of miniature encapsulated printed circuit reed relays (pages 5 and 6) is similar to the standard size.

1. Reed contact leads are soldered stress-free to rugged terminal posts.
2. Terminal posts extend through the terminal board as printed circuit pins.
3. The complete assembly is encapsulated, which provides:
   a. Mechanical protection for the glass capsule, contact leads and coil.
   b. Full protection against tampering and contaminating atmosphere.
   c. Rigid positioning of terminal supports and printed circuit pins; stresses on circuit pins cannot transmit to the reed contact leads and affect relay adjustment.

101PC SPST-NO, Miniature

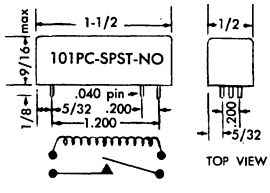
Ultra-reliable encapsulated printed circuit construction described above.

Nom. Power 600MW
Weight, 1 oz.



Operate, 1 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than ½ ms. aver.
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.
Contact Resistance, 150 milliohms aver.
Life Expectancy, 5 million cycles at full load; 20 million at ½ load.
Capacitance across contacts, 0.8 pf. aver.
Operates in any position.

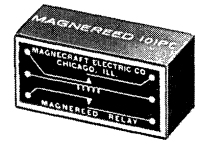
Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W101PCX-5	SPST-NO	—	6V	65	5.11
W101PCX-6		—	12V	250	5.16
W101PCX-7		—	24V	1000	5.26
W101PCX-8		8MA	—	5000	5.68



101PC DPST-NO, Miniature

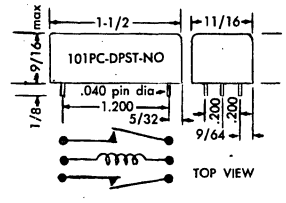
Ultra-reliable encapsulated printed circuit construction described above.

Nom. Power, 900MW
Weight, 2 oz.



Operate, 1 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than ½ ms. aver.
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.
Contact Resistance, 150 milliohms aver.
Life Expectancy, 5 million cycles at full load; 20 million at ½ load.
Capacitance across contacts, 1.0 pf aver.
Operates in any position.

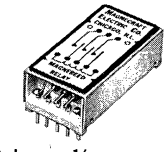
Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W101PCX-9	DPST-NO	—	6V	40	7.15
W101PCX-10		—	12V	150	7.18
W101PCX-11		—	24V	650	7.24
W101PCX-12		8MA	—	5000	7.69



101MPC 3PST-NO, Miniature

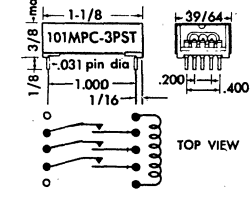
MPC high reliability Printed Circuit Construction

Nom. Power, 700MW
Weight, 1 oz.



Operate, 1 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than ½ ms. aver.
Contact Load Rating, 12VA at .25 amp. max. or 100VAC max., non-inductive.
Contact Resistance, 150 milliohms aver.
Life Expectancy, 5 million cycles at full load; 20 million at ½ load.
Capacitance across contacts, 1.0 pf. aver.
Operates in any position.

Stock Part No.	Contacts	COIL—DC †Volts	*Ohms	Price 1 to 24
W101MPCX-5	3PST-NO	6	50	6.75
W101MPCX-6		12	220	6.75
W101MPCX-7		24	850	6.77
W101MPCX-8		48	3300	6.85



*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.
††Current operated relays pull in at specified value or less.

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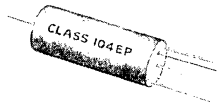
MAGNECRAFT RELAYS

Miniature Form C Reed Relays

104EP SPDT, Miniature—Encapsulated with Axial Leads

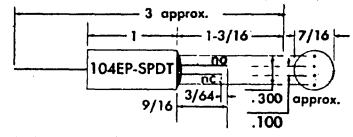
Encapsulated dry reed relay with axial leads.



Nominal Power, 600MW
Weight, 1 oz.

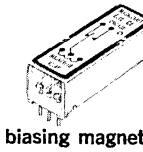
SPDT, true form C, no biasing magnet.
Operate, 1 ms. aver. Release, 1 ms. aver.
Contact Bounce, less than ½ ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts.
Contact Load Rating, 3VA max. at .25 amp. max. or 28 V max., non-inductive.
Contact Resistance, 150 milliohms, aver.
Capacitance across contacts, 1.5 pf. aver.
Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W104EPX-2	SPDT	—	6	65	7.37
W104EPX-3		—	12	225	7.37
W104EPX-4		—	24	1000	8.05
W104EPX-5		8	—	5000	8.55



104MPC SPDT, Miniature

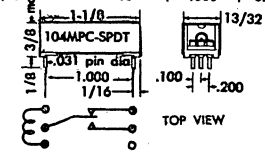
MPC high reliability Printed Circuit Construction



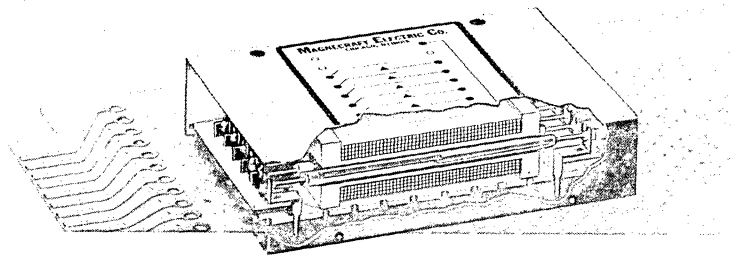
Nom. Power, 500MW
Weight, 1 oz.

SPDT, true form C, no biasing magnet.
Operate, 1 ms. aver. Release, 1 ms. aver.
Contact Bounce, less than ½ ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts.
Contact Load Rating, 3 VA max. at .25 amp. max. or 28V max., non-inductive.
Contact Resistance, 150 milliohms, aver.
Capacitance across contacts, 1.5 pf. aver.
Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	COIL—DC †Volts	*Ohms	Price 1 to 24
W104MPCX-1	SPDT	6	70	6.82
W104MPCX-2		12	300	6.83
W104MPCX-3		24	1100	6.85
W104MPCX-4		48	4300	6.98



MPC—The Low Profile Printed Circuit Reed Relay Package that combines High Reliability and Low Cost



1. Reed Relay contacts are hermetically sealed with inert gas in glass capsule; completely protected from contamination and tampering.
2. Contact leads are soldered (or welded) stress-free to rigidly positioned terminal supports.
3. The combination circuit board pins and terminal supports are securely fastened to terminal board; stresses on circuit board pins cannot transmit to contact leads and affect relay adjustment.
4. Integrally molded Nylon bobbin and mounting base combine electrical insulation and mechanical protection for the glass capsule.
5. Snap-on steel cover adds mechanical protection and magnetic shielding.

The package illustrated is a Class 102MPC 6PST-NO Standard Size Relay (page 7) cut away to show typical assembly of one reed.

Construction of miniature MPC packages (pages 5 and 6) and sub-miniature MPC packages (page 9) is similar in principle to the standard size MPC package illustrated.

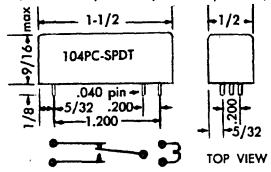
104PC SPDT, Miniature

Ultra-Reliable encapsulated printed circuit construction

Nom. Power 600MW
Weight, 1 oz.

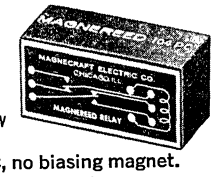
SPDT, true form C, no biasing magnet.
Operate, 1 ms. aver. Release, 1 ms. aver.
Contact Bounce, less than ½ ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts.
Contact Load Rating, 3VA max. at .25 amp. max. or 28V max., non-inductive.
Contact Resistance, 150 milliohms, aver.
Capacitance across contacts, 1.5 pf. aver.
Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W104PCX-7	SPDT	—	6V	65	10.07
W104PCX-8		—	12V	225	10.12
W104PCX-9		—	24V	1000	10.22
W104PCX-10		8	—	5000	10.64



104PC DPDT, Miniature

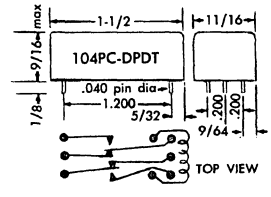
Ultra-Reliable encapsulated printed circuit construction



Nom. Power, 900MW
Weight, 3 oz.

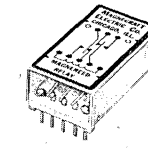
DPDT, true 2 Form C, no biasing magnet.
Operate, 1 ms. aver. Release, 1 ms. aver.
Contact Bounce, less than ½ ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts.
Contact Load Rating, 3 VA max. at .25 amp. max. or 28V max., non-inductive.
Contact Resistance, 150 milliohms, aver
Capacitance across contacts, 2.0 pf. aver.
Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W104PCX-3	DPDT	—	6V	40	14.59
W104PCX-4		—	12V	150	14.62
W104PCX-5		—	24V	650	14.68
W104PCX-6		8	—	5000	15.13



104MPC DPDT, Miniature

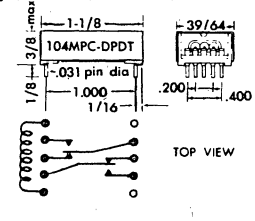
MPC high reliability Printed Circuit Construction



Nom. Power, 700MW
Weight, 2 oz.

DPDT, true 2 Form C, no biasing magnet.
Operate, 1 ms. aver. Release, 1 ms. aver.
Contact Bounce, less than ½ ms. aver. N.O. contacts; less than 2 ms. aver. N.C. contacts.
Contact Load Rating, 3 VA max. at .25 amp. max. or 28V max., non-inductive.
Contact Resistance, 150 milliohms, aver.
Capacitance across contacts, 2.0 pf. aver.
Life Expectancy, 10 million cycles at full load. Operating position, any.

Stock Part No.	Contacts	COIL—DC †Volts	*Ohms	Price 1 to 24
W104MPCX-5	DPDT	6	50	11.62
W104MPCX-6		12	220	11.63
W104MPCX-7		24	850	11.65
W104MPCX-8		48	3300	11.73

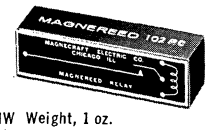


*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.
††Current operated relays pull in at specified value or less.

Standard Size Form A Reed Relays — MAGNECRAFT RELAYS

102PC SPST-NO, Standard Size

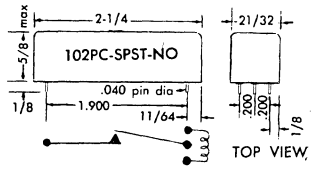
Ultra-Reliable encapsulated printed circuit construction



Nom. Power, 400MW Weight, 1 oz.

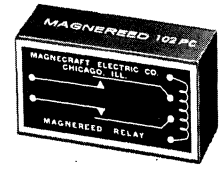
Operate, 3 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than 1 ms. aver.
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 milliohms, aver.
Life Expectancy, 20 million cycles at full load; 100 million at ½ load.
Capacitance across contacts, 1.0 pf. aver.
Operating position, any.

Stock Part No.	Contacts	COIL DC MA	†Volts	*Ohms	Price 1 to 24
W102PCX-1	SPST-NO	—	6V	100	4.77
W102PCX-2		—	12V	400	4.83
W102PCX-3		—	24V	1500	4.87
W102PCX-4		6.5MA	—	5000	5.32



102PC DPST-NO, Standard Size

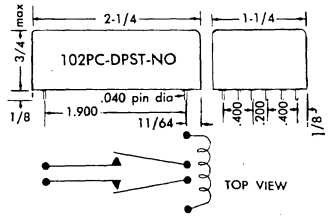
Ultra-Reliable encapsulated printed circuit construction



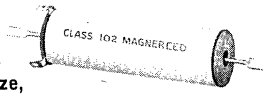
Nom. Power, 700MW Weight, 2 oz.

Operate, 3 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than 1 ms. aver.
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 milliohms, aver.
Life Expectancy, 20 million cycles at full load; 100 million at ½ load.
Capacitance across contacts, 1.2 pf. aver.
Operating position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W102PCX-5	DPST-NO	—	6V	50	6.22
W102PCX-6		—	12V	200	6.28
W102PCX-7		—	24V	800	6.33
W102PCX-8		9MA	—	5000	6.78



102 SPST-NO, Standard Size

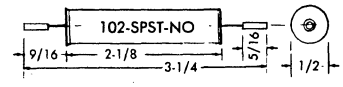


Open type, standard size, dry reed relay with solder terminals.

Nom. Power, 300MW Weight, 1 oz.

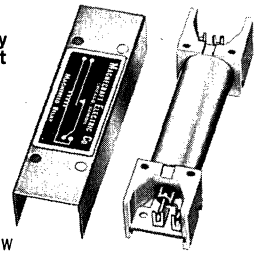
Operate, 3 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than 1 ms. aver.
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 milliohms, aver.
Life Expectancy, 20 million cycles at full load; 100 million at ½ load.
Capacitance across contacts, 0.9 pf. aver.
Operating position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W102X-1	SPST-NO	32MA		100	2.57
W102X-2		—	6V	200	2.57
W102X-3		—	12V	500	2.57
W102X-4		—	24V	2000	2.70
W102X-5		4.6MA		5000	3.25



102MPC SPST-NO, Standard Size

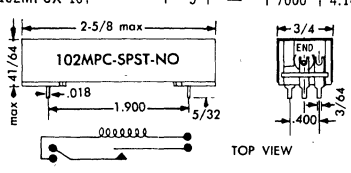
MPC, high reliability printed circuit construction



Nom. Power, 500MW Weight, 1 oz.

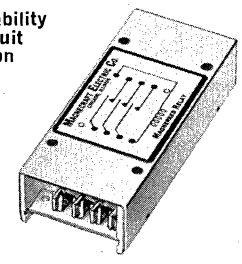
Operate, 3 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than 1 ms. aver.
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 milliohms, aver.
Life Expectancy, 20 million cycles at full load; 100 million at ½ load.
Capacitance across contacts, 1.0 pf. aver.
Operating position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W102MPCX-5	SPST-NO	140	—	30	3.29
W102MPCX-6		—	6VDC	70	
W102MPCX-7		—	12VDC	250	
W102MPCX-8		—	24VDC	1000	
W102MPCX-9		—	48VDC	4000	3.46
W102MPCX-10		9	—	7000	4.14



102MPC 3PST-NO, Standard Size

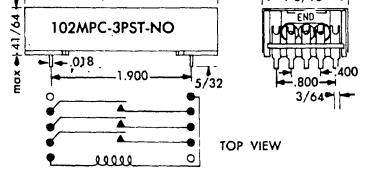
MPC high reliability printed circuit construction



Nom. Power, 750MW Weight, 2 oz.

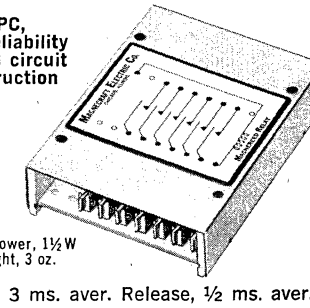
Operate, 3 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than 1 ms. aver.
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 milliohms, aver.
Life Expectancy, 20 million cycles at full load; 100 million at ½ load.
Capacitance across contacts, 1.2 pf. aver.
Operating position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W102MPCX-48	3PST-NO	—	6	50	5.62
W102MPCX-49		—	12	175	5.63
W102MPCX-50		—	24	750	5.77
W102MPCX-51		—	48	3000	5.97



102MPC 6PST-NO, Standard Size

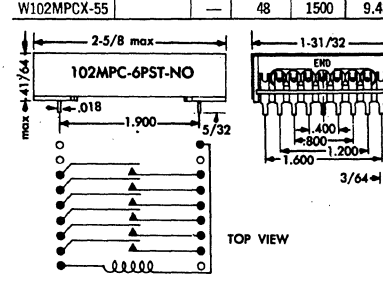
MPC, high reliability printed circuit construction



Nom. Power, 1½ W Weight, 3 oz.

Operate, 3 ms. aver. Release, ½ ms. aver.
Contact Bounce, less than 1 ms. aver.
Contact Load Rating, 15VA at 1 amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 milliohms, aver.
Life Expectancy, 20 million cycles at full load; 100 million at ½ load.
Capacitance across contacts, 1.2 pf. aver.
Operating position, any.

Stock Part No.	Contacts	MA	COIL—DC †Volts	*Ohms	Price 1 to 24
W102MPCX-52	6PST-NO	—	6	25	9.18
W102MPCX-53		—	12	100	9.30
W102MPCX-54		—	24	375	9.35
W102MPCX-55		—	48	1500	9.43



*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.
††Current operated relays pull in at specified value or less.

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MAGNECRAFT RELAYS

Standard Size Form C Reed Relays

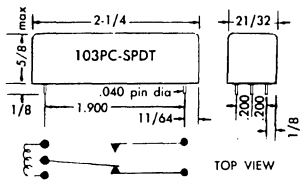
103PC SPDT, Standard Size

Ultra-Reliable encapsulated printed circuit construction

Nom. Power, 400MW Weight, 1 oz.

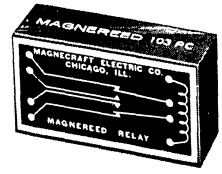
SPDT, true Form C, no biasing magnet.
Operate, 2 ms. aver. Release, ½ ms. aver.
Contact Bounce, 4 ms. average on release, normally closed contacts.
Contact Load Rating, 10VA at ½ amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 Milliohms, aver.
Life Expectancy, 25 million cycles at full load; 50 million at ½ load.
Capacitance across contacts, 3.0 pf. aver.
Operating Position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W103PCX-1	SPDT	—	6V	100	7.22
W103PCX-2		—	12V	400	7.27
W103PCX-3		—	24V	1500	7.32
W103PCX-4		6.5MA	—	5000	7.76



103PC DPDT, Standard Size

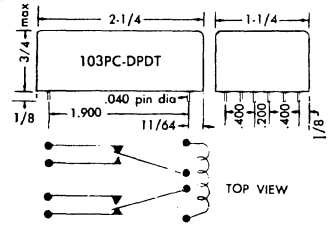
Ultra-Reliable encapsulated printed circuit construction



Nom. Power, 700MW Weight, 2 oz.

DPDT, true 2 Form C, no biasing magnet.
Operate, 2 ms. aver. Release, ½ ms. aver.
Contact Bounce, 4 ms. average on release, normally closed contacts.
Contact Load Rating, 10VA at ½ amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 Milliohms, aver.
Life Expectancy, 25 million cycles at full load; 50 million at ½ load.
Capacitance across contacts, 3.5 pf. aver.
Operating Position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W103PCX-5	DPDT	—	6V	50	10.77
W103PCX-6		—	12V	200	10.79
W103PCX-7		—	24V	800	10.84
W103PCX-8		9MA	—	5000	11.31



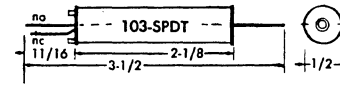
103 SPDT, Standard Size

Open type, standard size, dry reed relay with solder terminals.

Nom. Power, 300MW Weight, 1 oz.

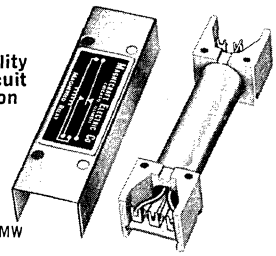
SPDT, true Form C, no biasing magnet.
Operate, 2 ms. aver. Release, ½ ms. aver.
Contact Bounce, 4 ms. average on release, normally closed contacts.
Contact Load Rating, 10VA at ½ amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 Milliohms, aver.
Life Expectancy, 25 million cycles at full load; 50 million at ½ load.
Capacitance across contacts, 3.0 pf. aver.
Operating Position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W103X-8	SPDT	32MA	—	100	4.54
W103X-9		—	6V	200	4.75
W103X-10		—	12V	500	5.22
W103X-11		—	24V	2000	5.66
W103X-12		4.6MA	—	5000	5.79



103MPC SPDT, Standard Size

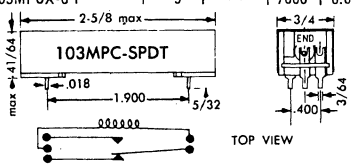
MPC, high reliability printed circuit construction



Nom. Power, 500MW Weight, 1 oz.

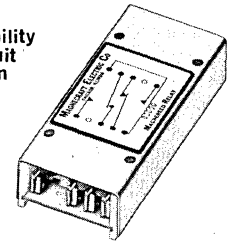
SPDT, true Form C, no biasing magnet.
Operate, 2 ms. aver. Release, ½ ms. aver.
Contact Bounce, 4 ms. average on release, normally closed contacts.
Contact Load Rating, 10VA at ½ amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 Milliohms, aver.
Life Expectancy, 25 million cycles at full load; 50 million at ½ load.
Capacitance across contacts, 2.0 pf. aver.
Operating Position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W103MPCX-1	SPDT	140	—	30	5.83
W103MPCX-2		—	6	70	5.83
W103MPCX-3		—	12	250	5.83
W103MPCX-4		—	24	1000	5.83
W103MPCX-5		—	48	4000	6.00
W103MPCX-6		9	—	7000	6.68



103MPC DPDT, Standard Size

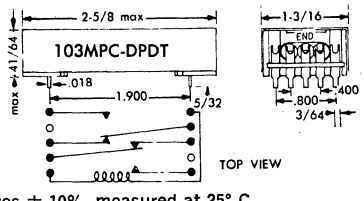
MPC high reliability printed circuit construction



Nom. Power, 750MW Weight, 1 oz.

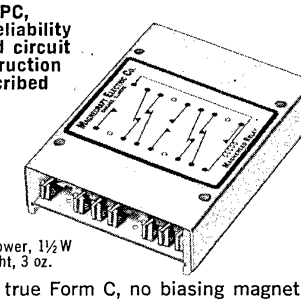
DPDT, true 2 Form C, no biasing magnets.
Operate, 2 ms. aver. Release, ½ ms. aver.
Contact Bounce, 4 ms. average on release, normally closed contacts.
Contact Load Rating, 10VA at ½ amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 Milliohms, aver.
Life Expectancy, 25 million cycles at full load; 50 million at ½ load.
Capacitance across contacts, 3.0 pf. aver.
Operating Position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W103MPCX-30	DPDT	—	6	50	8.33
W103MPCX-31		—	12	175	8.33
W103MPCX-32		—	24	750	8.47
W103MPCX-33		—	48	3000	8.67



103MPC 4PDT, Standard Size

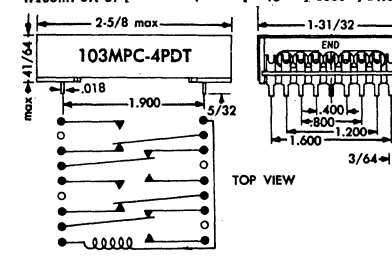
MPC, high reliability printed circuit construction described



Nom. Power, 1½ W Weight, 3 oz.

4PDT, 4 true Form C, no biasing magnets.
Operate, 2 ms. aver. Release, ½ ms. aver.
Contact Bounce, 4 ms. average on release, normally closed contacts.
Contact Load Rating, 10VA at ½ amp. max. or 250VAC max., non-inductive.
Contact Resistance, 100 Milliohms, aver.
Life Expectancy, 25 million cycles at full load; 50 million at ½ load.
Capacitance across contacts, 3.0 pf. aver.
Operating Position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	*Ohms	Price 1 to 24
W103MPCX-34	4PDT	—	6	25	14.60
W103MPCX-35		—	12	100	14.70
W103MPCX-36		—	24	375	14.77
W103MPCX-37		—	48	1500	14.88



*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.
††Current operated relays pull in at specified value or less.

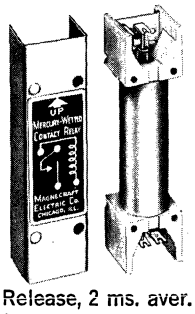
Mercury Wetted and Dry Reed Relays — MAGNECRAFT RELAYS

Mercury Wetted Reed Relays for Printed Circuit Applications

132MPC
SPST-NO
Standard Size

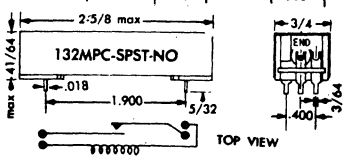
Mercury-Wetted

Nom. Power
500MW
weight 2 oz.



Operate, 2 ms. aver. Release, 2 ms. aver.
Contact bounce, none.
Contact Load Rating, 50VA at 3.0 amps., max. or 400V max., non-inductive.
Contact Resistance, 50 milliohms aver.
Capacitance across contacts, 1.0 pf. aver.
Life Expectancy, 25 million cycles at full load; 1 billion at low load.
Operating Position, Upright, not more than 30° from vertical.

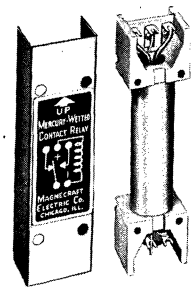
Stock Part No.	Contacts	COIL—DC ††MA	†Volts	*Ohms	Price 1 to 24
W132MPCX-1	SPST-NO	140	—	30	
W132MPCX-2		—	6VDC	70	
W132MPCX-3		—	12VDC	250	5.83
W132MPCX-4		—	24VDC	1000	
W132MPCX-5		—	48VDC	4000	6.00
W132MPCX-6		9	—	7000	6.68



133MPC
SPDT
Standard Size

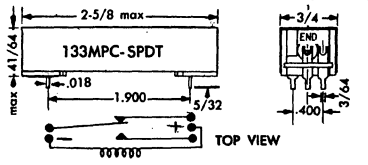
Mercury-Wetted

Nom. Power
500MW
weight 2 oz.



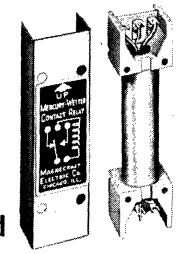
Operate, 2 ms. aver. Release, 2 ms. aver.
Contact bounce, none.
Contact Load Rating, 50VA at 2.0 amps. max. or 400V max., non-inductive.
Contact Resistance, 50 milliohms aver.
Capacitance across contacts, 3.0 pf. aver.
Life Expectancy, 25 million cycles at full load; 1 billion at low load.
Operating Position, Upright, not more than 30° from vertical.
Magnetically biased, observe coil polarity.

Stock Part No.	Contacts	COIL—DC ††MA	†Volts	*Ohms	Price 1 to 24
W133MPCX-1	SPDT	140	—	30	
W133MPCX-2		—	6VDC	70	
W133MPCX-3		—	12VDC	250	8.42
W133MPCX-4		—	24VDC	1000	
W133MPCX-5		—	48VDC	4000	8.60
W133MPCX-6		9	—	7000	9.35



133LMPC
SPDT
Standard Size
Magnetic Latching Relay

Mercury-Wetted



ideal for memory applications. Bi-stable SPDT Contacts—biased permanent magnet holds either contact position without coil power until coil polarity is reversed.
Operate, 2ms aver. Contact bounce, none.
Contact Load Rating, 50VA at 2.0 amps. max. or 400V max., resistive.
Contact Resistance, 50 milliohms aver.
Capacitance across contacts, 3.0 pf. aver.
Life Expectancy, 25 million cycles at full load; 1 billion at low load.
Operating Position, Upright, not more than 30° from vertical.

Stock Part No.	Contacts	COIL—DC ††MA	†Volts	*Ohms	Price 1 to 24
Single Wound Coils					
W133LMPCX-17	SPDT	40	—	70	9.87
W133LMPCX-18		—	6	250	9.88
W133LMPCX-19		—	12	1000	9.92
W133LMPCX-20		—	24	4000	10.07
W133LMPCX-21		4	—	7000	10.17
Double Wound Coils					
W133LMPCX-22	SPDT	80	—	30/30	11.23
W133LMPCX-23		—	6	120/120	11.25
W133LMPCX-24		—	12	460/460	11.32
W133LMPCX-25		—	24	1800/1800	11.42
W133LMPCX-26		8	—	3000/3000	11.50

Miniature Encapsulated Mercury Wetted Reed Relays

131PC
SPST-NO
Miniature

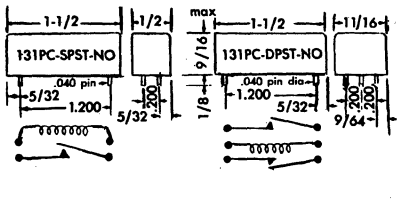
Nom. Power
600MW
weight 1 oz.

131PC
DPST-NO
Miniature

Nom. Power
900MW
weight 2 oz.

Operate, 1 ms. aver. Release, 1 ms. aver.
Contact Bounce, none
Contact Load Rating, 28VA, 1 amp. max. or 100V max., non-inductive.
Contact Resistance, 50 milliohms aver.
Capacitance across contacts, 1.0 pf. aver.
Life Expectancy, 100 million cycles at rated load.
Operating Position, Upright, not more than 30° from vertical.

Stock Part No.	Contacts	COIL—DC ††MA	†Volts	*Ohms	Price 1 to 24
W131PCX-8	SPST-NO	—	6	65	8.38
W131PCX-9		—	12	250	8.44
W131PCX-10		—	24	1000	8.55
W131PCX-11		8	—	5000	9.01
W131PCX-12	DPST-NO	—	6	40	10.62
W131PCX-13		—	12	150	10.66
W131PCX-14		—	24	650	10.71
W131PCX-15		8	—	5000	11.21



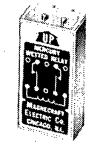
Miniature Modular Packaged Mercury Wetted Reed Relays

131MPC
SPST-NO
Miniature

Nom. Power
500MW
weight 1 oz.

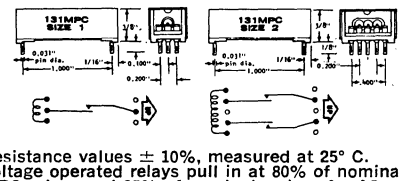
131MPC
DPST-NO
Miniature

Nom. Power
700MW
weight 2 oz.



Operate, 1 ms. aver. Release, 1 ms. aver.
Contact bounce, none.
Contact Load Rating, 28VA at 1.0 amps. max. or 100V max., non-inductive.
Contact Resistance, 50 milliohms aver.
Capacitance across contacts, 1.2 pf. aver.
Dielectric Strength, 500 VAC, RMS.
Life Expectancy, 25 million cycles at full load, longer at reduced load.
Operating Position, Upright, no more than 30° from vertical.

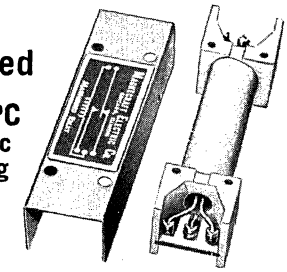
Stock Part No.	Contacts	COIL †Volts	*Ohms	Price 1 to 24
W131MPCX-2	SPST-NO	6VDC	70	6.40
W131MPCX-3		12VDC	300	6.48
W131MPCX-4		24VDC	1100	6.53
W131MPCX-5		48VDC	4300	6.98
W131MPCX-6	DPST-NO	6VDC	50	11.53
W131MPCX-7		12VDC	220	11.58
W131MPCX-8		24VDC	850	11.65
W131MPCX-9		48VDC	3300	11.93



Bi-Stable Latching Relay

Dry Reed
103LMPC
Magnetic Latching Relay

Nom. Power
150MW
Weight, 1 oz.



Ideal for memory applications. Bi-stable SPDT Contacts—biased permanent magnet holds either contact position **without coil power until coil polarity is reversed.**
Dimensions and wiring same as 103MPC, page 13.
Operate, 2 ms. aver. Bounce, 3 ms. max.
Contact Resistance, 150 milliohms aver.
Contact Load Rating, 10VA, 0.2 amp. max. or 200V max., non-inductive.
Life Expectancy, 25 million cycles at rated load. Operating Position, any.

Stock Part No.	Contacts	COIL—DC MA	†Volts	Ohms	Price 1 to 24
Single Wound Coils					
W103LMPCX-3	SPDT	40	—	70	7.07
W103LMPCX-4		—	6	250	7.07
W103LMPCX-5		—	12	1000	7.07
W103LMPCX-6		—	24	4000	7.26
W103LMPCX-7		4	—	7000	8.01
Double Wound Coils					
W103LMPCX-8	SPDT	80	—	30/30	8.22
W103LMPCX-9		—	6	120/120	8.33
W103LMPCX-10		—	12	460/460	8.33
W103LMPCX-11		—	24	1800/1800	9.00
W103LMPCX-12		8	—	3000/3000	10.04

*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.
††Current operated relays pull in at specified value or less.

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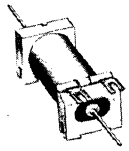
MAGNECRAFT RELAYS

High Voltage and Micro Reed Relays

1000V Miniature High Voltage Reed Relays

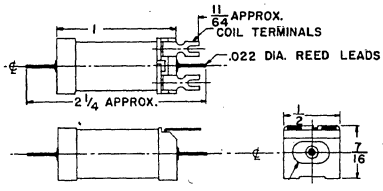
101VM Miniature High Voltage Reed Relays with axial leads.



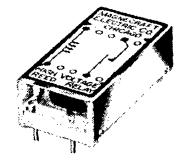
Nom. Power 600MW
Weight, 1 oz.

Dimensionally similar to 101M SPST-NO described on page 9. In-line lead design.
Operate, 1 ms aver. Release 0.5 ms aver.
Contact Load Rating, 1000VDC max. at .001 ampere max., resistive
Contact Resistance, 100 milliohms aver.
Capacitance Across Contacts, 0.2 pf aver.
Life Expectancy, 1 million cycles at rated load; longer at reduced loads

Stock Part No.	Contacts	COIL—DC ††MA	†Volts	*Ohms	1 to 24 Price
W101VMX-1	SPST-NO	—	6	100	10.90
W101VMX-2		—	12	250	10.92
W101VMX-3		—	24	500	10.93
W101VMX-4		9MA	—	2500	11.12



101VMPC Miniature High Voltage Reed Relays

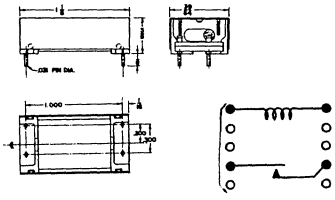


Nom. Power 700MW
Weight, 2 oz.

printed circuit construction

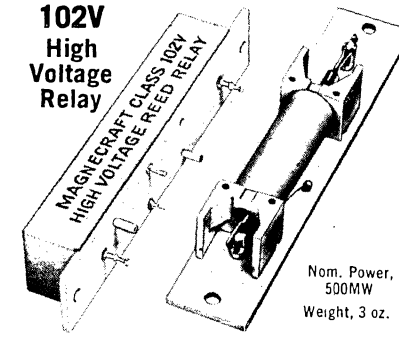
Dimensionally similar to 101MPC SPST-NO Size 2, described on page 11.
Operate, 1 ms aver. Release 0.5 ms aver.
Contact Load Rating, 1000 VDC max. at .001 ampere max., resistive
Contact Resistance, 100 milliohms aver.
Capacitance Across Contacts, 0.2 pf aver.
Life Expectancy, 1 million cycles at rated load; longer at reduced loads

Stock Part No.	Contacts	COIL—DC Volts	*Ohms	Price 1 to 24
W101VMPCX-1	SPST-NO	6	50	11.90
W101VMPCX-2		12	220	11.97
W101VMPCX-3		24	850	12.00
W101VMPCX-4		48	3300	12.22



5000V Hi Voltage Relays

102V High Voltage Relay



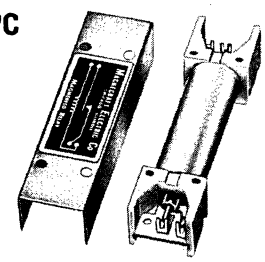
Nom. Power, 500MW
Weight, 3 oz.

SPST-NO Contacts of special material switch up to 5000VDC with reed relay reliability. Capsule and coil assembly is similar to MPC construction, page 11. Contact leads are soldered to rigid terminal posts on an epoxy resin terminal board. Internally insulated metal cover provides magnetic shielding.
Operate, 3 ms. aver. Release, 0.5 ms. aver.
Contact Load Rating, 50VA at 5000 VDC max or 3 amps. max., resistive.
Life Expectancy, 20 million cycles at rated load. Operates in any position.
Nominal Power Required, 500, MW.
Overall, approx. 4½ x 15/16 x 7/8. Weight 3 oz.

Stock Part No.	Contacts	COIL—DC MA	†Volts	Ohms	Price 1 to 24
W102VX-9	SPST-NO	140	—	30	13.69
W102VX-10		—	6	70	13.69
W102VX-11		—	12	250	13.73
W102VX-12		—	24	1000	13.78
W102VX-13		—	48	4000	14.15
W102VX-14		9	—	7000	14.58

3 Amp Power Relay

102RMPC 3-amp. Power Relay



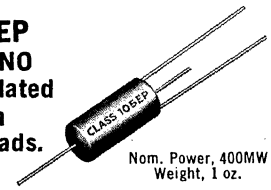
Nom. Power 500MW
Weight, 1 oz.

Developed especially to switch higher currents with reed relay reliability and the **MPC** low circuit board profile.
SPST-NO Contacts of special material. MPC construction with printed circuit terminals described on page 11. Dimensions and Wiring same as 102MPC SPST-NO described on page 12.
Operate, 1 ms. aver. Release, 1 ms. aver.
Contact Bounce, 0.5 ms. average.
Contact Resistance, 150 milliohms, aver.
Contact Load Rating, 100VA, 3 amperes max., or 250 volts, max.
Operating Position, any.

Stock Part No.	Contacts	COIL—DC †Volts	Ohms	Price 1 to 24
W102RMPCX-1	SPST-NO	6VDC	70	7.87
W102RMPCX-2		12VDC	250	7.88
W102RMPCX-3		24VDC	1000	7.93
W102RMPCX-4		48VDC	4000	8.18

Micro-Miniature, Form A, Dry Reed Relays

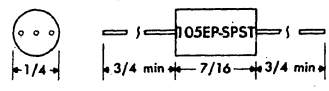
105EP SPST-NO Encapsulated with axial leads.



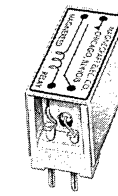
Nom. Power, 400MW
Weight, 1 oz.

Micro-Miniature Reed Switch Capsule and Operating Coil are completely encapsulated in epoxy resin. Highly resistant to mechanical shock. Thoroughly protected from humidity and corrosive atmosphere.
Operate, ¼ ms. aver.—Release, ½ ms. aver.
Contact Bounce, ½ ms. average.
Contact Load Rating, 0.1 VA max. at 10 MA max. or 12V max., non-inductive.
Contact Resistance, 200 milliohms, aver.
Capacitance across contacts, 0.5 pf. aver.
Life Expectancy, 10 million cycles at rated load.
Operating Position, any.

Stock Part No.	Contacts	COIL—DC †Volts	Ohms	Price 1 to 24
W105EPX-1	SPST-NO	6VDC	90	6.18
W105EPX-2		12VDC	350	6.18
W105EPX-3		24VDC	1300	6.30



105MPC SPST-NO

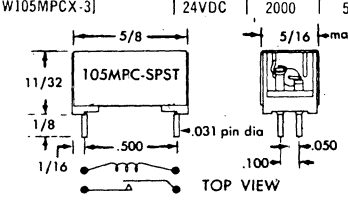


MPC high reliability Printed Circuit Construction

Nom. Power, 300MW
Weight, 1 oz.

Operate, ¼ ms. aver.—Release, ½ ms. aver.
Contact Bounce, ½ ms. average.
Contact Load Rating, 0.1 VA max. at 10 MA max. or 12V max., non-inductive.
Contact Resistance, 200 milliohms, aver.
Capacitance across contacts, 0.5 pf. aver.
Life Expectancy, 10 million cycles at rated load.
Operating Position, any.

Stock Part No.	Contacts	COIL—DC †Volts	Ohms	Price 1 to 24
W105MPCX-1	SPST-NO	6VDC	120	5.45
W105MPCX-2		12VDC	500	5.47
W105MPCX-3		24VDC	2000	5.58

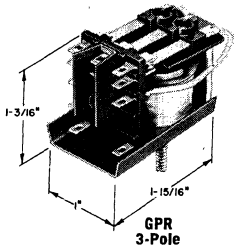


*Resistance values ± 10%, measured at 25° C.
†Voltage operated relays pull in at 80% of nominal or less for DC relays and 85% of nominal or less for AC relays, at 25° C.
††Current operated relays pull in at specified value or less.

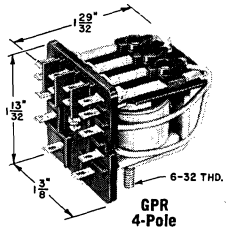
OHMITE general purpose relays

MODEL GPR — INDICATOR, PLATE, THYRATRON AND LATCHING VERSIONS IN UNENCLOSED AND ENCLOSED TYPES

Simple, rugged, low cost relays handling substantial power for small size. Uncomplicated design provides unusual flexibility for making and changing connections and mounting. Stock includes relays in versatile enclosures, some with indicator light, also plate, thyratron and latching versions. Wide commercial and industrial use where economy and versatility are important.



GPR
3-Pole



GPR
4-Pole

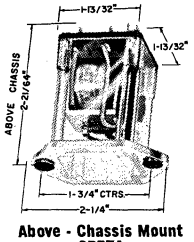
UNENCLOSED RELAYS

Basic (Unenclosed) Relay: All connections terminate on barrier-type terminal panel on combination solder — quick-connect (push-on) lugs which accept AMP 110 female connectors. The terminal panel is conveniently incorporated into printed circuit boards. Fixed contacts are integral inlay on terminal itself. Normally furnished with a 6-32 x ½" mounting stud and non-turn boss (or lug for 4-pole relays). A 6-32 threaded hole is optional. Unenclosed relays can also be mounted by plugging their panels into Ohmite SOGPR sockets. See "Socket" following.

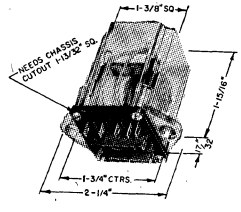
Contact Ratings: Two ratings — fine silver contacts, 5 amps at 115 VAC or 32 VDC resistive; silver-cadmium contacts, 10 amps.

Insulation: Tested at 1500 VAC.

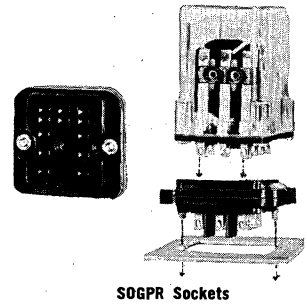
Coil Wattage: 1.4 watts DC operation; 1.6 watts (2.0 volt-amps) AC except 2.4 watts (3.70 volt-amps) for 4-pole AC and AC latching relays.

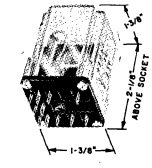


Above - Chassis Mount
GPRTA

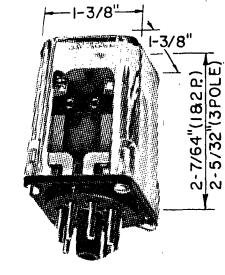


Thru-Chassis Mount
GPRTT


SOGPR Sockets



For Socket Mount
GPRTS



For Octal Plug
GPRTP

ENCLOSED RELAYS

(GPRTA-, GPRTT-, GPRTS-, GPRTP-)

Four types of clear plastic enclosures as follows:

Chassis Mounting Types: "GPRTA"—("Terminals-Above-Chassis" type) has terminal panel opposite to mounting flange; "GPRTT" —("Terminals-Through-Chassis" type) has terminal panel on same end as mounting flange, requires chassis cutout; "GPRTS" type (Terminals for Socket Use) is similar to GPRTT but has no mounting flanges. It is intended strictly for plug-in mounting in Ohmite socket "SOGPR" (see "Socket" below).

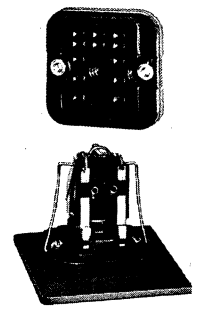
Plug Base Type: "GPRTP" — employs octal plug for 1 and 2 pole relays; 11-pin plug for 3-pole. The octal plug base is integral with relay for rigidity — is designed with recessed pins which meet UL spacing requirements (150V).

Socket (SOGPR): Unique socket fits the terminal panels of all GPR relays and provides over-the-surface spacing to meet UL requirements for 150 volts. Requires chassis cut-out to mount. Hold down springs (see illustration) for unenclosed and enclosed relays, are provided with each socket but are not required except under conditions of vibration or shock. Socket solder terminals will also accept AMP 11 quick-connectors. See socket listings.

SOCKETS FOR GPR, GPRTS RELAYS

For up to 3PDT: 1¾" square, requires 1¼" x 1½" cutout.* 2 holes (for No. 6 screws) on 1⅜" centers.
Stock No. SOGPR-9 Net 1-24 $1.10

For 4-pole models, 1¾" x 2", requires 1½" x 1½" cutout.* 2 holes (for No. 6 screws) on 1⅝" centers.
Stock No. SOGPR-12 Net 1-24 $1.25



*Std. punches and dies from Ward Machinery Co., Chicago. No. 28, Style 22N, 1¼ x 1½, for SOGPR-9: No. 28, Style 14R, 1½ x 1½, for SOGPR-12.

Indicator Relay: Incorporates light bulb to indicate energized condition of coil. Stocked only in GPRTP enclosures described in preceding. Neon bulb furnished with coil ratings 70 volts and above; incandescent bulbs for coil ratings below 70 volts.

UL & CSA Approval: Column heads in the stock tables carry the UL (Underwriters' Laboratories) or CSA symbol (Canadian Standards Association) where applicable. The grey tint in the column indicates the relays are recognized under the "UL components program." The acceptability of such relays by UL depends upon their combination with other equipment such as sockets etc.

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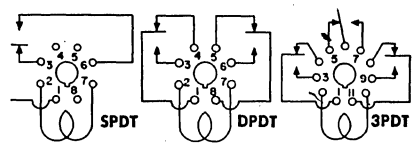
OHMITE general purpose relays



Plug wiring schemes for plug base (GPRTP) relays

MODEL GPR — CONTINUED
STOCK GPR RELAYS*

Contacts	COIL DATA Volts	Amps	Ohms	Unenclosed GPR Ⓤ Ⓢ	Net $ 1-24	Enclosed Above Chassis GPRTA†	Net $ 1-24	Enclosed Thru-Chassis GPRTT†	Net $ 1-24	Enclosure for SOGPR Socket ‡ GPRTS Ⓤ Ⓢ	Net $ 1-24	Enclosed Plug Base GPRTP Ⓤ Ⓢ	Net $ 1-24	Unenclosed GPR Ⓤ Ⓢ	Net $ 1-24	Enclosure for SOGPR Socket GPRTS Ⓢ ‡	Net $ 1-24	Enclosed Plug Base GPRTP Ⓢ	Net $ 1-24	Indicator Plug Base GPRTP	Net $ 1-24
				5 AMP. CONTACTS										10 AMP. CONTACTS							
SPDT	6VAC	.334	4.2	-3T	3.35	-3T	5.45	-3T	5.45			-3T	5.70	-203T	3.40			-203T	5.80		
DPDT	6VAC	.334	4.2	**-6T**	4.05	**-6T**	6.15	-6T	6.15	-6T	6.05	**-6T**	6.35	**-206T**	4.15	-206T	6.25	**-206T**	6.55	-291T	7.45
3PDT	6VAC	.334	4.2	**-9T**	4.45	**-9T**	7.10	-9T	7.10	-9T	7.00	**-9T**	7.85	-209T	4.60	-209T	7.30	-209T	8.15		
4PDT	6VAC	.650	2.5	-403T	5.25					-403T	8.30			**-433T**	5.40	-433T	8.60				
SPDT	12VAC	.167	17	-12T	3.35	-12T	5.45	-12T	5.45			-12T	5.70	-212T	3.40			-212T	5.80		
DPDT	12VAC	.167	17	**-15T**	4.05	-15T	6.15	-15T	6.15	-15T	6.05	-15T	6.35	-215T	4.15	-215T	6.25	**-215T**	6.55	-292T	7.45
3PDT	12VAC	.167	17	-18T	4.45	-18T	7.10	-18T	7.10	-18T	7.00	-18T	7.85	-218T	4.60	-218T	7.30	-218T	8.15		
4PDT	12VAC	.309	10	-406T	5.25					-406T	8.30			**-436T**	5.40	-436T	8.60				
SPDT	24VAC	.084	65	-21T	3.35	-21T	5.45	-21T	5.45			-21T	5.70	-221T	3.40			-221T	5.80		
DPDT	24VAC	.084	65	**-24T**	4.05	**-24T**	6.15	-24T	6.15	-24T	6.05	**-24T**	6.35	-224T	4.15	-227T	7.30	**-224T**	6.55	-293T	7.45
3PDT	24VAC	.084	65	**-27T**	4.45	-27T	7.10	-27T	7.10	-27T	7.00	-27T	7.85	-227T	4.60	-224T	6.25	-227T	8.15		
4PDT	24VAC	.155	40	-409T	5.25					-409T	8.30			-439T	5.40	**-439T**	8.60				
SPDT	115VAC	.0174	1600	**-30T**	3.35	**-30T**	5.45	-30T	5.45			**-30T**	5.70	**-230T**	3.40			-230T	5.80		
DPDT	115VAC	.0174	1600	**-33T**	4.05	-33T	6.15	-33T	6.15	-33T	6.05	**-33T**	6.35	-233T	4.15	**-233T**	6.25	**-233T**	6.55	**-294T**	7.45
3PDT	115VAC	.0174	1600	**-36T**	4.45	**-36T**	7.10	-36T	7.10	-36T	7.00	**-36T**	7.85	**-236T**	4.60	-236T	7.30	**-236T**	8.15		
4PDT	115VAC	.0325	1000	**-412T**	5.25					**-412T**	8.30			**-442T**	5.40	**-442T**	8.60				
SPDT	230VAC	.0087	7000	-39T	3.75	-39T	5.85	-39T	5.85			-39T	6.10	-239T	3.80			-239T	6.20		
DPDT	230VAC	.0087	7000	-42T	4.45	-42T	6.55	-42T	6.55	-42T	6.45	-42T	6.75	-242T	4.55	-242T	6.65	-242T	6.95	-295T	7.90
3PDT	230VAC	.0087	7000	-45T	4.85	**-45T**	7.50	-45T	7.50	-45T	7.40	-45T	8.25	-245T	5.00	-245T	7.70	-245T	8.55		
4PDT	230VAC	.0147	4000	-415T	5.65					-415T	8.70			-445T	5.80	-445T	9.00				
SPDT	6VDC	.23	26	-48T	3.20	-48T	5.30	-48T	5.30			-48T	5.65	-248T	3.25			-248T	5.75		
DPDT	6VDC	.23	26	-51T	3.55	-51T	5.65	-51T	5.65	**-51T**	5.55	-51T	6.30	-251T	3.65	-251T	5.75	-251T	6.50	-296T	7.40
3PDT	6VDC	.23	26	-54T	4.05	-54T	6.65	-54T	6.65	-54T	6.55	-54T	7.80	-254T	4.20	-254T	6.85	-254T	8.10		
4PDT	6VDC	.23	26	-418T	4.95					-418T	8.00			-448T	5.10	-448T	8.30				
SPDT	12VDC	.114	105	**-57T**	3.20	-57T	5.30	-57T	5.30			-57T	5.65	-257T	3.25			-257T	5.75		
DPDT	12VDC	.114	105	**-60T**	3.55	**-60T**	5.65	-60T	5.65	**-60T**	5.55	**-60T**	6.30	**-260T**	3.65	-260T	5.75	**-260T**	6.50	-297T	7.40
3PDT	12VDC	.114	105	**-63T**	4.05	-63T	6.65	-63T	6.65	-63T	6.55	**-63T**	7.80	-263T	4.20	-263T	6.85	-263T	8.10		
4PDT	12VDC	.114	105	-421T	4.95					-421T	8.00			-451T	5.10	-451T	8.30				
SPDT	24VDC	.060	400	-66T	3.20	-66T	5.30	-66T	5.30			-66T	5.65	-266T	3.25			-266T	5.75		
DPDT	24VDC	.060	400	**-69T**	3.55	**-69T**	5.65	-69T	5.65	**-69T**	5.55	**-69T**	6.30	-269T	3.65	-269T	5.75	**-269T**	6.50	-298T	7.40
3PDT	24VDC	.060	400	-72T	4.05	**-72T**	6.65	-72T	6.65	**-72T**	6.55	**-72T**	7.80	-272T	4.20	-272T	6.85	**-272T**	8.10		
4PDT	24VDC	.060	400	**-424T**	4.95					**-424T**	8.00			-454T	5.10	**-454T**	8.30				
SPDT	110VDC	.0110	10,000	-75T	3.80	-75T	5.90	-75T	5.90			-75T	6.25	-275T	3.85			-275T	6.35		
DPDT	110VDC	.0110	10,000	-78T	4.20	-78T	6.30	-78T	6.30	**-78T**	6.20	**-78T**	6.90	-278T	4.25	-278T	6.40	**-278T**	7.10	-299T	8.05
3PDT	110VDC	.0110	10,000	**-81T**	4.65	-81T	7.30	-81T	7.30	**-81T**	7.20	-81T	8.40	-281T	4.80	-281T	7.50	-281T	8.75		
4PDT	110VDC	.0110	10,000	**-427T**	5.55					-427T	8.60			-457T	5.70	-457T	8.90				
Approx. weight				2.5 oz.		3.0 oz.		3.0 oz.		3.0 oz.		3.5 oz.		2.5 oz.		3.5 oz.		3.5 oz.		3.5 oz.	

*Column heads carry symbols to indicate UL or CSA (Canadian Standards Assn.) approval. The grey tint indicates that relay is recognized under UL "components program" (File No. E33069, Guide No. 380W1.14C, Assignment No. 62C3559A). CSA File No. is 21309. See explanation in "UL and CSA Approval."

‡4-Pole GPRTS relays are not covered by CSA.

†GPRTA and GPRTT types as listed by UL, differ slightly from the stock versions above and consequently, are made to order. These UL versions have a "U" added to the catalog number, such as in "GPRTAU." They also have CSA approval.

STOCK GPR PLATE CIRCUIT RELAYS — 5 AMP CONTACTS

Plate Relays: Feature same physical construction as standard general purpose relays but are adjusted for greater sensitivity and can be used as electronic circuit controls, i.e., in the plate circuits of standard vacuum tubes.

Contacts	COIL DATA Ohms	Pull-in Max. ma.	Unenclosed GPR Ⓢ	Net $ 1-24	Enclosed Above-Chassis GPRTA	Net $ 1-24	Enclosed Thru-Chassis GPRTT	Net $ 1-24	Enclosed for SOGPR Socket GPRTS	Net $ 1-24	Enclosed Plug-Base GPRTP Ⓢ	Net $ 1-24
SPDT	2500	7.2	**-82T**	3.80	-82T	5.80	-82T	5.80			-82T	6.15
DPDT	2500	10	-83T	4.35	-83T	5.95	-83T	5.95			-83T	6.55
3PDT	2500	12.3	**-84T**	5.00	**-84T**	6.95	-84T	6.95			-84T	8.10
4PDT	2500	15.0	-463T	5.90					-463T	8.95		
SPDT	5000	5	-85T	3.90	-85T	5.90	-85T	5.90			-85T	6.25
DPDT	5000	7.2	**-86T**	4.45	**-86T**	6.05	-86T	6.05			**-86T**	6.70
3PDT	5000	8.7	-87T	5.10	-87T	7.05	-87T	7.05			-87T	8.20
4PDT	5000	11	466T	6.00					**-466T**	9.05		
SPDT	10,000	3.6	-88T	4.35	-88T	6.30	-88T	6.30			-88T	6.70
DPDT	10,000	5	**-89T**	4.90	-89T	6.50	-89T	6.50			**-89T**	7.10
3PDT	10,000	6.1	-90T	5.50	-90T	7.50	-90T	7.50			**-90T**	8.60
4PDT	10,000	7.5	-469T	6.40					-469T	9.45		
Approx. weight			2.5 oz.		3.0 oz.		3.0 oz.		3.0 oz.		3.5 oz.	

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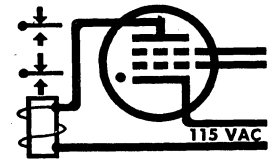
OHMITE general purpose relays

Thyratron Plate Relay: Designed specifically for plate circuit of thyratron tubes 2050 and 2D21 with 115 VAC supply (see diagram). Also suitable for operation in series with silicon controlled rectifiers from a 115 VAC supply. Ready to work, no capacitors or adjustments required, no chatter. Available unenclosed and in most GPR enclosures.



Relay in circuit Showing Thyratron

STOCK GPR THYRATRON RELAYS

Contacts	5 AMP CONTACTS: Unenclosed GPR	Net $ 1-24	Enclosed Above-Chassis GPRTA	Net $ 1-24	Enclosed Thru-Chassis GPRTT	Net $ 1-24	Enclosed for SOGPR Socket GPRTS	Net $ 1-24	Enclosed Plug-Base GPRTP	Net $ 1-24	10 AMP CONTACTS: Unenclosed GPR	Net $ 1-24	Enclosed for SOGPR Socket GPRTS	Net $ 1-24	Enclosed Plug-Base GPRTP	Net $ 1-24
SPDT	GPRX **-191T**	3.50	GPRTAX -191T	5.60	GPRTTX -191T	5.60	GPRTSX		GPRTPX -191T	5.85	GPRX -391T	3.55	GPRTSX		GPRTPX **-391T**	5.95
DPDT	**-192T**	4.20	-192T	6.30	-192T	6.30			-192T	6.50	-392T	4.30			**-392T**	6.70
3PDT	-193T	4.60	-193T	7.25	-193T	7.25			-193T	8.00	-393T	4.75			-393T	8.35
4PDT	-473T	5.40					-473T	8.45			-483T	5.55	-483T	8.75		

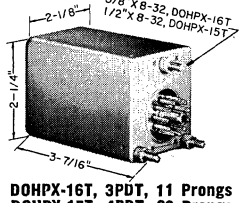
MODEL DO RELAYS AC or DC

Particularly adaptable to aircraft and mobile equipment applications where severe shock and vibration are encountered. Design of molded parts around contact arms protects against mechanical injury. Stocked in 3-pole or 4-pole type, and also in hermetic enclosures and in latching types.

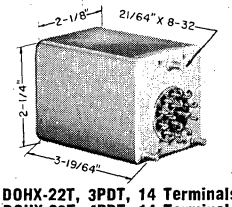
Coil Wattage: 3.00 watts, DC operation; 6.00 watts, 60 cycle AC. Maximum temperature rise 45°C, DC operation; 75°C, AC.
Coil Operating Voltage: Any voltage up to 230 VDC or 440 VAC, 60 cycle. Stock voltages in table.
Contacts: 10 amps nominal. Ratings are for 115 VAC or 32 VDC, resistive load.
Weight: Unenclosed 3-pole, 5 oz.; 4-pole, 6 oz.

DO RELAYS IN HERMETIC ENCLOSURES

Stock DO relays with 115 volt coil in hermetically sealed metal enclosures, filled with dry nitrogen. Enclosures provide protection for relay under most adverse ambient conditions. Both 3 and 4-pole DO relays are supplied in these enclosures with plug (DOHPX-) or solder terminal (DOHX-) connectors as illustrated. See listings in stock table above.
Weights: 3-pole hermetic relay approx. 14 oz.; 4-pole approx. 15 oz.

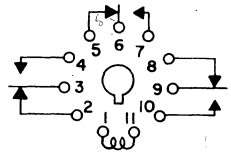


DOHPX-16T, 3PDT, 11 Prongs
DOHPX-15T, 4PDT, 20 Prongs

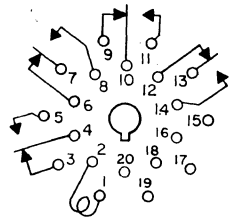


DOHX-22T, 3PDT, 14 Terminals
DOHX-23T, 4PDT, 14 Terminals

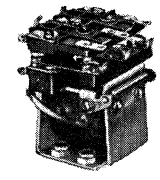
WIRING FOR PLUG-BASE STOCK DO RELAYS

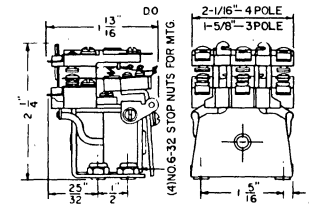


DOHPX-16T
Mates with Amphenol 77 MIP 11 Socket



DOHPX-15T
Mates with Amphenol 77 MIP 20 Socket





STOCK DO RELAYS — 10 AMP CONTACTS*

Stock No.	Type‡	Volts	Coil Data Amps	DC Ohms	Net $ 1-24
UNENCLOSED					
DOX-50T	3PDT	6VAC	2.33	0.36	9.10
DOX-183T	4PDT	6VAC	2.33	0.36	10.35
DOX-49T	3PDT	12VAC	1.28	1.40	9.10
DOX-184T	4PDT	12VAC	1.28	1.40	10.35
DOX-181T	3PDT	24VAC	.57	5.50	9.10
DOX-185T	4PDT	24VAC	.57	5.50	10.35
DOX-226T	DPST*	115VAC	.110	145.0	9.05
DOUX-34§	DPST*	115VAC	.110	145.0	10.25
DOX-227T	3PST	115VAC	.110	145.0	8.25
DOUX-28§	3PST	115VAC	.110	145.0	9.45
DOX-46T	3PDT	115VAC	.110	145.0	9.10
DOUX-30§	3PDT	115VAC	.110	145.0	10.30
DOX-228T	4PST	115VAC	.110	145.0	9.25
DOUX-31§	4PST	115VAC	.110	145.0	10.50
DOX-53T	4PDT	115VAC	.110	145.0	10.35
DOUX-33§	4PDT	115VAC	.110	145.0	11.60
DOX-61T	3PDT	230VAC	.070	550.0	9.50
DOX-130T	4PDT	230VAC	.070	550.0	10.75
DOX-145T	3PDT	6VDC	.487	12.3	7.85
DOX-186T	4PDT	6VDC	.487	12.3	9.10
DOX-51T	3PDT	12VDC	.231	51.8	7.85
DOX-102T	4PDT	12VDC	.231	51.8	9.10
DOX-141T	3PDT	24VDC	.105	230.0	7.85
DOX-137T	4PDT	24VDC	.105	230.0	9.10
DOX-93T	3PDT	110VDC	.022	5,000	8.45
DOX-187T	4PDT	110VDC	.022	5,000	9.70
DOX-182T	3PDT	220VDC	.014	16,100	9.20
DOX-188T	4PDT	220VDC	.014	16,100	10.45
IN HERMETIC ENCLOSURE					
DOHPX-16T	3PDT	115VAC	.110	145.0	23.05
DOHPX-15T	4PDT	115VAC	.110	145.0	28.80
DOHX-22T	3PDT	115VAC	.110	145.0	22.40
DOHX-23T	4PDT	115VAC	.110	145.0	24.05

*Except DOX-226T, DOUX-34 20 amps, double break contacts.
‡All single-throw (- - ST) relays are normally open.
§Listed by UL.

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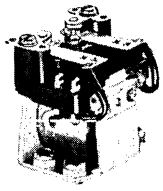
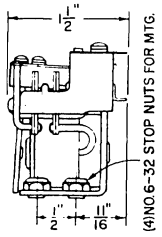
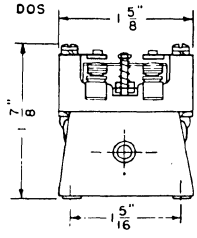
OHMITE general purpose relays

MODEL DOS RELAYS AC or DC

Wide application, general purpose relay, compact and lightweight. Handles loads usually demanded of much larger relays. Meets rigorous aircraft relay standards.





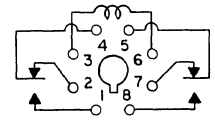


Coil Wattage: 2.5 watts, DC operation; 3 watts, 60 cycle AC. Maximum temperature rise 45°C, DC operation; 65°C, AC.

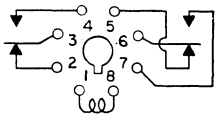
Coil Operating Voltage: Any voltage up to 230 VDC or 440 VAC, 60 cycles. Table lists stock voltages.

Contacts: 15 amps nominal. Rating is for 115 VAC or 32 VDC, resistive load.

Weight: Unenclosed, 4 ounces.

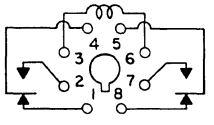


DOSPX-1T



DOSEPX-5T

WIRING FOR PLUG-BASE STOCK DOS RELAYS



DOSHPX-46T, 47T

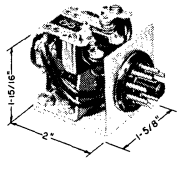
DOS RELAYS WITH PLUG-BASE OR IN DUST-TIGHT OR HERMETIC ENCLOSURES

DOS relays with 115 volt AC coils are available from stock with a standard octal plug base, unenclosed (DOSPX-1T) or with an octal plug base and drawn aluminum, removable dust-tight enclosure (DOSEPX-5T).

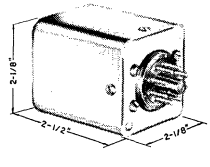
Weights: 8 oz. each.

Hermetically Sealed non-removable enclosures, filled with dry nitrogen, are also available to provide protection under adverse ambient conditions. DOS relays with 115 volt AC or DC coils are provided in these enclosures with either octal plug (DOSHPX-) or solder-terminal (DOSHX-) connectors as illustrated. See listings and prices in DOS stock table.

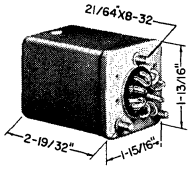
Weights: 8 oz. each approx.



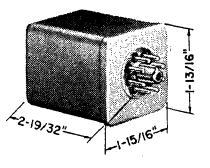
DOSPX-1T
Octal Plug-Base



DOSEPX-5T
Octal Plug Base with Dust Cover



Hermetic Enclosures with 8 Terminals
DOSHX-39T, 115VDC
DOSHX-40T, 115VAC



Hermetic Enclosures with Octal Plugs
DOSHPX-46T, 115VDC
DOSHPX-47T, 115VAC

STOCK DOS RELAYS — 15 AMP CONTACTS*

Stock No.	Type‡	Volts	Coil Data Amps	DC Ohms	Net $ 1-24
UNENCLOSED					
DOSX-229T	SPST*	6VAC	.890	1.07	5.10
DOSX-230T	DPST	6VAC	.890	1.07	5.20
DOSX-30T	DPDT	6VAC	.890	1.07	5.75
DOSX-16T	DPDT	12VAC	.460	4.20	5.75
DOSX-231T	SPST*	24VAC	.269	15.5	5.10
DOSX-232T	DPST	24VAC	.269	15.5	5.20
DOSX-162T	DPDT	24VAC	.269	15.5	5.75
DOSX-233T	SPST*	115VAC	.043	450	5.10
DOSUX-34§	SPST*	115VAC	.043	450	6.30
DOSX-234T	DPST	115VAC	.043	450	5.20
DOSUX-31§	DPST	115VAC	.043	450	6.45
DOSX-7T	DPDT	115VAC	.043	450	5.75
DOSUX-33§	DPDT	115VAC	.043	450	6.95
DOSX-235T	SPST*	230VAC	.030	1,450	5.50
DOSX-236T	DPST	230VAC	.030	1,450	5.60
DOSX-12T	DPDT	230VAC	.030	1,450	6.15
DOSX-158T	DPDT	6VDC	.450	13.4	5.20
DOSX-66T	DPDT	12VDC	.210	56.2	5.20
DOSX-9T	DPDT	24VDC	.105	230.0	5.20
DOSX-237T	SPST*	110VDC	.022	5,000	5.25
DOSX-238T	DPST	110VDC	.022	5,000	5.35
DOSX-59T	DPDT	110VDC	.022	5,000	5.85
DOSX-177T	DPDT	220VDC	.013	16,400	6.45
WITH PLUG BASE					
DOSPX-1T	DPDT	115VAC	.043	450	7.60
WITH DUST COVER					
DOSEPX-5T	DPDT	115VAC	.043	450	8.70
IN HERMETIC ENCLOSURE					
DOSHX-40T	DPDT	115VAC	.043	450	14.25
DOSHPX-47T	DPDT	115VAC	.043	450	14.35
DOSHX-39T	DPDT	110VDC	.022	5,000	14.35
DOSHPX-46T	DPDT	110VDC	.022	5,000	14.45

*Except relays with * which have double-break contacts — 25 amp rating.
‡Single throw relays (- - ST) are normally open.
§Listed by UL.

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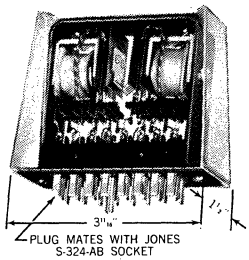
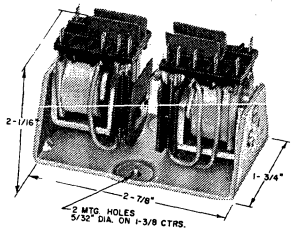
OHMITE latching relays



Enclosed Latching Relay (GPRLETP)



6PDT Latching Relay (GPRLE)

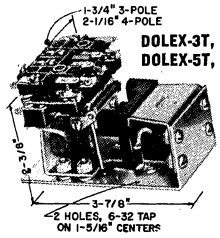
Latching Relay: Consists of two GPR relays with armatures linked so that the n.o. contacts of one are mechanically latched in closed position when, and after, this relay is energized. When 2nd relay is energized, first relay restores and latches 2nd. Permits switching of twice the number of circuits and holding without coil current. Unenclosed type "GPRLE." Enclosed type "GPRLETP" in clear plastic case with Jones plug P-324-SB fitting S-324-AP socket.

STOCK GPR LATCHING RELAYS — 5 AMP CONTACTS

Total Contacts	COIL DATA — (Each Coil) Volts	Amps	Ohms	Unenclosed GPRLE†,*	Net $ 1-24	Enclosed Plug-Base GPRLETP†,*	Net $ 1-24
4PDT	6VAC	.650	2.5	GPRLEX-1T	11.00	GPRLETPX-1T	17.30
6PDT	6VAC	.650	2.5	GPRLEX-2T	13.20	GPRLETPX-2T	20.55
4PDT	12VAC	.309	10.0	**GPRLEX-3T**	11.00	GPRLETPX-3T	17.30
6PDT	12VAC	.309	10.0	GPRLEX-4T	13.20	GPRLETPX-4T	20.55
4PDT	24VAC	.155	40.0	GPRLEX-5T	11.00	GPRLETPX-5T	17.30
6PDT	24VAC	.155	40.0	GPRLEX-6T	13.20	GPRLETPX-6T	20.55
4PDT	115VAC	.0325	1000	**GPRLEX-7T**	11.00	**GPRLETPX-7T**	17.30
4PDT	115VAC	.0325	1000	**GPRLEX-8T**	13.20	**GPRLETPX-8T**	20.55
4PDT	230VAC	.0147	4000	GPRLEX-9T	11.80	GPRLETPX-9T	18.10
6PDT	230VAC	.0147	4000	GPRLEX-10T	14.00	GPRLETPX-10T	21.35
4PDT	6VDC	.23	26	GPRLEX-11T	9.90	GPRLETPX-11T	16.20
6PDT	6VDC	.23	26	GPRLEX-12T	12.00	GPRLETPX-12T	19.35
4PDT	12VDC	.114	105	**GPRLEX-13T**	9.90	**GPRLETPX-13T**	16.20
6PDT	12VDC	.114	105	GPRLEX-14T	12.00	**GPRLETPX-14T**	19.35
4PDT	24VDC	.060	400	**GPRLEX-15T**	9.90	**GPRLETPX-15T**	16.20
6PDT	24VDC	.060	400	**GPRLEX-16T**	12.00	**GPRLETPX-16T**	19.35
4PDT	110VDC	.0110	10,000	**GPRLEX-17T**	11.15	**GPRLETPX-17T**	17.45
6PDT	110VDC	.0110	10,000	GPRLEX-18T	13.25	**GPRLETPX-18T**	20.60
Approx. weight				7.0 oz.		11.3 oz.	

*Column heads carry symbols to indicate UL or CSA (Canadian Standards Assn.) approval. The grey tint indicates that relay is recognized under UL "components program" (File No. E33069, Guide No. 380W1.14C, Assignment No. 62C3559A). CSA File No. is 21309. See explanation in "UL and CSA Approval."

MODEL DO LATCHING RELAY (DOLEX-)



Consists of Model DO relay and a "reset magnet" with both armatures mechanically latched so that the normally open contacts of the relay remain closed when the relay energizing voltage is removed. The relay releases to normal position when the reset coil is pulsed. Permits "holding" of circuits without continuous coil current. Coils of stock units (both relays and reset coils) are 115 VAC. Available with 3 or 4-pole DO relays

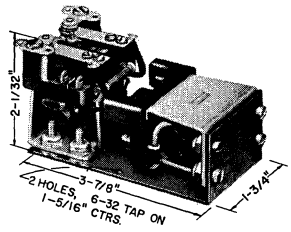
Weights: 3-pole — 16.5 oz.; 4-pole — 17 oz.

LATCHING TYPE†

DOLEX-3T	3PDT	115VAC	.110	145.0	$15.95
DOLEX-5T	4PDT	115VAC	.110	145.0	17.20

†Coil data applies to relay part of latching assembly. Reset magnet operates on 115VAC, 60 cycle also.

MODEL DOS LATCHING RELAY (DOSLEX-)



Consists of Model DOS relay and a "reset magnet" with both armatures mechanically latched so that the normally open contacts of the relay remain closed when the relay energizing voltage is removed. The relay releases to normal position when the reset coil is pulsed. Permits "holding" of circuits without continuous coil current. Coils of stock units (both relay and reset magnet) are 115VAC — see DOSLEX-1T in DOS stock table.

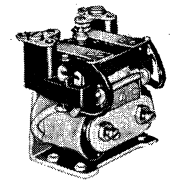
Weight: 14.2 oz.

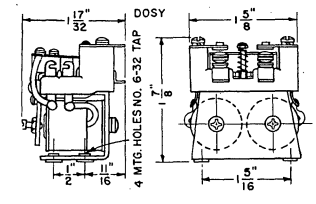
LATCHING TYPE†

Stock No.	Type	Volts	Coil Data Amps	DC Ohms	Net $ 1-24
DOSLEX-1T	DPDT	115VAC	.043	450	12.60

†Coil data applies to relay part of latching assembly. Reset magnet operates on 115 VAC, 60 cycle also.

MODEL DOSY RELAY FOR PLATE CIRCUITS





Similar in construction to Model DOS relay but equipped with twin coils for increased sensitivity. The DOSY relay is adaptable to a wide range of electronic control applications such as plate circuit controls, or as overload or underload controls in D.C. circuits to signal attainment of predetermined current levels.

Coil Wattage: 1.00 watt, with maximum temperature rise of 45°C. Lower wattages available.

Contacts: Stock combinations as listed. Ratings are for 115 VAC or 32 VDC, resistive load.

Weight: Approximately 4½ ounces.

Stock No.	Type	Coil Data DC Ohms	Max. Pull-in Current	Contact Amps	Net 1-24
DOSYX-67T	DPDT	10,000	8 MA	15	$6.40
DOSYX-68T	DPDT	5,000	11 MA	15	6.40
DOSYX-69T	SPDT	10,000	5 MA	15	5.90
DOSYX-70T	SPDT	5,000	7 MA	15	5.90

ITEMS APPEARING IN BOLD PRINT ARE POPULAR MODELS AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

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POTTER & BRUMFIELD

RELAY INDEX AND ORDERING INSTRUCTIONS

Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page
AB	4	GP	1	KHU Spring	2	LM	7	PC	6
ABC	4	GP Kit	1	KL	2	LS, LSP	8	PM	4
AP	5	HC	9	KM	6	MB	8	PM Cover	4
BS	7	HL	9	KR3-H	3	MC	8	PR	4
BS Cover	7	HP	1	KR3P-H	3	MDP	14	PR Cover	4
BU	5	HP Socket	1	KRP	3	MG	8	PW	7
CD, CH, CU	12	JM	11	KRP-N	3	MH	8	RS	7
CJ	13	JR, JRM	10	KRP Spring	2	ML	8	SA	6
FC, FL	9	KA, KAP	2	KT	6	MR	4	SC, SCG	9
GA	1	KB, KBP	5	KUP	3	MR Cover	4	SL, SLG	9
GB	6	KCP	6	KUP Sockets	3	MS	6	SM	7
GF	4	KCP Spring	2	KUP Spring	2	MS Cover	6	SS	7
GM	5	KHU, KHS	2	LB	7	P Case	3	TL	9
CS	14								

SUFFIX		STANDS FOR	EXAMPLE
A	—	Alternating Current	BS17A
D	—	Direct Current	BS17D
DD	—	DC in a sealed "D" can	MH23DD
G	—	Silver Cad.-Oxide Contacts	KRP5AG
L	—	Plate Circuit	SM5L
M	—	Sealed in "M" can	MH17DM
N	—	Neon Light	KRP11AN
P	—	Enclosed in Plastic Dust Cover	MG11DP
R	—	With Built-in Rectifier	MH17AMR
S	—	Sealed in can	PW5DS, SM5DS
T	—	Sealed in "T" can	MG11DT
Y	—	U/L Component Recognition or Listing	AB11AY

File-O-Matic Sec. 23

All relay contacts are rated at 120V, 60 Hz, non inductive load. When ordering specify relay type and coil voltage or resistance.

Example: PR5AY, 120 Volts AC, 60 Hz or LB5, 2500 ohms resistance.

To operate 110V DC relays on 220V DC use a 5 watt wire-wound resistor of a value approximately the relay coil resistance in series with the relay coil.

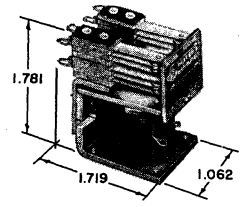
CONTACT LEGEND: S-Single; D-Double; P-Pole; T-Throw; N-Normally; O-Open; C-Closed; B-Break; M-Make.

Prices and Specifications subject to change without notice. For latest prices refer to United Pricing Service.

IN STOCK AT LEADING ELECTRONIC PARTS DISTRIBUTORS

GA SERIES Low cost, all purpose, multiple contact, voltage switching relay. Used for many industrial control applications. Tinned, pierced solder type terminals. Contacts: $\frac{1}{8}$" dia. silver, designed for maximum self-cleaning action. Mounting: No. 8-32 tapped core with locating boss. Weight: 3$\frac{1}{2}$ ozs.

See GF series for similar relays having 10 amp ratings. (Page 4).

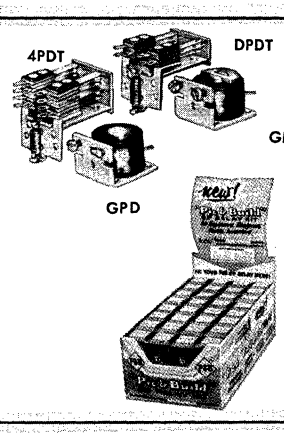


GP SERIES Separate AC and DC coils to match with 2PDT or 4PDT switches. AC coils (GPA) available in 6, 12, 24, 120 and 240 volts. DC coils (GPD) available in 6, 12, 24 and 110 volts; current coils: 2,500, 5,000 and 10,000 ohms. Contacts: $\frac{1}{8}$" dia. silver.

GP11 Switch Assembly DPDT 5 amps $1.90
GP17 Switch Assembly 4PDT 5 amps 3.25

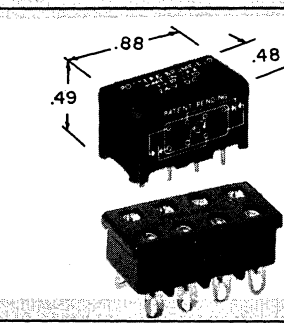
GP-100 A complete kit of GP Series coils and switches consisting of the following: AC coils: Two 6V., two 12V., four 24V., six 120V., two 240V. DC coils: Two 6V., two 12V., two 24V., four 110V. Also two 2,500 and four 10,000 ohm coils; eighteen DPDT switch assemblies. Fourteen 4PDT switch assemblies. The complete kit is ideal for experimenters, school and industrial laboratories.

NET $147.35



HP SERIES This commercial miniature relay is recommended for applications requiring high performance in minimum space, such as TV cameras, dictating machines, desk top computers, copying machines and others. For circuit board or socket mounting and encased in a nylon heat-sealed (non hermetic) cover, the HP is a half crystal case size relay with terminals on a .200" grid.

9HP1 solder terminal socket and retainer for HP relay.
Box of 10 Net $4.75



GENERAL PURPOSE RELAYS

TYPE	COILS		CONTACTS			SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate In Amps	
GA11A	6V	1.7	6VA	DPDT	5	$3.70
GA11A	12V	6.8	6VA	DPDT	5	3.70
GA11A	24V	24	6VA	DPDT	5	3.70
GA11A	120V	690	6VA	DPDT	5	3.70
GA11D	6V	18	2.0W	DPDT	5	
GA11D	12V	72	2.0W	DPDT	5	3.70
GA11D	24V	288	2.0W	DPDT	5	3.70
GA11D	110V	6,050	2.0W	DPDT	5	4.20
GA14A	24V	24	6VA	3PDT	5	4.45
GA14A	120V	690	6VA	3PDT	5	4.45
GA14D	24V	288	2.0W	3PDT	5	4.45
GA17A	6V	1.7	6VA	4PDT	5	5.35
GA17A	12V	6.8	6VA	4PDT	5	5.35
GA17A	24V	24	6VA	4PDT	5	5.35
GA17A	120V	690	6VA	4PDT	5	5.35
GA17A	240V	2,950	6VA	4PDT	5	5.80
GA17D	6V	18	2.0W	4PDT	5	5.35
GA17D	12V	72	2.0W	4PDT	5	5.35
GA17D	24V	288	2.0W	4PDT	5	5.35
GA17D	110V	6,050	2.0W	4PDT	5	5.90
GPA	6V	1.7	6VA	None	—	1.85
GPA	12V	6.8	6VA	None	—	1.85
GPA	24V	24	6VA	None	—	1.85
GPA	120V	690	6VA	None	—	1.85
GPA	240V	2,950	6VA	None	—	2.30
GPD	—	2,500	—	None	—	1.70
GPD	—	5,000	—	None	—	1.95
GPD	—	10,000	—	None	—	2.30
GPD	6V	18	2.0W	None	—	2.30
GPD	12V	72	2.0W	None	—	2.30
GPD	24V	288	2.0W	None	—	2.30
GPD	110V	6,050	2.0W	None	—	3.45
HP11D§	12V	218	.662W	DPDT	2	8.35
HP11D§	24V	870	.662W	DPDT	2	8.35

§Enclosed Relay

EEM File System Sec. 4500 electronic engineers master

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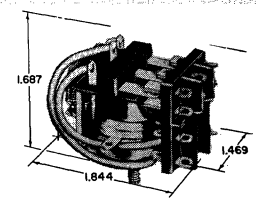
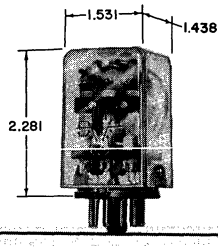
Potter & Brumfield Relays

KA AND KAP SERIES Small, low cost, highly efficient general purpose relays for handling light power loads such as small motors, solenoids and other relays, and general automation work. All KA and KAP relays with "Y" suffix bear CSA* listing and carry U/L component recognition (File No. E22575). Mechanical life expectancy: 10 million operations. Duty: Continuous. Contacts: Movable, $\frac{1}{8}$" dia. gold-flashed silver; stationary, $\frac{5}{32}$" dia. wide silver overlay.

The KA is the open version of this series. Mounting: One No. 6-32 threaded stud and locating tab on $\frac{7}{16}$" centers. Weight: 2 oz. The KAP is the enclosed model and is protected by a clear, high impact plastic dust cover. Terminals: 8 or 11-pin plug. Weight: 3 ozs.

"G" suffix indicates silver-cadmium-oxide contacts on movables rated 10 amps.



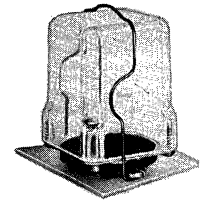


HOLD DOWN SPRINGS
Designed to insure secure mounting of relays in any position. Will accommodate machine screws or rivets.

For KAP relays: (shown above)
9KA1 50 per box NET $5.80

For KCP and KRP relays (pages 6 and 3)
9KR15 50 per box NET $5.80

For KUP plain case relays (page 3)
9KU3 50 per box NET $5.25



KHU/KHP/KHS SERIES Small, rugged, 4PDT, available for AC or DC operation. Only KHU relays carry Underwriters' Laboratories component recognition. KHU has Lexan and KHP has nylon dust cover; KHS is hermetically sealed in metal enclosure. These relays are designed to meet the exacting requirements of data processing, computer and process control applications. Contacts are $\frac{3}{32}$" gold-flashed silver and are rated 3 amps @ 30V DC or 120V AC resistive for 100,000 operations. "12" suffix indicates silver-cadmium-oxide contacts. Mounting: Solder terminals with a No. 3-48 $\frac{1}{16}$" long. Adaptable to sockets (below) with printed circuit or solder lug terminals. Weights without sockets; KHU or KHP 1$\frac{1}{8}$ ozs.; KHS 1$\frac{9}{16}$ ozs.

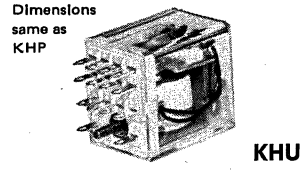
KHU/KHP hold down spring (similar to KCP-KRP, above.)

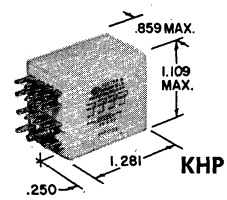
9KH3 50 per box, weight 3 ozs. Net $5.80

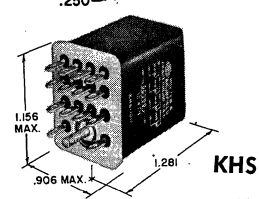
9KH1 Solder terminal sockets and retainers. Box of 10 Net $6.95

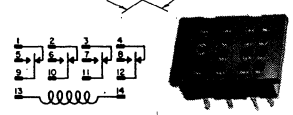
9KH2 Printed circuit terminal sockets, Box of 10 Net $6.95

Weight per box: 4 ozs.

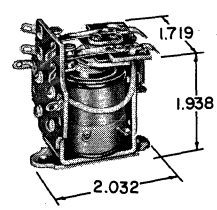








KL SERIES Multiple contact relay. Varied contact combinations and high dielectric phenolic insulation affords extreme versatility and utility. Widely used in such applications as industrial controls, elevator controls, communications equipment and electronic measuring devices. Mounting: All models—Two No. 6-32 tapped holes on 1$\frac{7}{16}$" centers. Contacts: $\frac{1}{8}$" dia. gold-flashed silver. Weight: 5 ozs.



GENERAL PURPOSE RELAYS

TYPE	COILS		CONTACTS			SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
KA5AY	6V	6	2VA	SPDT	5	$3.50
KA5AY	12V	21	2VA	SPDT	5	3.50
KA5AY	24V	75	2VA	SPDT	5	3.50
KA5AY	120V	2,250	2VA	SPDT	5	3.50
KA5AY	240V	9,110	2VA	SPDT	5	4.00
KA5AG	6V	6	2VA	SPDT	10	3.55
KA5AG	12V	21	2VA	SPDT	10	3.55
KA5AG	24V	75	2VA	SPDT	10	3.55
KA5AG	120V	2,250	2VA	SPDT	10	3.55
KA5AG	240V	9,110	2VA	SPDT	10	4.05
KA5DY	6V	32.1	1.2W	SPDT	5	3.35
KA5DY	12V	120	1.2W	SPDT	5	3.35
KA5DY	24V	472	1.2W	SPDT	5	3.35
KA5DY	110V	10,000	1.2W	SPDT	5	4.05
KA5DG	6V	32.1	1.2W	SPDT	10	3.40
KA5DG	12V	120	1.2W	SPDT	10	3.40
KA5DG	24V	472	1.2W	SPDT	10	3.40
KA5DG	110V	10,000	1.2W	SPDT	10	4.10
KA11AY	6V	6	2VA	DPDT	5	4.25
KA11AY	12V	21	2VA	DPDT	5	4.25
KA11AY	24V	75	2VA	DPDT	5	4.25
KA11AY	120V	2,250	2VA	DPDT	5	4.25
KA11AY	240V	9,110	2VA	DPDT	5	4.65
KA11AG	6V	6	2VA	DPDT	10	4.35
KA11AG	12V	21	2VA	DPDT	10	4.35
KA11AG	24V	75	2VA	DPDT	10	4.35
KA11AG	120V	2,250	2VA	DPDT	10	4.35
KA11AG	240V	9,110	2VA	DPDT	10	4.75
KA11DY	6V	32.1	1.2W	DPDT	5	3.75
KA11DY	12V	120	1.2W	DPDT	5	3.75
KA11DY	24V	472	1.2W	DPDT	5	3.75
KA11DY	110V	10,000	1.2W	DPDT	5	4.40
KA11DG	6V	32.1	1.2W	DPDT	10	3.90
KA11DG	12V	120	1.2W	DPDT	10	3.90
KA11DG	24V	472	1.2W	DPDT	10	3.90
KA11DG	110V	10,000	1.2W	DPDT	10	4.50
KA14AY	6V	6	2VA	3PDT	5	4.65
KA14AY	12V	21	2VA	3PDT	5	4.65
KA14AY	24V	75	2VA	3PDT	5	4.65
KA14AY	120V	2,250	2VA	3PDT	5	4.65
KA14AY	240V	9,110	2VA	3PDT	5	5.15
KA14AG	6V	6	2VA	3PDT	10	4.85
KA14AG	12V	21	2VA	3PDT	10	4.85
KA14AG	24V	75	2VA	3PDT	10	4.85
KA14AG	120V	2,250	2VA	3PDT	10	4.85
KA14AG	240V	9,110	2VA	3PDT	10	5.30
KA14DY	6V	32.1	1.2W	3PDT	5	4.25
KA14DY	12V	120	1.2W	3PDT	5	4.25
KA14DY	24V	472	1.2W	3PDT	5	4.25
KA14DY	110V	10,000	1.2W	3PDT	5	4.90
KA14DG	6V	32.1	1.2W	3PDT	10	4.40
KA14DG	12V	120	1.2W	3PDT	10	4.40
KA14DG	24V	472	1.2W	3PDT	10	4.40
KA14DG	110V	10,000	1.2W	3PDT	10	5.10
KAP5AG§	24V	75	2VA	SPDT	10	6.10
KAP5AG§	120V	2,250	2VA	SPDT	10	6.10
KAP5DG§	24V	472	1.2W	SPDT	10	6.00
KAP5DG§	110V	10,000	1.2W	SPDT	10	6.65
KAP11AY§	24V	75	2VA	DPDT	5	6.65
KAP11AY§	120V	2,250	2VA	DPDT	5	6.65
KAP11AY§	240V	9,110	2VA	DPDT	5	7.10
KAP11AG§	6V	.6	2VA	DPDT	10	6.75
KAP11AG§	24V	75	2VA	DPDT	10	6.75
KAP11AG§	120V	2,250	2VA	DPDT	10	6.75
KAP11DG§	24V	472	1.2W	DPDT	10	6.70
KAP11DG§	110V	10,000	1.2W	DPDT	10	7.40
KAP11DY§	12V	120	1.2W	DPDT	5	6.60
KAP11DY§	24V	472	1.2W	DPDT	5	6.60
KAP11DY§	110V	10,000	1.2W	DPDT	5	7.30
KAP14AY§	24V	75	2VA	3PDT	5	8.30
KAP14AY§	120V	2,250	2VA	3PDT	5	8.30
KAP14AY§	240V	9,110	2VA	3PDT	5	8.70
KAP14AG§	24V	75	2VA	3PDT	10	8.45
KAP14AG§	120V	2,250	2VA	3PDT	10	8.45
KAP14DG§	24V	472	1.2W	3PDT	10	8.40
KAP14DG§	110V	10,000	1.2W	3PDT	10	9.05
KAP14DY§	12V	120	1.2W	3PDT	5	8.20
KAP14DY§	24V	472	1.2W	3PDT	5	8.20
KAP14DY§	110V	10,000	1.2W	3PDT	5	8.85
KHU17A11§	6V	10.5	1.2VA	4PDT	3	5.55
KHU17A11§	12V	43	1.2VA	4PDT	3	5.55
KHU17A11§	24V	160	1.2VA	4PDT	3	5.55
KHU17A11§	120V	3,900	1.2VA	4PDT	3	6.05
KHU17D11§	6V	40	900MW	4PDT	3	5.05
KHU17D11§	12V	160	900MW	4PDT	3	5.05
KHU17D11§	24V	650	900MW	4PDT	3	5.05
KHU17D12§	24V	650	900MW	4PDT	3	5.20
KHU17D11§	48V	2,600	900MW	4PDT	3	5.25
KHU17D11§	90V	9,000	900MW	4PDT	3	5.90
KHU17D11§	110V	11,000	900MW	4PDT	3	5.90
KHU17D12§	110V	11,000	900MW	4PDT	3	6.05
KHP17A11§	6V	10.5	1.2VA	4PDT	3	5.55
KHP17A11§	12V	43	1.2VA	4PDT	3	5.55
KHP17A11§	24V	160	1.2VA	4PDT	3	5.55
KHP17A11§	120V	3,900	1.2VA	4PDT	3	6.05
KHP17D11§	6V	40	900MW	4PDT	3	5.05
KHP17D11§	12V	160	900MW	4PDT	3	5.05
KHP17D11§	24V	650	900MW	4PDT	3	5.05
KHP17D12§	24V	650	900MW	4PDT	3	5.20
KHP17D11§	48V	2,600	900MW	4PDT	3	5.25
KHP17D11§	90V	9,000	900MW	4PDT	3	5.90
KHP17D11§	110V	11,000	900MW	4PDT	3	5.90
KHP17D12§	110V	11,000	900MW	4PDT	3	6.05
KHS17A11†	6V	10.5	1.2VA	4PDT	3	9.55
KHS17A11†	12V	43	1.2VA	4PDT	3	9.55
KHS17A11†	24V	160	1.2VA	4PDT	3	9.55
KHS17A11†	120V	3,900	1.2VA	4PDT	3	9.90
KHS17D11†	6V	40	900MW	4PDT	3	8.55
KHS17D11†	12V	160	900MW	4PDT	3	8.55
KHS17D11†	24V	650	900MW	4PDT	3	8.55
KHS17D11†	110V	11,000	900MW	4PDT	3	9.40
KL5A	120V	760	2.9VA	SPDT	5	4.25
KL5D	24V	600	1.1W	SPDT	5	4.00
KL11A	12V	7.8	2.9VA	DPDT	5	5.30
KL11A	24V	33	2.9VA	DPDT	5	5.30
KL11A	120V	760	2.9VA	DPDT	5	5.30
KL14A	24V	33	2.9VA	3PDT	5	5.90
KL14A	120V	760	2.9VA	3PDT	5	5.90
KL14D	24V	600	1.1W	3PDT	5	5.65
KL14D	110V	10,000	1.1W	3PDT	5	6.35
KL17A	6V	2.25	2.9VA	4PDT	5	7.00
KL17A	24V	33	2.9VA	4PDT	5	7.00
KL17A	120V	760	2.9VA	4PDT	5	7.00
KL17D	12V	140	1.1W	4PDT	5	6.60
KL17D	24V	600	1.1W	4PDT	5	6.60
KL17D	110V	10,000	1.1W	4PDT	5	7.30

*Canadian Standards Association File No. LR-15734

†Sealed Relay
§Enclosed Relay

See ordering information on page 1.

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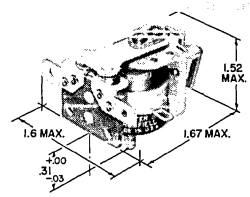
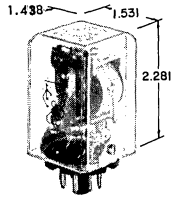
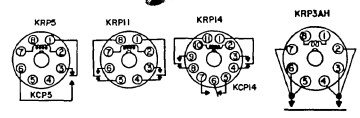
KR3-H SERIES Ruggedly constructed but of small size, KR3-H is a heavy duty relay especially designed for applications where limited space is a factor. Its heavy duty copper alloy movable contact carrier has twin ¼" dia. silver-cadmium-oxide contacts rated 20 amps @ 120V AC 60 Hz resistive, or 28V DC; 1 HP 120/240V 60 Hz. Contact arrangement is 1 Form X (SPST-NO-DB) only. Terminals: suitable for ¼" quick connect, also solder; for contacts: solder only for coil. Size: 1.6" x 1.671" x 1.52". Seated height: 1.21". Mounting: One 6-32 stud and locating tab on .437" center. Weight: 2 ozs.



KRP3-H SERIES All electrical specifications listed above for the KR3-H series relays apply to the KRP3-H. However, the KRP3-H is enclosed in a clear, high impact plastic dust cover and features an octal plug-in base. Weight: Approximately 3 ozs.

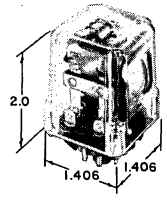


KRP SERIES Versatile, multi-contact arrangement. Enclosed in a clear high impact plastic dust cover. Standard 8-pin octal-type plug for KRP5 and KRP11, 11-pin for KRP-14. Weight: Approx. 3 ozs. Contacts: 5 amp, 1/16" dia. gold-flashed silver, 10 amp 1/16" dia. silver cadmium-oxide. See KCP-KRP hold down spring for special mounting applications. See KRP-N indicator lamp relay for current monitoring applications.



KRP-N INDICATOR LAMP RELAY A general purpose relay incorporating a lamp to indicate current or voltage availability in power circuit. Contacts: 1/16" dia. silver cadmium-oxide. Enclosure: Clear, high impact plastic dust cover. Mounting: Standard octal plug. Weight: Approx. 3 ozs.

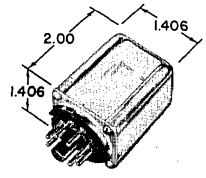
Hold down spring (Please see page 2).



"P" — CASE A clear high impact plastic case for mounting rectifiers, capacitors, resistors or a combination of these. Available with octal-type plug with 8 or 11-pins. Comes complete with four screws. Weight: .5 ozs. each. See KCP-KRP Hold Down Spring for special mounting applications.

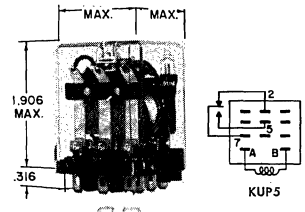
35DO70 Case (8-pin plug) NET $ .65

35DO72 Case (11-pin plug) NET $ .80



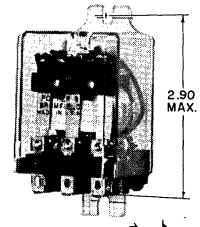
KUP SERIES This reliable 10-ampere relay for industrial control is available with a socket that is also rated 10 amperes. The .187" terminals of the relay are of the quick-connect/solder type. Sockets are priced separately and their terminals are of the pierced solder type. The KUP is enclosed in a clear, high impact plastic dust cover. Silver-cadmium-oxide contacts assure long contact life. Operation: Continuous.

Hold down spring (Please see page 2).



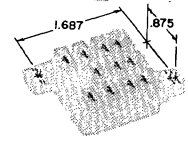
KUP SERIES with slotted flange case for direct-to-chassis mounting. Identical in both electrical and mechanical specifications as the KUP described above, except that they are not suitable for socket mounting. The .187" terminals are of the quick-connect/solder type. Slot width: .156". Weight: 3 ozs.

All models carry U/L Component Recognition.



9KU1 pierced solder terminals sockets and retainers for KUP plain case relays. Rated 10 amperes; molded nylon. Mounting hole .165" dia.

Box of 5 NET $3.95

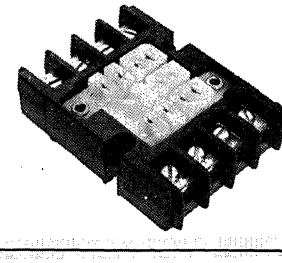


9KU5 sockets with .187" quick-connect terminals. Mounting hole .165" dia.

Box of 5 NET $6.30

9KU2 printed circuit pin terminal sockets for KUP relays. Will accept .187" terminals of KUP in plain case. Molded nylon. Mounting hole .165" dia.

Box of 5. NET $4.75



9KU4 screw terminal socket for KUP plain case relays. The nylon socket (accepts .187" terminals) is riveted to the bakelite frame that provides screw terminals.

Box of 5 NET $13.15

All sockets except 9KU5 carry U/L Component Recognition for use with KUP relays.

GENERAL PURPOSE RELAYS

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
KR3AH	12V	21	2VA	SPST-NO-DB	20	$4.30
KR3AH	24V	75	2VA	SPST-NO-DB	20	4.30
KR3AH	120V	2,250	2VA	SPST-NO-DB	20	4.30
KR3DH	12V	120	1.2W	SPST-NO-DB	20	4.10
KR3DH	24V	472	1.2W	SPST-NO-DB	20	4.10
KR3DH	110V	10,000	1.2W	SPST-NO-DB	20	4.70
KRP3AH§	12V	21	2VA	SPST-NO-DB	20	7.00
KRP3AH§	24V	75	2VA	SPST-NO-DB	20	7.00
KRP3AH§	120V	2,250	2VA	SPST-NO-DB	20	7.00
KRP3DH§	12V	120	1.2W	SPST-NO-DB	20	6.75
KRP3DH§	24V	472	1.2W	SPST-NO-DB	20	6.75
KRP3DH§	110V	10,000	1.2W	SPST-NO-DB	20	7.45
KRP5A§	6V	6	2VA	SPDT	5	6.00
KRP5A§	24V	75	2VA	SPDT	5	6.00
KRP5A§	120V	2,250	2VA	SPDT	5	6.00
KRP5AG§	6V	6	2VA	SPDT	10	6.15
KRP5AG§	24V	75	2VA	SPDT	10	6.15
KRP5AG§	120V	2,250	2VA	SPDT	10	6.15
KRP5D§	6V	32.1	1.2W	SPDT	5	5.95
KRP5D§	12V	120	1.2W	SPDT	5	5.95
KRP5D§	24V	472	1.2W	SPDT	5	5.95
KRP5D§	110V	10,000	1.2W	SPDT	5	6.60
KRP5DG§	6V	32.1	1.2W	SPDT	10	6.10
KRP5DG§	12V	120	1.2W	SPDT	10	6.10
KRP5DG§	24V	472	1.2W	SPDT	10	6.10
KRP5DG§	110V	10,000	1.2W	SPDT	10	6.70
KRP11A§	6V	6	2VA	DPDT	5	6.65
KRP11A§	12V	21	2VA	DPDT	5	6.65
KRP11A§	24V	75	2VA	DPDT	5	6.65
KRP11A§	120V	2,250	2VA	DPDT	5	6.65
KRP11A§	240V	9,110	2VA	DPDT	5	7.10
KRP11AG§	6V	6	2VA	DPDT	10	6.90
KRP11AG§	12V	21	2VA	DPDT	10	6.90
KRP11AG§	24V	75	2VA	DPDT	10	6.90
KRP11AG§	120V	2,250	2VA	DPDT	10	6.90
KRP11AG§	240V	9,100	2VA	DPDT	10	7.35
KRP11D§	6V	32.1	1.2W	DPDT	5	6.60
KRP11D§	12V	120	1.2W	DPDT	5	6.60
KRP11D§	24V	472	1.2W	DPDT	5	6.60
KRP11D§	110V	10,000	1.2W	DPDT	5	7.30
KRP11DG§	6V	32.1	1.2W	DPDT	10	6.85
KRP11DG§	12V	120	1.2W	DPDT	10	6.85
KRP11DG§	24V	472	1.2W	DPDT	10	6.85
KRP11DG§	110V	10,000	1.2W	DPDT	10	7.50
KRP14A§	6V	6	2VA	3PDT	5	8.30
KRP14A§	12V	21	2VA	3PDT	5	8.30
KRP14A§	24V	75	2VA	3PDT	5	8.30
KRP14A§	120V	2,250	2VA	3PDT	5	8.30
KRP14A§	240V	9,110	2VA	3PDT	5	8.70
KRP14AG§	6V	6	2VA	3PDT	10	8.60
KRP14AG§	12V	21	2VA	3PDT	10	8.60
KRP14AG§	24V	75	2VA	3PDT	10	8.60
KRP14AG§	120V	2,250	2VA	3PDT	10	8.60
KRP14AG§	240V	9,100	2VA	3PDT	10	9.00
KRP14D§	6V	32.1	1.2W	3PDT	5	8.20
KRP14D§	12V	120	1.2W	3PDT	5	8.20
KRP14D§	24V	472	1.2W	3PDT	5	8.20
KRP14D§	110V	10,000	1.2W	3PDT	5	8.85
KRP14DG§	6V	32.1	1.2W	3PDT	10	8.50
KRP14DG§	12V	120	1.2W	3PDT	10	8.50
KRP14DG§	24V	472	1.2W	3PDT	10	8.50
KRP14DG§	110V	10,000	1.2W	3PDT	10	9.20
KRP11AN§	6V	6	2VA	DPDT	10	7.90
KRP11AN§	12V	21	2VA	DPDT	10	7.90
KRP11AN§	24V	75	2VA	DPDT	10	7.90
KRP11AN§	120V	2,250	2VA	DPDT	10	7.90
KRP11AN§	240V	9,110	2VA	DPDT	10	8.30
KRP11DN§	6V	32.1	1.2W	DPDT	10	7.80
KRP11DN§	12V	120	1.2W	DPDT	10	7.80
KRP11DN§	24V	420	1.2W	DPDT	10	7.80
KRP11DN§	110V	10,000	1.2W	DPDT	10	8.50
KRP14AN§	6V	6	2VA	3PDT	10	9.60
KRP14AN§	12V	21	2VA	3PDT	10	9.60
KRP14AN§	24V	75	2VA	3PDT	10	9.60
KRP14AN§	120V	2,250	2VA	3PDT	10	9.60
KRP14AN§	240V	9,110	2VA	3PDT	10	10.05
KUP5A15§	6V	5.1	2VA	SPDT	10	3.90
KUP5A15§	12V	21	2VA	SPDT	10	3.90
KUP5A15§	24V	75	2VA	SPDT	10	3.90
KUP5A15§	120V	2,250	2VA	SPDT	10	3.90
KUP5A15§	240V	9,110	2VA	SPDT	10	4.30
KUP5D15§	6V	32.1	1.2W	SPDT	10	3.75
KUP5D15§	12V	120	1.2W	SPDT	10	3.75
KUP5D15§	24V	472	1.2W	SPDT	10	3.75
KUP5D15§	110V	10,000	1.2W	SPDT	10	4.35
KUP11A15§	6V	5.1	2VA	DPDT	10	4.75
KUP11A15§	12V	21	2VA	DPDT	10	4.75
KUP11A15§	24V	75	2VA	DPDT	10	4.75
KUP11A15§	120V	2,250	2VA	DPDT	10	4.75
KUP11A15§	240V	9,110	2VA	DPDT	10	5.15
KUP11D15§	6V	32.1	1.2W	DPDT	10	4.25
KUP11D15§	12V	120	1.2W	DPDT	10	4.25
KUP11D15§	24V	472	1.2W	DPDT	10	4.25
KUP11D15§	110V	10,000	1.2W	DPDT	10	4.90
KUP14A15§	6V	4.2	2.75VA	3PDT	10	5.30
KUP14A15§	12V	18	2.75VA	3PDT	10	5.30
KUP14A15§	24V	72	2.75VA	3PDT	10	5.30
KUP14A15§	120V	1,700	2.75VA	3PDT	10	5.30
KUP14A15§	240V	7,200	2.75VA	3PDT	10	5.70
KUP14D15§	6V	32.1	1.2W	3PDT	10	4.90
KUP14D15§	12V	120	1.2W	3PDT	10	4.90
KUP14D15§	24V	472	1.2W	3PDT	10	4.90
KUP14D15§	110V	10,000	1.2W	3PDT	10	5.30
KUP14A55§*	6V	4.2	2.75VA	3PDT	10	5.30
KUP14A55§*	12V	18	2.75VA	3PDT	10	5.30
KUP14A55§*	24V	72	2.75VA	3PDT	10	5.30
KUP14A55§*	120V	1,700	2.75VA	3PDT	10	5.30
KUP14A55§*	240V	7,200	2.75VA	3PDT	10	5.70
KUP14D55§*	6V	32.1	1.2W	3PDT	10	4.90
KUP14D55§*	12V	120	1.2W	3PDT	10	4.90
KUP14D55§*	24V	472	1.2W	3PDT	10	4.90
KUP14D55§*	110V	10,000	1.2W	3PDT	10	5.30

§Enclosed Relay

See ordering information on page 1.

*KUP55 with slotted flange case

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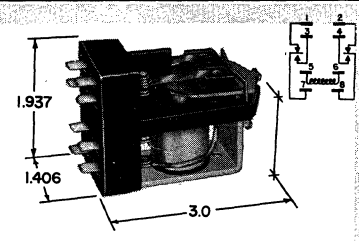
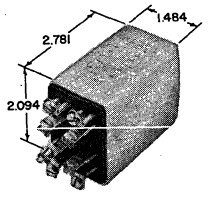
Potter & Brumfield Relays

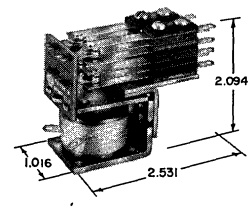
AB SERIES For appliance and general purpose applications where rugged construction, long life and quiet operation are required. All equipped with terminals to fit snap-on connectors and may also be applied to printed circuits using dip soldering. Snap-on screw adaptors packed with each relay. All AC models carry U/L component recognition (File No. E29244) and CSA* listing. Mounting: Two No. 8-32 tapped holes, on 1¼" centers. Silver contacts. Weight: Approx. 5 ozs.



ABC SERIES Medium duty power relay with dust cover. For small motors, industrial control and similar applications. All equipped with terminals to fit snap-on connectors and may also be applied to printed circuits using dip soldering. Snap-on screw adaptors packed with each relay. All AC models carry U/L component recognition (File No. E29244) and CSA* listing. Mounting: One No. 8-32 threaded stud ⅜" long and locating tab on $\frac{9}{16}$" centers. Contacts: ¼" dia. silver. Weight: Approx. 7 ozs.



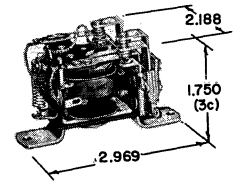
GF SERIES Medium duty power relay for industrial control applications. Long contact arms have ¼" dia. silver contacts rated at 10 amps at 120V AC or 28V DC resistive. Contacts have excellent wipe or self-cleaning action. Tinned, pierced solder terminals. Mounting: 8-32 tapped core with locating boss. Weight: 4.75 ozs. (See GA series, page 1, for similar voltage actuated relays.)



MR SERIES A medium duty power relay that can handle small motors, transmitters, and general purpose applications. Mounting: Two $\frac{5}{32}$" dia. holes on 2¼" centers for MR3 and 11, 2⅝" centers for MR2, 5 and 14. Contacts: $\frac{3}{32}$" dia. silver. Weight: 4 ozs.

MS/MR Metal dust cover similar to PM/PR shown below. 3⅝" x 2⅜" x $2\frac{13}{32}$". Weight: 7.5 ozs.

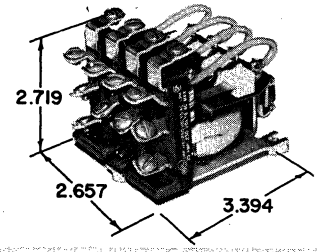
35D130 fits MS/MR NET $2.20



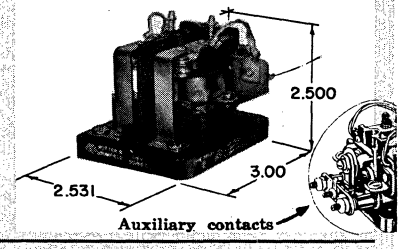
PM SERIES A compact heavy duty 4PDT power relay for polyphase and heavy duty switching applications. Screw terminals. Has ¼" silver-cadium-oxide contacts rated at 25 amps at 120V., 25 amps at 240V. 50/60 Hz resistive AC, 1HP per movable arm at 120V. or 240V. AC single phase, U/L (File No. E22575) and CSA* listed, except 480V. Mounts by one front key-hole and two rear channel slots for 8-32 screws on 2" x 2½" triangular centers. Weight: 14 ozs.

9PM1 Adaptor plates for mounting PM on PR mounting holes. Box of 10 NET $1.75

Enclosures for PM relay — see below.



PR SERIES Heavy duty relay for industrial control applications requiring long life and fast action. Heavy duty screw type terminals. All AC and DC models except PR-11AL5 carry U/L (File No. E22575) and CSA* listing. Mounting: Two $\frac{5}{16}$" dia. holes on 1⅞" centers. Weight: 11 ozs. max. Contacts: $\frac{5}{16}$" dia. silver. Enclosure: See "PR" cover. The PR11AL5 relay is equipped with $\frac{5}{16}$" dia. silver SPDT auxiliary contacts rated at 5 amps.



PM and PR DUST COVERS These dust covers have a sheet metal base with knock-outs for ½" dia. conduit and an aluminum cover fitted with two screws. Finished in gray hammertone. Mounting: Three No. 10 holes on 1⅞" x 4⅛" centers. Approx. weight: 1 lb.

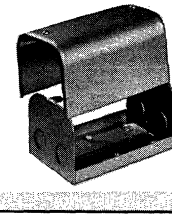
35D227 Metal cover for PM only NET $3.45

9PM2 Plastic dust cover for PM only. Box of 4 NET $1.90

35D013 Metal cover for PR only NET $3.45

PM:
L 5.313
W 3.812
H 3.812

PR:
L 5.312
W 3.375
H 3.125



POWER RELAYS

TYPE	COILS			CONTACTS		SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
AB11AY	6V	1.3	6.4VA	DPDT	10	$ 5.85
AB11AY	24V	23	6.4VA	DPDT	10	5.85
AB11AY	120V	510	6.4VA	DPDT	10	5.85
AB11AY	240V	2,050	6.4VA	DPDT	10	6.30
AB11D	12V	72	2.0W	DPDT	10	5.70
AB11D	24V	288	2.0W	DPDT	10	5.70
AB11D	110V	6,050	2.0W	DPDT	10	6.30
ABC11AY§	6V	1.3	6.4VA	DPDT	10	7.05
ABC11AY§	24V	23	6.4VA	DPDT	10	7.05
ABC11AY§	120V	510	6.4VA	DPDT	10	7.05
ABC11AY§	240V	2,050	6.4VA	DPDT	10	7.50
ABC11D§	6V	18	2.0W	DPDT	10	6.95
ABC11D§	12V	72	2.0W	DPDT	10	6.95
ABC11D§	24V	288	2.0W	DPDT	10	6.95
ABC11D§	110V	6,050	2.0W	DPDT	10	7.50
GF17A	6V	1.7	6VA	4PDT	10	7.35
GF17A	12V	6.8	6VA	4PDT	10	7.35
GF17A	24V	24	6VA	4PDT	10	7.35
GF17A	120V	690	6VA	4PDT	10	7.35
GF17A	240V	2,950	6VA	4PDT	10	7.75
GF17D	6V	18	2.0W	4PDT	10	7.35
GF17D	12V	72	2.0W	4PDT	10	7.35
GF17D	24V	288	2.0W	4PDT	10	7.35
GF17D	110V	6,050	2.0W	4PDT	10	7.75
MR3A	6V	2.75	3.25VA	SPST-NO-DB	10	4.30
MR3A	24V	50	3.25VA	SPST-NO-DB	10	4.30
MR3A	120V	1,250	3.25VA	SPST-NO-DB	10	4.30
MR3D	6V	24	1.6W	SPST-NO-DB	10	3.90
MR3D	12V	96	1.6W	SPST-NO-DB	10	3.90
MR3D	24V	360	1.6W	SPST-NO-DB	10	3.90
MR5A	6V	2.75	3.25VA	SPDT	8	3.85
MR5A	12V	13.25	3.25VA	SPDT	8	3.85
MR5A	24V	50	3.25VA	SPDT	8	3.85
MR5A	120V	1,250	3.25VA	SPDT	8	3.85
MR5A	240V	4,600	3.25VA	SPDT	8	4.30
MR5D	6V	24	1.6W	SPDT	8	3.55
MR5D	12V	96	1.6W	SPDT	8	3.55
MR5D	24V	360	1.6W	SPDT	8	3.55
MR5D	110V	8,000	1.6W	SPDT	8	4.10
MR11A	6V	2.75	3.25VA	DPDT	8	5.40
MR11A	12V	13.25	3.25VA	DPDT	8	5.40
MR11A	24V	50	3.25VA	DPDT	8	5.40
MR11A	120V	1,250	3.25VA	DPDT	8	5.40
MR11A	240V	4,600	3.25VA	DPDT	8	5.85
MR11D	6V	24	1.6W	DPDT	8	5.15
MR11D	12V	96	1.6W	DPDT	8	5.15
MR11D	24V	360	1.6W	DPDT	8	5.15
MR11D	110V	8,000	1.6W	DPDT	8	5.65
MR14A	6V	2.75	3.25VA	3PDT	8	6.45
MR14A	12V	13.25	3.25VA	3PDT	8	6.45
MR14A	24V	50	3.25VA	3PDT	8	6.45
MR14A	120V	1,250	3.25VA	3PDT	8	6.45
MR14A	240V	4,600	3.25VA	3PDT	8	6.85
MR14D	6V	24	1.6W	3PDT	8	6.10
MR14D	12V	96	1.6W	3PDT	8	6.10
MR14D	24V	360	1.6W	3PDT	8	6.10
MR14D	110V	8,000	1.6W	3PDT	8	6.60
PM17AY	6V	.37	14VA	4PDT	25	13.60
PM17AY	12V	1.4	14VA	4PDT	25	13.60
PM17AY	24V	5.0	14VA	4PDT	25	13.60
PM17AY	120V	120	14VA	4PDT	25	13.60
PM17AY	240V	587	14VA	4PDT	25	14.10
PM17A	480V	1,790	14VA	4PDT	25	15.00
PM17DY	6V	8.2	4.4W	4PDT	25	13.00
PM17DY	12V	33	4.4W	4PDT	25	13.00
PM17DY	24V	132	4.4W	4PDT	25	13.00
PM17DY	110V	2,760	4.4W	4PDT	25	13.65
PR1AY	24V	12	9.8VA	SPST-NO	25	4.45
PR3AY	6V	.86	9.8VA	SPST-NO-DB	25	4.55
PR3AY	12V	3.2	9.8VA	SPST-NO-DB	25	4.55
PR3AY	24V	12	9.8VA	SPST-NO-DB	25	4.55
PR3AY	120V	290	9.8VA	SPST-NO-DB	25	4.55
PR3AY	240V	1,200	9.8VA	SPST-NO-DB	25	5.00
PR3DY	6V	18	2.0W	SPST-NO-DB	25	4.55
PR3DY	12V	71	2.0W	SPST-NO-DB	25	4.55
PR3DY	24V	288	2.0W	SPST-NO-DB	25	4.55
PR3DY	110V	6,050	2.0W	SPST-NO-DB	25	5.25
PR5AY	6V	.86	9.8VA	SPDT	25	4.80
PR5AY	12V	3.2	9.8VA	SPDT	25	4.80
PR5AY	24V	12	9.8VA	SPDT	25	4.80
PR5AY	120V	290	9.8VA	SPDT	25	4.80
PR5AY	240V	1,200	9.8VA	SPDT	25	5.25
PR5DY	6V	18	2.0W	SPDT	25	4.80
PR5DY	12V	71	2.0W	SPDT	25	4.80
PR5DY	24V	288	2.0W	SPDT	25	4.80
PR5DY	110V	6,050	2.0W	SPDT	25	5.45
PR7AY	6V	.86	9.8VA	DPST	25	5.40
PR7AY	12V	3.2	9.8VA	DPST	25	5.40
PR7AY	24V	12	9.8VA	DPST	25	5.40
PR7AY	120V	290	9.8VA	DPST	25	5.40
PR7AY	240V	1,200	9.8VA	DPST	25	5.90
PR7DY	6V	18	2.0W	DPST	25	5.40
PR7DY	12V	71	2.0W	DPST	25	5.40
PR7DY	24V	288	2.0W	DPST	25	5.40
PR7DY	110V	6,050	2.0W	DPST	25	6.10
PR11AY	6V	.86	9.8VA	DPDT	25	7.10
PR11AY	12V	3.2	9.8VA	DPDT	25	7.10
PR11AY	24V	12	9.8VA	DPDT	25	7.10
PR11AY	120V	290	9.8VA	DPDT	25	7.10
PR11AY	240V	1,200	9.8VA	DPDT	25	7.65
PR11AY	480V	4,500	9.8VA	DPDT	25	8.60
PR11AL5	6V	.86	9.8VA	DPDT	20	9.00
PR11AL5	12V	3.2	9.8VA	DPDT	20	9.00
PR11AL5	24V	12	9.8VA	DPDT	20	9.00
PR11AL5	120V	290	9.8VA	DPDT	20	9.00
PR11AL5	240V	1,200	9.8VA	DPDT	20	9.45
PR11DY	6V	18	2.0W	DPDT	25	7.10
PR11DY	12V	71	2.0W	DPDT	25	7.10
PR11DY	24V	288	2.0W	DPDT	25	7.10
PR11DY	110V	6,050	2.0W	DPDT	25	7.75

*Canadian Standards Association File No. LR-15734

§Enclosed Relay

See ordering information on page 1.

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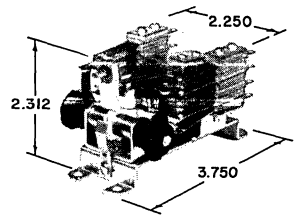
Potter & Brumfield Relays

SPECIAL PURPOSE RELAYS

AP SERIES RATCHET, IMPULSE

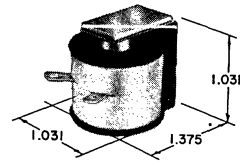
A reliable compact unit for applications requiring on-off or reversing action on alternate operations. Positive ratchet operation at all speeds on impulses as short as 60 ms. Intermittent operation only. Mounting: Three #4-40 dia. holes on 3 1/8" x 1/2" triangular centers. Contacts: 1/16" dia. silver. Weight: 7 ozs. Coils for intermittent duty only.



TYPE	COILS Voltage or Current	COILS Resistance in Ohms	CONTACTS Nominal Power	CONTACTS Arrangement	CONTACTS Rate in Amps	SUGG. RESALE PRICE
AP11A	6V	.6	18.5VA	DPDT	5	$ 9.65
AP11A	12V	2.28	18.5VA	DPDT	5	9.65
AP11A	24V	8.8	18.5VA	DPDT	5	9.65
AP11A	120V	240	18.5VA	DPDT	5	9.65
AP11A	240V	900	18.5VA	DPDT	5	10.20
AP11D	6V	4.0	9.0W	DPDT	5	9.65
AP11D	24V	65	9.0W	DPDT	5	9.65
AP11D	110V	1,350	9.0W	DPDT	5	10.40
AP17A	24V	8.8	18.5VA	4PDT	5	11.70
AP17A	120V	240	18.5VA	4PDT	5	11.70
AP17D	12V	15.5	9.0W	4PDT	5	11.70
AP17D	24V	65	9.0W	4PDT	5	11.70
AP17D	110V	1,350	9.0W	4PDT	5	12.45

BU BUZZER

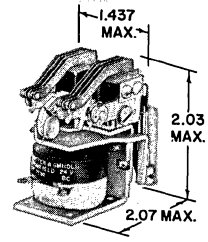
AC operated coil with a spring steel armature which buzzes when coil is energized. Used extensively in test equipment, laboratories and a host of other applications where a small light weight, dependable buzzer is required. Carries U/L Component Recognition File No. S1154. Weight: 1 1/8 ozs. Mounting: No. 6-32 tapped core.



BU	6V	2.75	4.6VA	—	—	1.95
BU	12V	13.25	4.6VA	—	—	1.95
BU	24V	50	4.6VA	—	—	1.95
BU	120V	1,250	4.6VA	—	—	1.95

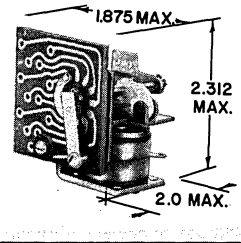
GM SERIES

Unusually versatile switching makes this impulse/sequencing relay especially suitable for single coil latching. The 2 Form C contact arrangement is switched alternately by cam action during drop-out of the armature. It can also be furnished with additional 2 Form C auxiliary contacts (designated by "L"). AC version operates on a 50% coil duty cycle (5 Min. max.). Mounting: 8-32 tapped core with locating boss. Weights: With aux. contacts 4 3/4 ozs. Without aux. contacts 4 ozs.



GM11A	24V	16	9.4VA	DPDT	3	8.00
GM11A	120V	420	9.4VA	DPDT	3	8.00
GM11AL11	120V	420	9.4VA	DPDT/DPDT	3	11.35
GM11D	12V	36	4W	DPDT	3	7.65
GM11D	24V	144	4W	DPDT	3	7.65
GM11DL11	12V	36	4W	DPDT/DPDT	3	11.15
GM11DL11	24V	144	4W	DPDT/DPDT	3	11.65

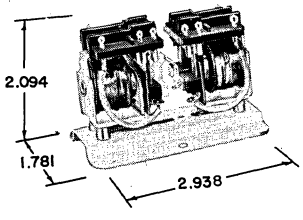
The GM1N10 and GM1N12 AC or DC use the basic GM structure with uni-directional printed circuit boards with 10 or 12-steps, respectively. The board is attached to an extension of the ratchet shaft. The movable contact arm advances one position each time the armature *drops out*. Contact rating: .25 amps. Contact arrangement: SP-10 pos. and SP-12 pos. Size: 2.312" x 1.875" x 2".



GM1N10A	120V	510	9.4VA	SP-10 pos.	.25	9.85
GM1N12A	120V	510	9.4VA	SP-12 pos.	.25	10.00
GM1N10D	24V	144	4W	SP-10 pos.	.25	9.60
GM1N12D	24V	144	4W	SP-12 pos.	.25	9.75

KB SERIES LATCHING RELAY

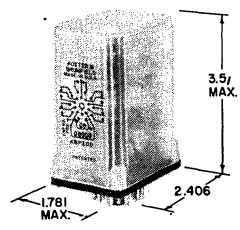
Both release and trip coils must be for the same voltage. One coil operates relay to set latch and other coil releases it. Ideal for memory work and overload applications. Operates on momentary impulse to either coil. Mounting: Two #4-40 dia. holes on 1 3/4" centers. Weight: 6 ozs. Contacts: 1/4" dia. silver rated 5 amps; "G" suffix indicates silver-cadmium-oxide contacts on movables rated 10 amps. AC relays with 5 amp. Contacts carry U/L component recognition (File No. 29244) and are CSA* listed. AC coil for intermittent duty only.



KB17AY	6V	2.3	5VA	4PDT	5	11.60
KB17AY	12V	10	5VA	4PDT	5	11.60
KB17AY	24V	42	5VA	4PDT	5	11.60
KB17AY	120V	1,030	5VA	4PDT	5	11.60
KB17AY	240V	4,100	5VA	4PDT	5	12.45
KB17AG	6V	2.3	5VA	4PDT	10	11.70
KB17AG	12V	10	5VA	4PDT	10	11.70
KB17AG	24V	42	5VA	4PDT	10	11.70
KB17AG	120V	1,030	5VA	4PDT	10	11.70
KB17AG	240V	4,100	5VA	4PDT	10	12.55
KB17D	6V	13.1	2.7W	4PDT	5	10.40
KB17D	12V	52	2.7W	4PDT	5	10.40
KB17D	24V	230	2.7W	4PDT	5	10.40
KB17D	110V	4,560	2.7W	4PDT	5	11.75
KB17DG	6V	13.1	2.7W	4PDT	10	10.65
KB17DG	12V	52	2.7W	4PDT	10	10.65
KB17DG	24V	230	2.7W	4PDT	10	10.65
KB17DG	110V	4,560	2.7W	4PDT	10	11.95
KB23AY	24V	27	7.8VA	6PDT	5	13.90
KB23AY	120V	700	7.8VA	6PDT	5	13.90
KB23AG	24V	27	7.8VA	6PDT	10	14.10
KB23AG	120V	700	7.8VA	6PDT	10	14.10
KB23D	24V	230	2.7W	6PDT	5	12.60
KB23DG	24V	230	2.7W	6PDT	10	12.95
KB23DG	110V	4,560	2.7W	6PDT	10	14.30
KBP17A§	120V	1,030	5VA	4PDT	5	16.30
KBP17AG§	120V	1,030	5VA	4PDT	10	16.50
KBP17D§	24V	230	2.7W	4PDT	5	15.15
KBP17DG§	12V	52	2.7W	4PDT	10	15.40
KBP17DG§	24V	230	2.7W	4PDT	10	15.40
KBP20A§	120V	700	7.8VA	5PDT	5	16.80
KBP20AG§	120V	700	7.8VA	5PDT	10	17.05
KBP20DG§	12V	52	2.7W	5PDT	10	16.20
KBP20DG§	24V	230	2.7W	5PDT	10	16.20

KBP SERIES LATCHING RELAY

Enclosed in a translucent polypropylene dust cover, the KBP is furnished with 20-pin octal type plugs for socket mounting. Contact arrangements of 4PDT and 5PDT are available. Otherwise all specifications are identical to the KB series described above. U/L component recognition does not apply to the KBP series. Weight: 8 ozs.



*Canadian Standards Association File No. LR-15734

§Enclosed Relay

See ordering information on page 1.

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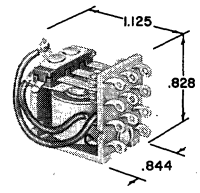
Potter & Brumfield Relays

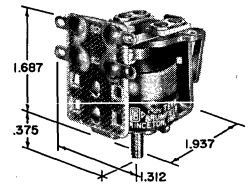
SPECIAL PURPOSE RELAYS

KM SERIES Subminiature relay for applications requiring unusually small relays with up to 3-poles $\frac{3}{32}$" dia. silver contacts. Withstands 30g mechanical shock and .06" excursion 10 to 55 Hz mechanical vibration. Used extensively in small business machines, alarm systems, automatic toys and communications systems. Mounting: One 2-56 tapped core and locating .062" dia. half-punch on .187" centers. Solder terminals. Weight: .58 ozs.



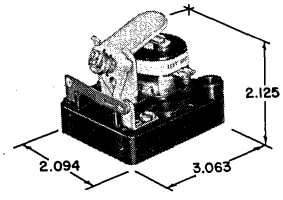
TYPE	COILS: Voltage or Current	COILS: Resistance in Ohms	COILS: Nominal Power	CONTACTS: Arrangement	CONTACTS: Rate in Amps	SUGG. RESALE PRICE
KM5D	6V	36	1.1W	SPDT	2	$3.80
KM5D	12V	144	1.1W	SPDT	2	3.80
KM5D	24V	500	1.1W	SPDT	2	3.80
KM11D	6V	36	1.1W	DPDT	2	4.15
KM11D	12V	144	1.1W	DPDT	2	4.15
KM11D	24V	500	1.1W	DPDT	2	4.15
KM14D	6V	36	1.1W	3PDT	2	4.80
KM14D	12V	144	1.1W	3PDT	2	4.80
KM14D	24V	500	1.1W	3PDT	2	4.80

KT SERIES ANTENNA SWITCHING RELAY Glass base insulation for minimum RF loss to switch 300 ohm line. Mounting: One No. 6-32 threaded stud and locating tab on $\frac{1}{16}$" centers. Contacts: $\frac{1}{8}$" dia. gold-flashed silver. Weight: 1$\frac{1}{2}$ ozs.



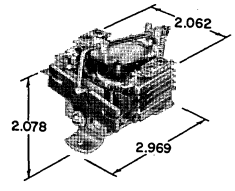
KT11A	6V	6	2VA	DPDT	5	4.10
KT11A	120V	2,250	2VA	DPDT	5	4.10
KT11D	6V	32.1	1.2W	DPDT	5	4.10
KT11D	12V	120	1.2W	DPDT	5	4.10

MS SERIES MOTOR STARTING RELAYS For starting capacitor start, induction-run motors. Operates on back EMF of start winding. Armature gap can be altered to change pull-in. Carries U/L component recognition (File No. 29245). Mounting: Two $\frac{5}{32}$" dia. holes on 1$\frac{5}{16}$" centers. Contacts: $\frac{1}{4}$ HP, $\frac{7}{32}$" dia. fine silver; 3 HP, $\frac{7}{32}$" dia. silver cadmium. Weight: 5 ozs. max. MS/MR Metal dust cover similar to PM/PR shown on page 4. 3$\frac{5}{8}$" x 2$\frac{3}{8}$" x 2$\frac{13}{16}$". Weight: 7.5 ozs.
35D130 fits MS/MR NET $2.20



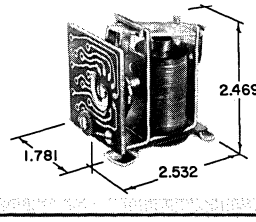
MS2AY	120V	530	5.9VA	SPST-NC	¾HP	4.00
MS2AY	240V	2,100	5.9VA	SPST-NC	¾HP	4.45
MS4AY	120V	530	5.9VA	SPST-NC-DB	3HP	4.65
MS4AY	240V	2,100	5.9VA	SPST-NC-DB	3HP	5.10

PC SERIES Single coil impulse latching relay for on-off and current reversal switching on alternate pulses. Operates on 30 millisecond pulses to the coil. Mounting: Two $\frac{5}{32}$" dia. holes on 2$\frac{5}{8}$" centers. Weight: 5 ozs. Contacts: $\frac{1}{8}$" dia. gold-flashed silver-cadmium-oxide. Coils for intermittent duty only.



PC11A	6V	.6	18.5VA	DPDT	7.5	6.20
PC11A	12V	2.28	18.5VA	DPDT	7.5	6.20
PC11A	24V	8.8	18.5VA	DPDT	7.5	6.20
PC11A	120V	240	18.5VA	DPDT	7.5	6.20
PC11D	6V	4	9.0W	DPDT	7.5	6.00
PC11D	12V	15.5	9.0W	DPDT	7.5	6.00
PC11D	24V	65	9.0W	DPDT	7.5	6.00
PC17A	24V	8.8	18.5VA	4PDT	7.5	8.55
PC17A	120V	240	18.5VA	4PDT	7.5	8.55
PC17D	24V	65	9.0W	4PDT	7.5	8.35

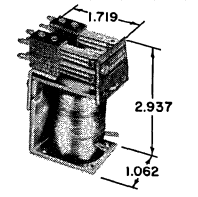
SA SERIES STEPPING SWITCH A twelve position stepping relay with printed circuit strips to switch currents up to 250 milliamps. Armature-driven pawl operates a ratchet wheel to drive the movable contact in steps of 30 degrees over 12 positions. Used widely for audio-level switching in TV remote control units, scoreboards and process controls. Mounting: Two 6-32 holes on 1$\frac{13}{16}$" centers. Weight: 4 ozs. AC coil for intermittent duty only.



SA-1N-12A	120V	140	20VA	12-steps	.25	7.35

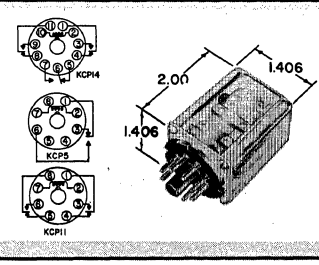
PLATE CIRCUIT AND SENSITIVE RELAYS

GB SERIES (See GA series page 1 for similar voltage actuated relays.) Sensitivity 115 milliwatts for single pole and 275 milliwatts for 4 pole. Medium cost, high quality relay. Pick-up is not adjustable. Mounting: No. 8-32 tapped core and locating boss. Contacts: $\frac{1}{16}$" dia. silver. Weight: Approximately 5 ozs.



TYPE	COILS: Voltage or Current	COILS: Resistance in Ohms	COILS: Nominal Power	CONTACTS: Arrangement	CONTACTS: Rate in Amps	SUGG. RESALE PRICE
GB5D	6.8MA	2,500	115MW	SPDT	5	$3.80
GB5D	4.8MA	5,000	115MW	SPDT	5	4.00
GB5D	3.4MA	10,000	115MW	SPDT	5	4.50
GB11D	7MA	2,500	125MW	DPDT	5	5.35
GB11D	5MA	5,000	125MW	DPDT	5	5.45
GB11D	3.53MA	10,000	125MW	DPDT	5	6.10
GB17D	10.5MA	2,500	275MW	4PDT	5	6.40
GB17D	7.4MA	5,000	275MW	4PDT	5	6.55
GB17D	5.25MA	10,000	275MW	4PDT	5	7.05

KCP SERIES Low cost plate circuit relay enclosed in clear high impact plastic cover. Sensitivity 125 mw single pole; 250 mw double pole; 375 mw three pole. Mounting: Standard octal plug-in type. Eight pin for KCP5 and KCP11. Eleven pin for KCP14. Contacts: $\frac{1}{4}$" dia. gold-flashed silver. Weight: Approximately 3 ozs. Use KCP-KRP hold down spring when vibration is a factor or when using inverted or horizontal mounting. (see page 2).



KCP5§	7.2MA	2,500	125MW	SPDT	2	6.50
KCP5§	5MA	5,000	125MW	SPDT	2	6.60
KCP5§	3.6MA	10,000	125MW	SPDT	2	7.05
KCP11§	10MA	2,500	250MW	DPDT	2	6.95
KCP11§	7.2MA	5,000	250MW	DPDT	2	7.05
KCP11§	5MA	10,000	250MW	DPDT	2	7.50
KCP14§	12.3MA	2,500	375MW	3PDT	2	8.55
KCP14§	8.7MA	5,000	375MW	3PDT	2	8.65
KCP14§	6.1MA	10,000	375MW	3PDT	2	9.10

§Enclosed Relay

See ordering information on page 1.

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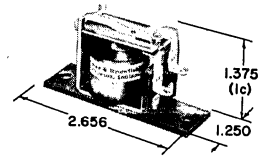
Potter & Brumfield Relays

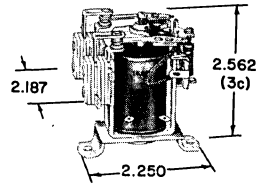
PLATE CIRCUIT AND SENSITIVE RELAYS

LB SERIES Designed for top performance, long life at an unusually low cost. Each coil is wound with a given coil resistance and factory adjusted to operate on minimum current requirements. Mounting: Two $\frac{5}{32}$" dia. holes on $2\frac{7}{32}$" centers. Contacts: $\frac{1}{8}$" dia. silver. Weight: Approximately 2 ozs.



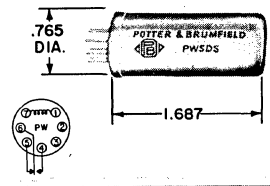
TYPE	COILS: Voltage or Current	COILS: Resistance in Ohms	COILS: Nominal Power	CONTACTS: Arrangement	CONTACTS: Rate in Amps	SUGG. RESALE PRICE
LB5	9MA	2,500	200MW	SPDT	5	$ 2.85
LB5	6.3MA	5,000	200MW	SPDT	5	3.05
LB5	4.5MA	10,000	200MW	SPDT	5	3.30

LM SERIES (See KL page 2 for similar voltage actuated relays.) Sensitivity: 100 milliwatts for single pole and 200 milliwatts for double pole. Medium cost, high quality relay with $\frac{7}{32}$" dia. gold-flashed silver contacts. Pick-up adjustable by tail spring adjusting screw. Mounting: Two No. 6-32 tapped holes on $1\frac{13}{16}$" centers. Weight: Approximately 5 ozs. DC Coils only.



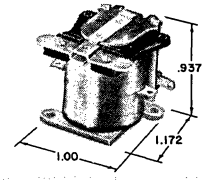
LM5	6.3MA	2,500	100MW	SPDT	5	4.35
LM5	4.5MA	5,000	100MW	SPDT	5	4.55
LM5	3.2MA	10,000	100MW	SPDT	5	4.90
LM11	9MA	2,500	200MW	DPDT	5	6.20
LM11	6.3MA	5,000	200MW	DPDT	5	6.40
LM11	4.5MA	10,000	200MW	DPDT	5	7.05

PW SERIES (In both voltage and current actuated models.) Sensitivity: 40 mw for current actuated models, 180 mw for voltage actuated models. Precision, light weight, hermetically sealed relay for aircraft and missile applications. Will withstand 10g vibration to 500 Hz. Mounting: Standard 7-pin miniature tube base. Weight: Approx. 1 oz.



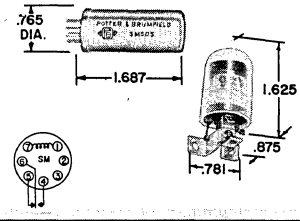
PW5DS†	6V	202	180MW	SPDT	1	11.85
PW5DS†	12V	810	180MW	SPDT	1	11.85
PW5DS†	24V	3,240	180MW	SPDT	1	11.85
PW5LS†	2.8MA	5,000	40MW	SPDT	1	12.25
PW5LS†	2.0MA	10,000	40MW	SPDT	1	12.70

RS SERIES (In both voltage and current actuated models.) 60 mw. sensitivity. Low-cost, small, light weight, sensitive relay for radio-sonde, light dimmer and model applications. Mounting: Two No. 4-40 tapped holes on diagonal $\frac{3}{4}$" x $\frac{5}{8}$" centers. Contacts: Bar palladium. Weight: $1\frac{1}{2}$ ozs.



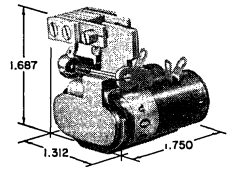
RS5D	6V	335	110MW	SPDT	2	2.90
RS5D	12V	1,350	110MW	SPDT	2	3.05
RS5D	5MA	2,500	60MW	SPDT	2	3.15
RS5D	3.5MA	5,000	60MW	SPDT	2	3.45
RS5D	2.5MA	10,000	60MW	SPDT	2	4.00

SM SERIES (In both voltage and current actuated models.) Sensitivity 75 mw for current actuated models. Medium cost, light weight, dust covered (right) or hermetically sealed (left) relay for light contact loads found in computers, model airplanes and similar applications. Extremely long mechanical life because of reed armature. Mounting: Sealed, standard 7-pin miniature tube socket; dust cover, two $\frac{5}{32}$" dia. holes on $\frac{17}{32}$" centers. Contacts: Stationary silver; movable rhodium. Weight: 1 oz. max.



SM5DS†	6V	80	500MW	SPDT	.25	7.25
SM5DS†	12V	360	500MW	SPDT	.25	7.25
SM5DS†	24V	900	500MW	SPDT	.25	7.25
SM5L§	2.7MA	10,000	75MW	SPDT	.25	6.90
SM5LS†	3.9MA	5,000	75MW	SPDT	.25	7.55
SM5LS†	2.7MA	10,000	75MW	SPDT	.25	8.10

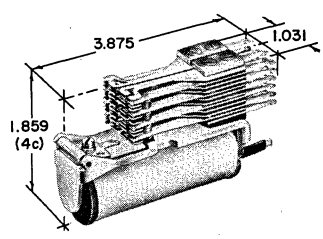
SS SERIES Ultra sensitive precision relay. 10 mw sensitivity. Dual series-connected coils with balanced armature on needle-point bearings for all low energy circuits such as instruments and bridge balancing. May also be used as a differential relay by connecting the two coils in separate circuits. Mounting: Two No. 6-32 tapped holes on $\frac{33}{64}$" centers. Contacts: $\frac{1}{8}$" dia. silver. Weight: Approx. $3\frac{1}{2}$ ozs.



SS5D	1MA	10,000	10MW	SPDT	2	15.25

TELEPHONE TYPE RELAYS

BS SERIES Long coil telephone type. Suited for computer and automatic test equipment applications requiring large number of poles. Tinned, pierced solder terminals for rear panel wiring. Mounting: Two No. 8-32 NC 2B tapped holes on $\frac{3}{4}$" centers. Contact arms: Bifurcated with $\frac{1}{16}$" dia. twin palladium contacts. Weight: Approximately 9 ozs.



BS17A	120V	103	16.5VA	4PDT	4	$10.15
BS17D	24V	1,000	576MW	4PDT	4	8.30
BS17D	110V	6,500	1.8W	4PDT	4	9.00
BS17L	5.5MA	10,000	300MW	4PDT	4	9.00
BS23A	120V	103	16.5VA	6PDT	4	11.80
BS23D	24V	1,000	576MW	6PDT	4	10.10
BS23D	110V	6,500	1.8W	6PDT	4	10.65

BS DUST COVER Sheet metal enclosures for BS relays up to 6 Form C (6PDT, BS23), measures: H: $2\frac{5}{16}$", W: $1\frac{1}{4}$", L: $3\frac{27}{32}$" exclusive $\frac{3}{8}$" knob; weight: 6.5 ozs.

35D188 NET $2.10

†Sealed Relay
§Enclosed Relay

See ordering information on page 1.

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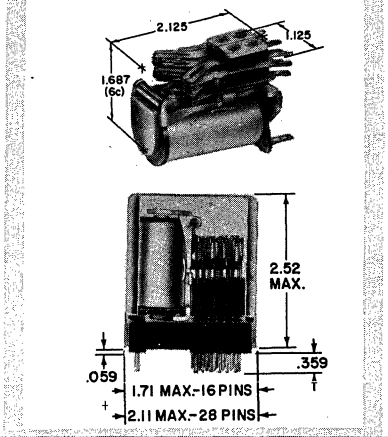
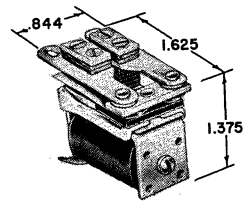
LS SERIES Short springs and light weight armature provide fast action without sacrificing reliability and long life. Stainless steel hinge bearing designed to give 100 million operations. Tinned, pierced solder terminals. Mounting: Two No. 6-32 tapped holes on ¾" centers. Bifurcated contact arms with 1/16" dia. twin palladium contacts. Weight: Approximately 4 ozs.

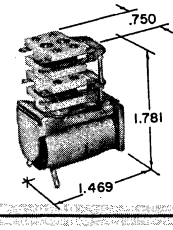
The LSP version has identical specifications as the LS, except that it is enclosed in a high impact, clear plastic cover and is provided with a rectangular socket with combination taper tab or solder terminations. Enables plug-in like any other plug-in component. Two sizes of sockets and covers are available: 16-pin for 4 Form C (4PDT) or 28-pin for 6 Form C (6PDT). Dimensions: LSP17D: 1.71" x 1.39" x 2.52" seated; weight: 4 ozs. LSP23D: 2.11" x 1.39" x 2.52" seated; weight: 4½ ozs.



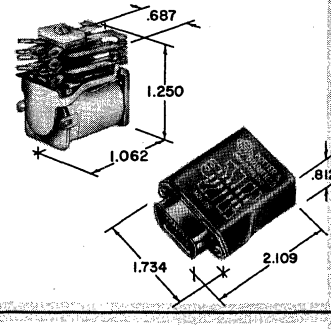
MB SERIES Miniature DC contactor. Designed for very high current applications. Extra rugged construction insures long life. Handles 150 ampere surges for 0.3 sec. Contact arms: Stationary, heavy brass, ¼" dia. silver contacts pierced solder terminals. Movable, ¼" x 1/16" silver bar contact. Mounting: Four No. 3-48 tapped holes on ⅜" x ⅜" centers. Weight: 2 ozs.



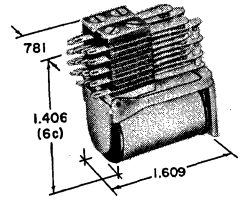
MC SERIES Built with ceramic contact spaces for RF switching to minimize losses at high frequencies. Intercontact capacitance 1.5 mmfd. max. Tinned, pierced solder type terminals. Mounting: Four No. 3-48 tapped holes on ⅜" x ⅜" centers. Contacts: 3/32" dia. palladium. Weight: 2 ozs.



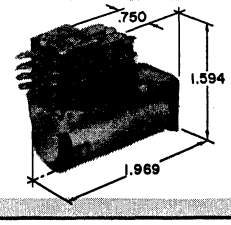
MG SERIES Sub-miniature telephone type relay can be furnished open, sealed or in nylon dust cover. Mounting: Open model has four No. 3-48 tapped holes on ⅜" x ⅜" centers. Sealed model has three No. 4-40 threaded studs on 1" x ½" centers. Dust cover model has plug-in header that fits Amphenol receptacle No. 57-20140 or similar. Contacts: 3/32" dia. silver. Weight: Open 1.2 ozs.; Dust cover 2.0 ozs.; Sealed 2.75 ozs.



MH SERIES MINIATURE TYPE Ideal for applications where space and weight are factors. Mounting: Open model, MH11L, one No. 6-32 threaded stud 11/32" long plus locating boss. All other open models have four No. 3-48 holes on ⅜" x ⅜" centers. Sealed models, M enclosures, three 6-32 NC 2 threaded studs on 1¼" x ½" centers. D enclosures, three 6-32 threaded studs on 1 5/16" x 1 5/16" centers. All sealed models have hook end solder terminals. All models have ⅛" dia. gold-flashed silver contacts. Weight: Open models 2½ oz. max. Sealed models 5 ozs. max.



ML SERIES A small telephone type relay having excellent sensitivity and outstanding switching capabilities. Ideal for transistorized computer networks, telephone systems and battery powered communications equipment. Single contact arms have ⅛" dia. gold-flashed silver contacts rated at 3 amps for 100,000 operations. Pierced solder terminals. Mounting: Four 3-48 holes on ⅜" centers. Weight: 2.5 ozs.



TELEPHONE TYPE RELAYS

TYPE	COILS		CONTACTS			SUGG. RESALE PRICE
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
LS17D	24V	300	1.9W	4PDT	4	$ 6.25
LS17D	48V	1,300	1.8W	4PDT	4	6.40
LS17D	110V	8,000	1.5W	4PDT	4	6.65
LS23D	24V	300	1.9W	6PDT	4	7.55
LS23D	48V	1,300	1.8W	6PDT	4	7.70
LS23D	110V	8,000	1.5W	6PDT	4	8.05
LSP17D§	24V	300	1.9W	4PDT	4	8.20
LSP17D§	48V	1,300	1.8W	4PDT	4	8.30
LSP17D§	110V	8,000	1.5W	4PDT	4	8.60
LSP23D§	24V	300	1.9W	6PDT	4	10.15
LSP23D§	48V	1,300	1.8W	6PDT	4	10.25
LSP23D§	110V	8,000	1.5W	6PDT	4	10.55
MB3D	6V	13.3	2.7W	SPST-NO-DB	60	5.95
MB3D	12V	62.3	2.7W	SPST-NO-DB	60	6.10
MB3D	24V	245	2.7W	SPST-NO-DB	60	6.10
MB3D	110V	5,000	2.7W	SPST-NO-DB	60	6.50
MC5A	6V	2.5	4.6VA	SPDT	1	5.80
MC5D	12V	96	1.6W	SPDT	1	5.10
MC5D	24V	365	1.6W	SPDT	1	5.10
MC11A	120V	680	4.6VA	DPDT	1	8.00
MC11D	24V	365	1.6W	DPDT	1	7.35
MC11D	110V	6,200	1.6W	DPDT	1	7.95
MG11D	6V	23	1.6W	DPDT	2	5.70
MG11D	12V	90	1.6W	DPDT	2	5.70
MG11D	24V	365	1.6W	DPDT	2	5.70
MG11D	110V	7,560	1.6W	DPDT	2	6.25
MG17D	12V	90	1.6W	4PDT	2	7.65
MG17D	24V	365	1.6W	4PDT	2	7.65
MG17D	110V	7,560	1.6W	4PDT	2	8.05
MG17DP§	12V	90	1.6W	4PDT	2	12.75
MG17DP§	24V	365	1.6W	4PDT	2	12.75
MG17DP§	110V	7,560	1.6W	4PDT	2	13.40
MG17DT†	24V	365	1.6W	4PDT	2	13.90
MG17DT†	110V	7,560	1.6W	4PDT	2	14.55
MH11L	4.5MA	10,000	200MW	DPDT	3	6.55
MH11LM†	4.5MA	10,000	200MW	DPDT	3	11.15
MH17D	6V	23	1.6W	4PDT	5	6.55
MH17D	12V	96	1.6W	4PDT	5	6.55
MH17D	24V	365	1.6W	4PDT	5	6.55
MH17DM†	12V	96	1.6W	4PDT	5	13.30
MH17DM†	24V	365	1.6W	4PDT	5	13.30
MH17AMR†	120V	6,200	2VA	4PDT	5	21.70
MH23D	6V	13.3	2.5W	6PDT	5	8.30
MH23D	12V	62.3	2.5W	6PDT	5	8.30
MH23D	24V	245	2.5W	6PDT	5	8.30
MH23D	110V	5,000	2.5W	6PDT	5	8.80
MH23DD†	12V	62.3	2.5W	6PDT	5	17.65
MH23DD†	24V	245	2.5W	6PDT	5	17.65
MH23DD†	110V	5,000	2.5W	6PDT	5	18.25
ML11D	4.0MA	2,500	40MW	DPDT	3	$ 7.00
ML11D	2.83MA	5,000	40MW	DPDT	3	7.15
ML11D	2.0MA	10,000	40MW	DPDT	3	7.50
ML17D	5.65MA	2,500	80MW	4PDT	3	8.30
ML17D	4.0MA	5,000	80MW	4PDT	3	8.50
ML17D	2.83MA	10,000	80MW	4PDT	3	8.80
ML23D	6.93MA	2,500	120MW	6PDT	3	9.40
ML23D	4.9MA	5,000	120MW	6PDT	3	9.60
ML23D	3.4MA	10,000	120MW	6PDT	3	9.90

†Sealed Relay
§Enclosed Relay

See ordering information on page 1.

Net

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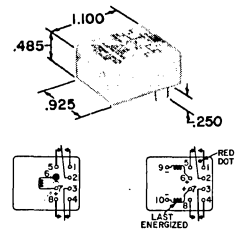
Potter & Brumfield Relays

HIGH PERFORMANCE RELAYS

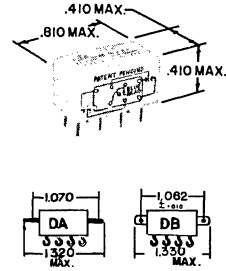
FC SERIES Conventional micro-miniature relay lies flat on printed circuit board. Withstands 150g shock, 400g linear acceleration, 30g vibration to 2000 Hz. Ambient temperature range: −65° to +125°C. Hermetically welded. Bifurcated contacts. Plugs in on .2" grid. Meets applicable sections of MIL-R-5757D, and MSFC-SPEC-339. Weight: .75 oz.

FL SERIES Dual-coil latching relay has same specs as above, except operates by pulsing each coil alternately (observing coil polarity); or connecting the coils in series from a reversing (polarized) source. Remains latched without coil power.



TYPE Hermetically Sealed	COILS Voltage or Current	COILS Resistance in Ohms	COILS Nominal Power	CONTACTS Arrangement	CONTACTS Rate in Amps	SUGG. RESALE PRICE
FC11D	6V	60	.65W	DPDT	3	$18.80
FC11D	12V	210	.65W	DPDT	3	18.80
FC11D	24V	900	.65W	DPDT	3	18.80
FC4037	26.5V	MIL-R-5757D or RY4YY4B3P				18.80
FL11D	6V	67.5	.65W	DPDT	3	21.15
FL11D	12V	230	.65W	DPDT	3	21.15
FL11D	24V	1,000	.65W	DPDT	3	21.15
FL4027	26.5V	MIL-R-5757D or RY4YY4B3P				21.15

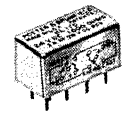
HC SERIES A micro-miniature, non-polarized, non-latching half-size crystal case relay for high reliability performance. Its high-torque motor structure and bifurcated, gold-plated silver DPDT contacts, rated dry circuit to 2 amps @ 28V DC resistive, provide positive performance in low level applications. Temperature range: −65°C to +125°C. Hermetically welded. HC11D has plug-in, plain case; HC11DA has hook-end solder terminals and shoulder brackets; HC11DB has hook-end solder terminals and flat mounting plate with 2 holes. The HC series meets or exceeds all applicable sections of MIL-R-5757D/9, and complies with MSFC-SPEC-339. Size: Plain case .8" x .4" x .4" (seated). Weight: ¼ oz.



HC11D	24V	814	.72W	DPDT	2	18.40
HC11DA	24V	814	.72W	DPDT	2	18.40
HC11DB	24V	814	.72W	DPDT	2	18.40

SPECIFY COIL VOLTAGE OR RESISTANCE WHEN ORDERING

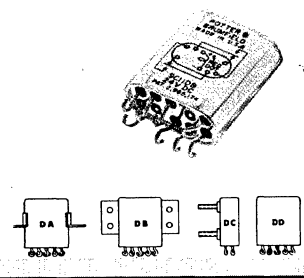
HL SERIES A companion micro-miniature relay with identical specifications as the HC described above, except that it is a dual-coil latching relay. The HL can be operated: by (1) pulsing each coil alternately, observing coil polarity; or (2) from a reversing (polarized) power source by connecting like polarities. Approximately 150 milliwatts @ 25°C coil temperature are required for each coil. Coils will operate in less than 3 milliseconds at nominal voltage @ 25°C.



Dimensions same as HC

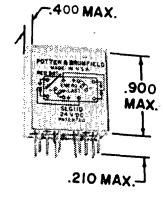
HL11D	24V	1,000	.65W	DPDT	2	$36.75

SC SERIES Micro-miniature permanent magnet relay for low power, high shock/vibration applications. 200g shock, 30g vibration to 2000 Hz with no contact openings. Ambient temperature range: −65°C to +125°C. Features single coil action and conforms to standard micro-miniature coil operation except polarized connections because of magnetic circuit. Positive terminal marked with red dot. Mounting: SC11D**, —DA, —DB, DC and DD correspond to similarly designed SL mountings. SCG11D has rectangular header with terminals on .2" grid. Weight: ¼ oz.
**Armel No. HRK-1, 8-pin receptables available from distributors for plug-in applications.



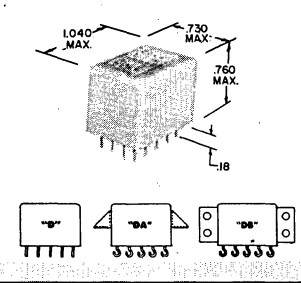
SC11D	6V	35	1W	DPDT	2	19.00
SC11D	12V	135	1W	DPDT	2	19.00
SC11D	24V	550	1W	DPDT	2	19.00
SC11DA	6V	35	1W	DPDT	2	19.00
SC11DA	12V	135	1W	DPDT	2	19.00
SC11DA	24V	550	1W	DPDT	2	19.00
SC11DB	6V	35	1W	DPDT	2	19.00
SC11DB	12V	135	1W	DPDT	2	19.00
SC11DB	24V	550	1W	DPDT	2	19.00
SC11DC	24V	550	1W	DPDT	2	19.00
SC11DD	24V	550	1W	DPDT	2	19.00
SCG11D	24V	550	1W	DPDT	2	19.00
SC7141	26.5V	MIL-R-1575D/10C-141 or RY4NA3B3L01				19.15

SL SERIES Dual coil micro-miniature magnetic latching relay with same shock/vibration, resistance and ambient temperature range as SC. Coils may be connected in series for polar operation. Mounting: SL11D* for plug-in applications: —DA has shoulder flanges with two .104" x .136" holes on a 1.062" center; —DB has a welded bracket with four .125" dia. holes on 1.062" x .281" centers; —DC has two No. 4-40 NC 2A threaded studs on .488" x .220" diagonal centers; —DD has plain case with hook end solder terminals. SLG11D has plug-in terminals on .2" grid.
*Viking No. P/N VB10/3DV 1 10-pin receptacles available from distributor for plug-in applications.



SL11D	6V	40	1W	DPDT	2	20.85
SL11D	12V	160	1W	DPDT	2	20.85
SL11D	24V	630	1W	DPDT	2	20.85
SL11DA	6V	40	1W	DPDT	2	20.85
SL11DA	12V	160	1W	DPDT	2	20.85
SL11DA	24V	630	1W	DPDT	2	20.85
SL11DB	6V	40	1W	DPDT	2	20.85
SL11DB	12V	160	1W	DPDT	2	20.85
SL11DB	24V	630	1W	DPDT	2	20.85
SL11DC	24V	630	1W	DPDT	2	20.85
SL11DD	24V	630	1W	DPDT	2	20.85
SLG11D	24V	630	1W	DPDT	2	20.85

TL SERIES High performance 4DPT microminiature magnetic latching relay for severe environments. Hermetically welded relay case. Strong permanent magnetic forces keep the contacts locked in desired position when relay is de-energized. Approx. 0.5 ms transfer time. Temperature range: −65°C to +125°C. Meets or exceeds applicable sections MIL-R-5757D and MSFC-SPEC-339. Weight: Approx. 1¼ ozs. Mountings: D = plain case, plug-in header. DA = shoulder bracket .300" from base, hook-end solder. DB = flat plate, .593" wide x 1.60" long. 4 —.125" dia. holes on .281" x 1.30" centers, hook-end solder.



TL17D	24V	600	1W	4DPT	3	30.20
TL17DA	24V	600	1W	4DPT	3	30.20
TL17DB	24V	600	1W	4DPT	3	30.20

See ordering information on page 1.

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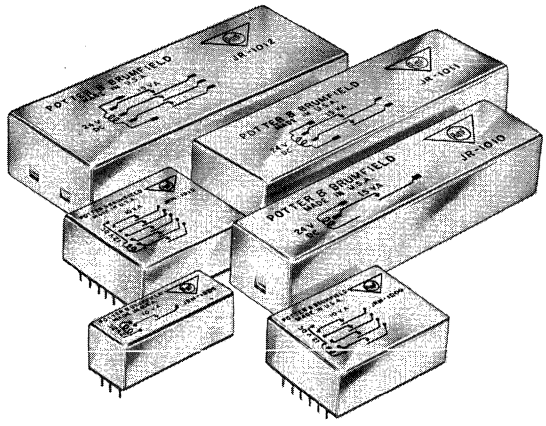
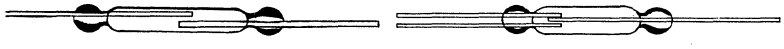
DRY REED RELAYS
TYPE JR STANDARD
TYPE JRM MINIATURE



Fast response, reliable performance, high sensitivity, and long life make JR standard and JRM miniature series relays especially suited for data processing applications, computer equipment, logic circuitry and various other sophisticated control circuits.

TWO TYPES OF BASIC CAPSULES

Both JR and JRM relays employ dry reed glass capsules with two basic types of contact arrangements, Form A (SPST-NO) or Form C (SPDT). Biasing with a permanent magnet changes Form A to a Form B (SPST-NC). This arrangement



requires that coil polarity be observed. It uses a two-cavity bobbin. Combining one Form A with one Form B results in a single Form C (SPDT) break-before-make; this uses a three-cavity bobbin. A "true" Form C (SPDT) uses a reed switch with two stationary and one movable contact. The movable contact is normally closed until the coil is energized, causing a "true" Form C (SPDT) break-before-make; it uses a single-cavity bobbin.

SPECIFICATIONS

Pick-up: 75% of nominal @ 25°C.
Operate Time: At nom. voltage @ 25°C.: JR: 3ms. JRM: 1ms.
Release Time: At 25°C.: JR: .5ms. JRM: .05ms.
Coil Power: Based upon nom. voltage and resistance. JR: 1 capsule — 240 mw; 2 capsules — 360 mw; 3 capsules — 720 mw; 4 capsules — 960 mw; 5 capsules 1.5 w.
JRM: 1 capsule — 180 mw; 2 capsules — 275 mw; 3 capsules — 420 mw; 4 capsules — 540 mw; 5 capsules — 720 mw.
For additional specifications see columnar listings and drawings.

JR STANDARD SERIES

TYPE	Contact Arrangement	Number of Cavities	COILS		Reed Rating Watts	SUGG. RESALE PRICE
			Sugg. Nominal Voltage	Resistance in Ohms		
JR1000	1A	1	6	150	15	$ 3.05
JR1001	2A	2	6	100	15	4.10
JR1003	4A	4	6	37.5	15	5.70
JR1020	1A	1	6	150	50	4.30
JR1021	2A	2	6	100	50	6.60
JR1040	1C*	1	6	150	10	7.65
JR1041	2C*	2	6	100	10	8.40
JR1060	1B	2	6	100	15	4.10
JR1061	2B	3	6	50	15	5.35
JR1084	1A+1B	3	6	50	15	5.05
JR1085	2A+2B	5	6	24	15	8.25
JR1005	1A	1	12	600	15	3.05
JR1006	2A	2	12	400	15	4.10
JR1008	4A	4	12	150	15	5.70
JR1025	1A	1	12	600	50	4.30
JR1026	2A	2	12	400	50	6.60
JR1045	1C*	1	12	600	10	7.65
JR1046	2C*	2	12	400	10	8.40
JR1063	1B	2	12	400	15	4.10
JR1064	2B	3	12	200	15	5.35
JR1086	1A+1B	3	12	200	15	5.05
JR1087	2A+2B	5	12	96	15	8.25
JR1010	1A	1	24	2,400	15	3.55
JR1011	2A	2	24	1,600	15	4.35
JR1013	4A	4	24	600	15	6.00
JR1030	1A	1	24	2,400	50	4.60
JR1031	2A	2	24	1,600	50	6.90
JR1050	1C*	1	24	2,400	10	8.00
JR1051	2C*	2	24	1,600	10	8.50
JR1066	1B	2	24	1,600	15	4.15
JR1067	2B	3	24	800	15	5.50
JR1088	1A+1B	3	24	800	15	5.35
JR1089	2A+2B	5	24	384	15	8.35

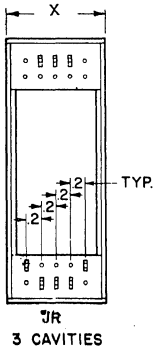
*True Form C

JRM MINIATURE SERIES

JRM1000	1A	1	6	200	10	3.30
JRM1001	2A	2	6	130	10	4.80
JRM1003	4A	4	6	67	10	7.65
JRM1018	1C*	1	6	200	4	7.05
JRM1019	2C*	2	6	130	4	12.10
JRM1036	1B	2	6	130	10	4.20
JRM1037	2B	3	6	86	10	5.60
JRM1048	1A+1B	3	6	86	10	5.60
JRM1049	2A+2B	5	6	50	10	8.60
JRM1006	1A	1	12	800	10	3.30
JRM1007	2A	2	12	520	10	4.80
JRM1009	4A	4	12	268	10	7.65
JRM1024	1C*	1	12	800	4	7.05
JRM1025	2C*	2	12	520	4	12.10
JRM1040	1B	2	12	520	10	4.20
JRM1041	2B	3	12	344	10	5.60
JRM1050	1A+1B	3	12	344	10	5.60
JRM1051	2A+2B	5	12	200	10	8.60
JRM1012	1A	1	24	3,200	10	3.60
JRM1013	2A	2	24	2,080	10	4.95
JRM1015	4A	4	24	1,072	10	7.75
JRM1030	1C*	1	24	3,200	4	7.20
JRM1031	2C*	2	24	2,080	4	12.25
JRM1044	1B	2	24	2,080	10	4.30
JRM1045	2B	3	24	1,376	10	5.75
JRM1052	1A+1B	3	24	1,376	10	5.75
JRM1053	2A+2B	5	24	800	10	8.75

*True Form C

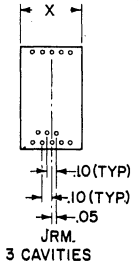
OUTLINE DIMENSIONS



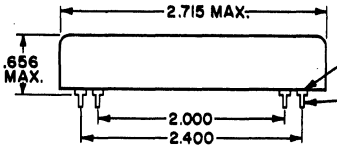
JR
3 CAVITIES

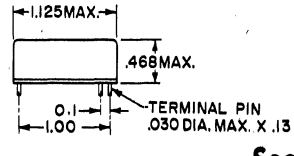
JR Standard Relays — **Weights**
X = 1 Cavity = .687" max.—1.50 ozs.
X = 2 Cavities = .890" max.—2.00 ozs.
X = 3 Cavities = 1.094" max.—2.50 ozs.
X = 4 Cavities = 1.297" max.—3.00 ozs.
X = 5 Cavities = 1.516" max.—3.50 ozs.

JRM Miniature Relays
X = 1 Cavity = .437" max.—.366 oz.
X = 2 Cavities = .562" max.—.395 oz.
X = 3 Cavities = .703" max.—.530 oz.
X = 4 Cavities = .813" max.—.620 oz.
X = 5 Cavities = .968" max.—.781 oz.

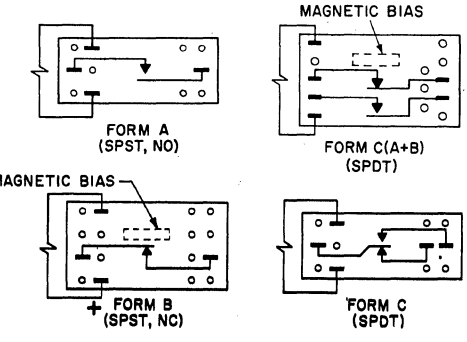


JRM.
3 CAVITIES





TYPICAL WIRING DIAGRAMS



See ordering information on page 1.

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JM SERIES
MERCURY-WETTED CONTACT RELAYS

Rare long life, high speed, and unvarying dependability — all are the result of the basic component of these relays: a hermetically sealed glass capsule. It contains the contact arrangement and a small reservoir of mercury sealed in a high pressure hydrogen atmosphere. A film of mercury is renewed for every operation—that's why you can think in terms of billions of operations without contact bounce, pits or welds.

TWO TYPES OF CAPSULES

The capsule used in JMF and JMF2 (with 2 capsules) modules and JML relays has a SPDT, break-before-make (Form C), non-bridging contact arrangement. Each capsule used in JMP, and JM1 to JM4 relays has a SPDT, make-before-break (Form D), bridging contact arrangement. JMF, JMF2, JML and JMP series achieve a high rate of sensitivity by factory-adjusted magnet biasing.

Mounting Position: Upright mounting required, but deviation from upright up to 30° causes only minor deviation in operating characteristics.

CONTACT RATINGS

JMF, JMF2 and JML: 500V max., and 2 amps max., 100VA max.*
JMP and JM1 to JM4: 500V max., and 5 amps max., 250 VA max.

*With contact protection unless in a low level circuit. Details of a simple protection circuit consisting of resistor and capacitor in series are packed with each relay.

TERMINATIONS

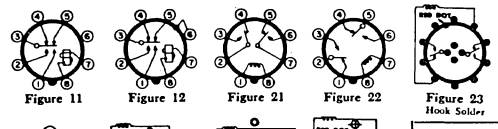


Figure 11 Figure 12 Figure 21 Figure 22 Figure 23 Hook Solder

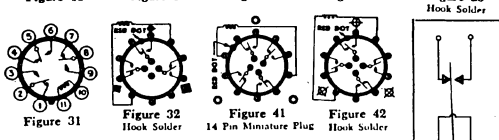


Figure 31 Figure 32 Hook Solder Figure 41 14 Pin Miniature Plug Figure 42 Hook Solder

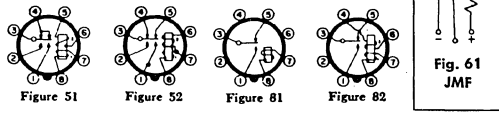


Figure 51 Figure 52 Figure 81 Figure 82

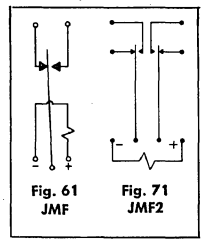
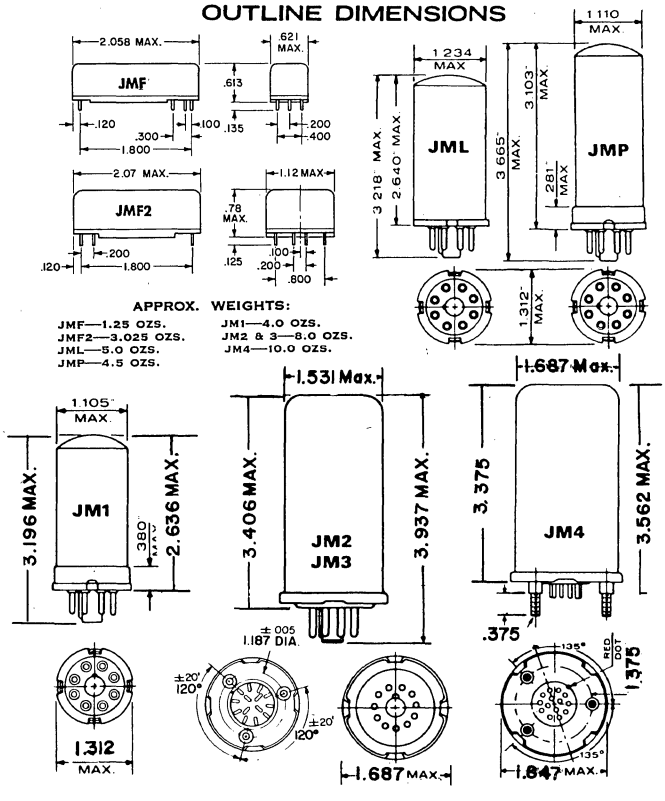


Fig. 61 JMF Fig. 71 JMF2

OUTLINE DIMENSIONS



APPROX. WEIGHTS:
JMF—1.25 OZS.
JMF2—3.025 OZS.
JML—5.0 OZS.
JMP—4.5 OZS.
JM1—4.0 OZS.
JM2 & 3—8.0 OZS.
JM4—10.0 OZS.

	Capsule	Coil	Terminal Figure No.	Resistance in Ohms ±10%	Soak* ma. DC	Must Operate ma. DC	Must Release ma. DC	SUGG. RESALE PRICE
JMF PRINTED CIRCUIT MODULE. SENSITIVE FORM C NON-BRIDG.								
	SINGLE-SIDE-STABLE							
	JMF	1070	61	450	—	12.9	2.1	$10.80
	JMF	1080	61	675	—	11.6	1.9	10.80
	JMF	1120	61	1425	—	8.4	1.4	10.80
	JMF	1150	61	2400	—	7.8	1.3	10.80
	JMF	1160	61	4000	—	4.0	0.67	11.35
	BI-STABLE							
	JMF	5080	61	675	—	+5.4	—5.4	10.80
JMF2 DUAL-CAPSULE FORM C NON-BRIDG.	Single-Side-Stable							
	JMF2	1000	71	130	—	3.0V DC	0.5 V DC	18.00
	JMF2	1001	71	520	—	6.0V DC	1.0 V DC	18.00
	JMF2	1002	71	2200	—	12.0V DC	2.0 V DC	18.50
JML SENSITIVE FORM C NON-BRIDG.	SINGLE-SIDE-STABLE							
	JML	1061	81	40	36.0	9.75	1.68	13.35
	JML	1110	81	350	13.1	3.56	0.61	13.35
	JML	1160	81	1000	8.1	2.21	0.38	13.35
	JML	1190	81	2500	4.0	1.43	0.17	14.25
	JML	1200	81	4000	3.4	1.25	0.25	14.25
	JML	1240	81	11000	2.6	0.72	0.12	14.25
	JML	1260	81	25000	1.9	0.52	0.09	14.25
	JML	1440	82	(1) 4000 (2) 800	2.7	0.86 11.60	0.10	15.95
	BI-STABLE							
	JML	5160	81	1000		+1.24	—1.24	13.90
	JML	5200	81	4000		+0.53	—0.53	14.25
	JML	5430	82	(1) 1100 (2) 1100		+1.76	—1.76	15.60
	CHOPPER					Voltage RMS 60 Hz		
	JML	8130	81	600		6.3V		13.90
JMP POLARIZED FORM D BRIDGING	SINGLE-SIDE-STABLE							
	JMP	1160	11	1000	16.2	5.60	0.40	17.50
	JMP	1200	11	4000	8.55	2.96	0.24	18.75
	JMP	1340	52	(1) 700 (2) 3300	33.80	14.20 5.70	2.80	19.95
				(2) 970		16.0		
	BI-STABLE							
	JMP	5200	11	4000		+1.5	—1.5	18.75
	JMP	5340	52	(1) 700 (2) 3300		+6.0 +2.4	—6.0 —2.4	20.40
	CHOPPER					Voltage RMS 60 Hz		
	JMP	8120	12	500		6.3V		
	JMP	8200	12	4000		18.5V		
	JMP	8240	11	11000		117.0V with 1200 ohm (±5%) ½ watt resistor in series with coil		18.05 19.30 19.30
	*Current to be applied to the coil winding for at least 2 seconds just prior to current flow tests.							

	Capsule	Coil	Terminal Figure No.	Resistance in Ohms ±10%	MUST OPERATE Current ma. DC	MUST OPERATE Voltage DC @ 25°C	MAX. VOLTAGE (at 35°C)	SUGG. RESALE PRICE
JM1 FORM D BRIDGING 1 CAPSULE SPDT	SPDT Single Coil							
	JM1	106	12	40	67.7	2.98	9.0	16.15
	JM1	109	12	130	38.8	5.55	16.1	16.15
	JM1	112	11	500	20.1	11.10	31.6	16.15
	JM1	114	11	700	20.0	15.40	37.4	16.15
	JM1	114	12	700	20.0	15.40	37.4	16.15
	JM1	118	11	2500	10.1	27.80	70.7	16.40
	JM1	119	11	4000	8.1	35.60	89.5	8.15
	JM1	119	12	4000	8.1	35.60	89.5	17.00
	JM1	120	11	7000	6.0	46.20	117.0	17.00
	JM1	121	11	11000	5.0	60.50	148.0	17.00
	JM1	123	11	25000	3.6	99.00	224.0	17.00
	SPDT Dual Coil							
	JM1	405	51	(1) 700 (2) 3300	(1) 32.0 (2) 12.3		(1) 37.4 (2) 81.0	18.40
JM2 FORM D BRIDGING 2 CAPSULES DPDT	DPDT Single Coil							
	JM2	104	22	50	110.0	6.04	12.25	26.20
	JM2	106	21	140	65.5	10.00	20.5	26.20
	JM2	109	22	315	44.0	15.30	30.7	26.20
	JM2	110	22	500	34.8	19.20	38.7	26.20
	JM2	111	22	700	30.5	23.50	45.8	26.20
	JM2	112	22	1250	22.1	30.40	61.2	26.20
	JM2	115	21	5000	11.3	62.10	122.0	26.20
	JM2	115	22	5000	11.3	62.10	122.0	26.20
JM3 FORM D BRIDGING 3 CAPSULES 3PDT	3PDT Single Coil							
	JM3	109	31	315	44.0	15.30	30.7	33.90
	JM3	110	31	500	34.8	19.20	38.7	33.90
	JM3	111	31	700	30.5	23.50	45.8	33.90
	JM3	115	31	5000	11.3	62.10	122.0	33.90
JM4 FORM D BRIDGING 4 CAPSULES 4PDT	4PDT Single Coil							
	JM4	106	41	65	100.0	7.15	15.1	43.70
	JM4	110	41	390	42.0	18.00	37.0	43.70
	JM4	112	41	700	35.4	27.20	49.5	43.70
	Octal style plugs, except Fig. 23, 32, 42 (Hook Solder), Fig. 41 (14-Pin miniature plug).							

See ordering information on page 1.

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TIME DELAY RELAYS

AS LOW AS $12.50

● ON DELAY ● OFF DELAY ● KNOB ADJUSTABLE ● RESISTOR ADJUSTABLE ● FIXED TIME DELAY

A wide selection of solid state time delay controls are represented by Potter & Brumfield. The differences are in their degree of accuracy, the variety available in each series, and their cost.

BASIC TIMING CIRCUIT

The basic timing circuit of all three series consists of a resistor in series with a capacitor. When the input voltage is applied to the resistor-capacitor circuit, the voltage across the capacitor slowly increases. When the firing level is reached a solid state trigger circuit acts to turn on a solid state output switch that energizes a switching relay or external electrical load.

CD SERIES

Remarkably dependable, accurate and flexible, the CD series offers an unusually wide selection of operational configurations, all with accurate time delay values, fast reset time and excellent repeatability. It is available in two types: Knob-adjustable in two versions, one with the relay in the same enclosure as the solid state unit, the other with an auxiliary relay. A second type is adjustable with an external resistor. The CD series is available for time delay on operate or on release.

CH SERIES

The CH series is intended for a wide range of industrial applications where economy is of greater interest than highly critical performance. It is available in two types: Knob-adjustable with the relay in the same enclosure as the solid state unit. The second type has a fixed time delay period that is set at the factory and cannot be modified; its case has no knob. The CH series is available for time delay on operate and on release.

CU SERIES

An outstanding value in a solid state time delay relay at low cost, the CU series is designed for delay on operate applications in machine tool controls, copiers, office equipment, coin-operated machines, process controls and many others. It is available in two types: Fixed time delay that is set at the factory and cannot be modified. Second, adjustable with an external resistor. For minimum time two terminals, 2 and 5, must be shorted; for maximum time the listed external resistor between terminals 2 and 5 must be added. For intermediate times select a lesser value resistor, or a potentiometer. Either model can be furnished in two types of enclosures with the relay in the same enclosure as the solid state unit. The CU series is offered with delay on operate only.

CJ SERIES

CJ Series time delay dry reed relays combine the basic timing characteristics of time delay relays with the long life and performance of miniature dry reed relays. Two series are available, the CJC fixed time delay on operate and the CJH external resistor adjustable time delay on operate.

COMPARISON OF SPECIFICATIONS OF CD WITH CH AND CU SERIES

TYPE	DIAL SETTING	TEMP. RANGE	ACCURACY AND TOLERANCE	TRANSIENT PROTECTION	INHERENT FALSE OPERATION	RESET TIME	REPEAT-ABILITY	POLARITY PROTECTION
CD	Time, calibrated ± 5% of full scale	−40° to +55°C	±5% of nominal	Tested to 1000V, ½ cycle surges (on all 120V AC models)	None	60 Milli-seconds	± 1%	Yes
CH	Reference scale	−10° to +55°C	±10% of nominal	Twice rated input voltage for 8 milli-seconds	Contacts may transfer momentarily interval is if timing interrupted	100 Milli-seconds	± 2%	Yes
CU	Not applicable	Norm. room temp.	Tolerance: Fixed ±5% of nominal; resist. adj. ± 10% of nominal	Twice rated input voltage for 8 milli-seconds	Contacts may transfer momentarily if timing interval is interrupted	150 Milli-seconds	± 3%	Yes
CJ	Not applicable	Norm. room temp.	Tolerance: Fixed ±5% of nominal; resist. adj. ±10% of nominal	Twice rated input voltage for 8 milli-seconds	None	60 Milli-seconds	±2%	No

SOCKETS FOR CU-41 PLAIN CASE RELAYS

All CU series time delays have an internal DPDT 10 amp relay of the KUP series featured on page 3. The cases for the CU and KUP are dimensionally the same. The plain cases fit the same sockets, and the same hold down spring (9KU3) can be used. Please use the KUP type designations (9KU1, 9KU2 and 9KU4) and prices (page 3) for these accessories when ordering.

APPROX. WEIGHTS:

SERIES CD-31 2.00 ozs.
SERIES CD-21 4.25 ozs.
SERIES CH-38 4.00 ozs.
SERIES CJC01 1.25 ozs.
SERIES CJC02 1.38 ozs.
SERIES CJC03 1.63 ozs.
SERIES CD-45 6.00 ozs.
SERIES CD-38 8.25 ozs.
ALL CU SERIES 3.25 ozs.
SERIES CJH01 1.25 ozs.
SERIES CJH02 1.38 ozs.
SERIES CJH03 1.63 ozs.

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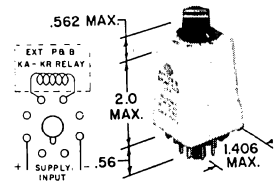
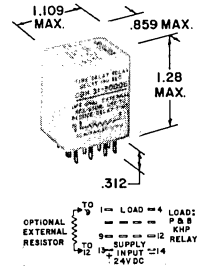
CHOOSE FROM CD, CH, CU, OR CJ SERIES RELAYS

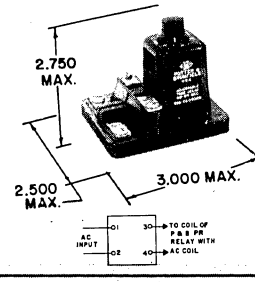
CD-21. Knob-adjustable. Use with P&B KRP relays (see page 3) as listed under Note 2.



CD-31. Adjustable with external resistor (not furnished). Use with KHP relay (see page 2), Note 4.

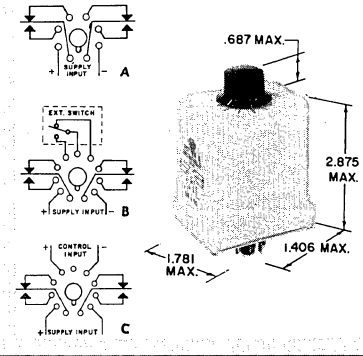


CD-45. Knob-adjustable. For heavy duty when used with PR power relay (see page 4) as listed under Note 6.



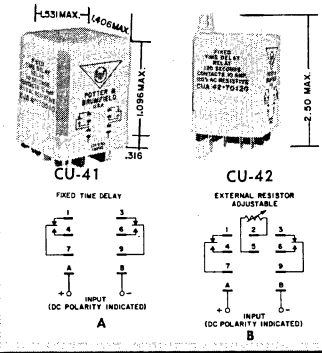
CH-38 and CD-38. Knob-adjustable delay "on operate" with internally mounted DP-DT relay. Contacts rated to 10 amps. Diagram A.

Delay "on release" CH requires auxiliary SPDT switch or relay contacts: CHB-38-70011, CHB-38-70013, CHD-38-30011, CHD-38-30013: Diagram B. CD "release" occurs when "Control" circuit is de-energized; supply circuit must be on continuously: CDB-38-70012, CDD-38-30012: Diagram C.

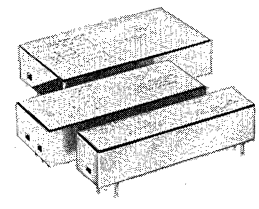


CUA and CUC are fixed time delays. **CUF and CUH** are resistor adjustable delays. All with internal DPDT 10 amp contact relay.

CU-41 is a plain case relay, **CU-42** has a slotted flange case. Diagram A is for fixed delays, diagram B for resistor adjustable delays.



CJC SERIES. Fixed time delay that is factory set and cannot be modified. **CJH SERIES.** Resistor adjustable type with terminal provisions for external resistor or potentiometer for adjusting time delay period to within ±10% at nominal voltage at 25°C ambient temperature. Pin terminations are for printed circuit board mounting.



WIDE SELECTION OF TIME DELAY RANGES

TYPE	TIME DELAY IN SECONDS	INPUT VOLTAGE	NOTES	SUGG. RESALE PRICE
CDB21-76003	0.1—10	120V AC	2	38.70
CDB21-70001	1.8—180	120V AC	2	38.70
CDD21-30003	0.1—10	24V DC	3	38.35
CDD21-30001	1.8—180	24V DC	3	38.35
CDH31-30005	180 Max.	24V DC	4 & 5	38.90
CHA38-70001	10	120V AC	1	17.45
CHB38-30001	1.0—10	24V AC	1	18.50
CHB38-30003	1.0—180	24V AC	1	18.50
CHB38-70001	1.0—10	120V AC	1	18.50
CHB38-70003	1.0—180	120V AC	1	18.50
CHB38-80001	1.0—10	240V AC	1	19.50
CHD38-30001	1.0—10	24V DC	1	17.50
CHD38-30003	1.0—180	24V DC	1	17.50
CHB38-70011	1.0—10	120V AC	1 & 7	22.50
CHB38-70013	1.0—180	120V AC	1 & 7	22.50
CHD38-30011	1.0—10	24V DC	1 & 7	20.50
CHD38-30013	1.0—180	24V DC	1 & 7	20.50
CDB38-70003	0.1—10	120V AC	1	43.80
CDB38-70004	0.6—60	120V AC	1	43.80
CDB38-70005	1.8—180	120V AC	1	43.80
CDD38-30003	0.1—10	24V DC	1	41.55
CDD38-30004	0.6—60	24V DC	1	41.55
CDD38-30005	1.8—180	24V DC	1	41.55
CDB45-70002	0.6—60	120V AC	6	37.05
CDB38-70012	0.6—60	120V AC	1 & 7	52.45
CDD38-30012	0.6—60	24V DC	1 & 7	49.50
CUA41-70010	10	120V AC	1	$12.50
CUA41-70120	120	120V AC	1	14.00
CUC41-30010	10	24V DC	1	12.50
CUC41-30120	120	24V DC	1	14.00
CUA41-30010	10	24V AC	1	12.50
CUA42-70010	10	120V AC	1	12.50
CUA42-70120	120	120V AC	1	14.00
CUC42-30010	10	24V DC	1	12.50
CUC42-30120	120	24V DC	1	14.00
CUA42-30010	10	24V AC	1	12.50
CUF41-70010	1.0—10	120V AC	200 K.*	13.25
CUF41-70120	1.0—120	120V AC	2.4 Meg.*	14.50
CUH41-30010	1.0—10	24V DC	160 K.*	13.25
CUH41-30120	1.0—120	24V DC	2 Meg.*	14.50
CUF41-30010	1.0—10	24V AC	200 K.*	13.25
CUF42-70010	1.0—10	120V AC	200 K.*	13.25
CUF42-70120	1.0—120	120V AC	2.4 Meg.*	14.50
CUH42-30010	1.0—10	24V DC	160 K.*	13.25
CUH42-30120	1.0—120	24V DC	2 Meg.*	14.50
CUF42-30010	1.0—10	24V AC	200 K.*	13.25
CJC01-20003	3	12V DC	8	18.85
CJC01-30003	3	24V DC	8	18.85
CJC02-20003	3	12V DC	8	19.50
CJC02-30003	3	24V DC	8	19.50
CJC03-20003	3	12V DC	8	20.75
CJC03-30003	3	24V DC	8	20.75
CJH01-10120	1—120	6V DC	1.8 Meg.	22.10
CJH01-20010	0.1—10	12V DC	750 K	19.35
CJH01-20120	1—120	12V DC	1.8 Meg.	22.10
CJH01-30010	0.1—10	24V DC	750 K	19.35
CJH01-30120	1—120	24V DC	1.8 Meg.	22.10
CJH02-10120	1—120	6V DC	1.8 Meg.	22.75
CJH02-20010	0.1—10	12V DC	750 K	20.00
CJH02-20120	1—120	12V DC	1.8 Meg.	22.75
CJH02-30010	0.1—10	24V DC	750 K	20.00
CJH02-30120	1—120	24V DC	1.8 Meg.	22.75
CJH03-10120	1—120	6V DC	1.8 Meg.	24.00
CJH03-20010	0.1—10	12V DC	750 K	21.25
CJH03-20120	1—120	12V DC	1.8 Meg.	24.00
CJH03-30010	0.1—10	24V DC	750 K	21.25
CJH03-30120	1—120	24V DC	1.8 Meg.	24.00

*External resistor (not furnished) for maximum time.

NOTES

1. Has internal relay with DPDT contacts rated at 10 amperes, 120V AC. 2. Use with Potter & Brumfield relay KRP5AG- 120V AC, KRP11AG— 120V or KRP14AG— 220V AC or KRP14AG— 120V AC. 3. Use with 120V or KRP14AG—120V AC. 3. Use with Potter & Brumfield KRP5DG— 24V DC, KRP11DG—24V DC or KRP14DG—24V DC relay. 4. Use with Potter & Brumfield KHP17D11—24V DC relay. 5. Supplied with 180 seconds delay; adjustable to 1.8 seconds with external resistor (not furnished). 6. Use with Potter & Brumfield PR11AY—120V AC relay. 7. Provides delay on release; all others have delay on operate. 8. Internal relay contacts rated at 10 VA, other ratings available upon request.

See ordering information on page 1.

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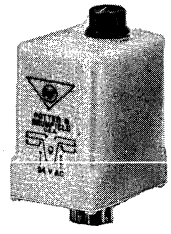
CS SERIES SOLID STATE
VOLTAGE SENSORS

Adjustable pick-up and drop-out. Two knobs for setting desired values.



Fixed pick-up and adjustable drop-out. One knob for setting drop-out value.

Two types of accurate, low cost solid state voltage sensors are available. First, an adjustable pick-up and drop-out series for 24V DC and 120V AC voltage sources. Second, a series with factory-fixed pick-up and adjustable drop-out, also for 24V DC and 120V AC voltage sources. All are provided with standard octal plugs for socket mounting and are enclosed in a nylon dust cover. Please see the tables for ranges of voltage adjustments.

ADJUSTABLE PICK-UP AND DROP-OUT

Type	Pick-up Range (Volts)	Drop-out Range (Volts)	Type of Voltage	Sugg. Resale Price
CSJ38-30010	20-30	18-28	AC(50/60Hz)	$29.75
CSJ38-70010	92-140	90-138	AC(50/60Hz)	32.50
CSL38-30010	20-30	18-28	DC	25.75

FIXED PICK-UP AND ADJUSTABLE DROP-OUT

CSJ38-71010	105	90-103	AC(50/60Hz)	$28.75
CSL38-31010	22	16-20	DC	22.70

Tolerances: All limits indicated above are ± 5% on high and low ranges.

Specifications

Sensing Current Drain: Maximum of 3 ma.

Maximum Current Drain: After sensing: 30 ma.

Accuracy of Set Point: 1% after initial setting.

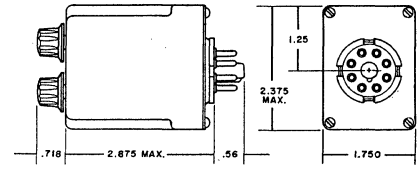
Reverse Polarity Protection: Yes, on DC types.

Operating Temperature: —40°C to +55°C.

Load Switching Relay Contacts:
2 Form C (DPDT). Rating: 3 amps 28V DC resistive; 120V AC resistive.

Expected Life: Mechanical: 10 million operations.
Electrical: 100,000 operations minimum @ rated load.

OUTLINE DIMENSIONS



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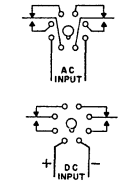

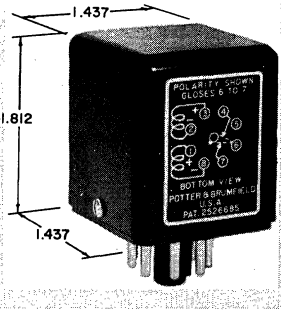

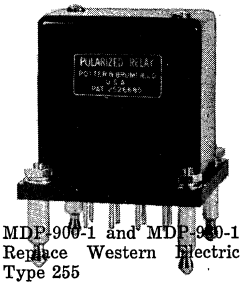

MDP-900-1 and MDP-930-1 Replace Western Electric Type 255

- **Sensitive**
- **High Speed**
- **Bounce-free**

MDP SERIES SMALL POLARIZED RELAYS

TYPE	COILS: Pull-in Current In MA	COILS: Resistance In Ohms Each Coil*	COILS: Pull-In Power In Micro Watts	CONTACTS: Arrangement	CONTACTS: Rate In Amps Resistive	SUGG. RESALE PRICE
Bi-stable:						
MDP-300-1	1.5	150 (2)	338	1 Form C②	.01-1A† 25-150V	23.45
MDP-900-1	2.0	150 (2)	600	1 Form C②	.01-1A† 25-150V	30.45
MDP-930-1	2.4	150 (2)	863	1 Form C②	.01-1A† 25-150V	31.05
MDP-1300-1	1.4	150 (2)	294	1 Form C②	.01-1A† 25-150V	23.45
Center-stable:						
MDP-1004	0.49	130 (1)	31.2	1 Form K①	3 @ 28 VDC	26.85
MDP-1006	0.32	330 (1)	33.8	1 Form K①	3 @ 28 VDC	26.85
MDP-1007	0.27	480 (1)	35.0	1 Form K①	3 @ 28 VDC	26.85
MDP-1009	0.18	1460 (1)	47.3	1 Form K①	3 @ 28 VDC	26.85
MDP-1011	0.10	3500 (1)	35.0	1 Form K①	3 @ 28 VDC	26.85
MDP-1013	0.067	7200 (1)	32.3	1 Form K①	3 @ 28 VDC	26.85
MDP-2001	3.50	6 (2)	73.5	1 Form K①	3 @ 28 VDC	26.85
MDP-2009	0.32	1000 (2)	102.0	1 Form K①	3 @ 28 VDC	26.85
MDP-2011	0.17	2300 (2)	66.5	1 Form K①	3 @ 28 VDC	26.85
MDP-2107	0.80	240 (2)	154	1 Form K①	3 @ 28 VDC	26.85
MDP-2112	0.22	3300 (2)	160	1 Form K①	3 @ 28 VDC	26.85

*Number of coils shown in ( ) parenthesis. † With suitable arc suppression

Contact materials shown in O circles:

① Silver. ② Tungsten and Paliney. ③ Silver-tungsten-carbide.

For Bi-Stable or Center-Stable Operation

Small size, ultra-sensitivity and high speed switching together with efficient, bounce-free contact action characterize MDP polarized relays. Their operation depends on both the magnitude and direction of the coil current. Two types of contact arrangements provide the following action when the coils are de-energized: *Bi-stable* — armature remains in its last energized position; *Center-stable* — armature remains in center-off position with contacts open. Contact materials as listed. Temperatures: —60°C to +85°C. Measuring only 1 1/16" sq. by 1 13/16" high (seated), MDP relays are equipped with a plastic dust cover and 8 or 12-pin plugs. Weight: 4¼ ozs.

Types MDP-900-1 and MDP-930-1 (with extra long life contacts) will directly replace Western Electric Type 255 relays. 2 1/16" square x 3¾" overall height. Weight: 10 ozs.

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PRICES

Prices in this MASTER should not be considered as final. INQUIRE ABOUT LATEST PRICES AND DELIVERY.

DISCOUNTS

Trade discounts apply in most cases where LIST PRICES are shown.

ORDERING

Since previous editions of the MASTER are frequently referred to, it is important, when ordering, to mention specifically the edition and page number, also the catalog number of each item. This will avoid possible confusion and delay.

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While most distributors maintain a large and varied stock, they do not represent that they stock all manufacturers' products shown in this MASTER catalog.

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Mass production facilities — to supply its extensive OEM markets — enable RBM to manufacture at lowest costs.

LOWEST TOTAL COST
Enclosed contacts — multiple mountings — solderless terminals — cross-bar contacts for low level circuits.

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PART NUMBER INDEX AND PRICES

PRODUCTION PART NUMBER IS RBM MANUFACTURING NUMBER WHICH IS STAMPED ON EACH UNIT

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59-901	59-21	12	3.42	3.08	2.74	2.40
59-902	59-20		4.12	3.71	3.30	2.89
59-903	59-22		4.12	3.71	3.30	2.89
59-904	59-24		3.42	3.08	2.74	2.40
59-905	59-23		4.12	3.71	3.30	2.89
59-906	59-19		4.12	3.71	3.30	2.89
60-901	60-108025-0	13	2.70	2.43	2.16	1.89
60-902	60-111025-0		2.70	2.43	2.16	1.89
60-903	60-117025-0		2.70	2.43	2.16	1.89
70-901	70-108224-5	13	3.74	3.37	3.00	2.62
70-902	70-111224-5		3.74	3.37	3.00	2.62
70-903	70-117224-5		3.74	3.37	3.00	2.62
70-904	70-120224-5		3.74	3.37	3.00	2.62
70-905	70-108221-5		5.97	5.37	4.77	4.18
70-906	70-111221-5		5.97	5.37	4.77	4.18
70-907	70-117221-5		5.97	5.37	4.77	4.18
70-908	70-120221-5		5.97	5.37	4.77	4.18
70-909	70-308221-5		9.54	8.59	7.64	6.68
70-910	70-311221-5		9.54	8.59	7.64	6.68
70-911	70-317221-5		9.54	8.59	7.64	6.68
70-912	70-320221-5		9.54	8.59	7.64	6.68
70-913	70-108225-5		3.74	3.37	3.00	2.62
70-914	70-111225-5		3.74	3.37	3.00	2.62
70-915	70-117225-5		3.74	3.37	3.00	2.62
70-916	70-120225-5		3.74	3.37	3.00	2.62
70-917	70-108226-5		3.74	3.37	3.00	2.62
70-918	70-111226-5		3.74	3.37	3.00	2.62
70-919	70-117226-5		3.74	3.37	3.00	2.62
70-920	70-120226-5		3.74	3.37	3.00	2.62
70-921	70-308224-5		8.55	7.69	6.83	5.97
70-922	70-311224-5		8.55	7.69	6.83	5.97
70-923	70-317224-5		8.55	7.69	6.83	5.97
70-924	70-320224-5		8.55	7.69	6.83	5.97
75-901	75-840301-2906A	9	4.59	4.13	3.67	3.21
75-902	75-840301-2910A		4.59	4.13	3.67	3.21
75-903	75-840301-2913A		4.59	4.13	3.67	3.21
75-904	75-250301-2506A		4.59	4.13	3.67	3.21
75-905	75-250301-2510A		4.59	4.13	3.67	3.21
75-906	75-250301-2513A		4.59	4.13	3.67	3.21
80-901	80-312111-1000	9	7.27	6.54	5.82	5.09
80-902	80-312131-1000		7.27	6.54	5.82	5.09
80-904	80-312171-1000		7.27	6.54	5.82	5.09

Catalog Number	Production Number	Page	Suggested Price 1/24	25/49	50/99	100/249
84-901	84-20405-101	7	2.85	2.57	2.28	2.00
84-902	84-20105-101		2.90	2.61	2.32	2.03
84-903	84-20205-101		3.05	2.75	2.44	2.14
84-904	84-20305-101		3.35	3.02	2.68	2.35
84-905	84-20406-301		3.00	2.70	2.40	2.10
84-906	84-20106-301		3.20	2.88	2.55	2.24
84-907	84-20206-301		3.35	3.02	2.68	2.35
84-908	84-20306-301		3.59	3.24	2.87	2.52
84-912	84-20102-101		2.90	2.61	2.32	2.03
84-913	84-20202-101		3.05	2.75	2.44	2.14
84-914	84-20302-101		3.35	3.02	2.68	2.35
84-916	84-20103-301		3.20	2.88	2.56	2.24
84-917	84-20203-301		3.35	3.02	2.68	2.35
84-918	84-20303-301		3.59	3.24	2.87	2.52
84-922	84-50102-101		2.90	2.61	2.32	2.03
84-923	84-50202-101		3.05	2.75	2.44	2.14
84-924	84-50302-101		3.35	3.02	2.68	2.35
84-926	84-50103-301		3.20	2.88	2.56	2.24
84-927	84-50203-301		3.35	3.02	2.68	2.35
84-928	84-50303-301		3.59	3.24	2.87	2.52
84D-902	84-31506-301	7	3.05	2.75	2.44	2.14
84D-903	84-31106-301		3.05	2.75	2.44	2.14
84TD-902	84-35	12	7.57	6.82	6.06	5.30
84TD-903	84-36		7.57	6.82	6.06	5.30
84TE-902	84-32	12	7.57	6.82	6.06	5.30
84TE-903	84-33		7.57	6.82	6.06	5.30
85-901	85-20226-12000A	9	10.80	9.72	8.64	7.56
85-902	85-21226-12000A		10.80	9.72	8.64	7.56
85-903	85-23226-12000A		10.80	9.72	8.64	7.56
91-180-1	None	7	.60	.54	.48	.42
91-901	91-132006-13000		5.14	4.63	4.11	3.60
91-902	91-131006-13000		5.37	4.84	4.30	3.76
91-903	91-133006-13000		5.57	5.02	4.46	3.90
91-904	91-192006-13000		4.94	4.45	3.96	3.46
91-905	91-191006-13000		5.17	4.66	4.14	3.67
91-906	91-193006-13000		5.37	4.84	4.30	3.76
91-907	91-192006-19000		4.84	4.36	3.87	3.39
91-908	91-191006-19000		5.07	4.57	4.06	3.55
91-909	91-193006-19000		5.27	4.75	4.22	3.69
91D-911	91-228004-22000	7	4.96	4.47	3.97	3.48
91D-912	91-227004-22000		4.96	4.47	3.97	3.48
91D-913	91-222004-22000		4.96	4.47	3.97	3.48

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Catalog Number	Production Number	Page	Suggested Price 1/24	25/49	50/99	100/249
92-901	92-321111-11607		5.87	5.29	4.70	4.11
92-902	92-311111-11607		6.07	5.47	4.86	4.25
92-903	92-331111-11607		6.24	5.62	5.00	4.37
92-904	92-321177-11607		5.79	5.21	4.63	4.05
92-905	92-311177-11607		5.99	5.39	4.79	4.19
92-906	92-331177-11607	7	6.14	5.53	4.92	4.30
92-907	92-327711-77607		5.70	5.13	4.56	3.99
92-908	92-317711-77607		5.90	5.31	4.72	4.13
92-909	92-337711-77607		6.05	5.45	4.84	4.24
92-910	92-327777-77607		5.64	5.08	4.51	3.95
92-911	92-317777-77607		5.84	5.26	4.67	4.09
92-912	92-337777-77607		5.99	5.39	4.80	4.20
92D-911	92-383333-33507		6.04	5.44	4.84	4.23
92D-912	92-373333-33507		6.04	5.44	4.84	4.23
92D-913	92-323333-33507		6.04	5.44	4.84	4.23
93-153-1	None		.60	.54	.48	.42
93-901	93-208030-13000B		3.25	2.93	2.60	2.28
93-902	93-208303-13000B		3.95	3.56	3.16	2.74
93-903	93-208333-13000B		4.40	3.96	3.52	3.08
93-904	93-202030-13300B		3.25	2.93	2.60	2.28
93-905	93-202303-13300B		3.95	3.56	3.16	2.74
93-906	93-202333-13300B		4.40	3.96	3.52	3.08
93-907	93-201030-13000B		3.25	2.93	2.60	2.28
93-908	93-201303-13000B		3.95	3.56	3.16	2.74
93-909	93-201333-13000B		4.40	3.96	3.52	3.08
93-910	93-203030-13000B		3.65	3.29	2.92	2.56
93-911	93-203303-13000B		4.35	3.92	3.48	3.05
93-912	93-203333-13000B		4.80	4.32	3.84	3.36
93-913	93-508030-13300B		3.10	2.79	2.48	2.17
93-914	93-508303-13300B	6	3.50	3.15	2.80	2.45
93-915	93-508333-13300B		4.00	3.60	3.20	2.80
93-916	93-507030-13300B		3.10	2.79	2.48	2.17
93-917	93-507303-13300B		3.50	3.15	2.80	2.45
93-918	93-507333-13300B		4.00	3.60	3.20	2.40
93-919	93-502030-13300B		3.10	2.79	2.48	2.17
93-920	93-502303-13300B		3.50	3.15	2.80	2.45
93-921	93-502333-13300B		4.00	3.60	3.20	2.80
93-922	93-501030-13300B		3.70	3.33	2.96	2.59
93-923	93-501303-13300B		4.10	3.69	3.28	2.87
93-924	93-501333-13300B		4.60	4.14	3.68	3.22
93-931	93-208090-13000A		3.20	2.88	2.56	2.24
93-932	93-208909-13000A		3.85	3.47	3.08	2.70
93-933	93-208999-13000A		4.25	3.83	3.40	2.98
93-934	93-202090-13300A		3.20	2.88	2.56	2.24
93-935	93-202909-13300A		3.85	3.47	3.08	2.70
93-936	93-202999-13300A		4.25	3.83	3.40	2.98
93-937	93-201090-13000A		3.20	2.88	2.56	2.24
93-938	93-201909-13000A		3.85	3.47	3.08	2.70
93-939	93-201999-13000A		4.25	3.83	3.40	2.98
93-940	93-203090-13000A		3.60	3.24	2.88	2.52
93-941	93-203909-13000A		4.25	3.83	3.40	2.98
93-942	93-203999-13000A		4.65	4.19	3.72	3.26
93-943	93-508090-13300A		3.05	2.75	2.44	2.14
93-944	93-508909-13300A		3.40	3.06	2.72	2.38
93-945	93-508999-13300A		3.85	3.47	3.08	2.70
93-946	93-507090-13300A		3.05	2.75	2.44	2.14
93-947	93-507909-13300A		3.40	3.06	2.72	2.38
93-948	93-507999-13300A		3.85	3.47	3.08	2.70
93-949	93-502090-13300A	6	3.05	2.75	2.44	2.14
93-950	93-502909-13300A		3.40	3.06	2.72	2.38
93-951	93-502999-13300A		3.85	3.47	3.08	2.70
93-952	93-501090-13300A		3.65	3.29	2.92	2.56
93-953	93-501909-13300A		4.00	3.60	3.20	2.80
93-954	93-501999-13300A		4.45	4.01	3.56	3.12
93-964	93-202090-30300A		3.20	2.88	2.56	2.24
93-965	93-202909-30300A		3.85	3.47	3.08	2.70
93-966	93-202999-30300A		4.25	3.83	3.40	2.98
93-967	93-201090-30000A		3.20	2.88	2.58	2.24
93-968	93-201909-30000A		3.85	3.47	3.08	2.70
93-969	93-201999-30000A		4.25	3.83	3.40	2.98
93-976	93-507090-30300A		3.05	2.75	2.44	2.14
93-977	93-507909-30300A		3.40	3.06	2.72	2.38
93-978	93-507999-30300A		3.85	3.47	3.08	2.70
93-979	93-502090-30300A		3.05	2.75	2.44	2.14
93-980	93-502909-30300A		3.40	3.06	2.72	2.38
93-981	93-502999-30300A		3.85	3.47	3.08	2.70
93-985	93-207030-13000B		3.25	2.93	2.60	2.28
93-986	93-207303-13000B		3.95	3.56	3.16	2.74
93-987	93-207333-13000B		4.40	3.96	3.52	3.08
93-988	93-207090-13000A		3.20	2.88	2.56	2.24
93-989	93-207909-13000A		3.85	3.47	3.08	2.70
93-990	93-207999-13000A		4.25	3.83	3.40	2.98
93-991	93-207090-30000A		3.20	2.88	2.56	2.24
93-992	93-207909-30000A		3.85	3.47	3.08	2.70
93-993	93-207999-30000A		4.25	3.83	3.40	2.98
93P-901	93-208030-70000B		5.50	4.95	4.40	3.85
93P-902	93-208303-60000B		6.15	5.54	4.92	4.31
93P-903	93-208333-90000B		7.65	6.89	6.12	5.36
93P-904	93-202030-70300B		5.50	4.95	4.40	3.85
93P-905	93-202303-60300B	6	6.15	5.54	4.92	4.31
93P-906	93-202333-90300B		7.65	6.89	6.12	5.36
93P-907	93-201030-70000B		5.50	4.95	4.40	3.85
93P-908	93-201303-60000B		6.15	5.45	4.92	4.31
93P-909	93-201333-90000B		7.65	6.89	6.12	5.36
93P-910	93-203030-70000B		5.90	5.31	4.72	4.13

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93P-911	93-203303-60000B		6.55	5.90	5.24	4.59
93P-912	93-203333-90000B		8.05	7.25	6.44	5.64
93P-913	93-508030-70300B		5.45	4.91	4.36	3.82
93P-914	93-508303-60300B		6.10	5.49	4.88	4.27
93P-915	93-508333-90300B		7.60	6.84	6.08	5.32
93P-916	93-507030-70300B		5.45	4.91	4.36	3.82
93P-917	93-507303-60300B		6.10	5.49	4.88	4.27
93P-918	93-507333-90300B		7.60	6.84	6.08	5.32
93P-919	93-502030-70300B		5.45	4.91	4.36	3.82
93P-920	93-502303-60300B		6.10	5.49	4.88	4.27
93P-921	93-502333-90300B		7.60	6.84	6.08	5.32
93P-922	93-501030-70300B		6.05	5.45	4.84	4.24
93P-923	93-501303-60300B		6.70	6.03	5.36	4.69
93P-924	93-501333-90300B		8.20	7.38	6.56	5.74
93P-931	93-208090-70000A		5.45	4.91	4.36	3.82
93P-932	93-208909-60000A		6.05	5.45	4.84	4.24
93P-933	93-208999-90000A		7.50	6.75	6.00	5.25
93P-934	93-202090-70300A		5.45	4.91	4.36	3.82
93P-935	93-202909-60300A		6.05	5.45	4.84	4.24
93P-936	93-202999-90300A	6	7.50	6.75	6.00	5.25
93P-937	93-201090-70000A		5.45	4.91	4.36	3.82
93P-938	93-201909-60000A		6.05	5.45	4.84	4.24
93P-939	93-201999-90000A		7.50	6.75	6.00	5.25
93P-940	93-203090-70000A		5.85	5.27	4.68	4.10
93P-941	93-203909-60000A		6.45	5.81	5.16	4.42
93P-942	93-203999-90000A		7.90	7.11	6.32	5.53
93P-943	93-508090-70300A		5.40	4.86	4.32	3.78
93P-944	93-508909-60300A		6.00	5.40	4.80	4.20
93P-945	93-508999-90300A		7.45	6.71	5.96	5.22
93P-946	93-507090-70300A		5.40	4.86	4.32	3.78
93P-947	93-507909-60300A		6.00	5.40	4.80	4.20
93P-948	93-507999-90300A		7.45	6.71	5.96	5.22
93P-949	93-502090-70300A		5.40	4.86	4.32	3.78
93P-950	93-502909-60300A		6.00	5.40	4.80	4.20
93P-951	93-502999-90300A		7.45	6.71	5.96	5.22
93P-952	93-501090-70300A		6.00	5.40	4.80	4.20
93P-953	93-501909-60300A		6.60	5.94	5.28	4.62
93P-954	93-501999-90300A		8.05	7.25	6.44	5.64
93P-955	93-207030-70000B		5.50	4.95	4.40	3.85
93P-956	93-207303-60000B		6.15	5.54	4.92	4.31
93P-957	93-207333-90000B		7.65	6.89	6.12	5.36
93P-958	93-207090-70000A		5.45	4.91	4.36	3.82
93P-959	93-207909-60000A		6.05	5.45	4.84	4.24
93P-960	93-207999-90000A		7.50	6.75	6.00	5.25
93Q-901	93-208030-25000B		3.75	3.38	3.00	2.63
93Q-902	93-208303-25000B		4.50	4.05	3.60	3.15
93Q-903	93-208333-25000B		5.00	4.50	4.00	3.50
93Q-904	93-202030-25300B		3.75	3.38	3.00	2.63
93Q-905	93-202303-25300B		4.50	4.05	3.60	3.15
93Q-906	93-202333-25300B		5.00	4.50	4.00	3.50
93Q-907	93-201030-25000B		3.75	3.38	3.00	2.63
93Q-908	93-201303-25000B		4.50	4.05	3.60	3.15
93Q-909	93-201333-25000B		5.00	4.50	4.00	3.50
93Q-910	93-203030-25000B		4.15	3.74	3.32	2.81
93Q-911	93-203303-25000B		4.90	4.41	3.92	3.43
93Q-912	93-203333-25000B		5.40	4.86	4.32	3.78
93Q-913	93-508030-25300B		3.60	3.24	2.88	2.52
93Q-914	93-508303-25300B		4.05	3.65	3.24	2.84
93Q-915	93-508333-25300B		4.60	4.14	3.68	3.22
93Q-916	93-507030-25300B		3.60	3.24	2.88	2.52
93Q-917	93-507303-25300B		4.05	3.65	3.24	2.84
93Q-918	93-507333-25300B		4.60	4.14	3.68	3.22
93Q-919	93-502030-25300B		3.60	3.24	2.88	2.52
93Q-920	93-502303-25300B		4.05	3.65	3.24	2.84
93Q-921	93-502333-25300B		4.60	4.14	3.68	3.22
93Q-922	93-501030-25300B		4.20	3.78	3.36	2.94
93Q-923	93-501303-25300B		4.65	4.19	3.72	3.26
93Q-924	93-501333-25300B	6	5.20	4.68	4.16	3.64
93Q-931	93-208090-25000A		3.70	3.33	2.96	2.59
93Q-932	93-208909-25000A		4.40	3.96	3.52	3.08
93Q-933	93-208999-25000A		4.85	4.37	3.88	3.40
93Q-934	93-202090-25300A		3.70	3.33	2.96	2.59
93Q-935	93-202909-25300A		4.40	3.96	3.52	3.08
93Q-936	93-202999-25300A		4.85	4.37	3.88	3.40
93Q-937	93-201090-25000A		3.70	3.33	2.96	2.59
93Q-938	93-201909-25000A		4.40	3.96	3.52	3.08
93Q-939	93-201999-25000A		4.85	4.37	3.88	3.40
93Q-940	93-203090-25000A		4.10	3.69	3.28	2.87
93Q-941	93-203909-25000A		4.80	4.32	3.84	3.36
93Q-942	93-203999-25000A		5.25	4.73	4.20	3.68
93Q-943	93-508090-25300A		3.55	3.20	2.84	2.49
93Q-944	93-508909-25300A		3.95	3.56	3.16	2.74
93Q-945	93-508999-25300A		4.45	4.01	3.56	3.12
93Q-946	93-507090-25300A		3.55	3.20	2.84	2.49
93Q-947	93-507909-25300A		3.95	3.56	3.16	2.74
93Q-948	93-507999-25300A		4.45	4.01	3.56	3.12
93Q-949	93-502090-25300A		3.55	3.20	2.84	2.49
93Q-950	93-502909-25300A		3.95	3.56	3.16	2.74
93Q-951	93-502999-25300A		4.45	4.01	3.56	3.12
93Q-952	93-501090-25300A		4.15	3.74	3.32	2.81
93Q-953	93-501909-25300A		4.55	4.10	3.64	3.19
93Q-954	93-501999-25300A		5.05	4.55	4.04	3.54
93Q-955	93-207030-25000B		3.75	3.38	3.00	2.63
93Q-956	93-207303-25000B		4.50	4.05	3.60	3.15

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93Q-957	93-207333-25000B	6	5.00	4.50	4.00	3.50
93Q-958	93-207090-25000A	6	3.70	3.33	2.96	2.59
93Q-959	93-207909-25000A	6	4.40	3.96	3.52	3.08
93Q-960	93-207999-25000A	6	4.85	4.37	3.88	3.40
129-901	129990-1220	8	3.89	3.50	3.11	2.72
129-902	129115-6880z	8	3.94	3.55	3.16	2.76
129-903	129115-6810z	8	4.05	3.65	3.24	2.84
129-904	129115-6830z	8	4.14	3.73	3.31	2.90
129-905	129990-1230	8	4.32	3.89	3.46	3.03
129-906	129117-5480z	8	4.37	3.94	3.50	3.06
129-907	129117-5410z	8	4.50	4.05	3.60	3.15
129-908	129117-5430z	8	4.59	4.14	3.68	3.22
129-911	129115-7180z	8	3.94	3.55	3.16	2.76
129-912	129115-7110z	8	4.05	3.65	3.24	2.84
129-913	129115-7130z	8	4.14	3.73	3.31	2.90
129-914	129117-6780z	8	4.37	3.94	3.50	3.06
129-915	129117-6710z	8	4.50	4.05	3.60	3.15
129-916	129117-6730z	8	4.59	4.14	3.68	3.22
129AR-901	129515-3180z	8	6.64	5.98	5.31	4.65
129AR-902	129505-3110z	8	6.95	6.25	5.55	4.86
129AR-903	129505-3130z	8	7.25	6.53	5.80	5.08
129AR-904	129517-5380z	8	7.24	6.52	5.80	5.07
129AR-905	129507-5310z	8	7.54	6.79	6.04	5.28
129AR-906	129507-5330z	8	7.85	7.07	6.28	5.50
129TD-901	129990-1260	12	8.57	7.72	6.86	6.00
129TD-902	129990-1270	12	8.57	7.72	6.86	6.00
143-901	143-121520-14400A	8	4.78	4.30	3.83	3.35
143-902	143-121120-14400A	8	4.78	4.30	3.83	3.35
143-903	143-121220-14400A	8	4.78	4.30	3.83	3.35
143-911	143-321520-14400A	8	4.78	4.30	3.83	3.35
143-912	143-321120-14400A	8	4.78	4.30	3.83	3.35
143-913	143-321220-14400A	8	4.78	4.30	3.83	3.35
987-902	98756-7160	8	4.10	3.69	3.28	2.87
987-903	98756-6142	8	4.20	3.78	3.36	2.94
987-904	98756-3194	8	4.44	4.00	3.55	3.11
987-906	98706-7162	8	4.22	3.80	3.38	2.96
987-907	98706-6144	8	4.35	3.92	3.48	3.05
987-908	98706-3196	8	4.55	4.10	3.64	3.19
987-910	98750-7161	8	4.66	4.20	3.73	3.26
987-911	98750-6143	8	4.79	4.32	3.83	3.36
987-912	98750-3195	8	4.99	4.50	4.00	3.50
BRM-902	96-311001	16	1.25	1.13	1.00	.88
BRMR1-901	97-101700-16	16	5.11	4.60	4.09	3.58
BRMR1-902	97-101700-17	16	5.16	4.64	4.13	3.61
BRMR1-903	97-101700-18	16	5.26	4.78	4.21	3.68
BRMR2-901	97-104700-20	16	7.15	6.43	5.72	5.00
BRMR2-902	97-104700-21	16	7.18	6.46	5.74	5.03
BRMR2-903	97-104700-22	16	7.24	6.52	5.79	5.07
BRS-901	98-611002	16	1.25	1.13	1.00	.88
BRSR1-901	99-401242-3	17	4.77	4.30	3.82	3.34
BRSR1-902	99-401242-4	17	4.83	4.35	3.87	3.39
BRSR1-903	99-401242-5	17	4.87	4.39	3.90	3.41
BRSR2-901	99-404242-6	17	6.22	5.60	4.98	4.36
BRSR2-902	99-404242-7	17	6.28	5.66	5.03	4.40
BRSR2-903	99-404242-8	17	6.33	5.70	5.07	4.44
CA-901	45997-23	11	5.76	4.33	4.33	4.33
CA-902	45997-24	11	7.80	5.85	5.85	5.85
CA-903	45997-30	11	10.40	7.80	7.80	7.80
CA-904	45997-29	11	9.66	7.25	7.25	7.25
C10-901	109214-105	10	14.00	12.60	11.20	9.80
C10-902	109214-101	10	14.00	12.60	11.20	9.80
C10-903	109214-102	10	14.00	12.60	11.20	9.80
C15-901	109202-105	10	19.80	17.82	15.84	13.86
C15-902	109202-101	10	19.80	17.82	15.84	13.86
C15-903	109202-102	10	19.80	17.82	15.84	13.86
C30-901	109196-105	10	24.30	21.87	19.44	17.01
C30-902	109196-101	10	24.30	21.87	19.44	17.01
C30-903	109196-102	10	24.30	21.87	19.44	17.01
C50R-901	109423-705	10	26.00	23.40	20.80	18.20
C50R-902	109423-701	10	26.00	23.40	20.80	18.20
C50R-903	109423-702	10	26.00	23.40	20.80	18.20
CR15-901	109203-101	11	43.20	38.88	34.56	30.24
CR15-902	109203-102	11	43.20	38.88	34.56	30.24
CR30-901	109197-101	11	52.10	46.89	41.68	36.47
CR30-902	109197-102	11	52.10	46.89	41.68	36.47

Catalog Number	Production Number	Page	Suggested Price 1/24	25/49	50/99	100/249
MC-901	45225-5	11	4.68	3.51	3.51	3.51
MC-902	45225-1	11	4.68	3.51	3.51	3.51
MC-903	45225-2	11	4.68	3.51	3.51	3.51
MC-904	45225-3	11	4.68	3.51	3.51	3.51
MC-905	45225-4	11	4.68	3.51	3.51	3.51
MC-911	45225-35	11	4.68	3.51	3.51	3.51
MC-912	45225-31	11	4.68	3.51	3.51	3.51
MC-913	45225-32	11	4.68	3.51	3.51	3.51
MC-914	45225-33	11	4.68	3.51	3.51	3.51
MC-915	45225-34	11	4.68	3.51	3.51	3.51
MS25-901	62-981	14	3.25	2.93	2.60	2.28
MS25-902	62-982	14	3.38	3.05	2.71	2.36
MS25-903	62-983	14	3.84	3.46	3.07	2.69
MS25-904	62-984	14	3.56	3.21	2.85	2.49
MS25-905	62-985	14	4.10	3.69	3.28	2.87
MS25-906	62-986	14	5.05	4.55	4.04	3.54
MS25P-901	62-551	14	5.76	5.19	4.61	4.04
MS25P-902	62-552	14	5.90	5.31	4.72	4.13
MS25P-903	62-553	14	6.37	5.74	5.10	4.46
MS25P-904	62-554	14	6.00	5.40	4.80	4.20
MS25P-905	62-555	14	6.40	5.76	5.12	4.48
MS25P-906	62-556	14	7.35	6.62	5.88	5.15
MS40-901	61-360	14	2.00	1.80	1.60	1.40
MS40-902	61-361	14	2.00	1.80	1.60	1.40
MS40-903	61-362	14	2.00	1.80	1.60	1.40
MS40-904	61-363	14	2.00	1.80	1.60	1.40
MS40-905	61-364	14	2.00	1.80	1.60	1.40
MS40-906	61-365	14	2.00	1.80	1.60	1.40
MS40-907	61-366	14	2.25	2.03	1.80	1.58
MS40-908	61-367	14	2.25	2.03	1.80	1.58
MS40-909	61-368	14	2.50	2.25	2.00	1.75
MS50-901	62-931	15	4.10	3.69	3.28	2.87
MS50-902	62-932	15	4.15	3.74	3.32	2.91
MS50-903	62-933	15	4.20	3.78	3.36	2.94
MS50-904	62-934	15	4.38	3.94	3.51	3.07
MS50-905	62-935	15	4.92	4.43	3.94	3.44
MS50-906	62-936	15	5.87	5.28	4.70	4.11
MS50-921	62-941	15	5.00	4.50	4.00	3.50
MS50-922	62-942	15	5.03	4.53	4.03	3.52
MS50-923	62-943	15	5.08	4.57	4.06	3.55
MS50-924	62-944	15	5.29	4.76	4.23	3.70
MS50-925	62-945	15	5.82	5.24	4.66	4.07
MS50-926	62-946	15	6.77	6.09	5.42	4.74
MS50P-901	62-561	15	6.14	5.53	4.92	4.30
MS50P-902	62-562	15	6.19	5.58	4.96	4.34
MS50P-903	62-563	15	6.30	5.67	5.04	4.41
MS50P-904	62-564	15	6.40	5.76	5.12	4.48
MS50P-905	62-565	15	6.80	6.12	5.44	4.76
MS50P-906	62-566	15	8.25	7.43	6.60	5.78
MS50P-921	62-571	15	7.35	6.61	5.88	5.15
MS50P-922	62-572	15	7.38	6.64	5.90	5.17
MS50P-923	62-573	15	7.43	6.68	5.94	5.20
MS50P-924	62-574	15	7.85	7.07	6.28	5.50
MS50P-925	62-575	15	8.25	7.43	6.60	5.78
MS50P-926	62-576	15	9.15	8.23	7.33	6.40
MS64-901	64-901	14	2.37	2.13	1.90	1.66
MS64-902	64-902	14	2.44	2.20	1.96	1.71
MS64-903	64-903	14	2.82	2.54	2.27	1.97
MS64-904	64-904	14	2.96	2.66	2.37	2.07
MS64-911	64-911	14	2.37	2.13	1.90	1.66
MS64-912	64-912	14	2.44	2.20	1.96	1.71
MS64-913	64-913	14	2.82	2.54	2.27	1.97
MS64-914	64-914	14	2.96	2.66	2.37	2.07
RP-901	45997-32	11	4.28	3.22	3.22	3.22
RP-902	45997-31	11	6.92	5.19	5.19	5.19
RP-903	45997-33	11	7.82	5.87	5.87	5.87
S30-901	109660-1051	9	11.55	10.40	9.24	8.09
S30-902	109660-1011	9	11.55	10.40	9.24	8.09
S30-903	109660-1021	9	11.55	10.40	9.24	8.09
S40-901	109710-1051	9	13.10	11.79	10.48	9.17
S40-902	109710-1011	9	13.10	11.79	10.48	9.17
S40-903	109710-1021	9	13.10	11.79	10.48	9.17
TRM-901	96-5	16	6.50	5.85	5.20	4.55
TRMR1-901	97-1	16	10.07	9.06	8.06	7.05
TRMR1-902	97-2	16	10.12	9.11	8.10	7.08
TRMR1-903	97-3	16	10.22	9.20	8.18	7.15
TRMR2-901	97-4	16	14.59	13.13	11.67	10.21
TRMR2-902	97-5	16	14.62	13.16	11.70	10.23
TRMR2-903	97-6	16	14.68	13.21	11.74	10.28

IMMEDIATE AVAILABILITY — AT FACTORY PRICES IN ANY QUANTITY

Consult your RBM Controls authorized distributor for factory prices in larger quantities.

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GENERAL PURPOSE RELAYS — GENERAL REPLACEMENT RELAYS TIME DELAY RELAYS — POWER & INDUSTRIAL CONTACTORS

Maximum Continuous Load In Amperes (Inductive)	Number of Poles								
	Single Pole			Two Pole			Three Pole		
	Classification	Type	Page	Classification	Type	Page	Classification	Type	Page
LOW LEVEL Thermo-couple, pilot lights, etc.	General Purpose Time Delays General Purpose	93 84T 84	6 12 7	General Purpose General Purpose	91 93	7 6	General Purpose General Purpose	92 93	7 6
3	Time Delays Time Delays	84T 59	12 12	General Purpose General Purpose	91 987	7 8	General Purpose General Purpose	987 92	8 7
5	General Purpose	93	6	General Purpose	93	6	General Purpose	93	6
8	General Purpose	84	7						
10	General Purpose	93	6	General Purpose	93	6	General Purpose	93	6
12				General Purpose	91	7	General Purpose	92	7
15	General Purpose	987	8	General Purpose	987	8	General Purpose	987	8
18	General Purpose Time Delays	129 129T	8 12	Power Contactors Power Contactors	143 75	8 9			
25				Power Contactors Power Contactors 25 amp. Type 143 Resistive Only	80 143	9 8	Power Contactors	85	9
30							Power Contactors Industrial Contactors Industrial Contactors	S30 C30 CR30	9 10 11
40							Power Contactors	S40	9
10-15 30-50	Type C 4 Pole Industrial Contactors Pages 10 and 11.								

REPLACEMENT CONTACTS, CONTACT BLOCK AND CARRIER, MAGNET COILS, MAGNET AND ARMATURE KITS FOR TYPE C CONTACTORS .....PAGE 11

All relays rated below 5 amps have special alloy contacts designed for low level current.

A.C. ENGINEERING DESIGN DATA

Type	Magnet Coil Rating (Volt Amperes)			Operation in % of Nom. Coil Rating		Breakdown Voltage All Terminals - 60 cy. RMS			Contact Material		Electrical Life		**Mechanical Life		Practical Maximum Operating Ambient Degrees Fahrenheit
	Inrush	Sealed Nom.	Sealed Max.	Pick-up	Safe *Max. Operate	Opposite Polarity	Open Contacts Same Polarity	To Ground	Power Rating	Pilot Rating	Oper. At Rated Load	Oper. Per Min.	Oper. At No Load	Oper. Per Min.	
59	No Magnet Coil			85%	110%	1500	1000	1500	—	Fine Silver	100,000	1	1,000,000	1	140
75	16	10	12	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	6	1,000,000	60	140
80	27	15.6	17	85%	110%	1500	1500	1500	Silver Alloy	—	†100,000	3	1,000,000	60	130
84	4	2.8	3	85%	110%	1500	1000	1500	Silver Alloy	Fine Silver	100,000	6	1,000,000	140	140
84T	9	2.8	3	85%	110%	1500	1000	1500	—	Gold Alloy	100,000	6	1,000,000	140	140
85	90	19	23	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	500,000	130	130
91	22	8	10	85%	110%	1500	1000	1500	Fine Silver	•Gold Alloy	†100,000	6	750,000	60	130
92	24	8.9	12	85%	110%	1500	1000	1500	Fine Silver	•Gold Alloy	†100,000	6	750,000	60	130
93	4.5	3.0	4	85%	110%	1500	1000	1500	Fine Silver	•Gold Alloy	100,000	6	10,000,000	60	160
129	10	4.5	5	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	3	500,000	60	130
129AR	10	4.5	5	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	3	500,000	60	130
129T	10	4.5	5	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	3	500,000	1	130
143	24	8.9	12	85%	110%	1500	1000	1500	Silver Alloy	—	†100,000	6	500,000	30	130
987	9	5.5	6.5	85%	110%	1500	1000	1500	Fine Silver	•Gold Alloy	100,000	6	1,000,000	60	140
C	90	18	21	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	1,000,000	10	130
CR	90	18	21	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	1,000,000	10	130
S	50	14.5	17	85%	110%	2200	2200	2200	Silver Alloy	—	†100,000	6	500,000	10	130

* Magnet coils designed for continuous duty. Do not operate at rate higher than indicated under Mechanical Life.

** Based on steady state test under laboratory environmental conditions. Consult factory if application involves unusual load, speed of operation, off-on ratio, environmental or operating conditions. Electric life substantially greater when operated below rated load.

† Load tests — making inrush ratings (0.4 to 0.5 P.F.) — breaking 125% continuous rating (0.65 to 0.8 P.F.).

• Cross-bar contacts.

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REED SWITCHES — REED RELAYS — CURRENT SENSITIVE RELAYS
TIME DELAY RELAYS — GENERAL PURPOSE RELAYS

Maximum Continuous Load In Amperes (Inductive)	Number of Poles								
	Single Pole			Two Pole			Three Pole		
	Classification	Type	Page	Classification	Type	Page	Classification	Type	Page
DRY CIRCUIT TO 0.250	Reed Switches	BRM BRS TRM	16	Reed Relays	BRMR2 BRSR2 TRMR2	16 17 16			
	Reed Relays	BRMR1 BRSR1 TRMR1	16 17 16						
	Current Sensitive	MS25 MS25P MS40 MS64	14	Current Sensitive	MS50 MS50P	15	Current Sensitive	MS50 MS50P	15
1.0	Reed Switches	BRS	16						
	Reed Relays	BRSR1	17	Reed Relays	BRSR2	17	Current Sensitive	MS50 MS50P	15
	Current Sensitive	MS25 MS25P MS40 MS64	14	Current Sensitive	MS50 MS50P	15			
2.0	Current Sensitive	MS25 MS25P MS40 MS64	14	Current Sensitive	MS50 MS50P	15	Current Sensitive	MS50 MS50P	15
3.0	General Purpose	84D	7						
10 (Resistive Only)				General Purpose	91D	7	General Purpose	92D	7

SINGLE POLE POWER CONTACTORS (7½ TO 80 AMPERES) ..... Page 13

All relays rated below 3 amps. have special alloy contacts — designed for low level current.

D.C. ENGINEERING DESIGN DATA

Type	Nominal Magnet Coil Rating (Watts)	Operation in % of Nom. Coil Rating		Breakdown Voltage All Terminals - 60 cy. RMS			Contact Material		Electrical Life		**Mechanical Life		Practical Maximum Operating Ambient Degrees Fahrenheit
		Pick-up	*Max. Safe Operate	Opposite Polarity	Open Contacts Same Polarity	To Ground	Power Rating	Pilot Rating	Oper. At Rated Load	Oper. Per Min.	Oper. At No Load	Oper. Per Min.	
60	2	75%	110%	1000	1000	1000	Fine Silver	—	100,000	4	250,000	4	122
70	9	75%	110%	500	500	500	Copper or Silver	—	100,000	4	250,000	4	122
84D	3	75%	110%	1500	1000	1500	—	Silver Alloy	100,000	6	1,000,000	60	140
91D	6.5	75%	110%	1500	1000	1500	Fine Silver	—	100,000	6	750,000	60	140
92D	7	75%	110%	1500	1000	1500	Fine Silver	—	100,000	6	750,000	60	140
93	1.5	75%	110%	1500	1000	1500	Fine Silver	•Gold Alloy	100,000	6	10,000,000	60	160
BRM	Switch Only—No Magnet Coil			500	250	250	—	Special Alloy	5,000,000	60	2,000,000,000	7200	185
BRMR1	0.100	60%	110%	500	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
BRMR2	0.150	60%	110%	500	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
BRS	Switch Only—No Magnet Coil			500	500	250	—	Special Alloy	20,000,000	60	2,000,000,000	7200	185
BRSR1	0.125	75%	110%	500	500	250	—	Special Alloy	20,000,000	60	2,000,000,000	7200	185
BRSR2	0.250	75%	110%	500	500	250	—	Special Alloy	20,000,000	60	2,000,000,000	7200	185
All Type MS	Current Sensitive			1000	1000	1000	—	•Gold Alloy	100,000	60	10,000,000	180	185
TRM	Switch Only—No Magnet Coil			250	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
TRMR1	0.150	70%	110%	250	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185
TRMR2	0.250	70%	110%	250	250	250	—	Special Alloy	2,000,000	60	2,000,000,000	7200	185

* Magnet coils designed for continuous duty. Do not operate at rate higher than indicated under Mechanical Life.

** Based on steady state test under laboratory environmental conditions. Consult factory if application involves unusual load, speed of operation, off-on ratio, environmental or operating conditions. Electric life substantially greater when operated below rated load.

• Cross-bar contacts.

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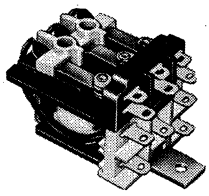
TYPE 93



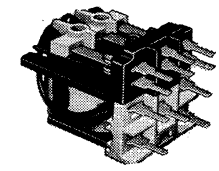
Solder Terminals
(Fig. 1a)

OPEN TYPE

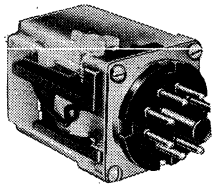
Solder Terminal Relay designed for front single hole screw or stud rear mounting. Stud and screw included.

SIZE Fig. 1a 1 13/16" x 1 5/16" x 1 5/16"
SIZE Fig. 1b 1 13/16" x 1 5/16" x 1 5/16"

TYPE 93



Printed Circuit
(Fig. 1b)

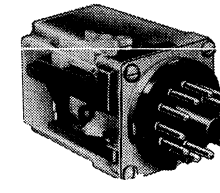


8 Pin Plug-In
(Fig. 2)

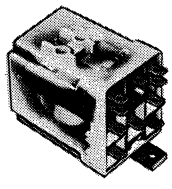
PLUG-IN

8 pin octal base for single & two pole — 11 pin base for three pole. High impact case.

SIZE 2 1/8" x 1 7/16" x 1 5/16"



11 Pin Plug-In
(Fig. 2)

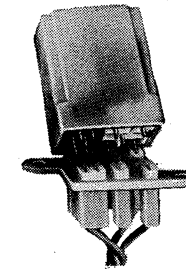


Quick Connect
(Fig. 3)

QUICK CONNECT

Enclosed relay designed for front mounting. Panel board polarized sockets are available. Terminal .020 x .187. Hardware included.

SIZE 2 1/8" x 1 7/16" x 1 5/16"



Relay Receptacle**
(Fig. 4)
93-153-1 Socket Kit
(Hardware Included)

** Remove relay bracket when 93-153-1 receptacle is used.

Voltage	CONTACT RATING			
	Fine Silver Button		Gold-Alloy Cross Bar	
	Inductive	Resistive	Inductive	Resistive
28VDC or 120VAC	1/6 H.P.	10 AMP.	1/10 H.P.	5 AMP.
28VDC or 240VAC	1/3 H.P.	5 AMP.	1/6 H.P.	3 AMP.

* May be controlled by SCR providing firing angle no more than 10 degrees.

Coil Voltage	D.C. Resistance in Ohms @ 25°C	Contact Form	Open Type			Enclosed Type			
			Solder Terminals (Fig. 1a)		Printed Circuit (Fig. 1b)	Plug-In (Fig. 2)		Quick Connect Terminals (Fig. 3)	
			10 Amp. Button Contacts	5 Amp. Cross-Bar Contacts	5 Amp. Cross-Bar Contacts	10 Amp. Button Contacts	5 Amp. Cross-Bar Contacts	10 Amp. Button Contacts	5 Amp. Cross-Bar Contacts
			Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
6 (50/60 CY.)	3.5	1PDT	93-901	93-931	—	93P-901	93P-931	93Q-901	93Q-931
		2PDT	93-902	93-932	—	93P-902	93P-932	93Q-902	93Q-932
		3PDT	93-903	93-933	—	93P-903	93P-933	93Q-903	93Q-933
12 (50/60 CY.)	14	1PDT	93-985	93-988	*93-991	93P-955	93P-958	93Q-955	93Q-958
		2PDT	93-986	93-989	*93-992	93P-956	93P-959	93Q-956	93Q-959
		3PDT	93-987	93-990	*93-993	93P-957	93P-960	93Q-957	93Q-960
24 (50/60 CY.)	55	1PDT	93-904	93-934	*93-964	93P-904	93P-934	93Q-904	93Q-934
		2PDT	93-905	93-935	*93-965	93P-905	93P-935	93Q-905	93Q-935
		3PDT	93-906	93-936	*93-966	93P-906	93P-936	93Q-906	93Q-936
120 (50/60 CY.)	1400	1PDT	93-907	93-937	*93-967	93P-907	93P-937	93Q-907	93Q-937
		2PDT	93-908	93-938	*93-968	93P-908	93P-938	93Q-908	93Q-938
		3PDT	93-909	93-939	*93-969	93P-909	93P-939	93Q-909	93Q-939
208/240 (50/60 CY.)	4850	1PDT	93-910	93-940	—	93P-910	93P-940	93Q-910	93Q-940
		2PDT	93-911	93-941	—	93P-911	93P-941	93Q-911	93Q-941
		3PDT	93-912	93-942	—	93P-912	93P-942	93Q-912	93Q-942
6 D.C.	24	1PDT	93-913	93-943	—	93P-913	93P-943	93Q-913	93Q-943
		2PDT	93-914	93-944	—	93P-914	93P-944	93Q-914	93Q-944
		3PDT	93-915	93-945	—	93P-915	93P-945	93Q-915	93Q-945
12 D.C.	96	1PDT	93-916	93-946	*93-976	93P-916	93P-946	93Q-916	93Q-946
		2PDT	93-917	93-947	*93-977	93P-917	93P-947	93Q-917	93Q-947
		3PDT	93-918	93-948	*93-978	93P-918	93P-948	93Q-918	93Q-948
24 D.C.	384	1PDT	93-919	93-949	*93-979	93P-919	93P-949	93Q-919	93Q-949
		2PDT	93-920	93-950	*93-980	93P-920	93P-950	93Q-920	93Q-950
		3PDT	93-921	93-951	*93-981	93P-921	93P-951	93Q-921	93Q-951
110 D.C.	8000	1PDT	93-922	93-952	—	93P-922	93P-952	93Q-922	93Q-952
		2PDT	93-923	93-953	—	93P-923	93P-953	93Q-923	93Q-953
		3PDT	93-924	93-954	—	93P-924	93P-954	93Q-924	93Q-954

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TYPE 84

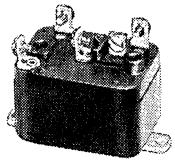


FIGURE 1

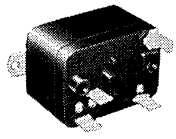


FIGURE 2

SIZE 2⅜" x 1⅝" x 1½"

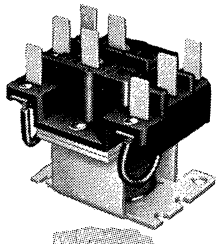
Totally Enclosed
•
Screw or ¼" Quick Connect Termination
•
Hardware Included
•
Operates Any Position
•
Isolated Coil
•
I or T Mounting Brackets
•
A.C. Coils Rated 50/60 cy
•
Low Cost

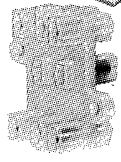
SINGLE POLE NORMALLY OPEN and SINGLE POLE DOUBLE THROW

Coil Voltage A.C.	Catalog Number Figure 1		Contact Rating 125/250 V.A.C.	
	1PNO	1PDT	Inductive	Resistive
6	84-901	84-905	N.O. 8 Amps. Continuous 25 Amps. Inrush D.T. 8 Amps. Continuous 18 Amps. Inrush	N.O. 16 Amps. Continuous D.T. 8 Amps. Continuous
24	84-902	84-906		
120	84-903	84-907		
230/240	84-904	84-908		
Coil Voltage A.C.	Catalog Number Figure 2			
	1PNO	1PDT		
24	84-912	84-916		
120	84-913	84-917		
230/240	84-914	84-918		
24	84-922	84-926	3 Amps. @ 125 V.A.C. or 1.5 Amps. @ 250 V.A.C. Pilot Duty	
120	84-923	84-927		
230/240	84-924	84-928		

Coil Voltage D.C.	Resistance in Ohms @ 25°C	Catalog Number Figure 1	D.C. Contact Rating Inductive	
			Voltage	Current
12	90	84D-902	12	3 Amp.
24	280	84D-903	24	1.5 Amp.

TYPE 91





91-180-1 SOCKET AND TERMINAL KIT

SIZE 2⅛" x 1⅞" x 2⅜"

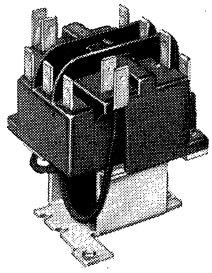
¼" Quick Connect Termination
•
Enclosed Contacts
•
Operates Any Position
•
Solenoid Action
•
Wiring Terminals Included
•
A.C. Coils Rated 50/60 cy.
•
Can Be Panel Mounted

TWO POLE DOUBLE THROW

Coil Voltage A.C.	Catalog Number	Circuit Rating Terminals		Power Rating (A)	
		1-2-3	4-5-6	Inductive	Resistive
24	91-901	(A)	(A)	12 Amp. Cont. 60 Amp. Inrush 125 V.A.C. — 6 Amp. Cont. 35 Amp. Inrush 250 V.A.C.	15 Amp. 277 V.A.C. Max.
120	91-902				
230/240	91-903				
24	91-904	(A)	(B)		
120	91-905				
230/240	91-906				
24	91-907	(B)	(B)	Pilot Rating (B)	
120	91-908			Inductive	Resistive
230/240	91-909			125 V.A. 1/10 H.P. 125/250 V.A.C.	3 Amp. 277 V.A.C. Max.

Coil Voltage D.C.	Catalog Number	Resistance in Ohms @ 25°C	D.C. Contact Rating - Resistive
6	91D-911	7	10 Amps. @ 32 V. Max.
12	91D-912	29	
24	91D-913	115	

TYPE 92



SIZE 2⅜" x 2⅜" x 2¾"

¼" Quick Connect Termination
•
Enclosed Contacts Operates Any Position
•
Solenoid Action
•
Wiring Terminals Included
•
Manual Operating Button
•
A.C. Coils Rated 50/60 cy

THREE POLE DOUBLE THROW

Coil Voltage A.C.	Catalog Number	Circuit Rating			Power Rating (A)	
		X	Y	Z	Inductive	Resistive
24	92-901	(A)	(A)	(A)	12 Amp. Cont. 60 Amp. Inrush 125 V.A.C. — 6 Amp. Cont. 35 Amp. Inrush 250 V.A.C.	15 Amp. 277 V.A.C. Max.
120	92-902					
230/240	92-903					
24	92-904	(A)	(B)	(A)		
120	92-905					
230/240	92-906					
24	92-907	(B)	(A)	(B)	Pilot Rating (B)	
120	92-908				Inductive	Resistive
230/240	92-909				120 V.A. 1/10 H.P. 125/250 V.A.C.	3 Amp. 277 V.A.C. Max.
24	92-910	(B)	(B)	(B)		
120	92-911					
230/240	92-912					

Coil Voltage D.C.	Catalog Number	Resistance in Ohms @ 25°C	D.C. Contact Rating - Resistive
6	92D-911	6.5	10 Amps. @ 32 V. Max.
12	92D-912	26	
24	92D-913	104	

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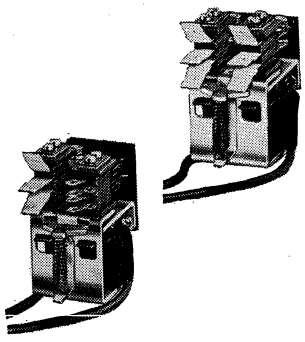
8 RBM CONTROLS — A.C. GENERAL PURPOSE RELAYS

TYPE 987



SIZE 2⅛" x 1" x 2"

- 9" Leadwire Coil
- Front or Rear Mounting
- Hardware Included
- Quick Connect Terminals on 15 Amp Poles
- Solder Terminals on 3 Amp Poles

TWO POLE and THREE POLE DOUBLE THROW

Coil Voltage 60 cy.	Contact Form	Catalog Number	Contact Rating — Non-Inductive 125/250 V.A.C.	
			Left Stack	Right Stack
24	2PDT	987-902	SPDT - 15 AMP.	SPDT - 3 AMP.
120	2PDT	987-903		
240	2PDT	987-904		
24	2PDT	987-906	SPDT - 15 AMP.	SPDT - 15 AMP.
120	2PDT	987-907		
240	2PDT	987-908		
24	3PDT	987-910	SPDT - 15 AMP.	2PDT - 3 AMP.
120	3PDT	987-911		
240	3PDT	987-912		

A.C. POWER RELAYS

TYPE 129

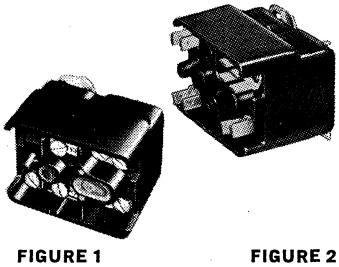


FIGURE 1 FIGURE 2

SIZE 2⅜" x 1⅞" x 1⅞"

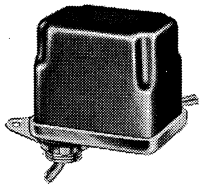
- Double-Break Contacts
- Totally Enclosed
- Screw or ¼" Quick Connect Termination
- Hardware Included
- Non-Positional

SINGLE POLE NORMALLY OPEN and SINGLE POLE DOUBLE THROW

Coil Voltage (50/60 cy.)	Catalog Number				Contact Rating 250 V.A.C. Max.	
	Figure 1		Figure 2			
	1PNO	†1PDT	1PNO	†1PDT	Inductive	Resistive
6	129-901	129-905	—	—	18 Amp. Continuous 1 H.P.-125 V. 2 H.P.-250 V.	18 Amp. Continuous
24	129-902	129-906	129-911	129-914		
120	129-903	129-907	129-912	129-915		
208/230	129-904	129-908	129-913	129-916		

† All contact terminals must be wired same polarity.

TYPE 129AR



SIZE 2¾" x 2⁹⁄₁₆" x 3¹⁄₁₆"

- Totally Enclosed
- Double-Break Contacts
- Easy to Mount
- Pre-Wired
- No Enclosure Required
- Low Cost

SINGLE POLE NORMALLY OPEN and SINGLE POLE DOUBLE THROW

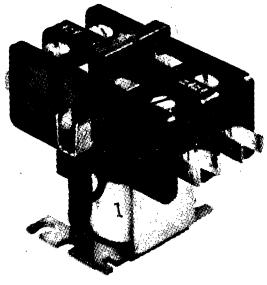
Coil Voltage (50/60 cy.)	Catalog Number		Contact Rating — 250 V.A.C. Max.	
	1PNO	†1PDT	Inductive	Resistive
— 24	129AR-901	129AR-904	18 Amp. Continuous 1 H.P.-120 V. 2 H.P.-250 V.	18 Amp. Continuous
120	129AR-902	129AR-905		
208/230	129AR-903	129AR-906		

FITS ANY ½" KNOCK-OUT. MEETS STANDARD CODE REQUIREMENTS.
Underwriters Lab. white card listed. File E12139D 184N13.13 7/17/63.
Aluminum die-cast base and bushing. High impact phenolic enclosure.
Locknuts and position locking washer included. Color coded 8" lead wires.

† All contact terminals must be wired same polarity.

A.C. POWER CONTACTORS

TYPE 143



SIZE 3¼" x 2⅜" x 2½"

- Straight-Through Wiring
- Auxiliary Quick-Connect Terminals
- Hardware Included
- Screw Power Terminals For #10 Solid Wire Max.
- Double Break Contacts

TWO POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating	
		Inductive	Resistive
24	143-901	18 Amp. Continuous 90 Amp Inrush @ 250 V.A.C. Inductive Only	
120	143-902		
208/240	143-903		
24	143-911		25 Amp. @ 277 V.A.C. Resistive Only
120	143-912		
208/240	143-913		

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RBM CONTROLS — A.C. POWER CONTACTORS — 9

TYPE 75

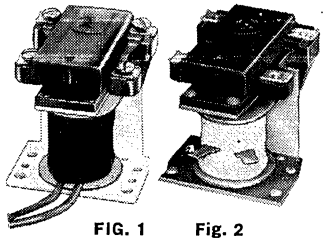


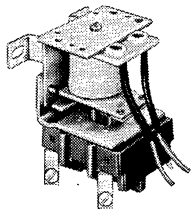
FIG. 1 Fig. 2
SIZE 2½" x 2⅛" x 2¼"

Screw Power Termination #8 Solid Wire Max.
•
9" Lead Wire or Quick Connect Coil Terminals
•
Hardware Included

TWO POLE NORMALLY OPEN

Coil Voltage (60 cy.)	Catalog Number Fig. 1	Catalog Number Fig. 2	Contact Rating (A.C.) Inductive	Contact Rating (A.C.) Resistive
24	75-901	75-904	1 H.P. Per Pole 115/230 V. 2 Pole Rating 2 H.P. — 230 V. or 15 Amp. Cont. 75 Amp. Inrush	20 Amp. 240 V. Per Pole
115/120	75-902	75-905		
230/240	75-903	75-906		

TYPE 80



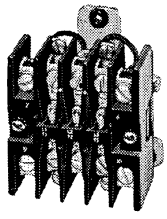
SIZE 3⅛" x 2⅝" x 2⅞"

Screw Power Termination #8 Solid Wire Max.
•
Double-Break Contacts
•
Hi-Dielectric
•
9" Coil Leads
•
Mount as Shown
•
Low Cost

TWO POLE NORMALLY OPEN

Coil Voltage (60 cy.)	Catalog Number	Contact Rating (A.C.) Inductive
24	80-901	25 Amp. Continuous 150 Amp. Inrush 250 V. Max.
120	80-902	
240	80-904	

TYPE 85



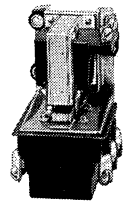
SIZE 3½" x 3⅛" x 2⅝"

Screw Terminals
•
#8 Solid Wire Max.
•
Double Break Contacts
•
¼" Auxiliary Wiring Terminals
•
Straight-Thru Wiring
•
Hi-Dielectric Materials

THREE POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.) — Inductive 250 V.	Contact Rating (A.C.) — Inductive 600 V.
24	85-901	25 Amp. Cont. 150 Amp. Inrush	12.5 Amp. Cont. 75 Amp. Inrush
120	85-902		
208/240	85-903		

TYPE S30



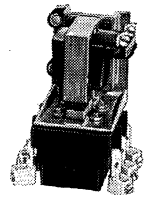
SIZE 3⅞" x 2⅜" x 2½"

Solenoid Action
•
Enclosed Contacts
•
Resilient Mounting
•
Screw Power Termination For #8 Solid Wire Max.
•
Epoxy Coil
•
Hi-Dielectric
•
Double Break Contacts

THREE POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.) — Inductive Voltage	Continuous	Inrush
24	S30-901	250 600	30 Amp. 15 Amp.	180 Amp. 90 Amp.
115	S30-902			
230	S30-903			

TYPE S40



SIZE 3⅞" x 2¾" x 2½"

Pressure Power Termination For #6 Solid Wire Max.
•
Solenoid Action
•
Enclosed Contacts
•
Resilient Mounting
•
Hi-Dielectric
•
Epoxy Coil
•
Double Break Contacts

THREE POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.) Inductive
24	S40-901	40 Amp. Continuous 200 Amp. Inrush 250 V. Max.
115	S40-902	
230	S40-903	

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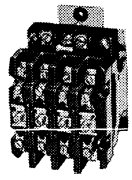
10 RBM CONTROLS — A.C. INDUSTRIAL CONTACTORS

UNIQUE DESIGN PERMITS COMMON BASE, COIL & MAGNET FOR CONTACTOR RATINGS FROM 10 TO 50 AMPERES • DOUBLE BREAK "NO-KISS" CONTACT ACTION • REPLACEABLE CONTACTS & COIL • EPOXY SEALED MOLDED MAGNET COIL HOUSING • LAMINATED CORROSION RESISTANT E-TYPE MAGNET & SELF-ALIGNING ARMATURE • HI-DIELECTRIC ARC RESISTANT MOLDED CONTACT BLOCK & CARRIER • 50/60 CYCLE MAGNET COIL • RESILIENT MOUNTING

TYPE C10



SIZE 3⅝" x 2¾" x 3⅜"

10 Amp.
600 Volts

•

Pressure Type Power Terminals #10 Solid Wire Max.

•

All Contacts Convert to N.C. See Page 11

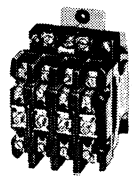
•

Double Break Contacts

FOUR POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
			Horsepower	
		Voltage	Single Phase	Three Phase
24	C10-901	120	½	¾
		208/240	¾	1
110	C10-902	600	1	1
		Resistive		
220	C10-903	10 Amp. 600 V. Max. (Per Pole)		

TYPE C15



SIZE 3⅝" x 2¾" x 3⅜"

15 Amp.
600 Volts

•

Pressure Type Power Terminals #10 Solid Wire Max.

•

All Contacts Convert to N.C. See Page 11

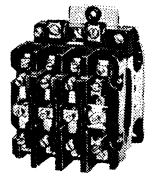
•

Double Break Contacts

FOUR POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
			Horsepower	
		Voltage	Single Phase	Three Phase
24	C15-901	120	1	1½
		208/240	1½	2
110	C15-902	600	1½	2
		Resistive		
220	C15-903	15 Amp. 600 V. Max. (Per Pole)		

TYPE C30



SIZE 3⅝" x 2¾" x 3⅜"

30 Amp.
600 Volts

•

Pressure Type Power Terminals #8 Solid Wire Max.

•

SPNO Auxiliary Converts to N.C. See Page 11

•

Double Break Contacts

THREE POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
			Horsepower	
		Voltage	Single Phase	Three Phase
24	C30-901	120	2	3
		208/240	3	7½
110	C30-902	600	5	10
		Resistive		
220	C30-903	30 Amp. — 600 V. (Per Pole)		

TYPE C50R

SIZE 3⅝" x 2¾" x 3⅜"

50 Amp.
480 Volts

•

Pressure Type Power Terminals #6 Stranded Wire Max.

•

Double Break Contacts

FOUR POLE NORMALLY OPEN

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)
24	C50R-901	Resistive Only For Electric Heating 50 Amp. — 480 Volt Max.
110	C50R-902	
220	C50R-903	

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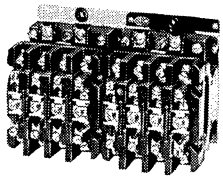
TWO TYPE C CONTACTORS MOUNTED SIDE BY SIDE ON COMMON STEEL BASE • RESILIENT MOUNTING • HARDENED STEEL MECHANICAL INTERLOCK PREVENTS SIMULTANEOUS CLOSING OF BOTH CONTACTORS • NO CROSS-PHASE WIRING • SUITABLE FOR MOTOR REVERSING & TRANSFORMER TAP CHANGING APPLICATION.

TYPE CR15



SIZE 3⅝" x 5⁹⁄₁₆" x 3⅜"

15 Amp.
600 Volt

•

Pressure Type Power Terminals #10 Solid Wire Max.

•

All Contacts Convert to N.C. See Below

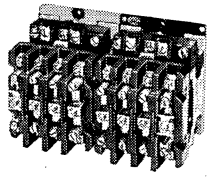
•

Double Break Contacts

FOUR POLE NORMALLY OPEN REVERSING

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
			Horsepower	
		Voltage	Single Phase	Three Phase
110	CR15-901	120	1	1½
220	CR15-902	208/240	1½	2

TYPE CR30



SIZE 3⅝" x 5⁹⁄₁₆" x 3⅜"

30 Amp.
600 Volt

•

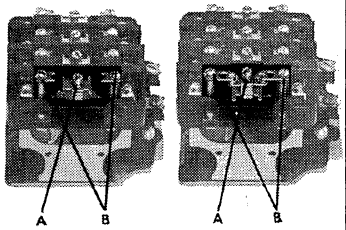
SPNO Auxiliary Converts to N.C. See Below

•

Double Break Contacts

THREE POLE NORMALLY OPEN REVERSING

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating (A.C.)		
			Horsepower	
		Voltage	Single Phase	Three Phase
110	CR30-901	120	2	3
220	CR30-902	208/240	3	7½



Normally Open Normally Closed

CONVERSION INSTRUCTIONS

All 10 and 15 ampere contact assemblies on RBM standard type C contactors are normally open. To convert to normally closed, use screwdriver. No special parts needed.

1. Remove movable contact assembly and lock washer by backing off terminal nut "A".
2. Loosen screws "B" and remove stationary contact assemblies.
3. Invert movable contact assembly, and replace on contactor with flat "I" spring resting on contact block. Contacts facing out.
4. Remove screws "B" from, and reinsert into opposite end of, stationary contact assembly. Re-install stationary contact assemblies; holding contacts in alignment with movable contacts while tightening screws.

TYPE C REPLACEMENT PARTS

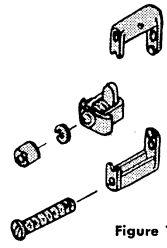


Figure 1*

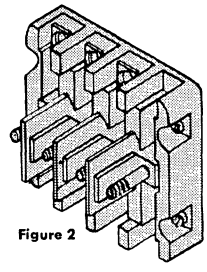


Figure 2

MAGNET COILS — Figure 4

Voltage (50/60 cy.)	*Standard		*Special	
	Catalog Number	Replaces	Catalog Number	Replaces
24	MC-901	45225-5	MC-911	45225-35
110	MC-902	45225-1	MC-912	45225-31
220	MC-903	45225-2	MC-913	45225-32
440	MC-904	45225-3	MC-914	45225-33
550	MC-905	45225-4	MC-915	45225-34

* Do not substitute standard for special coils or vice versa.

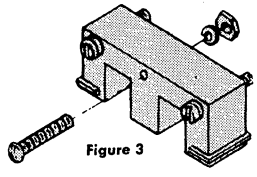


Figure 3

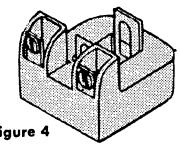


Figure 4

CONTACT ASSEMBLIES — Figure 1

USED ON TYPE	CATALOG NUMBER	CONTACT RATING	REPLACES
C10, C15, C15R	CA-901	15 Amp.	45997-3 45997-4
C30, C30R	CA-902	30 Amp	45997-5
C50R	CA-903	50 Amp Resistive	45997-22
T109153 T109453	CA-904	30 Amp - 4 Pole 50 Amp - 2 Pole	45997-16 45997-20

ARMATURE & MAGNET Figure 3

Catalog Number
RP-901

CONTACT BLOCK & CARRIER — Figure 2

4 Pole	5 Pole
Catalog Number	Catalog Number
RP-902	RP-903

* 4 Moveable — 8 Stationary per kit.

** Reversing type — 2 sets required. † Not standard catalog items.

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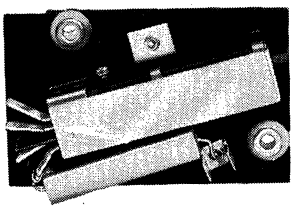
12 RBM CONTROLS — A.C. & D.C. TIME DELAY RELAYS

TYPE 59



SIZE 3⅜" x 2⅛" x ⅞"

Thermal Type
•
Fixed Timing
•
Ambient Compensated
•
¼" Quick-Connect Termination
•
Wiring Terminals Included
•
Resilient Mounting
•
Non-Positional Reset Time Approx. 60 Sec.

SINGLE POLE NORMALLY OPEN

TIME DELAY TO CLOSE — AFTER ENERGIZATION — 15 TO 45 SECS.

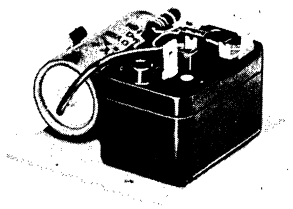
Operating		Catalog Number	Contact Rating
Voltage (50/60 cy.)	Watts		
24	3.0	59-901	3 Amp. 125/250 V.A.C. Pilot Duty
115/120	7.0	59-902	
230/240	10.0	59-903	

SINGLE POLE NORMALLY CLOSED

TIME DELAY TO OPEN — AFTER ENERGIZATION — APPROX. 30 SECS.

24	3.0	59-904	3 Amp. 125/250 V.A.C. Pilot Duty
115/120	7.0	59-905	
230/240	10/0	59-906	

TYPE 84T



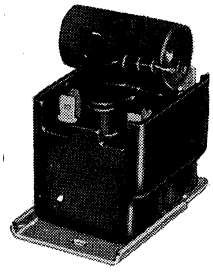
SIZE 2⅝" x 2¼" x 1½"

Rectifier/ Capacitor Type
•
Fixed Timing
•
¼" Quick-Connect Termination
•
Wiring Terminals Included
•
Totally Enclosed
•
Approx. Reset Time 4 Seconds

SINGLE POLE DOUBLE THROW

Coil (50/60 cy.)	Contact Action		Catalog Number	Time Delay in Seconds ±25%	Contact Rating (A.C.) Inductive
	Delay After Coil Energized	Delay After Coil De-Energized			
115/120	X	—	84TE-902	2	3 Amp. 125 V. 1.5 Amp. 250 V. Continuous
230/240	X	—	84TE-903	2	
115/120	—	X	84TD-902	2	
230/240	—	X	84TD-903	2	

TYPE 129T



SIZE 3⅛" x 2" x 3"

Rectifier/ Capacitor Type
•
Fixed Timing
•
¼" Quick-Connect Termination
•
Wiring Terminals Included
•
Totally Enclosed
•
Double Break Contacts

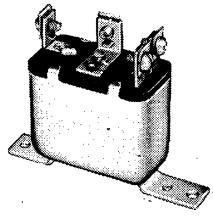
SINGLE POLE NORMALLY OPEN

TIME DELAY TO OPEN — AFTER DE-ENERGIZATION — 2 seconds ±25%.

Coil Voltage (50/60 cy.)	Catalog Number	Contact Rating — 250 V.A.C. Max.	
		Inductive	Resistive
115/120	129TD-901	18 Amp. Continuous 1 H.P. — 125 V. 2 H.P. — 250 V.	18 Amp. Continuous
230/240	129TD-902		

RBM CONTROLS — TYPE 60 D.C. POWER RELAYS

TYPE 60



SIZE 2⅞" x 1⅛" x 2⅝"

Metal Case
•
Totally Enclosed
•
Isolated Coil
•
Screw Terminals
•
Screws Included
•
Low Cost

SINGLE POLE NORMALLY OPEN

Coil Voltage (D.C.)	Resistance In Ohms @ 25°C	Catalog Number	Contact Rating D.C.	
			Inductive	
			Voltage	Current
6	11	60-901	6	15 Amp.
12	35	60-902	12	15 Amp.
24	160	60-903	24	7.5 Amp.

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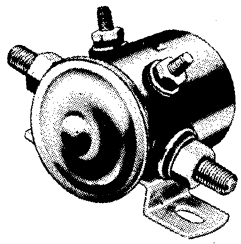
NON-TURNING STUDS • DRAWN STEEL DUST PROOF ENCLOSURE • COPPER STUD POWER & COIL TERMINALS • DOUBLE BREAK ROTATING DISC MOVABLE CONTACT • SOLENOID ACTUATED • SUGGESTED MOUNTING — CAP DOWN

CONTACT RATING

D.C. INDUCTIVE LOAD — 36 V. MAX.

Voltage (D.C.)	Normally Open		Normally Closed	
	Continuous	Inrush	Continuous	Inrush
6	80 Amp.	300 Amp.	60 Amp.	100 Amp.
12	80 Amp.	150 Amp.	60 Amp.	60 Amp.
24	50 Amp.	50 Amp.	30 Amp.	30 Amp.
36	50 Amp.	50 Amp.	30 Amp.	30 Amp.

4 TERMINAL



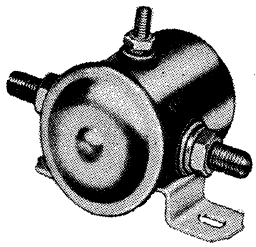
SIZE 2½" x 3½" x 2½"

Four Terminal
•
Isolated Coil
•
Silver or Copper Contacts
•
Hardware Included
•
Continuous Duty Coil
•
Ease In Wiring

SINGLE POLE NORMALLY OPEN

Coil Voltage (D.C.)	Resistance in Ohms @ 25°C	Catalog Number	Contact Material
6	4	70-901	Copper
12	19	70-902	
24	60	70-903	
36	114	70-904	
6	4	70-905	Silver
12	19	70-906	
24	60	70-907	
36	114	70-908	

3 TERMINAL



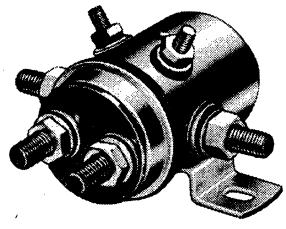
SIZE 2½" x 3½" x 2½"

Three Terminal
•
Continuous Duty Coil
•
Copper Contacts
•
Hardware Included
•
Coil Common to Case or Coil Common to Battery
•
Rugged Construction

SINGLE POLE NORMALLY OPEN

Coil Voltage (D.C.)	Resistance in Ohms @ 25°C	Catalog Number	Contact Material
6	4	70-913	Copper — Coil Grounded to Case
12	19	70-914	
24	60	70-915	
36	114	70-916	
6	4	70-917	Copper — Coil Common to Load
12	19	70-918	
24	60	70-919	
36	114	70-920	

6 TERMINAL



SIZE 3⅜" x 3¹⁵⁄₁₆" x 2½"

Six Terminal
•
Continuous Duty Coil
•
Isolated Coil
•
Hardware Included
•
Choice of 2 Types Contacts

SINGLE POLE DOUBLE THROW

Coil Voltage (D.C.)	Resistance in Ohms @ 25°C	Catalog Number	Contact Material
6	4	70-909	N.O. and N.C. Silver
12	19	70-910	
24	60	70-911	
36	114	70-912	
6	4	70-921	N.O. Copper and N.C. Silver
12	19	70-922	
24	60	70-923	
36	114	70-924	

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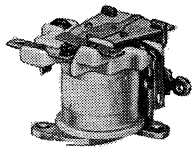
14 RBM CONTROLS — MINIATURE D.C. SENSITIVE RELAYS

SINGLE POLE DOUBLE THROW — TWO POLE DOUBLE THROW — THREE POLE DOUBLE THROW

Electrical Life				Mechanical Life	Operate Time (Incl. Bounce)	Vibration	Shock	Operating Ambient
NON-INDUCTIVE LOAD	0.5 Amp.	1.0 Amp.	2.0 Amp.	100,000,000 At 180 Operations Per Minute (No Load)	20 Milliseconds	2G 10-55 Cycles	2G Operate 10G Non-Operate	−55°C to +85°C
NUMBER OPERATIONS	1,000,000	300,000	100,000					

TYPE MS40



SIZE 1⅛" x 1⅛" x 15/16"

Solder Terminals • 4-40 Mounting • Armature Common to Frame • Long Life • Low Cost

SINGLE POLE DOUBLE THROW — OPEN TYPE

Contact Rating	Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.	Minimum Required	0.050 Watts
	Maximum Capacity	1.0 Watts

D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
18.7 MA.	14 MA.	250	MS40-901
13.5 MA.	10 MA.	500	MS40-902
11.0 MA.	8.2 MA.	750	MS40-903
9.3 MA.	7 MA.	1000	MS40-904
7.7 MA.	5.8 MA.	1500	MS40-905
6.0 MA.	4.5 MA.	2500	MS40-906
4.3 MA.	3.2 MA.	5000	MS40-907
3.5 MA.	2.6 MA.	7500	MS40-908
2.9 MA.	2.2 MA.	10000	MS40-909

*D.O. Approx. 35% of PU. †Nominal ±10%.

TYPE MS64

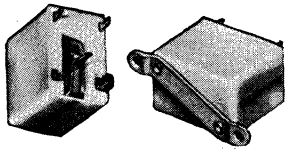


FIG. 1 FIG. 2

SIZE 1 3/16" x ¾" x 1⅛"

Printed Circuit Terminals or Bracket Mounting • Isolated Contacts • Snap-on Cover • Molded Construction

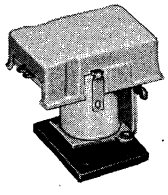
SINGLE POLE DOUBLE THROW — ENCLOSED TYPE

Contact Rating	Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.	Minimum Required	0.050 Watts
	Maximum Capacity	1.0 Watts

D.C. Magnet At 25°C				
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number Fig. 1	Catalog Number Fig. 2
6 V.	4.5 V.	400	MS64-901	MS64-911
12 V.	9.0 V.	1600	MS64-902	MS64-912
24 V.	18.0 V.	6500	MS64-903	MS64-913
3. MA.	2.3 MA.	10000	MS64-904	MS64-914

*D.O. Approx. 35% of PU. †Nominal ±10%.

TYPE MS25



SIZE 1 3/16" x 1½" x 1 7/16"

Solder Terminals • Isolated Contacts • Protective Contact Cover • Insulating Fiber Base

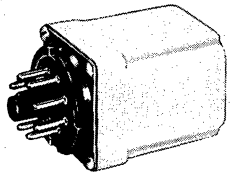
SINGLE POLE DOUBLE THROW — OPEN TYPE

Contact Rating	Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.	Minimum Required	0.040 Watts
	Maximum Capacity	1.5 Watts

D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
6 V.	4.5 V.	510	MS25-901
12 V.	9.0 V.	2025	MS25-902
24 V.	18.0 V.	8100	MS25-903
3.7 MA.	2.8 MA.	5000	MS25-904
2.7 MA.	2.0 MA.	10000	MS25-905
2.1 MA.	1.6 MA.	15000	MS25-906

*D.O. Approx. 35% of PU. †Nominal ±10%.

TYPE MS25P



SIZE 2" x 1⅜" x 1⅜"

8 Pin Plug-In • Isolated Contacts • High Impact Case

SINGLE POLE DOUBLE THROW — PLUG-IN

D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
6 V.	4.5 V.	510	MS25P-901
12 V.	9.0 V.	2025	MS25P-902
24 V.	18.0 V.	8100	MS25P-903
3.7 MA.	2.8 MA.	5000	MS25P-904
2.7 MA.	2.0 MA.	10000	MS25P-905
2.1 MA.	1.6 MA.	15000	MS25P-906

*D.O. Approx. 35% of PU. †Nominal ±10%.

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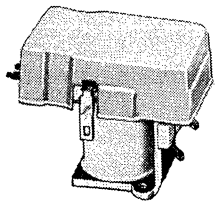
TYPE MS50



SIZE 1⅝" x 1⅛" x 1⅜"

Solder Terminals

•

Isolated Contacts

•

Protective Contact Cover

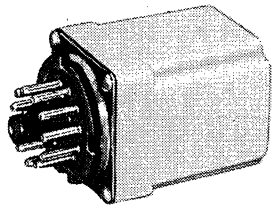
TWO POLE DOUBLE THROW — OPEN TYPE

Contact Rating	Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.	Minimum Required	0.125 Watts
	Maximum Capacity	1.5 Watts

D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
6 V.	4.5 V.	160	MS50-901
12 V.	9.0 V.	650	MS50-902
24 V.	18.0 V.	2600	MS50-903
6.7 MA.	5.0 MA.	5000	MS50-904
4.7 MA.	3.5 MA.	10000	MS50-905
3.9 MA.	2.9 MA.	15000	MS50-906

*D.O. Approx. 35% of PU. †Nominal ±10%.

TYPE MS50P



SIZE 2" x 1⅜" x 1⅜"

8 Pin Plug-In

•

Isolated Contacts

•

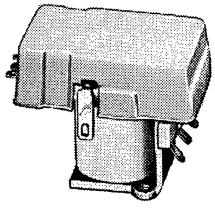
High Impact Case

TWO POLE DOUBLE THROW — PLUG-IN

D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
6 V.	4.5 V.	160	MS50P-901
12 V.	9.0 V.	650	MS50P-902
24 V.	18.0 V.	2600	MS50P-903
6.7 MA.	5.0 MA.	5000	MS50P-904
4.7 MA.	3.5 MA.	10000	MS50P-905
3.9 MA.	2.9 MA.	15000	MS50P-906

*D.O. Approx. 35% of PU. †Nominal ±10%.

TYPE MS50



SIZE 1⅝" x 1⅛" x 1⅜"

Solder Terminals

•

Isolated Contacts

•

Protective Contact Cover

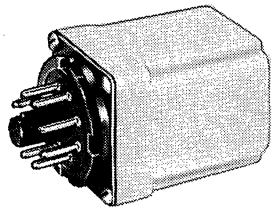
THREE POLE DOUBLE THROW — OPEN TYPE

Contact Rating	Coil Power	
2 Amp. Non-Inductive 28 V.D.C. — 115 V.A.C.	Minimum Required	0.200 Watts
	Maximum Capacity	1.5 Watts

D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
6 V.	4.5 V.	100	MS50-921
12 V.	9.0 V.	400	MS50-922
24 V.	18.0 V.	1600	MS50-923
8.5 MA.	6.4 MA.	5000	MS50-924
6.0 MA.	4.5 MA.	10000	MS50-925
4.9 MA.	3.7 MA.	15000	MS50-926

*D.O. Approx. 35% of PU. †Nominal ±10%.

TYPE MS50P



SIZE 2" x 1⅜" x 1⅜"

11 Pin Plug-In

•

Isolated Contacts

•

High Impact Case

THREE POLE DOUBLE THROW — PLUG-IN

D.C. Magnet Coil At 25°C			
Nominal Voltage or Current	*Max. Pick-up Voltage or Current	†Resistance in Ohms	Catalog Number
6 V.	4.5 V.	100	MS50P-921
12 V.	9.0 V.	400	MS50P-922
24 V.	18.0 V.	1600	MS50P-923
8.5 MA.	6.4 MA.	5000	MS50P-924
6.0 MA.	4.5 MA.	10000	MS50P-925
4.9 MA.	3.7 MA.	15000	MS50P-926

*D.O. Approx. 35% of PU. †Nominal ±10%.

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16 RBM CONTROLS — GLASS REED SWITCHES

BRM-902 MINIATURE

BI-REED ®

BRS-901 STANDARD

BI-REED ®

TRM-901 MINIATURE

TRI-REED ®

Contact Form		Single Pole Normally Open						Single Pole Double Throw		
Miniature or Standard		Miniature			Standard			Miniature		
Catalog Number		BRM-902			BRS-901			TRM-901		
Non-Inductive Contact Rating	Make and Break	15 VA. A.C. — 5 Watts D.C. ¼ Amp. Maximum up to 250 Volts			15 VA. A.C. — 15 Watts D.C. 1.0 Amp. Maximum up to 250 Volts			15 VA. A.C. — 5 Watts D.C. ¼ Amp. Maximum up to 125 V. A.C. or 32 V. D.C.		
	No Make or Break	1.0 Amp. 250 V.			5 Amp. 250 V.			1 Amp. 125 V. A.C. or 32 V. D.C.		
Contact Life Based on 10 Ohm Miss Test	Resistive Load (D.C.)	10 Micro-Amp. @ 10 Milli-Volts	⅛ Amp. @ 32 Volts		10 Micro-Amp. @ 10 Milli-Volts	⅛ Amp. @ 32 Volts		10 Micro-Amp. @ 10 Milli-Volts	⅛ Amp. @ 32 Volts	
	Number Operations	100,000,000	10,000,000		200,000,000	125,000,000		100,000,000	10,000,000	
Approximate Overall Dimensions		Over Leads	Glass Length	Glass Diameter	Over Leads	Glass Length	Glass Diameter	Over Leads	Glass Length	Glass Diameter
		1.5″	0.75″	0.100″	3.2″	2.1″	0.200″	1.5″	0.60″	0.125″
Weight		0.315 Grams			2.5 Grams			0.295 Grams		
Minimum Breakdown Voltage (60 cy. R.M.S.)		250 V.			500 V.			250 V.		
Minimum Insulation Resistance (Megohms)		500 K.			500 K.			100 K.		
Initial Contact Resistance (Milliohms Max.)		150			50			150		
Maximum Operate Time (Milliseconds)		Pull-In (Including Bounce)		Release	Pull-In (Including Bounce)		Release	Pull-In (Including Bounce)		Release
		1.0		0.5	2.0		0.5	1.0		0.5
Ampere-Turns To Operate		Pull-In			Pull-In			Pull-In		
		Nominal	Minimum	Drop Out	Nominal	Minimum	Drop Out	Nominal	Minimum	Drop Out
		50 ±15	20	50% of P.U.	100 ±15	60	30% of P.U.	50 ±15	35	70% of P.U.
Nominal Coil Power		0.335 Watts			0.360 Watts			0.335 Watts		
Vibration		15G — 2000 C.P.S.			20G — 750 C.P.S.			15G — 2000 C.P.S.		
Shock (JAN S-44)		50G (Min.)			40G (Min.)			50G (Min.)		
Ambient Temperature Range		−55° to +85°C			−55° to +85°C			−55° to +85°C		
Standard Test Coil Specifications Available	Wire Size	#44			#36			#44		
	Number Turns	10,000			10,000			10,000		
	Tube I.D.	0.150″			0.210″			0.150″		
	Tube O.D.	0.200″			0.375″			0.200″		
	Tube Length	0.75″			1.75″			0.75″		

MINIATURE D.C. GLASS REED RELAYS

TYPE BRMR MINIATURE

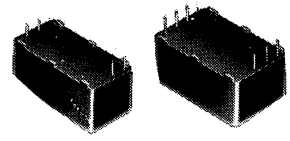

FIGURE 1 FIGURE 2

SIZE Fig. 1 - 1 1/64″ x 5/16″ x 35/64″
SIZE Fig. 2 - 1 5/16″ x 47/64″ x 35/64″
PLUS LEADS

See BRM-902 For Contact Rating

•

Operate Time 1 M.S. Including Bounce

•

Release Time 0.5 M.S. Max.

•

Magnetically Shielded

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
SINGLE POLE NORMALLY OPEN — Figure 1						
1.0 Watts Max. @ 25°C	6 V.	3.25 V.	0.8 V.	27.0 MA.	105	BRMR1-901
	12 V.	6.5 V.	1.0 V.	15.5 MA.	420	BRMR1-902
	28 V.	15.2 V.	2.5 V.	6.5 MA.	2350	BRMR1-903
TWO POLE NORMALLY OPEN — Figure 2						
1.5 Watts Max. @ 25°C	6 V.	3.25 V.	0.8 V.	46.5 MA.	70	BRMR2-901
	12 V.	6.5 V.	1.0 V.	25.2 MA.	280	BRMR2-902
	28 V.	15.2 V.	2.5 V.	9.8 MA.	1540	BRMR2-903

TYPE TRMR MINIATURE

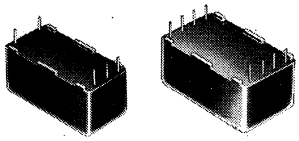

FIGURE 1 FIGURE 2

SIZE Fig. 1 - 1 1/64″ x 5/16″ x 35/64″
SIZE Fig. 2 - 1 5/16″ x 47/64″ x 35/64″
PLUS LEADS

See TRM-901 For Contact Rating

•

Operate Time 1 M.S. Including Bounce

•

Release Time 0.5 M.S. Max.

•

Shielded

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
TRUE FORM — SINGLE POLE DOUBLE THROW — Figure 1						
1.0 Watts Max. @ 25°C	6 V.	4 V.	1.5 V.	42 MA.	105	TRMR1-901
	12 V.	8 V.	3 V.	21 MA.	420	TRMR1-902
	28 V.	19 V.	6 V.	8 MA.	2350	TRMR1-903
TRUE FORM — TWO POLE DOUBLE THROW — Figure 2						
1.5 Watts Max. @ 25°C	6 V.	4 V.	1.5 V.	64 MA.	70	TRMR2-901
	12 V.	8 V.	3 V.	32 MA.	280	TRMR2-902
	28 V.	19 V.	6 V.	12 MA.	1540	TRMR2-903

TYPE BRSR STANDARD

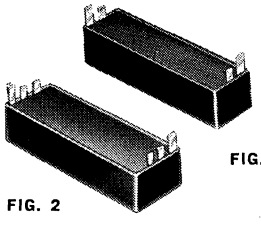

FIG. 1

FIG. 2

SIZE Fig. 1 - 2.55″ x .675″ x .625″
SIZE Fig. 2 - 2.55″ x .925″ x .625″

See BRS-901 For Contact Rating

•

Operate Time 2 M.S. Including Bounce

•

Release Time 0.5 M.S. Max.

•

Shielded

Coil Power	Nominal Voltage	Max. Pick-up Voltage	Minimum Drop-out Voltage	Max. Pick-up Current	Resistance in Ohms ±10%	Catalog Number
SINGLE POLE NORMALLY OPEN						
3.0 Watts Max. @ 25°C	6 V.	4.5 V.	0.55 V.	43.0 MA.	115	BRSR1-901
	12 V.	9.0 V.	1.10 V.	22.5 MA.	445	BRSR1-902
	28 V.	18.0 V.	2.50 V.	7.8 MA.	2550	BRSR1-903
TWO POLE NORMALLY OPEN						
3.2 Watts Max. @ 25°C	6 V.	4.5 V.	0.51 V.	86.5 MA.	58	BRSR2-901
	12 V.	9.0 V.	1.00 V.	45.0 MA.	220	BRSR2-902
	28 V.	18.0 V.	2.10 V.	13.3 MA.	1500	BRSR2-903

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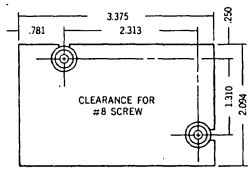
DIMENSIONS ARE APPROX. CONSULT FACTORY FOR EXACT DIMENSIONS. ***ASTERISK DENOTES BOTTOM VIEW—ALL OTHERS TOP VIEW**



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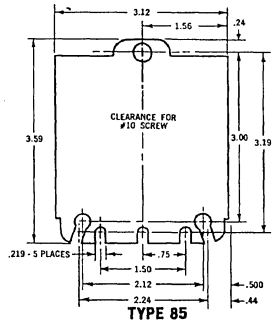

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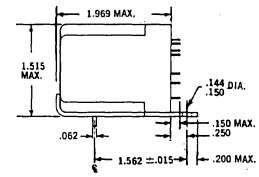
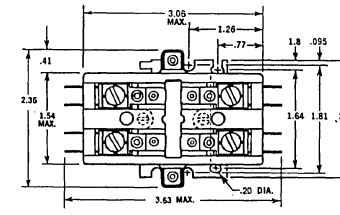


TYPE 93Q SIDE VIEW



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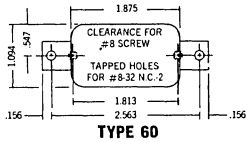

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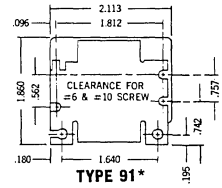

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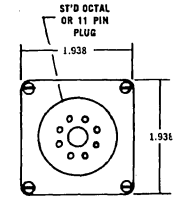

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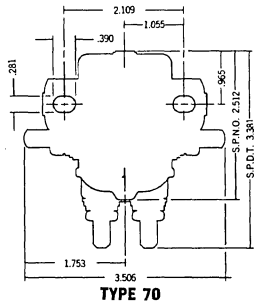

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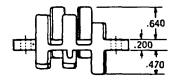

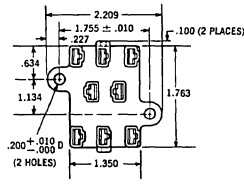

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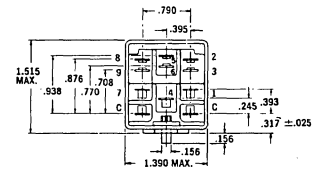

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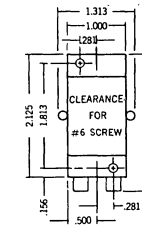

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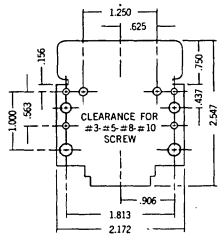

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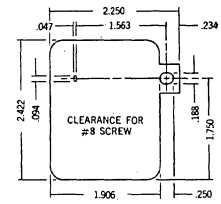

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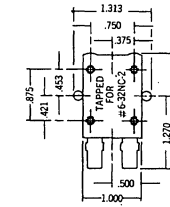

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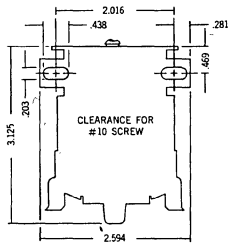
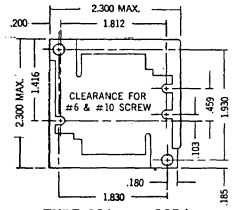


TYPE 80



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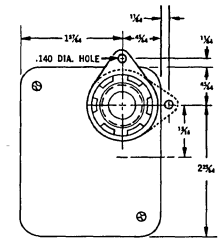

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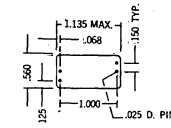

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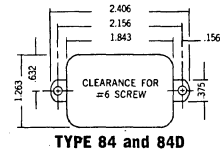
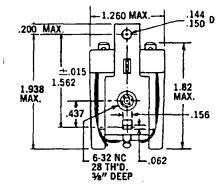


TYPE 84 and 84D



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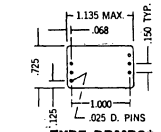
SOLDER TERMINAL



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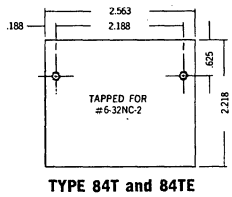

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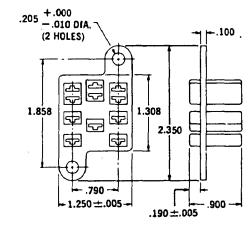

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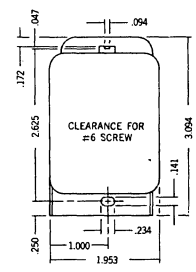

TYPE 129T

MORE MOUNTING DATA

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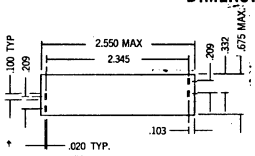
18 RBM CONTROLS — MOUNTING DIMENSIONS

DIMENSIONS ARE APPROX. CONSULT FACTORY FOR EXACT DIMENSIONS. *ASTERISK DENOTES BOTTOM VIEW—ALL OTHERS TOP VIEW



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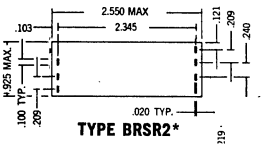

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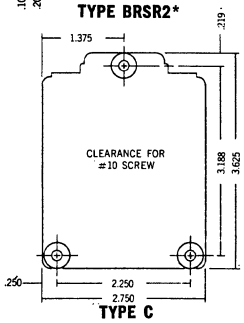

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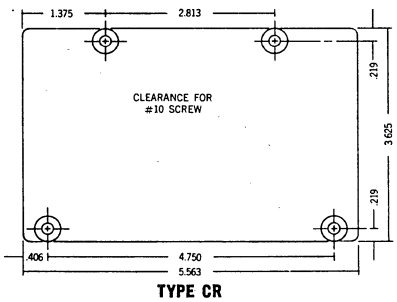

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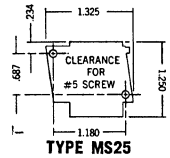
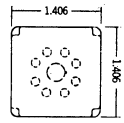
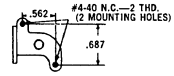


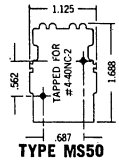
TYPE MS25



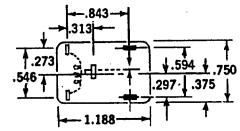
TYPE MS25P
TYPE MS50P (2 Pole)



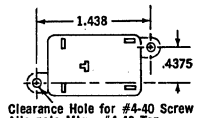
TYPE MS40



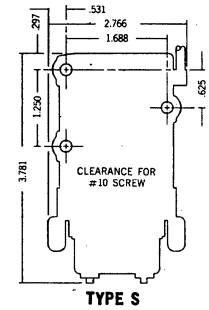
TYPE MS50



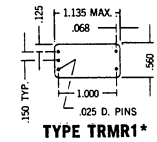
TYPE MS64
P.C. MTG.



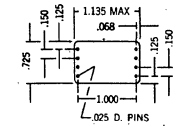
TYPE MS64
BRACKET MTG.



TYPE S



TYPE TRMR1*



TYPE TRMR2*

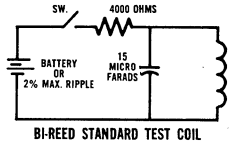
WIRING DIAGRAMS

TYPE 91 CONTACT TERMINAL ARRANGEMENT

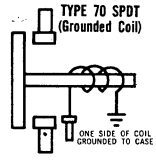
Mounting Hole Side			Coil Terminal Side		
1	2	3	4	5	6
COMMON	N.C.	N.O.	COMMON	N.C.	N.O.

TYPE 92 CONTACT TERMINAL ARRANGEMENT

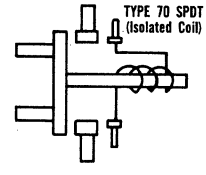
Cricuit-X			Circuit-Y			Circuit-Z		
C1	NC2	NO3	C4	NC5	NO6	C7	NC8	NO9

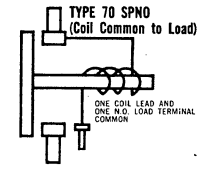


BI-REED STANDARD TEST COIL

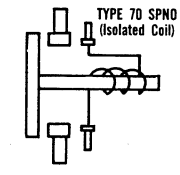


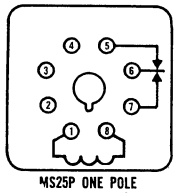
TYPE 70 SPDT
(Grounded Coil)

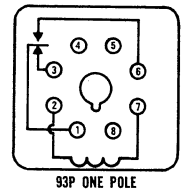

TYPE 70 SPDT
(Isolated Coil)

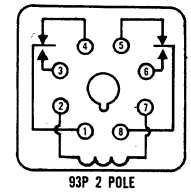


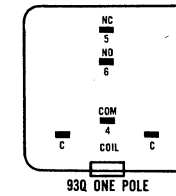
TYPE 70 SPNO
(Coil Common to Load)


TYPE 70 SPNO
(Isolated Coil)

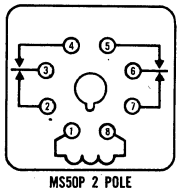

MS25P ONE POLE

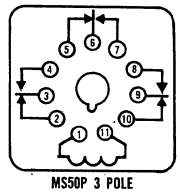

93P ONE POLE

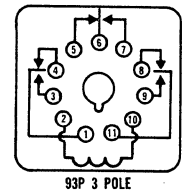

93P 2 POLE

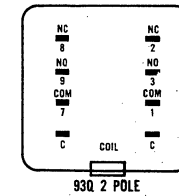


93Q ONE POLE

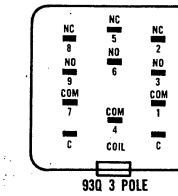

MS50P 2 POLE


MS50P 3 POLE


93P 3 POLE



93Q 2 POLE



93Q 3 POLE

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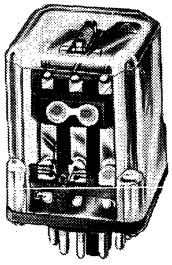
SCHRACK RELAYS

CAD SERIES

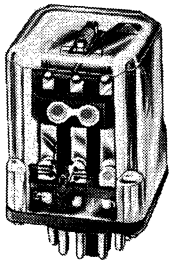


Contacts	10 Amp. Rating SPDT	DPDT	3PDT
Relay Type	CAD5A10	CAD11A10	CAD14A10
6 volts a.c. 12 volts a.c. 24 volts a.c. 115 volts a.c.	$4.95	$5.55	$6.75
230 volts a.c.	$5.50	$5.95	$7.15
Relay Type	CAD5D10	CAD11D10	CAD14D10
6 volts d.c. 12 volts d.c. 24 volts d.c.	$4.95	$5.55	$6.75
110 volts d.c.	$5.50	$5.95	$7.15

5 AMP ALSO AVAILABLE

Same basic design as CA series; however, with clear plastic dust cover and octal-type plug-in base. Case is secured firmly to base by 4 "upset" plastic studs. Contact carrier plate is self-centering. Contact carrier is made of "KERIPOLE," a polyester material with glass fibre filling.

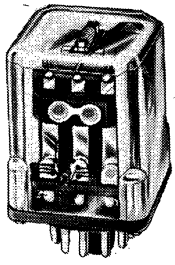
CSD SERIES



A plate circuit relay, similar to the CAD Type; however with increased sensitivity (125 MW per movable arm).

Contacts	SPDT	2 Amp. Rating DPDT	3PDT
Relay Type	CSD5	CSD11	CSD14
2500 ohms	$5.20	$5.60	$6.80
5000 ohms	$5.30	$5.70	$6.90
10,000 ohms	$5.70	$6.10	$7.30

SENSITIVE RELAY — CMD SERIES



In this series there are eleven types in three classifications.

No.	Coil	List Price
CMD-5D	600Ω	$4.95
CMD-5D	2400Ω	4.95
CMD-5D	9600Ω	5.20
CMD-11D	450Ω	6.10
CMD-11D	1890Ω	6.10
CMD-11D	7300Ω	6.10
CMD-5A	540Ω	5.00
CMD-5A	234Ω	4.75
CMD-5A	1000Ω	4.75
CMD-5A	3850Ω	4.75
CMD-5A	6900Ω	5.30

1. D.C. Relays with one form C contact Type CMD 5D—Pull-in sensitivity 40 mw; Coil Windings — 600 ohm, 2400 ohm, 9600 ohm

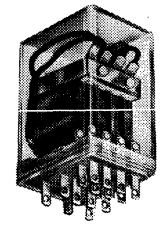
2. D.C. Relays with two form C contacts Type CMD 11D — Pull-in sensitivity 60 mw; Coil Windings — 450 ohm, 1890 ohm, 7300 ohm

3. A.C. Relays with one form C contact Type CMD 5A — Pull-In sensitivity 80 MVA; Coil Windings — 540 ohm, 234 ohm, 1000 ohm, 3850 ohm, and 6900 ohm

Contact ratings are 2 amps at 115 VAC.
Contact points are gold-flashed silver.

NEW MINIATURE UNIVERSAL TYPE RA

A precision piece of equipment at a commercial price —



1.515" high, 0.847" wide with dust cover

designed for use in computers, data processing equipment, communications equipment, process control applications, and other equally important systems.

Type RA is a four pole universal type relay for 4 PDT or double-make, double-break (DPDT-DB) action. 3/32" contacts rated at 3A — normally supplied in gold-flashed silver. Also available in silver cadmium oxide, gold nickel, silver palladium, etc.

STANDARD COIL DATA — **Sockets Available**

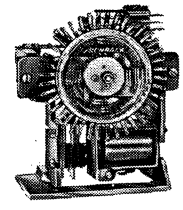
DC Voltage	Resistance in Ohms ± 10% at 25° C	List Prices	AC Voltage	Average AC current in MA (relay closed)	List Prices
6	40	$3.50	6	200	$4.10
12	160	3.50	12	100	4.10
24	650	3.50	24	52	4.10
48	2.600	4.20	48	25	4.80
90	9.000	4.20	115	10.5	4.80
110	11.000	4.20			

Printed Circuit Terminals at Same Prices

TYPE RR REMANENCE RELAYS

Magnetic Latching for miniaturized circuitry. Same physical characteristics as RA. Voltages from 24-220 AC and 12-110 DC. Same electrical characteristics as CRD and CRF on opposite page. Prices range from $4.50-$5.30 list.

ROTARY STEPPING SWITCH TYPE RT



The SCHRACK Rotary Stepping Switch is a combination of three reliable components:

1. Standard Relay with 1 Form C heavy-duty contact.
2. Ratchet driven Rotary Switch consisting of four banks of twelve or ten points each with sliding bifurcated wipers.
3. Ratchet driven Stepping Relay with two cams which actuate one Form C contact each.

Schrack Rotary Stepping Switches have a highly efficient magnetic circuit and a driving mechanism designed for maximum operating safety. All components are mounted on a rigid die-cast light metal frame and contacts are permanently molded in a sturdy melamine plastic.

ROTARY SWITCH terminals are arranged in a circular pattern with four groups of twelve points each. A conversion can make it operate with 3 groups of 16 each. An alternate version with 4 x 10 points is available for applications requiring decimal counting. Each group occupies a quadrant of the circle and contains a common bus which is connected to the twelve or ten insulated points in sequence by means of a sliding wiper as the switch is operated.

TYPE RT 304 — 4 x 12 Contact Points $19.00 ea.
TYPE RT 404 — 4 x 10 Contact Points $19.00 ea.

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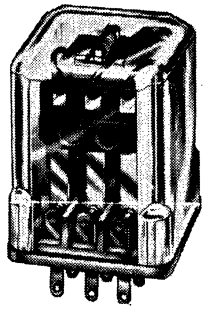
SCHRACK RELAYS

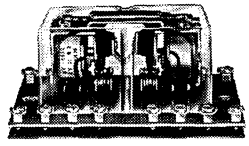
SINGLE COIL MAGNETIC LATCHING RELAYS — TYPES CRD & CRF



This is a bi-stable power relay held in operated position by a strong residual magnetism of the coil core after the coil is de-energized. The coil core is of a special alloy having sufficient remnant magnetic force to hold the armature locked-in for an indefinite period of time after being energized momentarily.

In design, these magnetic latching relays are identical, except for the base, with the Schrack Type CAD plug-in relay. Contacts are rated at 5 or 10 amps depending on materials used. DPDT (2 form C) or 3 DPDT (3 form C) versions are available.

LATCHING RELAY — TYPE CBT



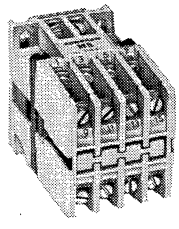
A dual coil mechanical latching relay. Each relay operates on a momentary impulse on either coil and is held in the set position until released by an impulse on the other coil. Both coils must be for the same voltage and are continuously rated.

Contact rating: 10 amps. (Based on 600 operations per hour at 115 volts AC 60 cy. resistive load).

May be operated continuously at 1000 cycles per hour.

The CBT relays have a transparent dust cover and a sturdy base plate of insulating material. Screw-type terminals are provided for all contact and coil connections. Available in voltages from 6-230 AC and 6-110 DC.

MULTI-POLE CONTACTORS TYPES M4, M6, M8, M10



Small, low-cost units

Versatile — with auxiliary contacts.

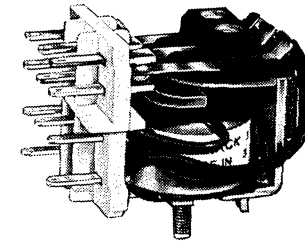
These are compact 8-pole air-break contactors. Principal applications for the M4 type are control circuits (pilot duty), but also may be used for switching of small single-phase or threephase motors. Type M8 has 4 contacts with increased rating and 4 contacts identical with M4. Types M6 and M10 have same features as M4 and M8, but have 3 main contacts and 1 auxiliary contact — intended for industrial applications.

NEW **LIST PRICES:**

M4 — $12.00
M6 — 15.00
M8 — 12.00
M10 — 15.00

STOCKED IN OUR N. Y. WAREHOUSE

OPEN RELAY TYPE CA

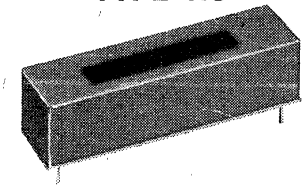


Recognized under the components program of Underwriters Laboratories, Inc.

5 AMP RATING	CA5A5	CA11A5	CA14A5	10 AMP RATING	CA5A10	CA11A10	CA14A10
6 volts a.c.				6 volts a.c.			
12 volts a.c.				12 volts a.c.			
24 volts a.c.	$2.60	$3.00	$3.85	24 volts a.c.	$2.65	$3.05	$3.90
115 volts a.c.				115 volts a.c.			
230 volts a.c.	2.95	3.40	4.20	230 volts a.c.	3.00	3.45	4.30
	CA5D5	CA11D5	CA14D5		CA5D10	CA11D10	CA14D10
6 volts d.c.				6 volts d.c.			
12 volts d.c.				12 volts d.c.			
24 volts d.c.	$2.60	$3.00	$3.80	24 volts d.c.	$2.65	$3.05	$3.85
60 volts d.c.				60 volts d.c.			
110 volts d.c.	2.95	3.40	4.15	110 volts d.c.	3.00	3.45	4.25

A robust and dependable open-type relay, equipped with lugs suitable for soldering and for mounting of AMP-FASTON Connectors, Series 110. Contact rating: 5 amps or 10 amps; according to contact material. Standard coils available: 6, 12, 24, 115, 230 volts a.c.; 6, 12, 24, 110 volts d.c. **Standard versions include 1, 2, or 3 Form C contacts. Optional: solder lugs for printed circuit boards, and .187 Faston Connectors.**

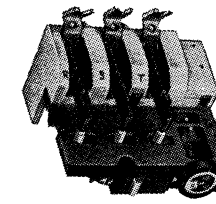
DRY REED RELAYS TYPE RU



May be incorporated into printed circuits as easily as other components. These are rugged, compact, high-power units available in a wide range of voltages and contact arrangements featuring long mechanical life (100 mill. operations). They are not influenced by mounting position and are fully protected against corrosive atmospheres.

	TYPE	PILE-UP	LIST PRICE
½ AMP. 3 WATTS	RU510 103	1A	$ 4.05
	106		4.15
	112		4.30
	124		4.80
	RU520 103	2A	6.85
	106		6.95
	112		6.95
	124		7.25
	RU530 103	3A	9.65
	106		9.80
	112		9.85
	124		10.35
.1 AMP. 4 WATTS	RU511 103	1C	12.70
	106		12.80
	112		12.90
	124		13.45
	RU521 103	2C	24.10
	106		24.20
	112		24.20
	124		24.40
	RU531 103	3C	35.50
	106		35.60
	112		35.80
	124		35.95
1 AMP 15 WATT	RU512 103	1A	4.20
	106		4.25
	112		4.35
	124		4.75
	148		5.60
3 AMP 50 WATT	RU513 103	1A	8.20
	106		8.25
	112		8.35
	124		8.75
	148		9.55

LOW COST PROTECTION AGAINST SINGLE PHASING IN A THREE WAY SYSTEM



Operates by the use of bi-metallic strips and dissimilar coefficients of expansion under temperature changes.
When temperature increases due to overload, a microswitch is activated in any leg of a three phase circuit.
Microswitch is normally placed in series with the solenoid of any switching device in the 3 phase line. Reset button may be manually or automatically operated.

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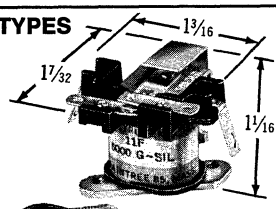
SCHRACK ELECTRICAL SALES CORPORATION

RELAYS

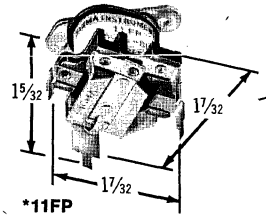
SIGMA RELAYS - GENERAL PURPOSE – SERIES 11 AC AND DC – SPDT

Exceptional among small, low-cost relays rated for 1-ampere switching. DC operation from sliding-current as well as on-off 50 milliwatt signals, plus an AC shaded-pole design operating from 0.3 volt-ampere on-off signals. Good environmental capability. Temperature range: −40 F to +122 F. UL- and CSA-listed.

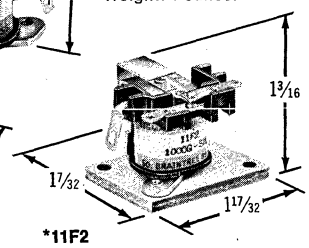
DC TYPES



***11F**
Screw mounting (2 #4-40 spaced .888), 5 solder terminals, armature common to mounting bracket. Weight: 1 ounce.



***11FP**
Shoulder lug mounting, printed-circuit terminals. Weight: 1.1 ounces.

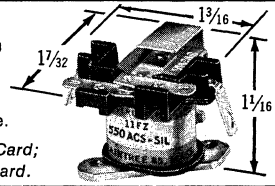


***11F2**
Insulated base with clearance holes for screw mounting, 5 solder terminals. Weight: 1.2 ounces.

CATALOG NUMBER	COIL DATA				CONTACTS		PRICE
	Nominal VDC	Resistance (ohms)	Pickup, Max (ma DC)	Pickup Power (mw)	Arrangement	Rating (amperes)	
11F - 100 G - SIL	—	100	22	50	SPDT	1	$2.05
11F - 250 G - SIL	6	250	14.0				1.95
11F - 550 G - SIL	—	550	9.5				1.95
11F - 1000 G - SIL	12	1000	7.0				1.95
11F - 1500 G - SIL	—	1500	5.8				1.95
11F - 2300 G - SIL	—	2300	4.6				1.95
11F - 6000 G - SIL	24	6000	2.9				2.15
11F - 9000 G - SIL	—	9000	2.4				2.35
11F2 - 1000 G - SIL	12	1000	7.0	50	SPDT	1	2.15
11F2 - 2300 G - SIL	—	2300	4.6				2.15
11F2 - 6000 G - SIL	24	6000	2.9				2.35
11F2 - 9000 G - SIL	—	9000	2.4				2.60
11FP - 1000 G - SIL	12	1000	7.0	50	SPDT	1	2.05
11FP - 1500 G - SIL	—	1500	5.8				2.15
11FP - 2300 G - SIL	—	2300	4.6				2.05
11FP - 6000 G - SIL	24	6000	2.9				2.35

AC TYPES

***11FZ**
Screw mounting (2 #4-40 spaced .888), 5 solder terminals, armature common to mounting bracket. Weight: 1 ounce.



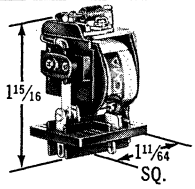
**U.L. File No. E28610, Yellow Card; C.S.A. File No. 20954, White Card.*

CATALOG NUMBER	COIL DATA			CONTACTS		PRICE
	Nominal VAC	Resistance (ohms)	Nominal Power (va)	Arrangement	Rating (amperes)	
11FZ - 25 ACS - SIL	6	25	.6	SPDT	1	$3.05
11FZ - 550 ACS - SIL	24	550				3.15
11FZ - 9000 ACS - SIL	115	9000				3.60

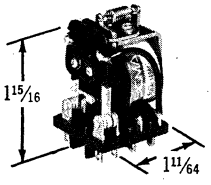
GENERAL PURPOSE – SERIES 50 AC AND DC – SPDT, DPDT, 3PDT

Highly efficient, compact, low-cost multipole relay for switching of industrial loads of 5 or 10 amperes to actuate small motors, solenoids, or other relays. 50ROL plug-in types incorporate an indicating lamp which lights when the coil is energized. 10-million-operation mechanical life. Temperature range: 50F: +14 F to +158 F: 50R0, 50R0L: To +131 F. UL- and CSA-listed.

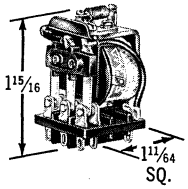
DC TYPES



***50F1**
Screw mounting (1 #6-32 hole), 5 solder terminals. Weight: 2 ounces.



***50F2**
Screw mounting (1 #6-32 hole), 8 solder terminals. Weight: 2 ounces.



***50F3**
Screw mounting (1 #6-32 hole), 11 solder terminals. Weight: 2 ounces.

**U.L. File No. E28610, Yellow Card; C.S.A. File No. 23903, White Card.*

CATALOG NUMBER	COIL DATA			CONTACTS		PRICE
	Nominal VDC	Resistance (ohms)	Nominal Power (w)	Arrangement	Rating (amperes)	
50F1 - 6 DC	6	23.5	1.5	SPDT	5	$3.05
50F1 - 12 DC	12	95				3.05
50F1 - 24 DC	24	430				3.05
50F1 - 48 DC	48	1630				3.05
50F1 - 110 DC	110	10,000				3.55
50F1 - 6 DC - SCO	6	23.5			10	3.15
50F1 - 12 DC - SCO	12	95				3.15
50F1 - 24 DC - SCO	24	430				3.15
50F1 - 48 DC - SCO	48	1630				3.15
50F1 - 110 DC - SCO	110	10,000				3.65
50F2 - 6 DC	6	23.5	1.5	DPDT	5	3.45
50F2 - 12 DC	12	95				3.45
50F2 - 24 DC	24	430				3.45
50F2 - 48 DC	48	1630				3.45
50F2 - 110 DC	110	10,000				3.90
50F2 - 6 DC - SCO	6	23.5			10	3.60
50F2 - 12 DC - SCO	12	95				3.60
50F2 - 24 DC - SCO	24	430				3.60
50F2 - 48 DC - SCO	48	1630				3.60
50F2 - 110 DC - SCO	110	10,000				4.05
50F3 - 6 DC	6	23.5	1.5	3PDT	5	3.85
50F3 - 12 DC	12	95				3.85
50F3 - 24 DC	24	430				3.85
50F3 - 48 DC	48	1630				3.85
50F3 - 110 DC	110	10,000				4.35
50F3 - 6 DC - SCO	6	23.5			10	4.05
50F3 - 12 DC - SCO	12	95				4.05

SIGMA INSTRUMENTS, INC.

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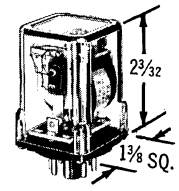
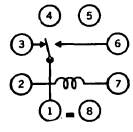
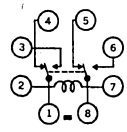
SIGMA RELAYS-SERIES 50 – SPDT, DPDT, 3PDT

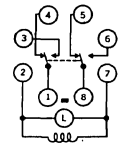
DC TYPES *(continued)*

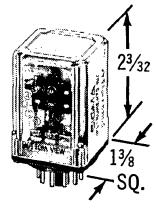


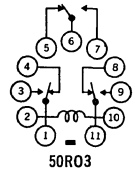
***50RO1, *50RO2, *50ROL2**
Polycarbonate dust cover, 8-pin plug; 50ROL2, with indicating lamp.

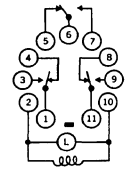

50RO1


50RO2


50ROL2



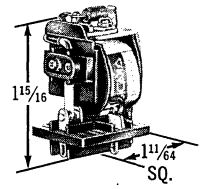

50RO3


50ROL3

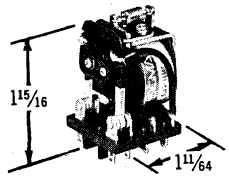
*** 50RO3, * 50ROL3**
Polycarbonate dust cover, 11-pin plug; 50ROL3, with indicating lamp.

CATALOG NUMBER	COIL DATA			CONTACTS		PRICE
	Nominal VDC	Resistance (ohms)	Nominal Power (w)	Arrangement	Rating (amperes)	
50F3 - 24 DC - SCO	24	430	1.5	3PDT	10	$4.05
50F3 - 48 DC - SCO	48	1630				4.05
50F3 - 110 DC - SCO	110	10,000				4.55
50RO1 - 6 DC	6	23.5	1.5	SPDT	5	4.70
50RO1 - 12 DC	12	95				4.70
50RO1 - 24 DC	24	430				4.70
50RO1 - 48 DC	48	1630				4.70
50RO1 - 110 DC	110	10,000				5.10
50RO1 - 6 DC - SCO	6	23.5			10	4.80
50RO1 - 12 DC - SCO	12	95				4.80
50RO1 - 24 DC - SCO	24	430				4.80
50RO1 - 48 DC - SCO	48	1630				4.80
50RO1 - 110 DC - SCO	110	10,000				5.20
50RO2 - 6 DC	6	23.5	1.5	DPDT	5	5.30
50RO2 - 12 DC	12	95				5.30
50RO2 - 24 DC	24	430				5.30
50RO2 - 48 DC	48	1630				5.30
50RO2 - 110 DC	110	10,000				5.65
50RO2 - 6 DC - SCO	6	23.5			10	5.45
50RO2 - 12 DC - SCO	12	95				5.45
50RO2 - 24 DC - SCO	24	430				5.45
50ROL2 - 24 DC - SCO	24	430				6.45
50RO2 - 48 DC - SCO	48	1630				5.45
50RO2 - 110 DC - SCO	110	10,000				5.80
50RO3 - 6 DC	6	23.5	1.5	3PDT	5	6.10
50RO3 - 12 DC	12	95				6.10
50RO3 - 24 DC	24	430				6.10
50RO3 - 48 DC	48	1630				6.10
50RO3 - 110 DC	110	10,000				6.50
50RO3 - 6 DC - SCO	6	23.5			10	6.30
50RO3 - 12 DC - SCO	12	95				6.30
50RO3 - 24 DC - SCO	24	430				6.30
50ROL3 - 24 DC - SCO	24	430				7.30
50RO3 - 48 DC - SCO	48	1630				6.30
50RO3 - 110 DC - SCO	110	10,000				6.80

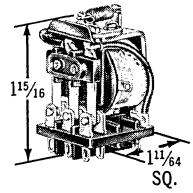
AC TYPES



***50F1**
Screw mounting (1 #6-32 hole), 5 solder terminals. Weight: 2 ounces.



***50F2**
Screw mounting (1 #6-32 hole), 8 solder terminals. Weight: 2 ounces.



***50F3**
Screw mounting (1 #6-32 hole), 11 solder terminals. Weight: 2 ounces.

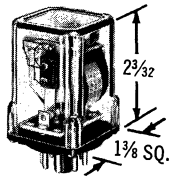
CATALOG NUMBER	COIL DATA			CONTACTS		PRICE
	Nominal VAC	Resistance (ohms)	Nominal Power (va)	Arrangement	Rating (amperes)	
50F1 - 6 AC	6	5.8	2.2	SPDT	5	$3.10
50F1 - 12 AC	12	23.5				3.10
50F1 - 24 AC	24	95				3.10
50F1 - 115 AC	115	2300				3.10
50F1 - 230 AC	230	7500				3.60
50F1 - 6 AC - SCO	6	5.8			10	3.20
50F1 - 12 AC - SCO	12	23.5				3.20
50F1 - 24 AC - SCO	24	95				3.20
50F1 - 115 AC - SCO	115	2300				3.20
50F1 - 230 AC - SCO	230	7500				3.70
50F2 - 6 AC	6	5.8	2.2	DPDT	5	3.80
50F2 - 12 AC	12	23.5				3.80
50F2 - 24 AC	24	95				3.80
50F2 - 115 AC	115	2300				3.80
50F2 - 230 AC	230	7500				4.20
50F2 - 6 AC - SCO	6	5.8			10	3.95
50F2 - 12 AC - SCO	12	23.5				3.95
50F2 - 24 AC - SCO	24	95				3.95
50F2 - 115 AC - SCO	115	2300				3.95
50F2 - 230 AC - SCO	230	7500				4.35
50F3 - 6 AC	6	5.8	2.2	3PDT	5	4.20
50F3 - 12 AC	12	23.5				4.20
50F3 - 24 AC	24	95				4.20
50F3 - 115 AC	115	2300				4.20
50F3 - 230 AC	230	7500				4.60
50F3 - 6 AC - SCO	6	5.8			10	4.40
50F3 - 12 AC - SCO	12	23.5				4.40
50F3 - 24 AC - SCO	24	95				4.40
50F3 - 115 AC - SCO	115	2300				4.40
50F3 - 230 AC - SCO	230	7500				4.80

**U.L. File No. E28610, Yellow Card;*
C.S.A. File No. 23903, White Card.

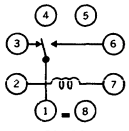
SIGMA INSTRUMENTS, INC.

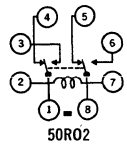
SIGMA RELAYS- SERIES 50 – SPDT, DPDT, 3PDT

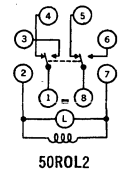
AC TYPES *(continued)*

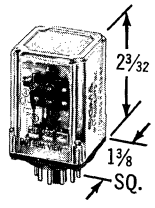


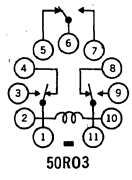
***50RO1, *50RO2, *50ROL2**
Polycarbonate dust cover, 8-pin plug; 50ROL2, with indicating lamp.

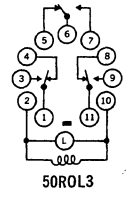

50RO1


50RO2


50ROL2




50RO3


50ROL3

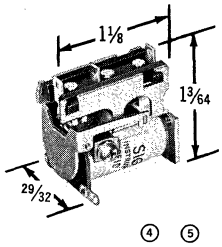
***50RO3, *50ROL3**
Polycarbonate dust cover, 11-pin plug; 50ROL3, with indicating lamp.

**U.L. File No. E28610, Yellow Card; C.S.A. File No. 23903, White Card.*

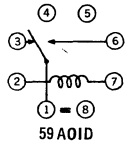
CATALOG NUMBER	COIL DATA			CONTACTS		PRICE
	Nominal VAC	Resistance (ohms)	Nominal Power (va)	Arrangement	Rating (amperes)	
50RO1 - 6 AC	6	5.8	2.2	SPDT	5	$4.80
50RO1 - 12 AC	12	23.5				4.80
50RO1 - 24 AC	24	95				4.80
50RO1 - 115 AC	115	2300				4.80
50RO1 - 230 AC	230	7500				5.15
50RO1 - 6 AC - SCO	6	5.8			10	4.90
50RO1 - 12 AC - SCO	12	23.5				4.90
50RO1 - 24 AC - SCO	24	95				4.90
50RO1 - 115 AC - SCO	115	2300				4.90
50RO1 - 230 AC - SCO	230	7500				5.25
50RO2 - 6 AC	6	5.8	2.2	DPDT	5	5.30
50RO2 - 12 AC	12	23.5				5.30
50RO2 - 24 AC	24	95				5.30
50RO2 - 115 AC	115	2300				5.30
50RO2 - 230 AC	230	7500				5.70
50RO2 - 6 AC - SCO	6	5.8			10	5.45
50RO2 - 12 AC - SCO	12	23.5				5.45
50RO2 - 24 AC - SCO	24	95				5.45
50RO2 - 115 AC - SCO	115	2300				5.45
50ROL2 - 115 AC - SCO	115	2300				6.45
50RO2 - 230 AC - SCO	230	7500				5.85
50RO3 - 6 AC	6	5.8	2.2	3PDT	5	6.10
50RO3 - 12 AC	12	23.5				6.10
50RO3 - 24 AC	24	95				6.10
50RO3 - 115 AC	115	2300				6.10
50RO3 - 230 AC	230	7500				6.55
50RO3 - 6 AC - SCO	6	5.8			10	6.30
50RO3 - 12 AC - SCO	12	23.5				6.30
50RO3 - 24 AC - SCO	24	95				6.30
50RO3 - 115 AC - SCO	115	2300				6.30
50ROL3 - 115 AC - SCO	115	2300				7.30
50RO3 - 230 AC - SCO	230	7500				6.75

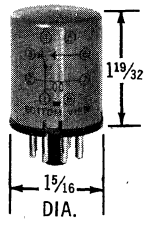
GENERAL PURPOSE – SERIES 59 DC – SPDT

Dependable, low-cost, snap-action relay for commercial applications where economy and size determine choice. The snap switch that serves as the contact assembly provides positive operation whether input signal changes slowly or abruptly. Pin-hinge armature construction for one-million-operation mechanical life. Temperature range: +14 to +158 F. UL- and CSA-listed.



***59F1D** Screw mounting (2 #3-48 holes spaced .394), 5 solder terminals. Weight: 0.8 ounce.


59 AO1D



***59AO1D** Painted metal dust cover, 8-pin plug. Weight: 1.5 ounces.

**U.L. File No. E28610, Yellow Card; C.S.A. File No. 23903, White Card.*

CATALOG NUMBER	COIL DATA			CONTACTS		PRICE
	Nominal VDC	Resistance (ohms)	Nominal Power (mw)	Arrangement	Rating (amperes)	
59F1D - 6 DC	6	120	300	SPDT	2	$2.05
59F1D - 12 DC	12	465				2.05
59F1D - 24 DC	24	1800				2.05
59AO1D - 6 DC	6	120	300	SPDT	2	3.55
59AO1D - 12 DC	12	465				3.55
59AO1D - 24 DC	24	1800				3.55

GENERAL PURPOSE – SERIES 62 DC – DPDT, 4PDT, 6PDT

Miniature industrial relay for economical low-level to 5-ampere multiple-circuit switching. Choice of voltage adjustment and either bifurcated or standard contacts, or sensitive current adjustment. Voltage-adjusted types with bifurcated contacts rated for ten million operations switching dry-circuit to maximum loads from low-power transistor drive and with minimum coil heating. Standard gold-plated silver contacts rated for one million operations and gold-plated silver-cadmium-oxide contacts 100,000 operations, both at maximum load. Sensitive types rated for one million operations at maximum load. Mechanical life all types, 100 million operations. Choice of solder- or printed-circuit terminal sockets designed for fast, easy connection. Ideal for communications and data-processing equipment, measuring instruments, process controls, recording devices, alarm systems. Interchangeable with similar commercial relays. Temperature range: +14 F to +158 F. UL- and CSA-listed.

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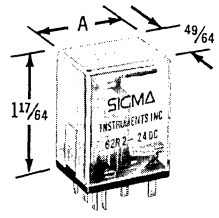
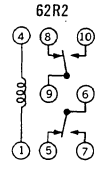
SIGMA RELAYS-SERIES 62 – DPDT, 4PDT, 6PDT *(continued)*

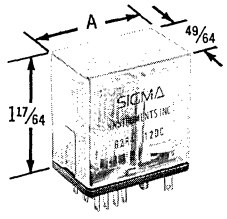
Plastic dust cover, stud mounting (#3-48). Weight: 1 ounce.

Type	Dim. A	Plug
62R2	6 1/64	8-prong
62R4	1 3/16	14-prong
62R6	1 25/64	20-prong

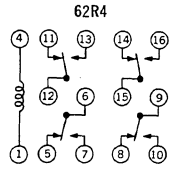


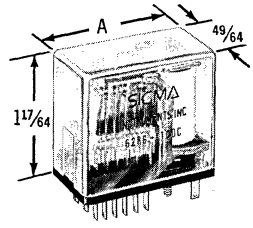
***62R2**
Plastic dust cover, stud mounting (#3-48), 8-prong plug. Weight: 1 ounce



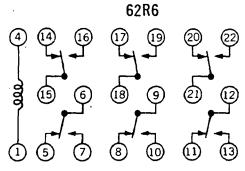


***62R4**
Plastic dust cover, stud mounting (#3-48), 14-prong plug. Weight: 1 ounce





***62R6**
Plastic dust cover, stud mounting (#3-48), 20-prong plug. Weight: 1 ounce



CATALOG NUMBER	COIL DATA: Nominal VDC	Resistance (ohms)	Nominal Power	CONTACTS: Arrangement	Rating (amperes)	PRICE
STANDARD CONTACTS, 2-AMPERE						
62R2 - 6 DC	6	52	700 mw	DPDT	2	$3.05
62R2 - 12 DC	12	185	↓	↓	↓	3.05
62R2 - 24 DC	24	700	↓	↓	↓	3.05
62R2 - 48 DC	48	2500	↓	↓	↓	3.15
62R2 - 110 DC	110	15,000	↓	↓	↓	4.50
62R4 - 6 DC	6	52	700 mw	4PDT	2	3.40
62R4 - 12 DC	12	185	↓	↓	↓	3.40
62R4 - 24 DC	24	700	↓	↓	↓	3.40
62R4 - 48 DC	48	2500	↓	↓	↓	3.60
62R4 - 110 DC	110	15,000	↓	↓	↓	5.00
62R6 - 6 DC	6	25	1.4 w	6PDT	2	4.40
62R6 - 12 DC	12	90	↓	↓	↓	4.40
62R6 - 24 DC	24	430	↓	↓	↓	4.40
62R6 - 48 DC	48	1550	↓	↓	↓	4.65
62R6 - 110 DC	110	9000	↓	↓	↓	5.60
STANDARD CONTACTS, 5-AMPERE						
62R2 - 6 DC - SCO	6	52	700 mw	DPDT	5*	3.15
62R2 - 12 DC - SCO	12	185	↓	↓	↓	3.15
62R2 - 24 DC - SCO	24	700	↓	↓	↓	3.15
62R2 - 48 DC - SCO	48	2500	↓	↓	↓	3.25
62R2 - 110 DC - SCO	110	15,000	↓	↓	↓	4.60
62R4 - 6 DC - SCO	6	52	700 mw	4PDT	5*	3.60
62R4 - 12 DC - SCO	12	185	↓	↓	↓	3.60
62R4 - 24 DC - SCO	24	700	↓	↓	↓	3.60
62R4 - 48 DC - SCO	48	2500	↓	↓	↓	3.80
62R4 - 110 DC - SCO	110	15,000	↓	↓	↓	5.20
62R6 - 6 DC - SCO	6	25	1.4 w	6PDT	5*	4.80
62R6 - 12 DC - SCO	12	90	↓	↓	↓	4.80
62R6 - 24 DC - SCO	24	430	↓	↓	↓	4.80
62R6 - 48 DC - SCO	48	1550	↓	↓	↓	5.00
62R6 - 110 DC - SCO	110	9000	↓	↓	↓	5.80

*at 28 VDC; at 115 VAC, 4 amperes

CATALOG NUMBER	COIL DATA: Nominal VDC	Resistance (ohms)	Nominal Power	CONTACTS: Arrangement	Rating (amperes)	PRICE
BIFURCATED CONTACTS						
62R2T - 6 DC	6	52	700 mw	DPDT	2*	$3.45
62R2T - 12 DC	12	185	↓	↓	↓	3.45
62R2T - 24 DC	24	700	↓	↓	↓	3.45
62R2T - 48 DC	48	2500	↓	↓	↓	3.55
62R2T - 110 DC	110	15,000	↓	↓	↓	4.90
62R4T - 6 DC	6	52	700 mw	4PDT	2*	4.00
62R4T - 12 DC	12	185	↓	↓	↓	4.00
62R4T - 24 DC	24	700	↓	↓	↓	4.00
62R4T - 48 DC	48	2500	↓	↓	↓	4.10
62R4T - 110 DC	110	15,000	↓	↓	↓	5.40
62R6T - 6 DC	6	25	1.4 w	6PDT	2*	4.90
62R6T - 12 DC	12	90	↓	↓	↓	4.90
62R6T - 24 DC	24	430	↓	↓	↓	4.90
62R6T - 48 DC	48	1550	↓	↓	↓	5.00
62R6T - 110 DC	110	9000	↓	↓	↓	6.30

*at 28 VDC; at 115 VAC, 1 ampere

CATALOG NUMBER	COIL DATA: Resistance (ohms)	Pickup, Max (ma DC)	Dropout, Min (ma DC)	Pickup Power (mw)	CONTACTS: Arrangement	Rating (amperes)	PRICE
SENSITIVE TYPES							
62R2S - 1000	1000	8.5	.85	85	DPDT	1	$3.40
62R2S - 2500	2500	5.8	.58	↓	↓	↓	3.40
62R2S - 5000	5000	4.1	.41	↓	↓	↓	3.80
62R2S - 10,000	10,000	3.1	.31	↓	↓	↓	4.20
62R2S - 15,000	15,000	2.6	.26	↓	↓	↓	4.60
62R4S - 1000	1000	13.0	1.3	175	4PDT	1	3.80
62R4S - 2500	2500	8.4	.84	↓	↓	↓	3.80
62R4S - 5000	5000	6.2	.62	↓	↓	↓	4.20
62R4S - 10,000	10,000	4.5	.45	↓	↓	↓	4.60
62R4S - 15,000	15,000	3.5	.35	↓	↓	↓	4.90
62R6S - 1000	1000	16.0	1.6	250	6PDT	1	4.90
62R6S - 2500	2500	10.0	1.0	↓	↓	↓	4.90
62R6S - 5000	5000	7.2	.72	↓	↓	↓	5.40
62R6S - 10,000	10,000	5.0	.50	↓	↓	↓	5.90
62R6S - 15,000	15,000	4.2	.42	↓	↓	↓	6.20

**U.L. File No. E28610, Yellow Card; C.S.A. File No. 23903, White Card.*

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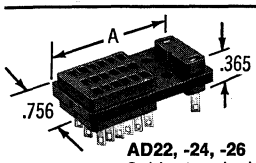
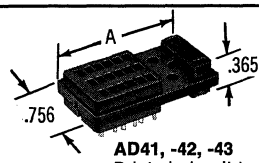
SIGMA RELAYS- SERIES 62 – DPDT, 4PDT, 6PDT *(continued)*



AD22, -24, -26
Solder terminals; grounding clip and hold-down spring included.



AD41, -42, -43
Printed-circuit terminals, .100 grid; grounding clip and hold-down spring included.

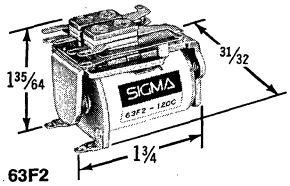
Socket	Dim. A.
AD22, AD41	.944
AD24, AD42	1.172
AD26, AD43	1.378

SOCKETS

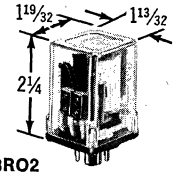
CATALOG NUMBER		PRICE
Socket Assembly AD22	2-pole	.55
Socket Assembly AD24	4-pole	.65
Socket Assembly AD26	6-pole	.95
Socket Assembly AD41	2-pole	.55
Socket Assembly AD42	4-pole	.65
Socket Assembly AD43	6-pole	.95

GENERAL PURPOSE – SERIES 63 DC – DPDT, 4PDT

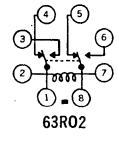
Compact, telephone-type relay for reliable, minimum-distortion switching of low-level audio signals and for use in logic circuitry. Good sensitivity, low and stable contact resistance, 10-million-operation mechanical life. Temperature range: +14 F to +158 F.

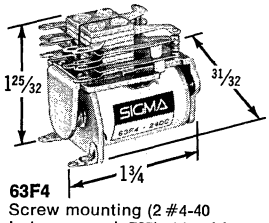


63F2
Screw mounting (2 #4-40 holes spaced .737), 8 solder terminals. Weight: 2½ ounces.

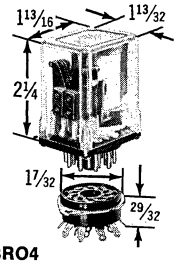


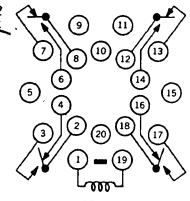
63RO2
Plastic dust cover, 8-pin plug. Weight: 4 ounces.





63F4
Screw mounting (2 #4-40 holes spaced .737), 14 solder terminals. Weight: 2½ ounces.



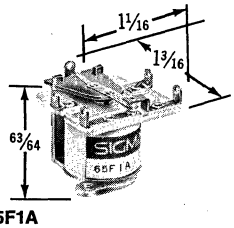


63RO4
Plastic dust cover, 20-pin plug. Used with Socket Assembly AD35. Weight: 4 ounces.

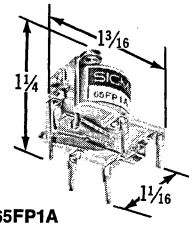
CATALOG NUMBER	COIL DATA: Nominal VDC	Resistance (ohms)	Nominal Power (mw)	CONTACTS: Arrangement	Rating (amperes)	PRICE
63F2 - 6 DC	6	50	720	DPDT	2	$5.10
63F2 - 12 DC	12	200	↓	↓	↓	5.10
63F2 - 24 DC	24	800	↓	↓	↓	5.10
63F2 - 48 DC	48	3200	↓	↓	↓	5.10
63R02 - 6 DC	6	50	720	DPDT	2	8.20
63R02 - 12 DC	12	200	↓	↓	↓	8.20
63R02 - 24 DC	24	800	↓	↓	↓	8.20
63R02 - 48 DC	48	3200	↓	↓	↓	8.20
63F4 - 6 DC	6	50	720	4PDT	2	7.10
63F4 - 12 DC	12	200	↓	↓	↓	7.10
63F4 - 24 DC	24	800	↓	↓	↓	7.10
63F4 - 48 DC	48	3200	↓	↓	↓	7.10
63R04 - 6 DC	6	50	720	4PDT	2	10.60
63R04 - 12 DC	12	200	↓	↓	↓	10.60
63R04 - 24 DC	24	800	↓	↓	↓	10.60
63R04 - 48 DC	48	3200	↓	↓	↓	10.60
Socket AD35	For use with Type 63R04 relays					.50

GENERAL PURPOSE – SERIES 65 DC – SPDT

For commercial applications requiring a small, low-cost relay capable of positive response to low-power signals. Excellent adjustment stability, sturdy construction, 5-million-operation mechanical life. An economical choice for such applications as remote TV channel selectors, vending machines, semiautomatic home slide projectors, automatic toys and games. Temperature range: +14 F to +158 F.



65F1A
Screw mounting (2 #4-40 holes spaced .888), 5 solder terminals. Weight: 1 ounce.



65FP1A
Terminals for printed-circuit mounting. Weight: 1 ounce.

CATALOG NUMBER	COIL DATA: Nominal VDC	Resistance (ohms)	Nominal Power (mw)	CONTACTS: Arrangement	Rating (amperes)	PRICE
65F1A - 6 DC	6	410	90	SPDT	1	$1.50
65F1A - 12 DC	12	1640	↓	↓	↓	1.50
65F1A - 24 DC	24	6560	↓	↓	↓	1.50
65FP1A - 6 DC	6	410	90	SPDT	1	1.60
65FP1A - 12 DC	12	1640	↓	↓	↓	1.60
65FP1A - 24 DC	24	6560	↓	↓	↓	1.60

GENERAL PURPOSE – SERIES 67 AC AND DC – 4PDT

Miniature, rugged relay. Switches low-level to 3-ampere loads from 1.2 volt-ampere or 900-milliwatt signals. 100,000 operations minimum at rated load. 100 million mechanical operations DC types; 50 million AC types. Solder- or printed-circuit-terminal sockets for fast chassis top mounting and easy wiring. Relay and sockets interchangeable with comparable types. For computers, data-handling equipment, process control, other demanding applications. Temperature range: −4 F to +140 F. UL- and CSA-listed.

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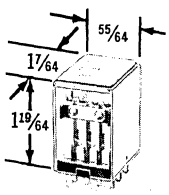
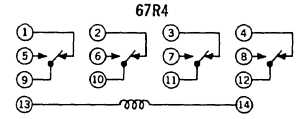
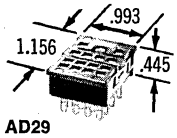
SIGMA RELAYS- SERIES 67 – 4PDT *(continued)*

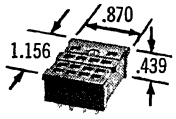




***67R4** Polycarbonate dust cover, stud mounting (#3-48), 14-prong plug. Weight: 1¼ ounces.



AD28
14 solder terminals. Plugs in from one side of chassis. No accessory mounting hardware needed.



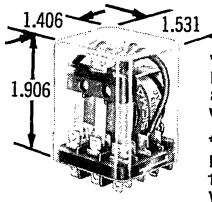
AD29
14 printed-circuit terminals. No accessory mounting hardware needed.

**U.L. File No. E28610, Yellow Card; C.S.A. File No. 23903, White Card.*

CATALOG NUMBER	CONTACTS			COIL DATA		PRICE
DC TYPES	Nominal VDC or VAC	Resistance (ohms)	Nominal Power	Arrangement	Rating (amperes)	
67R4 - 6 DC	6	40	900 mw	4PDT	3	$4.40
67R4 - 12 DC	12	160	↓	↓	↓	4.40
67R4 - 24 DC	24	650	↓	↓	↓	4.40
67R4 - 48 DC	48	2600	↓	↓	↓	4.60
67R4 - 110 DC	110	11,000	↓	↓	↓	5.10
AC TYPES						
67R4 - 12 AC	12	43	1.2 va	4PDT	3	5.00
67R4 - 24 AC	24	160	↓	↓	↓	5.00
67R4 - 115 AC	115	3900	↓	↓	↓	5.40
Socket Assembly AD28						.60
Socket Assembly AD29						.60

GENERAL PURPOSE – SERIES 68 AC AND DC – SPDT, DPDT, 3PDT

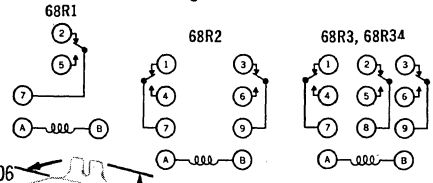
Versatile, low-cost relay for high-efficiency, production-line switching of light to medium power loads. Fast installation — .187-inch terminals may be soldered, quick-connect fastened, or plugged into standard sockets. Electrical life one million operations at 28 VDC; 500,000 at 115 VAC. Mechanical life, ten million operations. Choice of 10-ampere-rated solder- or printed-circuit-terminal sockets molded of heat-resistant phenolic. Temperature range: Minimum: −49 F. Maximum: AC: 1- and 2-pole: +131 F; 3-pole: +113 F; DC: +158 F. UL-listed.

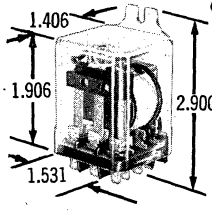


***68R1**
Polycarbonate dust cover, 5 quick-connect/solder terminals. Weight: 2.6 ounces.

***68R2**
Polycarbonate dust cover, 8 quick-connect/solder terminals. Weight: 2.7 ounces.

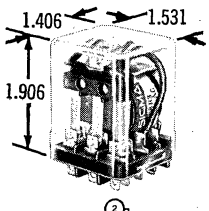
***68R3**
Polycarbonate dust cover, 11 quick-connect/solder terminals. Weight: 2.9 ounces.





***68R34**
Polycarbonate dust cover, flange mounting, 11 quick-connect/solder terminals. Weight: 2.9 ounces.

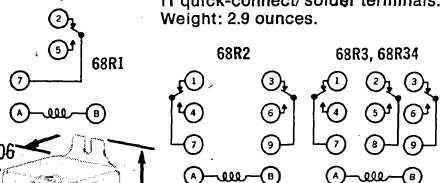
CATALOG NUMBER	COIL DATA				CONTACTS		PRICE
DC TYPES	Nominal VDC	Resistance (ohms)	Pickup, Max (VDC)	Nominal Power (w)	Arrangement	Rating (amperes)	
68R1 - 6 DC - SCO	6	32	4.5	1.2	SPDT	10	$3.10
68R1 - 12 DC - SCO	12	120	9	↓	↓	↓	3.10
68R1 - 24 DC - SCO	24	470	18	↓	↓	↓	3.10
68R1 - 48 DC - SCO	48	1800	36	↓	↓	↓	3.10
68R1 - 110 DC - SCO	110	10,000	83	↓	↓	↓	3.50
68R2 - 6 DC - SCO	6	32	4.5	1.2	DPDT	10	3.50
68R2 - 12 DC - SCO	12	120	9	↓	↓	↓	3.50
68R2 - 24 DC - SCO	24	470	18	↓	↓	↓	3.50
68R2 - 48 DC - SCO	48	1800	36	↓	↓	↓	3.50
68R2 - 110 DC - SCO	110	10,000	83	↓	↓	↓	4.00
68R3 - 6 DC - SCO	6	32	4.5	1.2	3PDT	10	4.00
68R3 - 12 DC - SCO	12	120	9	↓	↓	↓	4.00
68R3 - 24 DC - SCO	24	470	18	↓	↓	↓	4.00
68R3 - 48 DC - SCO	48	1800	36	↓	↓	↓	4.00
68R3 - 110 DC - SCO	110	10,000	83	↓	↓	↓	4.40
68R34 - 6 DC - SCO	6	32	4.5	1.2	3PDT	10	4.00
68R34 - 12 DC - SCO	12	120	9	↓	↓	↓	4.00
68R34 - 24 DC - SCO	24	470	18	↓	↓	↓	4.00
68R34 - 48 DC - SCO	48	1800	36	↓	↓	↓	4.00
68R34 - 110 DC - SCO	110	10,000	83	↓	↓	↓	4.40

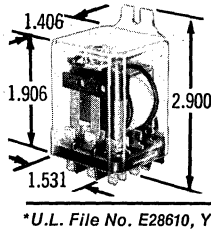


***68R1**
Polycarbonate dust cover, 5 quick-connect/solder terminals. Weight: 2.6 ounces.

***68R2**
Polycarbonate dust cover, 8 quick-connect/solder terminals. Weight: 2.7 ounces.

***68R3**
Polycarbonate dust cover, 11 quick-connect/solder terminals. Weight: 2.9 ounces.





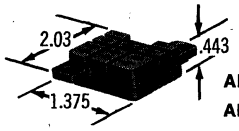
***68R34**
Polycarbonate dust cover, flange mounting, 11 quick-connect/solder terminals. Weight: 2.9 ounces.

CATALOG NUMBER	COIL DATA				CONTACTS		PRICE
AC TYPES	Nominal VAC	Resistance (ohms)	Pickup, Max (VAC)	Nominal Power (va)	Arrangement	Rating (amperes)	
68R1 - 6 AC - SCO	6	6	5.1	2.1	SPDT	10	$3.20
68R1 - 12 AC - SCO	12	21	10.2	↓	↓	↓	3.20
68R1 - 24 AC - SCO	24	75	20.4	↓	↓	↓	3.20
68R1 - 115 AC - SCO	115	2250	98	↓	↓	↓	3.20
68R1 - 230 AC - SCO	230	9110	196	↓	↓	↓	3.50
68R2 - 6 AC - SCO	6	6	5.1	2.1	DPDT	10	3.90
68R2 - 12 AC - SCO	12	21	10.2	↓	↓	↓	3.90
68R2 - 24 AC - SCO	24	75	20.4	↓	↓	↓	3.90
68R2 - 115 AC - SCO	115	2250	98	↓	↓	↓	3.90
68R2 - 230 AC - SCO	230	9110	196	↓	↓	↓	4.20
68R3 - 6 AC - SCO	6	4.5	5.1	2.5	3PDT	10	4.40
68R3 - 12 AC - SCO	12	19	10.2	↓	↓	↓	4.40
68R3 - 24 AC - SCO	24	74	20.4	↓	↓	↓	4.40
68R3 - 115 AC - SCO	115	2000	98	↓	↓	↓	4.40
68R3 - 230 AC - SCO	230	7500	196	↓	↓	↓	4.80
68R34 - 6 AC - SCO	6	4.5	5.1	2.5	3PDT	10	4.40
68R34 - 12 AC - SCO	12	19	10.2	↓	↓	↓	4.40

**U.L. File No. E28610, Yellow Card*

SIGMA INSTRUMENTS, INC.

SIGMA RELAYS-SERIES 68 – SPDT, DPDT, 3PDT *(continued)*

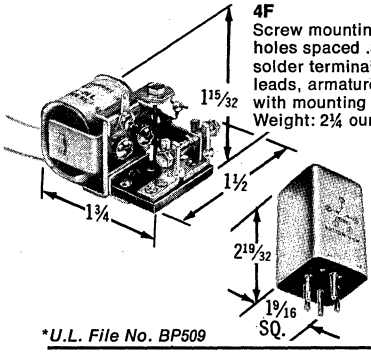


AD40 Solder terminals
AD51 Printed-circuit terminals

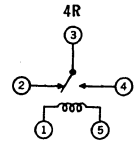
CATALOG NUMBER	COIL DATA				CONTACTS		PRICE
AC TYPES	Nominal VAC	Resistance (ohms)	Pickup, Max (VAC)	Nominal Power (va)	Arrangement	Rating (amperes)	
68R34 - 24 AC - SCO	24	74	20.4	2.5	3PDT	10	4.40
68R34 - 115 AC - SCO	115	2000	98	↓	↓	↓	4.40
68R34 - 230 AC - SCO	230	7500	196	↓	↓	↓	4.80
Socket AD40	Fits all except flange-mounted 68R34 types.						.70
Socket AD51	Fits all except flange-mounted 68R34 types.						.80

SENSITIVE – SERIES 4 DC – SPDT

A precise, versatile relay for applications requiring low power, stable trip values, and high dropout. Excellent repeatability over 100,000-operation rated life. Mechanical life eight million operations minimum. Responds to gradually changing or on-off signals. Useful where coil remains partially energized when relay is in deenergized condition, as in transistor circuits with high idle current. Ideal for vacuum-tube plate circuits, smoke detection controls and alarm systems in which the relay must trip under alarm conditions but not under supervisory conditions. Temperature range: +32 F to +122 F. UL-listed for use in burglary protection equipment.



4F
Screw mounting (2 #6-32 holes spaced .375), 3 solder terminals, 2 coil leads, armature common with mounting bracket. Weight: 2¼ ounces.



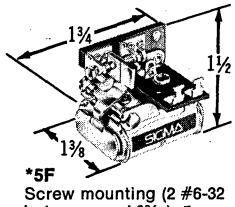
***4R**
Aluminum dust cover, 5-pin plug. Weight: 3¾ ounces.

**U.L. File No. BP509*

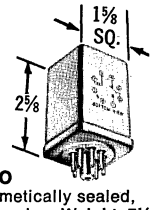
CATALOG NUMBER	COIL DATA				CONTACTS		PRICE
	Resistance (ohms)	Pickup, Max (ma DC)	Dropout, Min (ma DC)	Pickup Power (mw)	Arrangement	Rating (amperes)	
4F - 1000 S - SIL	1000	4.5	2.0	20	SPDT	2	$6.50
4F - 2500 S - SIL	2500	3.0	1.3	↓	↓	↓	6.50
4F - 5000 S - SIL	5000	2.0	.90	↓	↓	↓	6.85
4F - 8000 S - SIL	8000	1.6	.75	↓	↓	↓	7.10
4F - 10,000 S - SIL	10,000	1.4	.65	↓	↓	↓	7.10
4R - 1000 S - SIL	1000	4.5	2.0	20	SPDT	2	8.90
4R - 2500 S - SIL	2500	3.0	1.3	↓	↓	↓	9.75
4R - 5000 S - SIL	5000	2.0	.90	↓	↓	↓	9.20
4R - 8000 S - SIL	8000	1.6	.75	↓	↓	↓	9.45
4R - 10,000 S - SIL	10,000	1.4	.65	↓	↓	↓	9.45

SENSITIVE – SERIES 5 DC – SPDT

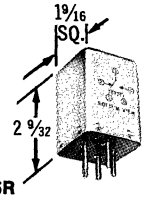
Extremely sensitive, precise, and rugged — one of the most versatile relays available. Applications range from air navigation systems to burglar alarms and meter protection equipment. Unusually high contact forces at inputs as low as 1 milliwatt, gradually changing or on-off. Useful for overload-underload detection — reacts without amplification to minute variations from normal. Exceptional trip-point stability (±2%) over five-million-operation life. Withstands heavy voltage-or-current 30-to-1 coil overloads, 100 g shock. Temperature range: S: −4 F to +158 F; SS: +50 F to +140 F. All types UL-listed for use in burglary protection equipment.



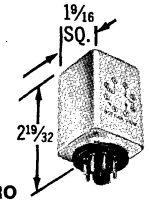
***5F**
Screw mounting (2 #6-32 holes spaced 2 3/32), 5 solder terminals. Weight: 4¼ ounces.



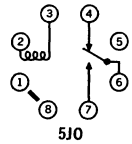
***5JO**
Hermetically sealed, 8-pin plug. Weight: 7¼ ounces.



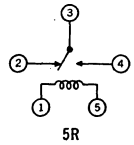
***5R**
Aluminum dust cover, 5-pin plug. Weight: 5¾ ounces.



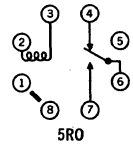
***5RO**
Aluminum dust cover, 8-pin plug. Weight: 5¾ ounces.



5JO



5R



5RO

CATALOG NUMBER	COIL DATA				CONTACTS		PRICE
	Resistance (ohms)	Pickup, Max (ma DC)	Dropout, Min (ma DC)	Pickup Power (mw)	Arrangement	Rating (amperes)	
5F - 1000 S - SIL	1000	2.3	.80	5	SPDT	1	$9.25
5F - 2500 S - SIL	2500	1.4	.50	↓	↓	↓	9.25
5F - 5000 S - SIL	5000	1.0	.40	↓	↓	↓	9.90
5F - 10,000 S - SIL	10,000	.70	.25	↓	↓	↓	10.85
5F - 16,000 S - SIL	16,000	.55	.20	↓	↓	↓	11.70
5F - 1000 SS - PAL	1000	1.0	.40	1	↓	.25	10.50
5F - 10,000 SS - PAL	10,000	.30	.13	1	↓	.25	12.10
5JO - 1000 S - SIL	1000	2.3	.80	5	SPDT	1	17.00
5JO - 2500 S - SIL	2500	1.4	.50	↓	↓	↓	17.00
5JO - 5000 S - SIL	5000	1.0	.40	↓	↓	↓	17.65
5JO - 10,000 S - SIL	10,000	.70	.25	↓	↓	↓	18.55
5JO - 16,000 S - SIL	16,000	.55	.20	↓	↓	↓	19.60
5R - 1000 S - SIL	1000	2.3	.80	5	SPDT	1	11.70
5R - 2500 S - SIL	2500	1.4	.50	↓	↓	↓	11.70
5R - 5000 S - SIL	5000	1.0	.40	↓	↓	↓	12.35
5R - 10,000 S - SIL	10,000	.70	.25	↓	↓	↓	13.25
5R - 16,000 S - SIL	16,000	.55	.20	↓	↓	↓	14.25
5R - 1000 SS - PAL	1000	1.0	.40	1	↓	.25	13.90
5R - 10,000 SS - PAL	10,000	.30	.13	1	↓	.25	15.65
5RO - 1000 S - SIL	1000	2.3	.80	5	SPDT	1	12.60
5RO - 2500 S - SIL	2500	1.4	.50	↓	↓	↓	12.60
5RO - 5000 S - SIL	5000	1.0	.40	↓	↓	↓	13.30
5RO - 10,000 S - SIL	10,000	.70	.25	↓	↓	↓	14.25
5RO - 16,000 S - SIL	16,000	.55	.20	↓	↓	↓	15.30

**U.L. File No. BP509*

SIGMA INSTRUMENTS, INC.

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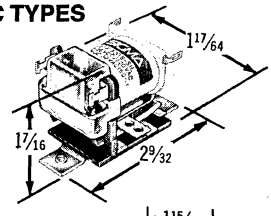
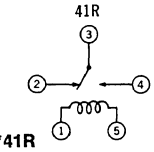
SIGMA RELAYS-SENSITIVE – SERIES 41 AC AND DC – SPDT

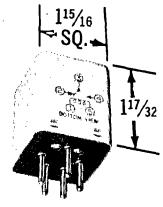
Rugged, versatile industrial relay for applications ranging from airport lighting systems to smoke detection controls. Pivotless hinge construction and extra-long beryllium copper spring arm contribute to one-billion-operation mechanical life. Balanced design for coil overload capacity four to six times rated input, long contact life, load-carrying capability from dry circuit to 10 amperes. Operates from gradually changing or on-off DC signals, on-off AC signals. Used in such diverse equipment as office machines, battery-operated emergency lights, photoelectric controls, machine tool controls, liquid level sensing circuits, and mercury contact thermometers. Temperature range: −67 F to +185 F, except plastic covers to +158 F. UL- and CSA-listed.

DC TYPES

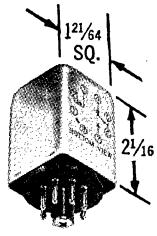


***41F**
Screw mounting (2 #6-32 holes spaced 1.812), 5 solder terminals, insulated from chassis. Weight: 2½ ounces.

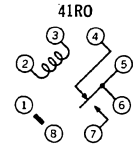


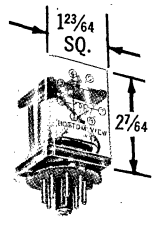


***41R**
Aluminum dust cover, 5-pin plug. Weight: 3 ounces.

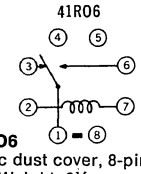


***41RO**
Aluminum dust cover, 8-pin plug. Weight: 3 ounces.





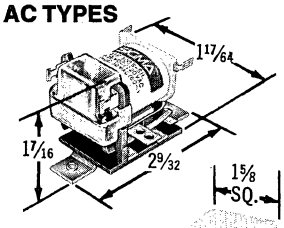
***41RO6**
Plastic dust cover, 8-pin plug. Weight: 3¼ ounces.



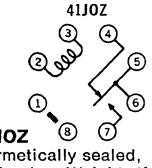
CATALOG NUMBER	COIL DATA: Nominal VDC	Resistance (ohms)	Pickup, Max [1] (ma DC)	Pickup Power (mw)	CONTACTS: Arrangement	Rating (amperes)	PRICE
41F - 200 S - SIL	6	200	15	40	SPDT	2	$4.30
41F - 500 S - SIL	—	500	9.0	↓	↓	↓	4.30
41F - 1000 S - SIL	12	1000	6.5	↓	↓	↓	4.30
41F - 2500 S - SIL	—	2500	4.0	↓	↓	↓	4.50
41F - 5000 S - SIL	24	5000	3.0	↓	↓	↓	4.50
41F - 10,000 S - SIL	—	10,000	2.0	↓	↓	↓	4.75
41F - 200 G - BSL	12	200	32	200	↓	10	4.10
41F - 1000 G - BSL	24	1000	14	↓	↓	↓	4.10
41F - 5000 G - BSL	—	5000	6.5	↓	↓	↓	4.25
41R - 1000 S - SIL	12	1000	6.5	40	SPDT	2	6.45
41R - 5000 S - SIL	24	5000	3.0	↓	↓	↓	6.60
41R - 8000 S - SIL	—	8000	2.3	↓	↓	↓	6.90
41RO - 1000 S - SIL	12	1000	6.5	40	SPDT	2	6.15
41RO - 2500 S - SIL	—	2500	4.0	↓	↓	↓	6.45
41RO - 5000 S - SIL	24	5000	3.0	↓	↓	↓	6.30
41RO - 10,000 S - SIL	—	10,000	2.0	↓	↓	↓	6.60
41RO6 - 500 S - SIL	—	500	9.0	40	SPDT	2	6.45
41RO6 - 1000 S - SIL	12	1000	6.5	↓	↓	↓	6.15
41RO6 - 2500 S - SIL	—	2500	4.0	↓	↓	↓	6.15
41RO6 - 5000 S - SIL	24	5000	3.0	↓	↓	↓	6.30

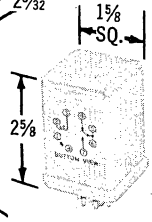
[1]Dropout will always be higher than 20% of maximum pickup.

AC TYPES

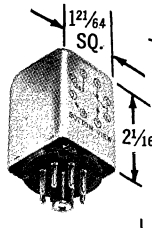


***41FZ**
Screw mounting (2 #6-32 holes spaced 1.812), 5 solder terminals, insulated from chassis. Weight: 2½ ounces.

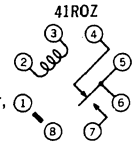


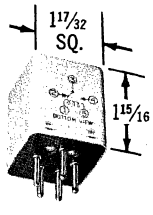


41JOZ
Hermetically sealed, 8-pin plug. Weight: 5¼ ounces.

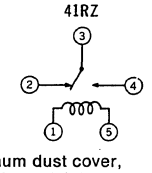


***41ROZ**
Aluminum dust cover, 8-pin plug. Weight: 3 ounces.





***41RZ**
Aluminum dust cover, 5-pin plug. Weight: 3 ounces.



CATALOG NUMBER	COIL DATA: Nominal VAC	Resistance (ohms)	Pickup, Max [1] (VAC)	Pickup Power (va)	CONTACTS: Arrangement	Rating (amperes)	PRICE
41FZ - 10 ACG - BSL	6	10	4	.4	SPDT	5	$3.90
41FZ - 200 ACG - BSL	24	200	18	.4	↓	↓	4.10
41FZ - 5000 ACG - BSL	115	5000	90	.4	↓	↓	4.10
41FZ - 35 ACS - SIL	6	35	4	.2	↓	2	4.50
41FZ - 10,000 ACS - SIL	115	10,000	85	.2	↓	2	5.00
41JOZ - 10,000 ACS - SIL	115	10,000	85	.2	SPDT	2	12.35
41JOZ -12,000 ACS - SIL	150	12,000	95	.2	SPDT	2	12.15
41ROZ - 5000 ACG - BSL	115	5000	90	.4	SPDT	5	5.75
41RZ - 5000 ACG - BSL	115	5000	90	.4	SPDT	5	5.75

U.L. File No. E28610, Yellow Card; C.S.A. File No. 20954, White Card.

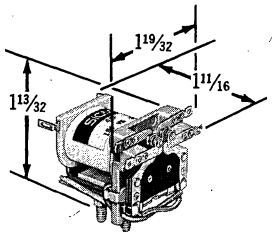
[1]Dropout will always be higher than 20% of maximum pickup.

SIGMA INSTRUMENTS, INC.

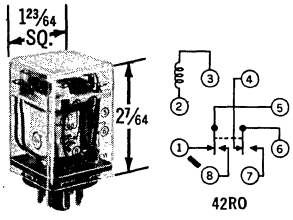
SIGMA RELAYS - SENSITIVE – SERIES 42 AC AND DC – DPDT

A sensitive and rugged multipurpose relay. Responds to signals as small as 100 milliwatts DC or 0.30 volt-ampere AC, thereby minimizing coil load in circuits with limited load-handling ability. Excellent stability, high circuit insulation, coil overload capacity four to six times rated input. High release for use in circuits with high idle current. Mechanical-life-rated for one billion operations. Electrical life from 100,000 to one million operations depending on load. For general-purpose applications ranging from alarm and control systems to demand meters and timing circuits. Temperature range: —67 F to +185 F, except plastic covers to +158 F. UL- and CSA-listed.

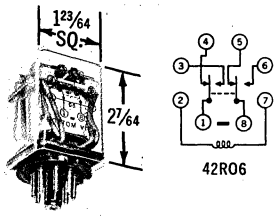
DC TYPES



***42F**
Stud mounting (2 #6-32 holes spaced .375), 6 solder terminals, 2 coil leads, non-insulated base. Weight: 2½ ounces.



***42RO**
Plastic dust cover, 8-pin plug. Weight: 3¼ ounces.

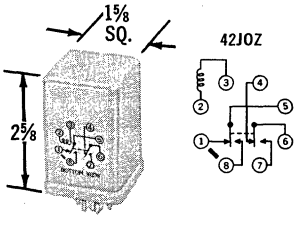


***42RO6**
Plastic dust cover, 8-pin plug. Weight: 3¼ ounces.

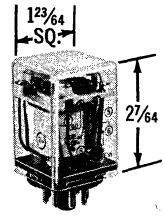
CATALOG NUMBER	COIL DATA: Nominal VDC	Resistance (ohms)	Pickup, Max [1] (ma DC)	Pickup Power (mw)	CONTACTS: Arrangement	Rating (amperes)	PRICE
42F - 150 G - SIL	—	150	38	200	DPDT	5	$5.10
42F - 500 G - SIL	—	500	20	↓	↓	↓	5.10
42F - 1000 G - SIL	24	1000	14	↓	↓	↓	5.10
42F - 2500 G - SIL	48	2500	9.0	↓	↓	↓	5.10
42RO - 50 G - SIL	6	50	65	200	DPDT	5	6.90
42RO - 100 G - SIL	—	100	45	↓	↓	↓	6.90
42RO - 200 G - SIL	12	200	32	↓	↓	↓	6.55
42RO - 500 G - SIL	—	500	20	↓	↓	↓	6.55
42RO - 1000 G - SIL	24	1000	14	↓	↓	↓	6.55
42RO - 2500 G - SIL	48	2500	9.0	↓	↓	↓	6.55
42RO - 5000 G - SIL	—	5000	6.5	↓	↓	↓	6.80
42RO - 10,000 G - SIL	—	10,000	4.5	↓	↓	↓	7.00
42RO - 12,000 G - SIL	—	12,000	4.0	↓	↓	↓	7.30
42RO - 100 S - SIL	—	100	32	100	↓	↓	7.55
42RO - 150 S - SIL	6	150	26	↓	↓	2	7.20
42RO - 200 S - SIL	—	200	22	↓	↓	↓	7.55
42RO - 500 S - SIL	12	500	14	↓	↓	↓	7.20
42RO - 1000 S - SIL	—	1000	10	↓	↓	↓	7.20
42RO - 2500 S - SIL	24	2500	6.2	↓	↓	↓	7.20
42RO - 5000 S - SIL	—	5000	4.5	↓	↓	↓	7.45
42RO - 10,000 S - SIL	—	10,000	3.1	↓	↓	↓	7.70
42RO6 - 50 G - SIL	6	50	65	200	DPDT	5	6.90
42RO6 - 500 G - SIL	—	500	20	↓	↓	↓	6.55
42RO6 - 1000 G - SIL	24	1000	14	↓	↓	↓	6.55
42RO6 - 2500 G - SIL	48	2500	9.0	↓	↓	↓	6.55
42RO6 - 5000 G - SIL	—	5000	6.5	↓	↓	↓	6.80
42RO6 - 10,000 G - SIL	—	10,000	4.5	↓	↓	↓	7.00
42RO6 - 500 S - SIL	12	500	14	100	↓	2	7.55
42RO6 - 1000 S - SIL	—	1000	10	↓	↓	↓	7.20
42RO6 - 2500 S - SIL	24	2500	6.2	↓	↓	↓	7.20

[1]Dropout will always be higher than 20% of maximum pickup.

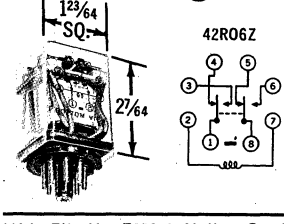
AC TYPES



42JOZ
Hermetically sealed, 8-pin plug. Weight: 5¼ ounces.



***42ROZ**
Plastic dust cover, 8-pin plug. Weight: 3¼ ounces.



***42RO6Z**
Plastic dust cover, 8-pin plug. Weight: 3¼ ounces.

CATALOG NUMBER	COIL DATA: Nominal VAC	Resistance (ohms)	Pickup, Max [1] (VAC)	Pickup Power (va)	CONTACTS: Arrangement	Rating (amperes)	PRICE
42JOZ - 4000 ACG - SIL	115	4000	90	.5	DPDT	5	$11.25
42ROZ - 8 ACG - SIL	6	8	4	.5	DPDT	5	6.55
42ROZ - 50 ACG - SIL	12	50	9	↓	↓	↓	6.55
42ROZ - 200 ACG - SIL	24	200	18	↓	↓	↓	6.55
42ROZ - 4000 ACG - SIL	115	4000	90	↓	↓	↓	6.55
42ROZ - 7000 ACS - SIL	115	7000	90	.3	↓	2	7.80
42RO6Z - 8ACG - SIL	6	8	4	.5	DPDT	5	6.80
42RO6Z - 4000 ACG - SIL	115	4000	90	.5	DPDT	5	6.55

U.L. File No. E28610, Yellow Card; C.S.A. File No. 20954, White Card.

[1]Dropout will always be higher than 20% of maximum pickup.

SIGMA INSTRUMENTS, INC.

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SIGMA Opto-Electronic Components 8 – SPDT, DPDT

PHOTOCONTROLS SERIES

Economical, compact systems — integral two-part or remote three-part — for light-beam control of moving objects in materials handling, processing, production, packaging. High-efficiency optical systems for positive "light" or "dark" operation. No interwiring necessary between integral receiver and light source systems. Principal components — photoconductive cells, relays, transformers — Sigma-manufactured for highest dependability. Replaceable incandescent lamps operate from low voltage for maximum life.

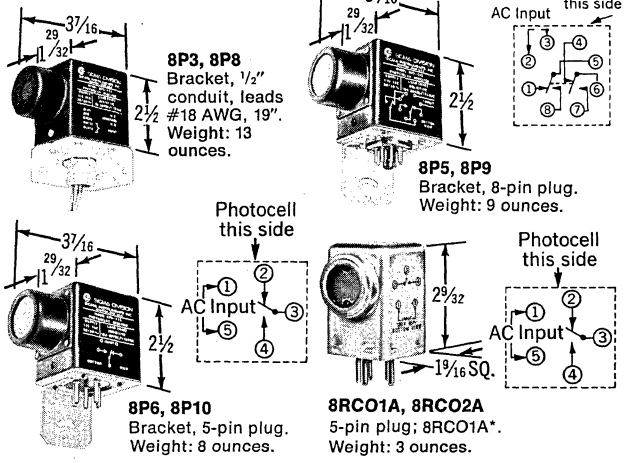
Integral Two-Part Systems

High-speed receivers 8P8, 8P9, 8P10 operate 1200 times a minute over 12-foot range. Output relay replaceable plug-type. Minimum life: 100,000 electrical operations; 100 million mechanical. General-purpose receivers 8P3, 8P5, 8P6 operate 600 times a minute over 12-foot range. Minimum life: 200,000 electrical operations; 10 million mechanical. Power consumption, all types, 2.5 volt-amperes. Temperature range: +32 F to +112 F. Housings: NEMA Types 1 and 12.

Miniature receivers 8RCO1A and 8RCO2A operate 120 times a minute over 12-foot range or one million electrical operations minimum, one billion mechanical. Rugged, plug-in unit. 8RCO1A, UL-listed, has 5/8" light-sensitive aperture. 8RCO2A has plastic shield with 3/32" aperture for positive operation under high ambient light conditions. Temperature range: — 40 F to +140 F. Housings: NEMA Types 1 and 12.

Light Source 8L3: Used with all integral receivers. Lamp rated for 10,000-hour life.

Receivers

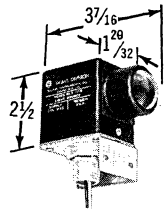


CATALOG NUMBER	Operations/ Minute	Operating Distance (feet, max)	Source Voltage (AC)	Contact Arrangement	Rating (amperes)	PRICE
8P3 - 115	600	12	115	SPDT	10*	$20.90
8P3 - 230	600		230		10*	20.90
8P8 - 115	1200		115		5**	41.80
8P8 - 230	1200		230		5**	41.80
8P5 - 115	600	12	115	DPDT	10*	20.90
8P5 - 230	600		230		10*	20.90
8P9 - 115	1200		115		5**	41.80
8P9 - 230	1200		230		5**	41.80
8P6 - 115	600	12	115	SPDT	10*	19.95
8P6 - 230	600		230		10*	19.95
8P10 - 115	1200		115		5**	39.90
8P10 - 230	1200		230		5**	39.90
8RCO1A	120	12	115	SPDT	3	17.25
8RCO2A	120	12	115	SPDT	3	17.25

* at 28 VDC/115 VAC resistive; at 230 VAC resistive, 5 amperes
**at 28 VDC/115 VAC resistive; at 230 VAC resistive, 2.5 amperes

**U.L. File No. E36169, Yellow Card; C.S.A. File No. 20954, White Card.*

Light Sources



8L3
Bracket, ½" conduit, leads #18 AWG, 19". Weight 13 ounces.

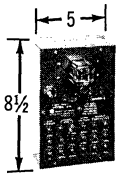
CATALOG NUMBER	Source Voltage (AC)		PRICE
8L3 - 115	115	.....	$15.20
8L3 - 230	230	.....	15.20

Remote Three-Part Systems

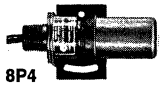
Subminiature receiver 8P7 and light source 8L3 operate 600 times a minute over 12-inch range. Housings high impact-and-heat-resistant polycarbonate. Miniature receiver 8P4 and light source 8L4 operate 600 times a minute over 25-foot maximum range. Adjustable-focus light source can be connected to 4.5 volt amplifier terminal for 15-foot operation with 40,000-hour lamp life, or to 5.5-volt terminal for 25-foot operation, 4000-hour lamp life. Amplifiers 8A and 8A3 receive and amplify signals from sensing elements. All circuitry except output relay solid state. 8A responds instantaneously. Replaceable plug-type relay. Minimum life: One million electrical operations; ten million mechanical. 8A3: Variable time delay, 50 milliseconds to 20 seconds. Minimum life: 200,000 electrical operations; 10 million mechanical. Temperature range: +32 F to +122 F. Housing AT373-1 for Amplifiers 8A, 8A3: JIC, oil-tight, weatherproof. 11½" high x 10 15/16" wide x 4¼" deep. 4 mounting holes 5/16" diameter spaced 10¾" x 6". Weight: 9 lbs., 4 oz.

Receivers, Light Sources and Amplifiers

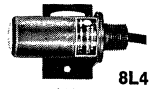
8P7-8L7
Each: 1½ x 5/16 dia.; 1 mounting hole .120 dia.; 1 mounting slot .120 wide; ⅜ between centers. Weight: 8P7: 0.32 ounce; 8L7: 0.26 ounce.



8A, 8A3
4 mounting slots for #6 screws spaced 8⅛ and 3. Depth: 8A: 3 5/16; 8A3: 2⅝. Weight: 2 pounds.



8P4
2 7/16 x 1 dia. Weight: 2.9 ounces.



8L4
2 11/16 x 1 dia. Weight: 2.7 ounces.
Each: 1 mounting hole 5/32 dia.; 1 mounting slot 5/32 wide; 1⅜ between centers.

CATALOG NUMBER	Operations/ Minute	Operating Distance, Max	Source Voltage (AC)	Contact Arrangement	Rating (amperes)	PRICE
8P7 (Receiver) and 8L7 (Light Source)	600 / 600	12 inches / 12 inches	115/230 / 115/230	Amplifier provides system output		$13.80 / 10.00
8P4 (Receiver) and 8L4 (Light Source)	600 / 600	25 feet / 25 feet	115/230 / 115/230	Amplifier provides system output		15.20 / 13.30
8A (Amplifier)	—	—	115/230	DPDT	5*	57.00
8A3 (Amplifier)	—	—	115/230	DPDT	10**	76.00
AT373-1 (Housing)	—	—	—	—	—	15.00

*at 28 VDC or 115/230 VAC resistive
**at 28 VDC/115 VAC resistive; at 230 VAC resistive, 5 amperes

SIGMA INSTRUMENTS, INC.

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AEROVOX Hi-Q

RESISTORS

±1% PRECISION ®CARBOFILM RESISTORS

Precision deposited carbon resistors designed for circuits calling for the accuracy and and stability of wire-wound resistors with the marked economy of carbon resistors. The exclusive Aeroglaze conformal coating offers mechanical protection superior to any other coating eliminating the need for special tubes, sleeves and jackets. Aeroglaze coating will meet all moisture requirements of MIL-R-10509B. Carbofilm resistors offer outstanding stability, low voltage coefficient, low capacitance and inductance in high frequency applications.

CARBOFILM CHARACTERISTICS

TESTING: All Tests conducted in accordance with MIL-R-10509B requirements.

TEMPERATURE COEFFICIENT: Approximately 200 ppm per degree C in the lower resistance ranges and not exceeding 500 ppm per degree C in the highest values specified by MIL-R-10509B.

MOISTURE RESISTANCE: Will meet or surpass the requirements of MIL-R-10509B.

LOAD LIFE: When tested for more than 1,000 hours at full load operation in 40°C ambient temperature, maximum changes are less than 1% with an average change of less than 0.5%.

TEMPERATURE CYCLING: After 5 complete temperature cycles there is an average change of 0.21% with a maximum change of less than 0.5%.

SHORT TIME OVERLOAD: When subjected to 2.5 times the rated working voltage, but not exceeding 2 times the maximum rated voltage for 5 seconds, changes are less than 0.25% with an average change of 0.13%.

LOW TEMPERATURE OPERATION: Maximum changes are less than 1%.

ACCURACY: Guaranteed tolerance of plus/minus 1% at 25°C. (77°F.)

AGING: Due to manufacturing process and control, changes attributed to aging are negligible. The average change in resistance for self-aging is approximately 0.2% per year.

VOLTAGE COEFFICIENT: Does not exceed .002% per volt.

For full technical information request Bulletin NPJ-115-16 Rev. 2

CARBOFILM

TYPE	SIZES	STD. MIN. OHMS	STD. MAX. MEGOHMS	Availability: Comm. Value	Availability: MIL-BELL Value	MIL-R-10509B Max DC Voltage	Equiv. to MIL-R-10509B: Type	Equiv. to MIL-R-10509B: Char.	Equiv. to MIL-R-10509B: Tol.	MARKING
CPSX½	.203 x 1⅜₂	10	2.2	✓	✓	350	RN20	X	1%	RN20 Number
CPX½	.260 x 2⅜₂	2,210,000	5.0	✓		350	----	--	---	Type, Value, Tolerance
CPLX½	.260 x 1	5,100,000	7.5	✓		500	----	--	---	Type, Value, Tolerance
*CPX 1	.328 x 1⅝₆	10	15	✓	✓	500	RN25	X	1%	Type, Value, Tolerance and RN25 Number
**CPX 2	.328 x 2⅛₆	50	100†	✓		750	RN30	X	1%	Type, Value, Tolerance and RN30 Number

† Only stock value above 50 megohms is 100 megohms furnished in ±2% tolerance.
* Values from 10.1 meg to 15 meg will be furnished at ±2% only.
** Values from 30.1 meg to 100 meg will be furnished at ±2% only.

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AEROVOX Hi-Q

RESISTORS

±1% PRECISION ®CARBOFILM AND ®AEROMET RESISTORS

COMMERCIAL STOCK VALUES ±1% TOLERANCE

OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	MEG-OHMS	MEG-OHMS	MEG-OHMS
10.0	36	82	300	820	2950	7000	20,000	62,000	220,000	650,000	2.0	6.2	27.0
11.0	39	85	330	850	3000	7450	22,000	65,000	225,000	680,000	2.2	6.5	30.0
12.0	40	89.5	350	900	3300	7500	22,500	68,000	240,000	700,000	2.225	6.8	33.0
12.5	43	90	360	910	3500	8000	24,000	70,000	250,000	750,000	2.4	7.0	36.0
13.0	44.5	91	390	1000	3600	8200	25,000	75,000	270,000	800,000	2.5	7.5	39.0
14.5	45	99.5	400	1100	3900	8500	27,000	80,000	300,000	820,000	2.7	8.0	43.0
15.0	47	100	430	1200	4000	8950	30,000	82,000	330,000	850,000	3.0	8.2	47.0
16.0	50	110	450	1250	4300	9000	33,000	85,000	350,000	900,000	3.3	8.5	50.0
17.5	51	120	470	1300	4450	9100	35,000	90,000	360,000	910,000	3.5	9.0	100.0†
18.0	55	130	500	1450	4500	9950	36,000	91,000	390,000		3.6	9.1	
20.0	56	150	510	1500	4700	10,000	39,000	100,000	400,000	MEGOHMS	3.9	10.0	
22.0	59.5	160	550	1600	5000	11,000	40,000	110,000	430,000		4.0	12.0	
22.5	60	175	560	1750	5100	12,000	43,000	120,000	450,000	1.0	4.3	12.5	
24.0	62	180	600	1800	5500	12,500	45,000	125,000	470,000	1.1	4.5	13.0	
25.0	65	200	620	2000	5600	13,000	47,000	130,000	500,000	1.2	4.7	15.0	
27.0	68	220	650	2200	5950	13,500	50,000	150,000	510,000	1.25	5.0	16.0	
29.5	70	225	680	2250	6000	15,000	51,000	160,000	550,000	1.3	5.1	18.0	
30.0	74.5	240	700	2400	6200	16,000	55,000	175,000	560,000	1.5	5.5	20.0	
33.0	75	250	750	2500	6500	17,500	56,000	180,000	600,000	1.6	5.6	22.0	
35	80	270	800	2700	6800	18,000	60,000	200,000	620,000	1.8	6.0	25.0	

†Only stock value above 50 megohms is 100 megohms furnished in ±2% tolerance.

††Request O.E.M. Prices in the following quantities: 25-49, 50-99, 100-249, 250-499, 500-999

AEROGLAZE® CARBOFILM ± 1% RESISTORS MIL-BELL VALUES**

	Net Price††
CPSX½ (RN20X)	
10 ohms to 49.9 ohms	.64
50 ohms to 2.2 meg	.54
CPX½	
2.21 meg to 5.0 meg	.83
CPLX½	
5.1 meg to 7.5 meg	.90
CPX-1 (RN25X)	
10 ohms to 99.9 ohms	.94
100 ohms to 5.0 meg	.81
5.01 meg to 10.0 meg	.89
10.1 meg to 15.0 meg*	1.03
CPX-2 (RN30X)	
50 ohms to 199 ohms	1.20
200 ohms to 10.0 meg	.97
10.1 meg to 30.0 meg	1.13
30.1 meg to 50.0 meg*	1.25
100 meg*	1.62

*All new production will be furnished at ± 2% only for values in these ranges.

**Prices listed are for MIL-BELL values only. For commercial standard values listed in catalog IDC 565 add 10% to the above prices in the appropriate columns. For prices on any values other than MIL-BELL or catalog commercial standard values contact your authorized Aerovox Industrial Distributor.

MIL-BELL STOCK VALUES ±1% TOLERANCE

OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	MEG-OHMS	MEG-OHMS	MEG-OHMS
10.0	23.2	53.6	124	287	665	1540	3570	8250	19100	44200	102000	237000	549000	1.13	2.61	6.04
10.2	23.7	54.9	127	294	681	1580	3650	8450	19600	45300	105000	243000	562000	1.15	2.67	6.19
10.5	24.3	56.2	130	301	698	1620	3740	8660	20000	46400	107000	249000	576000	1.18	2.74	6.34
10.7	24.9	57.6	133	309	715	1650	3830	8870	20500	47500	110000	255000	590000	1.21	2.80	6.49
11.0	25.5	59.0	137	316	732	1690	3920	9090	21000	48700	113000	261000	604000	1.24	2.87	6.65
11.3	26.1	60.4	140	324	750	1740	4020	9310	21500	49900	115000	267000	619000	1.27	2.94	6.81
11.5	26.7	61.9	143	332	768	1780	4120	9530	22100	51100	118000	274000	634000	1.30	3.01	6.98
11.8	27.4	63.4	147	340	787	1820	4220	9760	22600	52300	121000	280000	649000	1.33	3.09	7.15
12.1	28.0	64.9	150	348	806	1870	4320	10000	23200	53600	124000	287000	665000	1.37	3.16	7.32
12.4	28.7	66.5	154	357	825	1910	4420	10200	23700	54900	127000	294000	681000	1.40	3.24	7.50
12.7	29.4	68.1	158	365	845	1960	4530	10500	24300	56200	130000	301000	698000	1.43	3.32	7.68
13.0	30.1	69.8	162	374	866	2000	4640	10700	24900	57600	133000	309000	715000	1.47	3.40	7.87
13.3	30.9	71.5	165	383	887	2050	4750	11000	25500	59000	137000	316000	732000	1.50	3.48	8.06
13.7	31.6	73.2	169	392	909	2100	4870	11300	26100	60400	140000	324000	750000	1.54	3.57	8.25
14.0	32.4	75.0	174	402	931	2150	4990	11500	26700	61900	143000	332000	768000	1.58	3.65	8.45
14.3	33.2	76.8	178	412	953	2210	5110	11800	27400	63400	147000	340000	787000	1.62	3.74	8.66
14.7	34.0	78.7	182	422	976	2260	5230	12100	28000	64900	150000	348000	806000	1.65	3.83	8.87
15.0	34.8	80.6	187	432	1000	2320	5360	12400	28700	66500	154000	357000	825000	1.69	3.92	9.09
15.4	35.7	82.5	191	442	1020	2370	5490	12700	29400	68100	158000	365000	845000	1.74	4.02	9.31
15.8	36.5	84.5	196	453	1050	2430	5620	13000	30100	69800	162000	374000	866000	1.78	4.12	9.53
16.2	37.4	86.6	200	464	1070	2490	5760	13300	30900	71500	165000	383000	887000	1.82	4.22	9.76
16.5	38.3	88.7	205	475	1100	2550	5900	13700	31600	73200	169000	392000	909000	1.87	4.32	10.0
16.9	39.2	90.9	210	487	1130	2610	6040	14000	32400	75000	174000	402000	931000	1.91	4.42	
17.4	40.2	93.1	215	499	1150	2670	6190	14300	33200	76800	178000	412000	953000	1.96	4.53	
17.8	41.2	95.3	221	511	1180	2740	6340	14700	34000	78700	182000	422000	976000	2.00	4.64	
18.2	42.2	97.6	226	523	1210	2800	6490	15000	34800	80600	187000	432000		2.05	4.75	
18.7	43.2	100	232	536	1240	2870	6650	15400	35700	82500	191000	442000		2.10	4.87	
19.1	44.2	102	237	549	1270	2940	6810	15800	36500	84500	196000	453000	MEGOHMS	2.15	4.99	
19.6	45.3	105	243	562	1300	3010	6980	16200	37400	86600	200000	464000		2.21	5.11	
20.0	46.4	107	249	576	1330	3090	7150	16500	38300	88700	205000	475000		2.26	5.23	
20.5	47.5	110	255	590	1370	3160	7320	16900	39200	90900	210000	487000	1.00	2.32	5.36	
21.0	48.7	113	261	604	1400	3240	7500	17400	40200	93100	215000	499000	1.02	2.37	5.49	
21.5	49.9	115	267	619	1430	3320	7680	17800	41200	95300	221000	511000	1.05	2.43	5.62	
22.1	51.1	118	274	634	1470	3400	7870	18200	42200	97600	226000	523000	1.07	2.49	5.76	
22.6	52.3	121	280	649	1500	3480	8060	18700	43200	100000	232000	536000	1.10	2.55	5.90	

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Amperex Resistors LINEAR NON-LINEAR

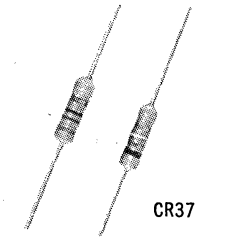
CARBON FILM

These resistors offer high stability, low noise and long life. For applications requiring steady low power drop. Accuracy and consistency are relatively unaffected by adverse climatic conditions. Range from 1Ω to 10M. Pure carbon or nickel film deposited on a high grade ceramic body.

	1/10W	1/4W	1/2W
P_{nom} $T_A \leq 70°C$	0.1W	0.25W	0.5W
Max. voltage AC or DC	150V	250V	350V
Permissible RMS applied for 1 sec. across insulation	300V	500V	700V
Insulation resistance	10^4MΩ	10^4MΩ	10^6MΩ

Amb. temp. (all types) **−55 to + 155°C**

Style	Range	Tolerance (±)
CR16 (1/10W)	10Ω to 220k	5%
	270k to 1M	10%
CR25 (1/4W)	1Ω to 3.9Ω	10%
	4.3Ω to 1M	5%
	10Ω to 1M	2%
	1.2M to 10M	10%
CR37 (1/2W)	1Ω to 10M	10%
	4.3Ω to 1M	5%
	10Ω to 1M	2%



CARBON POTENTIOMETER

Reliable trimmers, despite small size and low cost, for tube or transistorized PCs. Consist of annular carbon track riveted to base plate of resin bonded paper. Screw driver slot or plastic knob for readjustment. Available in seven mechanical types.

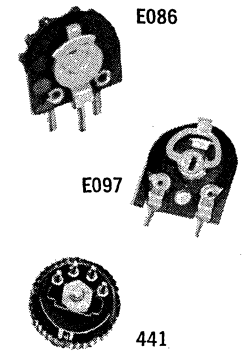
Dimensions

Type	Length	Width	Depth
E097	0.787	0.709	0.177
E086	0.394	0.394	0.150
	Diameter		**Depth**
440	.488 ± .002		.205 ± .008

Type E086: Linear Resistance Range: 100Ω to 1M ±20%: 13 ranges
Effective angle of rotation ..... 240 ±5°
Maximum permissible power dissipation (of total resistance) at an ambient temperature of 40°C 0.1W
Permissible ambient temperature range ..... −30° to +70°C

Type E097: Linear Resistance Range: 100Ω to 4.7M ±20%: 15 ranges
Effective angle of rotation ..... 220 ±5°
Maximum permissible power dissipation (of total resistance) at ambient temperature of 40°C 0.25W
Permissible ambient temperature range ..... −30° to +70°C

Type 440: Linear Resistance Range: 4700Ω, 10KΩ, 22KΩ, ±20%
Nominal resistance values 4.7K, 10K, 22K
Resistance law ..... linear and logarithmic
Working temperature range ..... −10° to +70°C
Life expectancy ..... in excess of 15,000 cycles
(Available with ON-OFF switch as Type 441)

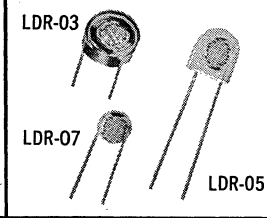


LIGHT DEPENDENT

LDRs, made from cadmium sulfide, are semiconductors whose conductivity increases when irradiated by wave lengths within a certain range of the spectrum. Made in specific versions with relevant electrical characteristics for control, counting, measuring, alarm and switching applications.

Type	Description	Diameter (")	Thickness (")
LDR-03	Makrolon case and epoxy resin	0.55 ± 0.196	0.35 ± 0.06
LDR-05	Plastic case and epoxy resin	0.43 ± 0.006	0.14 ± 0.004
LDR-07	Lacquered protective coating	0.34 ± 0.16	0.071 ± 0.002

Applications: Auto Parking & Headlight Dimmers, TV Brightness Control, Exposure Meters, Flame Control in Oil Burners, Magnetic Tape Controls, etc.

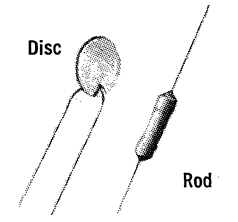


VOLTAGE DEPENDENT

Most important property is the non-linearity between their resistance and the applied voltage. Voltage dependency is due to contact resistance between the silicon carbide crystals. Crystal contacts form a network of series and parallel resistors which determine the electrical characteristics.

Available Types
Disc types available: 0.8W to 3W
Rod types available: 0.7W

Applications
VDRs can be used in spark suppression and contact-protection applications, as well as in series with a resistor for voltage stabilization. Although the stabilizing circuit with a VDR cannot compete with more elaborate circuits, it has vital advantages of simplicity and small space adaptability.

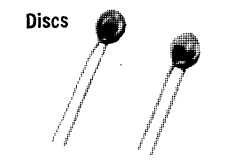


POSITIVE TEMPERATURE COEFFICIENT THERMISTORS

PTC Thermistors increase in resistance as the temperature increases. PTCs are disc shaped with connecting leads and are lacquer coated for protection against atmospheric influences.

Available Types
Standard Discs 1W 40 to 50V series
Standard Discs 0.5W 25V series

Applications
Resistance changes of 10%/°C or better permit the use of PTCs wherever any of the following factors are decisive: ambient temperature; dissipated power; inertia of PTC and positive temperature coefficient.

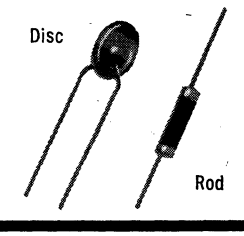


NEGATIVE TEMPERATURE COEFFICIENT THERMISTORS

NTC thermistors are resistors which exhibit a high negative temperature coefficient of resistivity. They are made of semiconducting oxidic materials. The resistance of the oxides decreases rapidly when the temperature rises.

Available Types
Rod Type
Disc Type
Miniature Bead Type
Special Types for Automobiles
Special Types for Radio and TV

Applications
Resistance changes of 3% to 6% per °C permit the use of NTCs in applications such as: ambient temperature measurement and control; resistance determined by dissipation and time delays.



AMPEREX ELECTRONIC CORPORATION / **Amperex®**

TOMORROW'S THINKING IN TODAY'S PRODUCTS

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JC PRECISION RESISTORS

THE JC PRECISION RESISTOR . . . A LOW COST PRECISION RESISTOR FOR INDUSTRIAL APPLICATIONS

Airco Speer Electronic Components has introduced the new Jeffers' *JC Resistor Series* to meet an increasing market need . . . need for *HIGH STABILITY RESISTORS* at *NEW LOWER PRICES.* The JC resistor series is well suited for precision applications, with its TC of ±15PPM/°C and *TOLERANCES* of ±0.1% to ±1%.

Precision wire-wound resistors have long been used by circuit designers who need high stability components. Today, the Jeffers JC series offers very important advantages over precision wire-wound resistors of the same tolerance category.

ADVANTAGES OF THE JC RESISTOR SERIES

Low Cost . . . across the wide resistance range of 25 ohms to 2 megohms.

Resistance Range . . . generally twice the resistance range of a precision wire-wound resistor in any given size.

Frequency Response . . . 10 MHz or better—precision wire-wound resistors are normally limited to less than 50 KHz.

Greater Wattage Capability in a Smaller Size.

Uniformity Of TC Characteristics From Resistor To Resistor, Lot To Lot, And Wattage Size To Wattage Size.

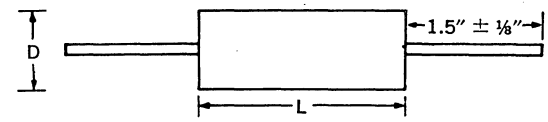
Statistical Reliability . . . a very high degree of statistical reliability is achieved by using *one* highly controlled deposition and manufacturing process to obtain the complete range of resistance values for the series.

COMPARATIVE PERFORMANCE

	JC Precision	Wire-Wound Precision
Resistance-Temperature Stability	±15ppm/°C	+20ppm/°C
Frequency Response (rise time)	10.000 KC or better	generally limited to 50KC
Size-to-wattage ratio (for typical JC 750)	¾ watt at 85°C	½ watt at 85°C
Resistance Range for typical JC 750	2	1

SPECIFICATIONS FOR JC PRECISION RESISTORS

Resistors of any resistance value within the ranges of tolerances specified below are available for short time delivery.



Wattage at 85°C	Style	Range	Length Max.	Diameter Max.	Axial Lead Size	Voltage Max.
.15	JC 150	25 Ω – 100K	0.260	0.115	#22 AWG	150V
.20	JC 200	35 Ω – 500K	0.400	0.136	#22 AWG	300V
.40	JC 400	30 Ω – 1.5M	0.590	0.210	#22 AWG	350V
.75	JC 750	35 Ω – 2.0M	0.730	0.250	#20 AWG	400V

Temperature range of 0-85°C.
Standard TC: 0 ± 15PPM/°C (0° to +85°C)
Standard tolerances 0.1% to 1%

Standard lead material is 100% low oxygen content copper, gold plated over a nickel strike.

Long-Term Stability: Long-term stability characteristics have been determined in an extensive three-year test program. Data collected establishes that JC resistors will remain within their initially manufactured tolerance during a lifetime of normal service stresses. Detailed information may be obtained through your sales representative.

Built In Reliability: Since Airco Speer Electronic Components is not a broadline metal-film resistor manufacturer, all metal-film manufacturing operations can be devoted to providing customers with very tight temperature coefficients, and tolerances. The Jeffers JC resistor series enjoys a high degree of specialized attention, including: manufactured under qualified "white room" conditions • rigid material inspection, in-process quality control, final inspection, and quality assurance testing • documented lot control, providing complete traceability of materials and operations used in the production of all resistors.

For very precise applications Airco Speer offers a variety of temperature coefficients, tolerances and tracking options in its JXP precision resistor series. **Networks.** The superior performance advantages of Jeffers precision resistors are also offered in packaged networks which offer further space-saving performance and reliability advantages. For complete data on Jeffers JC resistors or custom JXP resistors and networks, call or write:

AIRCO Speer Electronic Components

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SPEER FIXED COMPOSITION RESISTORS

Airco Speer resistors are made on modern high speed equipment which molds component material into one integral, dense unit. Heavy pure tin-coated copper lead wires, thermosetting bonding resins, finely divided inorganic fillers, and specially produced and treated high conductivity materials such as carbon blacks are the materials used.

During the molding process, preformed insulating shells of bonded inorganic fillers are filled with carefully adjusted conducting compounds. The binders and fillers of both shell and core are completely compatible and, under high pressure, allow the formation of an inseparable bond between core and shell. The thermal characteristics of shell and core are essentially equal.

After high pressure molding, the "green" resistors are cured in precisely adjusted, indirectly heated continuous tube furnaces. The resin cure is complete and the final resistance of the unit is thereby fixed. A vacuum and pressure impregnation of a special high temperature material develops maximum protection against moisture penetration.

The special impregnant used is completely stable under all operating conditions.

Airco Speer resistors are color coded with special paints developed to provide a high degree of solvent resistance.

All Airco Speer resistors have lead wires of high conductivity copper with a solderable coating of heavy pure tin. The wires are completely precoated before assembly, so that the solderable surface is unbroken over the entire area. The tin coat is controlled to a thickness of .0003"-.0008", several times as heavy as that on ordinary tinned wire. The use of pure tin affords superior storage life and offers the ultimate in low temperature solderability.

The impregnated resistors are measured on high speed automatic resistance sorters and classified into appropriate resistance nominals and tolerances. The color bands are applied after sorting.

SPECIFICATIONS

Speer Type	Mil Type	Rating In Watts	Resistance Range Ohms	Diameter D	Length L	Wire Size A.W.G.	Nom. Dia. LD	Length LL
SR ¼	RC 07	¼	10 Ohm to 1.0 Meg.	.090 ± .008	.250 ± .031	No. 22	.025	1½ ± ⅛
SR ½	RC 20	½	2.7 Ohm to 22 Meg.	.138 ± .007	.390 ± .025	No. 20	.032	1½ ± ⅛
SR 1	RC 32	1	2.7 Ohm to 22 Meg.	.225 ± .010	.562 ± .030	No. 18	.040	1½ ± ⅛
SR 2	RC 42	2	10 Ohm to 22 Meg.	.312 ± .010	.688 ± .030	No. 17	.045	1½ ± ⅛

STANDARD RESISTANCE VALUES AND TOLERANCES

As shown in the table below, Speer resistors are available in all standard values specified by MIL-R-11, RS 172 and MIL-R-39008.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Meg.	Meg.
2.7	12	56	270	1200	5600	27K	120K	560K	2.7	12.0
3.0	**13**	**62**	**300**	**1300**	**6200**	**30K**	**130K**	**620K**	**3.0**	**13.0**
3.3	15	68	330	1500	6800	33K	150K	680K	3.3	15.0
3.6	**16**	**75**	**360**	**1600**	**7500**	**36K**	**160K**	**750K**	**3.6**	**16.0**
3.9	18	82	390	1800	8200	39K	180K	820K	3.9	18.0
4.3	**20**	**91**	**430**	**2000**	**9100**	**43K**	**200K**	**910K**	**4.3**	**20.0**
4.7	22	100	470	2200	10K	47K	220K	1.0M	4.7	22.0
5.1	**24**	**110**	**510**	**2400**	**11K**	**51K**	**240K**	**1.1**	**5.1**	
5.6	27	120	560	2700	12K	56K	270K	1.2	5.6	
6.2	**30**	**130**	**620**	**3000**	**13K**	**62K**	**300K**	**1.3**	**6.2**	
6.8	33	150	680	3300	15K	68K	330K	1.5	6.8	
7.5	**36**	**160**	**750**	**3600**	**16K**	**75K**	**360K**	**1.6**	**7.5**	
8.2	39	180	820	3900	18K	82K	390K	1.8	8.2	
9.1	**43**	**200**	**910**	**4300**	**20K**	**91K**	**430K**	**2.0**	**9.1**	
10	47	220	1000	4700	22K	100K	470K	2.2	10.0	
11	**51**	**240**	**1100**	**5100**	**24K**	**110K**	**510K**	**2.4**	**11.0**	

Items in bold face type available in 5% tolerance only.

AIRCO Speer Electronic Components

Formerly Speer Resistor Division Speer Carbon Co.

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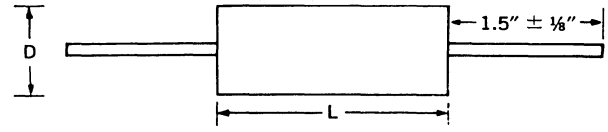
JEFFERS JXP PRECISION METAL FILM RESISTORS

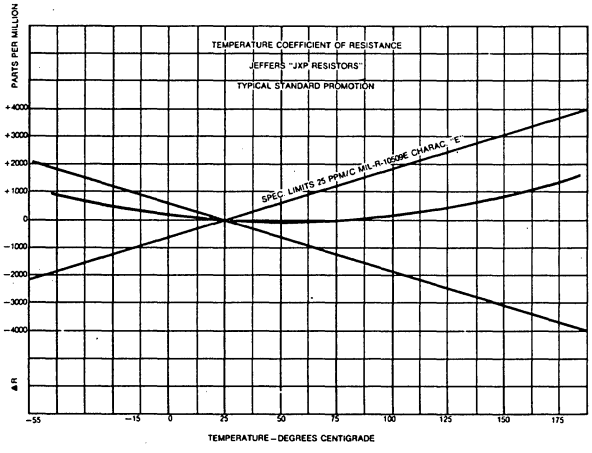
All JXP resistors meet or exceed the requirements for Characteristic E (± 25 ppm/°C) metal film resistors as set forth in MIL-R-10509.
Resistors of any resistance value within the ranges specified in the accompanying table are available for short time delivery. The resistance ranges specified for the commercial listings below are extended beyond standard military ranges. Performance within these ranges, however, is considered to be equivalent to those within military ranges.



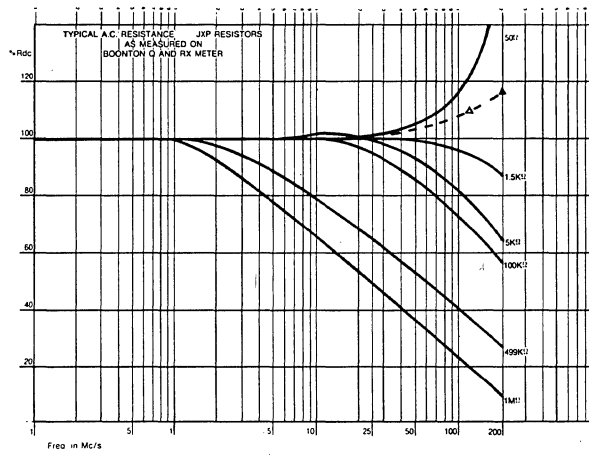
Wattage at 125°C	Military		Commercial		Length A Max.	Diameter B Max.	Axial Lead # Size
	Style	Range	Style	Range			
1/10	RN55E	49.9Ω - 100K	JXP55	25Ω - 150K*	0.260	0.115	≈22 AWG
1/8	RN60E	49.9Ω - 499K	JXP60	35Ω - 500K*	0.400	0.136	≈22 AWG
1/4	RN65E	49.9Ω - 1M	JXP65	30Ω - 1.5M*	0.590	0.210	≈22 AWG
1/2	RN70E	49.9Ω - 1M	JXP70	35Ω - 2.0M*	0.730	0.250	≈20 AWG

Special tolerances to ±0.02%. Standard TC: 0 ±25 ppm/°C (−55°C + 175C). Special TC's to ±5 ppm°C over limited temperature spans.
*Extended ranges may be supplied on special order.
Standard lead material is 100% tin coated low oxygen content copper with a non-borated gold interface.
Other lead materials can be supplied as special order items.

TEMPERATURE COEFFICIENT OF RESISTANCE FOR TYPICAL STANDARD PRODUCTION JXP RESISTORS



TYPICAL A.C. RESISTANCE AS MEASURED ON BOONTON Q AND RX METER



Airco Speer capability as a leading producer of low temperature coefficient, precision resistors is derived from significant proprietary advances in metal film technology and the establishment of a manufacturing facility and product philosophy that is devoted exclusively to production of only the highest grade of precision resistors. This concentration of effort has eliminated the necessary compromises in equipment and processes and reduced the diversion of skills which would otherwise be necessary for the accommodation of a multi-grade product line.

In other words, Airco Speer makes all its parts to a T.C. of 25 **ppm** or less. It does not "sort" to find production lots which will hopefully contain a large percentage of 25 **ppm** units.

This product plan has resulted in some important contributions to quality and economical precision resistor manufacture. For example:

All operations in the manufacture of JXP precision resistors are carried out under qualified white room conditions, an important factor in statistical reliability.

Shortest delivery available for precision resistors is a natural result of the efficiencies of a manufacturing operation that deals with only one grade of product.

In addition to manufacturing facilities, Airco Speer has complete environmental test facilities, instrument calibration and certified measurement ability for precision resistor evaluation.

You can order standard or custom-tailored JXPs, matched sets —even networks and packaged assemblies. Write:

AIRCO Speer Electronic Components

Formerly Jeffers Electronics Division Speer Carbon Co.

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PRODUCTS OF
THE HOUSE OF RESISTORS®

CLAROSTAT®

RESISTORS • CONTROLS
RESISTANCE DEVICES

"GREENOHM V"™ VITREOUS-ENAMEL RESISTORS

Based on years of research and engineering development, these vitreous-enamel wire-wound power resistors offer superlative performance and life as proved by countless tests. "Greenohm V" resistors provide all the outstanding quality which made Clarostat "Greenohm" cement-coated units famous, *plus* a glass-smooth vitreous-enamel coating in a handsome bluish-green for maximum eye appeal. Made to MIL-R-26C specifications.

- Fixed and adjustable
- 5-watt to 200 watt sizes
- ± 5% tolerance, 1 ohm and over. ± 10% tolerance, 0.9 ohms and under. ± 10% for adjustable.

"GREENOHM V"™ FIXED RESISTORS (VITREOUS ENAMEL)

5-WATT SERIES VPR-5-F

Core: 1" x 5/16"
Terminals, wire lead and lug

Resistance Ohms

1	30	350	1250	7000
1.5	35	400	1500	7500
2	40	450	1750	8000
3	50	500	2000	9000
4	75	600	2250	10K
5	100	700	2500	12.5K
7.5	125	750	3000	15K
10	150	800	3500	17.5K
12	200	900	4000	20K
15	225	1000	4500	22.5K
20	250	1100	5000	25K
25	300	1200	6000	

NET PRICES:

1 to 1K	$0.51
1100 to 5K	.54
6K to 10K	.57
12.5K to 15K	.60
17.5K to 20K	.63
22.5K to 25K	.66

10-WATT SERIES VPR-10-F

Core: 1¾" x 5/16"
Terminals, wire lead and lug

Resistance Ohms

0.4	30	500	3000	13.5K
1	35	600	3500	14.3K
1.2	40	700	4000	15K
1.3	50	750	4500	16K
1.5	75	800	5000	17.5K
2	100	900	6000	18K
3	125	1000	7000	20K
4	150	1100	7500	22.5K
5	200	1200	8000	25K
7.5	225	1250	8500	30K
10	250	1500	9000	35K
12	300	1750	10K	40K
15	350	2000	11K	45K
20	400	2250	12K	50K
25	450	2500	12.5K	

NET PRICES:

0.4 to 1K	$0.57
1100 to 5K	.60
6K to 10K	.69
11K to 20K	.78
22.5K to 25K	.81
30K to 50K	.90

100-WATT SERIES VK-100-N

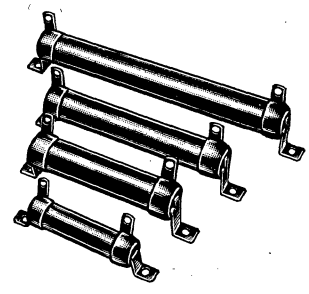
Core: 6½" x ¾"
Lug terminals — Mtg. bracket furnished

Resistance Ohms

1	50	300	3000	25K
2	75	500	4000	30K
3	100	750	5000	40K
4	125	1000	7500	50K
5	150	1500	10K	60K
10	200	2000	15K	75K
25	250	2500	20K	100K
				200K

NET PRICES:

1 to 3	$2.22
4 to 1K	1.59
1500 to 5K	1.68
7500 to 10K	1.80
15K to 20K	1.98
25K to 40K	2.13
50K to 60K	2.22
75K	2.43
100K	2.73



20-WATT SERIES VPR-20-H

Core: 2" x 7/16"
Terminals, wire lead and lug

Resistance Ohms

0.4	350	1850	7500	55K
0.6	400	2000	8000	60K
0.8	500	2250	9000	65K
5	650	2400	10K	70K
10	700	2500	12.5K	75K
25	750	2750	15K	80K
50	800	3000	20K	85K
75	850	3500	25K	90K
100	1000	4000	30K	95K
150	1200	4500	35K	100K
200	1250	5000	40K	
250	1500	6000	45K	
300	1750	7000	50K	

NET PRICES:

0.4 to 1K	$0.66
1200 to 5K	.69
6K to 10K	.81
12.5K to 20K	.84
25K to 40K	.99
45K to 60K	1.14
65K to 80K	1.35
85K to 100K	1.56

160-WATT SERIES VK-160-W

Core: 8½" x 1⅛"
Lug terminals — Mtg. bracket furnished

Resistance Ohms

1	50	750	7500	50K
2	75	1000	10K	60K
3	100	1500	15K	75K
4	125	2000	20K	100K
5	150	2500	25K	
10	250	3000	30K	
25	500	5000	40K	

NET PRICES:

1 to 5	$3.18
10 to 1K	2.28
1500 to 5K	2.31
7500 to 10K	2.52
15K to 20K	2.70
25K to 40K	2.79
50K to 60K	2.88
75K	3.06
100K	3.24

25-WATT SERIES VP-25-K

Core: 2" x 9/16"
Lug terminals — Mtg. bracket furnished

Resistance Ohms

1	50	800	5000	30K
2	75	1000	6000	35K
3	100	1500	7500	40K
4	150	2000	10K	50K
5	200	2500	12K	60K
10	250	3000	15K	70K
15	500	3500	20K	80K
25	750	4000	25K	100K

NET PRICES:

1 to 1K	$0.72
1500 to 10K	.75
6K to 10K	.84
12K to 20K	.90
25K to 40K	1.02
50K to 60K	1.20
70K to 80K	1.41
100K	1.62

50-WATT SERIES VP-50-K

Core: 4" x 9/16"
Lug terminals — Mtg. bracket furnished

Resistance Ohms

1	100	1000	7500	50K
2	150	1250	8000	75K
3	200	1500	10K	100K
4	250	2000	12K	125K
5	300	2500	15K	150K
10	400	3000	20K	175K
25	500	4000	25K	200K
50	750	5000	30K	225K
75	800	6000	35K	250K

NET PRICES:

1	$1.53
2 to 1K	1.11
1500 to 5K	1.14
7500 to 10K	1.26
12K to 20K	1.38
25K to 35K	1.53
50K	1.71
75K	1.95
100K	2.13
125K	2.55
150K	2.70
175K	2.79
200K	2.88
225K	3.24
250K	3.24

200-WATT SERIES VK-200-W

Core: 10½" x 1⅛"
Lug terminals — Mtg. bracket furnished

Resistance Ohms

1	50	750	7500	40K
2	75	1000	10K	50K
3	100	1500	12K	60K
4	150	2000	15K	75K
5	200	2500	20K	100K
10	250	3000	25K	
25	500	5000	30K	

NET PRICES:

1 to 5	$3.42
10 to 1K	2.46
1500 to 5K	2.52
7500 to 10K	2.70
15K to 20K	2.88
25K to 40K	2.97
50K to 60K	3.06
75K	3.24
100K	3.45

Net

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CLAROSTAT®

RESISTORS · CONTROLS
RESISTANCE DEVICES

"GREENOHM V"™ ADJUSTABLE RESISTORS (VITREOUS ENAMEL)

10-WATT SERIES VP-10-FA

Core: 1¾" x 5/16"

Lug terminals — Mtg. brackets furnished

Resistance Ohms

1	25	350	1500	5000
2	50	400	2000	6000
3	75	500	2250	7000
5	100	600	2500	7500
7.5	150	750	3000	8000
10	200	800	3500	8500
15	250	1000	4000	9000
20	300	1250	4500	10K

NET PRICES:

1 to 1K	$1.14
1250 to 5K	1.17
6000 to 10K	1.26

25-WATT SERIES VP-25-KA

Core: 2" x 9/16"

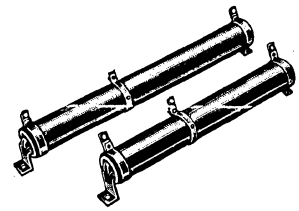
Lug terminals — Mtg. brackets furnished

Resistance Ohms

1	50	750	3500	9000
2	75	800	4000	10K
3	100	1000	4500	12K
5	150	1250	5000	15K
7.5	200	1500	6000	20K
10	250	2000	7000	25K
15	300	2250	7200	
20	400	2500	7500	
25	500	3000	8000	

NET PRICES:

1 to 1K	$1.29
1250 to 5K	1.32
6K to 10K	1.41
12K to 20K	1.47
25K	1.59



50-WATT SERIES VP-50-KA

Core: 4" x 9/16"

Lug terminals — Mtg. brackets furnished

Resistance Ohms

1	100	1250	6000	25K
2	150	1500	7000	30K
3	200	2000	7200	35K
4	250	2250	7500	40K
5	300	2500	8000	50K
10	400	3000	9000	60K
20	500	3500	10K	75K
25	750	4000	12K	80K
50	800	4500	15K	100K
75	1000	5000	20K	

NET PRICES:

1 ohm	$2.10
2 to 1K	1.68
1250 to 5K	1.71
6K to 10K	1.80
12K to 20K	1.92
25K to 40K	2.10
50K to 60K	2.28
80K	2.52
100K	2.70

75-WATT SERIES VP-75-KA

Core: 6" x 9/16"

Lug terminals — Mtg. brackets furnished

Resistance Ohms

1	200	2000	7200	35K
2	250	2250	7500	40K
3	300	2500	8000	45K
4	400	3000	9000	50K
5	500	3500	10K	60K
10	750	4000	12K	80K
15	800	4500	15K	100K
25	1000	5000	20K	
50	1250	6000	25K	
100	1500	7000	30K	

NET PRICES

1 to 2	$2.37
3 to 1K	1.86
1250 to 5K	1.92
6000 to 10K	2.01
12K to 20K	2.13
25K to 40K	2.31
45K to 60K	2.52
80K	2.76
100K	2.91

100-WATT SERIES VK-100-NA

Core: 6½" x ¾"

Lug terminals — Mtg. brackets furnished

Resistance Ohms

1	25	400	3500	40K
2	50	500	5000	50K
3	100	750	10K	75K
4	150	1000	15K	100K
5	200	1500	20K	
10	250	2000	25K	
15	300	2500	30K	

NET PRICES:

1 to 3	$3.00
4 to 1K	2.37
1500 to 5K	2.43
10K	2.55
15K to 20K	2.70
25K to 40K	2.88
50K	3.00
75K	3.12
100K	3.27

160-WATT SERIES VK-160-WA

Core: 8½" x 1⅛"

Lug terminals — Mtg. brackets furnished

Resistance Ohms

1	10	250	5000	30K
2	25	500	10K	40K
3	50	1000	15K	50K
4	100	1500	20K	75K
5	150	2500	25K	100K

NET PRICES:

1 to 5	$4.05
10 to 1K	3.15
1500 to 5K	3.18
10K	3.39
15K to 20K	3.57
25K to 40K	3.66
60K	3.75
75K	3.93
100K	4.14

200-WATT SERIES VK-200-WA

Core: 10½" x 1⅛"

Lug terminals — Mtg. brackets furnished

Resistance Ohms

1	20	200	2500	30K
2	25	250	5000	40K
3	50	300	10K	50K
4	75	500	15K	75K
5	100	1000	20K	100K
10	150	1500	25K	

NET PRICES:

1 to 5	$4.32
10 to 1K	3.33
1500 to 5K	3.42
10K	3.57
15K to 20K	3.75
25K to 40K	3.84
50K	3.96
75K	4.14
100K	4.32

PRODUCTS OF
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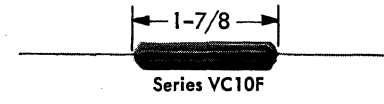
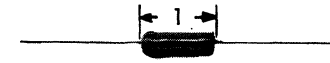
RESISTORS • CONTROLS
RESISTANCE DEVICES

AXIAL LEAD VITREOUS RESISTORS

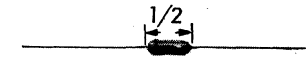
Available in three sizes 3, 5 and 10 watts, Series VC3D, VC5E and VC10F. Axial lead resistors are particularly adapted to printed circuit, terminal board, and point-to-point wiring applications. These resistors save considerable space because of the elimination of mounting brackets and terminal lugs. Standard resistance tolerance is ± 5% for 1 ohm and higher and tolerance below 1 ohm is ± 10%. Attractively packaged in a newly designed carton particularly adapted to this new axial lead resistor, beautifully finished with Clarostat's new vitreous shade of teal green.



Series VC10F



Series VC5E



Series VC3D

Lead Length: 1½" Lead Diameter: .032

SERIES VC3D
STOCK VALUES

1	20	68	250	600	1.75K	4.5K
1.5	22	75	270	680	1.8K	4.7K
2	25	82	300	700	2K	5K
3	27	100	330	750	2.2K	5.6K
4	30	120	350	800	2.25K	6K
5	33	125	390	820	2.5K	6.8K
7.5	35	150	400	900	2.7K	7K
10	39	180	450	1K	3K	7.5K
12	40	200	470	1.1K	3.3K	8K
15	47	220	500	1.2K	3.5K	8.2K
18	50	225	560	1.25K	3.9K	9K
	56			1.5K	4K	10K

Net Prices

1	to 1K	$ .51
1.1K	to 5K	.54
6K	to 10K	.57

SERIES VC5E
STOCK VALUES

1	22	82	330	820	2.7K	7.5K
1.5	25	100	350	900	3K	8K
2	27	120	390	1K	3.3K	8.2K
3	30	125	400	1.1K	3.5K	9K
4	33	150	450	1.2K	3.9K	10K
5	35	180	470	1.25K	4K	12.5K
7.5	39	200	500	1.5K	4.5K	15K
10	40	220	560	1.75K	4.7K	17.5K
12	47	225	600	1.8K	5K	18K
15	50	250	680	2K	5.6K	20K
18	56	270	700	2.2K	6K	22K
20	68	300	750	2.25K	6.8K	22.5K
	75		800	2.5K	7K	25K

Net Prices

1	to 1K	$ .54
1.1K	to 5K	.57
6K	to 10K	.60
12.5K	to 20K	.72
22.5K	to 25K	.75

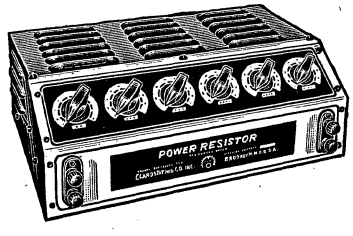
SERIES VC10F
STOCK VALUES

1	25	120	400	1.2K	3.5K	8.5K	22.5K
1.5	27	125	450	1.25K	3.9K	9K	25K
2	30	150	470	1.3K	4K	10K	27K
3	33	180	500	1.5K	4.5K	11K	30K
4	35	200	560	1.75K	4.7K	12K	33K
5	39	220	600	1.8K	5K	12.5K	35K
7.5	40	225	680	2K	5.6K	13.5K	39K
10	47	250	700	2.2K	6K	15K	40K
12	50	270	750	2.25K	6.8K	16K	45K
15	56	300	800	2.5K	7K	17.5K	47K
18	68	330	820	2.7K	7.5K	18K	50K
20	75	350	900	3K	8K	20K	
22	82	390	1K	3.3K	8.2K	22K	
	100		1.1K				

Net Prices

1	to 1K	$ .60
1.1K	to 5K	.63
6K	to 10K	.72
11K	to 20K	.81
22.5K	to 40K	.84
45K	to 50K	.96

POWER RESISTOR DECADE BOX



The Resistance Decade Box, Model 240-C for bench use — Model 250 for rack mounting, provides any resistance from 1 to 999,999 ohms for working circuits at the flip of a switch. Six front-panel dials enable selection in 1 ohm increments, the total value being read directly from the dial. Each decade has a power rating of 225 watts maximum, 1,000 VDC or 660 VAC maximum.

Resistance changing switches are of the type that prevent a resistance breakdown between steps, thus protecting delicate meters and measuring instruments in the circuit. Knobs indicate the resistance value being used at a glance.

Clarostat GREENOHM Power Resistors are used throughout. These components are wire-wound power resistors on ceramic tubes and coated with an exclusive Clarostat inorganic cold-setting cement, providing the most rugged, long-lasting, trouble-free power resistor available. The resistors are mounted in rigid metal supports.

Overall length: 240C: 13" long x 8½" deep x 5¾" high, weight 11½ lbs. 250: 19" long x 13¾" deep x 7" high (fits in standard 19" relay rack), weight 18½ lbs.

SUGGESTED USES: Resistance determination, Load Resistance, Meter Multiplier, Calibrating Meters, Providing any desired ohmage as a universal power resistor.

Decade No.	1	2	3	4	5	6
Max. Current Rating (amps)	5	1.5	.5	.15	0.5	.005
Resistance Tolerance	5%	2%	2%	2%	2%	2%

NET PRICE: Model 240C $110.00, Model 250 $150.00

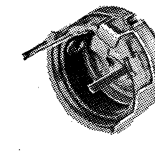
SERIES U39

UNIVERSAL "HUMDINGER" CONTROL
2W. WIRE WOUND

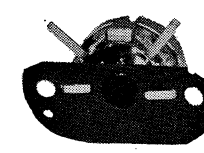
Series U39 is a shaftless potentiometer with the contact arm grounded to the housing. The design of terminals and mounting tabs, meets the following requirements: Above chassis mounting, as a potentiometer or rheostat; printed circuit mounting, as a potentiometer or rheostat. The terminal layout meets the popular industry standards. A fiber adapter plate is furnished with each control. Series U39 is ideally suited for radio and television requirements, as well as many industrial applications. Resistance tolerance ±20%. Linear only.

Cat. No.	Total Res. Ohms	Min. Res. Ohms	Cat. No.	Total Res. Ohms	Min. Res. Ohms
U39-1.5	1.5	—	U39-700	700	—
U39-5	5	—	U39-700-200	700	200
U39-8	8	—	U39-800	800	—
U39-15	15	—	U39-800-50	800	50
U39-50	50	—	U39-1000	1000	—
U39-75	75	—	U39-1000-100	1000	100
U39-100	100	—	U39-1500	1500	—
U39-125	125	—	U39-2000	2000	—
U39-150	150	—	U39-2000-100	2000	100
U39-175	175	—	U39-3000	3000	—
U39-200	200	—	U39-3000-700	3000	700
U39-300	300	—	U39-4000	4000	—
U39-500	500	—	U39-4000-350	4000	350
U39-500-100	500	100	U39-4000-1000	4000	1000
U39-600	600	—	U39-5000	5000	—
U39-650	650	—			

NET PRICE $.60



SERIES U39



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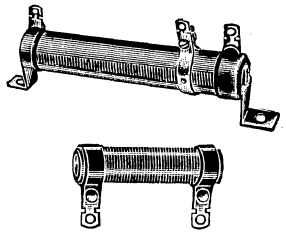
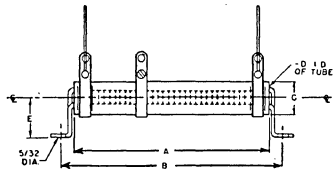
"GREENOHM"* WIRE-WOUND RESISTORS



FIXED TYPES Wire-wound resistors for most rugged applications. Will withstand tremendous overloads and temperature changes without alterating resistance values or appearance. Wire windings on high grade ceramic tubing and coated with special inorganic cement. In accordance with EIA standards, overall tolerances are ± 5% for resistors of 50 ohms and higher. For resistors of 49.9 ohms and lower, overall tolerances are ± 10%.

ADJUSTABLE TYPES Same electrically and mechanically as Fixed types, but incorporating sliding band or bands for tapping any desired resistance values. Slider band tightened by means of screw. In accordance with EIA standards, overall tolerances are ± 10%.

DIMENSIONS BY TYPES



SERIES	WATTS	A	B	C	D	E
PR-5-F	5	1	1 7/16	5/16	3/16	7/16
PR-10-F	10	1 3/4	2 3/16	5/16	3/16	7/16
PR-10-FA	10	1 3/4	2 3/16	5/16	3/16	7/16
PR-20-K	20	2	2 1/2	5/16	3/8	5/16
P-25-K	25	2 1/2	3	5/16	3/8	5/16
P-25-KA	25	2 1/2	3	5/16	3/8	5/16

FIXED RESISTORS

5-WATT SERIES PR-5-F

These resistors conform to E1A specification for type RRW-125 and 128.

Ohms	Ohms	Ohms	Ohms
1	75	800	5,000
2	100	900	6,000
3	125	1,000	7,000
4	150	1,100	7,500
5	200	1,200	8,000
7.5	225	1,250	8,500
10	250	1,500	9,000
12	300	1,750	10K
15	350	2,000	
20	400	2,250	
25	450	2,500	
30	500	3,000	
35	600	3,500	
40	700	4,000	
50	750	4,500	

NET PRICE $0.33

Mounting brackets supplied at extra cost.

25-WATT SERIES P-25-K

Ohms	Ohms	Ohms	Ohms
1	100	2,500	20K
2	150	3,000	25K
3	200	3,500	30K
5	250	4,000	35K
7.5	300	4,500	40K
10	400	5,000	45K
15	500	6,000	50K
20	750	7,000	60K
25	800	7,500	70K
41	1,000	8,000	75K
50	1,250	9,000	80K
51	1,500	10K	85K
60	2,000	12K	90K
75	2,250	15K	100K

NET PRICES:

1 ohm to 5,000	$0.51
6,000 to 15K ohms	.57
20K to 50K ohms	.66
60K ohms	.75
70K ohms	.84
75K ohms	.87
80K ohms	.90
85K ohms	.99
90K ohms	1.05
100K ohms	1.17

Mounting brackets at no extra cost.

10-WATT SERIES PR-10-F

These resistors conform to military specifications for type RW29, and E1A type RRW-126 and 129.

Ohms	Ohms	Ohms	Ohms
1	200	2,000	14.5K
2	225	2,250	15K
3	250	2,500	16K
4	300	3,000	17.5K
5	350	3,500	18K
7.5	400	4,000	20K
10	450	4,500	22.5K
12	500	5,000	25K
15	600	6,000	30K
20	700	7,000	35K
25	750	7,500	40K
30	800	8,000	50K
35	900	8,500	
40	1,000	9,000	
50	1,100	10K	
75	1,200	11K	
100	1,250	12K	
125	1,500	12.5K	
150	1,750	13.5K	

NET PRICE $0.36

Mounting brackets supplied at extra cost.

20-WATT SERIES PR-20-K

These resistors conform to E1A specifications for type RRW-127.

Ohms	Ohms	Ohms	Ohms
5	850	7,000	70K
10	1,000	7,500	75K
25	1,200	8,000	80K
50	1,250	9,000	85K
75	1,500	10K	90K
100	1,750	12.5K	95K
150	1,850	15K	100K
200	2,000	20K	
250	2,250	25K	
300	2,500	30K	
350	2,750	35K	
400	3,000	40K	
500	3,500	45K	
650	4,000	50K	
700	4,500	55K	
750	5,000	60K	
800	6,000	65K	

NET PRICES:

5 ohms to 15K ohms	$0.42
20K to 50K ohms	.57
55K to 100K ohms	.72

Mounting brackets supplied at extra cost.

ADJUSTABLE RESISTORS

These resistors conform to military specification for type RW-29 and E1A specification for type RRW-226.

10-WATT SERIES PR-10-FA

Res.	Res.	Res.	Res.
1	75	750	4,000
2	100	800	4,500
3	150	1,000	5,000
5	200	1,250	6,000
7.5	250	1,500	7,000
10	300	2,000	7,500
15	350	2,250	8,000
20	400	2,500	8,500
25	500	3,000	9,000
50	600	3,500	10K

NET PRICE $0.57

25-WATT SERIES P-25-KA

Res.	Res.	Res.	Res.
1	75	1,000	5,000
2	100	1,250	6,000
3	150	1,500	7,000
5	200	2,000	7,500
7.5	250	2,250	8,000
10	300	2,500	9,000
15	400	3,000	10K
20	500	3,500	12K
25	750	4,000	15K
50	800	4,500	20K
			25K
			50K

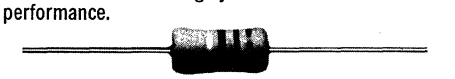
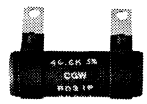
NET PRICES:

1 ohm to 5,000 ohms	$0.63
6,000 to 15K ohms	.72
20K to 25K ohms	.84
50K ohms	.99

Above adjustable resistors supplied with mounting brackets at no extra cost. Extra slider bands — 30¢ each.

CORNING® GLASS TIN OXIDE FILM RESISTORS

New glass tin oxide film resistors—with tighter, ½ to 5% purchase and load-life tolerances, precision temperature coefficients—make CORNING Resistors more than ever your best buy for stability and reliability. Add these new and improved characteristics to the established physical and electrical integrity of glass tin oxide film resistors and you will see how CORNING Precision, General-purpose, and Power Resistors can add real value to your equipment.

	TYPE AND MIL SPEC	MODEL/MIL	RESISTANCE (ohms)		WATTAGE	TOLERANCE
NEW **NC**	New low ±50 ppm TC with ½ and 1% tolerances for predictable performance. Meets MIL-R-10509F, Char. C.		±1%	±½%	125°C	
		NC4/RN55C	49.9 to 301K	49.9 to 150K	1/10	±1/2, 1%
		NC5/RN60C	49.9 to 1 meg.	49.9 to 499K	1/8	±1/2, 1%
		NC6/RN65C	49.9 to 2 meg.	49.9 to 1 meg.	1/4	±1/2, 1%
IMPROVED **NA**	Stable ½% and 1% performance at 70°C and 125°C ratings. Meets MIL-R-10509F, Char. D. 100 ppm TC.		±1%	±½%	70°C 125°C	
		NA55/RN55D	10 to 301K	49.9 to 150K	1/8 1/10	±1/2, 1%
		NA60/RN60D	10 to 1 meg.	49.9 to 499K	1/4 1/8	±1/2, 1%
		NA65/RN65D	10 to 2 meg.	49.9 to 1 meg.	1/2 1/4	±1/2, 1%
		NA70/RN70D	51.1 to 1 meg.	51.1 to 1 meg.	3/4 —	±1/2, 1%
NEW **C**	Precision stability in a unique multi-use part for both MIL-R-22684B and MIL-R-10509F, Char. D. New C3 style provides ⅛ watt performance in RN50/RC05 size.		100 ppm	200 ppm	70°C 70°C 125°C	
		C3	100Ω-150K	10Ω-150K	1/8	±1, 2, 5, 10%
		C4/RL07S	10Ω-301K		1/4 1/8 1/10	±1, 2, 5%
		C5/RL20S	10Ω-1MEG		1/2 1/4 1/8	±1, 2, 5%
C	General-purpose, low-cost film type. Film resistor performance characteristics at prices comparable to carbon composition types.	C32/RL32S	10 to 1 meg.		1 @ 70°C	±2%, 5%
		C42S/RL42S	10 to 1.5 meg.		2 @ 70°C	±2%, 5%
FP	Low-power resistors that won't burn, even under 100 times-rated overload. FP Style Resistors open up, fuse, but will not flame. Highly stable and non-inductive performance. 				40°C 70°C	
		FP-2	9 to 90K		3 2	2, 5, 10%
		FP-3	9 to 40K		4 3	2, 5, 10%
		FP-4	16 to 90K		5 4	2, 5, 10%
		FP-5	19 to 90K		7 5	2, 5, 10%
		FP-7	24 to 90K		— 7	2, 5, 10%
		FP-10	24 to 90K		10 —	2, 5. 10%
S	Fixed-film type for high-temperature operation. Silicone baked lacquer. MIL-R-11804D. Char. P.				130°C 25°C	
		S20/RD60P	10 to 500K		½ 1	±1, 2, 5, 10%
		S25/RD65P	10 to 1.54 meg.		1 2	±1, 2, 5, 10%
		S30/RD70P	30.1 to 4.22 meg.		2 4	±1, 2, 5, 10%
R	Power type, essentially non-inductive in high-frequency operations. MIL-R-11804D. 					
		R31/RD31P	10 to 70K		7 @ 25°C	±2, 5, 10%
		R33/RD33P	19.6 to 150K		13 @ 25°C	±2, 5, 10%
		R35/RD35P	19.6 to 301K		25 @ 25°C	±2, 5, 10%
		R37/RD37P	19.6 to 500K		55 @ 25°C	±2, 5, 10%
		R39/RD39P	30.1 to 1 meg.		115 @ 25°C	±2, 5, 10%

STANDARD DECADES* **Precision (Mil-R-10509)** **Semi-precision (Mil-R-22684)**

Purchase tolerance in %*																Purchase tolerance in %	
D (0.5)	F (1.0)	D (0.5)	F (1.0)	D (0.5)	F (1.0)	D (0.5)	F (1.0)	D (0.5)	F (1.0)	D (0.5)	F (1.0)	D (0.5)	F (1.0)	D (0.5)	F (1.0)	G & J 2.0 & 5.0	
10.0	10.0	13.3	13.3	17.8	17.8	23.7	23.7	31.6	31.6	42.2	42.2	56.2	56.2	75.0	75.0	10	33
10.1	....	13.5	....	18.0	....	24.0	....	32.0	....	42.7	....	56.9	....	75.9	....	11	36
10.2	10.2	13.7	13.7	18.2	18.2	24.3	24.3	32.4	32.4	43.2	43.2	57.6	57.6	76.8	76.8	12	39
10.4	....	13.8	....	18.4	....	24.6	....	32.8	....	43.7	....	58.3	....	77.7	....	13	43
10.5	10.5	14.0	14.0	18.7	18.7	24.9	24.9	33.2	33.2	44.2	44.2	59.0	59.0	78.7	78.7	15	47
10.6	....	14.2	....	18.9	....	25.2	....	33.6	....	44.8	....	59.7	....	79.6	....	16	51
10.7	10.7	14.3	14.3	19.1	19.1	25.5	25.5	34.0	34.0	45.3	45.3	60.4	60.4	80.6	80.6	18	56
10.9	....	14.5	....	19.3	....	25.8	....	34.4	....	45.9	....	61.2	....	81.6	....	20	62
11.0	11.0	14.7	14.7	19.6	19.6	26.1	26.1	34.8	34.8	46.4	46.4	61.9	61.9	82.5	82.5	22	68
11.1	....	14.9	....	19.8	....	26.4	....	35.2	....	47.0	....	62.6	....	83.5	....	24	75
11.3	11.3	15.0	15.0	20.0	20.0	26.7	26.7	35.7	35.7	47.5	47.5	63.4	63.4	84.5	84.5	27	82
11.4	....	15.2	....	20.3	....	27.1	....	36.1	....	48.1	....	64.2	....	85.6	....	30	91
11.5	11.5	15.4	15.4	20.5	20.5	27.4	27.4	36.5	36.5	48.7	48.7	64.9	64.9	86.6	86.6		
11.7	....	15.6	....	20.8	....	27.7	....	37.0	....	49.3	....	65.7	....	87.6	....		
11.8	11.8	15.8	15.8	21.0	21.0	28.0	28.0	37.4	37.4	49.9	49.9	66.5	66.5	88.7	88.7		
12.0	....	16.0	....	21.3	....	28.4	....	37.9	....	50.5	....	67.3	....	89.8	....		
12.1	12.1	16.2	16.2	21.5	21.5	28.7	28.7	38.3	38.3	51.1	51.1	68.1	68.1	90.9	90.9		
12.3	....	16.4	....	21.8	....	29.1	....	38.8	....	51.7	....	69.0	....	92.0	....		
12.4	12.4	16.5	16.5	22.1	22.1	29.4	29.4	39.2	39.2	52.3	52.3	69.8	69.8	93.1	93.1		
12.6	....	16.7	....	22.3	....	29.8	....	39.7	....	53.0	....	70.6	....	94.2	....		
12.7	12.7	16.9	16.9	22.6	22.6	30.1	30.1	40.2	40.2	53.6	53.6	71.5	71.5	95.3	95.3		
12.9	....	17.2	....	22.9	....	30.5	....	40.7	....	54.2	....	72.3	....	96.5	....		
13.0	13.0	17.4	17.4	23.2	23.2	30.9	30.9	41.2	41.2	54.9	54.9	73.2	73.2	97.6	97.6		
13.2	....	17.6	....	23.4	....	31.2	....	41.7	....	55.6	....	74.1	....	98.8	....		

*Standard resistance values are obtained from the decade table by multiplying by multiples of 10. As an example, 1.33 can represent 13.3 ohms, 133 ohms, 1.33k, 13.3k, 133k, 1.33 megohms. 2 and 5% decade values for Mil-R-11804 are standard on CORNING® R, S and H Styles.

CORNING ELECTRONICS

CORNING GLASS WORKS
ELECTRONIC PRODUCTS DIVISION

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DALE® for Optimum Value in Wirewound Resistors

INDUSTRIAL WIREWOUND POWER RESISTORS, SILICONE COATED

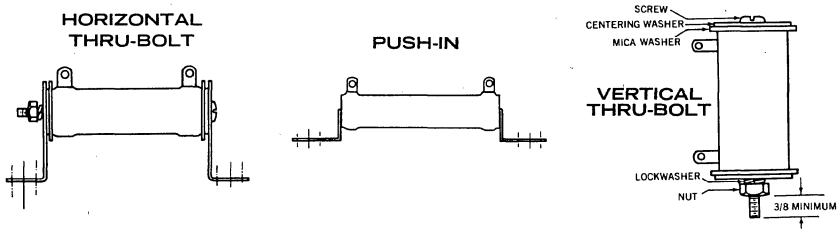
Dale's expanded industrial wirewound line provides direct, competitively-priced replacements for the full line of vitreous enamel styles and sizes. Dale's special silicone coating enhances, rather than limits, long-term stability. HL resistors shown here have a proven failure rate of .05% after more than 1,800,000 unit test hours. Test conditions: Full rated power, 25°C; failure defined as 3%ΔR, 60% confidence level.

Contact Distributor for Prices

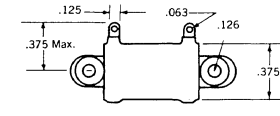
TYPE	APPLICATION	APPLICABLE MIL SPEC AND TYPES	WATTAGE RATING	RESISTANCE RANGE	CORE SIZES	TERMINALS	MOUNTINGS	TOLERANCE
CW Axial Lead	Axial leads. For applications requiring high performance at low cost	MIL-R-26 RW-67, 68, 69	2.5-13 watts	.1 ohm to 100K ohms	Body Dia. .188 to .375" Body Length .500 to 1.781" Leads 1.5 to 2"	Leads	Terminals	±5% (10% below 1 ohm)
HL Tubular	Silicone-coated general purpose wirewound resistor. A direct replacement in both cost and performance for vitreous enamel types.	MIL-R-26 RW-29, 30, 31, 32, 33, 35, 36, 37, 38, 47	5-225 watts	.1 ohm to 1.3 Megohms	O.D. 1/4 to 1-1/8" Length 1-10½"	Lugs	Push-in bracket or thru-bolt	±5% (10% below 1 ohm)
NHL Non-Inductive	High frequency circuits and applications requiring low inductive effect and minimum distributed capacity	None	5-225 watts	1 ohm to 90K ohms	O.D. 1/4 to 1-1/8" Length 1-10½"	Lugs or Leads	Push-in bracket or thru bolt	±5%
HL Flat	For limited space requiring high power-to-size ratio. Vertical or horizontal stacking.	MIL-R-26 RW-20 thru RW-24	24-95 watts	.1 ohm to 150K ohms	Length 1¼ to 6"	Lugs	Spring push-in	±5% (10% below 1 ohm)
HLM Miniature Flat	For limited space, high power-to-size requirements particularly in high vibration areas.	None	10-20 watts	.1 ohm to 51K ohms	Length 3/4 to 2-1/16"	Lugs	Thru mount with spacers	±5% (10% below 1 ohm)
HLA Adjustable	For resistance or voltage adjustment	MIL-R-19365C RX-29, 32, 33, 35, 36 37, 38, 47	12-225 watts	1 ohm to 100K ohms	O.D. 5/16 to 1-1/8" Length 1½ to 10½"	Lugs	Push-in bracket or thru bolt	±5%
HLT Tapped	For voltage divider networks	MIL-R-26 RW-22, 23, 24, 33, 35, 36, 37, 38, 47	11-225 watts	.1 ohm to 1.1 Megohms	O.D. 5/16 to 1-1/8" Length 1½ to 10½"	Lugs	Push-in bracket or thru bolt	±10% each section (±10% total)
HLW Tubular	General application where terminal wires are required for direct electrical connection	None	3-20 watts	.1 ohm to 80K ohms	O.D. 13/64 to 7/16" Length 1" to 2"	Lugs with terminal wires	Terminals, thru bolt or push-in bracket	±5% (10% below 1ohm)

MOUNTING BRACKETS

for HL, HLA, HLT & NHL RESISTORS



EXCLUSIVE BRACKET DESIGN FOR HLM MINIATURE FLAT STYLE



Mounting strap fits snugly through core and is bound tightly against unit by two eccentric spacers. Eliminates expensive cements and improves heat transfer and power handling capabilities.

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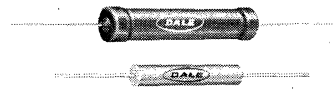
DALE® for Optimum Value in Wirewound Resistors

WIREWOUND PRECISION RESISTORS, SILICONE COATED & MOLDED

TYPE RS

Coated and molded models meet applicable requirements of MIL-R-26E, MIL-R-26C and MIL-R-23379. Non-inductive styles available.



(Available with Weldable Leads)

STANDARD ELECTRICAL SPECIFICATIONS

DALE TYPE	MIL-R-26E TYPE*	DALE RATING U .05% thru 5%	DALE RATING V 3% & 5%	RESISTANCE RANGES (OHMS) .05% .1%, .25%	RESISTANCE RANGES (OHMS) .5%, 1% 3%, 5%	MAX.** WORKING VOLTAGE U	MAX.** WORKING VOLTAGE V	MAX. WT. GRAMS	STANDARD TEMPERATURE COEFFICIENT VALUE RANGES (OHMS)† ± 90 PPM	± 50 PPM	± 30 PPM	± 20 PPM
RS-¼	—	.4 W	—	10 to 950	1 to 3.4K	20	—	.21	Below 1 Ω	1 to 6.9	—	7 to 3.4K
RS-½	—	.75 W	—	10 to 1.3K	1 to 4.9K	29	—	.23	Below 1 Ω	1 to 9.9	—	10 to 4.9K
RS-1A	RW-70	1.0 W	—	1 to 2.7K	.1 to 10.4K	52	—	.34	Below 1 Ω	1 to 9.9	10 to 19	20 to 10.4K
RS-1B	—	1.1 W	—	1 to 4.0K	.1 to 15K	62	—	.40	Below 1 Ω	1 to 9.9	10 to 29	30 to 15K
RS-2	—	4.0 W	5.5 W	1 to 12.7K	.1 to 47.1K	210	250	2.1	Below 1 Ω	1 to 9.9	10 to 79	80 to 47.1K
RS-2A	—	3.25 W	4.75 W	1 to 11.4K	.1 to 42.1K	185	220	.90	Below 1 Ω	1 to 9.9	10 to 79	80 to 42.1K
RS-2B	RW-79	3.0 W	3.75 W	1 to 6.5K	.1 to 24.5K	135	148	.70	Below 1 Ω	1 to 9.9	10 to 49	50 to 24.5K
RS-2C	—	2.5 W	3.25 W	1 to 8.6K	.1 to 32.3K	138	157	1.6	Below 1 Ω	1 to 9.9	10 to 59	60 to 32.3K
RS-2C-23	RW-69	2.5 W	3.25 W	1 to 8.6K	.1 to 32.3K	138	157	1.6	Below 1 Ω	1 to 9.9	10 to 59	60 to 32.3K
RS-5	—	5.0 W	6.5 W	.5 to 25.7K	.1 to 95.2K	330	376	4.2	Below 1 Ω	1 to 9.9	10 to 169	170 to 95.2K
RS-5-69	RW-74	5.0 W	6.5 W	.5 to 24.5K	.1 to 91.0K	323	368	4.2	Below 1 Ω	1 to 9.9	10 to 169	170 to 91.0K
RS-5-70	RW-67	5.0 W	6.5 W	.5 to 25.7K	.1 to 95.2K	330	376	4.2	Below 1 Ω	1 to 9.9	10 to 169	170 to 95.2K
RS-7	—	7.0 W	9.0 W	.5 to 41.4K	.1 to 154K	504	576	4.7	Below 1 Ω	1 to 9.9	10 to 269	270 to 154K
RS-10	—	10 W	13 W	.5 to 73.4K	.1 to 273K	799	911	9.0	Below 1 Ω	1 to 9.9	10 to 469	470 to 273K
RS-10-38	RW-78	10 W	13 W	.5 to 71.3K	.1 to 265K	788	898	9.0	Below 1 Ω	1 to 9.9	10 to 469	470 to 265K
RS-10-39	RW-68	10 W	13 W	.5 to 73.4K	.1 to 273K	799	911	9.0	Below 1 Ω	1 to 9.9	10 to 469	470 to 273K

**Max. working voltage determined at .0008 dia. wire resistance values.

†Consult factory for special T.C. requirements.

***NOTE:** The following Dale RS series resistors meet requirements of MIL-R-26C (Char. G & V) and MIL-R-23379:

MIL-R-26C

DALE TYPE	RS-2C	RS-5	RS-10
MIL. TYPE	RW-69	RW-67	RW-68

MIL-R-23379

DALE TYPE	RS-1A	RS-2C-23	RS-5	RS-10
MIL. TYPE	RWP-18	RWP-20	RWP-21	RWP-23

WIREWOUND PRECISION RESISTORS, BOBBIN TYPE *(Available with Weldable Leads)*

Contact Distributor for Prices

Non-inductive precision resistors. Epoxy molded for high dielectric strength and complete environmental protection. Meet applicable requirements of MIL-R-39005 and MIL-R-93.

TYPE WWA

Patented design insures high stability. Special tolerances and matching available.

TYPE MWA

Sub-miniature size retains Dale's unique bobbin-type design and high protection molded coating.

*Consult factory for tolerances below .05%

†Although there is no direct mil. model of the same physical size, the Dale type will meet the electrical and environmental requirements of MIL-R-93.

STANDARD ELECTRICAL SPECIFICATIONS

DALE TYPE	MIL-R-93 TYPE	POWER RATING (WATTS)	MINIMUM RESISTANCE RANGE (OHMS)* .05%	.1%	.25%	.5%	1%	MAXIMUM RESISTANCE (OHMS) ALL TOLERANCES	MAXIMUM WORKING VOLTAGE	MAXIMUM WEIGHT (GRAMS)
MWA-8	—	.1	50	10	5	2	1	100K	27	.21
MWA-10	—	.125	50	10	5	2	1	160K	37	.23
WWA-13	—	.125	50	10	5	2	1	311K	50	.35
WWA-22	—	.15	130	20	5	.2	.1	600K	100	.9
WWA-23	RB-56	.15	105	12	5	.2	.1	650K	150	1.0
WWA-24	RB-55	.20	40	12	6	.2	.1	900K	200	1.2
WWA-26	RB-54	.25	20	10	5	.2	.1	1.72 Meg.	300	1.5
WWA-36	RB-53	.33	15	4	1	.2	.1	4 Meg.	300	3.1
WWA-38	RB-52	.50	10	3	1	.2	.1	5.4 Meg.	600	3.8
WWA-44	†	.5	15	4	1	.2	.1	5.75 Meg.	500	3.4
WWA-45	†	.5	10	3	1	.2	.1	7.5 Meg.	550	5.4
WWA-48	RB-57	.75	10	3	1	.2	.1	11.5 Meg.	850	6.5
WWA-412	RB-58	.875	10	3	1	.2	.1	17.5 Meg.	1050	8.4
WWA-416	RB-59	1	10	3	1	.2	.1	23 Meg.	1400	15.5

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WIREWOUND PRECISION RESISTORS, SILICONE COATED & MOLDED

Meets applicable requirements of MIL-R-26E, MIL-R-26C (Char. G & V) and MIL-R-23379. Non-inductive styles are available. Both RS and G types have established outstanding reliability records (write for test reports).

STANDARD ELECTRICAL SPECIFICATIONS

TYPE G
Beryllium oxide core for decreased size, increased stability. Meets applicable specifications of MIL-R-26 and MIL-R-23379.

(Available with Weldable Leads)

DALE TYPE	MIL-R-26E TYPE*	DALE RATING U .05% thru 5%	DALE RATING V 3% & 5%	RESISTANCE RANGES (OHMS) .05% .1%, 25%	RESISTANCE RANGES (OHMS) .5%, 1%, 3%, 5%	MAX.** WORKING VOLTAGE U	MAX.** WORKING VOLTAGE V	MAX. WT. GRAMS	STANDARD TEMPERATURE COEFFICIENT VALUE RANGES (OHMS)† ± 90 PPM	± 50 PPM	± 30 PPM	± 20 PPM
G-1	RW-81	1.0 W	—	10 to 950	1 to 3.4K	33	—	.20	Below 1 Ω	1 to 6.9	—	7 to 3.4K
G-2	—	1.5 W	—	10 to 1.3K	1 to 4.9K	42	—	.21	Below 1 Ω	1 to 9.9	—	10 to 4.9K
G-3	RW-80	2.25 W	—	1 to 2.7K	.1 to 10.4K	80	—	.34	Below 1 Ω	1 to 9.9	10 to 19	20 to 10.4K
G-5	—	4.0 W	5 W	1 to 6.5K	.1 to 24.5K	153	170	.80	Below 1 Ω	1 to 9.9	10 to 49	50 to 24.5K
G-5A	—	4.5 W	6.5 W	1 to 11.4K	.1 to 42.1K	214	257	.95	Below 1 Ω	1 to 9.9	10 to 79	80 to 42.1K
G-5C	—	5 W	7 W	1 to 8.6K	.1 to 32.3K	194	230	1.2	Below 1 Ω	1 to 9.9	10 to 59	60 to 32.3K
G-6	—	6 W	8 W	1 to 12.7K	.1 to 47.1K	258	298	2.0	Below 1 Ω	1 to 9.9	10 to 79	80 to 47.1K
G-10	—	7 W	10 W	.5 to 25.7K	.1 to 95.2K	390	467	3.6	Below 1 Ω	1 to 9.9	10 to 169	170 to 95.2K
G-12	—	10 W	12 W	.5 to 41.4K	.1 to 154K	607	665	4.2	Below 1 Ω	1 to 9.9	10 to 269	270 to 154K
G-15	—	15 W	18 W	.5 to 73.4K	.1 to 273K	979	1072	7.6	Below 1 Ω	1 to 9.9	10 to 469	470 to 273K

**Maximum Working Voltage determined at .0008 dia. wire resistance values.

†Consult factory for special T.C. requirements.

*NOTE: The following Dale G series resistors meet requirements of MIL-R-26C (Char. G & V) and MIL-R-23379:

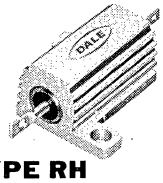
MIL-R-26C

DALE TYPE	G-5C	G-10	G-15
MIL. TYPE	RW-69	RW-67	RW-68

MIL-R-23379

DALE TYPE	G-1	G-3	G-5C-2	G-10	G-15
MIL. TYPE	RWP-17	RWP-19	RWP-20	RWP-21	RWP-23

WIREWOUND POWER RESISTORS, HEAT SINK ENCASED



TYPE RH
Patented design. Chassis mounted. All models exceed MIL-R-18546.

STANDARD ELECTRICAL SPECIFICATIONS

DALE TYPE	MIL-R-18546 TYPE	POWER RATING* (WATTS) DALE**	POWER RATING* (WATTS) MIL	RESISTANCE RANGES (OHMS) .05%, .1%, .25%	RESISTANCE RANGES (OHMS) .5%, 1%, 3%	MAX. WORKING VOLTAGE	MAX.† WT. GRAMS	STANDARD TEMPERATURE COEFFICIENT VALUE RANGES (OHMS) †† ±50 PPM	±30 PPM	±20 PPM
RH-5	RE-60	7.5 (5)	5	1 to 6.5K	.1 to 24.5K	160	3	1 to 9.9	10 to 49	50 to 24.5K
RH-10	RE-65	12.5 (10)	10	1 to 12.7K	.01 to 47.1K	265	6	1 to 9.9	10 to 79	80 to 47.1K
RH-25	RE-70	25	20	.5 to 25.7K	.01 to 95.2K	550	13	1 to 9.9	10 to 169	170 to 95.2K
RH-50	RE-75	50	30	.5 to 73.4K	.01 to 273K	1250	28	1 to 9.9	10 to 469	470 to 273K

*Rating is based on chassis mounting area and stability.

**NOTE: Figures in parentheses on RH-5 and RH-10 indicate wattage printed on these resistors. New construction allows them to be rated at 7.5 and 12.5 watts – but they will be printed with these higher ratings only upon customer request.

†A weight increase of 10% should be allowed for non-inductive types. ††Consult factory for values below 1 ohm and for special T.C. requirements.

DALE® for Optimum Value in Metal Film Resistors

DEPOSITED CARBON RESISTORS

Contact Distributor for Prices *(Available with Weldable Leads)*

Meet functional requirements of MIL-R-10509F.

TYPE MC
Molded housing. Completely insulated and protected against environmental or mechanical damage. Specially formulated molding compound gives best humidity protection available.

TYPE DC
Specially coated for complete insulation against moisture, salt spray and other severe environmental factors. Miniature size.

STANDARD ELECTRICAL SPECIFICATIONS

DALE TYPE	MIL. TYPE MC	MIL. TYPE DC	POWER RATING (WATTS) B	POWER RATING (WATTS) D*	MINIMUM RESISTANCE (OHMS)	MAXIMUM 1% RESISTANCE (OHMS)	MAXIMUM 2% RESISTANCE (OHMS)	MAX. WT. (GRAMS) MC	MAX. WT. (GRAMS) DC	MAXIMUM WORKING VOLTAGE
MC-1/10, DC-1/10	RN-55	—	1/10	1/8	2	400K	400K	.35	.20	200
MC-1/8, DC-1/8	RN-60	—	1/8	1/4	1	3 Megohms	5 Megohms	.45	.30	300
MC-1/4, DC-1/4	RN-65	RN-10	1/4	1/2	2	5 Megohms	6 Megohms	.85	.35	350
MCS-1/2, DCS-1/2	RN-70	RN-20	1/2	3/4	1	10 Megohms	15 Megohms	1.50	.80	500

Tolerance: .5%, 1%, 2%

Operating Temp. Range: –55° C to +165° C

Temperature Coefficient: –200 PPM to –500 PPM, depending on value within normal resistance range.

*Applies to MC only.

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DALE® for Optimum Value in Metal Film Resistors and Trimmer Potentiometers

PRECISION METAL FILM RESISTORS

(Available with Weldable Leads)

TYPE MF

Epoxy molded. Meets MIL-R-10509 (Char. D, C or E, depending on T.C.). Includes subminiature MF50 (1/20 watt).

TYPE MFF

Epoxy conformal coated. Meets electrical and environmental characteristics of MIL-R-10509F, but is dimensionally smaller. Characteristics D, C or E apply, depending on T.C. required.

*Characteristic F **Characteristic B
Tolerance: ±1%, ±.5%, ±0.25%, ±0.10% standard
Special tolerances and matching on request.

STANDARD ELECTRICAL SPECIFICATIONS

DALE TYPE	MIL. TYPE	125° C RATING (Char. C&E)	70° C RATING (Char. D)	MAX. WT. (Grams)	MAX. WORKING VOLTAGE
MF50	RN-50	1/20 w	1/10 w	.11	200
MF-1/10	RN-55	1/10 w	1/8 w	.35	200
MF-1/8	RN-60	1/8 w	1/4 w	.45	300
MF-1/4	RN-65	1/4 w	1/2 w	.84	350
MFS-1/2	RN-70	1/2 w	3/4 w	1.6	500
MF-3/4	RN-70F	3/4 w*	–	1.9	500
MF-1	RN-75	–	1 w**	4.4	500
MF-2	RN-80	–	2 w**	7.9	750
MFF-1/8	–	1/8 w	–	.40	300
MFF-1/4	–	1/4 w	–	.65	350
MFF-1/2	–	1/2 w	–	.95	500
MFF-1	–	–	1 w	2.7	500
MFF-2	–	–	2 w	4.7	750

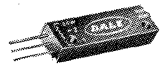
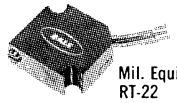
RESISTANCE RANGE (OHMS) 1%, .5%, .25%, .1%

	T-0* (Char. D)	T-1* (Char. D)	T-2 (Char. C)	T-9 (Char. E)
MF50	24.9Ω-100KΩ	49.9Ω-100KΩ	100Ω-100KΩ	100Ω-100KΩ
MF-1/10	10Ω-301KΩ	30.1Ω-301KΩ	30.1Ω-301KΩ	30.1Ω-301KΩ
MF-1/8, MFF-1/8	10Ω-1 Meg.	24.9Ω-1 Meg.	30.1Ω-499KΩ	30.1Ω-499KΩ
MF-1/4, MFF-1/4	10Ω-2 Meg.	24.9Ω-2 Meg.	30.1Ω-1 Meg.	30.1Ω-1 Meg.
MFS-1/2, MFF-1/2	10Ω-2.49 Meg.	24.9Ω-2.49 Meg.	24.9Ω-1 Meg.	24.9Ω-1 Meg.
MF-3/4	10Ω-2.49 Meg.	24.9Ω-2.49 Meg.	100Ω-1 Meg.	100Ω-1 Meg.
MF-1, MFF-1	10Ω-5.11 Meg.	24.9Ω-4.02 Meg.	49.9Ω-2.61 Meg.	49.9Ω-2.61 Meg.
MF-2, MFF-2	30.1Ω-10 Meg.	100Ω-8 Meg.	100Ω-6 Meg.	200Ω-5.11 Meg.

*T-0 and T-1 are available in tolerance of ±.25% and greater only.

TRIMMER POTENTIOMETERS

MILITARY GRADE WIREWOUND TRIMMERS (High Temperature, Precision) *Humidity Proof (Mil. Spec.)*

SERIES	ILLUSTRATION	MODEL	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	POWER RATING	OPERATING TEMPERATURE RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
600	 Mil. Equiv. RT-10 PANEL MOUNT STYLES AVAILABLE	680 690 697 692	• Printed Circuit Pins 22 AWG • Hook Type Wire Solder Terminal • 28 AWG Stranded Teflon Leads • 26 AWG Solid Leads	10 ohms to 50K ohms ±5%	1 watt at 70° C, derated to 0 at 175° C	–65° C to 175° C	15±2	.18	.32	1.00
1200	Mil. Equiv. RT-11 PANEL MOUNT STYLES AVAILABLE	1287 1288 1299	• Printed Circuit Pins 21 AWG • Stranded Teflon Leads 28 AWG • Solder Lug	10 ohms to 100 K ohms ±5%	1 watt at 70° C, derated to 0 at 175° C	–65° C to 175° C	25±2	.28	.31	1.25
1600	Mil. Equiv. RT-12 PANEL MOUNT STYLES AVAILABLE	1680 1697 1690	• Printed Circuit Pins 21 AWG • Stranded Teflon Leads 28 AWG • Solder Lug	10 ohms to 100K ohms ±5%	1 watt at 70° C, derated to 0 at 175° C	–65° C to 175° C	22±3	.19	.32	1.25
5000	 Mil. Equiv. RT-22	5050 5080 5091	• Stranded Teflon Leads 30 AWG • Printed Circuit Pins 21 AWG, Edge Mount • Printed Circuit Pins 21 AWG	10 ohms to 50K ohms ±5%	1 watt at 70° C, derated to 0 at 175° C	–65° C to 175° C	23±2	.19 .22†	.50	.50
5800	Mil. Equiv. RT-24	5850 5891 5880 5887	• 30 AWG Stranded Teflon insulated leads • Printed Circuit Pins, base mount, 22 AWG gold plated • Printed Circuit Pins, edge mount, 22 AWG gold plated • Printed Circuit Pins, edge mount, side adjust, 22 AWG gold plated	10 ohms to 50K ohms ±5%	1 watt at 70° C, derated to 0 at 175°C	–65°C to 175°C	25 ± 3	.145	.375	.375

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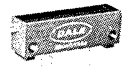
DALE® for Optimum Value in Trimmer Potentiometers

COMMERCIAL GRADE TRIMMERS—WIREWOUND AND FILM

SERIES	ILLUSTRATION	MODEL	CONFIGURATION	STANDARD RESISTANCE & TOLERANCE	POWER RATING	OPERATING TEMPERATURE RANGE	ADJUSTMENT TURNS	HEIGHT	WIDTH	LENGTH
2100	PANEL MOUNT STYLES AVAILABLE	2187 2188 2199 2192	• Printed Circuit Pins 21 AWG • Stranded Vinyl Leads 28 AWG • Gold-plated Solder Lug • 24 AWG Solid Leads	10 ohms to 100 K ohms ±10%	1 watt at 70° C derated to 0 at 125° C	−65° C to 125° C	25±2	.28	.31	1.25
2200	PANEL MOUNT STYLES AVAILABLE	2280 2292 2297	• Printed Circuit Pins 22 AWG • 26 AWG Solid Leads • 28 AWG Stranded Vinyl Leads	10 ohms to 50K ohms ±10%	1 watt at 70° C, derated to 0 at 125° C	−65° C to 125° C	NOTE: Both 2100 and 2200 Series can be made humidity proof on request. 15±2	.18	.32	1.00
2300		2387 2317 2389 2319	Unsealed / Sealed } Printed Circuit Terminals, gold plated Unsealed / Sealed } Hook-type solder lugs, gold-plated	10 ohms to 50K ohms ±10%	0.5 watt to 70°C, derated to 0 at 105°C	−55°C to 85°C	15 ± 2	.36	.28	1.00
8300	NEW FILM ELEMENT	8387 8317 8389 8319	Unsealed / Sealed } Printed Circuit Terminals, gold plated Unsealed / Sealed } Hook-type solder lugs, gold-plated	10 ohms to 2 Megohms ±20% 100 to 500K ohms available at ±10%	.75 watt at 70°C, derated to 0 at 105°C	−55°C to 105°C	15 ± 2	.36	.28	1.00

PRICE LIST DALE® TRIMMER POTENTIOMETERS

MILITARY GRADE

SERIES	RESISTANCE VALUES	1-9	10-24	25-49	STANDARD VALUES
600 (680, 690, 691, 692, 697)	10Ω–10K	$5.56	$5.13	$4.71	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K
	Over 10K–30K	6.11	5.64	5.17	
	Over 30K–50K	6.43	5.94	5.47	
1200 (1287, 1288, 1289)	10Ω–10K	$5.56	$5.13	$4.71	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K 100K
	Over 10K–30K	6.11	5.64	5.17	
	Over 30K–50K	6.43	5.94	5.47	
	Over 50K–100K	7.83	7.23	6.63	
1600 (1680, 1697, 1690)	10Ω–10K	$5.56	$5.13	$4.71	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 50K 100Ω 5K 100K 200Ω 10K
	Over 10K–30K	6.11	5.64	5.17	
	Over 30K–50K	6.43	5.94	5.47	
	Over 50K–100K	7.83	7.23	6.63	
5000 (5050, 5080 5091)	10Ω–10K	$5.47	$5.14	$4.84	10Ω 500Ω 20K 20Ω 1K 50K 50Ω 2K 100Ω 5K 200Ω 10K
	Over 10K–30K	6.02	5.69	5.36	
	Over 30K–50K	7.07	6.68	6.29	
5800 (5850, 5891, 5880, 5887)	CONTACT DISTRIBUTOR FOR PRICES				10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 30K 200Ω 10K 50K

COMMERCIAL GRADE

SERIES	RESISTANCE VALUES	1-9	10-24	25-49	STANDARD VALUES
2100* (2187, 2188, 2189)	10Ω–10K	$3.10	$2.85	$2.62	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K 100K
	Over 10K–30K	3.61	3.31	3.05	
	Over 30K–50K	4.11	3.77	3.47	
	Over 50K–100K	5.20	4.77	4.40	
2200* (2280, 2292, 2297)	10Ω–10K	$3.44	$3.15	$2.91	10Ω 500Ω 15K 20Ω 1K 20K 50Ω 2K 25K 100Ω 5K 50K 200Ω 10K
	Over 10K–30K	3.94	3.62	3.33	
	Over 30K–50K	4.78	4.41	4.05	
2300 (2387, 2389)	10Ω–20K	$1.82	$1.67	$1.50	10Ω 500Ω 20K 20Ω 1K 50K 50Ω 2K 100Ω 5K 200Ω 10K
	Over 20K–50K	2.22	2.07	1.90	
2300 (2317, 2319	10Ω–20K	$1.92	$1.77	$1.60	10Ω 500Ω 20K 20Ω 1K 50K 50Ω 2K 100Ω 5K 200Ω 10K
	Over 20K–50K	2.32	2.17	2.00	
8300 (8387, 8399)	10Ω–2 Meg.	$1.82	$1.67	$1.50	10Ω 10K 20Ω 20K 50Ω 25K 100Ω 100K
8300 (8387, 8389)	10Ω-2 Meg.	$1.92	$1.77	$1.60	200Ω 200K 500Ω 250K 1K 500K 2K 1 Meg. 5K 2 Meg.

*Add $.13/unit to all 2100 and 2200 price breaks for sealed units. To specify, add "–17" to part number. Example: "2187-17."

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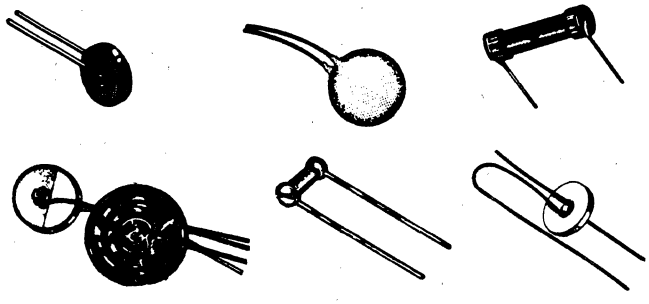
GC ELECTRONICS

RESISTIVE DEVICES

GLO-BAR THERMISTORS

Complete Selection individually skin carded on master display cards



Engineered to the original manufacturer's rigid specifications, GC Chemical Fuses are exact replacements for RCA, Emerson, Zenith, etc. All GC Chemical Fuses are visual packed for quick identification. U.L. approved.

RESISTORS

1/4, 1/2, 1 & 2 watt resistors (10% Tol.) in MOISTURE-PROOF packages EIA approved MIL-R-IIE.

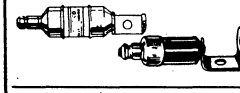
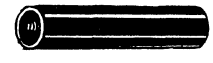
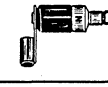
BULK RESISTOR PRICES

WATTAGE	EA. 1-9	10-49	50-99	100-UP
1/4 WATT	.13	.09	.06	$4.32/C
1/2 WATT	.12	.085	.05	$4.15/C
1 WATT	.17	.10	.07	$6.47/C
2 WATT	.22	.19	.14	$12.28/C

BEL® CHEMICAL FUSES

GC PART NO.	WALSCO	COLOR	ORIG.MFRS. PART NO.	MFRS. STOCK NO.	BEL FUSE NO.	SP	NET
25-929-S	40-929-S	Yellow	Emerson 808238		1700-1	10	.45
25-935-S	40-935-S	Pink	RCA 945392-4		450-1	10	.45
25-937-S	40-937-S	Green	Emerson 808238		1200-1	10	.45
25-954-S	40-954-S	Black	RCA 945392-1	RCA 109079	500-1	10	.45
25-956-S	40-956-S	Blue	RCA 945392-2	RCA 109588	400-1	10	.45
25-958-S	40-958-S	Red	RCA 945392-3	RCA 109860	3-1	10	.45
25-995-S	40-995-S	Maroon	Zenith 136-66		2000-1	10	.45
25-997-S	40-997-S	Gray	Emerson 808241		1400-1	10	.45
25-976-S	40-976-S	White	Zenith 136-71		1000-1	10	.45

AUTO SUPPRESSORS

ILLUSTRATION	PART NO.	DESCRIPTION	STD. PKG.	NET
	A-833	SPARK PLUG CARBON SUPPRESSOR Fits screw-on type terminals	1	.33
	A-835	SLIP-ON TYPE SUPPRESSOR Super wire wound	1	.65
	A-836	DISTRIBUTOR MODEL SUPPRESSOR Super wire wound	1	.65
	A-831 A-834	KNURLED NUT AND BRACKET SUPPRESSORS Carbon type ..... Super wire wound	1 1	.33 .65
	A-829	DISTRIBUTOR TYPE SUPPRESSOR Cable type for splicing cables	24	.33
	A-830	SLIP ON CARBON TYPE SUPPRESSOR Fits all cars	1	.33
	A-832	DISTRIBUTOR MODEL SUPPRESSOR Carbon type	1	.33

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

Net

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Charles T. Gamble Industries

PRECISION WIRE WOUND RESISTORS & NETWORKS

Charles T. Gamble Industries has engineered and designed non-inductive precision wire wound resistors to meet the requirements of Mil-R-93D. These resistors are completely sealed against the effects of high humidity and salt water immersion cycling. The material used in the manufacture of our resistors has a very high dielectric strength. The bobbin material used in winding the resistors is one and the same as the encapsulating material. All resistors use resistance wire with very low thermal E.M.F. to the copper leads. Where thermal effects can be disregarded, welded construction with nickel alloy leads may be specified.

Standard temperature coeficient is ±10 PPM/°C. Lower T.C.'s, and T.C.'s as high as 6000 PPM/°C can be supplied.

Tolerance available (non power styles): 1%, 0.5%, 0.1%, 0.05%, 0.025%, 0.02% and 0.01%. Resistors with tolerances of 0.1% and below are stabilized by artificial aging and temperature cycling.

NETWORKS: RC NETWORKS, LADDER NETWORKS, VOLTAGE DIVIDERS, BINARY NETWORKS

Sub-miniature Axial lead Precision resistors have been designed for applications where space is a prime factor.

Encapsulated printed circuit resistors are designed for printed circuit board application, where space is a factor.

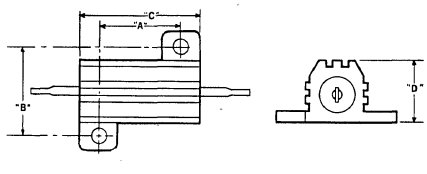
Radial lug type resistors have been designed to meet the requirements of Mil-R-93D.

All resistors are hermetically sealed with epoxy resin to protect the windings against the effects of high humidity and salt water immersion cycling. Resistors can either be inductive or non-inductive wound.

The materials used in the construction of radial lug type resistors are identical to those used in the construction of axial lead types.

These resistors are supplied with a thru hole for mounting to the chassis by means of a #6 thru bolt.

HEAT SINK MOUNTED PRECISION WIREWOUND POWER RESISTORS



POWER RATING	DIMENSIONS A	B	C	D	MAXIMUM OHMS
10 WATT	.562	.625	.750	.390	20,000
25 WATT	.718	.781	1.062	.542	60,000
50 WATT	1.563	.844	1.968	.610	70,000

Ratings shown are based upon use of appropriate chassis mounting.

STANDARD AXIAL LEAD PRECISION RESISTORS

Type	Military Specs. New	Old	Commercial Wattage Rating	Max. Resist. Based on .0007 E Alloy	Military Wattage Rating	Max. Volts	Size Length	Dia.
0808AL			.125W	300K		200V	¼″	¼″
1108AL	RB56		.125W	350K	.125W	250V	11/32″	¼″
1608AL	RB55	AFRT 10	.250W	400K	.15 W	184V	½″	¼″
1208AL			.200W	350K	.250W	225V	⅜″	¼″
2408AL	RB54	AFRT 11	.333W	1 meg.	.250W	300V	¾″	¼″
2412AL	RB53	AFRT 12	.500W	1.2 meg.	.333W	300V	¾″	⅜″
3212AL	RB52	AFRT 13	1.000W	2 meg.	.400W	600V	1″	⅜″
1616AL			.500W	1.3 meg.		300V	½″	½″
3216AL	RF57	AFRT 14	1.000W	3 meg.	.750W	600W	1″	½″
4816AL	RB58	AFRT 15	2.000W	6 meg.	1.000W	900V	1½″	½″
6416AL	RB59	AFRT 16	2.500W	10 meg.	1.250W	1200V	2″	½″
2008AL			.500W	.425 meg.		300V	⅝″	¼″
1612AL			.400W	.500 meg.		300V	½″	⅜″
2012AL			.750W	.600 meg.		600V	⅝″	⅜″
3208AL			.500W	1.1 meg.		300V	1″	¼″
2016AL			.750W	2 meg.		600V	⅝″	½″
1212AL			.250W	1 meg.		225V	⅜″	⅜″

SUB-MINIATURE AXIAL LEAD PRECISION RESISTORS

Type	Commercial Wattage Rating	Maximum Resistance based on .0007 E Alloy	Maximum Voltage	Size Length	Dia.
500156AL	.1W	70K	85 Volts	½″	5/32″
625156AL	.15W	100K	125 Volts	⅝″	5/32″
375125AL	.125	50K	72 Volts	⅜″	⅛″
109250AL	.120	25K	50 Volts	¼″	7/64″
375187AL	.1W	40K	65 Volts	⅜″	3/16″
375109AL	.120	30K	55 Volts	⅜″	7/64″
375093AL	.1	20K	55 Volts	⅜″	3/32″

ENCAPSULATED PRINTED CIRCUIT RESISTORS

Type	Military Specs.	Commercial Wattage	Military Wattage	Max. Volts	Max. Resist. Based on .0007	Sizes Length	Dia.	Lead Spacing	Lead Length
0808PC		.125W		90V	70K	¼″	¼″	.100	1″
1208PC		.200W		200V	200K	⅜″	¼″	.100	1″
1608PC		.250W		184V	400K	½″	¼″	.100	1″
2408PC		.333W		300V	1 meg.	¾″	¼″	.100	1″
3208PC		.500W		750V	1.1 meg.	1″	¼″	.100	1″
1008PC	RB71	.250W	.125W	240V	250K	5/16″	¼″	.200	1″
1612PC	RB70	.500W	.250W	150V	.301 meg.	½″	⅜″	.200	1″
3212PC		1.000W		1350V	1.75 meg.	1″	⅜″	.250	1″
3232PC		1.250W		1700V	2.50 meg.	1″	½″	.250	1″

STANDARD RADIAL LUG PRECISION RESISTORS

Type	Military Specs. New	Old	Commercial Wattage	Military Wattage Rating	Maximum Voltage	Max. Resist. Based on .0007	Size Length	Dia.
1616RLU	RB08	AFRT 17	.500	¼W	300V	885K	½″	½″
2020RLU	RB16	AFRT 18	.666	⅓W	300V	1 meg.	⅝″	⅝″
3220RLU	RB17	AFRT 19	1.000	½W	600V	2.5 meg.	1″	⅝″
4024RLU	RB18		1.500	¾W	600V	6.5 meg.	1¼″	¾″
6828RLU	RB19		2.000	1W	900V	12 meg.	2⅛″	⅞″

CHARLES T. GAMBLE INDUSTRIES
Precision Wire Wound Resistors

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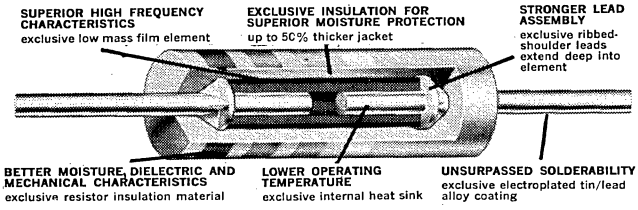
CARBON COMPOSITION RESISTORS

DIVISION OF TRW INC.

PERFORMANCE ADVANTAGES YOU GET ONLY FROM IRC

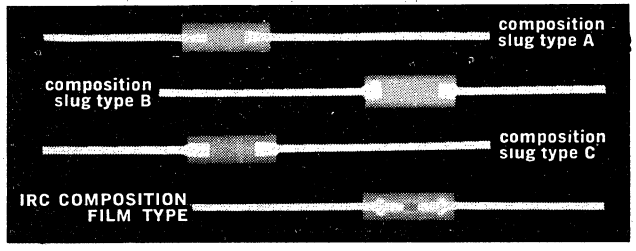


STRONGER LEAD ASSEMBLY

There is up to 50% more molding around the element of an IRC carbon composition resistor than is provided by other brands. Also, the end molding is correspondingly thicker.

As illustrated, *IRC's ribbed shoulder leads are deeply imbedded in the molding to withstand twist or pull-out.* Leads are thermally bonded to the element to form an assembly that is failure-free under MIL-R-11 and MIL-R-39008 shock, vibration and acceleration tests.

During destructive tensile tests on the RC20 size, for instance, other Fixed Composition resistors failed at forces averaging 22, 18 and 28 pounds respectively, as shown in the X-Ray photograph. IRC resistors withstood forces averaging 33 pounds. Even at that force, IRC leads did not pull out. The lead wire broke outside the body.



UNSURPASSED SOLDERABILITY

IRC's exclusive tin/lead alloy electroplating process assures a lead with a smooth, uniform surface. This means your assemblies will go together without the possible aggravations of lumps and voids in the alloy coating sometimes found on hot tin dipped leads.

The tin/lead alloy composition used on these military and commercial resistor leads was specifically chosen not only for its solderability but also for its excellent shelf life. Even after two years of shelf life, these resistors were soldered into printed circuit boards with no problem. Favorable volume procurements can be made without concern for long term soldering degradation.

Welding? IRC resistors are available in special lead materials. Contact factory for specifications, minimum quantity requirements and prices.

GREATER MOISTURE PROTECTION

IRC's resistance element is a carbon composition film that is thermally bonded to a glass body. This exclusive IRC design permits up to 50% more molded protection completely around the resistance element. This provides a longer lead path through the molded body to protect the element from moisture.

The thick carbon slug used in other Fixed Composition Resistors restricts the volume of the molded jacket around the resistive element to stay within the MIL-R-11 size limits. Moisture protection is thus reduced.

The molding material was developed by IRC specifically for superior moisture, electrical and mechanical characteristics.

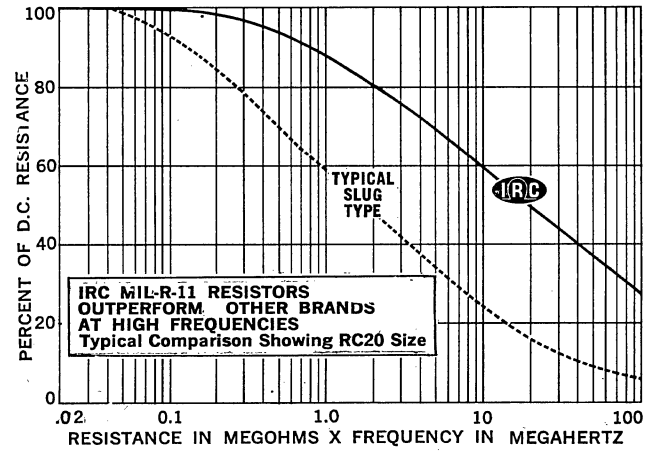
When tested to MIL-R-11 moisture resistance requirements, IRC's ½ and 1 watt fixed composition resistors exhibit resistance changes of less than 3%. Five times better than the 15% MIL allowance. Under more stringent conditions of 75°C, 100% RH for 120 hours, resistance changes are typically less than 5%. Even IRC's small ¼ watt unit has moisture resistance changes well within MIL limits.

SUPERIOR HIGH FREQUENCY CHARACTERISTICS

The best high frequency characteristic in a Fixed Composition Resistor is achieved when the ratio of cross-sectional area to the length of the resistor is minimized. IRC's film element has the smallest cross-section and fewest carbon binder contacts of all carbon composition resistors.

IRC's low mass resistance element assures inherently low shunt capacitance and, as a result, superior performance at high frequencies. As an example, in high frequency equipment this performance advantage results in better pulse shaping with less broadening and truncation, and faster response time.

IRC outperforms other brands to a significant degree. A comparison of typical performance based on RC20 size resistors is shown in the chart below.



BETTER HIGH TEMPERATURE CHARACTERISTICS

IRC's resistance element is a carbon film that is bonded to a glass substrate at approximately 1000°F. This means the element has been "conditioned" to high temperature exposure.

As may be seen in the X-Ray photos shown under "Stronger Lead Assembly", the talon leads go deep into the resistor body. This conducts heat away from the "hot spot" and out of the resistor.

Even after 1,000 hours at 100°C and full rated power, resistance changes are less than the 10% MIL allowance. After 1,000 hours at 150°C, no load, resistance changes are still well within MIL limits. At 200% rated power at 70°C ambient, resistance changes are typically less than 10% after hundreds of hours of operation. Resistance temperature coefficient is typically less than 0.064%/°C over the range of 25°C to 150°C.

EXCELLENT QUALITY — HIGHEST RELIABILITY

IRC's ¼ and ½ watt RC's were the first resistors to be offered against the Established Reliability Specification MIL-R-39008. The tests needed to assure continuing performance to this specification combined with MIL-R-11 testing and tests of greater severity have provided many millions of unit-hours of test data.

IRC has always maintained an extensive quality control program for its line of resistors. All production processes are subjected to rigid test standards to assure a continuing high level of product performance in the field.

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CARBON COMPOSITION RESISTORS

DIVISION OF TRW INC.

TYPE RC CARBON COMPOSITION RESISTORS

PERFORMANCE CHARACTERISTICS

These are in relation to MIL-R-11 and/or MIL-R-39008 specification limits. A performance span or range is given for each important characteristic. You know in advance the typical limits within which IRC carbon composition resistors can be expected to perform. Ask for Catalog "D".

The performance data are based on many thousands of individual tests made on random samples taken from production. The resistors are tested to MIL-R-11 and/or MIL-R-39008 and to other tests of greater severity.

APPEARANCE

IRC carbon composition resistors have a glossy brown, smooth body. The molded jacket has close dimensional tolerances for trouble-free use in high speed lead forming and inserting machines. There is no wax coating to clog equipment.

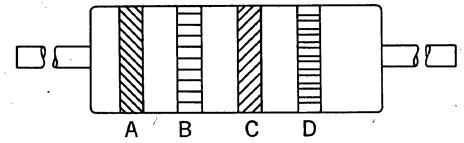
IDENTIFICATION

Resistance values are clearly indicated by standard EIA/MIL Color Code bands. Solvent-resistant paints are baked on to provide distinct, permanent color bands.

STANDARD RESISTANCE VALUES

Type RC resistors are supplied in all EIA/MIL standard values, subject to the minimum and maximum values for each type. (See table.) Other values are available on special order.

EIA/MIL COLOR CODE



Band A—1st significant figure
Band B—2nd significant figure
Band C—Number of zeros or decimal multiplier
Band D—Tolerance
Band E—(not shown) — Solderability

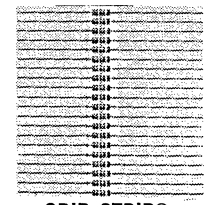
Color	Significant Figure	Multiplying Value
Black	0	1
Brown	1	10
Red	2	100
Orange	3	1,000
Yellow	4	10,000
Green	5	100,000
Blue	6	1,000,000
Violet	7	10,000,000
Gray	8	100,000,000
White	9	1,000,000,000
Gold	±5% tolerance (4th band)	0.1
Silver	±10% tolerance (4th band)	0.01
No color	±20% tolerance (4th band)	

PACKAGING

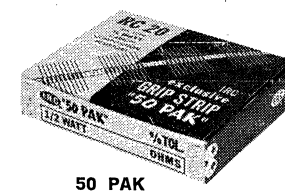
Type RC resistors are packaged on the exclusive GRIP STRIP®, in multiples of 50.

Also, see page 1159 for RC resistors in IRC's new SNAP PAK.

SNAP PAK



GRIP STRIP®



50 PAK

IRC TYPE	RC07	RC20	RC32	RC42
MIL Style	RC07 — RCR07	RC20 — RCR20	RC32	RC42
Rating	¼w @ 70° amb.	½w @ 70° amb.	1w @ 70° amb.	2w @ 70° amb.
Minimum Resistance	2.7 ohms *	2.7 ohms	2.7 ohms	10 ohms
Maximum Resistance	22 meg*	22 meg	22 meg	22 meg
Rated Voltage	250V	350V	500V	500V
Dimensions— Body size	.250" x .090" dia.	.390" x .140" dia.	.562" x .225" dia.	1 1/16" x .312" dia.
Lead size	1½" x .025" dia.	1½" x .031" dia.	1½" x .040" dia.	1½" x .045" dia.

* RC07 values below 10 ohms and above 1 meg are available on special order.

STANDARD STOCK VALUES*

10% and 5% tolerance. 10% in bold type. All values available in 5%. Values are indicated on each resistor by EIA color code.

2.7	**10**	**39**	**150**	**560**	**2,200**	**8,200**	**33K**	**120K**	**470K**	**1.8 meg.**	**6.8 meg.**
3.0	11	43	160	620	2,400	9,100	36K	130K	510K	2.0 meg.	7.5 meg.
3.3	**12**	**47**	**180**	**680**	**2,700**	**10K**	**39K**	**150K**	**560K**	**2.2 meg.**	**8.2 meg.**
3.6	13	51	200	750	3,000	11K	43K	160K	620K	2.4 meg.	9.1 meg.
3.9	**15**	**56**	**220**	**820**	**3,300**	**12K**	**47K**	**180K**	**680K**	**2.7 meg.**	**10.0 meg.**
4.3	16	62	240	910	3,600	13K	51K	200K	750K	3.0 meg.	11.0 meg.
4.7	**18**	**68**	**270**	**1,000**	**3,900**	**15K**	**56K**	**220K**	**820K**	**3.3 meg.**	**12.0 meg.**
5.1	20	75	300	1,100	4,300	16K	62K	240K	910K	3.6 meg.	13.0 meg.
5.6	**22**	**82**	**330**	**1,200**	**4,700**	**18K**	**68K**	**270K**	**1.0 meg.**	**3.9 meg.**	**15.0 meg.**
6.2	24	91	360	1,300	5,100	20K	75K	300K	1.1 meg.	4.3 meg.	16.0 meg.
6.8	**27**	**100**	**390**	**1,500**	**5,600**	**22K**	**82K**	**330K**	**1.2 meg.**	**4.7 meg.**	**18.0 meg.**
7.5	30	110	430	1,600	6,200	24K	91K	360K	1.3 meg.	5.1 meg.	20.0 meg.
8.2	**33**	**120**	**470**	**1,800**	**6,800**	**27K**	**100K**	**390K**	**1.5 meg.**	**5.6 meg.**	**22.0 meg.**
9.1	36	130	510	2,000	7,500	30K	110K	430K	1.6 meg.	6.2 meg.	

* Lower and higher values than standard available on special order.

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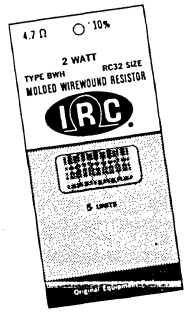
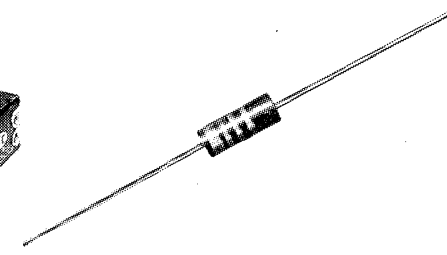
MOLDED WIREWOUND RESISTORS

DIVISION OF TRW INC.



AVAILABLE IN SNAP PAK OR 50 PAK



OUTPERFORMS FIXED COMPOSITION RESISTORS

IRC's BWH molded wirewound resistor can be used in most applications normally filled by the lower values of composition resistors. The BWH exhibits the inherent stability, reliability, and long-term life characteristics of a wirewound unit. It also provides low resistances unattainable in composition resistors.

Exceptionally stable, small and completely insulated the BWH meets or exceeds all MIL-R-11 performance requirements. Because it is the RC-32 size it will fit any 1 watt composition resistor processing equipment.

BWH resistors are packaged on the exclusive IRC GRIP STRIP®, in multiples of 10 and 50, and in the new SNAP PAK (see page 1159) in multiples of 25.

The rating of this resistor is:

½ watt at 137°C. ambient
1 watt at 115°C. ambient
2 watts at 70°C. ambient.

TOLERANCES & RESISTANCE VALUES. Available in ± 5% and ± 10% tolerances in accordance with standard EIA resistance values. Minimum standard resistance: 0.10 ohm Maximum standard resistance: 1800 ohms.

COLOR CODING. Resistance values are indicated by standard EIA Color Code bands, and are distinguished from composition resistors by a wide band for the first significant figure.

INSULATION. A plastic housing molded with IRC manufactured thermosetting materials at high pressure and temperature results in a high insulation resistance. This protects the element from effects of extreme climatic conditions. Type BWH resistors are brown in color.

NOISE. Negligible.

SHELF DRIFT. Negligible.

PERFORMANCE SPECIFICATIONS

Temperature Coefficient. (— 55°C to 150°C)

± 0.065%/°C	± 0.030%/°C
0.10 ohm to 1.0 ohm	1.1 ohms to 1800 ohms

In order to cover a wide range of resistance values, it is necessary to use different wire alloys, which have different temperature coefficients of resistance. The above table gives the maximum temperature coefficient within a particular resistance group.

Inductance. From 0.04μh (0.24 ohm resistor) to 5.0μh (1000 ohm resistor).

Dielectric Withstanding Voltage. 1000 volts rms minimum at atmospheric pressure. 625 volts rms minimum at barometric pressure of 3.4 inches of mercury.

STANDARD STOCK VALUES (±5% and ±10% tolerance)
(±10% tolerance in bold type. All values available in ±5%)

OHMS	OHMS	OHMS	OHMS	OHMS
0.10	**1.0**	**10**	**100**	**1,000**
0.11	1.1	11	110	1,100
0.12	**1.2**	**12**	**120**	**1,200**
0.13	1.3	13	130	1,300
0.15	**1.5**	**15**	**150**	**1,500**
0.16	1.6	16	160	1,600
0.18	**1.8**	**18**	**180**	**1,800**
0.20	2.0	20	200	—
0.22	**2.2**	**22**	**220**	—
0.24	2.4	24	240	—
0.27	**2.7**	**27**	**270**	—
0.30	3.0	30	300	—
0.33	**3.3**	**33**	**330**	—
0.36	3.6	36	360	—
0.39	**3.9**	**39**	**390**	—
0.43	4.3	43	430	—
0.47	**4.7**	**47**	**470**	—
0.51	5.1	51	510	—
0.56	**5.6**	**56**	**560**	—
0.62	6.2	62	620	—
0.68	**6.8**	**68**	**680**	—
0.75	7.5	75	750	—
0.82	**8.2**	**82**	**820**	—
0.91	9.1	91	910	—

Low Temperature Operation. ± 3% maximum.

Temperature Cycling. ± 3% maximum.

Moisture Resistance. ± 6.5% maximum (load or no load).

Short Time Overload. (8 watts for 5 seconds) ± 3.0% maximum.

Load Life. (After 1000 nrs. at temperature and loading shown on derating curve.) ± 5% maximum group average. ± 10% maximum individual.

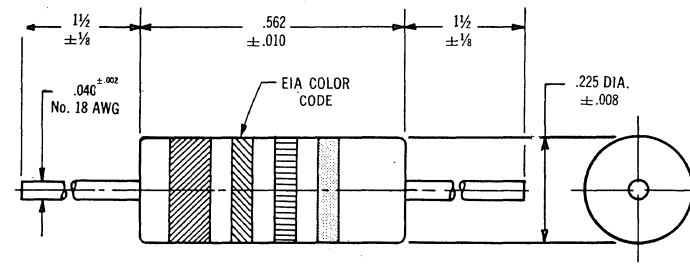
Terminal Strength. ± 1% maximum.

Solder. ± 3% maximum.

Acceleration, Shock, High Frequency Vibration. ± 2% maximum.

All tests performed as required in MIL-R-11 specification unless noted otherwise.

NOTE: Because of test inaccuracies common in measuring low resistance values, an allowance of 0.01 ohm should be added to the resistance change limits listed above.



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IRC® RESISTOR ENGINEERING LABORATORY STOCKS

DIVISION OF TRW INC.

All-metal, sturdy "Fingertip Inventory" cabinet finished in red and black baked-on enamel, measures 54" high, 27" wide, and 15" deep.

These new Engineering Laboratory Stocks were developed to give your Engineering, Model or Service Shop a complete selection of values in the popular ¼ watt (RC07), ½ watt (RC20), 1 watt (RC32) MIL-R-11, carbon composition resistors and the 2 watt (RC32 size) BWH wirewound resistors.

SNAP PAK — an IRC exclusive, patented resistor package, that's revolutionizing the resistor market. Snap Pak permits immediate content identification and testing without product removal. Finding the desired resistor is quick and easy. Printed directly on each package is the resistor type, value and tolerance — makes sorting a cinch. No need to read color codes. Take one resistor out and the others stay in the package for fast locating the next time. Snap Pak offers protection for resistors . . . no bent or twisted leads.

¼ and ½ watt, 5% resistors are packaged ten per Snap Pak and the 1 and 2 watt, 5% types are packaged five per Snap Pak. Both are in strips of five individual Snap Paks.

Matching Snap Pak packaging with the attractive free "Inventory Control" cabinet, measuring 54" high x 27" wide x 15" deep pictured left, offers "fingertip inventory" for small resistor quantities saving you both time and money. The inventory cabinet is supplied with a complete set of indexing cards and resistance value labels — ultimate convenience for fast and easy shop use.

SELECT THE WATTAGE THAT BEST SUITS YOUR REQUIREMENTS

RC07 ¼ WATT ELS22

6050 resistors total

Engineering Lab Stock of IRC RC07 ¼ watt carbon composition resistors. 121 standard 5% values from 10 ohms to 1.0 megohm. 50 resistors per value. See page 1156 for Standard Stock Values.

RC20 ½ WATT ELS23

8350 resistors total

Engineering Lab Stock of IRC RC20 ½ watt carbon composition resistors. 167 standard 5% values from 2.7 ohms to 22 megohms. 50 resistors per value. See page 1156 for Standard Stock Values.

RC32 1 WATT ELS24

4175 resistors total

Engineering Lab Stock of IRC RC32 1 watt carbon composition resistors. 167 standard 5% values from 2.7 ohms to 22.0 megohms. 25 resistors per value. See page 1156 for Standard Stock Values.

BWH 2 WATT ELS25

2575 resistors total

Engineering Lab Stock of Type BWH, 2 watts, 5% tolerance molded wirewound resistors. Type BWH is same physical size of RC32 carbon resistor — *small enough for ½ watt and 1 watt needs although rated at full 2 watts at 70°C ambient temperature.* 103 standard 5% values from 0.1 ohm to 1800 ohms. 25 resistors per value. See page 1157 for Standard Stock Values.

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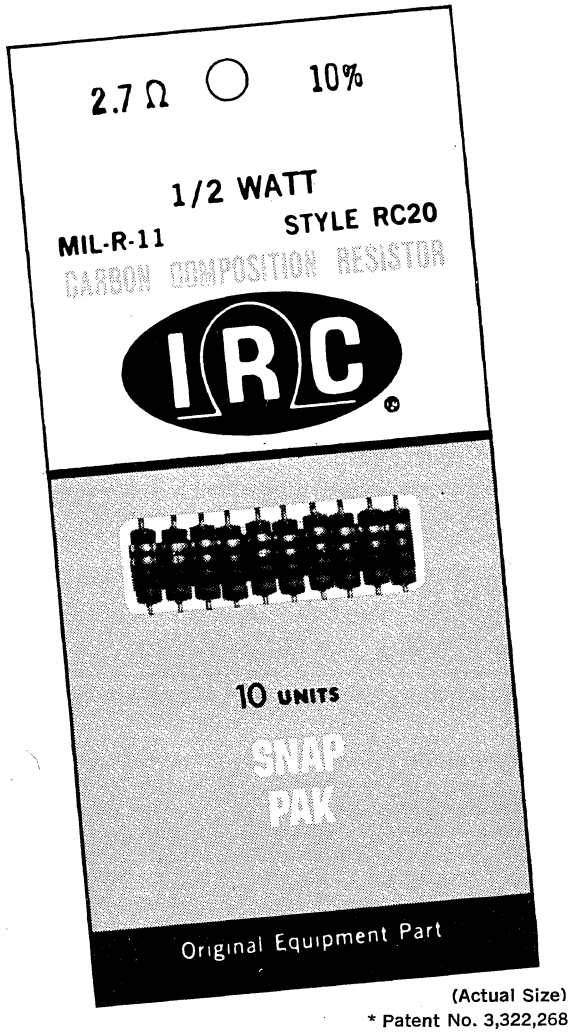
SNAP PAK PACKAGING

DIVISION OF TRW INC.



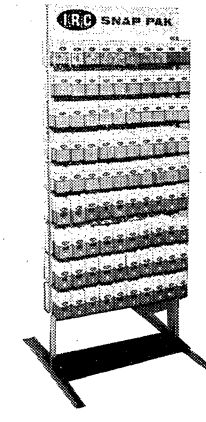
(Actual Size)

* Patent No. 3,322,268

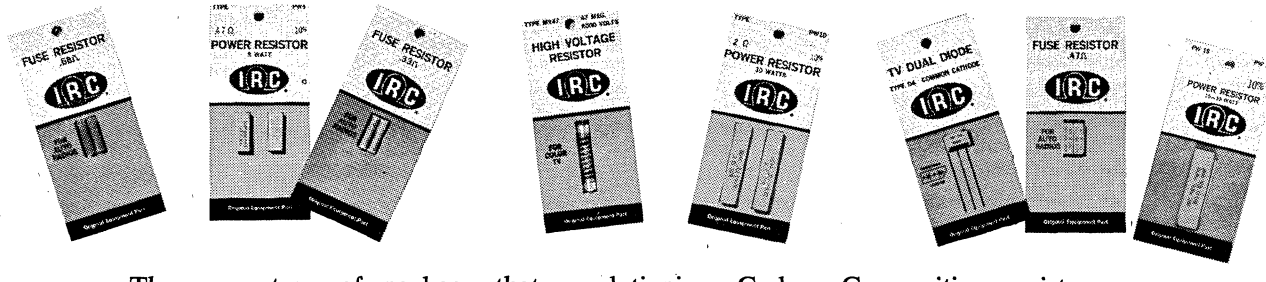
NEW! IRC SNAP PAK*

New convenience and versatility are yours when you use IRC's SNAP PAK. Developed and patented by IRC, SNAP PAK is available in **all** sizes, types, values, tolerances of Carbon Composition RC resistors. For Industrials, servicemen, hobbyist, or experimenter, SNAP PAK is ideal. Look over these features:

- Resistors are securely held in package even after opening. Remove needed items and the remainder stay put.
- Resistors always identified, no reading of color codes — fast, easy.
- New convenience and organization.
- Package fits shelves, drawers, racks, bins, and pegboard — truly easy filing and finding.
- Eliminates loose resistors, lead damage.
- Easy to count, sort and inventory.
- Keeps resistors neat, organized, protected.
- In-package test feature allows you to test resistors without opening package.
- Saves on time, money, lost resistors.
- Handy size permits space saving stocking.
- Look for the SNAP PAK display!



OTHER IRC PRODUCTS IN SNAP PAK STYLE PACKAGES



The same type of package that revolutionizes Carbon Composition resistor buying has been adapted to these other popular IRC products. Solves stocking problems — no loose parts or large boxes to clutter up your shelves, drawers, cabinets or caddy.

- RC Carbon Composition, all values, tolerances. **See pages 1155 & 1156.**
- BWH Resistors, all values, tolerances. **See page 1157.**
- Fuse Resistors — .33Ω, .47Ω, .68Ω. **See page 1166.**
- High Voltage Resistors — MV47, MV66. **See page 1331.**
- PW5, PW10, PW18, Power Resistors.**See page 1166.**
- Dual Diodes — D4, D5. **See page 1277.**

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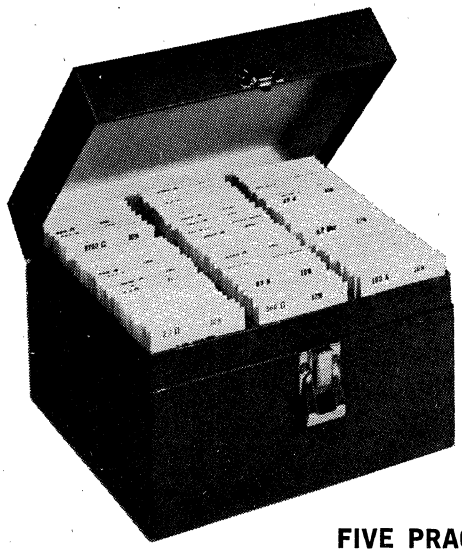
FILE-O-PAK DEALER STOCKS

DIVISION OF TRW INC.

NEW STOCKING CABINET FOR COMPONENTS IN SNAP PAK



Sturdy new dealer stocking cabinets are available with a variety of practical FILE-O-PAK resistor assortments. Constructed of heavy cardboard, cabinet is covered in rich simulated red leather-like covering. Metal hinges and fastener. Heavy dividers provide nine bins for practical self-indexing of SNAP PAK. Dimensions are 8" wide, 7½" deep, 5½" high (lid closed).

SNAP PAK CONDENSES RESISTOR STOCKS

Resistors in SNAP PAK permit practical stocking in handy, compact arrangement. Package provides complete identification, cross reference, resistance value and tolerance. Resistors stay put—do not fall out when one or more are removed.

FIVE PRACTICAL RESISTOR STOCKS FOR DEALERS

IRC ASST. NO. 8 — 20 VALUES OF ½ WATT RESISTORS. Most often used resistor values cover nearly one-half of the usage of resistors. Parallel and series connections will provide coverage of most standard 10% values. Ten each RC20 ½ watt resistors, 10% tolerance, in following values: 10, 22, 47, 100, 220, 470, 1000, 2200, 4700, 10K, 22K, 47K, 100K, 220K, 470K, 1.0M, 2.2M, 4.7M, 10M, 22M. With good-looking stocking cabinet.

IRC ASST. NO. 9 — 20 VALUES OF 1 WATT RESISTORS. Best selling resistor values cover nearly 50% of resistor values used. By parallel or series connections, 80 values of 10% resistors can be covered. Five each RC32 1 watt resistors, 10% tolerance, in these values: 10, 22, 47, 100, 220, 470, 1000, 2200, 4700, 10K, 22K, 47K, 100K, 220K, 470K, 1.0M, 2.2M, 4.7M, 10M, 22M. With sturdy stocking cabinet.

IRC ASST. NO. 10 — 61 VALUES OF ¼ WATT RESISTORS. Stock includes 61 10% values of RC07 ¼ watt resistors from 10 ohms to 1.0 megohms. Because of the small size of these resistors, they are ideal for replacement in transistor radio and similar compact equipment. Suitable for single-ended replacement by bending one lead over resistor body and retaining by spaghetti tubing over lead and resistor body.

IRC ASST. NO. 11 — 84 VALUES OF ½ WATT RESISTORS. All RC20 ½ watt 10% resistors from 2.7 ohms to 22 megohms. Small enough for many transistor radio replacements and large enough for most radio and TV needs. Resistors provide more than usual insulation giving better protection from humidity. Special heat-sink action of leads assures better high temperature operation and stability. Stocking cabinet included.

IRC ASST. NO. 12 — 84 VALUES OF 1 WATT RESISTORS. Stock includes all 10% values of RC32 1 watt resistors, 10% tolerance, from 2.7 ohms to 22 megohms. This is a comprehensive stock of units frequently used by service technicians to replace lower wattage resistors which have failed. Provided increased insulation and heat-sink leads for stable operation in hot, humid conditions. Practical stocking cabinet is included.

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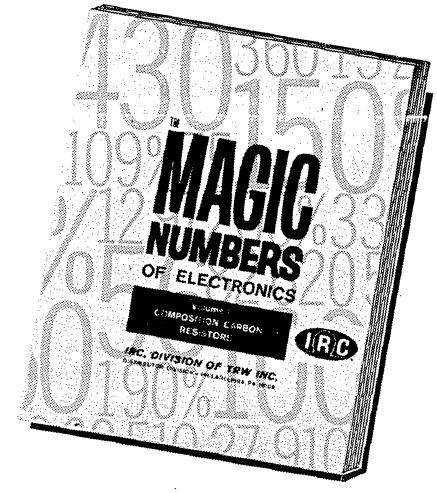
SECTION 4700

MAGIC NUMBERS DEALER STOCKS

DIVISION OF TRW INC.

THE MAGIC NUMBERS OF ELECTRONICS

Here is a new approach to usage and replacement of carbon composition resistors. Five chapters about resistance values and their use, new charts and special Resist-O-Graphs and color band identifier, plus a stock of the 20 magic values of resistors — all in one handy volume. Text includes explanation of preferred values, specific information on carbon resistors, parallel and series connected preferred values, how to use 20 values to provide 80. Also included is a copy of IRC's exclusive Glossary of Electronic Terminology.



THREE NEW RESIST-O-GRAPHS

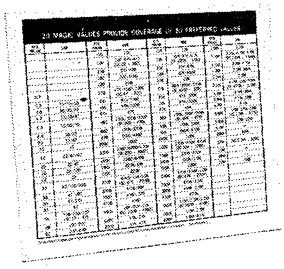
Included are three new, easy-to-use Resist-O-Graphs. Resist-O-Graph No. 1 is a Dual Range Parallel Resistor Indicator — shows how standard 10% values combine for other 10% values. Resist-O-Graph No. 2 is a Dual Range Series Resistor Indicator—faster than writing down and adding. Resist-O-Graph No. 3 is a Dual Range Power Indicator for Parallel or Series Connected Resistors.

20 VALUES PROVIDE COVERAGE OF 80

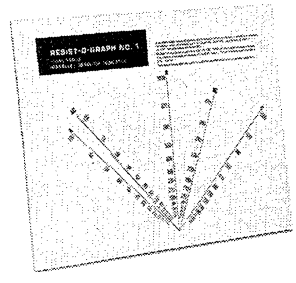
Volume 1 (Asst. No. 13) — Has five heavy pages containing four SNAP PAKS per page — total of 20 SNAP PAKS of RC20 ½ watt, 10% tolerance resistors. Each SNAP PAK contains 10 resistors. 200 magic values of ½ watt resistors per volume.

Volume 1 (Asst. No. 14) — Similar to Asst. No. 13 but SNAP PAKS provided are RC32, 1 watt 10% tolerance resistors. Five resistors per SNAP PAK. 100 magic values of 1 watt resistors per volume.

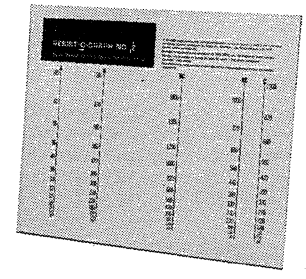
UNIQUE CHARTS AND RESIST-O-GRAPHS SAVE TIME AND MONEY



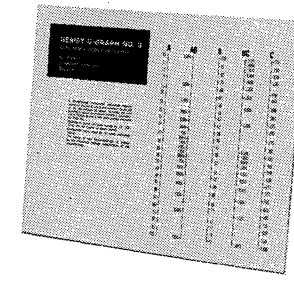
80 VALUES FROM 20



PARALLEL RESISTORS



SERIES RESISTORS



POWER CHART

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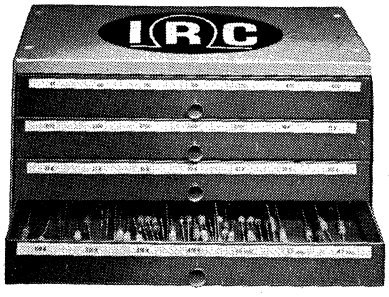
RESISTOR KITS & ASSORTMENTS

DIVISION OF TRW INC.

RESIST-O-CABINET. A practical way to give any shop a professional appearance. Sturdy metal Resist-O-Cabinets are FREE with any of five balanced assortments. Designed for stacking, and for tidy stocks of many small parts. Resist-O-Cabinets have four non-spill drawers and 28 compartments. Overall size is 5⅜" x 5 15/16" x 10⅞". Blue and silver finish.



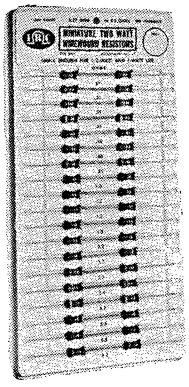
¼ WATT ASSORTMENT #7A 150 RC07 ¼-Watt Resistors		½ WATT ASSORTMENT #4A 150 RC20 ½-Watt Resistors		1 WATT ASSORTMENT #5A 125 RC32 1-Watt Resistors		2 WATT ASSORTMENT #3A 120 BWH and RC42 2-Watt Resistors	
Quantity	Range	Quantity	Range	Quantity	Range	Quantity	Range
3	47 ohms	3	47 ohms	3	47 ohms	2	4.7 ohms
6	100 ohms	4	100 ohms	3	100 ohms	2	10 ohms
4	150 ohms	3	220 ohms	3	150 ohms	1	15 ohms
4	220 ohms	3	270 ohms	3	220 ohms	2	22 ohms
3	270 ohms	4	470 ohms	3	270 ohms	1	27 ohms
6	470 ohms	8	1,000 ohms	3	470 ohms	1	33 ohms
3	680 ohms	4	1,500 ohms	7	1,000 ohms	1	39 ohms
10	1,000 ohms	4	2,200 ohms	3	1,500 ohms	3	47 ohms
6	1,500 ohms	4	2,700 ohms	5	2,200 ohms	2	68 ohms
8	2,200 ohms	5	3,300 ohms	3	2,700 ohms	3	82 ohms
4	2,700 ohms	7	4,700 ohms	3	3,300 ohms	4	100 ohms
5	3,300 ohms	7	10K ohms	5	4,700 ohms	3	150 ohms
4	3,900 ohms	5	22K ohms	7	10K ohms	3	220 ohms
10	4,700 ohms	5	27K ohms	3	15K ohms	3	270 ohms
6	6,800 ohms	5	33K ohms	5	22K ohms	4	330 ohms
10	10K ohms	8	47K ohms	7	27K ohms	4	470 ohms
6	15K ohms	4	56 K ohms	4	33K ohms	5	1,000 ohms
4	18K ohms	4	68K ohms	4	39K ohms	4	1,500 ohms
8	22K ohms	8	100K ohms	7	47K ohms	4	2,200 ohms
3	27K ohms	7	220K ohms	4	68K ohms	4	3,300 ohms
6	33K ohms	8	270K ohms	7	100K ohms	3	3,900 ohms
3	39K ohms	5	330K ohms	3	150K ohms	4	4,700 ohms
6	47K ohms	8	470K ohms	3	220K ohms	5	6,800 ohms
3	68K ohms	8	1.0 meg.	7	270K ohms	7	8,200 ohms
8	100K ohms	7	2.2 meg.	7	470K ohms	7	10K ohms
3	220K ohms	4	3.3 meg.	7	1.0 meg.	5	15K ohms
3	470K ohms	5	4.7 meg.	3	2.2 meg.	7	22K ohms
5	1.0 meg.	3	10.0 meg.	3	4.7 meg.	4	27K ohms
						7	47K ohms
						5	100K ohms
						3	220K ohms
						3	470K ohms
						4	1.0 meg.

COMB. ASSORTMENT #6A 139 Insulated Resistors and Type DCF Precision Film Resistors				
Range	½ Watt	1 Watt	2 Watt	DCF
47 ohms	2	1	1	—
100 ohms	2	1	1	—
150 ohms	2	1	—	—
220 ohms	2	1	—	—
270 ohms	2	1	—	—
470 ohms	2	1	1	—
1,000 ohms	4	4	—	1
1,500 ohms	2	1	—	—
2,200 ohms	2	1	—	—
2,700 ohms	2	1	—	—
3,300 ohms	2	2	—	—
4,700 ohms	3	1	1	—
10K ohms	3	4	1	1
15K ohms	2	2	—	—
22K ohms	2	2	1	—
27K ohms	2	4	—	—
33K ohms	2	1	—	—
39K ohms	2	1	—	—
47K ohms	4	3	1	—
68K ohms	2	2	—	—
100K ohms	4	4	—	1
150K ohms	2	2	—	—
220K ohms	3	1	—	—
270K ohms	4	2	—	—
470K ohms	4	3	—	—
1.0 meg.	4	4	—	1
2.2 meg.	3	3	—	—
4.7 meg.	2	1	—	—
5.0 meg.	—	—	—	1

BWH ASSORTMENT NO. 77

SERVICE CONVENIENCE FROM IRC

This BWH resistor assortment is a real time and work saver. Resistors are neatly mounted in a sturdy 6" x 12" molded plastic dispenser. They are removed easily, but do not fall out.



- **Quick Identification—resistor value is printed on dispenser**
- **Instant Use—dispenser can be hung over workbench**
- **Fits easily in tube caddy or tool case**
- **Keeps leads straight for easier handling**

38 LOW RANGE RESISTORS

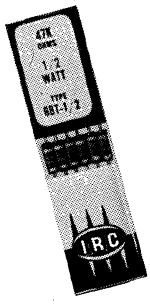
Balanced assortment of miniature wirewounds. Two each of the following values:

.27	.56	1.2	2.7	5.6
.33	.68	1.5	3.3	6.8
.39	.82	1.8	3.9	8.2
.47	1.0	2.2	4.7	

RESIST-O-GUIDES

S-008D Resistor Color Code Chart. New color, serrated edge wheels, updated information on IRC types, MIL styles and minimum and maximum values.

HANDY-PAKS



The neatest, most compact resistor package available, and it's exclusive from IRC. Slimline plastic sleeve keeps leads straight and in place.

- Easier to identify — Type, resistance value and power rating on every Handy-Pak. Resistor color code is easily seen through the plastic.
- Handier to use — Opens at either end. Simply slide package out of plastic sleeve . . . withdraw the required number of resistors and slide the package into the sleeve.
- Quicker to find — Handy-Paks can be indexed by power rating and resistance. Resistors are always visible for inventory.

3 TYPES AVAILABLE — 10% tolerance.

. . . ½ watt contains 6 RC20 carbon composition resistors; 1 watt package contains 4 RC32 resistors and the 2 watt Handy-Pak contains 3 RC42 resistors.

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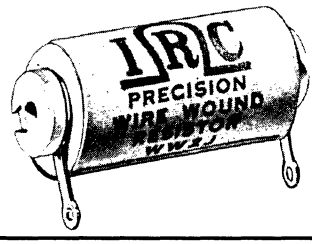
PRECISION WIREWOUND RESISTORS

DIVISION OF TRW INC.



WIREWOUND PRECISION RESISTORS.

For accuracy in critical applications, IRC Precision Wire Wound resistors are produced to exacting standards of reliability. IRC's winding technique prevents shorted turns or strains in the winding, and special insulation gives excellent protection from humidity. Positive electrical connections and easy soldering.

RADIAL LUG TYPES

IRC TYPE NO	WW2J	WW3J	WW4J	WW5J	WW8J*	WW11J*
MIL-R-93A Style	RB19	RB16	RB17	RB18	RB15	RB16
Rating in Watts 65°C. Ambient	2	.50	1	1	.50	.50
Maximum Volts	2000	400	700	1000	250	500
No. of Sections	8	2	4	4	1	2
Maximum Resistance .0015 Diameter Wire	4.0 Meg.	0.3 Meg.	0.75 Meg.	1.7 Meg.	0.29 Meg.	0.4 Meg.
Maximum Reistance .0009 Diameter Wire	20.0 Meg.	1.6 Meg.	4.0 Meg.	7.5 Meg.	1.5 Meg.	2.0 Meg.
Minimum Resistance (ohms)						
±0.05% Tolerance	25	25	25	25	25	25
±0.1 % Tolerance	10	10	10	10	10	10
±0.25% Tolerance	5	5	5	5	5	5
±0.50% Tolerance	1	1	1	1	1	1
±1.0 % Tolerance	0.1	0.1	0.1	0.1	0.5	0.1

RADIAL LEAD TYPES

IRC TYPE NO.	WW3J*	WW4J*	WW8J*	WW10J	WW11J*	WW20J*	WW21J*	WW22J* (Center Tapped)	WW23J*	WW24J* (Center Tapped)
Rating in Watts 65°C. Ambient	.50	1	.50	.25	.50	.25	.25	.25†	.50	.50†
Maximum Volts	400	700	250	150	500	150	300	150†	300	400†
No. of Sections	2	4	1	1	2	1	2	2	2	4
Maximum Resistance .0015 Diameter Wire	0.3 Meg.	0.75 Meg.	0.29 Meg.	40K	0.4 Meg.	35K	70K	35K†	225K	350K†
Maximum Resistance .0009 Diameter Wire	1.6 Meg.	4.0 Meg.	1.5 Meg.	0.215 Meg.	2.0 Meg.	150K	500K	250K	1.5 Meg.	1.5 Meg.†
Minimum Resistance (ohms)										
±0.05% Tolerance	25	25	25	200	25	250	200	200†	25	25 †
±0.10% Tolerance	10	10	10	150	10	200	150	150†	10	10 †
±0.25% Tolerance	5	5	5	75	5	100	75	75†	5	5 †
±0.5 % Tolerance	1	1	1	50	1	75	50	50†	1	1 †
±1.0 % Tolerance	0.1	0.1	0.5	10	0.1	10	10	10†	0.5	0.1†

† signifies per tap section * Special manufacturing applies

STANDARD STOCK TYPES AND VALUES

TYPE WW2J with lugs—1% Tolerance

600K Ohms	1.0 Megohm
750K Ohms	1.5 Megohms
900K Ohms	2.0 Megohms
	2.5 Megohms

TYPE WW3J with lugs—1% Tolerance

0.1 Ohm	1,500 Ohms	30K Ohms
0.2 Ohm	2,000 Ohms	35K Ohms
0.5 Ohm	2,500 Ohms	40K Ohms
1.0 Ohm	3,000 Ohms	50K Ohms
5 Ohms	3,500 Ohms	60K Ohms
10 Ohms	4,000 Ohms	75K Ohms
25 Ohms	5,000 Ohms	100K Ohms
50 Ohms	7,500 Ohms	125K Ohms
100 Ohms	10K Ohms	150K Ohms
200 Ohms	12.5K Ohms	175K Ohms
250 Ohms	15K Ohms	200K Ohms
300 Ohms	20K Ohms	225K Ohms
500 Ohms	22.5K Ohms	
1,000 Ohms	25K Ohms	

TYPE WW4J with lugs—1% Tolerance

0.1 Ohm	2,000 Ohms	40K Ohms
0.2 Ohm	2,500 Ohms	50K Ohms
0.5 Ohm	3,000 Ohms	60K Ohms
1.0 Ohm	3,500 Ohms	75K Ohms
5 Ohms	4,000 Ohms	100K Ohms
10 Ohms	5,000 Ohms	125K Ohms
25 Ohms	7,500 Ohms	150K Ohms
50 Ohms	10K Ohms	175K Ohms
100 Ohms	12.5K Ohms	200K Ohms
200 Ohms	15K Ohms	225K Ohms
250 Ohms	20K Ohms	250K Ohms
300 Ohms	22.5K Ohms	300K Ohms
500 Ohms	25K Ohms	400K Ohms
1,000 Ohms	30K Ohms	500K Ohms
1,500 Ohms	35K Ohms	

TYPE WW5J with lugs—1% Tolerance

600K Ohms	900K Ohms
750K Ohms	1.0 Megohm

TYPE WW10J with leads—1% Tolerance

10 Ohms	2,000 Ohms	20K Ohms
25 Ohms	2,500 Ohms	25K Ohms
50 Ohms	3,000 Ohms	30K Ohms
100 Ohms	3,500 Ohms	40K Ohms
200 Ohms	4,000 Ohms	50K Ohms
250 Ohms	5,000 Ohms	60K Ohms
300 Ohms	7,500 Ohms	75K Ohms
500 Ohms	10K Ohms	100K Ohms
1,000 Ohms	12.5K Ohms	
1,500 Ohms	15K Ohms	

Special Resistance Tolerances

Standard tolerances ±1%. Other tolerances, subject to minimum values shown on specification charts, are available on special order for all WWJ types, as follows:

0.5% 0.25% 0.2% 0.1% 0.05%

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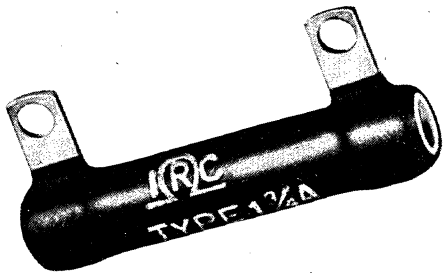
TUBULAR POWER WIREWOUND RESISTORS

DIVISION OF TRW INC.



RESISTEG COATED POWER RESISTORS need no derating. They operate at full rated power even at high resistance values. Other features include heat resistant terminals for easy soldering, ceramic cores that withstand shock and are impervious to moisture, heavy windings that handle overloads without burnout, and standard size spring loaded push-in brackets for easy mounting on sizes of 25 watts and over.

IRC Tubular Power Wirewound Resistors are standard tubular construction with lugs and/or leads for use in general applications. They are used in DC and low frequency AC circuits where appreciable power must be dissipated:

- **High voltage bleeder resistors in power supplies**
- **Voltage dropping resistors**
- **Voltage divider networks**
- **Bias supply resistor**
- **RC decoupling resistor**
- **Filament dropping resistor**
- **Load resistor**
- **Shunt resistor**

FIXED RESISTANCE TYPES

TYPE 1A—5-8 watts. Resisteg coating. Core Size: 1" long by 5/16" dia. Terminals: 13A. Tolerance: ±5%. No mounting hardware included. Standard package: 5.

Ohms					
1	20	200	750	2250	8000
1.5	25	225	800	2500	9000
2	30	250	900	3000	10K
3	35	300	1000	3500	12.5K
4	40	350	1100	4000	15K
5	50	400	1200	4500	17.5K*
7.5	75	450	1250	5000	20K*
10	100	500	1500	6000	22.5K*
12	125	600	1750	7000	25K*
15	150	700	2000	7500	

* No. 1 Terminal

TYPE 1¾A—10-12 watts. Resisteg coating. Core Size: 1¾" long x 5/16" dia. Terminals: 13A. Tolerance: ±5%. No mounting hardware included. Standard package: 5.

Ohms					
1	30	350	1250	7000	17.5K
1.5	35	400	1500	7500	18K
2	40	450	1750	8000	20K
3	50	500	2000	8500	22.5K
4	75	600	2250	9000	25K
5	100	700	2500	10K	30K
7.5	125	750	3000	11K	35K
10	150	800	3500	12K	40K
12	200	900	4000	12.5K	45K
15	225	1000	4500	13.5K	50K
20	250	1100	5000	15K	
25	300	1200	6000	16K	

TYPE 2C—20 watts. Resisteg coating. Core size: 2" long x 7/16" dia. Terminals: 13A. Tolerance: ±5%. No mounting hardware included. Standard package: 5.

Ohms					
1	150	800	2750	10K	55K
2	200	900	3000	12.5K	60K
3	250	1000	3500	15K	65K
4	300	1200	4000	20K	70K
5	350	1250	4500	25K	75K
10	400	1500	5000	30K	80K
25	500	1750	6000	35K	85K*
50	650	2000	7000	40K	90K*
75	700	2250	7500	45K	95K*
100	750	2500	8000	50K	100K*
			9000		

* No. 1 Terminal.

TYPE 2D—25 watts. Resisteg coating. Core size: 2" long x 9/16" dia. Terminals: 12A Tolerance: ±5%. Mounting hardware included: Z-1 brackets. Standard package 1.

Ohms					
1	25	500	3000	12K	50K
2	50	750	3500	15K	60K
3	75	800	4000	20K	70K
4	100	1000	5000	25K	80K
5	150	1500	6000	30K	100K
10	200	2000	7500	35K	
15	250	2500	10K	40K	

TYPE 4D—50 watts. Resisteg coating. Core size: 4" long x 9/16" dia. Terminals: 12A. Tolerance: ±5%. Mounting hardware included: Z-1 bracket. Standard package: 1.

Ohms					
1	50	750	4000	20K	150K
2	75	800	5000	25K	175K
3	100	1000	7500	35K	200K
4	150	1500	8000	50K	250K
5	200	2000	10K	75K	
10	250	2500	12K	100K	
25	500	3000	15K	125K	

TYPE 6½E—100 watts. Resisteg coating. Core size: 6½" long x ¾" dia. Terminals: 12A. Tolerance: ±5%. Mounting hardware included: Z-2 bracket. Standard package: 1.

Ohms					
1	25	250	2500	20K	75K
2	50	500	3000	25K	100K
3	75	750	5000	30K	
4	100	1000	7500	40K	
5	125	1500	10K	50K	
10	150	2000	15K	60K	

TYPE 8½H—160-175 watts. Resisteg coating. Core size: 8½" long x 1⅛" dia. Terminals: 4A. Tolerance: ±5%. Mounting hardware included: Z-3 brackets. Standard package: 1.

Ohms					
1	25	250	2500	20K	75K
2	50	500	3000	25K	100K
3	75	750	5000	30K	
4	100	1000	7500	40K	
5	125	1500	10K	50K	
10	150	2000	15K	60K	

TYPE 10½H—200-225 watts. Resisteg coating. Core size: 10½" long x 1⅛" dia. Terminals: 4A. Tolerance: ±5%. Mounting hardware included: Z-3 brackets. Standard package: 1.

Ohms					
1	25	250	2500	20K	75K
2	50	500	3000	25K	100K
3	75	750	5000	30K	
4	100	1000	7500	40K	
5	125	1500	10K	50K	
10	150	2000	15K	60K	

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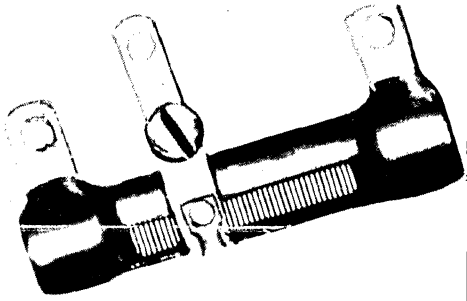
ADJUSTABLE & MILITARY POWER RESISTORS

IRC®

DIVISION OF TRW INC.

ADJUSTABLE RESISTANCE TYPES



IRC Adjustable Power Wirewound Resistors are standard resistors with a track of exposed wire to allow for the adjustable feature. The track or slot is made by masking a section of the winding before coating, and then removing the mask after the coating has cured. No wire brushing, which could damage the resistance wire, is used.

The IRC adjustable feature provides the ideal solution to odd resistance values and to handling a variety of line voltages. One or more adjustable lugs may be used for voltage divided applications.

TYPE 1¾AA—10-12 watts. Core size: 1¾" long x 5/16" dia. Terminals: 12A. One adjustable band: type A. Tolerance: ±10%. Standard package: 1. Mounting hardware included: Z-0 brackets.

Ohms					
1	20	250	800	3000	7500
2	25	300	1000	3500	8000
3	50	350	1250	4000	8500
5	75	400	1500	4500	9000
7.5	100	500	2000	5000	10K
10	150	600	2250	6000	
15	200	750	2500	7000	

TYPE 2DA—25 watts. Core size: 2" long x 5/16" dia. Terminals: 12A. One adjustable band: type X-2. Tolerance: ±10%. Mounting hardware included: Z-1 bracket. Standard package: 1.

Ohms					
1	20	250	1250	4000	9000
2	25	300	1500	4500	10K
3	50	400	2000	5000	12K
5	75	500	2250	6000	15K
7.5	100	750	2500	7000	20K
10	150	800	3000	7500	25K
15	200	1000	3500	8000	

TYPE 4DA—50 watts. Core size: 4" long x 5/16" dia. Terminals: 12A. One adjustable band. Tolerance: ±10%. Mounting hardware included: Z-2 brackets. Standard package: 1.

Ohms					
1	75	750	3000	7500	25K
2	100	800	3500	8000	30K
3	150	1000	4000	9000	40K
4	200	1250	4500	10K	50K
5	250	1500	5000	12K	60K
10	300	2000	6000	15K	80K
25	400	2250	7000	20K	100K
50	500	2500			

TYPE 5EA—75 watts. Core size: 5" long x ¾" dia. Terminals: 12A. One adjustable band. Tolerance: ±10%. Mounting hardware included: Z-2 brackets. Standard package: 1.

Ohms					
1	5	100	1500	15K	40K
2	10	250	2500	20K	50K
3	25	500	5000	25K	75K
4	50	1000	10K	30K	100K

TYPE 6½EA—100 watts. Core size 6½" long x ¾" dia. Terminals: 12A. One adjustable band. Tolerance: ±10%. Mounting hardware included: Z-2 brackets. Standard package: 1.

Ohms					
1	5	100	1500	15K	40K
2	10	250	2500	20K	50K
3	25	500	5000	25K	75K
4	50	1000	10K	30K	100K

TYPE 8½HA—160-175 watts. Core size: 8½" long x 1⅛" dia. Terminals: 4A. One adjustable band. Tolerance: ±10%. Mounting hardware included: Z-3 brackets. Standard package: 1.

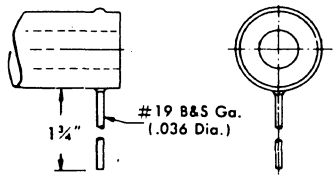
Ohms					
1	5	100	1500	15K	40K
2	10	250	2500	20K	50K
3	25	500	5000	25K	75K
4	50	1000	10K	30K	100K

TYPE 10½HA—200-225 watts. Core size: 10½" long x 1⅛" dia. Terminals: 4A. One adjustable band. Tolerance: ±10%. Mounting hardware included: Z-3 brackets. Standard package: 1.

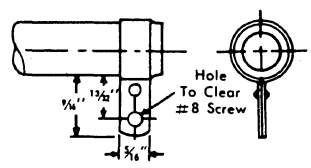
Ohms					
1	5	100	1500	15K	40K
2	10	250	2500	20K	50K
3	25	500	5000	25K	75K
4	50	1000	10K	30K	100K

TERMINAL AND BRACKET TYPES

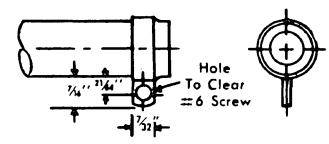
Type 1



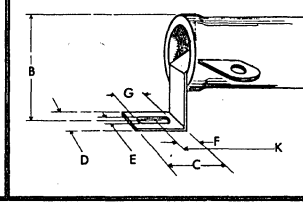
Type 4A



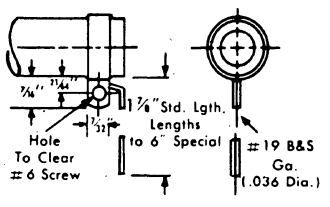
Type 12A



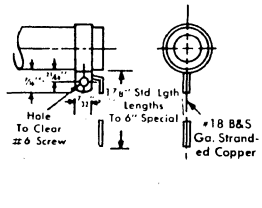
Z BRACKET STANDARD



Type 13A



Type 14A



Bracket Type	Use with Resistor O.D.	Type	DIMENSIONS A	B	C	D	E	F	G	K
Z-0	5/16	A	—	19/32	1/2	5/16	.173	15/64	.266	Core Lgth. + 15/32
Z-1	9/16	D	—	1¼	9/16	5/16	.173	5/16	19/64	" " + 5/8
Z-2	¾	E	—	1 7/16	5/8	⅜	.173	1 1/32	23/64	" " + 1 1/16
Z-3	1⅛	H	—	2 1/16	1 1/16	½	3/16	13/32	¼	" " + 1 3/16
Z-4	7/16	C	—	5/8	29/64	7/32	9/64	¼	9/64	" " + ½

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POWER & FUSE RESISTORS

DIVISION OF TRW INC.

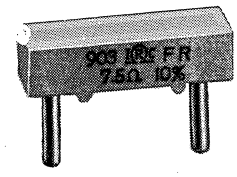
FUSE RESISTORS

These special resistors function as a resistor under normal conditions, and as a fuse under overload conditions.

Attractive new SNAP PAK style package. Back of card contains complete replacement information.

Exact Duplicate Original Equipment Part as used in Auto Radios. .33Ω and .68Ω in insulated fiberglass sleeve, 47Ω in rectangular ceramic case. Precisely wound element and superior lead solderability.

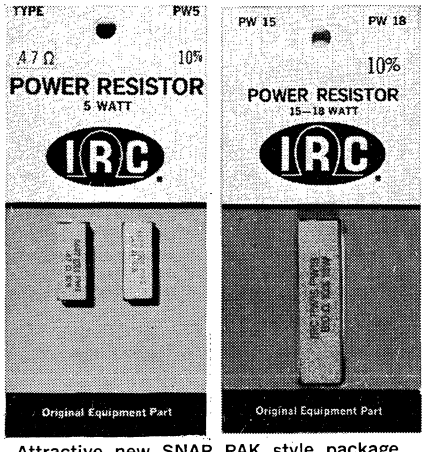
FR.33 — .33 ohm
FR.47 — .47 ohm
FR.68 — .68 ohm



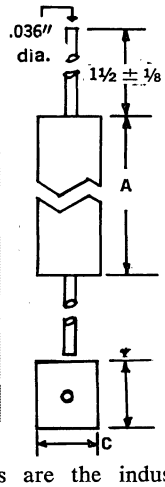
FR5.0*— 5 ohms
FR5.6 —5.6 ohms
FR7.5 —7.5 ohms

* Suitable for 4.7Ω fuse for resistor applications.

Fuse resistors are used extensively as a surge-limiting resistor in voltage doubler circuits of TV receivers. Installation of an IRC Type FR fuse resistor in a TV set will prevent over-loading of more valuable components and possible fire due to a short circuit. The compact, modern design of the IRC fuse resistor measures only $1\frac{25}{64}$" x $1\frac{1}{32}$" x $\frac{3}{8}$". This unit is completely insulated in a rectangular ceramic case, and equipped with plug-in terminals.



Attractive new SNAP PAK style package holds 2 each PW5 or PW10, one of PW18.



AXIAL LEAD POWER WIRE WOUND RESISTORS
TYPES PW5, PW10 & PW18
STANDARD STOCK VALUES

(Available in BULK on Snap Pak)

PW5

Ohms:			
.15	7.5	300	2000
.22	10	350	2250
.27	15	400	2500
.33	20	500	3000
.47	25	600	3300
.51	30	700	3500
.56	40	750	3900
.68	50	800	4000
.82	75	820	4500
1	100	900	5000
2	120	1000	6000
3	125	1200	
4	150	1250	
5	200	1500	
5.6	250	1750	

PW18 (Snap Pak only)

60	810	1000	1250	6000
600	910	1100	1400	

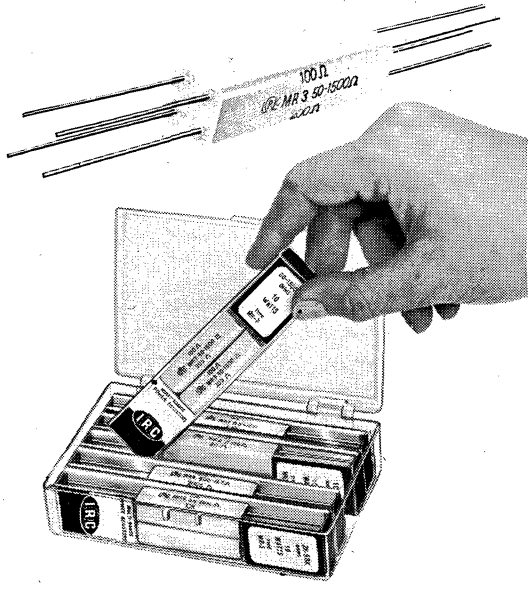
PW10

Ohms:			
1	120	1000	6000
2	125	1200	7000
3	150	1250	7500
4	200	1500	8000
5	250	1750	8200
7.5	300	2000	8500
10	350	2250	9000
15	400	2500	10,000
20	500	3000	12,000
25	600	3300	12,500
30	700	3500	15,000
40	750	3900	20,000
50	800	4000	25,000
75	820	4500	
100	900	5000	

DIMENSIONS

TYPE	A	B	C
PW5	⅞ ± 1/32	⅜ ± 1/32	11/32 ± 1/32
PW10	1⅞ ± 1/32	⅜ ± 1/32	11/32 ± 1/32
PW18	1⅞ ± 1/32	½ ± 1/32	½ ± 1/32

These popular axial lead power resistors are the industry favorites for 5 and 10 watt applications. The compact shape fits among other components more easily. The axial lead design speeds installation. And, the superior solderability of the terminals assures sound connections every time. A precisely wound element is sealed in a ceramic case — fully protected and insulated. Conservative rating permits continuous operation at full power. Resistance, wattage and tolerance are permanently marked on resistor body. Standard tolerance is 10%.



MULTI-RANGE POWER RESISTORS

Up to **47** values from a single resistor. 5 multi-range resistors give complete 10 watt coverage . . . 200 *values from ½ to* 50,000 *ohms*. No delays for a particular value, and you don't tie up inventory with odd values. Ideal for in-home servicing and weekend shop work.

Four-wire wound elements are sealed in a steatite housing. It's simple to solder a basic interconnection for the required value, and cut off unused terminals. Connection diagrams included.

5 TYPES COVER 200 VALUES

TYPE MR1. 0.5 through 15 ohms. 1, 2, 4, 8 ohm elements. 10 watts. 47 values.

TYPE MR2. 5 through 150 ohms. 10, 20, 40, 80 ohm elements. 10 watts. 47 values.

TYPE MR3. 50 through 1,500 ohms. 100, 200, 400, 800 ohm elements. 10 watts. 47 values.

TYPE MR4. 500 through 15K ohms. 1K, 2K, 4K, 8K ohm elements. 10 watts. 47 values.

TYPE MR5. 3K through 50K ohms. 10K, 10K, 15K, 15K ohm elements. 10 watts. 12 values.

MULTI-RANGE KIT #55

Complete 10 watt power resistor coverage that fits in the palm of your hand. Rigid clear plastic case holds 5 Handy-Paks, 2 of each type MR resistor. With these 10 versatile resistors you have finger-tip coverage of 200 values from ½ to 50,000 ohms. Fits easily in tool case or tube caddy.

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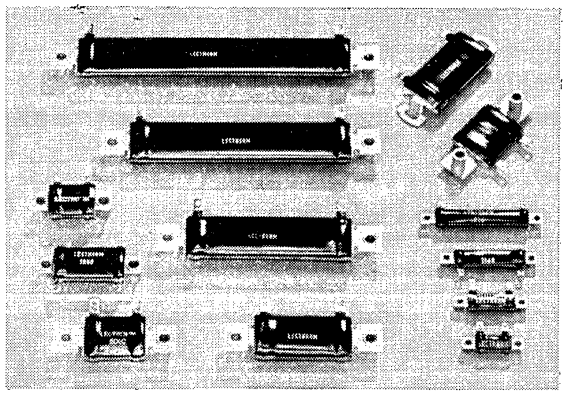
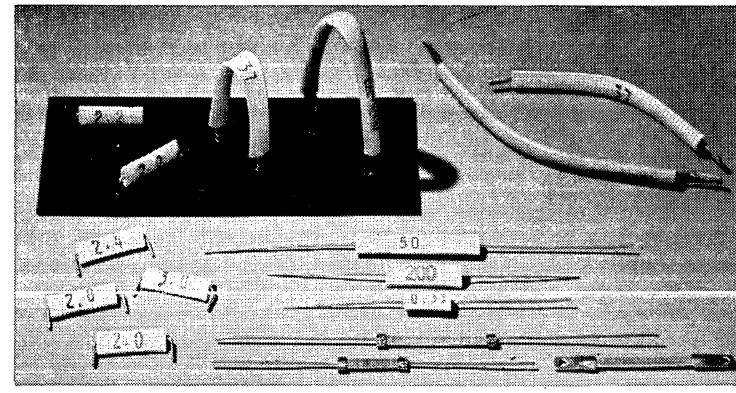
LECTROHM

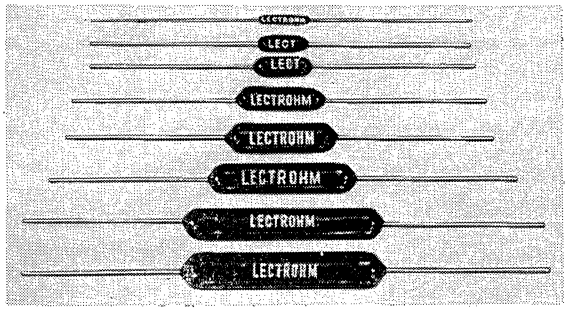
INCORPORATED



OVALS

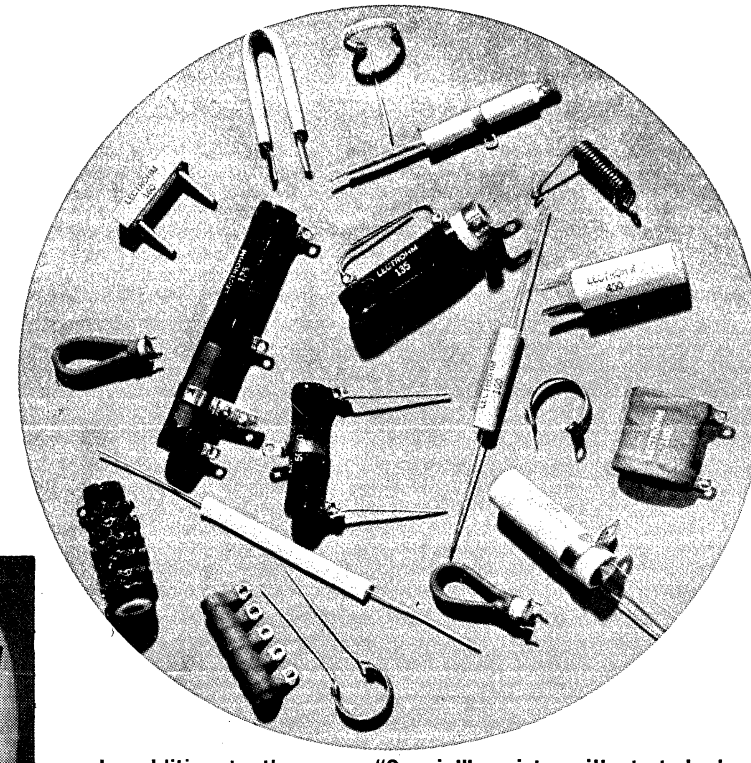


FLEXIBLES

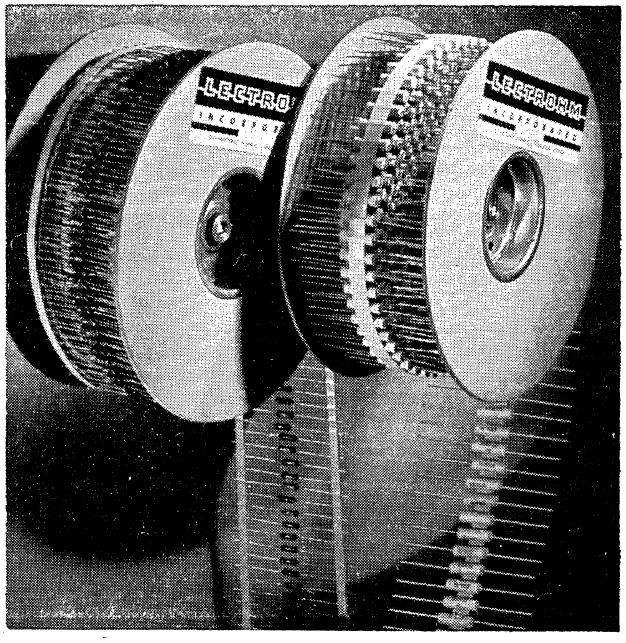


AXIALS

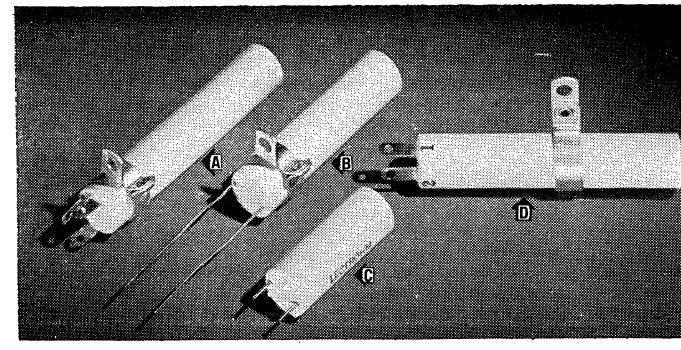
LECTROHM, while manufacturing the standard vitreous line, is also producing whole new groups of types, each designed to solve a special problem. Miniaturization and printed circuit restrictions in space and ventilation no longer are complicated by conventional power resistor size standards. New coating materials and winding methods developed by LECTROHM permit an infinite variety of configurations yet retain operating and life characteristics expected of the finest grade vitreous enameled types. LECTROHM engineers will fit the resistor size and shape to your design.



In addition to the many "Special" resistors illustrated above, LECTROHM manufactures the complete line of standard vitreous fixed and adjustable wire-wound resistors from 5 to 200 watts.



TAPED RESISTORS FOR AUTOMATION



UPRIGHTS **A** SOLDER LUG TYPE. **B** PIGTAIL TYPE. **C** PRINTED CIRCUIT. **D** HORIZONTAL MOUNTING BRACKET.

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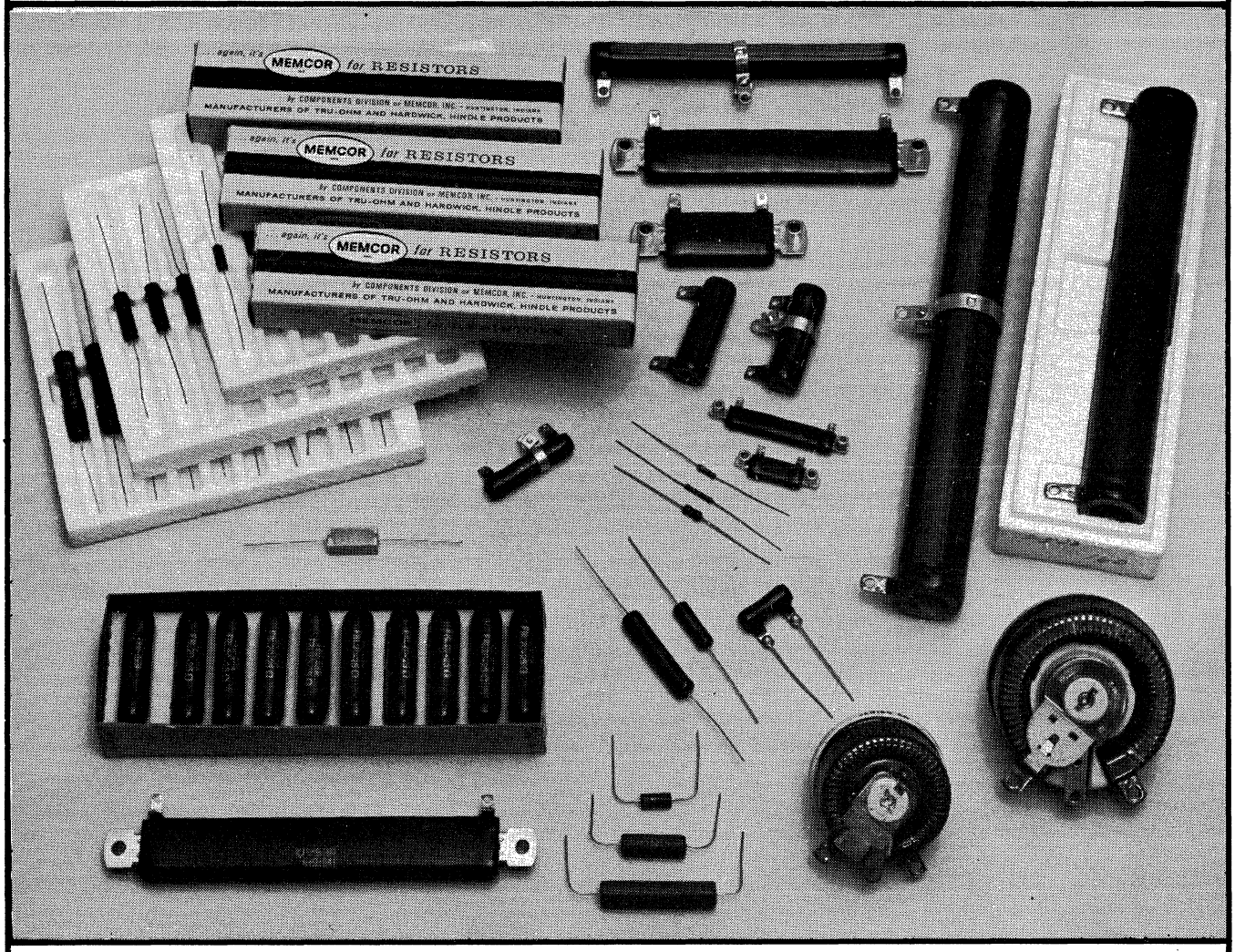
MEMCOR COMPONENTS

POWER WIREWOUND VITREOUS ENAMELED RESISTORS . . . RHEOSTATS

. . . another product of

LTV ELECTROSYSTEMS, INC.

COMPONENTS OPERATION — MEMCOR DIVISION



SEE FOLLOWING PAGES
FOR COMPLETE CATALOG
OF ALL TYPES OF
RESISTORS AND RHEOSTATS
AVAILABLE

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MEMCOR COMPONENTS

A DIVISION OF LTV ELECTROSYSTEMS, INC.

Originators of TRU-OHM & HARDWICK, HINDLE Products

. . . VAL 3 . . . VAL 5

RESISTORS

POWER
WIRE WOUND
VITREOUS ENAMELED

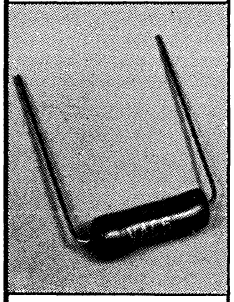
MEMCOR Components . . . resistors and rheostats . . . are manufactured by the MEMCOR Components facility of the MEMCOR Division of LTV Electrosystems, Inc.

MEMOR Components represent the cumulative design skill and production knowledge of two great lines of resistance products — Tru-Ohm and Hardwick, Hindle. This "second generation" product maintains all of the proven features of both original lines plus the manufacturing refinements that can only result from industry experience.

The values of resistance listed in this section are in stock for immediate delivery—special resistance values or terminal diversions are readily available. **When ordering** — identify type and value of resistor by stock number.

VITREOUS AXIAL LEADS VAL 3 (3 WATTS)

CORE: 5/32" x 3/16"
WEIGHT: .002 LBS.



The VAL type lends itself to applications where size is a factor.

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	2701	9.1	2707B	62	2733A	450	2738B	2500	2755
1.1	2701A	10	2708	68	2733B	470	2739	2700	2756
1.2	2701B	11	2708A	75	2724	500	2740	3000	2757
1.3	2701C	12	2709	82	2725	510	2740A	3300	2758
1.5	2702	13	2709A	91	2725A	560	2741	3500	2758A
1.6	2702A	15	2710	100	2726	600	2742	3600	2758B
1.8	2702B	16	2710A	110	2726A	620	2742A	3900	2759
2	2703	18	2711	120	2727	680	2743	4000	2760
2.2	2703A	20	2712	130	2727A	700	2744	4300	2760A
2.4	2703B	22	2713	150	2728	750	2745	4500	2760B
2.7	2703C	24	2713A	160	2728A	800	2746	4700	2761
3	2704	25	2714	180	2729	820	2747	5000	2762
3.3	2704A	27	2715	200	2730	900	2748	5100	2762A
3.6	2704B	30	2716	220	2731	910	2748A	5600	2763
3.9	2704C	33	2717	225	2732	1000	2749	6000	2764
4	2705	35	2717A	240	2732A	1100	2749A	6200	2764A
4.3	2705A	36	2717B	250	2733	1200	2750	6800	2765
4.7	2705B	39	2718	270	2734	1300	2750A	7000	2766
5	2706	40	2719	300	2735	1400	2750B	7500	2767
5.1	2706A	43	2719A	330	2736	1500	2751	8000	2768
5.6	2706B	47	2720	350	2736A	1600	2751A	8200	2769
6.2	2706C	50	2721	360	2736B	1800	2752	9000	2770
6.8	2706D	51	2721A	390	2737	2000	2753	9100	2770A
7.5	2707	56	2722	400	2738	2200	2754	10K	2771
8.2	2707A	60	2723	430	2738A	2400	2754A		

VITREOUS AXIAL LEADS VAL 5 (5 WATTS)

CORE: 1/4" x 1/8"
WEIGHT: .006 LBS.

The VAL type can also be supplied taped or reeled for automatic insertion.

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	2801A	2.4	2803B	22	2813	160	2828A	820	2846	5000	2860A
1.1	2801B	2.7	2803C	24	2813B	180	2829	900	2847	5100	2861
1.2	2801C	3	2804	25	2814	200	2830	910	2847A	5600	2862
1.3	2801D	3.3	2804A	27	2815	220	2831	1000	2848	6000	2863
1.5	2802	3.6	2804B	30	2816	240	2831A	1100	2848A	6200	2863A
1.6	2802A	3.9	2804C	33	2817	250	2832	1200	2849	6800	2864
1.8	2802B	4	2805	35	2817A	270	2833	1300	2849A	7000	2865
2	2803	4.3	2805A	36	2817B	300	2834	1400	2849B	7500	2866
2.2	2803A	4.7	2805B	39	2818	330	2835	1500	2850	8000	2867
		5	2806	40	2819	350	2835A	1600	2850A	8200	2868
		5.1	2806A	43	2819A	360	2835B	1800	2851	9000	2869
		5.6	2806B	47	2820	390	2836	2000	2852	9100	2869A
		6.2	2806C	50	2821	400	2837	2200	2853	10K	2870
		6.8	2806D	51	2821A	430	2837A	2400	2853A	11K	2869B
		7.5	2807	56	2822	450	2837B	2500	2854	12K	2871
		8.2	2807A	62	2822A	470	2838	2700	2855	13K	2871A
		9.1	2807B	68	2823	500	2839	3000	2856	14K	2871B
		10	2808	75	2824	510	2839A	3300	2857	15K	2872
		11	2808A	82	2825	560	2840	3500	2857A	16K	2872A
		12	2809	91	2825A	600	2841	3600	2857B	17K	2872B
		13	2809A	100	2826	620	2841A	3900	2858	18K	2873
		15	2810	110	2826A	680	2842	4000	2859	20K	2874
		16	2810A	120	2827	700	2843	4300	2859A	22K	2875
		18	2811	130	2827A	750	2844	4500	2859B	24K	2875A
		20	2812	150	2828	800	2845	4700	2860	25K	2876

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MEMCOR COMPONENTS

A DIVISION OF LTV ELECTROSYSTEMS, INC.

. . . VAL 10

. . . FRL 5 . . . FRL 10

Originators of TRU-OHM & HARDWICK, HINDLE Products

RESISTORS

POWER
WIRE WOUND
VITREOUS ENAMELED

VITREOUS AXIAL LEADS

VAL 10

(10 WATTS)

CORE: 5/16" x 1 1/16"
WEIGHT: .014 LBS.

Ohms	Stock No.
1	2901A
1.1	2901B
1.2	2901C
1.3	2901D
1.5	2902
1.6	2902A
1.8	2902B
2	2903
2.2	2903A
2.4	2903B
2.7	2903C
3	2904
3.3	2904A
3.6	2904B
3.9	2904C
4	2905
4.3	2905A

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
4.7	2905B	40	2919	360	2935B	1800	2951	9100	2969A
5	2906	43	2919A	390	2936	2000	2952	10K	2970
5.1	2906A	47	2920	400	2937	2200	2953	11K	2970A
5.6	2906B	50	2921	430	2937A	2400	2953A	12K	2971
6.2	2906C	51	2921A	450	2937B	2500	2954	13K	2971A
6.8	2906D	56	2922	470	2938	2700	2955	14K	2971B
7.5	2907	62	2922A	500	2939	3000	2956	15K	2972
8.2	2907A	68	2923	510	2939A	3300	2957	16K	2972A
9.1	2907B	75	2924	560	2940	3500	2957A	17K	2972B
10	2908	82	2925	600	2941	3600	2957B	18K	2973
11	2908A	91	2925A	620	2941A	3900	2958	20K	2974
12	2909	100	2926	670	2942	4000	2959	22K	2975
13	2909A	110	2926A	680	2942A	4300	2959A	24K	2975A
15	2910	120	2927	700	2943	4500	2959B	25K	2976
16	2910A	130	2927A	750	2944	4700	2960	27K	2977
18	2911	150	2928	800	2945	5000	2961	30K	2978
20	2912	160	2928A	820	2946	5100	2961A	33K	2979
22	2912A	180	2929	900	2947	5600	2962	35K	2979A
24	2912B	200	2930	910	2947A	6000	2963	36K	2979B
25	2914	220	2931	1000	2948	6200	2963A	39K	2980
27	2915	240	2931A	1100	2948A	6800	2964	40K	2981
30	2916	250	2932	1200	2949	7000	2965	43K	2981A
33	2917	270	2933	1300	2949A	7500	2966	45K	2981B
35	2917A	300	2934	1400	2949B	8000	2967	47K	2982
36	2917B	330	2935	1500	2950	8200	2968	50K	2983
39	2918	350	2935A	1600	2950A	9000	2969	51K	2983B

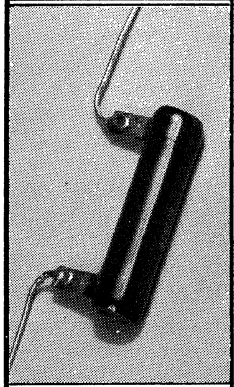
These widely-used fixed wire wound vitreous enameled resistors have solidly anchored welded tabs (lugs) and shock-absorbing mounting brackets to withstand vibration. Multi-layer vitreous enamel coating locks the uniformly-wound resistance wire in position and also seals out moisture. MEMCOR resistors have a high-temperature stability and a compatible coefficient of expansion which prevents crazing and cracking.

MEMCOR resistors have a standard tolerance of ±5% on all values above one OHM and a ±10% tolerance on resistance values lower than one OHM (available in closer tolerances).

All MEMCOR resistors listed in this section manufactured to the rigid requirements of MIL-R-26 Specifications . . . MEMCOR resistors meet and exceed all requirements of this specification.

FR and FRL TYPES

MEMCOR fixed wire wound vitreous enameled types in 5, 10 and 20 watt sizes (FRL) are light enough to be mounted by attached leads and are also available without (FR) tuned leads.



VITREOUS FIXED LEADS

FRL 5

(5 WATTS)

CORE: 5/16" x 3/16" x 1"
WEIGHT: .012 LBS.
MOUNTING BY LEADS

Ohms	Stock No.
.5	1001
1	1002
1.5	1003
2	1004

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
3	1005	100	1019	800	1033	4500	1047		
4	1006	125	1020	900	1034	5000	1048		
5	1007	150	1021	1000	1035	6000	1049		
7.5	1008	200	1022	1100	1036	7000	1050		
10	1009	225	1023	1200	1037	7500	1051		
12	1010	250	1024	1250	1038	8000	1052		
15	1011	300	1025	1500	1039	9000	1053		
20	1012	350	1026	1750	1040	10K	1054		
25	1013	400	1027	2000	1041	12.5K	1055		
30	1014	450	1028	2250	1042	15K	1056		
35	1015	500	1029	2500	1043	17.5K	1057		
40	1016	600	1030	3000	1044	20K	1058		
50	1017	700	1031	3500	1045	22.5K	1059		
75	1018	750	1032	4000	1046	25K	1060		

VITREOUS FIXED LEADS

FRL 10

(10 WATTS)

CORE: 5/16" x 3/16" x 1 3/4"
WEIGHT: .019 LBS.
MOUNTING BY LEADS

Ohms	Stock No.
.5	1101
1	1102
1.5	1103
2	1104

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
3	1105	100	1119	800	1133	4500	1147	16K	1162
4	1106	125	1120	900	1134	5000	1148	17.5K	1163
5	1107	150	1121	1000	1135	6000	1149	18K	1164
7.5	1108	200	1122	1100	1136	7000	1150	20K	1165
10	1109	225	1123	1200	1137	7500	1151	22.5K	1166
12	1110	250	1124	1250	1138	8000	1152	25K	1167
15	1111	300	1125	1500	1139	8500	1153	30K	1168
20	1112	350	1126	1750	1140	9000	1154	35K	1169
25	1113	400	1127	2000	1141	10K	1155	40K	1170
30	1114	450	1128	2250	1142	11K	1156	45K	1171
35	1115	500	1129	2500	1143	12K	1157	50K	1172
40	1116	600	1130	3000	1144	12.5K	1158		
50	1117	700	1131	3500	1145	13.5K	1159		
75	1118	750	1132	4000	1146	15K	1161		

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MEMCOR COMPONENTS

A DIVISION OF LTV ELECTROSYSTEMS, INC.

... FRL 20

... FR 5 ... FR 10 ... FR 20

Originators of TRU-OHM & HARDWICK, HINDLE Products

RESISTORS

POWER
WIRE WOUND
VITREOUS ENAMELED

VITREOUS FIXED LEADS

FRL 20

(20 WATTS)

CORE: 1/16" x 1/4" x 2"
WEIGHT: .033 LBS.
MOUNTING BY LEADS

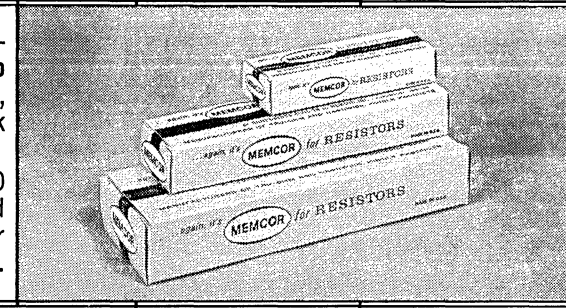
Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
.5	1201	250	1214	1500	1227	7000	1241	45K	1252
1	1202	300	1215	1750	1228	7500	1242	50K	1253
3	1203	350	1216	2000	1230	8000	1243	55K	1254
4	1204A	400	1217	2250	1231	9K	1243A	60K	1255
5	1204	500	1218	2500	1233	10K	1244	65K	1256
10	1205	650	1219	2750	1234	12.5K	1245	70K	1257
15	1206	700	1220	3000	1235	15K	1246	75K	1258
25	1207	750	1221	3500	1236	20K	1247	80K	1259
50	1208	800	1222	4000	1237	25K	1248	85K	1260
75	1209	910	1223A	4500	1238	30K	1249	90K	1261
100	1210	1000	1224	5000	1239	35K	1250	95K	1262
150	1211	1200	1225	6000	1240	40K	1251	100K	1263
200	1213	1250	1226						

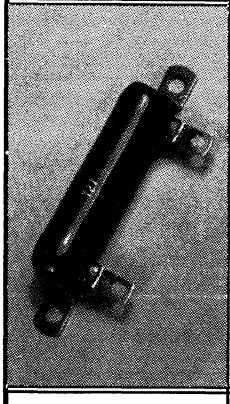
The FR type resistors can be mounted by brackets, vertical through bolts or by their tabs.

The sturdy terminals are hot-tinned for soldering ease, and the holes in the terminals are of suitable size to accommodate screws.

Mounting brackets are furnished **only** on request at **no** additional cost. If required, please specify bracket stock number.

Standard packaging — 5, 10 and 20 watt sizes are packed 10 units per carton and larger sizes are packed individually.





VITREOUS FIXED

FR 5

(5 WATTS)

CORE: 3/16" x 3/16" x 1"
WEIGHT: .012 LBS.

Ohms	Stock No.
.5	4401
1	4402
1.5	4403
2	4404
3	4405

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
4	4406	125	4420	900	4434	5000	4448		
5	4407	150	4421	1000	4435	6000	4449		
7.5	4408	200	4422	1100	4436	7000	4450		
10	4409	225	4423	1200	4437	7500	4451		
12	4410	250	4424	1250	4438	8000	4452		
15	4411	300	4425	1500	4439	9000	4453		
20	4412	350	4426	1750	4440	10K	4454		
25	4413	400	4427	2000	4441	12.5K	4455		
30	4414	450	4428	2250	4442	15K	4456		
35	4415	500	4429	2500	4443	17.5K	4457		
40	4416	600	4430	3000	4444	20K	4458		
50	4417	700	4431	3500	4445	22.5K	4459		
75	4418	750	4432	4000	4446	25K	4460		
100	4419	800	4433	4500	4447				

VITREOUS FIXED

FR 10

(10 WATTS)

CORE: 3/16" x 3/16" x 1 3/4"
WEIGHT: .019 LBS.
MTG. BRKT.: P4989

Ohms	Stock No.
.5	4501
1	4502
1.5	4503
2	4504

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
3	4505	100	4519	800	4533	4500	4547	16K	4562
4	4506	125	4520	900	4534	5000	4548	17.5K	4563
5	4507	150	4521	1000	4535	6000	4549	18K	4564
7.5	4508	200	4522	1100	4536	7000	4550	20K	4565
10	4509	225	4523	1200	4537	7500	4551	22.5K	4566
12	4510	250	4524	1250	4538	8000	4552	25K	4567
15	4511	300	4525	1500	4539	8500	4553	30K	4568
20	4512	350	4526	1750	4540	9000	4554	35K	4569
25	4513	400	4527	2000	4541	10K	4555	40K	4570
30	4514	450	4528	2250	4542	11K	4556	45K	4571
35	4515	500	4529	2500	4543	12K	4557	50K	4572
40	4516	600	4530	3000	4544	12.5K	4558		
50	4517	700	4531	3500	4545	13.5K	4559		
75	4518	750	4532	4000	4546	15K	4561		

VITREOUS FIXED

FR 20

(20 WATTS)

CORE: 1/16" x 1/4" x 2"
WEIGHT: .033 LBS.
MTG. BRKT.: P3749

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
.5	4601	300	4615	2000	4630	10K	4644	75K	4658
1	4602	350	4616	2250	4631	12.5K	4645	80K	4659
3	4603	400	4617	2500	4633	15K	4646	85K	4660
4	4603A	500	4618	2750	4634	20K	4647	90K	4661
5	4604	650	4619	3000	4635	25K	4648	95K	4662
10	4605	700	4620	3500	4636	30K	4649	100K	4663
15	4606	750	4621	4000	4637	35K	4650		
25	4607	800	4622	4500	4638	40K	4651		
50	4608	910	4623A	5000	4639	45K	4652		
75	4609	1000	4624	6000	4640	50K	4653		
100	4610	1200	4625	7000	4641	55K	4654		
150	4611	1250	4626	7500	4642	60K	4655		
200	4613	1500	4627	8000	4643	65K	4656		
250	4614	1750	4628	9000	4663A	70K	4657		

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MEMCOR COMPONENTS

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. . . FR 25 . . . FR 50

. . . FR 100 . . . FR 160 . . . FR 200

Originators of TRU-OHM & HARDWICK, HINDLE Products

RESISTORS

POWER
WIRE WOUND
VITREOUS ENAMELED

VITREOUS FIXED FR 25 (25 WATTS)

CORE: 3/16" x 5/16" x 2"
WEIGHT: .051 LBS.
MTG. BRKT.: P3747

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	1301	75	1310	1000	1321	6000	1330	35K	1338
2	1302	100	1311	1500	1323	7500	1331	40K	1339
3	1303	150	1312	2000	1324	10K	1332	50K	1340
4	1304	200	1313	2500	1325	12K	1333	60K	1341
5	1305	250	1314	3000	1326	15K	1334	70K	1342
10	1306	500	1317	3500	1327	20K	1335	75K	1343
25	1308	750	1318	4000	1328	25K	1336	80K	1344
50	1309	800	1319	5000	1329	30K	1337	100K	1345

VITREOUS FIXED FR 50 (50 WATTS)

CORE: 5/16" x 5/16" x 4"
WEIGHT: .082 LBS.
MTG. BRKT.: P3747

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	1401	100	1410	2000	1421	12K	1430	75K	1439
2	1402	150	1411	2500	1422	12.5K	1431	100K	1440
3	1403	200	1412	3000	1423	15K	1432	125K	1441
4	1404	250	1413	4000	1424	20K	1433	150K	1442
5	1405	500	1416	5000	1425	25K	1434	175K	1443
10	1406	750	1417	6000	1426	30K	1435	200K	1444
25	1407	800	1418	7500	1427	35K	1436	225K	1445
50	1408	1000	1419	8000	1428	40K	1437	250K	1446
75	1409	1500	1420	10K	1429	50K	1438		

VITREOUS FIXED FR 100 (100 WATTS)

CORE: 3/4" x 1/2" x 6 1/2"
WEIGHT: .200 LBS.
MTG. BRKT.: P3689

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	1501	75	1509	1500	1518	20K	1529	75K	1537
2	1502	100	1510	2000	1519	25K	1530	100K	1538
3	1503	125	1511	2500	1520	30K	1531		
4	1504	150	1512	3000	1521	35K	1532		
5	1505	250	1513	5000	1525	40K	1533		
10	1506	500	1514	7500	1526	50K	1534		
25	1507	750	1515	10K	1527	60K	1535		
50	1508	1000	1516	15K	1528	70K	1536		

VITREOUS FIXED FR 160 (160 WATTS)

CORE: 1 1/8" x 3/4" x 8 1/2"
WEIGHT: .445 LBS.
MTG. BRKT.: P4898

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	1601	75	1610	1500	1618	20K	1629	80K	1637
2	1602	100	1611	2000	1619	25K	1630	100K	1638
3	1603	125	1611A	2500	1620	30K	1631		
4	1604	150	1612	3000	1621	35K	1632		
5	1605	250	1614	5000	1625	40K	1633		
10	1606	500	1615	7500	1626	50K	1634		
25	1608	750	1616	10K	1627	60K	1635		
50	1609	1000	1617	15K	1628	75K	1636		

VITREOUS FIXED FR 200 (200 WATTS)

CORE: 1 1/8" x 3/4" x 10 1/2"
WEIGHT: .740 LBS.
MTG. BRKT.: P4898

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	1701	75	1709	2000	1717	25K	1728
2	1702	100	1710	2500	1718	30K	1729
3	1703	150	1711	3000	1719	35K	1730
4	1704	250	1712	5000	1723	40K	1731
5	1705	500	1713	7500	1724	50K	1732
10	1706	750	1714	10K	1725	60K	1733
25	1707	1000	1715	15K	1726	75K	1734
50	1708	1500	1716	20K	1727	100K	1735

ADJUSTABLE VALUE RESISTORS

MEMCOR adjustable resistors are used in applications where it is necessary to make adjustment in resistance periodically . . . where intermediate values of resistance are needed . . . or when multi-tabs are required. The AR types are especially useful in laboratories for experimental work, circuit design, etc.

A section of the winding is exposed on one side to enable the adjustment band to make contact at any desired point. This adjustable band **should not** be moved unless the screw holding it in position is completely loosened to prevent abrading or possible damage to the resistance wire.

Adjustable lugs are formed to the exact contour of the body of the resistor to assure positive contact with the exposed section of winding. Standard adjustable bands are screw-driven style and have an embossed area on the lug.

Special adjustable lugs are available with a silver contact . . . also, bakelite thumb screw type bands are available.

The AR wattage ratings (and the ±10% tolerance) given in this section are for **the entire** resistor. Never exceed the maximum rating through any portion of the resistor.

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MEMCOR COMPONENTS

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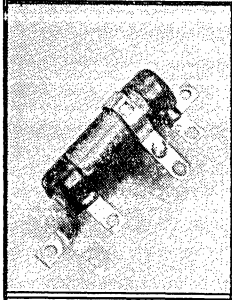
AR 10 . . . AR 25 . . . AR 50 . . . AR 75 . . . AR 100 . . . AR 160 . . . AR 200

Originators of TRU-OHM & HARDWICK, HINDLE Products

RESISTORS

POWER
WIRE WOUND
VITREOUS ENAMELED



VITREOUS ADJUSTABLE AR 10 (10 WATTS)

CORE: 5/16" x 3/16" x 1 3/4"
WEIGHT: .019 LBS.
MTG. BRKT.: P4989

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	2001	75	2011	750	2021	4000	2031
2	2002	100	2012	800	2022	4500	2032
3	2003	150	2013	1000	2023	5000	2033
5	2004	200	2014	1250	2024	6000	2034
7.5	2005	250	2015	1500	2025	7000	2035
10	2006	300	2016	2000	2026	7500	2036
15	2007	350	2017	2250	2027	8000	2037
20	2008	400	2018	2500	2028	8500	2038
25	2009	500	2019	3000	2029	9000	2039
50	2010	600	2020	3500	2030	10K	2040

VITREOUS ADJUSTABLE AR 25 (25 WATTS)

CORE: 5/16" x 5/16" x 2"
WEIGHT: .052 LBS.
MTG. BRKT.: P3747

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	2101	50	2110	750	2119	3500	2129	10K	2139
2	2102	75	2111	800	2120	4000	2130	12K	2140
3	2103	100	2112	1000	2122	4500	2131	15K	2141
5	2104	150	2113	1250	2133	5000	2132	20K	2142
7.5	2105	200	2114	1500	2124	6000	2133	25K	2143
10	2106	250	2115	2000	2125	7000	2134		
15	2107	300	2116	2250	2126	7500	2136		
20	2108	400	2117	2500	2127	8000	2137		
25	2109	500	2118	3000	2128	9000	2138		

VITREOUS ADJUSTABLE AR 50 (50 WATTS)

CORE: 5/16" x 5/16" x 4"
WEIGHT: .096 LBS.
MTG. BRKT.: P3747

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	2201	100	2210	1000	2219	4500	2228	15K	2238
2	2202	150	2211	1250	2220	5000	2229	20K	2239
3	2203	200	2212	1500	2221	6000	2230	25K	2240
4	2204	250	2213	2000	2222	7000	2231	30K	2241
5	2205	300	2214	2250	2223	7500	2233	40K	2242
10	2206	400	2215	2500	2224	8000	2234	50K	2243
25	2207	500	2216	3000	2225	9000	2235	60K	2244
50	2208	750	2217	3500	2226	10K	2236	80K	2246
75	2209	800	2218	4000	2227	12K	2237	100K	2247

VITREOUS ADJUSTABLE AR 75 (75 WATTS)

CORE: 5/16" x 5/16" x 6"
WEIGHT: .150 LBS.
MTG. BRKT.: P3747

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	2301	200	2312	2000	2322	7500	2333	40K	2343
2	2302	250	2313	2250	2323	8000	2334	45K	2344
3	2303	300	2314	2500	2324	9000	2335	50K	2345
4	2304	400	2315	3000	2325	10K	2336	60K	2346
5	2305	500	2316	3500	2326	12K	2337	80K	2348
10	2306	750	2317	4000	2327	15K	2338	100K	2349
15	2307	800	2318	4500	2328	20K	2339		
25	2308	1000	2319	5000	2329	25K	2340		
50	2309	1250	2320	6000	2330	30K	2341		
100	2311	1500	2321	7000	2331	35K	2342		

VITREOUS ADJUSTABLE AR 100 (100 WATTS)

CORE: 3/4" x 1/2" x 6 1/2"
WEIGHT: .200 LBS.
MTG. BRKT.: P3689

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	2401	100	2409	10K	2424	100K	2433
2	2402	250	2411	15K	2425		
3	2403	500	2413	20K	2626		
4	2404	1000	2415	25K	2427		
5	2405	1500	2416	30K	2428		
10	2406	2500	2418	40K	2429		
25	2407	5000	2421	50K	2430		
50	2408	6000	2422	60K	2432		

Caution — the voltage should be off when making adjustments to prevent any possible injury to the operator from high voltage.

VITREOUS ADJUSTABLE AR 160 (160 WATTS)

CORE: 1 1/8" x 3/4" x 8 1/2"
WEIGHT: .460 LBS.
MTG. BRKT.: P4898

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	2501	100	2510	10K	2524	80K	2532
2	2502	250	2512	15K	2525	100K	2534
3	2503	500	2513	20K	2526		
4	2504	1000	2514	25K	2527		
5	2505	1500	2515	30K	2528		
10	2506	2500	2517	40K	2529		
25	2508	3500	2519	50K	2530		
50	2509	5000	2522	60K	2531		

VITREOUS ADJUSTABLE AR 200 (200 WATTS)

CORE: 1 1/8" x 3/4" x 10 1/2"
WEIGHT: .670 LBS.
MTG. BRKT.: P4898

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	2601	25	2607	1500	2613	25K	2625		
2	2602	50	2608	2500	2615	30K	2626		
3	2603	100	2609	5000	2620	40K	2627		
4	2604	250	2610	10K	2622	50K	2628		
5	2605	500	2611	15K	2623	60K	2630		
10	2606	1000	2612	20K	2624	100K	2631		

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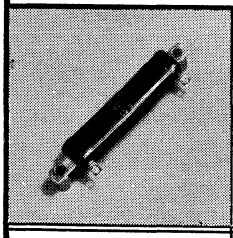
MEMCOR COMPONENTS

A DIVISION OF LTV ELECTROSYSTEMS, INC.

... MOR 10 ... MOR 20
... OR 30 ... OR 40 ... OR 55

Originators of TRU-OHM & HARDWICK, HINDLE Products

RESISTORS
POWER
WIRE WOUND
VITREOUS ENAMELED



VITREOUS MIDGET OVAL MOR 10 (10 WATTS)

CORE: 3/8" x 3/4"
LENGTH: 1 15/16"
MTG. CENTERS: 1"

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	3001	30	3009	250	3017	1500	3025
2	3002	40	3010	300	3018	1750	3026
5	3003	50	3011	400	3019	2000	3027
7.5	3004	75	3012	500	3020	2500	3028
10	3005	100	3013	600	3021	3000	3029
15	3006	125	3014	750	3022	4000	3030
20	3007	150	3015	1000	3023	5000	3031
25	3008	200	3016	1250	3024		

VITREOUS MIDGET OVAL MOR 20 (20 WATTS)

CORE: 3/8" x 2"
LENGTH: 2 5/8"
MTG. CENTERS: 2 15/16"

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	3201	75	3209	800	3217	4000	3225	25K	3233
2	3202	100	3210	1000	3218	5000	3226	30K	3234
5	3203	150	3211	1250	3219	6000	3227	35K	3235
10	3204	200	3212	1500	3220	7500	3228	40K	3236
15	3205	250	3213	2000	3221	10K	3229	50K	3237
25	3206	300	3214	2500	3222	12.5K	3230		
40	3207	400	3215	3000	3223	15K	3231		
50	3208	500	3216	3500	3224	20K	3232		

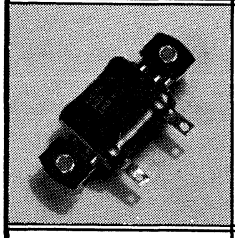
OVAL (FLAT CORE) RESISTORS

MEMCOR wire wound flat core resistors are applicable for individual and/or stack mounting. Their high watt rating per unit of space and the bracket construction which facilitates stacking (integral mounting brackets are supplied as standard)... make the MOR and OR types space savers par excellence.

The line of ovals (OR) was designed particularly for applications where available space is limited... and the supplementary line of midget ovals (MOR) are very desirable for applications where the size of the components must be kept to an absolute minimum. The through bracket helps dissipate heat and reduces hot spots. This permits higher wattage dissipation without requiring additional space.

When stack mounted, the OR and MOR resistors should be derated. For an ambient temperature not higher than 40°C. the maximum rise of these resistors will not exceed 300°C. when mounted on a steel panel.

Tapped or adjustable ovals are available.



VITREOUS OVAL OR 30 (30 WATTS)

CORE: 5/16" x 1" x 1 1/4"
WEIGHT: .055 LBS.

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	3301	40	3306A	500	3313	5000	3323		
1.5	3301A	50	3307	750	3314	7500	3324		
2	3302B	75	3307A	1000	3315	10K	3325		
3	3302	100	3308	1500	3317				
5	3303	150	3309	2000	3318				
10	3304	200	3310	2500	3319				
15	3305	250	3311	3000	3320				
25	3306	400	3312	4000	3322				

VITREOUS OVAL OR 40 (40 WATTS)

CORE: 5/16" x 1" x 2"
WEIGHT: .075 LBS.

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	3401	25	3406	400	3412	3500	3421
1.5	3401A	40	3406A	500	3413	5000	3423
2	3402A	50	3407	750	3414	7500	3424
3	3402	75	3407A	1000	3415	10K	3425
4	3403A	100	3408	1500	3417	15K	3426
5	3403	150	3409	2000	3418	20K	3427
7.5	3404A	200	3410	2500	3419	25K	3428
10	3404	250	3411	3000	3420		

VITREOUS OVAL OR 55 (55 WATTS)

CORE: 5/16" x 1" x 3 1/2"
WEIGHT: .130 LBS.

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1	3501	25	3506	400	3512	4000	3522
1.5	3501A	40	3506A	500	3513	5000	3523
2	3502A	50	3507	750	3514	7500	3524
3	3502	75	3507A	1000	3515	10K	3525
4	3503A	100	3508	1500	3517	15K	3526
5	3503	150	3509	2000	3518	20K	3527
7.5	3504A	200	3510	2500	3519	25K	3528
10	3504	250	3511	3000	3520	30K	3529

MOULDED SILICONE RESISTORS

These resistors will operate at 350°C. (660°F.) and will withstand thermal shocks to minus 55°C. Because of the moulded construction the resistors are effectively hermetically sealed and will withstand severe moisture conditions without deterioration.

The construction of the resistors are uniform in all dimensions within a few thousandths of an inch, which facilitates their use in automatic-insertion machinery... for which use they may be obtained specially packaged. They will improve the appearance of any assembly in which they are used.

Temperature co-efficients of plus or minus 20 parts per million per C. degree are standard.

The moulding compound used in these resistors was developed through research and development extending over several years, and represents a marked advance in the "state-of-the-art" for such compounds.

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MEMCOR COMPONENTS

A DIVISION OF LTV ELECTROSYSTEMS, INC.

... MAL 3

Originators of TRU-OHM & HARDWICK, HINDLE Products

RESISTORS

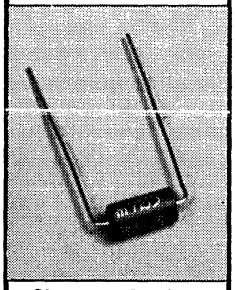
SILICONE MOULDED

MOULDED AXIAL LEADS

MAL 3

(3 WATTS)

CLOSE TOLERANCE ±1% IN STOCK



Ohms	Stock No.
.100	3M10
.121	3M11
.150	3M12
.182	3M13
.200	3M14
.221	3M15
.249	3M16
.274	3M17
.332	3M18
.392	3M19
.475	3M20
.499	3M21
.562	3M22
.681	3M23
.750	3M24
.825	3M25
1.00	3M26
1.02	3M27
1.05	3M28
1.07	3M29
1.10	3M30
1.13	3M31
1.15	3M32
1.18	3M33
1.21	3M34
1.24	3M35
1.27	3M36
1.30	3M37
1.33	3M38
1.37	3M39
1.40	3M40
1.43	3M41
1.47	3M42
1.50	3M43
1.54	3M44
1.58	3M45
1.62	3M46
1.65	3M47
1.69	3M48
1.74	3M49
1.78	3M50
1.82	3M51
1.87	3M52
1.91	3M53
1.96	3M54
2.00	3M55
2.05	3M57
2.10	3M58
2.15	3M59
2.21	3M60
2.26	3M61
2.32	3M62
2.37	3M63
2.43	3M64
2.49	3M65
2.55	3M66
2.61	3M67
2.67	3M68
2.74	3M69
2.80	3M70
2.87	3M71
2.94	3M72
3.01	3M73
3.09	3M74
3.16	3M75
3.24	3M76
3.32	3M77
3.40	3M78
3.48	3M79
3.57	3M80
3.65	3M81
3.74	3M82
3.83	3M83
3.92	3M84
4.02	3M85
4.12	3M86
4.22	3M87
4.32	3M88
4.42	3M89
4.53	3M90
4.64	3M91
4.75	3M92
4.87	3M93
4.99	3M94
5.11	3M95
5.23	3M96
5.36	3M97
5.49	3M98
5.62	3M99
5.76	3M100
5.90	3M101
6.04	3M102
6.19	3M103
6.34	3M104
6.49	3M105
6.65	3M106
6.81	3M107
6.98	3M108
7.15	3M109
7.32	3M110
7.50	3M111
7.68	3M112
7.87	3M113
8.06	3M114
8.25	3M115
8.45	3M116
8.66	3M117
8.87	3M118
9.90	3M119
9.31	3M120
9.53	3M121
9.76	3M122
10.0	3M123
10.2	3M124
10.5	3M125
10.7	3M126
11.0	3M127
11.3	3M128
11.5	3M129
11.8	3M130
12.1	3M131
12.4	3M132
12.7	3M133
13.0	3M134
13.3	3M135
13.7	3M136
14.0	3M137
14.3	3M138
14.7	3M139
15.0	3M140
15.4	3M141
15.8	3M142
16.2	3M143
16.5	3M144
16.9	3M145
17.4	3M146
17.8	3M147
18.2	3M148
18.7	3M149
19.1	3M150
19.6	3M151
20.0	3M152
20.5	3M153
21.0	3M154
21.5	3M155
22.1	3M156
22.6	3M157
23.2	3M158
23.7	3M159
24.3	3M160
24.9	3M161
25.5	3M162
26.1	3M163
26.7	3M164
27.4	3M165
28.0	3M166
28.7	3M167
29.4	3M168
30.1	3M169
30.9	3M170
31.6	3M171
32.4	3M172
33.2	3M173
34.0	3M174
34.8	3M175
35.7	3M176
36.5	3M177
37.4	3M178
38.3	3M179
39.2	3M180
40.2	3M181
41.2	3M182
42.2	3M183
43.2	3M184
44.2	3M185
45.3	3M186
46.4	3M187
47.5	3M188
48.7	3M189
49.9	3M190
51.1	3M191
52.3	3M192
53.6	3M193
54.9	3M194
56.2	3M195
57.6	3M196
59.0	3M197
60.4	3M198
61.9	3M199
63.4	3M200
64.9	3M201
66.5	3M202
68.1	3M203
69.8	3M204
71.5	3M205
73.2	3M206
75.0	3M207
76.8	3M208
78.7	3M209
80.6	3M210
82.5	3M211
84.5	3M212
86.6	3M213
88.7	3M214
90.9	3M215
93.1	3M216
95.3	3M217
97.6	3M218
100	3M219
102	3M220
105	3M221
107	3M222
110	3M223
113	3M224
115	3M225
118	3M226
121	3M227
124	3M228
127	3M229
130	3M230
133	3M231
137	3M232
140	3M233
143	3M234
147	3M235
150	3M236
154	3M237
158	3M238
162	3M239
165	3M240
169	3M241
174	3M242
178	3M243
182	3M244
187	3M245
191	3M246
196	3M247
200	3M248
205	3M249
210	3M250
215	3M251
221	3M252
226	3M253
232	3M254
237	3M255
243	3M256
249	3M257
255	3M258
261	3M259
267	3M260
274	3M261
280	3M262
287	3M263
294	3M264
301	3M265
309	3M266
316	3M267
324	3M268
332	3M269
340	3M270
348	3M271
357	3M272
365	3M273
374	3M274
383	3M275
392	3M276
402	3M277
412	3M278
422	3M279
432	3M280
442	3M281
453	3M282
464	3M283
475	3M284
487	3M285
499	3M286
511	3M287
523	3M288
536	3M289
549	3M290
562	3M291
576	3M292
590	3M293
604	3M294
619	3M295
634	3M296
649	3M297
665	3M298
681	3M299
698	3M300
715	3M301
732	3M302
750	3M303
768	3M304
787	3M305
806	3M306
825	3M307
845	3M308
866	3M309
887	3M310
909	3M311
931	3M312
953	3M313
976	3M314
1000	3M315
1020	3M316
1050	3M317
1070	3M318
1100	3M319
1130	3M320
1150	3M321
1180	3M322
1210	3M323
1240	3M324
1270	3M325
1300	3M326
1330	3M327
1370	3M328
1400	3M329
1430	3M330
1470	3M331
1500	3M332
1540	3M333
1580	3M334
1620	3M335
1650	3M336
1690	3M337
1740	3M338
1780	3M339
1820	3M340
1870	3M341
1910	3M342
1960	3M343
2000	3M344
2050	3M345
2100	3M346
2150	3M347
2210	3M348
2260	3M349
2320	3M350
2370	3M351
2430	3M352
2490	3M353
2550	3M354
2610	3M355
2670	3M356
2740	3M357
2800	3M358
2870	3M359
2940	3M360
3010	3M361
3090	3M362
3160	3M363
3240	3M364
3320	3M365
3400	3M366
3480	3M367
3500	3M368
3650	9M369
3740	3M370
3830	3M371
3920	3M372
4020	3M373
4120	3M374
4220	3M375
4320	3M376
4420	3M377
4530	3M378
4640	3M379
4750	3M380
4870	3M381
4990	3M382
5110	3M383
5230	3M384
5360	3M385
5490	3M386
5620	3M387
5760	3M388
5900	3M389
6040	3M390
6100	3M391
6340	3M392
6400	3M393
6650	3M394
6810	3M395
6980	3M396
7150	3M397
7320	3M398
7500	3M399
7680	3M400
7870	3M401
8060	3M402
8250	3M403
8450	3M404
8660	3M405
8870	3M406
9090	3M407
9310	3M408
9530	3M409
9760	3M410
10K	3M411
10.2K	3M412
10.5K	3M413
10.7K	3M414
11K	3M415
11.3K	3M416
11.5K	3M417
11.8K	3M418
12.1K	3M419
12.4K	3M420
12.7K	3M421
13K	3M422
13.3K	3M423
13.7K	3M424
14K	3M425
14.3K	3M426
14.7K	3M427
15K	3M428
15.4K	3M429
15.8K	3M430
16.2K	3M431
16.5K	3M432
16.9K	3M433
17.4K	3M434
17.8K	3M435
18.2K	3M436
18.7K	3M437
19.1K	3M438
19.6K	3M439
20K	3M440
20.5K	3M441
21K	3M442
21.5K	3M443
22.1K	3M444

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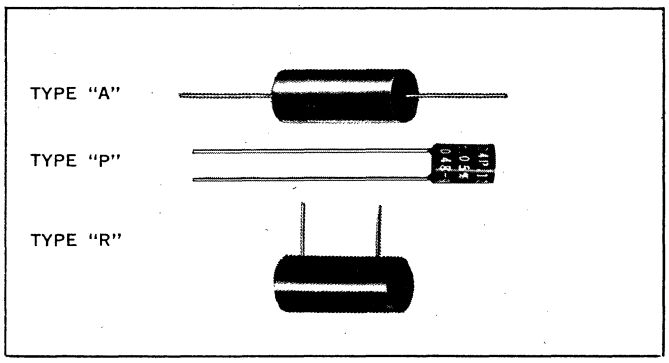
NYTRONICS, INC.® Resistors

Precision Wire-Wound Resistors

Miniaturized
High Reliability
Highly Stable
Meets MIL-R-39005 and MIL-R-93

Tolerance 1% to .001%



Nytronics specializes in the design and manufacture of ultra-stable, high reliability, precision wire wound resistors that meet the circuit applications of complex systems.

TYPE #	D (IN.)	L (IN.)	LEADS (AWG)	MAX R (OHMS)	MAX P (WATTS)	MAX V (VOLTS)	MIL TYPE #
*A 1003	.100	3/16	24	50K	.050	50	
A 1206	1/8	3/8	22 or 24	130K	.063	150	
A 1208	1/8	1/2	22 or 24	170K	.100	150	
A 1506	.150	3/8	22 or 24	130K	.100	150	
A 1508	.150	1/2	22 or 24	170K	.125	150	
A 1806	3/16	3/8	22 or 24	200K	.125	150	
A 1808	3/16	1/2	22 or 24	260K	.188	150	
A 2504	1/4	1/4	24	250K	.125	150	
A 2505	1/4	5/16	22 or 24	300K	.125	150	
A 2506	1/4	3/8	22 or 24	350K	.188	150	RBR 56
A 2508	1/4	1/2	22 or 24	500K	.250	300	RBR 55
A 2510	1/4	5/8	22 or 24	800K	.333	300	
A 2512	1/4	3/4	20 or 22	1.00M	.500	600	RBR 54
A 2516	1/4	1	20 or 22	1.25M	.500	600	
A 3106	5/16	3/8	22 or 24	1.00M	.250	300	
A 3112	5/16	3/4	20 or 22	1.20M	.500	300	
A 3114	5/16	7/8	20	2.50M	.500	600	
A 3116	5/16	1	20	2.50M	.625	600	
A 3708	3/8	1/2	20	1.75M	.375	300	
A 3709	3/8	9/16	20	2.50M	.438	300	
A 3710	3/8	5/8	20	3.00M	.500	300	
A 3712	3/8	3/4	20	4.00M	.625	600	RBR 53
A 3716	3/8	1	20	5.00M	.750	600	RBR 52
A 3720	3/8	1-3/16	20	5.00M	1.000	600	
A 5008	1/2	1/2	20	3.50M	.500	300	
A 5010	1/2	5/8	20	4.50M	.625	300	
A 5014	1/2	7/8	20	8.00M	.875	600	
A 5016	1/2	1	20	10.00M	1.000	600	RBR 57
A 5020	1/2	1-1/4	20	12.00M	1.250	600	
A 5024	1/2	1-1/2	20	15.00M	1.500	900	RBR 58
A 5028	1/2	1-3/4	20	18.00M	1.750	900	
A 5032	1/2	2	20	20.00M	2.000	1200	RBR 59
A 6209	5/8	9/16	20	4.50M	.750	300	
A 6220	5/8	1-1/4	20	15.00M	1.500	600	
A 7520	3/4	1-1/4	20	20.00M	2.000	600	

TYPE #	D (IN.)	L (IN.)	S (IN.)	LEADS (AWG)	MAX R OHMS)	MAX P (WATTS)	MAX V (VOLTS)	MIL TYPE #
P 2504	1 4	1 4	.150	22	350K	.100	150	
P 2505	1/4	5 16	.150	22	450K	.125	300	
P 2506	1 4	3/8	.150	22	550K	.188	150	
P 2508	1 4	1/2	.150	22	700K	.250	300	
P 2510	1 4	5 8	.150	22	900K	.333	300	
P 2805	.280	5 16	.200	22	450K	.125	300	RBR 71
P 3108	5 16	1 2	.200	22	1.25M	.375	300	
P 3706	3/8	3 8	.200	22.	1.00M	.250	300	
P 3708	3/8	1 2	.200	22	1.50M	.375	300	RBR 70
P 3712	3/8	3 4	.200	22	2.00M	.625	600	
P 5008	1/2	1/2	.300	22	1.75M	.500	300	
P 5016	1 2	1	.300	22	3.50M	1.000	600	

SPECIFY TYPE "P" FOR PRINTED CIRCUIT LEADS.

MIL STYLE CROSS REFERENCE CHART

OLD MIL-R-9444 PART NUMBER	NYTRONICS' PART NUMBER	NEW USAGE MIL-R-93 PART NUMBER
AFRT 10	A 2508	RB 55
AFRT 11	A 2512	RB 54
AFRT 12	A 3712	RB 53
AFRT 13	A 3716	RB 52
AFRT 14	A 5016	RB 57
AFRT 15	A 5024	RB 58
AFRT 16	A 5032	RB 59
AFRT 17	L 5008	RB 08
AFRT 18	L 5010	RB 16
AFRT 19	L 5016	RB 17
AFRT 20	L 5024	No equivalent
AFRT 21	L 5032	No equivalent
No equivalent	A 2506	RB 56
No equivalent	L 6220	RB 18
No equivalent	L 8734	RB 19
No equivalent	P 2805	RB 71
No equivalent	P 3708	RB 70

*Specify Type "R" for Radial Leads, and Type "A" for Axial Leads.

In addition to precision resistors, Nytronics offers a line of complete networks utilizing our extreme engineering knowhow. The components comprising these networks are carefully selected and matched for accuracy and T.C., pre-wired and tested ready for installation as a complete assembly.

NYTRONICS, INC.® / PRECISION RESISTOR DIVISION

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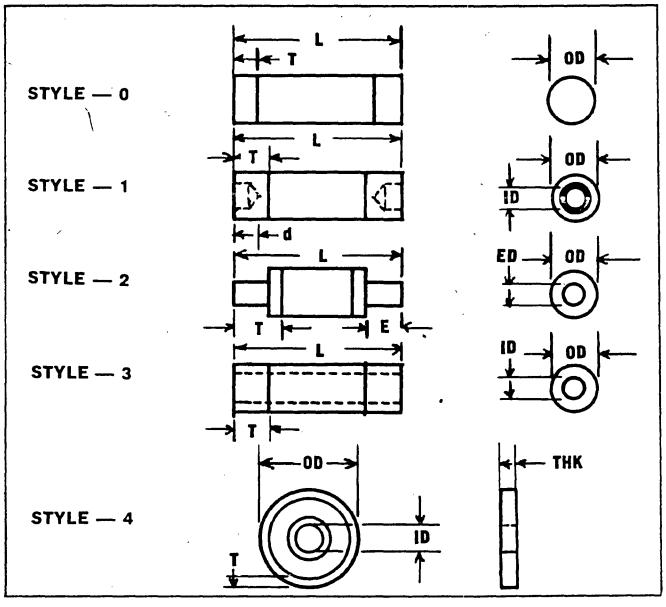
NYTRONICS, INC.® Resistors

Thin Film Microwave Resistors



Minimum inductance, no spiralling
D.C. to 10,000 MC
1 to 400 ohms on Discs
10 to 1500 ohms on Rods & Tubes
—55°C to 150°C Carbon
—55°C to 200°C Metal
Temperature Coefficient:
Metal Film ± 75 PPM
Carbon Film —200 PPM

CARBON & METAL RODS, TUBES & DISCS

STYLE — 0

CATALOG NO.	OD	L	T	NOM. POWER WATTS	
				METAL	CARBON
RC-020-120-0	.020	.120	.031	0.10	*
RC-020-160-0	.020	.160	.031	0.12	*
RC-020-200-0	.020	.200	.047	0.14	*
RC-040-120-0	.040	.120	.031	0.20	*
RC-040-160-0	.040	.160	.031	0.25	*
RC-040-200-0	.040	.200	.047	0 30	*
RC-060-120-0	.060	.120	.031	0.40	*
RC-060-160-0	.060	.160	.031	0.50	*
RC-060-200-0	.060	.200	.047	0.60	*
RC-125-531-0	.125	.531	.094	1.00	0.50
RC-125-625-0	.125	.625	.094	1.50	0.75
RC-125-1000-0	.125	1.000	.094	2.00	1.00
RC-162-750-0	.162	.750	.094	2.00	1.00
RC-250-875-0	.250	.875	.094	5.00	2.50

STYLE — 1

CATALOG NO.	OD	ID	L	d	T	NOM. POWER WATTS	
						METAL	CARBON
RC-125-375-1	.125	.062	.375	.093	.062	1.00	0.50
RC-191-500-1	.191	.136	.500	.109	.094	1.50	0.75

STYLE — 2

CATALOG NO.	OD	ED	L	E	T	NOM. POWER WATTS	
						METAL	CARBON
RC-073-342-2	.073	.050	.342	.046	.056	0.50	0.25
RC-125-500-2	.125	.093	.500	.062	.094	1.00	0.50

STYLE — 3

CATALOG NO.	OD	ID	L	T	NOM. POWER WATTS	
					METAL	CARBON
TC-125-250-3	.125	.070	.250	.047	0.50	0.25
TC-125-500-3	.125	.070	.500	.094	1.00	0.50

STYLE — 4

CATALOG NO.	OD	ID	THK	T	NOM. POWER WATTS METAL & CARBON
DC-250-068-4	.250	.068	.040	.020	0.50
DC-280-093-4	.280	.093	.040	.020	0.50
DC-343-076-4	.343	.076	.045	.031	1.00
DC-368-062-4	.368	.062	.040	.031	1.00
DC-375-076-4	.375	.076	.032	.031	1.00
DC-503-075-4	.503	.075	.064	.047	2.00
DC-503-172-4	.503	.172	.064	.047	2.00
DC-560-137-4	.560	.137	.064	.047	3.00
DC-831-125-4	.831	.125	.094	.062	4.00

NOTES:

(1) Substrate: Ceramic (standard)
(2) Standard Resistance Tolerance: Carbon ±1%; Metal ±3%
(3) The nominal power rating is for units suspended in free air.
(4) The resistance film on Discs is normally supplied on both sides of carbon film and one side of metal film resistors.
(5) Terminals: Normally supplied plated; pretinned on special order.
(6) Other sizes, Substrates, Resistances and Tolerances available to meet customer requirements.

INFORMATION FOR ORDERING

Specify:

(1) Resistive Film { Metal — M / Carbon — C
(2) Catalog No.
(3) Resistance Desired
(4) Resistance Tolerance

Example:

M	RC-125-531-0	50 Ω	1%
↓	↓	↓	↓
Metal Film	Catalog No.	Resistance	Tolerance

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PRICES

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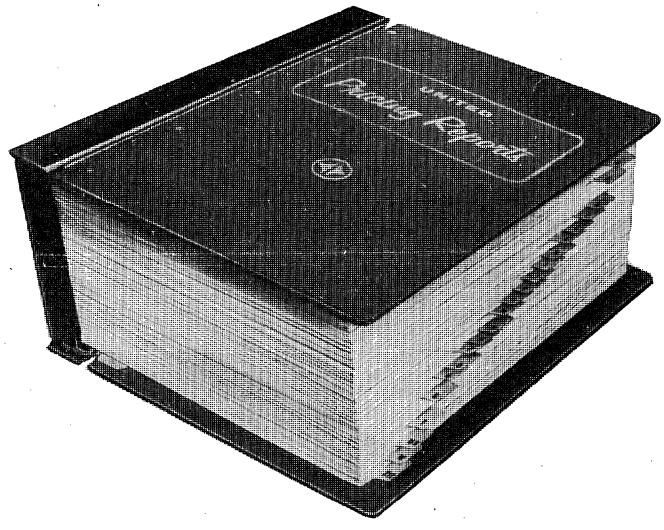

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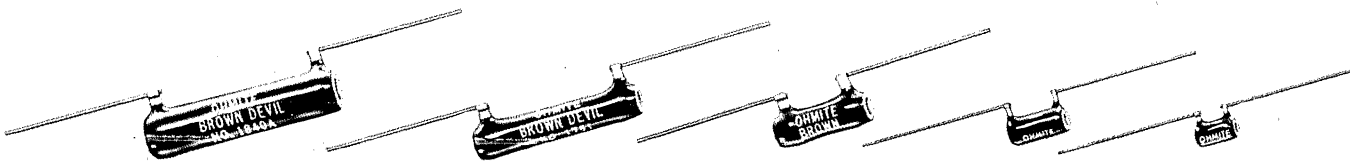
DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

OHMITE type 200 *brown devil*® fixed resistors



BROWN DEVIL® (Type 200) resistors, are vitreous enameled, wirewound units long famous for ruggedness and durability in small power resistors. With the emphasis towards miniaturization and the current industry trend towards higher operating temperatures, Ohmite has been able to increase the ratings on two Brown Devil sizes. The 5 watt size is now rated **8 watts** and the 10 watt size is now rated **12 watts**. The 20 watt unit retains the same rating. The higher ratings may be confidently applied to any 5 or 10 watt unit now in the possession of users or distributors. At this time also, to meet the demand for lower wattage units, Ohmite introduces two, new, small stock sizes — 3 and 5¼ watts.

Standard resistance tolerance is ±5% for values 1 ohm or higher; ±10% for values below 1 ohm. Tinned leads 1½" long: 3 and 5¼ watt, 20 AWG; 8, 12 and 20 watt, 18 AWG.

DIMENSIONS, WEIGHTS, CODES & PRICES

Rating	3W	5¼W	8W	12W	20W
Core Dimen.	7/16x.21D	5/8x1/4D	1x3/16D	1¾x5/16D	2x7/16D
Weight (lbs.)	.003	.005	.01	.015	.03
Ohms*	Net 1-9	Net 1-9	Net 1-9	Net 1-9	Net 1-9
0.5	—	—	—	$ .60	$1.00
1 thru 1K	$ .51	$ .55	$ .55	.60	.71
1.1K thru 5K	.55	.58	.58	.64	.74
5.1K thru 10K	.58	.61	.61	.74	.87
11K thru 20K	—	.68	.68	.83	.89
22.5K thru 40K	—	—	.71	.87	1.04
45K thru 60K	—	—	—	.98	1.21
65K thru 80K	—	—	—	—	1.44
85K thru 100K	—	—	—	—	1.65

*Ranges shown here only—For actual stock values, see stock table below.

STOCK RESISTORS

Ohms	3 WATT Stk.* No.	3 WATT Amps.	5¼ WATT Stk.* No.	5¼ WATT Amps.	8 WATT Stk.* No.	8 WATT Amps.	12 WATT Stk.* No.	12 WATT Amps.	20 WATT Stk.* No.	20 WATT Amps.
0.5							1700A	4.90	1800A	6.32
1.0	**2712**	1.73	**2822**	2.29	**1500**	2.83	**1701**	3.46	**1802A**	4.47
1.1	2713	1.65	2823	2.19						
1.2	2714	1.58	2824	2.09						
1.3	2715	1.52	2825	2.01						
1.5	2716	1.41	2826	1.87	**1500B**	2.30	**1704**	2.82		
1.6	2717	1.37	2827	1.81						
1.8	2718	1.29	2828	1.71						
2.0	2719	1.22	**2829**	1.62	**1501**	2.00	**1705**	2.45	**1802B**	3.16
2.2	2720	1.17	2830	1.54						
2.4	2721	1.12	2831	1.48						
2.7	2722	1.05	2832	1.39						
3.0	2723	1.00	2833	1.32	1502	1.63	**1706**	2.00	**1802C**	2.58
3.3	2724	.95	2834	1.24						
3.6	2725	.91	2835	1.21						
3.9	2726	.88	2836	1.16						
4.0					**1503**	**1.41**	**1707**	1.73	**1802D**	2.24
4.3	2727	.83	2837	1.10						
4.7	2728	.80	2838	1.06						
5.0					**1504**	1.26	**1708**	1.54	**1803**	2.00
5.1	2729	.77	2839	1.01						
5.6	2730	.73	2840	.97						
6.2	2731	.69	2841	.92						
6.8	2732	.66	2842	.88						
7.5	2733	.63	2843	.84	**15u5**	1.00	**1709**	1.26		
8.2	2734	.60	2844	.80						
9.1	2735	.57	2845	.76						
10	2736	.55	**2846**	.72	**1506**	.89	**1710**	1.09	**1804**	1.41
11	2737	.52	2847	.69						
12	2738	.50	2848	.66	1507	.81	**1711**	1.00		
13	2739	.48	2849	.64						
15	2740	.45	**2850**	.59	**1508**	.73	**1712**	.89		
16	2741	.43	2851	.57						
18	2742	.42	2852	.54						
20	2743	.39	2853	.51	**1509**	.63	**1713**	.77		
22	2744	.37	2854	.49						
24	2745	.35	2855	.47						
25					**1510**	.56	**1714**	.69	**1805**	.89
27	2746	.33	**2856**	.44						
30	2747	.32	2857	.42	**1511**	.51	**1715**	.63		
33	2748	.30	2858	.40						
35					1512	.47	1716	.58		
36	2749	.29	**2859**	.38						
39	2750	.28	2860	.37						
40					**1513**	.44	**1717**	.54		
43	2751	.26	2861	.35						
47	2752	.25	2862	.33						
50					**1514**	.40	**1718**	.49	**1806**	.63
51	2753	.24	2863	.32						
56	2754	.23	2864	.31						
62	2755	.22	2865	.29						
68	2756	.21	2866	.28						
75	2757	.20	**2867**	.27	**1515**	.32	**1719**	.40	1807	.52
82	2758	.19	2868	.25						
91	2759	.18	2869	.24						
100	2760	.17	**2870**	.23	**1516**	.28	**1720**	.34	**1808**	.45
110	2761	.16	2871	.22						
120	2762	.16	2872	.21						
125					**1517**	.25	**1721**	.31		
130	2763	.15	2873	.20						
150	2764	.14	**2874**	.19	**1518**	.23	**1722**	.28	**1809**	.36
160	2765	.14	2875	.18						
180	2766	.13	2876	.17						
200	**2767**	.12	**2877**	.16	**1519**	.20	**1723**	.24	**1810**	.32
220	2768	.12	2878	.16						
225					**1520**	.18	1724	.23		
240	2769	.11	2879	.15						
250					**1521**	.17	**1725**	.22	**1811**	.28
270	2770	.11	2880	.14						
300	2771	.10	2881	.13	**1522**	.16	**1726**	.20	**1812**	.26
330	2772	.095	2882	.12						
350					1523	.15	**1727**	.18	**1813**	.24
360	2773	.091	2883	.12						
390	2774	.088	2884	.12						
400					1524	.14	**1728**	.17	1814	.22
430	2775	.083	2885	.11						
450					1525	.13	**1729**	.16		
470	2776	.080	2886	.11						
500					**1526**	.12	**1730**	.15	**1815**	.20
510	2777	.077	2887	.10						
560	2778	.073	2888	.097						
600					**1527**	.11	**1731**	.14		
620	2779	.070	2889	.092						
650									**1816**	.18
680	**2780**	.067	2890	.088						
700					1528	.11	1732	.13	1817	.17
750	2781	.063	**2891**	.084	1529	.10	**1733**	.12	**1818**	.16
800					1530	.10	1734	.12	1819	.15
820	2782	.060	**2892**	.080						
900					1531	.094	**1735**	.11	1820A	.15
910	2783	.057	2893	.076						
1000	2784	.055	**2894**	.072	**1532**	.089	**1736**	.11	**1821**	.14
1100	2785	.052	2895	.069	1533	.085	1737	.10		
1200	**2786**	.050	2896	.066	**1534**	.081	**1738**	.10	**1822**	.13
1250					1535	.080	1739	.097	1823	.12
1300	2787	.048	2897	.063						
1500	**2788**	.045	**2898**	.059	**1536**	.073	**1740**	.089	**1824**	.12
1600	2789	.043	2899	.057						
1750					1537	.067	**1741**	.082	1825	.11
1800	**2790**	.042	**2900**	.050						
2000	**2791**	.039	**2901**	.047	**1538**	.063	**1742**	.077	**1827**	.10
2200	2792	.037	**2902**	.045						
2250					1539	.059	**1743**	.073	1828	.094
2400	2793	.035	2903	.043						
2500					**1540**	.056	**1744**	.069	**1830**	.089
2700	2794	.033	2904	.041						
2750									1831	.085
3000	2795	.032	**2905**	.039	**1541**	.046	**1745**	.063	**1832**	.081
3300	2796	.030	2906	.037						
3500					1542	.043	**1746**	.058	**1833**	.075
3600	**2797**	.029	2907	.035						
3900	2798	.028	2908	.034						
4000					**1543**	.040	**1747**	.054	**1834**	.070
4300	2799	.026	2909	.032						
4500					**1544**	.038	**1748**	.051	1835	.066
4700	2800	.025	2910	.031						
5000					**1545**	.036	**1749**	.049	**1836**	.063
5100	2801	.024	**2911**	.030						
5600	2802	.023	**2912**	.028						
6000					**1546**	.033	**1750**	.044	**1837**	.057
6200	2803	.022	2913	.027						
6800	2804	.021	2914	.026						
7000					**1547**	.030	1751	.041	1838	.053
7500	2805	.020	2915	.025	**1548**	.029	1752	.036	1839	.051
8000					**1549**	.029	1753	.035	1840	.050
8200	2806	.019	2916	.023						
8500							1754	.034		
9000					1550	.027	1754A	.033	1840A	.047
9100	2807	.018	2917	.022						
10K	2808	.016	**2918**	.021	**1551**	.026	**1755**	.032	**1841**	.043
11K			2919	.020			1756	.030		
12K			2920	.019			1757	.029		
12.5K					**1552**	.023	1758	.028	1842	.032
13K			2921	.019						
13.5K							1759	.027		
15K			2922	.017	**1553**	.021	**1761**	.026	1843	.029
16K			2923	.017			1762	.025		
17.5K					1554	.019	1763	.024		
18K			2924	.016			1764	.024		
20K			2925	.014	1555	.018	**1765**	.022	**1844**	.026
22.5K					1556	.017	1766	.021		
25K					1557	.015	**1767**	.020	**1845**	.023
30K							**1768**	.018	1846	.021
35K							**1769**	.017	1847	.019
40K							**1770**	.016	1848	.018
45K							1771	.015	1849	.017
50K							**1772**	.014	**1850**	.016
55K									1851	.015
60K									1852	.015
65K									**1853**	.014
70K									1854	.014
75K									1855	.013
80K									1856	.013
85K									1857	.012
90K									1858	.012
95K									1859	.012
100K									**1860**	.011

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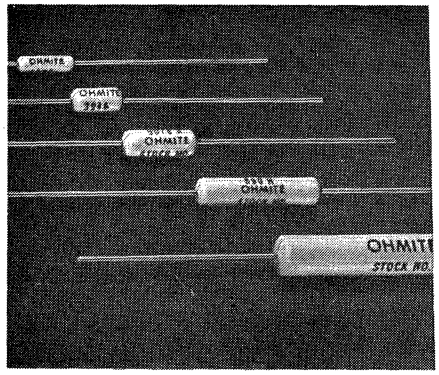
OHMITE series 99 MOLDED axial lead vitreous enameled resistors



- **FIRST MOLDED WIREWOUND, VITREOUS ENAMEL RESISTOR**
- **INSULATED! Meets 1000 VAC Test**
- **WITHSTANDS 1500°F Temperatures without Distortion**
- **RESISTS Chipping, Breaking**
- **VITRIFIED MARKINGS, Resist Abrasion and Active Solvents**
- **UNIFORM SIZE Permits Clip-Mounting with Significant Heat Sink Benefits**
- **HIGH OVERLOAD CAPABILITY**

An exclusive technique (U.S. Patent No. 3,229,237) permits application of the vitreous enamel coating by **molding** instead of the conventional "dip" process. The dimensionally consistent and thicker coating that results, guarantees a 1000 VAC insulation rating plus unparalleled capability for withstanding very high temperatures, high humidity and immersion in salt solution.

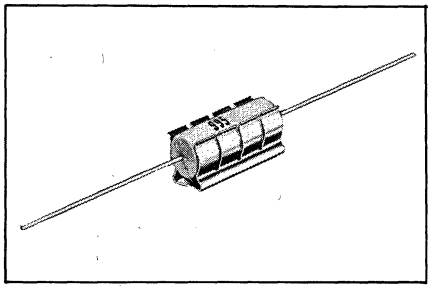
These resistors are normally mounted by their axial leads. However, their consistent form also permits mounting in clips with heat sink benefits up to 100% (see "Clips" lower left). Resistor markings are also vitreous and will not burn off even under extreme overloads. Resistance tolerance is ±5%. Series 99 resistors meet the requirements of MIL-R-26 for "insulated" resistors. See Catalog 101 or Catalog 50 for specific MIL types.

SERIES 99 STOCK PRICES 1-9 QTY.

Ohms Range*	1½	2¼	Watts 3¼	5	11
1.0 - 1K	$.62	$.60	$.59	$.62	$ .68
1100 - 5K	.66	.64	.62	.66	.73
5100 - 10K			.66	.70	.84
11K - 20K				.78	.95
22K - 40K				.82	1.00
43K - 51K					1.12

*Actual stock values and resistance limits are indicated in stock tables.

MOUNTING CLIPS



Uniform shape and consistent dimensions of Series 99 and 88 (pages 6-7) resistors, permits them to be conveniently mounted in clips. If the clip is on a metal surface, the wattage capability of the resistor can increase by as much as 100%. Holes in clip base permit fastening to chassis by means of machine screws, eyelets or rivets.

CLIPS for SERIES 99 and 88* RESISTORS

Resistor Watts	Resistor Series	Clip Stock No.	Net $ 1-99
1½	99	5900	.20
2¼	99	5902	.20
3	88	5904	.20
3¼	99	5904	.20
5	88	5905	.20
5	99	5906	.20
10	88	5909	.20
11	99	5908	.20

* See pages 6 and 7 for Series 88 resistors.

1½ WATT

.422"x.125" Dia. Style 995-1A Avg. Wt., .0009 lb.

Ohms	Stock No.[1]	Max. Amps	Ohms	Stock No.[1]	Max. Amps
1.0	**4030**	1.24	75	4087	.141
1.1	4031	1.17	82	4089	.135
1.2	4032	1.12	91	4091	.128
1.3	4033	1.08	100	**4092**	.123
1.5	4034	1.00	110	4093	.117
1.6	4035	.97	120	4094	.112
1.8	4036	.91	130	4095	.108
2.0	**4037**	.87	150	4096	.100
2.2	4038	.83	160	4097	.097
2.4	4039	.79	180	4098	.091
2.7	4041	.75	200	**4099**	.087
3.0	**4042**	.71	220	**4100**	.083
3.3	4043	.67	240	4101	.079
3.6	4044	.65	250	4102	.077
3.9	4045	.62	270	**4103**	.075
4.0	**4046**	.61	300	4104	.071
4.3	4047	.59	330	**4105**	.067
4.7	4048	.56	350	4105A	.065
5.0	4049	.55	360	4106	.064
5.1	4050	.54	390	4107	.062
5.6	4051	.52	400	4108	.061
6.2	4053	.49	430	4109	.059
6.8	4054	.47	450	4109A	.058
7.5	4056	.45	470	**4110**	.056
8.2	4058	.43	500	**4111**	.055
9.1	4060	.41	510	**4112**	.054
10	**4061**	.39	560	**4113**	.052
11	4062	.37	600	**4114**	.050
12	4063	.35	620	**4115**	.049
13	4064	.34	680	4116	.047
15	4065	.32	700	4117	.046
16	4066	.31	750	4118	.045
18	**4067**	.29	800	4119	.043
20	4068	.27	820	4120	.043
22	4069	.26	900	4121	.041
24	4070	.25	910	4122	.041
25	**4071**	.25	1000	**4123**	.039
27	4072	.24	1100	4124	.037
30	4073	.22	1200	4125	.035
33	**4074**	.21	1300	4126	.034
35	4074A	.207	1400	4126A	.033
36	4075	.200	1500	**4127**	.032
39	4076	.196	1600	4128	.031
40	4077	.193	1800	4129	.029
43	4078	.187	2000	**4130**	.027
47	4079	.179	2200	**4131**	.026
50	**4080**	.173	2400	4132	.025
51	4081	.171	2500	4133	.025
56	4082	.164	2700	4134	.024
62	4084	.156	3000	4135	.022
68	4085	.149			

2¼ WATT

.375"x.188" Dia. Style 995-2A Avg. Wt., .0018 lb.

Ohms	Stock No.[1]	Max. Amps	Ohms	Stock No.[1]	Max. Amps
1.0	3860	1.50	68	3916	.18
1.1	3861	1.43	75	3918	.17
1.2	3862	1.37	82	**3920**	.16
1.3	3863	1.31	91	3922	.16
1.5	3864	1.22	100	3923	.15
1.6	3865	1.18	110	3924	.14
1.8	3866	1.11	120	3925	.14
2.0	3867	1.05	130	3926	.13
2.2	3868	1.01	150	**3927**	.12
2.4	3869	.97	160	3928	.12
2.7	3871	.91	180	3929	.11
3.0	3872	.86	200	3930	.10
3.3	3873	.82	220	3931	.10
3.6	3874	.79	240	3932	.097
3.9	3875	.76	250	3933	.094
4.0	3876	.73	270	3934	.091
4.3	3877	.72	300	3935	.086
4.7	3878	.69	330	3936	.082
5.0	3879	.67	350	3937	.080
5.1	3880	.66	360	3938	.079
5.6	3881	.63	390	3939	.076
6.2	3883	.60	400	3940	.075
6.8	3884	.57	430	3941	.072
7.5	3886	.55	450	3942	.071
8.2	3888	.52	470	**3943**	.069
9.1	3890	.50	500	3944	.067
10	3891	.47	510	3945	.066
11	3892	.45	560	3946	.063
12	3893	.43	600	3947	.061
13	3894	.41	620	3948	.060
15	3895	.39	680	3949	.057
16	3896	.37	700	3950	.056
18	3897	.35	750	3951	.055
20	3898	.33	800	3952	.053
22	3899	.32	820	3953	.052
24	3900	.31	900	3954	.050
25	3901	.30	910	3955	.050
27	3902	.29	1000	**3956**	.047
30	3903	.27	1100	3957	.045
33	3904	.26	1200	**3958**	.043
35	3905	.25	1300	3959	.041
36	3906	.25	1400	3960	.040
39	**3907**	.24	1500	3961	.039
40	3908	.24	1600	3962	.037
43	3909	.23	1800	3963	.035
47	3910	.22	2000	3964	.033
50	3911	.21	2200	3965	.032
51	3912	.21	2400	3966	.031
56	3913	.20	2500	3967	.030
62	3915	.19	2700	3968	.028
			3000	3969	.027

[1]ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

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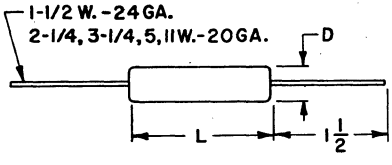
OHMITE

series 99 MOLDED axial lead vitreous enameled resistors

3¼ WATT

.547"x.203" Dia. Style 995-3A Avg. Wt., .003 lb.

Ohms	Stock No. [1]	Max. Amps	Ohms	Stock No. [1]	Max. Amps
1.0	**4330**	1.80	200	**4399**	.13
1.1	4331	1.71	220	**4400**	.12
1.2	4332	1.65	240	4401	.11
1.3	4333	1.58	250	**4402**	.11
1.5	**4334**	1.47	270	**4403**	.109
1.6	4335	1.42	300	**4404**	.100
1.8	4336	1.34	330	**4405**	.099
2.0	**4337**	1.27	350	4405A	.096
2.2	4338	1.22	360	4406	.095
2.4	**4339**	1.16	390	**4407**	.091
2.7	4341	1.09	400	**4408**	.090
3.0	**4342**	1.04	430	**4409**	.087
3.3	4343	.99	450	**4409A**	.084
3.6	4344	.95	470	**4410**	.083
3.9	4345	.91	500	**4411**	.081
4.0	**4346**	.90	510	4412	.080
4.3	4347	.87	560	**4413**	.076
4.7	4348	.83	600	**4414**	.073
5.0	**4349**	.81	620	**4415**	.072
5.1	4350	.80	680	**4416**	.069
5.6	4351	.76	700	4417	.068
6.2	4353	.72	750	**4418**	.065
6.8	4354	.69	800	**4419**	.064
7.5	**4356**	.65	820	4420	.063
8.2	4358	.63	900	**4421**	.060
9.1	4360	.60	910	4422	.060
10	**4361**	.56	1000	**4423**	.056
11	4362	.54	1100	4424	.054
12	4363	.52	1200	**4425**	.052
13	4364	.50	1300	4426	.050
15	**4365**	.47	1400	4426A	.048
16	4366	.45	1500	**4427**	.047
18	4367	.42	1600	4428	.045
20	**4368**	.40	1800	**4429**	.042
22	**4369**	.39	2000	**4430**	.040
24	4370	.36	2200	4431	.039
25	4371	.36	2400	4432	.036
27	4372	.35	2500	**4433**	.036
30	**4373**	.30	2700	4434	.035
33	**4374**	.31	3000	**4435**	.033
35	4374A	.30	3300	**4436**	.031
36	4375	.30	3500	4436A	.030
39	4376	.29	3600	4437	.030
40	4377	.28	3900	4438	.029
43	4378	.27	4000	**4439**	.028
47	4379	.26	4300	4440	.027
50	**4380**	.25	4500	4440A	.027
51	4381	.25	4700	**4441**	.026
56	**4382**	.24	5000	**4442**	.025
62	4384	.23	5100	4443	.025
68	**4385**	.22	5600	**4444**	.024
75	**4387**	.21	6000	4445	.023
82	**4389**	.20	6200	**4446**	.023
91	4391	.19	6800	4447	.022
100	**4392**	.18	7000	**4448**	.021
110	4393	.17	7500	**4449**	.021
120	**4394**	.16	8000	4450	.020
130	4395	.16	8200	4451	.020
150	**4396**	.15	9000	**4452**	.019
160	4397	.14	9100	4453	.019
180	4398	.13	10000	**4454**	.018



5 WATT

.938"x.203" Dia. Style 995-5B Avg. Wt., .004 lb.

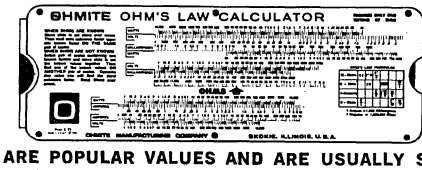
Ohms	Stock No. [1]	Max. Amps	Ohms	Stock No. [1]	Max. Amps
1.0	**4530**	2.24	330	**4605**	.12
1.1	4531	2.13	350	**4605A**	.12
1.2	4532	2.04	360	4606	.12
1.3	4533	1.96	390	4607	.11
1.5	**4534**	1.83	400	**4608**	.11
1.6	4535	1.77	430	4609	.11
1.8	4536	1.67	450	4609A	.11
2.0	**4537**	1.58	470	4610	.10
2.2	4538	1.51	500	**4611**	.10
2.4	4539	1.44	510	**4612**	.10
2.7	4541	1.36	560	**4613**	.094
3.0	**4542**	1.29	600	**4614**	.091
3.3	4543	1.23	620	4615	.090
3.6	4544	1.18	680	4616	.086
3.9	4545	1.13	700	4617	.084
4.0	4546	1.11	750	**4618**	.082
4.3	4547	1.07	800	**4619**	.079
4.7	4548	1.03	820	4620	.078
5.0	**4549**	1.00	900	4621	.074
5.1	4550	.99	910	4622	.074
5.6	4551	.94	1000	**4623**	.071
6.2	4553	.90	1100	4624	.067
6.8	4554	.86	1200	**4625**	.065
7.5	4556	.82	1300	4626	.062
8.2	4558	.78	1400	4626A	.059
9.1	4560	.74	1500	4627	.058
10	**4561**	.71	1600	4628	.056
11	4562	.67	1800	**4629**	.053
12	4563	.65	2000	**4630**	.050
13	4564	.62	2200	**4631**	.048
15	**4565**	.58	2400	4632	.046
16	4566	.56	2500	**4633**	.045
18	4567	.53	2700	4634	.043
20	**4568**	.50	3000	**4635**	.041
22	**4569**	.48	3300	**4636**	.039
24	4570	.46	3500	4636A	.038
25	**4571**	.45	3600	4637	.037
27	4572	.43	3900	**4638**	.036
30	**4573**	.41	4000	**4639**	.035
33	4574	.39	4300	4640	.034
35	4574A	.38	4500	4640A	.033
36	4575	.37	4700	4641	.033
39	4576	.36	5000	**4642**	.032
40	**4577**	.35	5100	4643	.031
43	4578	.34	5600	**4644**	.030
47	4579	.33	6000	**4645**	.029
50	**4580**	.32	6200	4646	.028
51	**4581**	.31	6800	4647	.027
56	**4582**	.30	7000	4648	.027
62	4584	.28	7500	**4649**	.026
68	**4585**	.27	8000	4650	.025
75	**4587**	.26	8200	**4651**	.025
82	**4589**	.25	9000	**4652**	.024
91	4591	.23	9100	4653	.023
100	**4592**	.22	10000	**4654**	.022
110	4593	.21	11000	4655	.021
120	**4594**	.20	12000	**4656**	.020
130	4595	.20	13000	4657	.020
150	**4596**	.18	14000	4657A	.018
160	**4597**	.18	15000	**4658**	.018
180	4598	.17	16000	4659	.018
200	**4599**	.16	17000	4659B	.017
220	**4600**	.15	18000	4660	.017
240	4601	.14	20000	**4661**	.016
250	**4602**	.14	22000	**4662**	.015
270	**4603**	.14	24000	4663	.014
300	**4604**	.13	25000	**4664**	.014

11 WATT

1.781"x.312" Dia. Style 995-10A Avg. Wt., .015 lb.

Ohms	Stock No. [1]	Max. Amps	Ohms	Stock No. [1]	Max. Amps
1.0	**4730**	3.32	450	4809A	.16
1.1	4731	3.16	470	**4810**	.15
1.2	4732	3.03	500	**4811**	.15
1.3	4733	2.91	510	4812	.15
1.5	4734	2.71	560	4813	.14
1.6	4735	2.62	600	4814	.14
1.8	4736	2.42	620	4815	.13
2.0	4737	2.34	680	4816	.13
2.2	4738	2.24	700	4817	.12
2.4	4739	2.14	750	**4818**	.12
2.7	4741	2.02	800	4819	.12
3.0	**4742**	1.92	820	4820	.12
3.3	4743	1.83	900	4821	.11
3.6	4744	1.75	910	4822	.11
3.9	4745	1.67	1000	**4823**	.11
4.0	**4746**	1.66	1100	4824	.10
4.3	**4747**	1.60	1200	4825	.096
4.7	4748	1.53	1300	4826	.092
5.0	**4749**	1.48	1400	4826A	.089
5.1	4750	1.47	1500	**4827**	.086
5.6	4751	1.40	1600	4828	.083
6.2	4753	1.33	1800	4829	.078
6.8	4754	1.27	2000	4830	.074
7.5	**4756**	1.21	2200	4831	.071
8.2	4758	1.16	2400	4832	.068
9.1	4760	1.10	2500	**4833**	.066
10	**4761**	1.05	2700	**4834**	.064
11	4762	1.00	3000	**4835**	.061
12	4763	.96	3300	4836	.058
13	4764	.92	3500	4836A	.056
15	**4765**	.86	3600	4837	.055
16	4766	.83	3900	4838	.053
18	4767	.78	4000	**4839**	.052
20	**4768**	.74	4300	4840	.050
22	**4769**	.71	4500	4840A	.049
24	4770	.68	4700	**4841**	.048
25	**4771**	.66	5000	**4842**	.047
27	4772	.64	5100	4843	.046
30	4773	.61	5600	4844	.044
33	**4774**	.58	6000	4845	.043
35	4774A	.56	6200	4846	.042
36	4775	.55	6800	4847	.040
39	**4776**	.53	7000	4848	.040
40	**4777**	.52	7500	4849	.038
43	4778	.50	8000	4850	.037
47	4779	.48	8200	4851	.037
50	**4780**	.47	9000	4852	.035
51	4781	.46	9100	4853	.035
56	4782	.44	10000	**4854**	.033
62	4784	.42	11000	4855	.031
68	4785	.40	12000	4856	.030
75	**4787**	.38	13000	4857	.029
82	**4789**	.37	14000	4857B	.028
91	4791	.35	15000	**4858**	.027
100	**4792**	.33	16000	4859A	.026
110	4793	.31	17000	4859C	.025
120	4794	.30	18000	4860	.024
130	4795	.29	20000	4861	.023
150	**4796**	.27	22000	4862	.022
160	4797	.26	24000	4863	.021
180	4798	.24	25000	4864	.021
200	**4799**	.23	27000	**4865**	.020
220	**4800**	.22	30000	**4866**	.019
240	4801	.21	33000	4867	.018
250	**4802**	.21	35000	4867A	.018
270	4803	.20	36000	4868	.017
300	**4804**	.19	39000	4869	.017
330	4805	.18	40000	**4870**	.016
350	**4805A**	.18	43000	4871	.016
360	4806	.17	45000	4871A	.016
390	4807	.17	47000	**4872**	.015
400	4808	.16	50000	**4873**	.015
430	4809	.16	51000	4874	.015

OHM'S LAW CALCULATOR . . .



Solve Ohm's Law/Parallel Resistance problems with Ohmite's pocket-sized calculator. Also convenient A, B, C, and D slide rule scales for supplementary calculations. Resistance scales from 0.01 ohm to 100 megohms. Varnished cardboard or deluxe plastic model.

Type	Stock No.	Price
Cardboard	5180	$0.25
Plastic	5182	1.50

[1] ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

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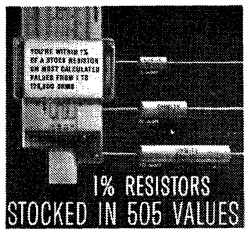
OHMITE type 884 Riteohm® Resistors—1% tolerance



molded for uniform shape and size

miniature precision resistors—1% tolerance

OHMICONE® molded • wirewound • aged for stability • insulated for 1000 volts • low T.C.

Type 884 Riteohm® Resistors are stocked in power ratings of 3, 5 and 10 watts depending upon resistance. Single layer wound on ceramic cores, Riteohm resistors feature a pressure-molded coating of tough, resilient Ohmicone® silicone-ceramic material which meets the MIL-R-26, 1000 VAC insulation test. Riteohms are aged for long term stability and exhibit negligible inductance at audio frequencies. Temperature coefficient of resistance is 0±10ppm/°C[1] for most values. Values shown are based on the MIL-Bell system of standard values. For non-standard values, closer tolerances, etc. contact your local Ohmite office.

3 WATTS Rating in Free Air for Resistance Values to 13.3K Ohms			3 WATTS Rating in Free Air for Resistance Values to 13.3K Ohms			3 WATTS Rating in Free Air for Resistance Values to 13.3K Ohms			3 WATTS Rating in Free Air for Resistance Values to 13.3K Ohms		
Ohms	Stock No.[2]	Max. Volts	Ohms	Stock No.[2]	Max. Volts	Ohms	Stock No.[2]	Max. Volts	Ohms	Stock No.[2]	Max. Volts
0.100	80013	.547	3.83	80733	3.39	21.5	81453	8.03	121	82173	19.1
0.121	80023	.602	3.92	80743	3.43	22.1	81463	8.14	124	82183	19.3
0.150	80033	.670	4.02	80753	3.47	22.6	81473	8.23	127	82193	19.5
0.182	80043	.739	4.12	80763	3.51	23.2	81483	8.34	130	82203	19.7
0.200	80053	.774	4.22	80773	3.56	23.7	81493	8.43	133	82213	20.0
0.221	80063	.814	4.32	80783	3.60	24.3	81503	8.54	137	82223	20.3
0.249	80073	.864	4.42	80793	3.64	24.9	81513	8.64	140	82233	20.5
0.274	80083	.906	4.53	80803	3.69	25.5	81523	8.74	143	82243	20.7
0.332	80093	.998	4.64	80813	3.73	26.1	81533	8.84	147	**82253**	21.0
0.392	80103	1.08	4.75	80823	3.77	26.7	81543	8.95	150	82263	21.2
0.475	80113	1.19	4.87	80833	3.82	27.4	81553	9.06	154	82273	21.5
0.499	80123	1.22	4.99	80843	3.87	28.0	81563	9.16	158	82283	21.8
0.562	80133	1.30	5.11	80853	3.91	28.7	81573	9.28	162	82293	22.0
0.681	80143	1.43	5.23	80863	3.96	29.4	81583	9.39	165	82303	22.2
0.750	80153	1.50	5.36	80873	4.01	30.1	81593	9.50	169	82313	22.5
0.825	80163	1.57	5.49	80883	4.06	30.9	81603	9.62	174	**82323**	22.8
1.00	**80173**	1.73	5.62	80893	4.10	31.6	81613	9.74	178	82333	23.1
1.02	80183	1.75	5.76	80903	4.16	32.4	81623	9.86	182	82343	23.4
1.05	80193	1.77	5.90	80913	4.20	33.2	81633	9.98	187	82353	23.7
1.07	80203	1.79	6.04	80923	4.25	34.0	81643	10.1	191	82363	23.9
1.10	80213	1.82	6.19	80933	4.31	34.8	81653	10.2	196	82373	24.2
1.13	80223	1.84	6.34	80943	4.36	35.7	81663	10.3	200	82383	24.5
1.15	80233	1.86	6.49	80953	4.41	36.5	81673	10.5	205	82393	24.8
1.18	80243	1.88	6.65	80963	4.46	37.4	81683	10.6	210	82403	25.1
1.21	80253	1.91	6.81	80973	4.52	38.3	81693	10.7	215	82413	25.4
1.24	80263	1.93	6.98	80983	4.57	39.2	81703	10.8	221	82423	25.7
1.27	80273	1.95	7.15	80993	4.63	40.2	81713	11.0	226	82433	26.0
1.30	80283	1.97	7.32	81003	4.68	41.2	81723	11.1	232	82443	26.4
1.33	80293	2.00	7.50	81013	4.74	42.2	81733	11.2	237	82453	26.7
1.37	80303	2.03	7.68	81023	4.80	43.2	81743	11.4	243	82463	27.0
1.40	80313	2.05	7.87	81033	4.86	44.2	81753	11.5	249	82473	27.3
1.43	80323	2.07	8.06	81043	4.92	45.3	81763	11.7	255	82483	27.7
1.47	80333	2.10	8.25	81053	4.97	46.4	81773	11.8	261	**82493**	28.0
1.50	80343	2.12	8.45	81063	5.04	47.5	81783	11.9	267	82503	28.3
1.54	80353	2.15	8.66	81073	5.10	48.7	81793	12.1	274	82513	28.7
1.58	80363	2.18	8.87	81083	5.16	49.9	81803	12.2	280	82523	29.0
1.62	80373	2.20	9.09	81093	5.22	51.1	81813	12.4	287	82533	29.3
1.65	80383	2.22	9.31	81103	5.28	52.3	81823	12.5	294	82543	29.7
1.69	80393	2.25	9.53	81113	5.34	53.6	81833	12.7	301	82553	30.0
1.74	80403	2.28	9.76	81123	5.41	54.9	81843	12.8	309	82563	30.4
1.78	80413	2.31	10.0	81133	5.47	56.2	81853	13.0	316	82573	30.8
1.82	80423	2.34	10.2	81143	5.53	57.6	81863	13.1	324	82583	31.2
1.87	80433	2.37	10.5	81153	5.61	59.0	81873	13.3	332	82593	31.6
1.91	80443	2.39	10.7	81163	5.66	60.4	81883	13.4	340	82603	31.9
1.96	80453	2.42	11.0	81173	5.74	61.9	81893	13.6	348	82613	32.3
2.00	80463	2.45	11.3	81183	5.82	63.4	81903	13.8	357	82623	32.7
2.05	80473	2.48	11.5	81193	5.87	64.9	81913	13.9	365	82633	33.1
2.10	80483	2.51	11.8	81203	5.95	66.5	81923	14.1	374	82643	33.5
2.15	80493	2.54	12.1	81213	6.02	68.1	81933	14.3	383	82653	33.9
2.21	80503	2.57	12.4	81223	6.10	69.8	81943	14.5	392	82663	34.3
2.26	80513	2.60	12.7	81233	6.17	71.5	81953	14.6	402	82673	34.7
2.32	80523	2.64	13.0	81243	6.24	73.2	81963	14.8	412	82683	35.1
2.37	80533	2.67	13.3	81253	6.32	75.0	81973	15.0	422	**82693**	35.6
2.43	80543	2.70	13.7	81263	6.41	76.8	81983	15.2	432	82703	36.1
2.49	80553	2.73	14.0	81273	6.48	78.7	81993	15.4	442	82713	36.4
2.55	80563	2.77	14.3	81283	6.55	80.6	82003	15.5	453	82723	36.9
2.61	80573	2.80	14.7	81293	6.64	82.5	82013	15.7	464	82733	37.3
2.67	80583	2.83	15.0	81303	6.70	84.5	82023	15.9	475	82743	37.7
2.74	80593	2.87	15.4	81313	6.80	86.6	82033	16.1	487	82753	38.2
2.80	80603	2.90	15.8	81323	6.88	88.7	82043	16.3	499	82763	38.7
2.87	80613	2.93	16.2	81333	6.97	90.9	**82053**	16.5	511	82773	39.1
2.94	80623	2.97	16.5	81343	7.03	93.1	82063	16.7	523	82783	39.6
3.01	80633	3.00	16.9	81353	7.12	95.3	82073	16.9	536	82793	40.1
3.09	80643	3.04	17.4	81363	7.22	97.6	82083	17.1	549	82803	40.6
3.16	80653	3.08	17.8	81373	7.30	100	**82093**	17.3	562	82813	41.0
3.24	80663	3.12	18.2	81383	7.39	102	82103	17.5	576	82823	41.6
3.32	80673	3.16	18.7	81393	7.49	105	82113	17.7	590	82833	42.0
3.40	80683	3.19	19.1	81403	7.57	107	82123	17.9	604	82843	42.5
3.48	80693	3.23	19.6	81413	7.66	110	**82133**	18.2	619	82853	43.1
3.57	80703	3.27	20.0	81423	7.74	113	82143	18.4	634	82863	43.6
3.65	80713	3.31	20.5	81433	7.84	115	82153	18.6	649	82873	44.1
3.74	80723	3.35	21.0	81443	7.94	118	82163	18.8	665	82883	44.6

[2] ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

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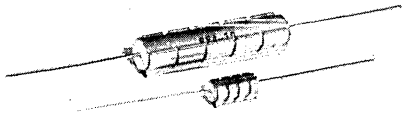
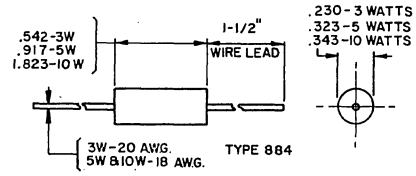


Uniform shape of Riteohms permits clip mounting for extra heat dissipation. The wattage capability can be increased by as much as 100% when clip is mounted to a metal surface. See Series 99 listings for clip ordering information.

SECTION 4700



PRICES

.10 thru .99 ohms	Net 1-24	$1.98
1.0 thru 1K ohms	Net 1-24	.71
1,001 thru 5K ohms	Net 1-24	.78
5,001 thru 10K ohms	Net 1-24	.82
10,000 thru 15K ohms	Net 1-24	.84
15,001 thru 20K ohms	Net 1-24	.88
20,001 thru 40K ohms	Net 1-24	.93
40,001 thru 55K ohms	Net 1-24	1.00
55,001 thru 75K ohms	Net 1-24	1.10
75,001 thru 100K ohms	Net 1-24	1.21
100,001 thru 125K ohms	Net 1-24	1.33
125,001 thru 150K ohms	Net 1-24	1.45
150,001 thru 175K ohms	Net 1-24	1.59
175,001 thru 200K ohms	Net 1-24	1.73

Type 884 Riteohm® Resistors — 1% tolerance

3 WATTS — Rating in Free Air for Resistance Values to 13.3K Ohms

Ohms	Stock No.[2]	Max. Volts
681	82893	45.2
698	82903	45.7
715	82913	46.3
732	82923	46.8
750	82933	47.4
768	82943	48.0
787	82953	48.6
806	82963	49.2
825	82973	49.7
845	82983	50.4
866	82993	51.0
887	83003	51.6
909	**83013**	52.2
931	83023	52.8
953	83033	53.4
976	83043	54.1
1,000	**83053**	54.7
1,020	83063	55.3
1,050	83073	56.1
1,070	83083	56.6
1,100	83093	57.4
1,130	83103	58.2
1,150	83113	58.7
1,180	83123	59.5
1,210	83133	60.2
1,240	83143	61.0
1,270	83153	61.7
1,300	83163	62.4
1,330	83173	63.2
1,370	83183	64.1
1,400	83193	64.8
1,430	83203	65.5
1,470	83213	66.4
1,500	**83223**	67.0
1,540	83233	68.0
1,580	83243	68.8
1,620	83253	69.7
1,650	83263	70.3
1,690	83273	71.2
1,740	83283	72.2
1,780	83293	73.0
1,820	83303	73.9
1,870	83313	74.9
1,910	83323	75.7
1,960	83333	76.6
2,000	**83343**	77.4
2,050	83353	78.4
2,100	83363	79.4
2,150	**83373**	80.3
2,210	83383	81.4
2,260	83393	82.3
2,320	83403	83.4
2,370	83413	84.3
2,430	83423	85.4
2,490	83433	86.4
2,550	83443	87.4
2,610	83453	88.4
2,670	83463	89.5
2,740	83473	90.6
2,800	83483	91.6
2,870	83493	92.8
2,940	83503	93.9
3,010	83513	95.0
3,090	83523	96.2
3,160	83533	97.4
3,240	83543	98.6
3,320	83553	99.8
3,400	83563	101
3,480	83573	102
3,570	83583	103
3,650	83593	105
3,740	83603	106
3,830	83613	107
3,920	83623	108
4,020	83633	110
4,120	83643	111
4,220	83653	112
4,320	83663	114
4,420	83673	115
4,530	83683	117
4,640	83693	118
4,750	83703	119
4,870	83713	121
4,990	83723	122
5,110	83733	124
5,230	83743	125
5,360	83753	127
5,490	83763	128
5,620	83773	130
5,760	83783	131
5,900	83793	133
6,040	83803	134
6,190	83813	136
6,340	83823	138
6,490	83833	140
6,650	83843	141
6,810	83853	143
6,980	83863	145
7,150	83873	146
7,320	83883	148
7,500	83893	150
7,680	83903	152
7,870	83913	154
8,060	83923	155
8,250	83933	157
8,450	83943	159
8,660	83953	161
8,870	83963	163
9,090	83973	165
9,310	83983	167
9,530	83993	169
9,760	84003	171
10,000	**84013**	173
10,200	84023	175
10,500	84033	178
10,700	84043	179
11,000	84053	182
11,300	84063	184
11,500	84073	186
11,800	84083	188
12,100	84093	190
12,400	84103	193
12,700	84113	195
13,000	84123	197
13,300	84133	200
13,700	84143	200
14,000	84153	200
14,300	84163	200
14,700	84173	200
15,000	84183	200
15,400	84193	200
15,800	84203	200
16,200	84213	200
16,500	84223	200
16,900	84233	200
17,400	84243	200
17,800	84253	200
18,200	84263	200
18,700	84273	200
19,100	84283	200
19,600	84293	200
20,000	84303	200
20,500	84313	200
21,000	84323	200
21,500	84333	200
22,100	84343	200

5 WATTS — Rating in Free Air for Resistance Values to 42.2K Ohms

Ohms	Stock No.[2]	Max. Volts
22,600	84355	337
23,200	84365	341
23,700	84375	344
24,300	84385	347
24,900	84395	353
25,500	84405	357
26,100	84415	361
26,700	84425	365
27,400	84435	370
28,000	84445	374
28,700	84455	379
29,400	84465	383
30,100	84475	388
30,900	84485	393
31,600	84495	397
32,400	84505	402
33,200	84515	407
34,000	84525	412
34,800	84535	417
35,700	84545	422
36,500	84555	427
37,400	84565	432
38,300	84575	437
39,200	84585	442
40,200	84595	448
41,200	84605	454
42,200	84615	460
43,200	84625	460
44,200	84635	460
45,300	84645	460
46,400	84655	460
47,500	84665	460
48,700	84675	460
49,900	84685	460
51,100	84695	460
52,300	84705	460
53,600	84715	460
54,900	84725	460
56,200	84735	460
57,600	84745	460
59,000	84755	460
60,400	84765	460
61,900	84775	460
63,400	84785	460
64,900	84795	460
66,500	84805	460
68,100	84815	460
69,800	84825	460
71,500	84835	460
73,200	84845	460
75,000	84855	460
76,800	84865	460
78,700	84875	460
80,600	84885	460

10 WATTS — Rating in Free Air for Resistance Values to 121K Ohms

Ohms	Stock No.[2]	Max. Volts
82,500	84890	908
84,500	84900	919
86,600	84910	930
88,700	84920	942
90,900	84930	952
93,100	84940	965
95,300	84950	976
97,600	84960	988
100,000	84970	1,000
102,000	84980	1,010
105,000	84990	1,020
107,000	85000	1,030
110,000	85010	1,050
113,000	85020	1,060
115,000	85030	1,070
118,000	85040	1,090
121,000	85050	1,100
124,000	85060	1,100
127,000	85070	1,100
130,000	85080	1,100
133,000	85090	1,100
137,000	85100	1,100
140,000	85110	1,100
143,000	85120	1,100
147,000	85130	1,100
150,000	85140	1,100
154,000	85150	1,100
158,000	85160	1,100
162,000	85170	1,100
165,000	85180	1,100
169,000	85190	1,100
174,000	85200	1,100
178,000	85210	1,100
182,000	85220	1,100
187,000	85230	1,100
191,000	85240	1,100
196,000	85250	1,100
200,000	**85260**	1,100

[1] T.C. of values in 3 Watt size under 97.6 ohms is as follows: From 97.6 thru 10 ohms, 0±20ppm/°C; from 9.76 thru 1.0 ohms, 0±50ppm/°C; below 1 ohm, 0±90ppm/°C.

[2] **ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS**

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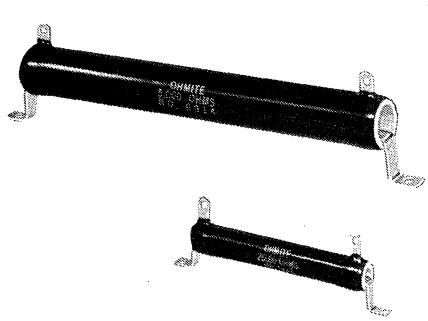
OHMITE type 270 vitreous enameled fixed resistors

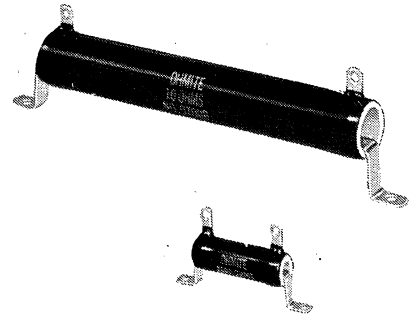
These lug type resistors are wire-wound on high quality ceramic cores, protected and insulated by Ohmite vitreous enamel — the time-proved standard covering that is the best conductor of heat for a material which must also be a good electrical insulator.

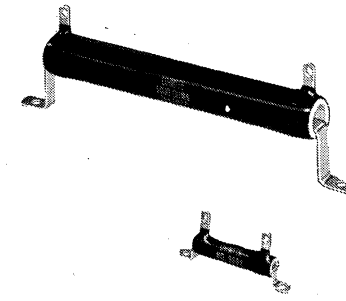
Resistance tolerance is ±5% for values 1 ohm or higher; ±10% below 1 ohm.

Wattage ratings are for use in free air. When resistors are mounted in closed spaces or where the circulation of air is restricted, they should not be used at more than one-half rating. Currents and voltages for reduced ratings can be obtained by multiplying full rating by the following factors: 75% load = .86, 66% = .81, 50% = .71, 33% = .57, 25% = .50.

See Catalog 50 for MIL-R-26 styles. Mounting brackets are automatically supplied in individual unit packs; supplied only when specified in bulk packs.







12 WATT Free air rating to 5600 Ohms Core: 1¾"x⅝" Mtg. Ctr: 2⅜"—Av. Wt. .02 lb.					25 WATT Free air rating to 12,000 Ohms. Core: 2"x⅝" Mtg. Ctr: 2¾" — Av. Wt. .05 lb.			50 WATT Free air rating to 25,000 Ohms. Core: 4"x⅝" Mtg. Ctr: 2¾" — Av. Wt. .09 lb.			100 WATT Free air rating to 60,000 Ohms. Core: 6½"x¾" Mtg. Ctr: 7⅜" — Av. Wt. .20 lb.			175 WATT Free air rating for All Values Core: 8½"x1⅛" Mtg. Ctr: 9⅜" — Av. Wt. .50 lb.			225 WATT Free air rating for All Values Core: 10½"x1⅛" Mtg. Ctr: 11⅜" — Av. Wt. .62 lb.		
Resist. Ohms.	Stock No. [1]	Max. Amps.	Net 1-9	Ohms. Res.	Stock No. [1]	Max. Amps.	Net 1-9	Stock No. [1]	Max. Amps.	Net 1-9	Stock No. [1]	Max. Amps.	Net 1-9	Stock No. [1]	Max. Amps.	Net 1-9	Stock No. [1]	Max. Amps.	Net 1-9
.51	**3723**	4.86	$ .60	1	**0200J**	5.00	$ .76	**0400J**	7.07	$1.63	**0600C**	10.00	$2.27	0700C	13.20	$3.35	**0900C**	15.00	$3.61
1.0	**3730**	3.46	.60	2	**0200K**	3.54	.76	**0400K**	5.00	1.17	**0600D**	7.07	2.27	**0700D**	9.35	3.35	**0900D**	10.60	3.61
1.5	3734	2.83	.60	3	**0200L**	2.88	.76	**0400L**	4.07	1.17	**0600E**	5.77	2.27	0700E	7.63	3.35	**0900E**	8.67	3.61
2.2	3738	2.34	.60	4	**0200N**	2.50	.76	**0400N**	3.53	1.17	**0600F**	5.00	1.62	0700F	6.60	3.35	**0900F**	7.50	3.61
3.3	3742	1.91	.60	5	**0200A**	2.24	.76	**0400A**	3.16	1.17	**0600A**	4.47	1.62	**0700A**	5.92	3.35	**0900A**	6.72	3.61
4.7	3746	1.60	.60	10	**0200B**	1.58	.76	**0400B**	2.23	1.17	**0600B**	3.16	1.62	**0700B**	4.18	2.39	**0900B**	4.74	2.58
6.8	3750	1.33	.60	15	**0200R**	1.29	.76												
10	**3754**	1.10	.60	25	**0200C**	1.00	.76	**0400C**	1.41	1.17	**0601**	2.00	1.62	0701	2.64	2.39	**0901**	3.00	2.58
12	3756	1.00	.60	50	**0200D**	.71	.76	**0400D**	1.00	1.17	**0602**	1.41	1.62	**0702**	1.87	2.39	**0902**	2.12	2.58
15	3758	.89	.60	75	**0200E**	.58	.76	**0400E**	.82	1.17	**0603**	1.15	1.62	0703	1.52	2.39	**0903**	1.73	2.58
18	3760	.82	.60	100	**0200F**	.50	.76	**0400F**	.71	1.17	**0604**	1.00	1.62	**0704**	1.32	2.39	**0904**	1.50	2.58
22	3762	.74	.60	125							0604B	.90	1.62	0704B	1.18	2.39			
27	3764	.67	.60	150	**0200G**	.41	.76	**0400G**	.58	1.17	**0605**	.82	1.62	**0705**	1.08	2.39	**0905**	1.25	2.58
33	3766	.60	.60	200	**0200H**	.35	.76	**0400H**	.50	1.17									
39	3768	.55	.60	250	**0201**	.32	.76	**0401**	.45	1.17	**0606**	.63	1.62	**0706**	.84	2.39	**0906**	.95	2.58
47	3770	.53	.60	500	**0202**	.22	.76	**0402**	.32	1.17	**0607**	.45	1.62	0707	.59	2.39	**0907**	.67	2.58
56	3772	.46	.60	750	**0203**	.18	.76	**0403**	.26	1.17	0608	.37	1.62	0708	.48	2.39	0908	.55	2.58
68	3774	.42	.60	800	**0204**	.17	.76	**0404**	.25	1.17									
82	3776	.38	.60	1,000	**0205**	.16	.76	**0405**	.22	1.17	**0609**	.32	1.62	0709	.42	2.39	**0909**	.47	2.58
100	**3778**	.35	.60	1,500	**0206**	.13	.79	**0406**	.18	1.20	0610	.26	1.68	0710	.34	2.44	**0910**	.39	2.66
120	3780	.32	.60	2,000	**0207**	.12	.79	**0407**	.16	1.20	0611	.22	1.68	0711	.30	2.44	**0911**	.34	2.66
150	3782	.28	.60	2,500	**0208**	.10	.79	0408	.14	1.20	0612	.20	1.68	0712	.26	2.44	**0912**	.30	2.66
180	3784	.26	.60	3,000	**0209**	.091	.79	0409	.13	1.20	0613	.18	1.68	0713	.24	2.44	**0913**	.27	2.66
220	**3786**	.23	.60	3,500	**0210**	.084	.79												
270	3788	.21	.60	4,000	0211	.079	.79	0410	.11	1.20									
330	3790	.19	.60	5,000	**0212**	.070	.79	**0411**	.10	1.20	**0614**	.14	1.68	0714	.19	2.44	**0914**	.21	2.66
390	3792	.18	.60	6,000	0213	.064	.89												
470	3794	.16	.60	7,500	**0214**	.057	.89	0412	.081	1.29	0615	.12	1.82	0715	.15	2.66	0915	.17	2.85
560	3796	.15	.60	8,000				0413	.079	1.29									
680	3798	.13	.60	10,000	**0215**	.050	.89	**0414**	.071	1.29	0616	.10	1.82	0716	.13	2.66	**0916**	.15	2.85
820	3800	.12	.60	12,000	**0216**	.045	.95	0415	.064	1.42									
1,000	3802	.11	.60	15,000	**0217**	.036	.95	0416	.057	1.42	0617	.081	1.96	**0717**	.11	2.85	**0917**	.13	3.03
1,200	3804	.10	.64	20,000	0218	.031	.95	0417	.050	1.42	0618	.071	1.96	0718	.094	2.85	**0918**	.11	3.03
1,500	**3806**	.089	.64	25,000	**0219**	.028	1.09	0418	.045	1.62	0619	.063	2.24	0719	.083	2.94	0919	.095	3.13
1,800	3808	.082	.64	30,000	0220	.026	1.09				0620	.058	2.24	0720	.076	2.94	0920	.087	3.13
2,200	3810	.074	.64	35,000	0221	.024	1.09	0419	.032	1.62									
2,700	3812	.067	.64	40,000	0222	.022	1.09				0621	.050	2.24	0721	.066	2.94	**0921**	.075	3.13
3,300	3814	.060	.64	50,000	**0224**	.019	1.27	**0420**	.026	1.81	**0622**	.045	2.32	0722	.059	3.03	**0922**	.067	3.23
3,900	3816	.055	.64	60,000	0225	.016	1.27				0623	.041	2.32	0723	.054	3.03	0923	.061	3.23
4,700	**3818**	.051	.64	70,000	0226	.013	1.49												
5,600	3820	.046	.74	75,000				0421	.021	2.07	0624	.032	2.57	0724	.048	3.23	0924	.055	3.42
6,800	3822	.038	.74	80,000	0227	.012	1.49												
8,200	3824	.035	.74	100,000	**0229**	.0094	1.72	**0422**	.018	2.24	**0625**	.028	2.89	0725	.042	3.42	**0925**	.047	3.63
10,000	**3826**	.032	.74	125,000				0423	.017	2.70									
12,000	3828	.029	.83	150,000				0424	.015	2.84									
15,000	3830	.026	.83	175,000				0425	.014	2.93									
18,000	3832	.024	.83	200,000				0426	.012	3.03									
22,000	3834	.021	.87	250,000				**0428**	.010	3.40									
27,000	3836	.019	.87																
33,000	3838	.017	.87																
39,000	3840	.016	.87																
47,000	3842	.015	.98																
51,000	**3843**	.014	.98																

[1] ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

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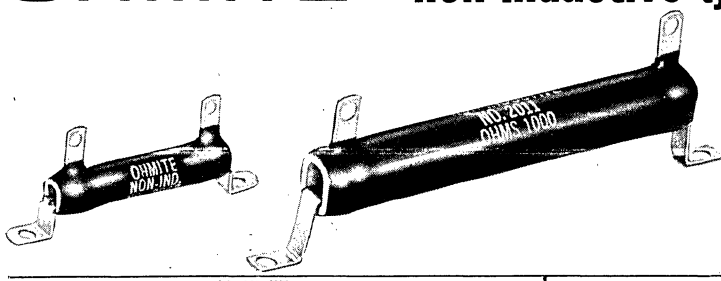
OHMITE non-inductive type 270N vitreous enameled fixed resistors



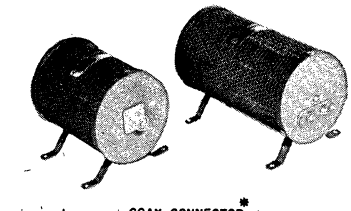
These non-inductively wound power resistors are widely used at radio frequencies for such purposes as dummy antennas, terminating resistors for antennas, and in diathermy apparatus. Their properly proportioned Ayrton-Perry type windings, reduce the inductance to low proportions (less than 1% of regular solenoid type resistors) while the distributed capacity is small. R.F. resistance is the same as the D.C. resistance over the useful range of frequencies.

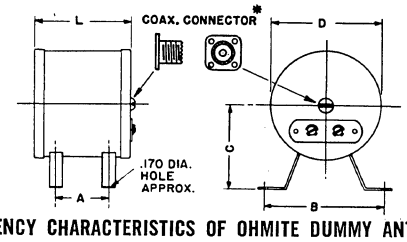
Change of impedance with frequency is so slight that the resistors can be used throughout the broadcast band and at even higher frequencies, depending on the particular resistance to be used. All the resistors are lug-type tubular units which mount by means of non-magnetic mounting brackets (furnished). Ohmite's high grade ceramic construction and exclusive vitreous enamel coating assure long, reliable performance under full rated load. Resistance tolerance is ±5%.

12 WATT Core: 1¾"x⅝" Mtg. Ctr: 2⅜"—Av. Wt. .02 lb.								50 WATT Core: 4"x⅜" Mtg. Ctr: 4¾" Av. Wt. .09 lb.				100 WATT Core: 6½"x¾" Mtg. Ctr: 7⅜"— Av. Wt. .20 lb.			175 WATT Core: 8½"x1⅛" Mtg. Ctr: 9⅜"— Av. Wt. .50 lb.		
Ohms	Stock No. [1]	Max. Milli-Amps	Net 1-9	Ohms	Stock No. [1]	Max. Milli-Amps	Net 1-9	Resist. Ohms	Stock No. [1]	Max. MilliAmps	Net 1-9	Stock No. [1]	Max. MilliAmps	Net 1-9	Stock No. [1]	Max. MilliAmps	Net 1-9
5	2050	1,540	$1.20	600	2066	140	$1.20	5	2001	3,160	$2.33	**2201**	4,470	$3.23	**2401**	5,920	$6.70
10	2051	1,090	1.20	700	2067	130	1.20	10	2002	2,230	2.33	2202	3,160	3.23	**2402**	4,180	4.79
15	2052	890	1.20	800	2068	120	1.20	25	**2003**	1,410	2.33	**2203**	2,000	3.23	**2403**	2,640	4.79
20	2053	770	1.20	900	2069	110	1.20	50	**2004**	1,000	2.33	**2204**	1,410	3.23	**2404**	1,870	4.79
25	2054	690	1.20	1,000	2070	110	1.20	100	**2005**	710	2.33	2205	1,000	3.23	**2405**	1,320	4.79
30	2055	630	1.20	1,500	2071	89	1.28	150	2006	580	2.33	2206	816	3.23	**2406**	1,090	4.79
40	2056	550	1.20	2,000	2072	77	1.28	200	2007	500	2.33	2207	707	3.23	2407	935	4.79
50	2057	490	1.20	2,500	2073	69	1.28	250	2008	450	2.33	2208	630	3.23	**2408**	840	4.79
75	2058	400	1.20	3,000	2074	63	1.28	500	2009	320	2.33	2209	450	3.23	2409	590	4.79
100	2059	340	1.20	4,000	2075	54	1.28	750	**2010**	260	2.33	2210	365	3.23	2410	480	4.79
150	2060	280	1.20	5,000	2076	49	1.28	1000	2011	220	2.33	2211	320	3.23	2411	420	4.79
200	2061	240	1.20	6,000	2077	44	1.47	1500	**2012**	180	2.39	2212	260	3.36	2412	340	4.87
250	2062	220	1.20	7,500	2078	40	1.47	2000	2013	160	2.39	2213	224	3.36	2413	290	4.87
300	2063	200	1.20	8,000	2079	38	1.47	2500	2014	140	2.39	2214	200	3.36	2414	260	4.87
400	2064	170	1.20	9,000	2080	36	1.47	3000	2015	130	2.39	2215	180	3.36	2415	240	4.87
500	2065	150	1.20	10,000	2081	35	1.47	3500	2016	119	2.39	2216	169	3.36	2416	222	4.87
								4000	2017	110	2.39	2217	158	3.36	2417	208	4.87
								5000	2018	100	2.39	2218	140	3.36	2418	190	4.87

[1] ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

dummy-antenna resistors NON-INDUCTIVE





Ohmite Models D-101 and D-251 Dummy Antenna Resistors provide a simple, accurate, and direct means of measuring R.F. power for the radio amateur, experimenter and manufacturer and for operators of aviation, police and broadcast stations. These units consist of a number of special, vitreous enameled resistors connected in parallel in a concentric arrangement and mounted inside a perforated metal cage. The dummy antenna resistors feature constant R.F. resistance (within their recommended frequency range), low reactance, high wattage dissipation, and compactness. Actual D.C. resistance tolerance is ±5%.

The residual inductance and distributed capacitance have been kept to a minimum, thereby making the natural resonant frequency as high as possible. These factors and the D.C. resistance have been proportioned in such a manner as to give the best possible response characteristics. This resistor may be considered practically a "Non-Reactive Resistor."

Stock Number	Dimensions (Inches) A	B	C	D	L
D-101-52*, D-101-73*	1½	3½	2⅜	3⅝₂	2²³⁄₃₂
D-101-300, D-101-600	2¾	3½	2⅜	3⅝₂	4⁷⁄₃₂
D-251-52*, D-251-73*	3⅛	3⅞	2½	3²³⁄₃₂	4¹⁹⁄₃₂
D-251-300, D-251-600	5⅛	3⅞	2½	3²³⁄₃₂	6¹³⁄₁₆

*Employs coax connector.

FREQUENCY CHARACTERISTICS OF OHMITE DUMMY ANTENNAS

Type	D-101				D-251			
Resistance	52 Ohms	73 Ohms	300 Ohms	600 Ohms	52 Ohms	73 Ohms	300 Ohms	600 Ohms
Maximum frequency at which Rs = Rdc ± 10%	22 mc	38 mc	22 mc	31 mc	19 mc	21 mc	15 mc	19 mc
Rs at this frequency	1.10 R dc	1.10 R dc	1.10 R dc	.90 R dc	1.10 R dc	1.10 R dc	1.10 R dc	.90 R dc
Z at this frequency	1.18 R dc	1.14 R dc	1.10 R dc	.99 R dc	1.25 R dc	1.13 R dc	1.15 R dc	1.00 R dc
Maximum frequency at which Z = Rdc ± 10%	18 mc	32 mc	22 mc	60 mc	13 mc	19 mc	13 mc	30 mc
Rs at this frequency	1.06 R dc	1.07 R dc	1.10 R dc	.60 R dc	1.03 R dc	1.07 R dc	1.08 R dc	.64 R dc
Z at this frequency	1.10 R dc	1.10 R dc	1.10 R dc	.90 R dc	1.10 R dc	1.10 R dc	1.10 R dc	.90 R dc

Stock No. [1]	Watts	±5% Ohms	Net Lbs.	Net Price 1-9 Qty.
D-101-52	100	52	.60	$12.60
D-101-73	100	73	.60	12.60
D-101-300	100	300	.65	8.40
D-101-600	100	600	.65	8.40
D-251-52	250	52	1.25	16.80
D-251-73	250	73	1.25	16.80
D-251-300	250	300	1.50	16.80
D-251-600	250	600	1.50	16.80

Rdc .....D.C. Resistance of Dummy Antenna
Rs .....Effective Series Resistance of Dummy Antenna
Z .....Scalar Value of Impedance of Dummy Antenna

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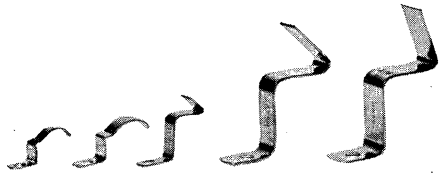
mounting brackets for stock resistors

Brackets fit inside the cores of tubular resistors and remain in place by friction. The standard bracket (indicated by stock number without suffix) is cadmium plated steel. An "S" suffix on the stock number indicates spring steel; a "B" suffix indicates brass. Spring steel brackets are excellent where vibration is involved; brass brackets are employed with noninductive resistors or for corrosion-resistance. A pair of **standard** brackets is supplied with each individually boxed resistor sold through distributors but is not supplied with bulk resistor orders. Sold in lots of 100 pieces (50 pair).



Stock No.	Mtg. Screw Max.	Fits these Resistors	Weight Lbs. 100 pcs.	Net Price 1-9 Pkgs.*
5, 5S, 5B	6	12 W Brown Devil or Divid.	.17	$1.47
7, 7S, 7B	6	20W Brown Devil	.24	1.58
9, 9S, 9B	6	25, 50W Fixed; 25, 50, 75W Dividohm	.30	1.68
12, 12S, 12B	10	100W Fixed or Dividohm	1.30	3.15
18, 18S. 18B	10	175, 225W Fixed or Divid.	1.50	4.20

*100 pieces per pkg. — Minimum Order

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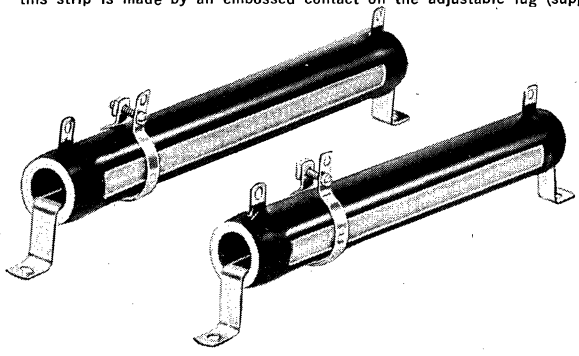
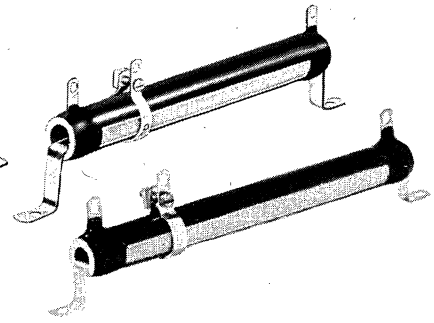
OHMITE dividohm® type 210 adjustable vitreous enameled resistors

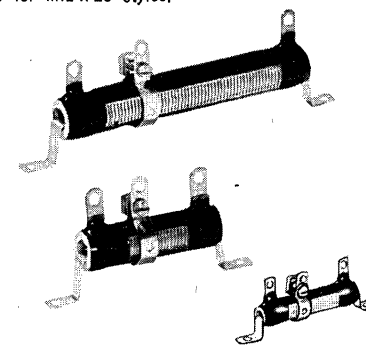
"Dividohm" resistors make ideal voltage dividers for original equipment and replacement in transmitters, rectifiers and other apparatus. Such tapped "bleeders" are made by using one or more adjustable lugs, as required. "Dividohms" are also handy for obtaining odd resistance values, for adjusting circuits, and for use on equipment which must be set to meet various line voltages.

"Dividohm" resistors are vitreous enameled resistors on which a narrow strip has been left uncovered to expose a portion of each turn. Contact to any wire in this strip is made by an embossed contact on the adjustable lug (supplied).

WATT RATING: **The stated wattage rating applies only when the entire resistance is in the circuit.** When the adjustable lug is set at an intermediate point, the wattage rating is reduced in approximately the same portion, i.e., if the lug is set at half the resistance, the wattage is reduced by one-half. A safe rule to follow is to make sure that the maximum rated current is not exceeded. This should be carefully checked particularly if the resistor will be used as a voltage divider with several adjustable lugs. Resistance tolerance is ±10% for the total resistance value. See Catalog 50 for MIL-R-26 styles.







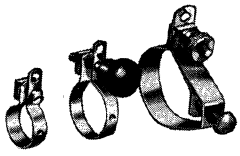
	12 WATT Core: 1¾"x⅜"D. Mtg. Ctr: 2¾"— Av. Wt. .02 lb.			25 WATT Core: 2"x⅜"D. Mtg. Ctr: 2¾"— Av. Wt. .05 lb.			50 WATT Core: 4"x⅜"D. Mtg. Ctr: 4¾"— Av. Wt. .09 lb.			75 WATT Core: 6"x⅜"D. Mtg. Ctr: 6¾"— Av. Wt. .15 lb.			100 WATT Core: 6½"x¾"D. Mtg. Ctr: 7⅜"— Av. Wt. .20 lb.			175 WATT Core: 8½"x1⅛"D. Mtg. Ctr: 9⅜"— Av. Wt. .50 lb.			225 WATT Core: 10½"x1⅛"D. Mtg. Ctr: 11⅜"— Av. Wt. .62 lb.		
Resist. Ohms	Stock No. [1]	Max. Amps.	Net 1-9	Stock No. [1]	Max. Amps.	Net 1-9	Stock No. [1]	Max. Amps.	Net 1-9	Stock No. [1]	Max. Amps.	Net 1-9	Stock No. [1]	Max. Amps.	Net 1-9	Stock No. [1]	Max. Amps.	Net 1-9	Stock No. [1]	Max. Amps.	Net 1-9
1	**1001**	3.46	$1.20	0360	5.00	$1.35	**0560A**	7.07	$2.23	0769A	8.66	$2.51	**0956A**	10.0	$2.87	**1156A**	13.2	$4.27	**1356A**	15.00	$4.54
2	**1002**	2.45	1.20	0360B	3.54	1.35	**0560B**	5.00	1.76	0769B	6.12	2.51	**0956B**	7.07	2.87	1156B	9.35	4.27	**1356B**	10.60	4.54
3	**1003**	2.00	1.20	0361	2.88	1.35	**0560C**	4.07	1.76	0769C	5.00	1.96	**0956C**	5.77	2.87	1156C	7.63	4.27	**1356C**	8.67	4.54
4							0560D	3.53	1.76	0769D	4.33	1.96	**0956D**	5.00	2.22	1156D	6.60	4.27	**1356D**	7.50	4.54
5	**1004**	1.54	1.20	0362	2.24	1.35	**0560**	3.16	1.76	**0769**	3.87	1.96	**0956**	4.47	2.22	**1156**	5.92	4.27	**1356**	6.72	4.54
7.5	**1005**	1.26	1.20	0362B	1.82	1.35															
10	**1006**	1.09	1.20	0363	1.58	1.35	**0561**	2.23	1.76	**0770**	2.74	1.96	**0957**	3.16	2.22	**1157**	4.18	3.32	**1357**	4.74	3.51
15	**1007**	.89	1.20	0364	1.29	1.35				**0771**	2.24	1.96									
20	**1008**	.77	1.20	0364B	1.12	1.35															
25	**1009**	.69	1.20	0365	1.00	1.35	**0562**	1.41	1.76	**0772**	1.73	1.96	**0958**	2.00	2.22	**1158**	2.64	3.32	**1358**	3.00	3.51
50	**1010**	.49	1.20	0366	.71	1.35	**0563**	1.00	1.76	**0773**	1.22	1.96	**0959**	1.41	2.22	**1159**	1.87	3.32	**1359**	2.12	3.51
75	**1011**	.40	1.20	0367	.58	1.35	**0564**	.82	1.76												
100	**1012**	.34	1.20	0368	.50	1.35	**0565**	.71	1.76	0774	.86	1.96	**0960**	1.00	2.22	**1160**	1.32	3.32	**1360**	1.50	3.51
150	**1013**	.28	1.20	0369	.41	1.35	**0566**	.58	1.76												
200	**1014**	.24	1.20	0370	.35	1.35	**0567**	.50	1.76	**0774B**	.61	1.96									
250	**1015**	.22	1.20	**0371**	.32	1.35	**0568**	.45	1.76	0775	.55	1.96	**0960B**	.63	2.22	**1160B**	.84	3.32	**1360B**	.95	3.51
300	**1016**	.20	1.20	**0371B**	.29	1.35	**0568B**	.41	1.76	**0775B**	.50	1.96									
350	1017	.18	1.20																		
400	**1018**	.17	1.20	**0371C**	.25	1.35	**0568C**	.35	1.76	0775C	.43	1.96									
500	**1019**	.15	1.20	**0372**	.22	1.35	**0569**	.32	1.76	**0776**	.39	1.96	**0961**	.45	2.22	**1161**	.59	3.32	**1361**	.67	3.51
600	1020	.14	1.20																		
750	**1021**	.13	1.20	**0373**	.18	1.35	**0570**	.26	1.76	0777	.32	1.96									
800	1022	.12	1.20	0374	.17	1.35	0571	.25	1.76	0777B	.30	1.96									
1000	**1023**	.11	1.20	**0375**	.16	1.35	**0572**	.22	1.76	0778	.27	1.96	**0962**	.32	2.22	**1162**	.42	3.32	**1362**	.47	3.51
1250	**1024**	.098	1.24	0375B	.14	1.39	0572B	.20	1.80	0778B	.24	2.02									
1500	**1025**	.089	1.24	**0376**	.13	1.39	**0573**	.18	1.80	0779	.22	2.02	**0962B**	.26	2.28	1162B	.34	3.36	**1362B**	.39	3.58
2000	**1026**	.077	1.24	**0377**	.12	1.39	**0574**	.16	1.80	0780	.19	2.02									
2250	1027	.073	1.24	0377B	.11	1.39	0574B	.15	1.80	0780B	.18	2.02									
2500	**1028**	.069	1.24	**0378**	.10	1.39	**0575**	.14	1.80	0781	.17	2.02	**0963**	.20	2.28	**1163**	.26	3.36	**1363**	.30	3.58
3000	**1029**	.063	1.24	**0379**	.091	1.39	**0576**	.13	1.80	0781B	.16	2.02									
3500	**1030**	.058	1.24	0380	.084	1.39	**0576B**	.12	1.80	0782	.15	2.02									
4000	1031	.055	1.24	**0381**	.079	1.39	0577	.11	1.80	0782B	.14	2.02									
4500	1032	.052	1.24	0381B	.074	1.39	**0577B**	.10	1.80	0782C	.13	2.02									
5000	**1033**	.049	1.24	**0382**	.070	1.39	**0578**	.10	1.80	0783	.12	2.02	**0964**	.14	2.28	**1164**	.19	3.36	**1364**	.21	3.58
6000	1034	.045	1.33	**0383**	.064	1.49	0578B	.091	1.89	0783B	.11	2.11									
7000	**1035**	.042	1.33	0383B	.060	1.49	0578C	.084	1.89	0783C	.10	2.11									
7500	**1036**	.040	1.33	**0384**	.057	1.49	0579	.081	1.89	0784	.10	2.11									
8000	**1037**	.039	1.33	0384B	.055	1.49	**0580**	.079	1.89	0784B	.096	2.11									
8500	1038	.037	1.33																		
9000	1039	.036	1.33	0384C	.052	1.49	0580B	.074	1.89	0784C	.091	2.11									
10000	**1040**	.035	1.33	**0385**	.050	1.49	**0581**	.071	1.89	0785	.086	2.11	**0965**	.10	2.42	1165	.13	3.58	**1365**	.15	3.77
12000				0386	.042	1.54	0582	.064	2.02	0785B	.079	2.24									
15000				**0387**	.036	1.54	0583	.057	2.02	0786	.070	2.24	0966	.081	2.56	1166	.11	3.77	1366	.13	3.96
20000				**0388**	.031	1.54	**0584**	.050	2.02	**0787**	.061	2.24	0967	.071	2.56	1167	.094	3.77	**1367**	.11	3.96
25000				**0389**	.028	1.69	0585	.045	2.22	0788	.054	2.44	**0968**	.063	2.84	1168	.083	3.86	1368	.095	4.05
30000							0586	.036	2.22	0789	.050	2.44	0969	.058	2.84	1169	.076	3.86	1369	.087	4.05
35000										0790	.046	2.44									
40000							0587	.029	2.22	0791	.043	2.44	0970	.050	2.84	1170	.066	3.86	1370	.075	4.05
45000										0792	.035	2.65									
50000							**0588**	.026	2.40	0793	.033	2.65	0971	.045	2.92	1171	.059	3.96	1371	.067	4.16
60000							0589	.024	2.40	0794	.030	2.65									
75000													0972	.032	3.17	1172	.048	4.16	1372	.055	4.35
80000							0590	.021	2.67	0795	.026	2.92									
100000							**0591**	.018	2.84	0796	.023	3.08	**0973**	.028	3.49	1173	.042	4.35	1373	.047	4.56

[1] ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

adjustable lugs

One "Screw Driver Type Adjustable Lug" is supplied with each unit. Lugs with a silver contact button can be ordered from the table shown below.

MOVING THE LUGS: Lugs always should be loosened completely before moving and not moved except while the current is off, in order to protect the exposed wire from mechanical or electrical injury and to protect the operator from dangerous voltages.



STANDARD

Core Diam. Inches	Screw Driver Type Stock No.	Screw Driver Type Net 1-9	Bakelite Knob Type Stock No.	Bakelite Knob Type Net 1-9
5/16	1058	$0.15	—	—
9/16	0358	.15	0359	$0.33
¾	1958	.15	1959	.33
1⅛	2158	.24	2159	.42

With SILVER CONTACT BUTTONS

Core Diam. Inches	Screw Driver Type Stock No.	Screw Driver Type Net 1-9	Bakelite Knob Type Stock No.	Bakelite Knob Type Net 1-9
5/16	2161	$0.38	—	—
9/16	2164	.38	2165	$0.56
¾	2166	.38	2167	.56
1⅛	2170	.47	2171	.65

DOUBLE THUMB SCREW ADJUSTABLE LUG

This adjustable lug, which is illustrated above, features two advantages — ease of adjustment and less chance of damaging the resistance wire while moving lugs. Available for 1⅛" cores.

Stock No. **2160**.....Net 1-9 **$0.89**

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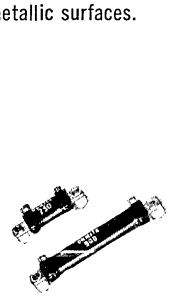
OHMITE type 250 "THIN" vitreous enameled resistors

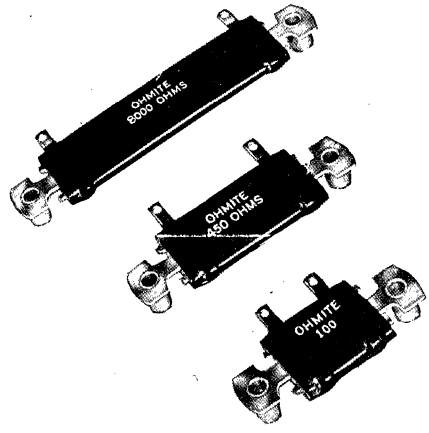
Ohmite "Thin" Resistors are intended for use in equipment where space is at a premium. They are wound on flat, oval shaped ceramic cores, and covered with Ohmite's exclusive vitreous enamel coating. Resistance tolerance, ±5%.

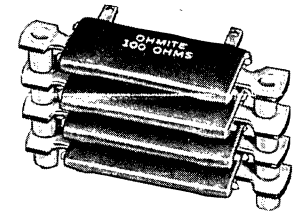
Integral mounting brackets extend through the resistor core to equalize heat distribution and to conduct heat directly to the mounting surface — provides equivalent wattage with less bulk and in less space. Wattage ratings assume the use of a metal mounting surface. Reduce ratings 15% for non-metallic surfaces.

"Thin" resistors are mounted or compactly stacked by means of bracket studs which are hollow to receive assembly bolts. The load should be reduced for each unit when resistors are stacked or used in confined, poorly ventilated spaces. Total height from bottom of mounting stud to top of resistor is approximately 5/16" for the Standard units and 11/32" for the Miniature units.

For other sizes, closer tolerances, non-stacking brackets, Dividohm adjustable or other features, consult factory.







	MINIATURE SIZES								STANDARD SIZES							
	10 WATT* Core: 3/4"x3/8"x1/8"— Mtg. Ctr. 1" Stud Hole .125"— Av. Wt. .007 lb.				20 WATT* Core: 2"x3/8"x1/8"— Mtg. Ctr. 2 3/16" Stud Hole .125"— Av. Wt. .015 lb.				30 WATT* Core: 1 1/4"x1"x1/4"— Mtg. Ctr. 2" Stud Hole .196"— Av. Wt. .037 lb.				40 WATT* Core: 2"x1"x1/4"— Mtg. Ctr. 2 3/4" Stud Hole .196"— Av. Wt. .052 lb.				55 WATT* Core: 3 1/2"x1"x1/4"— Mtg. Ctr. 4 1/4" Stud Hole .196"— Av. Wt. .095 lb.			
Resist. Ohms	Stock No.[1]	Max. Volts	Max. Amps	Net 1-9	Stock No.[1]	Max. Volts	Max. Amps	Net 1-9	Stock No.[1]	Max. Volts	Max. Amps	Net 1-9	Stock No.[1]	Max. Volts	Max. Amps	Net 1-9	Stock No.[1]	Max. Volts	Max. Amps	Net 1-9
1	**F101**	3.16	3.16	$ .97	**F201**	4.47	4.47	$1.04	F301	5.47	5.47	$1.49	**F401**	6.32	6.32	$1.54	F501	7.42	7.42	$1.79
1.5									F302	6.70	4.47	1.49	F402	7.74	5.16	1.54	F502	8.25	6.05	1.79
2	F102	4.47	2.24	.97	F202	6.32	3.16	1.04	F303	7.74	3.88	1.49	**F403**	8.94	4.47	1.54	F503	10.4	5.24	1.79
3									F304	9.45	3.17	1.49	**F404**	10.9	3.65	1.54	F504	12.8	4.28	1.79
4													F405	12.6	3.16	1.54	F505	14.8	3.70	1.79
5	F103	7.07	1.41	.97	**F203**	10.0	2.00	1.04	**F305**	12.2	2.46	1.49	F406	14.1	2.83	1.54	F506	16.6	3.32	1.79
7.5	F104	8.66	1.15	.97									F407	17.3	2.31	1.54	F507	20.6	2.72	1.79
10	**F105**	10.0	1.00	.97	F204	14.1	1.41	1.04	F306	17.3	1.73	1.49	**F408**	20.0	2.00	1.54	F508	23.4	2.34	1.79
15	F106	12.2	0.82	.97	**F205**	17.3	1.16	1.04	**F307**	21.2	1.42	1.49								
20	F107	14.1	0.71	.97																
25	F108	15.8	0.63	.97	F206	22.3	0.89	1.04	F308	27.4	1.10	1.49	F409	31.6	1.26	1.54	F509	37.1	1.48	1.79
30	**F109**	17.3	0.58	.97																
40	F110	20.0	0.50	.97	F207	28.3	0.71	1.04	F309	34.6	0.87	1.49	**F410**	40.0	1.00	1.54	**F510**	46.9	1.17	1.79
50	**F111**	22.3	0.45	.97	F208	31.6	0.63	1.04	F310	38.7	0.77	1.49	F411	44.7	0.89	1.54	F511	52.4	1.05	1.79
75	**F112**	27.4	0.36	.97	F209	38.7	0.52	1.04	F311	47.4	0.63	1.49	F412	54.8	0.73	1.54	F512	64.2	0.86	1.79
100	**F113**	31.6	0.32	.97	**F210**	44.7	0.45	1.04	F312	54.8	0.55	1.49	F413	63.2	0.63	1.54	F513	74.1	0.74	1.79
125	**F114**	35.3	0.28	.97																
150	**F115**	38.7	0.26	.97	**F211**	54.8	0.36	1.04	F313	67.0	0.45	1.49	F414	77.4	0.52	1.54	F514	82.5	0.61	1.79
200	**F116**	44.7	0.22	.97	**F212**	63.2	0.32	1.04	F314	77.4	0.39	1.49	F415	89.4	0.45	1.54	F515	104.0	0.52	1.79
250	F117	50.0	0.20	.97	F213	70.7	0.28	1.04	F315	86.6	0.35	1.49	F416	100.0	0.40	1.54	**F516**	117.0	0.47	1.79
300	**F118**	54.8	0.18	.97	F214	77.4	0.26	1.04												
400	F119	63.2	0.16	.97	F215	89.4	0.22	1.04	F316	108.0	0.28	1.49	F417	126.0	0.32	1.54	F517	148.0	0.37	1.79
500	**F120**	70.7	0.14	.97	F216	100.0	0.20	1.04	F317	122.0	0.25	1.49	F418	141.0	0.28	1.54	F518	166.0	0.33	1.79
600	F121	77.4	0.13	.97																
750	**F122**	86.6	0.12	.97					F318	150.0	0.20	1.49	F419	173.0	0.23	1.54	F519	206.0	0.27	1.79
800					**F217**	126.0	0.16	1.04												
1000	**F123**	100.0	0.10	.97	F218	141.0	0.14	1.04	F319	173.0	0.17	1.49	F420	200.0	0.20	1.54	F520	234.0	0.23	1.79
1250	F124	111.0	0.089	.97	F219	158.0	0.12	1.04												
1500	**F125**	122.0	0.081	.97	F220	173.0	0.12	1.04	F320	212.0	0.14	1.49	F421	245.0	0.16	1.54	F521	287.0	0.19	1.79
1750	F126	132.0	0.075	.97																
2000	F127	141.0	0.071	.97	F221	200.0	0.10	1.04	F321	245.0	0.12	1.49	F422	283.0	0.14	1.54	F522	332.0	0.17	1.79
2500	**F128**	158.0	0.063	.97	F222	223.0	0.089	1.04	F322	274.0	0.11	1.49	F423	316.0	0.13	1.54	F523	371.0	0.15	1.79
3000	**F129**	173.0	0.057	1.03	F223	245.0	0.081	1.09	F323	300.0	0.10	1.60	F424	345.0	0.12	1.67	F524	406.0	0.14	1.90
3500					F224	264.0	0.075	1.09												
4000	F130	200.0	0.050	1.03	F225	283.0	0.070	1.09	F324	346.0	0.087	1.60	F425	400.0	0.10	1.67	F525	469.0	0.12	1.90
5000	F131	223.0	0.045	1.03	**F226**	316.0	0.063	1.09	F325	387.0	0.076	1.60	F426	447.0	0.089	1.67	F526	524.0	0.10	1.90
6000					F227	346.0	0.058	1.16												
7500					F228	387.0	0.052	1.16	F326	424.0	0.057	1.67	F427	548.0	0.073	1.73	F527	642.0	0.086	1.96
10000					**F229**	445.0	0.045	1.22	F327	490.0	0.049	1.73	F428	632.0	0.063	1.87	F528	741.0	0.074	2.09
12500					F230	500.0	0.040	1.26												
15000					F231	555.0	0.036	1.26					F429	670.0	0.045	1.95	F529	825.0	0.061	2.18
20000					F232	625.0	0.032	1.32					F430	774.0	0.039	2.05	F530	1040.0	0.052	2.26
25000					F233	715.0	0.028	1.40					F431	866.0	0.035	2.14	F531	1170.0	0.047	2.39
30000					F234	770.0	0.026	1.45									F532	1210.0	0.040	2.51
35000					F235	835.0	0.024	1.45												
40000					F236	910.0	0.022	1.51												
50000					F237	990.0	0.020	1.51												

[1]ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

*Ratings are based on use of steel panel mounting and should be reduced on non-metallic mounting surface because of reduced thermal conductivity.

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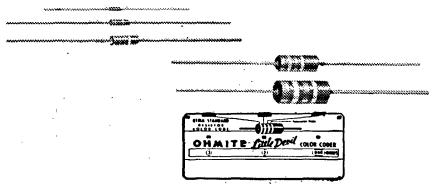
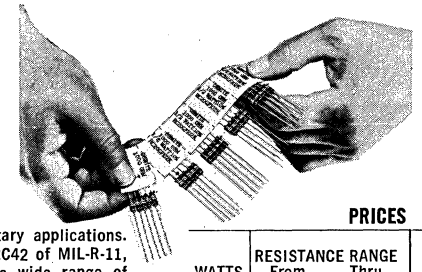
Net

OHMITE *Little Devil*® molded composition resistors on "Tally Tape"®



Color Coder 10¢*

"Tally Tape," Ohmite's wonderfully convenient packaging presently provides for ¼, ½, 1 and 2-watt resistors. Each perforated segment holds 5 resistors — prevents spilling or tangling — simplifies counting — is printed for quick identification — guarantees original, factory-fresh stock.



Now Includes MIL-R-II Types

Little Devils, Ohmite's famous molded composition resistors, find broad use in commercial and military applications. The ⅛, ¼, ½, 1 and 2-watt sizes, which conform respectively to Styles RC05, RC07, RC20, RC32 and RC42 of MIL-R-11, meet all the stringent requirements of this military specification. The five sizes available satisfy a wide range of design and service needs.

Little Devils have molded insulation for high dielectric strength. Noted advantages of these units are great stability, low noise level, low voltage coefficient, high insulation breakdown voltage and rapid heat dissipation. They may be used at full rated wattage at 70°C (158°F) ambient temperature.

Little Devils are available from stock in standard EIA resistance values in the tolerances and resistance ranges shown in the price table. Ratings for maximum continuous RMS voltage drop are high: 150 volts for ⅛ watt units, 250 volts for ¼ watt, 350 volts for ½ watt, 500 volts for 1 watt, and 750 volts for 2 watt units. See "Little Devil" Resistor Assortments, page 14.

PRICES

WATTS	RESISTANCE RANGE From	Thru	±5% 1-4 Net	±5% 5-49 Net	±10% 1-4 Net	±10% 5-49 Net
⅛	2.7 ohms	9.1 ohms	37c	31c	27c	22c
	10 ohms	22 megs	34c	28c	24c	20c
¼	2.7 ohms	9.1 ohms	29c	24c	14c	12c
	10 ohms	22 megs	26c	22c	13c	11c
½	1 ohm	2.4 ohms	26c	22c	13c	11c
	2.7 ohms	22 megs	24c	20c	12c	10c
1	2.7 ohms	22 megs	36c	30c	18c	15c
2	10 ohms	22 megs	48c	40c	24c	20c

*Little Devil Color Coder, Stk. No. 5190..$0.10 ea.

available only from ohmite distributors

⅛ WATT MIL Type: RC 05* Size: .145"L x .062"D. Leads: .062"D. x 1"L.

Resistance	±5%	±10%
2.7 ohms	OB27G5	OB27G1
3.0 ohms	OB30G5	
3.3 ohms	OB33G5	OB33G1
3.6 ohms	OB36G5	
3.9 ohms	OB39G5	OB39G1
4.3 ohms	OB43G5	
4.7 ohms	OB47G5	OB47G1
5.1 ohms	OB51G5	
5.6 ohms	OB56G5	OB56G1
6.2 ohms	OB62G5	
6.8 ohms	OB68G5	OB68G1
7.5 ohms	OB75G5	
8.2 ohms	OB82G5	OB82G1
9.1 ohms	OB91G5	
10. ohms	OB1005	OB1001
11. ohms	OB1105	
12. ohms	OB1205	OB1201
13. ohms	OB1305	
15. ohms	OB1505	OB1501
16. ohms	OB1605	
18. ohms	OB1805	OB1801
20. ohms	OB2005	
22. ohms	OB2205	OB2201
24. ohms	OB2405	
27. ohms	OB2705	OB2701
30. ohms	OB3005	
33. ohms	OB3305	OB3301
36. ohms	OB3605	
39. ohms	OB3905	OB3901
43. ohms	OB4305	
47. ohms	OB4705	OB4701
51. ohms	OB5105	
56. ohms	OB5605	OB5601

⅛ WATT MIL Type: RC 05* Size: .145"L x .062"D. Leads: .062"D. x 1"L.

Resistance	±5%	±10%
62. ohms	OB6205	
68. ohms	OB6805	OB6801
75. ohms	OB7505	
82. ohms	OB8205	OB8201
91. ohms	OB9105	
100. ohms	OB1015	OB1011
110. ohms	OB1115	
120. ohms	OB1215	OB1211
130. ohms	OB1315	
150. ohms	OB1515	OB1511
160. ohms	OB1615	
180. ohms	OB1815	OB1811
200. ohms	OB2015	
220. ohms	OB2215	OB2211
240. ohms	OB2415	
270. ohms	OB2715	OB2711
300. ohms	OB3015	
330. ohms	OB3315	OB3311
360. ohms	OB3615	
390. ohms	OB3915	OB3911
430. ohms	OB4315	
470. ohms	OB4715	OB4711
510. ohms	OB5115	
560. ohms	OB5615	OB5611
620. ohms	OB6215	
680. ohms	OB6815	OB6811
750. ohms	OB7515	
820. ohms	OB8215	OB8211
910. ohms	OB9115	
1,000. ohms	OB1025	OB1021
1,100. ohms	OB1125	
1,200. ohms	OB1225	OB1221
1,300. ohms	OB1325	

⅛ WATT MIL Type: RC 05* Size: .145"L x .062"D. Leads: .062"D. x 1"L.

Resistance	±5%	±10%
1,500. ohms	OB1525	OB1521
1,600. ohms	OB1625	
1,800. ohms	OB1825	OB1821
2,000. ohms	OB2025	
2,200. ohms	OB2225	OB2221
2,400. ohms	OB2425	
2,700. ohms	OB2725	OB2721
3,000. ohms	OB3025	
3,300. ohms	OB3325	OB3321
3,600. ohms	OB3625	
3,900. ohms	OB3925	OB3921
4,300. ohms	OB4325	
4,700. ohms	OB4725	OB4721
5,100. ohms	OB5125	
5,600. ohms	OB5625	OB5621
6,200. ohms	OB6225	
6,800. ohms	OB6825	OB6821
7,500. ohms	OB7525	
8,200. ohms	OB8225	OB8221
9,100. ohms	OB9125	
10,000. ohms	OB1035	OB1031
11,000. ohms	OB1135	
12,000. ohms	OB1235	OB1231
13,000. ohms	OB1335	
15,000. ohms	OB1535	OB1531
16,000. ohms	OB1635	
18,000. ohms	OB1835	OB1831
20,000. ohms	OB2035	
22,000. ohms	OB2235	OB2231
24,000. ohms	OB2435	
27,000. ohms	OB2735	OB2731
30,000. ohms	OB3035	
33,000. ohms	OB3335	OB3331

⅛ WATT MIL Type: RC 05* Size: .145"L x .062"D. Leads: .062"D. x 1"L.

Resistance	±5%	±10%
36,000. ohms	OB3635	
39,000. ohms	OB3935	OB3931
43,000. ohms	OB4335	
47,000. ohms	OB4735	OB4731
51,000. ohms	OB5135	
56,000. ohms	OB5635	OB5631
62,000. ohms	OB6235	
68,000. ohms	OB6835	OB6831
75,000. ohms	OB7535	
82,000. ohms	OB8235	OB8231
91,000. ohms	OB9135	
0.1 megs	OB1045	OB1041
0.11 megs	OB1145	
0.12 megs	OB1245	OB1241
0.13 megs	OB1345	
0.15 megs	OB1545	OB1541
0.16 megs	OB1645	
0.18 megs	OB1845	OB1841
0.20 megs	OB2045	
0.22 megs	OB2245	OB2241
0.24 megs	OB2445	
0.27 megs	OB2745	OB2741
0.30 megs	OB3045	
0.33 megs	OB3345	OB3341
0.36 megs	OB3645	
0.39 megs	OB3945	OB3941
0.43 megs	OB4345	
0.47 megs	OB4745	OB4741
0.51 megs	OB5145	
0.56 megs	OB5645	OB5641
0.62 megs	OB6245	
0.68 megs	OB6845	OB6841
0.75 megs	OB7545	

⅛ WATT MIL Type: RC 05* Size: .145"L x .062"D. Leads: .062"D. x 1"L.

Resistance	±5%	±10%
0.82 megs	OB8245	OB8241
0.91 megs	OB9145	
1. megs	OB1055	OB1051
1.1 megs	OB1155	
1.2 megs	OB1255	OB1251
1.3 megs	OB1355	
1.5 megs	OB1555	OB1551
1.6 megs	OB1655	
1.8 megs	OB1855	OB1851
2.0 megs	OB2055	
2.2 megs	OB2255	OB2251
2.4 megs	OB2455	
2.7 megs	OB2755	OB2751
3.0 megs	OB3055	
3.3 megs	OB3355	OB3351
3.6 megs	OB3655	
3.9 megs	OB3955	OB3951
4.3 megs	OB4355	
4.7 megs	OB4755	OB4751
5.1 megs	OB5155	
5.6 megs	OB5655	OB5651
6.2 megs	OB6255	
6.8 megs	OB6855	OB6851
7.5 megs	OB7555	
8.2 megs	OB8255	OB8251
9.1 megs	OB9155	
10. megs	OB1065	OB1061
11. megs	OB1165	
12. megs	OB1265	OB1261
13. megs	OB1365	
15. megs	OB1565	OB1561
16. megs	OB1665	
18. megs	OB1865	OB1861
20. megs	OB2065	
22. megs	OB2265	OB2261

¼ WATT MIL Type: RC 07 Size: ¼"L. x .090"D. Leads: .025"D. x 1½"L.

Resistance	±5%	±10%
2.7 ohms	OC27G5	OC27G1
3.0 ohms	OC30G5	
3.3 ohms	OC33G5	OC33G1
3.6 ohms	OC36G5	
3.9 ohms	OC39G5	OC39G1
4.3 ohms	OC43G5	
4.7 ohms	OC47G5	OC47G1
5.1 ohms	OC51G5	
5.6 ohms	OC56G5	OC56G1
6.2 ohms	OC62G5	
6.8 ohms	OC68G5	OC68G1
7.5 ohms	OC75G5	
8.2 ohms	OC82G5	OC82G1
9.1 ohms	OC91G5	
10. ohms	OC1005	OC1001
11. ohms	OC1105	
12. ohms	OC1205	OC1201
13. ohms	OC1305	
15. ohms	OC1505	OC1501
16. ohms	OC1605	
18. ohms	OC1805	OC1801
20. ohms	OC2005	
22. ohms	OC2205	OC2201
24. ohms	OC2405	
27. ohms	OC2705	OC2701
30. ohms	OC3005	
33. ohms	OC3305	OC3301
36. ohms	OC3605	
39. ohms	OC3905	OC3901
43. ohms	OC4305	
47. ohms	OC4705	OC4701
51. ohms	OC5105	
56. ohms	OC5605	OC5601
62. ohms	OC6205	

¼ WATT MIL Type: RC 07 Size: ¼"L. x .090"D. Leads: .025"D. x 1½"L.

Resistance	±5%	±10%
68. ohms	OC6805	OC6801
75. ohms	OC7505	
82. ohms	OC8205	OC8201
91. ohms	OC9105	
100. ohms	OC1015	OC1011
110. ohms	OC1115	
120. ohms	OC1215	OC1211
130. ohms	OC1315	
150. ohms	OC1515	OC1511
160. ohms	OC1615	
180. ohms	OC1815	OC1811
200. ohms	OC2015	
220. ohms	OC2215	OC2211
240. ohms	OC2415	
270. ohms	OC2715	OC2711
300. ohms	OC3015	
330. ohms	OC3315	OC3311
360. ohms	OC3615	
390. ohms	OC3915	OC3911
430. ohms	OC4315	
470. ohms	OC4715	OC4711
510. ohms	OC5115	
560. ohms	OC5615	OC5611
620. ohms	OC6215	
680. ohms	OC6815	OC6811
750. ohms	OC7515	
820. ohms	OC8215	OC8211
910. ohms	OC9115	
1,000. ohms	OC1025	OC1021
1,100. ohms	OC1125	
1,200. ohms	OC1225	OC1221
1,300. ohms	OC1325	
1,500. ohms	OC1525	OC1521
1,600. ohms	OC1625	

¼ WATT MIL Type: RC 07 Size: ¼"L. x .090"D. Leads: .025"D. x 1½"L.

Resistance	±5%	±10%
1,800. ohms	OC1825	OC1821
2,000. ohms	OC2025	
2,200. ohms	OC2225	OC2221
2,400. ohms	OC2425	
2,700. ohms	OC2725	OC2721
3,000. ohms	OC3025	
3,300. ohms	OC3325	OC3321
3,600. ohms	OC3625	
3,900. ohms	OC3925	OC3921
4,300. ohms	OC4325	
4,700. ohms	OC4725	OC4721
5,100. ohms	OC5125	
5,600. ohms	OC5625	OC5621
6,200. ohms	OC6225	
6,800. ohms	OC6825	OC6821
7,500. ohms	OC7525	
8,200. ohms	OC8225	OC8221
9,100. ohms	OC9125	
10,000. ohms	OC1035	OC1031
11,000. ohms	OC1135	
12,000. ohms	OC1235	OC1231
13,000. ohms	OC1335	
15,000. ohms	OC1535	OC1531
16,000. ohms	OC1635	
18,000. ohms	OC1835	OC1831
20,000. ohms	OC2035	
22,000. ohms	OC2235	OC2231
24,000. ohms	OC2435	
27,000. ohms	OC2735	OC2731
30,000. ohms	OC3035	
33,000. ohms	OC3335	OC3331
36,000. ohms	OC3635	
39,000. ohms	OC3935	OC3931
43,000. ohms	OC4335	

¼ WATT MIL Type: RC 07 Size: ¼"L. x .090"D. Leads: .025"D. x 1½"L.

Resistance	±5%	±10%
47,000. ohms	OC4735	OC4731
51,000. ohms	OC5135	
56,000. ohms	OC5635	OC5631
62,000. ohms	OC6235	
68,000. ohms	OC6835	OC6831
75,000. ohms	OC7535	
82,000. ohms	OC8235	OC8231
91,000. ohms	OC9135	
0.1 megs	OC1045	OC1041
0.11 megs	OC1145	
0.12 megs	OC1245	OC1241
0.13 megs	OC1345	
0.15 megs	OC1545	OC1541
0.16 megs	OC1645	
0.18 megs	OC1845	OC1841
0.20 megs	OC2045	
0.22 megs	OC2245	OC2241
0.24 megs	OC2445	
0.27 megs	OC2745	OC2741
0.30 megs	OC3045	
0.33 megs	OC3345	OC3341
0.36 megs	OC3645	
0.39 megs	OC3945	OC3941
0.43 megs	OC4345	
0.47 megs	OC4745	OC4741
0.51 megs	OC5145	
0.56 megs	OC5645	OC5641
0.62 megs	OC6245	
0.68 megs	OC6845	OC6841
0.75 megs	OC7545	
0.82 megs	OC8245	OC8241
0.91 megs	OC9145	
1. megs	OC1055	OC1051
1.1 megs	OC1155	

¼ WATT MIL Type: RC 07 Size: ¼"L. x .090"D. Leads: .025"D. x 1½"L.

Resistance	±5%	±10%
1.2 megs	OC1255	OC1251
1.3 megs	OC1355	
1.5 megs	OC1555	OC1551
1.6 megs	OC1655	
1.8 megs	OC1855	OC1851
2.0 megs	OC2055	
2.2 megs	OC2255	OC2251
2.4 megs	OC2455	
2.7 megs	OC2755	OC2751
3.0 megs	OC3055	
3.3 megs	OC3355	OC3351
3.6 megs	OC3655	
3.9 megs	OC3955	OC3951
4.3 megs	OC4355	
4.7 megs	OC4755	OC4751
5.1 megs	OC5155	
5.6 megs	OC5655	OC5651
6.2 megs	OC6255	
6.8 megs	OC6855	OC6851
7.5 megs	OC7555	
8.2 megs	OC8255	OC8251
9.1 megs	OC9155	
10. megs	OC1065	OC1061
11. megs	OC1165	
12. megs	OC1265	OC1261
13. megs	OC1365	
15. megs	OC1565	OC1561
16. megs	OC1665	
18. megs	OC1865	OC1861
20. megs	OC2065	
22. megs	OC2265	OC2261

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½ WATT — MIL Type: RC 20‡ — Size: ⅜"L. x ⅞₄"D. — Leads: .033"D. x 1½"L.

Resistance	Stock Number ±5%	±10%
1. ohms	OE10G5	OE10G1
1.1 ohms	OE11G5	
1.2 ohms	OE12G5	OE12G1
1.3 ohms	OE13G5	
1.5 ohms	OE15G5	OE15G1
1.6 ohms	OE16G5	
1.8 ohms	OE18G5	OE18G1
2. ohms	OE20G5	
2.2 ohms	OE22G5	OE22G1
2.4 ohms	OE24G5	
2.7 ohms	OE27G5	OE27G1
3.0 ohms	OE30G5	
3.3 ohms	OE33G5	OE33G1
3.6 ohms	OE36G5	
3.9 ohms	OE39G5	OE39G1
4.3 ohms	OE43G5	
4.7 ohms	OE47G5	OE47G1
5.1 ohms	OE51G5	
5.6 ohms	OE56G5	OE56G1
6.2 ohms	OE62G5	
6.8 ohms	OE68G5	OE68G1
7.5 ohms	OE75G5	
8.2 ohms	OE82G5	OE82G1
9.1 ohms	OE91G5	
10. ohms	OE1005	OE1001
11. ohms	OE1105	
12. ohms	OE1205	OE1201
13. ohms	OE1305	
15. ohms	OE1505	OE1501
16. ohms	OE1605	
18. ohms	OE1805	OE1801
20. ohms	OE2005	
22. ohms	OE2205	OE2201
24. ohms	OE2405	
27. ohms	OE2705	OE2701
30. ohms	OE3005	
33. ohms	OE3305	OE3301
36. ohms	OE3605	
39. ohms	OE3905	OE3901
43. ohms	OE4305	
47. ohms	OE4705	OE4701
51. ohms	OE5105	
56. ohms	OE5605	OE5601
62. ohms	OE6205	
68. ohms	OE6805	OE6801
75. ohms	OE7505	
82. ohms	OE8205	OE8201
91. ohms	OE9105	
100. ohms	OE1015	OE1011
110. ohms	OE1115	
120. ohms	OE1215	OE1211
130. ohms	OE1315	
150. ohms	OE1515	OE1511
160. ohms	OE1615	
180. ohms	OE1815	OE1811
200. ohms	OE2015	
220. ohms	OE2215	OE2211
240. ohms	OE2415	
270. ohms	OE2715	OE2711
300. ohms	OE3015	
330. ohms	OE3315	OE3311
360. ohms	OE3615	
390. ohms	OE3915	OE3911
430. ohms	OE4315	
470. ohms	OE4715	OE4711
510. ohms	OE5115	
560. ohms	OE5615	OE5611
620. ohms	OE6215	
680. ohms	OE6815	OE6811
750. ohms	OE7515	
820. ohms	OE8215	OE8211
910. ohms	OE9115	
1,000. ohms	OE1025	OE1021
1,100. ohms	OE1125	
1,200. ohms	OE1225	OE1221
1,300. ohms	OE1325	
1,500. ohms	OE1525	OE1521
1,600. ohms	OE1625	
1,800. ohms	OE1825	OE1821
2,000. ohms	OE2025	
2,200. ohms	OE2225	OE2221
2,400. ohms	OE2425	
2,700. ohms	OE2725	OE2721
3,000. ohms	OE3025	
3,300. ohms	OE3325	OE3321
3,600. ohms	OE3625	
3,900. ohms	OE3925	OE3921
4,300. ohms	OE4325	
4,700. ohms	OE4725	OE4721
5,100. ohms	OE5125	
5,600. ohms	OE5625	OE5621
6,200. ohms	OE6225	
6,800. ohms	OE6825	OE6821
7,500. ohms	OE7525	
8,200. ohms	OE8225	OE8221
9,100. ohms	OE9125	
10,000. ohms	OE1035	OE1031
11,000. ohms	OE1135	
12,000. ohms	OE1235	OE1231
13,000. ohms	OE1335	
15,000. ohms	OE1535	OE1531
16,000. ohms	OE1635	
18,000. ohms	OE1835	OE1831
20,000. ohms	OE2035	
22,000. ohms	OE2235	OE2231
24,000. ohms	OE2435	
27,000. ohms	OE2735	OE2731
30,000. ohms	OE3035	
33,000. ohms	OE3335	OE3331
36,000. ohms	OE3635	
39,000. ohms	OE3935	OE3931
43,000. ohms	OE4335	
47,000. ohms	OE4735	OE4731
51,000. ohms	OE5135	
56,000. ohms	OE5635	OE5631
62,000. ohms	OE6235	
68,000. ohms	OE6835	OE6831
75,000. ohms	OE7535	
82,000. ohms	OE8235	OE8231
91,000. ohms	OE9135	
0.1 megs	OE1045	OE1041
0.11 megs	OE1145	
0.12 megs	OE1245	OE1241
0.13 megs	OE1345	
0.15 megs	OE1545	OE1541
0.16 megs	OE1645	
0.18 megs	OE1845	OE1841
0.20 megs	OE2045	
0.22 megs	OE2245	OE2241
0.24 megs	OE2445	
0.27 megs	OE2745	OE2741
0.30 megs	OE3045	
0.33 megs	OE3345	OE3341
0.36 megs	OE3645	
0.39 megs	OE3945	OE3941
0.43 megs	OE4345	
0.47 megs	OE4745	OE4741
0.51 megs	OE5145	
0.56 megs	OE5645	OE5641
0.62 megs	OE6245	
0.68 megs	OE6845	OE6841
0.75 megs	OE7545	
0.82 megs	OE8245	OE8241
0.91 megs	OE9145	
1. megs	OE1055	OE1051
1.1 megs	OE1155	
1.2 megs	OE1255	OE1251
1.3 megs	OE1355	
1.5 megs	OE1555	OE1551
1.6 megs	OE1655	
1.8 megs	OE1855	OE1851
2.0 megs	OE2055	
2.2 megs	OE2255	OE2251
2.4 megs	OE2455	
2.7 megs	OE2755	OE2751
3.0 megs	OE3055	
3.3 megs	OE3355	OE3351
3.6 megs	OE3655	
3.9 megs	OE3955	OE3951
4.3 megs	OE4355	
4.7 megs	OE4755	OE4751
5.1 megs	OE5155	
5.6 megs	OE5655	OE5651
6.2 megs	OE6255	
6.8 megs	OE6855	OE6851
7.5 megs	OE7555	
8.2 megs	OE8255	OE8251
9.1 megs	OE9155	
10. megs	OE1065	OE1061
11. megs	OE1165	
12. megs	OE1265	OE1261
13. megs	OE1365	
15. megs	OE1565	OE1561
16. megs	OE1665	
18. megs	OE1865	OE1861
20. megs	OE2065	
22. megs	OE2265	OE2261

1 WATT — MIL Type: RC 32 — Size: ⅜₁₆"L. x ⅞₃₂"D. — Leads: .041"D. x 1½"L.

Resistance	Stock Number ±5%	±10%
2.7 ohms	OG27G5	OG27G1
3.0 ohms	OG30G5	
3.3 ohms	OG33G5	OG33G1
3.6 ohms	OG36G5	
3.9 ohms	OG39G5	OG39G1
4.3 ohms	OG43G5	
4.7 ohms	OG47G5	OG47G1
5.1 ohms	OG51G5	
5.6 ohms	OG56G5	OG56G1
6.2 ohms	OG62G5	
6.8 ohms	OG68G5	OG68G1
7.5 ohms	OG75G5	
8.2 ohms	OG82G5	OG82G1
9.1 ohms	OG91G5	
10. ohms	OG1005	OG1001
11. ohms	OG1105	
12. ohms	OG1205	OG1201
13. ohms	OG1305	
15. ohms	OG1505	OG1501
16. ohms	OG1605	
18. ohms	OG1805	OG1801
20. ohms	OG2005	
22. ohms	OG2205	OG2201
24. ohms	OG2405	
27. ohms	OG2705	OG2701
30. ohms	OG3005	
33. ohms	OG3305	OG3301
36. ohms	OG3605	
39. ohms	OG3905	OG3901
43. ohms	OG4305	
47. ohms	OG4705	OG4701
51. ohms	OG5105	
56. ohms	OG5605	OG5601
62. ohms	OG6205	
68. ohms	OG6805	OG6801
75. ohms	OG7505	
82. ohms	OG8205	OG8201
91. ohms	OG9105	
100. ohms	OG1015	OG1011
110. ohms	OG1115	
120. ohms	OG1215	OG1211
130. ohms	OG1315	
150. ohms	OG1515	OG1511
160. ohms	OG1615	
180. ohms	OG1815	OG1811
200. ohms	OG2015	
220. ohms	OG2215	OG2211
240. ohms	OG2415	
270. ohms	OG2715	OG2711
300. ohms	OG3015	
330. ohms	OG3315	OG3311
360. ohms	OG3615	
390. ohms	OG3915	OG3911
430. ohms	OG4315	
470. ohms	OG4715	OG4711
510. ohms	OG5115	
560. ohms	OG5615	OG5611
620. ohms	OG6215	
680. ohms	OG6815	OG6811
750. ohms	OG7515	
820. ohms	OG8215	OG8211
910. ohms	OG9115	
1,000. ohms	OG1025	OG1021
1,100. ohms	OG1125	
1,200. ohms	OG1225	OG1221
1,300. ohms	OG1325	
1,500. ohms	OG1525	OG1521
1,600. ohms	OG1625	
1,800. ohms	OG1825	OG1821
2,000. ohms	OG2025	
2,200. ohms	OG2225	OG2221
2,400. ohms	OG2425	
2,700. ohms	OG2725	OG2721
3,000. ohms	OG3025	
3,300. ohms	OG3325	OG3321
3,600. ohms	OG3625	
3,900. ohms	OG3925	OG3921
4,300. ohms	OG4325	
4,700. ohms	OG4725	OG4721
5,100. ohms	OG5125	
5,600. ohms	OG5625	OG5621
6,200. ohms	OG6225	
6,800. ohms	OG6825	OG6821
7,500. ohms	OG7525	
8,200. ohms	OG8225	OG8221
9,100. ohms	OG9125	
10,000. ohms	OG1035	OG1031
11,000. ohms	OG1135	
12,000. ohms	OG1235	OG1231
13,000. ohms	OG1335	
15,000. ohms	OG1535	OG1531
16,000. ohms	OG1635	
18,000. ohms	OG1835	OG1831
20,000. ohms	OG2035	
22,000. ohms	OG2235	OG2231
24,000. ohms	OG2435	
27,000. ohms	OG2735	OG2731
30,000. ohms	OG3035	
33,000. ohms	OG3335	OG3331
36,000. ohms	OG3635	
39,000. ohms	OG3935	OG3931
43,000. ohms	OG4335	
47,000. ohms	OG4735	OG4731
51,000. ohms	OG5135	
56,000. ohms	OG5635	OG5631
62,000. ohms	OG6235	
68,000. ohms	OG6835	OG6831
75,000. ohms	OG7535	
82,000. ohms	OG8235	OG8231
91,000. ohms	OG9135	
0.1 megs	OG1045	OG1041
0.11 megs	OG1145	
0.12 megs	OG1245	OG1241
0.13 megs	OG1345	
0.15 megs	OG1545	OG1541
0.16 megs	OG1645	
0.18 megs	OG1845	OG1841
0.20 megs	OG2045	
0.22 megs	OG2245	OG2241
0.24 megs	OG2445	
0.27 megs	OG2745	OG2741
0.30 megs	OG3045	
0.33 megs	OG3345	OG3341
0.36 megs	OG3645	
0.39 megs	OG3945	OG3941
0.43 megs	OG4345	
0.47 megs	OG4745	OG4741
0.51 megs	OG5145	
0.56 megs	OG5645	OG5641
0.62 megs	OG6245	
0.68 megs	OG6845	OG6841
0.75 megs	OG7545	
0.82 megs	OG8245	OG8241
0.91 megs	OG9145	
1. megs	OG1055	OG1051
1.1 megs	OG1155	
1.2 megs	OG1255	OG1251
1.3 megs	OG1355	
1.5 megs	OG1555	OG1551
1.6 megs	OG1655	
1.8 megs	OG1855	OG1851
2.0 megs	OG2055	
2.2 megs	OG2255	OG2251
2.4 megs	OG2455	
2.7 megs	OG2755	OG2751
3.0 megs	OG3055	
3.3 megs	OG3355	OG3351
3.6 megs	OG3655	
3.9 megs	OG3955	OG3951
4.3 megs	OG4355	
4.7 megs	OG4755	OG4751
5.1 megs	OG5155	
5.6 megs	OG5655	OG5651
6.2 megs	OG6255	
6.8 megs	OG6855	OG6851
7.5 megs	OG7555	
8.2 megs	OG8255	OG8251
9.1 megs	OG9155	
10. megs	OG1065	OG1061
11. megs	OG1165	
12. megs	OG1265	OG1261
13. megs	OG1365	
15. megs	OG1565	OG1561
16. megs	OG1665	
18. megs	OG1865	OG1861
20. megs	OG2065	
22. megs	OG2265	OG2261

2 WATT — MIL Type: RC 42 — Size: ¹¹⁄₁₆"L. x ⅝₄"D. — Leads: .046"D. x 1½"L.

Resistance	Stock Number ±5%	±10%
10. ohms	OH1005	OH1001
11. ohms	OH1105	
12. ohms	OH1205	OH1201
13. ohms	OH1305	
15. ohms	OH1505	OH1501
16. ohms	OH1605	
18. ohms	OH1805	OH1801
20. ohms	OH2005	
22. ohms	OH2205	OH2201
24. ohms	OH2405	
27. ohms	OH2705	OH2701
30. ohms	OH3005	
33. ohms	OH3305	OH3301
36. ohms	OH3605	
39. ohms	OH3905	OH3901
43. ohms	OH4305	
47. ohms	OH4705	OH4701
51. ohms	OH5105	
56. ohms	OH5605	OH5601
62. ohms	OH6205	
68. ohms	OH6805	OH6801
75. ohms	OH7505	
82. ohms	OH8205	OH8201
91. ohms	OH9105	
100. ohms	OH1015	OH1011
110. ohms	OH1115	
120. ohms	OH1215	OH1211
130. ohms	OH1315	
150. ohms	OH1515	OH1511
160. ohms	OH1615	
180. ohms	OH1815	OH1811
200. ohms	OH2015	
220. ohms	OH2215	OH2211
240. ohms	OH2415	
270. ohms	OH2715	OH2711
300. ohms	OH3015	
330. ohms	OH3315	OH3311
360. ohms	OH3615	
390. ohms	OH3915	OH3911
430. ohms	OH4315	
470. ohms	OH4715	OH4711
510. ohms	OH5115	
560. ohms	OH5615	OH5611
620. ohms	OH6215	
680. ohms	OH6815	OH6811
750. ohms	OH7515	
820. ohms	OH8215	OH8211
910. ohms	OH9115	
1,000. ohms	OH1025	OH1021
1,100. ohms	OH1125	
1,200. ohms	OH1225	OH1221
1,300. ohms	OH1325	
1,500. ohms	OH1525	OH1521
1,600. ohms	OH1625	
1,800. ohms	OH1825	OH1821
2,000. ohms	OH2025	
2,200. ohms	OH2225	OH2221
2,400. ohms	OH2425	
2,700. ohms	OH2725	OH2721
3,000. ohms	OH3025	
3,300. ohms	OH3325	OH3321
3,600. ohms	OH3625	
3,900. ohms	OH3925	OH3921
4,300. ohms	OH4325	
4,700. ohms	OH4725	OH4721
5,100. ohms	OH5125	
5,600. ohms	OH5625	OH5621
6,200. ohms	OH6225	
6,800. ohms	OH6825	OH6821
7,500. ohms	OH7525	
8,200. ohms	OH8225	OH8221
9,100. ohms	OH9125	
10,000. ohms	OH1035	OH1031
11,000. ohms	OH1135	
12,000. ohms	OH1235	OH1231
13,000. ohms	OH1335	
15,000. ohms	OH1535	OH1531
16,000. ohms	OH1635	
18,000. ohms	OH1835	OH1831
20,000. ohms	OH2035	
22,000. ohms	OH2235	OH2231
24,000. ohms	OH2435	
27,000. ohms	OH2735	OH2731
30,000. ohms	OH3035	
33,000. ohms	OH3335	OH3331
36,000. ohms	OH3635	
39,000. ohms	OH3935	OH3931
43,000. ohms	OH4335	
47,000. ohms	OH4735	OH4731
51,000. ohms	OH5135	
56,000. ohms	OH5635	OH5631
62,000. ohms	OH6235	
68,000. ohms	OH6835	OH6831
75,000. ohms	OH7535	
82,000. ohms	OH8235	OH8231
91,000. ohms	OH9135	
0.1 megs	OH1045	OH1041
0.11 megs	OH1145	
0.12 megs	OH1245	OH1241
0.13 megs	OH1345	
0.15 megs	OH1545	OH1541
0.16 megs	OH1645	
0.18 megs	OH1845	OH1841
0.20 megs	OH2045	
0.22 megs	OH2245	OH2241
0.24 megs	OH2445	
0.27 megs	OH2745	OH2741
0.30 megs	OH3045	
0.33 megs	OH3345	OH3341
0.36 megs	OH3645	
0.39 megs	OH3945	OH3941
0.43 megs	OH4345	
0.47 megs	OH4745	OH4741
0.51 megs	OH5145	
0.56 megs	OH5645	OH5641
0.62 megs	OH6245	
0.68 megs	OH6845	OH6841
0.75 megs	OH7545	
0.82 megs	OH8245	OH8241
0.91 megs	OH9145	
1. megs	OH1055	OH1051
1.1 megs	OH1155	
1.2 megs	OH1255	OH1251
1.3 megs	OH1355	
1.5 megs	OH1555	OH1551
1.6 megs	OH1655	
1.8 megs	OH1855	OH1851
2.0 megs	OH2055	
2.2 megs	OH2255	OH2251
2.4 megs	OH2455	
2.7 megs	OH2755	OH2751
3.0 ohms	OH3055	
3.3 megs	OH3355	OH3351
3.6 megs	OH3655	
3.9 megs	OH3955	OH3951
4.3 megs	OH4355	
4.7 megs	OH4755	OH4751
5.1 megs	OH5155	
5.6 megs	OH5655	OH5651
6.2 megs	OH6255	
6.8 megs	OH6855	OH6851
7.5 megs	OH7555	
8.2 megs	OH8255	OH8251
9.1 megs	OH9155	
10. megs	OH1065	OH1061
11. megs	OH1165	
12. megs	OH1265	OH1261
13. megs	OH1365	
15. megs	OH1565	OH1561
16. megs	OH1665	
18. megs		OH1861
22. megs		OH2261

*Min. Resistance under MIL-R-11 is 10 ohms.
‡Min. Resistance under MIL-R-11 is 2.7 ohms.

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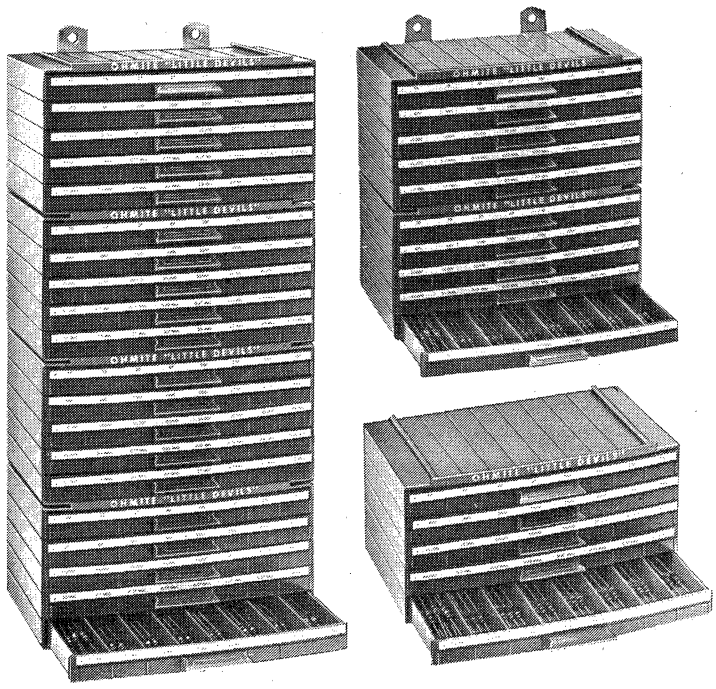
OHMITE *Little Devil*® industrial and service resistor assortments



RESISTORS AND HANDY CABINET FOR THE PRICE OF THE RESISTORS ALONE

Select the composition resistor you need, right on the job from time-saving Little Devil® Assortments. Ohmite now offers **seven industrial** assortments in addition to the four service assortments that have been so popular for many years. In this complete line, there is an assortment to fill every industrial and service need. An attractive plastic cabinet or cabinet assembly is furnished at no extra cost with each assortment. Each drawer of a single 5-drawer cabinet has eight compartments, all individually labeled. Dimensions of the single cabinet are 9" long, 4¾" high, 5¼" deep. Dovetail tops and bottoms facilitate stacking. Cabinet assemblies for industrial assortments are riveted to metal strips which afford rigidity and permit hanging of the unit on the wall.

Of the seven industrial assortments, there are three ±10% tolerance assortments of ¼, ½ or 1 watt sizes each containing 80 values. A two-cabinet assembly is furnished for these assortments. Four 5% tolerance assortments provide 160 values each of resistors in the ⅛, ¼, ½, or 1 watt sizes. A four-cabinet assembly is furnished for each of these assortments.

The four popular **service** assortments provide ±10% tolerance resistors in a single cabinet in ¼, ½, 1 or 2 watt sizes.

Cabinets are factory packed in accordance with the tables shown below.

11 ASSORTMENTS

Assortment	Stock No.	Quantity of Resistors	Wattage Size	Net Price
INDUSTRIAL ±10% Tolerance 80 Resistance Values 2 Cabinets	CAB-25 CAB-26 CAB-27	1000 1000 600	¼ ½ 1	$ 70.00 60.00 54.00
INDUSTRIAL ±5% Tolerance 160 Resistance Values 4 Cabinets	CAB-45 CAB-46 CAB-47 CAB-48	1000 1500 1500 900	⅛ ¼ ½ 1	225.00 210.00 180.00 160.00
RADIO & TV SERVICE KITS ±10% Tolerance 37 Values—CAB-4 40 Values—Others 1 Cabinet	CAB-4 CAB-10 CAB-2 CAB-3	150 150 125 125	¼ ½ 1 2	19.50 18.00 22.50 30.00

Prices Subject to Change Without Notice

10% TOLERANCE ASSORTMENTS

10% Resistance Values	Quantities In Each Assortment — Service Assortments Cab-4 ¼ W	Cab-10 ½ W	Cab-2 1 W	Cab-3 2 W	Industrial Assortments Cab-25 ¼ W	Cab-26 ½ W	Cab-27 1 W
2.7					5	5	10
3.3					5	5	5
3.9					5	5	5
4.7					5	5	10
5.6					5	5	5
6.8					5	5	10
10		1	1	1	20	20	10
12					5	5	5
15		1	1	1	5	5	10
18					5	5	5
22					5	5	10
27		1	1	1	5	5	10
33					5	5	10
39					5	5	5
47	5	1	1	1	20	20	10
56					5	5	5
68					5	5	5
82					5	5	5
100	5	5	1	1	30	30	10
120					5	5	5
150	1	1	1	1	20	15	10
180					5	5	5
220					20	20	10
270	3	3	1	1	30	15	10
330	1	1	1	1	20	15	10
390					5	5	10
470	3	3	1	1	20	30	10
560					5	15	10
680	1	1	1	1	20	15	10
820					5	5	5
1,000	10	5	3	3	5	30	10
1,200					5	5	10
1,500	5	1	1	1	20	20	10
1,800					5	15	5
2.200	10	1	1	1	30	30	10
2,700	5	3	3	3	20	15	10
3,300					30	20	10
3,900					20	5	10
4,700	10	10	5	5	30	30	10
5.600					5	20	5
6,800					5	5	10
8,200					5	5	5
10,000					5	5	5
12,000					5	5	5
15,000					5	5	5
18,000					5	5	10
22,000					5	5	5
27,000					5	5	5
33,000					5	5	10
39,000					5	5	5
47,000					5	5	10
56,000					5	5	10
68,000					5	5	10
82,000					5	5	10
0.10 meg.					20	20	10
0.12 meg.					5	5	5
0.15 meg.					5	5	5
0.18 meg.					5	5	5
0.22 meg.					30	30	10
0.27 meg.					5	5	5
0.33 meg.					20	15	10
0.39 meg.					5	5	5
0.47 meg.					20	20	10
0.56 meg.					30	15	10
0.68 meg.					20	15	10
0.82 meg.					5	5	10
1.0 meg.					20	30	10
1.2 meg.					5	15	10
1.5 meg.					20	15	10
1.8 meg.					5	5	5
2.2 meg.					5	30	10
2.7 meg.					5	5	10
3.3 meg.					20	15	5
3.9 meg.					5	5	5
4.7 meg.					5	15	10
5.6 meg.					30	20	10
6.8 meg.					30	20	10
10.0 meg.					20	5	10
15.0 meg.					30	30	10
22.0 meg.					5	20	5

5% TOLERANCE ASSORTMENTS

5% Resistance Values	Quantities In Each Assortment — Industrial Assortments Cab-45 ⅛ W	Cab-46 ¼ W	Cab-47 ½ W	Cab-48 1 W
2.7	5	5	5	5
3.0	5	5	5	5
3.3	5	5	5	5
3.6	5	5	5	5
3.9	5	5	5	5
4.7	5	5	5	5
5.1	5	5	5	5
5.6	5	5	5	5
6.8	5	5	5	5
7.5	5	5	5	5
8.2	5	5	5	5
9.1	5	5	5	5
10	20	25	30	10
11	5	5	5	5
12	5	5	5	5
13	5	5	5	5
15	5	5	5	5
16	5	5	5	5
18	5	5	5	5
20	5	5	5	5
22	5	5	5	5
24	5	5	5	5
27	5	5	15	5
30	5	5	5	5
33	5	5	5	5
36	5	5	5	5
39	5	5	5	5
43	5	5	5	5
47	10	10	5	5
51	10	10	15	10
56	5	5	5	5
62	5	5	5	5
68	5	5	5	5
75	5	5	20	5
82	5	5	5	5
91	5	5	5	5
100	20	30	30	10
110	5	5	5	5
120	5	5	5	5
130	5	5	5	5
150	5	10	15	10

5% Resistance Values	Quantities In Each Assortment — Industrial Assortments Cab-45 ⅛ W	Cab-46 ¼ W	Cab-47 ½ W	Cab-48 1 W
160	5	5	5	5
180	20	5	5	5
200	5	5	15	10
220	10	25	15	10
240	5	5	5	5
270	5	10	15	10
300	5	5	5	5
330	5	25	15	10
360	5	5	5	5
390	5	10	15	5
430	5	5	5	5
470	10	25	20	10
510	5	10	15	10
560	5	10	15	5
620	5	5	15	5
680	5	10	5	10
750	5	5	5	5
820	5	10	5	5
910	5	5	5	5
1,000	20	30	30	10
1,100	5	5	5	5
1,200	10	25	15	10
1,300	5	5	5	5
1,500	20	10	20	5
1,600	5	5	5	5
1,800	5	25	15	5
2,000	20	25	30	10
2,200	20	30	30	10
2,400	5	10	5	5
2,700	10	25	15	5
3,000	5	10	15	5
3,300	5	25	30	5
3,600	5	5	5	5
3,900	10	25	15	5
4,300	5	5	5	5
4,700	20	30	30	10
5,100	10	25	15	5
5,600	5	25	15	5
6,200	5	10	5	5
6,800	5	30	20	5
7,500	5	5	5	5
8,200	5	25	15	5
9,100	5	5	5	5
10,000	20	30	30	10
11,000	5	5	5	5
12,000	10	25	20	5
13,000	5	5	5	5
15,000	5	30	30	5
16,000	5	5	5	5
18,000	5	10	15	5
20,000	5	25	15	5
22,000	5	25	30	10
24,000	5	5	15	5
27,000	5	10	15	5
30,000	5	10	5	5
33,000	5	25	20	5
36,000	5	5	5	5
39,000	5	10	15	5
43,000	5	5	5	5
47,000	10	25	20	10
51,000	5	10	15	5
56,000	5	5	15	5
62,000	5	5	5	5
68,000	5	10	15	5
75,000	5	5	5	5
82,000	5	10	5	5
91,000	5	5	5	5
0.10 meg.	20	30	30	10
0.11 meg.	5	5	5	5
0.12 meg.	5	5	5	5
0.13 meg.	5	5	5	5
0.15 meg.	5	10	15	5
0.16 meg.	5	5	5	5
0.18 meg.	5	5	5	5
0.20 meg.	5	10	5	5
0.22 meg.	5	5	15	5
0.24 meg.	5	5	5	5
0.27 meg.	5	5	5	5
0.30 meg.	5	5	5	5
0.33 meg.	5	5	5	5

5% Resistance Values	Quan. In Each Assort. Industrial Assortments Cab-45 ⅛ W	Cab-46 ¼ W	Cab-47 ½ W	Cab-48 1 W
0.36 meg.	5	5	5	5
0.39 meg.	5	5	5	5
0.43 meg.	5	5	5	5
0.47 meg.	5	10	20	5
0.51 meg.	5	5	5	5
0.56 meg.	5	5	5	5
0.62 meg.	5	5	5	5
0.68 meg.	5	5	5	5
0.75 meg.	5	5	5	5
0.82 meg.	5	5	5	5
0.91 meg.	5	5	5	5
1.0 meg.	5	25	20	5
1.1 meg.	5	5	5	5
1.2 meg.	5	5	5	5
1.3 meg.	5	5	5	5
1.5 meg.	5	10	5	5
1.6 meg.	5	5	5	5
1.8 meg.	5	5	5	5
2.0 meg.	5	5	5	5
2.2 meg.	5	5	5	5
2.4 meg.	5	5	5	5
2.7 meg.	5	5	5	5
3.0 meg.	5	5	5	5
3.3 meg.	5	5	5	5
3.6 meg.	5	5	5	5
3.9 meg.	5	5	5	5
4.3 meg.	5	5	5	5
4.7 meg.	5	5	5	5
5.1 meg.	5	5	5	5
5.6 meg.	5	5	5	5
6.2 meg.	5	5	5	5
6.8 meg.	5	5	5	5
7.5 meg.	5	5	5	5
8.2 meg.	5	5	5	5
10.0 meg.	5	5	5	5
12.0 meg.	5	5	5	5
15.0 meg.	5	5	5	5
18.0 meg.	5	5	5	5
20.0 meg.	5	5	5	5
22.0 meg.	5	5	5	5

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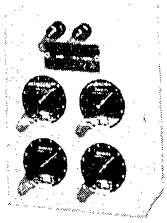
OHMITE determohm® resistance box

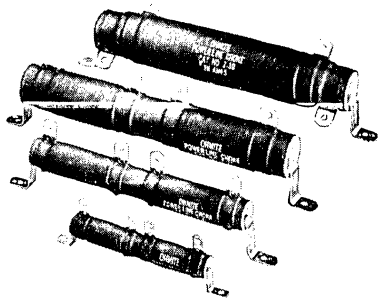


The "Determohm" is a convenient resistance box for service, engineering, experimental work and schools. Used widely to determine replacement resistors in radio sets; as a voltmeter multiplier; with ohm-meter; in resistance bridge circuits and in many other applications. Resistance elements are wire-wound resistors selected by four tap switches. The third and fourth decades of Determohm Stock No. 3404, contain 1 watt "Little Devil" composition resistors. The "Determohm" may be connected directly in circuits which do not cause it to dissipate more than one watt for each switch tap connected in the circuit. Compact and sturdy. Enclosed in an attractive grey wrinkle-finish metal case.

Dimensions: 6¾₁₆"x8⅛"x3¼" Resistance tolerance ±5%

Resistance — 1,000 to 9,999,000 Ohms ..... Stock No. 3404
Resistance — 100 to 999,900 Ohms ..... Stock No. 3401
Resistance — 10 to 99,990 Ohms ..... Stock No. 3402
Resistance — 1 to 9,999 Ohms ..... Stock No. 3403
Weight 3.3 lbs. ..... Net Price $51.20

power line chokes

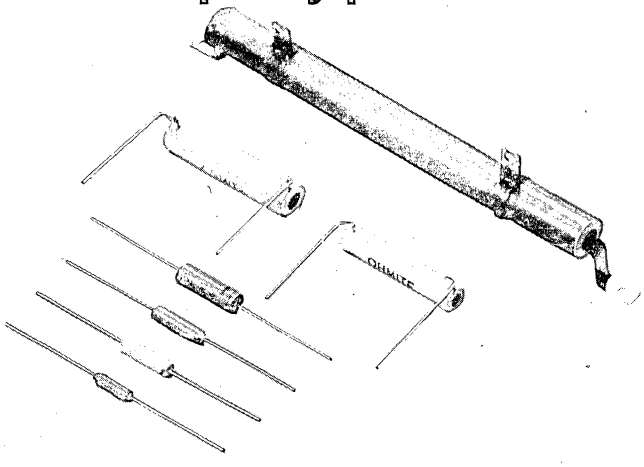


Stock No.	Total Micro-henries	Amps.	Total D.C. Ohms	Core	Weight lbs.	Net 1-9
Z-20	14	5	0.15	4" x 7/16"	.11	$2.07
Z-21	15	10	0.07	6½" x ¾"	.31	2.72
Z-22	18	20	0.045	8½" x 1⅛"	.73	6.26
*Z-30	104	20	0.085	8½" x 1⅛"	1.45	7.71

*One section is wound as a second layer over the other.
Non-magnetic brackets furnished with each choke.

Prevents high-frequency currents of radio transmitters, diathermy and therapeutic equipment from going out over the power lines and interfering with nearby radio receiving sets. They are used as filters in conjunction with two grounding capacitors of 0.1 microfarad capacity each. The Z-20 Choke is also used at radio receivers to keep out interference. All chokes consist of two, single-layer windings on a single ceramic core, insulated and protected by moisture-proof coating.

radio frequency plate chokes



This series of seven, single-layer-wound, solenoid type radio frequency plate chokes, covers the entire frequency range of 3 to 520 megacycles. The stock number corresponds to the approximate frequency at which maximum efficiency will be obtained, but the chokes may be used at any other frequencies within their operating ranges, as listed in the price table.

Chokes of the four highest frequencies are wound on low power factor plastic cores while the other three units are wound on steatite tubes. Windings are insulated and protected by a moisture-proof coating. The single layer winding is designed to avoid adverse harmonic effects and also prevents breakdown from high r.f. potentials. Non-magnetic mounting brackets are furnished with the largest size, Z-7. The Z-14 and Z-28 have wire leads welded to lug type terminals; the Z-50, Z-144, Z-235 and Z-460 have axial-type wire leads.

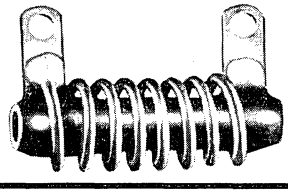
Stock No.	Operating Range	Inductance μh	Resonant Freq. Mc	Core	Wt. lbs.	Net 1-9
Z-7	3 to 20 Mc.	84.0	13	6" x 7/16"	.106	$1.44
Z-14	7 to 35 Mc.	44.0	23	2" x 7/16"	.026	.71
Z-28	20 to 60 Mc.	21.0	41	1¾" x 5/16"	.011	.60
Z-50	35 to 110 Mc.	7.0	79	1" x 3/32"	.005	.48
Z-144	80 to 200 Mc.	1.8	168	¾" x 3/16"	.002	.45
Z-235	160 to 350 Mc.	0.84	300	¾" x 3/16"	.002	.45
Z-460	320 to 520 Mc.	0.20	500	½" x 3/32"	.001	.45

Non-magnetic Brackets Furnished with Z-7.
All chokes 1000 ma. rating except Z-14 and Z-28. These are rated at 600 ma.

Any one of these chokes may be selected for a particular frequency within its recommended operating range with the assurance that it will give excellent performance. Selection should be made, however, subject to the following qualification. It is generally advisable to select a choke with a resonant frequency (see chart) slightly higher than the desired operating frequency since any additional capacity to ground will tend to shift the resonant frequency closer to the operating frequency. Also, for this reason, the frequency designated by the catalog number of a choke is lower than its natural resonant frequency.

For more complete data write for Catalog 900.

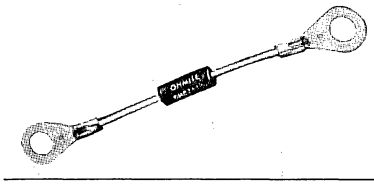
parasitic suppressor



The P-300 Suppressor is designed to prevent unwanted ultra-high-frequency parasitic oscillations which occur in the plate and grid leads of push-pull and parallel tube circuits. The P-300 is a non-inductive, 50 ohm, vitreous enameled resistor combined with a choke (in parallel) of .3 microhenries inductance and .003 ohms D.C. resistance. The two form a small integral unit only 1¾" long overall and 21/32" diameter. The unit may be mounted directly in the grid lead without extra support.

Model P-300 Wt. .04 lb. ..... Net 1-9 $1.66

diode metersaver protects meters



Designed to protect sensitive (high internal resistance) meters against burnout due to overload even where potential is reversed. Introduces negligible error. Consists of 2 silicon diodes in compact case with leads and lugs. Connects across meter terminals without regard for polarity. Shunts excess current around meters — for example, can convert 200 times overload to 3 times overload. Allows use of less expensive meter fuses. Can be used with meters of low internal resistance but use of series resistor is then recommended.

Stock No. OMC7111 ..... Net (1-99) $1.98

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OHMITE PAGE 15

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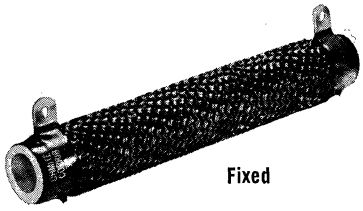
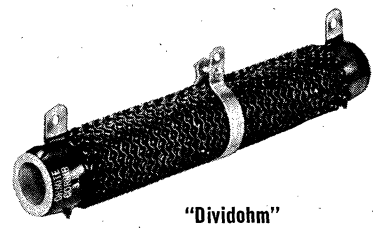
OHMITE corrib® HIGH CURRENT LOW OHMS resistors



Fixed



"Dividohm"

High current, low resistance, heavy duty units used in motor starting, dynamic braking, etc. "Corrib" type units employ a corrugated ribbon of resistance alloy. This is space-wound edge-wise around a ceramic tube. Vitreous enamel is fused around the alloy ribbon to lock the turns securely in place. Heavy lug terminals. Resistance tolerance is ±10%.

Available in fixed or "Dividohm" adjustable types. "Dividohm" type is similar to fixed and includes one adjustable lug. Rating of Fixed or Dividohm stock units—300 watts—reduce unit load for stack-mounted resistors; core size (bare) 8½" long x1⅛" diameter. Other sizes made to order.

STOCK CORRIBS — 300 WATT SIZE
Type 280 Fixed; 230 Dividohm

Core: 8½x1⅛" Fixed or Adjustable (DIVIDOHM)
Avg. Weight (Fixed) .61 lb.; (Dividohm) .64 lb.

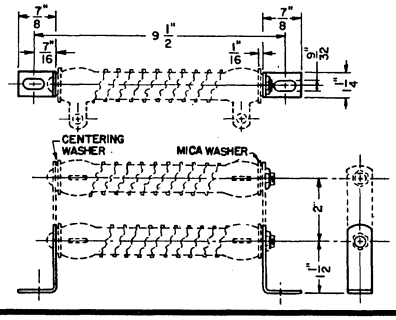
Ohms	Amps.	Fixed Stock No. [1]	Fixed Net 1-9	Dividohm* Stock No.	Dividohm* Net 1-9
.10	54.7	2501	$5.05	2601	$5.95
.12	50.0	2502	5.05	2602	5.95
.16	43.3	2503	5.05	2603	5.95
.20	38.7	**2504**	5.05	2604	5.95
.25	34.6	2505	4.35	**2605**	5.25
.31	31.1	**2506**	4.35	2606	5.25
.40	27.4	2507	4.35	2607	5.25
.50	24.5	**2508**	4.35	**2608**	5.25
.63	21.8	2509	4.35	2609	5.25
.80	19.3	**2510**	4.35	2610	5.25
1.0	17.3	**2511**	3.55	**2611**	4.55
1.2	15.8	**2512**	3.55	2612	4.55
1.6	13.7	2513	3.55	2613	4.55
2.0	12.2	**2514**	3.55	2614	4.55
2.5	10.9	2515	3.55	2615	4.55
3.1	9.8	**2516**	3.55	**2616**	4.55
4.0	8.6	**2517**	3.55	2617	4.55
5.0	7.7	**2518**	3.55	2618	4.55
6.3	6.9	**2519**	3.55	**2619**	4.55
8.0	6.1	2520	3.55	**2620**	4.55
10.0	5.5	**2521**	3.55	**2621**	4.55
12.0	5.0	2522	3.55	2622	4.55
16.0	4.3	2523	3.55	2623	4.55
20.0	3.8	2524	3.55	**2624**	4.55

*Adjustable Lug Stk. No. 1974 supplied with Dividohm.

THRU-BOLT MOUNTING BRACKETS FOR CORRIBS

Includes 2 brackets; bolt; centering, mica, and lock washers; nuts. Diagram below.

No. of Resistors	Stock No.	Net 1-9
1	6126P8½	$ .55
2	6127P8½	1.08
3	6128P8½	1.49
4	6129P8½	1.76



EXTRA ADJUSTABLE LUGS FOR CORRIBS

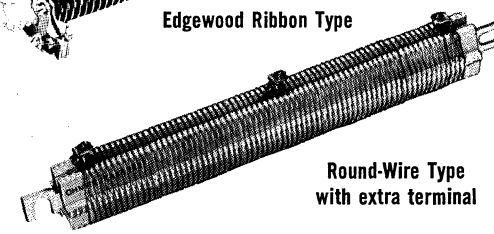
For Dividohm	Lug Stock No.	Net $ 1-9
2601 to 2618	1974-B	$ .24
2619 to 2624	1974-A	.24

powr-rib® HIGH CURRENT LOW OHMS resistors

Even higher power handling capability—approximately 700 to 1000 watts—is available in stock, "Powr-Rib" resistors. These are UNCOATED types and are wound either edgewise with ribbon ("Edgewound" type) or with round wire (Round-Wire type).

The core of these units consists of ceramic segments on a metal bar which is slotted on both ends for rapid installation. Standard resistance tolerance is ±10%. Terminals clamp onto the resistor wire and may be moved in from the ends for intermediate resistance values. Extra terminals available for use as taps. See diagrams for terminals. Terminal Stk. No. 2172G (not shown) has screw connections.

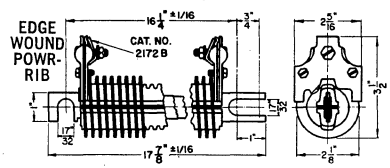
Edgewood Ribbon Type



Round-Wire Type with extra terminal

STYLE 080-5 EDGEWOUND POWR-RIBS

Ohms*	H ±⅛	D +⅛ —0
.10-.22	3 5/16	2⅛
.25-1.00	3⅛	1⅞
1.30-1.60	2 5/16	1⅞
2.2, 2.8, 4.5, 5.4	2½	1¾
3.5, 6.8, 8.5	2 5/16	1⅝

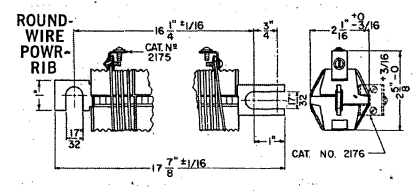


*.10 to 1.00 Ω with terminal No. 2172B
1.3 to 8.5 Ω with terminal No. 2172G

Avg. Weight .18Ω or less, 4 lbs.; .22Ω and up, 2 lbs.

Stock No. [1]	Ohms	Max. Amps.	Net 1 Qty.	Stock No.	Ohms	Max. Amps.	Net 1 Qty.
2301	.10	100	$27.00	2318	.67	41	$16.80
2302	.12	91	23.75	**2311**	.75	39	16.05
2303A	.14	89	19.75	**2312**	1.00	33	13.55
2304A	.16	78	18.60	**2319**	1.30	29	11.85
2305A	.18	75	17.65	**2313**	1.60	26	10.90
2306A	.22	68	15.10	**2331A**	2.20	18.4	8.70
2306	.25	63	14.50	**2332A**	2.80	16.3	8.00
2308A	.30	57	13.25	**2333A**	3.50	14.6	7.15
2308	.33	54	12.40	2334A	4.50	12.7	12.70
2309A	.37	50	11.65	**2335A**	5.40	11.8	11.85
2310	.50	47	19.75	**2336A**	6.80	10.3	11.25
2317	.60	43	17.85	**2337A**	8.50	9.4	10.40

STYLE 082-5 ROUND-WIRE POWR-RIBS



Avg. Weight 3¼ lbs.

Stock No.	Ohms	Max. Amps.	Net 1 Qty.
2338	11.0	8.3	$14.05
2339	13.0	7.6	13.75
2340	17.0	6.6	13.45
2341	20.0	5.9	13.25
2342	25.0	5.1	13.15

EXTRA TERMINALS

For Round Wire Powr-Rib			For Edgewound Powr-Rib		
Descrip.	Stock No.	Net 1 Qty.	Descrip.	Stock No.	Net 1 Qty.
In-Line Mtg.	2175	$ .64	30 Amps & more	2172B	$1.17
90° Mtg.	2176	1.12	29 Amps & less	2172G	.44

[1] ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

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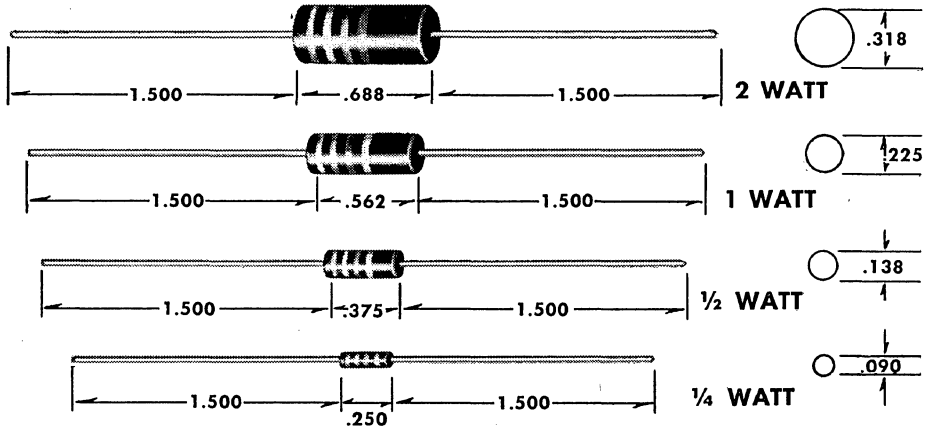
STACKPOLE

FIXED COMPOSITION RESISTORS



Stackpole Resistors offer superior performance in terms of load life, moisture resistance, shelf life, and other important characteristics. Available in ¼, ½, 1, and 2 watt insulated types in resistance values with 5%, 10% and 20% tolerances as shown below.

EASIEST SOLDERING

is asured thanks to an exclusive extra solder coating applied after the usual tin dipping. Leads of Stackpole Resistors solder readily by any method—dip or iron—stay tarnish free even after months in storage. And, their baked-on color codes resist solvent scrubbing operations . . . maintain uniform, attractive appearance.

269 STANDARD VALUES FOR MODERN CIRCUITRY

±20%	±10%	±5%	±20%	±10%	±5%	±20%	±10%	±5%	±20%	±10%	±5%
10	10	10		390	390	15000	15000	15000		560000	560000
		11			430			16000			620000
	12	12	470	470	470		18000	18000	680000	680000	680000
		13			510			20000			750000
15	15	15		560	560	22000	22000	22000		820000	820000
		16			620			24000			910000
	18	18	680	680	680		27000	27000	1.0 Meg	1.0 Meg	1.0 Meg
		20			750			30000			1.1 Meg
22	22	22		820	820	33000	33000	33000		1.2 Meg	1.2 Meg
		24			910			36000			1.3 Meg
	27	27	1000	1000	1000		39000	39000	1.5 Meg	1.5 Meg	1.5 Meg
		30			1100			43000			1.6 Meg
33	33	33		1200	1200	47000	47000	47000		1.8 Meg	1.8 Meg
		36			1300			51000			2.0 Meg
	39	39	1500	1500	1500		56000	56000	2.2 Meg	2.2 Meg	2.2 Meg
		43			1600			62000			2.4 Meg
47	47	47		1800	1800	68000	68000	68000		2.7 Meg	2.7 Meg
		51			2000			75000			3.0 Meg
	56	56	2200	2200	2200		82000	82000	3.3 Meg	3.3 Meg	3.3 Meg
		62			2400			91000			3.6 Meg
68	68	68		2700	2700	100000	100000	100000		3.9 Meg	3.9 Meg
		75			3000			110000			4.3 Meg
	82	82	3300	3300	3300		120000	120000	4.7 Meg	4.7 Meg	4.7 Meg
		91			3600			130000			5.1 Meg
100	100	100		3900	3900	150000	150000	150000		5.6 Meg	5.6 Meg
		110			4300			160000			6.2 Meg
	120	120	4700	4700	4700		180000	180000	6.8 Meg	6.8 Meg	6.8 Meg
		130			5100			200000			7.5 Meg
150	150	150		5600	5600	220000	220000	220000		8.2 Meg	8.2 Meg
		160			6200			240000			9.1 Meg
	180	180	6800	6800	6800		270000	270000	10.0 Meg	10.0 Meg	10.0 Meg
		200			7500			300000			11.0 Meg
220	220	220		8200	8200	330000	330000	330000		12.0 Meg	12.0 Meg
		240			9100			360000			13.0 Meg
	270	270	10000	10000	10000		390000	390000	15.0 Meg	15.0 Meg	15.0 Meg
		300			11000			430000			16.0 Meg
330	330	330		12000	12000	470000	470000	470000		18.0 Meg	18.0 Meg
		360			13000			510000			20.0 Meg
									22.0 Meg	22.0 Meg	22.0 Meg

AVAILABLE THROUGH LEADING INDUSTRIAL ELECTRONIC PARTS DISTRIBUTORS

Electronic Components Div., STACKPOLE CARBON COMPANY

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PRECISION CARBON FILM RESISTORS

proven quality resistors

Carbon Film Resistors are composed of a basic substrate of strong non-hygroscopic steatite to which is applied a coating of high stability carbon film. Units are processed at high temperature to insure stability and minimize aging and humidity effects. A protective coating of high temperature electrical varnish covers the resistance element. Special applications include resistive coating of custom forms, anti-corona provisions and numerous others. Military items presently include the several styles of Mil-R-14293.

HIGH VOLTAGE RESISTORS
Resistance — to 100 Gigaohms (100X10^9)
Voltage — to 125000 Volts
Wattage — to 100 Watts

ENCAPSULATED HIGH VOLTAGE RESISTORS
Above types encapsulated into filled epoxy resin in values to 1 Gigaohm (1X10^9)

HIGH FREQUENCY RESISTORS
Resistance — 20 ohms to 100 Megohms
Voltage — to 12500 Volts
Wattage — to 100 Watts

HIGH MEGOHM RESISTORS
Resistance — 1 Megohm to 100 Teraohms (1X10^{14})
Voltage — to 40000 Volts
Wattage — to 10 Watts

TYPE	Watts MAX.	Volts MAX.	OHMS MIN.	OHMS MAX.	DIMENSIONS INCHES L	DIMENSIONS INCHES D
Radial Lugs						
BBF	1	3500	10K	10G	1	5/16
BBM	2	7500	10K	25G	1 3/4	5/16
BBR	3	15000	20K	25G	3	5/16
BBV	5	30000	40K	25G	5 1/2	5/16
BFQ	4	15000	20K	25G	2 1/2	9/16
BFT	6	25000	40K	25G	4	9/16
BFW	10	40000	70K	25G	6 1/2	9/16
Axial Wire Leads						
BAEW	5	2500	10K	1G	3/4	1/4
BAKW	1	5000	20K	2G	1 1/2	1/4
BBFW	1	3500	10K	10G	1	5/16
BBMW	2	7500	10K	25G	1 3/4	5/16
BBRW	3	15000	20K	25G	3	5/16
Radial Bands						
DJU	10	25KV	50K	100G	4 1/2	3/4
DPW	20	35KV	100K	100G	6 1/2	1 1/8
DPX	30	65KV	200K	100G	10 1/2	1 1/8
DVY	60	90KV	400K	100G	14 1/2	1 1/2
DZW	35	40KV	300K	100G	6 1/2	2
DZZ	100	125KV	700K	100G	18 1/2	2
Ferrule Ends						
DPW-1	20	35KV	100K	100G	7 11/16	1 1/8
DPX-1	30	65KV	200K	100G	11 11/16	1 1/8
DVY-1	60	90KV	400K	100G	15 11/16	1 1/2
DZW-1	35	40KV	300K	100G	7 11/16	2
DZZ-1	100	125KV	700K	100G	19 11/16	2
Axial Wire Leads MILITARY OR COMMERCIAL HERMETICALLY SEALED RESISTORS						
HSD	5	2500	1M	1T	7/8	.345
HSK	1	5000	1M	5T	1 5/8	.345

TYPE	Watts MAX.	Volts MAX.	OHMS MIN.	OHMS MAX.	DIMENSIONS INCHES L	DIMENSIONS INCHES D
Radial Lugs						
BP-2	2	10KV	100G	10G	2	5/16
BP-4	4	15KV	100G	10G	3 1/2	5/16
BP-6	6	30KV	100G	10G	6	5/16
BP-8	8	30KV	100G	10G	5	9/16
BP-10	10	60KV	100G	10G	11	5/16
BP-12	12	50KV	100G	10G	8	9/16
BP-20	20	80KV	100G	10G	13	9/16
Axial Wire Leads						
BP-1W	1	5KV	100G	10G	1 1/2	1/4
BP-2W	2	10KV	100G	10G	2	5/16
BP-4W	4	15KV	100G	10G	3 1/2	5/16
BP-6W	6	30KV	100G	10G	6	5/16

POWER RATING

Power ratings shown are maximum ratings for free air operation at an ambient temperature of 25°C. They are based on an average operating temperature of approx. 110°C. The hot spot temperature may not exceed 120°C.

VOLTAGE RATINGS

Voltage ratings shown are maximum ratings based on safe gradient for element length operated in free air.

RESISTANCE TOLERANCE

Type B, D and E Standard Tolerance is ±15%. Tolerances of ±10%, ±5% and ±3% can be furnished at additional cost.

RESISTANCE VALUE NOMENCLATURE

1,000 Ohms = 1 x 10^3 = 1 Kilohm = 1 K
1,000,000 Ohms = 1 x 10^6 = 1 Megohm = 1 M
1,000,000,000 Ohms = 1 x 10^9 = 1 Gigaohm = 1 G
1,000,000,000,000 Ohms = 1 x 10^{12} = 1 Teraohm = 1 T

RESISTOR NETWORKS — RPC manufactures numerous networks of precision and high voltage resistors. Most are designed to specific customer requirements; send your specifications or sketches for our review.

Ask for 18-page catalog with descriptions and parameters of our full line of products.

Our Business is Engineering, Designing and Manufacturing Resistors and Resistor Networks adaptable to Customer Needs and Specifications.

Resistance Products Co.

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PRECISION WIRE WOUND RESISTORS

...because we care first

TEMPERATURE COEFFICIENTS: Standard items are ±20 PPM/°C. Coefficients of ±3 to ±10PPM available.

RESISTANCE STABILITY: Average resistor has a time drift not exceeding .01% per year. Stabilities to .003% can be provided.

Resistances and tolerances not within military specifications are available as commercial equivalents.

COMMERCIAL STYLES

RADIAL LUG Ceramic Bobbin

TYPE	DIMENSIONS INCHES L	DIMENSIONS INCHES D	OHMS MAX.	VOLTS MAX.	WATTS MAX. 60°C
AFB	15/32	1/2	1.5M	300	0.50
AFC	5/8	1/2	2M	400	0.75
AFF	1	1/2	5M	800	1.00
AJS	1 9/32	11/16	7M	800	1.25
ALP	2 1/16	13/16	10M	1200	2.0

AXIAL WIRE LEAD Ceramic Bobbin

TYPE	DIMENSIONS INCHES L	DIMENSIONS INCHES D	OHMS MAX.	VOLTS MAX.	WATTS MAX. 60°C
CAB	9/16	9/32	500K	200	0.40
CAF	13/16	9/32	1.5M	400	0.50

AXIAL WIRE LEADS Epoxy Sealed

TYPE	DIMENSIONS INCHES L	DIMENSIONS INCHES D	AWG LEAD SIZE	OHMS MAX.	VOLTS MAX.	WATTS MAX. 25°C
LNC	1/4	1/8	22	200K	125	.25
LND	5/16	1/8	22	300K	200	.30
LNE	3/8	1/8	22	400K	250	.50
LME	1/2	3/16	22	500K	300	1.25
LAA	3/8	1/4	20	500K	150	1.30
LAC	1/2	1/4	20	750K	300	1.40
LAD	3/4	1/4	20	1M	600	1.60
LAF	13/16	5/16	20	1.5M	400	1.60
LBD	3/4	3/8	20	1.3M	400	1.75
LBF	1	3/8	20	2M	800	2.00
LED	5/8	1/2	20	2M	400	2.00
LEF	1	1/2	20	3M	800	2.25
LEK	1 1/2	1/2	20	5M	1000	3.00
LEO	2	1/2	20	10M	1200	4.00

RADIAL LUGS Epoxy Sealed

TYPE	DIMENSIONS INCHES L	DIMENSIONS INCHES D	OHMS MAX.	VOLTS MAX.	WATTS MAX. 25°C
LCE	1/2	1/2	1.5M	200	1.85
LFB	15/32	9/16	1.5M	300	1.85
LFC	5/8	9/16	2M	400	1.85
LFF	1	9/16	4M	800	2.25
LFK	1 1/2	9/16	7M	900	3.00
LJS	1 1/4	3/4	7M	800	4.00
LFO	2	9/16	10M	1200	4.50
LLP	2 1/8	7/8	10M	1200	5.25

MILITARY STYLES

MIL-R-93 Accurate Wirewound Resistors

TYPE	DIMENSIONS INCHES L	DIMENSIONS INCHES D	AWG LEAD SIZE	OHMS MAX.	VOLTS MAX.	WATTS MAX. 125°C
RB08	15/32	9/16	—	511K	300	.250
RB09	1/2	1/2	—	250K	200	.250
RB15	15/32	9/16	—	400K	300	.250
RB16	5/8	9/16	—	1M	300	.330
RB17	1	9/16	—	2M	600	.500
RB18	1 1/4	3/4	—	3.01M	600	.750
RB19	2 1/16	7/8	—	6.04M	900	1.00
RB72	1 1/2	1/2	—	3M	900	1.25
RB73	2	1/2	—	5M	1200	1.50
RB52	1	3/8	20	1.5M	600	.500
RB53	3/4	3/8	20	750K	300	.330
RB54	3/4	1/4	20	511K	300	.250
RB55	1/2	1/4	20	226K	250	.150
RB56	3/8	1/4	20	127K	150	.125
RB57	1	1/2	20	2M	600	.750
RB58	1 1/2	1/2	20	3.01M	900	1.000
RB59	2	1/2	20	5.11M	1200	1.250
RB70	.500	.375	20	301K	150	.250
RB71	.335	.270	22	100K	150	.125

MIL-R-29 Meter Multiplier Resistors

TYPE	DIMENSIONS INCHES A MAX.	DIMENSIONS INCHES B ± 1/32	DIMENSIONS INCHES C ± 1/64	OHMS MAX.	VOLTS MAX.
MFA 355	8 11/16	9 25/32	1 9/64	3.5M	3.5KV
405	8 11/16	9 25/32	1 9/64	4M	4.0KV
455	8 11/16	9 25/32	1 9/64	4.5M	4.5KV
505	8 11/16	9 25/32	1 9/64	5M	5.0KV
605	8 11/16	9 25/32	1 9/64	6M	6.0KV
MFB 105	4 3/16	5 9/32	1 9/64	1M	1.0KV
155	4 3/16	5 9/32	1 9/64	1.5M	1.5KV
205	4 3/16	5 9/32	1 9/64	2M	2.0KV
255	4 3/16	5 9/32	1 9/64	2.5M	2.5KV
305	4 3/16	5 9/32	1 9/64	3M	3.0KV
355	4 3/16	5 9/32	1 9/64	3.5M	3.5KV
MFC 504	12 5/32	21 5/16	13/16	500K	500
804	12 5/32	21 5/16	13/16	800K	800
105	12 5/32	21 5/16	13/16	1M	1.0KV
MFD 106	13 1/2	16 1/2	1 5/32	10M	10KV
MFE 156	20 1/2	23 1/2	1 5/32	15M	15KV
MFF 206	27 1/2	30 1/2	1 5/32	20M	20KV

FLEXIBLE FACILITIES...INFLEXIBLE STANDARDS

Resistance Products Co.

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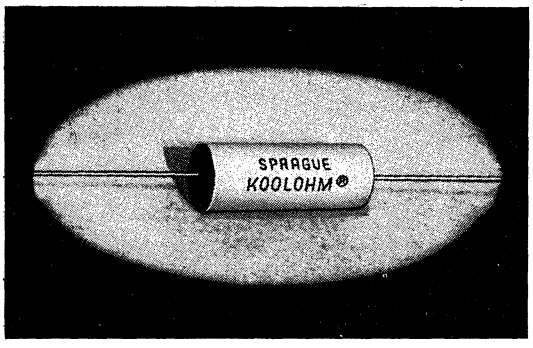
SPRAGUE RESISTORS

KOOLOHM® AXIAL-LEAD WIREWOUND RESISTORS
FOR INDUSTRIAL APPLICATIONS



- Types 450E, 452E, 454E, 456E and 458E are Standard Resistors. Types 451E, 453E, 455E, 457E and 459E are Non-Inductive Resistors

- Insulated-Shell Design for Easy Mounting
- Feature Improved Internal Construction in Which Windings and Leads are Welded to End-Cap for Superior Mechanical Strength
- Ceramic-Insulated Wire is Space Wound and Cemented, to Prevent Turn-to-Turn Shorting. Permits Higher Resistance Values in a Given Size Than in Conventional Resistors
- Non-Porous Tubular Ceramic Shells Sealed With High Temperature Silicone Cement
- Unexcelled Insulation and Mechanical Protection. Can be Mounted in Direct Contact With Chassis
- Call Your Sprague Industrial Distributor for Quantity Prices.
- For Complete Technical Details, Refer to Latest Issue of Sprague Engineering Bulletin 7300

	Type 450E 3 WATTS ¼" x 9/16"		Type 452E 5 WATTS ¼" x 1"		Type 454E 7 WATTS 15/32" x 15/16"		Type 456E 10 WATTS 15/32" x 1 29/32"		Type 458E 14 WATTS 15/32" x 1 29/32"	
Ohms	Cat. No.		Cat. No.		Cat. No.		Cat. No.		Cat. No.	
1	450E1R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	452E1R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	454E1R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	456E1R05	Call Your Sprague Industrial Distributor for Current Quantity Prices	458E1R05	Call Your Sprague Industrial Distributor for Current Quantity Prices
1.5	450E1R55		452E1R55		454E1R55		456E1R55		458E1R55	
2	450E2R05		452E2R05		454E2R05		456E2R05		458E2R05	
3	450E3R05		452E3R05		454E3R05		456E3R05		458E3R05	
4	450E4R05		452E4R05		454E4R05		456E4R05		458E4R05	
5	450E5R05		452E5R05		454E5R05		456E5R05		458E5R05	
7.5	450E7R55		452E7R55		454E7R55		456E7R55		458E7R55	
10	450E1005		452E1005		454E1005		456E1005		458E1005	
12	450E1205		452E1205		454E1205		456E1205		458E1205	
15	450E1505		452E1505		454E1505		456E1505		458E1505	
18	450E1805		———		———		———		———	
20	450E2005		452E2005		454E2005		456E2005		458E2005	
22	450E2205		———		———		———		———	
25	450E2505		452E2505		454E2505		456E2505		458E2505	
27	450E2705		———		———		———		———	
30	450E3005		452E3005		454E3005		456E3005		458E3005	
33	450E3305		———		———		———		———	
35	———		452E3505		454E3505		456E3505		458E3505	
39	450E3905		———		———		———		———	
40	450E4005		452E4005		454E4005		456E4005		458E4005	
47	450E4705		———		———		———		———	
50	450E5005		452E5005		454E5005		456E5005		458E5005	
56	450E5605		———		———		———		———	
68	450E6805		———		———		———		———	
75	450E7505		452E7505		454E7505		456E7505		458E7505	
82	450E8205		———		———		———		———	
100	450E1015		452E1015		454E1015		456E1015		458E1015	
120	450E1215		452E1215		454E1215		456E1215		458E1215	
150	450E1515		452E1515		454E1515		456E1515		458E1515	
180	450E1815		———		———		———		———	

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SPRAGUE RESISTORS

KOOLOHM AXIAL-LEAD WIREWOUND RESISTORS, continued

Ohms	Type 450E 3 WATTS ¼" x 9/16" Cat. No.	Type 452E 5 WATTS ¼" x 1" Cat. No.	Type 454E 7 WATTS 15/32" x 15/16" Cat. No.	Type 456E 10 WATTS 15/32" x 1 29/32" Cat. No.	Type 458E 14 WATTS 15/32" x 1 29/32" Cat. No.
200	450E2015	452E2015	454E2015	456E2015	458E2015
220	450E2215	452E2215	454E2215	456E2215	458E2215
250	450E2515	452E2515	454E2515	456E2515	458E2515
270	450E2715	———	———	———	———
300	450E3015	452E3015	454E3015	456E3015	458E3015
330	450E3315	———	———	———	———
350	———	452E3515	454E3515	456E3515	458E3515
390	450E3915	———	———	———	———
400	450E4015	452E4015	454E4015	456E4015	458E4015
450	———	452E4515	———	———	———
470	450E4715	———	———	———	———
500	450E5015	452E5015	454E5015	456E5015	458E5015
560	450E5615	———	———	———	———
600	450E6015	452E6015	454E6015	456E6015	458E6015
680	450E6815	———	———	———	———
700	450E7015	452E7015	454E7015	456E7515	458E7015
750	———	452E7515	454E7515	———	458E7515
800	450E8015	452E8015	454E8015	456E8015	458E8015
820	450E8215	———	———	———	———
900	450E9015	452E9015	454E9015	456E9015	458E9015
1000	450E1025	452E1025	454E1025	456E1025	458E1025
1100	———	452E1125	454E1125	456E1125	458E1125
1200	450E1225	452E1225	454E1225	456E1225	458E1225
1400	450E1425	452E1425	454E1425	456E1425	458E1425
1500	450E1525	452E1525	454E1525	456E1525	458E1525
1800	450E1825	452E1825	454E1825	456E1825	458E1825
2000	450E2025	452E2025	454E2025	456E2025	458E2025
2200	450E2225	452E2225	454E2225	465E2225	458E2225
2500	450E2525	452E2525	454E2525	456E2525	458E2525
2700	450E2725	———	———	———	———
3000	450E3025	452E3025	454E3025	456E3025	458E3025
3300	450E3325	———	454E3325	456E3325	458E3325
3500	———	452E3525	454E3525	456E3525	458E3525
3900	450E3925	———	454E3925	456E3925	458E3925
4000	450E4025	452E4025	454E4025	456E4025	458E4025
4500	———	452E4525	454E4525	456E4525	458E4525
4700	450E4725	———	———	———	———
5000	450E5025	452E5025	454E5025	456E5025	458E5025
5600	450E5625	———	———	———	———
6000	450E6025	452E6025	454E6025	456E6025	458E6025
6800	450E6825	———	———	———	———
7000	———	452E7025	454E7025	456E7025	458E7025
7500	450E7525	452E7525	454E7525	456E7525	458E7525
8000	450E8025	452E8025	454E8025	456E8025	458E8025
8200	450E8225	———	———	———	———
9000	450E9025	452E9025	454E9025	456E9025	458E9025
10000	450E1035	452E1035	454E1035	456E1035	458E.035
11000	———	———	454E1135	456E1135	458E1135
12000	———	452E1235	454E1235	456E1235	458E1235
14000	———	452E1435	454E1435	456E1435	458E1435
15000	———	452E1535	454E1535	456E1535	458E1535
16000	———	———	454E1635	456E1635	458E1635
18000	———	452E1835	454E1835	456E1835	458E1835
20000	———	452E2035	454E2035	456E2035	458E2035
22000	———	———	454E2235	456E2235	———
25000	———	———	454E2535	456E2535	———
30000	———	———	454E3035	456E3035	———
35000	———	———	454E3535	456E3535	———
40000	———	———	454E4035	456E4035	———
45000	———	———	———	456E4535	———
50000	———	———	———	456E5035	———
60000	———	———	———	456E6035	———
70000	———	———	———	456E7035	———

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SPRAGUE RESISTORS

NON-INDUCTIVE KOOLOHM AXIAL-LEAD WIREWOUND RESISTORS

Ohms	Type 451E 3 WATTS 1/4" x 9/16" Cat. No.	Type 453E 5 WATTS 1/4" x 1" Cat. No.	Type 455E 7 WATTS 15/32" x 15/16" Cat. No.	Type 457E 10 WATTS 15/32" x 1 29/32" Cat. No.	Type 459E 14 WATTS 15/32" x 1 29/32" Cat. No.
1	451E1R05	453E1R05	455E1R05	457E1R05	459E1R05
1.5	451E1R55	453E1R55	455E1R55	457E1R55	459E1R55
2	451E2R05	453E2R05	455E2R05	457E2R05	459E2R05
3	451E3R05	453E3R05	455E3R05	457E3R05	459E3R05
4	451E4R05	453E4R05	455E4R05	457E4R05	459E4R05
5	451E5R05	453E5R05	455E5R05	457E5R05	459E5R05
7.5	451E7R55	453E7R55	455E7R55	457E7R55	459E7R55
10	451E1005	453E1005	455E1005	457E1005	459E1005
12	451E1205	453E1205	455E1205	457E1205	459E1205
15	451E1505	453E1505	455E1505	457E1505	459E1505
18	451E1805	———	———	———	———
20	451E2005	453E2005	455E2005	457E2005	459E2005
22	451E2205	———	———	———	———
25	451E2505	453E2505	455E2505	457E2505	459E2505
27	451E2705	———	———	———	———
30	451E3005	453E3005	455E3005	457E3005	459E3005
33	451E3305	———	———	———	———
35	451E3505	453E3505	455E3505	457E3505	459E3505
39	451E3905	———	———	———	———
40	451E4005	453E4005	455E4005	457E4005	459E4005
47	451E4705	———	———	———	———
50	451E5005	453E5005	455E5005	457E5005	459E5005
56	451E5605	———	———	———	———
68	451E6805	———	———	———	———
75	451E7505	453E7505	455E7505	457E7505	459E7505
82	451E8205	———	———	———	———
100	451E1015	453E1015	455E1015	457E1015	459E1015
120	451E1215	453E1215	455E1215	457E1215	459E1215
150	451E1515	453E1515	455E1515	457E1515	459E1515
180	451E1815	———	———	———	———
200	451E2015	453E2015	455E2015	457E2015	459E2015
220	451E2215	453E2215	455E2215	457E2215	459E2215
250	451E2515	453E2515	455E2515	457E2515	459E2515
270	451E2715	———	———	———	———
300	451E3015	453E3015	455E3015	457E3015	459E3015
330	451E3315	———	———	———	———
350	451E3515	453E3515	455E3515	457E3515	459E3515
390	451E3915	———	———	———	———
400	451E4015	453E4015	455E4015	457E4015	459E4015
450	451E4515	453E4515	———	———	———
470	451E4715	———	———	———	———
500	451E5015	453E5015	455E5015	457E5015	459E5015
560	———	———	———	———	———
600	———	453E6015	455E6015	457E6015	459E6015
680	———	———	———	———	———
700	———	453E7015	455E7015	457E7015	459E7015
750	———	453E7515	455E7515	457E7515	459E7515
800	———	453E8015	455E8015	457E8015	459E8015

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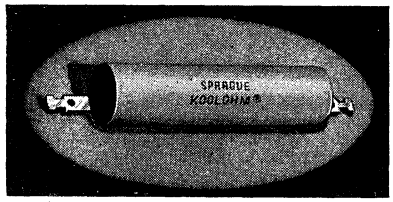
SPRAGUE RESISTORS

NON-INDUCTIVE KOOLOHM AXIAL-LEAD WIREWOUND RESISTORS (Cont.)

Ohms	Type 451E 3 WATTS 1/4" x 9/16" Cat. No.	Type 453E 5 WATTS 1/4" x 1" Cat. No.	Type 455E 7 WATTS 15/32" x 15/16" Cat. No.	Type 457E 10 WATTS 15/32" x 1 29/32" Cat. No.	Type 459E 14 WATTS 15/32" x 1 29/32" Cat. No.
820	———	———	———	———	———
900	———	453E9015	455E9015	457E9015	459E9015
1000	———	453E1025	455E1025	457E1025	459E1025
1100	———	453E1125	455E1125	457E1125	459E1125
1200	———	453E1225	455E1225	457E1225	459E1225
1400	———	———	455E1425	457E1425	459E1425
1500	———	———	455E1525	457E1525	459E1525
1800	———	———	455E1825	457E1825	459E1825
2000	———	———	455E2025	457E2025	459E2025
2200	———	———	455E2225	457E2225	459E2225
2500	———	———	455E2525	457E2525	459E2525
3000	———	———	———	457E3025	459E3025
3300	———	———	———	457E3325	459E3325
3500	———	———	———	457E3525	459E3525
3900	———	———	———	457E3925	459E3925
4000	———	———	———	457E4025	459E4025
4500	———	———	———	457E4525	459E4525
5000	———	———	———	457E5025	459E5025

Call Your Sprague Industrial Distributor for Quantity Prices

Commercial Tab-Terminal KOOLOHM® Wirewound Resistors



- Ceramic Outer Jacket. May be Mounted Anywhere—Even Flat Against Chasis or Grounded Parts.
- Each resistor is Tropicallized by a Glazed Ceramic Outer Coating and Improved End Seals Which Offer Complete Protection Against Moisture or Any Other Climatic Conditions
- Extremely High Insulation Resistance—10,000 Volts From Surface of Ceramic Jacket to Inner Resistance Elements
- Insulated Wire Permits Winding Higher Values in Layers Which Means Much Smaller Physical Sizes for Each Wattage Rating
- Insulated Wire Permits True Non-Inductive Wound Designs
- Standard Resistance Tolerance: ±5%
- These Resistors Are Also Available in 5 and 10 Watt Ratings, Axial-Lead Style. See Latest Issue of Sprague Catalog C-618

TYPE KT STANDARD RESISTORS

Ohms	Type 25KT 25 Watts Cat. No.	Type 50KT 50 Watts Cat. No.	Type 120KT 120 Watts Cat. No.
5	25KT5R05	50KT5R05	120KT5R05
10	25KT1005	50KT1005	120KT1005
25	25KT2505	50KT2505	120KT2505
50	25KT5005	50KT5005	120KT5005
75	25KT7505	50KT7505	120KT7505
100	25KT1015	50KT1015	120KT1015
150	25KT1515	50KT1515	120KT1515
200	25KT2015	50KT2015	120KT2015
250	25KT2515	50KT2515	120KT2515
390	———	———	120KT3915
500	25KT5015	50KT5015	120KT5015
600	25KT6015	50KT6015	120KT6015
750	25KT7515	50KT7515	120KT7515
1000	25KT1025	50KT1025	120KT1025
1500	25KT1525	50KT1525	120KT1525
2000	25KT2025	50KT2025	120KT2025
2500	25KT2525	50KT2525	120KT2525
3000	25KT3025	50KT3025	120KT3025
4000	25KT4025	50KT4025	———
5000	25KT5025	50KT5025	120KT5025
7500	25KT7525	50KT7525	120KT7525
10000	25KT1035	50KT1035	120KT1035
12000	25KT1235	50KT1235	120KT1235
15000	25KT1535	50KT1535	120KT1535
20000	25KT2035	50KT2035	120KT2035
25000	25KT2535	50KT2535	120KT2535
40000	25KT4035	———	———
50000	25KT5035	50KT5035	120KT5035
75000	25KT7535	50KT7535	120KT7535
100000	25KT1045	50KT1045	120KT1045

Call Your Sprague Industrial Distributor for Current Quantity Prices

TYPE NIT NON-INDUCTIVE RESISTORS

Ohms	Type 25NIT 25NIT Watts Cat. No.	Type 50NIT 50NIT Watts Cat No	Type 120NIT 120NIT Watts Cat. No.
5	25NIT5R05	50NIT5R05	120NIT5R05
10	25NIT1005	50NIT1005	120NIT1005
25	25NIT2505	50NIT2505	120NIT2505
50	25NIT5005	50NIT5005	120NIT5005
75	25NIT7505	50NIT7505	120NIT7505
100	25NIT1015	50NIT1015	120NIT1015
150	25NIT1515	50NIT1515	120NIT1515
200	25NIT2015	50NIT2015	120NIT2015
250	25NIT2515	50NIT2515	120NIT2515
390	———	———	120NIT3915
500	25NIT5015	50NIT5015	120NIT5015
600	25NIT6015	50NIT6015	120NIT6015
750	25NIT7515	50NIT7515	120NIT7515
1000	25NIT1025	50NIT1025	120NIT1025
1500	25NIT1525	50NIT1525	120NIT1525
2000	25NIT2025	50NIT2025	120NIT2025
2500	25NIT2525	50NIT2525	120NIT2525
3000	25NIT3025	50NIT3025	120NIT3025
4000	25NIT4025	50NIT4025	———
5000	25NIT5025	50NIT5025	120NIT5025
7500	25NIT7525	50NIT7525	120NIT7525
10000	25NIT1035	50NIT1035	120NIT1035
12000	———	50NIT1235	———
15000	———	50NIT1535	120NIT1535
20000	———	50NIT2035	120NIT2035
25000	———	50NIT2535	120NIT2535
50000	———	———	120NIT5035

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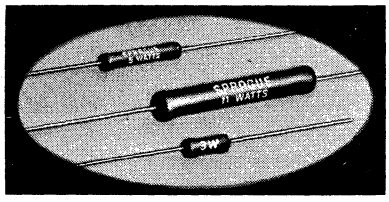
SPRAGUE RESISTORS

BLUE JACKET® INDUSTRIAL WIREWOUND RESISTORS



- Improved Minified Resistors Designed for Thorough Reliability and Stability Under Extreme Operating Conditions
- Matched Coefficient of Expansion Allows Uniform Expansion of Vitreous Enamel Coating, Ceramic Base, and End Caps, Eliminating Crazing, Cracks, and Protects From Fumes and Humidity
- Windings and Leads Welded to End-Caps for Superior Mechanical Strength
- For 2BJ, 3BJ, 5BJ and 10BJ Commercial or Service Equivalents to These Resistors, Refer to the Latest issue of Sprague Catalog C-617
- See Your Sprague Industrial Distributor for Quantity Prices

Ohms	Type 239E, 1 WATT 1/8" x 3/8" Cat. No.	Type 240E, 2 WATTS 3/16" x 3/8" Cat. No	Type 242E, 3 WATTS 13/64" x 17/32" Cat. No.	Type 243E, 5 WATTS 13/64" x 15/16" Cat. No.	Type 244E, 7 WATTS 5/16" x 1" Cat. No.	Type 247E, 10 WATTS 5/16" x 1 3/4" Cat. No.
1	239E1R05	240E1R05	242E1R05	243E1R05	244E1R05	247E1R05
1.2	239E1R25					
1.5	239E1R55	240E1R55	242E1R55	243E1R55	244E1R55	247E1R55
1.8	239E1R85					
2	239E2R05	240E2R05	242E2R05	243E2R05	244E2R05	247E2R05
2.2	239E2R25					
2.7	239E2R27					
3	239E3R05	240E3R05	242E3R05	243E3R05	244E3R05	247E3R05
3.3	239E3R35					
3.9	239E3R95					
4	239E4R05	240E4R05	242E4R05	243E4R05	244E4R05	247E4R05
4.7	239E4R75					
5	239E5R05	240E5R05	242E5R05	243E5R05	244E5R05	247E5R05
5.6	239E5R65					
6.8	239E6R85					
7.5	239E7R55	240E7R55	242E7R55	243E7R55	244E7R55	247E7R55
8.2	239E8R25					
10	239E1005	240E1005	242E1005	243E1005	244E1005	247E1005
12	239E1205	240E1205	242E1205	243E1205	244E1205	247E1205
15	239E1505	240E1505	242E1505	243E1505	244E1505	247E1505
18	239E1805	240E1805	242E1805			
20	239E2005	240E2005	242E2005	243E2005	244E2005	247E2005
22	239E2205	240E2205	242E2205			
25	239E2505	240E2505	242E2505	243E2505	244E2505	247E2505
27	239E2705	240E2705	242E2705			
30	239E3005	240E3005	242E3005	243E3005	244E3005	247E3005
33	239E3305	240E3305	242E3305			
35				243E3505	244E3505	247E3505
39	239E3905	240E3905	242E3905			
40	239E4005	240E4005	242E4005	243E4005	244E4005	247E4005
47	239E4705	240E4705	242E4705			
50	239E5005	240E5005	242E5005	243E5005	244E5005	247E5005
56	239E5605	240E5605	242E5605			
68	239E6805	240E6805	242E6805			
75	239E7505	240E7505	242E7505	243E7505	244E7505	247E7505
82	239E8205	240E8205	242E8205			
100	239E1015	240E1015	242E1015	243E1015	244E1015	247E1015
120	239E1215	240E1215	242E1215	243E1215	244E1215	247E1215
150	239E1515	240E1515	242E1515	243E1515	244E1515	247E1515
180	239E1815	240E1815	242E1815			
200	239E2015	240E2015	242E2015	243E2015	244E2015	247E2015
220	239E2215	240E2215	242E2215	243E2215	244E2215	247E2215
250	239E2515	240E2515	242E2515	243E2515	244E2515	247E2515
270	239E2715	240E2715	242E2715			
300	239E3015	240E3015	242E3015	243E3015	244E3015	247E3015
330	239E3315	240E3315	242E3315			
350				243E3515	244E3515	247E3515
390	239E3915	240E3915	242E3915			
400	239E4015	240E4015	242E4015	243E4015	244E4015	247E4015
450				243E4515		
470	239E4715	240E4715	242E4715			
500	239E5015	240E5015	242E5015	243E5015	244E5015	247E5015
560	239E5615	240E5615	242E5615			
600	239E6015	240E6015	242E6015	243E6015	244E6015	247E6015
680	239E6815	240E6815	242E6815			
700	239E7015	240E7015	242E7015	243E7015	244E7015	247E7015
750				243E7515	244E7515	247E7515
800	239E8015	240E8015	242E8015	243E8015	244E8015	247E8015
820	239E8215	240E8215	242E8215			
900	239E9015	240E9015	242E9015	243E9015	244E9015	247E9015
1000	239E1025	240E1025	242E1025	243E1025	244E1025	247E1025
1100				243E1125	244E1125	247E1125
1200	239E1225	240E1225	242E1225	243E1225	244E1225	247E1225
1400	239E1425	240E1425	242E1425	243E1425	244E1425	247E1425
1500	239E1525	240E1525	242E1525	243E1525	244E1525	247E1525
1800	239E1825	240E1825	242E1825	243E1825	244E1825	247E1825
2000	239E2025	240E2025	242E2025	243E2025	244E2025	247E2025
2200	239E2225	240E2225	242E2225	243E2225	244E2225	247E2225
2500	239E2525	240E2525	242E2525	243E2525	244E2525	247E2525
2700		240E2725	242E2725			
3000		240E3025	242E3025	243E3025	244E3025	247E3025
3300		240E3325	242E3325		244E3325	247E3325
3500		240E3525		243E3525	244E3525	247E3525
3900			242E3925		244E3925	247E3925
4000			242E4025	243E4025	244E4025	247E4025
4500				243E4525	244E4525	247E4525
4700			242E4725			
5000			242E5025	243E5025	244E5025	247E5025
5600			242E5625			
6000			242E6025	243E6025	244E6025	247E6025
6800			242E6825			
7000				243E7025	244E7025	247E7025
7500			242E7525	243E7525	244E7525	247E7525
8000			242E8025	243E8025	244E8025	247E8025
8200			242E8225			

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SPRAGUE RESISTORS

BLUE JACKET INDUSTRIAL WIREWOUND RESISTORS, continued

Ohms	Type 239E, 1 WATT 1/8" x 3/8" Cat. No.	Type 240E, 2 WATTS 3/16" x 3/8" Cat. No.	Type 242E, 3 WATTS 13/64" x 17/32" Cat. No.	Type 243E, 5 WATTS 13/64" x 15/16" Cat. No.	Type 244E, 7 WATTS 5/16" x 1" Cat. No.	Type 247E, 10 WATTS 5/16" x 1 3/4" Cat. No.
9000			242E9025	243E9025	244E9025	247E9025
10000			242E1035	243E1035	244E1035	247E1035
11000					244E1135	247E1135
12000				243E1235	244E1235	247E1235
14000				243E1435	244E1435	247E1435
15000				243E1535	244E1535	247E1535
16000					244E1635	247E1635
17000					244E1735	
18000				243E1835	244E1835	247E1835
20000				243E2035	244E2035	247E2035
22000				243E2235	244E2235	247E2235
25000				243E2535	244E2535	247E2535
30000				243E3035	244E3035	247E3035
35000						247E3535
40000						247E4035
45000						247E4535
50000						247E5035

Call Your Sprague Industrial Distributor for Quantity Prices

TYPE RW57, RW58, RW59 BLUE JACKET® WIREWOUND RESISTORS

- This Series of Blue Jacket Wirewound Resistors Meet All Performance Characeristics of Military Specification MIL R-26C, Characteristics V and G
- Contact Your Sprague Industrial Distributor for Quantity Prices

Ohms	Type RW59 3 WATTS 3/16" x 1/2" Cat. No.	Type RW57 6.5 WATTS 5/16" x 1" Cat. No.	Type RW58 11 WATTS 11/32" x 1 7/8" Cat. No.
1.0	RW59V1R0	RW57V1R0	RW58V1R0
1.1	RW59V1R1	RW57V1R1	RW58V1R1
1.2	RW59V1R3	RW57V1R2	RW58V1R2
1.3	RW59V1R2	RW57V1R3	RW58V1R3
1.5	RW59V1R5	RW57V1R5	RW58V1R5
1.6	RW59V1R6	RW57V1R6	RW58V1R6
1.8	RW59V1R8	RW57V1R8	RW58V1R8
2.0	RW59V2R0	RW57V2R0	RW58V2R0
2.2	RW59V2R2	RW57V2R2	RW58V2R2
2.4	RW59V2R4	RW57V2R4	RW58V2R4
2.7	RW59V2R7	RW57V2R7	RW58V2R7
3.0	RW59V3R0	RW59V3R0	RW58V3R0
3.3	RW59V3R3	RW57V3R3	RW58V3R3
3.6	RW59V3R6	RW57V3R6	RW58V3R6
3.9	RW59V3R9	RW57V3R9	RW58V3R9
4.3	RW59V4R3	RW57V4R3	RW58V4R3
4.7	RW59V4R7	RW57V4R7	RW58V4R7
5.1	RW59V5R1	RW57V5R1	RW58V5R1
5.6	RW59V5R6	RW57V5R6	RW58V5R6
6.2	RW59V6R2	RW57V6R2	RW58V6R2
6.8	RW59V6R8	RW57V6R8	RW58V6R8
7.5	RW59V7R5	RW57V7R5	RW58V7R5
8.2	RW59V8R2	RW57V8R2	RW58V8R2
9.1	RW59V9R1	RW57V9R1	RW58V9R1
10	RW59V100	RW57V100	RW58V100
11	RW59V110	RW57V110	RW58V110
12	RW59V120	RW57V120	RW58V120
13	RW59V130	RW57V130	RW58V130
15	RW59V150	RW57V150	RW58V150
16	RW59V160	RW57V160	RW58V160
18	RW59V180	RW57V180	RW58V180
20	RW59V200	RW57V200	RW58V200
22	RW59V220	RW57V220	RW58V220
24	RW59V240	RW57V240	RW58V240
27	RW59V270	RW57V270	RW58V270
30	RW59V300	RW57V300	RW58V300
33	RW59V330	RW57V330	RW58V330
36	RW59V360	RW57V360	RW58V360
39	RW59V390	RW57V390	RW58V390
43	RW59V430	RW57V430	RW58V430
47	RW59V470	RW57V470	RW58V470
51	RW59V510	RW57V510	RW58V510
56	RW59V560	RW57V560	RW58V560
62	RW59V620	RW57V620	RW58V620
68	RW59V680	RW57V680	RW58V680
75	RW59V750	RW57V750	RW58V750
82	RW59V820	RW57V820	RW58V820
91	RW59V910	RW57V910	RW58V910
100	RW59V101	RW57V101	RW58V101
110	RW59V111	RW57V111	RW58V111
120	RW59V121	RW57V121	RW58V121
130	RW59V131	RW57V131	RW58V131
150	RW59V151	RW57V151	RW58V151
160	RW59V161	RW57V161	RW58V161
180	RW59V181	RW57V181	RW58V181
200	RW59V201	RW57V201	RW58V201
220	RW59V221	RW57V221	RW58V221
240	RW59V241	RW57V241	RW58V241
270	RW59V271	RW57V271	RW58V271
300	RW59V301	RW57V301	RW58V301
330	RW59V331	RW57V331	RW58V331
360	RW59V361	RW57V361	RW58V361
390	RW59V391	RW57V391	RW58V391
430	RW59V431	RW57V431	RW58V431
470	RW59V471	RW57V471	RW58V471
510	RW59V511	RW57V511	RW58V511
560	RW59V561	RW57V561	RW58V561
620	RW59V621	RW57V621	RW58V621
680	RW59V681	RW57V681	RW58V681
750	RW59V751	RW57V751	RW58V751
820	RW59V821	RW57V821	RW58V821
910	RW59V911	RW57V911	RW58V911
1000	RW59V102	RW57V102	RW58V102
1100	RW59V112	RW57V112	RW58V112
1200	RW59V122	RW57V122	RW58V122
1300	RW59V132	RW57V132	RW58V132
1500	RW59V152	RW57V152	RW58V152
1600	RW59V162	RW57V162	RW58V162
1800	RW59V182	RW57V182	RW58V182
2000	RW59V202	RW57V202	RW58V202
2200		RW57V222	RW58V222
2400		RW57V242	RW58V242
2700		RW57V272	RW58V272
3000		RW57V302	RW58V302
3300		RW57V332	RW58V332
3600		RW57V362	RW58V362
3900		RW57V392	RW58V392
4300		RW57V432	RW58V432
4700		RW57V472	RW58V472
5100		RW57V512	RW58V512
5600		RW57V562	RW58V562
6200		RW57V622	RW58V622
6800		RW57V682	RW58V682
7500		RW57V752	RW58V752
8200		RW57V822	RW58V822
9100			RW58V912
10,000			RW58V103
11,000			RW58V113
12,000			RW58V123
13,000			RW58V133
15,000			RW58V153
16,000			RW58V163
18,000			RW58V183
20,000			RW58V203

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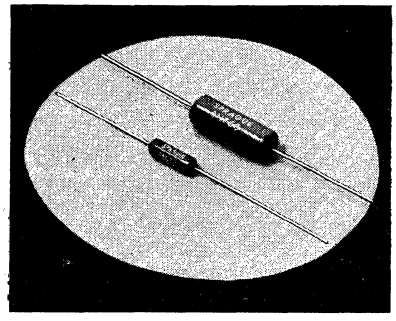
SPRAGUE RESISTORS

FILMISTOR® METAL-FILM RESISTORS



- Filmistor® C Series Resistors are Ideal for Circuits Requiring High Accuracy, Reliability, and Stability with Low Temperature Coefficients.
- Physical Size of Types RN55 and RN60 is Compatible With Those of Other Resistors, Capacitors, and Diodes for "Cordwood" Packaging.
- Designed to Meet the Stringent Performance Requirements of Spec. MIL-R-10509D.
- Low Self-inductance, Low Distributed Capacitance. Equal or Surpass the Characteristics of Precision Wirewound Resistors, Yet Are Smaller in Size.
- Metallic Resistive Film is Firmly Bonded to Special Ceramic Core, Automatically Spiralled to Desired Resistance Value.
- Tough Molded Shell Provides Protection Against Mechanical Damage as Well as Catastrophic Failures From Electrolysis Caused by Moisture Penetration.
- Standard Resistance Tolerance, ±1%
- For Complete Technical Data, Refer to Latest Issue of Engineering Bulletin 7025
- **Call Your Sprague Industrial Distributor For Quantity Prices.**

STANDARD RESISTANCE VALUES (Ohms)

20.0	57.6	165	475	1.37 K	3.92 K	11.3 K	32.4 K	93.1 K	267 K	750 K
20.5	59.0	169	487	1.40 K	4.02 K	11.5 K	33.2 K	95.3 K	274 K	768 K
21.0	60.4	174	499	1.43 K	4.12 K	11.8 K	34.0 K	97.6 K	280 K	787 K
21.5	61.9	178	511	1.47 K	4.22 K	12.1 K	34.8 K	100 K	287 K	806 K
22.1	63.4	182	523	1.50 K	4.32 K	12.4 K	35.7 K	102 K	294 K	825 K
22.6	64.9	187	536	1.54 K	4.42 K	12.7 K	36.5 K	105 K	301 K	845 K
23.2	66.5	191	549	1.58 K	4.53 K	13.0 K	37.4 K	107 K	309 K	866 K
23.7	68.1	196	562	1.62 K	4.64 K	13.3 K	38.3 K	110 K	316 K	887 K
24.3	69.8	200	576	1.65 K	4.75 K	13.7 K	39.2 K	113 K	324 K	909 K
24.9	71.5	205	590	1.69 K	4.87 K	14.0 K	40.2 K	115 K	332 K	931 K
25.5	73.2	210	604	1.74 K	4.99 K	14.3 K	41.2 K	118 K	340 K	953 K
26.1	75.0	215	619	1.78 K	5.11 K	14.7 K	42.2 K	121 K	348 K	976 K
26.7	76.8	221	634	1.82 K	5.23 K	15.0 K	43.2 K	124 K	357 K	1.00 meg.
27.4	78.7	226	649	1.87 K	5.36 K	15.4 K	44.2 K	127 K	365 K	1.02 meg.
28.0	80.6	232	665	1.91 K	5.49 K	15.8 K	45.3 K	130 K	374 K	1.05 meg.
28.7	82.5	237	681	1.96 K	5.62 K	16.2 K	46.4 K	133 K	383 K	1.07 meg.
29.4	84.5	243	698	2.00 K	5.76 K	16.5 K	47.5 K	137 K	392 K	1.10 meg.
30.1	86.6	249	715	2.05 K	5.90 K	16.9 K	48.7 K	140 K	402 K	1.13 meg.
30.9	88.7	255	732	2.10 K	6.04 K	17.4 K	49.9 K	143 K	412 K	1.15 meg.
31.6	90.9	261	750	2.15 K	6.19 K	17.8 K	51.1 K	147 K	422 K	1.18 meg.
32.4	93.1	267	768	2.21 K	6.34 K	18.2 K	52.3 K	150 K	432 K	1.21 meg.
33.2	95.3	274	787	2.26 K	6.49 K	18.7 K	53.6 K	154 K	442 K	1.24 meg.
34.0	97.6	280	806	2.32 K	6.65 K	19.1 K	54.9 K	158 K	453 K	1.27 meg.
34.8	100	287	825	2.37 K	6.81 K	19.6 K	56.2 K	162 K	464 K	1.30 meg.
35.7	102	294	845	2.43 K	6.98 K	20.0 K	57.6 K	165 K	475 K	1.33 meg.
36.5	105	301	866	2.49 K	7.15 K	20.5 K	59.0 K	169 K	487 K	1.37 meg.
37.4	107	309	887	2.55 K	7.32 K	21.0 K	60.4 K	174 K	499 K	1.40 meg.
38.3	110	316	909	2.61 K	7.50 K	21.5 K	61.9 K	178 K	511 K	1.43 meg.
39.2	113	324	931	2.67 K	7.68 K	22.1 K	63.4 K	182 K	523 K	1.47 meg.
40.2	115	332	953	2.74 K	7.87 K	22.6 K	64.9 K	187 K	536 K	1.50 meg.
41.2	118	340	976	2.80 K	8.06 K	23.2 K	66.5 K	191 K	549 K	1.54 meg.
42.2	121	348	1.0 K	2.87 K	8.25 K	23.7 K	68.1 K	196 K	562 K	1.58 meg.
43.2	124	357	1.02 K	2.94 K	8.45 K	24.3 K	69.8 K	200 K	576 K	1.62 meg.
44.2	127	365	1.05 K	3.01 K	8.66 K	24.9 K	71.5 K	205 K	590 K	1.65 meg.
45.3	130	374	1.07 K	3.09 K	8.87 K	25.5 K	73.2 K	210 K	604 K	1.69 meg.
46.4	133	383	1.10 K	3.16 K	9.09 K	26.1 K	75.0 K	215 K	619 K	1.74 meg.
47.5	137	392	1.13 K	3.24 K	9.31 K	26.7 K	76.8 K	221 K	634 K	1.78 meg.
48.7	140	402	1.15 K	3.32 K	9.53 K	27.4 K	78.7 K	226 K	649 K	1.82 meg.
49.9	143	412	1.18 K	3.40 K	9.76 K	28.0 K	80.6 K	232 K	665 K	1.87 meg.
51.1	147	422	1.21 K	3.48 K	10.0 K	28.7 K	82.5 K	237 K	681 K	1.91 meg.
52.3	150	432	1.24 K	3.57 K	10.2 K	29.4 K	84.5 K	243 K	698 K	1.96 meg.
53.6	154	442	1.27 K	3.65 K	10.5 K	30.1 K	86.6 K	249 K	715 K	2.00 meg.
54.9	158	453	1.30 K	3.74 K	10.7 K	30.9 K	88.7 K	255 K	732 K	
56.2	162	464	1.33 K	3.83 K	11.0 K	31.6 K	90.9 K	261 K		

1/20 WATT METAL FILM
TYPE 415E/RN50C

.065" Dia. x .140" Long
20 ohms thru 100K

1/10 WATT METAL FILM
TYPE 416E/RN55C

.095" Dia. x .250" Long
49.9 ohms thru 100K

1/8 WATT METAL FILM
TYPE 418E/RN60C

.135" Dia. x .400" Long
49.9 ohms thru 499 K

1/4 WATT METAL FILM
TYPE 419E/RN65C

.200" Dia. x .600" Long
49.9 ohms thru 1 meg.

1/2 WATT METAL FILM
TYPE 420E/RN70C

.250" x Dia. .750" Long
49.9 ohms thru 1 meg.

1 WATT METAL FILM
TYPE 421E/RN75C

.375" Dia. x 1.062" Long
49.9 ohms thru 2 meg.

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VECO VICTORY ENGINEERING CORPORATION

THERMISTORS ○ VARISTORS

VECO THERMISTOR AND VARISTOR KITS
For Experimentors and Circuit Designers

Each kit contains an assortment of Thermistors or Varistors for experimentation and development of prototype circuitry. Schematics and complete technical data are included.

KD25	13 Thermistor Disks	$10.50
KP50	6 Thermistor Probes	14.50
KR75	8 Thermistor Rods	8.75
KTB1	8 Thermistor Beads	19.50
KW125	12 Thermistor Washers (6 types) & Mtg. Kit	13.50
KV1001	9 Silicon Carbide Varistor Disks	7.50
KV1002	4 Silicon Carbide Varistors	1.50
M168	7 Thermistors and Varistors	5.00
M168A	10 Thermistors and Varistors	10.00

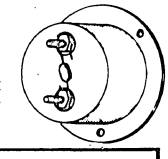
VECO sets the pace for THERMISTORS

New! VECO "THINISTOR"® KITS
(Thin Film Thermistors)

VECO's new revolutionary, ultra-thin, ultra-fast Thinistor Thermistors (See Figs. 12 and 13) now available in kit form for evaluation and for prototype circuitry development.

KFN101	4 Free-standing (no substrate) Thinistors)	$ 50.00
KFN201	6 Substrate-backed Thinistors	100.00
KFN301	2 Free-standing and 2 Substrate Thinistors	60.00
KFN401	2 Matched Pairs of Thinistors (Within 1%) (For Infra-red Detection)	189.50

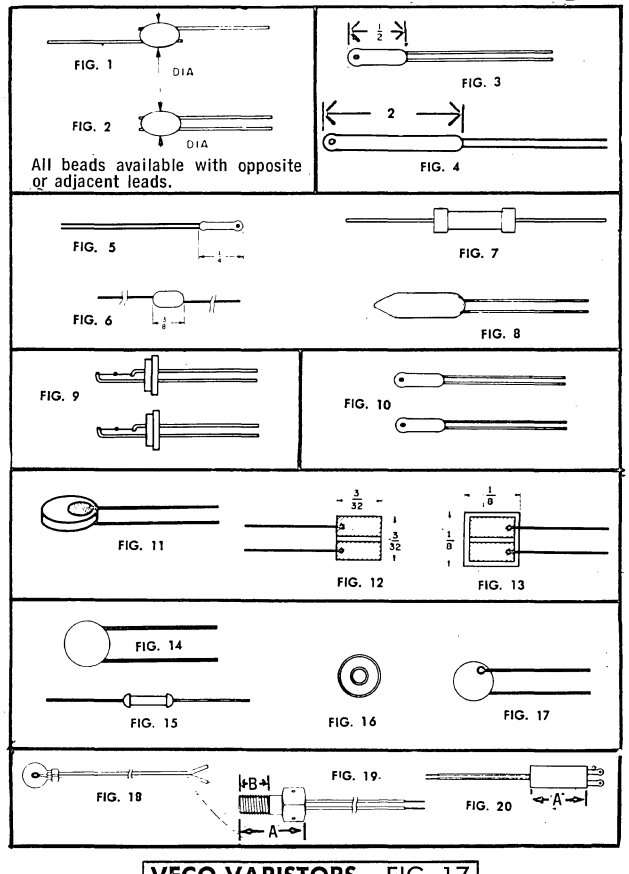
"VECO-VAMP"®
(Varistor Meter Protector)



Non-polarized, current-sensitive "VECO-VAMP" placed across the terminals of a sensitive meter, will shunt overload current in excess of normal range automatically! Save coil burnouts, damaged pointers!

Price $1.50

VECO Number	Resistance @ 25°C (Ohms)	Fig.	Price
BEAD THERMISTORS .005″ Dia. 1/4″ Min. Leads			
32A402C	2,000 ±25%	1	$20.00
41A401A	10,000 ±25%	2	20.00
51A401C	1000,000 ±25%	1	20.00
.010″ Dia. 5/16″ Min. Leads			
31A7	1,000 ±25%	1	5.70
32A50	2,000 ±25%	1	5.70
41A5	10,000 ±25%	1	5.40
51A22	100,000 ±25%	1	5.50
.013″ Dia. 5/16″ Min. Leads			
32A7	2,000 ±25%	2	2.80
32A48	2,000 ±25%	1	2.60
.043″ Dia. 5/16″ Min. Leads			
21A2	100 ±20%	2	3.00
32A12	2,000 ±20%	2	1.95
51A2	100,000 ±15%	2	1.95
All bead thermistors are available in lead configuration 1 or 2			
PROBE THERMISTORS .100″ Dia. 2″ Min. Leads			
32A11	2,000 ±20%	3	1.95
45A11	50,000 ±20%	3	2.25
51A1	100,000 ±15%	4	2.30
72A10	15 Meg ±20%	4	3.80
.060″ Dia. 2″ Min. Leads			
31A52	1,000 ±20%	5	2.30
35A36	5,000 ±20%	5	2.60
41A28	10,000 ±20%	5	2.60
MATCHED THERMISTORS			
A33	2,000 ±25%	9	15.00
A59	100,000 ±15%	10	8.00
A60	2,000 ±20%	10	8.00
SPECIALLY ENCAPSULATED BEADS			
35C1	4,725 ±20%	7	3.20
45B2	50,000 ±40%	7	2.60
51A16	100,000 ±20%	8	7.40
65A1	5.4 Meg ±32%	8	6.00
ROD THERMISTORS .053″ Dia.			
51R5	100,000 ±10%	15	1.35
ROD THERMISTORS .110″ Dia.			
33S1	3,150 ±10%	15	1.10
41R1	10,000 ±10%	15	1.10
45R1	50,000 ±10%	15	1.10
51R1	100,000 ±10%	15	1.10
LOX-CRYOGENIC THERMISTORS Resistance @ −195°C			
05A6	100,000 ±50%	2	16.00
05A7	100,000 ±50%	3	17.00
05A8	100,000 ±50%	4	17.50



VECO VARISTORS—FIG. 17

VECO Number	Exponent n	V ±30% @ 5 ma, D.C.	Price
023L9	3	6V	$1.00
124L1	4	25V	1.00
124L2	4	35V	1.00
134L80	4	50V	1.00
195L1	5	120V	1.00

VECO Number	Resistance @ 25°C (Ohms)	Fig.	Price
WASHER THERMISTORS .77″ Dia.			
11X1	10 ±10%	16	$1.05
21W1	100 ±10%	16	1.05
22W6	200 ±10%	16	1.05
32Y3	1,800 ±10%	16	1.05
DISK THERMISTORS .05″ Dia.			
32E14	2,000 ±10%	11	1.35
35E5	5,000 ±10%	11	1.35
42D5	15,000 ±10%	11	1.35
.10″ Dia.			
31E2	1,000 ±10%	11	.80
41D2	10,000 ±10%	11	.80
.20″ Dia.			
22E6	200 ±10%	11	.80
35D6	5,000 ±10%	11	.80
.40″ Dia.			
13E3	25 ±10%	11	.85
21E2	100 ±10%	11	.80
.50″ Dia.			
12E2	20 ±10%	11	.85
15E3	50 ±10%	11	.85
.77″ Dia.			
11E2	10 ±10%	11	.85
23D34	300 ±10%	11	.85
ISOTHERM® THERMISTORS†			
A371	2,000	10	
A372	2,500	10	
A373	4,000	10	
MILITARY GRADE THERMISTORS*†			
.250″ Dia.			
RTH06A	68 to 680	14	
RTH06B	560 to 4.7K	14	
.440″ Dia.			
RTH08A	27 to 180	14	
RTH08B	180 to 1.8K	14	
.850″ Dia.			
RTH10A	10 to 68	14	
RTH10B	82 to 330	14	

* In accordance with MIL-T-23648

DIFFUSED-JUNCTON SILICON VARISTORS
Electrical Characteristics @ 25°C

VECO Number	Volts@Ma	Volts@Ma	Fig.	Price
SV100A	0.2bin 0.10	0.9max 100	6	$ .95
SV100A3	0.2min 0.05	0.9max 100	6	1.40
SV100D	0.43min 0.10	0.72max 10	6	1.20

THERMISTOR SENSOR ASSEMBLIES†

VECO Number	Thread Size	Dia.	A	B	Fig.
SS2		.250			18
SS16A	6-32	.250	.562	.375	19
SF9A	5/16-24	5/16	17/32	11/32	19
SF14B	1/4	5/8	7/8	5/8	19
SF25		1/4	3/4		20

† Prices available on request because of tolerance specifications.

VECO TECHNICAL LITERATURE

V42 VECO Thermistor-Varistor Data Book.....**$1.00**
VM1721 VECO Hand Book of Thermistor Applications..... **2.00**

For descriptive list of free VECO technical literature request VECO Literature Catalog SB53D.

IMPORTANT — PLEASE NOTE

All figures shown indicate physical characteristics only. For specific dimensions consult respective catalogs which are available on request.

The listing on this page represents only a small part of the wide variety of VECO thermistors and varistors available, both as discrete components and in ready-to-mount sensor assemblies and in specialized instrumentation.

Manufacturers of Thermistors—Rods, Disks, Washers and Beads ○ Thinistors® (Thin Film Thermistors) ○ Silicon and Silicon Carbide Varistors ○ Disks and Washers ○ Constant Temperature Baths ○ Hypsometers ○ Lox Thermistors ○ Matched Thermistors ○ Temperature Monitors and Controllers ○ Thermal Conductivity Cells ○ Thermistor Catheters and Needles ○ Thermistor Kits ○ Varistor Kits ○ Infra-Red Sensors

WARD LEONARD

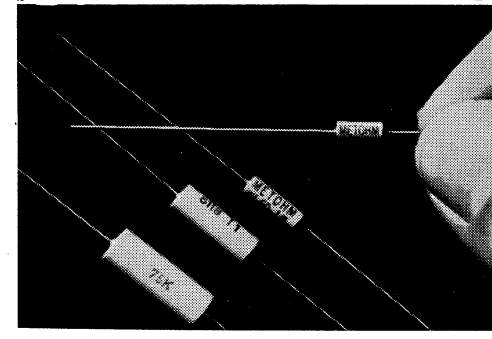
Metohm® RESISTORS
Metal Film Precision Type

THE STANDARD OF QUALITY FOR MILITARY AND INDUSTRIAL PURPOSES

FEATURES

- **High stability and reliability**
- **Designed to exceed MIL-R-10509F**
- **Close resistance tolerance**
- **Wide range of resistance values**
- **Stock or made-to-order types**
- **1/20, 1/10, 1/8, 1/4 and 1/2 watt sizes**

Exceeds MIL-R-10509F



In critical space-age electronic circuitry, METOHM metal film precision resistors guarantee high reliability, high stability, close accuracy, low TC and miniature size. Metohms are precision made under "white-room" conditions in the industry's most modern plant.

MIL SPECS. — All Metohm precision resistors are designed to exceed MIL-R-10509F char. C, D and E.

POWER RATING — is based on full rated load in an ambient of 125°C.

WELDABLE LEADS—gold plated Dumet leads and nickel "270" leads are available for weldable applications.

STOCK METOHMS — RN50, 55, 60, 65 and 70 Metohm resistors, char .C, TC Code T2 (±50PPM) are stocked in MIL standard values listed below. Standard tolerance is ±1%.

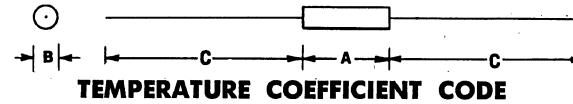
MADE-TO-ORDER TYPES — see data in accompanying tables for non-stock resistors available in production order quantities.

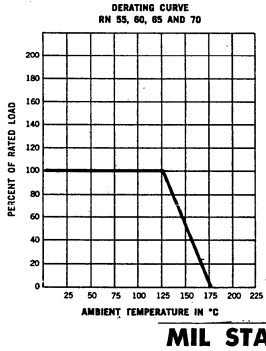
CONFORMAL COATED TYPES—also available in 1/20, 1/10, 1/8, 1/4 and 1/2 w. sizes. Durable solvent resistant coating allows smaller size. Ideal for micro module circuitry where space is at a premium.

RATINGS AND SIZES — METOHM Metal Film Precision Resistors

Designations		Watt Rating		Resistance Range Ohms		Max. Voltage Rating (Continuous)	Standard Resistance Tolerance	Temperature Coefficient	A Length	B Diameter	C Axial Lead	
MIL	Industrial	@ 125°C	@ 70°C	Min.	Max.						Length	Diameter
RN 55†	WLC 50†	1/20 1/20	1/10 1/10	30.1 30	100K 100K	200v	1%*	**	.150±0.10	.065±.005	1 ±⅛	.016±.002 (#26 AWG)
RN 55	††WL 55	1/10 1/10	1/5 1/5	49.9 10	100K 301K	200v	1%*	**	.260±.010	.120 +.005 −.015	1½±⅛	.025±.002 (#22 AWG)
RN 60	††WL 60	1/8 1/8	1/4 1/4	49.9 10	499K 500K	250v	1%*	**	.406±.015	.130±.015	1½±⅛	.025±.002 (#22 AWG)
RN 65	WL 65	1/4 1/4	1/2 1/2	49.9 10	1 meg. 1 meg.	300v	1%*	**	.594±.015	.203+.015	1½±⅛	.025±.002 (#22 AWG)
RN 70	WL 70	1/2 1/2	1 1	24.9 10	1.5 meg. 1.5 meg.	350v	1%*	**	.719±.020	.261±.020	1½±⅛	.025±.002 (#22 AWG)

* Closer tolerances to order. See MIL Resistance Tolerance table below.
** See Temperature Coefficient Code Table below.
† Conformal coated. †† Also available conformal coated.





RESISTANCE TOLERANCE

MIL Designation	Tolerance
F	± 1%
D	± 0.5%
C	± 0.25%
B	± 0.1%
—	± 0.05%

TEMPERATURE COEFFICIENT CODE

T.C. Code**	MIL Char.	Temperature Coefficient Range***	Temperature Range
T-0	D	±100 PPM/°C	−55°C to +175°C
T-2	C	± 50 PPM/°C	−55°C to +175°C
T-3	—	0 to + 100 PPM/°C	−55°C to +175°C
T-4	—	0 to − 100 PPM/°C	−55°C to +175°C
T-5	—	± 25 PPM /°C	+25°C to +145°C
T-6	—	0 to + 50 PPM/°C	−55°C to +175°C
T-7	—	0 to − 50 PPM/°C	−55°C to +175°C
T-8	—	± 35 PPM/°C ± 25 PPM/°C	−55°C to + 25°C +25°C to +175°C
T-9	E	± 25 PPM/°C	−55°C to +175°C

** For other temperature coefficients consult Home Office for price.
*** Parts per Million Per Degree Centigrade (100 PPM equals 0.01%)

MIL STANDARD RESISTANCE VALUES FOR STOCK METOHM RESISTORS

24.9	36.5	53.6	78.7	115	169	249	365	536	768	1100	1580	2260	3240	4640	6810	9760	14.0K	20.0K	28.7K	41.2K	59.0K	84.5K	121K	174K	249K	357K	511K	732K
25.5	37.4	54.9	80.6	118	174	255	374	549	787	1130	1620	2320	3320	4750	6980	10.0K	14.3K	20.5K	29.4K	42.2K	60.4K	86.6K	124K	178K	255K	365K	523K	750K
26.1	38.3	56.2	82.5	121	178	261	383	562	806	1150	1650	2370	3400	4870	7150	10.2K	14.7K	21.0K	30.1K	43.2K	61.9K	88.7K	127K	182K	261K	374K	536K	768K
26.7	39.2	57.6	84.5	124	182	267	392	576	825	1180	1690	2430	3480	4990	7320	10.5K	15.0K	21.5K	30.9K	44.2K	63.4K	90.9K	130K	187K	267K	383K	549K	787K
27.4	40.2	59.0	86.6	127	187	274	402	590	845	1210	1740	2490	3570	5110	7500	10.7K	15.4K	22.1K	31.6K	45.3K	64.9K	93.1K	133K	191K	274K	392K	562K	806K
28.0	41.2	60.4	88.7	130	191	280	412	604	866	1240	1780	2550	3650	5230	7680	11.0K	15.8K	22.6K	32.4K	46.4K	66.5K	95.3K	137K	196K	280K	402K	576K	825K
28.7	42.2	61.9	90.9	133	196	287	422	619	887	1270	1820	2610	3740	5360	7870	11.3K	16.2K	23.2K	33.2K	47.5K	68.1K	97.6K	140K	200K	287K	412K	590K	845K
29.4	43.2	63.4	93.1	137	200	294	432	634	909	1300	1870	2670	3830	5490	8060	11.5K	16.5K	23.7K	34.0K	48.7K	69.8K	100K	143K	205K	294K	422K	604K	866K
30.1	44.2	64.9	95.5	140	205	301	442	649	931	1330	1910	2740	3920	5620	8250	11.8K	16.9K	24.3K	34.8K	49.9K	71.5K	102K	147K	210K	301K	432K	619K	887K
30.9	45.3	66.5	97.6	143	210	309	453	665	953	1370	1960	2800	4020	5760	8450	12.1K	17.4K	24.9K	35.7K	51.1K	73.2K	105K	150K	215K	309K	442K	634K	909K
31.6	46.4	68.1	100	147	215	316	464	681	976	1400	2000	2870	4120	5900	8660	12.4K	17.8K	25.5K	36.5K	52.3K	75.0K	107K	154K	221K	316K	453K	649K	931K
32.4	47.5	69.8	102	150	221	324	475	698	1000	1430	2050	2940	4220	6040	8870	12.7K	18.2K	26.1K	37.4K	53.6K	76.8K	110K	158K	226K	324K	464K	665K	953K
33.2	48.7	71.5	105	154	226	332	487	716	1020	1470	2100	3010	4320	6190	9090	13.0K	18.7K	26.7K	38.3K	54.9K	78.7K	113K	162K	232K	332K	475K	681K	976K
34.0	49.9	73.2	107	158	232	340	499	732	1050	1500	2150	3090	4420	6340	9310	13.3K	19.1K	27.4K	39.2K	56.2K	80.6K	115K	165K	237K	340K	487K	698K	1 Meg.
34.8	51.1	75.0	110	162	237	348	511	750	1070	1540	2210	3160	4530	6490	9530	13.7K	19.6K	28.0K	40.2K	57.6K	82.5K	118K	169K	243K	348K	499K	715K	1.5 Meg.
35.7	52.3	76.8	113	165	243	357	523							6650														

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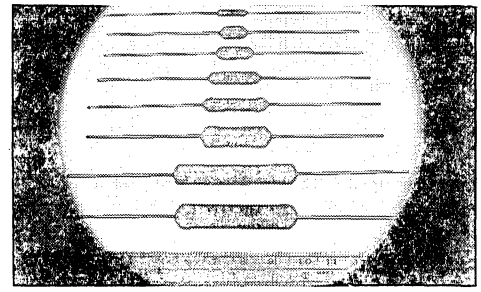
WARD LEONARD

Axiohm® RESISTORS
Vitreous Enamel Wire-Wound Power Type

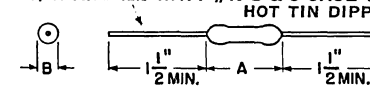


Axiohm, the miniaturized, space-saving power resistor line is designed for automation, printed circuits and advanced miniaturization use. Recommended for electronic and industrial use where high O.L. capacity and high stability are a "must". Four stock sizes and seven made-to-order sizes. Order by Stock Type and Ohms.

AXIOHM FEATURES

- **Vitrohm enamel construction**
- **Space saving design**
- **5 stock sizes; 8 made-to-order sizes**
- **Wide range of resistance values**
- **Standard tolerance ±5%**

1 WATT #24 B & S GAGE WIRE
2, 3, 4 AND 5 WATT #20 B & S GAGE WIRE
7, 10 AND 12.5 WATT #18 B & S GAGE WIRE
HOT TIN DIPPED



1 WATT — TYPE 1X
Dims. A = 13/32; B = 3/32

Ohms	m.a.	Ohms	m.a.
1	1000	220	68
1.5	817	240	64
2	707	250	63
3	577	270	61
4	500	300	57
5	447	330	55
7.5	361	360	53
10	316	390	51
11	302	430	48
12	289	470	46
13	277	510	45
15	258	560	42
16	250	620	40
18	236	680	37
20	224	750	36
22	213	820	35
24	204	910	33
27	192	1000	32
30	182	1100	30
33	174	1200	28
36	167	1300	27
39	160	1500	26
43	153	1600	25
47	146	1800	24
51	140	2000	22
56	134	2200	21
62	127	2400	20
68	121	2500	20
75	115	2700	19
82	110	3000	18
91	105	3300	17
100	100	3900	16
110	95	4300	15
120	91	4700	15
130	87	5100	14
150	82	5600	13
160	79	6200	13
180	75	6800	12
200	71	7500	12

2 WATTS — TYPE 2X
Dims. A = 3/8; B = 3/16

Ohms	m.a.	Ohms	m.a.
1	1414	180	105
1.5	1155	200	100
2	1000	220	95
3	816	240	91
4	707	250	89
5	632	270	86
7.5	517	300	82
10	447	330	78
11	426	360	75
12	408	390	72
13	392	430	68
15	365	470	65
16	354	510	63
18	333	560	60
20	316	620	57
22	302	680	54
24	289	750	52
27	272	820	49
30	258	910	47
33	246	1000	45
36	235	1100	43
39	228	1200	41
43	216	1300	39
47	206	1500	37
51	198	1600	35
56	189	1800	33
62	179	2000	32
68	172	2200	30
75	163	2400	29
82	156	2500	28
91	148	2700	27
100	141	3000	26
110	135	3300	25
120	129	3900	23
130	124	4300	22
150	116	4700	21
160	112	5100	20

3 WATTS — TYPE 3X
Dims. A = 1/2; B = 3/16

Ohms	m.a.	Ohms	m.a.
1	1732	470	80
1.5	1414	500	77
2	1225	560	73
3	1000	600	71
4	866	680	66
5	775	700	66
7.5	632	750	63
10	548	800	61
12	500	820	60
15	447	900	58
18	408	1000	55
20	387	1100	52
22	369	1200	50
25	346	1250	49
27	333	1500	45
30	316	1750	41
33	301	1800	40
35	293	2000	39
40	274	2200	37
47	252	2250	37
50	245	2500	35
56	231	2700	33
68	210	3000	32
75	200	3300	30
82	191	3500	29
100	173	3900	28
120	158	4000	27
125	155	4500	26
150	141	4700	25
180	129	5000	25
200	122	5600	23
220	117	6000	22
225	115	6500	21
250	110	6800	21
270	105	7000	21
300	100	7500	20
330	95	8000	20
350	93	8200	19
390	88	9000	18
400	87	10000	17
450	82		

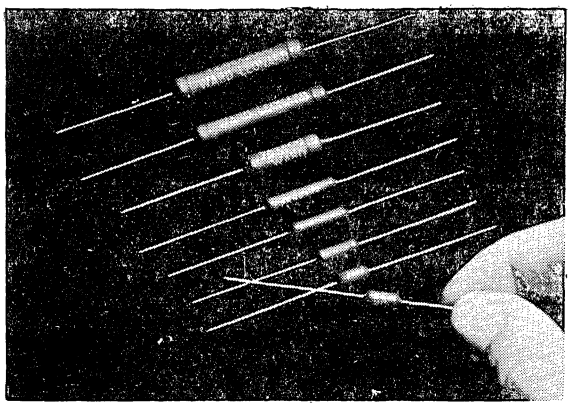
5 WATTS — TYPE 5XM
Dims. A = 15/16; B = 3/16

Ohms	m.a.	Ohms	m.a.	Ohms	m.a.
1	2230	200	158	2500	45
1.5	1820	220	151	2700	43
2	1580	225	148	3000	40
3	1290	250	141	3300	39
4	1117	270	136	3500	37
5	1000	300	129	3900	36
7.5	811	330	123	4000	35
10	707	350	119	4500	33
12	644	390	113	4700	32
15	577	400	112	5000	31
18	527	450	105	5600	30
20	500	470	103	6000	28
22	477	500	100	6800	27
25	450	560	94	7000	26
27	430	600	91	7500	25
30	408	680	86	8000	25
33	389	700	84	8200	24
35	378	750	81	9000	23
39	358	800	79	10000	22
40	353	820	78	11000	21
47	326	900	74	12000	20
50	316	1000	70	12500	20
56	299	1100	67	13500	19
68	271	1200	64	15000	18
75	257	1250	63	16000	18
82	247	1500	57	17500	17
100	223	1750	53	18000	17
120	204	1800	52	20000	16
125	200	2000	50	22000	15
150	182	2200	48	25000	14
180	167	2250	47	27000	13

Order by Type Number and Resistance Value.

10 WATTS — TYPE 10XM
Dims. A = 1 3/4; B = 5/16

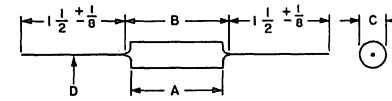
Ohms	m.a.	Ohms	m.a.
1	3160	1200	91
1.5	2580	1250	89
2	2235	1500	81
3	1825	1750	75
4	1580	2000	70
5	1415	2250	66
7.5	1155	2500	63
10	1000	3000	58
12	913	3500	53
15	815	4000	50
20	707	4500	47
25	630	5000	45
30	577	6000	41
35	534	7000	38
40	500	7500	36
50	450	8000	35
75	365	8500	34
100	316	9000	33
125	283	10000	32
150	258	11000	30
200	224	12000	29
225	211	12500	28
250	200	13500	27
300	182	15000	25.5
350	169	16000	25
400	158	17500	24
450	149	18000	23
500	142	20000	22
600	129	22500	21
700	120	25000	20
750	115	30000	18
800	112	35000	17
900	105	40000	16
1000	100	45000	15
1100	95	50000	14



S-COAT RESISTORS
Silicone Precision Power Type

S-Coat resistor line represents the latest advance in silicone coated wire-wound power resistor design. S-Coat resistors are precision-made for precision applications requiring characteristics such as low TC, close tolerance, no noise, low drift, high O.L. capacity, vibration resistant and zero voltage coefficient. Order by Type Designation, Ohms and Accuracy if other than ±1%.

S-COAT FEATURES



- **Low TC: ± 20PPM**
- **Close accuracy: ±1% standard, to ±0.5% special**
- **1000 volt dielectric — "V" block test • Wide resistance ranges • 16 space-saving sizes**

ratings and sizes — **standard tolerance ± 1%**

Rating in Watts 275°C*	Rating in Watts 350°C*	W. L. Type	Max. Body Dimensions (in inches) A	B	C	D	Resistance Values and Tolerances — Minimum Ohms ±5%	±3%	±2%	±1%	±0.5%	Max. Ohms ±0.5% to ±5%
.8**	1**	1SX	3/8	7/16	7/32	#20	.25	.7	1.7	16	140	10K
1	1.25	1.25S	7/16	1/2	1/8	#24	.25	.3	.48	5.8	36	7.5K
1.2	1.5	1.5S	9/16	5/8	1/8	#24	.26	.31	.44	1.36	20	11K
1.5	2	2SX	3/8	7/16	7/32	#20	.25	.7	1.7	16	140	10K
2.25	3	3SX	1/2	9/16	7/32	#20	.25	.36	.8	7.2	56	20K
2.5	3.3	3.3S	9/16	5/8	1/4	#20	.29	.52	1.7	16.6	102	25K
3	3.75	3.75S	5/8	11/16	7/32	#20	.25	.39	.53	3.2	36	25K
3	4	4S	7/8	15/16	7/32	#20	.37	.40	.57	2.3	19.6	50K
3.1	4	4SX	11/16	3/4	7/32	#20	.29	.37	.52	2.7	34	31K
3.5	4.5	4.5S	11/16	3/4	9/32	#20	.37	.58	1.	5.2	57	40K
4	5	5SX	7/8	1	7/32	#20	.41	.41	.56	1.4	15	44K
5	7	7SX	61/64	1-1/16	11/32	#18	.65	.71	.95	2.3	27	80K
7	9	9S	1-1/4	1-5/16	11/32	#18	.79	.79	.94	1.8	11	100K
8	10	10SX	1-11/16	1-3/4	11/32	#18	1.2	1.2	1.2	1.8	5.8	135K
9.75	12.5	12.5SX	1-11/16	1-3/4	13/32	#18	1.6	1.6	1.6	2.3	7.4	200K
10	13	13S	1-53/64	1-57/64	13/32	#18	1.7	1.7	1.7	2.4	7.5	225K

*Hot spot temperature. **125°C Ambient.

Temperature Coefficients: Below 5 ohms ±100 PPM, 5 to 20 ohms ±50 PPM, above 20 ohms ±20 PPM.

Standard Leads: Types 1.25S and 1.5S tinned Dumet; all others copper hot tin dipped

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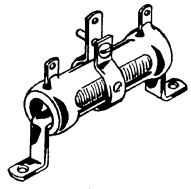
WARD LEONARD

Vitrohm® RESISTORS
Vitreous Enamel Wire-Wound Power Type

Types 5F, 10F, and 20F. Furnished with wire terminal leads. Brackets supplied on request.



Types 10A, 25A, 50A, 80A, 100A, 160A, 200A. Furnished with mounting brackets and one adjustable band.

Vitrohm fixed and adjustable power type resistors from 5 to 200 watts are designed and produced for high reliability. All cores, terminals and vitreous enamels are manufactured by W/L to guarantee top quality.

5 WATT • TYPE 5F

Size—1" x 5/16"

Ohms	m.a.	Ohms	m.a.	Ohms	m.a.
1	2230	100	223	1200	64
1.5	1820	125	200	1250	63
2	1580	150	182	1500	57
3	1290	200	158	1750	53
4	1117	225	148	2000	50
5	1000	250	141	2250	47
7.5	811	300	129	2500	45
10	707	350	119	3000	40
12	644	400	112	3500	37
15	577	450	105	4000	35
20	500	500	100	4500	33
25	450	600	91	5000	31
30	408	700	84	6000	28
35	378	750	81	7000	26
40	353	800	79	7500	25
50	316	900	74	8000	25
75	257	1000	70	9000	23
		1100	67	10000	22

10 WATT

Type 10F—Fixed Type 10A—Adj.

Size—1¾" x 5/16" Mtg. Centers—2⅛"

Fixed Ohms	Adj. Ohms	m.a.	Fixed Ohms	Adj. Ohms	m.a.
1	1	3160	1200		91
1.5		2580	1250	1250	89
2	2	2235	1500	1500	81
3	3	1825	1750		75
4		1580	2000	2000	70
5	5	1415	2250		66
7.5	7.5	1155	2500	2500	63
10	10	1000	3000	3000	58
12		913	3500	3500	53
15	15	815	4000	4000	50
20	20	707	4500	4500	47
25	25	630	5000	5000	45
30		577	6000	6000	41
35		534	7000	7000	38
40		500	7500	7500	36
50	50	450	8000	8000	35
75	75	365	8500	8500	34
100	100	316	9000	9000	33
125		283	10000	10000	32
150	150	258	11000		30
200	200	224	12000		29
225		211	12500		28
250	250	200	13500		27
300	300	182	15000		25.5
350	350	169	16000		25
400	400	158	17500		24
450		149	18000		23
500	500	142	20000		22
600	600	129	22500		21
700		120	25000		20
750	750	115	30000		18
800	800	112	35000		17
900		105	40000		16
1000	1000	100	45000		15
1100		95	50000		14

20 WATT TYPE 20F

Size—2" x 5/16" Mtg. Centers—2⅝"

Ohms	m.a.	Ohms	m.a.	Ohms	m.a.
1	4480	850	153	10000	45
3	2580	1000	141	12500	40
5	2000	1200	130	15000	36
10	1410	1250	125	20000	32
15	1150	1500	115	25000	28
25	900	1750	107	30000	26
50	630	1850	104	35000	24
75	517	2000	100	40000	22
100	450	2250	94	45000	21
150	365	2400	91	50000	20
175	340	2500	90	55000	18
200	320	2750	85	60000	16
250	285	3000	81	65000	15
300	258	3500	76	70000	14
350	240	4000	70	75000	13
400	224	4500	67	80000	12
500	200	5000	63	85000	11.5
650	175	6000	57	90000	11
700	169	7000	53	95000	10.5
750	163	7500	51	100000	10
800	155	8000	50		

25 WATT

Type 25F—Fixed Type 25A—Adj.

Size—2" x 5/8" Mtg. Centers—2⅝"

Fixed Ohms	Adj. Ohms	m.a.	Fixed Ohms	Adj. Ohms	m.a.
1	1	5000	2500	2500	100
2	2	3535	3000	3000	90
3	3	2890	3500	3500	85
4		2500	4000	4000	80
5	5	2230		4500	74
	7.5	1825	5000	5000	70
10	10	1580	6000	6000	65
15	15	1290		7000	60
	20	1115	7500	7500	58
25	25	1000		8000	56
50	50	710	8500	8500	54
75	75	580		9000	52
100	100	500	10000	10000	50
150	150	410	12000	12000	46
200	200	354	15000	15000	41
250	250	315	20000	20000	34
300	300	289	25000	25000	32
400	400	250	30000		29
500	500	224	35000		27
750	750	182	40000		25
800	800	177	50000		20
850	850	170	60000		17
1000	1000	158	70000		14
1250	1250	140	75000		13
1500	1500	129	80000		12
2000	2000	112	100000		10
	2250	105			

50 WATT

Type 50F—Fixed Type 50A—Adj.

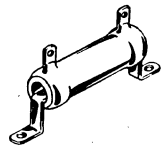
Size—4½" x ¾" Mtg. Centers—5¼"

Fixed Ohms	Adj. Ohms	m.a.	Fixed Ohms	Adj. Ohms	m.a.
1	1	7070	5000	5000	100
2	2	5000	6000	6000	91
3	3	4080		7000	85
4	4	3535	7500	7500	82
5	5	3160	8000	8000	79
10	10	2235	9000	9000	75
25	25	1415	10000	10000	71
50	50	1000	12000	12000	65
75	75	815	12500		63
100	100	707	15000	15000	58
150	150	575	20000	20000	50
200	200	500	25000	25000	45
250	250	445	30000	30000	41
300	300	408	35000		38
400	400	353	40000	40000	35
500	500	316	45000		33
750	750	258	50000	50000	32
800	800	250		60000	29
1000	1000	224	75000	75000	23
	1250	200		80000	21
1500	1500	180	100000	100000	17
2000	2000	160	125000		14
	2250	150	150000		12
2500	2500	141	175000		10
3000	3000	130	200000		9
	3500	120	225000		8
4000	4000	110	250000		7
	4500	105			

80 WATTS • TYPE 80A

Size—6½" x ¾" Mtg. Centers—7¼"

Ohms	m.a.	Ohms	m.a.	Ohms	m.a.
1	8940	750	325	7500	103
2	6320	800	316	8000	100
3	5160	1000	282	9000	94
4	4470	1250	253	10000	89
5	4000	1500	231	15000	73
10	2830	2000	200	20000	63
15	2310	2250	188	25000	57
25	1790	2500	178	30000	51
50	1260	3000	161	35000	48
75	1030	3500	151	40000	45
100	894	4000	141	45000	41
200	632	4500	133	50000	40
250	565	5000	126	60000	36
300	515	6000	115	70000	33
400	447	7000	107	80000	31
500	400			100000	28



HEAVY DUTY RESISTORS

Types 25F, 50F, 100F, 160F, 200F Furnished with lug terminals and mounting brackets.

100 WATT

Type 100F—Fixed Type 100A—Adj.

Size—6½" x 1⅛" Mtg. Centers—7¼"

Fixed Ohms	Adj. Ohms	m.a.	Fixed Ohms	Adj. Ohms	m.a.
1	1	10000	2000	2000	225
2	2	7070	2500	2500	200
3	3	5770	3000	3000	180
4	4	5000	3500		170
5	5	4470	4000	4000	158
10	10	3160	4500	4500	150
25	25	2000	5000	5000	141
50	50	1410		6000	130
75		1150	7500	7500	115
100	100	1000	10000	10000	100
125		895	15000	15000	80
150		815	20000	20000	70
	200	707	25000	25000	63
250	250	630	30000	30000	58
	400	500	35000		54
500	500	447	40000	40000	50
750	750	365	50000	50000	45
1000	1000	316	60000	60000	41
1250		285	70000		38
1500	1500	260	75000	75000	36
			100000	100000	32

160 WATT

Type 160F—Fixed Type 160A—Adj.

Size—8½" x 1⅛" Mtg. Centers—9¼"

Fixed Ohms	Adj. Ohms	m.a.	Fixed Ohms	Adj. Ohms	m.a.
1	1	12650	2500	2500	252
2	2	8940	3000	3000	230
3	3	7300	3500	3500	215
4	4	6320	4000	4000	200
5	5	5650	4500	4500	185
10	10	4000	5000	5000	178
15	15	3265	7500	7500	146
25	25	2525	10000	10000	126
50	50	1785	15000	15000	105
75		1460	20000	20000	90
100	100	1265	25000	25000	80
150		1035	30000	30000	73
200	200	894	35000		68
250	250	800	40000	40000	64
500	500	565	50000	50000	57
750		460	60000	60000	52
1000	1000	400	75000	75000	46
1500	1500	326	80000	80000	45
2000	2000	280	100000	100000	40

200 WATT

Type 200F—Fixed Type 200A—Adj.

Size—10½" x 1⅛" Mtg. Centers—11¼"

Fixed Ohms	Adj. Ohms	m.a.	Fixed Ohms	Adj. Ohms	m.a.
1	1	14140	3500	3500	240
2	2	10000	4000	4000	225
3	3	8162	4500	4500	210
4	4	7070	5000	5000	200
5	5	6320	7500	7500	163
10	10	4470	10000	10000	141
25	25	2825	15000	15000	115
50	50	2000	20000	20000	100
75		1630	25000	25000	90
100	100	1414	30000	30000	82
150		1150	35000		76
250	250	900	40000	40000	71
500	500	632	50000	50000	63
750		515	60000	60000	58
1000	1000	447	75000	75000	52
1500	1500	365	100000	100000	45
2000	2000	315		125000	40
2500	2500	282		150000	35
3000	3000	260			

ADJUSTABLE BANDS

Screw Driver Type

Size of Resistor	Cat. No.
10 Watts	609Z
25 Watts	612A
50 Watts	612B
80 Watts	612B
100 Watts	615D
160 Watts	615D
200 Watts	615D

Bakelite Knob Type

25 Watts	610A
50 Watts	610B
80 Watts	610B
100 Watts	619D
160 Watts	619D
200 Watts	619D

STRIPOHMS

Vitreous enameled wire-wound resistors built on a strong refractory core, and provided with low mounting brackets. Particularly suited for applications where space is limited. Specially adapted to stacking for networks. Available in all standard sizes.

20 WATTS — TYPE 20S
2" long — Mtg. Ctrs. 2⅝"
1 to 50,000 ohms

30 WATTS — TYPE 30S
1¼" long — Mtg. Ctrs. 2"
1 to 5,000 ohms

40 WATTS — TYPE 40S
2" long — Mtg. Ctrs. 2¾"
1 to 15,000 ohms

55 WATTS — TYPE 55S
3½" long—Mtg. Ctrs. 4¼"
1 to 30,000 ohms

65 WATTS — TYPE 65S
4¾" long—Mtg. Ctrs. 5½"
1 to 50,000 ohms

75 WATTS — TYPE 75S
6" long—Mtg. Centrs. 6¾"
1 to 65,000 ohms

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WORKMAN Electronic PRODUCTS, INC.

REPLACEMENT COMPONENTS

Prices subject to change without notice.

GLOBAR RESISTORS

MODEL	DESCRIPTION	LIST	DLR.
FR. 49	.49 at 3 amps.	1.76	1.06
FR1.3	1.3Ω cold	1.21	.73
FR1M	600KΩ hot 1 MegΩ cold	1.93	1.16
FR2	Replaces filament res'trs	3.30	1.98
FR3.5	3.5Ω cold	1.21	.73
FR3.8	3.8Ω cold	1.21	.73
FR4.5	4.5Ω cold	1.21	.73
FR5-8	5-8Ω at 450ma.	1.82	1.09
FR6	6Ω hot-600ma	1.82	1.09
FR9	9Ω hot-600ma	1.82	1.09
FR10	10Ω cold	1.21	.73
FR11	11Ω Hot-600ma	2.75	1.65
FR11P	11Ω-450ma 9.2Ω 600 ma	1.82	1.09
FR12.9	12.9Ω cold	1.21	.73
FR13	13Ω cold	1.21	.73
FR19	19Ω Hot - 600 ma	1.65	.99
FR31	31Ω Hot - 300 ma	2.09	1.25
FR35	35Ω Hot - 600 ma	2.09	1.25
FR43	43Ω Hot - 600ma	2.75	1.65
FR50	50Ω Hot - 150ma	1.76	1.06
FRO41	75Ω Hot - 300ma	2.42	1.45
FR051	20Ω Hot - 600ma	1.65	.99
FR052	10.5Ω at 125 volts	3.52	2.11
FR054	35Ω Hot - 600ma	3.52	2.11
FR066	For Color TV DeGauss	1.54	.92
FR088	14KΩ at 140 volts	3.52	2.11
FR100	50Ω Hot - 150ma	1.76	1.06
FR191	120Ω cold	1.76	1.06
FR291	79Ω cold - 47Ω hot	1.32	.79
FR922	For Color TV DeGauss	1.32	.79
FR5K	500KΩ at 25° C	1.65	.99
FRT1	100Ω hot to 20Ω hot	2.04	1.22
FRT2	Heavy duty universal	2.20	1.32
FRTV	For Color TV kit of 2	3.30	1.98

FUSED RESISTORS

F4.7	4.7Ω - 5 Watts	.61	.36
F5	5Ω - 5 Watts	.61	.36
F5.6	5.6Ω - 5 Watts	.61	.36
F6	6Ω - 5 Watts	.61	.36
F7	7.5Ω - 3 amperes	.79	.47
F7-3.6	3.5Ω-7W, G.E.#14X183	.61	.36
F80	7.5Ω - 3 amperes	.61	.36
F9	9Ω - 5 Watts	.61	.36
F10	10Ω - 5 Watts	.61	.36
F10-4.5	4.5Ω - 10 Watts	.83	.50
F18	18Ω - 5 Watts	.61	.36
F22	22Ω - 5 Watts	.61	.36
F47	47Ω - 5 Watts	.61	.36
F100	100Ω - 5 Watts	.61	.36
F145	1.45Ω-5W heavyduty, Philco	.79	.47
F150	150Ω - 5 Watts	.61	.36
F12A	150Ω - 0.12 amperes	.61	.36
FJ4.7	H'vy duty 4.7Ω 3.5 amp.	.83	.50
FJ5.6	H'vy duty 5.6Ω 3.5 amp.	.83	.50
FJ7.5	H'vy duty 7.5Ω 3.5 amp.	.83	.50
FJR4.7	H'vy duty 4.7Ω 3.5 amp. 5W	.83	.50
FJR5.6	H'vy duty 5.6Ω 3.5 amp. 5W	.83	.50
FJR7.5	H'vy duty 7.5Ω 3.5 amp. 5W	.83	.50
FZ4.7	4.7Ω - 3 amperes	.40	.24
FZ5.6	5.6Ω - 3 amperes	.40	.24
FZ7.5	7.5Ω - 3 amperes	.40	.24
FZ9	9Ω - 3 amperes	.40	.24
FZ4.7-5	Pk. of 5, 4.7Ω-3 amps	1.76	1.09
FZ5.6-5	Pk. of 5, 5.6Ω-3 amps	1.76	1.09
FZ7.5-5	Pk. of 5, 7.5Ω-3 amps	1.76	1.09
FZ9-5	Pk. of 5, 9Ω - 3 amps	1.76	1.09
FZ4.7R	15 pk. 4.7Ω-3 amp.	—	2.85
FZ5.6R	15 pk. 5.6Ω-3 amp.	—	2.85
FZ7.5R	15 pk. 7.5Ω-3 amp.	—	2.85
FZ9R	15 pk. 9.Ω - 3 amp.	—	2.85
FB1	Universal replacement	2.36	1.42
F26	No. AWG 26 Wire, 5 pcs.	.28	.17
F28	No. AWG 28 Wire, 5 pcs.	.28	.17
F15-7.5	7.5Ω - 15 Watts	1.06	.64
F7-5	5Ω - 7 Watts	.79	.47

AUTO RADIO RESISTORS

WT10	0.10Ω - 5 watt	.53	.32
WT22	0.22Ω - 5 watt	.53	.32
WT27	0.27Ω - 5 watt	.53	.32
WT33	0.33Ω - 5 watt	.53	.32
WT47	0.47Ω - 5 watt	.53	.32
WT56	5.6Ω - 5 watt	.53	.32
WT68	0.68Ω - 5 watt	.53	.32
WT82	0.82Ω - 5 watt	.53	.32
7W	1800Ω - 7 watt	.46	.28
FT2.8	2.8Ω cold	.78	.46
FT3.3	3.3Ω cold	.78	.46
FT4.5	4.5Ω cold	.78	.46
FT7.5	7.5Ω cold	.78	.46
FT10	10Ω cold	.78	.46
FT28	28Ω cold	.78	.46
FT35	35Ω cold	.78	.46
FT150	150Ω cold	1.48	.86
GD1	For 6V. in 12V. systems	6.05	3.63
GD2	2, 4, or 6 amp loads	3.63	2.18
GD3	5 to 6 amp loads	1.52	.91
GD4	7 to 8 amp loads	1.52	.91

WIREWOUND RESISTORS

6W-B	6W Bendohms, 34 values	.59	.36
6WB-34	6W Bend. 34 vals. on card	18.26	10.95
25W	25W, 42 values 3.4Ω to 1KΩ	.91	.55
30W	30W, 18 values 19Ω to 196Ω	1.85	1.11
50W-5	50 watt-5Ω for color	2.33	1.40
50WJ-5	50 Watt-5Ω heavy duty	3.61	2.16
148	41Ω - 25 watt	1.03	.62
151	51Ω - 30 watt	1.16	.69
389	1400Ω - 20 watt	.97	.58
792	910Ω - 20 watt	.97	.58
M01	59Ω - 25 watt	.94	.56
WR	5-15W 50 values each univ.	.67	.40
WR50	Card of 50 values	---	14.85
WS	2W 21 values .22 to 10.Ω	.48	.29

SQUARE OHMS

5W-SQ	5W 81 Values 1-10KΩ	.44	.26
10W-SQ	10W 87 Values 1-25KΩ	.48	.29
20W-SQ	20W 87 Values 1-35KΩ	.79	.47
25W-SQ	25W 121 Values 1-50KΩ	.91	.55

AMP FUSES

W3-1	RCA #945392-3	.75	.45
W200-10	RCA #945309-1	.75	.45
W400-1	RCA #945392-2	.75	.45
W450-1	RCA #945392-4	.75	.45
W500-1	RCA, Emerson, Olympic	.75	.45
W1000-1	Zenith #136-71	.75	.45
W1200-1	Em.#808236, Zenith#136-63	.75	.45
W1400-1	Emerson #808241	.75	.45
W1700-1	Em.#808238, Zenith#136-62	.75	.45
W2000-1	Zenith #136-66	.75	.45

CIRCUIT BREAKERS

FA1	Break Current 1 amp. Carry Current .65 amp.	1.27	.76
FA1.5	Break Current 1.5 amp. Carry Current 1 amp.	1.27	.76
FA2	Break Current 2 amp. Carry Current 1.25 amp.	1.27	.76
FA2.5	Break Current 2.5 amp. Carry Current 1.6 amp.	1.27	.76
FA3	Break Current 3 amp. Carry Current 1.9 amp.	1.27	.76
FA3.5	Break Current 3.5 amp. Carry Current 2.2 amp.	1.27	.76
FA4	Break Current 4 amp. Carry Current 2.5 amp.	1.27	.76
FA4.5	Break Current 4.5 amp. Carry Current 3 amp.	1.27	.76
FA5	Break Current 5 amp. Carry Current 3.25 amp.	1.27	.76
FA5.5	Break Current 5.5 amp. Carry Current 3.6 amp.	1.27	.76
FA6	Break Current 6 amp. Carry Current 3.9 amp.	1.27	.76
FA7	Break Current 7 amp. Carry Current 4.14 amp.	1.27	.76

COLOR RESISTORS

3 Watt	All Values	.91	.55
4 Watt	All Values	.97	.58
5 Watt	All Values	1.03	.62
6 Watt	All Values	1.06	.64
7 Watt	All Values	1.09	.65
8 Watt	All Values	1.16	.69
10 Watt	All Values	1.33	.80

SUPER BRIGHTENERS

W2	9V, parallel, stand. base	2.92	1.75
WZ2	8V, parallel, stand. base	1.78	.89
W3	9V, series, stand. base	3.19	1.91
WZ3	8V, series, stand. base	1.78	.89
W4	8.5V Std. Isolation	4.07	2.44
W5	9V RCA Parallel	4.29	2.57
WZ5	8V RCA Parallel	2.89	1.49
W6	9V RCA Series	4.29	2.57
WZ6	8V RCA Series	2.92	1.75
W7	9V Sylvania Parallel	4.29	2.57
WZ7	8V Sylvania Parallel	2.92	1.75
W8	9V Sylvania Series	4.29	2.57
WZ8	8V Sylvania Series	2.92	1.75
W9	9V Std. Series-Parallel	4.57	2.74
WZ9	8V Std. Series-Parallel	3.19	1.91
W10	3.5V RCA Series	3.85	2.31
WZ10	3V RCA Series	3.07	1.84
W11	3.5V Sylvania Series	3.85	2.31
WZ11	3V Sylvania Series	3.07	1.84
W12	9V RCA Series-Parallel	4.95	2.97
WZ12	8V RCA Series-Parallel	3.43	2.06
W14	9V Sylvania Series-Par.	4.95	2.97
WZ14	8V Sylvania Series Parallel	3.43	2.06
W15	9V 23EP4 Parallel	4.29	2.57
W16	8.5V RCA Isolation	4.29	2.57
W17	8.5V, isolation, Sylvania	4.29	2.57
W20	8.5V 70° Color Parallel	10.73	6.44
W21	8.5V 90° Color Parallel	10.73	6.44
W22	6.2V 70° Color Par. Iso.	11.00	6.60
W23	6.2V 90° Color Par. Iso.	11.00	6.60

TRANSISTORS

AA1	PNP osc.mix, conv.I.F.audio	1.65	.99
AA2	NPN osc.mix, conv.I.F.audio	1.82	1.09
AA3	PNP hi freq.osc., mix, conv.	2.86	1.72
AA4	PNP TO3 diamond base	2.34	1.41
AA5	PNP TO36 stud base	4.68	2.81
AF4	NPN Silicon UHF	3.40	2.04
AT6 M	PNP mini. audio driver	1.82	1.09
B5 M	PNP mini. audio output	1.82	1.09
BA6 M	PNP mini. I.F. amplifier	1.82	1.09
BE6 M	PNP mini. conv. oscillator	1.82	1.09
CB6	PNP VHF amplifier, hi freq.	3.30	1.98
J6	PNP conv., osc., mix, hi freq.	3.30	1.98
TBX12	For CB vibrators	4.62	2.77
TBX18	High power switching	5.23	3.14
U8	NPN Silicon VHF	2.60	1.56

CHEMICALS

ET1	Scru-Loos rust solvent	1.82	1.09
H6	"Wissh" cleaner 6 oz.	1.82	1.09
H6A	"Wissh" 6 oz. with needle	2.26	1.35
H14	"Wissh" cleaner 16 oz.	3.58	2.15
HF6	"Freez-It" cooler 6 oz.	1.82	1.09
HF16	"Freez-It" cooler 16 oz.	3.58	2.15
HQT	"Wissh" quart size kit	5.56	3.33
S3	Super "Wissh" pocket size	1.43	.86
S6	Super "Wissh" 6 oz.	2.20	1.32
S16	Super "Wissh" 16 oz.	4.40	2.64
S24	Super "Wissh" 24 oz. tank	5.50	3.28
SC3	Color Tuner Toner 3 oz.	1.93	1.16
SC8	Color Tuner Toner 8 oz.	3.58	2.15
SG6	Silicone-Lube	1.38	.83

SERVICE AIDS

BC2	Battery Charger 6 amps	38.13	22.87
BC4	U.L. 12v battery charger	10.87	6.52
BC6	Battery Charger 6 volt	4.73	3.33
BC12	Battery Charger 12 volt	4.73	3.33
BZ1	Buzit	15.95	9.57
BZ5	Chek-It Circuit Tester	2.88	1.73
BZ8	Transistor Diode Checker	---	21.45
C200	Line Matching transformer	4.00	2.40
D1	Convt, Std. to Button	3.17	1.91
D2	Convt. Std. to Shell	3.17	1.91
D3	Convt. Shell to Button	3.17	1.91
D4	Convt. Button to Shell	3.17	1.91
D5	Convt. 23EP4 to Syl. 8YP4	3.17	1.91
D6	Convt. 23EP4 to Standard	3.17	1.91
D7	Convt. 90° to 70° Color	6.05	3.63
D8	Convt. 70° to 90° color butt.	6.05	3.63
D9	Duo Decal stand. to 7GR	3.17	1.91
D10	G.E. 11SP22 to 70° Color	6.05	3.63
P01	Precision Oiler	1.21	.73
P02	Precision Graphite	1.21	.73
P03	Precision Grease	1.21	.73
RS1	110° Button Socket	1.41	.85
RS2	110° Shell Socket	1.41	.85
RS3	Standard Socket	1.41	.85
RS4	For 70° Color CRT	2.64	1.58
RS5	For 23EP4 CRT	1.41	.85
RS6	For 90° Color 36 in leads	3.30	1.98
RS7	7GR CRT replacesm't socket	1.41	.85
TG1	Tube Guard	2.20	1.32
TG2	Tube Guard for Color TV	2.62	1.57
TM3	TO36 mica insulators	.79	.47
TM5	TO3 mica insulators	.79	.47
TMA	T03 anodized alum. insul'trs	1.29	.78
TMK	Power transistor mtg. kit	1.15	.69
TMM	Mica Collector Insulators	.79	.47
TMN	TO3 Nylon screw insulators	.79	.47
TMS	Dia'd base trans. socket	.70	.41
VB4	Transistorized vibrator	12.08	7.19
VB5	Transistorized vibrator	12.08	7.19
X1	EXtends Button Base	2.75	1.65
X2	Extends Shell Base	2.75	1.65
X3	Extends standard Duo-Decal	2.75	1.65
X4	24 in. for 70° Color CRT	4.07	2.44
X5	24 in. for 23EP4 CRT	2.75	1.65
X6	36 in. for 70° Color CRT	4.51	2.71
X7	36 in. for 90° Color CRT	4.51	2.71

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PRECISION ELECTRONIC COMPONENTS LTD.
variable resistors and trimmer potentiometers

Manufactured with precision craftsmanship for the INDUSTRIAL-MILITARY MARKET

PEC offers industrial and military electronic equipment manufacturers the most reliable variable resistors available today at **very competitive prices.**

Because of PEC's unique flexibility special items, as well as standards, can be produced with shorter delivery times and more attractive prices, than any other manufacturer can provide.

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The resistance element of PEC trimmer pots is a specially developed metal glaze with **low temperature coefficient** and **low contact noise.**

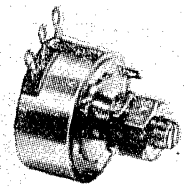
PEC variable composition resistors and metal ceramic trimmer potentiometers meet or exceed the requirements of Mil-R-94 and Mil-R-22097.

All PEC variable resistors are designed for **broad spectrum reliability,** which means that combinations of actual physical and electrical stresses are applied during quality assurance testing in addition to the standard rotational and load life tests.

Recently completed rotational life tests document average resistance change of 3% after two million cycles under full load. (PEC type M, Style RV4)

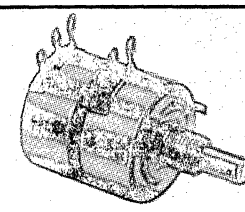
A whole range of **"beyond-mil-specified"** tests are performed on a daily basis; these include; immersion in hot water, fixed current noise, rotational "audio" noise, output smoothness, and contact resistance variation tests.

Send for our multi-page catalog which provides complete specifications on PEC components.



TYPE "M"
Style RV 4
2 Watt
1-3/32" Dia.

Available in all shaft and bushing types. Meets or exceeds requirements of MIL-R-94C.



TYPE "MM"
Style RV 4
Dual

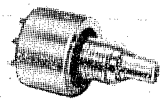
Also available with concentric shaft or in triple or quad units. Meets or exceeds requirements of MIL-R-94C.

TYPE "N"
Style RV 2
1 Watt
29/32" Dia.

Also available in multi-section units. Meets or exceeds requirements of MIL-R-94C.

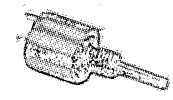
TYPE "T"
Style RV 5
1/2 Watt
3/4" Dia.

Available in all shaft and bushing types. Half as deep as Type "S". Meets or exceeds requirements of MIL-R-94C.



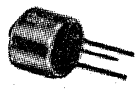
TYPE "R"
1 Watt
3/4" Dia.

The smallest unit available with 3/8" Dia. bushing and 1/4" Dia. shaft.



TYPE "S"
Style RV 6
1/2 Watt
1/2" Dia.

Available in all shaft and bushing types. Meets or exceeds requirements of MIL-R-94C.



TYPE "P"
1/3 Watt
1/2" Dia.

Adapted from our Type "S" for printed circuit board mounting.

TYPE "L"
1/3 Watt
1/2" Dia.

Similar to our Type "P", except with right angle termination.

TYPE "A"
Style "RJ-11"
22 Turn Trimmer

Rectangular 1 1/4" x 1 3/4" x 3/8" metal ceramic resistor element.

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CENTRALAB POTENTIOMETERS

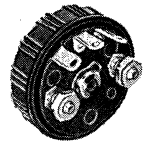
Ranging from transistor circuit, highly miniaturized units to heavy-duty types, Centralab controls are outstanding for adaptability and quality of construction.

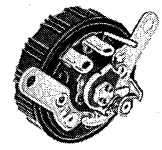
Included in this product line are carbon film, hot molded carbon and wirewound types. Physical descriptions include the hearing aid-transistor radio types as well as the typical ⅛" and ¼" diameter shaft units.

All of the controls shown here are available for immediate delivery at factory prices; your Centralab Industrial Distributor serves you as your field source for controls identical in performance, price and quality to those obtained from the factory.

Centralab controls are quality units that have been satisfactorily applied in the most demanding commercial, industrial and military applications.

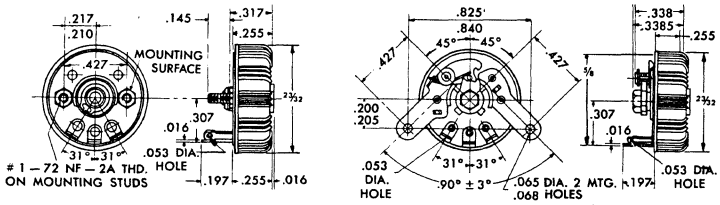
Model B16 MINIATURE Composition Potentiometers





B16 controls fulfill needs for a 1/10 watt, 0.625" dia. unit. Applications include hearing aids, miniature radios, laboratory instruments, communication equipment, business machines, computers and military equipment. Plain and switch types are available.

Produced under Patent No. 2,499,711.



ELECTRICAL SPECIFICATIONS

RESISTANCE RANGE: 500 ohms to 5 megohms
TOLERANCE: ±20%, except * ±30%
TAPER: Linear (C1) log modified clockwise 1/5 watt C1 taper, 1/10 watt C2 taper.
WATTAGE RATING: 1/10 watt
RESISTANCE ELEMENT: Composition
DIELECTRIC STRENGTH: 900 VAC-RMS to ground
EFFECTIVE ROTATION: Plain type, 260°; Switch type, 225°
ROTATIONAL LIFE: Tested to a minimum of 25,000 cycles
SWITCH: SPST, factory assembled, 6.5 amperes @ 1.5 VDC; 0.2 amperes at 45 VDC

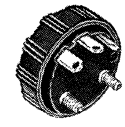
MECHANICAL SPECIFICATIONS

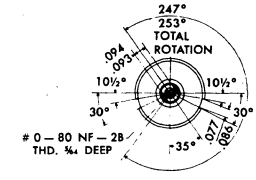
SIZE: 23/32" diameter with knob. Can be reduced to ⅝" diameter without knob.
MECHANICAL ROTATION: 260°
MOUNTING: Plain Type: Stud mounted. Two No. 1-72-NF-2 thd. x .140" long studs on .427" centers.
SWITCH TYPE: Bracket mounted
CONTACTS: Double wiping phosphor-bronze contact arm to resistor element, combined with special spiral spring electrical contact between arm and center terminal, assures positive smooth variation and extremely low noise level.
ROTATIONAL TORQUE: 0.3 inch-ounces
KNOB: Covers control completely. Removing the knob does not disassemble the control.
PACKAGED: One per individual display carton with mounting nuts, and/or screws and instruction sheet.

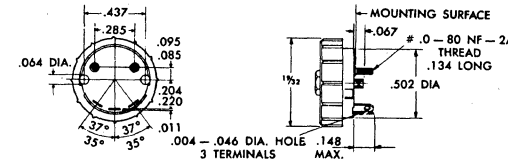
Ohms	Taper	Catalog No. Plain	Catalog No. Switch
500	C1	B16-107	.....
1000	C1	B16-109	.....
2500	C1	B16-111	.....
2500	C2	B16-112	B16-212
5000	C1	B16-113	.....
5000	C2	B16-114	B16-214
10K	C1	B16-115	.....
10K	C2	B16-116	B16-216
25K	C1	B16-125	.....
25K	C2	B16-117	B16-217
50K	C1	B16-119	.....
100K	C1	B16-121	.....
250K	C1	B16-123	.....
500K	C2	B16-118	B16-218
1 Meg.	C2	B16-120	B16-220
2 Meg.	C2	B16-122	B16-222
3 Meg.	C2	*B16-124	*B16-224
5 Meg.	C1	*B16-127	.....
5 Meg.	C2	*B16-128	*B16-228

* ±30%

Model SM ULTRA MINIATURE Composition Potentiometers







SM controls (1/10 watt, 0.502" diameter) were designed for hearing aids, telephone equipment, military communications equipment and other miniature applications. Furnished complete with on-off switch.

Produced under Patent No. 2,887,553.

ELECTRICAL SPECIFICATIONS

RESISTANCE RANGE: 2500 ohms to 25K ohms
TOLERANCE: ±20%
TAPER: Log modified clockwise (C2)
WATTAGE RATING: 1/10 watt
RESISTANCE ELEMENT: Composition
DIELECTRIC STRENGTH: 500 VAC-RMS to ground
EFFECTIVE ELECTRICAL ROTATION: 205°
ROTATIONAL LIFE: Less than 10% resistance change after 25,000 cycles
SWITCH: SPST, rated 2.5 amperes at 2 VDC; 0.1 amperes at 45 VDC

MECHANICAL SPECIFICATIONS

SIZE: 19/32" diameter with knob. Can be reduced to .502" diameter without knob
MECHANICAL ROTATION: 250°
MOUNTING: Two No. 0-80NF-2A—thread x .134" long studs on .285" centers
CONTACTS: Double wiping phosphor-bronze contacts assure smooth, noise-free rotation
ROTATIONAL TORQUE: 0.4-1.0 inch-ounces
KNOB: Covers control completely. Removing the knob does not disassemble the control.
PACKAGED: One per individual display carton with mounting nuts and instruction sheet.

Switch Type Only

Ohms	Taper	Catalog No.
2500	C2	SM2-252-S
5000	C2	SM2-502-S
10K	C2	SM2-103-S
25K	C2	SM2-253-S

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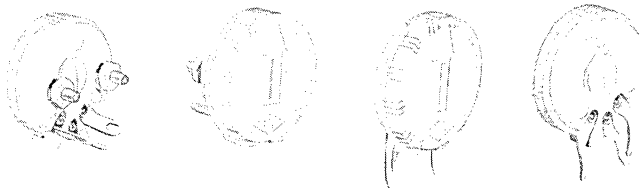
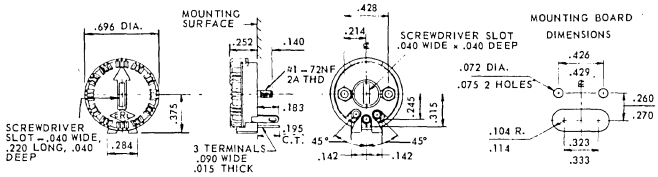
NEW Model 9 1/5 Watt MINIATURE Composition Potentiometers

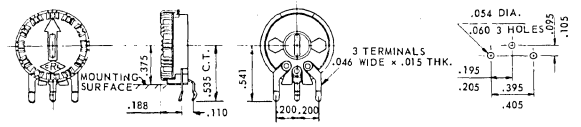
Designed for printed circuits such as those used in test, measurement and communications equipment. Intended primarily for trimmer applications, but since its rotational life is in excess of 25,000 cycles, is suitable for potentiometer applications. Two mountings for easy application. Screwdriver—adjustable from either side. The knob edge is designed for convenient edge adjustment.



PARALLEL STUD MOUNTING



PERPENDICULAR PLUG-IN



ELECTRICAL SPECIFICATIONS

RESISTANCE RANGE: 100 ohms to 2 megohms
TOLERANCE: ±20%
TAPER: Linear (C1)
WATTAGE RATING: 1/5 watt
RESISTANCE ELEMENT: Composition
DIELECTRIC STRENGTH: 900 VAC-RMS to ground
EFFECTIVE ROTATION: 260°
ROTATIONAL LIFE: In excess of 25,000 cycles

MECHANICAL SPECIFICATIONS

SIZE: .696″ diameter
MECHANICAL ROTATION: 260°
MOUNTING: See drawings—perpendicular plug-in and parallel stud mount.
CONTACTS: Double wiping phosphor-bronze contacts assure smooth, noise-free rotation
ROTATIONAL TORQUE: 1-3 inch-ounces range
KNOB: Covers potentiometer completely. Not removable.
PACKAGED: One per individual display carton.

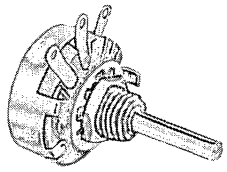
Ohms	Vertical Mount	Horizontal Mount	Ohms	Vertical Mount	Horizontal Mount
100	T-100	.....	25K	T-25K	TH-25K
500	T-500	.....	50K	T-50K	TH-50K
750	.....	TH-750	100K	.....	TH-100K
1000	T-1000	.....	250K	T-250K	TH-250K
2500	.....	TH-2500	500K	T-500K	TH-500K
5000	T-5000	TH-5000	1 Meg.	.....	TH-1 MEG
10K	T-10K	TH-10K	2 Meg.	T-2 MEG	.....

JMP-JML Models 1/5 WATT MINIATURE Composition Potentiometers

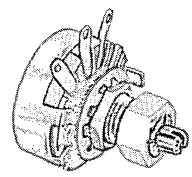
Style RV1, Designed to Meet MIL-R-94B

Model JMP and JML miniature controls are manufactured to meet the requirements of MIL-R-94B, Style RV1.

The resistance elements of these controls are completely enclosed, permitting sealing and potting without damage. Ideally suited for military equipment, geophysical apparatus and miniature amplifiers.

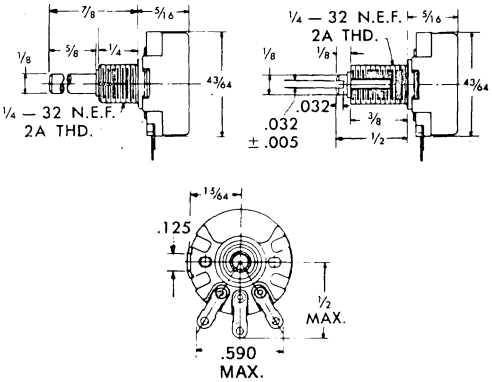


JMP
PLAIN BUSHING TYPE



JML
LOCKING BUSHING TYPE

PHYSICAL DIMENSIONS SAME AS RV1 STYLE MIL-R-94B



ELECTRICAL SPECIFICATIONS

RESISTANCE RANGE: 500 ohms to 2.5 megohms
TOLERANCE: ±10%
TAPER: Linear, except JMP2-103 and JMP2-504 which are semi-log (C2)
WATTAGE RATING: 1/5 watt at 70°C. derated to 0 watts at 120°C.
RESISTANCE ELEMENT: Composition
DIELECTRIC STRENGTH: 900 VAC-RMS to ground at atmospheric pressure. 350 VAC at reduced barometric pressure per MIL-R-94B.
ROTATIONAL LIFE: Resistance change less than 10% when tested per MIL-R-94B.

MECHANICAL SPECIFICATIONS

SIZE: 43/64″ ±1/64″ diameter, 5/16″ deep
SHAFTS: Stainless steel, screwdriver slotted shaft, 1/8″ diameter. Model JMP—7/8″ long from mounting surface. Model JML—1/2″ long from mounting surface.
TERMINALS: Brass, lead—tin plated
LOCATING LUG: Left only
MECHANICAL ROTATION: 260° ±3°
MOUNTING: Bushing type; mounting nut and lockwasher furnished
BUSHING: Model JMP: 1/4″—32 NEF-2A thd., 1/4″ long from mounting surface. Model JML: Locking Type, 1/4″—32 NEF-2A thd., 3/8″ long from mounting surface. Shaft locking nut furnished.
ROTATIONAL TORQUE: 0.5 to 6.0 inch-ounces

JMP (Plain Bushing) **JML (Locking Bushing)**

Ohms	MIL-R-94B Designation	CRL Cat. Number	Ohms	MIL-R-94B Designation	CRL Cat. Number
500	RV1NAXSD501A	JMP-501	500	RV1LAXSB501A	JML-501
1000	RV1NAXSD102A	JMP-102	1000	RV1LAXSB102A	JML-102
1500	.....	JMP-152	1500	.....	JML-152
2500	RV1NAXSD252A	JMP-252	2500	RV1LAXSB252A	JML-252
5000	RV1NAXSD502A	JMP-502	5000	RV1LAXSB502A	JML-502
7500	.....	JMP-752	7500	.....	JML-752
10K	RV1NAXSD103A	JMP-103	10K	RV1LAXSB103A	JML-103
10K	RV1NAXSD103C	JMP2-103	25K	RV1LAXSB253A	JML-253
25K	RV1NAXSD253A	JMP-253	50K	RV1LAXSB503A	JML-503
50K	RV1NAXSD503A	JMP-503	100K	RV1LAXSB104A	JML-104
100K	RV1NAXSD104A	JMP-104	250K	RV1LAXSB254A	JML-254
250K	RV1NAXSD254A	JMP-254	500K	RV1LAXSB504A	JML-504
500K	RV1NAXSD504A	JMP-504	1 Meg.	RV1LAXSB105A	JML-105
500K	RV1NAXSD504C	JMP2-504	2.5 Meg.	.....	JML-255
1 Meg.	RV1NAXSD105A	JMP-105			
2.5 Meg.	.....	JMP-255			

ENVIRONMENTAL SPECIFICATIONS

VIBRATION: Meets the requirements of MIL-R-94B
MOISTURE RESISTANCE: Meets the requirements of MIL-R-94B.
PACKAGED: One per individual display carton.

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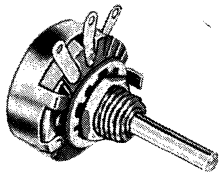
DISTRIBUTOR PRODUCTS

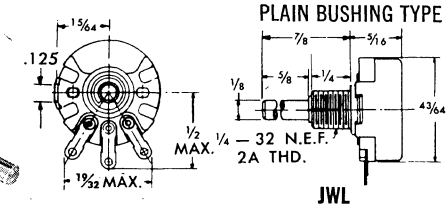
CENTRALAB
Electronics Division
GLOBE-UNION INC.

JWP-JWL Models 2 WATT MINIATURE WIREWOUND POTENTIOMETERS

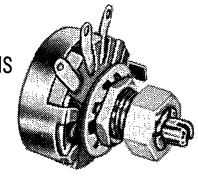
These are high quality miniaturized units; external appearance is similar to JMP and JML controls.

The resistance elements of the JWP and JWL controls are completely enclosed permitting sealing and potting without damage.





PHYSICAL DIMENSIONS
SIMILAR TO RV1
STYLE MIL-R-94B



ELECTRICAL SPECIFICATIONS

RESISTANCE RANGE: 50 ohms to 30K ohms
TOLERANCE: ±5%
TAPER: Linear
WATTAGE RATING: 2 watts at 70°C. derated to 0 watts at 125° C. when tested to MIL-R-19A.
RESISTANCE ELEMENT: Wirewound
DIELECTRIC STRENGTH: 900 VAC-RMS at atmospheric pressure. 450 VAC at reduced barometric pressure per MIL-R-19A.
ROTATIONAL LIFE: Resistance change less than 10% for units below 10K when tested to MIL-R-19A. For values of 10K and above, less than 10% change for 20,000 cycles rotation.

MECHANICAL SPECIFICATIONS

SIZE: 43/64" ±1/64" diameter, 5/16" deep
SHAFTS: Model JWP: Stainless steel screwdriver slotted shaft 1/8" diameter, 7/8" long from mounting surface.
Model JWL: Screwdriver slotted stainless steel shaft 1/8" diameter, 7/16" long from mounting surface.
TERMINALS: Nickel-silver, gold plated
LOCATING LUG: Left only
MECHANICAL ROTATION: 250° ±3°
MOUNTING: Bushing Type; mounting nut and lockwasher furnished.
BUSHING: Model JWP: 1/4"—32 NEF-2A thd., 1/4" long from mounting surface.
Model JWL: Locking Type, 1/4"—32 NEF-2A thd., 3/8" long from mounting surface. Shaft locking nut furnished.
ROTATIONAL TORQUE: 0.4-6.0 inch-ounces.

ENVIRONMENTAL SPECIFICATIONS

VIBRATION: Meets the requirements of MIL-R-19A.
MOISTURE RESISTANCE: Meets the requirements of MIL-R-19A.
INSULATION RESISTANCE: Meets the requirements of MIL-R-19A.

JWP (Plain Bushing)

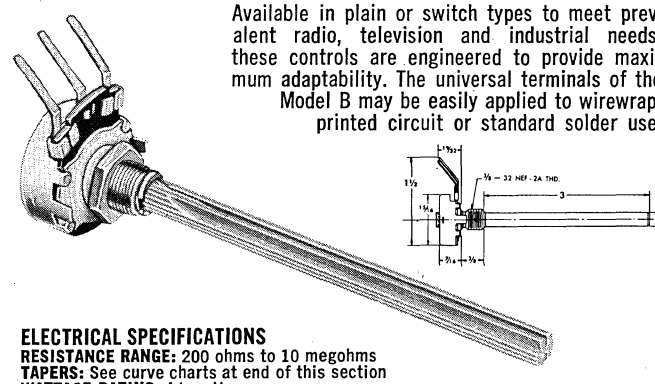
Ohms	Cat. No.
50	JWP-500
100	JWP-101
200	JWP-201
300	JWP-301
500	JWP-501
750	JWP-751
1000	JWP-102
1500	JWP-152
2000	JWP-202
2500	JWP-252
3000	JWP-302
4000	JWP-402
5000	JWP-502
7500	JWP-752
10K	JWP-103
15K	JWP-153
20K	JWP-203
25K	JWP-253
30K	JWP-303

JWL (Locking Bushing)

Ohms	Cat. No.
50	JWL-500
100	JWL-101
200	JWL-201
300	JWL-301
500	JWL-501
750	JWL-751
1000	JWL-102
1500	JWL-152
2000	JWL-202
2500	JWL-252
3000	JWL-302
4000	JWL-402
5000	JWL-502
7500	JWL-752
10K	JWL-103
10K	JWL-153
20K	JWL-203
25K	JWL-253
30K	JWL-303

Model B 1/2 WATT COMPOSITION POTENTIOMETERS 15/16" Diameter

Available in plain or switch types to meet prevalent radio, television and industrial needs, these controls are engineered to provide maximum adaptability. The universal terminals of the Model B may be easily applied to wirewrap, printed circuit or standard solder use.



ELECTRICAL SPECIFICATIONS

RESISTANCE RANGE: 200 ohms to 10 megohms
TAPERS: See curve charts at end of this section
WATTAGE RATING: 1/2 watt
LOAD LIFE: Less than 10% change after 1000 hours at 40° C.
RESISTANCE ELEMENT: Composition
DIELECTRIC STRENGTH: 900 VAC-RMS to ground
ROTATIONAL LIFE: Tested to a minimum of 25,000 cycles at 600 cycles per hour. Less than 15% resistance change after 25,000 cycles at no load.
SWITCH: 3 amp, 125VAC. Factory assembled on Model BPL, B-60-S and B-70-S. Model B accommodates type KR (snap-on) switches.

MECHANICAL SPECIFICATIONS

SIZE: Model B 15/16" diameter, 7/16" deep. Model BPL, 15/16" diameter, 13/16" deep.
SHAFTS: Universal fluted knurl type. Model B, Model B Switch type, BPL: 1/4" diameter, 3/8" long from mounting surface.
TERMINALS: Universal type for wirewrap, printed circuit and standard applications on Model B and B Switch types.
LOCATING LUG: Both right and left
MECHANICAL ROTATION: 330° ±3°
MOUNTING: Bushing mounted. Suitably plated steel hex nut included.
BUSHING: 3/8" long, 3/8"—32-NEF-2A thread
CONTACTS: Spring tempered brass, double wiping
STOP STRENGTH: 12 inch-pounds
ROTATIONAL TORQUE: 1.0-6.0 inch-ounces

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE COEFFICIENT: At +105° C. −0.04%/° C. resistance change; at 55° C. +0.09%/° C. resistance change (reference temperature, +25° C.)
HUMIDITY CHARACTERISTICS: Less than 25% change after 96 hours in 95% relative humidity.
PACKAGED: One per individual display carton with instruction sheet.

MODEL B UNIVERSAL SHAFT TYPE CONTROLS (Plain Type)

Ohms	Taper	Catalog Number
200	C-1	B-2
500	C-1	B-4
1000	C-1	B-5
2000	C-1	B-6
2500	C-1	B-7
5000	C-1	B-10
5000	C-2	B-11
10K	C-1	B-14
10K	C-2	B-15
20K	C-1	B-22
25K	C-1	B-26
50K	C-1	B-31
50K	C-2	B-32
100K	C-1	B-40
100K	C-2	B-41
200K	C-1	B-46
250K	C-1	B-50
250K	C-2	B-51
500K	C-1	B-59
500K	C-2	B-60
1 Meg.	C-1	B-69
1 Meg.	C-2	B-70
1.5 Meg.	C-1	B-742
2 Meg.	C-1	B-75
2 Meg.	C-2	B-76
2.5 Meg.	C-1	B-83
3 Meg.	C-1	B-84
5 Meg.	C-1	B-87
7.5 Meg.	C-1	B-90
10 Meg.	C-1	B-98

MODEL BPL SWITCH TYPE (Push-Pull Switch)

Ohms	Taper	Cat. No. Push-Pull
500K	C-2	BPL-60
1 Meg.	C-2	BPL-70

MODEL B SWITCH TYPE

Factory assembled switch type units are universal D.P.S.T., for S.P.S.T., D.P.S.T., or 3 wire usage. Switch rated 3 amp—125VAC.

Ohms	Taper	Catalog Number
500K	C-2	B-60-S
1 Meg.	C-2	B-70-S

TYPE KR FASTACH® SWITCHES

Underwriters approved. Remove label and snap on control. (Patent No. 2,776,356)

Switching	Rating	Cat. No.
SPST	5 amp., 125 v.a.c.	KR-1
DPST	3 amp., 125 v.a.c.	KR-2
DP ... { 1 pole on / 1 pole off }	3 amp., 125 v.a.c.	KR-3*
SPST	15 amp., 10 v.d.c.	KR-4
SPST	15 amp., 10 v.d.c.	KR-6**
DPST	15 amp., 10 v.d.c.	KR-7
(Switch Shield		KR-5)

* Can be used as SPDT by adding a jumper wire between terminals 1 and 3
** With dummy lug

REPLACEMENT AC LINE SWITCHES

Used primarily as replacement switches for factory assembled switch type controls in original equipment.

Switching	Rating	Cat. No.
DPST	3 amp., 125 VAC	SP-2
SPST	3 amp., 125 VAC	SP-3

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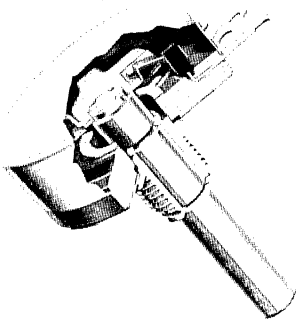
Model 12 HOT MOLDED RV-4 POTENTIOMETERS



- **IMMEDIATE DELIVERY at factory prices.**
- **CERTIFIED TEST DATA is on file by lot numbers. Each package shows its lot number.**
- **GOVERNMENT SOURCE INSPECTION**

These units are manufactured to meet all requirements of MIL-R-94B. Available from Centralab Industrial Distributors for immediate delivery, at factory prices.

Install Centralab Hot Molded Potentiometers with complete confidence that they will fulfill your most exacting requirements.

Meets all environmental requirements for Style RV4 per MIL-R-94/5A

HARDWARE

MOUNTING NUT: Nickel-plated brass. ½″ across flats (hex), .093″ thick.

LOCKWASHER: Nickel-plated phosphor bronze. .507″ O.D. x .391″ I.D. (internal tooth type).

LOCK NUT: Nickel-plated brass. ½″ across flats (hex), .156″ or .218″ thick. (Furnished with HML Series only.)

ELECTRICAL SPECIFICATIONS

RESISTANCE RANGE: 50 ohms to 5 megohms inclusive.

TOLERANCE: From 50 ohms through 500K ohms, inclusive, ±10%. Above 500K ohms, through 5 megohms, ±20%. Linear taper.

EFFECTIVE ELECTRICAL ROTATION: 312° ±3%.

WATTAGE RATING: 2.25 watts at 70° C., 500 volts.

RESISTANCE ELEMENT: Special carbon composition hot molded with mineral-filled phenolic base.

DIELECTRIC STRENGTH: 900 VAC to ground.

MECHANICAL SPECIFICATIONS

DIMENSIONS: 1 7/64″ diameter.

SHAFTS: Solid—.250″ diameter. 5/8″ long, with ½″ long locking bushing (Series HML); 7/8″ long with 3/8″ long plain bushing (Series HMP), and 2½″ long with plain bushing (Series HMS). All lengths measured from mounting surface. Screwdriver slotted.

TERMINALS: Solder lug. Gold plated or hot tin dipped for ease of soldering.

LOCATING LUG: Left (location determined by viewing potentiometer from operating end with terminals down).

EFFECTIVE MECHANICAL ROTATION: 312° ±3°.

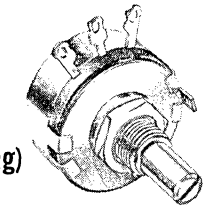
MOUNTING: Clearance hole for the 3/8″ bushing and .130″ dia. hole at 17/32″ radius for locating lug.

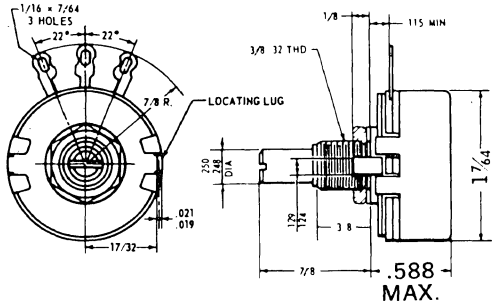
CONTACT: Carbon composition pick-up brush.

BUSHING: Plain or locking, 3/8″ dia.—32 NEF thd. See drawings.

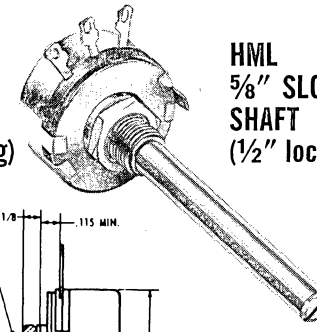
PACKAGED: One per individual display carton.

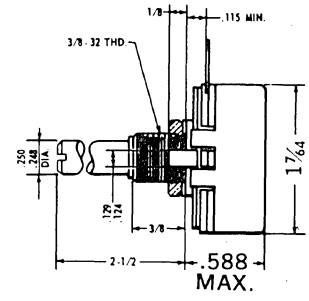
HMP 7/8″ SLOTTED SHAFT (Std. 3/8″ bushing)



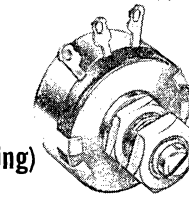


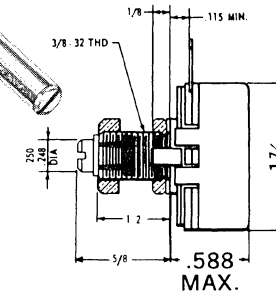
HMS 2½″ SLOTTED SHAFT (Std. 3/8″ bushing)





HML 5/8″ SLOTTED SHAFT (½″ locking bushing)





TOLERANCE

Ohms	MIL Designation	Catalog No.	Ohms	MIL Designation	Catalog No.	Ohms	MIL Designation	Catalog No.
10%								
50	RV4NAYSD500A	HMP- 50	50	RV4NAYSK500A	HMS- 50	50	RV4LAYSA500A	HML- 50
100	RV4NAYSD101A	HMP- 100	100	RV4NAYSK101A	HMS- 100	100	RV4LAYSA101A	HML- 100
150	RV4NAYSD151A	HMP- 150	150	RV4NAYSK151A	HMS- 150	150	RV4LAYSA151A	HML- 150
250	RV4NAYSD251A	HMP- 250	250	RV4NAYSK251A	HMS- 250	250	RV4LAYSA251A	HML- 250
350	RV4NAYSD351A	HMP- 350	350	RV4NAYSK351A	HMS- 350	350	RV4LAYSA351A	HML- 350
500	RV4NAYSD501A	HMP- 500	500	RV4NAYSK501A	HMS- 500	500	RV4LAYSA501A	HML- 500
750	RV4NAYSD751A	HMP- 750	750	RV4NAYSK751A	HMS- 750	750	RV4LAYSA751A	HML- 750
1000	RV4NAYSD102A	HMP-1000	1000	RV4NAYSK102A	HMS-1000	1000	RV4LAYSA102A	HML-1000
1500	RV4NAYSD152A	HMP-1500	1500	RV4NAYSK152A	HMS-1500	1500	RV4LAYSA152A	HML-1500
2500	RV4NAYSD252A	HMP-2500	2500	RV4NAYSK252A	HMS-2500	2500	RV4LAYSA252A	HML-2500
3500	RV4NAYSD352A	HMP-3500	3500	RV4NAYSK352A	HMS-3500	3500	RV4LAYSA352A	HML-3500
5000	RV4NAYSD502A	HMP-5000	5000	RV4NAYSK502A	HMS-5000	5000	RV4LAYSA502A	HML-5000
7500	RV4NAYSD752A	HMP-7500	7500	RV4NAYSK752A	HMS-7500	7500	RV4LAYSA752A	HML-7500
10K	RV4NAYSD103A	HMP- 10K	10K	RV4NAYSK103A	HMS- 10K	10K	RV4LAYSA103A	HML- 10K
15K	RV4NAYSD153A	HMP- 15K	15K	RV4NAYSK153A	HMS- 15K	15K	RV4LAYSA153A	HML- 15K
25K	RV4NAYSD253A	HMP- 25K	25K	RV4NAYSK253A	HMS- 25K	25K	RV4LAYSA253A	HML- 25K
35K	RV4NAYSD353A	HMP- 35K	35K	RV4NAYSK353A	HMS- 35K	35K	RV4LAYSA353A	HML- 35K
50K	RV4NAYSD503A	HMP- 50K	50K	RV4NAYSK503A	HMS- 50K	50K	RV4LAYSA503A	HML- 50K
75K	RV4NAYSD753A	HMP- 75K	75K	RV4NAYSK753A	HMS- 75K	75K	RV4LAYSA753A	HML- 75K
100K	RV4NAYSD104A	HMP-100K	100K	RV4NAYSK104A	HMS-100K	100K	RV4LAYSA104A	HML-100K
150K	RV4NAYSD154A	HMP-150K	150K	RV4NAYSK154A	HMS-150K	150K	RV4LAYSA154A	HML-150K
250K	RV4NAYSD254A	HMP 250K	250K	RV4NAYSK254A	HMS-250K	250K	RV4LAYSA254A	HML-250K
350K	RV4NAYSD354A	HMP-350K	350K	RV4NAYSK354A	HMS-350K	350K	RV4LAYSA354A	HML-350K
500K	RV4NAYSD504A	HMP-500K	500K	RV4NAYSK504A	HMS-500K	500K	RV4LAYSA504A	HML-500K
20%								
750K	RV4NAYSD754B	HMP-750K	750K	RV4NAYSK754B	HMS-750K	750K	RV4LAYSA754B	HML-750K
1 Meg.	RV4NAYSD105B	HMP- 1 Meg.	1 Meg.	RV4NAYSK105B	HMS- 1 Meg.	1 Meg.	RV4LAYSA105B	HML- 1 Meg.
1.5 Meg.	RV4NAYSD155B	HMP-1.5 Meg.	1.5 Meg.	RV4NAYSK155B	HMS-1.5 Meg.	1.5 Meg.	RV4LAYSA155B	HML-1.5 Meg.
2 Meg.	RV4NAYSD205B	HMP- 2 Meg.	2 Meg.	RV4NAYSK205B	HMS- 2 Meg.	2 Meg.	RV4LAYSA205B	HML- 2 Meg.
2.5 Meg.	RV4NAYSD255B	HMP-2.5 Meg.	2.5 Meg.	RV4NAYSK255B	HMS-2.5 Meg.	2.5 Meg.	RV4LAYSA255B	HML-2.5 Meg.
3.5 Meg.	RV4NAYSD355B	HMP-3.5 Meg.	3.5 Meg.	RV4NAYSK355B	HMS-3.5 Meg.	3.5 Meg.	RV4LAYSA355B	HML-3.5 Meg.
5 Meg.	RV4NAYSD505B	HMP- 5 Meg.	5 Meg.	RV4NAYSK505B	HMS- 5 Meg.	5 Meg.	RV4LAYSA505B	HML- 5 Meg.

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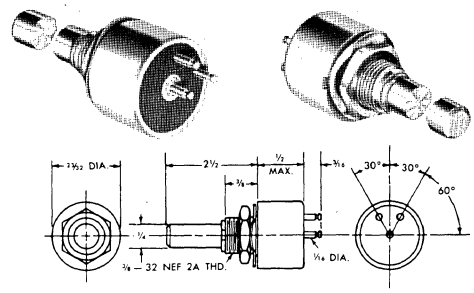
DISTRIBUTOR PRODUCTS

CENTRALAB
Electronics Division
GLOBE-UNION INC.

Model N 3/4 WATT HOT MOLDED POTENTIOMETERS



Model "N" is a Hot Molded Potentiometer only 23/32" diameter and rated at ¾ Watt. Minimal physical and electrical noise; all exposed metal parts are corrosion-resistant.

One piece aluminum case is spun over the insulating base to provide a seal and to promote rapid heat dissipation.

Pin-type terminals project to the rear for easy wire attachment.

Ohms	Taper	Tol.	Catalog No.
500	C1	±10%	NCP9-501-U
1000	C1	±10%	NCP9-102-U
2500	C1	±10%	NCP9-252-U
5000	C1	±10%	NCP9-502-U
10K	C1	±10%	NCP9-103-U
10K	C3	±10%	NCP9-103-B
25K	C1	±10%	NCP9-253-U
25K	C3	±10%	NCP9-253-B
50K	C1	±10%	NCP9-503-U
50K	C3	±10%	NCP9-503-B
100K	C1	±10%	NCP9-104-U
100K	C2	±10%	NCP9-104-A
250K	C1	±10%	NCP9-254-U
250K	C2	±10%	NCP9-254-A
500K	C1	±10%	NCP9-504-U
500K	C2	±10%	NCP9-504-A
1 Meg.	C1	±20%	NCP9-105-M
1 Meg.	C2	±20%	NCP9-105-R
2.5 Meg	C1	±20%	NCP9-255-M

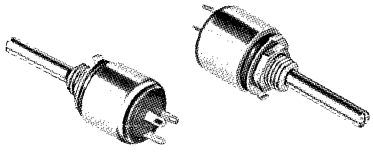
ELECTRICAL SPECIFICATIONS

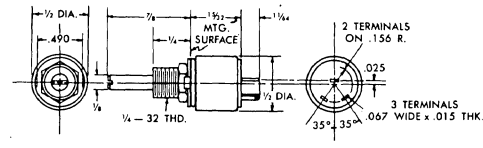
RESISTANCE RANGE: 500 ohms to 2.5 megohms
TOLERANCES: ±10% or ±20% as listed
TAPERS: Linear (C1); Log, modified clockwise (C2); Log, modified counterclockwise (C3)
WATTAGE RATING: ¾ watt at 70° C., 350 volts
RESISTANCE ELEMENT: Hot molded carbon composition
DIELECTRIC STRENGTH: 900 VAC-RMS to ground

MECHANICAL SPECIFICATIONS

SIZE: 23/32" diameter, ½" deep FMS
SHAFT: ¼" diameter, full round steel, zinc chromate finish. 2½" long from mounting surface
TERMINALS: Silver-plated brass 1/16" diameter, 3/16" long pin type. Terminals are grooved so wires can be crimped into place.
CASE: Cold-formed aluminum alloy, securely swaged to the insulating base. Suitable for encapsulation without affecting operation.
MECHANICAL ROTATION: 300° ±3°
MOUNTING: Single hole, bushing type. Nickel-plated brass nut and internal tooth lock washer furnished.
BUSHING: ⅜"—32NEF-2A thd., aluminum alloy, ⅜" long
ROTATIONAL TORQUE: 5.0 ounce-inches average

Model P 1/2 WATT HOT MOLDED POTENTIOMETERS





Model "P" (RV 6 style) Hot Molded Potentiometers is only ½" diameter, rated ½ watt at 70°C.

Minimal mechanical and electrical noise.

A stainless steel shaft and anodized aluminum case provide corrosion resistance equivalent to MIL-R-94-B Style RV6.

Ohms	Taper	Tol.	Catalog No.
500	C1	±10%	PNS7-501-U
1000	C1	±10%	PNS7-102-U
2500	C1	±10%	PNS7-252-U
5000	C1	±10%	PNS7-502-U
10K	C1	±10%	PNS7-103-U
25K	C1	±10%	PNS7-253-U
50K	C1	±10%	PNS7-503-U
100K	C1	±10%	PNS7-104-U
250K	C1	±10%	PNS7-254-U
500K	C1	±10%	PNS7-504-U
1 Meg.	C1	±20%	PNS7-105-M
2.5 Meg.	C1	±20%	PNS7-255-M

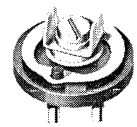
ELECTRICAL SPECIFICATIONS

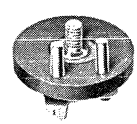
RESISTANCE RANGE: 500 ohms to 2.5 megohms
TOLERANCES: ±10% or ±20% as listed
TAPERS: Linear (C1)
WATTAGE RATING: ½ watt at 70° C., 350 volts
RESISTANCE ELEMENT: Hot molded carbon composition
DIELECTRIC STRENGTH: 900 VAC-RMS to ground

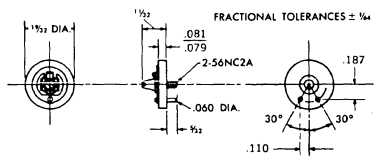
MECHANICAL SPECIFICATIONS

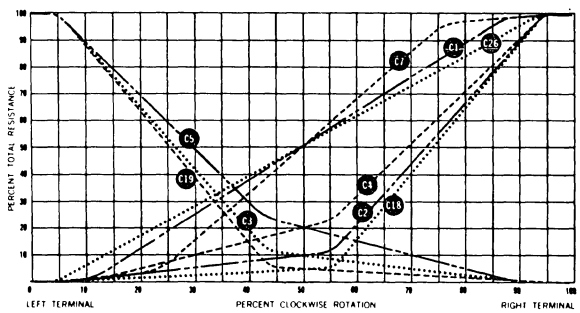
SIZE: ½" diameter, 15/32" deep
SHAFTS: ⅛" diameter, full round stainless steel, screwdriver slotted, ⅞" long from mounting surface (seal type)
TERMINALS: Nickel silver; .015" thick, .067" wide, 1 1/64" long
CASE: Cold-formed anodized aluminum alloy, securely swaged to the insulating base. Suitable for encapsulation without affecting operation.
LOCATING LUGS: Two, .091" wide on .490" diameter (.245" radius)
MECHANICAL ROTATION: 295° ±3°
MOUNTING: Single hole, bushing type (panel and shaft seal style) nut and lockwasher furnished.
BUSHING: ¼"—32NEF-2A thd., double flatted, ¼" long. Formed as part of the aluminum alloy case. Has separate "O" ring panel seal.
ROTATIONAL TORQUE: 1.5 ounce-inches

Model T 1/3 WATT HOT MOLDED POTENTIOMETERS









C-1 Linear, has uniform resistance change from either end. Used for Hor. & Vert. Centering; Hor. & Vert. Hold; Hor. Drive; Vert. Linearity; Focus; Brightness; Height; Contrast, Volume or Tone.
C-2 Semi-log (audio) 10% center. Used for Volume or Tone.
C-3 Right-hand semi-log. Reverse of C-2. Decreases with clockwise rotation.

The Model T extends Hot Molded construction to the trimmer resistor or trimmer potentiometer. All critical parts non-magnetic and silver plated for superior performance and long life. Especially designed for printed circuit use. May be encapsulated.

ELECTRICAL SPECIFICATIONS

RESISTANCE RANGE: 500 ohms to 2.5 megohms
TOLERANCE: ±20%
TAPER: Linear (C1)
WATTAGE RATING: ⅓ watt at 70° C.
RESISTANCE ELEMENT: Hot molded carbon composition
DIELECTRIC STRENGTH: 900 VAC-RMS to ground

MECHANICAL SPECIFICATIONS

SIZE: 19/32" diameter, 11/32" deep
SHAFT: Screwdriver adjust with concentric screwdriver lock
TERMINALS: Silver-plated, pin type 5/32 long
MECHANICAL ROTATION: 300° ±3°
MOUNTING: Two stub terminals and a threaded centerpiece serve as both electrical terminals and mounting means. All these terminals may be used in dip soldering on printed wiring board applications; or a nut on the center terminal may be used to mount the Model T to an insulated chassis, with the other two terminals serving as conventional solder lugs.
ROTATIONAL TORQUE: Locking type

ENVIRONMENTAL SPECIFICATIONS

Can be encapsulated in either flexible or rigid encapsulating compounds for endurance to atmospheric attack. All metal parts silver-plated. Temperature stable plastic is used in the insulating base molding.

Single Turn, Locking Type

Ohms	Taper	Tol.	Catalog No.
500	C1	±20%	TMX0-501-M
1000	C1	±20%	TMX0-102-M
2500	C1	±20%	TMX0-252-M
5000	C1	±20%	TMX0-502-M
10K	C1	±20%	TMX0-103-M
25K	C1	±20%	TMX0-253-M
50K	C1	±20%	TMX0-503-M
100K	C1	±20%	TMX0-104-M
250K	C1	±20%	TMX0-254-M
500K	C1	±20%	TMX0-504-M
1 Meg.	C1	±20%	TMX0-105-M
2.5 Meg.	C1	±20%	TMX0-225-M

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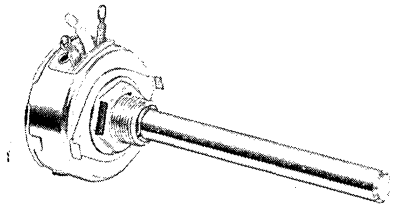
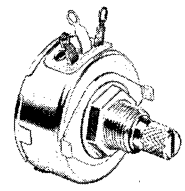
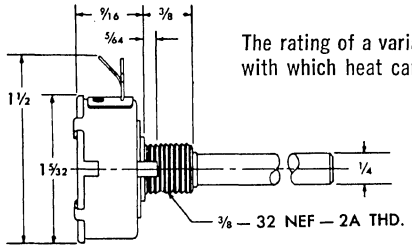
WW-WN Series 5 WATT WIREWOUND POTENTIOMETERS 2 Watt Size—5 Watt Rating







The rating of a variable resistor depends upon the speed with which heat can be transferred from the resistance element to the atmosphere. Centralab "thermapass" insulation combines exceptional heat transfer properties with a dielectric strength of 4500 volts per mil at 25°C. RESULT: Series WW-WN Radiohms, conservatively rated 5 watt wirewound controls smaller than a conventional 2 watt unit.

ELECTRICAL SPECIFICATIONS

RESISTANCE RANGE: 1 ohm to 100K ohms.

TOLERANCE: ±10%

TAPER: Linear

WATTAGE RATING: 5 watts @ 40° C. ambient, derated to 0 watts at 105° C. Thermapass insulation combines exceptional heat transfer properties with dielectric strength of 4500 volts per MIL at 25° C.

RESISTANCE ELEMENT: Wirewound

DIELECTRIC STRENGTH: 900 VAC-RMS to ground

EFFECTIVE ELECTRICAL ROTATION: 288° ±2°

ROTATIONAL LIFE: Tested to a minimum of 25,000 cycles at 600 cycles per hour. 5000 cycles for 20K and above.

MECHANICAL SPECIFICATIONS

SIZE: 1 5/32" diameter, 9/16" deep

SHAFTS: Model WW: 1/4" diameter, full round burnished aluminum, 3" long from mounting surface.

Model WN: 1/4" diameter, fingertip knurled cadmium-plated steel, screwdriver slotted, 3/4" long from mounting surface.

LOCATING LUG: Both right and left

MECHANICAL ROTATION: 295° ±3°

MOUNTING: Bushing type; mounting nut furnished

BUSHING: 3/8"—32 NEF-2A thd., 3/8" long

STOP STRENGTH: 14 inch-pounds

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE COEFFICIENT: .00017 Ω/Ω/° C. for 100 ohms and above.

AMBIENT TEMPERATURE RANGE: −65° F. to +200° F.

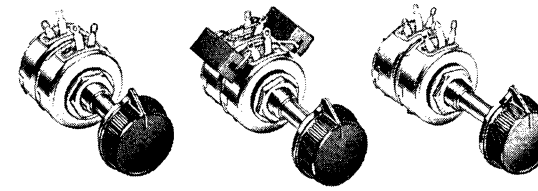
Meets or exceeds the following Sections of MIL-R-19A Specifications:

VIBRATION—LOW FREQUENCY	Par 3.12 and 4.6.10
MOISTURE RESISTANCE	Par 3.9 and 4.6.7
LOW TEMPERATURE STORAGE	Par 3.7 and 4.6.5
LOW TEMPERATURE OPERATION	Per 3.8 and 4.6.6
LOW TEMPERATURE CYCLING	Par 3.9 and 4.6.7
ROTATIONAL LIFE	Par 3.14 and 4.6.12
VIBRATION—HIGH FREQUENCY	Par 3.19 and 4.6.17
SHOCK	Par 3.18 and 4.6.16
INSULATION RESISTANCE	Par 3.16 and 4.6.14
LOAD LIFE	Par 3.10 and 4.6.8

PACKAGED: One per individual display carton.

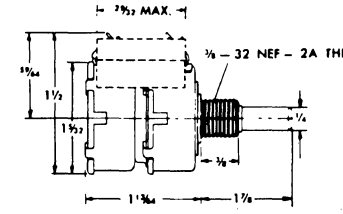
Ohms	WW Catalog No.	WN Catalog No.	Ohms	WW Catalog No.	WN Catalog No.	Ohms	WW Catalog No.	WN Catalog No.
1	WW-010	WN-010	60	WW-600	WN-600	4000	WW-402	WN-402
2	WW-020	WN-020	75	WW-750	WN-750	5000	WW-502	WN-502
3	WW-030	WN-030	100	WW-101	WN-101	7500	WW-752	WN-752
4	WW-040	WN-040	200	WW-201	WN-201	10K	WW-103	WN-103
5	WW-050	WN-050	250	WW-251	WN-251	15K	WW-153	WN-153
6	WW-060	WN-060	300	WW-301	WN-301	20K	WW-203	WN-203
8	WW-080	WN-080	400	WW-401	WN-401	25K	WW-253	WN-253
10	WW-100	WN-100	500	WW-501	WN-501	30K	WW-303	WN-303
15	WW-150	WN-150	750	WW-751	WN-751	40K	WW-403	WN-403
20	WW-200	WN-200	1000	WW-102	WN-102	50K	WW-503	WN-503
25	WW-250	WN-250	1500	WW-152	WN-152	75K	WW-753	WN-753
30	WW-300	WN-300	2000	WW-202	WN-202	100K	WW-104	WN-104
40	WW-400	WN-400	2500	WW-252	WN-252			
50	WW-500	WN-500	3000	WW-302	WN-302			

WL, WDT, WST Series



WL WDT WST

(Reduced Scale)



Centralab's constant impedance L-pads and Bridged T-pads are designed to provide the optimum in sound reproduction quality without altering the original frequency response of the equipment. Anti-backlash construction features a force-fit shaft interlock which prevents relative motion between contact springs of the front and rear units, thus assuring smooth attenuation in either direction without deterioration. The WST Series are linear taper twin controls for stereo speaker installations.

ELECTRICAL SPECIFICATIONS

WATTAGE RATING: WL and WDT Series: 20 watts audio (5 watts DC and sine wave). WST Series: 10 watts audio (5 watts DC and sine wave).

DIELECTRIC STRENGTH: 900 VAC-RMS to ground

MECHANICAL SPECIFICATIONS

SIZE: 1 5/32" diameter, 1 13/64" deep behind panel.

SHAFT: 1/4" diameter, full round brass, 1 7/8" long from mounting surface.

LOCATING LUG: None

MECHANICAL ROTATION: 295° ±3°

MOUNTING: Bushing

BUSHING: 3/8"—32NEF-2A thd., 3/8" long from mounting surface. By adding an AK-31 (brass) adapter bushing, the standard 3/8" long bushing can be extended to 1".

STOP STRENGTH: 14 inch-pounds.

PACKAGED: One per individual display carton, which includes: one AK-36 brushed gold anodized dial plate and one KC-10 set-screw pointer knob. Instruction sheet furnished.

L-PAD

Ohms	Catalog No.
4	WL-4
8	WL-8
16	WL-16
500	WL-500
600	WL-600
1000	WL-1000
1250	WL-1250
2000	WL-2000
2500	WL-2500

BRIDGED T-PAD

Ohms	Catalog No.
4	WDT-4
8	WDT-8
16	WDT-16
500	WDT-500
600	WDT-600

STEREO ATTENUATORS

20	WST-200 (for 4 ohm speakers)
40	WST-400 (for 8 ohm speakers)
80	WST-800 (for 16 ohm speakers)

See CENTRALAB CATALOG 33-GL for Fastatch® II and Buzz Controls

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PRODUCTS OF
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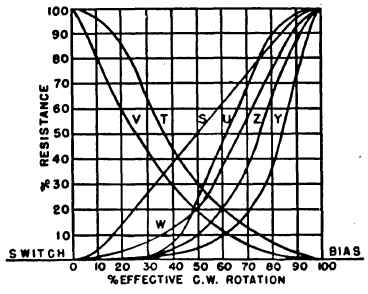
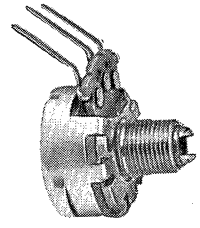
RESISTANCE DEVICES

COMPOSITION-ELEMENT CONTROLS



Graph Explanation:
Taper S—Straight or uniform resistance change with rotation.
Taper T — Right-hand 30% resistance at 50% of C.C.W. rotation.
Taper U — Left-hand 1% resistance at 33⅓% of C.W. rotation.
Taper V — Right-hand 20% resistance at 50% of C.C.W. rotation.
Taper W—Left-hand 20% resistance at 50% of C.W. rotation.
Taper Z—Left-hand (Log. audio) 10% resistance at 50% of C.W. rotation.
Taper Y — Left-hand 5% resistance at 50% of C.W. rotation.

SERIES "A47" ½-WATT CONTROLS



Composition-element controls in the popular 15/16" dia. size. Series "A47" controls are field-assembled with the selected "Pick-A-Shaft"* and "Ad-A-Switch"*. These controls are also available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating the type shaft desired when ordering. Example: 47-100K-S with FKS-¼ shaft.

CAT No.	OHMS	TAPER	CAT No.	OHMS	TAPER
A47-500-S	500	S	A47-75K-V	75K	V
A47-750-S	750	S	A47-100K-S	100K	S
A47-1000-S	1000	S	A47-100K-Z	100K	Z
A47-1500-S	1500	S	A47-150K-S	150K	S
A47-2000-S	2000	S	A47-200K-S	200K	S
A47-2500-S	2500	S	A47-250K-S	250K	S
A47-3000-S	3000	S	A47-250K-Z	250K	Z
A47-4000-S	4000	S	A47-300K-S	300K	S
A47-5000-S	5000	S	A47-500K-S	500K	S
A47-7500-S	7500	S	A47-500K-Z	500K	Z
A47-10K-S	10K	S	A47-750K-S	750K	S
A47-10K-V	10K	V	A47-750K-Z	750K	Z
A47-10K-W	10K	W	A47-1 Meg-S	1 Meg.	S
A47-10K-Z	10K	Z	A47-1 Meg-Z	1 Meg.	Z
A47-15K-S	15K	S	A47-1.5 Meg-S	1.5 Meg.	S
A47-15K-V	15K	V	A47-2 Meg-Z	2 Meg.	Z
A47-15K-W	15K	W	A47-2 Meg-S	2 Meg.	S
A47-20K-S	20K	S	A47-2.5 Meg-S	2.5 Meg.	S
A47-25K-S	25K	S	A47-3 Meg-S	3 Meg.	S
A47-25K-W	25K	W	A47-3-Meg.-Z	3 Meg.	Z
A47-25K-V	25K	V	A47-4 Meg-S	4 Meg.	S
A47-30K-S	30K	S	A47-4 Meg-Z	4 Meg.	Z
A47-40K-S	40K	S	A47-5 Meg-Z	5 Meg.	Z
A47-50K-S	50K	S	A47-5 Meg-S	5 Meg.	S
A47-50K-W	50K	W	A47-7.5 Meg-S	7.5 Meg.	S
A47-50K-Z	50K	Z	A47-10 Meg-S	10 Meg.	S
A47-75K-S	75K	S			

NET PRICE $1.08

SERIES "AD47" ½-WATT DUAL CONTROLS

These are the same as "A47" except that they are dual controls.

Cat. No.	Panel	Taper	Rear	Taper
AD47-50K-S	50K	S	50K	S
AD47-100K-S	100K	S	100K	S
AD47-250K-S	250K	S	250K	S
AD47-250K-Z	250K	Z	250K	Z
AD47.500K-S	500K	S	500K	S
AD47-500K-Z	500K	Z	500K	Z
AD47-1 Meg.-S	1 Meg.	S	1 Meg.	S
AD47-1 Meg.-Z	1 Meg.	Z	1 Meg.	Z
AD47-2 Meg.-S	2 Meg.	S	2 Meg.	S
AD47-2 Meg.-V	2 Meg.	V	2 Meg.	V
AD47-5 Meg.-S	5 Meg.	S	5 Meg.	S

NET PRICE $2.25

SERIES "C47S" ½-WATT CONTROLS WITH PUSH-PULL SWITCH

Cat. No.	Cat. No.
C47S-1000-V	C47S-750K-Z
C47S-2500-V	C47S-1MEG-S
C47S-250K-S	C47S-1MEG-Z
C47S-250K-Z	C47S-2MEG-S
C47S-500K-S	C47S-2MEG-Z
C47S-500K-Z	C47S-3MEG-Z
C47S-750K-S	

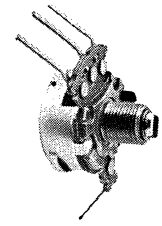
NET PRICE $1.68

SERIES "C47SF" (TAPPED)

Cat. No.	
C47SF-500K	Tap 250K
C47SF1-500K	Tap 150K
C47SF-1MEG	Tap 500K
C47SF1-1MEG	Tap 250K
C47SF-2MEG	Tap 1MEG
C47SF-3MEG	Tap 1.5MEG

NET PRICE $2.15

SERIES "A47F"



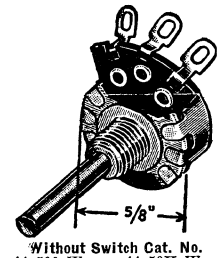
Series "A47F" controls are field-assembled with the selected "Pick-A-Shaft"* and "Ad-A-Switch"*. "A47F" controls have taps 1, 2, 3 located at 40%, 50% and 60% of rotation, double taps at 35 and 65% of electrical position. These controls are also available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating the type of shaft desired when ordering. Example: 47F-200K with FS-3 shaft.

Cat. No.	Res. Ohms.	Tap No. 1 30%	Tap No. 2 50%	Tap No. 3 70%
A47F-15K	15K	5K		10K
A47F-30K	30K	10K		
A47F-50K	50K		25K	
A47F-200K	200K			100K
A47F-250K	250K			50K
A47F1-250K	250K		125K	
A47F2-250K	250K	60K		125K
A47F-350K	350K	75K		
A47F1-350K	350K		75K	
A47F-500K	500K			100K
A47F1-500K	500K	25K		
A47F2-500K	500K			200K
A47F3-500K	500K		100K	
A47F4-500K	500K		50K	
A47F5-500K	500K		250K	
A47F6-500K	500K	100K		300K
A47F-1 Meg.	1 Meg.	250K		
A47F1-1 Meg.	1 Meg.			200K
A47F2-1 Meg.	1 Meg.		50K	
A47F3-1 Meg.	1 Meg.		100K	
A47F4-1 Meg.	1 Meg.		225K	
A47F5-1 Meg.	1 Meg.		500K	
A47F-1.5 Meg.	1.5 Meg.	250K		500K
A47F-2 Meg.	2 Meg.	20K		
A47F1-2 Meg.	2 Meg.	5000		
A47F2-2 Meg.	2 Meg.	15K		
A47F3-2 Meg.	2 Meg.		1 Meg.	
A47F4-2 Meg.	2 Meg.		200K	
A47F5-2 Meg.	2 Meg.		400K	
A47F6-2 Meg.	2 Meg.		500K	
A47F7-2 Meg.	2 Meg.	250K		1 Meg.
A47F-2.5 Meg.	2.5 Meg.	250K		500K
A47F-3 Meg.	3 Meg.		250K	

NET PRICE $1.49

*Reg. U.S. Pat. Off.

SERIES 44 — 0.02 WATT CONTROLS



Composition Element Controls rated at 0.2 watt, designed specifically for miniaturized applications such as transistorized circuits, pocket radios, hearing aids, etc. Stocked controls have Clarostat "W" taper (20% log audio). Other tapers available on special order. Series 44 is without switch, while Series 44S has factory-attached 0.5 am. 25 v.d.c. DPST switch. Other ohmages available on special order. 200 ohms to 5 meg. linear; 1500 to 2.5 meg. tapered. Also available on special order, controls with 0.5 a. 25 v.d.c. SPST switch. Items not listed are special. Prices and information on request.

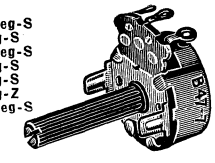
Without Switch Cat. No.		With SPST Switch Cat. No.	
44-500-W	44-50K-W	44S-500-W	44S-50K-W
44-1K-W	44-100K-W	44S-1K-W	44S-100K-W
44-5K-W	44-250K-W	44S-5K-W	44S-250K-W
44-10K-W	44-500K-W	44S-10K-W	44S-500K-W
44-15K-W	44-1 Meg-W	44S-15K-W	44S-1 Meg-W
44-25K-W		44S-25K-W	

NET PRICE $1.08 **NET PRICE $1.68**

SERIES B47 ½-WATT TAB-MOUNT

Composition element controls designed for radio and TV applications, where bushingless controls are required. Phenolic shaft insures insulation if control is used on a "hot" chassis. Items not listed are special, for which information and prices will be supplied on request.

Cat. No.	Cat. No.	Cat. No.	Cat. No.
B47-500-S	B47-10K-S	B47-250K-S	B47-1.5 Meg-S
B47-750-S	B47-25K-S	B47-330K-Z	B47-2 Meg-S
B47-1500-S	B47-50K-S	B47-500K-S	B47-2.5 Meg-S
B47-2500-S	B47-100K-S	B47-500K-Z	B47-3 Meg-S
B47-3000-S	B47-150K-S	B47-1 Meg-S	B47-5 Meg-S
B47-5000-S	B47-200K-S	B47-1 Meg-Z	B47-5 Meg-Z
			B47-7.5 Meg-S



NET PRICE $.75

SERIES B47S ½-WATT TAB MOUNT WITH SWITCH

Cat. No.	Cat. No.
B47S-250K-S	B47S-1 Meg-S
B47S-250K-Z	B47S-1 Meg-Z
B47S-500K-S	B47S-2 Meg-S
B47S-500K-Z	B47S-2 Meg-Z

NET PRICE $1.35

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PRODUCTS OF
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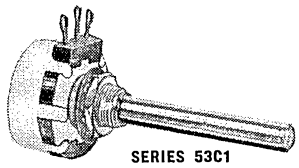
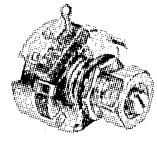
RESISTORS • CONTROLS
RESISTANCE DEVICES

SERIES 53—2 WATT

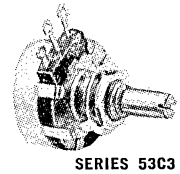
MOLDED COMPOSITION ELEMENT POTENTIOMETERS



SERIES 53C1



SERIES 53C2



SERIES 53C3

A 2-watt molded composition element potentiometer totally enclosed and sealed against moisture and other environmentals. Meets the need for a high quality resistance device incorporating high-stability under extreme climatic and operational conditions. For use in critical applications, such as, test equipment, military requirements, computers, servo systems and industrial metering devices.

1 1/16" diameter and 9/16" deep, wiper assembly of one piece construction; carbon to carbon contact insures exceptionally low noise level; brass nickel plated, gold plated terminals. Electrical tolerances are plus/minus 10% for all values up to 1 meg. 1 meg. and above plus/minus 20%.

Fabricated in accordance with MIL-R-94 Style RV4.

Items not listed are special, prices and information supplied upon request.

The C1 designation indicates a 1 5/8" round shaft beyond bushing; 3/8" long bushing with 3/8-32-NEF-2 thread. The C2 designation is a 1/8" screwdriver slotted shaft with a 1/2" split locking bushing. The C3 designation is a 7/8" round shaft FMS, 3/8" long bushing with 3/8-32-NEF-2 thread.

TAPERED POTENTIOMETERS		DUAL POTENTIOMETERS	
"Z" TAPER	REVERSED "Z" TAPER	Cat. No.	Cat. No.
53C1-100K-Z	53C1-10K-RZ	D53C1-10K-S	D53C1-100K-S
53C1-250K-Z	53C1-25K-RZ	D53C1-25K-S	D53C1-250K-S
53C1-500K-Z	53C1-50K-RZ	D53C1-50K-S	D53C1-500K-S
53C1-1 Meg-Z			D53C1-1 Meg-S
53C1-2.5 Meg-Z			

Cat. No.	Cat. No.	Cat. No.	Res. Ohms	Taper
53C1-50-S	53C2-50-S	53C3-50-S	50	S
53C1-100-S	53C2-100-S	53C3-100-S	100	S
53C1-150-S	53C2-150-S	53C3-150-S	150	S
53C1-250-S	53C2-250-S	53C3-250-S	250	S
53C1-350-S	53C2-350-S	53C3-350-S	350	S
53C1-500-S	53C2-500-S	53C3-500-S	500	S
53C1-750-S	53C2-750-S	53C3-750-S	750	S
53C1-1000-S	53C2-1000-S	53C3-1000-S	1000	S
53C1-1500-S	53C2-1500-S	53C3-1500-S	1500	S
53C1-2000-S	53C2-2000-S	53C3-2000-S	2000	S
53C1-2500-S	53C2-2500-S	53C3-2500-S	2500	S
53C1-3500-S	53C2-3500-S	53C3-3500-S	3500	S
53C1-5000-S	53C2-5000-S	53C3-5000-S	5000	S
53C1-7500-S	53C2-7500-S	53C3-7500-S	7500	S
53C1-10K-S	53C2-10K-S	53C3-10K-S	10K	S
53C1-15K-S	53C2-15K-S	53C3-15K-S	15K	S
53C1-20K-S	53C2-20K-S	53C3-20K-S	20K	S
53C1-25K-S	52C2-25K-S	53C3-25K-S	25K	S
53C1-35K-S	53C2-35K-S	53C3-35K-S	35K	S
53C1-50K-S	53C2-50K-S	53C3-50K-S	50K	S
53C1-7SK-S	53C2-75K-S	53C3-75K-S	75K	S
53C1-100K-S	53C2-100K-S	53C3-100K-S	100K	S
53C1-150K-S	53C2-150K-S	53C3-150K-S	150K	S
53C1-200K-S	53C2-200K-S	53C3-200K-S	200K	S
53C1-250K-S	53C2-250K-S	53C3-250K-S	250K	S
53C1-350K-S	53C2-350K-S	53C3-350K-S	350K	S
53C1-500K-S	53C2-500K-S	53C3-500K-S	500K	S
53C1-750K-S	53C2-750K-S	53C3-750K-S	750K	S
53C1-1 Meg-S	53C2-1 Meg-S	53C3-1 Meg-S	1 Meg	S
53C1-1.5 Meg-S	53C2-1.5 Meg-S	53C3-1.5 Meg-S	1.5 Meg	S
53C1-2 Meg-S	53C2-2 Meg-S	53C3-2 Meg-S	2 Meg	S
53C1-2.5 Meg-S	53C2-2.5 Meg-S	53C3-2.5 Meg-S	2.5 Meg	S
53C1-3 Meg-S	53C2-3 Meg-S	53C3-3 Meg-S	3 Meg	S
53C1-3.5 Meg-S	53C2-3.5 Meg-S	53C3-3.5 Meg-S	3.5 Meg	S
53C1-4 Meg-S	53C2-4 Meg-S	53C3-4 Meg-S	4 Meg	S
53C1-5 Meg-S	53C2-5 Meg-S	53C3-5 Meg-S	5 Meg	S
53C1-7.5 Meg-S	53C2-7.5 Meg-S	53C3-7.5 Meg-S	7.5 Meg	S
53C1-10 Meg-S	53C2-10 Meg-S	53C3-10 Meg-S	10 Meg	S

Field-attached switches are available for the Series 53. The switch is easily and quickly installed on the control, taking less than a minute to install.

Cat. No.	Description
53-12	SPST — 5A-125V. A.C.
53-20	DPST — 3A-125V. A.C.
53-21	(Mod.) DPST — 3A-125V. A.C./D.C.

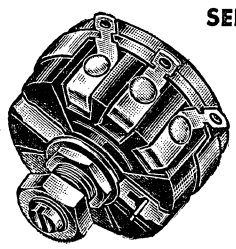
SERIES "43C1" and "43C2" 2-WATT CONTROLS

Electrical tolerance is plus/minus 5% for all ohmages. Independent linearity is to plus/minus 2%. All controls rated 2 watts.

43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms
43C1-5	43C2-5	5	43C1-100	43C2-100	100	43C1-1000	43C2-1000	1000	43C1-10K	43C2-10K	10K
43C1-10	43C2-10	10	43C1-150	43C2-150	150	43C1-1500	43C2-1500	1500	43C1-15K	43C2-15K	15K
43C1-20	43C2-20	20	43C1-200	43C2-200	200	43C1-2000	43C2-2000	2000	43C1-20K	43C2-20K	20K
43C1-25	43C2-25	25	43C1-250	43C2-250	250	43C1-2500	43C2-2500	2500	43C1-25K	43C2-25K	25K
43C1-30	43C2-30	30	43C1-300	43C2-300	300	43C1-3000	43C2-3000	3000	43C1-30K	43C2-30K	30K
43C1-40	43C2-40	40	43C1-400	43C2-400	400	43C1-4000	43C2-4000	4000	43C1-40K	43C2-40K	40K
43C1-50	43C2-50	50	43C1-500	43C2-500	500	43C1-5000	43C2-5000	5000	43C1-50K	43C2-50K	50K
43C1-75	43C2-75	75	43C1-750	43C2-750	750	43C1-7500	43C2-7500	7500			

NET PRICES

43C1-5 to 43C1-10K $2.25	43C1-30K to 43C1-50K $3.00	43C2-15K to 43C2-25K $2.81
43C1-15K to 43C1-25K 2.55	43C2-5 to 43C2-10K 2.50	43C2-30K to 43C2-50K 3.30



Electrical tolerance is plus/minus 5% for all ohmages. Independent linearity is to plus/minus 1% All controls rated 3 watts.

SERIES 58C1 AND 58C2 4-WATT CONTROLS

58C1 Cat. No.	58C2 Cat. No.	Res. Ohms	58C1 Cat. No.	58C2 Cat. No.	Res. Ohms
58C1-1	58C2-1	1	58C1-500	58C2-500	500
58C1-2	58C2-2	2	58C1-750	58C2-750	750
58C1-4	58C2-4	4	58C1-1000	58C2-1000	1000
58C1-6	58C2-6	6	58C1-1500	58C2-1500	1500
58C1-10	58C2-10	10	58C1-2000	58C2-2000	2000
58C1-15	58C2-15	15	58C1-2500	58C2-2500	2500
58C1-20	58C2-20	20	58C1-3000	58C2-3000	3000
58C1-25	58C2-25	25	58C1-5000	58C2-5000	5000
58C1-30	58C2-30	30	58C1-7500	58C2-7500	7500
58C1-40	58C2-40	40	58C1-10K	58C2-10K	10K
58C1-50	58C2-50	50	58C1-15K	58C2-15K	15K
58C1-60	58C2-60	60	58C1-20K	58C2-20K	20K
58C1-75	58C2-75	75	58C1-25K	58C2-25K	25K
58C1-100	58C2-100	100	58C1-30K	58C2-30K	30K
58C1-200	58C2-200	200	58C1-40K	58C2-40K	40K
58C1-300	58C2-300	300	58C1-50K	58C2-50K	50K
58C1-400	58C2-400	400			

NET PRICES

58C1-1 to 58C1-10K $2.25	58C2-1 to 58C2-10K $2.50
58C1-15K to 58C1-25K 2.55	58C2-15K to 58C2-25K 2.81
58C1-30K to 58C1-50K 3.00	58C2-30K to 58C2-50K 3.30

SERIES "10C1" and "10C2" 4-WATT CONTROLS

Electrical tolerance is plus/minus 5% for all ohmages. All controls rated 4 watts.

1 to 50K ohms available on special order. Prices and information on request.

10C1 Cat. No.	10C2 Cat. No.	Res. Ohms
10C1-75K	10C2-75K	75K
10C1-100K	10C2-100K	100K

Net Prices

10C1.....$2.85 10C2.....$3.60

PRODUCTS OF
THE HOUSE OF RESISTORS®

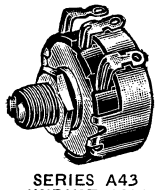
CLAROSTAT®

RESISTORS • CONTROLS
RESISTANCE DEVICES

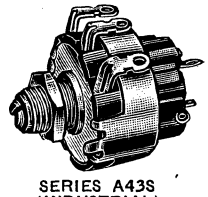
WIRE-WOUND CONTROLS

These are "Pick-A-Shaft"* controls which take any one of 12 shafts listed on page R-24 including High Voltage Coupler and insulated shaft. Your choice of any one of the 12 shafts listed (this does not include insulated shaft) with each control. Tolerances of these controls are in accordance with EIA standards. Overall resistance tolerance of plus/minus 10% for all values. All controls are linear. Available with factory-assembled shafts at no extra charge, by omitting the prefix "A" from the catalog number and designating the type of shaft desired when ordering. Example: 43-500 with FKS-¼ shaft, or 43S-10K with FS-3 shaft and SPST switch.

SERIES "A43" and "A43S" 2-WATT CONTROLS



SERIES A43
(INDUSTRIAL)
SERIES 43



SERIES A43S
(INDUSTRIAL)
SERIES 43S

"A43" is without switch, while "A43S" has factory-attached SPST switch. When ordering "A43S" controls, specify type of switch. Controls with other than SPST switch are special. Prices and information on request.

Without Switch Cat. No.	With SPST Switch Cat. No.	Res. Ohms
A43-5	A43S-5	5
A43-10	A43S-10	10
A43-20	A43S-20	20
A43-25	A43S-25	25
A43-30	A43S-30	30
A43-40	A43S-40	40
A43-50	A43S-50	50
A43-75	A43S-75	75
A43-100	A43S-100	100
A43-150	A43S-150	150
A43-200	A43S-200	200
A43-250	A43S-250	250
A43-300	A43S-300	300
A43-400	A43S-400	400
A43-500	A43S-500	500
A43-750	A43S-750	750

Without Switch Cat. No	With SPST Switch Cat. No.	Res. Ohms
A43-1,000	A43S-1,000	1,000
A43-1,500	A43S-1,500	1,500
A43-2,000	A43S-2,000	2,000
A43-2,500	A43S-2,500	2,500
A43-3,000	A43S-3,000	3,000
A43-4,000	A43S-4,000	4,000
A43-5,000	A43S-5,000	5,000
A43-7,500	A43S-7,500	7,500
A43-10K	A43S-10K	10K
A43-15K		
A43-20K		
A43-25K		
A43-30K		
A43-40K		
A43-50K		

NET PRICES: (Without Switch)
5 to 10KΩ.....**$1.25**
15K to 25KΩ..... **1.52**
30K to 50KΩ..... **1.95**
(With Switch)
5 to 10KΩ.....**$1.80**

SERIES "A58" and "A58S" 3- WATT CONTROLS

"A58" is without switch, while "A58S" has factory-attached SPST switch. Available with factory-assembled shafts, at no extra charge, by omitting prefix "A" from catalog number, and designating type of shaft desired when ordering. Example: 58-50K with KSS-3 shaft, or 58S-25K with RS-3 shaft and SPST switch. Controls with other than SPST switch are special. Prices and information on request.

Without Switch Cat. No.	Res. Ohms
A58-1	1
A58-2	2
A58-4	4
A58-6	6
A58-10	10
A58-15	15
A58-20	20
A58-25	25
A58-30	30
A58-40	40
A58-50	50
A58-60	60
A58-75	75
A58-100	100
A58-200	200
A58-250	250
A58-300	300
A58-400	400
A58-500	500
A58-750	750
A58-1,000	1,000
A58-1,500	1,500
A58-2,000	2,000
A58-2,250	2,250
A58-2,500	2,500
A58-3,000	3,000
A58-4000	4,000

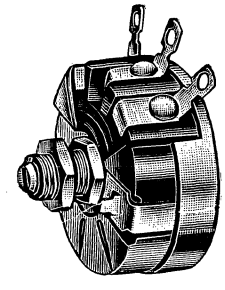
Without Switch Cat. No.	Res. Ohms
A58-5,000	5,000
A58-7,500	7,500
A58-10K	10K
A58-15K	15K
A58-20K	20K
A58-25K	25K
A58-30K	30K
A58-40K	40K
A58-50K	50K

NET PRICES:
1 to 10KΩ.....**$1.25**
15K to 25KΩ..... **1.52**
30K to 50KΩ..... **1.95**

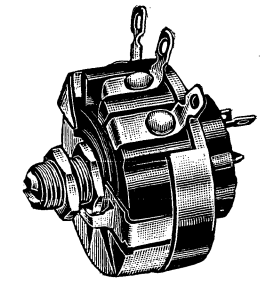
With SPST Switch Cat. No.	Res. Ohms
A58S-1	1
A58S-2	2
A58S-4	4
A58S-6	6
A58S-10	10
A58S-15	15
A58S-20	20
A58S-25	25
A58S-30	30
A58S-40	40

SERIES A10 — 4 WATTS

Cat. No.	Ohms	Net
A10—75K	75K	$2.46
A10—100K	100K	2.97



SERIES A58
(INDUSTRIAL)
SERIES 58

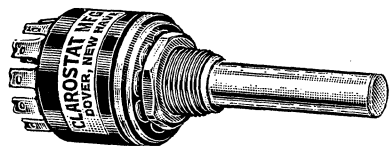


SERIES A58S
(INDUSTRIAL)
SERIES 58S

With SPST Switch Cat. No.	Res. Ohms
A58S-50	50
A58S-60	60
A58S-75	75
A58S-100	100
A58S-200	200
A58S-300	300
A58S-400	400
A58S-500	500
A58S-750	750
A58S-1,000	1,000
A58S-1,500	1,500
A58S-2,000	2,000
A58S-2,500	2,500
A58S-3,000	3,000
A58S-4,000	4,000
A58S-5,000	5,000
A58S-7,500	7,000
A58S-10K	10K
A58S-15K	15K
A58S-20K	20K
A58S-25K	25K
A58S-30K	30K
A58S-40K	40K
A58S-50K	50K

NET PRICES:
1 to 10KΩ.....**$1.80**
15K to 25KΩ..... **1.91**
30K to 50KΩ..... **2.35**

SERIES BHM ROTARY SWITCHES



Series BHM switches are rated at 50 ma. at 300 V. a.c. or d.c., and 500 ma. at 30 V. a.c. or d.c. All moving parts and contact mechanism are totally enclosed, and the switch assembly is sealed for protection from dust and atmospheric conditions. They are particularly adapted to portable radios, receivers and transmitters, X-ray and medical instruments, calculating machines and computers.

Current: 50 Milliamps. at 300 volts a.c. or d.c.
Rating: 500 Milliamps. at 30 volts a.c. or d.c.
Protection: All moving parts and contact mechanisms are totally enclosed and switch is sealed, which protects it from dust and atmospheric conditions.
Shaft: ¼" diameter round 1" beyond bushing.
Finish: Nickel Plating.
Bushing: ⅜" x 32 NEF-2 Thread. ⅜" Long.
Torque: 30 to 50 oz. in.

BHM-SP12P-S	Single Pole 12 Positions — Shorting
BHM-SP12P-NS	Single Pole 12 Positions — Non Shorting
BHM-2P6P-S	2 Pole 6 Positions — Shorting
BHM-2P6P-NS	2 Pole 6 Positions — Non-Shorting
BHM-3P4P-S	3 Pole 4 Positions — Shorting
BHM-3P4P-NS	3 Pole 4 Positions — Non-Shorting
BHM-4P3P-S	4 Pole 3 Positions — Shorting
BHM-4P3P-NS	4 Pole 3 Positions — Non-Shorting

Meets or exceeds test paragraph 4.5.3 thru 4.5.13 of MIL-S-3786.

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PRODUCTS OF
THE HOUSE OF RESISTORS®

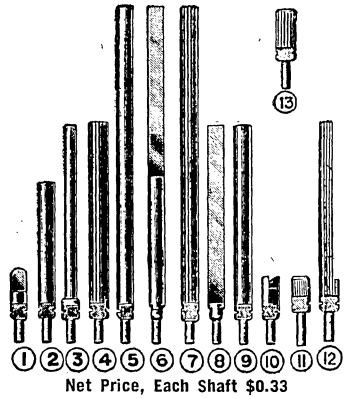
CLAROSTAT®

RESISTORS · CONTROLS
RESISTANCE DEVICES

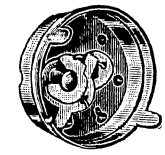
SHAFTS FOR "PICK-A-SHAFT" CONTROLS

For use with all Clarostat "Pick-A-Shaft"* controls, either carbon or wire-wound. Your choice of shaft furnish with each control.

(1) SS-3/8" length—(Male) to take female fitting.
(2) RS-2 — Round shaft, 2" long.
(3) RS-3/16—Round slotted shaft 3/16" dia., 3" long.
(4) KSS-3—Knurled, split shaft, 3" long.
(5) RS-5—Round shaft, 5" long.
(6) FS-5—Flatted, 5" long.
(7) KSS-5—Knurled, split shaft, 5" long.
(8) FS-3 — Flatted shaft, 3" long.
(9) RS-3 — Round shaft, 3" long.
(10) DFS-1/2—Double flatted Philco Type, 1/2" long.
(11) FKS-1/4—Fine knurled slotted shaft, 1/4" long.
(12) KFS-3—Knurled flatted shaft, 3" long.
(13) FKS-1/2—Fine knurled slotted shaft, 1/2" long.



Net Price, Each Shaft $0.33



U.S. PAT. 2,642,506

SERIES "SWE" SWITCHES FOR "AD-A-SWITCH" CONTROLS

For use with "A47" and "A47F" controls. Underwriters' Laboratories Inc. approved.

Cat. No.	Wiring	Net Price
SWE-12	S.P.S.T. — Single Pole Single Throw, 5A.-125V. A.C.	$0.50
SWE-13	S.P.S.T. — Single Pole Single Throw, 15A.-10V. D.C.	.73
SWE-20	D.P.S.T. — Double Pole Single Throw, 3A.-125V. A.C.	.56
SWE-21	Mod. D.P.S.T. one pole on, one off or with Jumper S.P.D.T., 3A.-125V. A.C.-D.C.	.56
SWE-23	D.P.S.T., 15A.-10V. D.C.	.73

(Mod. DPST has one pole "on", one pole "off" or with jumper it is SPDT.)

SERIES "AE" SWITCH

Cat. No.	Wiring
AE-30	SPDT Single Pole Double Throw, 1-A250V., 3A-125V. (AC or DC)

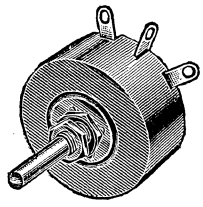
Other "AE" Switches available on request. **Net Price $0.75**

SERIES "BE" ROTARY SWITCH

Underwriters' Laboratories Inc. approved.

Cat. No.	Wiring	Net
BE-12	SPST Single Pole Single Throw, 5A-125V, A.C.	$0.75
BE-20	DPST Double Pole Single Throw, 3A-125V. A.C.	.81
BE-21 (Mod.)	DPST 3A-125V. A.C./D.C.	.81

(Mod. DPST has one pole "on", one pole "off" or with jumper it is SPDT.)



POWER RHEOSTATS

Clarostat Power Rheostats maintain their full power rating at settings as low as one-third rotation without excessive temperature rise. Standard overall resistance tolerance plus/minus 10%. Closer tolerances are available upon special order.

AN Types (aircraft type) are basically the same units mechanically and electrically except that they are encased in a metal housing (versus ceramic). Terminals are screw type lugs to prevent corrosion. Approved under MIL-R-6749.

Units mount through a single hole, a locking pin is provided for rear panel mounting.

SERIES 25 — 25-WATT

Cat. No.	Total Res. Ohms	Net Price
25-1	1	$3.87
25-2	2	3.42
25-3	3	3.42
25-6	6	3.42
25-8	8	3.42
25-10	10	3.42
25-15	15	3.42
25-25	25	3.42
25-35	35	3.42
25-50	50	3.42
25-75	75	3.42
25-100	100	3.42
25-125	125	3.42
25-175	175	3.42
25-250	250	3.42
25-350	350	3.42
25-500	500	3.42
25-750	750	3.42
25-1,000	1,000	3.87
25-1,500	1,500	3.87
25-2,500	2,500	3.87
25-3,500	3,500	4.08
25-5,000	5,000	4.29

SERIES 50 — 50-WATT

Cat. No.	Total Res. Ohms	Net Price
50-0.5	0.5	$4.29
50-1	1	4.29
50-2	2	4.29
50-4	4	3.87
50-6	6	3.87
50-8	8	3.87
50-12	12	3.87
50-16	16	3.87
50-22	22	3.87
50-35	35	3.87
50-50	50	3.87
50-80	80	3.87
50-125	125	3.87
50-150	150	3.87
50-225	225	3.87
50-300	300	3.87
50-500	500	3.87
50-800	800	4.08
50-1,000	1,000	4.08
50-1,600	1,600	4.08
50-2,500	2,500	4.08
50-3,500	3,500	4.29
50-5,000	5,000	4.29
50-8,000	8,000	5.16
50-10K	10K	5.16

AN-3155-25** — 25 WATTS

Cat. No.	Total Res. Ohms	Net Price
AN-3155-25-10	10	$4.80
AN-3155-25-11	11	4.80
AN-3155-25-15	15	4.80
AN-3155-25-25	25	4.80
AN-3155-25-50	50	4.80
AN-3155-25-75	75	4.80
AN-3155-25-100	100	4.80
AN-3155-25-200	200	5.61

AN-3155-50** — 50 WATTS

AN-3155-50-5	5	5.61
AN-3155-50-8	8	5.61
AN-3155-50-10	10	5.61
AN-3155-50-25	25	5.46
AN-3155-50-30	30	5.46
AN-3155-50-50	50	5.46
AN-3155-50-75	75	5.46
AN-3155-50-100	100	5.46
AN-3155-50-150	150	6.16
AN-3155-50-200	200	6.16

Prices include AN-3220 — 2 knob

**25 and 50 watt Power Rheostats when encased in metal housing are derated 50%.

PRODUCTS OF
THE HOUSE OF RESISTORS®

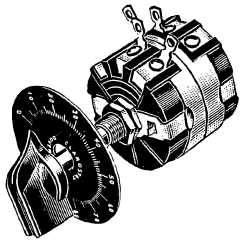
CLAROSTAT®

RESISTORS • CONTROLS
RESISTANCE DEVICES

SOUND-SYSTEM CONTROLS

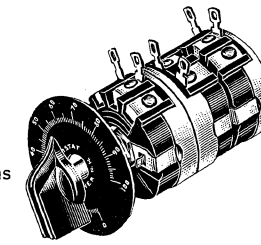
For proper control of volume and tone alike, Clarostat offers a choice of several controls, such as L- and T-pads, output attenuators, and individual-speaker volume controls as used for drive-in theatre installations. These are not ordinary radio controls but rather sound-system controls designed and built for critical requirements.

CONSTANT-IMPEDANCE CONTROLS



Self-compensating volume controls known as L-pads and T-pads for use in sound systems. Rated at 2½ watts DC, but will handle up to 10 watts audio. Continuous range from 0.5 to 30 decibels attenuation in 90% rotation. Last 10% affords infinite attenuation. With Clarostat constant-impedance L-pads and T-pads the input and output impedances of associated circuits can be kept within the limits of a constant required value. Knob and dial plate furnished with each control.

CIT Cat. No.	CIL Cat. No.	Res. Ohms
CIT-4	CIL-4	4
CIT-6	CIL-6	6
CIT-8	CIL-8	8
CIT-15	CIL-15	15
CIT-50	CIL-50	50
CIT-100	CIL-100	100
CIT-200	CIL-200	200
CIT-250	CIL-250	250
CIT-500	CIL-500	500
CIT-600	CIL-600	600
CIT-1,000	CIL-1,000	1,000
CIT-2,000	CIL-2,000	2,000
CIT-3,000	CIL-3,000	3,000
	CIL-4,000	4,000
	CIL-5,000	5,000

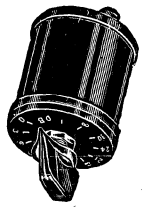


U. S. Pat. 2,434,248

CIT — NET PRICE $3.15

CIL — NET PRICE $2.79

CONSTANT IMPEDANCE OUTPUT ATTENUATORS



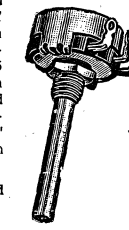
Series "CIB" rated at 10 watts, but will handle up to 30 watts in audio circuit. Linear attenuation provided in 3 decibel steps up to 24db, then 30db followed by infinity. Equipped with dial plate and bar knob. One-hole mounting, ⅜" bushing diameter. 1" shaft. This control has been developed to meet the need for a constant-impedance attenuator capable of handling considerable power without measurable insertion loss. Recommended as an output level control for power amplifiers, or as an input attenuator for individual or for a group of speakers in a public address system.

Cat. No.	Res. Ohms	Cat. No.	Res. Ohms
CIB-6	6	CIB-200	200
CIB-8	8	CIB-250	250
CIB-15	15	CIB-500	500
CIB-50	50	CIB-600	600

NET PRICE $7.70

SPECIAL DRIVE-IN THEATRE L-PAD

To meet the needs of theater sound systems, more especially those of drive-in theaters, a special 8 ohm L-Pad is now available, containing two separate windings of 5 ohms and 40 ohms. Also 50 ohm linear rheostat and 35 ohm tapered rheostat, as listed. Units have ⅜-32 bushing ¾" long, and 1½" round shaft. (Knob furnished with each control).

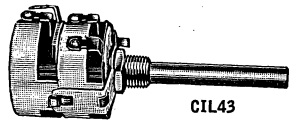


Cat. No. CM8727-1 8 ohm L-Pad
Net Price $1.80

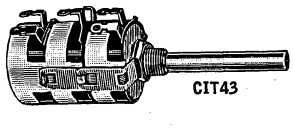
SPACE-SAVER CONSTANT-IMPEDANCE ATTENUATORS

Characterized by reduced depth and diameter, these attenuators are ideal for use in remote control of speakers since they are small enough to be installed in standard electrical boxes in the home, office, stockroom, etc.

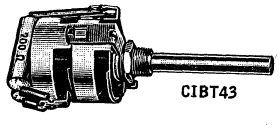
These controls are rated 2 watts D.C., but will handle up to 4 watts of audio, depending upon the type signal being handled. (As the frequency becomes constant, wattage reduces to 2 watts or the same as the D.C. rating).



CIL43



CIT43



CIBT43

Cat. No. CIL43 (L-Pad)	Cat. No. CIT43 (T-Pad)	Cat. No. CIBT43 (Bridged T-Pad)	Impedance
CIL43-4	CIT43-4	CIBT43-4	4 ohms
CIL43-6	CIT43-6	CIBT43-6	6 ohms
CIL43-8	CIT43-8	CIBT43-8	8 ohms
CIL43-15	CIT43-15	CIBT43-15	15 ohms
CIL43-50	CIT43-50	CIBT43-50	50 ohms
CIL43-100	CIT43-100	CIBT43-100	100 ohms
CIL43-200	CIT43-200	CIBT43-200	200 ohms
CIL43-250	CIT43-250	CIBT43-250	250 ohms
CIL43-500	CIT43-500	CIBT43-500	500 ohms
		CIBT43-600	600 ohms

NET PRICE CIL43 $2.79 **NET PRICE CIT43 $3.15**

NET PRICE CIBT43 $3.63

- Attenuation range of 0 to 30 db over 90% of rotation, 60 db in remaining 10% of rotation. Attenuation will increase approximately linearly to 30 db with counter-clockwise rotation.
- Insertion loss less than 0.5 db.
- Input impedance within plus/ minus 20%.
- The CIT43 and CIBT43 (Bridged T Pad) have constant input and output impedances, while the CIL43 has constant impedance in the input only.
- Shafts and bushings are insulated from the circuit elements.
- Pads have ⅜-32 x ⅜" long bushing.
- ¼" dia. round shafts 1½" long beyond bushing.
- All pads supplied with bar knob and dial plates, as shown above.
- Dia. 1⅛". Depth of body from mounting surface: CIL43 — 1⅝"; CIT43 — 1¾"; CIBT43 — 1½".

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PRODUCTS OF
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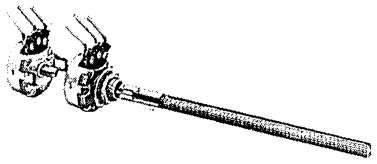
RESISTORS • CONTROLS
RESISTANCE DEVICES

uni-tite FIELD ASSEMBLED CONTROLS



Your Distributor's Uni-Tite Replacement Center will answer more than 95% of your replacement control requirements including 15/16" diameter wire-wound controls, push/pull singles, dual controls, dual controls with rotary switches, and single controls with rotary switches. These field-assembled, snap together controls provide you with the exact combination required for radio and TV replacements. In addition, a complete line of Uni-Tite field-assembled, dual controls, operating on a single shaft are available to meet all your audio, hi-fi and sound system requirements.

PANEL CONTROLS — TAPPED

Cat. No.	Ohms	Tap No. 1	Tap No. 2	Tap No. 3
NPF-750	750		500	
NPF1-750	750		250	
NPF-1000	1000		850	
NPF-2000	2000	250		500
NPF-2500	2500		500	
NPF-3000	3000			2500
NPF-15K	15K	3000		
NPF1-15K	15K			10K
NPF-2-15K	15K	5000		10K
NPF-30K	30K	10K		
NPF1-30K	30K			20K
NPF-250K	250K		75K	
NPF-500K	500K		100K	
NPF1-500K	500K			250K
NPF-1 Meg	1 Meg		500K	
NPF1-1 Meg	1 Meg		150K	
NPF-2 Meg	2 Meg		500K	
NPF1-2 Meg	2 Meg		1 Meg	
NPF2-2 Meg	2 Meg	500K		1 Meg
NPF3-2 Meg	2 Meg	250K		500K
NPF-3 Meg	3 Meg		1 Meg	

Net price: $1.08

REAR CONTROLS — TAPPED

NRF-750	750		250	
NRF-2500	2500		500	
NRF-15K	15K			10K
NRF-30K	30K			25K
NRF-250K	250K		125K	
NRF1-250K	250K		75K	
NRF-330K	330K		66K	
NRF-500K	500K		100K	
NRF1-500K	500K		250K	
NRF2-500K	500K		50K	
NRF3-500K	500K	200K		350K
NRF-1 Meg	1 Meg		75K	
NRF1-1 Meg	1 Meg		250K	
NRF2-1 Meg	1 Meg		500K	
NRF3-1 Meg	1 Meg	150K		
NRF4-1 Meg	1 Meg	50K		500K
NRF-1.5 Meg	1.5 Meg		300K	
NRF-2 Meg	2 Meg		500K	
NRF1-2 Meg	2 Meg		1 Meg	
NRF2-2 Meg	2 Meg	200K		
NRF3-2 Meg	2 Meg	650K		
NRF3 Meg	3 Meg		1 Meg	
NRF1-3 Meg	3 Meg	500K		

Net price $1.08

PANEL CONTROLS — PLAIN

Cat. No.	Ohms	Taper	Cat. No.	Ohms	Taper
NP-200-S	200	S	NP-75K-Z	75K	Z
NP-250-S	250	S	NP-100K-S	100K	S
NP-350-S	350	S	NP-150K-S	150K	S
NP-500-S	500	S	NP-200K-S	200K	S
NP-500V	500	V	NP-200K-V	200K	V
NP-750-S	750	S	NP-250K-S	250K	S
NP-750-V	750	V	NP-250K-Z	250K	Z
NP-1000-S	1000	S	NP-300K-S	300K	S
NP-1000-V	1000	V	NP-350K-S	350K	S
NP-1200-V	1200	V	NP-350K-Z	350K	Z
NP-1500-S	1500	S	NP-500K-S	500K	S
NP-1500-V	1500	V	NP-500K-Z	500K	Z
NP-2000-S	2000	S	NP-500K-V	500K	V
NP-2500-S	2500	S	NP-750K-S	750K	S
NP-3000-S	3000	S	NP-750K-Z	750K	Z
NP-3000-V	3000	V	NP-1 Meg-S	1 Meg	S
NP-4000-S	4000	S	NP-1 Meg-Z	1 Meg	Z
NP-5000-S	5000	S	NP-1 Meg-V	1 Meg	V
NP-5000-V	5000	V	NP-1.5 Meg-S	1.5 Meg	S
NP-7000-S	7000	S	NP-1.5 Meg-V	1.5 Meg	V
NP-7500-S	7500	S	NP-2-Meg-S	2 Meg	S
NP-10K-S	10K	S	NP-2 Meg-Z	2 Meg	Z
NP-10K-Z	10K	Z	NP-2 Meg-V	2 Meg	V
NP-10K-V	10K	V	NP-2.5 Meg-S	2.5 Meg	S
NP-11.5K-V	11.5K	V	NP-2.5 Meg-V	2.5 Meg	V

PANEL CONTROLS — PLAIN (Cont'd.)

Cat. No.	Ohms	Taper	Cat. No.	Ohms	Taper
NP-15K-S	15K	S	NP-3 Meg-S	3 Meg	S
NP-15K-V	15K	V	NP-3 Meg-Z	3 Meg	Z
NP-20K-S	20K	S	NP-3 Meg-V	3 Meg	V
NP-25K-S	25K	S	NP-4 Meg-S	4 Meg	S
NP-25K-Z	25K	Z	NP-4 Meg-Z	4 Meg	Z
NP-30K-S	30K	S	NP-5 Meg-S	5 Meg	S
NP-40K-S	40K	S	NP-5 Meg-Z	5 Meg	Z
NP-50K-S	50K	S	NP-5 Meg-V	5 Meg	V
NP-50K-Z	50K	Z	NP-7.5 Meg-S	7.5 Meg	S
NP-75K-S	75K	S	NP-10 Meg-S	10 Meg	S

Net price .....$.66

REAR CONTROLS — PLAIN

NR-200-S	200	S	NR-300K-S	300K	S
NR-1000-S	1000	S	NR-350K-Z	350K	Z
NR-1000-V	1000	V	NR-500K-S	500K	S
NR-1500-S	1500	S	NR-500K-Z	500K	Z
NR-2000-S	2000	S	NR-750K-S	750K	S
NR-2000-V	2000	V	NR-1 Meg-S	1 Meg	S
NR-3000-S	3000	S	NR-1 Meg-Z	1 Meg	Z
NR-3000-V	3000	V	NR-1 Meg-V	1 Meg	V
NR-5000-S	5000	S	NR-1.5 Meg-S	1.5 Meg	S
NR-7500-S	7500	S	NR-2 Meg-S	2 Meg	S
NR-7500-Z	7500	Z	NR-2 Meg-Z	2 Meg	Z
NR-10K-S	10K	S	NR-2 Meg-V	2 Meg	V
NR-10K-V	10K	V	NR-2.5 Meg-S	2.5 Meg	S
NR-25K-S	25K	S	NR-2.5 Meg-Z	2.5 Meg	Z
NR-25K-V	25K	V	NR-3 Meg-S	3 Meg	S
NR-50K-S	50K	S	NR-3 Meg-Z	3 Meg	Z
NR-75K-S	75K	S	NR-3-Meg-V	3 Meg	V
NR-100K-S	100K	S	NR-3.5 Meg-S	3.5 Meg	S
NR-125K-V	125K	V	NR-5 Meg-S	5 Meg	S
NR-150K-S	150K	S	NR-5 Meg-Z	5 Meg	Z
NR-200K-S	200K	S	NR-5 Meg-V	5 Meg	V
NR-250K-S	250K	S	NR-7.5 Meg-Z	7.5 Meg	Z
NR-250K-Z	250K	Z	NR-10 Meg-S	10 Meg	S

Net price .....$.66

TAPER EXPLANATION:

TAPER S Straight or uniform resistance change with rotation.

TAPER V Right-hand 20% resistance at 50% of C.C.W. rotation.

TAPER Z Left-hand (Log. audio) 10% reseistance at 50% C.W. rotation.

WIRE-WOUND PANELS

(Linear Taper Only)

Cat. No.	Ohms
NPW-5	5
NPW-10	10
NPW-20	20
NPW-25	25
NPW-30	30
NPW-40	40
NPW-50	50
NPW-75	75
NPW-100	100
NPW-150	150
NPW-200	200
NPW-250	250
NPW-300	300
NPW-400	400
NPW-500	500
NPW-750	750
NPW-1000	1000
NPW-1500	1500
NPW-2000	2000
NPW-2500	2500
NPW-3000	3000
NPW-4000	4000
NPW-5000	5000
NPW-7500	7500
NPW-10K	10K

Net price: .....$.66

WIRE-WOUND REARS

(Linear Taper Only)

Cat. No.	Ohms
NRW-5	5
NRW-10	10
NRW-20	20
NRW-25	25
NRW-30	30
NRW-40	40
NRW-50	50
NRW-75	75
NRW-100	100
NRW-150	150
NRW-200	200
NRW-250	250
NRW-300	300
NRW-400	400
NRW-500	500
NRW-750	750
NRW-1000	1000
NRW-1500	1500
NRW-2000	2000
NRW-2500	2500
NRW-3000	3000
NRW-4000	4000
NRW-5000	5000
NRW-7500	7500
NRW-10K	10K

Net price: .....$.66

SWITCHES (Rotary)

Cat. No.	Description	Net
NWE-12	SPST (5A-125V. A.C.)	$.45
NWE-13	SPST (15A-10V. D.C.)	.66
NWE-20	DPST (3A-125V. A.C.)	.51
NWE-21	Mod. DPST (3A-125V. A.C./D.C.)	.51
NWE-23	DPST (15A-10V. D.C.)	.66

PUSH-PULL

NWG-18	SPST (3A-125V. A.C.)	.60

SOLID SHAFTS (single controls)

Cat. No.	Description	Shaft Length Dia.	FMS
UP-A-400	Round	1/4"	4"
UP-B-400	1/8" Double Slot & Flatted	1/4"	4"
UP-C-400	1/16" Double Slot & Knurled	1/4"	4"
UP-E-400	Knurled Flatted Shaft	1/4"	3"
UP-S-010	Fine Knurled Slotted Shaft	1/4"	1/2"
UP-S-014	Fine Knurled Slotted Shaft	1/4"	1/2"
SE-F-400	Slotted & Flatted	3/16"	4"

Net price: .....$.27

PUSH-PULL SHAFTS (single controls)

Cat. No.	Description	Shaft Length Dia.	FMS
UPP-A-400	Round	1/4"	4"
UPP-B-400	1/8" Double Slot & Flatted	1/4"	4"
UPP-C-400	1/16" Double Slot & Knurled	1/4"	4"
UPP-H-300	Double Slotted	3/16"	3"

Net price: .....$.27

NON-METALLIC SHAFTS (single control)

Cat. No.	Description	Shaft Length Dia.	FMS
NML-A-300	Round	1/4"	3"
NMS-A-300	Round	3/16"	3"

ADAPTER SHAFT

Push-Pull Single Control Cat. No. PPAP
Net price: $.25

COUPLER SHAFT

Dual Controls Cat. No. DC-2 Net price $.08

ADAPTER SHAFT

Push-Pull Conc. Dual, Cat. No. PPAR Net price: $.25

MOUNTING ADAPTERS

Twist Tab Mounting — Cat. No. TT-2 Net Price: $.08
Mounting Adapter — Cat. No. DH-2 Net Price: $.25

PANEL SHAFTS

1/16 Double Slot & Knurled

Cat. No.	Shaft Length FMS
UPC-C-012	3/4"
UPC-C-013	13/16"
UPC-C-014	7/8"
UPC-C-015	15/16"
UPC-C-101	1 1/16"
UPC-C-102	1 1/8"
UPC-C-104	1 1/4"
UPC-C-105	1 5/16"
UPC-C-107	1 7/16"
UPC-C-108	1 1/2"
UPC-C-111	1 11/16"
UPC-C-112	1 3/4"
UPC-C-113	1 13/16"
UPC-C-114	1 7/8"
UPC-C-200	2"
UPC-C-204	2 1/4"
UPC-C-206	2 3/8"
UPC-C-207	2 7/16"
UPC-C-212	2 3/4"
UPC-C-214	2 7/8"
UPC-C-308	3 1/2"

Net price: .....$.27

PANEL SHAFTS

(Round)

UPC-A-101	1 1/16"
UPC-A-105	1 5/16"
UPC-A-209	2 1/16"

Net price .....$.27

PANEL SHAFTS

1/8" Double Slot & Flatted

UPC-B-013	13/16"
UPC-B-014	7/8"
UPC-B-015	15/16"
UPC-B-101	1 1/16"
UPC-B-102	1 1/8"
UPC-B-104	1 1/4"
UPC-B-105	1 5/16"
UPC-B-106	1 3/8"
UPC-B-107	1 7/16"
UPC-B-108	1 1/2"
UPC-B-109	1 9/16"
UPC-B-110	1 5/8"
UPC-B-111	1 11/16"
UPC-B-112	1 3/4"
UPC-B-113	1 13/16"
UPC-B-114	1 7/8"
UPC-B-115	1 15/16"
UPC-B-200	2"
UPC-B-201	2 1/16"
UPC-B-202	2 1/8"
UPC-B-203	2 3/16"
UPC-B-204	2 1/4"
UPC-B-205	2 5/16"
UPC-B-206	2 3/8"
UPC-B-207	2 7/16"
UPC-B-208	2 1/2"
UPC-B-209	2 9/16"
UPC-B-210	2 5/8"
UPC-B-212	2 3/4"
UPC-B-213	2 13/16"
UPC-B-300	3"
UPC-B-304	3 1/4"
UPC-B-305	3 5/16"
UPC-B-306	3 3/8"
UPC-B-309	3 9/16"
UPC-B-312	3 3/4"
UPC-B-400	4"
UPC-B-401	4 1/16"
UPC-B-402	4 1/8"

Net price: .....$.27

RETAINING RING

For Push-Pull Shafts
Cat. No. R-2

NON-METALLIC SHAFTS

(Reverse Tab Mount)

Cat No.	Shaft Length FMS
UP-N-007	7/16"
NP-N-010	5/8"
UP-N-012	3/4"
UP-N-014	7/8"
UP-N-100	1"
UP-N-102	1 1/8"
UP-N-104	1 1/4"
UP-N-106	1 3/8"
UP-N-108	1 1/2"

.187 DIA. REAR SHAFTS

(Push-Pull Controls)

Combination Slot & Flat	
URP-G-104	1 1/4"
URP-G-108	1 1/2"
URP-G-110	1 5/8"
URP-G-111	1 11/16"
URP-G-113	1 13/16"
URP-G-114	1 7/8"
URP-G-115	1 15/16"
URP-G-200	2"
URP-G-202	2 1/8"
URP-G-204	2 1/4"
URP-G-205	2 5/16"
URP-G-208	2 1/2"
URP-G-213	2 13/16"

Net price .....$.27

REAR SHAFTS

Flatted-Slotted

UR-D-006	3/8"
UR-D-012	3/4"
UR-D-014	7/8"
UR-D-015	15/16"
UR-D-100	1"
UR-D-102	1 1/8"
UR-D-104	1 1/4"
UR-D-105	1 5/16"
UR-D-106	1 3/8"
UR-D-107	1 7/16"
UR-D-108	1 1/2"
UR-D-109	1 9/16"
UR-D-110	1 5/8"
UR-D-112	1 3/4"
UR-D-114	1 7/8"
UR-D-115	1 15/16"
UR-D-200	2"
UR-D-201	2 1/16"
UR-D-202	2 1/8"
UR-D-203	2 3/16"
UR-D-204	2 1/4"
UR-D-205	2 5/16"
UR-D-206	2 3/8"
UR-D-207	2 7/16"
UR-D-208	2 1/2"
UR-D-209	2 9/16"
UR-D-210	2 5/8"
UR-D-211	2 11/16"
UR-D-212	2 3/4"
UR-D-213	2 13/16"
UR-D-214	2 7/8"
UR-D-215	2 15/16"
UR-D-300	3"
UR-D-301	3 1/16"
UR-D-302	3 1/8"
UR-D-304	3 1/4"
UR-D-307	3 7/16"
UR-D-308	3 1/2"
UR-D-309	3 9/16"
UR-D-312	3 3/4"
UR-D-313	3 13/16"
UR-D-400	4"
UR-D-404	4 1/4"
UR-D-407	4 7/16"
UR-D-409	4 9/16"
UR-D-413	4 13/16"

Net price: .....$.27

PRODUCTS OF
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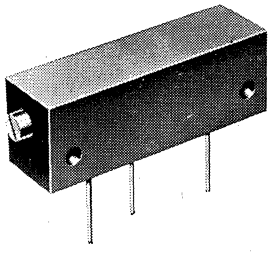
RESISTORS · CONTROLS
RESISTANCE DEVICES

SERIES 76JA

Multi-turn Trimming Potentiometer

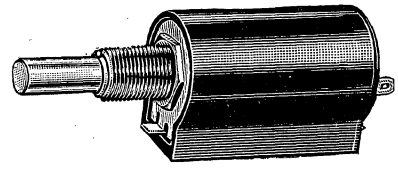


A miniature, 10-turn trimming potentiometer that offers up to 15 times the winding length available in comparable units. This feature results in set-ability and resolution exceeding that of trimming potentiometers several times the size. Brief specifications include a power rating of ¾ watt at 85°C derated to zero power at 150°C, resistances from 100 ohms to 20K ohms standard with other values offered on special order, standard resistance tolerance of ±5%, printed circuit or solder lug mounting, overall dimensions of only 1.250″ x 0.437″ x 0.328″.

Stock Values	Resolution %
100	0.1
200	0.09
500	0.08
1,000	0.075
2,000	0.06
5,000	0.05
10,000	0.04
20,000	0.036

SERIES 62JA

Commercial Multi-turn Potentiometer

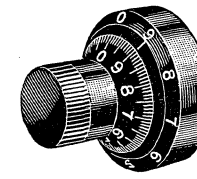


A 10-turn potentiometer offering electrical operating characteristics comparable to units costing far more. Designed specifically for the industrial instrumentation market, the Series 62JA has the inherent advantages of far greater resolution in trimming, better instrument control and settings for all types of electronic equipment. Brief specifications include: ⅞″ diameter, 1 1/16″ deep behind panel, bushing and shaft or split-locking bushing with screwdriver slot, 2 watts @ 25°C, derated to zero @ 85°C, 1000 to 100K ohms standard — others available, absolute linearity of ±0.25% standard, closer on order.

Stock Values	Resolution %	Stock Values	Resolution %
100,000	.012	2,500	.022
50,000	.013	2,000	.029
30,000	.016	1,000	.030
25,000	.017	500	.036
20,000	.019	250	.038
10,000	.024	200	.048
5,000	.026	100	.062

CLARODIALS

Ten-Turn Concentric Scale Dials

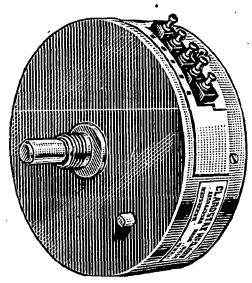


Calibrated dials designed for multi-turn potentiometers up to 10 turns or other rotary devices. CLARODIALS require only one inch of panel space. The knob attaches directly to the shaft, and the body of the dial is mounted rigidly to the panel. As a result, accurate readings with a ratio 1000:1 for ten turns are provided with zero backlash and no reading error. CLARODIALS are made of anodized aluminum for years of attractive use. Mounting requirements are ¼″ shaft and ⅜″-32 NEF-2A bushing. Adapters for ⅛″ dia. shafts are available.

Cat. No.	Description
411	Commercial 10 turn, black anodize ¼″ shaft, no lock
412	Commercial 10 turn, black anodize ¼″ shaft, with lock
461	Commercial 10 turn, clear anodize ¼″ shaft, no lock
462	Commercial 10 turn, clear anodize ¼″ shaft, with lock

SERIES 54-48JA

3″ Dia. Vari/Phase Single Turn Potentiometer

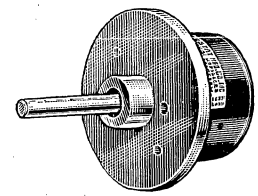


Permits external phasing of electrical rotation to mechanical rotation. Ultra precise unit for professional use. Exclusive Clarostat design eliminates bulky, hard-to-adjust clamping rings. Anodized aluminum housings for minimum weight. Widely used in aircraft instrumentation.

Stock Values	Resolution 100/Total Turns
250,000	.023%
100,000	.031%
50,000	.040%
10,000	.061%
1,000	.083%

SERIES SC42-970 SINE-COSINE

Single-Turn Potentiometer



Used in radar, computer and servomechanisms, or any application requiring two output voltages accurately proportioned to the sine and cosine rotation angle. Due to functional use, units are designed and built for exceptionally long rotational life.

SPECIFICATIONS

FUNCTION: Sine-Cosine.

TOTAL RESISTANCE: 16,000 Ω ± 10%.

POWER RATING: 2.46 watts @ 40°C. (198 volts R.M.S.)

ROTATION: (Eff., Elec., Mech) 360° (Cont.)

MAXIMUM SPEED

RECOMMENDED: 30 RPM (20 gm. contact pressure)

EXPECTED LIFE: 500,000 Cycles.

RESOLUTION: 0.14% maximum of peak to peak voltage.

CONFORMITY: Standard, ±1% peak to peak voltage (Available, ±½% peak to peak voltage. Not stocked — must be ordered special price and information on request.)

SHAFT TORQUE: 1 oz. in.

WEIGHT: 6 oz.

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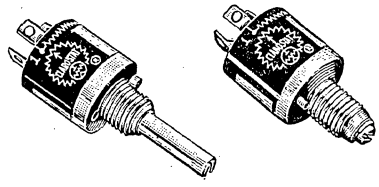
SERIES 57M & 57EJ

½" Single Turn Potentiometers

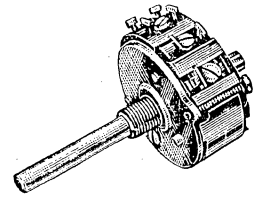


High performance potentiometer packaged in a ½" diameter housing. Quality construction throughout. Available in two models; Series 57M rated at 1.5 watts at 40°C and Series 57EJ rated at 2 watts at 70°C. The high-temperature Series 57EJ features glass-sealed terminals. Both units are corrosion resistant.

SERIES 57M & 57M9 Stock Values	SERIES 57EJA & 57EJB Stock Values	Resistance Ohms	Resolution 100/Total Turns
50 Ω	50 Ω	50	0.91%
100 Ω	100 Ω	100	0.70%
200 Ω	200 Ω	200	0.58%
500 Ω	500 Ω	500	0.45%
1000 Ω	1000 Ω	1,000	0.35%
5000 Ω	5000 Ω	5,000	0.30%
10,000 Ω	10,000 Ω	10,000	0.26%
20,000 Ω	20,000 Ω	20,000	0.19%
50,000 Ω	50,000 Ω	50,000	0.16%

SERIES 42-900

High Versatility Single-Turn Potentiometer



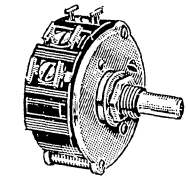
Used and approved by the millions in all types of applications ranging from ultra-critical military systems to ultra-dependable hard-working industrial equipment. Extra tap affords greater electrical versatility. Shaft extension through rear of unit permits addition of switching or other functions actuated by single shaft.

Stock Values	***Terminal Linearity	Resolution 100/Total Turns	Temp. Coefficient of Wire
100,000	±0.25%	.053%	±.00002 Ω/Ω/°C
50,000	±0.25%	.056%	±.00002 Ω/Ω/°C
20,000	±0.25%	.105%	±.00002 Ω/Ω/°C
10,000	±0.25%	.125%	±.00002 Ω/Ω/°C
5,000	±0.25%	.167%	±.00002 Ω/Ω/°C
2,500	±0.25%	.148%	±.00002 Ω/Ω/°C
1,000	±0.25%	.191%	±.00002 Ω/Ω/°C
500	±0.50%	.174%	.00017 Ω/Ω/°C
100	±0.50%	.351%	.00017 Ω/Ω/°C
50	±0.50%	.435%	.00017 Ω/Ω/°C

***Terminal Linearity: The maximum deviation of the actual output characteristic from a straight reference line extending between zero and the total applied voltage over the actual effective rotation.

SERIES 42JA

Single Turn Potentiometer



All the same fine qualities and performance tolerances of the Series 42-900, with the exception of the additional tap, and shaft extension. The ideal unit for extra-dependable potentiometer requirements.

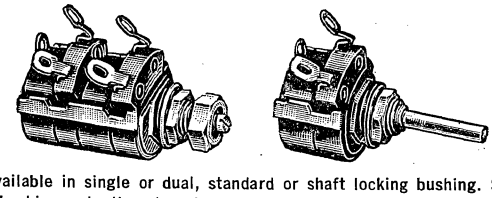
Stock Values	***Absolute Linearity	Resolution 100/Total Turns	Temp. Coefficient of Wire
100,000	±0.5%	.051%	±.00002 Ω/Ω/°C
50,000	±0.5%	.074%	±.00002 Ω/Ω/°C
20,000	±0.5%	.10%	±.00002 Ω/Ω/°C
10,000	±0.5%	.12%	±.00002 Ω/Ω/°C
5,000	±0.5%	.17%	±.00002 Ω/Ω/°C
2,500	±0.5%	.14%	±.00002 Ω/Ω/°C
1,000	±0.5%	.19%	±.00002 Ω/Ω/°C
500	±0.5%	.18%	.00017 Ω/Ω/°C
100	±1.0%	.28%	.00017 Ω/Ω/°C
50	±1.0%	.35%	.00017 Ω/Ω/°C

***Absolute Linearity: The maximum deviation of the actual output characteristic from a straight reference line extending between zero and the total applied voltage over the theoretical effective rotation.

MINIATURIZED POTENTIOMETERS

Consistent with miniaturization in Military and Commercial equipment, such as; Guided Missiles, Aircraft Electronics, Mobile Radio and Radar, Computers, Range Finders, Pocket Radios and Hearing Aids; Clarostat offers miniaturized composition element Series 48M and wire-wound Series 49M Potentiometers, and a Rotary Selector Switch designated as Series BHM to meet the switching requirements of the above mentioned and other applications.

SERIES 48M — 0.3 WATT COMPOSITION ELEMENT



Available in single or dual, standard or shaft locking bushing. Standard bushing potentiometers have ¼" x 32 NEF-2A x ¼" long bushing and ⅛" dia. x ½" long shaft beyond bushing.

Shaft locking bushing potentiometers have ¼" x 32 NEF-2A x ⅜" long bushing and ⅛" dia. x 1/16" long screwdriver slotted shaft.

All potentiometers furnished with mounting nut 1/16" thick x 5/16" across flats, and one internal tooth lockwasher. Potentiometers with split locking bushings furnished with jam nut also.

Insulation: Breakdown test between terminals and ground for 1 minute 1000v.a.c.; 350v.a.c. @ 3.4" Hg.

Resistance Range (Ohms): Linear 200 to 5 Meg. Tapered 1.500 to 2.5 Meg.

Resistance Tolerance: Linear ±10%. Above 100,000 ohms ±20%. Tapered ±20% all values.

Tapers: Linear. Left hand — 10% resistance at 50% rotation. "Z"

Mechanical and Electrical Rotation: 300° ±3°

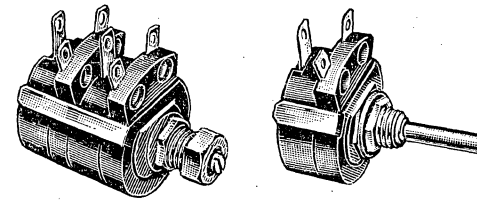
Effective Rotation: 300° ±3°

Torque (oz.-in.): 0.5 to 6

Dual Construction: Available

STOCK VALUES 48M & 48M-9	200	1500	7500	50K	1 Meg.
	250	2K	10K	100K	2.5 Meg.
	500	2500	15K	250K	5 Meg.
	1000	5K	25K	500K	

SERIES 49M — 1.5 WATT WIRE-WOUND



Available in single or dual, standard or shaft locking bushing. Standard bushing potentiometers have ¼" x 32 NEF-2A x ¼" long bushing and ⅛" dia. x ½" long shaft beyond bushing.

Shaft locking bushing potentiometers have ¼" x 32 NEF-2A x ⅜" long bushing and ⅛" dia. x 1/16" long screwdriver slotted shaft. All potentiometers furnished with mounting nut 1/16" thick x 5/16" across flats, and one internal tooth lock-washer. Potentiometers with shaft locking bushings furnished with jam nut also.

Fabricated in accordance with MIL-R-19

Insulation: Breakdown test between terminals and ground for 1 minute. 1000v.a.c.; 500v.a.c. @ 3.4" Hg.

Resistance Range (Ohms): Linear 1 to 20,000

Resistance Tolerance: Linear ±5%. Tapered Linear only.

Mechanical and Electrical Rotation: 300° ±3°

Effective Rotation: 300° ±3°

Torque (oz.-in.): 0.3 to 6

Dual Construction: Available

STOCK VALUES 49M & 49M-9	5	50	250	2K	10K
	10	100	500	2500	15K
	20	150	1K	5K	20K
	25	200	1500	7500	

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MILITARY POTENTIOMETERS

ITEMS IN STOCK FOR IMMEDIATE DELIVERY

RA10 per MIL-R-19 1 WATT WIRE-WOUND POTENTIOMETERS — Commercial Equivalent — Series 49M

RA10NASD150A
RA10NASD250A
RA10NASD500A
RA10NASD750A
RA10NASD101A
RA10NASD151A
RA10NASD201A
RA10NASD251A
RA10NASD351A
RA10NASD501A
RA10NASD751A
RA10NASD102A

RA10NASD152A
RA10NASD202A
RA10NASD252A
RA10NASL150A
RA10NASL250A
RA10NASL500A
RA10NASL750A
RA10NASL101A
RA10NASL151A
RA10NASL201A
RA10NASL251A
RA10NASL351A

RA10NASL501A
RA10NASL751A
RA10NASL102A
RA10NASL152A
RA10NASL202A
RA10NASL252A
RA10LASD150A
RA10LASD250A
RA10LASD500A
RA10LASD750A
RA10LASD101A
RA10LASD151A

RA10LASD201A
RA10LASD251A
RA10LASD351A
RA10LASD501A
RA10LASD751A
RA10LASD102A
RA10LASD152A
RA10LASD202A
RA10LASD252A
RA10LASM150A
RA10LASM250A
RA10LASM500A

RA10LASM750A
RA10LASM101A
RA10LASM151A
RA10LASM201A
RA10LASM251A
RA10LASM351A
RA10LASM501A
RA10LASM751A
RA10LASM102A
RA10LASM152A
RA10LASM202A
RA10LASM252A

RA20 per MIL-R-19 2 WATT WIRE-WOUND POTENTIOMETERS — Commercial Equivalent — Series 43M

RA20NASA3R0A
RA20NASA6R0A
RA20NASA8R0A
RA20NASA100A
RA20NASA150A
RA20NASA200A
RA20NASA250A
RA20NASA350A
RA20NASA500A
RA20NASA750A
RA20NASA101A
RA20NASA151A
RA20NASA201A
RA20NASA251A
RA20NASA351A
RA20NASA501A
RA20NASA751A
RA20NASA102A
RA20NASA152A
RA20NASA202A
RA20NASA252A

RA20NASA352A
RA20NASA502A
RA20NASA752A
RA20NASA103A
RA20NASA153A
RA20NASD3R0A
RA20NASD6R0A
RA20NASD8R0A
RA20NASD100A
RA20NASD150A
RA20NASD200A
RA20NASD250A
RA20NASD350A
RA20NASD500A
RA20NASD750A
RA20NASD101A
RA20NASD151A
RA20NASD201A
RA20NASD251A
RA20NASD351A
RA20NASD501A

RA20NASD751A
RA20NASD102A
RA20NASD152A
RA20NASD202A
RA20NASD252A
RA20NASD352A
RA20NASD502A
RA20NASD752A
RA20NASD103A
RA20NASD153A
RA20LASB3R0A
RA20LASB6R0A
RA20LASB8R0A
RA20LASB100A
RA20LASB150A
RA20LASB200A
RA20LASB250A
RA20LASB350A
RA20LASB500A
RA20LASB750A
RA20LASB101A

RA20LASB151A
RA20LASB201A
RA20LASB251A
RA20LASB351A
RA20LASB501A
RA20LASB751A
RA20LASB102A
RA20LASB152A
RA20LASB202A
RA20LASB252A
RA20LASB352A
RA20LASB502A
RA20LASB752A
RA20LASB103A
RA20LASB153A
RA20LASD3R0A
RA20LASD6R0A
RA20LASD8R0A
RA20LASD100A
RA20LASD150A
RA20LASD200A

RA20LASD250A
RA20LASD350A
RA20LASD500A
RA20LASD750A
RA20LASD101A
RA20LASD151A
RA20LASD201A
RA20LASD251A
RA20LASD351A
RA20LASD501A
RA20LASD751A
RA20LASD102A
RA20LASD152A
RA20LASD202A
RA20LASD352A
RA20LASD502A
RA20LASD752A
RA20LASD103A
RA20LASD153A

RA30 per MIL-R-19 4 WATT WIRE-WOUND POTENTIOMETERS — Commercial Equivalent — Series 58M

RA30NASA3R0A
RA30NASA6R0A
RA30NASA8R0A
RA30NASA100A
RA30NASA150A
RA30NASA200A
RA30NASA250A
RA30NASA350A
RA30NASA500A
RA30NASA750A
RA30NASA101A
RA30NASA151A
RA30NASA201A
RA30NASA251A
RA30NASA351A
RA30NASA501A
RA30NASA751A

RA30NASA102A
RA30NASA152A
RA30NASA202A
RA30NASA252A
RA30NASA352A
RA30NASA502A
RA30NASA752A
RA30NASA103A
RA30NASA153A
RA30NASA203A
RA30NASA253A
RA30NASD3R0A
RA30NASD6R0A
RA30NASD8R0A
RA30NASD100A
RA30NASD150A
RA30NASD200A

RA30NASD250A
RA30NASD350A
RA30NASD500A
RA30NASD750A
RA30NASD101A
RA30NASD151A
RA30NASD201A
RA30NASD251A
RA30NASD351A
RA30NASD501A
RA30NASD751A
RA30NASD102A
RA30NASD152A
RA30NASD202A
RA30NASD252A
RA30NASD352A
RA30NASD502A

RA30NASD752A
RA30NASD103A
RA30NASD153A
RA30NASD203A
RA30NASD253A
RA30LASB3R0A
RA30LASB6R0A
RA30LASB8R0A
RA30LASB100A
RA30LASB150A
RA30LASB200A
RA30LASB250A
RA30LASB350A
RA30LASB500A
RA30LASB750A
RA30LASB101A
RA30LASB151A

RA30LASB201A
RA30LASB251A
RA30LASB351A
RA30LASB501A
RA30LASB751A
RA30LASB102A
RA30LASB152A
RA30LASB202A
RA30LASB252A
RA30LASB352A
RA30LASB502A
RA30LASB752A
RA30LASB103A
RA30LASB153A
RA30LASB203A
RA30LASB253A

RV4 per MIL-R-94 2 WATT CARBON POTENTIOMETERS — Commercial Equivalent — Series 53M — Series 53C

RV4NAYSB101A
RV4NAYSB251A
RV4NAYSB501A
RV4NAYSB102A
RV4NAYSB252A
RV4NAYSB502A
RV4NAYSB103A
RV4NAYSB253A
RV4NAYSB503A
RV4NAYSB104A
RV4NAYSB254A
RV4NAYSB504A
RV4NAYSB105A
RV4NAYSB255B
RV4NAYSB505B
RV4NAYSD500A
RV4NAYSD101A
RVNAYSD151A
RV4NAYSD251A
RV4NAYSD351A
RV4NAYSD501A
RV4NAYSD751A

RV4NAYSD102A
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RV4NAYSD252A
RV4NAYSD352A
RV4NAYSD502A
RV4NAYSD752A
RV4NAYSD103A
RV4NAYSD153A
RV4NAYSD253A
RV4NAYSD353A
RV4NAYSD503A
RV4NAYSD753A
RV4NAYSD104A
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RV4NAYSD254A
RV4NAYSD354A
RV4NAYSD504A
RV4NAYSD754A
RV4NAYSD105A
RV4NAYSD155B
RV4NAYSD205B
RV4NAYSD255B

RV4NAYSD355B
RV4NAYSD505B
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RV4NAYSK252A
RV4NAYSK502A
RV4NAYSK103A
RV4NAYSK253A
RV4NAYSK503A
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RV4NAYSK254A
RV4NAYSK504A
RV4NAYSK105A
RV4NAYSK255B
RV4NAYSK505B
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RV4LAYSA104A
RV4LAYSA351A

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RV4LAYSA105A
RV4LAYSA155B

RV4LAYSA205B
RV4LAYSA255B
RV4LAYSA355B
RV4LAYSA505B
RV4LAYSD101A
RV4LAYSD501A
RV4LAYSD251A
RV4LAYSD102A
RV4LAYSD252A
RV4LAYSD502A
RV4LAYSD103A
RV4LAYSD253A
RV4LAYSD503A
RV4LAYSD104A
RV4LAYSD254A
RV4LAYSR504A
RV4LAYSD105A
RV4LAYSD255B
RV4LAYSD505B

RV6 per MIL-R-94 0.5 WATT CARBON POTENTIOMETERS — Commercial Equivalent — Series 63C

RV6NAYSD101A
RV6NAYSD251A
RV6NAYSD501A
RV6NAYSD102A
RV6NAYSD252A
RV6NAYSD502A
RV6NAYSD103A
RV6NAYSD153A
RV6NAYSD253A
RV6NAYSD503A
RV6NAYSD104A
RV6NAYSD154A

RV6NAYSD254A
RV6NAYSD504A
RV6NAYSD105A
RV6NAYSL101A
RV6NAYSL251A
RV6NAYSL501A
RV6NAYSL102A
RV6NAYSL252A
RV6NAYSL502A
RV6NAYSL103A
RV6NAYSL153A
RV6NAYSL253A

RV6NAYSL503A
RV6NAYSL104A
RV6NAYSL154A
RV6NAYSL254A
RV6NAYSL504A
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RV6LAYSA102A
RV6LAYSA252A
RV6LAYSA502A

RV6LAYSA103A
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RV6LAYSA504A
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RV6LAYSD501A

RV6LAYSD102A
RV6LAYSD252A
RV6LAYSD502A
RV6LAYSD103A
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RV6LAYSD253A
RV6LAYSD503A
RV6LAYSD104A
RV6LAYSD154A
RV6LAYSD254A
RV6LAYSD504A
RV6LAYSD105A

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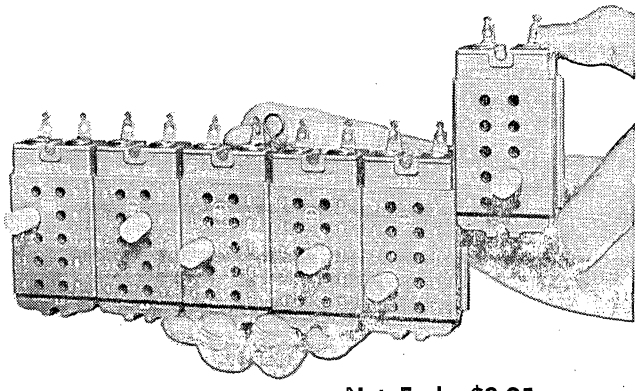
PRODUCTS OF
THE HOUSE OF RESISTORS®

CLAROSTAT®

RESISTORS · CONTROLS
RESISTANCE DEVICES

CLARO-DEC PRECISION RESISTANCE DECADE BOX

The most flexible innovation yet in precision resistance decade boxes, the Claro-Dec serves many applications with all the versatility needed for the job. Claro-Decs (within established parameters of current) are used whenever accurate steps of resistance values between .1 ohms and 900K ohms, ±1%* are required. Selection of desired steps of resistance is accomplished by insertion of a banana plug into the proper, marked front panel hole on the unit. Individual or multiple Claro-Dec units are flush panel or breadboard mounted with equal ease. Units may be physically ganged by sliding the molded-in tongue-and-groove together and electrically series connected with a supplied wire jumper or accessory banana plug.



Net Each: $3.95

MODEL	TOTAL RES. OF DECADE	RESISTANCE PER STEP	ACCURACY (+C)*	MAXIMUM CURRENT
260-1	0.9Ω	0.1Ω	±5%	1 Amp.
260-2	9Ω	1.0Ω	±1%	350 Ma
260-3	90Ω	10Ω	±1%	100 Ma
260-4	900Ω	100Ω	±1%	35 Ma
260-5	9KΩ	1KΩ	±1%	10 Ma
260-6	90KΩ	10KΩ	±1%	3.5 Ma
260-7	900KΩ	100KΩ	±1%	1.0 Ma

* C — Contact Resistance, .005 - .03 ohms, typical, .01 ohms.

CONSTRUCTION

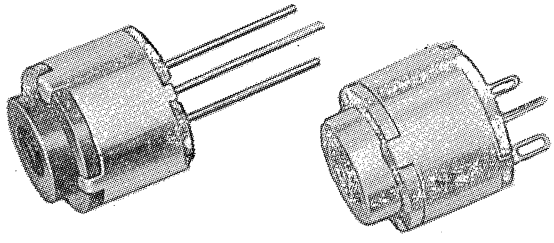
Housing — Two piece molded housing, color — grey.
Marking — Permanently marked with resistance multiplier, current rating, schematic and model number.
Resistors — Plastic coated wirewound for Models 260-1 and 260-2. Plastic coated metal film for all other models. Temperature coefficient less than 100 ppm.
Temperature — 40°C. max. at rated current, de-rated to zero at 85°C.
Weight — 2 oz. (approximate) per individual unit.

SERIES 63M TRIMMING POTENTIOMETERS

Designed specifically for application on printed circuit boards, this new configuration permits extremely close board-to-board spacing. Both metal and plastic shafts and faceplates with wire or solder terminal leads provide mounting facilities to meet virtually every application.

SPECIFICATIONS

Power Rating — .25 watt @ 70°C. Rerated to zero power @ 120°C.
Working Voltage — 350 V.D.C. across end terminals, but power not to exceed rating.



Resistance Range — 100Ω to 1 megohm, linear.
Resistance Tolerance — ±20%
Mechanical & Electrical Rotation — 295°, ±3°
Voltage Breakdown — 750 V.A.C. between terminals and ground for 1 minute.
Torque — 0.5 to 3 oz. in.

STYLE	DESCRIPTION	TERMINALS
63M1	Plastic Shaft & Faceplate	Solder Lug
63M2	Metal Shaft & Faceplate	Solder Lug
63M4	Plastic Shaft & Faceplate	Wire Leads
63M5	Metal Shaft & Faceplate	Wire Leads

STOCK VALUES

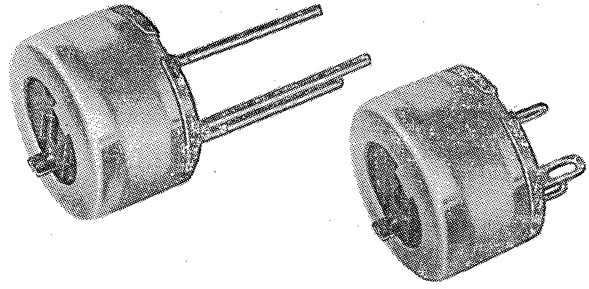
100	2.5K	25K	200K
250	5K	50K	250K
500	10K	100K	500K
1K	15K	150K	1 Meg.

SERIES 371 HOT MOLDED, LOW COST, TRIMMING POTENTIOMETERS

Construction consists of a hot molded carbon element, carbon contact brush, pressure spring and cover. Series 371-5 have standoffs to insulate metal cover from printed circuit board and a screwdriver adjustment slot.

SPECIFICATIONS

Power Rating — ⅜ watt @ 70°C derated linearly to zero watts @ 120°C.
Working Voltage — 350 V.A.C.



Resistance Range — 100 Ω to 1 megohm.
Resistance Tolerance — ± 20%
Tapers — Linear and audio.
Mecahnical & Electrical Rotation — 290° ±5°.
Dielectric Strength — Variable arm hot to case. Case to mounting plane — 750 volts R.M.S. @ atmospheric pressure.
Torque — Operating: 6.0 oz. in. max. Stop: 1 lb. in.

Style	Terminals
371-2	Solder Lugs
371-5	Wire Leads

STOCK VALUE

100	2.5K	25K	200K
250	5K	50K	250K
500	10K	100K	500K
1K	15K	150K	1 Meg.

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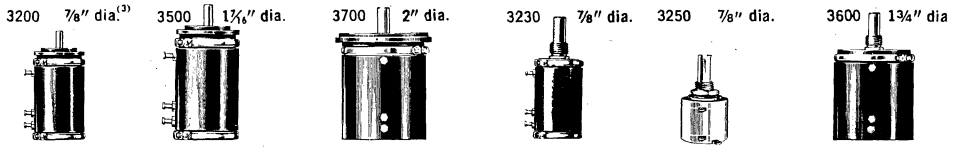

WIREWOUND MULTI-TURN POTENTIOMETERS

	MILITARY			COMMERCIAL		
ELECTRICAL	**3200**	**3500**	**3700**	**3230**	**3250**	**3600**
Electrical Rotation	3600° +4° −0°	3600° +1° −0°	3600° +1° −0°	3600° +10° −0°	3600° +10° −0°	3600° +4° −0°
Normal Resistance Range (Ohms)	100-100K	100-200K	100-300K	100-100K	100-100K	100-300K
Extended Resistance Range (Ohms)	10-250K	50-500K	10-830K	10-200K	25-150K	10-600K
Resistance Tolerance: Std.	±3%	±3%	±3%	±3%	±5%	±3%
Best Practical	±1%	±1%	±1%	±1%	±2%	±1%
Power Rating (Watts)	2.5	5	7	2.5	2	7
Linearity: Std.	±0.25%	±0.15%	±0.1%	±0.25%	±.25%	±0.25%
Best Practical	±0.05%	±0.03%	±0.02%	±0.1%	±.10%	±0.05%
Noise, ENR Max. (Ohms)	100	100	100	100	100	100
End Resistance	Within linearity tolerance or 0.1Ω whichever is greater				0.5%	
Insulation Resistance (Megs)	1,000	1,000	1,000	1,000	1,000	1,000
Dielectric, Volts RMS	1,000	1,000	1,000	750	1,000	1,000
Voltage Across Terminals, DC	1,000	1,000	1,000	1,000	550	1,000
Tempco of Pot, Maximum	.007%/°C	.007%/°C	.007%/°C	.007%/°C	.007%/°C	.007%/°C
MECHANICAL						
Mechanical Rotation, Turns	10(1)	10(1)	10(2)	10	10	10(2)
Angle	Same as Electrical Rotation					
Mechanical Life, Revolutions	2,000,000	2,000,000	2,000,000	2,000,000	500,000	2,000,000
Ganged Cups, Maximum	2	2	2	N/A	N/A	2
Taps, Maximum Number	46	110	135	46	N/A	135
Moment of Inertia (gm-cm²)	0.4	11	12	0.4	0.3	12
Weight (oz): Single Cup	1.3	4.0	4.5	1.3	0.5	3.7
Each Additional Cup	1.0	2.5	2.7	N/A	N/A	2.5
Stop Strength (oz-in)	128	750	1,000	100	50	750
Torque: (oz-in) Starting, Bushing	0.5	N/A	1.5	0.6	1.0	1.5
Running, Bushing	0.5	N/A	1.2	0.5	1.0	1.2
Starting, Servo	0.5	1.0	1.2	N/A	N/A	N/A
Running, Servo	0.4	0.8	0.8	N/A	N/A	N/A
ENVIRONMENTAL						
Temperature Range (°C), Std.	−65 to +125	−65 to +125	−65 to +125	−55 to +105	−25 to +85	−55 to +105
Meets MIL-R-12934 For:						
Humidity	Yes	Yes	Yes	N/A(4)	N/A	N/A(4)
Vibration	Yes	Yes	Yes	N/A(4)	N/A	N/A(4)
Shock	Yes	Yes	Yes	N/A(4)	N/A	N/A(4)
PRICE						
Std. Item, 1-9 pcs., Bushing	$13.00	N/A	$20.00	$9.50	$5.95	$10.00
Servo	$19.00	$40.00	$22.00	N/A	N/A	N/A

(1) Also available in 3- & 5-turn rotation.
(2) Also available in 3-turn rotation.
(3) Also available in ¾" diameter.
(4) Environmental specs for commercial pots: enclosed construction, 10G at 2,000 cycles vibration, 50G shock.
N/A means not available or not applicable.

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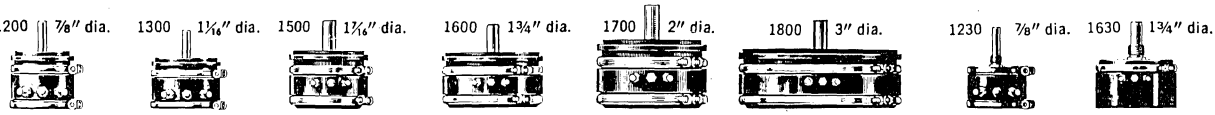


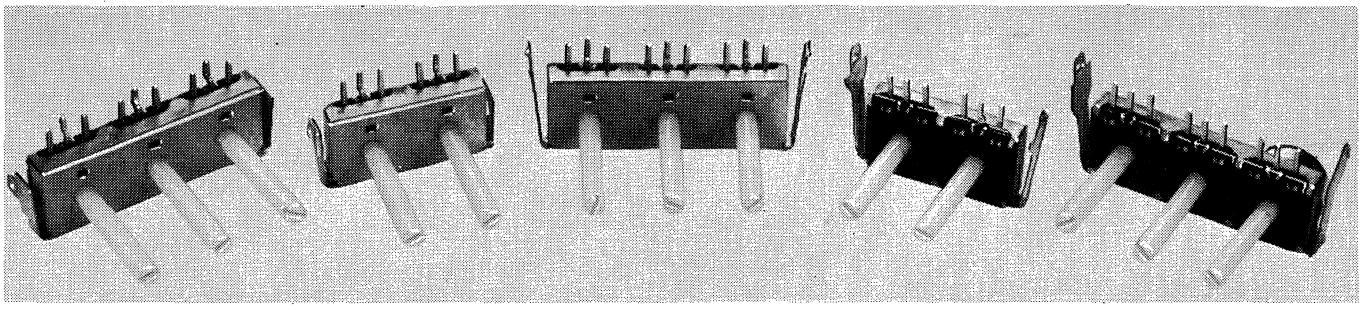
WIREWOUND SINGLE-TURN POTENTIOMETERS

MILITARY						COMMERCIAL	
1200	**1300**	**1500**	**1600**	**1700**	**1800**	**1230**	**1630**
354° ±2°	354° ±2°	354° ±2°	354° ±1°	356° ±1°	358° ±1°	354° ±2°	354° ±2°
100-20K	100-30K	100-50K	100-50K	100-60K	100-100K	100-20K	100-50K
20-150K	30-200K	25-75K	25-100K	25-125K	25-200K	20-150K	25-100K
±5%	±5%	±3%	±3%	±3%	±3%	±5%	±5%
±1%	±1%	±1%	±1%	±1%	±1%	±1%	±1%
1.25	2	3	4	5	7	1.25	4
±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
±0.2%	±0.2%	±0.15%	±0.1%	±0.075%	±0.05%	±0.25%	±0.15%
100	100	100	100	100	100	100	100
Within linearity tolerance or 0.1Ω whichever is greater							
1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1,000	1,000	1,000	1,000	1,000	1,000	750	750
400	400	400	400	400	400	400	400
.007%/°C	.007%/°C	007%/°C	007%/°C	.007%/°C	.007%/°C	.007%/°C	.007%/°C
1	1	1	1	1	1	1	1
360° Continuous							
2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
6	6	8	8	8	8	6	6
9	9	19	24	26	41	9	24
0.2	0.2	4.0	4.5	5.0	8.5	0.3	5.0
0.6	0.8	2.2	2.8	3.3	6.5	0.6	3.0
0.2	0.5	0.7	0.9	1.0	1.4	0.2	1.0
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0.2	0.2	1.3	1.4	1.5	1.7	0.3	2.0
0.2	0.2	0.9	1.0	1.1	1.3	0.3	1.5
0.1	0.15	0.6	0.7	0.8	1.0	N/A	N/A
0.1	0.15	0.4	0.5	0.6	0.8	N/A	N/A
—65 to +125	—65 to +125	—65 to +125	—65 to +125	—65 to +125	—65 to +125	—55 to +105	—55 to +105
Yes	Yes	Yes	Yes	Yes	Yes	N/A(4)	N/A(4)
Yes	Yes	Yes	Yes	Yes	Yes	N/A(4)	N/A(4)
Yes	Yes	Yes	Yes	Yes	Yes	N/A(4)	N/A(4)
$15.00	$16.00	$16.00	$16.00	$17.00	$19.00	$9.00	$10.00
$17.00	$18.00	$18.00	$18.00	$19.00	$21.00	N/A	N/A

DUNCAN electronics inc.
A DIVISION OF SYSTRON DONNER CORP.

NEW! IRC-CTS STRIPTROL CONTROL REPLACEMENT SYSTEM

IRC, DIVISION OF TRW INC.

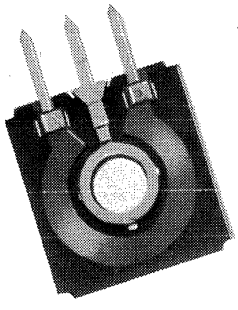


Here is a brand new replacement system which saves time and money on frequently hard-to-get TV controls.

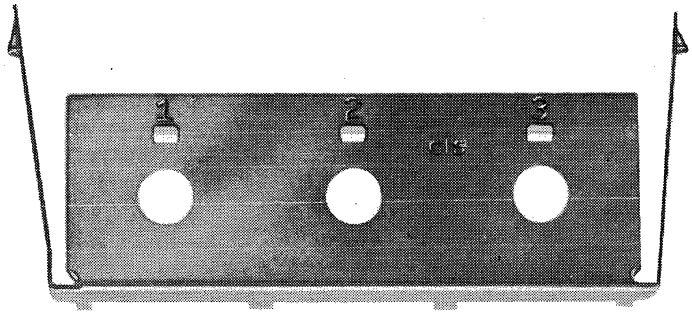
Striptrol is a unique and modern method of providing exact replacement coverage of many often used side-by-side controls found in the majority of today's black-and-white and color TV receivers. Striptrol features simplicity of assembly and low inventory cost.

This entire replacement system stems from 3 basic components: elements, housings and adjustors. Striptrol is assembled using a combination of one or more of the three basic parts.

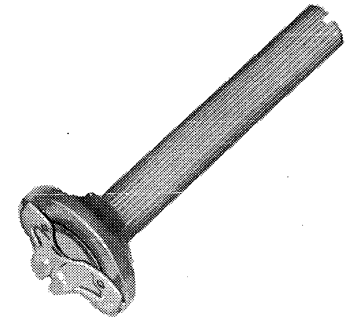
The total Striptrol line consists of a variety of elements with different values and tapers. Also included are eight housings, including both vertical and horizontal mounting styles, with and without power switches, and three adjustors covering both out-the-front, out-the-rear, and switch operating styles.



ELEMENT



HOUSING



ADJUSTMENT

ELEMENTS

BY RESISTANCE VALUE

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
0*	E0	15K	E8	350K	E16
150	E1	25K	E9	500K	E17
250	E2	25K	E25L	500K	E27L
500	E3	50K	E10	750K	E18
500	E24R	60K	E11	1.0M	E19
3000	E5	100K	E12	1.5M	E20
1000	E4	100K	E26L	1.5M	E28L
6000	E6	150K	E13	2.0M	E21
10K	E7	200K	E14	3.0M	E22
		250K	E15	5.0M	E23

BY IRC STOCK NUMBER

Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms
E0	*	E9	25K	E19	1.0M
E1	150	E10	50K	E20	1.5M
E2	250	E11	60K	E21	2.0M
E3	500	E12	100K	E22	3.0M
E4	1000	E13	150K	E23	5.0M
E5	3000	E14	200K	E24R	500
E6	6000	E15	250K	E25L	25K
E7	10K	E16	350K	E26L	100K
E8	15K	E17	500K	E27L	500K
		E18	750K	E28L	1.5M

IRC NO.	SECTIONS	MOUNTING
H1	2	Horizontal
H2	3	Horizontal
H3	2	Vertical
H4	3	Vertical
H5	3	Vertical - Long Leg - GC Switch
H6	3	Vertical - Long Leg - WF Switch
H7	3	Vertical - GC Switch
H8	3	Vertical - WF Switch

IRC NO.	STYLE
A1	Out-the-front Adjustor
A2	Out-the-front Adjustor For Switch Operation
A3	Out-the-rear Adjustor

* No Resistive Element, No Terminals.
Elements have linear taper except where suffix letter is added to Stock No.: L—lefthand taper; R—righthand taper.

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IRC-CTS STRIPTROL DEALER STOCKS

IRC, DIVISION OF TRW INC.

Here are two Dealer Striptrol Stocks designed to give replacement coverage with a minimum of investment. Assortment #38 offers a minimal quantity of all the basis components of the Striptrol System with low initial investment.

Assortment #39 offers a larger and more comprehensive stock designed to give more complete replacement coverage of side-by-side controls. Both stocks come complete with stocking cabinets ready for quick set-up and immediate use.

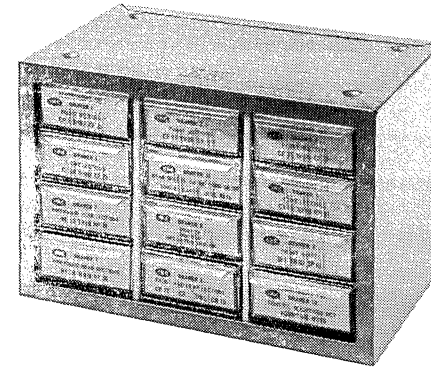
Cabinets are constructed of heavy-gauge steel and are finished in attractive gray color, with twelve, non-spill plastic drawers. Drawer dividers and complete pre-printed labels are supplied. Each stock includes set-up instructions, assembly instructions and Striptrol Replacement Data.

MINIMUM STOCK

This assortment is a minimum stock of components of the Striptrol System. All components are included. Quantities are minimal, and provide excellent replacement coverage. Stock includes handsome 12 drawer stocking cabinet, full complement of dividers, drawer labels, set-up instructions, assembly instructions and Striptrol Replacement Data.

Contents

6 each — Adjustors A1, A3.
3 each — Adjustors 2.
1 each — Housings H1, H2, H3, H4, H5, H6, H7, H8.
3 each — Elements E6, E7, E11, E17, E19, E20, E21, E23.
1 each — Elements E0, E1, E2, E3, E4, E5, E8, E9, E10, E12, E13, E14, E15, E16, E18, E22, E24, E25, E26, E27, E28.



ASSORTMENT NO. 38

LARGER STOCK

This assortment contains a larger inventory of all Striptrol components, thus offering added replacement coverage. Striptrol component reordering is reduced due to additional stock included. Quantities of components and versatility of coverage make this the ideal dealer stock.

Stock supplied complete with two 12 drawer stocking cabinets which may be stored on top of one another or side by side. Also included are pre-printed labels, dividers, set-up instructions, assembly instructions and Striptrol Replacement Data.

Contents

20 each — Adjustors A1, A3.
5 each — Adjustors A2.
2 each — Housings H1, H5, H6, H7, H8.
4 each — Housings H2, H3.
6 each — Housings H4.
6 each — Elements E6, E7, E11, E17, E19, E20, E21, E23.
3 each — Elements E0, E1, E2, E3, E4, E5, E8, E9, E10, E12, E13, E14, E15, E16, E18, E22, E24, E25, E26, E27, E28.

ASSORTMENT NO. 39

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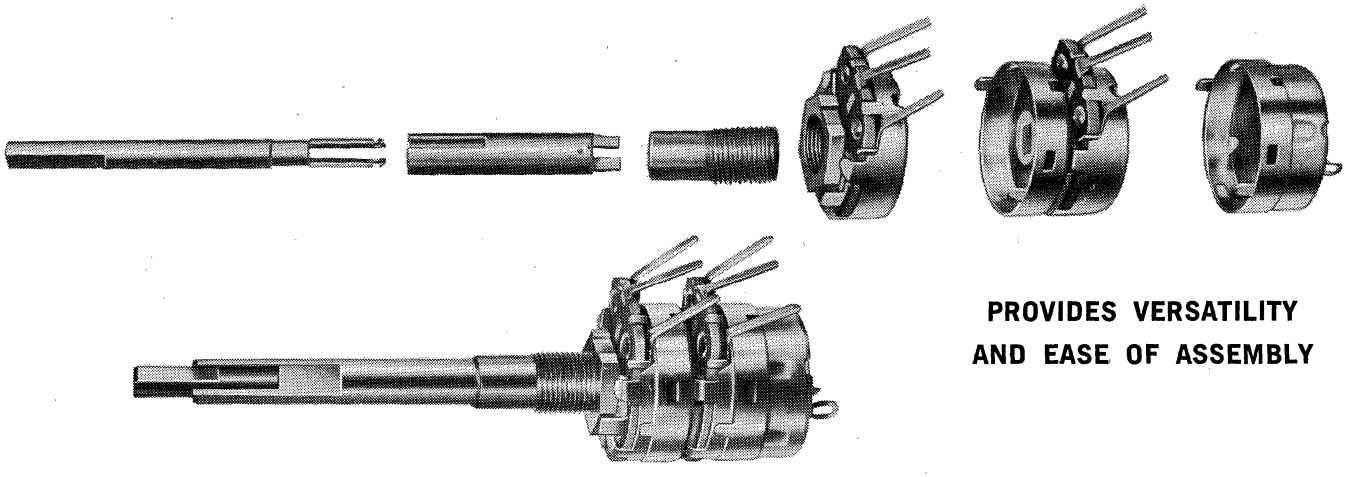
IRC-CTS SNAPTROL

IRC, DIVISION OF TRW INC.



PROVIDES VERSATILITY AND EASE OF ASSEMBLY

SNAPTROL. Newest of three IRC replacement systems designed to provide servicing technicians with satisfactory replacements for comprehensive coverage of single controls, tandem dual controls, stereo controls and concentric dual controls for television, radio, auto sets and high fidelity equipment.

SNAPTROL provides a broad variety of basic, factory assembled control sections, shafts and switches which snap together to provide a wide selection of replacement controls. Literally, it is a "snap" to assemble nearly any standard or special control.

SERIES 45 INDUSTRIAL CONTROLS. With a variety of five basic control components, the Series 45 line permits quick assembly of 12,631,500 different control specifications. These include single, double, triple and quadruple section controls, with or without power switches, in all popular styles and ranges needed for industrial electronic equipment.

Series 45 components are completely compatible and interchangeable with SNAPTROL. Together, these two snap-together systems provide an almost unlimited means to furnish unusual and special controls for industrial applications.

EASY TO USE. Parts assemble into exact duplicate control in 15 to 30 seconds. Sections completely factory assembled. No shaft cutting or modification needed.

GREATER VERSATILITY. SNAPTROL provides new and unique designs which provide for better utility and adaptability of component parts:

1—**Interchangeable Control Mountings.** 3/8", 7/16" and 1/2" diameter bushings of varying lengths and bores, quickly thread into front control sections. Accommodates thick panel requirements *without* extra bushing or adjuster. Specially designed tab mounting plates or printed circuit brackets easily attached in place of bushings. This exclusive new design feature reduces the number of front sections needed and extends their use in a greater variety of replacement needs.

2—**Printed Circuit Terminals.** All carbon control sections are equipped with terminals that will handle both conventional and printed circuit wiring. This original IRC-CTS terminal design doubles the adaptability of control sections.

3—**Rotary or Pull-Push Power Switches.** Either type of power switch snaps onto either carbon Front or Rear Sections. Another exclusive IRC-CTS design feature which very considerably increases the utility of control components.

4—**Uniform Diameter Rear Section Shafts.** New design of rear section (inner) shafts provide uniform diameter — permits use of heavy-walled front section (outer) shaft contributing better concentric shaft operation and superior knob retention. Simple compression type adapter fits rear section shaft to knobs normally requiring larger diameter. No drilling or modification of knobs needed. Shafts are flatted or slotted as required — no shaft insert or tine needed! This new design reduces the number of exact length shafts required for broad replacement coverage.

5—**Front Sections Serve for Single Controls.** Without modification or adapters, all SNAPTROL front sections may be used for single control replacements. Provides practical use of single front section for special bushings, tab mountings, printed circuits, special shaft needs and a variety of power switches. No other section-type control system provides such broad versatility.

FEWER COMPONENT PARTS. Because of the realistic design features provided, SNAPTROL requires far fewer items of components than any other section-type exact duplicate control system which offers so broad a replacement coverage. (Over 2300 exact duplicate concentric dual controls and many thousands of single controls.)

BEST SELLING CONTROLS. SNAPTROL is a special replacement design of the world's most frequently specified and most widely sold CTS Series 45 control. Over 300,000,000 in current use — a strong testimony to the quality and performance of these outstanding controls.

(See Page 1235 for Dealer Stocks of this Product)

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IRC-CTS SNAPTROL

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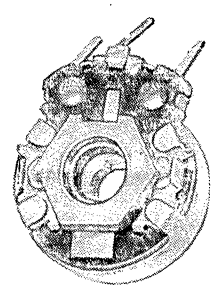
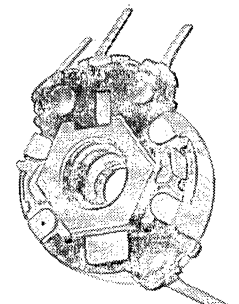
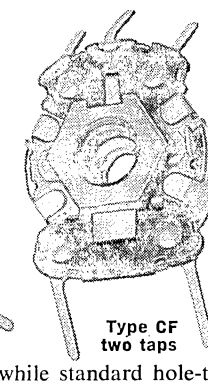
SNAPTROL CARBON AND WIREWOUND FRONT SECTIONS



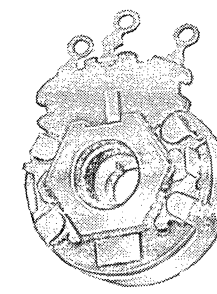
Type CF—no tap



Type CF—one tap



Type CF two taps



Type WF

Type CF Carbon Front Sections and Type WF Wirebound Front Sections are factory-assembled controls supplied without control mounting, shaft or dust cover. Bushing, tab mounting plate or printed circuit bracket thread into front section as required. Carbon or wirewound rear sections snap onto either style front section for concentric or tandem dual controls. A variety of single or concentric outer shafts snap into front sections. Either rotary or pull-push switches will snap onto CF Front Sections. (WF Front Sections will not operate switches.) Printed Circuit Terminals are employed on CF sections while standard hole-type terminals are supplied on WF sections. Diameter of either front section is $1\frac{5}{16}$". Wattage rating: CF Sections — ½ watt, WF Sections — 5 watts *(linear tapered sections)*.

LISTING BY STOCK NUMBER

Stock No.	Ohms	Taps	Taper*
CF1	100	—	1
CF2	250	—	1
CF3	300	—	1
CF4	500	—	1
CF5	750	—	1
CF6	1000	—	1
CF7	1500	—	2
CF8	5000	—	2
CF9	10 K	—	2
CF10	15 K	—	2
CF11	25 K	—	2
CF12	50 K	—	2
CF13	100 K	—	2
CF14	200 K	—	2
CF15	250 K	—	2
CF16	500 K	—	2
CF17	1.0 Meg	—	2
CF18	1.5 Meg	—	2
CF19	2.0 Meg	—	2
CF20	2.5 Meg	—	2
CF21	3.0 Meg	—	2
CF22	5.0 Meg	—	2
CF23	250 K	—	3
CF24	350 K	—	3
CF25	500 K	—	3
CF26	1.0 Meg	—	3
CF27	2.0 Meg	—	3
CF28	3.0 Meg	—	3
CF29	5.0 Meg	—	3
CF30	1500	—	4
CF31	2000	—	4
CF32	2500	—	4
CF33	3000	—	4
CF34	5000	—	4
CF35	10 K	—	4
CF36	750	—	5
CF37	1000	—	5
CF38	5.0 Meg	—	6
CF39	5.0 Meg**	—	7
CF40T	750	250	8
CF41T	3000	150	9
CF42T	15 K	10 K	10
CF43T	500 K	125 K	11
CF44T	1.0 Meg	250 K	11
CF45T	2.0 Meg	500 K	11
CF46T	500 K	250 K	12
CF47T	1.0 Meg	500 K	12
CF48T	500	60	14
CF49T	30 K	10 K	8
CF50	500	—	5
CF51	200 K	—	4
CF52	100 K	—	3
CF53	1200	—	4
CF55	75 K	—	2
CF56	2.0 Meg	—	4
CF54	5.0 Meg	—	4
CF57T	2.0 Meg	1.0 Meg	12
CF58T	3.0 Meg	1.5 Meg	12
CF59	3000	—	2
CF60	5000	—	3
CF61	10 K	—	3
CF62	20 K	—	2
CF63	50 K	—	3
CF64	750 K	—	2
CF65	1.0 Meg	—	4
CF66	1.5 Meg	—	3
CF67TT	2.0 Meg	500 K & 1.0 M	49
CF68TT	2.0 Meg	300 K & 600 K	50
CF69	7.5 Meg	—	2
CF70	10 Meg	—	2
CF71T	1.0 Meg	100K	3
CF72	150 K	—	1
CF73TT	3.0 Meg	1.0 & 2.0 Meg	1
WF1	200	—	U
WF2	750	—	U
WF3	1000	—	U
WF4	1500	—	U
WF5	2000	—	U
WF6	2500	—	U
WF7	3000	—	U
WF8	5000	—	U
WF9	10 K	—	U
WF10	15 K	—	U
WF11	750	—	R
WF12	2500	—	R
WF13	3000	—	R
WF14	5000	—	R
WF15T	750	250	S
WF16	10	—	U
WF17	20	—	U
WF18	50	—	U
WF19	100	—	U
WF20	500	—	U

LISTING BY RESISTANCE VALUE

Ohms	Taps	Taper*	Stock No.
100	—	1	CF1
250	—	1	CF2
300	—	1	CF3
500	—	1	CF4
500	—	5	CF50
500	60	14	CF48T
750	—	1	CF5
750	—	5	CF36
750	250	8	CF40T
1000	—	1	CF6
1000	—	5	CF37
1200	—	4	CF53
1500	—	2	CF7
1500	—	4	CF30
2000	—	4	CF31
2500	—	4	CF32
3000	—	2	CF59
3000	—	4	CF33
3000	150	9	CF41T
5000	—	2	CF8
5000	—	3	CF60
5000	—	4	CF34
10 K	—	2	CF9
10 K	—	3	CF61
10 K	—	4	CF35
15 K	—	2	CF10
15 K	10 K	10	CF42T
20 K	—	2	CF62
25 K	—	2	CF11
30 K	10 K	8	CF49T
50 K	—	2	CF12
50 K	—	3	CF63
75 K	—	2	CF54
100 K	—	2	CF13
100 K	—	3	CF52
150 K	—	1	CF72
200 K	—	4	CF51
200 K	—	2	CF14
250 K	—	2	CF15
250 K	—	3	CF23
350 K	—	3	CF24
500 K	—	2	CF16
500 K	—	3	CF25
500 K	125 K	11	CF43T
500 K	250 K	12	CF46T
750 K	—	2	CF64
1.0 Meg	—	2	CF17
1.0 Meg	—	3	CF26
1.0 Meg	—	4	CF65
1.0 Meg	250 K	11	CF44T
1.0 Meg	500 K	12	CF47T
1.0 Meg	100 K	1	CF71T
1.5 Meg	—	2	CF18
1.5 Meg	—	3	CF66
2.0 Meg	—	2	CF19
2.0 Meg	—	3	CF27
2.0 Meg	—	4	CF55
2.0 Meg	500 K	11	CF45T
2.0 Meg	1.0 Meg	12	CF57T
2.0 Meg	500 K & 1.0 M	49	CF67TT
2.0 Meg	300 K & 600 K	50	CF68TT
2.5 Meg	—	2	CF20
3.0 Meg	—	2	CF21
3.0 Meg	—	3	CF28
3.0 Meg	1.5 Meg	12	CF58T
3.0 Meg	1.0 & 2.0 Meg	1	CF73TT
5.0 Meg	—	2	CF22
5.0 Meg	—	3	CF29
5.0 Meg	—	4	CF56
5.0 Meg	—	6	CF38
5.0 Meg**	—	7	CF39
7.5 Meg	—	2	CF69
10 Meg	—	2	CF70
10	—	U	WF16
20	—	U	WF17
50	—	U	WF18
100	—	U	WF19
200	—	U	WF1
500	—	U	WF20
750	—	R	WF11
750	250	S	WF15T
750	—	U	WF2
1000	—	U	WF3
1500	—	U	WF4
2000	—	U	WF5
2500	—	R	WF12
2500	—	U	WF6
3000	—	R	WF13
3000	—	U	WF7
5000	—	R	WF14
5000	—	U	WF8
10 K	—	U	WF9
15 K	—	U	WF10

* See Taper explanation chart, page 1246. ** Element open at center.

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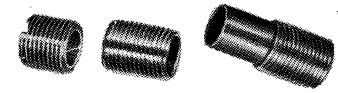
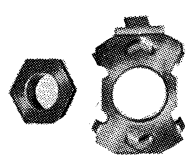
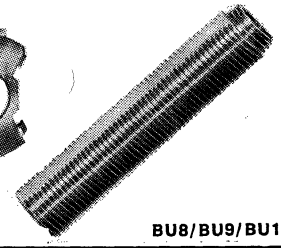


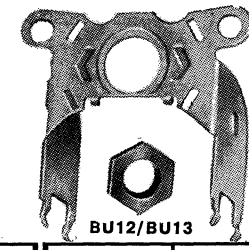
BU1/BU4 BU2/BU5 BU3/BU6



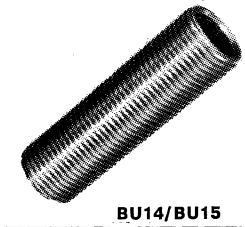
BU11/BU7



BU8/BU9/BU10



BU12/BU13



BU14/BU15

CONTROL MOUNTINGS FOR FRONT SECTIONS

A variety of control mountings permit the use of SNAPTROL Front Sections for many different replacement controls. Bushings of varying diameters and inside bores thread into front sections. Tab mounting plates and printed circuit brackets attach to front section with special male nut supplied with each.

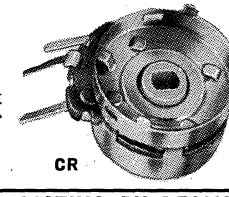
This exclusive design feature of selectable control mountings actually reduces inventory investment for distributors and servicing technicians. For a specific resistance value and taper, only one SNAPTROL Front Section is needed—in contrast to other systems where an additional front section is needed for *each* different control mounting.

Stock No.	Description
BU1	Bushing 3/8"—32 x 1/4" FMS—for single controls
BU2	Bushing 3/8"—32 x 3/8" FMS—for single controls
BU3	Bushing 3/8"—32 x 5/16" FMS—for single controls
BU4	Bushing 3/8"—32 x 1/4" FMS—for concentric controls
BU5	Bushing 3/8"—32 x 3/8" FMS—for concentric controls
BU6	Bushing 3/8"—32 x 3/4" FMS—for concentric controls
BU7	Tab mounting with nut—for concentric controls
BU8	Bushing 7/16"—28 x 1 7/8" FMS—for concentric controls

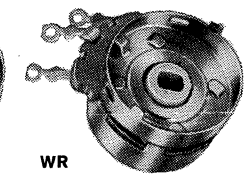
Stock No.	Description
BU9	Bushing 7/16"—28 x 2 1/4" FMS—for concentric controls. Double flat.
BU10	Bushing 1/2"—28 x 2 1/4" FMS—for concentric controls. Single flat.
BU11	Tab mounting with nut—for single controls
BU12	Printed circuit bracket with nut—for single controls
BU13	Printed circuit bracket with nut—for concentric controls
BU14	Bushing 3/8"—32 x 1 3/16" FMS—for single controls
BU15	Bushing 3/8"—32 x 2" FMS—for concentric dual controls.

CARBON & WIREWOUND REAR SECTIONS

Type CR Carbon Rear Sections and Type WR Wirewound Rear Sections snap onto SNAPTROL Front Sections for use as either concentric dual or tandem dual controls. Rotary or pull-push power switches snap onto CR sections. (WR sections do not accept switches.) Rear or inner concentric shafts snap into either type of rear sections for concentric dual operation. SS7A Intersection Insert provides tandem dual operation. Additional tandem sections may be snapped on by use of SS13 Multisection Couplers.



CR



WR

LISTING BY STOCK NUMBER

Stock No.	Ohms	Taps	Taper*
CR1	100	—	1
CR2	1000	—	1
CR3	2000	—	2
CR4	5000	—	2
CR5	10 K	—	2
CR6	25 K	—	2
CR7	50 K	—	2
CR8	100 K	—	2
CR9	200 K	—	2
CR10	250 K	—	2
CR11	500 K	—	2
CR12	1.0 Meg	—	2
CR13	1.5 Meg	—	2
CR14	2.0 Meg	—	2
CR15	2.5 Meg	—	2
CR16	3.0 Meg	—	2
CR17	5.0 Meg	—	2
CR18	250 K	—	3
CR19	350 K	—	3
CR20	500 K	—	3
CR21	1.0 Meg	—	3
CR22	2.0 Meg	—	3
CR23	3.0 Meg	—	3
CR24	5.0 Meg	—	3
CR25	2000	—	4
CR26	10 K	—	4
CR27	750	—	5
CR28	1000	—	5
CR29T	250 K	60 K	11
CR30T	350 K	75 K	11
CR31T	500 K	125 K	11
CR32T	1.0 Meg	250 K	11
CR33T	2.0 Meg	500 K	11
CR34T	250 K	125 K	12
CR35T	500 K	250 K	12
CR36T	1.0 Meg	500 K	12
CR37T	2.0 Meg	1.0 Meg	12
CR38T	3.0 Meg	1.5 Meg	12
CR39T	500 K	50 K	13
CR40T	1.0 Meg	100 K	13
CR41	500	—	1
CR42	125 K	—	2
CR43	500 K	—	4
CR44	1.0 Meg	—	4
CR45	2.0 Meg	—	4
CR46	3.0 Meg	—	4
CR47	5.0 Meg	—	4
CR48T	7.5 K	3750	12
CR49T	10 K	5000	12
CR50T	20 K	6000	11
CR51	5000	—	3
CR52	10 K	—	3
CR53	100 K	—	4
CR54TT	3.0 Meg	1.0 & 2.0 Meg	1
WR1	10 K	—	U
WR2	15 K	—	U

LISTING BY RESISTANCE VALUE

Ohms	Taps	Taper *	Stock No.
100	—	1	CR1
500	—	1	CR41
750	—	5	CR27
1000	—	1	CR2
1000	—	5	CR28
2000	—	2	CR3
2000	—	4	CR25
5000	—	2	CR4
5000	—	3	CR51
7500	3750	12	CR48T
10 K	—	2	CR5
10 K	—	4	CR26
10 K	5000	12	CR49T
10 K	—	3	CR52
20 K	6000	11	CR50T
25 K	—	2	CR6
50 K	—	2	CR7
100 K	—	2	CR8
100 K	—	4	CR53
125 K	—	2	CR42
200 K	—	2	CR9
250 K	—	2	CR10
250 K	—	3	CR18
250 K	60 K	11	CR29T
250 K	125 K	12	CR34T
350 K	—	3	CR19
350 K	75 K	11	CR30T
500 K	—	2	CR11
500 K	—	3	CR20
500 K	—	4	CR43
500 K	125 K	11	CR31T
500 K	250 K	12	CR35T
500 K	50 K	13	CR39T
1.0 Meg	—	2	CR12
1.0 Meg	—	3	CR21
1.0 Meg	—	4	CR44
1.0 Meg	250 K	11	CR32T
1.0 Meg	500 K	12	CR36T
1.0 Meg	100 K	13	CR40T
1.5 Meg	—	2	CR13
2.0 Meg	—	2	CR14
2.0 Meg	—	3	CR22
2.0 Meg	—	4	CR45
2.0 Meg	500 K	11	CR33T
2.0 Meg	1.0 Meg	12	CR37T
2.5 Meg	—	2	CR15
3.0 Meg	—	2	CR16
3.0 Meg	—	3	CR23
3.0 Meg	—	4	CR46
3.0 Meg	1.5 Meg	12	CR38T
3.0 Meg	1.0 & 2.0 Meg	1	CR54TT
5.0 Meg	—	2	CR17
5.0 Meg	—	3	CR24
5.0 Meg	—	4	CR47
10 K	—	U	WR1
15 K	—	U	WR2

* See Taper explanation chart, page 1246.

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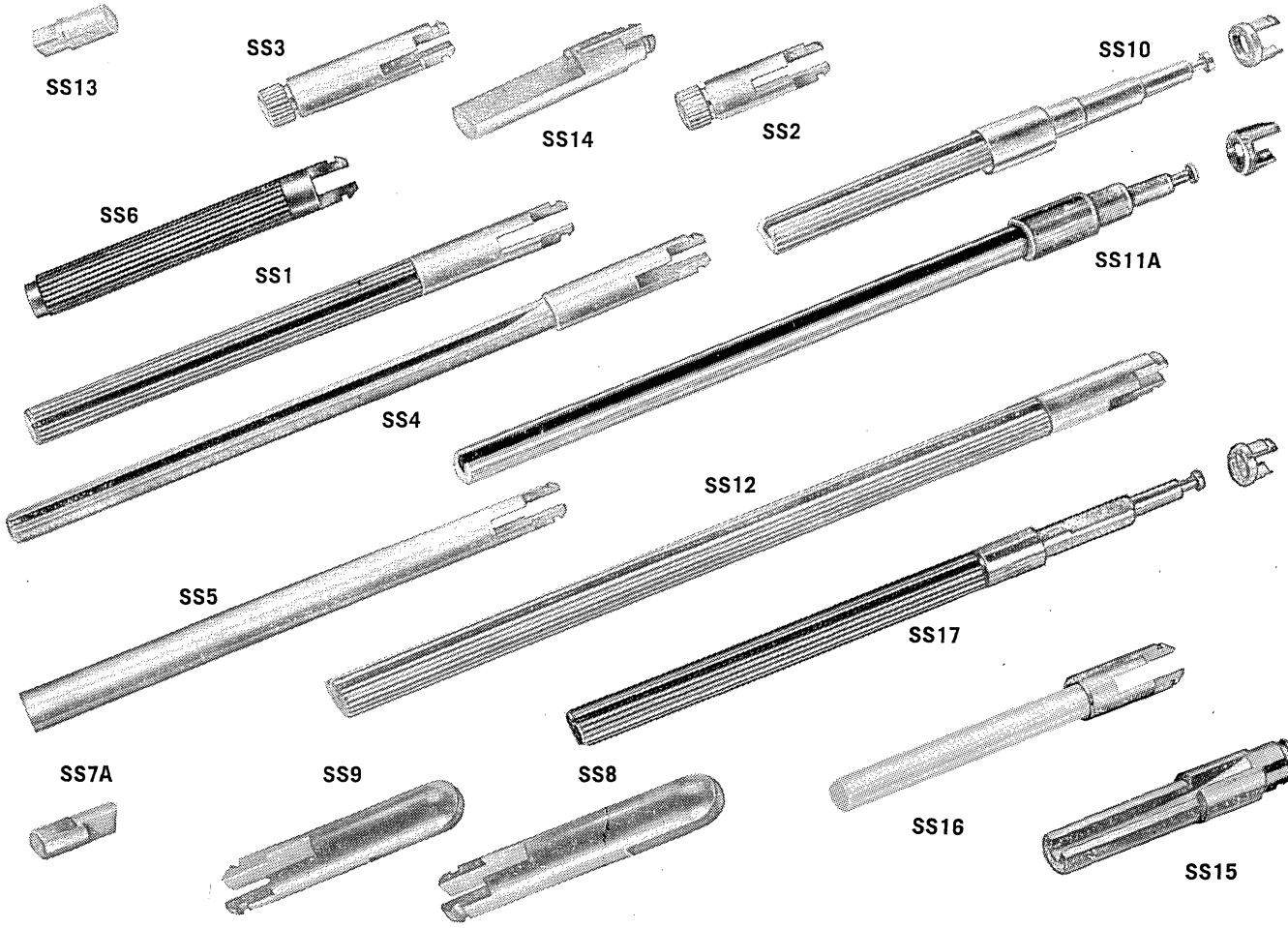

SINGLE CONTROL SHAFTS

Universal single control shafts for SNAPTROL permit front sections to be used as universal single control replacements.

STOCK NO.	DESCRIPTION
SS1	KNOBMASTER Shaft. Knurled, grooved and slotted for universal use. 3" long F.M.S.
SS2	Short, screw-driver slotted shaft. ½" long, F.M.S.
SS3	Short knurled and screw-driver slotted shaft. ¾" long, F.M.S.
SS4	3/16" diameter shaft. Flatted and grooved. 4" long F.M.S.
SS5	Full round ¼" diameter shaft. 3" long F.M.S.
SS6	Insulated Shaft. ¼" diameter x 1½" long. Screw-driver slot and knurled full length.
SS7A	Intersection insert. Converts concentric rear section to tandem rear section with single shaft.
SS8	Special rounded end and slotted shaft for G.E. controls—.79" long F.M.S.
SS9	Special rounded end and slotted shaft for G.E. controls—.60" long F.M.S.

STOCK NO.	DESCRIPTION
SS10	For K switch (push-pull) operation with single Front Section. 3" Knobmaster Shaft (same as SS1) with insert.
SS11A	For K switch (pull-push) operation with single Front Section. 3½" long flatted and grooved 3/16" diameter shaft (similar to SS4) with insert.
SS12	Long Knobmaster Shaft. Same as SS1 but 5" long.
SS13	Multisection Insert. For use between second and third or successive tandem sections. (Note SS7A used between first and second sections).
SS14	Short flatted shaft. ¼" diameter by ¾" long F.M.S., flatted full length. Provided for short, flatted tab mounted controls.
SS15	3/16" diameter shaft, flatted and grooved full length. ¾" long F.M.S.
SS16	Insulated shaft, 3/16" diameter flatted full length. 1½" long F.M.S.
SS17	KNOBMASTER Shaft. Knurled, grooved and slotted for universal use. 3" long F.M.S. with insert converting concentric rear section to tandem rear section with single shaft. For K switch (push-pull) operation.

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IRC-CTS SNAPTROL

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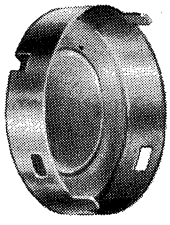
POWER SWITCHES

SNAPTROL rotary and pull-push power switches snap on to carbon front or rear sections.

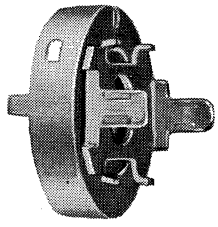
Stock No.	Description
GC	Rotary Power Switch, S.P.S.T.
K	Pull-push Power Switch, S.P.S.T., 5 Amp
VF	Rotary Power Switch, S.P.D.T.
WF	Rotary Power Switch, D.P.S.T.

DUST COVER

Stock No.	Description
DC1	Dust Cover. For use on either front or rear section when switch is not used.
DC2	Reverse Tab mount dust cover.



Type DC1



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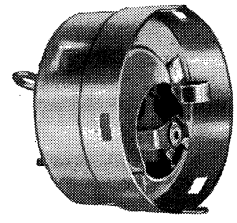
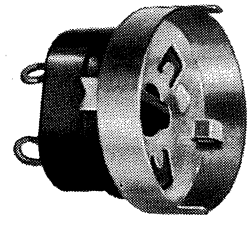
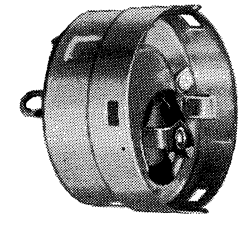


Type GC



Type K



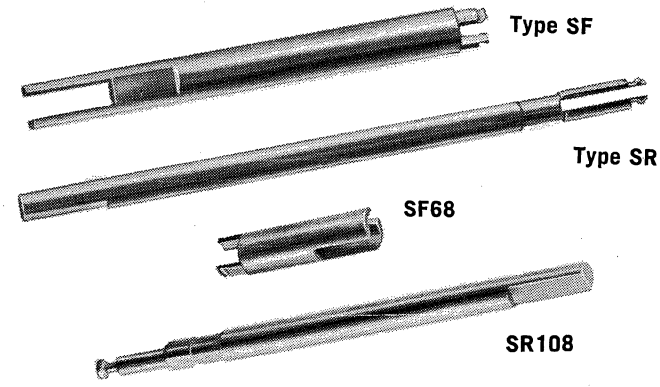
Types VF/WF

EXACT DUPLICATE SHAFTS

SNAPTROL Exact Duplicate Shafts are supplied to close tolerances against original control specifications. Easily snap into molded nylon rotors of front or rear sections. Uniform diameter of rear section (inner) shafts permit use of heavier wall on front section (outer) shafts providing better concentric rotation and superior knob fit. Knob Adapter (Stock No. KA1) fits rear (inner) shaft to knobs normally requiring larger diameter shafts. No drilling or modification of knobs is required. No cutting of shafts is needed with SNAPTROL Exact Duplicate Shafts! Easy to install!

Knob Adapter. Fits rear section shaft to knob requirements of over-size shaft. Converts .187″ diameter shaft to .202″ diameter shaft.

Type KA1



FRONT SECTION (OUTER) SHAFTS

STOCK NO.	SHAFT LENGTH FMS*	SHAFT END*	STOCK NO.	SHAFT LENGTH FMS*	SHAFT END*
SFA	3″	U	SF35	3 3/32″	FS
SF1	9/16″	S	SF36	3 27/32″	FS
SF2	21/32″	S	SF37	4″	FS
SF3	3/4″	FS	SF38	4 3/32″	FS
SF4	27/32″	FS	SF39	4 3/16″	FS
SF5	15/16″	FS	SF40	15/16″	S
SF6	1″	FS	SF41	1″	S
SF7	1 3/32″	FS	SF42	1 15/32″	S
SF8	1 3/16″	FS	SF43	1 9/16″	S
SF9	1 9/32″	FS	SF44	1 27/32″	S
SF10	1 3/8″	FS	SF45	2″	S
SF11	1 15/32″	FS	SF46	2 9/32″	S
SF12	1 9/16″	FS	SF47	2 15/32″	S
SF13	1 21/32″	FS	SF48	2 9/16″	S
SF14	1 3/4″	FS	SF49	2 23/32″	S
SF15	1 27/32″	FS	SF50	2 27/32″	S
SF16	1 15/16″	FS	SF51	15/32″	K
SF17	2″	FS	SF52	21/32″	K
SF18	2 3/32″	FS	SF53	1″	K
SF19	2 3/16″	FS	SF54	1 3/32″	K
SF20	2 9/32″	FS	SF55	1 3/16″	K
SF21	2 3/8″	FS	SF56	3/32″	SD
SF22	2 15/32″	FS	SF57	15/32″	SD
SF23	2 9/16″	FS	SF58	9/16″	SD
SF24	2 21/32″	FS	SF59	3/4″	SD
SF25	2 3/4″	FS	SF60	1″	S
SF26	2 27/32″	FS	SF61	1 15/16″	S
SF27	2 15/16″	FS	SF62	15/16″	SP
SF28	3″	FS	SF63	1 21/32″	SP
SF29	3 3/32″	FS	SF64	1 3/8″	S
SF30	3 3/16″	FS	SF65	1 3/32″	S
SF31	3 9/32″	FS	SF66	1 27/32″	SP
SF32	3 3/8″	FS	SF67	15/32″	FS
SF33	3 15/32″	FS	SF68	21/32″	FS
SF34	3 9/16″	FS			

REAR SECTION (INNER) SHAFTS

STOCK NO.	SHAFT LENGTH FMS*	SHAFT END*	STOCK NO.	SHAFT LENGTH FMS*	SHAFT END*	STOCK NO.	SHAFT LENGTH FMS*	SHAFT END*
SRA	3 1/2″	U	SR37	4 9/16″	F	SR74	3/4″	SD
SRB**	4 1/2″	U	SR38	4 27/32″	F	SR75	27/32″	SD
SR1	15/16″	F	SR39	1 3/16″	S	SR76	2 3/8″	SD
SR2	1 3/32″	F	SR40	1 3/8″	S	SR77	2″	SP
SR3	1 3/16″	F	SR41	1 15/32″	S	SR78	3 3/16″	SP
SR4	1 9/32″	F	SR42	1 9/16″	S	SR79	3 1/2″	SP
SR5	1 3/8″	F	SR43	1 21/32″	S	SR80	4″	SP
SR6	1 15/32″	F	SR44	1 3/4″	S	SR81**	1 15/32″	F
SR7	1 9/16	F	SR45	1 27/32″	S	SR82**	1 9/16″	F
SR8	1 21/32″	F	SR46	1 15/16″	S	SR83**	1 21/32″	F
SR9	1 3/4″	F	SR47	2″	S	SR84**	1 3/4″	F
SR10	1 27/32″	F	SR48	2 3/32″	S	SR85**	1 27/32″	F
SR11	1 15/16″	F	SR49	2 3/16″	S	SR86**	1 15/16″	F
SR12	2″	F	SR50	2 3/32″	S	SR87**	2″	F
SR13	2 3/32″	F	SR51	2 3/8″	S	SR88**	2 3/32″	F
SR14	2 3/16″	F	SR52	2 15/32″	S	SR89**	2 3/16″	F
SR15	2 9/32″	F	SR53	2 9/16″	S	SR90**	2 3/8″	F
SR16	2 3/8″	F	SR54	2 21/32″	S	SR91**	2 9/16″	F
SR17	2 15/32″	F	SR55	2 3/4″	S	SR92**	2 3/4″	F
SR18	2 9/16″	F	SR56	2 27/32″	S	SR93**	2 27/32″	F
SR19	2 21/32″	F	SR57	2 15/16″	S	SR94**	2 15/16″	F
SR20	2 3/4″	F	SR58	3″	S	SR95	1 15/32″	S
SR21	2 27/32″	F	SR59	3 3/32″	S	SR96	1 3/4″	S
SR22	2 15/16″	F	SR60	3 3/16″	S	SR97	1 27/32″	S
SR23	3″	F	SR61	3 9/32″	S	SR98	3 3/16″	S
SR24	3 3/32″	F	SR62	3 15/32″	S	SR99	1 9/16″	F
SR25	3 3/16″	F	SR63	3 9/16″	S	SR100	3/32″	SD
SR26	3 9/32″	F	SR64	3/4″	K	SR101	1 3/32″	S
SR27	3 3/8″	F	SR65	15/16″	K	SR102**	2 3/32″	F
SR28	3 15/32″	F	SR66	1″	K	SR103**	2 3/32″	S
SR29	3 9/16″	F	SR67	1 3/32″	K	SR104**	2 1/16″	S
SR30	3 21/32″	F	SR68	1 3/8″	K	SR105**	2 3/4″	S
SR31	3 3/4″	F	SR69	1 15/32″	K	SR106**	3 27/32″	S
SR32	3 27/32″	F	SR70	1 15/16″	K	SR107	1 3/32″	S
SR33	3 15/16″	F	SR71	3/8″	SD	SR108**	2″	F
SR34	4 3/32″	F	SR72	15/32″	SD	SR109	27/32″	F
SR35	4 9/32″	F	SR73	21/32″	SD	SR110**	3 3/8″	F
SR36	4 15/32″	F						

* FMS—Measured from mounting surface. F—Flat. FS—Flat & Slot. K—Knurled. S—Slot. SD—Screw-driver Slot. SP—Special. U—Universal Shaft

** Used with pull-push switch only.

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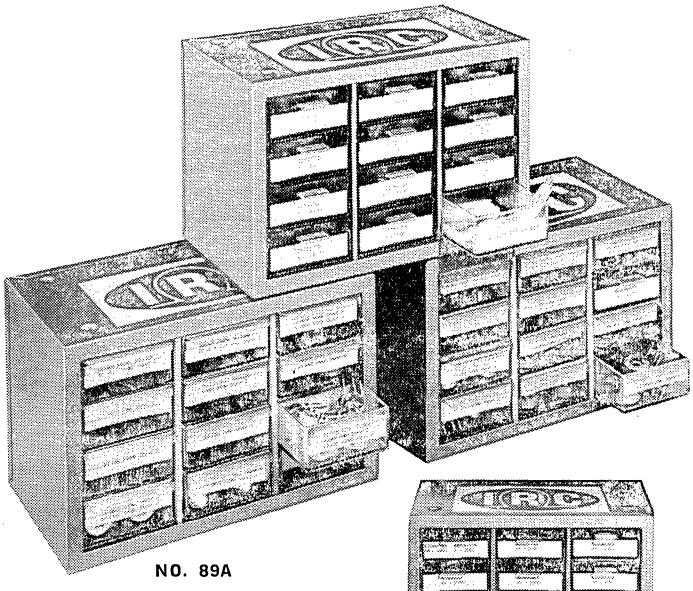
IRC-CTS SNAPTROL DEALER STOCKS

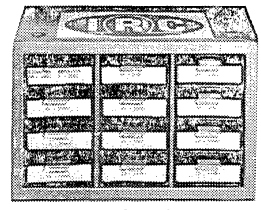
IRC, DIVISION OF TRW INC.

WIDE COVERAGE OF CONTROL TYPES — SNAPTROL Dealer Control Stocks provide unusually wide variety of single, tandem and concentric dual control types. Included are nearly endless combinations of control mountings, shafts and power switches with both carbon (½ watt) and wirewound (5 watts) front and rear sections. Control mountings include ⅜", 7/16" and ½" diameter bushings, tab mountings and printed circuit brackets. Shaft styles encompass ¼" and 3/16" universal types, screw-driver slotted and insulated styles, rear adjustment feature, and a broad selection of exact duplicate shafts which require no cutting or modification.

Rotary and pull-push power switches attach to either single or concentric control styles. Concentric dual controls include carbon front end and rear sections, wirewound front and rear sections and wirewound front sections with carbon rear sections. Carbon units are equipped with printed circuit terminals for universal use. Broad selection of resistance values and tapers. Replacement data, pricing information and full instructions included.



NO. 89A



NO. 35

Not pictured — No. 87A (Basic Stock in 2 Cabinets) and No. 88A (Conversion Stock in 1 Cabinet)

SNAPTROL DEALER CONTROL STOCKS

SNAPTROL stocks combine fast, snap-together assembly with unique, inventory-saving versatility. Carefully studied selections of SNAPTROL components assure broadest needed replacement coverage per dollar invested.

Two carefully planned stocks are available. No. 87A is a Basic Stock. No. 89A is an Expanded Stock with nearly three times the replacement coverage. Both stocks are housed in a large metal cabinet with twelve "see-thru" drawers. Full identifications of parts with unique labelling system. Basic stock may be changed to the expanded stock with No. 88A Conversion Stock.

No. 35 Supplement Stock is designed to be used in conjunction with Snaptrol Stock No. 89A. This supplement adds the elements, shafts and hardware you need to give over 95% Color TV replacement control coverage. In addition, exact duplicate 110 C controls are included, all of which are called out in Howard Sams 1968 Replacement Control Guide.

SPACIOUS STOCK CABINETS MATCH EACH OTHER

The same handsome and sturdy steel cabinets are provided with all Snaptrol Dealer Stocks and Supplement Stocks. The No. 87A stock consists of two cabinets, the No. 89A of three; while Conversion stock No. 88A has one cabinet. Each Supplement stock is packed in one cabinet. Cabinets may be stacked or hung on the wall.

CONTENTS OF SNAPTROL DEALER STOCKS

Description	Basic Stock No. 87A	Conversion Stock No. 88A	Expanded Stock No. 89A	Color Supp. Stock No. 35
Exact Duplicate Special Controls	—	—	—	5
Carbon Front Sections	16	16	32	25
Wire Front Sections	—	7	7	5
Carbon Rear Sections	11	10	21	9
Wire Rear Section	—	1	1	—
Control Mountings	30	19	49	—
Single Control Shafts	13	23	36	10
Exact Duplicate Shafts	101	14	115	70
Power Switches (Rotary and Pull-Push)	18	—	18	—
Hardware Items	17	—	17	10
Replacement Manual	1	—	1	—
Instruction Package	1	—	1	1

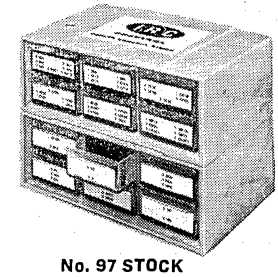
LOW-PRICED SNAPTROL DEALER STOCKS

The same careful planning and features as the larger stocks to provide the broadest coverage per dollar invested. Universal front and rear shafts in the expanded stock offer unlimited shaft matching.

Two carefully planned stocks are available. No. 95 is a basic, single control stock. No. 97 is an expanded stock with the additional coverage of concentric dual controls. Both stocks are housed in sturdy, convenient stock cabinets, with easy-to-read drawer-front labels. The basic stock may be changed to the expanded stock with conversion stock No. 96.

CONTENTS OF SNAPTROL DEALER STOCKS

Description	Basic Stock No. 95	Conversion Stock No. 96	Expanded Stock No. 97
Carbon Front Sections	15	9	24
Carbon Rear Sections	—	7	7
Control Mountings	16	12	28
Single Control Shafts	24	—	24
Front Universal Shafts	—	5	5
Rear Universal Shafts	—	7	7
Power Switches (Rotary and Pull-Push)	13	—	13
Hardware Items	3	—	3
Replacement Manual	1	—	1
Instruction Package	1	1	1



No. 97 STOCK

These new Snaptrol Dealer Stocks provide an unusually wide variety of control types. Included are countless combinations of control mountings, shafts and power switches with ½ Watt carbon sections. Control mountings include a variety of bushings, tab mountings, and printed circuit brackets. Shafts include a variety of universal types. Rotary and push-pull power switches attach to either single or concentric control styles. All elements are equipped with printed circuit terminals for universal use. Broad selection of resistance values and tapers. Replacement data, pricing information and full instructions are included.

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IRC-CTS SNAPTROL/SERIES 45 INDUSTRIAL CONTROLS

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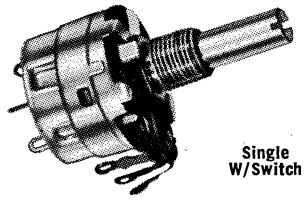


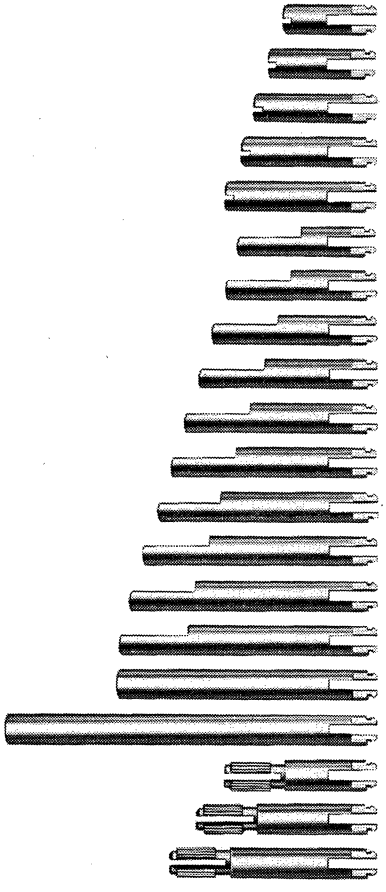
Single W/Switch

IRC-CTS SERIES 45 CONTROLS

Designed to provide a wide variety of ½ watt controls for industrial applications, the Series 45 is a snap-together system in which selected values and sizes of five basic components will quickly assemble any of 12,631,500 specifications. Included are 25 values and tapers of single control or panel sections, 20 popular values of multi-sections or rear control sections, 20 most used shafts in length increments of ⅛″ from ½″ to 2″ plus a 3″ length, 2 rotary power switches and a control dust cover. Completely compatible and interchangeable with SNAPTROL, the Series 45 affords an extremely broad selection of mechanical and electrical specifications for industrial applications. **See Page 1256 for Model Shop Stock of this Product**

SERIES 45 SNAP-IN SHAFTS

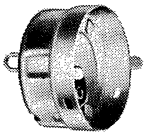
20 most often needed shafts for industrial applications. Provide screwdriver slot, flat, knurl or full round types in ⅛″ increments from ½″ to 2″ in length. 3″ length included. Broad shaft selection generally eliminates need for cutting or modification. All shafts ¼″ diameter.



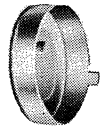
STOCK NO.	LENGTH FMS	KNOB TRIM
01	½″	Screwdriver Slot
02	⅝″	Screwdriver Slot
03	¾″	Screwdriver Slot
04	⅞″	Screwdriver Slot
05	1″	Screwdriver Slot
06	⅞″	.156 x 7/16″ Flat
07	1″	.156 x 7/16″ Flat
08	1⅛″	.156 x ⅝″ Flat
09	1¼″	.156 x ⅝″ Flat
10	1⅜″	.156 x ⅝″ Flat
11	1½″	.156 x ⅝″ Flat
12	1⅝″	.156 x ⅝″ Flat
13	1¾″	.156 x ⅝″ Flat
14	1⅞″	.156 x ⅝″ Flat
15	2″	.156 x ⅝″ Flat
16	2″	Full Round
17	3″	Full Round
18	1″	Split Knurl
19	1¼″	Split Knurl
20	1½″	Split Knurl

POWER SWITCHES AND DUST COVER

Snap on to either panel or rear sections. Dust cover used where switch is not required.



Type D/S



Type 45C

STOCK NO.	DESCRIPTION
D	DPST Power Switch (Snaptrol -WF)
S	SPST Power Switch (Snaptrol GC)
45C	Dust Cover (Snaptrol DC1)

SINGLE CONTROL OR FRONT SECTIONS. 25 most used resistance values in two resistance tapers: 45A logarithmic taper and 45D linear taper. Rated at ½ watt (linear taper). Equipped with ⅜—32x⅜″ long bushing for ¼″ diameter shafts. Mounting nut included. Resistance tolerance +20%.

LISTING BY STOCK NUMBER

Stock No.	Ohms	CTS Taper	Similar To Snaptrol No.
45A103	10 K	A	CF61
45A104	100 K	A	CF52
45A105	1.0 Meg	A	CF26
45A205	2.0 Meg	A	CF27
45A254	250 K	A	CF23
45A305	3.0 Meg	A	CF28
45A503	50 K	A	CF63
45A504	500 K	A	CF25
45D102	1000	D	CF6
45D103	10 K	D	CF9
45D104	100 K	D	CF13
45D105	1.0 Meg	D	CF17
45D106	10.0 Meg	D	CF70
45D202	2000	D	—
45D203	20 K	D	CF62
45D204	200 K	D	CF14
45D205	2.0 Meg	D	CF19
45D253	25 K	D	CF11
45D254	250 K	D	CF15
45D302	3000	D	CF59
45D501	500	D	CF4
45D502	5000	D	CF8
45D503	50 K	D	CF12
45D504	500 K	D	CF16
45D505	5.0 Meg	D	CF22

LISTING BY RESISTANCE VALUE

Stock No.	Ohms	CTS Taper	Similar To Snaptrol No.
45D501	500	D	CF4
45D102	1000	D	CF6
45D202	2000	D	—
45D302	3000	D	CF59
45D502	5000	D	CF8
45A103	10 K	A	CF61
45D103	10 K	D	CF9
45D203	20 K	D	CF62
45D253	25 K	D	CF11
45A503	50 K	A	CF63
45D503	50 K	D	CF12
45A104	100 K	A	CF52
45D104	100 K	D	CF13
45D204	200 K	D	CF14
45A254	250 K	A	CF23
45D254	250 K	D	CF15
45A504	500 K	A	CF25
45D504	500 K	D	CF16
45A105	1.0 Meg	A	CF26
45D105	1.0 Meg	D	CF17
45A205	2.0 Meg	A	CF27
45D205	2.0 Meg	D	CF19
45A305	3.0 Meg	A	CF28
45D505	5.0 Meg	D	CF22
45D106	10.0 Meg	D	CF70

* See Taper Explanation Chart, page 1246.

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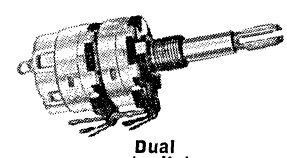
IRC-CTS SNAPTROL/SERIES 45 INDUSTRIAL CONTROLS

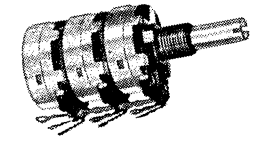
IRC, DIVISION OF TRW INC.

IRC-CTS SERIES 45 MULTISECTIONS

20 rear sections snap on to panel section or to successive rear sections. Provide dual, triple or quadruple section controls. May be used with or without switch. M45A is logarithmic taper; M45D is linear taper. Resistance tolerance ± 20%. Power rating ½ watt (linear taper).



Dual w/switch



Triple

LISTING BY STOCK NUMBER

STOCK NO.	OHMS	CTS TAPER*	SIMILAR TO SNAPTROL NO. PLUS SS7A
M45A104	100 K	A	—
M45A105	1.0 Meg	A	CR21
M45A205	2.0 Meg	A	CR22
M45A254	250 K	A	CR18
M45A504	500 K	A	CR20
M45D102	1000	D	CR2
M45D103	10 K	D	CR5
M45D104	100 K	D	CR8
M45D105	1.0 Meg	D	CR12
M45D106	10.0 Meg	D	—
M45D202	2000	D	CR3
M45D205	2.0 Meg	D	CR14
M45D253	25 K	D	CR6
M45D254	250 K	D	CR10
M45D302	3000	D	—
M45D501	500	D	CR41
M45D502	5000	D	CR4
M45D503	50 K	D	CR7
M45D504	500 K	D	CR11
M45D505	5.0 Meg	D	CR17

LISTING BY RESISTANCE VALUE

OHMS	CTS TAPER*	STOCK NO.	SIMILAR TO SNAPTROL NO. PLUS SS7A
500	D	M45D501	CR41
1000	D	M45D102	CR2
2000	D	M45D202	CR3
3000	D	M45D302	—
5000	D	M45D502	CR4
10 K	D	M45D103	CR5
25 K	D	M45D253	CR6
50 K	D	M45D503	CR7
100 K	A	M45A104	—
100 K	D	M45D104	CR8
250 K	A	M45A254	CR18
250 K	D	M45D254	CR10
500 K	A	M45A504	CR20
500 K	D	M45D504	CR11
1.0 Meg	A	M45A105	CR21
1.0 Meg	D	M45D105	CR12
2.0 Meg	A	M45A205	CR22
2.0 Meg	D	M45D205	CR14
5.0 Meg	D	M45D505	CR17
10.0 Meg	D	M45D106	—

* See Taper explanation chart, page 1246.

IDENTIFY ANY OF 12,631,500 SERIES 45 CONTROLS WITH THIS SPECIFICATION NUMBER SELECTION CHART

Suppose triple controls are wanted with these specifications: 500K log taper panel section, 10-meg linear taper second section, 10K ohms linear taper third section, plus SPST switch and a 1½" split-knurled shaft. The specification number would be 45A504D106D103S20, derived from this chart as follows: 45 for Series 45, A504 for the panel section, D106 for the second and D103 for the third sections, S for SPST switch (symbol omitted if no switch wanted) and 20 for the desired shaft. Omit codes of unwanted features. Ex: 45D50116 for single control. This is a linear taper 500 ohm control with #16 shaft (2" full round), no switch.

Ohms	Type	Single Control or Panel Section		Second Section		Third Section		Fourth Section		Switch	Shaft	Shaft Detail	
		Log. Taper	Linear Taper	Log. Taper	Linear Taper	Log. Taper	Linear Taper	Log. Taper	Linear Taper			Length FMS	End Trim
500		—	D501	—	D501	—	D501	—	D501		01	½"	SD SLOT
1000		—	D102	—	D102	—	D102	—	D102		02	⅝"	SD SLOT
2000		—	D202	—	D202	—	D202	—	D202		03	¾"	SD SLOT
3000		—	D302	—	D302	—	D302	—	D302		04	⅞"	SD SLOT
5000		—	D502	—	D502	—	D502	—	D502	D	05	1"	SD SLOT
10 K		A103	D103	—	D103	—	D103	—	D103	(DPST)	06	⅞"	FLAT
20 K		—	D203	—	—	—	—	—	—	—	07	1"	FLAT
25 K		—	D253	—	D253	—	D253	—	D253	S	08	1⅛"	FLAT
50 K		A503	D503	—	D503	—	D503	—	D503	(SPST)	09	1¼"	FLAT
100 K	45	A104	D104	A104	D104	A104	D104	A104	D104	—	10	1⅜"	FLAT
200 K		—	D204	—	—	—	—	—	—	OMIT	11	1½"	FLAT
250 K		A254	D254	A254	D254	A254	D254	A254	D254	FOR	12	1⅝"	FLAT
500 K		A504	D504	A504	D504	A504	D504	A504	D504	NO	13	1¾"	FLAT
1 MEG		A105	D105	A105	D105	A105	D105	A105	D105	SWITCH	14	1⅞"	FLAT
2 MEG		A205	D205	A205	D205	A205	D205	A205	D205		15	2"	FLAT
3 MEG		A305	—	—	—	—	—	—	—		16	2"	ROUND
5 MEG		—	D505	—	D505	—	D505	—	D505		17	3"	ROUND
10 MEG		—	D106	—	D106	—	D106	—	D106		18	1"	KNURL
											19	1¼"	KNURL
											20	1½"	KNURL

See Page 1256 for Series 45 Engineering Laboratory Stocks

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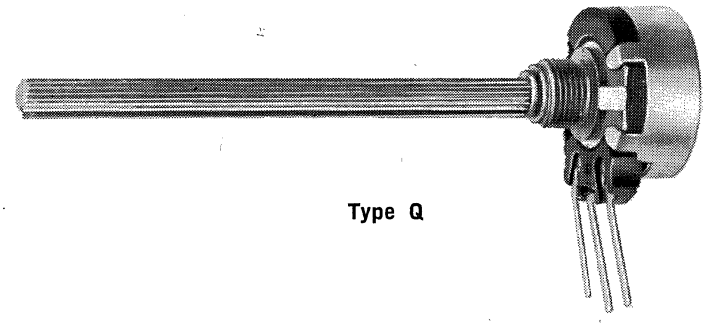
IRC-CTS CONCENTRIKIT® TYPE Q

IRC, DIVISION OF TRW INC.

IRC-CTS TYPE Q CONTROLS AND BASE ELEMENTS

Type Q Replacement Controls and the versatile Type Q Base-Element provide the broadest selection of resistance values and tapers. Type Q is equipped with 3″ long Knobmaster Shaft—flatted, grooved and knurled for universal knob fit. Bushing ⅜—32 by ¼″ long FMS. Stock numbers in parentheses ( ) may be assembled with Base-Element indicated and SK1 Kit. PPQ items may be assembled with Base-Element listed and either SK7 or SK8 as required.



Type Q

LISTING BY RESISTANCE VALUE

OHMS	TAP	TAPER*	Q CONTROL STOCK NO.**	Q BASE-ELEMENT STOCK NO.
100	—	1 (A)	(Q11-084)	B11-084
250	—	2 (A)	Q11-201	B11-201
300	—	1 (A)	(Q11-102)	B11-102
500	—	1 (A)	Q11-103	B11-103
500	—	5 (P)	(Q17-103)	B17-103
500	60	14 (S)	(Q17-103X)	B17-103X
750	—	1 (A)	Q11-105	B11-105
750	—	5 (P)	**(Q17-105)**	B17-105
750	250	8 (S)	Q17-105X	B17-105X
1000	—	2 (A)	Q11-108	B11-108
1000	—	5 (P)	(Q17-108)	B17-108
1000	150	20 (S)	(Q17-108X)	B17-108X
1200	—	4 (Q)	(Q17-208)	B17-208
1500	—	2 (A)	Q11-109	B11-109
1500	—	4 (Q)	**(Q17-109)**	B17-109
1500	180	27 (S)	(Q15-109X)	B15-109X
1500	185 & 375	34 (S)	(Q17-109XX)	B17-109XX
2000	—	2 (A)	Q11-110	B11-110
2000	—	4 (Q)	(Q17-110)	B17-110
2000	550	38 (S)	(Q17-110X)	B17-110X
2000	250 & 500	34 (S)	Q17-110XX	B17-110XX
2500	—	2 (A)	(Q11-111)	B11-111
2500	—	3 (C)	Q13-111	B13-111
2500	—	4 (Q)	Q17-111	B17-111
2500	250	13 (S)	(Q15-111X)	B15-111X
2500	500	21 (S)	(Q17-111X)	B17-111X
2500	625	28 (S)	(Q27-111X)	B27-111X
3000	—	2 (A)	Q11-112	B11-112
3000	—	4 (Q)	(Q17-112)	B17-112
3000	150	9 (S)	(Q17-112X)	B17-112X
5000	—	2 (A)	Q11-114	B11-114
5000	—	3 (C)	Q13-114	B13-114
5000	—	4 (Q)	Q17-114	B17-114
5000	500	13 (S)	(Q15-114X)	B15-114X
5000	1000	21 (S)	(Q17-114X)	B17-114X
7500	—	2 (A)	Q11-115	B11-115
7500	3750	12	(Q21-115X)	B21-115X
10 K	—	2 (A)	Q11-116***	B11-116
10 K	—	3 (C)	Q13-116	B13-116
10 K	—	23 (D)	Q14-116***	B14-116
10 K	—	4 (Q)	**(Q17-116)**	B17-116
10 K	300	22 (S)	(Q15-116X)	B15-116X
10 K	5000	12	(Q19-116X)	B19-116X

LISTING BY RESISTANCE VALUE

OHMS	TAP	TAPER*	Q CONTROL STOCK NO.**	Q BASE-ELEMENT STOCK NO.
11.5 K	—	5 (Q)	(Q17-117)	B17-117
15 K	—	2 (A)	(Q11-118)	B11-118
15 K	5000	29 (S)	Q17-118X	B17-118X
15 K	10 K	8 (S)	**(Q13-118X)**	B13-118X
15 K	5000 & 10 K	33 (S)	**(Q13-118XX)**	B13-118XX
15 K	5000 & 10 K	48 (S)	Q17-118XX	B17-118XX
20 K	—	2 (A)	Q11-119	B11-119
20 K	—	4 (Q)	(Q17-119)	B17-119
20 K	—	45 (S)	Q16-119***	B16-119
20 K	6000	11	(Q19-119X)	B19-119X
25 K	—	2 (A)	Q11-120	B11-120
25 K	—	3 (C)	Q13-120	B13-120
25 K	—	23 (D)	Q14-120	B14-120
25 K	—	4 (Q)	(Q17-120)	B17-120
30 K	—	2 (A)	(Q11-121)	B11-121
30 K	10 K	8 (S)	(Q20-121X)	B20-121X
35 K	—	2 (A)	(Q11-122)	B11-122
50 K	—	2 (A)	Q11-123	B11-123
50 K	—	3 (C)	Q13-123	B13-123
50 K	—	23 (D)	Q14-123***	B14-123
50 K	—	4 (Q)	(Q17-123)	B17-123
75 K	—	2 (A)	Q11-125	B11-125
100 K	—	2 (A)	Q11-128	B11-128
100 K	—	3 (C)	Q13-128	B13-128
100 K	—	4 (Q)	(Q17-128)	B17-128
125 K	—	2 (A)	Q11-228	B11-228
150 K	—	2 (A)	Q11-328	B11-328
150 K	—	3 (C)	**(Q13-328)**	B13-328
150 K	19 K & 38 K	34 (S)	Q17-328XX	B17-328XX
200 K	—	2 (A)	Q11-129	B11-129
200 K	—	4 (Q)	(Q17-129)	B17-129
250 K	—	2 (A)	Q11-130	B11-130
250 K	—	3 (C)	Q13-130	B13-130
250 K	60 K	44 (H)	Q18-130X	B18-130X
250 K	125 K	12 (S)	**(Q13-130X)**	B13-130X
250 K	60 K & 120 K	46 (S)	Q18-130XX	B18-130XX
300 K	—	2 (A)	(Q11-131)	B11-131
350 K	—	2 (A)	(Q11-132)	B11-132
350 K	—	3 (C)	Q13-132	B13-132
350 K	35 K	13 (S)	Q17-132X	B17-132X
350 K	75 K	30 (H)	Q18-132X	B18-132X
400 K	—	2 (A)	(Q11-232)	B11-232

* Taper listing shows both new (numerical) Taper and old (alphabetical) Taper. See Taper explanation chart, page 1246.

** Stock numbers listed in parentheses ( ) are not available as factory-assembled controls. Use Q Base-Element shown with SK1 Kit for field assembly of such items.

*** Supplied with 270Ω bias resistor.

LISTING CONTINUED ON NEXT PAGE

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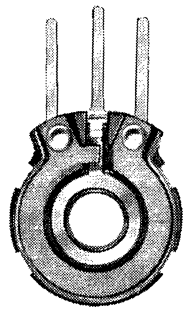
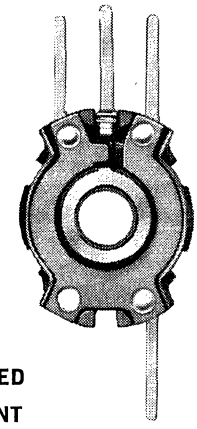
IRC-CTS CONCENTRIKIT® TYPE Q

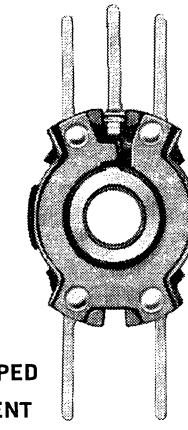
IRC, DIVISION OF TRW INC.



PLAIN BASE ELEMENT



SINGLE TAPPED BASE ELEMENT



DOUBLE TAPPED BASE ELEMENT

LISTING BY RESISTANCE VALUE

OHMS	TAP	TAPER*	Q CONTROL STOCK NO.**	Q BASE-ELEMENT STOCK NO.
500 K	—	2 (A)	Q11-133	B11-133
500 K	—	3 (C)	Q13-133	B13-133
500 K	—	23 (D)	Q14-133	B14-133
500 K	—	4 (Q)	Q17-133	B17-133
500 K	25 K	40 (S)	Q17-133X	B17-133X
500 K	50 K	13 (S)	(Q18-133X)	B18-133X
500 K	75 K	24 (S)	(Q15-133X)	B15-133X
500 K	125 K	44 (H)	Q13-133X	B13-133X
500 K	180 K	31 (S)	(Q20-133X)	B20-133X
500 K	250 K	12 (S)	Q19-133X	B19-133X
500 K	100 K & 200 K	35 (S)	(Q18-133XX)	B18-133XX
500 K	167 K & 330 K	17 (S)	(Q20-133XX)	B20-133XX
600 K	—	2 (A)	Q11-134	B11-134
750 K	—	2 (A)	(Q11-136)	B11-136
1.0 M	—	2 (A)	Q11-137	B11-137
1.0 M	—	3 (C)	Q13-137	B13-137
1.0 M	—	23 (D)	(Q14-137)	B14-137
1.0 M	—	4 (Q)	(Q17-137)	B17-137
1.0 M	35 K	22 (S)	Q17-137X	B17-137X
1.0 M	100 K	13 (S)	Q18-137X	B18-137X
1.0 M	250 K	44 (H)	Q13-137X	B13-137X
1.0 M	500 K	12 (S)	(Q19-137X)	B19-137X
1.0 M	500 K	32 (S)	QVC-539X	BVC-539X
1.0 M	50 K & 100 K	36 (S)	Q17-137XX	B17-137XX
1.0 M	250 K & 500 K	18 (S)	(Q18-137XX)	B18-137XX
1.25 M	—	4 (Q)	(Q17-237)	B17-237
1.25 M	750 K	10 (S)	(Q18-237X)	B18-237X
1.5 M	—	2 (A)	Q11-138	B11-138
1.5 M	—	3 (C)	(Q13-138)	B13-138
1.5 M	—	4 (Q)	(Q17-138)	B17-138
1.5 M	250 K	26 (S)	(Q13-138X)	B13-138X
2.0 M	—	2 (A)	Q11-139	B11-139
2.0 M	—	3 (C)	Q13-139	B13-139
2.0 M	—	4 (Q)	(Q17-139)	B17-139
2.0 M	50 K	22 (S)	Q19-139X	B19-139X
2.0 M	150 K	37 (S)	Q17-139X	B17-139X
2.0 M	500 K	44 (H)	(Q13-139X)	B13-139X
2.0 M	1.0 M	12 (S)	Q18-139X	B18-139X
2.0 M	250 K & 500 K	43 (S)	Q18-139XX	B18-139XX
2.0 M	500 K & 1.0 M	18 (S)	(Q13-139XX)	B13-139XX
2.5 M	—	2 (A)	Q11-239	B11-239
2.5 M	—	4 (Q)	(Q17-239)	B17-239
3.0 M	—	2 (A)	Q11-140	B11-140

LISTING BY RESISTANCE VALUE

OHMS	TAP	TAPER*	Q CONTROL STOCK NO.**	Q BASE-ELEMENT STOCK NO.
3.0 M	—	3 (C)	Q13-140	B13-140
3.0 M	—	4 (Q)	Q17-140	B17-140
3.0 M	900 K	47 (S)	Q13-140X	B13-140X
3.0 M	1.5 M	12 (S)	Q18-140X	B18-140X
4.0 M	—	2 (A)	(Q11-240)	B11-240
4.0 M	open at 25 K	39 (S)	(Q-12-240)	B12-240
5.0 M	—	2 (A)	Q11-141	B11-141
5.0 M	—	6 (S)	Q12-141	B12-141
5.0 M	—	3 (C)	(Q13-141)	B13-141
5.0 M	—	4 (Q)	(Q17-141)	B17-141
5.0 M	—	7 (S)	(Q12-241)	B12-241
5.0 M	open at 500 K	41 (S)	(Q12-341)	B12-341
5.0 M	1.0 M	30 (S)	(Q13-141X)	B13-141X
5.0 M	2.5 M	12 (S)	(Q18-141X)	B18-141X
7.5 M	—	2 (A)	Q11-142	B11-142
10.0 M	—	2 (A)	Q11-143	B11-143

FACTORY-ASSEMBLED TYPE Q CONTROL WITH PULL-PUSH SWITCH

OHMS	TAP	TAPER*	Q CONTROL STOCK NO.	Q BASE-ELEMENT STOCK NO.
500	—	2 (A)	PPQ11-103-SK7	B11-103
200 K	—	2 (A)	PPQ11-129-SK7	B11-129
250 K	—	3 (C)	PPQ13-130-SK7	B13-130
500 K	—	3 (C)	PPQ13-133-SK7	B13-133
500 K	125 K	44 (H)	PPQ13-133X-SK8	B13-133X
1.0 M	—	2 (A)	PPQ11-137-SK7	B11-137
1.0 M	—	2 (A)	PPQ11-137-SK8	B11-137
1.0 M	—	3 (C)	PPQ13-137-SK7	B13-137
1.0 M	—	3 (C)	PPQ13-137-SK8	B13-137
1.0 M	100 K	13 (S)	PPQ18-137X-SK8	B18-137X
1.0 M	250 K	44 (H)	PPQ13-137X-SK7	B13-137X
1.0 M	250 K	44 (H)	PPQ13-137X-SK8	B13-137X
1.0 M	500 K	12 (S)	PPQ19-137X-SK8	B19-137X
2.0 M	—	3 (C)	PPQ13-139-SK8	B13-139
2.0 M	1.0 M	12 (S)	PPQ18-139X-SK7	B18-139X
2.0 M	1.0 M	12 (S)	PPQ18-139X-SK8	B18-139X
3.0 M	1.5 M	12 (S)	PPQ18-140X-SK8	B18-140X

* Taper listing shows both new (numerical) Taper and old (alphabetical) Taper. See Taper explanation chart, page 1246.

** Stock numbers listed in parentheses ( ) are not available as factory-assembled controls. Use Q Base-Element shown with SK1 Kit for field assembly of such items.

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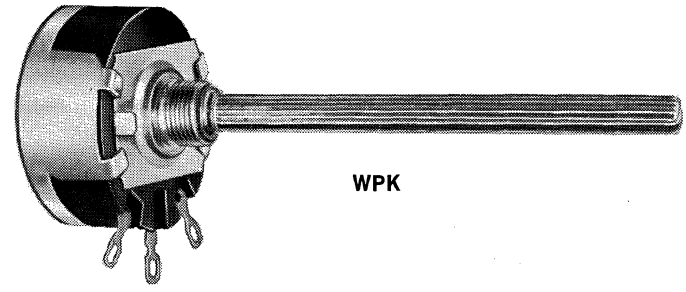
IRC-CTS TYPE 4W CONTROLS AND BASE ELEMENTS

IRC, DIVISION OF TRW INC.

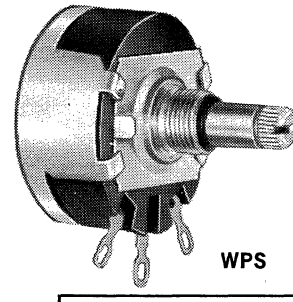
Types WPK and WPS are compact, 1¼" diameter wire wound controls available for replacement use in two popular shaft styles and an extensive variety of resistance values and tapers. Many stock numbers can be supplied as factory-assembled units. All stock numbers may be assembled in field using Base-Element with SK4 or SK5 Kit as desired.

Resistance elements are uniformly wound with highest grade alloy resistance wire on special form that withstands high temperature without shrinking. Pressure molded plastic housing is designed for maximum heat dissipation and accurate location of terminals. Contactor and collector are of long-wearing alloy that makes direct contact.

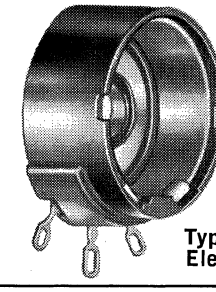
Resistance tolerance is ± 10%.



WPK



WPS



Type 4W Element

LISTING BY RESISTANCE VALUE

OHMS	TAP	TAPER	TYPE WPK STOCK NO.*	TYPE WPS STOCK NO.*	4W BASE-ELEMENT STOCK NO.
10	—	U	WPK10	(WPS10)	W11-010
10	5	U	(WPK10X5)	WPS10X5	W11-010X
15	7.5	U	(WPK15X7.5)	WPS15X7.5	W11-015X
20	—	U	WPK20	(WPS20)	W11-020
20	10	U	(WPK20X10)	WPS20X10	W11-020X
25	—	U	(WPK25)	WPS25	W11-025
25	12.5	U	(WPK25X12.5)	WPS25X12.5	W11-025X
30	—	U	WPK30	(WPS30)	W11-030
30	15	U	(WPK30X15)	(WPS30X15)	W11-030X
40	—	U	(WPK40)	(WPS40)	W11-040
40	20	U	(WPK40X20)	WPS40X20	W11-040X
50	—	U	WPK50	(WPS50)	W11-050
50	25	U	(WPK50X25)	(WPS50X25)	W11-050X
60	—	U	(WPK60)	WPS60	W11-060
80	40	U	(WPK80X40)	WPS80X40	W11-080X
100	—	U	WPK100	(WPS100)	W11-084
100	50	U	(WPK100X50)	WPS100X50	W11-084X
140	70	U	(WPK140X70)	(WPS140X70)	W11-092X
150	75	U	(WPK150X75)	WPS150X75	W11-094X
200	—	U	WPK200	(WPS200)	W11-100
200	100	U	(WPK200X100)	WPS200X100	W11-100X
250	—	U	WPK250	WPS250	W11-201
300	—	U	WPK300	(WPS300)	W11-102
400	—	U	WPK400	(WPS400)	W11-202
500	—	U	WPK500	WPS500	W11-103
500	—	L	(WPK500L)	(WPS500L)	W13-103
600	—	U	WPK600	(WPS600)	W11-104
650	—	U	WPK650	(WPS650)	W11-204
750	—	U	WPK750	(WPS750)	W11-105
750	—	L	(WPK750L)	(WPS750L)	W13-105
750	—	R	(WP750R)	(WPS750R)	W17-105
750	250	S	(WPK750X250)	(WPS750X250)	W17-105X

LISTING BY RESISTANCE VALUE

OHMS	TAP	TAPER	TYPE WPK STOCK NO.*	TYPE WPS STOCK NO.	4W BASE-ELEMENT STOCK NO.
1000	—	U	WPK1000	WPS1000	W11-108
1350	—	U	(WPK1350)	(WPS1350)	W11-308
1350	—	R	WPK1350R	(WPS1350R)	W17-308
1500	—	U	WPK1500	(WPS1500)	W11-109
1500	—	L	(WPK1500L)	(WPS1500L)	W13-109
1500	500	S	(WPK1500X500)	(WPS1500X500)	W17-109X
2000	—	U	WPK2000	WPS2000	W11-110
2000	—	L	WPK2000L	(WPS2000L)	W13-110
2250	—	U	(WPK2250)	WPS2250	W11-210
2250	—	L	WPK2250L	(WPS2250L)	W13-210
2500	—	U	WPK2500	WPS2500	W11-111
2500	—	R	WPK2500R	(WPS2500R)	W17-111
3000	—	U	WPK3000	WPS3000	W11-112
3000	—	R	(WPK3000R)	(WPS3000R)	W17-112
3300	—	L	(WPK3300L)	(WPS3300L)	W13-212
4000	—	U	(WPK4000)	WPS4000	W11-113
4000	—	L	(WPK4000L)	WPS4000L	W13-113
5000	—	U	WPK5000	WPS5000	W11-114
5000	—	L	WPK5000L	(WPS5000L)	W13-114
5000	—	R	(WPK5000R)	(WPS5000R)	W17-114
6000	—	U	(WPK6000)	(WPS6000)	W11-214
6000	—	L	WPK6000L	(WPS6000L)	W13-214
7500	—	U	(WPK7500)	(WPS7500)	W11-115
7500	—	L	WPK7500L	(WPS7500L)	W13-115
10 K	—	U	WPK10000	WPS10000	W11-116
12.5 K	—	U	(WPK12500)	(WPS12500)	W11-217
15 K	—	U	(WPK15000)	(WPS15000)	W11-118
20 K	—	U	(WPK20000)	(WPS20000)	W11-119
25 K	—	U	WPK25000	(WPS25000)	W11-120
30 K	—	U	WPK30000	(WPS30000)	W11-121
40 K	—	U	(WPK40000)	(WPS40000)	W11-222
50 K	—	U	WPK50000	(WPS50000)	W11-123

* Stock numbers listed in parentheses ( ) are not available as factory-assembled controls. Use 4W Base-Element shown with SK4 Kit (for WPK) or SK5 Kit (for WPS). See Taper explanation chart, page 1246.

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IRC-CTS CONCENTRIKIT® TYPE Q & 4W PARTS

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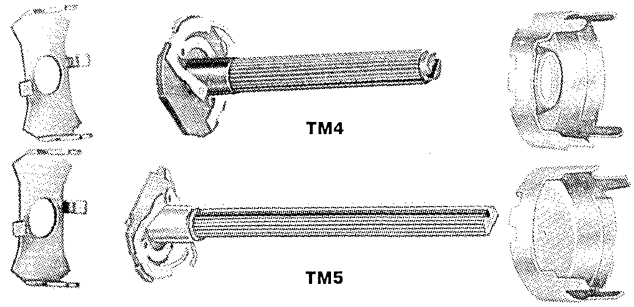
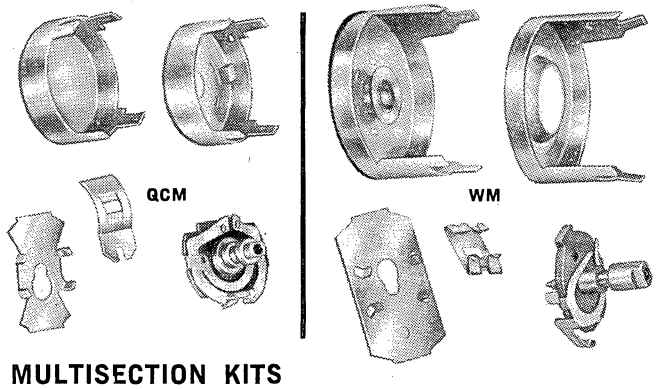


SHAFT KITS FOR TAB-MOUNTED CONTROLS

Similar to SK Kits, the TM series provide tab-mounting plate instead of bushing. Metal-cased 76-1, 76-2 and 76-4 may be used with this series. Kits include shaft, tab-mount plate and cover.

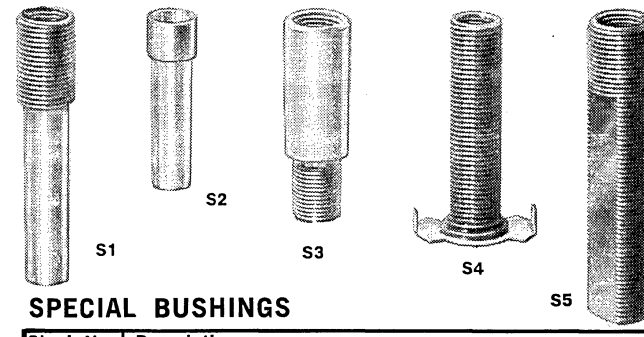
Stock No.	Description
TM1	¼" diameter shaft, ¼" long FMS. Screwdriver slot and short knurl.
TM2	¼" diameter shaft, ⅝" long FMS. Screwdriver slot and short knurl.
TM3	¼" diameter shaft, 1" long FMS. Screwdriver slot and short knurl.
TM4	¼" diameter insulated shaft, 1½" long FMS. Slotted and knurled full length. Not used with switches.
TM5	Knobmaster shaft, 2" long FMS. Knurled, grooved and flatted.
TM6	Special rounded and slotted shaft for G.E. 25/32" long FMS.
TM7	Special rounded and slotted shaft for G.E. 19/32" long FMS.
TM8	3/16" diameter shaft 2" long FMS. Flatted and grooved.
TM9	Reverse tab mount kit nylon shaft, 1½" FMS. ¼" dia., slotted and knurled.
TM10	Tab mount kit nylon shaft, 1½" FMS. 3/16" dia., flatted full length.



MULTISECTION KITS

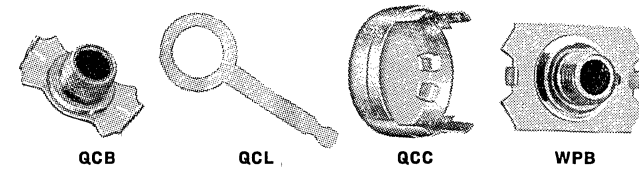
These kits provide parts needed to assemble desired Base-Element into a Multisection or rear control section. Permits assembly of dual, triple or quadruple section controls. Each kit contains internal shaft contactor assembly, front and rear covers, coupling plate and section coupler. Close-coupled construction provides minimum depth behind panel.

Stock No.	Description
QCM	Multisection Kit for Type Q. Specially designed for critical requirements of stereo controls. Will operate rotary power switches.
WM	Multisection Kit for Type 4W. Will not operate power switches.



SPECIAL BUSHINGS

Stock No.	Description
S1	Sleeve Bushing—attaches to ⅜—32 Bushing.
S2	Bearing Bushing—attaches to ⅜—32 Bushing.
S3	Spacer Bushing—attaches to ⅜—32 Bushing. Sets control 1" behind panel.
S4	Universal 7/16" diameter Bushing—Type Q only. 1½" FMS.
S5	Universal ½" diameter Bushing—attaches to ⅜—32 Bushing. 2¼" FMS.



Q/4W CONTROL PARTS

These parts facilitate assembly of many varied controls using desired shafts and base elements.

Stock No.	Description
QCB	Type Q Bushing. ⅜"—32 thread. ¼" long FMS. For single controls.
QCB-1	Type Q Bushing. ⅜"—32 thread. ⅜" long FMS. For single controls.
QCB-2	Type Q Bushing. ⅜"—32 thread. 7/16" long FMS. For single controls.
QCB-3	Type Q Locking Bushing. ⅜"—32 thread. ⅜" FMS.
QCB-4	Type Q Bushing. ⅜"—32 thread. 1 3/16" FMS. For single controls.
QCB-5A	Type Q Bushing. ⅜"—32 thread. 2" FMS. For concentric dual controls.
QCB-6	Universal 7/16" Diameter Bushing. 1" FMS, attaches to ⅜"—32 Bushings. Can be used as L and T Pad Bushing extender.
QCC	Type Q Cover. For plain or tapped controls.
QCL	Grounding Lug for ⅜"—32 Bushing. Lug length 1 3/16" from hole center.
QCN	Mounting Nut for ⅜"—32 thread.
QCP	Printed circuit bracket w/nut.
WPB	Type 4W Bushing. ⅜"—32 thread. ¼" long FMS.
WPC	Type 4W Cover.

EXTENSION SHAFTS & COUPLERS

Stock No.	Description
441	Extension Shaft—4" x ¼" with 1/32" flat.
442	Extension Shaft—4" x ¼" with 3/32" flat.
443	Extension Shaft—4" x 3/16" with 1/64" flat.
444	Extension Shaft—8"x¼" with 3/32" flat for 4".
C3	Shaft Coupler—couples ¼" shafts; insert allows coupling of ¼" shaft to 3/16" shaft.

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IRC-CTS CONCENTRIKIT® TYPE Q & 4W PARTS

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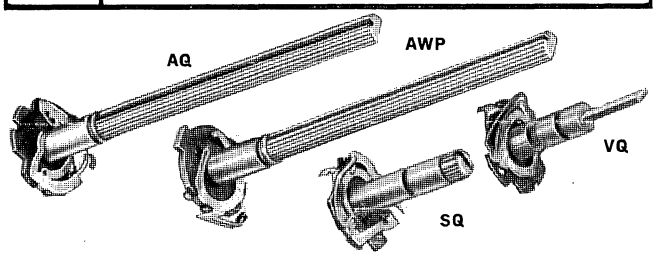
R7

N

KA1

HARDWARE FOR CONCENTRIKIT®

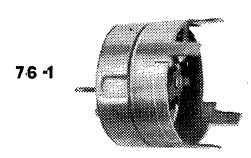
Stock No.	Description
KA1	Knob Adapter. Fits rear section shaft to knob requirements of over-size shaft. Converts .187" diameter shaft to .202" diameter.
N1	Mounting Nut for 7/16" Bushings (5/8" across flats).
N2	Mounting Nut for 1/2" Bushings (5/8" across flats).
N3	Mounting Nut for 1/2" Bushings (9/16" across flats).
N4	Mounting Nut for 7/16" Bushings (1/2" across flats).
R2	Concentrikit.
R3	Q Concentric Duals.
R4	WP Concentric Duals.
R5	Ground Plate Tab Concentric Dual.
R6	Retainers as supplied in K16, K17 and K18 Kits.
R7	Shaft retainer for 1/4" diameter shafts. Replaces R1.

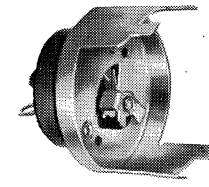


SINGLE CONTROL SHAFTS

Using control parts listed on the previous page, these shafts will assemble many variations of Types Q and 4W controls. Individually boxed with R7 retainer (except TQ).

Stock No.	Description
AQ	Knobmaster shaft. 1/4" diameter, 3" long FMS. Flatted, grooved and knurled full length. Fits knobs requiring flatted or knurled shaft. Uses QCB Bushing. For Type Q.
AQ-5	Same as AQ but 5" long FMS. For Type Q. (Bushing included.)
AWP	Same as AQ but for Type WPK control.
AWP-5	Same as AWP but 5" long FMS.
JQ	1/8" diameter shaft, 4 1/8" long FMS. Flatted .105" full length. Uses QCB Bushing. For Type Q.
NQ	9/16" diameter shaft, 4" long FMS. Flatted and grooved full length. Uses QCB Bushing. For Type Q.
PQ	1/4" diameter shaft, 3" long FMS. Full round. May be used with 1/4" or 3/8" long bushings. (3/8" long bushing included.) For Type Q.
PWP	Same as PQ but for Type WP control.
RQ	1/4" diameter shaft, 1/2" long FMS. Screwdriver slotted. Used with 3/8" long bushing only (included). For Type RQ.
SQ	1/4" diameter shaft, 3/4" long FMS. Screwdriver slotted with short knurl. Uses QCB Bushing. For Type Q.
SWP	Same as SQ but for Type WPS. Uses WPB Bushing.
TQ	1/4" diameter shaft, 3" long FMS. Insulated, full round. Cannot be used with switch. Uses QCB, QCB-1, QCB-2. For Type Q.
VQ	1/4" diameter shaft, 1 5/16" long FMS. Tongued end 3/16" wide by 9/16" long by .050" thick. Uses QCB Bushing. For Type Q.
WQ	1/4" diameter shaft, 1" long FMS. Tongued end 1/4" wide by 1/2" long by .062" thick. Uses QCB Bushing. For Type Q.

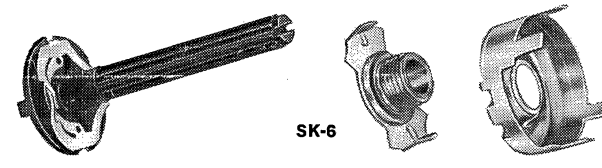

76-1

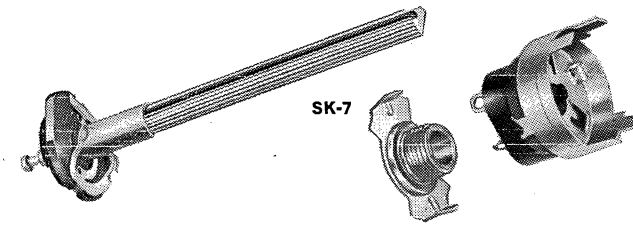

76-11

POWER SWITCHES

Easily attached to Type Q or Type 4W controls. Stock No. 76-5 supplied for replacement only. For attachment of this pull-push switch to controls, use SK7 or SK8 Kit below with desired Base-Element.

Stock No.	Description
76-1	S.P.S.T.—Rotary type for Type Q.
76-2	D.P.S.T.—Rotary type for Type Q
76-4	S.P.D.T.—Rotary type for Type Q. Used also as "make-one, break-one" for spot-killer switch in TV.
76-5	S.P.S.T.—Pull-push type for Type Q.
76-11	S.P.S.T.—Rotary type for Types WP, WPK, WPRL, WPS.
76-12	D.P.S.T.—Rotary type for Types WP, WPK, WPRL, WPS.


SK-6


SK-7

SHAFT KITS FOR BUSHING MOUNTED CONTROLS

Package of parts for assembly of specific standard or special control type. Includes shaft, bushing and cover. Add desired Base-Element.

Stock No.	Description
SK1	Assembles Q Control with Knobmaster Shaft.
SK2	Assembles Q Control with RQ Shaft.
SK3	Assembles Q Control with SQ Shaft.
SK4	Assembles WPK Control.
SK5	Assembles WPS Control.
SK6	Assembles Q Control with Insulated Shaft.
SK7	Assembles Q Control with Knobmaster Shaft and 76-5 Pull-push Switch (Switch included). Shaft is 3" FMS.
SK8	Assembles Q Control with 9/16" diameter universal shaft and 76-5 Pull-push Switch (Switch included). Shaft is 3 1/2" FMS.
SK9	Assembles Q Control with 9/16" diameter universal shaft. 3 1/2" FMS.

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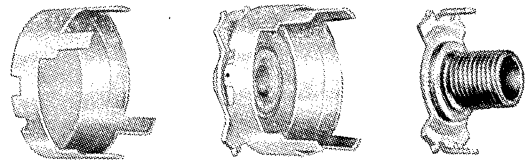
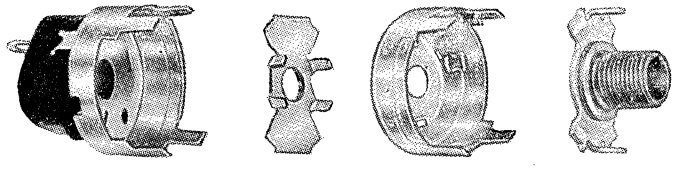


K-2



K-16

CONCENTRIKITS® FOR CONCENTRIC DUALS

Broadest replacement coverage of concentric dual controls for TV, radio and auto sets is provided by CONCENTRIKIT® — the unique control parts system. Wide selection of exact duplicate shafts and bushings eliminates cutting, filing and slotting. The CONCENTRIKITS® are packaged groups of parts common to specific control types. Base-Elements are listed on pages 1238, 1239 and 1240. Specifications for over 2300 Exact Duplicate Controls included in Howard W. Sams "REPLACEMENT GUIDE FOR TV AND AUTO RADIO CONTROLS."

TONE SWITCHES

Special tone switch Base-Elements for use in panel section of auto radio controls. Packed with detent-type panel cover.

Stock No.	Description
BS1	4 Position Tone Switch for Ford.
BS2	4 Position Tone Switch for Delco.
BS3	3 Position Tone Switch for Philco.
BS4	4 Position Tone Switch for Delco.
BS5	4 Position Tone Switch for Lincoln and Mercury.

CONCENTRIKITS®

Common parts for various types of concentric dual controls. Used with specific exact duplicate shafts and Base-Elements as specified in Howard W. Sams Replacement Control Guide, RGC.

Concentrikit	Panel Section	Rear Section	Bushing Size
K2*	C	C	3/8" x 3/8"
K3	W	C	3/8" x 3/8"
K4*	C	C	3/8" x 3/4"
K5*	C	C	3/8" x 1/4"
K6	C	C	3/8" x 3/8"
K7	C	C	3/8" x 3/4"
K8	C	C	None
K9	TS	C	None
K10	W	W	3/8" x 3/8"
K11	W	C	3/8" x 1/4"
K12	C	W	3/8" x 3/8"
K13	W	W	3/8" x 1/4"
K14	W	W	3/8" x 3/4"
K15	C	C	3/8" x 1/4"
K16**	C	C	3/8" x 3/8"
K17**	C	C	3/8" x 3/4"
K18**	C	C	3/8" x 1/4"

* Spaced construction. All others close-coupled.
** 76-5 Pull-push Switch included.
C—Carbon. W—Wire. TS—Tone Switch.

EXACT DUPLICATE SHAFTS

OUTER SHAFT SPECIFICATIONS

Shaft Type	Slot Width-Depth	Flat Length	Base-Element
P1**	1/8" x 3/8"	17/32"	Q
P2**	1/16" x 1/2"	17/32"	Q
P3	1/8" x 3/8"	17/32"	W
P4	1/8" x 3/8"	3/4"	W
P5	1/16" x 3/8"	17/32"	W
P6**	1/8" x 3/8"	11/16"	Q
P7**	.120" x "3/8	17/32"	Q
P8	*	*	W
P9**	*	*	Q
P10**	1/8" x 7/16"	17/32"	Q
P11**	3/64" x 1/16"	—	Q
P12**	1/8" x 3/16"	—	Q
P13	1/8" x 1/4"	—	Q
P14	1/8" x 3/16"	—	Q
P15	1/8" x 1/4"	—	TS
P16	.132" x 3/16"	—	Q
P17	1/8" x 3/8"	5/8"	Q
P18	3/64" x 1/16"	—	W
P19	3/64" x 1/16"	—	Q
P20	*	*	Q
P21	1/8" x 7/16"	5/8"	Q
P22	1/8" x 1/2"	7/8"	Q
P23	1/8" x 19/32"	—	Q
P24***	—	17/32"	Q
P25***	—	17/32"	Q

* Knurled Band 1/8" wide.
** Spaced construction. All others close-coupled.
*** .250" diameter.

INNER SHAFT SPECIFICATIONS

Shaft Type	Dia.	Slot Width-Depth	Flat Length	Base-Element
R1	.187"	1/16" x 1/2"	1/2"	Q
R2	.202"	1/16" x 1/2"	1/2"	Q
R3	.190"	Split Knurl	—	Q
R4	.180"	Round and Slotted	—	Q
R5	.187"	Rear Extension	—	Q
R6	.202"	Rear Extension	—	Q
R7	.189"	Split Knurl	—	Q
R8	.187"	1/16" x 1/2"	1/2"	W
R9	.187"	1/16" x 1/2"	5/8"	Q
R10	.187"	1/8" Wide Knurl	—	W
R11	.187"	1/8" Wide Knurl	—	Q
R12	.202"	7/32" Wide Knurl	—	Q
R13	.180"	5/8" Deep Slot	—	Q
R14	.202"	1/16" x 1/2"	5/8"	Q
R15	.202"	3/64" x 1/16"	—	Q
R16	.187"	1/16" x 1/2"	25/32"	Q
R17	.202"	1/16" x 1/2"	11/16"	Q
R18	.202"	1/16" x 1/2"	1/2"	W
R19	.202"	3/64" x 1/16"	—	W
R20	.187"	3/64" x 1/16"	—	Q
R21	.180"	1/16" x 5/8"	—	Q
R22	.202"	Rear Extension	—	W
R23*	.187"	—	17/32"	Q
R24*	.187"	1/16" x 1/2"	—	Q
R25*	.187"	—	1/2"	Q
R26	.187"	1/16" x 5/8"	25/32"	Q

* Used with Pull-push Switch.

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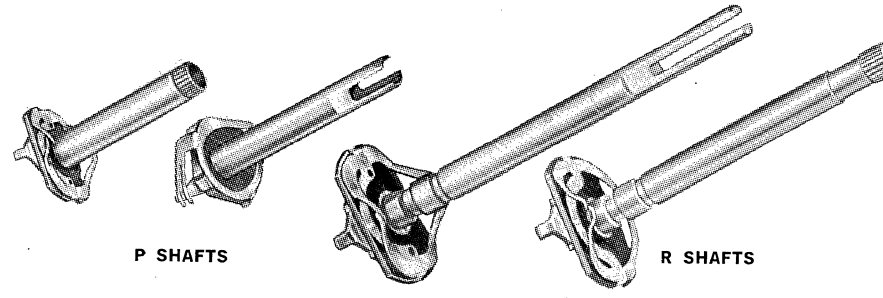
IRC-CTS CONCENTRIKIT® EXACT DUPLICATE SHAFT SPECIFICATIONS

IRC, DIVISION OF TRW INC.

EXACT DUPLICATE SHAFTS

Stock numbers and corresponding lengths are listed on these pages. In general, the last three numbers of the stock number indicates shaft length from control mounting face (not end of bushing) to end of shaft. Of the last three numbers, the first indicates number of inches and the second and third number indicates the number of 32nds. For Stock No. P1-210, length is $2\frac{10}{32}$" or $2\frac{5}{16}$". For inner shafts employed with K3 CONCENTRI-KIT, subtract $\frac{3}{32}$" from dimension indicated by stock number.

There is an IRC-CTS Exact Duplicate Shaft available for nearly every concentric dual control. These Outer and Inner Shafts require no modification. Shaft lengths are held within close limits to original shaft lengths. Careful attention is given to end trims for fit to original knobs. The specifications on this page provide dimensions and use.



P SHAFTS R SHAFTS

OUTER SHAFTS

Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock Stock	Shft. Shft.
P1-017	17/32"	P1-306	3 3/16"	P3-129	1 29/32"	P7-222	2 11/16"	P13-122	1 11/16"	P15-114	1 7/16"	P18-015	1 5/32"
P1-020	5/8"	P1-308	3 1/4"	P3-131	1 31/32"	P8-016	1/2"	P13-128	1 7/8"	P15-120	1 5/8"	P18-018	9/16"
P1-024	3/4"	P1-310	3 5/16"	P3-203	2 3/32"	P8-020	5/8"	P13-200	2"	P15-122	1 11/16"	P19-012	3/8"
P1-028	7/8"	P1-314	3 7/16"	P3-208	2 1/4"	P8-100	1"	P13-210	2 5/16"	P15-130	1 15/16"	P19-016	1/2"
P1-030	15/16"	P1-317	3 17/32"	P3-210	2 5/16"	P8-106	1 3/16"	P13-214	2 7/16"	P15-200	2"	P20-101	1 1/32"
P1-102	1 1/16"	P1-320	3 5/8"	P3-212	2 3/8"	P8-424	4 3/4"	P13-217	2 17/32"	P15-204	2 1/8"	P20-104	1 1/8"
P1-106	1 3/16"	P1-325	3 25/32"	P3-214	2 7/16"	P9-018	9/16"	P14-014	7/16"	P15-206	2 3/16"	P20-212	2 3/8"
P1-109	1 9/32"	P1-400	4"	P3-217	2 17/32"	P9-021	21/32"	P14-016	1/2"	P15-218	2 9/16"	P21-029	2 9/32"
P1-112	3/8"	P1-405	4 5/32"	P3-223	2 23/32"	P9-101	1 1/32"	P14-019	19/32"	P16-023	23/32"	P22-015	1 5/32"
P1-114	1 7/16"	P2-031	31/32"	P3-226	2 13/16"	P9-104	1 1/8"	P14-024	3/4"	P16-027	27/32"	P22-021	21/32"
P1-116	1 1/2"	P2-116	1 1/2"	P3-400	4"	P9-112	1 3/8"	P14-026	13/16"	P17-024	3/4"	P22-027	27/32"
P1-118	1 9/16"	P2-118	1 9/16"	P3-405	4 5/32"	P9-116	1 1/2"	P14-029	29/32"	P17-028	7/8"	P22-100	1"
P1-121	1 21/32"	P2-128	1 7/8"	P4-115	1 15/32"	P9-124	1 3/4"	P14-102	1 1/16"	P17-031	31/32"	P22-103	1 3/32"
P1-123	1 23/32"	P2-200	2"	P4-121	1 21/32"	P9-128	1 7/8"	P14-112	1 3/8"	P17-102	1 1/16"	P22-109	1 9/32"
P1-126	1 13/16"	P2-209	2 9/32"	P4-124	1 3/4"	P9-209	2 9/32"	P14-118	1 9/16"	P17-105	1 5/16"	P22-115	1 15/32"
P1-128	1 7/8"	P2-214	2 7/16"	P5-206	2 3/16"	P9-212	2 3/8"	P14-121	1 21/32"	P17-108	1 1/4"	P22-121	1 21/32"
P1-200	2"	P2-218	2 9/16"	P6-028	7/8"	P10-110	1 5/16"	P14-125	1 25/32"	P17-112	1 3/8"	P22-203	2 3/32"
P1-204	2 1/8"	P2-222	2 11/16"	P6-102	1 1/16"	P10-225	2 25/32"	P14-130	1 15/16"	P17-115	1 15/32"	P22-312	3 3/8"
P1-206	2 3/16"	P2-226	2 13/16"	P6-112	1 3/8"	P10-227	2 27/32"	P14-202	2 1/16"	P17-118	1 9/16"	P22-315	3 15/32"
P1-210	2 5/16"	P3-028	7/8"	P6-122	1 11/16"	P10-308	3 1/4"	P14-204	2 1/8"	P17-120	1 5/8"	P23-100	1"
P1-212	2 3/8"	P3-100	1"	P6-125	1 25/32"	P11-018	9/16"	P14-206	2 3/16"	P17-123	1 23/32"	P23-103	1 3/32"
P1-216	2 1/2"	P3-104	1 1/8"	P6-130	1 15/16"	P11-024	3/4"	P14-208	2 1/4"	P17-126	1 13/16"	P23-112	1 3/8"
P1-220	2 5/8"	P3-106	1 3/16"	P6-200	2"	P11-102	1 1/16"	P14-211	2 11/32"	P17-129	1 29/32"	P23-130	1 15/16"
P1-222	2 11/16"	P3-111	1 11/32"	P6-202	2 1/16"	P12-122	1 11/16"	P14-214	2 7/16"	P17-204	2 1/8"	P24-030	1 5/16"
P1-224	2 3/4"	P3-114	1 7/16"	P6-211	2 1/32"	P12-204	2 1/8"	P14-303	3 3/32"	P17-208	2 1/4"	P24-103	1 3/32"
P1-226	2 13/16"	P3-116	1 1/2"	P6-218	2 5/16"	P13-022	11/16"	P15-019	19/32"	P17-214	2 7/16"	P25-121	1 21/32"
P1-229	2 29/32"	P3-118	1 9/16"	P6-224	2 3/4"	P13-104	1 1/8"	P15-026	13/16"	P17-224	2 3/4"		
P1-300	3"	P3-121	1 21/32"	P6-302	3 1/16"	P13-113	1 13/32"	P15-102	1 1/16"	P17-300	3"		
P1-302	3 1/16"	P3-123	1 23/32"	P7-109	1 9/32"	P13-116	1 1/2"	P15-106	1 3/16"	P17-310	3 5/16"		
P1-304	3 1/8"	P3-127	1 27/32"	P7-206	2 1/16"	P13-118	1 9/16"	P15-112	1 3/8"	P17-316	3 1/2"		

INNER SHAFTS

Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	Stock No.	Shft. Lgth.	No. No.	Lgth. Lgth.
R1-024	3/4"	R1-304	3 1/8"	R2-230	2 15/16"	R7-212	2 3/8"	R12-119	1 19/32"	R16-313	3 13/32"	R23-312	3 3/8"
R1-028	7/8"	R1-308	3 1/4"	R2-300	3"	R7-229	2 29/32"	R12-122	1 11/16"	R17-203	2 3/32"	R24-109	1 9/32"
R1-100	1"	R1-312	3 3/8"	R2-306	3 3/16"	R8-213	2 13/32"	R12-129	1 29/32"	R17-206	2 3/16"	R24-115	1 15/32"
R1-103	1 3/32"	R1-316	3 1/2"	R2-308	3 1/4"	R9-110	1 5/16"	R12-131	1 31/32"	R17-216	2 1/2"	R24-124	1 3/4"
R1-105	1 5/32"	R1-323	3 23/32"	R2-310	3 5/16"	R9-112	1 3/8"	R12-206	2 3/16"	R18-200	2"	R24-127	1 27/32"
R1-108	1 1/4"	R1-326	3 13/16"	R2-312	3 3/8"	R9-115	1 15/32"	R13-316	3 1/2"	R19-011	11/32"	R24-204	2 1/8"
R1-111	1 11/32"	R1-417	4 17/32"	R2-314	3 7/16"	R9-202	2 1/16"	R13-331	3 31/32"	R19-014	1/16"	R24-208	2 1/4"
R1-113	1 13/32"	R1-420	4 5/8"	R2-318	3 9/16"	R9-205	2 5/32"	R14-116	1 1/2"	R20-208	2 1/4"	R24-216	2 1/2"
R1-115	1 15/32"	R2-028	7/8"	R2-322	3 11/16"	R9-208	2 1/4"	R14-128	1 7/8"	R20-213	2 13/32"	R24-224	2 3/4"
R1-118	1 9/16"	R2-103	1 3/32"	R2-329	3 29/32"	R9-211	2 11/32"	R14-204	2 1/8"	R21-201	2 1/32"	R24-306	3 3/16"
R1-122	1 11/16"	R2-105	1 5/32"	R2-401	4 1/32"	R9-214	2 7/16"	R14-211	2 11/32"	R21-220	2 5/8"	R24-328	3 7/8"
R1-126	1 13/16"	R2-110	1 5/16"	R2-420	4 5/8"	R9-222	2 11/16"	R14-214	2 7/16"	R22-200	2"	R25-118	1 9/16"
R1-130	1 15/16"	R2-115	1 15/32"	R2-426	4 13/16"	R9-314	3 7/16"	R14-229	2 29/32"	R23-107	1 1/32"	R25-200	2"
R1-200	2"	R2-117	1 17/32"	R2-429	4 29/32"	R9-324	3 3/4"	R14-302	3 1/16"	R23-114	1 7/16"	R26-112	1 3/8"
R1-202	2 1/16"	R2-119	1 19/32"	R3-204	2 1/8"	R10-028	7/8"	R14-308	3 1/4"	R23-119	1 19/32"	R26-121	1 21/32"
R1-205	2 5/32"	R2-124	1 3/4"	R3-223	2 23/32"	R10-431	4 31/32"	R14-409	4 9/32"	R23-122	1 11/16"	R26-124	1 3/4"
R1-207	2 7/32"	R2-127	1 27/32"	R3-331	3 31/32"	R11-028	7/8"	R14-414	4 7/16"	R23-125	1 25/32"	R26-206	2 3/16"
R1-209	2 9/32"	R2-131	1 31/32"	R4-106	1 3/16"	R11-031	31/32"	R14-426	4 13/16"	R23-128	1 7/8"	R26-215	2 15/32"
R1-210	2 5/16"	R2-200	2"	R4-210	2 5/16"	R11-108	1 1/4"	R15-005	5/32"	R23-200	2"	R26-230	2 15/16"
R1-212	2 3/8"	R2-204	2 1/8"	R4-212	2 3/8"	R11-112	1 3/8"	R15-009	9/32"	R23-202	2 1/16"	R26-303	3 3/32"
R1-214	2 7/16"	R2-206	2 3/16"	R4-221	2 21/32"	R11-118	1 9/16"	R15-014	7/16"	R23-205	2 5/32"	R26-309	3 9/32"
R1-216	2 1/2"	R2-209	2 9/32"	R4-226	2 13/16"	R11-124	1 3/4"	R15-017	17/32"	R23-208	2 1/4"	R26-312	3 3/8"
R1-218	2 9/16"	R2-212	2 3/8"	R4-228	2 7/8"	R11-200	2"	R15-028	7/8"	R23-211	2 11/32"	R26-315	3 15/32"
R1-220	2 5/8"	R2-216	2 1/2"	R4-306	3 3/16"	R11-216	2 1/2"	R16-106	1 3/16"	R23-216	2 1/2"		
R1-223	2 23/32"	R2-218	2 9/16"	R4-322	3 11/16"	R11-219	2 19/32"	R16-112	1 3/8"	R23-218	2 9/16"		
R1-226	2 13/16"	R2-220	2 5/8"	R5-215	2 15/32"	R12-026	13/16"	R16-118	1 9/16"	R23-223	2 23/32"		
R1-228	2 7/8"	R2-222	2 11/16"	R6-208	2 1/4"	R12-029	29/32"	R16-127	1 27/32"	R23-226	2 13/16"		
R1-300	3"	R2-226	2 13/16"	R7-208	2 1/4"	R12-108	1 1/4"	R16-205	2 5/32"	R23-229	2 29/32"		

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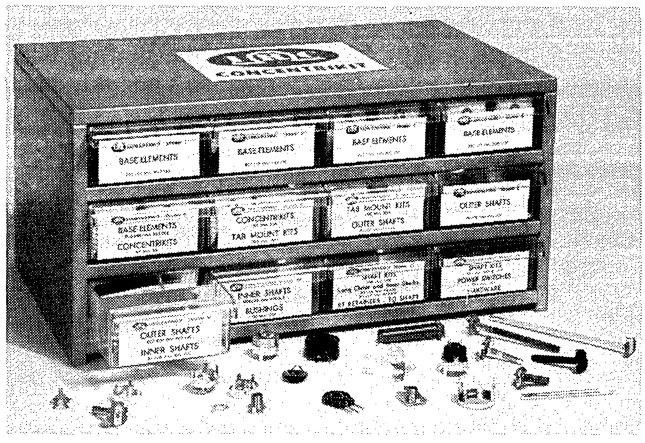
IRC-CTS CONCENTRIKIT® DEALER STOCKS

IRC, DIVISION OF TRW INC.



HANDSOME STOCK CABINET

The same spacious stock cabinet is provided with either the No. 90 or No. 92 stocks. Permits ready conversion of Basic Stock to Expanded Stock. Sturdy two-shelf metal cabinet measures 17⅞″ wide, 11¹⁵⁄₁₆″ deep and 9″ high. Provides twelve large "see-thru" drawers with new locking divider feature. Drawers measure 11″ deep, 4″ wide and 2″ high—956 cubic inches of stock space! All needed dividers are included. Both drawer front and bottom labels provide full location and identification data.

EXTENSIVE VARIATION OF CONTROL TYPES

CONCENTRIKIT Dealer Control Stocks provide an extensive variation of single and concentric dual control types. Included are a wide selection of control mountings, shafts, and power switches with both carbon (½ watt) and wire-wound (4 watts) front and rear sections. Control mountings include ⅜″, ⁷⁄₁₆″ and ½″ diameter bushings, tab mounting plates and printed circuit brackets. Shaft styles include ¼″ and ³⁄₁₆″ diameter universal shafts, screw-driver slotted and insulated shafts, rear adjustment feature and a large selection of exact duplicate shafts which require no cutting or modification.

Rotary and pull-push power switches attach to either single or concentric dual styles. Concentric dual controls include carbon front and rear sections, wirewound front and rear sections and wirewound front sections with carbon rear sections. Carbon units are equipped with printed circuit terminals for universal use. Broad selection of resistance values and tapers. Replacement data, pricing information and full instructions included.

CONCENTRIKIT DEALER CONTROL STOCKS

Most widely used control replacement system, the new CONCENTRIKIT stocks employ the unique adaptability of this true control parts system to provide top coverage of needed replacement controls. Parts included have been carefully selected for broadest combinations for TV, radio, auto sets and high-fidelity equipment. The exclusive features of CONCENTRIKIT afford a nearly endless variety of single and concentric dual controls.

Two specially planned dealer stocks are available. No. 90 is a Basic Stock of Concentrikit parts. No. 92 is an Expanded Stock providing over three times the replacement coverage. Both stocks are housed in the same large metal cabinet with twelve "see-thru" drawers. Special labelling supplies quick location and identification of parts. No. 91 Conversion Stock changes the Basic Stock into the Expanded Stock.

CONTENTS OF DEALER CONCENTRIKIT STOCKS

DESCRIPTION	BASIC STOCK No. 90	CONVERSION STOCK No. 91	EXPANDED STOCK No. 92
Carbon Base-Elements	25	22	47
Wirewound Base-Elements	—	6	6
Exact Duplicate Concentric Shafts	86	29	115
CONCENTRIKITS	9	5	14
Single Control Shaft Kits	14	8	22
Separate Insulated Shafts	—	2	2
Printed Circuit Bracket	1	—	1
Special Bushings	—	3	3
Power Switches (Rotary and Pull-Push)	8	8	16
Hardware Items	4	—	4
Replacement Manual	1	—	1
Instruction Package	1	—	1

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IRC-CTS AUTO RADIO BUSHINGS & TAPER CHART

IRC, DIVISION OF TRW INC.

EXACT DUPLICATE BUSHINGS FOR AUTO RADIOS

Stock No.	Dimensions	Type
S6	7/16"x15/16"	Double-flat
S7	7/16"x1 1/32"	Double-flat
S8	7/16"x1 5/8"	Double-flat
S9	7/16"x1 7/8"	Double-flat
S10	1/2"x0.2"	Single-flat
S11	1/2"x9/16"	Single-flat
S12	1/2"x15/16"	Single-flat
S13	1/2"x1"	Single-flat
S14	1/2"x1 1/4"	Single-flat
S15	1/2"x1 1/2"	Single-flat
S16	1/2"x1 5/8"	Single-flat
S17	1/2"x1 7/8"	Single-flat
S18	1/2"x2"	Single-flat
S19	1/2"x2 1/8"	Single-flat
S20	1/2"x2 1/4"	Single-flat
S21	1/2"x1 1/8"	Notched
S22	1/2"x1 3/16"	Notched
S23	1/2"x1 9/32"	Notched
S24	1/2"x1 3/8"	Notched
S25	1/2"x1 7/16"	Notched
S26	1/2"x1 17/32"	Notched
S27	1/2"x1 21/32"	Notched
S28	1/2"x1 3/4"	Notched
S29	1/2"x1 13/16"	Notched
S30	1/2"x1 7/8"	Notched
S31	1/2"x2"	Notched
S32	1/2"x2 1/8"	Notched
S33	3/8"x1/4"	—
S34	3/8"x3/8"	—
S35	1/2"x13/32"	Single-flat
S36	1/2"x5/8"	Single-flat
S37	1/2"x1/2"	Single-flat
S38	1/2"x27/32"	Single-flat
S39	1/2"x3/4"	Single-flat
S40	1/2"x11/16"	Single-flat
S41	1/2"x13/16"	Notched
S42	1/2"x15/16"	Single-flat
S43	1/2"x1 1/8"	Single-flat
S44	3/8"x.590"	—
S45	3/8"x13/16"	—
S46	7/16"x5/8"	Double-flat
S47	7/16"x13/32"	Double-flat
S48	1/2"x5/16"	Single-flat
S49	1/2"x1"	Notched
S50	1/2"x1 11/16"	Single-flat
S51	7/16"x1 1/4"	Double-flat
S52	3/8"x7/8"	—

TAPERS

New numerical taper system assigns specific identification for each Control. Listing below shows new taper number and old taper designation.

NEW TAPER DESIGNATION	OLD TAPER DESIGNATION	USE
1, 2	A	For potentiometer or rheostat where uniform resistance change is required.
3, 23, 45	B, C	Left-hand logarithmic taper for audio circuit control.
4, 5,	D, Q, P	Right-hand semi-logarithmic taper for use in audio circuit controls, contrast, and picture control circuits in television. Taper 4 is also used for stereo tone and balance control.
6	S	Bass and treble tone control. Open circuited at mid-point.
7, 39, 41	S	Bass and treble tone control. Open circuited at mid-point.
8, 9, 20, 38	S	Tapped right-hand taper for contrast and picture control circuits in television.
10, 25, 27, 29	S	Tapped left-hand taper for contrast and picture control circuits in television. Also used for audio compensation.
11, 22, 24, 26, 30, 31, 37, 40, 44, 47	H, S	Tapped left-hand logarithmic taper for audio level control for treble, bass, or audio compensation.
12	S	Left-hand taper tapped at 50% of total resistance for audio compensation.
13	S	Left-hand taper tapped at 10% of total resistance for audio compensation, for transistor circuits.
14, 21, 28	S	Right-hand logarithmic taper tapped for contrast and picture control circuits in television.
15, 16, 17, 18, 19, 35, 36, 43, 46, 49, 50	S	Left-hand logarithmic taper with double taps for tone and loudness compensation.
32	S	Fader and balance controls.
33	S	Left-hand taper with two taps for contrast and picture control circuits in television.
34, 48	S	Right-hand taper with two taps for contrast and picture control circuits in television.
—	L	Left-hand taper for use in focus circuits in television.
—	R	Right-hand logarithmic taper for use in contrast and picture control circuits in television.
—	S	Tapped right-hand taper for contrast and picture control circuits in television.
—	U	For potentiometer or rheostat where uniform resistance change is required.

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IRC-CTS INDUSTRIAL Q CONTROLS

IRC, DIVISION OF TRW INC.

IRC ½ watt composition controls for industrial and commercial applications provide a wide selection of resistance values, tapers and shaft styles. Types PQ, RQ and RQL may be combined with Type M Multisections to provide broad variety of multiple-section controls.

TYPE PQ

Control has full round ¼″ shaft, extending approximately 3″ from mounting face, and with ⅜″ long bushing. ½ watt power rating, 500 volts maximum. It is available in 33 stock values.

TYPE RQ

Control has a very short screwdriver slot shaft of ¼″ diameter and approximately ½″ long from mounting face, with ⅜″ long bushing. ½ watt power rating. Supplied in 33 stock values.

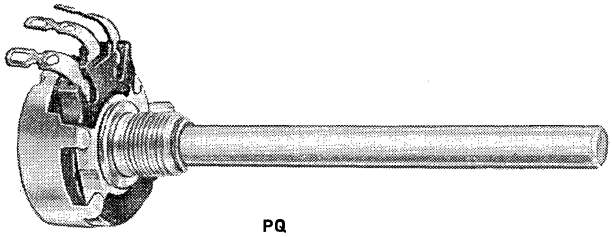
Electrical rotation of these controls is the same with or without power switches (See Type Q Accessories, pages 1241 and 1242. Special platings of metal parts provide excellent appearance. Resistance tolrance of all units is ± 10%.

TYPE RQL

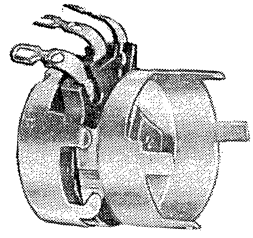
A 10% tolerance control with locking type bushing. Screwdriver slot shaft is ¼″ diameter and approximately ½″ long from mounting face, with a ⅜″ split type bushing, and locking nut. Supplied in 26 stock values. ½ watt power rating.

TYPE M MULTISECTIONS

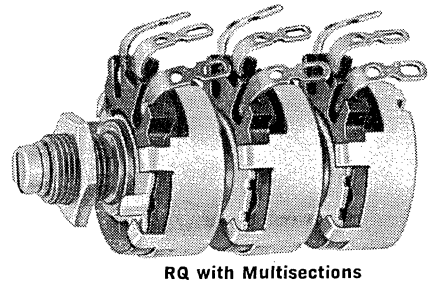
IRC Type M Multisections are rear control sections which add to Types PQ, RQ, RQL or any Type Q control to provide multiple-section tandem controls. Supplied in 25 stock numbers as listed on opposite page. Resistance tolerance is ± 10%. See pages 1241 and 1242 for power switches and other accessories.



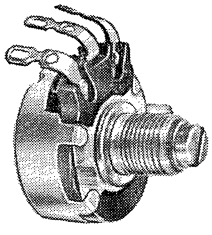
PQ



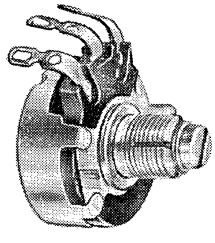
M



RQ with Multisections



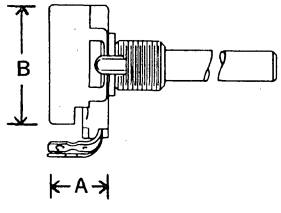
RQ

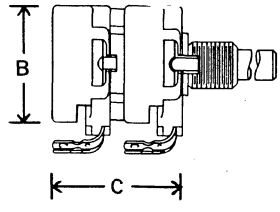


RQL

DIMENSIONS OF TYPE Q INDUSTRIAL CONTROLS

Dimension	PQ	RQ	RQL
A	33/64	33/64	33/64
B	15/16	15/16	15/16
C	1 7/64	1 7/64	1 7/64





IRC-CTS STOCK VALUES OF TYPES PQ, RQ, RQL CONTROLS AND MULTISECTIONS 10% TOLERANCE

Ohms	Taper*	Type PQ	Type RQ	Type RQL	Multisections
500	1(A)	PQ11-103	RQ11-103	RQL11-103	M11-103
1,000	2(A)	PQ11-108	RQ11-108	RQL11-108	M11-108
2,000	2(A)	PQ11-110	RQ11-110	RQL11-110	M11-110
3,000	2(A)	PQ11-112	RQ11-112	RQL11-112	M11-112
5,000	2(A)	PQ11-114	RQ11-114	RQL11-114	M11-114
7,500	2(A)	PQ11-115	RQ11-115	—	—
10K	2(A)	PQ11-116	RQ11-116	RQL11-116	M11-116
10K	3(C)	PQ13-116	RQ13-116	—	—
10K	23(D)	PQ14-116	RQ14-116	—	—
10K	4(Q)	—	—	—	M17-116
20K	2(A)	PQ11-119	RQ11-119	RQL11-119	—
25K	2(A)	PQ11-120	RQ11-120	RQL11-120	M11-120
25K	23(D)	PQ14-120	RQ14-120	—	—
30K	2(A)	PQ11-121	RQ11-121	RQL11-121	M11-121
50K	2(A)	RQ11-123	RQ11-123	RQL11-123	M11-123
50K	3(C)	PQ13-123	RQ13-123	RQL13-123	—
50K	23(D)	PQ14-123	RQ14-123	—	—
100K	2(A)	PQ11-128	RQ11-128	RQL11-128	M11-128
100K	3(C)	PQ13-128	RQ13-128	—	M13-128
200K	2(A)	PQ11-129	RQ11-129	RQL11-129	—
250K	2(A)	PQ11-130	RQ11-130	RQL11-130	M11-130
250K	3(C)	PQ13-130	RQ13-130	RQL13-130	M13-130
500K	2(A)	PQ11-133	RQ11-133	RQL11-133	M11-133
500K	3(C)	PQ13-133	RQ13-133	RQL13-133	M13-133
1.0 Meg.	2(A)	PQ11-137	RQ11-137	RQL11-137	M11-137
1.0 Meg.	3(C)	PQ13-137	RQ13-137	RQL13-137	M13-137
1.5 Meg.	2(A)	PQ11-138	RQ11-138	RQL11-138	—
1.5 Meg.	3(C)	—	—	—	M13-138
2.0 Meg.	2(A)	—	RQ11-139	RQL11-139	M11-139
2.0 Meg.	3(C)	PQ13-139	RQ13-139	RQL13-139	M13-139
2.5 Meg.	2(A)	—	RQ11-239	RQL11-239	—
3.0 Meg.	2(A)	PQ11-140	RQ11-140	RQL11-140	—
3.0 Meg.	3(C)	PQ13-140	RQ13-140	—	M13-140
3.0 Meg.	4(Q)	—	—	—	M17-140
5.0 Meg.	2(A)	PQ11-141	RQ11-141	RQL11-141	M11-141
10.0 Meg.	2(A)	PQ11-143	RQ11-143	RQL11-143	M11-143

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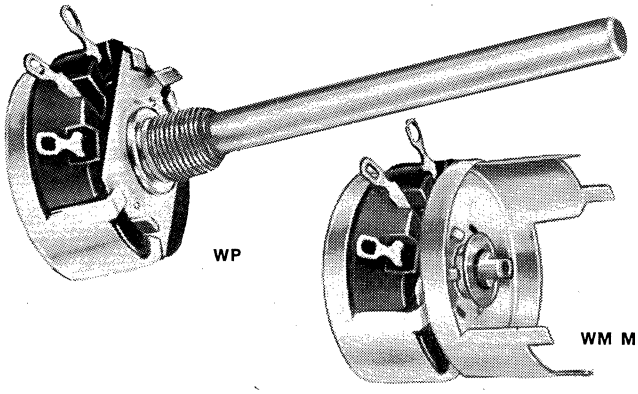
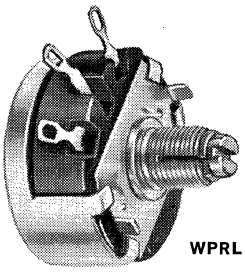
IRC-CTS INDUSTRIAL 4W CONTROLS

IRC, DIVISION OF TRW INC.

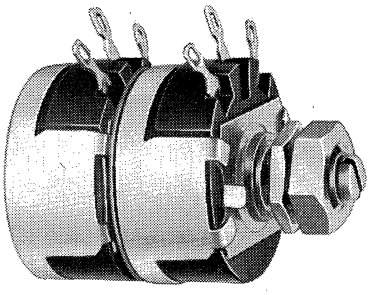


WP

WM MULTISECTION



WPRL



WPRL with Multisection

TYPE 4/W INDUSTRIAL CONTROLS

IRC-CTS Type 4W Controls for industry provide 4 watt (linear) rating in conventional 2 watt size. Available in wide assortment of resistance values. Types WP and WPRL may be combined with Type WM Multisections to provide broad selection of tandem dual controls.

Special platings of metal parts provide outstanding appearance. Resistance tolerance of all units is ± 10%.

TYPE WP

A wirewound industrial control with ⅜-32 x ⅜" bushing and a full round shaft of ¼" diameter, approximately 3" long from mounting face. For 2, 3 and 4 watt requirements — 10% tolerance; linear taper; in 36 stock values as listed on the preceding page.

TYPE WM MULTISECTIONS

These 4 watt Multisections are rear control sections which add to Types WP and WPRL to supply a wide selection of tandem dual controls. Available in 13 factory-assembled stock numbers. WM Multisections do not operate power switches.

TYPE WPRL

A wirewound industrial control with a short, screwdriver slot shaft of ¼" diameter and approximately ½" long from mounting face, with ⅜" locking type bushing, and locking nut. For 2, 3 and 4 watt requirements — 10% tolerance; linear taper; 36 stock values.

IRC-CTS TYPE 4/W INDUSTRIAL CONTROLS STOCK LIST

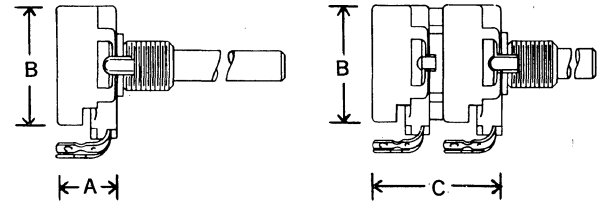
STOCK VALUES OF TYPE WP AND WPRL CONTROLS AND MULTISECTIONS 10% TOLERANCE

Ohms	Taper*	Type WP	Type WPRL	Multisections
2	U (Lin.)	WP2	WPRL2	—
3	U	WP3	—	—
5	U	WP5	WPRL5	—
6	U	WP6	WPRL6	—
8	U	WP8	WPRL8	—
10	U	WP10	WPRL10	—
15	U	WP15	WPRL15	—
20	U	WP20	WPRL20	—
25	U	WP25	WPRL25	—
30	U	WP30	WPRL30	—
40	U	—	WPRL40	—
50	U	WP50	WPRL50	WM50
60	U	WP60	WPRL60	—
75	U	WP75	WPRL75	—
100	U	WP100	WPRL100	WM100
200	U	WP200	WPRL200	WM200
250	U	WP250	WPRL250	WM250
300	U	WP300	WPRL300	—
400	U	WP400	WPRL400	—
500	U	WP500	WPRL500	WM500
750	U	WP750	WPRL750	—
1,000	U	WP1000	WPRL1000	WM1000
1,500	U	WP1500	WPRL1500	WM1500
2,000	U	WP2000	WPRL2000	WM2000
2,500	U	WP2500	WPRL2500	WM2500
3,000	U	WP3000	WPRL3000	WM3000
4,000	U	WP4000	WPRL4000	—
5,000	U	WP5000	WPRL5000	WM5000
7,500	U	WP7500	WPRL7500	—
7,500	L (L.H. Log.)	—	—	WM7500L
10,000	U	WP10000	WPRL10000	WM10000
15,000	U	WP15000	WPRL15000	—
20,000	U	WP20000	WPRL20000	—
25,000	U	WP25000	WPRL25000	—
30,000	U	WP30000	WPRL30000	—
40,000	U	WP40000	—	—
50,000	U	WP50000	WPRL50000	—

* See Taper Explanation Chart, page 1246.

DIMENSIONS OF TYPE 4/W INDUSTRIAL CONTROLS

Dimension	WP	WPRL
A	23/32	23/32
B	1¼	1¼
C	1 9/32	1 9/32



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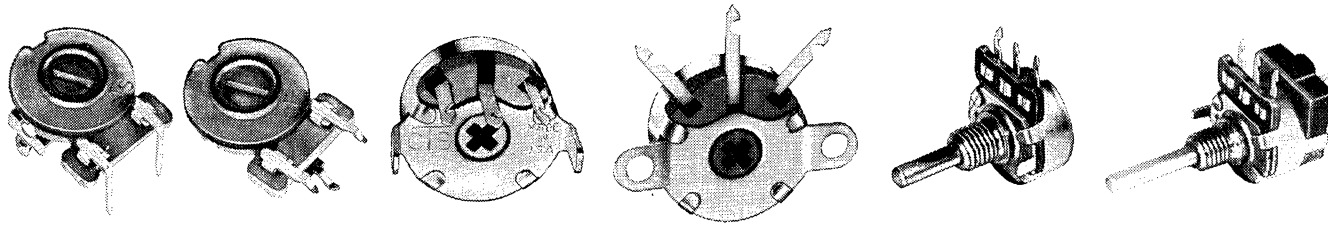
IRC-CTS SPECIAL CONTROLS FOR RADIO AND TV DEALER STOCKS

IRC, DIVISION OF TRW INC.

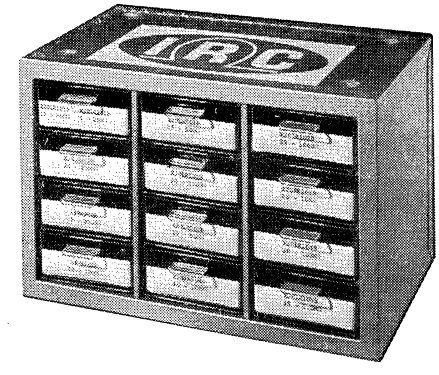


U201 X201 P115 117 MC MCS

Dealer's stocks of popular IRC/CTS carbon and wirewound trimmers and miniature controls now being widely used in color and black-and-white TV, as well as many other entertainment equipments, such as stereo amplifiers, tape recorders and CB equipment. Supplied in practical assortments contained in sturdy, metal cabinets with 12 non-spill plastic drawers. Both these stocks are practical supplements to Dealer's regular control replacement stock.

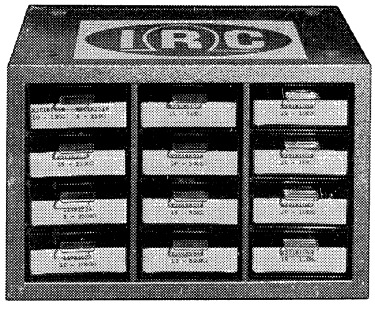
NO. 36 WIREWOUND TRIMMER STOCK

A versatile assortment of the P115 and 117 trimmers as called out in Sams 1968 Replacement Control Guide. 70 Controls and 10 universal, optional snap-in shafts. See description of these trimmers on page 1250.



CONTENTS LIST

Description	Quantity	Description	Quantity
P115R100A (10Ω)	5	117R251A (250Ω)	5
P115R101A (100Ω)	5	117R252A (2500Ω)	5
P115R103A (10K)	5	117R500A (50Ω)	5
P115R252A (2500Ω)	5	117R501A (500Ω)	5
P115R500A (50Ω)	5	117R502A (5000Ω)	5
P115R502A (5000Ω)	5	Universal Shaft	10
117R100A (10Ω)	5	Cabinet	1
117R101A (100Ω)	5	Instruction Package	1
117R02A (1000Ω)	5		



NO. 37 CARBON TRIMMER & MINIATURE CONTROL STOCK

Carefully planned stock of the trimmers and miniature controls called out in Sams 1968 Replacement Control Guide. Having these parts on hand saves you time and money, eliminates waiting for special orders. Contains 60 U-201 Trimmers, 75 X-201 Trimmers, 64 MC Controls and 4 MCS Controls with switches. See pages 1250 and 1251 for description of these controls.

CONTENTS LIST

Description	Quantity	Description	Quantity	Description	Quantity	Description	Quantity
U201R101B (100Ω)	5	U201R504B (500K)	5	U201R502B (5000Ω)	5	MC502A (5000Ω Audio Taper)	2
U201R102B (1000Ω)	5	X201R101B (100Ω)	5	U201R503B (50K)	5	MC502D (5000Ω Linear Taper)	2
U201R103B (10K)	5	X201R102B (1000Ω)	5	U201R504B (500K)	5	MC503D (50K Linear Taper)	2
U201R104B (100K)	5	X201R103B (10K)	5	MC102D (100Ω Linear Taper)	2	MC504A (500K Audio Taper)	2
U201R105B (1 Meg.)	5	X201R104B (100K)	5	MC103D (10K Linear Taper)	2	MC504D (500K Linear Taper)	2
U201R251B (250Ω)	5	X201R105B (1 Meg.)	5	MC104D (100K Linear Taper)	2	MC103AS (10K Audio Taper w/Switch)	2
U201R252B (2500Ω)	5	X201R251B (250Ω)	5	MC105A (1 Meg. Audio Taper)	2	MC502AS (5000Ω Audio Taper w/Switch)	2
U201R253B (25K)	5	U201R252B (2500Ω)	5	MC105D (1 Meg. Linear Taper)	2	Cabinet	1
U201R254B (250K)	5	U201R253B (25K)	5	MC252A (2500Ω Audio Taper)	2	Instruction Package	1
U201R502B (5000Ω)	5	U201R254B (250K)	5	MC253D (25K Linear Taper)	2		
U201R503B (50K)	5	U201R501B (500Ω)	5	MC254D (250K Linear Taper)	4		

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IRC-CTS CARBON & WIREWOUND TRIMMERS

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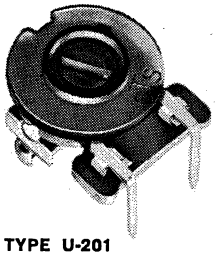
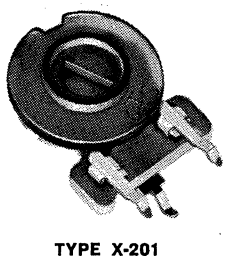


TYPE U-201



TYPE X-201

U-201 AND X-201 CARBON TRIMMERS

- Miniature Size — Knob 19/32" Diameter
- Knob Slotted for Front or Rear Screwdriver Adjustment
- Snap-in Self-supporting Bracket Mounted
- Low Cost

Electrical Specifications

Tolerance: ±20%
Power Rating: ¼ Watt
Taper: Linear Only
Voltage Rating: 500 VDC Operating Maximum
Switches: Not Available
Taps: Not Available

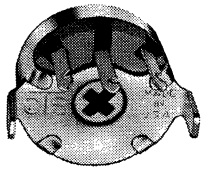
Mechanical Specifications

Mounting: U-201 Mounts with Knob Parallel to Printed Circuit Board
X-201 Mounts with Knob Perpendicular to Printed Circuit Board
Angle of Rotation: 260° ±5°
Terminals: Printed Circuit Type
Adjustment: Blue Nylon Knob 19/32" Diameter. Slotted for Front and Rear Adjustment.

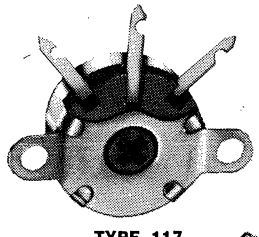
STANDARD RESISTANCE RANGES

STOCK NO. TYPE U-201	STOCK NO. TYPE X-201	RESISTANCE VALUE
U201R101B	X201R101B	100Ω
U201R251B	X201R251B	250Ω
U201R501B	X201R501B	500Ω
U201R102B	X201R102B	1000Ω
U201R252B	X201R252B	2500Ω
U202R502B	X201R502B	5000Ω
U201R103B	X201R103B	10KΩ
U201R253B	X201R253B	25KΩ
U201R503B	X201R503B	50KΩ
U201R104B	X201R104B	100KΩ
U201R254B	X201R254B	250KΩ
U201R504B	X201R504B	500KΩ
U201R105B	X201R105B	1.0MΩ

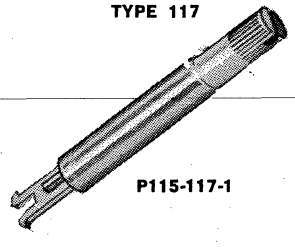
See Page 1257 for Engineering Laboratory Stocks of this Product



TYPE P-115



TYPE 117



P115-117-1

TYPE P115 AND 117 WIREWOUND TRIMMERS

- Fully Enclosed Construction
- Long Rotational Life
- Insulated Rotor
- Wide Resistance Range

Electrical Specifications

Tolerance: ±10%
Power Rating: 2 Watts
Taper: Linear Only
Voltage Rating: 500 VDC Operating Maximum
Shafts: 1 9/16" Delrin Plastic Shaft available, Stock #P115-117-1
Switches: Not Available
Taps: Not Available

Mechanical Specifications

Mounting: P-115 Twist Tab Mounted
117 Rivet Ear Mounted
Angle of Rotation: 270° ±5°
Terminals: Printed Circuit Type
Adjustment: Cross Slot in Nylon Rotor

STANDARD RESISTANCE RANGES

STOCK NO.		RESISTANCE
P115R5R0A	117R5R0A	5Ω
P115R100A	117R100A	10Ω
P115R250A	117R250A	25Ω
P115R500A	117R500A	50Ω
P115R101A	117R101A	100Ω
P115R251A	117R251A	250Ω
P115R501A	117R501A	500Ω
P115R102A	117R102A	1000Ω
P115R252A	117R252A	2500Ω
P115R502A	117R502A	5000Ω
P115R103A	117R103A	10KΩ

See Page 1257 for Engineering Laboratory Stocks of this Product

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IRC-CTS CARBON & WIREWOUND CONTROLS

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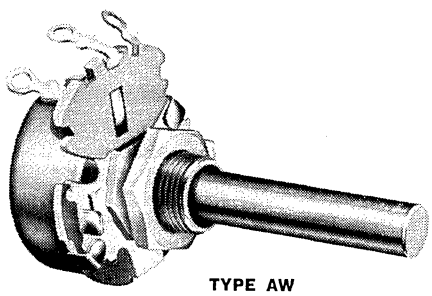
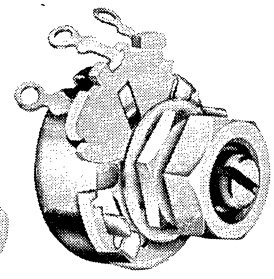


TYPE AW



TYPE AWRL

AW SERIES INDUSTRIAL WIREWOUND CONTROLS

- Compact Size — 15/16" Diameter
- Full 5 Watt Rating
- Economical
- Fully Enclosed Construction

Electrical Specifications

Tolerance: ±10%

Power Rating: 5 Watts

Taper: Linear Only

Voltage Rating: 500 VDC Operating Maximum

Switches: Not Available

Taps: Not Available

Mechanical Specifications

Mounting Bushing Dimensions
Diameter: ⅜" — 32 NEF Thread
Length: AW—Non-Lock — ⅜" long
AWRL—Locking — ⅜" long

Angle of Rotation: 300° ±5°

Shaft Diameter: .250"

Shaft Length: Type AW — 3" F.M.S.
Type AWRL — ½" F.M.S.

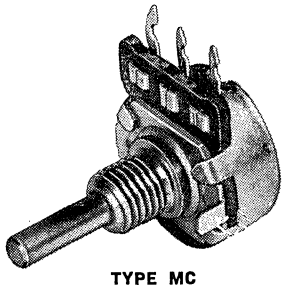
Shaft Trim: Type AW — Full Round
Type AWRL — Screwdriver Slot

Locating Lugs: Both Sides

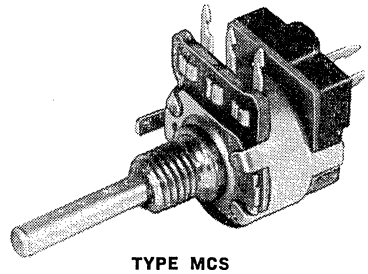
STANDARD RESISTANCE RANGES

AW STOCK NO.	AWRL STOCK NO.	RESISTANCE
AW10	AWRL10	10Ω
AW15	AWRL15	15Ω
AW20	AWRL20	20Ω
AW25	AWRL25	25Ω
AW50	AWRL50	50Ω
AW100	AWRL100	100Ω
AW200	AWRL200	200Ω
AW250	AWRL250	250Ω
AW500	AWRL500	500Ω
AW1000	AWRL1000	1000Ω
AW2000	AWRL2000	2000Ω
AW2500	AWRL2500	2500Ω
AW3000	AWRL3000	3000Ω
AW5000	AWRL5000	5000Ω
AW10000	AWRL10000	10KΩ

See Page 1257 for Engineering Laboratory Stocks of this Product



TYPE MC



TYPE MCS

SERIES 200 MINIATURE CARBON CONTROLS

- Miniature Size — ⅝" Diameter
- Wide Resistance Range
- Selection of Tapers
- Suitable for Commercial and Replacement Applications

Electrical Specifications

Tolerance: ±20%

Power Rating: ¼ Watt

Taper: Linear and Audio

Voltage Rating: 500 VDC Operating Maximum

Switches: SPST Switches Available on Certain Ranges

Taps: Not Available

Mechanical Specifications

Mounting Bushing Dimensions
Diameter: ¼" — 32 NEF-2A
Length: ¼"

Angle of Rotation
Without Switch — 300° ±5°
With Switch — 315° ±5°

Shaft Diameter: .125"

Shaft Length: 1" F.M.S.

Shaft Trim: Screwdriver Slotted

Terminals: Printed Circuit Type

STANDARD RESISTANCE RANGES

TYPE MC—WITHOUT SWITCH			TYPE MCS—WITH SWITCH		
STOCK NO.	OHMS	TAPER	STOCK NO.	OHMS	TAPER
MC102D	1000Ω	Linear	MC252AS	2500Ω	Audio
MC252A	2500Ω	Audio	MC502AS	5000Ω	Audio
MC502A	5000Ω	Audio	MC502DS	5000Ω	Linear
MC502D	5000Ω	Linear	MC103AS	10KΩ	Audio
MC103D	10KΩ	Linear	MC504AS	500KΩ	Audio
MC253D	25KΩ	Linear	MC105AS	1.0MΩ	Audio
MC503D	50KΩ	Linear			
MC104D	100KΩ	Linear			
MC254D	250KΩ	Linear			
MC504A	500KΩ	Audio			
MC504D	500KΩ	Linear			
MC105A	1.0MΩ	Audio			
MC105D	1.0MΩ	Linear			

See Page 1257 for Engineering Laboratory Stocks of this Product

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IRC-CTS MILITARY CONTROLS

IRC, DIVISION OF TRW INC.

IRC-CTS MILITARY VARIABLE RESISTORS TO MIL-R-19B AND MIL-R-94C

Fast, local delivery from Distributors' stock is now available for IRC-CTS military controls. A total of 255 variable resistors is included in this new, local service. The 6 styles illustrated cover the latest MIL-R-94C composition and MIL-R-19B wire wound specifications.

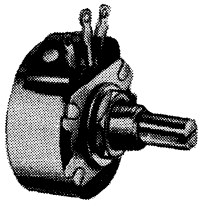
GENERAL SPECIFICATIONS

	MIL-R-19B			MIL-R-94C			
	RA20	RA30	Char.	RV2	RV4	RV5	RV6
Resistance Range (ohms)	3-15K	10-25K	X & Y	100-2.5 megs	100-1.0 megs	250-2.5 megs	100-2.5 megs
Rotational Life	5% max, 25,000 cycles		X Y	10% max, 15,000 cycles 10% max, 25,000 cycles			
Load Life	3% max, 1,000 hours, rated load, 40°C		X Y	12% max, 1,000 hours, rated load, 70°C 10% max, 1,000 hours, rated load, 70°C			
Moisture Resistance	10% max, Method 106, MIL-STD-202, 3.5 megs min insulation resistance		X Y	10% average, 14% max, Method 106, MIL-STD-202, 50 megs min insulation resistance 6% average, 10% max, Method 106, MIL-STD-202, 100 megs min insulation resistance			
Low Temp. Storage	4% max		X Y	4% max 2% max			
Low Temp. Operation	4% max		X Y	4% max 3% max			
Thermal Cycling	4% max		X Y	10% max 6% max			
Acceleration	3% max		X & Y	3% max			
Shock	2% max		X & Y	2% max			
High Freq. Vibration	2% max		X & Y	2% max			
Temp. Range	—63°C to +105°C		X & Y	—63°C to 150°C			

IRC-CTS WIRE WOUND VARIABLE RESISTORS TO MIL-R-19B

STYLE RA20 2 WATT WIRE WOUND

Type 252, style RA20, $1\frac{17}{64}$" diameter wirewound variable resistor.



STYLE RA20

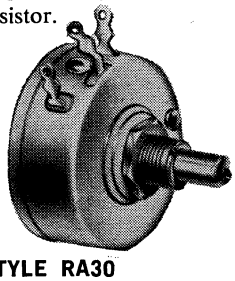
- 2 watt rating
- Compact size
- Meets MIL-R-19
- 15 resistance values
- Insulated housing

Choice of 2 shaft styles, plain or locking bushings.

Resistance	IRC-CTS TYPE 252 ⅞" Slotted Shaft ⅜" Long Bushing Linear Resistance Taper	CTS TYPE 252LT ⅝" Slotted Shaft ½" Long Locking Bushing Linear Resistance Taper	 ⅞" Slotted Shaft ½" Long Locking Bushing Linear Resistance Taper
3 ± 10%	RA20NASD3R0A	RA20LASB3R0A	RA20LASD3R0A
10 ± 10%	RA20NASD100A	RA20LASB100A	—
25 ± 10%	RA20NASD250A	RA20LASB250A	RA20LASD250A
50 ± 10%	RA20NASD500A	RA20LASB500A	RA20LASD500A
75 ± 10%	RA20NASD750A	RA20LASB750A	—
100 ± 10%	RA20NASD101A	RA20LASB101A	RA20LASD101A
200 ± 10%	RA20NASD201A	RA20LASB201A	—
250 ± 10%	RA20NASD251A	RA20LASB251A	RA20LASD251A
500 ± 10%	RA20NASD501A	RA20LASB501A	RA20LASD501A
1,000 ± 10%	RA20NASD102A	RA20LASB102A	RA20LASD102A
2,500 ± 10%	RA20NASD252A	RA20LASB252A	RA20LASD252A
5,000 ± 10%	RA20NASD502A	RA20LASB502A	RA20LASD502A
7,500 ± 10%	RA20NASD752A	RA20LASB752A	RA20LASD752A
10,000 ± 10%	RA20NASD103A	RA20LASB103A	RA20LASD103A
15,000 ± 10%	RA20NASD153A	RA20LASB153A	RA20LASD153A

STYLE RA30 4 WATT WIRE WOUND

Type 25, style RA30, $1\frac{17}{32}$" diameter wirewound variable resistor.



STYLE RA30

- 4 watt rating
- Reliable CTS wirewound element
- Meets all MIL-R-19 requirements
- 15 resistance values

Choice of 2 shaft styles, plain or locking bushings.

Resistance	IRC-CTS TYPE 25 ⅞" Slotted Shaft ⅜" Long Bushing Linear Resistance Taper	CTS TYPE 25LT ⅝" Slotted Shaft ½" Long Locking Bushing Linear Resistance Taper
10 ± 10%	RA30NASD100A	RA30LASB100A
25 ± 10%	RA30NASD250A	RA30LASB250A
50 ± 10%	RA30NASD500A	RA30LASB500A
100 ± 10%	RA30NASD101A	RA30LASB101A
200 ± 10%	RA30NASD201A	RA30LASB201A
250 ± 10%	RA30NASD251A	RA30LASB251A
500 ± 10%	RA30NASD501A	RA30LASB501A
750 ± 10%	RA30NASD751A	RA30LASB751A
1,000 ± 10%	RA30NASD102A	RA30LASB102A
2,500 ± 10%	RA30NASD252A	RA30LASB252A
5,000 ± 10%	RA30NASD502A	RA30LASB502A
7,500 ± 10%	RA30NASD752A	RA30LASB752A
10,000 ± 10%	RA30NASD103A	RA30LASB103A
15,000 ± 10%	RA30NASD153A	RA30LASB153A
25,000 ± 10%	RA30NASD253A	RA30LASB253A

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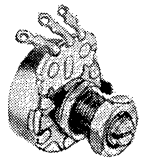
IRC-CTS MILITARY CONTROLS

IRC, DIVISION OF TRW INC.

IRC-CTS COMPOSITION VARIABLE RESISTORS TO MIL-R-94C

STYLE RV2 1 WATT COMPOSITION

Type 90, style RV2, $1\frac{5}{16}$" diameter composition variable resistor.



STYLE RV2

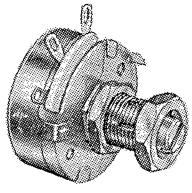
- 1 watt rating
- Operational up to 150°C
- 14 resistance values
- Meets characteristic Y
- Designed for high temperature and humidity, military applications

Choice of 2 shaft styles, plain or locking bushings.

Resistance	IRC-CTS TYPE 90 7/8" Slotted Shaft 3/8" Long Bushing Linear Resistance Taper	CTS TYPE 90LT 5/8" Slotted Shaft 1/2" Long Locking Bushing Linear Resistance Taper
100 ± 10%	RV2NAYSD101A	RV2LAYSA101A
250 ± 10%	RV2NAYSD251A	RV2LAYSA251A
500 ± 10%	RV2NAYSD501A	RV2LAYSA501A
1,000 ± 10%	RV2NAYSD102A	RV2LAYSA102A
2,500 ± 10%	RV2NAYSD252A	RV2LAYSA252A
5,000 ± 10%	RV2NAYSD502A	RV2LAYSA502A
10,000 ± 10%	RV2NAYSD103A	RV2LAYSA103A
25,000 ± 10%	RV2NAYSD253A	RV2LAYSA253A
50,000 ± 10%	RV2NAYSD503A	RV2LAYSA503A
100,000 ± 10%	RV2NAYSD104A	RV2LAYSA104A
250,000 ± 10%	RV2NAYSD254A	RV2LAYSA254A
500,000 ± 10%	RV2NAYSD504A	RV2LAYSA504A
1.0 Meg. ± 20%	RV2NAYSD105B	RV2LAYSA105B
2.5 Meg. ± 20%	RV2NAYSD255B	RV2LAYSA255B

STYLE RV4 3 WATT COMPOSITION

Type 320, Style RV4, $1\frac{1}{16}$" diameter composition variable resistor.



STYLE RV4

- 3 watt rating
- Completely enclosed construction
- Excellent heat sink qualities
- 15 resistance values
- Long-life, low noise
- Reliable carbon-ceramic element

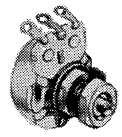
Choice of 2 shaft styles, plain or locking bushings.

See Page 1258 for Engineering Laboratory Stocks of this Product

Resistance	IRC-CTS TYPE 320 2 1/2" Slotted Shaft 3/8" Long Bushing Linear Resistance Taper	IRC-CTS TYPE 320 7/8" Slotted Shaft 3/8" Long Bushing Linear Resistance Taper	CTS TYPE 320LT 5/8" Slotted Shaft 1/2" Long Locking Bushing Linear Resist. Taper	CTS TYPE 320LT 7/8" Slotted Shaft 1/2" Long Locking Bushing Linear Resist. Taper
100 ± 10%	—	RV4NAYSD101A	RV4LAYSA101A	RV4LAYSD101A
250 ± 10%	RV4NAYSK251A	RV4NAYSD251A	RV4LAYSA251A	RV4LAYSD251A
500 ± 10%	RV4NAYSK501A	RV4NAYSD501A	RV4LAYSA501A	RV4LAYSD501A
1,000 ± 10%	RV4NAYSK102A	RV4NAYSD102A	RV4LAYSA102A	RV4LAYSD102A
2,500 ± 10%	—	RV4NAYSD252A	RV4LAYSA252A	RV4LAYSD252A
5,000 ± 10%	RV4NAYSK502A	RV4NAYSD502A	RV4LAYSA502A	RV4LAYSD502A
10,000 ± 10%	RV4NAYSK103A	RV4NAYSD103A	RV4LAYSA103A	RV4LAYSD103A
25,000 ± 10%	RV4NAYSK253A	RV4NAYSD253A	RV4LAYSA253A	RV4LAYSD253A
50,000 ± 10%	RV4NAYSK503A	RV4NAYSD503A	RV4LAYSA503A	RV4LAYSD503A
100,000 ± 10%	RV4NAYSK104A	RV4NAYSD104A	RV4LAYSA104A	RV4LAYSD104A
250,000 ± 10%	—	RV4NAYSD254A	RV4LAYSA254A	RV4LAYSD254A
500,000 ± 10%	—	RV4NAYSD504A	RV4LAYSA504A	RV4LAYSD504A
1.0 Meg. ± 10%	—	RV4NAYSD105A	RV4LAYSA105A	RV4LAYSD105A
1.0 Meg. ± 20%	—	RV4NAYSD105B	RV4LAYSA105B	—
2.5 Meg. ± 20%	—	RV4NAYSD255B	RV4LAYSA255B	—
5.0 Meg. ± 20%	—	RV4NAYSD505B	RV4LAYSA505B	—

STYLE RV5 ½ WATT MINIATURE COMPOSITION

Type 65, style RV5, ¾" diameter composition variable resistor.



STYLE RV5

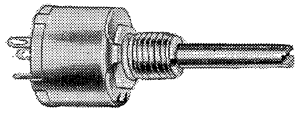
- ½ watt rating
- Small size
- 13 resistance values
- Operational up to 150°C
- Designed for high temperature and humidity applications

Choice of 2 shaft styles, plain or locking bushings.

Resistance	IRC-CTS TYPE 65 7/8" Slotted Shaft 1/4" Long Bushing Linear Resistance Taper	CTS TYPE 65LT 1/2" Slotted Shaft 3/8" Long Locking Bushing Linear Resistance Taper
250 ± 10%	RV5NAYSD251A	RV5LAYSB251A
500 ± 10%	RV5NAYSD501A	RV5LAYSB501A
1,000 ± 10%	RV5NAYSD102A	RV5LAYSB102A
2,500 ± 10%	RV5NAYSD252A	RV5LAYSB252A
5,000 ± 10%	RV5NAYSD502A	RV5LAYSB502A
10,000 ± 10%	RV5NAYSD103A	RV5LAYSB103A
25,000 ± 10%	RV5NAYSD253A	RV5LAYSB253A
50,000 ± 10%	RV5NAYSD503A	RV5LAYSB503A
100,000 ± 10%	RV5NAYSD104A	RV5LAYSB104A
250,000 ± 10%	RV5NAYSD254A	RV5LAYSB254A
500,000 ± 10%	RV5NAYSD504A	RV5LAYSB504A
1.0 Meg. ± 20%	RV5NAYSD105B	RV5LAYSB105B
2.5 Meg. ± 20%	RV5NAYSD255B	RV5LAYSB255B

STYLE RV6 ¾ WATT MINIATURE COMPOSITION

Type 300, style RV6, ½" diameter composition variable resistor.



STYLE RV6

- ¾ watt rating
- Miniature size
- Excellent stability
- 14 resistance values
- Reliable carbon-ceramic element
- High resolution

Choice of 2 shaft styles, plain or locking bushings.

See Page 1258 for Engineering Laboratory Stocks of this Product

Resistance	IRC-CTS TYPE 300 7/8" Slotted Shaft 1/4" Long Bushing Linear Resistance Taper	CTS TYPE 300LT 5/8" Slotted Shaft 1/2" Long Locking Bushing Linear Resistance Taper
100 ± 10%	RV6NAYSD101A	RV6LAYSA101A
250 ± 10%	RV6NAYSD251A	RV6LAYSA251A
500 ± 10%	RV6NAYSD501A	RV6LAYSA501A
1,000 ± 10%	RV6NAYSD102A	RV6LAYSA102A
2,500 ± 10%	RV6NAYSD252A	RV6LAYSA252A
5,000 ± 10%	RV6NAYSD502A	RV6LAYSA502A
10,000 ± 10%	RV6NAYSD103A	RV6LAYSA103A
25,000 ± 10%	RV6NAYSD253A	RV6LAYSA253A
50,000 ± 10%	RV6NAYSD503A	RV6LAYSA503A
100,000 ± 10%	RV6NAYSD104A	RV6LAYSA104A
250,000 ± 10%	RV6NAYSD254A	RV6LAYSA254A
500,000 ± 10%	RV6NAYSD504A	RV6LAYSA504A
1.0 Meg. ± 20%	RV6NAYSD105B	RV6LAYSA105B
2.0 Meg. ± 20%	RV6NAYSD205B	RV6LAYSA205B
2.5 Meg. ± 20%	RV6NAYSD255B	RV6LAYSA255B

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IRC-CTS SPECIAL PURPOSE CONTROLS

IRC, DIVISION OF TRW INC.

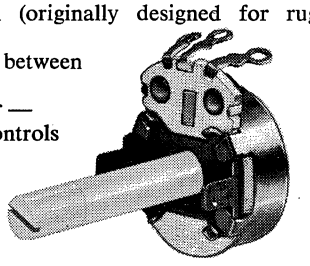
TV HEIGHT CONTROLS AVOID CALL-BACK INCONVENIENCES

USES:

This control is supplied for reliable replacement of TV Height Controls and other controls in B+CIRCUITS — such as AGC, NOISE GATE, FOCUS, FRINGE LOCK and SYNC controls — which have become unsatisfactory because of element etching due to voltages present in the particular circuitry.

FEATURES:

- Premium quality control (originally designed for rugged service in military gear)
- 1 watt rating, 750 V. max. between outer terminals
- Small size 15/16" diameter — same as most original controls
- Nylon shaft — slotted and knurled — easily shortened where required.

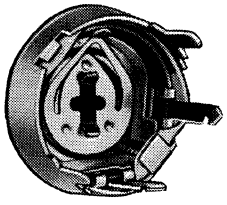


TYPE HLC TV HEIGHT CONTROLS

IRC Stock No.	Resistance Value	IRC Stock No.	Resistance Value
HLC-1	2.0 Meg. ±30%	HLC-4	4.0 Meg. ±30%
HLC-2	2.5 Meg. ±30%	HLC-5	5.0 Meg. ±30%
HLC-3	3.0 Meg. ±30%	HLC-6	7.5 Meg. ±30%

2 WATT, 3/4" DIAMETER WIREWOUND CONTROLS

TYPE 110—TAB-MOUNT UNIT

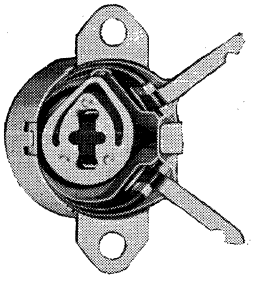


TYPES 110 & 110D

IRC STOCK NO.	RESISTANCE
110-1.5	1.5 Ω
110-5	5 Ω
110-15	15 Ω
110-60	60 Ω
110-100	100 Ω
110-300	300 Ω
110-600	600 Ω
110-1000	1000 Ω
110-3000	3000 Ω
110-3000-350	3000 Stops at 350 Ω

IRC-CTS buzz-bias controls are 2 watt preset type wirewound resistors. They are designed for hum-balancing, sensitivity, bias-adjust. AGC, holding, locking, and other radio and TV applications. All units are ±20% tolerance, linear taper, and have contact arm grounded to housing.

TYPE 112—FLANGE MOUNT UNITS



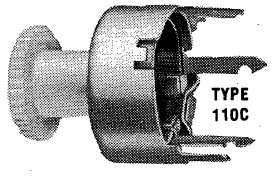
TYPE 112

IRC STOCK NO.	RESISTANCE
112-50	50Ω
112-100	100Ω
112-150	150Ω
112-200	200Ω
112-300	300Ω
112-500	500Ω
112-500-100	500Ω Stops at 100Ω
112-600	600Ω
112-650	650Ω
112-800	800Ω
112-800-50	850Ω Stops at 50Ω
112-1000	1000Ω
112-1000-100	1000Ω Stops at 100Ω
112-1500	1500Ω
112-2000	2000Ω
112-2000-100	2000Ω Stops at 100Ω
112-2500-700	2500Ω Stops at 700Ω
112-3000	3000Ω
112-4000	4000Ω
112-4000-350	4000Ω Stops at 350Ω
112-4000-1000	4000Ω Stops at 1000Ω
112-5000	5000Ω
112-10K	10KΩ

TYPE 110D—TAB-MOUNT SPECIAL TEMPERATURE COMPENSATED UNITS

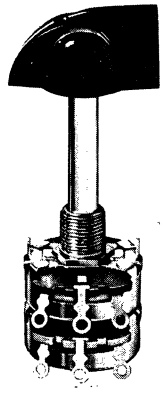
IRC STOCK NO.	RESISTANCE
110D175-60	175 Ω Stops at 60 Ω Replaces Delco #7275554
110D260-90	260 Ω Stops at 90 Ω Replaces Delco #7275474

TYPE 110C—TAB-MOUNT TV COLOR CONVERGENCE CONTROLS WITH INTEGRAL NYLON KNOBS



IRC STOCK NO.	RESISTANCE
110C-10	10 Ω
110C-30	30 Ω
110C-60	60 Ω
110C-120	120 Ω
110C-150	150 Ω

L&T ATTENUATOR PADS



IRC-CTS L and T pads provide constant impedance for use in sound systems and for speaker controls. Both types handle up to 15 watts audio power (5 watts DC). L pads provide a constant input impedance and T pads provide constant input and output impedances.

ELECTRICAL SPECIFICATIONS:

Continuous D.C. Rating	:	5 watts
Peak Audio Rating	:	15 watts
Dielectric Strength	:	1000 V.A.C. RMS to Ground
Attenuation Range	:	4, 8 and 16Ω IMPEDANCES: 0 to 30 db
	:	500Ω IMPEDANCE: 0 to 40 db
Insertion Loss	:	Negligible (less than .5 db)
Input Impedance	:	Constant within +30% −20%

MECHANICAL SPECIFICATIONS:

Size	:	15/16" diameter
Shaft Dimensions		
Diameter	:	.250"
Length	:	2" from mounting surface
Bushing	:	3/8"-32 x 3/8" long bushing
Angle of Rotation	:	300° ± 5°

IRC Stock No.	IMPEDANCE
L PADS	
LP4A	4Ω
LP8A	8Ω
LP15A	15Ω
LP500A	500Ω
T PADS	
TP4A	4Ω
TP8A	8Ω
TP15A	15Ω
TP500A	500Ω

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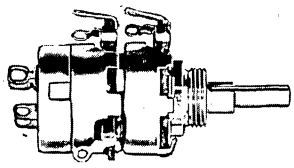
IRC-CTS AUTO RADIO CONTROLS

IRC, DIVISION OF TRW INC.



EXACT DUPLICATE CONTROLS For over 280 different makes and models. IRC-CTS's line of exact duplicate controls includes 118 individual types. Faster servicing results from these top-quality controls because of IRC-CTS's strict adherence to manufacturer's specifications.

IRC-CTS Part No.	Year	Radio Mfr.	Radio Model No.	Original Part No.
AMERICAN MOTORS				
5563	1959	Motorola	94MA	18B561728
BUICK				
5346	1946-53	Motorola	BK2A, BK3A6	18B512084
5359	1957	Motorola		18B540768
5411	1950-53	Delco	980868, 980899, 980979, 980980, 981111, 981320, 981321, 981322, 981323	7263119
5412	1954	Delco	981550, 981551	7264309
5414	1956	Delco	981707, 981708	7266996
5415	1957	Delco	981813, 981814	7268944
5553	1958	Delco	981902	7271329
5558	1959	Delco	988822	7271446
6001	1960	Delco		7276365
6104	1961	Delco	980134/5	7277155
CADILLAC				
5423	1950-52	Delco	7258865, 7260405, 7259825, 7260905, 7260705	7259240
5424	1953	Delco	7262645, 7262695, 7263525, 7263545, 7263835	7263321
5425	1954-55	Delco	7264165, 7264185, 7264195, 7265825, 7265845, 7265855	7264638
5426	1956	Delco	7266505, 7266535, 7266565	7266982
5427	1957	Delco	7268005, 7268035, 7268065	7269443
CHEVROLET				
5342	1949-50	Delco	986240, 986388	7258084
5346	1951-52	Motorola	CT2A, CT2M	18B512084
5348	1953-54	Delco	986771	7264211
5349	1953-54	Delco	986668	7264210
5353	1955-57	Delco	987086, 987364, 3725156	7265302
5354	1955-58	Delco	987187	7266193
5356	1957	Delco	987577	7269211
5359	1957	Motorola		18B540768
5360	1957	Motorola	CTA7X, CTM7X	18K541128
5362	1957	Delco		7270202
5551	1958	Delco	987727	7270479
5555	1959	Delco	987888	7273302
5556	1959	Delco	987891	7273367
6002	1960	Delco	988276	7275710
6101	1961	Delco	985036	7278528
6201	1962	Delco	985264	7279855
6302	1963	Delco	985431	7282088
6401	1964	Delco	985877	7287414
6402	1964	Delco	985875	7287355
CHEVROLET TRUCKS				
5346	1948-53	Motolola	GMT2A, GMT2M	18B512084
CHRYSLER				
5378	1955	Philco	C-5509, Mopar 835 C-5609	33-5557-15
5435	1953	Philco	C-5109, Mopar 812 C-5209, Mopar 817 C-5110, Mopar 813 C-5211 C-5111, Mopar 815 C-5212	33-5557-10
CHRYSLER (Cont.)				
5436	1953-54	Philco	C-5112, Mopar 816 C-5409, Mopar 824 C-5410, Mopar 830 C-5411	33-5557-13
5437	1955	Philco	C-5595, Mopar 902 C-5596, Mopar 903	33-5557-16
5437	1956	Philco	C-5696, Mopar 912	33-5557-16
5438	1957	Philco	C-5705, Mopar 847	33-5580-16
5439	1957	Philco	C-5707	33-5580-13
5559	1959	Motorola	Mopar 861	18B561364
CONTINENTAL				
5398	1956	Bendix	6BC	L219660-2
CORVAIR				
6004	1960	Delco	988062	7274920
6102	1961	Delco	988460	7278058
DESOTO				
5449	1954	Motorola	Mopar 829	18A530623
5450	1955-56	Motorola	Mopar 911	18B532633
5451	1957	Motorola	Mopar 846 919, 919HR	18B539819
5451	1958	Motorola	Mopar 923	18B539819
DODGE				
5459	1953	Motorola	Mopar 609	18B521099
5460	1954-55	Motorola	Mopar 833	18K533013
5461	1955	Motorola	Mopar 614, 621	18B532519
5462	1955-56	Motorola	Mopar 900, 901, 910	18K532955
5464	1958	Motorola	Mopar 502	18B561317
5564	1959	Motorola	Mopar 856	18B561732
6007	1960	Motorola		18B563115
EDSEL				
5562	1959	Bendix	94BE	2090035-3
FORD				
5308	1948-50	Bendix	M1, M1A, M1A1	L222808
5309	1950	Motorola	OMF	18B591266
5310	1951	Bendix	M2	L219586-2
5311	1951	Motorola	1MF	18B501153
5312	1952-53	Bendix	M4,M4A	L219586-3
5313	1952-53	Motorola	2MF, 3MF	18K511635
5315	1954	Motorola	4MF	18B530018
5316	1955	Bendix	5BF, R5BF	L219656-1
5317	1955	Motorola	5MF, 5MF8	18B531299
5318	1956	Bendix	R6BF	L219681-1
5319	1956	Motorola	66MF, 66MFP 69MF	18B534483
5320	1957	Bendix	R75BF	2090035-1
5322	1957	Motorola	78MF	18B53?379
5323	1957-58	Bendix	R74BF, R84BF	2090035-2
5324	1957-58	Motorola	74MF, 84MF	18B541819
5325	1957-58	Motorola	76MF(SR), 86MF	18B542373
5560	1959	Motorola	94MF, 94MFM	
5561	1959	Motorola	95MF	18B561599
5562	1959	Bendix	94BF	
6005	1960	Bendix	04BF	2090405-1
6008	1960	Motorola	14MD, 14MF 14MFM	18C562768
6106	1961	Bendix	14BF	2090405-8
6202	1962	Motorola	2TMF	18C41341A01
6304	1963-64	Bendix	3TBO	2092097-4
6305	1963	Bendix	3TBD	2091619-3
6403	1964	Bendix	4TBD	2092097-6
GMC TRUCKS				
5346	1948-53	Motorola	GMT2A, GMT2M	18B512084
5348	1954-58	Delco	2233396, 2233398	7264211
5354	1955-56	Delco	2233478, 2233480	7266193
KAISER				
5346	1951-53	Motorola	KR2A, KR2M	18B512084
LINCOLN				
5398	1955-56	Bendix		L219660-2
MERCURY				
5398	1955-56	Bendix	R6BM	L219660-2
5399	1957	Philco	M-5841, M-5741	33-5570-2
5400	1958	Bendix	R84BM, R85BM-5	N219689-4
6106	1961	Bendix	14BF	2090405-8
OLDSMOBILE				
5346	1951-52	Motorola	OE2A, OE2M	18B512084
5473	1949	Delco	982420	1219582
5474	1951	Delco	982700	7260294
5475	1953	Delco	983004	7263540
5477	1954-56	Delco	983091, 983205, 983336	7264128
5478	1956	Delco	98334	7266887
5479	1957	Delco	989002	7268847
5480	1957	Delco	989001	7269055
5552	1958	Delco	989127, 989129	7270679
PACKARD				
5346	1951-53	Motorola	PD2A, PD2M	18B512084
5494	1956	Delco	480487, 6480487	7267632
PLYMOUTH				
5373	1952	Motorola	Mopar 606	18A501616
5374	1953	Motorola	Mopar 608 P-5206, Mopar 819	18B521635 33-5557-11
5375	1953	Philco		
5376	1954-55	Motorola	Mopar 836	18A533014
5377	1955	Motorola	Mopar 613	18K532909
5378	1955	Philco	P-5506, Mopar 832	33-5557-15
5379	1956	Motorola	Mopar 841	18K536152
5380	1956	Motorola	Mopar 916	18B536704
5381	1956	Philco	P-5606, Mopar 840	33-5580-4
5382	1957	Motorola	Mopar 849	18B540376
5384	1958	Motorola	Mopar 854	18B560415
5385	1958	Philco	P-5801	33-5580-21
5386	1955	Philco		33-5557-14
5559	1959	Motorola	Mopar 860	
6006	1960	Motorola	101, 104, 110	18B563140
PONTIAC				
5359	1957	Motorola		18B540768
5501	1949-50	Delco	984296, 984570	7257708
5502	1951-52	Delco	984592, 984688	7260043
5504	1955-56	Delco	984961, 988568	7265495
5505	1956	Delco	988623	7268308
5506	1957	Delco	988672	7269149
5507	1957	Delco	988671	7269638
5554	1958	Delco	988823	7271446
5557	1959	Delco	988976, 988977	7273623
6003	1960	Delco	989614/615	7275708
6103	1961	Delco	989692	7277542
STUDEBAKER				
5359	1957	Motorola	7MX	18B540768
5517	1953	Philco	S-5327, AC-2300 S-5523 S-5323, AC-2301 S-5527 S-5524 S-5528 S-5529	33-5570
UNIVERSAL				
5522	1954	Motorola	397, 404	18B531560
5522	1955	Motorola	395, 395-12	18B531560
5522	1956	Motorola	396, 396-12	18B531560
WILLYS				
5348	1956	Delco	694866	7264211

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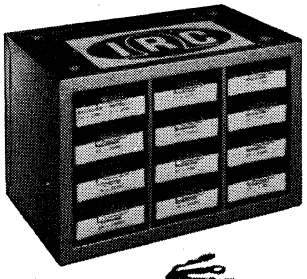
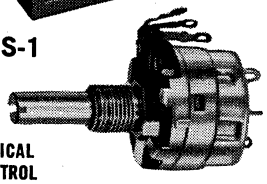
IRC-CTS ENGINEERING LABORATORY STOCKS

IRC, DIVISION OF TRW INC.

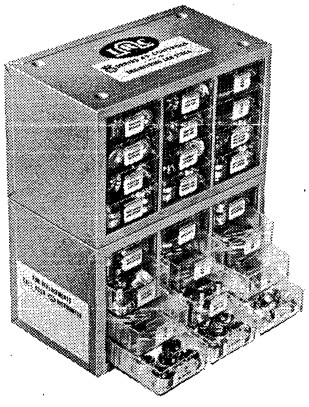
See Pages 1236 and 1237 for details of components



ELS-1



TYPICAL CONTROL



ELS-2

15/16" diameter Variable Resistors

CTS SERIES 45

The most often used variable resistor, "ELS-1" gives you the 15 most frequently used values for single composition controls. Each panel section has a factory installed bushing 3/8" — 32 x 3/8". 19 shafts styles and lengths included. Installed Shafts are permanent. Power switches may be snapped on easily. Assembly is fast, easy, and permanent. "ELS-2" is an expanded stock of Series 45 control components. Permits fast assembly not only of single section controls but also dual, triple and quadruple section tandem operated controls.

SHAFTS

Quantity ELS-1	Quantity ELS-2	Item	Length	End Trim
2	5	01	1/2"	SD Slot
2	2	02	5/8"	SD Slot
3	5	03	3/4"	SD Slot
2	5	04	7/8"	SD Slot
3	5	05	1"	SD Slot
2	5	06	7/8"	Flat
2	2	07	1"	Flat
2	2	08	1 1/8"	Flat
3	5	09	1 1/4"	Flat
2	2	10	1 3/8"	Flat
2	2	11	1 1/2"	Flat
2	2	12	1 5/8"	Flat
2	2	13	1 3/4"	Flat
2	2	14	1 7/8"	Flat
2	2	15	2"	Flat
2	5	16	2"	Round
3	5	17	3"	Round
2	2	18	1"	Knurl
2	2	19	1 1/4"	Knurl
—	2	20	1 1/2"	Knurl

ENGINEERING LAB STOCKS ELS-1 AND ELS-2

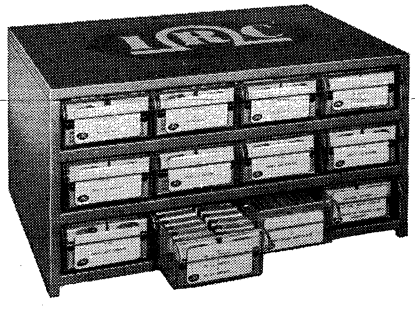
CONTROL SECTIONS

Quantity ELS-1	Quantity ELS-2	Item	Ohms	Type Taper	Description
2	4	45A103	10K	Log Taper	Front Section
2	4	45A104	100K	Log Taper	Front Section
2	4	45A105	1 Meg	Log Taper	Front Section
2	4	45A254	250K	Log Taper	Front Section
2	4	45A503	50K	Log Taper	Front Section
2	4	45A504	500K	Log Taper	Front Section
3	4	45D102	1000	Linear Taper	Front Section
3	4	45D103	10K	Linear Taper	Front Section
3	4	45D104	100K	Linear Taper	Front Section
3	4	45D105	1 Meg	Linear Taper	Front Section
3	4	45D253	25K	Linear Taper	Front Section
3	4	45D254	250K	Linear Taper	Front Section
—	4	45D502	5000	Linear Taper	Front Section
3	4	45D503	50K	Linear Taper	Front Section
3	4	45D504	500K	Linear Taper	Front Section
3	4	45D505	5 Meg	Linear Taper	Front Section
—	2	M45A104	100K	Log Taper	Rear Section
—	2	M45A105	1 Meg	Log Taper	Rear Section
—	2	M45A254	250K	Log Taper	Rear Section
—	2	M45A504	500K	Log Taper	Rear Section
—	2	M45D102	1000	Linear Taper	Rear Section
—	4	M45D103	10K	Linear Taper	Rear Section
—	4	M45D104	100K	Linear Taper	Rear Section
—	4	M45D105	1 Meg	Linear Taper	Rear Section
—	2	M45D253	25K	Linear Taper	Rear Section
—	2	M45D254	250K	Linear Taper	Rear Section
—	2	M45D502	5000	Linear Taper	Rear Section
—	4	M45D503	50K	Linear Taper	Rear Section
—	4	M45D504	500K	Linear Taper	Rear Section
—	2	M45D505	5 Meg	Linear Taper	Rear Section

SWITCHES AND COVERS

ELS-1	ELS-2	Item	Description
3	5	DPST	Rotary type, 3 amps at 125 volts, 1 amp at 250 volts, 5 amps at 20 volts, AC. UL approved.
9	15	SPST	Rotary type, 3 amps at 125 volts, 1 amp at 250 volts, AC. UL approved.
42	44	45C	Snap-on cover.

See Pages 1332 thru 1335 for details of components

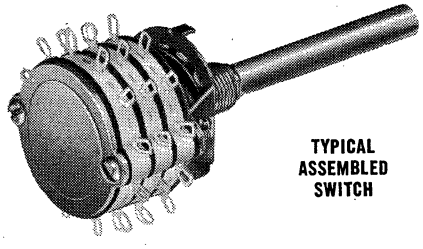


ELS-8

Rotary Selector Switches

CTS TYPE 212

A handy engineering stock of standard switch sections and shaft/detent assemblies to provide means of putting together standard and special rotary switches. Includes unique dust-proof kits, section shields and AC power switches.



TYPICAL ASSEMBLED SWITCH

ENGINEERING LAB STOCK ELS-8

The ELS-8 Rotary Selector Switch Lab Stock affords you the versatility of a combination for every application.

Contents:

- 10 T1 Wafers
- 10 T2 Wafers
- 10 T3 Wafers
- 5 T4 Wafers
- 10 T5 Wafers
- 10 T6 Wafers
- 10 T7 Wafers
- 5 T8 Wafers
- 5 T9 Wafers
- 10 T79 Shaft/Detent
- 10 T80 Shaft/Detent
- 5 T81 Shaft/Detent
- 5 T82 Shaft/Detent
- 1 SSK-1 Sealing Kit
- 1 DSWK-1 Sealing Kit
- 5 SSS-1 Shields
- 5 SSS-2 Shields
- 5 SSS-3 Shield/Bracket
- 1 GC-21 Switch
- 1 VF-21 Switch
- 1 WF-21 Switch

Packed in sturdy, steel cabinet with 12 labeled drawers.

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IRC-CTS ENGINEERING LABORATORY STOCKS

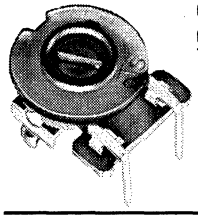
IRC, DIVISION OF TRW INC.

Low Cost Trimming Potentiometers

CTS Type U201 — Parallel Mounting

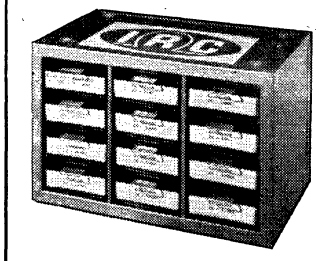
ELS-9 *See Page 1250 for details of components*

A fully reliable but inexpensive trimming potentiometer with printed circuit terminals and mounting ears for positioning parallel to circuit board. Slotted for front or rear adjustment or finger-tip knob setting. Rated at ¼ watts. Linear taper composition carbon resistance element.



Contents:

Quantity	Ohms	Quantity	Ohms
5	100	10	25K
10	250	10	50K
10	500	20	100K
10	1000	5	250K
10	2500	10	500K
15	5000	5	1.0 meg.
25	10K		



Each IRC-CTS Engineering Laboratory stock on this page is packed in *sturdy, steel cabinet with 12 labeled drawers.*

Low Cost Trimming Potentiometers

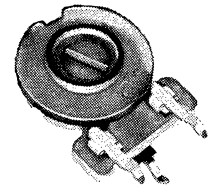
CTS Type X201 — Perpendicular Mounting

ELS-10 *See Page 1250 for details of components*

Same as U201 described on left except printed circuit terminals oriented for perpendicular mounting. The more popular type of mounting.

Contents:

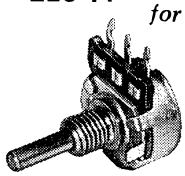
Quantity	Ohms	Quantity	Ohms
10	100	20	25K
5	250	15	50K
15	500	20	100K
25	1000	5	250K
25	2500	10	500K
20	5000	15	1.0 meg.
20	10K		



Miniature 5/8" diameter Variable Resistors

CTS Series 200

ELS-11 *See Page 1251 for details of components*



Versatile, miniature-sized carbon composition variable resistors with printed circuit terminals perpendicular to mounting board. Bushing ¼" — 32x¼" long. Shaft ⅛" diameter x 1" long F.M.S. screwdriver slotted. ¼ watt rating through 100K ohms; 2/10 watt rating above 100K.

Contents:

Quantity	Ohms	Quantity	Ohms
5	1000	10	100K
10	2500*	5	250K
5	5000*	5	500K*
10	5000	5	500K
10	10K	5	1.0 meg.*
5	25K	5	1.0 meg.
5	50K		

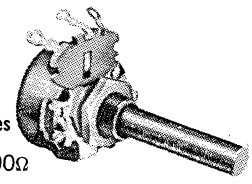
* Audio taper (balance linear taper)

15/16" diameter 5 watt Variable Resistors

CTS Type AW — 3" Long Shaft

ELS-12 *See Page 1251 for details of components*

Compact sized wire wound controls rated at 5 watts @ 25°C. Bushing ⅜"—32 x ⅜" long. Shaft ¼" diameter x 3" long. Enclosed construction. Linear taper.



Contents:

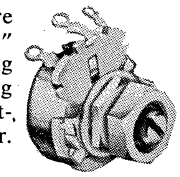
5 each following values

10Ω	100Ω	2000Ω
20Ω	250Ω	3000Ω
25Ω	500Ω	5000Ω
50Ω	1000Ω	10KΩ

15/16" diameter 5 watt Variable Resistors

CTS Type AWRL — ½" Long Shaft, Locking Bushing

ELS-13 *See Page 1251 for details of components*



Versatile 5 watt wire wound controls with ⅜" — 32 x ⅜" long locking bushing with ½" long F.M.S. screwdriver slotted shaft. Linear taper. Enclosed construction.

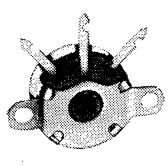
Contents:

Quan.	Ohms	Quan.	Ohms	Quan.	Ohms
5	10	10	100	10	2000
5	15	5	200	5	2500
5	20	5	250	5	3000
5	25	10	500	15	5000
5	50	5	1000	5	10K

¾" diameter 2 watt Variable Resistors

CTS Type 117 — Rivet Ear Mounting

ELS-14 *See Page 1250 for details of components*



Wire wound trimming potentiometer. Element and rotor insulated from case. Enclosed construction. Linear resistance taper. Cross slot adjustment. Plug-in nylon shaft included.

Contents:

Quan.	Ohms	Quan.	Ohms	Quan.	Ohms
5	5	5	100	5	2500
5	10	5	250	5	5000
5	25	5	500	5	10K
5	50	10	1000	20	Shafts

¾" diameter 2 watt Variable Resistors

CTS Type P115 — Twist Tab Mounting

ELS-15 *See Page 1250 for details of components*

Wire wound trimming potentiometer. Element and rotor insulated from case. Enclosed construction. Linear resistance taper. Cross slot adjustment. Plug-in nylon shaft included.

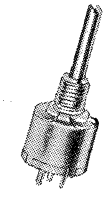
Contents:

Quan.	Ohms	Quan.	Ohms	Quan.	Ohms
5	5	5	100	10	2500
5	10	10	250	10	5000
5	25	20	500	15	10K
15	50	5	1000	20	Shafts

Military Miniature ¾ watt Variable Resistors

RV6NAYSD — CTS Series 300 — ½" Diameter

ELS-16 *See Page 1253 for details of components*



Reliable CTS carbon ceramic resistance element. ¼"—32 x ¼" long bushing. Slotted shaft ⅛" diameter x ⅞" long F.M.S. Excellent stability. High resolution. Tolerance: ±10% thru 500K ohms; ±20% above 500K ohms.

Contents:

Quantity	Ohms	Quantity	Ohms
3	100	3	25K
3	250	3	50K
3	500	3	100K
3	1000	3	500K
3	2500	3	1.0 meg.
3	5000	3	2.0 meg.
3	10K	3	2.5 meg.

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IRC-CTS ENGINEERING LABORATORY STOCKS

IRC, DIVISION OF TRW INC.

Military Miniature ¾ watt Variable Resistors

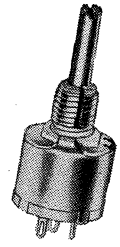
RV6LAYSA — CTS SERIES 300 — LOCKING BUSHING

ELS-17 *See Page 1253 for details of components*

Reliable CTS carbon ceramic resistance element. ¼" — 32 x ½" long locking bushing. Slotted shaft ⅛" diameter x ⅝" long F.M.S. High resolution. Tolerance: ±10% thru 500K ohms; ±20% above 500K ohms. *Packed in sturdy, steel cabinet with 12 labeled plastic drawers.*

Contents: 3 each of following values

Ohms	Ohms
100	50K
250	100K
500	250K
1000	500K
2500	1.0 meg.
5000	2.0 meg.
10K	2.5 meg.
25K	

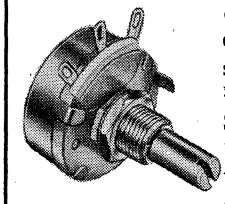


TYPICAL CONTROL

Military 3 watt Variable Resistors

RV4NAYSD — CTS SERIES 320

ELS-18 *See Page 1253 for details of components*



TYPICAL CONTROL

Carbon ceramic element. Completely enclosed construction. 1-1/16" diameter. ⅜" — 32 x ⅜" long bushing. Slotted shaft ¼" diameter x ⅞" long F.M.S. Resistance tolerance: ±10% thru 500K ohms; ±20% 1 megohm and over. *Packed in sturdy, steel cabinet with 12 labeled plastic drawers.*

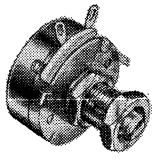
Contents: 3 each of following values

Ohms	Ohms
100	50K
250	100K
500	250K
1000	500K
2500	1.0 meg.
5000	2.5 meg.
10K	5.0 meg.
25K	

Military 3 watt Variable Resistors

RV4LAYSA — CTS SERIES 320

ELS-19 *See Page 1253 for details of components*



TYPICAL CONTROL

Carbon ceramic element. Completely enclosed construction. 1-1/16" diameter. ⅜" — 32 x ½" long locking bushing. Slotted shaft ¼" diameter x ⅝" long F.M.S. Resistance tolerance: ±10% thru 500K ohms; ±20% 1.0 megohm and above. *Packed in sturdy, steel cabinet with 12 labeled plastic drawers.*

Contents: 3 each of following values

Ohms	Ohms
100	25K
250	50K
500	100K
1000	250K
2500	500K
5000	1.0 meg.
10K	5.0 meg.

1-1/16" diameter 3 watt Variable Resistors

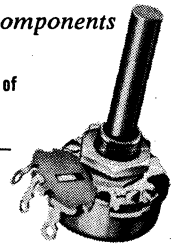
RV4NAY — CTS SERIES 320 — 2½" SHAFT

ELS-20 *See Page 1253 for details of components*

Reliable carbon ceramic element. Enclosed construction. Military grade control. ⅜" — 32 x ⅜" long bushing. ¼" diameter full round shaft 2½" long F.M.S. Resistance tolerance: ±10% thru 500K ohms; ±20% 1.0 megohm and above. *Packed in sturdy, steel cabinet with 12 labeled plastic drawers.*

Contents: 3 each of following values

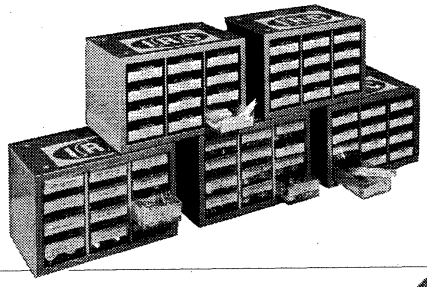
Ohms	Ohms
250	25K
500	50K
1000	100K
2500	250K
5000	500K
10K	1.0 meg.

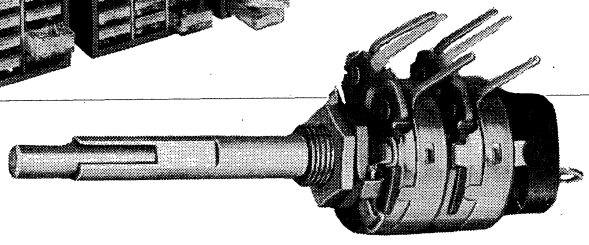


TYPICAL CONTROL

ELS-21 Series 45 Model Shop Stock

See Page 1236 and 1237 for component details





TYPICAL CONTROL

This ELS-21 Model Shop Stock provides you with a carefully selected assortment of control components which snap-together to provide an especially wide variety of types, mountings and resistance values of controls or variable resistors. These components are arranged in module-type cabinets in alpha-numerical order.

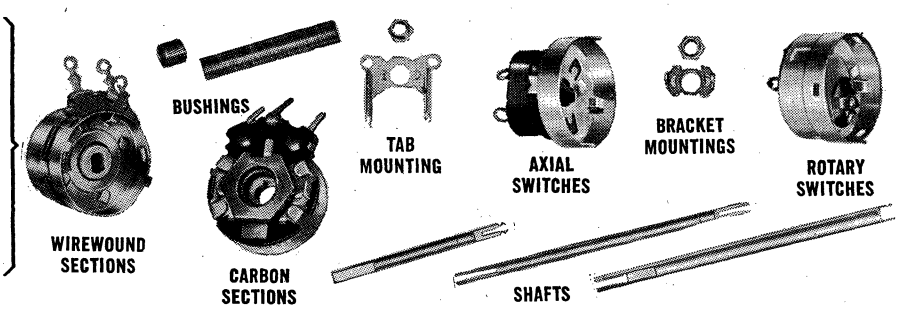
The components included are those which will generally be needed for engineering, laboratory and prototype use. Many additional components are available.

SNAP-TOGETHER COMPONENTS. Here is a quick, easy way to fill your engineering and prototype needs for reliable controls, variable resistors and potentiometers. CTS basic Series 45 SNAPTROL system, pioneered for practical, dependable replacements for TV, radio and automobile controls, provides snap-together components for literally millions of variations. This ELS-21 Model Shop Stock will assist you in expediting important development projects, giving you a carefully selected assortment of control components which snap-together to provide an especially wide variety of types, mountings and resistance values. *Ask for Booklet S-607 for complete details.*

Nearly Endless Combinations of:

- Single section controls
- Tandem dual section controls
- Concentric dual controls
- Combinations of concentric and tandem controls
- Tandem triple controls
- Tandem quadruple controls
- Custom and special controls

FROM THESE BASIC PARTS



IRC DISTRIBUTOR PRODUCTS

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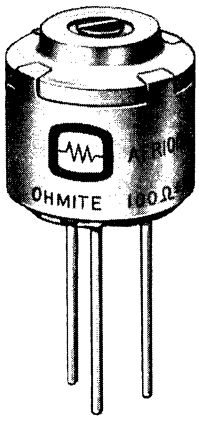
OHMITE hot molded single-turn trimmers

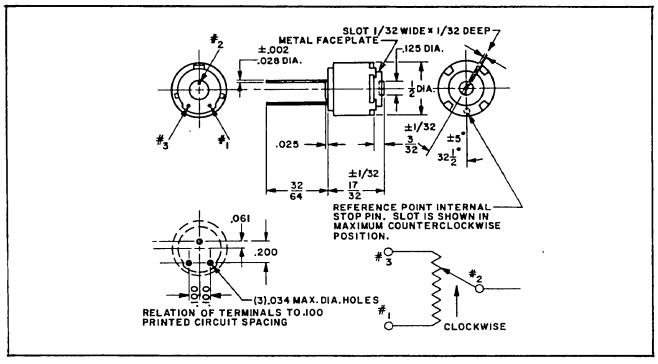
TYPE AFR — SINGLE TURN



OHMITE type AFR Trimmers are single-turn controls built to withstand severe environmental conditions. Their unique design includes a hot-molded resistor track bridged by a single moving molded contact brush. Resistance material, collector track material, insulation material and metal terminals are all molded together at one time into a single, solid, integral structure. There are no cracks or crevices to admit moisture.

Enclosure of the Ohmite type AFR is non-magnetic, corrosion resistant, and splash-proof. Type AFR Trimmers are designed for screwdriver adjustment. Fixed stops withstand a maximum shaft torque of 2 inch-pounds.

In excess of 50,000 operational cycles with low "noise" level initially — decreasing with use — can be expected in conventional applications.



CHARACTERISTICS:

Power Rating: ¼ watt @ +70° C ambient temperature. Derate power linearly to zero at +120° C ambient for resistance values to 0.5 megohms. Additional derating required for resistance values over 0.1 megohms at ambients higher than 70° C.

Resistance Range: 100 ohms to 5.0 megohms. Resistance change is nominally linear with shaft rotation.

Tolerance: ±20% standard.

Temperature Range: —55° C to +120° C.

Working Voltage: 350 volts, RMS, maximum.

Dielectric Strength: 750 VAC, RMS, at sea level.

Adjustment: Single turn, 295 ±5 degrees.

Torque: 0.25 to 3.0 inch-ounces.

Leads: Designed for mounting directly on printed wiring boards using the terminal leads which are spaced to fit the 0.1″ printed wiring board standard spacing.

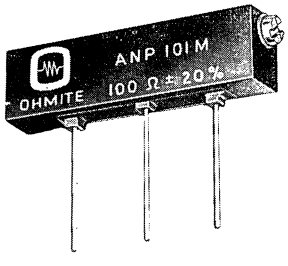
STOCK OHMITE TYPE AFR TRIMMERS

Ohms ±20%	Stock Number	Ohms ±20%	Stock Number
100	AFR 101M	25,000	AFR 252M
250	AFR 251M	50,000	AFR 503M
500	AFR 501M	.1 meg	AFR 104M
1,000	AFR 102M	.25 meg	AFR 254M
2,500	AFR 252M	.5 meg	AFR 504M
5,000	AFR 502M	1.0 meg	AFR 105M
10,000	AFR 103M	2.5 meg	AFR 255M
		5.0 meg	AFR 505M

AVAILABLE ONLY FROM OHMITE DISTRIBUTORS Net Price 1-9 pcs.: $3.00

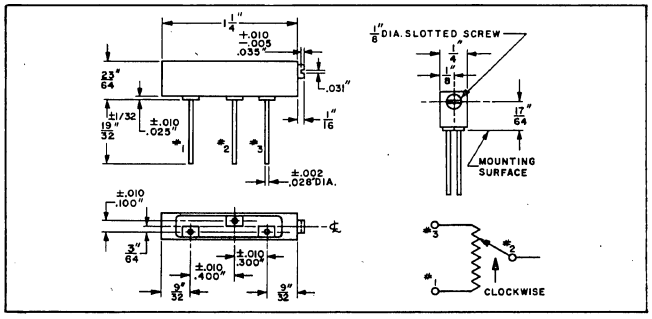
hot molded 25-turn trimmers

TYPE ANP — 25-TURN



Ohmite type ANP Hot-Molded Trimmers are continuously adjustable 25-turn variable resistors intended primarily for trimmer applications. Designed for use on printed circuit boards, these dependable three-terminal devices can be applied as either rheostats or potentiometers with equally satisfactory results. Stepless and relatively non-inductive regardless of resistance value. Unexcelled stability of setting in normal environmental conditions.

The type ANP Trimmer is produced by a hot-molding process using a high insulation material together with a hot molded resistance track, low resistance collector track and terminal pins — all combined into a single, solid, integral structure. The type ANP is splash-proof, dust-tight and can be mounted by its own rugged terminals.



CHARACTERISTICS:

Power Rating: ⅓ watt @ 50° C ambient temperature. Derate power linearly to zero at 100° C.

Resistance Range: 100 ohms to 0.1 megohms. Resistance change is nominally linear with shaft rotation.

Tolerance: Standard resistance tolerance is ±20%.

Temperature Range: —55° C to +100° C.

Working Voltage: 350 volts RMS, maximum at sea level.

Dielectric Strength: 700 volts RMS maximum, at sea level.

Insulation Resistance: 1000 megohms minimum.

Adjustment: 25 ± 3 turns for continuous resistance change. Mechanical release at end positions. Turning torque is 0.10 to 8 inches-ounce. Slotted for screwdriver adjustment.

Leads: Pin type terminals, spaced in accordance with 0.1″ printed wiring board grid system.

STOCK OHMITE TYPE ANP TRIMMERS

Ohms ±20%	Stock Number	Ohms ±20%	Stock Number
100	ANP-101M	5,000	ANP-502M
250	ANP-251M	10,000	ANP-103M
500	ANP-501M	25,000	ANP-253M
1,000	ANP-102M	50,000	ANP-503M
2,500	ANP-252M	.1 meg	ANP-104M

AVAILABLE ONLY FROM OHMITE DISTRIBUTORS Net Price 1-9 pcs.: $3.30

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OHMITE vitreous enameled rheostats (potentiometers)

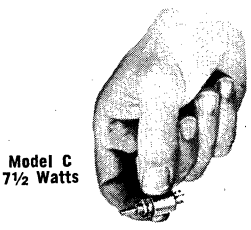
Now, Ohmite offers TWELVE sizes in its line of famous rheostats ranging from 7.5 to 1000 watts. Nothing to shrink or burn, all models are metal and ceramic construction and coated with Ohmite's exclusive vitreous enamel. The revolutionary Model C, 7½ watt miniature unit, **the smallest rheostat of its rating available,** employs this same construction! All Model C stock units and the enclosed Model E unit, are normally supplied in a corrosion-resistant dust-proof case. Model C units are stocked in both standard and locking type bushings.

In all Ohmite rheostats, the resistance wire is wound on a solid ceramic core. The turns are locked in place with tough, protective vitreous enamel. Pivoted, universal action mounting of the brush, assures perfect contact. Copper-graphite brushes (and on heavier current units, silver-graphite) prevent wear of the resistance track. Terminals at each end of the winding permit connection of the unit as a potentiometer.

Models H, J, G, K, L, P, and N, marked "Series A," are listed under the Underwriters' Laboratories Reexamination Service. RHEOSTAT KNOBS are listed on page 20. (Request Catalog 50 for rheostats to meet military specification, MIL-R-22).

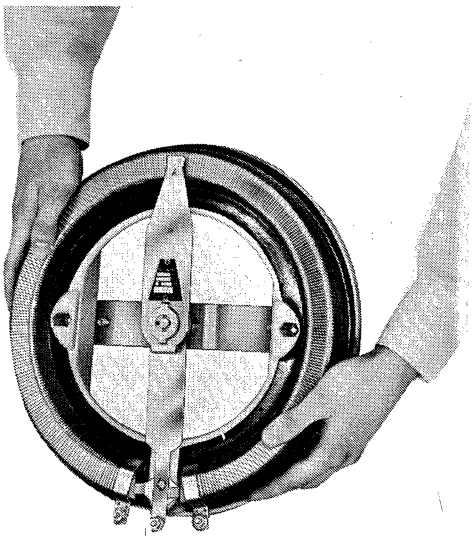
RATINGS: Current ratings shown, assume use in free air. If units are enclosed, currents should be reduced to as much as 50% depending upon ventilation. The rated current causes the rheostat to dissipate its rated wattage when its full resistance is in the circuit.

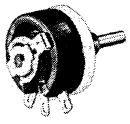
SPECIAL RHEOSTAT FEATURES: Hundreds of features to meet your special rheostat requirements can be furnished. Submit your specifications.



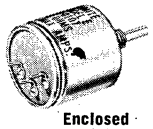
Model C
7½ Watts

NOW, FOR ITS RATING INDUSTRY'S SMALLEST RHEOSTAT!





Unenclosed
Model E
12½ Watts



Enclosed
Model E
12½ Watts

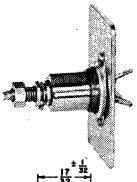
MODEL "C" — 7½ WATT* — STANDARD & LOCKING BUSHINGS

Diameter .515" max. — Depth behind panel ⅞" — Shaft ⅛" diameter, slotted for both types; Std. shaft accommodates knob — Rotation 300° — Mounting for panels up to ⅛" by means of ¼"-32 bushing and hex. nut — Non-turn lug requires ⅛" hole ¼" below center of shaft — No. 5151 knob recommended — Solder terminals also fit EIA type TS-E3R100 transistor socket — Wt. 0.27 oz.

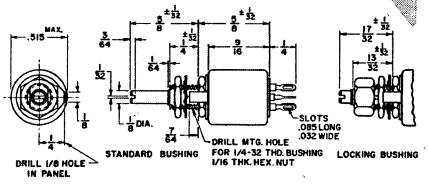
Ohms	Amps.	Standard Shaft Stock No. [1]	Standard Shaft Net $ 1-4	Locking Shaft Stock No. [1]	Locking Shaft Net $ 1-4
10	.86	4908	8.59	4948	10.48
15	.71	**4909**	8.59	4949	10.48
25	.55	4910	8.59	4950	10.48
35	.46	4911	8.59	4951	10.48
50	.39	4912	8.59	4952	10.48
75	.32	4913	8.59	4953	10.48
100	.27	**4914**	8.59	4954	10.48
150	.22	4915	8.59	4955	10.48
200	.19	4916	8.59	4956	10.48
250	.17	4917	8.59	4957	10.48
350	.15	4918	8.59	4958	10.48
500	.12	4919	8.59	4959	10.48
750	.10	4920	8.59	4960	10.48
1000	.086	4921	9.72	4961	11.61
1500	.071	4922	9.72	4962	11.61
2500	.055	4923	9.72	4963	11.61
3500	.046	4924	10.15	4964	12.04
5000	.039	4925	10.15	4965	12.04

*Rating on metal panel — unit is silicone-ceramic coated.

Locking-type Model C mounted in socket on panel. Solder terminals fit transistor socket.



MODEL C



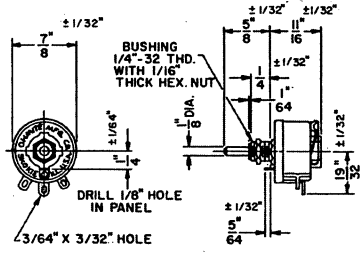
MODEL "E" — 12½ WATT* — UNENCLOSED & ENCLOSED

Diameter ⅞"; Diameter with dust-tight aluminum enclosure 1¾₄" — Depth behind panel 1¹⁄₁₆"; for enclosed, 1²⁄₃₂" — Rotation 300° — Mounts on panels up to ⅛" by means of ¼"-32 bushing and hex nut — Non-turn lug requires ⅛" hole ¼" below center of shaft. No. 5151 knob recommended—Wt. 0.6 oz.; enclosed 0.85 oz.

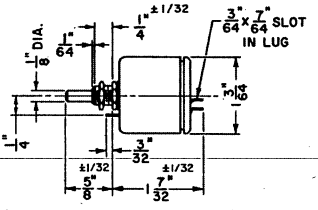
Total Ohms	Max. Amps	Steps Appr.	Unenclosed Stock No. [1]	Unenclosed Net $ 1-4	Enclosed Stock No. [1]	Enclosed Net $ 1-4
1	3.53	28	**0101**	5.05	W0101	6.95
2	2.50	29	**0102**	5.05	W0102	6.95
2.5	2.24	29	0102A	5.05	W0102A	6.95
3	2.04	38	**0103**	5.05	W0103	6.95
5	1.58	51	0103A	5.05	W0103A	6.95
6	1.44	35	**0104**	5.05	W0104	6.95
8	1.25	53	**0105**	5.05	W0105	6.95
10	1.12	50	**0106**	5.05	W0106	6.95
15	.91	70	**0107**	4.55	W0107	6.35
25	.71	72	**0108**	4.55	W0108	6.35
35	.60	82	**0109**	4.55	W0109	6.35
50	.50	92	**0110**	4.55	W0110	6.35
75	.41	105	**0111**	4.55	W0111	6.35
100	.35	102	**0112**	4.55	W0112	6.35
125	.32	110	**0113**	4.55	W0113	6.35
150	.29	130	0113A	4.55	W0113A	6.35
175	.27	155	**0114**	4.55	W0114	6.35
200	.25	135	0114A	4.55	W0114A	6.35
250	.22	170	**0115**	4.55	W0115	6.35
350	.19	190	**0116**	4.55	W0116	6.35
500	.16	210	**0117**	4.55	W0117	6.35
750	.13	200	**0118**	4.55	W0118	6.35
1,000	.11	260	**0119**	5.05	W0119	6.95
1,500	.091	209	**0120**	5.05	W0120	6.95
2,500	.071	323	**0121**	5.05	W0121	6.95
3,500	.060	400	**0122**‡	5.35	W0122†	7.25
5,000	.050	340	**0123**†	5.35	W0123†	7.25
7,500	.041	420	4190†	5.55	W4190†	7.45
10,000	.035	560	**4191**†	5.55	W4191†	7.45
12,500	.031	480	4192†	6.05	W4192†	7.95
15,000	.029	490	4193†	6.05	W4193†	7.95

*Rating on metal panel. †Silicone-ceramic coating — 350V maximum; 7500 ohms = 305V

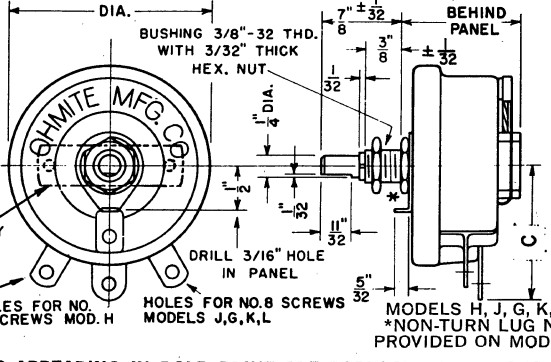
MODEL E



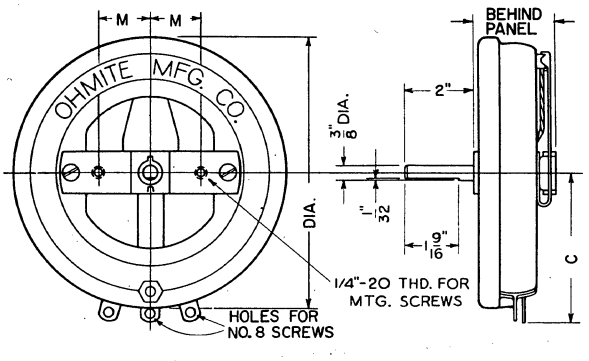
MODEL E ENCLOSED



dimensions: MODELS H, J, G, K, L*



MODELS P, N, R, T, U



[1]ITEMS APPEARING IN BOLD PRINT ARE POPULAR MODELS AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

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OHMITE vitreous enameled rheostats (potentiometers)

25 WATT MODEL "H," series A

Dia. 1⁹⁄₁₆" — Depth behind panel 1⅜" — Shaft ¼" dia. Rotation 300° — Mounts on panels up to ¼" by means of ⅜"-32 Bushing and Hex. Nut — Non-turn lug requires ³⁄₁₆" hole ½" below ctr. of shaft — No. 5150 knob recom. — C dimension is 1⁵⁄₁₆" — Weight 0.19 lb.

Stock No. [1]	Total Ohms	Max. Amps	Steps Approx	Net$ 1-4
0140	1	5.000	30	5.05
0141	2	3.540	29	5.05
0142	3	2.880	51	5.05
0143	6	2.040	50	5.05
0144	8	1.770	52	5.05
0145	10	1.580	52	5.05
0146	15	1.290	74	4.55
0147	25	1.000	95	4.55
0148	35	.845	107	4.55
0149	50	.707	97	4.55
0150	75	.575	117	4.55
0151	100	.500	123	4.55
0152	125	.445	155	4.55
0153	175	.375	171	4.55
0154	250	.316	159	4.55
0155	350	.267	210	4.55
0156	500	.222	245	4.55
0157	750	.182	286	4.55
0158	1,000	.155	305	5.05
0159	1,500	.129	380	5.05
0160	2,500	.100	300	5.05
0161	3,500	.084	335	5.35
0162	5,000	.070	380	5.35
4200†	7,500	.058	590	5.55
4201†	10,000	.050	525	5.55
4202†	15,000	.041	750	6.05
4203†	20,000	.035	750	6.80
4204†	25,000	.032	700	7.50

† Silicone-ceramic coating, 500V max. Not listed UL Ser. A.

50 WATT MODEL "J," series A

Dia. 2⁹⁄₁₆" — Depth behind panel 1⅜" — Shaft ¼" dia. Rotation 300° — Mounts on panels up to ¼" by means of ⅜"-32 Bushing and Hex. Nut — Non-turn lug requires ³⁄₁₆" hole ½" below ctr. of shaft — No. 5150 knob recom. — C dimension is 1⁹⁄₁₆" — Weight 0.32 lb.

Stock No. [1]	Total Ohms	Max. Amps	Steps Approx	Net$ 1-4
0308	0.5	10.000	25	5.65
0309	1	7.070	44	5.65
0310	2	5.000	44	5.65
0311	4	3.530	44	5.65
0312	6	2.880	74	5.65
0313	8	2.500	82	5.05
0314	12	2.040	85	5.05
0315	16	1.760	89	5.05
0316	22	1.500	98	5.05
0317	35	1.190	126	5.05
0318	50	1.000	111	5.05
0319	80	.790	143	5.05
0320	125	.630	177	5.05
0321	150	.575	175	5.05
0322	225	.470	203	5.05
0323	300	.408	215	5.05
0324	500	.316	286	5.05
0325	800	.250	286	5.35
0326	1,000	.224	360	5.35
0327	1,600	.176	368	5.35
0328	2,500	.141	463	5.35
0329	3,500	.119	510	5.65
0330	5,000	.100	442	5.65
0331	8,000	.079	560	5.65
0332	10,000	.070	567	5.65
4210†	15,000	.058	700	6.40
4211†	20,000	.050	850	7.25
4212†	25,000	.045	950	8.00
4213†	30,000	.041	900	8.85
4214†	40,000	.035	950	10.30
4215†	50,000	.032	1130	11.25

† Silicone-ceramic coating, 750V max. Not listed UL Ser. A.

75 WATT MODEL "G," series A

Dia. 2¾" — Depth behind panel 1¾" — Shaft ¼" dia. Rotation 300° — Mounts on panels up to ¼" by means of ⅜"-32 Bushing and Hex. Nut — Non-turn lug requires ³⁄₁₆" hole ½" below ctr. of shaft — No. 5150 knob recom. — C dimension is 1²⁵⁄₃₂" — Weight 0.52 lb.

Stock No. [1]	Total Ohms	Max. Amps	Steps Approx	Net$ 1-4
1100	0.5	12.300	28	7.65
1101	1	8.660	27	7.65
1102	2	6.120	28	7.65
1103	3	5.000	53	7.65
1104	5	3.880	54	7.65
1105	7.5	3.160	51	7.65
1106	10	2.740	55	7.65
1107	16	2.170	131	7.05
1108	25	1.730	113	7.05
1109	50	1.230	143	7.05
1110	75	1.000	134	7.05
1111	100	.866	180	7.05
1112	200	.612	186	7.05
1113	300	.500	217	7.05
1114	400	.433	230	7.05
1115	500	.388	291	7.05
1116	750	.316	345	7.65
1117	1,000	.274	351	7.65
1118	1,500	.224	434	7.65
1119	2,000	.194	450	7.65
1120	2,500	.173	448	7.65
1121	5,000	.123	590	8.20
1122	7,500	.100	544	8.85
1123	10,000	.087	568	8.85

100 WATT MODEL "K," series A

Dia. 3⅛" — Depth behind panel 1¾" — Shaft ¼" dia. Rotation 300° — Mounts on panels up to ¼" by means of ⅜"-32 Bushing and Hex. Nut — Non-turn lug requires ³⁄₁₆" hole ½" below ctr. of shaft — No. 5150 knob recom. — C dimension is 1²⁵⁄₃₂" — Weight 0.64 lb.

Stock No. [1]	Total Ohms	Max. Amps	Steps Approx	Net$ 1-4
0440	0.5	14.100	33	8.45
0441	1	10.000	33	8.45
0442	2	7.070	33	8.45
0443	3	5.750	30	8.45
0444	5	4.470	57	8.45
0445	7.5	3.650	60	8.45
0446	10	3.160	57	8.45
0447	16	2.500	124	7.95
0448	25	2.000	107	7.95
0449	50	1.410	135	7.95
0450	75	1.150	158	7.95
0451	100	1.000	168	7.95
0452	200	.707	213	7.95
0453	300	.575	259	7.95
0454	400	.500	270	7.95
0455	500	.447	269	7.95
0456	750	.365	319	7.95
0457	1,000	.316	330	8.45
0458	1,500	.258	402	8.45
0459	2,000	.224	417	8.45
0460	2,500	.200	515	8.45
0461	5,000	.141	560	9.05
0462	7,500	.115	495	9.65
0463	10,000	.100	673	10.20

150 WATT MODEL "L," series A

Dia. 4" — Depth behind panel 2" — Shaft ¼" diameter. Rotation 300° — Mounting for panels up to ¼", ⅜"-32 Bushing and Hex. Nut or two 10-32x¾" flat head screws, mounting centers ⅞" each side of center of shaft on line perpendicular to center terminal. — Stock No. 5150 knob recom. — C dimension is 2³²⁄₃₂" — Weight 1.1 lbs.

Stock No. [1]	Total Ohms	Max. Amps	Steps Approx	Net$ 1-4
0524	0.5	17.300	28	10.75
0525	1	12.300	44	10.75
0526	2	8.650	43	10.75
0527	3	7.070	74	10.75
0528	5	5.480	78	10.75
0529	7.5	4.470	81	10.75
0530	10	3.880	77	10.75
0531	15	3.163	130	10.75
0532	25	2.450	114	10.15
0533	35	2.070	125	10.15
0534	50	1.735	142	10.15
0535	75	1.415	170	10.15
0536	100	1.225	177	10.15
0537	150	1.000	215	10.15
0538	200	.865	229	10.15
0539	250	.775	285	10.15
0540	350	.655	315	10.15
0541	500	.548	366	10.15
0542	750	.447	335	10.75
0543	1,250	.346	453	10.75
0544	1,800	.288	497	11.35
0545	2,250	.259	511	11.35
0546	3,000	.224	526	11.35
0547	4,500	.182	630	11.90
0548	7,500	.141	894	12.45
0549	10,000	.122	929	13.60

225 WATT MODEL "P," series A

Dia. 5" — Depth behind panel 2⅛" — Shaft ⅜" dia. Rotation 310° — Mounting for panels up to 1¼", two ¼"-20 x 1½" flat head screws, mounting centers (M) ⅞" each side of center of shaft on center line of cross-bar. — Stock No. 5105 Knob Recommended — C dimension is 2³¹⁄₃₂" — Weight 2 lbs.

Stock No. [1]	Total Ohms	Max. Amps	Steps Approx	Net$ 1-4
1250	1	15.000	42	15.50
1251	2	10.600	42	15.50
1252	3	8.660	43	15.50
1253	4	7.500	57	15.50
1254	5	6.710	57	15.50
1255	7.5	5.490	61	15.50
1256	10	4.740	103	15.50
1257	15	3.870	109	15.50
1258	25	3.000	115	15.50
1259	50	2.120	183	15.50
1260	75	1.730	192	15.50
1261	100	1.500	268	15.50
1262	150	1.220	256	15.50
1263	200	1.060	337	15.50
1264	300	.866	323	15.50
1265	400	.750	343	15.50
1266	700	.567	484	15.50
1267	900	.500	493	15.50
1268	1,200	.433	520	15.50
1269	1,500	.387	647	15.50
1270	1,750	.358	603	15.50
1270A	2,000	.336	650	15.50
1271	2,500	.300	652	15.50

300 WATT MODEL "N," series A

Dia. 6" — Depth behind panel 2⅜" — Shaft ⅜" dia. Rotation 320° — Mounting for panels up to 1¼", two ¼"-20 x 1½" flat head screws, mounting centers (M) 1³⁄₁₆" each side of center of shaft on center line of cross-bar. — Stock No. 5105 Knob Recommended — C dimension is 3⁷⁄₁₆" — Weight 2.6 lbs.

Stock No. [1]	Total Ohms	Max. Amps	Steps Approx	Net$ 1-2
0650	1	17.320	50	16.80
0651	2	12.240	52	16.80
0652	3	10.000	52	16.80
0653	4	8.660	78	16.80
0654	5	7.750	78	16.80
0655	7.5	6.320	72	16.80
0656	10	5.480	78	16.80
0657	15	4.470	144	16.80
0658	25	3.460	135	16.80
0659	50	2.450	218	16.80
0660	75	2.000	225	16.80
0661	100	1.730	285	16.80
0662	150	1.410	342	16.80
0663	200	1.220	363	16.80
0664	300	1.000	424	16.80
0665	400	.866	454	16.80
0666	700	.655	504	16.80
0667	900	.578	528	16.80
0668	1,200	.500	546	16.80
0669	1,500	.447	678	16.80
0670	1,750	.414	626	16.80
0670A	2,000	.387	700	16.80
0671	2,500	.346	708	16.80

500 WATT MODEL "R"

Dia. 8" — Depth behind panel 2⅛" — Shaft ⅜" dia. Rotation 325° — Mounting for panels up to 1¼", two ¼"-20 x 1½" flat head screws, mounting centers (M) 1½" each side of center of shaft on center line of cross-bar. — Stock No. 5105 Knob Recommended — C dimension is 4⁵⁄₁₆" — Weight 4 lbs.

Stock No. [1]	Total Ohms	Max. Amps	Steps Approx	Net$ 1-2
0849	1.0	22.300	69	24.30
0850	1.5	18.200	79	24.30
0851	2	15.800	75	24.30
0852	2.5	14.100	76	24.30
0853	3	12.900	78	24.30
0854	4	11.200	73	24.30
0855	5	10.000	103	24.30
0856	8	7.900	103	24.30
0857	12.5	6.300	103	24.30
0858	16	5.600	188	24.30
0859	25	4.470	204	24.30
0860	40	3.540	206	24.30
0872	50	3.160	206	24.30
0861	80	2.520	327	24.30
0862	125	2.000	327	24.30
0863	175	1.690	423	24.30
0864	250	1.410	488	24.30
0865	325	1.240	500	24.30
0866	500	1.000	609	24.30
0867	750	.817	727	24.30
0868	1,000	.707	771	24.30
0869	1,500	.577	935	24.30
0870	2,000	.500	980	24.30
0871	2,500	.447	968	24.30

750 WATT MODEL "T"

Dia. 10" — Depth behind panel 3" — Shaft ⅜" dia. Rotation 330° — Mounting for panels up to 1¼", two ¼"x20 x 1½" flat head screws, mounting centers (M) 1⅞" each side of center of shaft on center line of cross-bar. — Stock No. 5105 Knob Recommended — C dimension is 5⁹⁄₁₆" — Weight 7.6 lbs.

Stock No. [1]	Total Ohms	Max. Amps	Steps Approx	Net$ 1-2
1300	1	27.400	71	34.30
1301	1.5	22.300	91	34.30
1302	2	19.400	103	34.30
1303	2.5	17.300	99	34.30
1304	3	15.800	94	34.30
1305	4	13.600	91	34.30
1306	5	12.200	102	34.30
1307	8	9.650	98	34.30
1308	10	8.650	138	34.30
1309	12.5	7.750	138	34.30
1310	16	6.820	140	34.30
1311	25	5.470	138	34.30
1312	50	3.870	248	34.30
1313	80	3.060	250	34.30
1314	100	2.740	248	34.30
1315	160	2.170	446	34.30
1316	200	1.940	442	34.30
1317	300	1.580	540	34.30
1318	400	1.370	583	34.30
1319	600	1.117	684	34.30
1320	750	1.000	686	34.30
1321	1.200	.791	870	34.30
1322	1.800	.646	1,042	34.30
1322A	2,000	.610	900	34.30
1323	2,500	.547	1,170	34.30

1000 WATT MODEL "U"

Dia. 12" — Depth behind panel 3" — Shaft ⅜" dia. Rotation 335° — Mounting for panels up to 1¼", two ¼"-20 x 1½" flat head screws, mounting centers (M) 3" each side of center of shaft on center line of cross-bar. — Stock No. 5105 Knob Recommended — C dimension is 6⅜" — Weight 10 lbs.

Stock No. [1]	Total Ohms	Max. Amps	Steps Approx	Net$ 1-2
1450	1	31.600	86	40.10
1451	1.5	25.800	89	40.10
1452	2	22.400	115	40.10
1453	2.5	20.000	122	40.10
1454	3	18.300	125	40.10
1455	4	15.800	118	40.10
1456	5	14.100	122	40.10
1457	8	11.200	116	40.10
1458	10	10.000	114	40.10
1459	12.5	8.950	181	40.10
1460	16	7.900	164	40.10
1461	25	6.330	181	40.10
1462	50	4.470	321	40.10
1463	75	3.650	301	40.10
1464	100	3.160	321	40.10
1465	175	2.390	520	40.10
1466	225	2.110	608	40.10
1467	300	1.830	640	40.10
1468	400	1.580	685	40.10
1469	500	1.410	687	40.10
1470	750	1.150	806	40.10
1471	1,000	1.000	855	40.10
1472	1,500	.816	1,026	40.10
1473	2,500	.633	1,097	40.10

[1] ITEMS APPEARING IN BOLD PRINT ARE POPULAR MODELS AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

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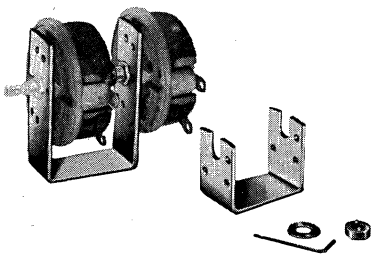
OHMITE rheostat tandem coupling kits



Tandem rheostat assemblies can be ordered from the factory or assembled by the user with these kits which permit assembly of two units. Each kit consists of a steel "U" frame, a coupling with set screw, mica washer, Allen wrench and instructions.

Rheostat shafts are joined by the coupling which is fastened to the shaft of the rear unit. Projections on the coupling fit a recess on the rear of the hub of the front unit.

Three kits are available as follows:

Cat. No. 6532—Mounts Models H or J, also accommodates Models H, J, G, K or L in rear position.

Cat. No. 6533—Mounts G, K or L units, also accommodates Models H, J, G, K or L in rear position.

Cat. No. 6591—Mounts Model E units only.

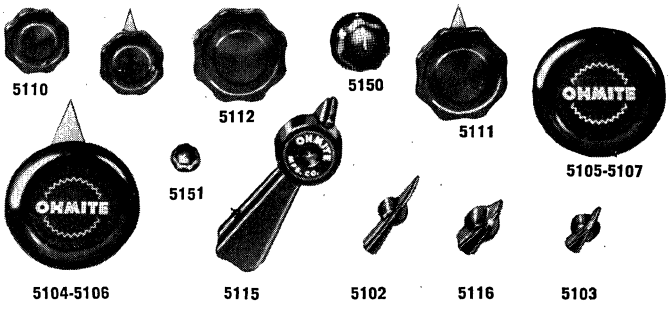
Stock No.	Max. Panel	Weight	Net 1-4
6532	5/32"*	.17 lb.	$2.20
6533	1/8"*	.41	2.75
6591	1/16"	.044	2.20

*Using No. 5150 Knob.

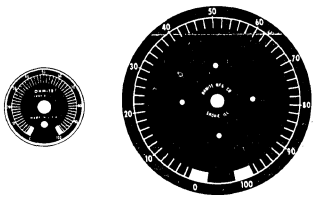
black bakelite knobs

Stock No.	Description	Knob Dia.	Hole Dia.	Net 1-2
5102	Bar Knob, 2¼" long		¼"	$ .53
5103	Bar Knob, 1¼" long		¼"	.22
5104	Handwheel with Pointer	3¼"	⅜"	1.45
5105	Handwheel without Pointer	3¼"	⅜"	1.22
5106	Handwheel with Pointer	3¼"	¼"	1.45
5107	Handwheel without Pointer	3¼"	¼"	1.22
5109	Finger-Grip with Pointer	1⅝"	¼"	.93
5110	Finger-Grip without Pointer	1⅝"	¼"	.86
5111	Finger-Grip with Pointer	2⅜"	¼"	1.39
5112	Finger-Grip without Pointer	2⅜"	¼"	1.27
*5115	Bar Knob, 4¾" long		⅜"	3.15
5116	Bar Knob, 1½" long		¼"	.53
5150	Finger-Grip	1½"	¼"	.30
5151	Finger-Grip	¾"	⅛"	.30
5152A	Like 5104 but shorter pointer	3¼"	¼"	1.68

*Requires pin and tapped hole in shaft.



rheostat dials



Handsomely finished dials for Ohmite rheostats and other apparatus, feature bright figures and lines on etched black background. Divisions marked from 0 to 100 indicate approximate percentage of rheostat resistance in circuit.

Stock No.	For Rheostat	Dial Dia.	Recom'd. Knobs*	Net 1-2
5007	C, E	1¼"	5151	$ .30
5000	H, J, G, K, L	2⅜16"	5150, 5116, 5103	.30
5001	P, N, R, T, U	5½"	5104, 5106	.74

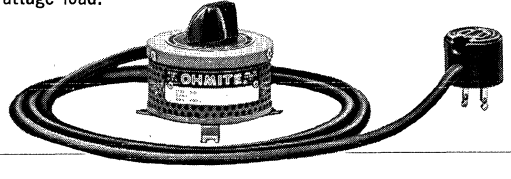
*See Bakelite Knobs above

heat control rheostats

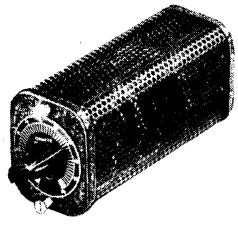
A convenient control for regulating the temperature of soldering irons, melting pots (such as those used for solder, wax, potting material) or other heater loads. With soldering irons, it permits quick adjustment of operating heat for the type of job and grade of solder.

Wattage of Device To Be Controlled		Rheostat Control	Cage Dimensions		Net Weight	Net Price
Watts	Volts	Stock No.	Dia.	Height	lbs.	1 Qty.
40— 65	115	SRC65	3⅛"	2"	.58	$14.45
85—100	115	SRC100	3⅛"	2"	.58	14.45
120—150	115	SRC150	3¾"	2⅜"	.93	16.40
175—220	115	SRC220	3¾"	2⅜"	1.05	20.00
300—350	115	SRC350	4½"	2⅜"	1.63	22.25
430—500	115	SRC500	7½"	3¼"	2.25	27.50

Consists of vitreous enameled rheostat housed in a perforated metal cage, with knob and dial. Supplied with series plug and six feet of heater type cord. The cord from the heater load is plugged into the series plug which is then plugged into a receptacle. Order in accordance with expected maximum wattage load.



high wattage T-pad and L-pad attenuators



Stepless control of speaker volume with essentially constant impedance is provided by Ohmite attenuators. In use, these units are interposed between high power amplifiers and speaker or speakers.

Housed in grey, perforated metal cage 3⅛" high, 2⅝" wide and extending 4¼" behind panel for L-pads; 6¼" for T-pads. Shaft ¼" and bushing ⅜" diameter; bushing length is for ¼" maximum panel (specify greater thicknesses). Mounted with two 10/32 screws (supplied) on 2⅝" vertical centers.

T-PAD ATTENUATORS			L-PAD ATTENUATORS		
25 WATT Avg. Wt. 1.44 lbs.			25 WATT Avg. Wt. 1 lb.		
Stock No.	Line Impedance in Ohms	Net Price 1 Qty.	Stock No.	Line Impedance in Ohms	Net Price 1 Qty.
3001	15	$28.10	3201	15	$25.75
3002	50	28.10	3202	50	25.75
3003	200	28.10	3203	200	25.75
3004	500	28.10	3204	500	25.75
50 WATT Avg. Wt. 1.88 lbs.			50 WATT Avg. Wt. 1.25 lbs.		
3101	15	$28.65	3301	15	$26.90
3102	50	28.65	3302	50	26.90
3103	200	28.65	3303	200	26.90
3104	500	28.65	3304	500	26.90

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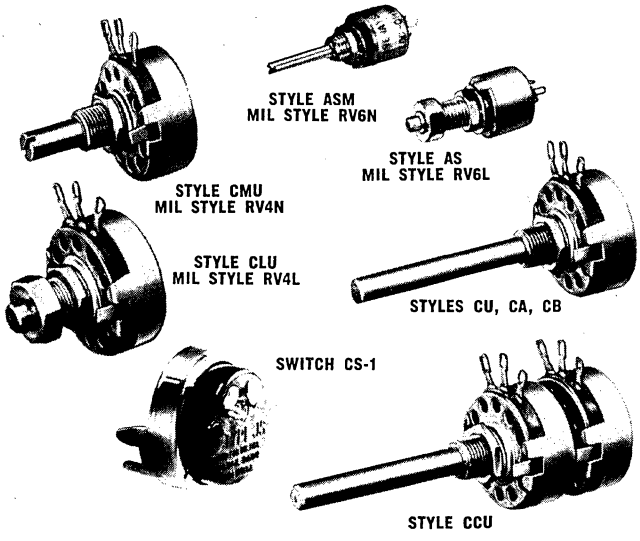
OHMITE molded composition potentiometers

AVAILABLE ONLY FROM OHMITE DISTRIBUTORS

Ohmite molded composition potentiometers are used in commercial and military electronic applications where high quality and dependable performance are important. Type AB is rated 2 watts at 70°C ambient and is available with 7/8" slotted shaft (CMU), 2" unslotted shaft (CU, CA, CB, CCU) and locking type bushing with slotted shaft (CLU). Type AS is a miniature unit rated ½ watt. It is available with locking type bushing and slotted shaft (Style AS) and standard bushing with longer (slotted) shaft for knob control (Style ASM).

Because the resistance element is a thick, solid-molded ring — not a sprayed film or paint-type resistor — longer life and smoother operation are obtained. This is due also to the molded composition contact. Units are dust and splash proof, fungus and corrosion resistant and meet the requirements of military specification MIL-R-94. Styles CMU, CLU, AS and ASM conform respectively to MIL-R-94, Styles RV4N, RV4L, RV6L and RV6N.

Styles and tapers are listed in table. Dimensions of all stock units are shown below. A SPST switch for single AB controls can be supplied (see below table).

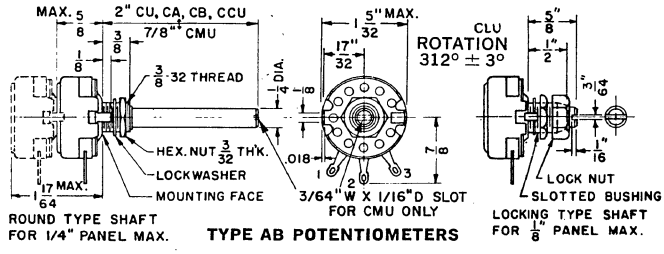


STOCK "POTS" — MIL Units are Stamped with MIL and Commercial Designations

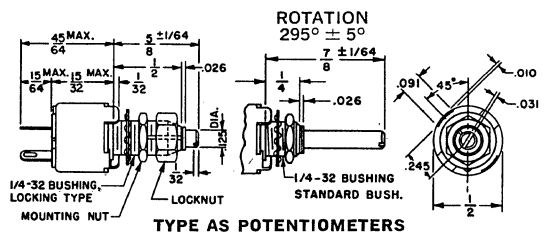
Resistance	TYPE AB (1 5/32" Dia.), Rated 2 Watts								TYPE AS (½" Dia.), Rated ½ Watt			
	Single Unit 7/8" Shaft		Single Unit 2" Shaft			Locking		Dual	Miniature Locking		Miniature 7/8" Shaft	
Ohms Except As Noted Tol. ±10% except * ±20%	Style CMU Linear	MIL Designation	Style CU Linear	Style CA CW log	Style CB CCW log	Style CLU Linear	MIL Designation	Style CCU Linear	Style AS Linear	MIL Designation	Style ASM Linear	MIL Designation
50	CMU5001	500A	CU5001			CLU5001	500A					
100	CMU1011	101A	CU1011			CLU1011	101A		AS3601	101A	AMS6661	101A
150	CMU1511	151A	CU1511			CLU1511	151A					
250	CMU2511	251A	CU2511			CLU2511	251A		AS3602	251A	ASM6662	251A
350	CMU3511	351A	CU3511			CLU3511	351A					
500	CMU5011	501A	CU5011			CLU5011	501A		AS3603	501A	ASM6663	501A
750	CMU7511	751A	CU7511			CLU7511	751A					
1,000	CMU1021	102A	CU1021			CLU1021	102A	Resistance Shown is for Each Unit	AS3604	102A	ASM6664	102A
1,500	CMU1521	152A	CU1521			CLU1521	152A					
2,500	CMU2521	252A	CU2521			CLU2521	252A		AS3605	252A	ASM6665	252A
3,500	CMU3521	352A	CU3521			CLU3521	352A					
5,000	CMU5021	502A	CU5021			CLU5021	502A		AS3606	502A	ASM6666	502A
7,500	CMU7521	752A	CU7521			CLU7521	752A					
10,000	CMU1031	103A	CU1031		CB1031	CLU1031	103A	CCU1031	AS3607	103A	ASM6667	103A
15,000	CMU1531	153A	CU1531			CLU1531	153A					
25,000	CMU2531	253A	CU2531		CB2531	CLU2531	253A	CCU2531	AS3608	253A	ASM6668	253A
35,000	CMU3531	353A	CU3531			CLU3531	353A					
50,000	CMU5031	503A	CU5031		CB5031	CLU5031	503A	CCU5031	AS3609	503A	ASM6669	503A
75,000	CMU7531	753A	CU7531			CLU7531	753A					
.1 meg.	CMU1041	104A	CU1041	CA1041		CLU1041	104A	CCU1041	AS3610	104A	ASM6670	104A
.15 meg.	CMU1541	154A	CU1541			CLU1541	154A					
.25 meg.	CMU2541	254A	CU2541	CA2541		CLU2541	254A	CCU2541	AS3611	254A	ASM6671	254A
.35 meg.	CMU3541	354A	CU3541			CLU3541	354A					
.5 meg.	CMU5041	504A	CU5041	CA5041		CLU5041	504A	CCU5041	AS3612	504A	ASM6672	504A
.75 meg.*	CMU7542	754B	CU7542			CLU7542	754B					
1.0 meg.*	CMU1052	105B	CU1052	CA1052		CLU1052	105B	CCU1052	AS3613	105B	ASM6673	105B
1.5 meg.*	CMU1552	155B	CU1552			CLU1552	155B					
2.0 meg.*	CMU2052	205B	CU2052			CLU2052	205B		AS3684	205B	ASM6674	205B
2.5 meg.*	CMU2552	255B	CU2552	CA2552		CLU2552	255B		AS3614	255B	ASM6675	255B
3.5 meg.*	CMU3552	355B	CU3552			CLU3552	355B					
5.0 meg.*	CMU5052	505B	CU5052			CLU5052	505B		AS3615	505B	ASM6676	505B
Weight	.064 lb.		.084 lb.			.070 lb.		.123 lb.	.017 lb.		.017 lb.	
Net Price 1-9	**$1.95**		**$1.95**	**$2.25**	**$2.25**	**$2.55**		**$5.85**	**$5.10**		**$5.10**	

RV4NAYSD — RV4LAYSA — RV6GLAYSA — RV6NAYSD

SWITCH CS-1 (UNMOUNTED) For CMU, CU, CA, CB, CLU Style ..... Net 1-9 $.66



TYPE AB POTENTIOMETERS



TYPE AS POTENTIOMETERS

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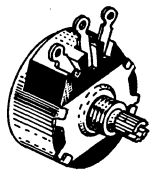
MALLORY Wire-Wound Controls

C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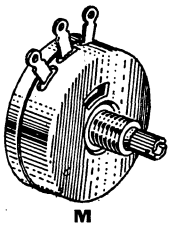
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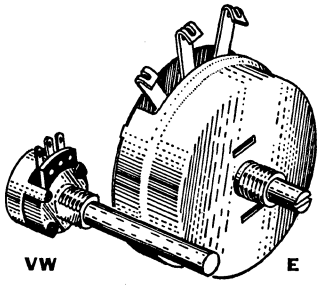
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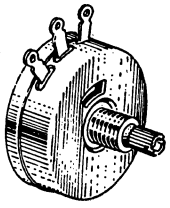
E

MG

2 WATT TYPE C

Rated 2 watts at 40° C. 1¾₄" diameter. **Mech. Rotation:** 280°. **Elec. Rotation:** 255°. **Resis. Tolerance:** ±10%. Contact arm grounded. **Bushing:** ⅜"-32 x ⅜". **Shaft:** ¼" dia. x ¾" FMS with screwdriver slot. Furn. with nut.

POTENTIOMETERS

Mallory No.	Ohms Resis.	Carrying Capacity in Amps	Net Each
C6P	6	.58	$1.08
C10P	10	.45	1.08
C15P	15	.37	1.08
C20P	20	.32	1.08
C30P	30	.26	1.08
C40P	40	.22	1.08
C50P	50	.2	1.08
C100P	100	.14	1.08
C200P	200	.1	1.08
C400P	400	.07	1.08
C1MP	1K	.045	1.20
C3MP	3K	.025	1.20
C5MP	5K	.02	1.47
C6MP	6K	.018	1.47
C10MP	10K	.014	1.47
C15MP	15K	.011	1.47

RHEOSTATS*

Mallory No.	Ohms Resis.	Carrying Capacity in Amps	Net Each
C6R	6	.58	93c
C10R	10	.45	93c
C15R	15	.37	93c
C20R	20	.32	93c
C30R	30	.26	93c
C40R	40	.22	93c
C50R	50	.2	93c
C100R	100	.14	93c

*"Open" or "off" position counter-clockwise.

3 WATT TYPE R

Standard TV wire-wound control rated 3 watts at 40° C. 1⁷⁄₆₄" diameter. **Mech. Rotation:** 297°. **Elec. Rotation:** 290°. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜"-32 x ¼". **Shaft:** ¼" dia. x 1³⁄₃₂" FMS, knurled with screwdriver slot. Furn. with nut. See listing below for switches for R controls.

Mallory No.	Ohms Resis.	Net Each	Mallory No.	Ohms Resis.	Net Each
R2L	2	$0.93	R50CT†	50	$1.32
R3L	3	.93	R100L	100	.93
R5L	5	.93	R250L	250	.93
R6L	6	.93	R500L	500	.93
R8L	8	.93	R750L	750	.93
R10L	10	.93	R1000L	1000	.93
R10CT†	10	1.32	R1500L	1500	.93
R15L	15	.93	R2500L	2500	.93
R20L	20	.93	R3000L	3000	.93
R20CT†	20	1.32	R5000L	5000	.93
R25L	25	.93	R7500L	7500	1.08
R30L	30	.93	R10ML	10000	1.08
R30CT†	30	1.32	R15ML	15000	1.08
R50L	50	.93	R20ML	20000	1.08

†Center-tapped controls.

SWITCHES FOR TYPE R POTS

Mall. No.	Description	Net
US30	Single Pole, Single Throw	42c
US32	Double Pole, Single Throw	54c

TV FOCUS CONTROLS

Mallory No.	Resis., Ohms	Shaft	Net Each
TVF140	1500	¼" dia. x 2½" lg.	$1.35
TVF143	2500	¼" dia. x 2 lg.	1.35

4 WATT TYPE M

Rated 4 watts at 40° C. 1⅝" diameter. **Mech. Rotation:** 294°. **Elec. Rotation:** 275°. **Resis. Tolerance:** ±10%. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜"-32 x ⅜" FMS. **Shaft:** ¼" dia. x ¾" FMS, knurled with screwdriver slot. Furn. with nut.

POTENTIOMETERS

Mallory Number	Ohms Resis.	Capacity in Amps	Net Each
M1PK	1	2.00	$1.35
M3PK	3	1.15	1.35
M6PK	6	.82	1.35
M10PK	10	.63	1.35
M15PK	15	.52	1.35
M20PK	20	.45	1.35
M25PK	25	.40	1.35
M30PK	30	.37	1.35
M40PK	40	.32	1.35
M50PK	50	.28	1.35
M60PK	60	.26	1.35
M75PK	75	.23	1.35
M100PK	100	.20	1.35
M200PK	200	.14	1.35
M300PK	300	.116	1.35
M400PK	400	.10	1.35
M500PK	500	.09	1.35
M600PK	600	.082	1.35
M1MPK	1K	.063	1.35
M1.5MPK	1.5K	.052	1.35
M2MPK	2K	.045	1.35
M2.5MPK	2.5K	.04	1.35
M3MPK	3K	.037	1.35
M4MPK	4K	.032	1.35
M5MPK	5K	.028	1.35
M10MPK	10K	.02	1.35
M15MPK	15K	.016	1.47
M20MPK	20K	.014	1.47
M25MPK	25K	.013	1.47
M50MPK	50K	.009	1.74
M70MPK	70K	.0075	1.74
M75MPK	75K	.0073	2.46
M100MPK	100K	.0063	2.46

CENTER-TAPPED POTENTIOMETERS

Mallory Number	Ohms Resis.	Capacity in Amps	Net Each
MT10PK	10	.63	$1.32
MT20PK	20	.45	1.32
MT30PK	30	.37	1.32

RHEOSTATS*

Mallory Number	Ohms Resis.	Capacity in Amps	Net Each
M05RK	0.5	2.80	93c
M1RK	1	2.00	93c
M2RK	2	1.40	93c
M3RK	3	1.15	93c
M4RK	4	1.00	93c
M6RK	6	.82	93c
M10RK	10	.63	93c
M15RK	15	.52	93c
M20RK	20	.45	93c
M25RK	25	.40	93c
M30RK	30	.37	93c
M40RK	40	.32	93c
M50RK	50	.28	93c
M60RK	60	.26	93c
M75RK	75	.23	93c
M100RK	100	.20	93c

*"Open" or "Off" position counter-clockwise.

5 WATT TYPE VW SUBMINIATURE

Rated 5 watts at 35° C. ¾" diameter. **Mech. Rotation:** 305°. **Elec. Rotation:** 275°. **Resis. Tolerance:** ±10%. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜"-32 x ⅜". **Shaft:** ¼" dia. x 2½" FMS. Furn. with nut and lug.

Mallory No.	Ohms Resis.	Net Each	Mallory No.	Ohms Resis.	Net Each
VW1	1	$1.38	VW300	300	$1.38
VW2	2	1.38	VW400	400	1.38
VW3	3	1.38	VW500	500	1.38
VW5	5	1.38	VW600	600	1.38
VW6	6	1.38	VW750	750	1.38
VW8	8	1.38	VW1K	1000	1.38
VW10	10	1.38	VW1P5K	1500	1.44
VW15	15	1.38	VW2K	2000	1.44
VW20	20	1.38	VW2P5K	2500	1.44
VW25	25	1.38	VW3K	3000	1.44
VW30	30	1.38	VW4K	4000	1.44
VW40	40	1.38	VW5K	5000	1.44
VW50	50	1.38	VW7P5K	7500	1.50
VW60	60	1.38	VW10K	10000	1.50
VW75	75	1.38	VW15K	15000	1.56
VW100	100	1.38	VW20K	20000	1.56
VW200	200	1.38	VW25K	25000	1.65
VW250	250	1.38			

7 WATT TYPE E

Rated 7 watts at 40° C. 2⁵⁄₁₆" diameter. **Mech. Rotation:** 307°. **Elec. Rotation:** 295°. **Resis. Tolerance:** ±10%. Contact arm grounded. **Bushing:** ⅜"-32 x ⅜". **Shaft:** ¼" dia. x ¾" FMS with screwdriver slot. Furnished with nut.

Mallory Number	Ohms Resis.	Capacity in Amps	Net Each
E5MP	5K	.042	$2.76
E10MP	10K	.03	2.94
E20MP	20K	.021	3.00
E25MP	25K	.019	3.09
E50MP	50K	.0135	3.15
E75MP	75K	.011	3.24
E100MP	100K	.0095	3.30
E125MP	125K	.0085	3.30
E150MP	150K	.0078	3.36

12½ WATT TYPE MG

Rated 12½ watts at 35° C. 1⅝" diameter. **Mech. Rotation:** 294°. **Elec. Rotation:** 275°. **Resis. Tolerance:** ±10%. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜"-32 x ⅜" FMS. **Shaft:** ¼" dia. x ¾" FMS, knurled with screwdriver slot. Furn. with nut.

Mallory No.	Ohms Resis.	Net Each	Mallory No.	Ohms Resis.	Net Each
MG1	1	$2.18	MG600	600	$2.18
MG3	3	2.18	MG1000	1000	2.22
MG6	6	2.18	MG1500	1500	2.22
MG10	10	2.18	MG2000	2000	2.22
MG15	15	2.18	MG2500	2500	2.22
MG20	20	2.18	MG3000	3000	2.22
MG25	25	2.18	MG4000	4000	2.22
MG30	30	2.18	MG5000	5000	2.22
MG50	50	2.18	MG10K	10K	2.32
MG100	100	2.18	MG15K	15K	2.32
MG200	200	2.18	MG20K	20K	2.32
MG300	300	2.18	MG25K	25K	2.32
MG400	400	2.18	MG50K	50K	2.50
MG500	500	2.18	MG100K	100K	2.72

STANDARD TAPER FOR MALLORY WIRE-WOUND CONTROLS IS NORMAL LINEAR TAPER. OTHER TAPERS MAY BE SPECIFIED ON SPECIAL ORDER.

Net

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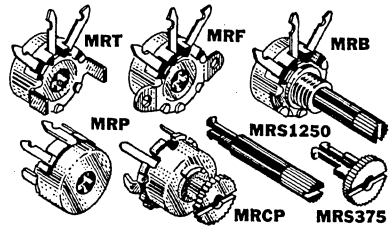
MALLORY Wire-Wound Controls

3-WATT TYPE MR WIRE-WOUND CONTROLS



Only ¾" diameter, MR controls are used for applications in AGC, convergence, hum-balance, etc. Case is fully enclosed: MR, all metal; MRC, metal mounting plate with molded nylon body and knob. Types MR and MRC directly replace older FL and PFL types as shown in cross-reference. Five mounting configurations available. Conversion from cross-slot adjustment to shaft may be made using plug-in shafts listed. **Wattage Rating at 40° C:** MR, 3 watts; MRC, 1½ watts. **Rotation:** 250° mechanical; 248° electrical. **Resistance Tolerance:** MR, ±20%; MRC, ±10%. **Voltage Breakdown:** MR, 900 VAC rms; MRC has grounded contact arm.

MR-B 3-WATT BUSHING MOUNT

Bushing ⅜"-32 x ¼". Shaft ¼" dia. x 1¼" lg., FMS knurled and slotted nylon. With nut.

Mallory No.	Res. Ω	Net Each	Mallory No.	Res. Ω	Net Each
MR10B	10	$0.93	MR1000B	1000	$0.93
MR50B	50	.93	MR2500B	2500	.93
MR100B	100	.93	MR5000B	5000	.93
MR250B	250	.93	MR10KB	10K	1.08
MR500B	500	.93	MR15KB	15K	1.08

MR-T 3-WATT TAB MOUNT

Furnished with twist-tabs for mounting on PC board or chassis. Cross-slot adjustment.

MR10T	10	$0.66	MR2500T	2500	$0.70
MR50T	50	.66	MR3000T	3000	.70
MR100T	100	.66	MR4000T	4000	.70
MR250T	250	.66	MR5000T	5000	.76
MR500T	500	.66	MR8000T	8000	.76
MR850T	850	.66	MR10KT	10K	.83
MR1000T	1000	.66	MR15KT	15K	.93

MR-F 3-WATT FLANGE MOUNT

Mounting ears with .130" dia. holes on 1" center. Cross-slot adjustment, front and rear.

MR6F	6	$0.66	MR600F	600	$0.66
MR15F	15	.66	MR750F	750	.66
MR40F	40	.66	MR1000F	1000	.66
MR75F	75	.66	MR1500F	1500	.66
MR100F	100	.66	MR2000F	2000	.66
MR150F	150	.66	MR2500F	2500	.66
MR200F	200	.66	MR3000F	3000	.66
MR250F	250	.66	MR4000F	4000	.66
MR500F	500	.66	MR5000F	5000	.66

MR-P 3-WATT PC MOUNT

Printed circuit board mounting with cross-slot adjustment, front and rear.

MR1.5P	1.5	$0.66	MR1000P	1000	$0.66
MR15P	15	.66	MR1500P	1500	.66
MR100P	100	.66	MR3000P	3000	.66
MR175SP	175*	.66	MR4000P	4000	.66
MR260SP	260†	.66	MR5000P	5000	.66
MR600P	600	.66			

*Stop at 60 ohms. †Stop at 100 ohms.

MRC-P 1½-WATT PC MOUNT

Convergence controls with printed circuit board mounting and permanent knob.

MRC10P	10	$0.66	MRC100P	100	$0.66
MRC30P	30	.66	MRC120P	120	.66
MRC60P	60	.66	MRC150P	150	.66

SHAFTS FOR MR CONTROLS

Mallory No. MRS1250—¼" dia. x 1¼" FMS knurled and slotted nylon. Plugs into either end of MR control. Net Ea... **12c**

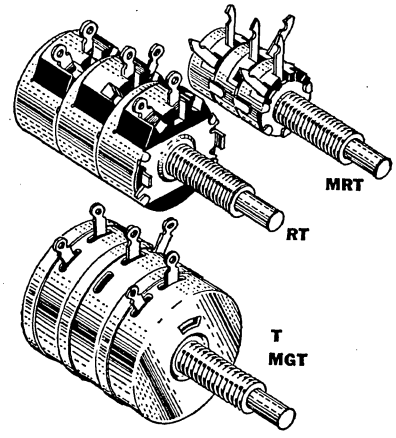
Mallory No. MRS1563—¼" dia. x 1⁹⁄₁₆" FMS, knurled, slotted nylon. Net Ea. **12c**

TANDEM COUPLER FOR MR CONTROLS

Mallory No. MRS100—Couples MRP type to MRB, MRT, MRF or MRP to make tandem control. Net Each..... **3c**

AUDIO ATTENUATORS

Mallory audio attenuators are available in three wattage ratings: 10 watts, MR, R and RR; 15 watts, T, L, LL and BAL; and 50 watts, MGL and MGT. All are made to critical audio standards; come complete with mounting hardware. Three case diameters: ¾", MR; 1⁷⁄₆₄", R; and 1⅝" for T, L, LL, BAL, MGL and MGT.



T PAD ATTENUATORS

Present constant impedance to both source (amplifier) and output (speaker).

T PAD STOCK VALUES

Imped., Ohms	Mallory No. for Audio Rating of 10 W	10 W	15 W	50 W
2	.....	.....	T2	.....
4	MRT4	RT4	T4	MGT4
6	.....	.....	T6	.....
8	MRT8	RT8	T8	MGT8
15–16	MRT16	RT16	T15	MGT16
50	MRT50	RT50	T50	MGT50
100	.....	.....	T100	.....
200	.....	.....	T200	.....
250	.....	RT250	T250	.....
500	.....	RT500	T500	.....
600	.....	.....	T600	.....
1000	.....	.....	T1000	.....
2000	.....	.....	T2000	.....
3000	.....	.....	T3000	.....

T PAD NET PRICES

With nuts, washers, knob and dial.

Type	Bushing	Shaft (FMS)	Net Each
MRT	⅜"-32 x 1"	¼" x 1½"	$3.33
RT	⅜"-32 x 1"	¼" x 1½"	3.33
T	⅜"-32 x ⅜"	¼" x 2"	3.54
MGT	⅜"-32 x 1"	¼" x 1½"	6.48

STEREO LEVEL CONTROL

Level control for low-priced 4- and 8-ohm stereo speakers. Rated 10 watts, audio. Supplied with nuts, washers, dial and knob. Bushing ⅜"-32 x 1". Shaft ¼" dia. x 1½" lg.

Mallory No. RR50—Net Each.... **$2.10**

L PAD ATTENUATORS

Present constant impedance to source (amplifier), used in audio circuits where output (speaker) impedance is not critical.

L PAD STOCK VALUES

Imped., Ohms	Mallory No. for Audio Rating of 10 W	10 W	15 W	50 W
2	.....	.....	L2	.....
4	MRL4	RL4	L4	MGL4
6	.....	.....	L6	.....
8	.....	.....	L8	.....
8	MRL8	RL8	L8A	MGL8
15	.....	.....	L15	.....
16	MRL16	RL16	L16A	MGL16
50	MRL50	RL50	L50	MGL50
100	.....	.....	L100	.....
200	.....	.....	L200	.....
250	.....	RL250	L250	.....
500	.....	RL500	L500	.....
600	.....	.....	L600	.....
1000	.....	.....	L1000	.....
2000	.....	.....	L2000	.....
3000	.....	.....	L3000	.....
4000	.....	.....	L4000	.....

L PAD NET PRICES

With nut, washer, knob and dial.

Type	Bushing	Shaft (FMS)	Net Each
MRL	⅜"-32 x 1"	¼" x 1½"	$2.52
RL	⅜"-32 x 1"	¼" x 1½"	2.52
L	⅜"-32 x ⅜"	¼" x 2"	2.73
L-A	⅜"-32 x 1"	¼" x 1½"	2.85
MGL	⅜"-32 x 1"	¼" x 1½"	4.26

LL PAD ATTENUATORS

Two L pads in tandem for stereo level control. Bushing ⅜"-32 x 1". Shaft ¼" dia. x 1½" lg. With nuts, washers and deluxe "Level" dial supplied.

Mallory No.	Imped., Ohms	Audio Watts	Net Each
MRLL4	4	10	$5.40
MRLL8	8	10	5.40
MRLL16	16	10	5.40
MRLL50	50	10	5.40
LL8	8	15	5.70
LL16	16	15	5.70
LL50	50	15	5.70
MGLL8	8	50	8.10
MGLL16	16	50	8.10

STEREO BALANCE ATTENUATOR

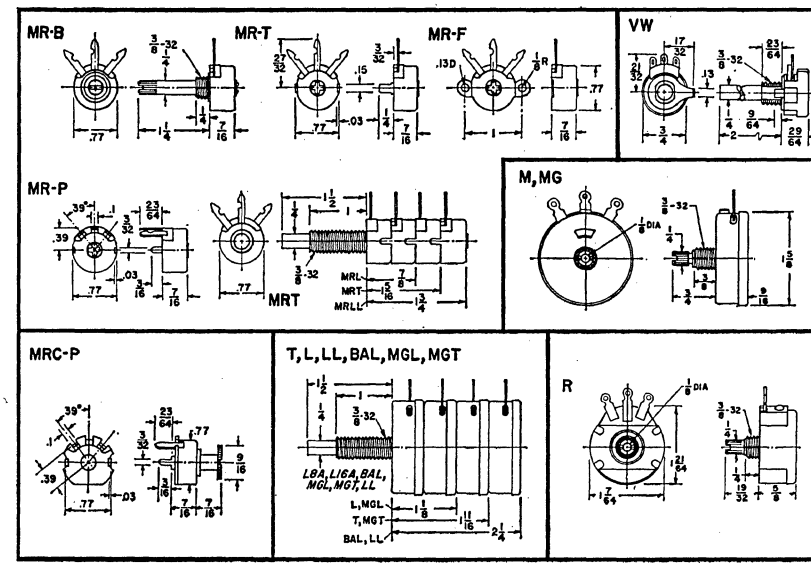
Back-to-back tandem L pads for true stereo balancing. Rated 15 watts, audio. Comes with nuts, washers, knob and "Balance" dial. Bushing ⅜"-32 x 1". Shaft ¼" dia. x 1½" lg.

Mallory No. BAL8 (8 ohms) or **BAL16** (16 ohms)—Net Each..... **$5.70**

THEATRE SPEAKER CONTROLS

Engineered for outdoor movie speakers. Rated 8 watts, audio. Bushing ⅜"-32 x ⅜". Shaft ¼" dia. x ¾" lg. With nut.

Mallory No.	Description	Net Each
TSA6	6-ohm pot	$1.14
TSA10	4-ohm L pad	1.35
TSA35	35-ohm pot	1.35



MEMCOR COMPONENTS

A DIVISION OF LTV ELECTROSYSTEMS, INC.

Originators of TRU-OHM & HARDWICK, HINDLE Products

12½ thru 225 WATT

RHEOSTATS

POWER VITREOUS ENAMELED

MEMCOR power vitreous enameled rheostats are exceptionally rugged and are "made better than they need be." They exhibit characteristics that meet the most exacting specifications. Special design features assure long life and protection under extremes of humidity and abnormal atmospheric conditions.

In the 225, 500, 750 and 1000 watt sizes the "buss bar" contact arm automatically adjusts for complete, continuous contact, and smooth, flexible control. MEMCOR high temperature enamel gives increased service life with an extreme factor of safety.

MEMCOR rheostats are stocked in eleven sizes; 12½ through 1000 watts resistance from 0.5 to 10,000 ohms with diameters from ⅞" through 12". All standard stock units are identified by stock number.

TYPE R-12½ (12½ WATTS)

DIAM.: ⅞"
WEIGHT: .035 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
1.	3.53	27	600	25	.71	65	607	250	.22	124	614
2.	2.5	38	601	35	.6	78	608	350	.19	150	615
2.5	2.23	40	601A	50	.5	81	609	500	.16	164	616
3.	2.04	36	602	75	.41	98	610	750	.13	188	617
5.	1.58	55	602A	100	.35	102	611	1000	.11	196	618
6.	1.44	45	603	125	.32	102	612	1500	.091	235	619
8.	1.25	49	604	150	.29	96	612A	2500	.071	260	620
10	1.18	42	605	175	.27	112	613	3500	.06	285	621
15	.91	49	606	200	.25	128	613A	5000	.05	315	622

TYPE R-25 (25 WATTS)

DIAM.: 1⅛"
WEIGHT: .23 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
1.	5.0	26	100	35	.845	100	108	500	.222	215	116
2.	3.54	28	101	50	.707	105	109	750	.182	230	117
3.	2.88	44	102	75	.575	120	110	1000	.155	270	118
6.	2.04	50	103	100	.5	140	111	1500	.129	325	119
8.	1.77	54	104	125	.445	145	112	2500	.1	410	120
10	1.58	60	105	175	.375	153	113	3500	.084	440	121
15	1.29	78	106	250	.316	170	114	5000	.07	480	122
25	1.0	80	107	350	.267	180	115				

TYPE R-50 (50 WATTS)

DIAM.: 2 15/16"
WEIGHT: .45 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
.5	10.0	22	200	35	1.19	120	209	1000	.223	375	218
1.	7.07	36	201	50	1.0	120	210	1600	.176	465	219
2.	5.0	38	202	80	.79	135	211	2500	.141	560	220
4.	3.54	38	203	125	.63	185	212	3500	.119	585	221
6.	2.88	75	204	150	.574	175	213	5000	.1	600	222
8.	2.5	70	205	225	.47	215	214	8000	.079	710	223
12	2.04	80	206	300	.408	225	215	10K	.07	720	224
16	1.76	90	207	500	.316	295	216				
22	1.5	95	208	800	.25	360	217				

TYPE R-75 (75 WATTS)

DIAM.: 2¾"
WEIGHT: .60 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
.5	12.3	27	300	25	1.73	92	308	750	.316	260	316
1.	8.66	18	301	50	1.23	118	309	1000	.274	290	317
2.	6.12	30	302	75	1.0	135	310	1500	.224	350	318
3.	5.0	30	303	100	.866	147	311	2000	.194	380	319
5.	3.8	45	304	200	.612	180	312	2500	.173	425	320
7.5	3.16	47	305	300	.5	227	313	5000	.123	630	321
10	2.74	50	306	400	.433	232	314	7500	.1	715	322
16	2.17	87	307	500	.388	250	315	10K	.087	820	323

TYPE R-100 (100 WATTS)

DIAM.: 3⅛"
WEIGHT: .72 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
.5	14.1	30	400	25	2.0	105	408	750	.365	280	416
1.	10.0	20	401	50	1.41	140	409	1000	.316	316	417
2.	7.07	32	402	75	1.15	155	410	1500	.258	370	418
3.	5.75	32	403	100	1.0	168	411	2000	.224	420	419
5.	4.47	50	404	200	.707	190	412	500	.2	460	420
7.5	3.65	52	405	300	.575	260	413	5000	.141	650	421
10	3.16	58	406	400	.500	262	414	7500	.115	740	422
16	2.5	97	407	500	.447	270	415	10K	.1	850	423

TYPE R-150 (150 WATTS)

DIAM.: 4"
WEIGHT: 1.50 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
.5	17.3	28	500	35	2.07	133	509	750	.447	370	518
1.	12.3	37	501	50	1.735	160	510	1250	.346	460	519
2.	8.65	38	502	75	1.415	185	511	1800	.288	550	520
3.	7.07	67	503	100	1.225	190	512	2250	.259	570	521
5.	5.48	68	504	150	1.0	230	513	3000	.224	600	522
7.5	4.47	71	505	200	.865	242	514	4500	.182	680	523
10	3.88	70	506	250	.775	250	515	7500	.141	980	524
15	3.163	138	507	350	.655	280	516	10K	.122	990	525
25	2.45	140	508	500	.548	330	517				

TYPE R-225 (225 WATTS)

DIAM.: 5"
WEIGHT: 2.18 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
1.	15.0	55	4001	25	3.0	117	4009	700	.567	495	4017
2.	10.61	54	4002	50	2.12	250	4010	900	.5	498	4018
3.	8.66	56	4003	75	1.73	306	4011	1200	.43	523	4019
4.	7.5	52	4004	100	1.5	322	4012	1500	.39	630	4020
5.	6.71	52	4005	150	1.22	385	4013	1750	.358	605	4021
7.5	5.48	113	4006	200	1.06	355	4014	2000	.33	710	4022
10	4.74	107	4007	300	.866	336	4015	2500	.3	700	4023
15	3.87	111	4008	400	.75	352	4016				

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MEMCOR COMPONENTS

A DIVISION OF LTV ELECTROSYSTEMS, INC.

Originators of TRU-OHM & HARDWICK, HINDLE Products

300 thru 1000 WATT

RHEOSTATS

POWER

VITREOUS ENAMELED

MEMCOR rheostats are made in a wide assortment of variations, among which are included tapers, off - positions, ventilated enclosures, dust - proof enclosures, tandems, toggle switches, micro switches, switching lugs and many variations of shaft and panel mountings. Extra length flattened, round or screw driver shaft assemblies and special length bushings or other special requirements per customer drawing are available.

TYPE R-300 (300 WATTS)

DIAM.: 6"
WEIGHT: 3 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
1.	17.32	49	700	25	3.46	117	708	700	.66	492	716
2.	12.25	48	701	50	2.45	259	709	900	.58	510	717
3.	10.0	72	702	75	2.0	308	710	1200	.5	532	718
4.	8.66	76	703	100	1.73	317	711	1500	.45	527	719
5.	7.75	67	704	150	1.41	268	712	1750	.41	497	720
7.5	6.32	70	705	200	1.22	284	713	2000	.38	567	720A
10	5.48	75	706	300	1.0	336	714	2500	.35	560	721
15	4.47	129	707	400	.87	357	715				

TYPE R-500 (500 WATTS)

DIAM.: 8"
WEIGHT: 3.75 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
1.	27.3	61	4101	12.5	6.3	104	4109	250	1.41	570	4117
1.5	18.2	63	4102	16	5.6	192	4110	325	1.24	513	4118
2.	15.81	68	4103	25	4.47	185	4111	500	1.0	620	4119
2.5	14.14	65	4104	40	3.54	208	4112	750	.82	745	4120
3.	12.91	63	4105	50	3.16	208	4113	1000	.71	780	4121
4.	11.18	96	4106	80	2.52	462	4114	1500	.58	940	4122
5.	10.0	95	4107	125	2.0	452	4115	2000	.5	980	4123
8.	7.9	93	4108	175	1.69	500	4116	2500	.45	975	4124

TYPE R-750 (750 WATTS)

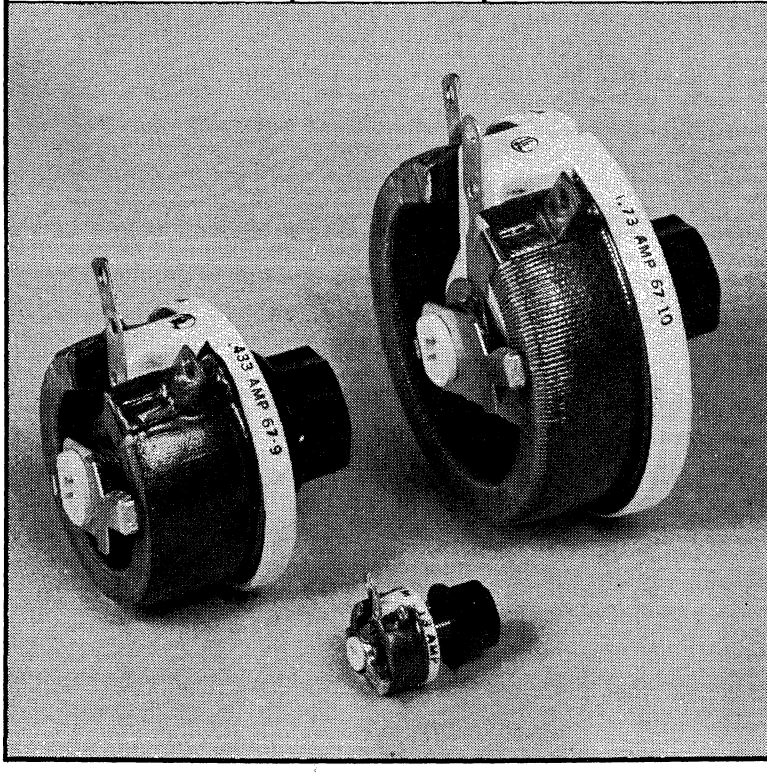
DIAM.: 10"
WEIGHT: 7.31 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
1.	27.4	85	4201	12.5	7.75	115	4210	400	1.37	573	4219
1.5	22.3	85	4202	16	6.82	120	4211	600	1.12	680	4220
2.	19.36	80	4203	25	5.48	216	4212	750	1.0	670	4221
2.5	17.32	87	4204	50	3.87	238	4213	1200	.79	657	4222
3.	15.81	80	4205	80	3.06	240	4214	1800	.646	792	4223
4.	13.69	87	4206	100	2.74	283	4215	2000	.61	906	4224
5.	12.25	122	4207	160	2.17	496	4216	2500	.55	1085	4225
8.	9.65	122	4208	200	1.94	520	4217				
10	8.66	104	4209	300	1.58	440	4218				

TYPE R-1000 (1000 WATTS)

DIAM.: 12"
WEIGHT: 10 LBS.

Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.	Ohms	Max. Amps.	Approx. Steps	Stock No.
1.	31.6	87	4301	10	10.0	103	4309	225	2.11	585	4317
1.5	25.8	84	4302	12.5	8.95	160	4310	300	1.83	750	4318
2.	22.36	109	4303	16	7.9	164	4311	400	1.58	631	4319
2.5	20.0	96	4304	25	6.32	160	4312	500	1.41	635	4320
3.	18.26	100	4305	50	4.47	290	4313	750	1.15	800	4321
4.	15.81	94	4306	75	3.65	303	4314	1000	1.0	1090	4322
5.	14.14	152	4307	100	3.16	321	4315	1500	.82	1000	4323
8.	11.2	113	4308	160	2.5	328	4316	2000	.63	1080	4324



Specify on order if knob and/or dial is required.

HARDWARE

RHEOSTAT - KNOBS

Type	Stock No.
R12½	2400
R25 to R150	2500
R25 to R150	2502
R25 to R150	2503
R25 to R150	2504
R25 to R150	2505
R25 to R150	2506
R25 to R150	2507
R25 to R150	2508
R25 to R150	2510-1
R25 to R150	2510-2
R25 to R150	2511
R25 to R150	2512
R225 to R1000	2520
R225 to R1000	2521
R25 to R225	2514
R225 to R1000	2518
R225 to R1000	2519

RHEOSTAT - DIALS

Type	Stock No.
R12½	3501
R25	3500
R50	3500
R75	3500
R100	3500
R150	3500
R225	3502
R300	3502
R500	3502
R750	3502
R1000	3502

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WARD LEONARD — POWER RHEOSTATS

THE STANDARD OF QUALITY FOR ELECTRONIC AND INDUSTRIAL PURPOSES

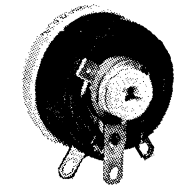
FEATURES

- **Compact design**
- **Standardized for interchangeability**
- **Suitable for both MIL and industrial uses**
- **12.5, 25, 50, 100, 150, and 300 watt sizes**
- **All ceramic construction — vitreous enamel bonded**

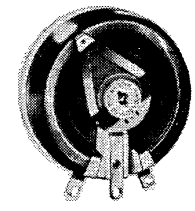
12.5 Watt — Type MP06

25 Watt — Type MP10

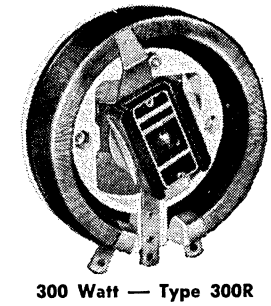
50 Watt — Type MP15



100 Watt — Type 100R



300 Watt — Type 300R



APPLICATIONS

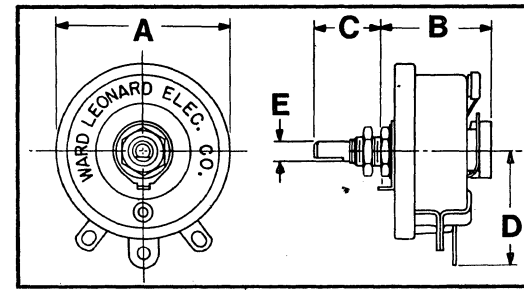
Ward Leonard Power Rheostats are especially suited for use in electronic and electrical circuits where gradual and positive resistance changes are essential.

Balanced contact arms, self-lubricating metal graphite contact shoes, and no backlash in the drive shaft combine to ensure uniform contact pressure and smooth operation.

The 12.5, 25, and 50 watt Type MP rheostats, designed and acceptance-tested to the requirements of MIL-R-22, are completely interchangeable with other suppliers' rheostats. The tiny yet exceptionally rugged 12.5 watt rheostat, recently added to Ward Leonard's line, will handle those special low-power requirements with ease.

Immediate shipment from Ward Leonard's vast and varied stock of power rheostats assures you of fast, on-time delivery.

DIMENSIONS



STOCK RESISTANCE VALUES

12.5 WATT—TYPE MP06 DIM: A=7/8" B=1 1/16" C=5/8" D=1 3/32" E=1/8"			25 WATT—TYPE MP10 DIM: A=1 3/16" B=1 3/8" C=27/32" D=1 3/32" E=1/4"			50 WATT—TYPE MP15 DIM: A=2 3/32" B=1 3/8" C=27/32" D=1 17/32" E=1/4"			100 WATT—TYPE 100R DIM: A=3 3/32" B=1 1/2" C=7/8" D=2 1/4" E=1/4"			150 WATT—TYPE 150R DIM: A=4" B=1 3/4" C=7/8" D=2 7/16" E=1/4"			300 WATT—TYPE 300R DIM: A=6" B=2 3/16" C=2" D=3 7/16" E=3/8"		
OHMS*	AMPS. (MAX.)	STEPS (APPROX.)	OHMS*	AMPS. (MAX.)	STEPS (APPROX.)	OHMS*	AMPS. (MAX.)	STEPS (APPROX.)	OHMS*	AMPS. (MAX.)	STEPS (APPROX.)	OHMS*	AMPS. (MAX.)	STEPS (APPROX.)	OHMS*	AMPS. (MAX.)	STEPS (APPROX.)
1.0	3.53	29	1.0	5.00	28	0.5	10.00	24	1	10.000	30	1	12.247	39	1	17.320	40
2.0	2.50	42	2.0	3.54	31	1.0	7.07	46	2	7.071	56	2	8.660	39	1.5	14.142	58
2.5	2.24	38	3.0	2.89	48	2.0	5.00	50	3	5.774	66	3	7.071	70	2	12.247	78
3.0	2.04	44	6.0	2.04	51	4.0	3.54	44	5	4.472	56	5	5.477	73	2.5	10.954	78
5.0	1.58	40	8.0	1.77	54	6.0	2.89	74	7.5	3.652	66	7.5	4.472	70	3	10.000	73
6.0	1.44	48	10	1.58	54	8.0	2.50	85	10	3.162	104	10	3.873	70	4	8.660	78
8.0	1.25	51	15	1.29	64	12	2.04	108							5	7.745	78
10	1.12	51	25	1.00	86	16	1.76	108	15	2.582	113	15	3.162	120	7.5	6.324	148
15	0.91	51	35	0.85	105	22	1.50	123	25	2.000	144	25	2.449	152	10	5.477	154
25	0.71	73	50	0.71	115	35	1.19	148	50	1.414	180	50	1.732	190			
35	0.60	75	75	0.58	135	50	1.00	113	75	1.155	180	75	1.414	228	15	4.472	147
50	0.50	86				80	0.79	147	100	1.000	216	100	1.225	228	25	3.464	155
75	0.41	103	100	0.50	152										35	2.927	231
100	0.35	108	125	0.45	143	125	0.63	178	200	0.707	252	200	0.866	265	50	2.449	267
125	0.32	128	175	0.38	160	150	0.58	173	300	0.577	252	300	0.707	303	75	2.000	308
150	0.29	128	250	0.32	185	225	0.47	203	400	0.500	252	400	0.612	342	100	1.732	326
175	0.27	148	350	0.27	205	300	0.41	214	500	0.447	324	500	0.548	342			
200	0.25	130	500	0.22	230	500	0.32	290	750	0.365	396	750	0.447	418	150	1.414	270
250	0.22	166	750	0.18	270	800	0.25	365							200	1.224	308
350	0.19	185							1000	0.316	410	1000	0.387	432	300	1.000	340
500	0.16	215	1000	0.16	292	1000	0.22	358	2000	0.224	410	2000	0.274	575	400	0.866	370
750	0.13	255	1500	0.13	353	1600	0.18	367	2500	0.200	410	2500	0.244	456	500	0.774	455
1000	0.11	260	2500	0.10	358	2500	0.14	460	5000	0.141	685	5000	0.173	865	750	0.632	514
1500	0.091	310	3500	0.08	392	3500	0.12	505	7500	0.115	820	7500	0.141	1000			
2500	0.071	321	5000	0.07	440	5000	0.10	565	10000	0.100	820				1000	0.547	578
3500	0.060	378				8000	0.08	695				10000	0.122	1000	1500	0.447	675
5000	0.050	430				10000	0.07	693							2500	0.346	720

*All other intermediate resistance values are available and can be manufactured on normal delivery cycle.

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Amperex Semiconductors

GERMANIUM TRANSISTORS
(METAL CANS)

Audio, Low Level

TYPE	CONSTRUCTION
2N2428	TO-1
2N2429	TO-1
2N2430	TO-1
2N2706	TO-1

Audio, Power

TYPE	CONSTRUCTION
2N2431	TO-1
2N2431 (MP)	TO-1
2N2707 (CP)	TO-1
2N4077	Small TO-3
2N4078	Small TO-3
2N4078 (MP)	Small TO-3
2N4079 (CP)	Small TO-3
2N4106	TO-1
2N4107 (CP)	TO-1
2N4136 (CP)	TO-1
2N4241	TO-3
2N4241 (MP)	TO-3

R.F. Amplifiers

TYPE	CONSTRUCTION
2N987	TO-18
USA 2N987	TO-18
2N990	TO-18
2N993	TO-18
2N1224	TO-5
USA 2N1224	TO-5
2N1225	TO-5
USA 2N1225	TO-5
2N1226	TO-5
2N1395	TO-5
2N1396	TO-5
2N2084	TO-5
USA 2N2084	TO-5
2N2089	TO-5
2N2092	TO-5
2N2495	TO-5
2N2496	TO-18
2N2654	TO-5
2N2671	TO-5
2N2672	TO-5
2N3399	TO-18
2N3588	TO-18

Switches

TYPE	CONSTRUCTION
1302 (PNP)	TO-5
1303 (PNP)	TO-5
1304 (NPN)	TO-5
1305 (PNP)	TO-5
1306 (NPN)	TO-5
1307 (PNP)	TO-5
1308 (NPN)	TO-5
1309 (PNP)	TO-5

CP = Complementary Pair
MP = Matched Pair

N-CHANNEL, JUNCTION FETS
(Metal TO-18's)

TYPE	APPLICATION
2N4221	A. F. Amplifier
2N4221A	A. F. Amplifier
2N4222	A. F. Amplifier
2N4222A	A. F. Amplifier
2N4391	High speed switch
2N4392	High speed switch
2N4393	High speed switch
2N5103	Low Level, Low Noise
2N5104	Low Level, Low Noise
2N5105	Low Level, Low Noise
A190	Low Level, Low Noise
A191	Low Level, Low Noise
A192	R. F. Amplifier
A193	R. F. Amplifier
2N3823	R. F. Amplifier

FETS, ZENERS, DUAL ISOLATED DIODES, RF & IF AMPLIFIERS & SWITCHES available in LIDS

LIDS, (Leadless Inverted Devices) introduced by Amperex are the microelectronic packages for semiconductors which brought mechanized production to hybrid circuit manufacture.

TYPE	DESCRIPTION
LDA 400/401	Low level amplifier (NPN) similar to 2N929/2N930
LDA 402/403	Medium current switch and amplifier (NPN)
LDA 404/405	Medium current switch and amplifier (NPN) similar to 2N2218/2N2219
LDA 406/407	Very high frequency amplifier (NPN) similar to 2N918/2N2857
LDA 410	High gain, low capacity IF amplifier (NPN)
LDA 450/451	Low current amplifier and switch (PNP) similar to 2N2604
LDA 452/453	Medium current amplifier and switch (PNP) similar to 2N2904/2N2905
LDD 5	Single fast diode similar to IN914
LDD 10	Dual diode common cathode similar to IN914
LDD 50	Dual diode common anode (IN914)
LDD 15	Dual diode fully isolated (IN914)
LDF 603/604/605	Junction field effect transistor DC-100 MHz
LDS 200/201	High speed switch (NPN) similar to 2N2368/2N2369
LDS 205	Very high speed switch similar to 2N709 (NPN)
LDS 206/208	D/A switch (NPN)
LDZ 70 Series	5% zener diode 4 to 10 Volts

DIODES

Germanium		Silicon	
TYPE	DESCRIPTION	TYPE	DESCRIPTION
A20	Bias diode	A13	Switching
IN34A	General Purpose	A23	Switching
IN67A	General Purpose	A33	H. F. Varicap
IN68A	General Purpose	A34	H. F. Varicap
IN87	Small Signal Detector	A35	H. F. Varicap
IN87A	Small Signal Detector	A45	Clamping
IN90	General Purpose	A48	Clamping
IN116	General Purpose	A74	High Voltage Rectifier
IN117	General Purpose	A82	R. F. Switch
IN126	General Purpose	A93	H. F. Varicap Triplet
IN128	General Purpose	A94	H. F. Varicap Triplet
IN191	Switching	A95	H. F. Varicap Triplet
IN270	High Conductance	BA114	Stabistor
IN541	Small Signal Detector	BY100	Power Rectifier
IN542	Small Signal Detector	BY122	Bridge Rectifier
IN616	General Purpose	BY123	Bridge Rectifier
IN617	General Purpose	BY126	Power Rectifier
IN618	General Purpose	BY127	Power Rectifier
IN698	Switching	IN914	Switching
AA119MP	Small Signal Detector	IN914A	Switching
AA119	Small Signal Detector	IN3182	Varicap

INTEGRATED CIRCUITS

Hybrid Linear Thin Film

TYPE	DESCRIPTION
ATF 401	Operational amplifier
ATF 402	High gain operational amplifier

Monolithic, Linear, Silicon

TYPE	DESCRIPTION
TAB 101	Ring modulator/demodulator
TAA 103	3-stage, low-level amplifier
OM 200	Hearing-aid amplifier
TAA 263	3-stage, DC coupled, low-level amplifier
TAA 293	3-stage preamplifier
TAA 310	AF high-gain preamplifier
TAA 320	MOS/Bipolar amplifier
TAA 350	IF strip, FM and TV sound
TAA 370	1 mw hearing-aid amplifier

SILICON POWER DEVICES

RF Power Transistors (NPN)

TYPE	PACKAGE
A201	TO-60
A210	TO-39
A211	TO-39
2N3924	TO-5
2N3926	TO-60
2N3927	TO-60
2N3375	TO-60
2N3553	TO-5
2N3632	TO-60
2N3866	TO-39
2N4427	TO-39

Varactors (DO-4's)

TYPE	DESCRIPTION
IN4885	UHF, VHF HiFrequency Multiplier 24W output
IN4886	UHF, VHF HiFrequency Multiplier 16W output

Hi-Voltage Switch (TO-3)

A705	1400V, 25 Amps Switch

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SILICON SIGNAL TRANSISTORS

Low Level Audio

TYPE	PACKAGE	CONSTRUCTION
A141	Micro Min	NPN
A142	Micro Min	NPN
A143	Micro Min	NPN
A151	Micro Min	NPN
A152	Micro Min	NPN
A153	Micro Min	NPN
A157	TO-18	NPN
A158	TO-18	NPN
A159	TO-18	NPN
A177	TO-18	PNP
A178	TO-18	PNP
A179	TO-18	PNP
A747	Autosert*	NPN
A748	Autosert*	NPN
A749	Autosert*	NPN
A757	Autosert*	PNP
A758	Autosert*	PNP
A759	Autosert*	PNP

RF Amplifier

TYPE	PACKAGE	CONSTRUCTION
A415	TO-18	NPN
A417	TO-18	NPN
A418	TO-18	NPN
A419	TO-18	NPN
A420	TO-18	NPN
A430	TO-18	NPN
A431	TO-71	NPN
A444	PLASTIC	NPN
A445	PLASTIC	NPN
A467	TO-18	NPN
A473	TO-18	NPN
A482	TO-18	NPN
A483	TO-18	NPN
A484	TO-18	NPN
A485	TO-18	NPN
A490	TO-18	NPN
A492	TO-18	NPN
A494	Autosert*	NPN
A495	Autosert*	NPN
A496	Autosert*	NPN
A497	Autosert*	NPN
A777	TO-5	NPN
A778	TO-5	NPN
A779	TO-5	NPN
2N2857	TO-18	NPN
2N5053	TO-18	NPN
2N5054	TO-18	NPN

** new transistor configuration with rigid alloy leads that permits automatic insertion into all standard PC boards.*

ACTUAL SIZE

HEAVY CURRENT, POWER CONTROL DEVICES

Diodes

TYPE	DESCRIPTION
BYX25 Series	600 to 1000V, 20A
BYX30 Series	200 to 600V, 14A
BYX39 Series	600 to 1000V, 6A
BYX38 Series	300 to 1200V, 2.5A
BYX42 Series	300 to 1000V, 10A

For Reverse Polarity on above add R to type number when specifying.

Thyristors

TYPE	DESCRIPTION
BTX47	11.5 A average, 1000V, 1200V, 1400V
BTX48	16.0 A average, 1000V, 1200V, 1400V
BTX49/BTX50	70.0 A average, 1000V, 1200V, 1400V

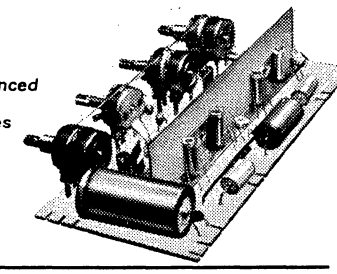
Rectifier Stacks

Series 9110 and Series 9210 Rectifier Stacks are assemblies of the standard BYX25/1000R and BYX39/100R series of rectifiers listed above and are available to your custom specifications.

SOLID STATE, PRINTED CIRCUIT ASSEMBLIES

Audio Amplifiers

Employing the most advanced Complementary Symmetry designs, Amperex assemblies provide the ultimate in economical circuitry for reliable audio applications from one watt to twenty.



TYPE	DESCRIPTION
PCA-3B-18-1	4W/Channel Stereo Amplifier with Volume, Balance, Treble and Bass Controls
PCA-4-9	1W, Single Channel Amplifier for Guitar, P.A. or Microphone
PCA-4-9A	Same as PCA-4-9 with Treble Control
PCA-4-18	3.5W Single Channel Amplifier for Guitar, P.A. or Microphone
PCA-4-18A	Same as PCA-4-18 with Treble Control
PCA-6A-25	10W/Channel Stereo Amplifier with **0.5 volt** Sensitivity for Ceramic Cartridge, Tuner, etc.
PCA-6A-25SCS	Same as PCA-6A-25 but with Separate Preamplifier Section
PCA-8-36	20W Single Channel Power Amplifier with 0.5 volt Sensitivity. No controls
PCA-10-36	15W Guitar Amplifier with Tone, Volume and Tremolo Controls

DIFFERENTIAL DUAL TRANSISTORS

TO-77's	DESCRIPTION
A600	NPN, 10% hFE, 10mV, 10 μV/°C
A601	NPN, 10% hFE, 10mV, 10 μV/°C
A602	NPN, 20% hFE, 20mV, 20 μV/°C
A603	NPN, 20% hFE, 5mV, 10 μV/°C
A604	NPN, 20% hFE, 10mV, 10 μV/°C
A605	NPN, 10% hFE, 5mV, 10 μV/°C
A606	NPN, 10% hFE, 10mV, 10 μV/°C
A607	NPN, 10% hFE, 1.5mV, 5μV/°C
A608	NPN, 10% hFE, 3mV, 10 μV/°C
A646	NPN, 40% hFE, 20mV, 30 μV/°C
2N2913	NPN, medium gain, low cost
2N2914	NPN, high gain, low cost
2N2915	NPN, 10% hFE, 3mV, 10 μV/°C
2N2916	NPN, 10% hFE, 3mV, 10 μV/°C
2N2917	NPN, 20% hFE, 5mV, 20 μV/°C
2N2918	NPN, 20% hFE, 5mV, 20 μV/°C
2N2919	NPN, 10% hFE, 3mV, 10 μV/°C
2N2920	NPN, 10% hFE, 3mV, 10 μV/°C
2N4315	NPN, 10% hFE, 10mV, 10 μV/°C

TEC's*	DESCRIPTION
A640	NPN, 10% hFE, 3mV, 10 μV/°C
A641	NPN, same as A640 except hFE, 80-200
A642	NPN, same as A640 except hFE, 160-400
A643	NPN, 20% hFE, 15mV, 50 μV/°C
A644	NPN, same as A643 except hFE, 60-300
A645	NPN, same as A643 except hFE, 120-600
A647	PNP, 20% hFE, 15mV, 50 μV/°C
A648	PNP, 20% hFE, 15mV, 50 μV/°C
A649	NPN, 10% hFE, 1mV, 3 μV/°C

**TEC units are two matched TO-18's in a thermal equalizing clip.*

Amperex®

TOMORROW'S THINKING IN TODAY'S PRODUCTS

AMPEREX ELECTRONIC CORPORATION

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from

TO-18 to PRESSURE-PACK TYPES

and

NATURAL CONVECTION UNITS to HIGH-HEAT DISSIPATING FORCED AIR ASSEMBLIES

astrodyne has a complete line of standard heat sinks and extrusions available from stock. Custom-engineered units are also supplied to meet virtually any heat dissipation requirements.

PRESS-FIT/CIRCUIT BOARD TYPES

2201

TR 101

2201/TR-101 Series—for optimum natural convection cooling of all standard TO-size transistors used in printed circuit boards, computer cards, etc. Four sizes in TR series provide from 1 to 4 square inches surface area.

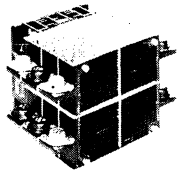
2700 (Convection)/2800 Conduction Series —provide greater surface contact plus secure mounting. Eight units provide thermal resistance ranging from 2°C/watt (2801) to 28°C/watt (2701).

2703

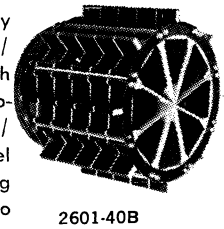
2300

2300 Series — free circulation, low-profile units for circuit-board use. Four heat sinks (½", ¾", 1", 1¼" x 1.81"² base) of high conductivity aluminum alloy, supplied with black anodize or gold iridite.

FORCED CONVECTION


2401-12B

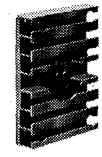
Modular Design permits custom assembly of compact electronic/heat sink units which may incorporate associated electronics and/or terminals. Model 2601 permits mounting more than 40 units to single fan.


2601-40B

NATURAL CONVECTION UNITS

with 20% Greater Cooling Surface*

Catalog NC-2500 plus actual size outline drawing chart on request.


2501

2502

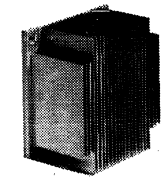
2513

2517

*Provided by Astrodyne patented T-FIN Construction.

HIGH POWER — CRITICAL COOLING

Model 2450 in four standard sizes (2 x 2", 3 x 3", 4 x 4" and 4 x 6") provides exceptionally low thermal resistance for effective use with "pressure-pack" rectifiers. 4 x 4" unit dissipating 650 watts with 1500 LFM forced air has thermal resistance of 0.105°C/watt with 23 fins and 0.089°C/watt with 33 fins.


2450

2529/2530

Model 2507 handles heavy duty SCR devices on easily accessible, wide shelf.

Models 2529/2530 "Little Giant" heat sinks (5 and 6" lengths) provide .35°C/watt thermal resistance at 100 watts with natural convection for high power rectifier assemblies.

THERMAL/CONDUCTIVE/BONDING COMPOUNDS

THERMAL BOND 312 — general purpose conductive adhesive available in 5 oz. kits (12/carton — $46.60, individual boxes — $4.65 each), 2 qt. cans, 2 gal. cans.

CONDUCTIVE COMPOUND 829 — supplied in ready-to-use 1, 2, 4 and 8 ounce jars ($1.25, $2.00, $2.35 and $5.75 each — 12 jars/carton). Providing optimum, long-term thermal/electrical contact plus protection against oxidation.

POTTING COMPOUND

166 — for potting heat generating devices such as transformers, resistors, etc. Available in mix-and-use packages (jar of compound, vial of hardener). 12 boxes to case $42.00. Individual boxes $4.25 each.

Complete line catalog information sent on request.

CALL COLLECT FOR COMPLETE INFORMATION AND QUOTATIONS ON ANY ASTRODYNE HEAT SINKS

astrodyne, inc.
SUBSIDIARY OF ROANWELL CORP.

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DABURN

DABURN ELECTRONICS & CABLE CORP.
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

OFF-THE-SHELF

DABURN TRANSISTOR HEAT SINKS and RETAINER CLIPS

IMMEDIATE DELIVERY

Transistor heat sinks made with beryllium oxide, which is unique among inorganic materials, insulates electrically like a ceramic, but conducts heat like a metal. Where electrical applications require both dielectric insulation and hi-heat transfer from device to chassis, only beryllium oxide (BeO) can provide a satisfactory solution to design problems. Heat generating devices will operate at higher power levels longer and more reliably, with beryllia cooling.

BERYLLIUM OXIDE HEAT SINKS OFFERS THESE ADVANTAGES:

Extremely resistant to shocks, vibration and moisture.

High resistivity — low dielectric loss

Increased transistor life and output

Freedom from outgassing, infinite shelf life

PHYSICAL PROPERTIES & DIELECTRIC STRENGTH

GREATER THAN: 300 Volts/MIL
CHEMICAL PURITY: 99+% Beryllium oxide
DENSITY: 2.9 Grams/CC
MELTING POINT: 4650°F
HEAT CAPACITY AT 350°: 0.3 BTU/LB
THERMAL EXPANSION: 3.2 x 10^{-6}/°F
THERMAL CONDUCTIVITY: 140 BTU/FT² HR°F-FT
TRANSVERSE STRENGTH: 25,000 PSI
ELASTIC MODULES: 40 x 10^{6} PSI

FIG. 1

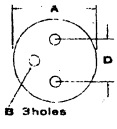


FIG. 2

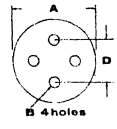


FIG. 3

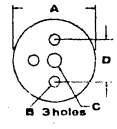


FIG. 4

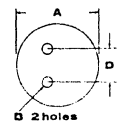


FIG. 6

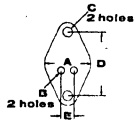


FIG. 7

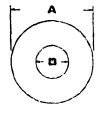
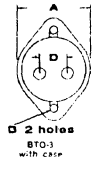


FIG. 8



Immediate Delivery from stock. All avaliable "Off the Shelf" in JEDEC-TO, DO and MT Nos. Standard thickness 1/16". Also available in 1/32" thickness

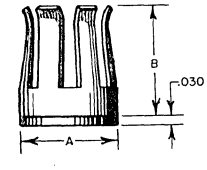
DABURN Cat. No.	Transistor Case Type For Jedec	Fig.	DIMENSIONS "A" Dim.	"B" Dim.	"C Dim.	"D" Dim.	"E" Dim.
DHS-1	MT-1	7	.781±.015	.328±.015	—	—	—
DHS-3	TO-3	4	.980±.010	.165±.010	—	.435±.015	—
DHS-3A	MT-3	7	.625±.005	.320±.005	—	—	—
DHS-3C (Consists of Round TO	TO-3C Insulator with Glass Epoxy Case)	8	1.125±.030	.140±.015	—	—	—
DHS-4	DO-4	7	.560±.015	.200±.005	—	—	—
DHS-5	TO-5	1	.437±.015	.054±.005	—	.200±.010	—
DHS-5A	DO-5	7	.812±.015	.270±.005	—	—	—
DHS-5B	MT-5	7	.250±.015	.156±.010	—	—	—
DHS-6	TO-6	3	1.225±.025	.187±.015	.218±.015	.690±.015	—
DHS-8	TO-8	1	.600±.030	.062±.015	—	.282±.015	—
DHS-9	TO-9	1	.437±.015	.054±.005	—	.200±.010	—
DHS-10	MT-10	7	.672±.015	.265±.015	—	—	—
DHS-11	TO-11	1	.437±.015	.054±.005	—	.200±.010	—
DHS-12	TO-12	2	.437±.015	.054±.005	—	.200±.005	—
DHS-14	MT-14	7	1.250±.015	.540±.010	—	—	—
DHS-16	TO-16	1	.437±.015	.054±.005	—	.200±.010	—
DHS-18	TO-18	1	.312±.015	.031±.005	—	.100±.010	—
DHS-33	TO-33	2	.437±.015	.054±.010	—	.200±.005	—
DHS-36	TO-36	3	1.225±.025	.187±.015	.218±.015	.690±.015	—
DHS-38	TO-38	1	.750±.015	.062±.005	—	.200±.010	—
DHS-39	TO-39	1	.437±.015	.054±.005	—	.200±.010	—
DHS-43	TO-43	2	.437±.015	.054±.010	—	.200±.005	—
DHS-46	TO-46	1	.312±.015	.031±.005	—	.100±.010	—
DHS-66	TO-66	6	.700±.010	.094±.010	.155±.010	.960±.010	.200±.010

STD. PUT-UP: 5, 25, 100.

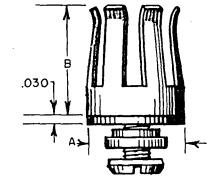
BERYLLIUM OXIDE FOR TRANSISTOR RETAINER CLIPS, HEAT DISSIPATION AND ELECTRICAL INSULATION

TRANSISTOR RETAINERS: Optimum thermal conductivity, with absolute electrical insulation reliability, is offered by spring clip transistor retainers. The retainers provide electrical isolation for the semiconductor by means of a disc of beryllium oxide ceramic brazed to the base of the beryllium copper retainer. Solid ceramic disc, in contrast to a thin insulating coating, is practically immune to loss of insulating value thru cracking, abrasion, chipping or other results of rough treatment in assembly. Heat transfer from the semiconductor to chassis or heat sink is not sacrificed since the high purity BeO has thermal conductivity to that of aluminum metal. Maximum soldering temperature —300°C.

FOR SOLDER MOUNTING



FOR MECHANICAL MOUNTING



DABURN Cat. No.	Mounting Style	Type	"A" O.D.	"B" Length	"C" Screw Size
DTR-01	Solder	TO-5	3/8"	.37"	—
DTR-02	Screw	TO-5	3/8"	.37"	4-40 x 3/16"
DTR-05	Solder	TO-18	.221"	.28"	—
DTR-06	Screw	TO-18	.221"	.28"	2-56 x 3/16"

STD. PUT-UP: 5, 25, 100

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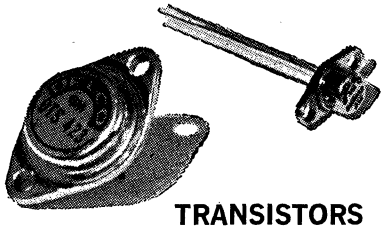
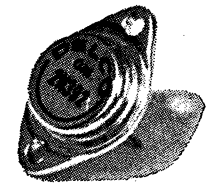
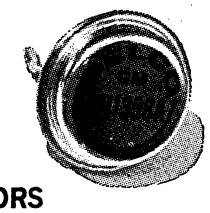
The Kokomoans'







TRANSISTORS

Type	Ic	VCBO	VCEO	hFE @ Ic Amps		VCE(sat) @ Ic Volts @ Amps	
NPN SILICON TO-36, HIGH VOLTAGE							
2N2580	5	400	400	10/40 4 min	5 10	0.7	5.0
2N2580M†	5	400	400	10/40	5	0.7	5.0
2N2581	10	400	400	25/65 10 min	5 10	1.0	10.0
2N2582	5	500	500	10/40 4 min	5 10	0.7	5.0
2N2583	10	500	500	25/65 10 min	5 10	1.0	10.0
2N3079	10	200	200	10/50	5	.14Ω*	5.0
2N3080	10	300	300	10/50	5	.14Ω*	5.0
NPN SILICON TO-3, HIGH VOLTAGE							
DTS-401	3.5	400	400	30/90	1.0	0.8	1.0
DTS-402	3.5	400	400	30/90	1.0	0.8	1.0
DTS-410	3.5	200	200	30/90	1.0	0.8	1.0
DTS-411	3.5	300	300	30/90	1.0	0.8	1.0
DTS 413	2.0	400	400	20/80	0.5	0.8	0.5
DTS 423	3.5	400	400	30/90	1.0	0.8	1.0
DTS-423M†	3.5	400	400	30/90	1.0	0.8	1.0
DTS-424	3.5	500	500	30/90	1.0	0.8	1.0
DTS-425	3.5	500	500	30/90	1.0	0.8	1.0
DTS-430	5	400	400	15/45	2.5	0.9	2.5
DTS-431	5	400	400	15/35	2.5	0.7	2.5
DTS-431M†	5	400	400	15/35	2.5	0.7	2.5
2N3902	3.5	700⑥	400	30/90	1.0	0.8	1.0
JAN 2N3902	3.5	700⑥	400	30/90	1.0	0.8	1.0
2N5157	3.5	700⑥	500	30/90	1.0	0.8	1.0
2N5241	5	400	400	15/35	2.5	0.7	2.5
PNP GERMANIUM TO-36 ALLOY BASE							
2N173	15	60	45	35/70	5.0	1.0	12.0
2N174	15	80	55	25/50	5.0	0.9	12.0
JAN 2N174A	15	80	40	40/80	1.2	0.7	12.0
2N277	15	40	25	35/70	5.0	0.3②	12.0
2N278	15	50	30	35/70	5.0	1.0	12.0
2N441	15	40	25	20/40	5.0	0.3②	12.0
2N442	15	50	30	20/40	5.0	0.3②	12.0
2N443	15	60	45	20/40	5.0	1.0	12.0
2N1099	15	80	55	35/70	5.0	0.7	12.0
2N1100	15	100	65	25/50	5.0	0.7	12.0
2N1358	15	80	40	40/80	1.2	0.7	12.0
2N1358A	15	100	60	25/50	5.0	0.7	12.0
JAN 2N1358	15	80	40	25/50	5.0	0.7	12.0
2N1412	15	100	65	25/50	5.0	0.7	12.0
JAN 2N1412A	15	100	70	25/50	5.0	0.6	12.0
2N1518	25	50	40	15/60	15	0.7	25
2N1519	25	80	60	15/60	15	0.7	25
2N1520	35	50	40	17/68	15	0.6	35
2N1521	35	80	60	17/68	15	0.6	35
2N1522	50	50	40	25/100	15	0.5	50
2N1523	50	80	60	25/100	15	0.5	50
2N1970	15	100	50	17/40	5.0	1.0	12.0
2N2075	15	80	65	20/40	5.0	0.7	12.0
2N2076	15	70	55	20/40	5.0	0.7	12.0
2N2077	15	50	45	20/40	5.0	0.9	12.0
2N2078	15	40	25	20/40	5.0	0.9	12.0
2N2079	15	80	65	35/70	5.0	0.7	12.0
2N2080	15	70	55	35/70	5.0	0.7	12.0
2N2081	15	50	45	35/70	5.0	0.9	12.0
2N2082	15	40	25	35/70	5.0	0.9	12.0
JAN 2N2210				use JAN 2N1412A			
2N2490	15	70	50	20/40	5.0	0.7	12.0
2N2491	15	60	40	35/70	5.0	0.7	12.0
2N2492	15	80	65	25/50	5.0	0.5	12.0
2N2493	15	100	75	25/50	5.0	0.5	12.0
PNP GERMANIUM TO-37 NU-BASE							
2N3212	5	100⑥	80	30/90	3.0	0.5	5.0
2N3213	5	80⑥	60	30/90	3.0	0.5	5.0
2N3214	5	60⑥	40	30/90	3.0	0.5	5.0
2N3215	5	40⑥	30	25/100	3.0	0.5	5.0

① VCES ② VCER ③ Power gain db ④ Max. ⑤ Typical
⑥ VCEX ⑦ VCE Sus ⑧ @ 90° C-REB = 100 ohm
⑨ VCBX *RSAT † Military Type Spec.

TRANSISTORS

Type	Ic	VCBO	VCEO	hFE @ Ic Amps		VCE(sat) @ Ic Volts @ Amps	
PNP GERMANIUM TO-41 NU-BASE							
2N1073	10	40②	40②	20/60	5.0	0.6	5.0
2N1073A	10	80②	80②	20/60	5.0	0.6	5.0
2N1073B	10	120②	120②	20/60	5.0	0.6	5.0
PNP GERMANIUM TO-3 NU-BASE							
2N5155	25	140⑥	120⑦	25/100	8.0	0.9	25.0
DTG-110A	25	110⑥	70	50/300	1.0		
DTG-110B	25	90⑥	40⑦	65/300	1.0	0.5	5.0
DTG-600	25	90⑥	50⑦	50/115⑤	5.0	0.75	25
DTG-601	25	90⑥	60⑦	50/115⑤	5.0	0.75	25
DTG-602	25	100⑥	70⑦	50/115⑤	5.0	0.75	25
DTG-603	25	90⑥	80⑦	50/	5.0	0.75	25.0
DTG-603M†	25	90⑥	80⑦	50/	5.0	0.75	25.0
DTG-1200	15	120②	120⑦	20	8.0	0.5	12
DTG-1010	15	325⑥	110⑦	100⑤	8.0	0.5	12
DTG-1110	15	200⑥	80⑦			0.5	10
DTG-2000	25	60⑥	30⑦	25	8.0	0.9	25
DTG-2100	25	80⑥	60⑦	25	8.0	0.9	25
DTG-2200	25	100⑥	80⑦	25	8.0	0.9	25
DTG-2300	25	120⑥	100⑦	25	8.0	0.9	25
DTG-2400	25	140⑥	120⑦	25	8.0	0.9	25
DTG-2400M†	25	140⑥	120	25/125	10.0	0.9	25
PNP GERMANIUM TO-3 ALLOY BASE							
2N255A	5	15	15②	25③	.450		
2N301	3	40	32	62.5	.700		
2N301A	3	60	32	62.5	.700		
2N379	7	80⑨	40	20/90	2.0	1.0	2.0
2N380	7	60⑨	30	20/90	2.0	1.0	2.0
2N392	5	60	45	60/150	3.0	0.5	3.0
2N456A	7	40	20	30/90	5.0	0.5	5.0
2N456B	7	40	30	30/90	5.0	0.5	5.0
2N457A	7	60	30	30/90	5.0	0.5	5.0
2N457B	7	60	40	30/90	5.0	0.5	5.0
2N458A	7	80	40	30/90	5.0	0.5	5.0
2N458B	7	80	45	30/90	5.0	0.5	5.0
2N554	5	15	30	30	1.0		
2N669	3	30⑧	30①	250④	.500	0.4⑤	3.0
2N1011	5	80	40	30/75	3.0	1.5	3.0
2N1021	7	100	50	30/90	5.0	0.5	5.0
2N1021A	7	100	50	30/90	5.0	0.5	5.0
2N1022	7	120	50	30/90	5.0	0.5	5.0
2N1022A	7	120	55	30/90	5.0	0.5	5.0
2N1159	5	80	60	30/75	3.0	1.0	3.0
2N1160	7	80	60	20/50	5.0	1.0	5.0
2N1168	5	50	30	60⑤	3.0	.25⑤	3.0
2N1534	5	40	20	35/70	3.0	1.2	3.0
2N1535	5	60	30	35/70	3.0	1.2	3.0
2N1536	5	80	40	35/75	3.0	1.2	3.0
2N1539	5	25	20	50/100	3.0	0.3	.300
2N1540	5	40	30	50/100	3.0	0.3	.300
2N1541	5	55	40	50/100	3.0	0.3	.300
2N1542	5	65	50	50/100	3.0	0.3	.300
2N1543	5	80	60	50/100	3.0	0.3	.300
2N1544	5	25	20	75/150	3.0	0.2	.300
2N1545	5	40	30	75/150	3.0	0.2	.300
2N1546	5	55	40	75/150	3.0	0.2	.300
2N1547	5	65	50	75/150	3.0	0.2	.300
2N5156	10	100	60⑦	25/60	5.0	1.0	10
DTG-110	7	40	40②	74/250	1.0	5.0	2.0

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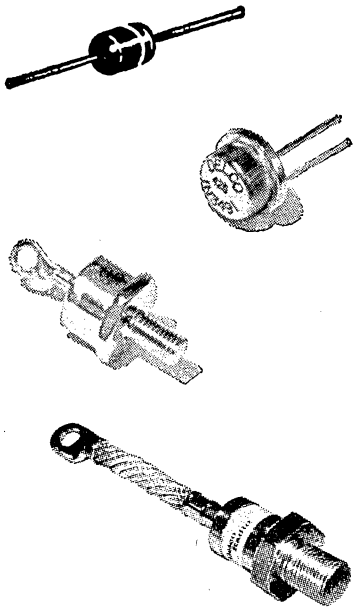
power is here.

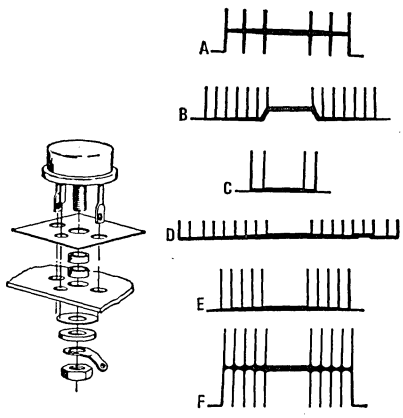


SILICON POWER RECTIFIERS

TYPE	MAXIMUM AVERAGE CURRENT	P.R.V. AND MAXIMUM CONTINUOUS DC BLOCKING VOLTAGE	REVERSE CURRENT	FORWARD VOLTAGE DROP	REPETITIVE PEAK FORWARD CURRENT
AXIAL LEAD					
DRS102	1A	200V	200 μA	0.9V	10A
DRS104	1A	400V	200 μA	0.9V	10A
DRS106	1A	600V	200 μA	0.9V	10A
DRS107	1A	700V	200 μA	0.9V	10A
PRESS FIT					
IN3491	25A	50V	10 mA	0.7V	110A
IN3492	25A	100V	10 mA	0.7V	110A
IN3493	25A	200V	8 mA	0.7V	110A
STUD BASE					
IN3208	15A	50V	10 mA	1.5V	70A
IN3209	15A	100V	10 mA	1.5V	70A
IN3210	15A	200V	10 mA	1.5V	70A
DRS250	250A	800V	10 mA	.55V	4500A
DRS251	250A	1000V	10 mA	.55V	4500A
DRS252	250A	1200V	10 mA	.55V	4500A
DRS253	250A	1400V	10 mA	.55V	4500A
DRS254	250A	1600V	10 mA	.55V	4500A

All rectifiers available with reverse polarity (Anode connected to base). To order, add "R" to type number.

HEAT SINKS AND ACCESSORIES



PART NUMBER	OUT-LINE	DESCRIPTION	†THERMAL RESIS.	MAX. WIDTH	MAX. DEPTH	MAX. LENGTH
7270725	A	Single Punch, Universal Mount	2.3° C/watt	3.125″	1.370″	4.690″
7281352	A	Double Punched, Universal Mount	2.3° C/watt	3.125″	1.370″	4.690″
7270606	A	Unpunched, Unpainted	2.3° C/watt	3.125″	1.370″	4.690″
7300811	A	Double punched for 2 Press Fit Rectifiers	2.3° C/Watt	3.125″	1.370″	4.690″
7281361	B	Double Punched, Universal Mount	1.6° C/watt	3.125″	1.080″	6.135″
7281364	B	Unpunched, Unpainted	1.6° C/watt	3.125″	1.080″	6.135″
7281357	C	Punched for Diamond Base Only	5.0° C/watt	1.625″	1.330″	2.930″
7281360	C	Unpunched, Unpainted	5.0° C/watt	1.625″	1.330″	2.930″
7281351	D	Double Punched, Universal Mount	2.2° C/watt	3.125″	.750″	.750″
7281354	D	Unpunched, Unpainted	2.2° C/watt	3.125″	.750″	.750″
7281355	E	Double Punched, Universal Mount	2.2° C/watt	3.125″	1.330″	4.850″
7281353	E	Unpunched, Unpainted	2.2° C/watt	3.125″	1.330″	4.850″
7276040	E	Punched for Round Base Only	3.5° C/watt	1.531″	1.330″	4.850″
7277151	E	Punched for Diamond Base Only	3.5° C/watt	1.531″	1.330″	4.850″
7278482	E	Unpunched, Unpainted	3.5° C/watt	1.531″	1.330″	4.850″
7281366	F	Double Punched, Universal Mount	1.3° C/watt	3.125″	2.475″	4.850″
7281369	F	Unpunched, Unpainted	1.3° C/watt	3.125″	2.475″	4.850″
7269634	F	Insulating Spacer				
7274633	F	TO 36 (Round Base) Mtg. Kit	Furnished with All Transistors and Rectifiers Purchased in Sample Quantities			
7274775	F	TO 3 (Diamond Base) Mtg. Kit				
7276383	F	TO 4 (Min. Dia. Base) Mtg. Kit				
7276396	F	DO 5 (6 Rectifier) Mtg. Kit				
7305209		TO-41 (Diamond base) Mtg. Kit.				
7305210		TO-3 (Silicon) Mtg. Kit.				

†Typical value with length of fin positioned vertically.

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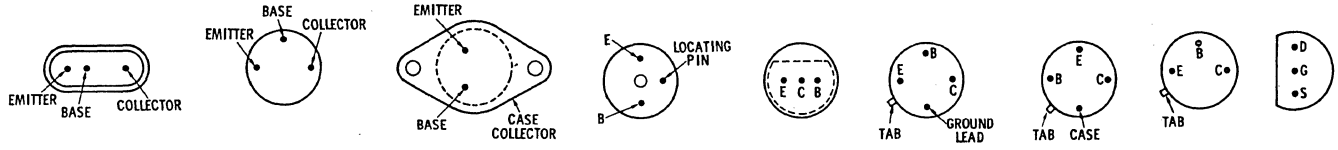
UNIVERSAL REPLACEMENT TRANSISTORS

Highly dependable low-cost germanium and silicon transistors especially designed as general replacements for most types of transistors used in Radio and TV Sets and other home entertainment devices.

Cat. No.	Unit Type	Dwg. No.	Application(s)	Config-uration	Use	Max. Current	Max. Wattage	Max. Coll/Emit. Volts	Sugg. List Price
GE-1	Germanium	B	Mixer/Oscillator Converter, RF & IF Amplifiers (AM Radio)	TO-5	PNP	100MA	150MW	12V	$2.00
GE-2	Germanium	B	AF Amplifier	TO-5	PNP	200MA	200MW	20V	1.70
GE-3	Germanium	C	AF Power Amplifier	TO-3	PNP	3A	25W	50V	2.95
GE-4	Germanium	D	AF High Power Amplifier	TO-36	PNP	12A	50W	50V	4.90
GE-5	Germanium	B	Mixer/Oscillator Converter, RF & IF Amplifiers (AM Radio)	TO-5	NPN	100MA	150MW	12V	2.80
GE-6	Germanium	A	Mixer/Oscillator Converter, RF Amplifier (AM Radio)	OV-5	NPN	20MA	65MW	15V	3.05
GE-7	Germanium	A	IF Amplifier (AM Radio)	OV-5	NPN	20MA	65MW	15V	2.95
GE-8	Germanium	B	AF Amplifier	TO-5	NPN	200MA	150MW	20V	2.15
GE-9	Germanium	F	Mixer/Oscillator Converter, RF & IF Amplifiers (AM Radio), FM-IF Amplifier	RO-73	PNP	6MA	80MW	12V	2.10
GE-9A	Germanium	G	Mixer/Oscillator Converter, RF & IF Amplifiers (AM-FM Radio)	TO-72	PNP	10MA	70MW	30V	2.10
GE-10	Silicon	E	Mixer/Oscillator Converter, RF & IF Amplifiers (AM Radio), AF Amplifier	RO-67	NPN	100MA	200MW	25V	2.00
GE-11	Silicon	E	Mixer/Oscillator Converter, RF & IF Amplifiers (FM Radio), VHF Tuner, UHF Oscillator	RO-67	NPN	25MA	200MW	30V	2.55
GE-12	Silicon	C	AF Power Amplifier (Line Operated Units)	TO-66	NPN	300MA	10W	300V	3.90
GE-13MP	Germanium	C	AF Power Amplifier. Matched Pairs of GE-3	TO-3	PNP	3A	25W	50V	5.90
GE-14	Silicon	C	AF Power Amplifier	TO-3	NPN	15A	115W	100V	5.85
GE-15MP	Silicon	C	AF Power Amplifier. Match Pairs of GE-14	TO-3	NPN	15A	115W	100V	11.70
GE-16	Germanium	C	AF High Power Amplifier	TO-3	PNP	10A	90W	60V	5.25
GE-17	Silicon	B	FM, RF, & Oscillator, TV and Other Low-Noise Circuits 50-100 mHz	RO-97A	NPN	100MA	500MW	30V	2.40
GE-18	Silicon	H	AF Amplifier, Output, or Oscillator	TO-5	NPN	500MA	800MW	80V	2.40
GE-19	Silicon	C	AF Amplifier, Output Oscillator — High Current	TO-3	NPN	4A	90W	50V	5.10
GE-20	Silicon	H	RF & IF Amplifiers, Oscillator, Audio, and Applications to 50 mHz	TO-18	NPN	500MA	500MW	25V	1.85
GE-21	Silicon	H	RF & IF Amplifiers, Oscillator, Audio, and Applications to 50 mHz	TO-5	PNP	500MA	500MW	25V	1.90
GE-22	Silicon	B	RF & IF Amplifier, Oscillator (AM-FM) to 100 mHz	RO-110	PNP	500MA	500MW	25V	1.70
GE-23	Silicon	C	Class A & B AF Power Amplifiers, Communications, Hi-Fi	TO-66	NPN	2A	15W	40V	4.20
GE-24MP	Silicon	C	Class A & B AF Power Amplifiers, etc. Matched Pairs of GE-23	TO-66	NPN	2A	15W	40V	8.40
GE-25	Germanium	C	Horizontal & Vertical TV Sweep Circuits and Other High Voltage, High Current Use	TO-3	PNP	10A	50W	325V	12.50
GE-FET-1	Silicon	J	N Channel Field Effect Transistor for Small Signal Use	TO-92	(10MA Gate Current, 200MW)			25V	3.75



REGISTERED JEDEC TRANSISTORS

These supplement the Universal Line above. Characteristics conform to JEDEC specifications.

Type or JEDEC No.	Use	Appli-cation	Sugg. List Price	Type or JEDEC No.	Use	Appli-cation	Sugg. List Price
2N107	PNP	AF	$1.25	2N404	PNP	SW	$0.90
2N170	NPN	IF	1.70	2N508	PNP	AF OUT	1.30
2N188A	PNP	AF OUT	3.05	2N1415	PNP	AF SW	1.70
2N190	PNP	AF	1.40	2N2160	*	OSC	2.75
2N324	PNP	AF	1.20				

* Silicon Unijunction

NEW GE GE-504A UNIVERSAL RECTIFIER

A silicon rectifier with a 60-amp surge rating. Recommended as a replacement for all selenium, germanium and silicon rectifiers used in TV receivers. The 60-amp surge rating eliminates the need for the surge limiting resistors normally required when silicon rectifiers are used.

Type	PIV	I_{DC}	Sugg. List Price	Type	PIV	I_{DC}	Sugg. List Price
GE-504A	600V	1A	$1.10	GE-509	1000V	1A	$1.25

GE TYPE IN91 GERMANIUM RECTIFIER

This top hat, hermetically sealed rectifier is designed for general-purpose applications.

PRV is 100 volts; maximum I_{DC} is 150 mA. Suggested List Price $1.55.

GE VAC-U-SEL® DOUBLE/DIODES

Miniature double diodes for TV horizontal phase detector, replacement and other applications. 7/16 x 9/16 x 3/16"

Type No.	Ifwd	Imr	Description	Max Case Temp.	Sugg. List Price
6GC1	1.1 @ 2.5V	4 @ 20V	Common cathode	85°C	$0.99
6GD1	1.1 @ 2.5V	4 @ 20V	Series connected	85°C	.99
6GX1	1.1 @ 2.5V	4 @ 20V	Common anode	85°C	.99

GE CRYSTAL DIODES

Type	Description	Average Forward Current (ma)	Peak Reverse Voltage (volts)	Sugg. List price
1N34AS	General Purpose	50	75	$0.55
1N60	Video Detector	50	30	.55
1N82A	Silicon UHF Mixer	—	5	1.45
1N295	50 MC Detector	30	50	.55

RECTIFIERS AND CRYSTALS FOR COLOR TV

GE Selenium Rectifiers			GE Quartz Crystals‡		
Cat. No.	Type	Sugg. List Price	Cat. No.	Type	Sugg. List Price
GECR-1	Focus Rect.	$6.20	GE-41	Color burst filter	$5.60
GECR-2	Boosted Boost	2.45	GE-42	Color subcarrier oscillators	3.80
GECR-3	Convergence	1.43			

‡ Resonant frequency 3579.545 kc

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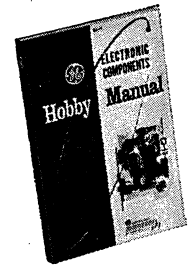

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DUAL DIODES

DIVISION OF TRW INC.

Attractive new SNAP PAK style package. Back of card contains complete replacement information.

DIODES. Universal selenium dual diodes for horizontal phase detectors and remote control in TV receivers. Also used in radio control devices for model planes, and other circuits. Available in four basic types.

The small size, economy, ease of installation and reliable construcion of the IRC dual selenium diodes make them ideal for many low-voltage, low-frequency applications. To suit them to various circuits, these dual diodes have either common-anode, common-cathode, or series form of internal connection. The cells in each unit are matched to assure electrical balance.

Alloy-plated leads facilitate soldering. No clamp or other mounting device is needed, since the three leads readily support this flyweight unit.

Designed for Long Life

Construction features include an integral heatsink and a "floating" spring that gives proper pre-load over the full operating temperature range. No paper, laminates or other material that might absorb moisture are used. Moisture-excluding materials cushion the active elements and isolate them from encapsulant.

Electrically Balanced and Noise Free

IRC processes each selenium cell to give it a smooth, uncontaminated surface and periphery with no fractures. This technique insures uniform current density over the entire cell area and prevents noisy, unreliable operation.

To indicate polarity, one corner of the case has a diagonal cutoff. This assures correct orientation of units in automated assembly, and allows use of both sight and touch to get proper polarity at manual assembly and inspection.

DUAL DIODE ASSORTMENTS

D4 ASSORTMENT No. 32A — 5 SNAP PAK style display strips totaling 25 diodes, packaged one diode to a card, 5 cards to a strip.

D5 ASSORTMENT No. 33A — 5 SNAP PAK style display strips totaling 25 diodes, packaged one diode to a card, 5 cards to a strip.

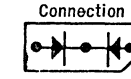
TV DUAL DIODES

REPLACEMENT INFORMATION

TYPE D4 COMMON CATHODE

Manufacturer	Part No.
Admiral	93B5-6, 9 93C26-7, 9
Airline	66X21, 25 296V004H01
Coronado	66X21, 25
Curtis Mathes	9LR2-S 21A2
Dominion Electrohme	702-810 14-501-01 109474
Dumont	109474 R109328 817074
Emerson	817062 817074 817126 R109474
Federal I.T.T.	K1615 P15
GE	6GC1 CT16X7 ET16X10 K115J510-1, 2 K117J460-1, 2 WT16X7 RER023
Hallicrafters	27C226 027-300-226
Hoffman	10031 744002 744006
International Rectifier	DD04
Magnavox	M109474 530093-1
Motorola	48C751656 48K741255
Muntz	SR004
Olympic	RF5465-1 RF5794-1
Packard Bell	72053
Philco	34-8034 34-8037-1, 2, 3
RCA	109328, 109474 1107832-7, 9, 10, 11
Setchell-Carlson	9LR2
Silvertone	86-9-1 86-18-1 624-0007 D51 109328
Sylvania	624-0006 624-0007 13-85943-1, 2, 3
Tel-Rad	TRC-P4
Travler	SR6 SR13 SR20
Truetone	66X21, 25
Wells-Gardner	66X21, 25
Westinghouse	296V004H01
Workman	SD4
Zenith	103-20 103-32

Connection

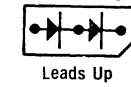


Leads Up

TYPE D5 SERIES CONNECTED

Manufacturer	Part No.
Admiral	93A5-2 93B5-3, 4, 5
Airline	SR15 530045-3
Citizenship Radio	34-8037
Coronado	SR15
Dominion Electrohome	14-503-01
Emerson	817062 817962
Federal I.T.T.	K1616 P16
GE	6GD1 K118J966-1
Hotpoint	WT16X9
International Rectifier	DD05
Magnavox	5330045-1, 2, 3 530093-1, 2, 3
Motorola	48B742698 48K741752 48K742698 48K754153 65K744238
Olympic	RF5794
Packard Bell	72030
Silvertone	B-45-110 B-48-110 386-4-1A D76 86-3-1 86-4-1A
Sonora	SR15
Sylvania	13-93889
Tel-Rad	TRC-55
Travler	SR10 SR15
Truetone	SR10 SR15
Webcor	65P113 G9P17741 65P124-1
Workman	SD5
Zenith	633977

Connection



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2N109	2N501A	2N722	2N935	2N1132B	2N1608	2N1986	2N2217	2N2540	2N3020
2N128	2N502	2N722A	2N936	2N1135	2N1613	2N1987	2N2217A	2N2586	2N3072
2N207	2N502A	2N743	2N937	2N1135A	2N1623	2N1988	2N2218	2N2616	2N3073
2N207A	2N502B	2N744	2N938	2N1158	2N1639	2N1989	2N2218A	2N2645	2N3107
2N207B	2N503	2N753	2N939	2N1158A	2N1643	2N1990	2N2219	2N2651	2N3108
2N217	2N504	2N768	2N940	2N1177	2N1654	2N1991	2N2219A	2N2696	2N3109
2N223	2N534	2N770	2N941	2N1178	2N1655	2N2008	2N2220A	2N2697	2N3110
2N224	2N535	2N771	2N942	2N1179	2N1656	2N2048	2N2221	2N2710	2N3114
2N225	2N535A	2N772	2N943	2N1180	2N1663	2N2049	2N2221A	2N2784	2N3117
2N226	2N535B	2N773	2N944	2N1199	2N1676	2N2083	2N2222	2N2785	2N3120
2N227	2N536	2N774	2N945	2N1199A	2N1677	2N2086	2N2222A	2N2786	2N3121
2N231	2N581	2N775	2N946	2N1200	2N1708	2N2087	2N2274	2N2787	2N3133
2N232	2N582	2N776	2N947	2N1201	2N1711	2N2088	2N2275	2N2788	2N3134
2N240	2N583	2N777	2N956	2N1204	2N1726	2N2147	2N2276	2N2789	2N3135
2N269	2N584	2N778	2N960	2N1219	2N1727	2N2148	2N2277	2N2790	2N3136
2N300	2N588	2N779	2N961	2N1221	2N1728	2N2162	2N2280	2N2791	2N3137
2N301	2N589	2N783	2N962	2N1222	2N1742	2N2163	2N2281	2N2792	2N3209
2N301A	2N597	2N785	2N963	2N1223	2N1743	2N2164	2N2282	2N2801	2N3244
2N317A	2N598	2N794	2N964	2N1228	2N1744	2N2165	2N2297	2N2837	2N3245
2N327A	2N599	2N795	2N965	2N1229	2N1745	2N2166	2N2303	2N2838	2N3250
2N327B	2N600	2N796	2N966	2N1230	2N1746	2N2167	2N2360	2N2845	2N3251
2N328A	2N601	2N828	2N977	2N1231	2N1747	2N2168	2N2361	2N2846	2N3252
2N328B	2N647	2N834	2N978	2N1232	2N1748	2N2169	2N2362	2N2847	2N3253
2N329A	2N649	2N835	2N995	2N1233	2N1749	2N2170	2N2368	2N2848	2N3254
2N329B	2N656	2N846	2N1010	2N1252	2N1750	2N2175	2N2369	2N2868	2N3299
2N344	2N657	2N846A	2N1024	2N1253	2N1752	2N2176	2N2369A	2N2869	2N3301
2N345	2N670	2N858	2N1025	2N1267	2N1753	2N2177	2N2374	2N2870	2N3302
2N346	2N671	2N859	2N1026	2N1268	2N1754	2N2178	2N2375	2N2883	2N3304
2N352	2N672	2N860	2N1027	2N1269	2N1785	2N2180	2N2376	2N2884	2N3337
2N353	2N673	2N861	2N1028	2N1270	2N1786	2N2181	2N2380	2N2894	2N3338
2N386	2N696	2N862	2N1034	2N1271	2N1787	2N2182	2N2380A	2N2904	2N3339
2N387	2N697	2N863	2N1035	2N1272	2N1788	2N2183	2N2398	2N2904A	2N3342
2N393	2N698	2N864	2N1036	2N1275	2N1790	2N2184	2N2399	2N2905	2N3343
2N395	2N699	2N865	2N1037	2N1411	2N1864	2N2185	2N2410	2N2905A	2N3344
2N396	2N699A	2N869	2N1118	2N1416	2N1865	2N2186	2N2443	2N2906	2N3345
2N396A	2N699B	2N869A	2N1118A	2N1420	2N1866	2N2187	2N2475	2N2906A	2N3346
2N404	2N703	2N870	2N1119	2N1427	2N1867	2N2192	2N2476	2N2907	2N3730
2N406	2N706	2N871	2N1122	2N1428	2N1868	2N2192A	2N2477	2N2907A	2N3731
2N408	2N706A	2N910	2N1122A	2N1429	2N1889	2N2192B	2N2478	2N2930	2N3732
2N410	2N706B	2N911	2N1123	2N1436	2N1890	2N2193	2N2479	2N2954	
2N412	2N708	2N912	2N1124	2N1467	2N1893	2N2193A	2N2480	2N2966	
2N414	2N709	2N914	2N1125	2N1472	2N1905	2N2193B	2N2481	2N2967	
2N428	2N717	2N915	2N1128	2N1478	2N1917	2N2194	2N2483	2N3009	
2N495	2N718	2N916	2N1129	2N1494	2N1918	2N2194A	2N2484	2N3010	
2N496	2N719	2N918	2N1130	2N1494A	2N1973	2N2194B	2N2509	2N3011	
2N497	2N719A	2N926	2N1131	2N1499	2N1974	2N2195	2N2510	2N3012	
2N498	2N720	2N927	2N1131A	2N1499A	2N1975	2N2195A	2N2511	2N3013	
2N499	2N720A	2N928	2N1131B	2N1500	2N1983	2N2195B	2N2537	2N3014	
2N499A	2N721	2N929	2N1132	2N1606	2N1984	2N2199	2N2538	2N3015	
2N501	2N721A	2N930	2N1132A	2N1607	2N1985	2N2205	2N2539	2N3019	

CONSUMER - ENTERTAINMENT TYPES

2N109	2N301A	2N408	2N1177	2N1179	2N1638	2N1906	2N2147	2N2870	2N3731
2N217	2N406	2N647	2N1178	2N1180	2N1639	2N2083	2N2148	2N3730	2N3732

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Semiconductor heat dissipators

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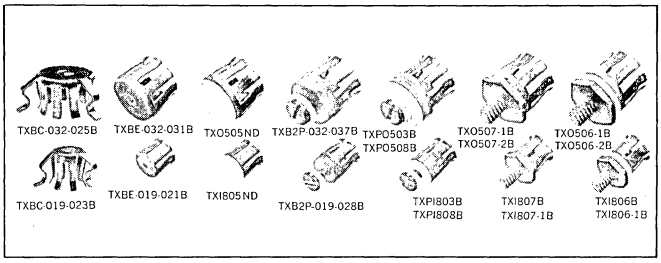
THERMA-LINK RETAINERS — FOR TO-5, TO-18 TYPE TRANSISTORS



Efficient retainers and heat sinks when mounted to P-C boards due to their excellent conductivity and extra mass. Also efficient thermal links between transistor and chassis or heat sink. Beryllium copper spring fingers firmly retain transistors, fit wide case diameter variations; make transistor insertion and removal easy. Available with BeO washer for high frequency applications. Send for Bulletins 141 and 144.

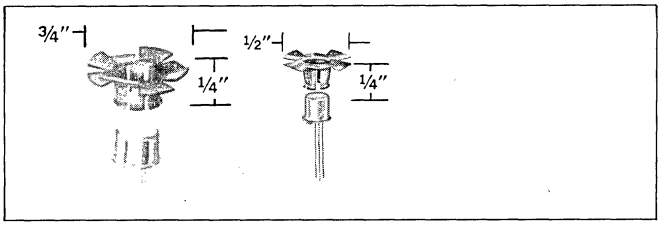
IERC PART NO. THERMA-LINK W/BeO	TRANSISTOR CASE SIZE	MOUNTING METHOD	QUANTITY PRICES 1-9	10-24	25-49	50-99	100-249	250-499
TXP1803B*	ALL TO-18	2-56 SCREW†	$2.05	$1.75	$1.64	$1.54	$1.34	$1.23
TXP1808B**	ALL TO-18	2-56 SCREW†	2.95	2.51	2.36	2.22	1.92	1.77
TXP0503B*	ALL TO-5	4-40 SCREW†	2.15	1.83	1.72	1.62	1.40	1.29
TXP0508B**	ALL TO-5	4-40 SCREW†	3.15	2.68	2.52	2.36	2.05	1.89
TX1805 ND**	ALL TO-18	SOLDER	2.75	2.34	2.20	2.07	1.79	1.65
TX0505 ND**	ALL TO-5	SOLDER	2.95	2.51	2.36	2.22	1.92	1.77
TX1806 B***	ALL TO-18	4-40 STUD	3.10	2.64	2.48	2.33	2.02	1.86
TX1806-1B***	ALL TO-18	6-32 STUD	3.10	2.64	2.48	2.33	2.02	1.86
TX0506-1B***	ALL TO-5	6-32 STUD	3.30	2.81	2.64	2.48	2.15	1.98
TX0506-2B***	ALL TO-5	10-32 STUD	3.30	2.81	2.64	2.48	2.15	1.98

For dimensions of Therma-Link retainers with BeO, add .060" to dimensions of standard Therma-Link retainers.

IERC PART NO. STANDARD THERMA-LINK	DIMENSIONS DIA.	HEIGHT	TRANSISTOR CASE SIZE	MOUNTING METHOD	QUANTITY PRICES 1-24	25-49	50-99	100-249	250-499
TXBC-019-023B	.43"	.23"	ALL TO-18	SPRING CLIP	$.30	$.26	$.24	$.23	$.21
TXBC-032-025B	.56"	.25"	ALL TO-5	SPRING CLIP	.30	.26	.24	.23	.21
TXBE-019-021B	.22"	.21"	ALL TO-18	RIVET OR SOLDER	.25	.22	.20	.19	.18
TXBE-032-031B	.37"	.31"	ALL TO-5	RIVET OR SOLDER	.25	.22	.20	.19	.18
TXB2P-019-028B	.22"	.28"	ALL TO-18	2-56 SCREW†	.55	.47	.44	.42	.39
TXB2P-032-037B	.37"	.37"	ALL TO-5	4-40 SCREW†	.55	.47	.44	.42	.39
TX1807B	.25"	.50"	ALL TO-18	4-40 STUD	.75	.64	.60	.57	.53
TX1807-1B	.25"	.50"	ALL TO-18	6-32 STUD	.75	.64	.60	.57	.53
TX0507-1B	.37"	.59"	ALL TO-5	6-32 STUD	.85	.73	.68	.64	.60
TX0507-2B	.37"	.59"	ALL TO-5	10-32 STUD	.85	.73	.68	.64	.60
TXBP-050-037B	.54"	.37"	ALL TO-8	4-40 SCREW†	1.60	1.36	1.28	1.20	1.12

*Separate BeO washer. **BeO washer brazed to dissipator. ***BeO washer brazed between stud and dissipator. † Screw and shouldered nylon washer included. Letter "B" at end of part number denotes black cadmium finish; delete letter "B" for Insulube 448 finish; for gold finish, substitute letter "G"; for dull nickel, substitute letters "ND". Contact your IERC representative or the factory regarding other transistor case sizes or finishes.

"FAN TOP" SERIES — FOR TO-5, TO-18 TYPE TRANSISTORS

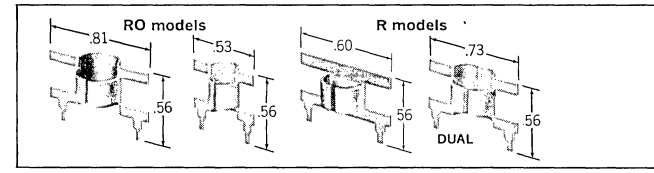


Low cost units give excellent case temperature reductions in natural or forced convection. Design allows location of other components close to transistors; adds virtually nothing to board height. Beryllium copper spring fingers firmly retain transistors, fit wide range of case diameters. Fast, press-fit installation without tools. Send for Bulletin 131.

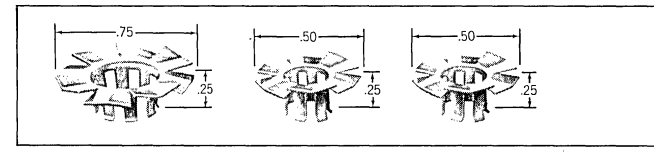
IERC PART NO.	TRANSISTOR CASE SIZE	QUANTITY PRICES 1-24	25-49	50-99	100-249	250-499
TXBF-032-025B	All .305" to .335" cases (TO-5, TO-9, etc.)	$.20	$.17	$.13	$.12	$.115
TXBF-019-025B	All .178" to .196" cases (TO-18, etc.)	.20	.17	.13	.12	.115

DISSIPATORS/RETAINERS FOR EPOXY AND CERAMIC TRANSISTORS

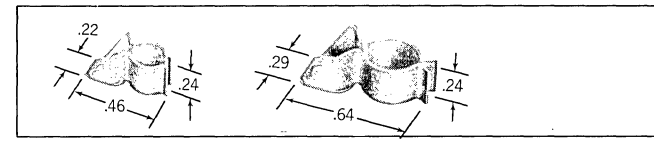
New IERC designs help you get maximum efficiency from epoxy semiconductors. Power ratings can be increased from 10% to 33% or additional operating safety margins provided. Send for Bulletin 148.



Spade-Type — Excellent dissipator and retainers. "Stand-off" legs provide positive 0.1" grid location for automatic insertion in P-C board; hold transistor above solder, eliminating possible thermal damage.



Fan-Top — Provides excellent dissipation with no loss in board area or vertical clearance space.

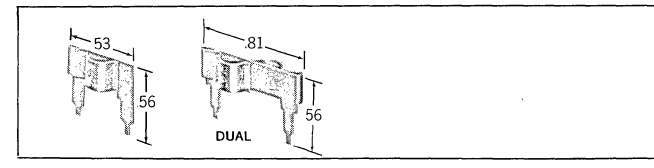


Clip-Type — Highly efficient dissipator retainer; also used as thermal link or radiating device. Spade and clip types for RF shielding available.

SPADE SERIES	QUANTITY PRICES 1-24	25-49	50-99	100-249	250-499	500-999	1000-4999	5000-9999
R0975CB	.120	.106	.141	.092	.080	0715	064	0565
R09718CB	.098	.087	.114	.076	066	0565	051	0455
R20-1CB	.101	090	.117	079	068	0575	052	0465
R20-2CB	.110	097	.129	084	071	0635	058	0515
R20D-1CB	.101	090	.117	079	068	0575	052	0465
R20D-2CB	.110	097	.129	084	071	0635	058	0515
FAN-TOP SERIES								
TX20CB	.162	.122	.190	.112	.107	.1025	093	0835
CLIP SERIES								
RC975CB	.155	.137	.182	.109	098	0885	.080	0715
RC9718CB	.127	.112	.150	.097	.082	0745	.067	0595

NOTES: (1) For quantities over 10,000 pieces, factory bid only. (2) Above items are manufactured from Beryllium copper, black Oxide Plated. Parts also available made from ½ hard brass. Brass parts are factory bid only.

RU "UNIVERSAL" SERIES FOR D-CASE PLASTIC DEVICES

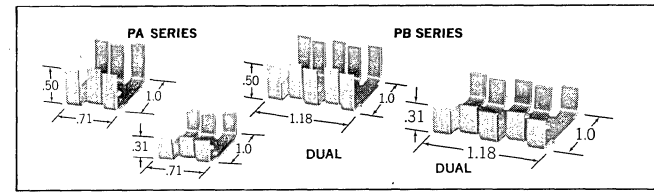


Unique spring clip retainer accommodates variations in case diameters. Both single and dual models accept all popular D-case transistors. Exceptionally efficient. Permits increased power capabilities, higher operational safety margins, and provides good stability in adverse environments. Legs hold transistor away from solder heat. Dual model ideal for matched-pair applications. Send for Bulletin 150.

RU SERIES	1-24	25-49	50-99	100-249	250-499	500-999	1000-4999	5000-9999	10,000 & up
RU67B1U	072	061	054	047	040	036	032	028	024
RU67B2U	087	074	066	058	050	042	037	033	029

Standard in brass, unplated. Also available in Beryllium copper. Optional finishes: Black oxide and black cadmium.

PA AND PB SERIES — FOR FLAT RECTANGULAR PLASTIC CASES

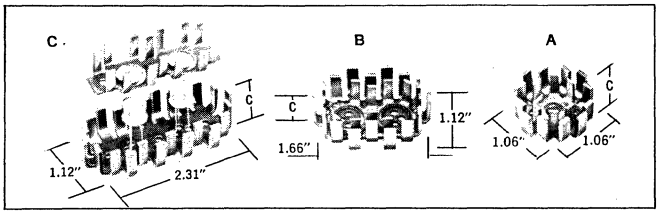


Accommodates flat, rectangular, medium power thyristors, transistors and SCR's. Staggered fingered design and aluminum* construction maximize dissipation. In natural convection a PA will allow a single X-58 or M332 device to be operated with 80% more power. See Bulletin 149.

PA & PB SERIES	1-24	25-49	50-99	100-249	250-499	500-999	1000-4999	5000-9999	10,000 & up
PA1-U**	.150	.128	.113	.098	.083	.072	.064	.057	.050
PA2-U	.145	.123	.108	.093	.078	.069	.062	.055	.048
PA1-1U	.150	.128	.113	.098	.083	.072	.064	.057	.050
PA2-1U	.145	.123	.108	.093	.078	.069	.062	.055	.048
PB1-U	.189	.160	.142	.124	.106	.090	.081	.072	.063
PB2-U	.180	.153	.135	.117	.099	.087	.078	.069	.060
PB1-2U	.189	.160	.142	.124	.106	.090	.081	.072	.063
PB2-2U	.180	.153	.135	.117	.099	.087	.078	.069	.060
PB1-3U	.189	.160	.142	.124	.106	.090	.081	.072	.063
PB2-3U	.180	.153	.135	.117	.099	.087	.078	.069	.060

*Available in aluminum only. **Letter "U" denotes unplated.

LP SERIES — FOR TO-5, TO-18 TYPE TRANSISTORS

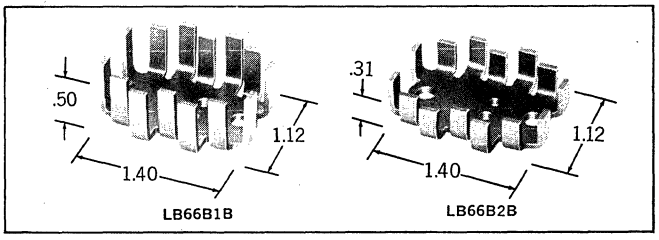


Versatile transistor cooling devices provide excellent heat dissipation in applications of low to high power transistors of TO-5 and TO-18 configurations. IERC's efficient staggered-finger configuration optimizes convection currents and radiating surface area. Available for single and multiple transistor mounting. Send for Bulletin 135.

IERC PART NO.	DIMENSION "C"	NUMBER OF TRANSISTORS	JEDEC OUTLINE NO.	PRICES				
				1-24	25-49	50-99	100-249	250-499
LP 5A 1B	1/2"	1	TO-5, TO-9	$.80	$.68	$.64	$.60	$.56
LP 5A 2B	5/16"	1	TO-5, TO-9	.80	.68	.64	.60	.56
LP 18A 1B	1/2"	1	TO-18	.80	.68	.64	.60	.56
LP 18A 2B	5/16"	1	TO-18	.80	.68	.64	.60	.56
LP 18A 3B	1/2"	2	TO-18	.80	.68	.64	.60	.56
LP 18A 4B	5/16"	2	TO-18	.80	.68	.64	.60	.56
LP 5B 1B	1/2"	1	TO-5, TO-9	.90	.77	.72	.68	.63
LP 5B 2B	5/16"	1	TO-5, TO-9	.90	.77	.72	.68	.63
LP 5B 3B	1/2"	2	TO-5, TO-9	.90	.77	.72	.68	.63
LP 5B 4B	5/16"	2	TO-5, TO-9	.90	.77	.72	.68	.63
LP 5C 1B	1/2"	1	TO-5, TO-9	1.00	.85	.80	.75	.70
LP 5C 2B	5/16"	1	TO-5, TO-9	1.00	.85	.80	.75	.70
LP 5C 3B	1/2"	2	TO-5, TO-9	1.00	.85	.80	.75	.70
LP 5C 4B	5/16"	2	TO-5, TO-9	1.00	.85	.80	.75	.70

Note: Clamp sections may be used separately as retaining devices; change first two letters of the part number to "LC". Base section LB5A1B or LB5A2B may be used separately for TO-37 transistors such as 2N1172 and 2N1609. Delete letter "B" from part number for Insulube 448 finish. Consult your IERC representative or factory for special orders.

LB SERIES — FOR TO-66 TYPE TRANSISTORS

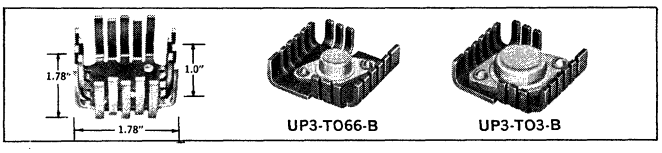


Efficient staggered-finger design requires only 1.7 sq.in. of mounting area. In natural convection, dissipates 9 watts with case temperature maintained at less than 150°C. At 1,000 RPM, dissipates 15 watts with case temperature maintained at 90°C. Send for Bulletin 146.

IERC PART NO.	JEDEC OUTLINE NO.	QUANTITY PRICES				
		1-24	25-49	50-99	100-249	250-499
LB66B1B	TO-66	.328	.283	.255	.222	.194
LB66B2B	TO-66	.286	.250	.226	.197	.173

Fabricated of aluminum. Letter "B" at end of part number denotes black anodize finish. For Insulube 448 (positive insulation up to 500 watts) delete letter "B". "U" denotes unplated part.

UP SERIES — FOR POWER TYPE TRANSISTORS AND DIODES

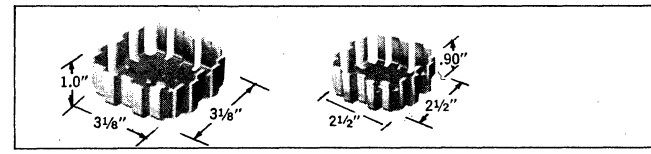


Design gives maximum dissipation in medium power applications at lower cost than comparable finned extrusions. Staggered finger configuration allows maximum efficiency in both natural convection and forced air at less weight and volume. Increased dissipation achieved by mounting dissipators back-to-back on a bracket. Standard finish black anodize. Send for Bulletin 134.

IERC PART NO.	JEDEC OUTLINE NO.	QUANTITY PRICES				
		1-24	25-49	50-99	100-249	250-499
UP-TO3-B	TO-3	$.66	$.56	$.53	$.50	$.47
UP-TO6-B	TO-6 or TO-36	.66	.56	.53	.50	.47
UP-TO66-B	TO-66	.66	.56	.53	.50	.47
UP-TO15-B	TO-15 or TO-13 (¼" stud)	.66	.56	.53	.50	.47
UP-TOV-7B	Universal*	.66	.56	.53	.50	.47
UP-TE2-B	TE-2	.66	.56	.53	.50	.47
UP3-TO66-B	TO-66	.40	.34	.32	.30	.28
UP3-TO3-B	TO-3	.40	.34	.32	.30	.28

Delete letter "B" from part number for Insulube 448 finish. Above parts are 1" high; for ¾", add numeral "2" after first two letters of part number; for ½", add numeral "1" after first two letters; example: UP2-TO3-B describes a dissipator ¾" high, with TO-3 hole pattern and black anodize finish. For other hole patterns, see your IERC representative or consult the factory.

HP SERIES — FOR POWER TYPE TRANSISTORS AND DIODES



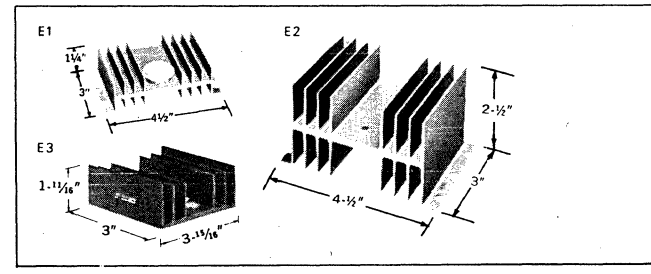
Heat dissipating performance of IERC's staggered-finger design is comparable to conventional extrusions up to 3 times as heavy and 30% larger. Two sizes: may be used separately or with the smaller unit nested in the larger unit. Standard finish black anodize. Send for Bulletin 139.

IERC PART NO.	JEDEC OUTLINE NO.	QUANTITY PRICES				
		1-24	25-49	50-99	100-249	250-499
HP1-TO3-B	TO-3	$1.30	$1.11	$1.04	$ .98	$.91
HP1-TO6-B	TO-6	1.30	1.11	1.04	.98	.91
HP1-TO15-B	TO-15, ¼" STUD	1.30	1.11	1.04	.98	.91
HP1-TOV2-B	UNIVERSAL*	1.30	1.11	1.04	.98	.91
HP1-TE6-B	TO-10, TO-31 8-32 or 10-32 STUD	1.30	1.11	1.04	.98	.91
HP3-TO3-B	TO-3	1.40	1.19	1.12	1.05	.98
HP3-TO6-B	TO-6	1.40	1.19	1.12	1.05	.98
HP3-TO15-B	TO-15, ¼" STUD	1.40	1.19	1.12	1.05	.98
HP3-TOV2-B	UNIVERSAL*	1.40	1.19	1.12	1.05	.98

Note: Delete letter "B" from part number for Insulube 448 finish. For other hole patterns, insert JEDEC Outline Number after the "dash" in the part number; or, contact your IERC representative or the factory for assistance with special orders.

*Combination hole pattern for TO-3, TO-6, TO-36 or studs up to ¼" dia.

EXTRUSIONS — E1, E2 AND E3 SERIES



Optimized fin design gives the most power dissipation for volume and weight. Standard finish black anodize. Standard units supplied with mounting notches and choice of six popular semiconductor mounting hole patterns. Send for Bulletins 142 (E1 and E2) and 145 (E3).

EXTRUSION TYPE	IERC PART NO.	TRANSISTOR MOUNTING HOLE PATTERN	QUANTITY PRICES				
			1-24	25-49	50-99	100-249	250-499
E1 and E3**	E1000-0600B	BLANK	$1.38	$1.18	$1.11	$ .95	$ .82
	E1003-0600B	TO-3	1.62	1.38	1.30	1.12	.97
	E1006-0600B	TO-6	1.62	1.38	1.30	1.12	.97
	E1015-0600B	TO-15	1.62	1.38	1.30	1.12	.97
	E10E2-0600B	LIKE 2N1015	1.62	1.38	1.30	1.12	.97
	E100V-0600B	UNIVERSAL*	1.62	1.38	1.30	1.12	.97
	E1066-0600B	TO-66	1.62	1.38	1.30	1.12	.97
E2	E2000-0600B	BLANK	2.04	1.74	1.67	1.40	1.20
	E2003-0600B	TO-3	2.28	1.94	1.86	1.57	1.35
	E2006-0600B	TO-6	2.28	1.94	1.86	1.57	1.35
	E2015-0600B	TO-15	2.28	1.94	1.86	1.57	1.35
	E20E2-0600B	LIKE 2N1015	2.28	1.94	1.86	1.57	1.35
	E200V-0600B	UNIVERSAL*	2.28	1.94	1.86	1.57	1.35
	E2066-0600B	TO-66	2.28	1.94	1.86	1.57	1.35

**For E3 configuration change first numeral of part no. to 3. For example E3000-0600B.

*Combination hole pattern for TO-3, TO-6, TO-36 or studs up to ¼" dia.

Note: Other lengths, in ½" increments are available. Specify non-standard hole patterns by JEDEC Outline Number, or by transistor type. For unplated, or Insulube 448 finishes, consult your nearest IERC representative or the factory.

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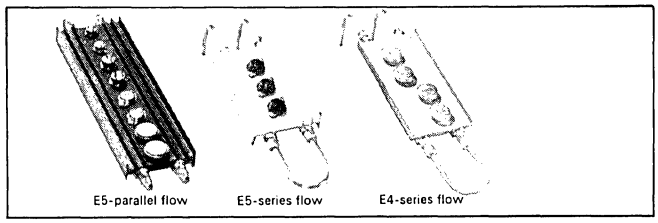
FLUID COOLED HEAT SINKS



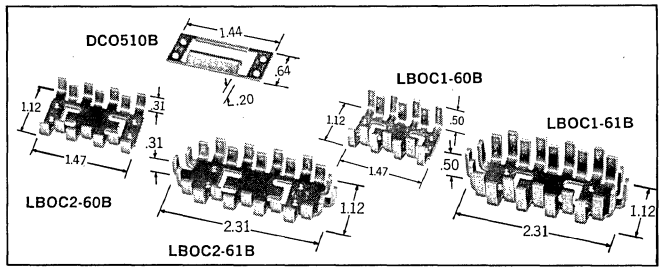
Compact, highly efficient aluminum heat sinks for power transistors and diodes. 1000 watts dissipation in less than 45 cu. in. Parallel or series flow; open or closed loop systems. Standard lengths from 6" to 4' in 1½" increments. All standard transistor hole patterns available. Standard ¼" tube fittings. Various finishes. Send for Bulletin 147.

IERC PART NO.	QUANTITY PRICES—PER FOOT		
	1-9	10-49	50-Over
E-4 Series	15.50	13.10	11.25
E-5 Series	17.00	14.35	12.25
Mounting Hole Pattern Per Pattern (See Note)	.25	.20	.15

INSULUBE® 448 FINISH FOR HEAT DISSIPATORS

Insulube 448 is the only proven finish for positive electrical insulation in electronic equipment that meets the most stringent environmental requirements. Non-hygroscopic. High emissivity surface. Salt Spray resistant. Low thermal resistance. Unaffected by elevated temperature. High dielectric strength. High insulation resistance. Send for Bulletin 123.

MICROCIRCUIT PACKAGE DISSIPATORS

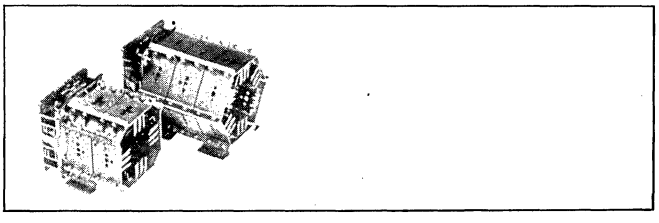


Models in this series consist of a retainer-clip, and/or dissipator. Retainer-clip may be used alone to mount the package to a conduction plane, or used with the dissipator in radiation/convection modes. In natural convection, the LBOC2-60B with clamp dissipates 3.6 watts with a case temperature rise of 103°C. The slightly larger LBOC2-61B with clamp dissipates 5 watts with the same case temperature rise. All models incorporate IERC's efficient, patented staggered-finger design. Send for Bulletin 151.

IERC PART NO.	QUANTITY PRICES				
	1-24	24-49	50-99	100-249	250-499
DC0510B	.51	.48	.45	.42	.39
LB0C2-60B	.51	.48	.45	.42	.39
LB0C2-61B	.51	.48	.45	.42	.39
LB0C1-60B	.51	.48	.45	.42	.39
LB0C1-61B	.51	.48	.45	.42	.39

Retainer-clip is made of beryllium copper and finished with black cadmium. Dissipator is fabricated of aluminum and finished with black anodize.

MODULAR FORCED AIR COOLING PACKAGES



IERC's design provides the best use of the output of most available fan types for economical thermal control in multiple semiconductor installations. Two types, each as much as 50% lighter in weight than other assemblies with comparable power dissipation. **F-600 Series** units are available with one to four hexagonal banks with six modules each. Cools up to 24 semiconductors with one muffin fan. Available assembled or in kit form. **F-400 Series** units have one to four banks of four modules each to cool up to 16 semiconductors with one fan. Available assembled or in kit form. Bulletins 136, 137.

DELIVERED	CAPACITY				QUANTITY PRICES				
	F-400		F-600						
	BANKS	MODULES	BANKS	MODULES	1-9	10-49	50-99	100-249	250-499
KIT FORM	1	4	1	6	$20.40	$17.30	$15.25	$13.20	$12.20
	2	8	2	12	38.40	32.70	28.80	24.90	23.00
	3	12	3	18	57.60	49.00	43.25	37.50	34.60
	4	16	4	24	76.80	65.20	57.50	49.80	46.00
ASSEMBLED	1	4	1	6	24.00	21.60	19.25	17.80	16.35
	2	8	2	12	43.20	38.80	34.40	31.80	29.20
	3	12	3	18	64.80	58.30	51.80	47.85	43.90
	4	16	4	24	86.40	77.80	69.20	63.90	58.60

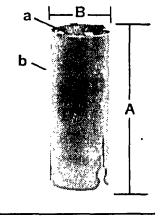
Note: Order through IERC representatives or direct from factory.

Heat dissipating electron tube shields

Tubes fail primarily because of the heat they generate and the environment in which they operate. If tubes are operated at a lower bulb temperature, their life can be greatly extended.

The simple solution to high tube temperature is IERC's heat dissipating tube shields shown below.

TRN THERMA-REL SERIES HEAT DISSIPATING SHIELDS



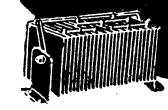
Gives you six times longer use of electronic equipment before failure; costs only a fraction of that of a replacement tube. Directly replaces the obsolete JAN shields. Flexible, black cadmium plated beryllium copper liner adapts to variations in bulb contour and diameter. Positive base attachment gives superior retention in shock and vibration environment. Meets or exceeds all military requirements for heat dissipating tube shields and is qualified to applicable military specifications.

IERC PART NO.	DIMENSIONS		TUBE SIZE	QUANTITY PRICES			
	A MAX.	B DIA.		1-24	25-99	100-499	500-999
TRN5-5015B	1-1/2"	7/8"	SHORT 7 PIN	.56	.51	.45	.39
TRN5-5020B	2"	7/8"	MED. 7 PIN	.58	.53	.47	.41
TRN5-5025B	2-1/2"	7/8"	LONG 7 PIN	.66	.60	.53	.46
TRN6-6015B	1-1/2"	1"	SHORT 9 PIN	.64	.58	.51	.44
TRN6-6020B	2"	1"	MED. 9 PIN	.66	.60	.53	.46
TRN6-6025B	2-1/2"	1"	LONG 9 PIN	.72	.65	.58	.50
TRN6-6027B	2-3/4"	1"	EX. LONG 9 PIN	.78	.71	.63	.54

Note: TRN6-6027B is designed for use with 6094 and similar size tubes.

DRAWING CODE	Component Part	Material	Finish
a	Liner	Beryllium Copper QQ-C-533	Black Cadmium QQ-P-416
b	Shell	Aluminum QQ-A-318	Black Anodize MIL-A-8625

INTERNATIONAL ELECTRONIC RESEARCH CORPORATION
a corporate division of DYNAMICS CORPORATION OF AMERICA



DIRECTRON

Industrial Selenium Rectifiers, Transformers, Chokes and Power Supplies

FULL WAVE BRIDGE RECTIFIERS, SINGLE PHASE, RESISTIVE-INDUCTIVE LOADS

ALL PRICES SHOWN ARE USER NET PRICES

Max. Amps.	18v. in— 14v. out No.	Price	36v. in— 28v. out No.	Price	54v. in— 42v. out No.	Price	130v. in— 100v. out No.	Price
½	A 18	$ 1.05	A 36	$ 1.50	A 54	$ 2.50	A 130	$ 5.00
1	B 18	1.20	B 36	2.20	B 54	3.20	B 130	8.00
2	C 18	2.10	C 36	3.00	C 54	4.50	C 130	10.00
3	D 18	2.70	D 36	4.00	D 54	6.00	D 130	14.00
4	E 18	3.60	E 36	7.50	E 54	10.00	E 130	24.00
6	F 18	4.50	F 36	9.00	F 54	12.00	F 130	32.00
10	G 18	6.60	G 36	12.00	G 54	18.00	G 130	39.00
12	H 18	8.20	H 36	16.00	H 54	22.00	H 130	44.00
15	J 18	10.50	J 36	20.00	J 54	27.00	J 130	54.00
20	K 18	12.50	K 36	25.00	K 54	36.00	K 130	77.00
24	L 18	15.00	L 36	30.00	L 54	42.00	L 130	82.00
30	M 18	19.10	M 36	37.00	M 54	55.00		
36	P 18	24.00	P 36	48.00				
50	R 18	30.00	R 36	60.00				

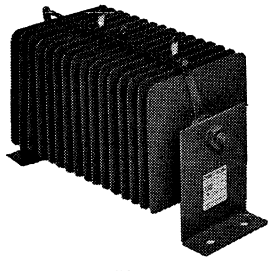
C36

220 v. Single Phase available . . . up to 1000 amps.

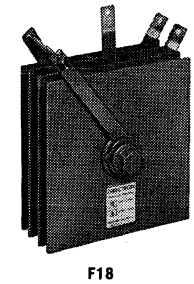
HALF-WAVE, CENTER-TAP, DOUBLER,

TRIPLER or 3-PHASE

Quotations on request



E130

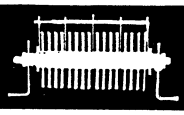


F18

24 HOUR SERVICE

on Custom Built Stacks

SEE OUR AD UNDER "TRANSFORMERS" IN SECTION 5600 FOR RECTIFIER TRANSFORMERS AND HIGH CURRENT CHOKES



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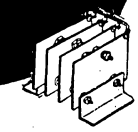
DIRECTRON

SILICON POWER RECTIFIERS

HY-A-SIL
High - Ampere - Silicon



FEATURES

- High operating temperature, 190°C (Up to 120°C ambient)
- High operating voltage (Up to 600 p.i.v.)
- High efficiency (99% compared to about 75% for selenium)
- Excellent regulation (4% compared to about 15% for selenium)

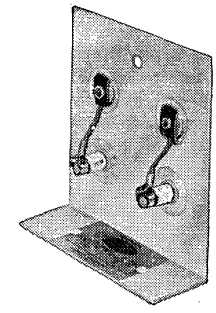
Stock No.	Type	AC Input Volts up to	DC Output Volts up to	Max. Amps Self Cooled	Max. Amps Fan Cooled	Size And Weight	User Net Price
SI-CT-A	Center-Tap	18-0-18	16	40	80	B	$ 15.00
SI-CT-B	Center-Tap	36-0-36	32	40	80	B	20.00
SL-CT-A	Center-Tap	18-0-18	16	50	100	B	17.50
SL-CT-B	Center-Tap	36-0-36	32	50	100	B	22.50
SL-CT-D	Center-Tap	72-0-72	64	50	100	B	36.00
SL-CT-F	Center-Tap	140-0-140	125	50	100	B	44.00
SK-CT-A	Center-Tap	18-0-18	16	100	200	C	30.00
SK-CT-B	Center-Tap	36-0-36	32	100	200	C	34.00
SK-CT-D	Center-Tap	72-0-72	64	100	200	C	37.00
SK-CT-F	Center-Tap	140-0-140	125	100	200	C	48.00
SM-CT-A	Center-Tap	18-0-18	16	200	400	D	45.00
SM-CT-B	Center-Tap	36-0-36	32	200	400	D	60.00
SM-CT-D	Center-Tap	72-0-72	64	200	400	D	62.00
SM-CT-F	Center-Tap	140-0-140	125	200	400	D	76.00
SO-CT-B	Center-Tap	36-0-36	32	400	800	E	100.00
SA-BR-D	1φ Bridge	140	125	1	*	—	9.00
SA-BR-F	1φ Bridge	280	250	1	*	—	10.50
SC-BR-D	1φ Bridge	140	125	2	*	—	10.50
SC-BR-F	1φ Bridge	280	250	2	*	—	12.00
SD-BR-A	1φ Bridge	36	32	6	12	F	18.00
SD-BR-D	1φ Bridge	140	125	6	12	F	30.00
SD-BR-F	1φ Bridge	280	250	6	12	F	39.00
SE-BR-A	1φ Bridge	36	32	10	20	G	21.00
SE-BR-D	1φ Bridge	140	125	10	20	G	36.00
SE-BR-F	1φ Bridge	280	250	10	20	G	44.00
SF-BR-A	1φ Bridge	36	32	20	40	H	24.00
SF-BR-D	1φ Bridge	140	125	20	40	H	40.00
SF-BR-F	1φ Bridge	280	250	20	40	H	48.00
SI-BR-A	1φ Bridge	36	32	40	80	J	30.00
SI-BR-B	1φ Bridge	72	64	40	80	J	36.00
SI-BR-D	1φ Bridge	140	125	40	80	J	63.00
SI-BR-F	1φ Bridge	280	250	40	80	J	95.00
SL-BR-A	1φ Bridge	36	32	50	100	J	33.00
SL-BR-B	1φ Bridge	72	64	50	100	J	39.00
SL-BR-D	1φ Bridge	140	125	50	100	J	70.00
SL-BR-F	1φ Bridge	280	250	50	100	J	110.00
SG-BR-A	1φ Bridge	36	32	70	140	J	40.00
SG-BR-B	1φ Bridge	72	64	70	140	J	50.00
SG-BR-D	1φ Bridge	140	125	70	140	J	80.00
SG-BR-F	1φ Bridge	280	250	70	140	J	130.00
SK-BR-A	1φ Bridge	36	32	100	200	K	60.00
SK-BR-B	1φ Bridge	72	64	100	200	K	68.00
SK-BR-D	1φ Bridge	140	125	100	200	K	90.00
SK-BR-F	1φ Bridge	280	250	100	200	K	150.00
SM-BR-A	1φ Bridge	36	32	200	400	L	100.00
SM-BR-B	1φ Bridge	72	64	200	400	L	120.00
SM-BR-D	1φ Bridge	140	125	200	400	L	180.00
SM-BR-F	1φ Bridge	280	250	200	400	L	260.00
SO-BR-B	1φ Bridge	72	64	400	800	M	270.00
SO-BR-F	1φ Bridge	280	250	400	800	M	480.00
SL-PH-A	3φ Bridge	36	48	75	150	N	60.00
SL-PH-B	3φ Bridge	72	96	75	150	N	85.00
SL-PH-C	3φ Bridge	105	144	75	150	N	120.00
SL-PH-D	3φ Bridge	140	188	75	150	N	180.00
SL-PH-E	3φ Bridge	220	290	75	150	M	220.00
SK-PH-E	3φ Bridge	220	290	100	200	M	240.00
SM-PH-E	3φ Bridge	220	290	200	400	M	300.00
SO-PH-E	3φ Bridge	220	290	400	800	M	375.00

All above ratings based on 30°C ambient. Fan-cooled ratings based on air velocity of 1000 linear ft/minute. For resistive or inductive loads, as rated. For capacitive or battery loads, derate amperage 20%. Doublers, triplers, 3 phase half wave and 3 phase center-tap also available. Custom-built stacks, 24 hour service.

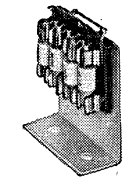
DIMENSIONS WITH BRACKETS

Size	Length	Height	Width	Weight
B	3″	6″	5″	12 oz.
C	3″	6″	6″	1 lb.
D	4″	8″	7″	2 lbs.
E	4″	9″	8″	6 lbs.
F	6″	5″	5″	1¼ lbs.
G	6″	6″	5″	1½ lbs.
H	6″	6″	6″	2 lbs.
J	6″	6″	5″	1½ lbs.
K	7″	8″	7″	4 lbs.
L	8″	9″	8″	6 lbs.
M	8″	11″	10″	6 lbs.
N	8″	6″	5″	4 lbs.

*Not suitable for fan-cooling



SC-BR-F



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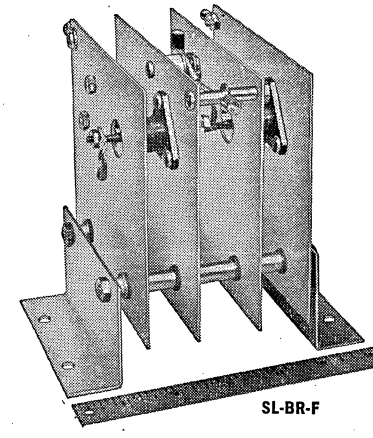

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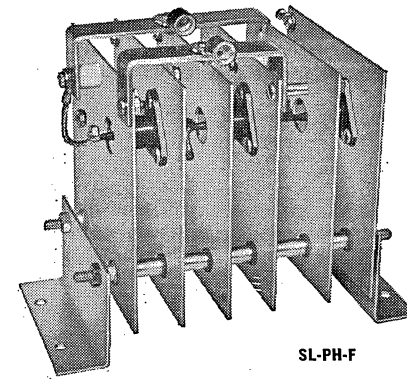
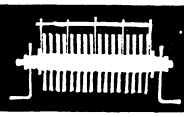


SL-PH-F



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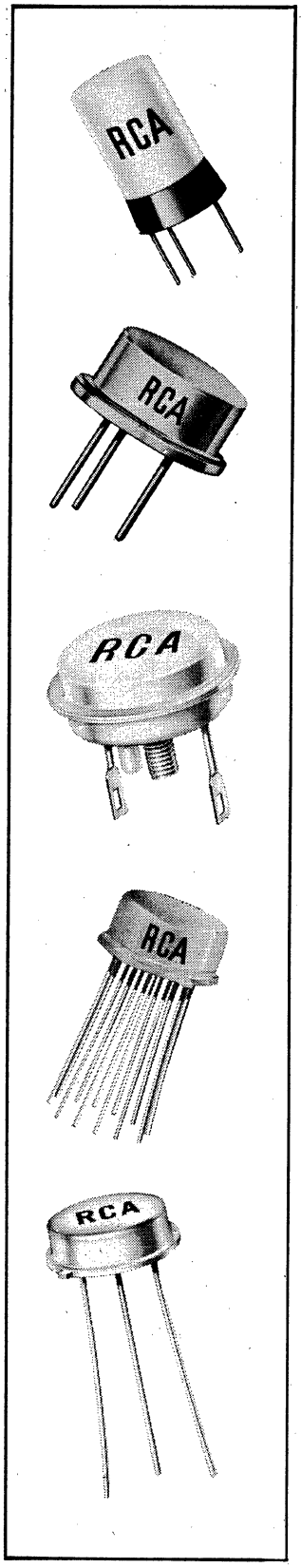
RCA

SEMICONDUCTOR PRODUCTS

MAY, 1968



TRANSISTORS, THYRISTORS, GERMANIUM DIODES & TUNNEL DIODES

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
1N2326	$ .55	$ .40	$ .33
2N104	1.65	1.20	1.00
2N109	.66	.48	.40
2N140	1.24	.90	.75
2N175	1.63	1.19	.99
2N176	1.31	.95	.79
2N215	1.73	1.26	1.05
2N217	.57	.41	.34
2N220	1.52	1.10	.92
2N270	.76	.55	.46
2N274	1.24	.90	.75
2N351	1.73	1.26	1.05
2N370	1.08	.78	.65
2N372	1.06	.77	.64
2N376	1.88	1.37	1.14
2N384	1.65	1.20	1.00
JAN2N384	3.30	2.40	2.00
2N388	.47	.34	.28
JAN2N388	.48	.35	.29
2N388A	.88	.64	.53
2N398	.83	.60	.50
JAN2N398A	.99	.72	.60
JAN2N398	.91	.66	.55
2N398A	.91	.66	.55
2N398B	1.16	.84	.70
2N404	.42	.30	.25
JAN2N404	.43	.32	.26
2N404A	.55	.40	.33
JAN2N404A	.62	.45	.37
2N405	.48	.35	.285
2N406	.41	.30	.245
2N407	.54	.39	.325
2N408	.48	.35	.285
2N409	.55	.40	.33
2N410	.48	.35	.29
2N411	.60	.44	.36
2N412	.53	.39	.32
2N414	.42	.30	.25
2N581	.50	.36	.30
2N582	.66	.48	.40
2N585	.99	.72	.60
2N586	1.73	1.26	1.05
2N591	.58	.42	.35
2N647	1.08	.78	.65
2N649	.86	.63	.52
2N697	.63	.46	.38
2N699	1.16	.84	.70
2N706	.55	.40	.33
2N706A	.73	.53	.44
2N709	1.32	.96	.80
2N718A	1.08	.78	.65
2N720A	1.32	.96	.80
2N834	1.98	1.44	1.20
2N917	1.27	.92	.77
2N918	1.41	1.02	.85
JAN2N918	2.15	1.56	1.30
JANTX2N918	5.80	4.20	3.50
2N1010	2.89	2.10	1.75
2N1023	2.72	1.98	1.65
2N1066	1.98	1.44	1.20
2N1177	1.01	.74	.61
2N1178	.99	.72	.60
2N1179	.99	.72	.60
2N1180	.80	.58	.48
2N1183	1.82	1.32	1.10
JAN2N1183	2.64	1.92	1.60
2N1183A	2.31	1.68	1.40
JAN2N1183A	3.30	2.40	2.00
2N1183B	2.89	2.10	1.75
JAN2N1183B	3.88	2.82	2.35

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
2N1184	2.48	1.80	1.50
JAN2N1184	3.71	2.70	2.25
2N1184A	2.81	2.04	1.70
JAN2N1184A	4.04	2.94	2.45
2N1184B	4.13	3.00	2.50
JAN2N1184B	5.36	3.90	3.25
2N1224	1.24	.90	.75
JAN2N1224	1.41	1.02	.85
2N1225	1.41	1.02	.85
JAN2N1225	1.57	1.14	.95
2N1226	1.49	1.08	.90
2N1285	1.72	1.25	1.04
2N1302	.42	.30	.25
JAN2N1302	.43	.32	.26
2N1303	.42	.30	.25
JAN2N1303	.43	.32	.26
2N1304	.50	.36	.30
JAN2N1304	.53	.39	.32
2N1305	.48	.35	.29
JAN2N1305	.52	.38	.31
2N1306	.62	.45	.37
JAN2N1306	.66	.48	.40
2N1307	.58	.42	.35
JAN2N1307	.63	.46	.38
2N1308	.91	.66	.55
JAN2N1308	.96	.70	.58
2N1309	.91	.66	.55
JAN2N1309	.96	.70	.58
2N1384	3.30	2.40	2.00
2N1395	1.49	1.08	.90
2N1396	1.65	1.20	1.00
2N1397	2.15	1.56	1.30
2N1479	2.15	1.56	1.30
JAN2N1479	2.56	1.86	1.55
2N1480	2.31	1.68	1.40
JAN2N1480	2.72	1.98	1.65
2N1481	2.48	1.80	1.50
JAN2N1481	2.89	2.10	1.75
2N1482	3.30	2.40	2.00
JAN2N1482	3.71	2.70	2.25
2N1483	2.89	2.10	1.75
JAN2N1483	3.71	2.70	2.25
2N1484	3.63	2.64	2.20
JAN2N1484	4.46	3.24	2.70
2N1485	4.46	3.24	2.70
JAN2N1485	5.28	3.84	3.20
2N1486	6.77	4.92	4.10
JAN2N1486	7.59	5.52	4.60
2N1487	4.54	3.30	2.75
JAN2N1487	5.36	3.90	3.25
2N1488	4.96	3.60	3.00
JAN2N1488	5.78	4.20	3.50
2N1489	7.43	5.40	4.50
JAN2N1489	8.25	6.00	5.00
2N1490	8.25	6.00	5.00
JAN2N1490	9.10	6.60	5.50
2N1491	1.82	1.32	1.10
2N1492	4.29	3.12	2.60
2N1493	7.01	5.10	4.25
JAN2N1493	7.43	5.40	4.50
2N1524	.47	.34	.28
2N1525	.53	.39	.32
2N1526	.48	.35	.29
2N1527	.55	.40	.33
2N1605	.62	.45	.37
2N1605A	1.09	.80	.66
2N1613	.75	.54	.45
2N1631	.65	.47	.39
2N1632	.58	.42	.35
2N1637	.57	.41	.34

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
2N1638	.50	.36	.30
2N1639	.53	.39	.32
2N1683	1.90	1.38	1.15
2N1700	1.90	1.38	1.15
2N1701	2.31	1.68	1.40
2N1702	4.54	3.30	2.75
2N1711	.94	.69	.57
2N1893	1.08	.78	.65
2N1905	4.13	3.00	2.50
2N1906	6.60	4.80	4.00
2N2015	9.08	6.60	5.50
JAN2N2015	9.90	7.20	6.00
2N2016	9.90	7.20	6.00
JAN2N2016	10.75	7.80	6.50
2N2102	1.13	.82	.68
*S262102	14.50	12.00	10.00
2N2147	1.57	1.14	.95
2N2148	1.08	.78	.65
2N2208	1.54	1.12	.93
2N2270	.91	.66	.55
2N2304	4.29	3.12	2.60
2N2305	6.44	4.68	3.90
2N2338	6.60	4.80	4.00
2N2369	1.40	1.02	.85
2N2369A	1.65	1.20	1.00
2N2405	1.57	1.14	.95
2N2475	1.62	1.18	.98
2N2476	1.16	.84	.70
2N2477	1.32	.96	.80
2N2594	1.62	1.18	.98
2N2613	.55	.40	.33
2N2614	.50	.36	.30
2N2631	3.47	2.52	2.10
2N2708	2.31	1.68	1.40
JAN2N2708	2.72	1.98	1.65
2N2857	4.46	3.24	2.70
JAN2N2857	4.95	3.60	3.00
JANTX2N2857	10.20	8.45	7.05
2N2869/ 2N301	1.52	1.11	.92
2N2870/ 2N301A	3.15	2.29	1.91
2N2876	12.75	10.55	8.80
2N2895	1.41	1.02	.85
2N2896	2.06	1.50	1.25
2N2897	1.16	.84	.70
2N2953	.50	.36	.30
2N3011	.99	.72	.60
2N3053/ 40053	.75	.54	.45
2N3054	1.16	.84	.70
2N3055	1.82	1.32	1.10
2N3118	4.95	3.60	3.00
2N3119	5.36	3.90	3.25
2N3229	17.10	14.15	11.80
2N3241A	.73	.53	.44
2N3242A	.83	.60	.50
2N3261	1.32	.96	.80
2N3262	7.43	5.40	4.50
2N3263	79.75	66.00	55.00
2N3264	50.75	42.00	35.00
2N3265	76.85	63.50	53.00
2N3266	50.75	42.00	35.00
2N3375	10.80	8.95	7.45
JAN2N3375	18.50	15.30	12.75
2N3435	7.43	5.40	4.50
2N3439	3.71	2.70	2.25
JAN2N3439	4.70	3.42	2.85
2N3440	1.82	1.32	1.10
JAN2N3440	2.31	1.68	1.40
2N3441	2.48	1.80	1.50
JAN2N3441	3.05	2.22	1.85
2N3442	4.54	3.30	2.75

Prices shown do not include any state or local taxes. All prices are subject to change or withdrawal without notice.

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RCA SEMICONDUCTOR PRODUCTS

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
JAN2N3442	5.69	4.14	3.45
2N3478	1.90	1.38	1.15
2N3512	1.08	.78	.65
2N3553	4.37	3.18	2.65
JAN2N3553	5.78	4.20	3.50
2N3583	2.48	1.80	1.50
2N3584	4.13	3.00	2.50
2N3585	6.60	4.80	4.00
2N3600	3.80	2.76	2.30
2N3632	12.75	10.55	8.80
2N3730	1.24	.90	.75
2N3731	1.62	1.18	.98
2N3732	1.07	.78	.65
2N3733	15.80	13.10	10.90
2N3771	4.13	3.00	2.50
2N3772	4.13	3.00	2.50
2N3773	7.43	5.40	4.50
2N3839	13.80	11.40	9.50
2N3866	2.97	2.16	1.80
2N3878	4.95	3.60	3.00
2N3879	6.60	4.80	4.00
2N3932	1.40	1.02	.85
2N3933	1.62	1.18	.98
2N4012	14.20	11.75	9.80
2N4036	1.32	.96	.80
2N4037	1.16	.84	.70
2N4063	3.80	2.76	2.30
2N4064	1.90	1.38	1.15
2N4068	1.34	.97	.81
2N4069	1.40	1.02	.85
2N4074	.73	.53	.44
2N4240	2.89	2.10	1.75
2N4259	1.90	1.38	1.15
2N4296	2.48	1.80	1.50
2N4297	2.89	2.10	1.75
2N4298	3.71	2.70	2.25
2N4299	4.13	3.00	2.50
2N4314	1.24	.90	.75
2N4346	2.31	1.68	1.40
2N4347	2.97	2.16	1.80
2N4348	4.13	3.00	2.50
2N4390	.75	.54	.45
2N4395 (Use 2N3055)			
2N4396 (Use 2N3055)			
2N4427	2.15	1.56	1.30
2N4440	11.90	9.85	8.20
2N4932	29.00	24.00	20.00
2N4933	29.00	24.00	20.00
2N4934	1.40	1.02	.85
2N4935	1.62	1.18	.98
2N4936	1.90	1.38	1.15
2N5016	43.50	36.00	30.00
2N5034	1.34	.98	.81
2N5035	1.32	.96	.80
2N5036	1.42	1.04	.86
2N5037	1.41	1.02	.85
2N5070	29.00	24.00	20.00
2N5071	29.00	24.00	20.00
2N5090	11.40	8.30	6.90
2N5102	21.75	18.00	15.00
2N5108	12.90	10.70	8.90
2N5109	3.47	2.52	2.10
2N5179	.65	.47	.39
2N5180	.48	.35	.29
2N5181	.45	.33	.27
2N5182	.40	.29	.24
2N5183	.32	.23	.19
2N5184	.45	.33	.27
2N5185	.52	.38	.31
2N5186	.40	.29	.24
2N5187	.45	.33	.27
2N5188	.55	.40	.33
2N5189	.65	.47	.39
2N5202	4.53	3.30	2.75

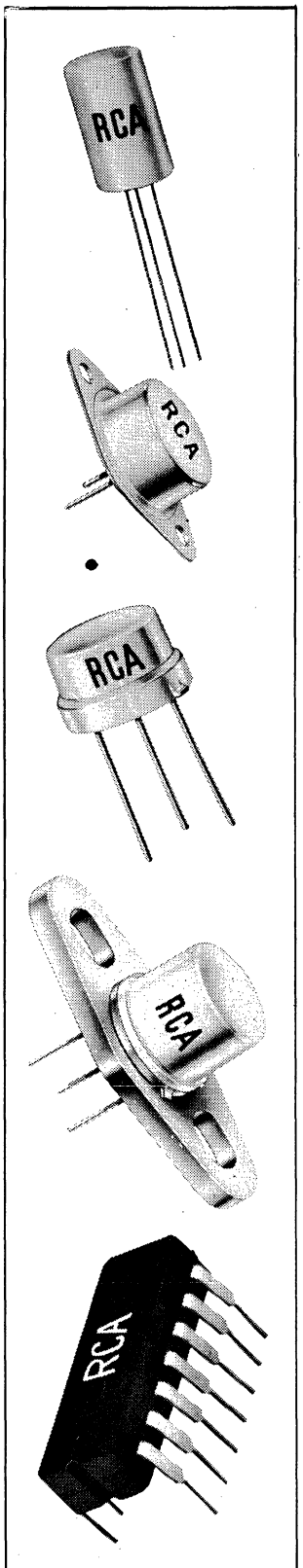
Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
2N5239	8.25	6.00	5.00
2N5240	11.55	8.00	7.00
2N5262	1.62	1.18	.98
2N5293	.91	.66	.55
2N5294	.91	.66	.55
2N5295	.91	.66	.55
2N5296	.91	.66	.55
2N5297	1.04	.76	.63
2N5298	1.04	.76	.63
2N5320	2.15	1.56	1.30
2N5321	1.57	1.14	.95
2N5322	2.15	1.56	1.30
2N5323	1.57	1.14	.95
2N5415	3.30	2.40	2.00
2N5416	4.95	3.60	3.00
2N5441	8.17	5.94	4.95
2N5442	11.47	8.34	6.95
2N5444	8.66	6.30	5.25
2N5445	10.51	8.70	7.25
2N5470	87.00	72.00	60.00
2N5490	1.07	.78	.65
2N5491	1.07	.78	.65
2N5492	1.19	.86	.72
2N5493	1.19	.86	.72
2N5494	1.19	.86	.72
2N5495	1.19	.86	.72
2N5496	1.29	.94	.78
2N5497	1.29	.94	.78
3N128	1.45	1.06	.88
3N138	3.30	2.40	2.00
3N139	2.89	2.10	1.75
3N140	1.62	1.18	.98
3N141	1.55	1.13	.94
3N142	1.08	.78	.65
3N143	1.39	1.01	.84
3N152	1.78	1.30	1.08
3N153	1.58	1.15	.96
3N154	1.62	1.18	.98
3N159	2.18	1.58	1.32
40004	1.65	1.20	1.00
40005	1.82	1.32	1.10
40006	3.30	2.40	2.00
40022	.83	.60	.50
40050	.99	.72	.60
40051	1.21	.88	.73
40080	1.08	.78	.65
40081	1.41	1.02	.85
40082	4.04	2.94	2.45
40084	.99	.72	.60
40231	.47	.34	.28
40232	.53	.39	.32
40233	.60	.44	.36
40234	.42	.30	.25
40235	.57	.41	.34
40236	.48	.35	.29
40237	.38	.28	.23
40238	.43	.32	.26
40239	.40	.29	.24
40240	.38	.28	.23
40242	.57	.41	.34
40243	.47	.34	.28
40244	.38	.28	.23
40245	.40	.29	.24
40246	.38	.28	.23
40250	1.16	.84	.70
40250V1	1.24	.90	.75
40251	1.90	1.38	1.15
40254	.78	.57	.47
40258	.86	.63	.52
*40259	12.40	10.25	8.55
40263	.50	.36	.30
40264	1.21	.88	.73
40269	.57	.41	.34
40273	.55	.40	.33

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
*40279	109.85	90.90	75.75
40280	4.62	3.36	2.80
40281	10.60	8.75	7.30
40282	11.45	9.50	7.90
*40285	37.70	31.20	26.00
40287	21.75	18.00	15.00
40290	2.48	1.80	1.50
40291	10.40	7.55	6.30
40292	10.45	8.65	7.20
*40294	22.05	18.25	15.20
*40295	11.15	8.10	6.75
*40296	32.10	26.60	22.15
*40305	15.10	12.50	10.40
*40306	26.85	22.20	18.50
*40307	28.85	23.90	19.90
40309	.70	.51	.42
40309V1;V2	.78	.57	.47
40310	.99	.72	.60
40310V1	1.08	.78	.65
40311	.73	.53	.44
40311V1;V2	.81	.59	.49
40312	1.03	.75	.62
40313	2.23	1.62	1.35
40314	.78	.57	.47
40314V1;V2	.86	.63	.52
40315	.75	.54	.45
40315V1;V2	.83	.60	.50
40316	.99	.72	.60
40317	.78	.57	.47
40317V1;V2	.86	.63	.52
40318	2.10	1.52	1.27
40319	1.16	.84	.70
40319V1;V2	1.24	.90	.75
40320	.78	.57	.47
40320V1;V2	.86	.63	.52
40321	1.24	.90	.75
40321V1;V2	1.32	.96	.80
40322	2.15	1.56	1.30
40323	.70	.51	.42
40323V1;V2	.78	.57	.47
40324	.99	.72	.60
40325	1.90	1.38	1.15
40326	.78	.57	.47
40326V1;V2	.86	.63	.52
40327	1.24	.90	.75
40327V1;V2	1.32	.96	.80
40328	2.19	1.60	1.33
40329	.47	.34	.28
40340	29.00	24.00	20.00
40341	29.00	24.00	20.00
40344	.53	.39	.32
40346	1.14	.83	.69
40346V1;V2	1.23	.89	.74
40347	.66	.48	.40
40347V1;V2	.75	.54	.45
40348	1.06	.77	.64
40348V1;V2	1.14	.83	.69
40349	1.56	1.13	.94
40349V1;V2	1.64	1.19	.99
40354	1.18	.86	.71
40355	1.24	.90	.75
40359	.32	.23	.19
40360	.91	.66	.55
40360V1;V2	.99	.72	.60
40361	1.03	.75	.62
40361V1;V2	1.11	.81	.67
40362	1.24	.90	.75
40362V1;V2	1.32	.96	.80
40363	1.82	1.32	1.10
40364	4.79	3.48	2.90
*40366	7.84	5.70	4.75
*40366V1;V2	7.92	5.75	4.80
*40367	7.84	5.70	4.75
*40367V1;V2	7.92	5.75	4.80

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
*40368	11.60	9.60	8.00
*40369	13.05	10.80	9.00
40370	.58	.42	.35
40372	1.24	.90	.75
40373	2.56	1.86	1.55
40374	2.56	1.86	1.55
40375	5.03	3.66	3.05
40377	.42	.30	.25
40380	1.49	1.08	.90
40381	1.21	.88	.73
*40385	9.50	6.90	5.75
*40385V1;V2	9.55	6.95	5.80
40388	8.83	6.42	5.35
40389	.91	.66	.55
40390	2.15	1.56	1.30
40391	1.24	.90	.75
40392	.91	.66	.55
40394	1.24	.90	.75
40395	.38	.28	.23
40396	.83	.60	.50
40397	.66	.48	.40
40398	.60	.44	.36
40399	.55	.40	.33
40400	.50	.36	.30
40403	.66	.48	.40
40405	1.65	1.20	1.00
40406	1.19	.87	.72
40407	.81	.59	.49
40408	1.08	.78	.65
40409	1.14	.83	.69
40410	1.32	.96	.80
40411	4.29	3.12	2.60
40412	1.06	.77	.64
40412V1;V2	1.14	.83	.69
40413	3.88	2.82	2.35
40414	5.10	3.70	3.10
40421	1.28	.93	.77
40425	1.06	.77	.64
40428	.31	.23	.185
40433	2.97	2.16	1.80
40437	.99	.72	.60
40438	1.24	.90	.75
40439	1.98	1.44	1.20
40440	1.32	.96	.80
40466	4.29	3.12	2.60
40447	.57	.41	.34
40450	.80	.58	.48
40451	.90	.65	.54
40452	.80	.58	.48
40453	.73	.53	.44
40454	.66	.48	.40
40455	.62	.45	.37
40456	.57	.41	.34
40458	.78	.57	.47
40459	.85	.62	.51
40462	1.16	.84	.70
40467;A	1.24	.90	.75
40468;A	.75	.54	.45
40472	.66	.48	.40
40473	.60	.44	.36
40474	.48	.35	.29
40475	.55	.40	.33
40476	.53	.39	.32
40477	.50	.36	.30
40478	.66	.48	.40
40479	.58	.42	.35
40480	.48	.35	.29
40481	.53	.39	.32
40482	.50	.36	.30
40487	.30	.22	.18
40488	.22	.16	.13
40489	.28	.20	.165
40490	.38	.28	.23
40513	1.24	.90	.75

RCA

SEMICONDUCTOR PRODUCTS



Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
40514	1.26	.92	.76
40517	15.10	12.50	10.40
40518	20.30	16.80	14.00
40519	1.41	1.02	.85
40537	1.24	.90	.75
40538	1.36	.99	.82
40539	.66	.48	.40
40542	1.31	.95	.79
40543	1.37	1.00	.83
40544	.75	.54	.45
40559;A	.70	.51	.42
*40560	9.80	7.15	5.95
40561	4.54	3.30	2.75
40562	4.54	3.30	2.75
40563	4.54	3.30	2.75
40564	4.54	3.30	2.75
40565	4.54	3.30	2.75
40566	7.43	5.40	4.50
40567	6.52	4.74	3.95
40568	7.01	5.10	4.25
40569	7.43	5.40	4.50
40570	10.75	7.80	6.50
40571	8.60	6.24	5.20
40572	7.01	5.10	4.25
40573	8.15	5.94	4.95
40574	10.75	7.80	6.50
*40577	58.00	48.00	40.00
*40578	58.00	48.00	40.00
40581	4.87	3.54	2.95
40582	5.12	3.72	3.10
40583	Order 1N5411		
40594	2.23	1.62	1.35
40595	2.23	1.62	1.35
40598	Price on request		
40600	1.24	.90	.75
40601	1.16	.84	.70
40602	.83	.60	.50
40603	1.04	.76	.63
40604	.98	.71	.59
40605	45.00	37.25	31.05
40608	2.53	1.85	1.55
40609	3.32	2.43	2.03
40611	.71	.52	.43
40612	.71	.52	.43
40613	.73	.53	.44
40616	.73	.53	.44
40617	.73	.53	.44
40618	.74	.54	.45
40621	.86	.62	.52
40622	.88	.64	.53
40623	.86	.62	.52
40624	1.14	.83	.69
40625	.89	.65	.54
40626	.89	.65	.54
40627	1.20	.83	.73
40628	.94	.68	.57
40629	.74	.54	.45
40630	.86	.62	.52
40631	.97	.71	.59
40632	1.24	.90	.75
40633	1.27	.92	.77
40634	1.29	.94	.78
40635	.74	.54	.45
40636	2.31	1.68	1.40
40653	2.61	1.90	1.58

*NOTED — Group 1 products can only be shipped direct to the end user due to technical specifications of the unit.

SILICON RECTIFIER ASSEMBLIES

Type	RCA Equipment Manufacturers Price (Bulk) 1 - 29	30 & up
CR101	$ 5.75	$ 5.47
CR102	7.20	6.85
CR103	8.15	7.75
CR104	9.60	9.10
CR105	10.55	10.05
CR106	12.00	11.40
CR107	12.95	12.30
CR108	13.90	13.20
CR109	15.35	14.60
CR110	16.30	15.50
CR201	3.10	2.96
CR203	4.80	4.56
CR204	5.75	5.47
CR206	6.95	6.60
CR208	8.40	8.00
CR210	10.10	9.60
CR212	12.00	11.40
CR301	28.00	26.55
CR302	40.00	37.95
CR303	51.00	48.45
CR304	57.60	54.72
CR305	73.00	69.35
CR306	83.00	78.85
CR307	93.00	88.35
CR311	30.00	28.50
CR312	42.00	39.90
CR313	53.00	50.35
CR314	64.00	60.75
CR315	75.00	71.25
CR316	85.00	80.75
CR317	95.00	90.25
CR321	35.00	33.25
CR322	49.00	46.55
CR323	62.00	58.90
CR324	76.00	72.20
CR325	90.00	85.50
CR331	37.00	35.15
CR332	52.00	49.40
CR333	65.00	61.75
CR334	79.00	75.05
CR335	93.00	88.35
CR341	44.00	41.80
CR342	61.00	57.95
CR343	78.00	74.10
CR344	94.00	89.30
CR351	46.00	43.70
CR352	64.00	60.80
CR353	82.00	72.90
CR354	98.00	93.10
CR401	28.00	26.60
CR402	32.00	30.40
CR403	44.00	41.80
CR404	30.00	28.50
CR405	36.00	34.20
CR406	54.00	51.30
CR407	40.00	38.00
CR408	48.00	45.60
CR409	64.00	60.80
CR501	40.00	38.00
CR502	48.00	45.60
CR503	50.00	47.50
CR504	62.00	58.90
CR505	64.00	60.80
CR506	84.00	79.80

PHOTOCELLS

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
SQ2502	1.90	1.38	1.15
SQ2503	1.32	.96	.80
SQ2508	1.90	1.38	1.15
SQ2519	1.08	.78	.65
SQ2520	1.49	1.08	.90
SQ2521	1.54	1.12	.93
SQ2526	1.54	1.12	.93
SQ2527	1.54	1.12	.93
SQ2529	1.65	1.20	1.00
SQ2530	1.32	.96	.80
SQ2534	1.65	1.20	1.00
SQ2535	1.13	.82	.68
SQ2536	1.13	.82	.68
SQ2543	2.06	1.50	1.25
SQ2544	1.90	1.38	1.15
SQ2544V1	1.90	1.38	1.15
SQ2545	1.90	1.38	1.15
SQ2545V1	1.90	1.38	1.15
SQ2546	1.90	1.38	1.15
SQ2554	1.13	.82	.68
SQ2555	1.17	.85	.71
SQ2556	1.44	1.05	.87
SQ2557	1.40	1.02	.85
SQ2558	1.57	1.14	.95
4403	1.21	.88	.73
4404	1.32	.96	.80
4448	1.32	.96	.80
4451	1.37	1.00	.83
4453	1.28	.93	.77
7163	1.21	.88	.73

SILICON RECTIFIERS

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
1N248C;RC	1.65	1.20	1.00
JAN1N249B;RB	3.33	2.42	2.02
1N249C;RC	2.06	1.50	1.25
JAN1N250B;RB	4.08	2.96	2.47
1N250C;RC	2.72	1.98	1.65
1N440B	.66	.48	.40
1N441B	.70	.51	.42
1N442B	.80	.58	.48
1N443B	.98	.71	.59
1N444B	1.06	.77	.64
1N445B	1.42	1.04	.86
1N536	.45	.33	.27
1N537	.50	.36	.30
1N538	.53	.39	.32
1N539	.60	.44	.36
1N540	.68	.49	.41
1N547	.96	.70	.58
1N1095	.88	.64	.53
1N1183A;RA	2.15	1.56	1.30
JAN1N1184;R	4.31	3.13	2.61
1N1184A;RA	2.48	1.80	1.50
JAN1N1186;R	5.99	4.36	3.63
1N1186A;RA	3.55	2.58	2.15
1N1187A;RA	4.95	3.60	3.00
JAN1N1188	9.02	6.56	5.47
1N1188A;RA	6.19	4.50	3.75
1N1189A;RA	7.43	5.40	4.50
JAN1N1190;R	11.16	9.24	7.70
1N1190A;RA	8.65	6.30	5.25
1N1195A;RA	3.88	2.82	2.35
1N1196A;RA	4.95	3.60	3.00
1N1197A;RA	5.94	4.32	3.60
1N1198A;RA	7.01	5.10	4.25
JAN1N1198A;RA	9.02	6.56	5.47
1N1199A; RA	1.24	.90	.75
1N1200;RA	1.41	1.02	.85
1N1202A;RA	2.48	1.80	1.50
1N1203A;RA	3.47	2.52	2.10
1N1204A;RA	4.46	3.24	2.70
1N1205A;RA	5.36	3.90	3.25

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RCA SEMICONDUCTOR PRODUCTS

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
1N1206A;RA	6.19	4.50	3.75
1N1341B;RB	1.16	.84	.70
1N1342B;RB	1.32	.96	.80
1N1344B;RB	2.15	1.56	1.30
1N1345B;RB	3.05	2.22	1.85
1N1346B;RB	3.96	2.88	2.40
1N1347B;RB	4.79	3.48	2.90
1N1348B;RB	5.78	4.20	3.50
1N1612;R	1.08	.78	.65
1N1613;R	1.24	.90	.75
1N1614;R	1.90	1.38	1.15
1N1615;R	3.71	2.70	2.25
1N1616;R	5.36	3.90	3.25
1N1763A	.42	.30	.25
1N1764A	.52	.38	.31
JAN1N2135A;RA	6.11	4.44	3.70
1N2326	.55	.40	.33
1N2858A	.33	.24	.20
1N2859A	.37	.27	.22
1N2860A	.40	.29	.24
1N2861A	.42	.30	.25
1N2862A	.48	.35	.29
1N2863A	.58	.42	.35
1N2864A	.70	.51	.42
1N3193	.35	.26	.21
1N3194	.38	.28	.23
1N3195	.53	.39	.32
1N3196	.74	.54	.45
1N3253	.38	.28	.23
1N3254	.42	.30	.25
1N3255	.56	.41	.34
1N3256	.78	.57	.47
1N3563	.94	.69	.57
1N3754	.32	.23	.19
1N3755	.33	.24	.20
1N3756	.35	.26	.21
1N4785	1.08	.78	.65
1N5211	.38	.28	.23
1N5212	.42	.30	.25
1N5213	.56	.41	.34
1N5214	.81	.59	.49
1N5215	.42	.30	.25
1N5216	.45	.33	.27
1N5217	.60	.44	.36
1N5218	.85	.62	.51
40108;R	.99	.72	.60
40109;R	1.16	.84	.70
40110;R	1.57	1.14	.95
40111;R	2.15	1.56	1.30
40112;R	2.48	1.80	1.50
40113;R	3.14	2.28	1.90
40114;R	3.71	2.70	2.25
40115;R	6.60	4.80	4.00
40208	.99	.72	.60
40208R	1.19	.87	.72
40209;R	1.32	.96	.80
40210;R	1.78	1.30	1.08
40211;R	2.39	1.74	1.45
40212;R	2.89	2.10	1.75
40213;R	3.63	2.64	2.20
40214;R	4.21	3.06	2.55
40265	.35	.25	.21
40266	.29	.21	.175
40267	.33	.24	.20
40442	.83	.60	.50
40642	.99	.72	.60
40643	.94	.68	.57
40644	.84	.61	.51

INTEGRATED CIRCUITS

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
CA3000	$3.80	$2.76	$2.30
CA3001	5.55	4.00	3.35
CA3002	3.71	2.70	2.25
CA3004	3.71	2.70	2.25
CA3005	2.48	1.80	1.50
CA3006	5.80	4.20	3.50
CA3007	5.35	3.90	3.25
CA3008	10.90	7.90	6.60
CA3008A	11.55	8.40	7.00
CA3010	4.95	3.60	3.00
CA3010A	7.00	5.10	4.25
CA3011	1.47	1.07	.89
CA3012	1.82	1.32	1.10
CA3013	2.15	1.56	1.30
CA3014	2.48	1.80	1.50
CA3015	6.60	4.80	4.00
CA3015A	8.65	6.30	5.25
CA3016	11.15	8.10	6.75
CA3016A	10.90	9.00	7.50
CA3018	1.62	1.18	.98
CA3018A	2.22	1.62	1.35
CA3019	1.62	1.18	.98
CA3020	2.56	1.86	1.55
CA3020A	3.26	2.37	1.98
CA3021	3.14	2.28	1.90
CA3022	2.64	1.92	1.60
CA3023	2.56	1.86	1.55
CA3026	2.06	1.50	1.25
CA3028A	1.47	1.07	.89
CA3029	4.13	3.00	2.50
CA3029A	6.20	4.50	3.75
CA3030	3.71	2.70	2.25
CA3030A	5.36	3.90	3.25
CA3031/702A	4.95	3.60	3.00
CA3032/702C	3.30	2.40	2.00
CA3033	6.50	4.75	3.95
CA3033A	8.15	5.95	4.95
CA3034	2.89	2.10	1.75
CA3034V1	2.89	2.10	1.75
CA3035	2.48	1.80	1.50
CA3035V1	2.48	1.80	1.50
CA3036	1.47	1.07	.89
CA3037	4.95	3.60	3.00
CA3037A	7.00	5.10	4.25
CA3038	6.60	4.80	4.00
CA3038A	8.65	6.30	5.25
CA3039	1.61	1.17	.98
CA3041	2.64	1.92	1.60
CA3042	2.64	1.92	1.60
CA3043	2.81	2.04	1.70
CA3044	2.47	1.80	1.50
CA3044V1	2.47	1.80	1.50
CA3045	2.47	1.80	1.50
CA3046	1.61	1.17	.98
CA3047	3.22	2.34	1.95
CR2100	6.20	4.50	3.75
CD2101	6.50	4.75	3.95
CD2150	3.96	2.88	2.40
CD2151	3.96	2.88	2.40
CD2152	3.96	2.88	2.40
CD2153	5.20	3.80	3.15
CD2200	5.20	3.80	3.15
CD2200D	5.20	3.80	3.15
CD2201	5.45	3.95	3.30
CD2201D	5.45	3.95	3.30
CD2202	5.45	3.95	3.30
CD2202D	5.45	3.95	3.30
CD2203	6.95	5.05	4.20
CD2203D	6.95	5.05	4.20

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
CD2204	3.71	2.70	2.25
CD2204D	3.71	2.70	2.25
CD2205	5.20	3.80	3.15
CD2205D	5.20	3.80	3.15
CD2300/930	4.13	3.00	2.50
CD2300D/930	4.13	3.00	2.50
CD2300E/830	1.73	1.26	1.05
CD2301/961	4.13	3.00	2.50
CD2301D/961	4.13	3.00	2.50
CD2301E/861	1.73	1.26	1.05
CD2302/946	4.54	3.30	2.75
CD2302D/946	4.54	3.30	2.75
CD2302E/846	1.90	1.38	1.15
CD2303/949	4.54	3.30	2.75
CD2303D/949	4.54	3.30	2.75
CD2303E/849	1.90	1.38	1.15
CD2304/945	4.95	3.60	3.00
CD2304D/945	4.95	3.60	3.00
CD2304E/845	2.48	1.80	1.50
CD2305/948	4.95	3.60	3.00
CD2305D/948	4.95	3.60	3.00
CD2305E/848	2.48	1.80	1.50
CD2306/932	4.54	3.30	2.75
CD2306D/932	4.54	3.30	2.75
CD2306E/832	1.90	1.38	1.15
CD2307/944	4.54	3.30	2.75
CD2307D/944	4.54	3.30	2.75
CD2307E/844	1.90	1.38	1.15
CD2308/962	4.54	3.30	2.75
CD2308D/962	4.54	3.30	2.75
CD2308E/862	1.90	1.38	1.15
CD2309/963	4.54	3.30	2.75
CD2309D/963	4.54	3.30	2.75
CD2309E/863	1.90	1.38	1.15
CD2310/936	4.79	3.48	2.90
CD2310D/936	4.79	3.48	2.90
CD2310E/836	1.90	1.38	1.15
CD2311/937	4.79	3.48	2.90
CD2311D/937	4.79	3.48	2.90
CD2311E/837	1.90	1.38	1.15
CD2312	4.79	3.48	2.90
CD2312D	4.79	3.48	2.90
CD2312E	1.90	1.38	1.15
CD2313	4.79	3.48	2.90
CD2313D	4.79	3.48	2.90
CD2313E	1.90	1.38	1.15
CD2314/933	3.71	2.70	2.25
CD2314D/933	3.71	2.70	2.25
CD2314E/833	1.49	1.08	.90
CD4000	18.00	14.90	12.40
CD4000D	13.05	10.80	9.00
CD4001	18.00	14.90	12.40
CD4001D	13.05	10.80	9.00
CD4002	19.50	16.15	13.45
CD4002D	14.50	12.00	10.00
CD4003	25.95	21.50	17.90
CD4003D	20.30	16.80	14.00
CD4004	36.85	30.50	25.40
CD4004T	31.90	26.40	22.00
CD4005	28.20	23.35	19.45
CD4005D	23.20	19.20	16.00
CD4007	14.85	12.30	10.25
CD4007D	9.90	7.20	6.00

SILICON CONTROLLED RECTIFIERS

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
1N5411	$ .61	$ .44	$ .37
2N681	3.30	2.40	2.00
2N682	4.13	3.00	2.50
2N683	6.19	4.50	3.75
2N684	6.35	4.62	3.85

Type	RCA Equipment Manufacturers Price (Bulk) 1-99 SCH. D	100-999 SCH. B	1,000 & up SCH. C
2N685	6.60	4.80	4.00
2N686	7.01	5.10	4.25
2N687	7.43	5.40	4.50
2N688	8.65	6.30	5.25
2N689	10.30	7.50	6.25
2N690	10.50	8.70	7.25
2N1842A	2.89	2.10	1.75
2N1843A	3.71	2.70	2.25
2N1844A	5.78	4.20	3.50
2N1845A	5.94	4.32	3.60
2N1846A	6.19	4.50	3.75
2N1847A	6.60	4.80	4.00
2N1848A	7.01	5.10	4.25
2N1849A	8.25	6.00	5.00
2N1850A	9.90	7.20	6.00
2N3228	1.62	1.18	.98
2N3525	2.31	1.68	1.40
2N3528	1.62	1.18	.98
2N3529	2.31	1.68	1.40
2N3668	2.89	2.10	1.75
2N3669	3.27	2.38	1.98
2N3670	4.92	3.58	2.98
2N3870	4.70	3.42	2.85
2N3871	5.12	3.72	3.10
2N3872	7.18	5.22	4.35
2N3873	10.48	7.60	6.35
2N3896	4.95	3.60	3.00
2N3897	5.36	3.90	3.25
2N3898	7.43	5.40	4.50
2N3899	10.73	7.80	6.50
2N4101	3.05	2.22	1.85
2N4102	3.05	2.22	1.85
2N4103	9.90	7.20	6.00
40216	42.20	34.90	29.10
40378	1.62	1.18	.98
40379	2.31	1.68	1.40
40429	2.48	1.80	1.50
40430	3.27	2.38	1.98
40431	2.97	2.16	1.80
40432	3.76	2.74	2.28
40485	2.48	1.80	1.50
40486	3.27	2.38	1.98
40495	.30	.22	.18
40502	2.64	1.92	1.60
40503	3.43	2.50	2.08
40504	1.78	1.30	1.08
40505	2.48	1.80	1.50
40506	3.22	2.34	1.95
40507	1.78	1.30	1.08
40508	2.48	1.80	1.50
40509	2.64	1.92	1.60
40510	3.43	2.50	2.08
40511	3.14	2.28	1.90
40512	3.93	2.86	2.38
40525	1.57	1.14	.95
40526	1.62	1.18	.98
40527	2.31	1.68	1.40
40528	1.57	1.14	.95
40529	1.62	1.18	.98
40530	2.31	1.68	1.40
40531	1.73	1.26	1.05
40532	1.78	1.30	1.08
40533	2.48	1.80	1.50
40534	1.73	1.26	1.05
40535	1.78	1.30	1.08
40536	2.48	1.80	1.50
40553	3.27	2.38	1.98
40554	6.57	4.78	3.98
40555	9.85	7.20	5.98
40575	3.27	2.38	1.98
40576	4.92	3.58	2.98
40640	3.53	2.57	2.14
40641	3.53	2.57	2.14

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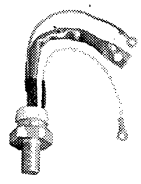
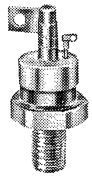
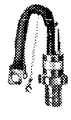
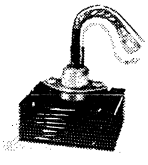
NATIONAL® SILICON CONTROLLED RECTIFIERS

National Electronics, Inc. manufactures silicon controlled rectifiers with characteristics aimed at special and difficult applications.

NATIONAL® Regenerative Gate SCRs with:

- High di/dt (typical 600 Amp/μsec).
- Half the switching losses of standard devices.
- No sacrifice in gate drive, turn-on time, turn-off time, or any other characteristic.

	Type Number	I_{rms} (Amperes)	V_{FOM} (Volts)	Special Characteristics
JEDEC TO-48 ¼" Stud. Flag Terminals	NL-C36 Series (2N1842-1850)	16	25 to 800	
	NL-511 Series	16	800 to 1200	
	NL-C37 Series	25	50 to 800	T_C = 105°C
	NL-C35 Series (2N681-692)	35	25 to 1000	
	NL-C38 Series	35	25 to 500	T_C = 150°C
	NL-C40 Series	35	25 to 500	t_{off} = 12 μsec
 JEDEC TO-49 ½" Stud. Flexible Leads	NL-C46 Series	55	25 to 1000	
	NL-F46 Series	55	200 to 900	di/dt = 400A/μsec
	NL-555 Series	55	50 to 1300	
	NL-C50 Series (2N1909-1916)	110	25 to 1000	
	NL-C55 Series	110	25 to 600	t_{off} = 20 μsec
	NL-C60 Series (2N2023-2030)	110	25 to 500	T_C = 150°C
	NL-C150 Series	110	200 to 1000	di/dt = 600A/μsec
	NL-F150 Series	110	500 to 1300	
	NL-C151 Series	110	500 to 1000	t_{off} = 50 μsec
	NL-C154 Series	110	100 to 500	t_{off} = 10 μsec
	NL-C155 Series	110	100 to 500	t_{off} = 20 μsec
 JEDEC TO-83 ½" Stud. Flag Terminals	NL-C45 Series	55	25 to 1000	
	NL-F45 Series	55	200 to 900	di/dt = 400A/μsec
	NL-556 Series	55	50 to 1300	
	NL-C52 Series (2N1792-1803)	110	25 to 1000	
	NL-C56 Series	110	25 to 600	t_{off} = 20 μsec
	NL-C62 Series	110	25 to 500	T_C = 150°C
	NL-C152 Series	110	200 to 1000	di/dt = 600A/μsec
	NL-F152 Series	110	500 to 1300	
	NL-C153 Series	110	500 to 1000	t_{off} = 50 μsec
	NL-C156 Series	110	100 to 500	t_{off} = 10 μsec
	NL-C157 Series	110	100 to 500	t_{off} = 20 μsec
 JEDEC TO-93 ¾" Stud. Flexible Leads	NL-C178 Series	200	100 to 1200	
	NL-C180 Series	235	100 to 1300	
	NL-C181 Series	235	100 to 1200	t_{off} = 80 μsec
	NL-C185 Series	235	50 to 600	t_{off} = 20 μsec
Clamp Mounted	NL-C291 Series	470	50 to 1200	
	NL-C29120 Series	470	50 to 1200	Heat sink included

For Complete Data Request Bulletin SB-57

READOUT TUBES, DRIVERS, & BEZELS
NATIONAL'S complete line of numeric readout tubes, drivers, and bezels are available for prompt shipment. Write for individual data sheets and prices.

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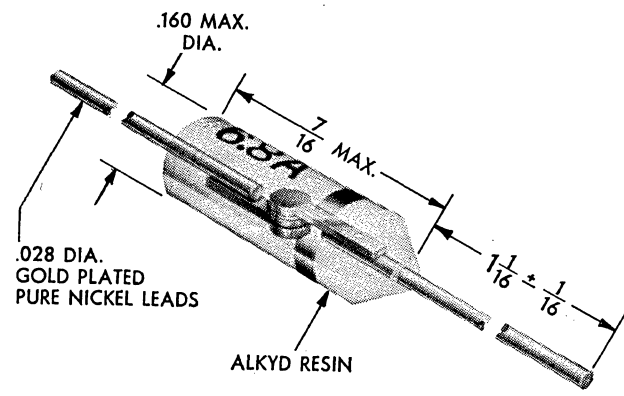
Schauer Heavy Duty Type SZ ZENER Diodes

NEW!

- Smaller Package
- Higher Voltages
- Gold Plated Leads
- Heavy Tantalum Heat Sinks
- Banded and Tapered Cathode
- All Welded and Brazed Assembly
- Power Rating Increased To 1 Watt
- Prices as Low as 27¢ Each in Lots of 1000



Conservative 1 WATT RATING

Large 10 watt junction in a small package.

Cool Operation. Insulated case.

Mass-produced for LOW COST.

A mass-produced, large alloyed silicon junction has been placed into a small, rugged package to produce a zener diode with maximum surge capacity and stability. The low dynamic impedance assures superior performance in voltage regulators, clippers, surge protectors, and numerous other applications. An inner epoxy seal, long leakage paths, and high-pressure molding permits reliable operation in all environments.

CHARACTERISTICS AND MAXIMUM RATINGS:

Storage temperature: −65° to 150°C.
Operating temperature: −65° to 150°C.
Maximum junction temperature: 175°C.
Thermal resistance from junction to ambient: 10°C/mw (still air).
Forward drop at .5 amp.: 1.0V max.

RATING TABLE

Schauer Type Note 1	Nominal V_{ZT} Volts at I_{ZT} = 20 ma T_a = 25°C	Typical Z_{ZT} Ohms at I_{ZT} = 20 ma T_a = 25°C	Temp. Coeff. % per °C at I_{ZT} = 20 ma T_a = 25°C	PRICES — Mixed types receive Total quantity price break				
				1-99	100-499	500-999	1M-4999	5M Up
SZ2.4	2.4	14	−.054					
SZ2.7	2.7	16	−.055			10% TOLERANCE		
SZ3.0	3.0	17	−.055					
SZ3.3	3.3	17	−.054	.49	.38	.33	.29	.27
SZ3.6	3.6	17	−.050					
SZ3.9	3.9	17	−.045					
SZ4.3	4.3	17	−.037			OTHER TOLERANCES		
SZ4.7	4.7	12	−.029			Note 1		
SZ5.1	5.1	10	−.019					
SZ5.6	5.6	6.0	−.009			5%		
SZ6.2	6.2	2.0	+.018	.59	.47	.41	.37	.34
SZ6.8	6.8	1.5	+.035					
SZ7.5	7.5	1.5	+.044					
SZ8.2	8.2	2.0	+.049			2%		
SZ9.1	9.1	4.0	+.053					
SZ10.0	10.0	5.0	+.055	.89	.81	.76	.72	.69
SZ11.0	11.0	6.0	+.057					
SZ12.0	12.0	7.0	+.059					
SZ13.0	13.0	7.0	+.061			1%		
SZ15.0	15.0	8.0	+.065	1.07	.97	.91	.86	.82
SZ16.0	16.0	8.0	+.066					

Note 1: Type shown are 10% tolerances, add suffix "A" for 5% and suffix 20%, 2%, 1% for other tolerances. For intermediate voltages, insert voltage and tolerances, ie: SZ6.3 (1%). Prices subject to change without notice.

Semiconductor Division

SCHAUER MANUFACTURING CORP.

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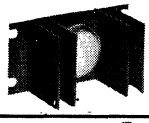
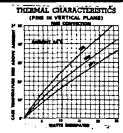
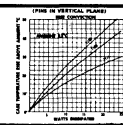
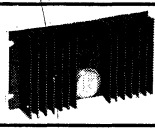
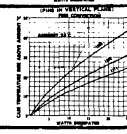
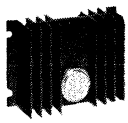
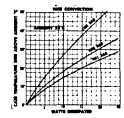
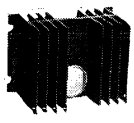
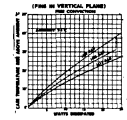
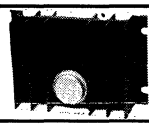
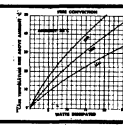
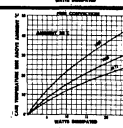
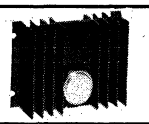
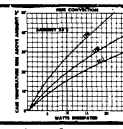
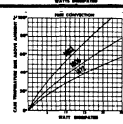
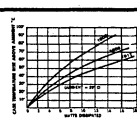
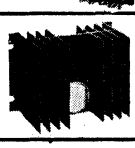
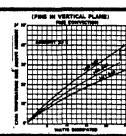
GEORGE RISK INDUSTRIES

SEMICONDUCTOR COOLERS

NATURAL CONVECTION COOLERS

		Inches			Each			
	Model No.	H	W	D	1-49	50-99	100-249	250-499
 Model 10 	100310	1½"	2.94	1.31	1.02	.82	.69	.59
	100610	3"	2.94	1.31	1.20	.97	.82	.69
	101110	5½"	2.94	1.31	1.49	1.19	1.00	.86
Model 11 	110310	1½"	4.81	1.31	1.23	.98	.83	.71
	110610	3"	4.81	1.31	1.58	1.26	1.06	.91
	111110	5½"	4.81	1.31	2.07	1.65	1.40	1.19
 Model 12 	120310	1½"	6.09	1.06	1.36	1.08	.92	.78
	120610	3"	6.09	1.06	1.83	1.47	1.24	1.05
	121110	5½"	6.09	1.06	2.44	1.95	1.65	1.40
 Model 13 	13A0310	1½"	4.50	1.25	1.27	1.03	.86	.71
	13A0610	3"	4.50	1.25	1.49	1.20	1.00	.84
	13A1110	5½"	4.50	1.25	2.40	1.97	1.64	1.40
	13B0310	1½"	4.75	1.25	1.27	1.03	.86	.71
	13B0610	3"	4.75	1.25	1.49	1.20	1.00	.84
	13B1110	5½"	4.75	1.25	2.40	1.97	1.64	1.40
 Model 14 	14A0310	1½"	4.50	2.50	1.65	1.25	1.10	.95
	14A0610	3"	4.50	2.50	2.21	1.80	1.49	1.26
	14A1110	5½"	4.50	2.50	3.35	2.71	2.26	1.90
	14B0310	1½"	4.75	2.50	1.65	1.25	1.10	.95
	14B0610	3"	4.75	2.50	2.21	1.80	1.49	1.26
	14B1110	5½"	4.75	2.50	3.35	2.71	2.26	1.90
 Model 15 	150310	1½"	4.62	1.31	1.27	1.03	.86	.71
	150610	3"	4.62	1.31	1.49	1.20	1.00	.84
	151110	5½"	4.62	1.31	2.40	1.97	1.64	1.40
Model 16 	160310	1½"	5.12	1.25	1.65	1.25	1.10	.95
	160610	3"	5.12	1.25	2.21	1.80	1.49	1.26
	161110	5½"	5.12	1.25	3.35	2.71	2.26	1.90
 Model 17 	170310	1½"	4.51	1.03	1.27	1.03	.86	.71
	170610	3"	4.51	1.03	1.49	1.20	1.00	.84
	171110	5½"	4.51	1.03	2.40	1.97	1.64	1.40
Model 18 	180310	¾"	2.00	2.00	1.23	1.02	.82	.66
	180610	1½"	2.00	2.00	1.33	1.12	.91	.76
	181210	3"	2.00	2.00	1.58	1.32	1.06	.91
Model 19 	190310	1½"	4.82	.460	1.30	1.05	.86	.71
	190610	3"	4.82	.460	1.45	1.22	.96	.81
	191110	5½"	4.82	.460	2.07	1.72	1.31	1.16
 Model 41 	410310	1½"	4.75	1.88	1.65	1.25	1.10	.95
	410610	3"	4.75	1.88	2.21	1.80	1.49	1.26
	411110	5½"	4.75	1.88	3.35	2.71	2.26	1.90

NOTES: Material: Aluminum Alloy 6063-T6 per QQ-A-8625
Finish: Standard Black Anodized to MIL-A-8625 Type II

Net

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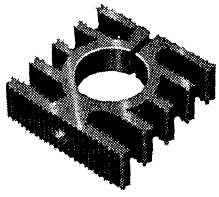
GEORGE RISK INDUSTRIES

SEMICONDUCTOR COOLERS

MILLIWATT TRANSISTOR & DIODE COOLERS

Models 20, 21, 22, 23 & 24

SPECIFICATIONS AND ORDERING INFORMATION



HOW TO ORDER

PART NUMBER

XX — Model Number
- 20. ½ in. sq.
- 21. ⅝ in. sq. See Figure 1
- 22. ¾ in. sq.
- 23. 1 in. sq.
- 24. 1 in. sq. See Figure 2

X — Length of Heat Sink
- 1. ¼ in.
- 2. 5/16 in.
- 3. ⅜ in.

See Figure 1

X — Hole for mounting heat sink
- A. None
- B. 104 Drill
- C. 4-40 Tap
- D. 6-32 Tap

XXX — Diameter of mounting hole in thousands of inch

EXAMPLE:

223A318 = GRI Milliwatt Coolers ¾" square, ⅜" long, no heat sink mounting hole, .318" dia. (TO-5) transistor mounting hole.

242D480 = GRI Milliwatt Coolers 1" square, 5/16" long, 6-32 tap for heat sink mounting hole, .480" dia. (TO-8) transistor mounting hole with counterbore as shown in Figure 2.

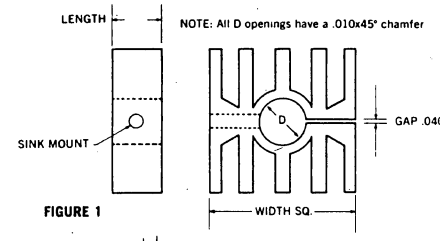


FIGURE 1

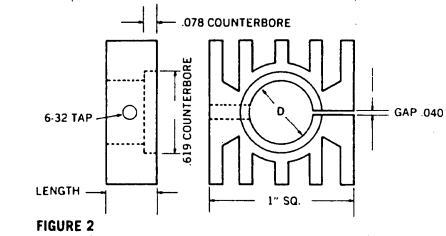
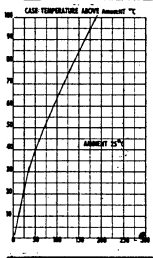


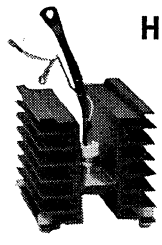
FIGURE 2

STANDARD GRI UNITS

EXTRUSION 20	EXTRUSION 21	EXTRUSION 22	EXTRUSION 23	EXTRUSION 24
201A177 through 318	211A177 through 318	221A318 through 370	231A318 through 370	242A318 through 370
201B177 through 318	211B177 through 318	221B318 through 370	231B318 through 370	242C318 through 370
201C177 through 318	211C177 through 318	221C318 through 370	231C318 through 370	242D318 through 370
202A177 through 318	212A177 through 353	222A318 through 370	232A318 through 370	243A318 through 370
202B177 through 318	212B177 through 353	222B318 through 370	232B318 through 370	243C318 through 370
202C177 through 318	212C177 through 353	222C318 through 370	232C318 through 370	243D318 through 370
203A177 through 318	213A177 through 353	223A318 through 370	233A318 through 370	242A480 Counterbore
203B177 through 318	213B177 through 353	223B318 through 370	233B318 through 370	242C480 Counterbore
203C177 through 318	213C177 through 353	223C318 through 370	233C318 through 370	242D480 Counterbore
				243A480 Counterbore
				243C480 Counterbore
				243D480 Counterbore



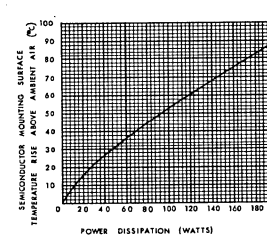
HIGH POWER MULTI-FIN HEAT SINKS



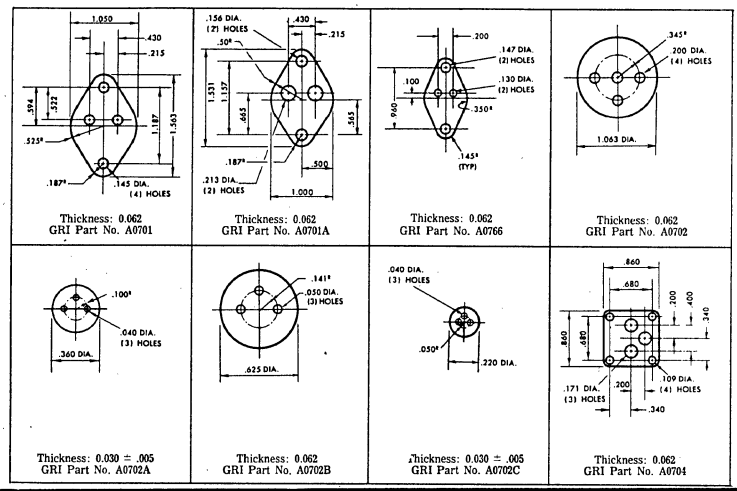
Model No.	H	W	D	1-49	50-99	100-249	250-499
441010	4"	5"	4"	4.40	3.70	3.30	3.05
451010	4¾"	5½"	4½"	5.80	4.70	3.90	3.40

Model 44

Model 45



GRI BERYLLIUM OXIDE WAFERS & WASHERS



WASHERS

GRI Part No.	Outside Diameter	Inside Diameter	Thickness
A07-80-41-67	0.080±.001	0.041±.001	0.067±.001
A07-105-66-58	0.105±.002	0.066±.002	0.058±.002
A07-155-101-25	0.155±.003	0.101±.005	0.025±.003
A07-175-109-95	0.175±.005	0.109±.003	0.095±.005
A07-250-130-62	0.250±.005	0.130±.005	0.062±.010
A07-260-190-30	0.260±.005	0.190±.005	0.030±.005
A07-375-120-30	0.375±.005	0.120±.005	0.030±.005
A07-375-120-62	0.375±.005	0.120±.005	0.062±.010
A07-470-235-40	0.470±.005	0.235±.005	0.040±.005
A07-510-200-40	0.510±.005	0.200±.005	0.040±.005
A07-800-260-62	0.800±.010	0.260±.005	0.062±.005
A07-800-320-62	0.800±.010	0.320±.005	0.062±.005
A07-900-260-62	0.900±.010	0.260±.005	0.062±.005
A07-900-260-125	0.900±.010	0.260±.005	0.125±.003
A07-900-320-62	0.900±.010	0.320±.005	0.062±.005

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SARKES TARZIAN

JEDEC Silicon Avalanche Rectifiers

All of the silicon rectifiers listed below are supplied with avalanche characteristics as standard. They are direct replacements, electrically and physically, for ordinary silicon rectifiers, yet they provide important benefits to you and your products, **at no** extra cost.

Overvoltage protection is built into the rectifier. Transient voltage induced failures are virtually eliminated because these units avalanche at voltages well below the destruction point. The overvoltage spike is dissipated through the junction at a point below the critical voltage stress across the edge of the junction.

Lower circuit costs are readily achieved. When avalanche rectifiers are used suppressor and balancing devices, such as resistors, capacitors, R-C networks, etc., are no longer needed. In addition, their elimination improves circuit reliability, due to a reduction in number of components and interconnections.

Dependable performance is assured. Over 20,000,000 of these devices already have been delivered and are in actual use in the field. They are now routinely available from high volume production lines.

All Tarzian Silicon Rectifiers are supplied with avalanche protection at no extra cost. For additional types, not necessarily covered by JEDEC numbers, see the following pages.

Jedec No.	Net Each, Lots of 1-24	25-99	100 up
1N248	1.55	1.33	1.24
1N248A	1.75	1.50	1.39
1N248B	1.75	1.50	1.39
1N248C	1.75	1.50	1.39
1N249	1.55	1.33	1.24
1N249A	1.75	1.50	1.39
1N249B	1.75	1.50	1.39
1N249C	2.44	2.09	1.94
1N250	2.14	1.83	1.70
1N250A	2.44	2.09	1.94
1N250B	2.44	2.09	1.94
1N250C	2.44	2.09	1.94
1N253	1.19	.96	.89
1N254	1.20	1.03	.96
1N255	1.50	1.29	1.20
1N256	2.12	1.82	1.69
1N332	1.50	1.29	1.20
1N333	1.50	1.29	1.20
1N334	1.29	1.10	1.02
1N335	1.29	1.10	1.02
1N336	1.20	1.03	.96
1N337	1.20	1.03	.96
1N338	1.19	.96	.89
1N339	1.19	.96	.89
1N340	1.19	.96	.89
1N341	1.50	1.29	1.20
1N342	1.50	1.29	1.20
1N343	1.29	1.10	1.02
1N344	1.29	1.10	1.02
1N345	1.20	1.03	.96
1N346	1.20	1.03	.96
1N347	1.19	.96	.89
1N348	1.19	.96	.89
1N349	1.19	.96	.89
1N440	.35	.30	.28
1N440B	.35	.30	.28
1N441	.37	.32	.29
1N441B	.37	.32	.29
1N442	.42	.36	.33
1N442B	.42	.36	.33
1N443	.43	.37	.35
1N443B	.43	.37	.35
1N444	.45	.39	.36
1N444B	.45	.39	.36
1N445	.47	.40	.31
1N445B	.47	.40	.31
1N532	.42	.36	.33
1N533	.43	.37	.35
1N534	.45	.39	.36
1N535	.47	.40	.37
1N536	.35	.30	.28
1N537	.35	.30	.28
1N538	.37	.32	.29
1N539	.42	.36	.33
1N540	.43	.37	.35
1N547	.47	.40	.37
1N550	1.20	1.03	.96
1N551	1.25	1.07	1.00
1N552	1.55	1.33	1.24
1N553	1.95	1.67	1.56
1N554	2.35	2.10	1.88
1N555	2.70	2.32	2.16
1N560	.62	.55	.49
1N561	.95	.82	.76
1N562	3.20	2.76	2.58
1N599	.35	.30	.28
1N599A	.35	.30	.28
1N600	.35	.30	.28
1N600A	.35	.30	.28
1N601	.37	.32	.29
1N601A	.37	.32	.29
1N602	.37	.32	.29
1N602A	.37	.32	.29
1N603	.42	.36	.33
1N603A	.42	.36	.33
1N604	.43	.37	.35
1N604A	.43	.37	.35
1N605	.45	.39	.36
1N605A	.45	.39	.36
1N606	.47	.40	.37
1N606A	.47	.40	.37
1N607	1.19	.96	.89
1N607A	1.19	.96	.89
1N608	1.19	.96	.89
1N608A	1.19	.96	.89
1N609	1.20	1.03	.96
1N609A	1.20	1.03	.96
1N610	1.20	1.03	.96
1N610A	1.20	1.03	.96
1N611	1.29	1.10	1.02
1N611A	1.29	1.10	1.02
1N612	1.50	1.29	1.20
1N612A	1.50	1.29	1.20
1N613	1.67	1.43	1.33
1N613A	1.67	1.43	1.33
1N614	2.12	1.82	1.69
1N614A	2.12	1.82	1.69
1N1081	.60	.55	.51
1N1082	.65	.57	.53
1N1083	.70	.61	.57
1N1084	.75	.63	.59
1N1085A	3.34	2.86	2.66
1N1086A	4.00	3.43	3.20
1N1087A	4.67	4.00	3.75
1N1088A	5.35	4.67	4.27
1N1095	.45	.39	.36
1N1096	.47	.40	.37
1N1100	.35	.30	.28
1N1101	.37	.32	.29
1N1102	.42	.36	.33
1N1103	.43	.37	.35
1N1104	.45	.39	.36
1N1105	.47	.40	.37
1N1108	3.15	2.71	2.54
1N1109	4.00	3.43	3.20
1N1110	4.75	4.15	3.86
1N1111	5.65	4.86	4.53
1N1112	6.50	5.57	5.20
1N1113	7.35	6.30	5.87
1N1115	1.19	.96	.89
1N1116	1.20	1.03	.96
1N1117	1.29	1.10	1.02
1N1118	1.50	1.29	1.20
1N1119	1.67	1.43	1.33
1N1120	2.12	1.82	1.69
1N1124	1.20	1.03	.96
1N1124A	1.20	1.03	.96
1N1125	1.29	1.10	1.02
1N1125A	1.29	1.10	1.02
1N1126	1.50	1.29	1.20
1N1126A	1.50	1.29	1.20
1N1127	1.67	1.43	1.33
1N1127A	1.67	1.43	1.33
1N1128	2.12	1.82	1.69
1N1128A	2.12	1.82	1.69
1N1133	3.35	2.86	2.67
1N1134	3.35	2.86	2.67
1N1135	3.75	3.22	3.00
1N1136	3.75	3.22	3.00
1N1137	4.15	3.58	3.34
1N1138	4.15	3.58	3.34
1N1139	5.40	4.64	4.33
1N1140	5.40	4.64	4.33
1N1141	7.50	6.43	6.00
1N1142	7.50	6.43	6.00
1N1143	8.75	7.50	7.00
1N1143A	8.75	7.50	7.00
1N1144	10.00	8.58	8.00
1N1145	10.00	8.58	8.00
1N1146	10.85	9.30	8.66
1N1147	15.00	12.89	12.00
1N1148	17.10	14.65	13.65
1N1149	19.10	16.45	15.31
1N1150A	12.00	10.30	9.60
1N1169	.43	.37	.35
1N1169A	.43	.37	.35
1N1183	1.75	1.50	1.39
1N1183A	1.75	1.50	1.39
1N1184	1.75	1.50	1.39
1N1184A	1.75	1.50	1.39
1N1185	2.44	2.09	1.94
1N1186	2.44	2.09	1.94
1N1186A	2.44	2.09	1.94
1N1187	3.72	3.19	2.97
1N1187A	3.72	3.19	2.97
1N1188	4.14	3.55	3.30
1N1188A	4.14	3.55	3.30
1N1189	4.41	3.78	3.51
1N1189A	4.41	3.78	3.51
1N1190	4.89	4.19	3.90
1N1190A	4.89	4.19	3.90
1N1191	1.55	1.33	1.24
1N1191A	1.75	1.50	1.39
1N1192	1.55	1.33	1.24
1N1192A	1.75	1.50	1.39
1N1193	2.14	1.83	1.70
1N1193A	2.44	2.09	1.94
1N1194	2.14	1.83	1.70
1N1194A	2.44	2.09	1.94
1N1195	2.84	2.43	2.26
1N1195A	3.72	3.19	2.97
1N1196	3.16	2.70	2.52
1N1196A	4.14	3.55	3.30
1N1197	3.44	2.95	2.74
1N1197A	4.41	3.78	3.51
1N1198	3.80	3.28	3.06
1N1198A	4.89	4.19	3.90
1N1199	1.19	1.02	.94
1N1199A	1.19	1.02	.94
1N1200	1.19	1.02	.94
1N1200A	1.19	1.02	.94
1N1201	1.25	1.07	1.00
1N1201A	1.25	1.07	1.00
1N1202	1.25	1.07	1.00
1N1202A	1.25	1.07	1.00
1N1203	1.34	1.14	1.06
1N1203A	1.34	1.14	1.06
1N1204	1.67	1.43	1.33
1N1204A	1.67	1.43	1.33
1N1205	1.87	1.60	1.49
1N1205A	1.87	1.60	1.49
1N1206	2.34	2.00	1.86
1N1206A	2.34	2.00	1.86
1N1237	5.25	4.69	4.13
1N1238	5.25	4.69	4.13
1N1239	7.77	6.94	6.11
1N1262	6.44	5.75	5.06
1N1341	1.19	.96	.89
1N1341A	1.19	.96	.89
1N1342	1.19	.96	.89
1N1342A	1.19	.96	.89
1N1343	1.20	1.03	.96
1N1344	1.20	1.03	.96
1N1344A	1.20	1.03	.96
1N1345	1.29	1.10	1.02
1N1345A	1.29	1.10	1.02
1N1346	1.50	1.29	1.20
1N1346A	1.50	1.29	1.20
1N1347	1.67	1.43	1.35
1N1347A	1.67	1.43	1.33
1N1348	2.12	1.82	1.69
1N1348A	2.12	1.82	1.69
1N1487	.35	.30	.28
1N1488	.37	.32	.29
1N1489	.42	.36	.33
1N1490	.43	.37	.35
1N1491	.45	.39	.36
1N1492	.47	.40	.37
1N1537	1.19	.96	.89
1N1538	1.19	.96	.89
1N1539	1.20	1.03	.96
1N1540	1.20	1.03	.96
1N1541	1.29	1.10	1.02
1N1542	1.50	1.29	1.20
1N1543	1.67	1.43	1.33
1N1544	2.70	2.32	2.16
1N1581	1.19	1.02	.94
1N1582	1.19	1.02	.94
1N1583	1.25	1.07	1.00
1N1584	1.34	1.14	1.06
1N1585	1.67	1.43	1.33
1N1586	1.87	1.60	1.49
1N1587	2.34	2.00	1.86
1N1612	1.20	1.03	.96
1N1612A	1.20	1.03	.96
1N1613	1.20	1.03	.96
1N1613A	1.20	1.03	.96
1N1614	1.25	1.07	1.00
1N1614A	1.25	1.07	1.00
1N1615	1.95	1.67	1.56
1N1615A	1.95	1.67	1.56
1N1616	2.70	2.32	2.16
1N1616A	2.70	2.32	2.16
1N1692	.35	.30	.28
1N1693	.37	.32	.29
1N1694	.42	.36	.33
1N1695	.43	.37	.35
1N1696	.45	.39	.36
1N1697	.47	.40	.37
1N1701	.35	.30	.28
1N1702	.35	.30	.28
1N1703	.37	.32	.29
1N1704	.37	.32	.29
1N1705	.43	.37	.35
1N1706	.45	.39	.36
1N1707	.35	.30	.28
1N1708	.35	.30	.28
1N1709	.37	.32	.29
1N1710	.42	.36	.33
1N1711	.43	.37	.35
1N1712	.45	.39	.36
1N1730	2.10	1.79	1.67
1N1731	2.10	1.79	1.67
1N1732	2.90	2.50	2.33
1N1733	4.15	3.57	3.34
1N1734	5.00	4.29	4.00
1N1763	.43	.37	.35
1N1764	.45	.39	.36
1N2054	14.20	12.19	11.36
1N2055	14.20	12.19	11.36
1N2056	15.80	13.50	12.60
1N2057	15.80	13.50	12.60
1N2058	15.80	13.50	12.60
1N2059	17.10	15.00	14.00
1N2060	24.40	20.95	19.52
1N2061	24.40	20.95	19.52
1N2062	32.60	27.95	26.10
1N2063	42.40	36.20	33.80
1N2069	.33	.29	.27
1N2070	.35	.30	.28
1N2071	.37	.32	.29
1N2103	.35	.30	.28
1N2104	.35	.30	.28
1N2105	.37	.32	.29
1N2106	.42	.36	.33
1N2107	.43	.37	.35
1N2108	.45	.39	.36
1N2154	1.55	1.33	1.24
1N2155	1.55	1.33	1.24
1N2156	2.14	1.83	1.70
1N2157	2.84	2.43	2.26
1N2158	3.16	2.70	2.52
1N2159	3.44	2.95	2.74
1N2160	3.80	3.28	3.06
1N2373	1.25	1.07	1.00
1N2374	2.10	1.79	1.67
1N2375	2.10	1.79	1.67
1N2376	2.90	2.50	2.33
1N2377	3.35	2.86	2.66
1N2378	4.20	3.58	3.34
1N2379	5.00	4.30	4.00
1N2380	7.10	6.08	5.66
1N2381	11.40	9.65	9.00
1N2382	5.00	4.29	4.00
1N2383	7.10	6.08	5.66
1N2384	7.50	6.43	6.00
1N2385	9.15	7.86	6.00
1N2389	6.10	5.23	4.87
1N2482	.33	.29	.27
1N2483	.35	.30	.28
1N2484	.37	.32	.29
1N2485	.37	.32	.29
1N2486	.42	.36	.33
1N2487	.43	.37	.35
1N2488	.45	.39	.36
1N2489	.47	.40	.37
1N2490	7.07	6.31	5.56
1N2609	.35	.30	.28
1N2610	.35	.30	.28
1N2611	.37	.32	.29
1N2612	.42	.36	.33
1N2613	.43	.37	.35
1N2614	.45	.39	.36
1N2615	.47	.40	.37
1N2616	.62	.53	.49
1N2617	.95	.82	.76
1N2630	7.07	6.31	5.56
1N2631	5.25	4.69	4.13
1N2632	7.77	6.94	6.11
1N2633	5.25	4.69	4.13
1N2634	5.95	5.31	4.68
1N2635	7.07	6.31	5.56
1N2637	9.65	8.65	7.78
1N2858	.35	.30	.28
1N2859	.35	.30	.28
1N2860	.37	.32	.29
1N2861	.42	.36	.33
1N2862	.43	.37	.35
1N2863	.45	.39	.36
1N2864	.47	.40	.37
1N3161	14.20	12.19	11.36
1N3162	14.20	12.19	11.36
1N3163	15.80	13.50	12.60
1N3164	15.80	13.50	12.60
1N3165	17.10	15.00	14.00
1N3166	17.10	15.00	14.00
1N3167	24.40	20.95	19.52
1N3168	24.40	20.95	19.52
1N3169	32.60	27.95	26.10
1N3170	42.40	36.20	33.80
1N3189	.37	.32	.29
1N3190	.43	.37	.35
1N3191	.47	.40	.37
1N3208	1.19	1.02	.94
1N3209	1.19	1.02	.94
1N3210	1.25	1.07	1.00
1N3211	1.34	1.14	1.06
1N3212	1.67	1.43	1.33
1N3213	1.87	1.60	1.49
1N3214	2.34	2.00	1.86
1N3233	.33	.29	.27
1N3260	12.90	11.09	10.32
1N3261	12.90	11.09	10.32
1N3262	14.50	12.40	11.58
1N3263	14.50	12.40	11.58
1N3264	15.80	13.50	12.60
1N3265	15.80	13.50	12.60
1N3266	20.80	17.80	16.60
1N3267	20.80	17.80	16.60
1N3268	28.45	24.38	22.75
1N3269	34.60	29.60	27.65
1N3289	12.20	10.45	9.79
1N3290	13.40	11.76	10.95
1N3291	18.80	16.07	15.00
1N3292	24.25	20.78	19.40
1N3293	28.50	24.40	22.80
1N3569	1.19	.96	.89
1N3570	1.20	1.03	.96
1N3571	1.29	1.10	1.02
1N3572	1.50	1.29	1.20
1N3573	1.67	1.43	1.33
1N3574	2.12	1.82	1.69
1N3615	1.19	1.02	.94
1N3616	1.19	1.02	.94
1N3617	1.25	1.07	1.00
1N3618	1.25	1.07	1.00
1N3619	1.34	1.14	1.06
1N3620	1.67	1.43	1.33
1N3621	1.87	1.60	1.49
1N3622	2.34	2.00	1.86
1N3639	.37	.32	.29
1N3640	.43	.37	.35
1N3641	.47	.40	.37
1N3642	.62	.53	.49
1N3735	14.20	12.19	11.36
1N3736	15.80	13.50	12.60
1N3737	17.10	15.00	14.00
1N3738	24.40	20.95	19.52
1N3739	32.60	27.95	26.10
1N3740	42.40	36.20	33.80
1N4001	.33	.29	.27
1N4002	.33	.29	.27
1N4003	.33	.29	.27
1N4004	.35	.30	.28
1N4005	.37	.32	.29
1N4006	.52	.44	.41
1N4007	.79	.67	.63
1N4044	14.20	12.19	11.36
1N4045	14.20	12.19	11.36
1N4046	15.80	13.50	12.60
1N4047	15.80	13.50	12.60
1N4048	17.10	15.00	14.00
1N4049	17.10	15.00	14.00
1N4050	24.40	20.95	19.52
1N4051	32.60	27.95	26.10
1N4052	42.40	36.20	33.80

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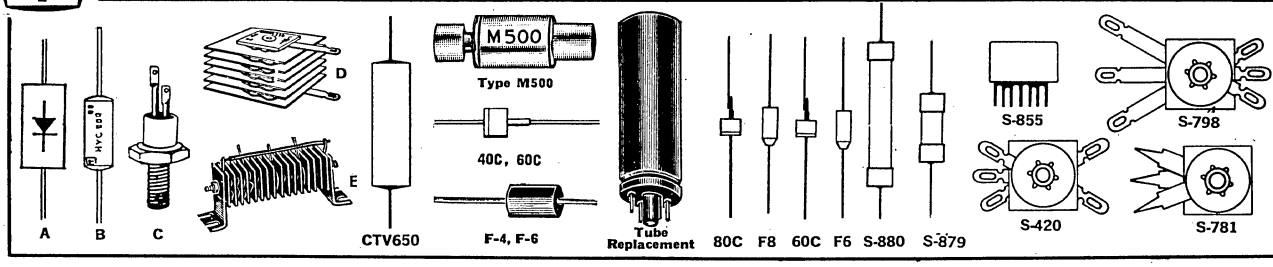
Silicon & Selenium Rectifiers



HIGH VOLTAGE, AXIAL LEAD SILICON CARTRIDGE RECTIFIERS (FIG. A)

JEDEC No.	S-T No.	PIV	Max. RMS Volts*	Max. Avg. Rect. Current, Ma at 25°C	Max. Avg. Rect. Current, Ma at 100°C	Size, In. Lgth. x Dia.	Lead Lgth., In.	Net Each, Lots of 1-24	Net Each, Lots of 25-99	Net Each, Lots of 100 Up
1N1730	S-5518	1000	700	200	100	.5 x .375	2½	$2.10	$1.79	$1.67
1N1731	S-5519	1500	1050	200	100	.5 x .375	2½	2.10	1.79	1.67
1N1732	S-5520	2000	1400	200	100	1 x .375	2½	2.90	2.50	2.33
1N1733	S-5521	3000	2100	150	75	1 x .375	2½	4.15	3.57	3.34
1N1734	S-5522	5000	3500	100	50	1 x .375	2½	5.00	4.29	4.00
1N2373	S-5523	600	420	250	100	.5 x .375	2½	1.25	1.07	1.00
1N2374	S-5524	1000	700	250	100	.5 x .375	2½	2.10	1.79	1.67
1N2375	S-5525	1500	1050	200	100	.5 x .375	2½	2.10	1.79	1.67
1N2376	S-5526	2000	1400	200	100	.9 x .375	2½	2.90	2.50	2.33
1N2377	S-5527	2400	1680	150	75	.9 x .375	2½	3.35	2.86	2.66
1N2378	S-5528	3000	2100	150	75	1 x .375	2½	4.20	3.58	3.34
1N2379	S-5529	4000	2800	100	50	1.25 x .375	2½	5.00	4.30	4.00
1N2380	S-5530	6000	4200	100	50	2.5 x .375	2½	7.10	6.08	5.66
1N2381	S-5531†	10000	7000	75	25	2.5 x .375	2½	11.40	9.65	9.00
1N2382	S-5532	4000	2800	150	75	1 x .375	2½	5.00	4.29	4.00
1N2383	S-5533†	6000	4200	100	50	1.5 x .375	2½	7.10	6.08	5.66
1N2384	S-5534†	8000	5600	70	35	1.5 x .375	2½	7.50	6.43	6.00
1N2385	S-5535†	10000	7000	70	35	2 x .375	2½	9.15	7.86	6.00

*Derate 50% for capacitive load in half-wave circuits. †Ferrule mounting.

HVC SERIES HIGH VOLTAGE AXIAL LEAD SILICON CARTRIDGE RECTIFIERS (FIG. B)

Epoxy-sealed phenolic tube construction with 2" lg. (min.) axial leads.

S-T No.	Max. PIV	Max. Avg. Rect. Cur. (55°C), mA	Max. Fwd. V Drop at Rtd. Cur.	Body Size, In. Dia. x Lgth.	Net Each, Lots of 1-24	Net Each, Lots of 25-99	Net Each, Lots of 100 Up
HVC180	1800	250	4 VDC	.375 x 5/16	$ 3.35	$ 2.86	$ 2.66
HVC240	2400	250	5 VDC	.375 x 11/16	3.60	3.08	2.87
HVC300	3000	200	6 VDC	.375 x 3/4	3.85	3.28	3.07
HVC400	4000	200	8 VDC	.375 x 7/8	4.00	3.44	3.20
HVC500	5000	200	10 VDC	.375 x 1	4.15	3.67	3.34
HVC600	6000	150	12 VDC	.375 x 1 1/16	4.55	3.92	3.66
HVC650	6500	150	13 VDC	.375 x 1 3/16	5.00	4.29	4.00
HVC750	7500	150	15 VDC	.375 x 1 5/16	5.40	4.64	4.34
HVC840	8400	100	16 VDC	.375 x 1 3/8	5.85	5.00	4.66
HVC960	9600	100	18 VDC	.375 x 1 1/2	6.65	5.72	5.34
HVC1000	10000	100	20 VDC	.375 x 1 3/4	7.10	6.07	5.66
HVC1200	12000	75	22 VDC	.375 x 1 15/16	8.35	7.15	6.66
HVC1500	15000	75	25 VDC	.375 x 2 5/16	10.40	8.94	8.34
HVC1800	18000	75	30 VDC	.375 x 2 5/8	12.50	10.70	10.00
HVC2100	21000	50	35 VDC	.375 x 3	14.60	12.50	11.67
HVC2500	25000	50	40 VDC	.375 x 3 1/2	17.50	15.00	14.00
HVC3000	30000	50	50 VDC	.375 x 4 1/16	20.80	17.90	16.70

SILICON CONTROLLED RECTIFIERS (FIG. C)

Four-layer, three-junction devices for switching and power control. Size, 1¼" overall l. Series 3TCR, 3 amps DC; Series 5TCR, 5 amps DC.

S-T No.	Max. PIV	Net Each, Lots of 1-24	Net Each, Lots of 25-99	Net Each, Lots of 100 Up	S-T No.	Max. PIV	Net Each, Lots of 1-24	Net Each, Lots of 25-99	Net Each, Lots of 100 Up
3TCRA	25	$2.80	$2.39	$2.22	5TCRA	25	$4.00	$3.43	$3.20
3TCRB	50	2.90	2.46	2.30	5TCRB	50	4.70	4.05	3.77
3TCRC	100	3.00	2.55	2.39	5TCRC	100	4.85	4.15	3.86
3TCRD	150	3.05	2.62	2.44	5TCRD	150	4.95	4.23	3.94
3TCRE	200	3.25	2.80	2.60	5TCRE	200	5.10	4.38	4.08
3TCRF	250	4.05	3.50	3.25	5TCRF	250	5.95	5.10	4.24
3TCRG	300	4.20	3.58	3.33	5TCRG	300	6.05	5.16	4.81
3TCRH	400	4.65	3.98	3.70	5TCRH	400	6.50	5.57	5.18
3TCRI	500	6.95	5.97	5.55	5TCRI	500	8.80	7.55	7.03

GATE TURNOFF TYPE

Class X and Y prices available on request.

3GCRGZ	100	$ 7.35	$ 6.27	$ 5.86	3GCRFZ	250	$17.90	$15.36	$14.35
3GCRDZ	150	10.10	8.63	8.07	3GCRGZ	300	24.60	21.10	19.69
3GCREZ	200	13.75	11.79	11.00	3GCRHZ	400	31.50	27.00	25.20

SELENIUM RECTIFIERS

"CONDENSED-STACK" SELENIUM RECTIFIERS (FIG. D)

Approximate rectifier drop, 5 V. Max. plate temperature, 85°C operating. Resistance, shown, 16 series.

Sarkes Model	Max. Volts Input Rms	Max. Volts PIV	Max. Current Peak mA	Max. Current Rms mA	Max. Current mA DC	Min. Series Resist.*	Plate Size, Inches W. x H. x D.	Max. Hole Ctr.	Net Each
50-75	130	380	750	187	75	22	1 1/16 sq. x 25/64	.149" dia.	$0.48
100-150	130	380	1500	375	150	22	1 sq. x 13/16	#8	.72
200-250	130	380	2500	625	250	15	1¼ sq. x 1¼	#8	1.08
300-500	130	380	5000	1250	500	5	1.6 sq. x 1 5/16	#2	1.32

*Ohms

REPLACEMENT KITS See Standard Replacement Types, below, for full specifications.
Sarkes Tarzian Type M500 Kit—Two Type M rectifiers in volt. doubler circuit dual mounting clip, base and hardware. Net Each.....$2.12
Sarkes Tarzian Model F-4 Kit—Two F-4 rectifiers in volt. doubler circuit kit. Net Ea. .93
Sarkes Tarzian Model F-6 Kit—Two F-6 rectifiers in volt. doubler circuit kit. Net Ea. .93
Sarkes Tarzian Model 40C Kit—Two 40C rectifiers in volt. doubler circuit kit. Net Ea. $1.11
Sarkes Tarzian Model 60C Kit—Two 60C rectifiers in volt. doubler circuit kit. Net Ea. $1.20

COLOR TV "DIRECT REPLACEMENT" RECTIFIERS

SILICONS

CTV650—Focus Rectifier. Net Ea..... $5.00
80C—Voltage Boost Rectifier. Net Ea..... .81
F8—Voltage Boost Rectifier. Net Ea..... .69
60C—B+ Rectifier. Net Ea..... .63
F6—B+ Rectifier. Net Ea..... .51

SELENIUMS

S-880—Focus Rectifier. Net Ea..... $2.95
S-879—Voltage Boost Rectifier. Net Ea..... 1.20
S-855—Convergence Rectifier. Replaces: Emerson 817149; General Electric M128J753; Hoffman SR-37; Motorola 48D66653A; Muntz; Packard Bell; RCA 1470990; Philco 34-8058; Setchell Carlson; Sylvania 13-17569; Warwick (Sears) 86-55-3; Wells Gardner 41-001; Westinghouse. Net Ea. ..... .84
S-420—Convergence Rectifier. Replaces: Zenith 212-25. Net Ea..... .84
S-798—Convergence Rectifier. Replaces: Zenith 212-63. Net Ea..... .96
S-781—Convergence Rectifier. Replaces: Admiral 93C-21 and 93C1-21. Net Ea..... .84

VACUUM TUBE REPLACEMENT SERIES

These silicon rectifier tube replacements are the preferred way to reduce tube replacement costs. Although more expensive than rectifier tubes, they will outlast many times their cost in rectifier tubes.

S-T No.	JEDEC No.	Max. PIV	Max. VRms	Replaces Tube Type	Net Each
S-5011A	1N1150A	1600	1100	80, 82, 83, 83V, 5Z3	$5.95
S-5017	1N1237	1600	1100	OZ4, 5X4, 5Y4, 6AX5, 6X5	5.25
S-5018	1N1238	1600	1100	5AU4, 5AW4, 5AZ4, 5T4, 5U4, 5Y3	5.25
S-5019†	1N1239	2800	1950	5R4	7.77
S-5033‡	1N1262	4500	3200§	6AU4, 6AX4, 6BL4, 6W4, 12AX4, 25W4	6.44
S-5130‡	.....	10400	7400§	866, 866A, 3B28	9.65
S-5207†	1N2490	1600	1100	6X4	7.07
S-5251	1N2389	1600	1100	5AU4, 5AW4, 5AZ4, 5T4, 5U4, 5Y3	5.25
S-5343‡	.....	7000	5000§	816, 836, 3B28*	8.33
S-5344	.....	10000	7000§	872A	29.74
S-5347†	.....	1600	1100	12BW4, 6BW4	7.03
S-5367	.....	19000	13300§	8020	29.74
S-5373	.....	10000	7000§	8008	39.34
S-5449	.....	15000	10500§	575A	54.64
S-5451	.....	7200	5040§	872A*	3.50
S-5991	.....	1600	1100	5AU4, 5AW4, 5AZ4, 5T4, 5U4, 5Y3	3.50

*At reduced voltage. †Hermetically sealed. ‡Half-wave circuit; all others full wave. §Derate input voltage 50% for capacitive load.

STANDARD SILICON REPLACEMENT TYPES

Approximate voltage drop for all types listed below is 2 volts. Minimum series resistance required is 5 ohms for F-4, F-6, 40H and 60H; 10 ohms for M150 and 7.5 ohms for M500.

S-T Number	JEDEC Number	PIV	Max.‡ Rmc Volts	Max. Current, Amps DC at 100°C	Max. Current, Amps Recur. Peak	Max. Current, Amps 4MS Surge	Size, Inches Lgth. x Dia.	Min. Lead Lgth., In.	Net Each†
F-4	1N2483	400	280	1.0 Amp.	7.5	75	.250 x .200	1¼	$0.51
F-6	1N2484	600	420	1.0 Amp.	7.5	75	.250 x .200	1¼	.51
40C*	1N2487	400	280	1.0 Amp.	7.5	75	.687 x .375	1	.60
60C*	1N2489	600	420	1.0 Amp.	7.5	75	.687 x .375	1	.63
M500	1N1084	400	280	1.0 Amp.	5	30	1 x 1/32	¼ O.D.	.96

*Hermetically sealed. †Available bulk packed or in handy 10-pak, same price. ‡Derate 50% for ½-wave cap. load #At85°C.

LOW CURRENT SILICON AVALANCHE BRIDGE RECTIFIERS

Compact single phase bridge rectifiers. Easy to mount. 2.0-6.0 A., 200-1000 PIV. Single phase units to 400 A. and 3-phase units to 500 A. available upon request.

S-6211 SERIES 2 AMPS

S-T No.	Max. PIV	Max. RMS Volts	Approx. D.C. Output Volts	Net Each, Lots of 1-24	Net Each, Lots of 25-99	Net Each, Lots of 100 Up
S-6211	200	140	120	$2.12	$1.82	$1.69
S-6211-1	400	280	240	2.34	2.00	1.86
S-6211-2	600	420	360	2.56	2.19	2.04
S-6211-3	800	560	480	3.21	2.75	2.55
S-6211-4	1000	700	600	4.94	4.23	3.94

S-5959 2.5 AMPS

S-5959	200	140	120	$1.94	$1.66	$1.54
S-5959-1	400	280	240	2.22	1.90	1.77
S-5959-2	600	420	360	2.44	2.09	1.94
S-5959-3	800	560	480	3.06	2.62	2.43
S-5959-4	1000	700	600	4.71	4.03	3.75

S-6121 6.0 AMPS

S-6121	100	70	60	$4.01	$3.43	$3.19
S-6121-1	200	140	120	4.21	3.60	3.35
S-6121-2	300	210	180	4.36	3.73	3.47
S-6121-3	400	280	240	4.41	3.78	3.51
S-6121-4	500	350	300	5.01	4.29	3.99
S-6121-5	600	420	360	5.61	4.81	4.47

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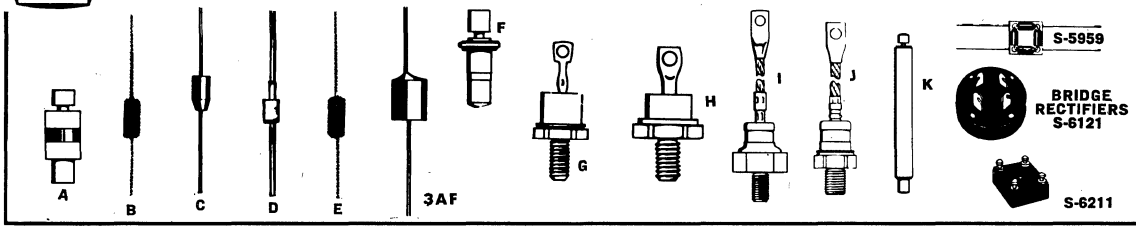
SARKES TARZIAN

Silicon Avalanche Rectifiers



LOW CURRENT AVALANCHE RECTIFIERS

M SERIES 1.0 AMP (FIG. A)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	Max. Cur., Amps at 100° C* DC Load	4MS Surge	Net Each, Lots of 1-24	25-99	100 Up
10M	1N1081	100	70	1.0	60 Amps	$0.60	$0.55	$0.51
20M	1N1082	200	140	1.0	60 Amps	.65	.57	.53
30M	1N1083	300	210	1.0	60 Amps	.70	.61	.57
40M	1N1084	400	280	1.0	60 Amps	.75	.63	.59
M-500	1N1084	400	280	1.0	60 Amps	.75	.63	.59
50M	.....	500	350	1.0	60 Amps	.80	.69	.64
60M	.....	600	420	1.0	60 Amps	.85	.70	.66

E SERIES 1.0 AMP (FIG. B, .125" DIA.)

E1	1N4001	100	70	1.0	70	$0.33	$0.29	$0.27
E1	1N4002	100	70	1.0	70	.33	.29	.27
E2	1N4003	200	140	1.0	70	.33	.29	.27
E4	1N4004	400	280	1.0	70	.35	.30	.28
E6	1N4005	600	420	1.0	70	.37	.32	.29
E8	1N4006	800	560	1.0	70	.52	.44	.41
E10	1N4008	1000	700	1.0	70	.79	.67	.63

F SERIES 1.0 AMP (FIG. C, .195" DIA.)

F2	1N2482	200	140	1.0	60	$0.33	$0.29	$0.27
	1N2069	200	140	1.0	60	.33	.29	.27
F4	1N2483	400	280	1.0	60	.35	.30	.28
	1N2070	400	280	1.0	60	.35	.30	.28
F6	1N2484	600	420	1.0	60	.37	.32	.29
	1N2071	600	420	1.0	60	.37	.32	.29
F8	.....	800	560	1.0	60	.52	.44	.41
F10	.....	1000	700	1.0	60	.79	.67	.63

G SERIES 1.0 AMP (FIG. E, .125" DIA. GLASS)

G1	.....	100	70	1.0	50	$0.35	$0.30	$0.28
G2	.....	200	140	1.0	50	.37	.32	.29
G4	.....	400	280	1.0	50	.43	.37	.35
G6	.....	600	420	1.0	50	.47	.40	.37
G8	.....	800	560	1.0	50	.62	.53	.49
G10	.....	1000	700	1.0	50	.95	.82	.76

C SERIES 1.0 AMP (FIG. D)

10C	1N2610	100	70	1.0	60	$0.35	$0.30	$0.28
20C	1N2611	200	140	1.0	60	.37	.32	.29
30C	1N2612	300	210	1.0	60	.42	.36	.33
40C	1N2613	400	280	1.0	60	.43	.37	.35
50C	1N2614	500	350	1.0	60	.45	.39	.36
60C	1N2615	600	420	1.0	60	.47	.40	.37
80C	1N2616	800	560	1.0	60	.62	.53	.49
100C	1N2617	100	700	1.0	60	.95	.82	.76

MEDIUM CURRENT AVALANCHE RECTIFIERS

LA SERIES 2 AMPS (FIG. F)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load, Amps	4MS Surge	Net Each, Lots of 1-24	25-99	100 Up
10LA	1N1085A	100	70	2.0	100	$3.34	$2.86	$2.66
20LA	1N1086A	200	140	2.0	100	4.00	3.43	3.20
30LA	1N1087A	300	210	2.0	100	4.67	4.00	3.73
40LA	1N1088A	400	280	2.0	100	5.35	4.67	4.27
50LA	.....	500	350	2.0	100	5.87	5.03	4.70
60LA	.....	600	420	2.0	100	6.45	5.52	5.15

3AF SERIES 3 AMPS

3AF2	.....	200	140	3.0	150	$ .52	$ .44	$ .40
3AF4	.....	400	280	3.0	150	.74	.63	.58
3AF6	.....	600	420	3.0	150	1.09	.93	.85
3AF8	.....	800	560	3.0	150	1.37	1.17	1.07

H3 SERIES 6 AMPS (FIG. G)

Add suffix N for negative or P for positive base. Add R to JEDEC type for negative base.

10H3	1N1342	100	70	6	150	$1.19	$0.96	$0.89
20H3	1N1344	200	140	6	150	1.20	1.03	.96
30H3	1N1345	300	210	6	150	1.29	1.10	1.02
40H3	1N1346	400	280	6	150	1.50	1.29	1.20
50H3	1N1347	500	350	6	150	1.67	1.43	1.33
60H3	1N1348	600	420	6	150	2.12	1.82	1.69
80H3	.....	800	560	6	150	2.54	2.17	2.02

ST2 SERIES 12 AMP (FIG. G)

Add suffix N for negative base or P for positive base.

ST210	1N1200	100	70	12	260	$1.19	$1.02	$0.94
ST220	1N1202	200	140	12	260	1.25	1.07	1.00
ST230	1N1203	300	210	12	260	1.34	1.14	1.06
ST240	1N1204	400	280	12	260	1.67	1.43	1.33
ST250	1N1205	500	350	12	260	1.87	1.60	1.49
ST260	1N1206	600	420	12	260	2.34	2.00	1.86
ST280	.....	800	560	12	260	2.82	2.42	2.25
ST2100	.....	8000	700	12	.....	3.38	2.80	2.70

HIGH VOLTAGE SM SERIES (FIG. K)

S-T No.	JEDEC No.	Max. PIV	Max. RMS Volts	DC Load Amps	Recur. Peak, Amps	Net Each, Lots of 1-24	25-99	100 Up
80SM	1N1108	800	560	.45	4.5	$3.15	$2.71	$2.54
120SM	1N1109	1200	840	.425	4.25	4.00	3.43	3.20
160SM	1N1110	1600	1120	.4	4.0	4.75	4.15	3.86
200SM	1N1111	2000	1400	.375	3.75	5.65	4.86	4.53
240SM	1N1112	2400	1680	.35	3.5	6.50	5.57	5.20
280SM	1N1113	2800	1960	.325	3.25	7.35	6.30	5.87

HIGH CURRENT, HERMETICALLY SEALED AVALANCHE RECTIFIERS

Stud base, rectifiers. Add suffix N for neg. base (anode), P for pos. base (cathode).

ST3A SERIES 25 AMP (FIG. H)

ST3A10	1N1191, 1N1192	100	70	25	400	$1.55 1.25	$1.33 1.07	$1.24 1.00
ST3A20	1N1193, 1N1194	200	140	25	400	2.14 2.14	1.83 1.83	1.70 1.70
ST3A30	1N1195	300	210	25	400	2.84	2.43	2.26
ST3A40	1N1196	400	280	25	400	3.16	2.70	2.52
ST3A50	1N1197	500	350	25	400	3.44	2.95	2.74
ST3A60	1N1198	600	420	25	400	3.80	3.28	3.06
ST3A80	.....	800	560	25	.....	4.60	3.94	3.66
ST3A100	.....	1000	700	25	.....	5.53	4.73	4.38

ST4 SERIES 35 AMP (FIG. H)

ST410	1N1183	100	70	35	500	$1.75	$1.50	$1.39
	1N1184					1.70	1.46	1.36
ST420	1N1185					2.44	2.09	1.94
	1N1186	200	140	35	500	2.44	2.09	1.94
ST430	1N1187	300	210	35	500	3.72	3.19	2.97
ST440	1N1188	400	280	35	500	4.14	3.55	3.36
ST450	1N1189	500	350	35	500	4.41	3.78	3.51
ST460	1N1190	600	420	35	500	4.89	4.19	3.90
ST480	.....	800	560	35	.....	5.89	5.03	4.69
ST4100	.....	1000	700	35	.....	7.05	6.03	5.61

ST5A SERIES 50 AMP (FIG. I)

ST5A10	.....	100	70	50	1000	$3.25	$2.78	$2.60
ST5A20	.....	200	140	50	1000	3.78	3.23	3.00
ST5A30	.....	300	210	50	1000	4.53	3.88	3.60
ST5A40	.....	400	280	50	1000	5.28	4.52	4.20
ST5A50	.....	500	350	50	1000	6.27	5.38	5.00
ST5A60	.....	600	420	50	1000	7.80	6.68	6.20
ST5A80	.....	800	560	50	.....	9.35	8.00	7.45
ST5A100	.....	1000	700	50	.....	11.22	9.15	8.95

ST11 SERIES 70 AMPS (FIG. H)

ST1110	.....	100	70	70	1120	$3.59	$3.08	$2.86
ST1120	.....	200	140	70	1120	4.16	3.56	3.31
ST1130	.....	300	210	70	1120	4.89	4.26	3.96
ST1140	.....	400	280	70	1120	5.81	4.98	4.63
ST1150	.....	500	350	70	1120	6.91	5.92	5.51
ST1160	.....	600	420	70	1120	8.60	7.37	6.85

ST6 SERIES 100 AMP (FIG. I)

ST610	.....	100	70	100	1600	$11.20	$ 9.60	$ 8.96
ST620	.....	200	140	100	1600	12.20	10.45	9.79
ST630	.....	300	210	100	1600	13.40	11.76	10.95
ST640	.....	400	280	100	1600	18.80	16.07	15.00
ST650	.....	500	350	100	1600	24.25	20.78	19.40
ST660	.....	600	420	100	1600	28.50	24.40	22.80
ST680	.....	800	560	100	.....	12.85	10.95	10.25
ST6100	.....	1000	700	100	.....	14.20	12.15	11.30

ST7 SERIES 160 AMP (FIG. J)

ST710	1N3261	100	70	160	3000	$12.90	$11.09	$10.32
ST720	1N3263	200	140	160	3000	14.50	12.40	11.58
ST730	1N3265	300	210	160	3000	15.80	13.50	12.60
ST740	1N3267	400	280	160	3000	20.20	17.80	16.60
ST750	1N3268	500	350	160	3000	28.45	24.38	22.75
ST760	1N3269	600	420	160	3000	34.60	29.60	27.65
ST780	.....	800	560	160	.....	41.25	35.52	33.18
ST7100	.....	1000	700	160	.....	49.82	42.62	39.82

ST9 SERIES 250 AMP (FIG. J)

ST910	1N3162	100	70	250	5000	$14.20	$12.19	$11.36
ST920	1N3164	200	140	250	5000	15.80	13.50	12.60
ST930	1N3166	300	210	250	5000	17.10	15.00	14.00
ST940	1N3168	400	280	250	5000	24.40	20.95	19.52
ST950	1N3169	500	350	250	5000	32.60	27.95	26.10
ST960	1N3170	600	420	250	5000	42.40	36.20	33.80
ST980	.....	800	560	250	.....	50.80	43.50	40.46
ST9100	.....	1000	700	250	.....	60.96	52.20	48.55

ST20 SERIES 350 AMP (FIG. J)

ST2010	.....	100	70	350	7000	$21.30	$18.29	$17.04
ST2020	.....	200	140	350	7000	23.70	20.25	18.90
ST2030	.....	300	210	350	7000	25.65	22.50	21.00
ST2040	.....	400	280	350	7000	36.60	31.43	29.28
ST2050	.....	500	350	350	7000	48.90	41.93	39.15
ST2060	.....	600	420	350	7000	63.60	54.30	50.70
ST2080	.....	800	560	350	.....	76.22	65.36	60.70
ST20100	.....	1000	700	350	.....	81.46	78.43	72.84

Tarzian Silicon Rectifiers with avalanche characteristics are available from 0.5 to 350 amps.

For information on the benefits and advantages of avalanche characteristics, see the previous page. A brochure describing these in detail is available directly from Sarkes-Tarzian, Inc., Semiconductor Division.

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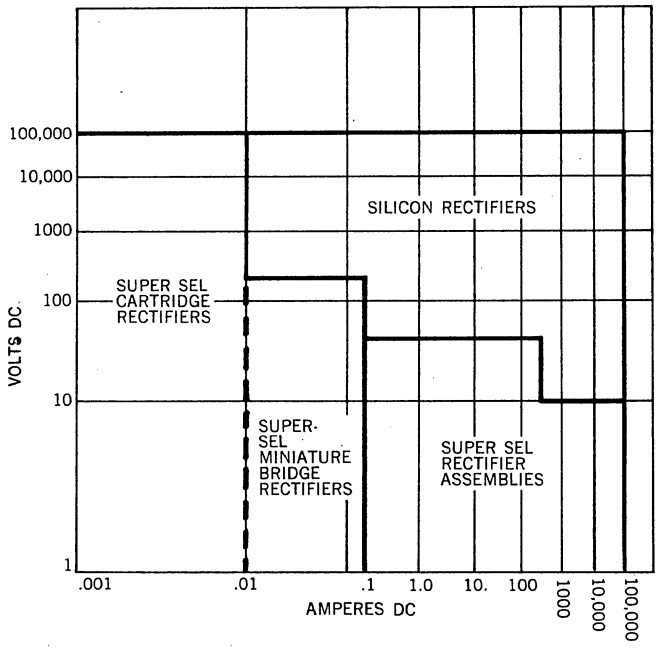
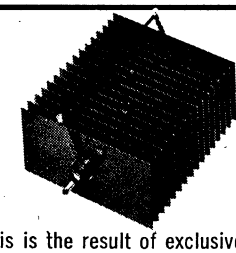
SARKES TARZIAN Super-Sel Rectifiers

Voltage and current conditions where "Super-Sel" is preferable to selicon.





Tarzian Super-Sel rectifiers have efficiency, aging, voltage regulation and thermal characteristics comparable to silicon types, yet they are smaller, cheaper and have far longer life than conventional selenium rectifiers. This is the result of exclusive doping techniques and the elimination of artificial barrier layers. Conductivity exceeds that of ordinary selenium at all current densities and improves further as the current density increases.

The inherent self-protection of selenium prevents damage from high voltage transients and overloads, both of which are disastrous to silicon types. Time required for the mass of the plate to reach critical temperature is measured in minutes whereas the same time, with silicon, is measured in microseconds. Pulse loads on these rectifiers can be 10 times the steady rating for a duty cycle of 3 sec. "on" every 4 minutes. Conversely, the overload capacity of silicon rectifiers is severely limited.

Super-Sel units can be used to advantage over both silicon and selenium types at **all** voltages to 10 ma load currents. They are superior in applications up to 120 ma dc to 200 volts, up to 500 amperes to 35 vdc and to 100,000 amperes at up to 10 volts. They also extend the ambient temperature range of selenium rectifiers to 90°C.

Super-Sel rectifiers are about ⅓ the size of conventional selenium assemblies of the same voltage and current rating while (affording higher) (extending the) maximum operating (temperature.) (temperature to 90°C.) Service life at 85°C. is approximately 100,000 hours — about 10 times as long as conventional selenium. Since output is not affected by aging, output voltage remains stable throughout the life of the unit.

An informative 18-page brochure with product and engineering data in Super-Sel rectifiers is available by writing Sarkes Tarzian.

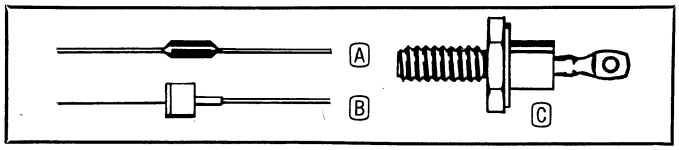
S-T No.	DC Output† Volts	DC Output† Amps	Max AC Input Volts	Dimensions Stack Length	Dimensions Plate Height	Dimensions Plate Width	Net Each
SSD-10*	6-10	0.6	13	2	.7	.7	$ 1.33
SSD-11*	6-10	1.2	13	2	.9	.9	1.43
SSD-12*	6-10	2.2	13	2¼	1.3	1.3	1.70
SSD-13*	6-10	3.0	13	2 5/16	1.6	1.6	1.83
SSD-14*	6-10	5.0	13	2 5/16	2.0	2.0	3.75
SSD-15*	6-10	6.5	13	2 5/16	1.6	3.2	4.13
SSD-16*	6-10	10.0	13	2 5/16	2.0	4.0	5.00
SSD-17*	6-10	14.0	13	3⅞	3.2	4.0	5.75
SSD-18*	6-10	18.0	13	3⅞	4.0	4.0	6.00
SSD-19*	6-10	36.0	13	3⅞	4.0	8.0	10.28
SSD-20*	6-10	54.0	13	3⅞	4.0	12.0	15.44
SSD-21	6-20	0.6	26	2⅜	.7	.7	1.74
SSD-22	6-20	1.2	26	2⅜	.9	.9	1.85
SSD-23	6-20	2.2	26	2⅞	1.3	1.3	2.40
SSD-24	6-20	3.0	26	2 15/16	1.6	1.6	2.65
SSD-25	6-20	5.0	26	2 15/16	2.0	2.0	5.00
SSD-26	6-20	6.5	26	2 15/16	1.6	3.2	5.75
SSD-27	6-20	10.0	26	2 15/16	2.0	4.0	7.50
SSD-28	6-20	14.0	26	4 13/16	3.2	4.0	9.00
SSD-29	6-20	18.0	26	4 13/16	4.0	4.0	9.50
SSD-30	6-20	36.0	26	4 13/16	4.0	8.0	16.93
SSD-31	6-20	54.0	26	4 13/16	4.0	12.0	22.88
SSD-32	20-40	0.6	52	3 3/16	.7	.7	2.54
SSD-33	20-40	1.2	52	3 3/16	.9	.9	2.70
SSD-34	20-40	2.2	52	4⅛	1.3	1.3	3.80
SSD-35	20-40	3.0	52	4¼	1.6	1.6	4.30
SSD-36	20-40	5.0	52	4¼	2.0	2.0	7.50
SSD-37	20-40	6.5	52	4¼	1.6	3.2	9.00
SSD-38	20-40	10.0	52	4¼	2.0	4.0	12.50
SSD-39	20-40	14.0	52	6 13/16	3.2	4.0	15.50
SSD-40	20-40	18.0	52	6 13/16	4.0	4.0	16.50
SSD-41	20-40	36.0	52	6 13/16	4.0	8.0	30.23
SSD-42	20-40	54.0	52	6 13/16	4.0	12.0	42.00

S-T No.	DC Output† Volts	DC Output† Amps	Max AC Input Volts	Dimensions Stack Length	Dimensions Plate Height	Dimensions Plate Width	Net Each
SSD-43	40-60	0.6	78	4	.7	.7	3.34
SSD-44	40-60	1.2	78	4	.9	.9	3.55
SSD-45	40-60	2.2	78	5⅜	1.3	1.3	5.20
SSD-46	40-60	3.0	78	5½	1.6	1.6	5.95
SSD-47	40-60	5.0	78	5½	2.0	2.0	10.00
SSD-48	40-60	6.5	78	5½	3.2	1.6	12.31
SSD-49	40-60	10.0	78	5½	4.0	2.0	17.50
SSD-50	40-60	14.0	78	8 13/16	4.0	3.2	22.00
SSD-51	40-60	18.0	78	8 13/16	4.0	4.0	23.50
SSD-52	40-60	36.0	78	8 13/16	8.0	4.0	43.53
SSD-53	40-60	54.0	78	8 13/16	12.0	4.0	65.44
SSD-54	60-80	0.6	104	4¾	.7	.7	4.14
SSD-55	60-80	1.2	104	4¾	.9	.9	4.40
SSD-56	60-80	2.2	104	6⅝	1.3	1.3	6.60
SSD-57	60-80	3.0	104	6¾	1.6	1.6	7.60
SSD-58	60-80	5.0	104	6¾	2.0	2.0	12.50
SSD-59	60-80	6.5	104	6¾	3.2	1.6	15.50
SSD-60	60-80	10.0	104	6¾	4.0	2.0	22.50
SSD-61	60-80	14.0	104	10¾	4.0	3.2	28.50
SSD-62	60-80	18.0	104	10¾	4.0	4.0	30.50
SSD-63	60-80	36.0	104	10¾	8.0	4.0	56.83
SSD-64	60-80	54.0	104	10¾	12.0	4.0	85.44
SSD-65	80-100	0.6	130	5 5/16	.7	.7	4.94
SSD-66	80-100	1.2	130	5 5/16	.9	.9	5.25
SSD-67	80-100	2.2	130	7⅞	1.3	1.3	8.00
SSD-68	80-100	3.0	130	8	1.6	1.6	9.25
SSD-69	80-100	5.0	130	8	2.0	2.0	15.00
SSD-70	80-100	6.5	130	8	3.2	1.6	18.75
SSD-71	80-100	10.0	130	8	4.0	2.0	27.50
SSD-72	80-100	14.0	130	12¾	4.0	3.2	35.00
SSD-73	80-100	18.0	130	12¾	4.0	4.0	37.50
SSD-74	80-100	36.0	130	12¾	8.0	4.0	70.13
SSD-75	80-100	54.0	130	12¾	12.0	4.0	105.44

* Center-tap circuit; all others bridge circuit. † At 35°C ambient.

SARKES TARZIAN Silicon Regulators, Suppressors

SILICON ZENER VOLTAGE REGULATORS



One series covers many JEDEC types. Meet or exceed all JEDEC requirements. Tolerance ±5%; available in ±10% and ±20%. To order, add voltage and tolerance letter to S-T No. (i.e.: .25T5.6A).

S-T Series	Fig.	Tol. ±5%	Watts	Net Each, Lots of 1-24	25-99	100 Up
.25T	A	A	.25	$2.25	$1.93	$1.80
.4T	A	A, B	.4	2.50	2.15	2.00
1TA	B	A, B	1	1.67	1.43	1.33
10T	C	A, B	10	3.76	3.22	2.99

JEDEC NUMBERS AND VOLTAGES AVAILABLE

.25T (250 Mw)		.4T (400 Mw)		1TA Series (1 Watt)				10T Series (10 Watt)					
JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts	JEDEC No.	Zener Volts
1N708A	5.6	1N769A	23.5	1N3016B	6.8	1N1774A	13	1N1351A	10	1N1823A	27	1N2993B	43
1N709A	6.2	1N752A	5.6	1N3017B	7.5	1N1775A	15	1N1352A	11	1N1824A	30	1N2994B	45
1N710A	6.8	1N753A	6.2	1N3018B	8.2	1N1776A	16	1N1353A	12	1N1825A	33	1N2995B	47
1N711A	7.5	1N754A	6.8	1N3019B	9.1	1N1778A	20	1N1354A	13	1N1826A	36	1N2996B	50
1N712A	8.2	1N755A	7.5	1N3020B	10	1N1779A	22	1N1355A	15	1N1827A	39	1N2997B	51
1N713A	9.1	1N756A	8.2	1N3021B	11	1N1780A	24	1N1356A	16	1N1828A	43	1N2998B	52
1N714A	10	1N757A	9.1	1N3022B	12	1N1781A	27	1N1357A	18	1N1829A	47	1N2999B	56
1N715A	11	1N758A	10	1N3023B	13	1N1782A	30	1N1358A	20	1N1830A	51	1N3000B	62
1N716A	12	1N759A	12	1N3024B	15	1N1783A	33	1N1359A	22	1N1831A	56	1N3001B	68
1N717A	13	1N957B	6.8	1N3025B	16	1N1784A	36	1N1360A	24	1N1832A	62	1N3002B	75
1N718A	15	1N958B	7.5	1N3026B	18	1N1785A	39	1N1361A	27	1N1833A	68	1N3003B	82
1N719A	16	1N959B	8.2	1N3027B	20	1N1786A	43	1N1362A	30	1N1834A	75	1N3004B	91
1N720A	18	1N960B	9.1	1N3028B	22	1N1787A	47	1N1363A	33	1N1835A	82	1N3005B	100
1N721A	20	1N961B	10	1N3029B	24	1N1788A	51	1N1364A	36	1N1836A	91	1N3006B	105
1N722A	22	1N962B	11	1N3030B	27	1N1789A	56	1N1365A	39	1N2008A	100	1N3007B	110
1N723A	24	1N963B	12	1N3031B	30	1N1790A	62	1N1366A	43	1N2009A	110	1N3008B	120
1N724A	27	1N964B	13	1N3032B	33	1N1791A	68	1N1367A	47	1N2010A	120	1N3009B	130
1N725A	30	1N965B	15	1N3033B	36	1N1792A	75	1N1368A	51	1N2011A	130	1N3010B	140
1N726A	33	1N966B	16	1N3034B	39	1N1793A	82	1N1369A	56	1N2012A	150	1N3011B	150
1N727A	36	1N967B	18	1N3035B	43	1N1794A	91	1N1370A	62	1N2498A	10	1N3012B	160
1N728A	39	1N968B	20	1N3036B	47	1N1795A	100	1N1371A	68	1N2499A	11	1N3013B	175
1N729A	43	1N969B	22	1N3037B	51	1N1796A	110	1N1372A	75	1N2500A	12	1N3014B	180
1N730A	47	1N970B	24	1N3038B	56	1N1797A	120	1N1373A	82	1N2970B	6.8	1N3015B	200
1N731A	51	1N971B	27	1N3039B	62	1N1798A	130	1N1374A	91	1N2971B	7.5		
1N732A	56	1N972B	30	1N3040B	68	1N1799A	150	1N1375A	91	1N2972B	8.2		
1N733A	62	1N973B	33	1N3041B	75	1N1800A	160	1N1803A	5.6	1N2973B	9.1		
1N734A	68	1N974B	36	1N3042B	82	1N1801A	180	1N1804A	6.2	1N2974B	10		
1N735A	75	1N975B	39	1N3043B	91	1N1802A	200	1N1805A	6.8	1N2975B	11		
1N736A	82	1N976B	43	1N3044B	100			1N1806A	7.5	1N2976B	12		
1N737A	91	1N977B	47	1N3045B	110			1N1807A	8.2	1N2977B	13		
1N738A	100	1N978B	51	1N3046B	120			1N1808A	9.1	1N2978B	14		
1N739A	110	1N979B	56	1N3047B	130			1N1809A	110	1N2979B	15		
1N740A	120	1N980B	62	1N3048B	150			1N1810A	120	1N2980B	16		
1N741A	130	1N981B	68	1N3049B	160			1N1811A	130	1N2981B	17		
1N742A	150	1N982B	75	1N3050B	180			1N1812A	150	1N2982B	18		
1N743A	160	1N983B	82	1N3051B	200			1N1813A	160	1N2983B	19		
1N744A	180	1N984B	91	1N1765A	5.6			1N1814A	180	1N2984B	20		
1N745A	200	1N985B	100	1N1766A	6.2			1N1815A	200	1N2985B	22		
1N762A	5.8	1N986B	110	1N1767A	6.8			1N1816A	13	1N2986B	24		
1N763A	7.1	1N987B	120	1N1768A	7.5			1N1817A	15	1N2987B	25		
1N764A	8.8	1N988B	130	1N1769A	8.2			1N1818A	16	1N2988B	27		
1N765A	10.5	1N989B	150	1N1770A	9.1			1N1819A	18	1N2989B	30		
1N766A	12.8	1N990B	160	1N1771A	10			1N1820A	20	1N2990B	33		
1N767A	15.8	1N991B	180	1N1772A	11			1N1821A	22	1N2991B	36		
1N768A	19	1N992B	200	1N1773A	12			1N1822A	24	1N2992B	39		

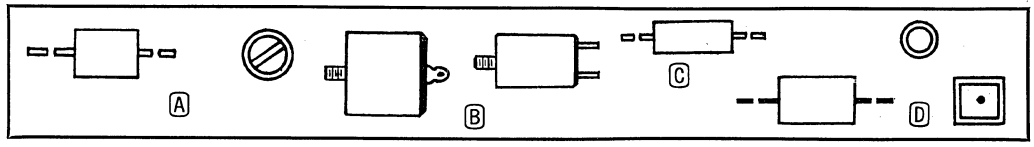
VR SERIES ECONOMY ZENER REGULATORS

One watt zener regulators in rugged plastic case, recommended for use in all ¼, 0.4, ½ and 1 watt applications. Add suffix A for ±5% tolerance, B for ±20% (±10% standard).

S-T No.	Zener Volts*	S-T No.	Zener Volts*	S-T No.	Zener Volts*	S-T No.	Zener Volts*	S-T No.	Zener Volts*
VR6	6	VR14	14	VR33	33	VR80	80	VR130	130
VR7	7	VR18	18	VR39	39	VR90	90	VR150	150
VR8.5	8.5	VR20	20	VR47	47	VR105	105	VR160	160
VR10	10	VR24	24	VR56	56	VR110	110	VR180	180
VR12	12	VR28	28	VR67	67	VR120	120	VR200	200

*Avalanche volts.

Pre-Fix	Tol.	Net Each, Lots of 1-24	25-99	100 Up
VR	±5	$.67	$.57	$.53
6-100 Volts	±10	.62	.53	.49
	±20	.58	.50	.47
101-200 Volts	±5	.87	.73	.69
	±10	.82	.70	.65
	±20	.78	.67	.62



KLIPVOLT TRANSIENT VOLTAGE SUPPRESSORS

Can handle transient peak voltages at least double steady state rating. Non-polarized, AC or DC; polarized, DC only. Higher voltage and 3-ph. models available. Figs. C and D are sealed types.

POLARIZED TYPE

A—Max. DC Blocking Volts, B—Max. Discharge Current (Amps), C—Min. DC Volts, D—Figure.

A	B	C	S-T No.	D	Net Each, Lots of 1-9	10-99	100 Up	S-T No.	D	Net Each, Lots of 1-9	10-99	100 Up
22	.250	15	S-235	A	$0.45	$0.33	$0.29	S-235C	C	$1.01	$0.73	$0.65
22	.850	15	S-236	B	.56	.40	.36	S-236C	D	1.87	1.35	1.20
44	.250	23	S-237	A	.49	.36	.31	S-237C	C	1.05	.76	.67
44	.850	23	S-238	B	.62	.45	.40	S-238C	D	1.94	1.40	1.24
66	.250	45	S-239	A	.56	.40	.36	S-239C	C	1.12	.81	.72
66	.850	45	S-240	B	.75	.54	.48	S-240C	D	2.06	1.48	1.32
88	.250	67	S-241	A	.60	.43	.38	S-241C	C	1.16	.82	.74
88	.850	67	S-242	B	.81	.58	.52	S-242C	D	2.12	1.53	1.36
110	.250	89	S-243	A	.64	.46	.41	S-243C	C	1.40	.89	.77
110	.850	89	S-244	B	.88	.63	.56	S-244C	D	2.19	1.57	1.40
132	.250	111	S-245	A	.67	.49	.43	S-245C	C	1.24	.90	.79
132	.850	111	S-246	B	.94	.68	.60	S-246C	D	2.25	1.62	1.44
154	.250	133	S-247	A	.71	.51	.46	S-247C	C	1.27	.92	.80
154	.850	133	S-248	B	1.00	.72	.64	S-248C	D	2.21	1.66	1.48

NON-POLARIZED TYPE

A—Max. rms Volts, B—Max. Discharge Current (Amps), C—Min. rms Volts, D—Figure.

S-T No.	A	B	C	D	Net Each, Lots of 1-9	10-99	100 Up
S-249	52	.200	27	A	$0.52	$0.38	$0.34
S-249C	52	.200	27	C	1.09	.78	.70
S-250	52	.700	27	B	.69	.50	.44
S-250C	52	.700	27	D	2.12	1.53	1.36
S-251	78	.200	53	A	.60	.43	.38
S-251C	78	.200	53	C	1.16	.82	.74
S-252	78	.700	53	B	.81	.58	.52
S-252C	78	.700	53	D	2.12	1.53	1.36
S-253	104	.200	79	A	.67	.49	.43
S-253C	104	.200	79	C	1.24	.89	.79

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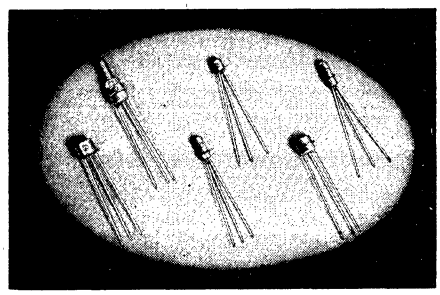
SPRAGUE SEMICONDUCTORS



GERMANIUM AND SILICON TRANSISTORS

- Sprague Transistors are Produced by Advanced Equipment and the Latest Manufacturing Techniques.
- Excellent Design Flexibility and Electrical Properties Meet the Most Rigid Performance and Reliability Standards.
- Highest Quality and Outstanding Economy.
- For Complete Technical Data, Refer to Latest Issue of the Applicable Engineering Bulletin.
- Call your Sprague Industrial Distributor for current quantity prices.

Type Number	Case Code	Description
2N128	TO-24	Ge Switch SBT
JAN-2N128	TO-24	Ge Switch SBT
2N231	TO-24	Ge Switch SBT
2N240	TO-24	Ge Switch SBT
JAN-2N240	TO-24	Ge Switch SBT
2N328A	TO-5	PNP Planar Alloy Replacement
JAN-2N328A	TO-5	PNP Planar Alloy Replacement
2N328B	TO-5	PNP Planar Alloy Replacement
2N329A	TO-5	PNP Planar Alloy Replacement
JAN-2N329A	TO-5	PNP Planar Alloy Replacement
2N329B	TO-5	PNP Planar Alloy Replacement
2N330A	TO-5	PNP Planar Alloy Replacement
2N344	TO-24	Ge Amplifier SBT
2N345	TO-24	Ge Amplifier SBT
2N346	TO-24	Ge Amplifier SBT
2N393	TO-24	Ge Switch MAT*
JAN-2N393	TO-24	MIL-S-19500/77B
2N495	TO-1	Si Switch SPAT*
2N496	TO-1	Si Switch SPAT
2N499	TO-1	Ge Amplifier MADT*
JAN-2N499	TO-1	Ge Amplifier MADT
2N499A	TO-1	Ge Amplifier MADT
JAN-2N499A	TO-1	Ge Amplifier MADT
2N501	TO-1	Ge Switch MADT
2N501A	TO-1	Ge Switch MADT
JAN-2N501A	TO-1	MIL-S-19500/62A
2N502	TO-9	Ge Amplifier MADT
2N502A	TO-9	Ge Amplifier MADT
JAN-2N502A	TO-9	Ge Amplifier MADT
2N502B	TO-9	Ge Amplifier MADT
JAN-2N502B	TO-9	Ge Amplifier MADT
2N503	TO-9	Ge Amplifier MADT
2N504	TO-1	Ge Amplifier MADT
2N588	TO-1	Ge Amplifier MADT
2N588A	TO-1	Ge Amplifier MADT
2N768	TO-18	Ge Switch MADT
2N769	TO-18	Ge Switch MADT
2N779A	TO-18	Ge Switch MADT
2N794	TO-18	Ge Switch ECDC®
2N795	TO-18	Ge Switch ECDC
2N796	TO-18	Ge Switch ECDC
2N846A	TO-18	Ge Switch ECDC
2N858	TO-18	Si Switch SPAT
2N859	TO-18	Si Switch SPAT
2N860	TO-18	Si Switch SPAT
2N861	TO-18	Si Switch SPAT
2N862	TO-18	Si Switch SPAT
2N863	TO-18	Si Switch SPAT
2N864	TO-18	Si Switch SPAT
2N865	TO-18	Si Switch SPAT
2N924	TO-18	PNP Planar Alloy Replacement
2N926	TO-18	PNP Planar Alloy Replacement
2N936	TO-18	PNP Planar Alloy Replacement
2N937	TO-18	PNP Planar Alloy Replacement
2N939	TO-18	PNP Planar Alloy Replacement
2N940	TO-18	PNP Planar Alloy Replacement
2N941	TO-18	PNP Planar Alloy Replacement
2N942	TO-18	PNP Planar Alloy Replacement
2N943	TO-18	PNP Planar Alloy Replacement
2N944	TO-18	PNP Planar Alloy Replacement
2N945	TO-18	PNP Planar Alloy Replacement
2N976	TO-18	Ge Switch MADT
2N979	TO-18	Ge Switch MADT
2N980	TO-18	Ge Switch MADT
2N982	TO-18	Ge Switch MADT
2N983	TO-18	Ge Switch MADT
2N984	TO-18	Ge Switch MADT
2N997	TO-18	NPN Si Darlington Amp.
2N1024	TO-5	PNP Planar Alloy Replacement
2N1026	TO-5	PNP Planar Alloy Replacement
JAN-2N1026**	TO-5	PNP Planar Alloy Replacement
2N1027	TO-5	PNP Planar Alloy Replacement
2N1028	TO-5	PNP Planar Alloy Replacement
2N1035	TO-5	PNP Planar Alloy Replacement
2N1036	TO-5	PNP Planar Alloy Replacement
2N1037	TO-5	PNP Planar Alloy Replacement
2N1118	TO-5	Si Ampl. SPAT
JAN-2N1118	TO-5	MIL-S-19500/138B
2N1118A	TO-5	Si Ampl. SPAT
2N1119	TO-5	Si Switch SPAT
JAN-2N1119	TO-5	MIL-S-19500/139B
2N1122	TO-24	Ge Switch MAT
2N1122A	TO-24	Ge Switch MAT
2N1219	TO-5	PNP Planar Alloy Replacement
2N1220	TO-5	PNP Planar Alloy Replacement
2N1221	TO-5	PNP Planar Alloy Replacement
2N1222	TO-5	PNP Planar Alloy Replacement
2N1223	TO-5	PNP Planar Alloy Replacement
2N1300	TO-5	Ge Switch ECDC
2N1301	TO-5	Ge Switch ECDC
2N1411	TO-24	Ge Switch MAT
JAN-2N1411	TO-24	Ge Switch MAT
2N1427	TO-24	Ge Switch MAT
2N1429	TO-5	Si Switch SPAT
2N1469	TO-5	PNP Planar Alloy Replacement
JAN-2N1469**	TO-5	PNP Planar Alloy Replacement
2N1474	TO-5	PNP Planar Alloy Replacement
2N1475	TO-5	PNP Planar Alloy Replacement
2N1499A	TO-9	Ge Switch ECDC
JAN-2N1499A	TO-9	Ge Switch ECDC
2N1499B	TO-9	Ge Switch ECDC
2N1500	TO-9	Ge Switch MADT
JAN-2N1500	TO-9	Ge Switch MADT
2N1623	TO-5	PNP Planar Alloy Replacement
2N1676	TO-5	Si Chopper SPAT
2N1677	TO-5	Si Chopper SPAT
2N1683	TO-5	ECDC Switch
2N1726	TO-9	MADT Communication
2N1727	TO-9	MADT Communication
2N1728	TO-9	MADT Communication
2N1742	TO-9	MADT Communication
2N1743	TO-9	MADT Communication
2N1744	TO-9	MADT Communication
2N1745	TO-9	MADT Amplifier
2N1746	TO-9	MADT Amplifier
2N1747	TO-9	MADT Amplifier
2N1748	TO-9	MADT Amplifier
2N1748A	TO-9	MADT Amplifier
2N1749	TO-9	MADT Amplifier
2N1752	TO-9	MADT Amplifier
2N1754	TO-9	ECDC Switch
2N1785	TO-9	MADT Ampifier
2N1786	TO-9	MADT Ampifier
2N1787	TO-9	MADT Ampifier
2N1788	TO-9	MADT Ampifier
2N1789	TO-9	MADT Communication
2N1790	TO-9	MADT Communication
2N1864	TO-9	MADT Communication
2N1865	TO-9	MADT Communication
2N1866	TO-9	MADT Communication
2N1867	TO-9	MADT Communication
2N1868	TO-9	MADT Communication
2N1917	TO-5	PNP Planar Alloy Replacement
2N1918	TO-5	PNP Planar Alloy Replacement
2N1919	TO-5	PNP Planar Alloy Replacement
2N1920	TO-5	PNP Planar Alloy Replacement
2N1921	TO-5	PNP Planar Alloy Replacement

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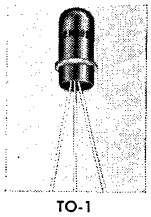
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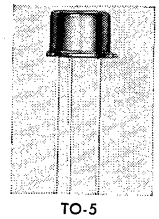
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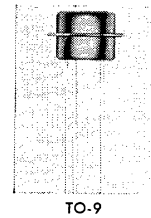
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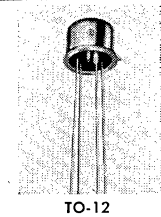
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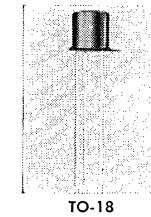
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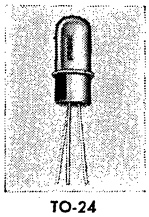
SPRAGUE SEMICONDUCTORS

SEMICONDUCTORS, continued

Type Number	Case Code	Description
2N2002	TO-5	PNP Planar Alloy Replacement
2N2003	TO-5	PNP Planar Alloy Replacement
2N2004	TO-5	PNP Planar Alloy Replacement
2N2005	TO-5	PNP Planar Alloy Replacement
2N2006	TO-5	PNP Planar Alloy Replacement
2N2007	TO-5	PNP Planar Alloy Replacement
2N2048	TO-9	ECDC Switch
2N2162	TO-5	Si Chopper SPAT
2N2163	TO-5	Si Chopper SPAT
2N2164	TO-5	Si Chopper SPAT
2N2165	TO-5	Si Chopper SPAT
2N2166	TO-5	Si Chopper SPAT
2N2167	TO-5	Si Chopper SPAT
2N2168	TO-9	Ge Switch MADT
2N2169	TO-9	Ge Switch MADT
2N2170	TO-9	Ge Switch MADT
2N2175	TO-5	PNP Planar Alloy Replacement
2N2176	TO-18	PNP Planar Alloy Replacement
2N2177	TO-5	PNP Planar Alloy Replacement
2N2178	TO-18	PNP Planar Alloy Replacement
2N2185	TO-18	Si Chopper SPAT
2N2186	TO-18	Si Matched Pair SPAT
2N2187	TO-18	Si Matched Pair SPAT
2N2217	TO-5	NPN Si Switch SEPT
2N2218	TO-5	NPN Si Switch SEPT
2N2218A	TO-5	NPN Si Switch SEPT
2N2219	TO-5	NPN Si Switch SEPT
2N2219A	TO-5	NPN Si Switch SEPT
2N2220	TO-18	NPN Si Switch SEPT
2N2221	TO-18	NPN Si Switch SEPT
JAN-2N2221	TO-18	MIL-S-19500/225D
JAN-TX2N2221	TO-18	MIL-S-19500/255
2N2221A	TO-18	NPN Si Switch SEPT
JAN-2N2221A	TO-18	MIL-S-19500/255D
JAN-TX2N2221A	TO-18	MIL-S-19500/255
2N2222	TO-18	NPN Si Switch SEPT
JAN-2N2222	TO-18	MIL-S-19500/225D
JAN-TX2N2222	TO-18	MIL-S-19500/255
2N2222A	TO-18	NPN Si Switch SEPT
JAN-2N2222A	TO-18	MIL-S-19500/255D
JAN-TX2N2222A	TO-18	MIL-S-19500/255
2N2274	TO-18	Si Chopper SPAT
2N2275	TO-18	Si Matched Pair SPAT
2N2276	TO-18	Si Chopper SPAT
2N2277	TO-18	Si Matched Pair SPAT
2N2278	TO-18	Si Chopper SPAT
2N2279	TO-18	Si Matched Pair SPAT
2N2280	TO-18	Si Chopper SPAT
2N2281	TO-18	Si Matched Pair SPAT
2N2330	TO-5	NPN Si Chopper SEPT
2N2331	TO-18	NPN Si Chopper SEPT
2N2332	TO-18	PNP Planar Alloy Replacement
2N2333	TO-18	PNP Planar Alloy Replacement
2N2334	TO-18	PNP Planar Alloy Replacement
2N2335	TO-18	PNP Planar Alloy Replacement
2N2336	TO-18	PNP Planar Alloy Replacement
2N2337	TO-18	PNP Planar Alloy Replacement
2N2360	TO-12	Ge Amplifier MADT
2N2361	TO-12	Ge Amplifier MADT
2N2362	TO-12	Ge Amplifier MADT
2N2370	TO-5	PNP Planar Alloy Replacement
2N2371	TO-5	PNP Planar Alloy Replacement
2N2372	TO-18	PNP Planar Alloy Replacement
2N2373	TO-18	PNP Planar Alloy Replacement
2N2377	TO-18	Si Amplifier SPAT
JAN-2N2377	TO-18	Si Amplifier SPAT
2N2378	TO-18	Si Switch SPAT
JAN-2N2378	TO-18	Si Switch SPAT
2N2398	TO-12	Ge Amplifier MADT
2N2399	TO-12	Ge Amplifier MADT
2N2400	TO-18	Ge Switch ECDC
2N2401	TO-18	Ge Switch ECDC
2N2402	TO-18	Ge Switch ECDC
2N2451	TO-24	Ge Switch MAT
2N2453	TO-5	NPN Si Diff. Amp.
2N2476	TO-5	NPN Si Switch SEPT
2N2477	TO-18	NPN Si Switch SEPT
2N2480	TO-5	NPN Si Diff. Amp.
2N2487	TO-18	Ge Switch MADT
2N2488	TO-18	Ge Switch MADT
2N2489	TO-18	Ge Switch MADT
2N2537	TO-5	NPN Si Switch SEPT
2N2538	TO-5	NPN Si Switch SEPT
2N2539	TO-18	NPN Si Switch SEPT
2N2540	TO-18	NPN Si Switch SEPT
2N2795	TO-18	Ge Switch ECDC
2N2796	TO-18	Ge Switch ECDC
2N2845	TO-5	NPN Si Switch SEPT
2N2846	TO-18	NPN Si Switch SEPT
2N2847	TO-5	NPN Si Switch SEPT
2N2848	TO-18	NPN Si Switch SEPT
2N2904	TO-5	PNP Si Switch SEPT
2N2904A	TO-5	PNP Si Switch SEPT
2N2905	TO-5	PNP Si Switch SEPT
2N2905A	TO-5	PNP Si Switch SEPT
2N2906	TO-18	PNP Si Switch SEPT
2N2906A	TO-18	PNP Si Switch SEPT
2N2907	TO-18	PNP Si Switch SEPT
2N2907A	TO-18	PNP Si Switch SEPT
2N2944	TO-46	PNP SEPT Switch, Amp., Chopper
2N2945	TO-46	PNP SEPT Switch, Amp., Chopper
2N2946	TO-46	PNP SEPT Switch, Amp., Chopper
2N2951	TO-5	NPN Si Amplifier SEPT
2N2952	TO-18	NPN Si Amplifier SEPT
2N2958	TO-5	NPN Si Switch SEPT
2N2959	TO-5	NPN Si Switch SEPT
2N2968	TO-5	Si Symmetrical SPAT
2N2969	TO-18	Si Symmetrical SPAT
2N2970	TO-5	Si Symmetrical SPAT
2N2971	TO-18	Si Symmetrical SPAT
2N3058	TO-46	PNP Si Amplifier SEPT
2N3059	TO-46	PNP Si Amplifier SEPT
2N3060	TO-46	PNP Si Amplifier SEPT
2N3061	TO-46	PNP Si Amplifier SEPT
2N3115	TO-18	NPN Si Switch SEPT
2N3116	TO-18	NPN Si Switch SEPT
2N3133	TO-5	PNP Si Switch SEPT
2N3134	TO-5	PNP Si Switch SEPT
2N3135	TO-18	PNP Si Switch SEPT
2N3136	TO-18	PNP Si Switch SEPT
2N3217	TO-46	PNP Si Switch, Amplifier, Chopper SEPT
2N3218	TO-46	PNP Si Switch, Amplifier, Chopper SEPT
2N3219	TO-46	PNP Si Switch, Amplifier, Chopper SEPT
2N3317	TO-18	Si Chopper SPAT
2N3318	TO-18	Si Chopper SPAT
2N3319	TO-18	Si Chopper SPAT
2N3320	TO-18	Ge Switch MADT
2N3321	TO-18	Ge Switch MADT
2N3322	TO-18	Ge Switch MADT
2N3342	TO-5	PNP Planar Alloy Replacement
2N3343	TO-5	PNP Planar Alloy Replacement
2N3344	TO-5	PNP Planar Alloy Replacement
2N3345	TO-5	PNP Planar Alloy Replacement
2N3346	TO-5	PNP Planar Alloy Replacement
2N3840	TO-46	PNP Si Switch, Amp., Chopper
2N3977	TO-46	PNP Si Switch, Amp., Chopper
2N3978	TO-46	PNP Si Switch, Amp., Chopper
2N3979	TO-46	PNP Si Switch, Amp., Chopper
2N4383	TO-5	NPN Si SEPT Low-Level Amplifier
2N4384	TO-18	NPN Si SEPT Low-Level Amplifier
2N4385	TO-5	NPN Si SEPT Low-Level Amplifier
2N4386	TO-18	NPN Si SEPT Low-Level Amplifier
2N4412	TO-5	PNP Si SEPT Low-Level Amplifier
2N4412A	TO-5	PNP Si SEPT Low-Level Amplifier
2N4413	TO-18	PNP Si SEPT Low-Level Amplifier
2N4413A	TO-18	PNP Si SEPT Low-Level Amplifier
2N4414	TO-5	PNP Si SEPT Low-Level Amplifier
2N4414A	TO-5	PNP Si SEPT Low-Level Amplifier
2N4415	TO-18	PNP Si SEPT Low-Level Amplifier
2N4415A	TO-18	PNP Si SEPT Low-Level Amplifier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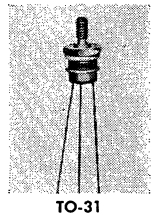
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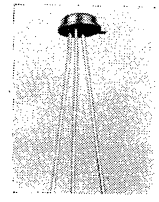
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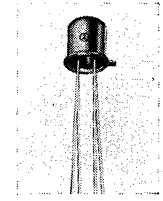
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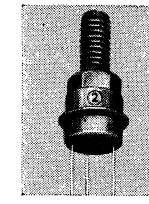
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SPRAGUE SEMICONDUCTORS

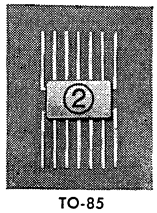
SEMICONDUCTORS, continued

Type Number	Case Code	Description
3N90	TO-18	PNP Si Dual Emitter Chopper DUET
3N91	TO-18	PNP Si Dual Emitter Chopper DUET
3N92	TO-18	PNP Si Dual Emitter Chopper DUET
3N93	TO-18	PNP Si Dual Emitter Chopper DUET
3N94	TO-18	PNP Si Dual Emitter Chopper DUET
3N95	TO-18	PNP Si Dual Emitter Chopper DUET
3N100	TO-72	PNP Si Dual Emitter Chopper DUET
3N101	TO-72	PNP Si Dual Emitter Chopper DUET
3N102	TO-72	PNP Si Dual Emitter Chopper DUET
3N103	TO-72	PNP Si Dual Emitter Chopper DUET
3N104	TO-72	PNP Si Dual Emitter Chopper DUET
3N105	TO-72	PNP Si Dual Emitter Chopper DUET
3N106	TO-72	PNP Si Dual Emitter Chopper DUET
3N107	TO-72	PNP Si Dual Emitter Chopper DUET
3N108	TO-72	PNP Si Dual Emitter Chopper DUET
3N109	TO-72	PNP Si Dual Emitter Chopper DUET
3N110	TO-72	PNP Si Dual Emitter Chopper DUET
3N111	TO-72	PNP Si Dual Emitter Chopper DUET
3N114	TO-72	PNP Si Dual Emitter Chopper DUET
3N115	TO-72	PNP Si Dual Emitter Chopper DUET
3N116	TO-72	PNP Si Dual Emitter Chopper DUET
3N117	TO-72	PNP Si Dual Emitter Chopper DUET
3N118	TO-72	PNP Si Dual Emitter Chopper DUET
3N119	TO-72	PNP Si Dual Emitter Chopper DUET
3N123	TO-72	PNP Si Dual Emitter Chopper DUET
MA-95	TO-24	Ge Switch MAT
MA-96	TO-24	Ge Switch MAT
MA-97	TO-24	Ge Switch MAT
SA-310	TO-5	Si Symmetrical SPAT
SA-311	TO-5	Si Symmetrical SPAT
SA-312	TO-5	Si Symmetrical SPAT
SA-313	TO-5	Si Symmetrical SPAT
SA-314	TO-5	Si Symmetrical SPAT
SA-315	TO-5	Si Symmetrical SPAT
SA-316	TO-5	Si Symmetrical SPAT
SA-410	TO-18	Si Symmetrical SPAT
SA-411	TO-18	Si Symmetrical SPAT
SA-412	TO-18	Si Symmetrical SPAT
SA-413	TO-18	Si Symmetrical SPAT
SA-414	TO-18	Si Symmetrical SPAT
SA-415	TO-18	Si Symmetrical SPAT
SA-416	TO-18	Si Symmetrical SPAT
TN-53	TO-5	NPN Si Switch, Amp. SEPT
TN-54	TO-18	NPN Si Switch, Amp. SEPT
TN-59	TO-5	NPN Si Switch, Amp. SEPT
TN-60	TO-18	NPN Si Switch, Amp. SEPT
TN-61	TO-5	NPN Si Switch, Amp. SEPT
TN-62	TO-18	NPN Si Switch, Amp. SEPT
TN-63	TO-5	NPN Si Switch, Amp. SEPT
TN-64	TO-18	NPN Si Switch, Amp. SEPT
TN-79	TO-5	NPN Si SEPT Chopper
TN-80	TO-18	NPN Si SEPT Chopper
TN-81	TO-5	NPN Si SEPT Switch
TN-237	TO-5	NPN Si SEPT Core Driver
TN-238	TO-18	NPN Si SEPT Core Driver
TQ-53	TO-5	PNP Si SEPT
TQ-53A	TO-5	PNP Si SEPT
TQ-54	TO-18	PNP Si SEPT
TQ-54A	TO-18	PNP Si SEPT
TQ-59	TO-5	PNP Si Switch, Amp. SEPT
TQ-59A	TO-5	PNP Si SEPT
TQ-60	TO-18	PNP Si Switch, Amp. SEPT
TQ-60A	TO-18	PNP Si SEPT
TQ-61	TO-5	PNP Si Switch, Amp. SEPT
TQ-61A	TO-5	PNP Si SEPT
TQ-62	TO-18	PNP Si Switch, Amp. SEPT
TQ-62A	TO-18	PNP Si SEPT
TQ-63	TO-5	PNP Si Switch, Amp. SEPT
TQ-63A	TO-5	PNP Si SEPT
TQ-64	TO-18	PNP Si Switch, Amp. SEPT
TQ-64A	TO-18	PNP Si SEPT
TW-135	TO-18	NPN Si SEPT Switch
UD-3005	TO-85	NPN QUAD
UD-3006	TO-85	PNP QUAD
UD-3007	TO-85	NPN/PNP Complementary Pair

ECONOLINE MOLDED PLASTIC SILICON PLANAR TRANSISTORS

Type Number	Case Code	Description
2N2711	TO-98	NPN Epoxy
2N2712	TO-98	NPN Epoxy
2N2713	TO-98	NPN Epoxy
2N2714	TO-98	NPN Epoxy
2N2723	TO-98	NPN Epoxy
2N2923	TO-98	NPN Epoxy
2N2924	TO-98	NPN Epoxy
2N2925	TO-98	NPN Epoxy
2N2926	TO-98	NPN Epoxy
2N3391	TO-98	NPN Epoxy
2N3391A	TO-98	NPN Epoxy
2N3392	TO-98	NPN Epoxy
2N3393	TO-98	NPN Epoxy
2N3394	TO-98	NPN Epoxy
2N3395	TO-98	NPN Epoxy
2N3396	TO-98	NPN Epoxy
2N3397	TO-98	NPN Epoxy
2N3398	TO-98	NPN Epoxy
2N3402	*TO-98	NPN Epoxy
2N3403	*TO-98	NPN Epoxy
2N3404	*TO-98	NPN Epoxy
2N3405	*TO-98	NPN Epoxy
2N3414	TO-98	NPN Epoxy
2N3415	TO-98	NPN Epoxy
2N3416	TO-98	NPN Epoxy
2N3417	TO-98	NPN Epoxy
2N3721	TO-98	NPN Epoxy
2N3843	TO-98	NPN Epoxy
2N3843A	TO-98	NPN Epoxy
2N3844	TO-98	NPN Epoxy
2N3844A	TO-98	NPN Epoxy
2N3845	TO-98	NPN Epoxy
2N3845A	TO-98	NPN Epoxy
2N3854	TO-98	NPN Epoxy
2N3854A	TO-98	NPN Epoxy
2N3855	TO-98	NPN Epoxy
2N3855A	TO-98	NPN Epoxy
2N3856	TO-98	NPN Epoxy
2N3856A	TO-98	NPN Epoxy
2N3858	TO-98	NPN Epoxy
2N3858A	TO-98	NPN Epoxy
2N3859	TO-98	NPN Epoxy
2N3859A	TO-98	NPN Epoxy
2N3860	TO-98	NPN Epoxy
2N3877	TO-98	NPN Epoxy
2N3877A	TO-98	NPN Epoxy
2N3900	TO-98	NPN Epoxy
2N3900A	TO-98	NPN Epoxy
2N3901	TO-98	NPN Epoxy
2N3975	TO-98	NPN Epoxy
2N3976	TO-98	NPN Epoxy
2N4256	TO-98	NPN Epoxy
2N4424	TO-98	NPN Epoxy
2N4425	TO-98	NPN Epoxy
2N4951	TO-98	NPN Epoxy
2N4952	TO-98	NPN Epoxy
2N4953	TO-98	NPN Epoxy
2N4954	TO-98	NPN Epoxy
2N5027	TO-98	NPN Epoxy
2N5028	TO-98	NPN Epoxy
2N5172	TO-98	NPN Epoxy
2N5232	TO-98	NPN Epoxy
2N5232A	TO-98	NPN Epoxy
2N5368	BR	NPN Epoxy
2N5369	BR	NPN Epoxy
2N5370	BR	NPN Epoxy
2N5371	BR	NPN Epoxy
2N5372	BR	PNP Epoxy
2N5373	BR	PNP Epoxy
2N5374	BR	PNP Epoxy
2N5375	BR	PNP Epoxy
2N5376	BR	NPN Epoxy
2N5377	BR	NPN Epoxy
2N5378	BR	PNP Epoxy
2N5379	BR	PNP Epoxy
2N5380	BR	NPN Epoxy
2N5381	BR	NPN Epoxy
2N5382	BR	PNP Epoxy
2N5383	BR	PNP Epoxy
D29A4	TO-98	PNP Epoxy
D29A5	TO-98	PNP Epoxy
TD-100	BP	NPN/NPN Differential Amplifiers
TD-101	BP	NPN/NPN Differential Amplifiers
TD-102	BP	NPN/NPN Dual Transistors
TD-400	BP	PNP/PNP Differential Amplifiers
TD-401	BP	PNP/PNP Differential Amplifiers
TD-402	BP	PNP/PNP Dual Transistors
TD-600	BP	NPN/PNP Complementary Pair
TD-601	BP	NPN/PNP Complementary Pair
TD-2219	BP	NPN/NPN Dual Transistors
TD-2905	BP	PNP/PNP Dual Transistors
TP-3638	TO-18	PNP Epoxy
TP-3638A	TO-18	PNP Epoxy
TP-4274	TO-18	NPN Epoxy
TP-4275	TO-18	NPN Epoxy

*with heat sink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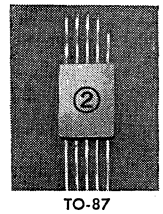
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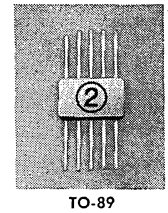
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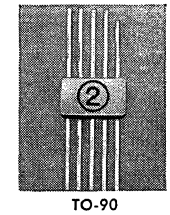
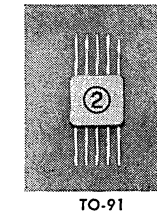

TO-90


TO-91

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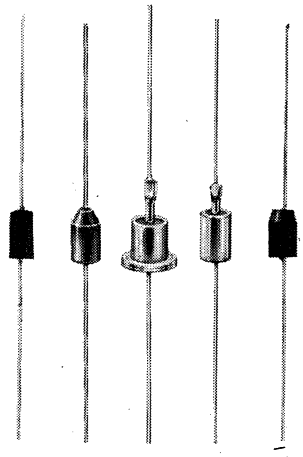
RECTIFIERS

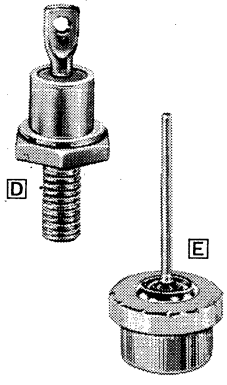
are grouped by half wave average current ratings. Ratings shown apply at case temperatures indicated. All surge ratings are peak one-half cycle currents at 60 cps. Surge ratings apply from full load. Voltage ratings shown are repetitive peak reverse maximum values. Most units have somewhat higher transient ratings. Reverse polarity JEDEC types are designated "'R". On non-JEDEC types, the second listing designates reverse polarity where available.

LOW POWER



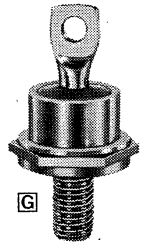
	AA 1.5 AMPS	A 1.5 AMPS	B .75 AMPS	B 1.6 AMPS	C 1.0 AMPS	EF 3.0 AMPS
	@ 40°C Amb. 50A surge	@ 40°C Amb. 50A surge	@ 50°C Amb. *35°C, †30°C •.6A @ 30°C 15A surge	@ 140°C case 25A surge	50°C Amb. 35A surge T_{rr} = 100ns	@ 50°C Amb. 200A surge
Ⓦ Type		359	380	380	388	
VOLTS						
50	1N5390	1N4816	1N536	1N1217B	388A	1N5400
100	1N5391	1N4817	1N537	1N1218B	388B	1N5401
150	1N5392	.....	.....	1N1219B	388C	1N5402
200	1N5393	1N4818	1N538	1N1220B	388D	1N5403
300	1N5394	1N4819	1N539	1N1221B	388F	1N5404
400	1N5395	1N4820	1N540	1N1222B	388H	1N5405
500	1N5396	1N4821	*1N1095	1N1223B	388K	1N5406
600	1N5397	1N4822	†1N1096	1N1224B	388M	1N5407
600	.....	.....	1N547	.....		.....
700	1N5398	1N5052	.....	1N1225B		1N5408
800	1N5399	1N5053	•1N560	1N1226B		1N5409
1000	1N5400	1N5054	•1N561	1N1443B		1N5410
DATA SHEET REFERENCE	T.D. 54-171 pg. 1-2	T.D. 54-161 pg. 3-4	T.D. 54-161 pg. 5-6	T.D. 54-161 pg. 1-2	T.D. 54-161 pg. 9-10	T.D. 54-171 pg. 3-4

MEDIUM POWER



	D 5 AMPS	D 6 AMPS	D 12 AMPS	D 15 AMPS	E 15 AMPS
@ T_{cas} I_{surge}	150°C 25A	150°C 150A	150°C 240A	125°C 200A	150°C 250A
Ⓦ Type	.....	441, 446	404, 437	368	703
VOLTS					
50	1N1612	1N1341A, AR	1N1199A, B, AR, BR	368A	703A, AR
100	1N1613	1N1342A, AR	1N1200A, B, AR, BR	368B	703B, BR
150	.....	1N1343A, AR	1N1201A, B, AR, BR	368C	703C, CR
200	**1N1614**	1N1344A, AR	**1N1202A**, B, AR, BR	368D	703D, DR
300	.....	1N1345A, AR	1N1203A, B, AR, BR	368F	703F, FR
400	**1N1615**	1N1346A, AR	**1N1204A**, B, AR, BR	368H	.....
500	.....	1N1347A, AR	1N1205A, B, AR, BR	368K	.....
600	**1N1616**	1N1348A, AR	**1N1206A**, B, AR, BR	368M	.....
700	.....	1N3987, R, AR	1N3670, R, AR	.....	.....
800	.....	1N3988, R, AR	1N3671, R, AR	.....	.....
900	.....	1N3989, R, AR	1N3762, R, AR	.....	.....
1000	.....	1N3990, R, AR	1N3673, R, AR	.....	.....
DATA SHEET REFENCE	....	T.D. 54-162 pg. 9-10	T.D. 54-162 pg. 11-12	T.D. 54-172 pg. 5-6	T.D. 54-163 pg. 5-6

MEDIUM POWER



	G 18 AMPS	G 20 AMPS	G 25 AMPS	G 35 AMPS	G 40 AMPS	G 70 AMPS
@ T_{case} I_{surge}	145°C 220A	150°C 250A	150°C 400A	140°C 500A	150°C 1000A	100°C 1000A
Ⓦ Type	303,336	.....	.....	302, 335	402, 435	416
VOLTS						
50	1N1191, R	1N248, A, B	1N2154, R	1N1183, R	1N1183A, AR	416A, AR
100	1N1192, R	**1N249, A, B**	1N2155, R	**1N1184, R**	1N1184A, AR	416B, BR
150	1N1193, R	.....	.....	1N1185, R	1N1185A, AR	416C, CR
200	1N1194, R	**1N250, A, B**	1N2156, R	**1N1186, R**	1N1186A, AR	1N4136, R
300	1N1195, R	.....	1N2157, R	1N1187, R	1N1187A, AR	416F, FR
400	1N1196, R	**1N2135A**	1N2158, R	**1N1188, R**	1N1188A, AR	1N4137, R
500	1N1197, R	.....	1N2159, R	1N1189, R	1N1189A, AR	416K, KR
600	**1N1198, R**	.....	1N2160, R	**1N1190, R**	1N1190A, AR	1N4138, R
700	.....	.....	.....	.....	1N3765	416P, PR
800	.....	.....	.....	.....	1N3766	416S, SR
900	.....	.....	.....	.....	1N3767	416V, VR
1000	.....	.....	.....	.....	1N3768	416Z, ZR
DATA SHEET REFERENCE	T.D. 54-163 pg. 1-2	....	....	T.D. 54-164 pg. 1-2	T.D. 54-164 pg. 3-4	....

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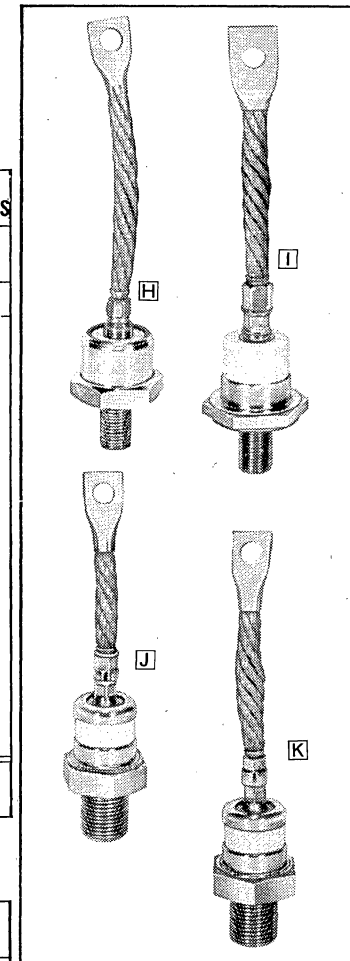
RECTIFIERS continued

HIGH POWER

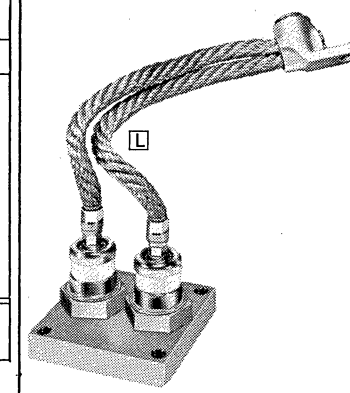
	H 70 AMPS	I 100 AMPS	I 125 AMPS	I 150 AMPS	J 160 AMPS	K 240 AMPS	275 AMPS	L 500 AMPS
@ T_{case} I_{surge}	150°C 1200A	130°C 2300A	130°C 3000A	110°C 3000A	125°C 2000A	125°C 3000A	120°C 5000A	120°C 9000A
Ⓦ Type	300	400	400	400	429	439	710	551
VOLTS								
50	1N1396	.....	400A, 401A	.....	1N3260, R	1N3161, R	1N4044, R	551A
100	1N1397	1N3288, AR	400B, 401B	1N4587	1N3261, R	1N3162, R	1N4045, R	551B
150	1N1398	.....	400C, 401C	.....	1N3262, R	1N3163, R	1N4046, R	551C
200	1N1399	**1N3289,** AR	400D, 401D	1N4588	**1N3263,** R	**1N3164,** R	1N4047, R	551D
250	.....	.....	.....	.....	1N3264, R	1N3165, R	1N4048, R	.....
300	1N1400	1N3290, AR	400F, 401F	1N4589	1N3265, R	1N3166, R	1N4049, R	551F
350	.....	.....	.....	.....	1N3266, R	1N3167, R	.....	.....
400	1N1401	**1N3291,** AR	400H, 401H	1N4590	**1N3267,** R	**1N3168,** R	1N4050, R	551H
500	1N1402	1N3292, AR	400K, 401K	1N4591	1N3268, R	1N3169, R	1N4051, R	551K
600	1N1403	**1N3293,** AR	400M, 401M	1N4592	**1N3269,** R	**1N3170,** R	1N4052, R	551M
700	.....	.....	400P, 401P	.....	1N3270, R	1N3171A, AR	1N4053, R	551P
800	.....	**1N3294,** AR	400S, 401S	1N4593	1N3271, R	1N3172A, AR	1N4054, R	551S
900	.....	.....	400V, 401V	.....	1N3272, R	1N3173A, AR	1N4055, R	551V
1000	.....	1N3295, AR	400Z, 401Z	1N4594	1N3273, R	1N3174A, AR	1N4056, R	551Z
1200	.....	3296	.....	1N4595	1N3274, R	.....	.....	.....
1400	.....	3297	.....	1N4596	1N3275, R	.....	.....	.....
1600	.....	.....	.....	.....	1N3276, R	.....	.....	.....
DATA SHEET REFERENCE	T.D. 54-165 pg. 1-2	T.D. 54-166 pg. 1-2	T.D. 54-166 pg. 1-2	T.D. 54-166 pg. 3-4	T.D. 54-167 pg. 1-2	T.D. 54-168 pg. 5-8	T.D. 54-168 pg. 1-2	.....

*240A @ 100°C



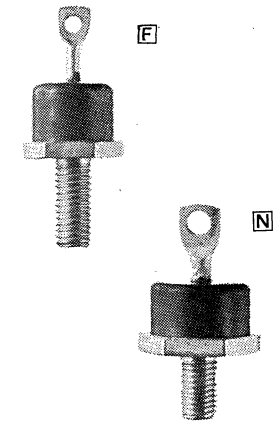
HIGH SPEED

	6 AMPS	D 6 AMPS	D 12 AMPS	12 AMPS	20 AMPS	35 AMPS
@ T_{case} I_{surge} **RECOVERY TIME**	125°C 150A 100 ns	140°C 200A 200 ns	140°C 300A 200 ns	130°C 200A 100 ns	100°C 300A 200 ns	100°C 500A 200 ns
Ⓦ Type	3781	478	479	3791	425	424
VOLTS						
50	3781A	1N3879	IN3889	3791A	1N3899, R	1N3909, R
100	3781B	1N3880	IN3890	3791B	1N3900, R	1N3910, R
150	3781C	478C	479C	3791C	425C, R	424C, R
200	3781D	1N3881	1N3891	3791D	1N3901, R	1N3911, R
300	3781F	1N3882	1N3892	3791F	1N3902, R	1N3912, R
400	3781N	1N3883	1N3893	3791N	1N3903, R	1N3913, R
500	.....	478K	479K	.....	425K, R	424K, R
600	.....	478M	479M	.....	425M, R	424M, R
DATA SHEET REFERENCE	T.D. 54-162 pg. 23-24	T.D. 54-162 pg. 21-22	T.D. 54-162 pg. 19-20	T.D. 54-162 pg. 17-18	T.D. 54-164 pg. 9-10	T.D. 54-164 pg. 7-8



LOW COST PLASTIC ENCAPSULATED

	F 5 AMPS	F 10 AMPS	F 15 AMPS	N 20 AMPS	N 25 AMPS	N 40 AMPS
@ T_{case} I_{surge}	150°C 125A	150°C 175A	125°C 250A	150°C 350A	145°C 400A	120°C 500A
Ⓦ Type	407	408	409	417	418	419
VOLTS						
50	407A, R	408A, R	409A, R	417A, R	418A, R	419A, R
100	407B, R	408B, R	409B, R	417B, R	418B, R	419B, R
150	407C, R	408C, R	409C, R	417C, R	418C, R	419C, R
200	407D, R	408D, R	409D, R	417D, R	418D, R	419D, R
300	407F, R	408F, R	409F, R	417F, R	418F, R	419F, R
400	407H, R	408H, R	409H, R	417H, R	418H, R	419H, R
500	407K, R	408K, R	409K, R	417K, R	418K, R	419K, R
600	407M, R	408M, R	409M, R	417M, R	418M, R	419M, R
DATA SHEET REFERENCE	T.D. 54-172 pg. 3-4	T.D. 54-173 pg. 5-6	T.D. 54-172 pg. 7-8	T.D. 54-174 pg. 3-4	T.D. 54-174 pg. 5-6	T.D. 54-174 pg. 7-8



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HIGH VOLTAGE SILICON RECTIFIER ASSEMBLIES

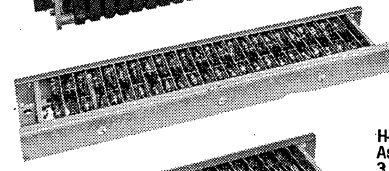
Voltage Ratings to 208 KV in a single channel. Three Phase Current Ratings to 510 Amperes. Westinghouse Silicon Rectifier Stacks have proven their outstanding reliability in over 50 million stack hours of failure free operation. Each cell is shunted with a capacitor and resistor which provide the optimum in steady state and transient voltage division. The design of the stack provides for cooling by oil, free or forced air convection and vapor atmospheres. Where required, assemblies can be supplied with mil-type capacitors and resistors which combined with the high temperature characteristics of the hermetically sealed silicon rectifier cells, allows operation in ambients up to 110°C. Use of these stacks in place of vacuum tubes will increase equipment efficiency by as much as 25%.

Listed are maximum voltage and currents for single assemblies. Stacks can be combined in series or parallel.

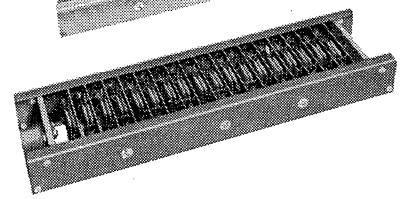
PRV	1 ϕ FW I_{DC}	3 ϕ FW I_{DC}
208K	3.0	4.5
83.2K	12.0	18.0
83.2K	19.0	28.5
41.6K	31.0	46.5
14K	112.0	168.0
21K	210.0	315.0

Ratings are based on forced air cooling of 1000 l fpm at 25°C ambient.
Oil cooling will increase ratings.
Assemblies are designed to meet most standard military environmental conditions.
For very high voltage applications, corona shielding is available.
Where voltage will allow, entire rectifier assemblies can be packaged in one channel.

Encapsulated Silicon Rectifier Assembly Single phase up to 3.0 Amps, three phase up to 4.5 Amps, 208 KV. 5090915 Series.



High Voltage Rectifier Assembly. Single phase up to 22 Amps, three phase up to 33 Amps, 83.2 KV. 508C686 Series.



High Voltage Silicon Rectifier Assembly. Single phase up to 3.0 Amps, three phase up to 4.5 Amps. 208 KV. 508C686 & 508C695 Series.

TRANSISTORS

ALLOY "OEM" TRANSISTORS

The Westinghouse "OEM Line" of economically priced transistors are designed expressly to meet the needs of original equipment manufacturers of commercial, electronic and control apparatus. Their low saturation resistance, high collector voltage and high temperature characteristics make them ideally suited for use in regulators, power supplies, inverters and ignition systems.

	6 AMPS "OEM"		7.5 AMPS "OEM"		20 AMPS "OEM"	
Ⓦ Type	151	152	153	154	163	164
@ I_C =	1.5A	1.5A	1.5A	1.5A	5A	5A
h_{FE} min	11	18	15	25	15	25
R_{SAT} max	0.86Ω	0.83Ω	0.86Ω	0.83Ω	0.22Ω	0.20Ω
$f_T$kc (typ)	250	250	250	250	200	200
V_{CE}						
40	151-04	152-04	153-04	154-04	163-04	164-04
60	151-06	152-06	153-06	154-06	163-06	164-06
80	151-08	152-08	153-08	154-08	163-08	164-08
100	151-10	152-10	153-10	154-10	163-10	164-10
120	151-12	152-12	153-12	154-12	163-12	164-12
140	151-14	152-14	153-14	154-14	163-14	164-14
160	151-16	152-16	153-16	154-16	163-16	164-16
180	151-18	152-18	153-18	154-18	163-18	164-18
200	151-20	152-20	153-20	154-20	163-20	164-20
220	151-22	152-22	153-22	154-22	163-22	164-22
240	151-24	152-24	153-24	154-24	163-24	164-24
260	151-26	152-26	153-26	154-26	163-26	164-26
280	151-28	152-28	153-28	154-28	163-28	164-28
300	151-30	152-30	153-30	154-30	163-30	164-30
MAXIMUM RATINGS	V_{EB} = 25V, I_B = 3A Tj = −65° to +150° PD = 100W @ 80° case $R_{THERMAL}$ = 0.7°C/Watt		V_{EB} = 15V, I_B = 3A Tj = −65° to +175° PD = 200W @ 25° case $R_{THERMAL}$ = 0.75°C/Watt		V_{EB} = 15V, I_B = 7.5A Tj = −65° to +175° PD = 200W @ 75° case $R_{THERMAL}$ = 0.5°C/Watt	
DATA SHEET REFERENCE	T.D. 54-672 pg. 1-2		T.D. 54-672 pg. 3-4		T.D. 54-672 pg. 5-6	

SILICON DIFFUSED "OEM" TRANSISTORS

JEDEC	$I_C$max	V_{CE}	P_D@ T_c = 25°C	h_{FE}@I_c	R_{CE}@I_c
Ⓦ Type 156					
2N3055	15A	60V	115W	20@ 4A	.275Ω @ 4A
2N3232	7.5A	60V	117W	18@ 3A	.83 Ω @ 3A
2N3233	7.5A	100V	117W	18@ 3A	.83 Ω @ 3A
2N3234	7.5A	160V	117W	18@ 3A	.83 Ω @ 3A
2N3235	15A	55V	117W	20@ 4A	.275Ω @ 4A
2N3442	10A	140V	117W	20@ 3A	.33Ω @ 3A
Ⓦ Type 158					
2N3236	15A	90V	150W	17@ 5A	.22Ω @ 5A
2N3237	20A	75V	200W	12@ 10A	.20Ω @10A
2N3238	15A	80V	150W	8.5@ 10A	.33Ω @10A
2N3239	15A	80V	150W	8.5@ 10A	.1Ω @10A
2N3240	15A	160V	150W	8.5@ 10A	.1Ω @10A
2N3771	30A	40V	150W	15@15A	.13Ω @15A
2N3772	30A	60V	150W	15@10A	.14Ω @10A
2N3773	30A	140V	150W	15@ 8A	.175Ω @ 8A

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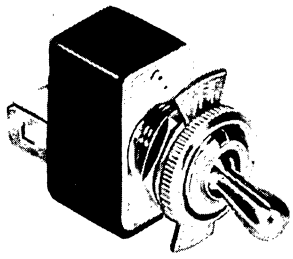
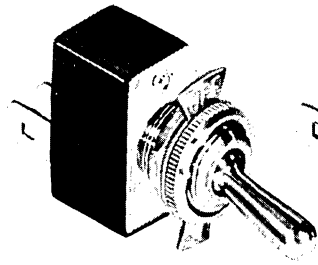
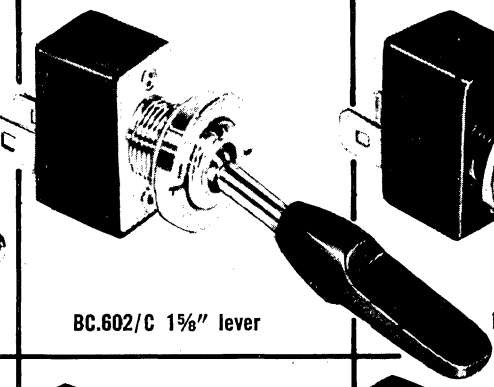


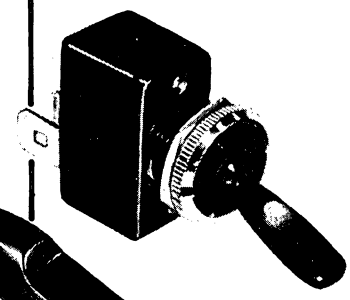
BC.600/C 3/8" lever



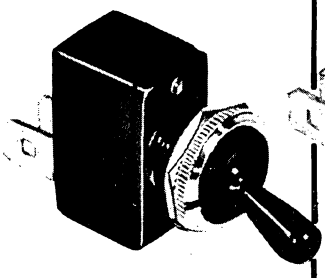
BC.601/C 9/16" lever



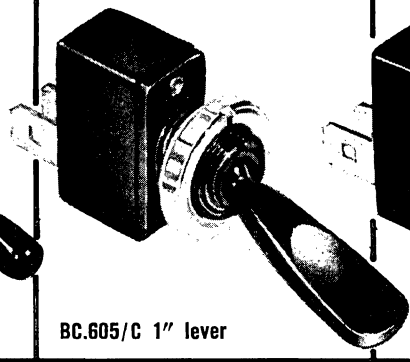
BC.602/C 1 5/8" lever



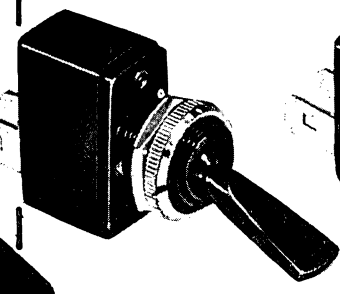
BC.603/C 11/16" lever



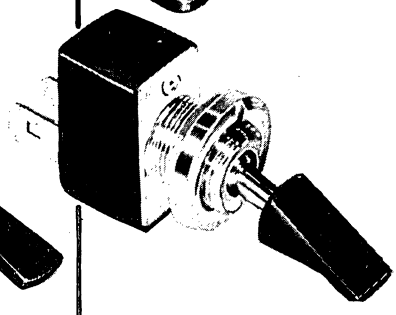
BC.604/C 7/16" lever



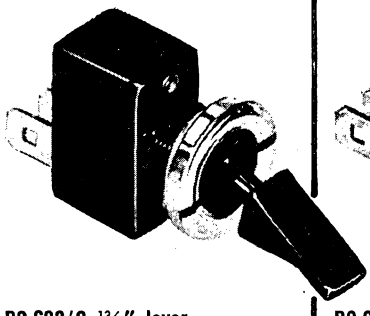
BC.605/C 1" lever



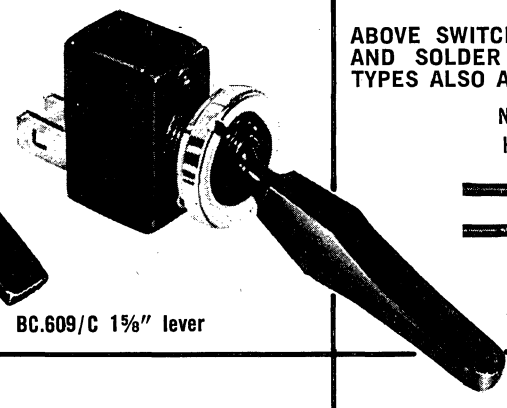
BC.606/C 11/16" lever



BC.607/C 13/16" lever



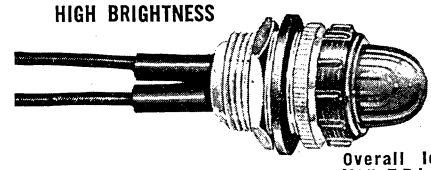
BC.608/C 13/16" lever



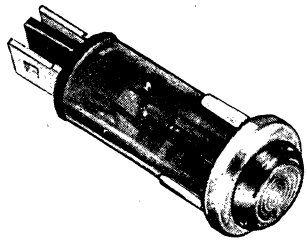
BC.609/C 1 5/8" lever

ABOVE SWITCHES RATED 2 AMP 250 VOLT A.C. SCREW AND SOLDER TERMINALS AVAILABLE. OTHER CIRCUIT TYPES ALSO AVAILABLE.

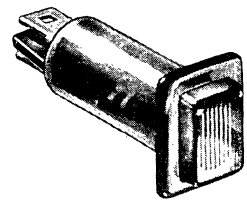
NEON INDICATORS. 125 Volt AC/DC
HIGH BRIGHTNESS



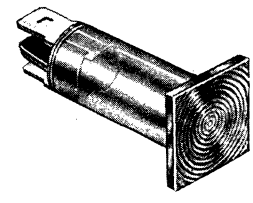
SL.80 Overall length 1 3/32". 15/32" T.P.I. Red/Amber/Clear.



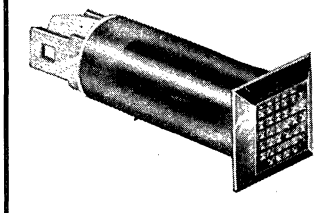
SL.180B Overall length 1 1/2". Mtg. hole 17/32" dia. Red/Amber/Clear.



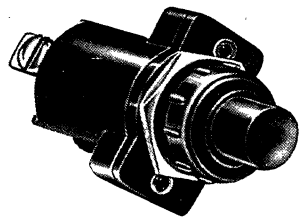
SL.185 Overall length 1 1/2". Mtg. hole 1/2" dia. Red/Amber/Clear. 5/16" x 3/4" square.



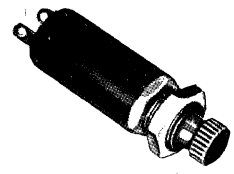
SL.186 Overall length 1 21/32". Mtg. hole 1/2" dia. Red/Amber/Clear. 11/16" square.



SL.187 Overall length 1 21/32". Mtg. hole 1/2" dia. Red/Amber/Clear. 37/64" square.



T.936/D1 N.O.
T.938/D1 N.C.
1 amp 250 volt A.C.
Red/Black/White/Green
Overall length 1 7/8". Mtg. Hole 1/2" dia.



T.906 N.O.
T.908 N.C.
1 amp 250 volt A.C.
Red/Black/White/Green
Overall length 1 3/32". Mtg. hole 1 3/32" dia.

Arcolectric specialize in the manufacture of switches and signal lamps for the electronic, automotive, electrical and appliance industry.

FOR COMPLETE INFORMATION OF OUR PRODUCTS PLEASE REQUEST CATALOG No. 137

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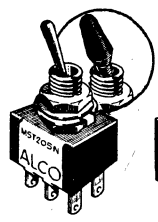
ALCOSWITCH DIV. OF ALCO ELECTRONIC PRODUCTS, INC.

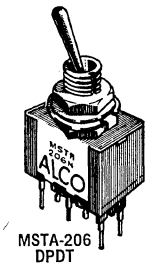
MST-105 SPDT

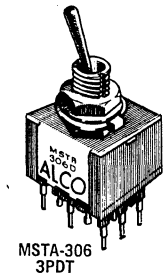

MST-205 DPDT

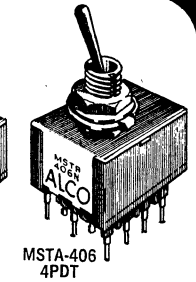
MST-305 3PDT

MST-405 4PDT

MSTA-106 SPDT


MSTA-206 DPDT


MSTA-306 3PDT


MSTA-406 4PDT

The original Alcoswitch Series of high quality ultra-miniature toggle switches combines high current capacity and long life in a ½" case. Slim, bat handle or optional plastic caps(*) are provided. Terminals and contacts are solid silver. Case material is black phenolic resin; 1/4-40 threaded bushing. Rated 5 amps at 115 VAC. SPDT and DPDT types have life cycle of over 80,000 on-off operations. High voltage barriers between terminals and contacts. Rated 5 amps @ 115 VAC.

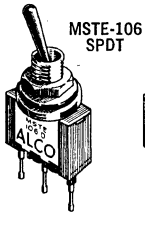
Model	Contacts	Description	One-24	25-99	100-499	500-999
MST-115D*	SPDT	On-None-On	1.70	1.16	1.02	.85
MST-105D	SPDT	On-None-On	1.65	1.12	.99	.83
MST-105E	SPDT	On-Off-On	1.95	1.33	1.17	.975
MST-105F	SPDT	None-On-(On)	1.95	1.33	1.17	.975
MST-105G	SPDT	(On)-Off-(On)	1.95	1.33	1.17	.975
MST-105H	SPDT	On-Off-(On)	1.95	1.33	1.17	.975
MST-215N*	DPDT	On-None-On	2.20	1.47	1.32	1.10
MST-205N	DPDT	On-None-On	2.15	1.43	1.29	1.08
MST-205P	DPDT	On-Off-On	2.55	1.72	1.53	1.28
MST-205R	DPDT	None-On-(On)	2.55	1.72	1.53	1.28
MST-205S	DPDT	(On)-Off-(On)	2.55	1.72	1.53	1.28
MST-205T	DPDT	On-Off-(On)	2.55	1.72	1.53	1.28
MST-205PA	DP3T	On-On-On	2.85	1.90	1.71	1.42
MST-205TA	DP3T	On-On-(On)	3.15	2.14	1.89	1.58
MST-205SA	DP3T	(On)-On-(On)	3.15	2.14	1.89	1.58
MST-315D*	3PDT	On-None-On	3.90	2.61	2.34	1.95
MST-305D	3PDT	On-None-On	3.85	2.57	2.31	1.925
MST-305E	3PDT	On-Off-On	4.15	2.82	2.49	2.075
MST-305F	3PDT	None-On-On	4.15	2.82	2.49	2.075
MST-305H	3PDT	On-Off-(On)	4.15	2.82	2.49	2.075
MST-415N*	4PDT	On-None-On	4.90	3.33	2.94	2.45
MST-405N	4PDT	On-None-On	4.85	3.29	2.91	2.43
MST-405P	4PDT	On-Off-On	5.35	3.64	3.21	2.68

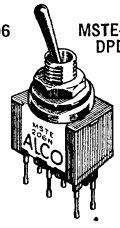
Hardware supplied mounted. (On) Indicates momentary positions.

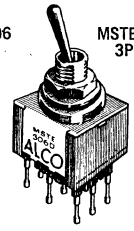
This new Alcoswitch Series fills a need for those who want the best product possible at an optimum price. Similar in appearance and specs to the Alco "E" Series but without the waterproof feature. Has the important features wanted in a good miniature: turret terminals, extra-wide contacts, heavier current capabilities, low-loss, high heat and high impact case construction. "No Tear" shoulder on bushing. Overall dimension allows use in tight quarters. Rated 6 amps @ 125 VAC.

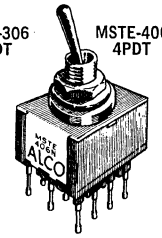
Model	Contacts	Description	One-24	25-99	100-499	500-999
MSTA-106D	SPDT	On-None-On	1.80	1.23	1.08	.90
MSTA-106E	SPDT	On-Off-On	2.25	1.53	1.35	1.125
MSTA-206N	DPDT	On-None-On	2.35	1.60	1.41	1.18
MSTA-206P	DPDT	On-Off-On	2.85	1.90	1.71	1.42
MSTA-206PA	DP3P	On-On-On	3.15	2.14	1.89	1.58
MSTA-306D	3PDT	On-None-On	4.05	2.75	2.43	2.03
MSTA-306E	3PDT	On-Off-On	4.45	3.03	2.67	2.23
MSTA-406N	4PDT	On-None-On	5.10	3.47	3.06	2.55
MSTA-406P	4PDT	On-Off-On	5.65	3.84	3.39	2.83
MSTA-406PA	4P3T	On-On-On	6.15	4.18	3.69	3.08
C-10*	Plastic cap for MST, A, E Series		—	.028	.025	.022
C-17*	Flat top cap for MST, A, E Series		—	.028	.025	.022
N-1A*	¼-40 "Perfect Fit" Nut		—	.04	.036	.033

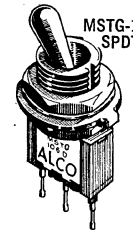
*Packaged in multiples of 25; when ordering caps specify red, white, black, blue, gray, green, yellow or pink.


MSTE-106 SPDT

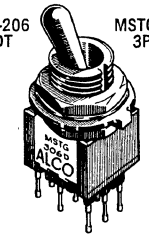

MSTE-206 DPDT

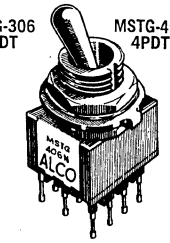

MSTE-306 3PDT


MSTE-406 4PDT


MSTG-106 SPDT

MSTG-206 DPDT


MSTG-306 3PDT


MSTG-406 4PDT

The new "E" Series has the most-wanted features in miniature switches. Waterproof 'O' rings are located inside the toggle and on the shoulder. A mechanical shoulder on the bottom of the bushing prevents "tear-offs" when a single mounting nut is employed. High voltage barriers between terminals inside as well as outside. Case has a new, superior plastic material capable of withstanding a higher impact; guards against accidental damage. Low-loss case has extremely high resistance between terminals and case ground, and its high temperature coefficient is ideally suited for prolonged soldering and printed circuits. Turret type terminals are used for simplified wiring or for P.C. Extra-wide, solid silver contacts are bonded, not riveted, on copper-silver plated terminals. Long-life cycle over 100,000 On-Off operations at operating conditions (SPDT). Rated 6 amps @ 125 VAC.

Model	Contacts	Description	One-24	25-99	100-499	500-999
MSTE-106D	SPDT	On-None-On	1.95	1.33	1.17	.975
MSTE-106E	SPDT	On-Off-On	2.55	1.72	1.53	1.28
MSTE-206N	DPDT	On-None-On	2.55	1.72	1.53	1.28
MSTE-206P	DPDT	On-Off-On	3.15	2.14	1.89	1.58
MSTE-206PA	DP3T	On-On-On	3.45	2.35	2.07	1.73
MSTE-306D	3PDT	On-None-On	4.25	2.89	2.55	2.13
MSTE-306E	3PDT	On-Off-On	4.75	3.23	2.85	2.38
MSTE-406N	4PDT	On-None-On	5.35	3.64	3.21	2.68
MSTE-406P	4PDT	On-Off-On	5.95	4.05	3.57	2.98

Hardware supplied mounted.
Color-coded caps: see "A" Series story above.

Mustang

The Mustang Series is for designers who prefer the feel of a larger toggle switch but have space limitations behind today's compact panel. The familiar ultra-miniature Alcoswitch ½" case is utilized, however the Mustang mounting requirements are the same as the larger switches with 15/32" bushings. This new Alcoswitch concept is a behind-the-panel space-saver in all Mustang models and it is especially true in the 3 Pole and 4 Pole Series where non-miniature switches are bulky in size. The Mustang switches have the most-wanted features as itemized in the "E" Series story (at left) with the exception of the waterproof 'O' rings. The case construction is of low-loss, high impact and high temperature materials with turret terminals and bonded silver contacts. Rated 6 amps @ 125 VAC.

Model	Contacts	Description	One-24	25-99	100-499	500-999
MSTG-106D	SPDT	On-None-On	2.15	1.43	1.29	1.08
MSTG-106E	SPDT	On-Off-On	2.75	1.87	1.65	1.38
MSTG-206N	DPDT	On-None-On	2.75	1.87	1.65	1.38
MSTG-206P	DPDT	On-Off-On	3.35	2.28	2.01	1.68
MSTG-206PA	DP3T	On-On-On	3.65	2.48	2.19	1.83
MSTG-306D	3PDT	On-None-On	4.45	3.03	2.67	2.23
MSTG-306E	3PDT	On-Off-On	4.95	3.37	2.97	2.48
MSTG-406N	4PDT	On-None-On	5.55	3.77	3.33	2.78
MSTG-406P	4PDT	On-Off-On	6.15	4.18	3.69	3.08
C-15*	Plastic cap for Mustang Series		—	.04	.036	.033
N-1B*	15/32" "Perfect Fit" Nut		—	.056	.05	.044

*Packaged in multiples of 25; when ordering caps specify, red, white, black, blue or gray.

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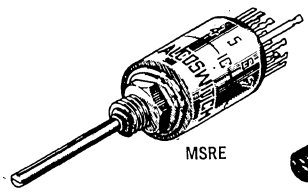
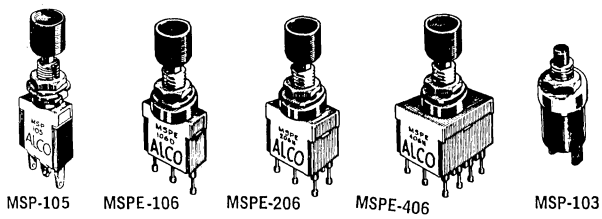
ALCOSWITCH DIV. OF ALCO ELECTRONIC PRODUCTS, INC.





MRA Adjustable-Stop Rotary Switches are miniature types rated 500 mA @ 125 VAC. Features: adjustable-stop; non-shorting; 36° spacing; up to 4 poles on single deck; solid silver terminals and contacts. Types with suffix **S**, ⅛", dia. shaft less knob. Bushing, ¼-40.

MRA 12-Position Rotary Switches are slightly larger than standard MRA Series has ⅛" shaft and 30° spacing. Other specs similar to MRA Series. Knobs not included. Type MRA-1-12S can be converted to an adjustable-stop switch when used with KCVS-500 knob (see Alco knob listings).

MSRE Waterproof Rotary Switches are non-adjustable. Similar to MRA Series but feature internal and external 'O' rings. One-piece metal case construction, and terminals are epoxy sealed. ⅛" shaft. Ideal for printed circuits. Supplied less knob. Rated 500 mA @ 125 VAC.

MODEL	Pole	Positions	Knob Supplied	One-24	25-99	100-499	500 999
MRA-1-10	1	2-10	Yes	3.95	2.65	2.37	1.965
MRA-2-5	2	2-5	Yes	3.95	2.65	2.37	1.965
MRA-3-3	3	2-3	Yes	3.95	2.65	2.37	1.965
MSRA-4-2*	4	2	Yes	3.95	2.65	2.37	1.965
MRA-1-10S	1	2-10	No	3.85	2.57	2.31	1.925
MRA-1-10SC***	1	2-10	No	3.85	2.57	2.31	1.925
MRA-2-5S	2	2-5	No	3.85	2.57	2.31	1.925
MRA-3-3S	3	2-3	No	3.85	2.57	2.31	1.925
MSRA-4-2S*	4	2	No	3.85	2.57	2.31	1.925
MRA-1-12S	1	2-12	No	4.15	2.82	2.49	2.075
MRA-1-12SC***	1	2-12	No	4.15	2.82	2.49	2.075
MSRE-1-10	1	2-10	No	4.85	3.29	2.91	2.43
MSRE-2-5	2	2-5	No	4.85	3.29	2.91	2.43
MSRE-3-3	3	2-3	No	4.85	3.29	2.91	2.43
MSRE-4-2	4	2	No	4.85	3.29	2.91	2.43

*Fixed. ***Continuous rotation.

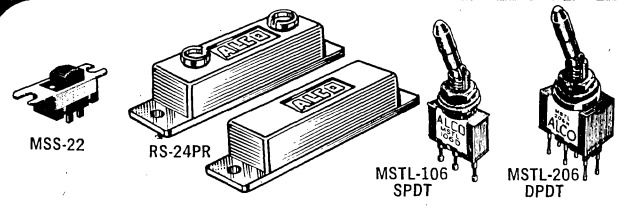
MSP Miniature Pushbutton Switches are of snap-action type capable of handling 5 amps @ 115 VAC. Solid silver contacts and terminals. Bushing size, ¼-40 with keyway. Black phenolic case. Life cycle well over 20,000 on-off operations.

MSPE Waterproof Pushbutton Switches rated 6 amps resistive and 2 amps inductive @ 125 VAC. Double "O" waterseals, low-loss "E" Series case with turret terminals. All are versatile "double-throw" models.

MSP-103 Economy Pushbutton Switches rated 3 amps @ 125 VAC. Silverplated low-pressure brass contacts and terminals. Plastic button plunger travels .098" overall. Depth needed behind panel less than ¾". One-piece ¼-40 mounting bushing.

Model	Contacts	Application	One-24	25-99	100-499	500-999
MSP-105D*	SPDT	Push on-off	1.95	1.33	1.17	.975
MSP-105F*	SPDT	Momentary	1.95	1.33	1.17	.975
MSP-205N*	DPDT	Push on-off	2.85	1.90	1.71	1.42
MSP-205R*	DPDT	Momentary	2.85	1.90	1.71	1.42
MSPE-106D*	SPDT	Push on-off	2.55	1.72	1.53	1.28
MSPE-106F*	SPDT	Momentary	2.55	1.72	1.53	1.28
MSPE-206N*	DPDT	Push on-off	3.45	2.35	2.07	1.73
MSPE-206R*	DPDT	Momentary	3.45	2.35	2.07	1.73
MSPE-406N*	4PDT	Push on-off	5.95	4.05	3.57	2.98
MSPE-406R*	4PDT	Momentary	5.95	4.05	3.57	2.98
C-12	Extra plastic button**		.05	.036	.032	.03
C-13*	Large Button		.09	.06	.054	.05
C-14L	Chrome button		.09	.06	.054	.05
MSP-103B†	SPST	Normally closed	.65	.44	.39	.33
MSP-103C°	SPST	Normally open	.65	.44	.39	.33

*Supplied with one red, green, or black plastic button; specify color.
**Specify red, green or black. † With black button. °With red button.



MSS-22 Miniature Slide Switch with unusual two-circuit N.O.-N.C. (useable as SPDT) anti-tease design. Rated 2 amps @ 120 VAC. Compact ½" case has corrosion-proof metal case and phenolic slide block. Gold on nickel on silver-plated brass contacts. Life cycle, 250,000 operations. Case size, .500" x .305" x .257"; mounts .687" centers.

Model	Description	One-24	25-99	100-499	500-999
MSS-22	SPDT, 2 circuit	1.75	1.17	.88	.73

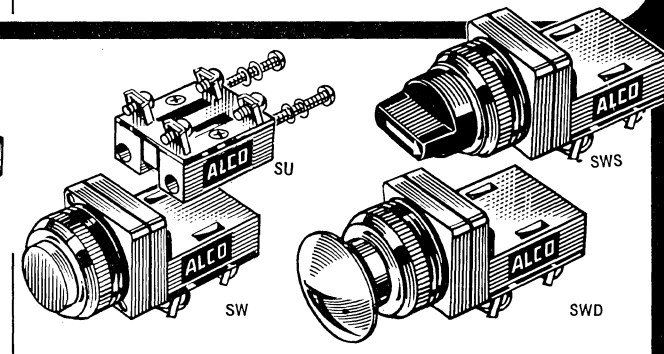
Proximity Switch and Magnet Assembly features the inherent simplicity of a basic dry reed switch to provide long life and reliability. Alnico-5 magnet is the force used to actuate the reed switch within distance of 1" centers. Reed switch provided is replaceable. Rated 0.5 amps break, 1.0 amps carry. Life cycle over 5-million operations. Sold in pairs only.

Model	Description	One-24	25-99	100-499	500-999
RS-24PR	N.O. (unmagnetized)	2.85	1.90	1.71	1.42

Lever-Lock Alcoswitch is the world's first "pull-to-unlock" toggle switch for use in hazardous applications. The toggle locks in position to safeguard against accidents. Optional interchangeable color-coded toggle tips available. Rated 6 amps @ 125 VAC.

Model	Contacts	Description	One-24	25-99	100 499	500-999
MSTL-106D	SPDT	On-None-On	3.15	2.14	1.89	1.58
MSTL-106E	SPDT	On-Off-On	3.85	2.57	2.31	1.925
MSTL-206N	DPDT	On-None-On	3.85	2.57	2.31	1.925
MSTL-206P	DPDT	On-Off-On	4.45	3.03	2.67	2.23
C-16*	Color-Coded Caps		.18	.12	.11	.10

* Lever-lock switches are stocked with natural aluminum caps only. Extra caps available in anodized Red, Blue, and Black (specify color).



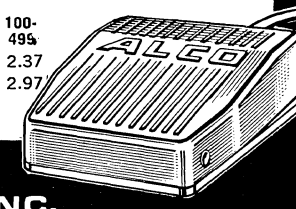
Alco Miniature Power Switches combine a compact size, modern appearance and functional flexibility to meet today's control needs and mount in a 1" hole. Rated to carry 6 amps @ 230 VAC. These switches may be used to control circuits independently or with optional relays. All models supplied with a single (N.O.-N.C.) contact block but have provisions for an additional (Model SU) block thereby convertible to DPDT units.

Model	Description	One-24	25-99	100-499	500-999
SW*	Standard Button Switch	2.95	1.97	1.77	1.48
SWD*	Mushroom Head Switch	3.25	2.17	1.95	1.63
SWL*	Long Button Switch	2.95	1.97	1.77	1.48
SWS†	Knob Type Switch	3.25	2.17	1.95	1.63
SU	Extra Block (1NO-NC)	1.75	1.17	1.08	.88

* Available in Red, and Black (specify color). † Black only.

Alco Foot Switch is compact and rugged for use where high speed and minimum operator fatigue are essential. SPDT momentary-contact switch has spring return and non-skid base. Rating 10 amps @ 250 VAC.
Size: 3¼" x 3¼" x 1".

Model	Supplied	One-24	25-99	100-499
SKF	Less Cable	3.95	2.64	2.37
SKF-6	With 6-ft. Cable	4.95	3.37	2.97



ALCO® ELECTRONIC PRODUCTS, INC.

AMPHENOL RF SWITCHES

AMPHENOL TM

Series 360 DYNAFORM FUNCTIONS AND PART NUMBERS

Conn.	Term.	Schematic	Coil Volts	SPDT Outline Dwg. A	SPDT Outline Dwg. B	DPDT Outline Dwg. C	DPDT Outline Dwg. D	Transfer Outline Dwg. E
BNC	SH	1	26 DC 110 DC 115 AC	360-11891-12 360-11891-34 360-11891-45	360-11891-13 360-11891-35 360-11891-46	360-11896-12 360-11896-34 360-11896-45	360-11896-13 360-11896-35 360-11896-46	
	NS	2	26 DC 110 DC 115 AC	360-11891-14 360-11891-36 360-11891-47	360-11891-15 360-11891-37 360-11891-48	360-11896-14 360-11896-36 360-11896-47	360-11896-15 360-11896-37 360-11896-48	
	50 Ω RT	3	26 DC 110 DC 115 AC	360-11891-16 360-11891-38 360-11891-49	360-11891-17 360-11891-39 360-11891-50	360-11896-16 360-11896-38 360-11896-49	360-11896-17 360-11896-39 360-11896-50	
	75 Ω RT	3	26 DC 110 DC 115 AC	360-11891-18 360-11891-40 360-11891-51	360-11891-19 360-11891-41 360-11891-52	360-11896-18 360-11896-40 360-11896-51	360-11896-19 360-11896-41 360-11896-52	
	95 Ω RT	3	26 DC 110 DC 115 AC	360-11891-20 360-11891-42 360-11891-53	360-11891-21 360-11891-43 360-11891-54	360-11896-20 360-11896-42 360-11896-53	360-11896-21 360-11896-43 360-11896-54	
	TRANS	4	26 DC 110 DC 115 AC					360-11891-22 360-11891-44 360-11891-55
TNC	SH	1	26 DC 110 DC 115 AC	360-11892-12 360-11892-34 360-11892-45	360-11892-13 360-11892-35 360-11892-46	360-11897-12 360-11897-34 360-11897-45	360-11897-13 360-11897-35 360-11897-46	
	NS	2	26 DC 110 DC 115 AC	360-11892-14 360-11892-36 360-11892-47	360-11892-15 360-11892-37 360-11892-48	360-11897-14 360-11897-36 360-11897-47	360-11897-15 360-11897-37 360-11897-48	
	50 Ω RT	3	26 DC 110 DC 115 AC	360-11892-16 360-11892-38 360-11892-49	360-11892-17 360-11892-39 360-11892-50	360-11897-16 360-11897-38 360-11897-49	360-11897-17 360-11897-39 360-11897-50	
	75 Ω RT	3	26 DC 110 DC 115 AC	360-11892-18 360-11892-40 360-11892-51	360-11892-19 360-11892-41 360-11892-52	360-11897-18 360-11897-40 360-11897-51	360-11897-19 360-11897-41 360-11897-52	
	95 Ω RT	3	26 DC 110 DC 115 AC	360-11892-20 360-11892-42 360-11892-53	360-11892-21 360-11892-43 360-11892-54	360-11897-20 360-11897-42 360-11897-53	360-11897-21 360-11897-43 360-11897-54	
	TRANS	4	26 DC 110 DC 115 AC					360-11892-22 360-11892-44 360-11892-55
N	SH	1	26 DC 110 DC 115 AC	360-11890-12 360-11890-34 360-11890-45	360-11890-13 360-11890-35 360-11890-46	360-11895-12 360-11895-34 360-11895-45	360-11895-13 360-11895-35 360-11895-46	
	NS	2	26 DC 110 DC 115 AC	360-11890-14 360-11890-36 360-11890-47	360-11890-15 360-11890-37 360-11890-48	360-11895-14 360-11895-36 360-11895-47	360-11895-15 360-11895-37 360-11895-48	
	50 Ω RT	3	26 DC 110 DC 115 AC	360-11890-16 360-11890-38 360-11890-49	360-11890-17 360-11890-39 360-11890-50	360-11895-16 360-11895-38 360-11895-49	360-11895-17 360-11895-39 360-11895-50	
	75 Ω RT	3	26 DC 110 DC 115 AC	360-11890-18 360-11890-40 360-11890-51	360-11890-19 360-11890-41 360-11890-52	360-11895-18 360-11895-40 360-11895-51	360-11895-19 360-11895-41 360-11895-52	
	95 Ω RT	3	26 DC 110 DC 115 AC	360-11890-20 360-11890-42 360-11890-53	360-11890-21 360-11890-43 360-11890-54	360-11895-20 360-11895-42 360-11895-53	360-11895-21 360-11895-43 360-11895-54	
	TRANS	4	26 DC 110 DC 115 AC					360-11890-22 360-11890-44 360-11890-55

COIL CHARACTERISTICS

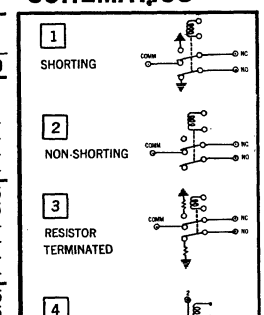
@ 20°C

Nominal Voltage	Operating Range	Resistance, ohms ±10%
26 DC	20 - 32	260 ohms
110 DC	85 - 130	5100 ohms
115 AC (50 - 400 Hz)	90- 130	1500 ohms thru diodes

ELECTRICAL CHARACTERISTICS

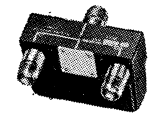
Conn.	Term.	Typical VSWR (Frequency Gc) .03	0.2	0.4	1.0	2.0	4.0	6.0	8.0	Typical Crosstalk - db (Frequency Gc) .03	0.2	0.4	1.0	2.0	4.0	6.0	8.0
BNC	SH	1.03	1.06	1.08	1.10	1.20	1.25	1.30	1.35	70	66	60	53	42	35	25	15
	NS	1.03	1.06	1.08	1.10	1.21	1.27	1.31	1.35	68	64	58	51	40	33	22	15
	50 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	—	40	35	31	24	17	14	—	—
	75 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	—	40	35	31	24	17	14	—	—
	95 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	—	40	35	31	24	17	14	—	—
	TRANS	1.05	1.08	1.10	1.20	1.50	—	—	—	45	38	32	24	17	—	—	—
TNC	SH	1.03	1.06	1.08	1.10	1.20	1.25	1.30	1.35	70	66	60	53	42	35	25	15
	NS	1.03	1.06	1.08	1.10	1.21	1.27	1.31	1.35	68	64	58	51	40	33	22	15
	50 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	—	40	35	31	24	17	14	—	—
	75 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	—	40	35	31	24	17	14	—	—
	95 Ω RT	1.03	1.06	1.08	1.14	1.25	1.50	—	—	40	35	31	24	17	14	—	—
	TRANS	1.05	1.08	1.10	1.20	1.50	—	—	—	45	38	32	24	17	—	—	—
N	SH	1.03	1.04	1.07	1.10	1.15	1.18	1.20	1.25	70	66	60	53	42	35	25	15
	NS	1.03	1.04	1.07	1.10	1.17	1.20	1.22	1.25	68	64	58	51	40	33	22	15
	50 Ω RT	1.03	1.05	1.08	1.12	1.18	1.50	—	—	41	35	31	24	17	14	—	—
	75 Ω RT	1.03	1.05	1.08	1.12	1.18	1.50	—	—	39	32	30	23	16	14	—	—
	95 Ω RT	1.03	1.05	1.08	1.12	1.18	1.50	—	—	37	31	29	22	15	14	—	—
	TRANS	1.05	1.10	1.15	1.20	1.50	—	—	—	45	38	32	24	17	—	—	—

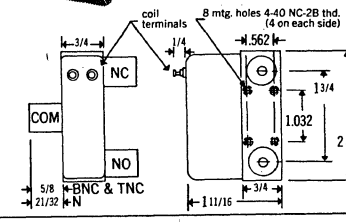
SCHEMATICS



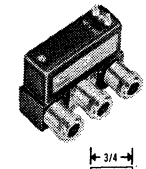
NOTE: High frequency electrical characteristics are typical values (not maximum) as measured in a 50 ohm circuit and may be used for most design analyses. For more exacting applications, maximum values in the frequency range may be obtained upon request. SWR measured to common with a matched 50 ohm termination. **For additional specifications request Amphenol RF Switches Catalog SS-1.**

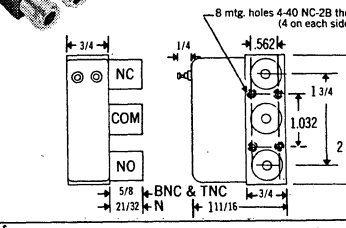
A SPDT



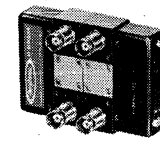


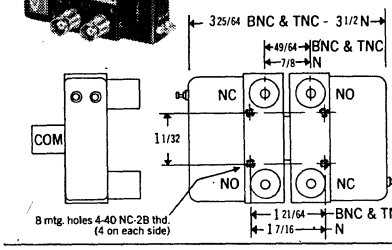
B SPDT



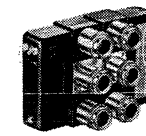


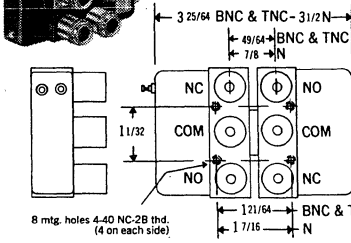
C DPDT



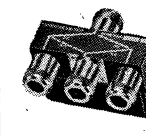


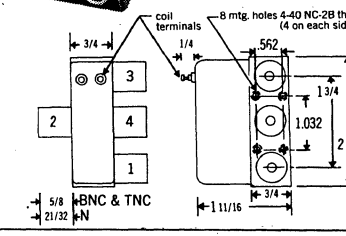
D DPDT





E TRANSFER





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AMPHENOL RF SWITCHES

AMPHENOL™

HIGH ISOLATION MICROWAVE SWITCHES

DESCRIPTION

These compact coaxial switches, with superior isolation characteristics over its entire zero to 12.4 GHz operating range, are particularly suitable in applications where crosstalk interference must be kept to an absolute minimum.

Amphenol's Series 303 units described here represent a few of the variations available. Other connector types, auxiliary contacts, and hermetically sealed units as well as transfer types in both the miniature and standard sizes are also available. Please contact us for additional information and specifications.

CHARACTERISTICS

ELECTRICAL	
Frequency range	0-12.4 GHz
Characteristic impedance	50 ohms
Crosstalk (isolation)	60 db min. @ 12.4 GHz
SWR	1.5:1 max. @ 12.4 GHz
Insertion loss	0.5 db maximum
Contact resistance	60.0 milliohms
RF power rating (power off during switching)	100 watts @ 1 GHz
High RF voltage rating	1000 volts peak @ 60 Hz
Switching time	operate: 15 ms max. release: 10 ms max.
MECHANICAL	
Mechanical life	1,000,000 cycles min.
ENVIRONMENTAL	
Temperature range	−55°C to 55°C
Moisture resistance■	10 day cycle
Shock■	operating: 10 g's non-operating: 100 g's
Vibration■	operating: Test Cond. B, 10-55 cps non-operating: 20 g's, 10-2000 cps
Altitude and cold■	0-70,000 feet

■ Per MIL-S-3928B

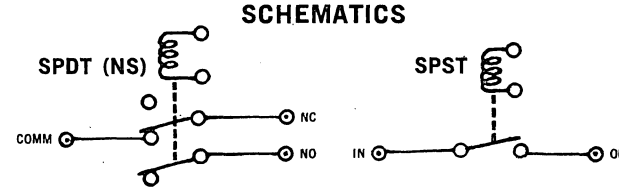
FUNCTIONS AND PART NUMBERS

Connector	Coil Volts	SPDT (with cover) Outline Dwg. A Non-Latching	SPDT (with cover) Outline Dwg. A Latching	SPDT (Economy Version) Outline Dwg. C
OSM△/BRM	6 DC	303-10179-1	303-10179-21	303-10116-1
	12 DC	303-10179-2	303-10179-22	303-10116-2
	26 DC	303-10179-3	303-10179-23	303-10116-3
	48 DC	303-10179-4	303-10179-24	
	120 DC	303-10179-5	303-10179-25	
	115 AC	303-10179-6	303-10179-26	303-10116-6

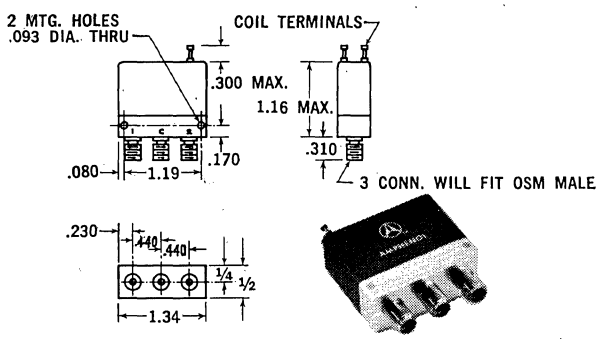
Connector	Coil Volts	SPDT (with cover) Outline Dwg. B Non-Latching	SPDT (with cover) Outline Dwg. B Latching	SPST (Shutter) Outline Dwg. D
TNC	6 DC	303-10168-1	303-10168-21	
	12 DC	303-10168-2	303-10168-22	
	26 DC	303-10168-3	303-10168-23	303-10969
	48 DC	303-10168-4	303-10168-24	
	120 DC	303-10168-5	303-10168-25	
	115 AC	303-10168-6	303-10168-26	
N	6 DC	303-10167-1	303-10167-21	
	12 DC	303-10167-2	303-10167-22	
	26 DC	303-10167-3	303-10167-23	
	48 DC	303-10167-4	303-10167-24	
	120 DC	303-10167-5	303-10167-25	
	115 AC	303-10167-6	303-10167-26	

△ Registered trademark of Omni-Spectra, Inc.

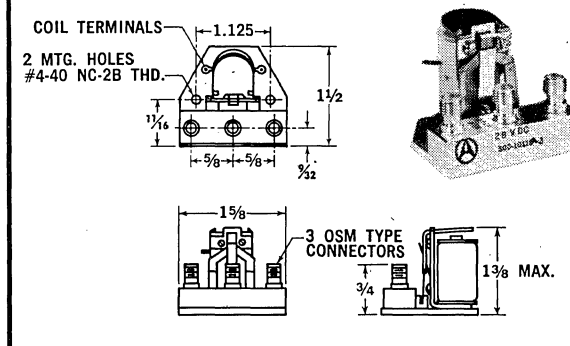
SCHEMATICS



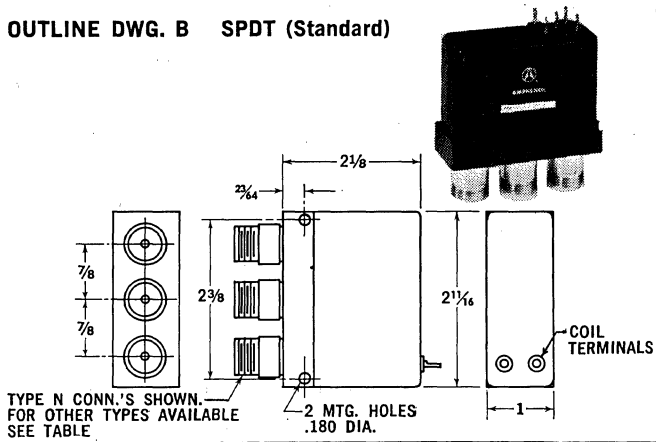
OUTLINE DWG. A SPDT (Miniature)



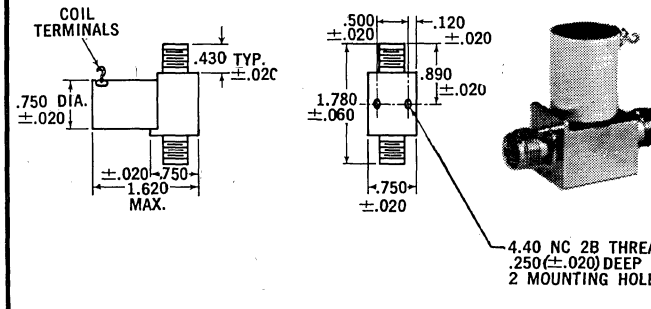
OUTLINE DWG. C SPDT (Min. Economy)



OUTLINE DWG. B SPDT (Standard)



OUTLINE DWG. D SPST (Standard)



PRICES

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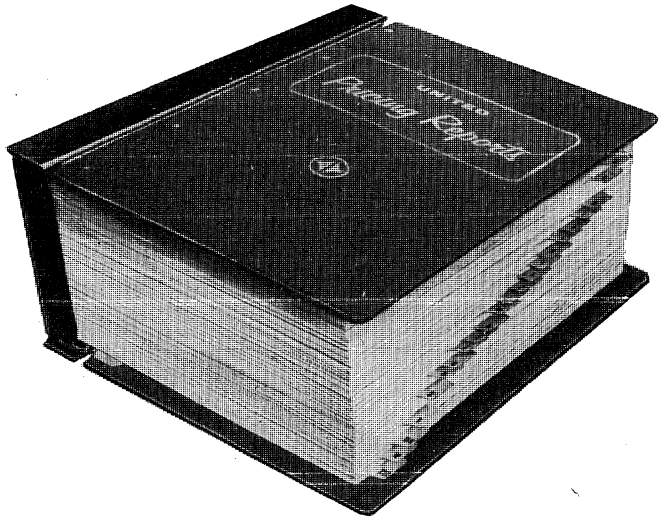

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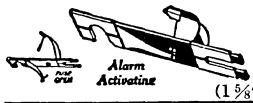
Buss® Fuses and Fusetron® Fuses

GRASSHOPPER FUSES

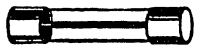


Alarm activating and signal indicating. Length: 1 43/64", except 35D (1 5/8"), 35E (1 63/64").

Buss No.	Amps	Blowing Time Amp	Blowing Time Sec.	Net Price For Ten	Net Price For 100
35A*	1/8 #	2	90	$2.60	$22.00
35B*	1/4**	2	90	2.60	22.00
35B*	2**	3	180	2.60	22.00
35C*	2#	3	180	2.60	22.00
35D*	1/4**	2	90	5.20	44.00
35E*	3**	4	300	2.80	24.00
35F*	1/2 #	3/4	9	2.60	22.00
35G*	3**	4 1/2	300	2.60	22.00
35H*	5**	6 1/2	300	2.60	22.00
35J†	1/2 #	3/4	90	3.80	32.00
35K†	1 1/4 #	2	180	5.20	44.00
35L†	2#	3	180	5.20	44.00
35M†	3**	4 1/2	300	4.70	39.00
35N†	5**	6 1/2	300	4.70	39.00
35P†	3/4 #	1 1/8	90	3.30	28.00
35R*	18/100#	.270	90	3.30	28.00
35S†	1/4 #	.375	90	3.80	32.00
35T*	65/100#	1.1	180	3.80	32.00

Volts: *90 or less. †160 or less. Mounting Screw: #No. 10. **No. 6.

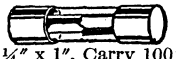
AGS GLASS TUBE FUSES



Test specification; carry, 110%, open at 135% within 1 hour except 35 and 40 amp units which open at 300% in 2 to 4 seconds when tested in standard 30-amp test circuit. **Note:** These units in sizes larger than 30 amps are not recommended for use in fuse clips or fuseholders as clips will not carry the high currents.

Buss No.	Amperes	Volts	Net Price For Five	Net Price For 100
AGS	1/16	250	$1.70	$29.00
AGS	1/8	250	1.20	20.00
AGS	1/4, 1/2	250	.55	9.50
AGS	1, 2, 2 1/2, 3	250	.55	9.00
AGS	5, 10, 15, 20, 25, 30	32	.45	7.50
AGS	35, 40, 50	32	.55	9.00

FAST ACTING FUSES



Glass tube, 1/4" x 1". Carry 100%, open at 200% in 5 seconds. 1/500 to 1/2 amp sizes have bridge construction; all others straight-through element. U/L Approved.

AGX	1/500	250	$5.45	$91.00
AGX	1/200	250	2.25	38.00
AGX	1/100	250	2.05	35.00
AGX	1/32	250	1.75	30.00
AGX	1/16	250	1.15	19.00
AGX	1/10, 1/8, 3/16, 2/10	250	.80	14.00
AGX	1/4, 3/8, 4/10, 1/2, 3/4	250	.55	9.00
AGX	1, 1 1/2, 2, 3, 4	125*	.33	5.50
AGX	5, 8, 10, 15, 20	32†	.22	3.60
AGX	25, 30	32	.25	4.10

FAST ACTING FUSES

Glass tube, 1/4" x 1 1/4". Carry 110%, open at 135% in 1 hour or less. 1/500 to 2 amp sizes will open at 200% in 5 seconds or less. 1/500 to 1/32 amp have bridge construction; all others straight-through element. U/L Approved.

AGC	1/500	250	$5.45	$91.00
AGC	1/200	250	2.25	38.00
AGC	1/100	250	2.05	35.00
AGC	1/32	250	1.75	30.00
AGC	1/16, 1/8, 15/100, 175/1000, 3/16, 1/10, 2/10	250	.80	14.00
AGC	1/4, 3/10, 3/8, 45/100, 1/2, 6/10, 3/4	250	.55	9.00
AGC	1, 1 1/4, 1 1/2, 1-6/10, 2	250	.33	5.50
AGC	2 1/2, 3	250	.30	5.00
AGC	4	32‡	.30	5.00
MTH	4, 5, 6	250	.42	7.00
AGC	5, 6, 7 1/4, 8, 10, 15	32‡	.22	3.60
AGC	20	32‡	.20	3.30
AGC	25, 30	32‡	.25	4.10

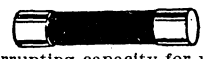
*1 A, 250. †5 A, 125. ‡Not U/L listed.

MIDGET TYPE FUSES

Up to 15 amp size U/L Approved.

Buss No.	Amperes	Volts	Net Price For Ten	Net Price For 100
BAF	1, 3, 5, 6, 10	250	$1.10	$9.00
BAF	15, 20, 25, 30	125	1.10	9.00

CERAMIC TUBE FUSES



High interrupting capacity for use on circuit delivering as high as 25,000 amps at 125 V, or 10,000 amps at 250 V. 1/4" x 1 1/4". Carry 110%, open at 135% in 1 hour. Up to 15 amp size U/L Approved.

Buss No.	Amperes	Volts	Net Price For Five	Net Price For 100
ABC	1/4	250	$0.70	$12.00
ABC	1, 2, 3	250	.70	12.00
ABC	5, 6, 8, 10	250	.65	11.00
ABC	12, 15, 20	250	.70	12.00
ABC	25, 30	125	.85	14.00

FUSETRON GLASS TUBE FUSES

Dual-element slow-blowing type, 1/4" x 1 1/4". Fuse link operates only on very high overloads or short-circuits; thermal cutout functions on low overloads (cannot operate quickly on any load, thus providing long time-lag). Carry 110%, open at 135% in 1 hour. MDL 1/100 to 2-8/10 amp and MDX 3 to 7 amp sizes U/L Approved. MDL type has longer time-lag than MDX type.

MDL	1/100, 1/32	250	$1.55	$26.00
MDL	1/16, 1/10, 1/8, 15/100, 175/1000, 3/16, 2/10, 1/4, 3/10, 3/8, 4/10, 1/2, 6/10, 7/10, 3/4, 8/10, 1		1.10	19.00
MDX	1 1/4, 1 1/2, 1-6/10, 2	250	1.25	21.00
MDL	1-2/10, 1 1/4, 1 1/2, 1-6/10, 2	125	1.00	17.00
MDL	2 1/2, 2-8/10	125	.80	14.00
MDX	3, 3-2/10, 4, 5	125	.80	14.00
MDX	6 1/4, 7	125	.95	16.00
MDL	3, 3-2/10, 4, 5, 6 1/4, 8, 10, 15, 20, 25, 30	32	.80	14.00

GLASS TUBE FUSES

Glass tube, 1/4" x 5/8". Carry 110%, open at 135% in 1 hour.

AGA	1, 1 1/2, 2, 2 1/2	32	$0.33	$5.50
AGA	3	32	.30	5.00
AGA	5, 6, 7 1/2, 10, 15, 20	32	.25	4.10
AGA	25, 30	32	.25	4.10

FUSETRON FIBER TUBE FUSES

Dual-element slow-blowing type, 13/32" x 1 1/2" overall. Fuse link operates only on very high overloads or short circuits; thermal cutout functions on low overloads (cannot operate quickly on any overload, thus providing longer time lag). Carry 110%, open at 135% in 1 hour. 125 and 250 volt sizes U/L Approved.

Buss No.	Amperes	Volts	Net Price For Ten	Net Price For 100
FNM	1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10, 1, 1 1/8, 1 1/4, 1-4/10, 1-6/10, 1-8/10, 2, 2 1/4, 2 1/2, 2-8/10, 3-2/10, 3 1/2, 4, 4 1/2, 5, 5-6/10, 6 1/4, 7, 8, 9, 10	250	$3.20	$26.00
FNM	12, 15	125	3.20	26.00
FNM	20, 25, 30	32	3.20	26.00

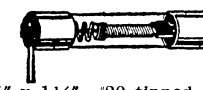
SFE STANDARD FUSES

Different amperages are different lengths, making it impossible to over-fuse. Glass tube, 1/4" dia. Carry 110%, open at 135% in 1 hour. Made to SAE specifications and U/L Approved. 32 volts or less.

Buss No.	Amperes	Lgth. In.	Net Price For Five	Net Price For 100
SFE	4	5/8	$0.25	$4.10
SFE	6	3/4	.25	4.10
SFE	7 1/2, 9	7/8	.22	3.60
SFE	14	1 1/16	.20	3.30
SFE	20	1 1/4	.20	3.30
SFE	30	1 7/16	.25	4.10

301X-67A

FUSETRON PIG-TAIL FUSES



Body 1/4" x 1 1/4", #20 tinned leads, 1 1/4". 1/100 to 2-8/10 same as MDL type; 3 to 7 amps same as MDX type. U/L Approved.

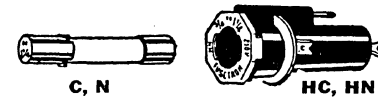
Buss No.	Amperes	Volts	Net Price For Five	Net Price For 100
MDV	1/100, 1/32	250	$1.90	$32.00
MDV	1/16, 1/10, 1/8, 15/100, 175/1000, 3/16, 2/10, 1/4, 3/10, 3/8, 4/10, 1/2, 6/10, 3/4, 8/10, 1	250	1.40	23.00
MDV	1 1/4, 1 1/2, 1-6/10, 2	125	1.30	22.00
MDV	2 1/2, 2-8/10, 3, 3-2/10, 4, 5, 6 1/4, 7	125	1.10	19.00

PIG-TAIL FUSES

Glass tube 1/4" x 1 1/4" with 1 1/4" leads of #20 tinned wire. Carry 110%, open 135% in 1 hour. 250 v. U/L Approved.

Buss No.	Amperes	Net Price For Five	Net Price For 100
GJV	1/16	$1.40	$24.00
GJV	1/8	1.00	17.00
GJV	1/4, 3/10, 3/8, 1/2, 3/4	.80	14.00
GJV	1, 1 1/4, 2, 3	.65	11.00
GJV	4, 5, 6	.65	11.00

TYPE C AND N FUSES, HOLDERS



C, N HC, HN

Matched glass fuses and fuseholders for specific size ranges. **Type N** fuses are dual-element time-delay or slow-blowing type. 0 to 1 1/4 amp sizes, 1/4" x 1 1/4"; 1-3/10 to 7 amp sizes, 1/4" x 1 1/16". **Type C** fuses are single-element quick-blowing type. 0 to 3 1/2 amp sizes, 1/4" x 1 1/16"; 3-6/10 to 10 amp sizes, 1/4" x 1 1/4". Holders rated at 250 volts.

TYPE N FUSES

Amperes	Holder No. HN-	Volts	Net Price For Five	Net Price For 100
1/100, 1/32		250	$1.60	$27.00
1/16, 1/10, 15/100, 2/10, 1/4, 3/10	0 to 3/10		1.15	20.00
4/10	3/10 to 1/2	250	1.15	20.00
1/2	3/10 to 1/2	250	1.15	20.00
6/10	1/2 to 3/4	250	1.15	20.00
7/10, 3/4	1/2 to 3/4	250	1.15	20.00
8/10, 1	3/4 to 1 1/4	250	1.15	20.00
1 1/4	3/4 to 1 1/4	250	1.05	18.00
1-6/10	1-3/10 to	125	1.05	18.00
1 3/4	1 3/4	125	1.05	18.00
2	1 3/4 to 2 1/2	125	1.05	18.00
2 1/2	1 3/4 to 2 1/2	125	1.00	17.00
2-8/10	2 1/2 to 3 1/2	125	1.00	17.00
3-2/10	2 1/2 to 3 1/2	125	1.00	17.00
3 1/2	2 1/2 to 3 1/2	125	1.00	17.00
4	3 1/2 to 5	125	1.00	17.00
5	3 1/2 to 5	125	1.00	17.00
6 1/4	5 to 7	125	1.00	17.00
7	5 to 7	125	1.00	17.00

TYPE C FUSES

Amperes	Holder No. HC-	Volts	Net Price For Five	Net Price For 100
1/32	0 to 3/10	250	$1.70	$29.00
1/16	0 to 3/10	250	1.15	19.00
1/8, 3/16	0 to 3/10	250	.85	14.00
1/4	0 to 3/10	250	.65	11.00
3/10	0 to 3/10	250	.65	11.00
3/8	3/10 to 1/2	250	.65	11.00
1/2	3/10 to 1/2	250	.65	11.00
3/4	1/2 to 3/4	250	.65	11.00
1	3/4 to 1 1/4	250	.39	6.50
1 1/4	3/4 to 1 1/4	250	.39	6.50
1 1/2	1 1/4 to 1 3/4	250	.39	6.50
1 3/4	1 1/4 to 1 3/4	250	.39	6.50
2	1 3/4 to 2 1/2	250	.39	6.50
2 1/2	1 3/4 to 2 1/2	250	.39	6.50
3	2 1/2 to 3 1/2	250	.39	6.50
3 1/2	2 1/2 to 3 1/2	250	.48	8.00
4	3-6/10 to 5	250	.48	8.00
5	3-6/10 to 5	250	.48	8.00
6	5 to 7	250	.48	8.00
7	5 to 7	250	.48	8.00
8	7 to 10	250	.70	12.00
10	7 to 10	250	.70	12.00

Type HC and Type HN Fuseholders—
All sizes (specify). Net for 10... $ 1.60
Net for 100..... 13.00

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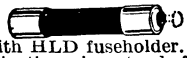
Buss® and Fusetron® Fuses, Holders

SERIES HLD PANEL-MOUNTING VISUAL INDICATING FUSEHOLDER

For ¼" x 1¼" GBA fuse. Transparent knob permits bright red dot to be seen readily if fuse is open. Knob grips fuse tightly; when removed, pulls fuse from holder. Knob also interchangeable with that of HKP fuseholder for easy conversion. Supplied with washer and nut. Locking keys available without charge: 1/16" lg. for panels up to ⅛" thick; ⅛" lg. for thicker panels. Specify length desired.

Buss No.	Description	Net Price For Ten	100
HLD	Complete holder	$4.30	$36.00
HLD	Knob only No. 5487	2.00	17.00

VISUAL INDICATING FUSE



For use with HLD fuseholder. Bright red dot on indicating pin extends from end of fuse when fuse is open even after power is off. Rated 125 V or less, carries 110%, opens at 135% in 1 hour or less. Only ¼" x 1¼".

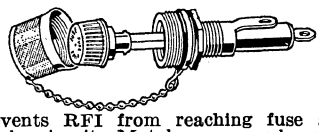
Buss No.	Amperes	Net Price For Five	100
GBA	¾	$2.45	$41.00
GBA	1, 1½, 2, 3, 4, 5	1.90	32.00

PANEL MOUNTED FUSEHOLDERS BAYONET KNOB TYPE

Side terminal held with solder and mechanically. Knob grips fuse tightly; pulls it from holder when knob is removed. Terminals designed to withstand severe service. Molded black phenolic body with flat spot for lock against rotation when used in punched hole; permits use of locking key in drilled holes. May be used in panels up to 5/16" thick. Locking keys available; specify 1/16" or ⅛" length. U/L Approved.

Buss No.	For Fuse Size, In.	Amps	Volts	Net Price For Ten	100
HJM	¼ x 1	5	125	$4.00	$33.00
HKP	¼ x 1¼	15	250	4.00	33.00

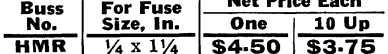
SHIELDED FUSEHOLDERS



Prevents RFI from reaching fuse and nearby circuits. Metal cap covers bayonet type knob. To shield and ground holder, a threaded metal collar fits over holder body; metal cap threads on collar. Collar grounds on metal panel when mounting nut is tight. Carrying capacity 30 amps, 250 volts or less. Meets MIL-1-6181D and MIL-F-19207B specifications.

Buss No.	For Fuse Size, In.	Net Price Each One	10 Up
HMR	¼ x 1¼	$4.50	$3.75
HMS	¼ x 1	4.50	3.75

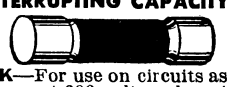
HIGH VOLTAGE FUSES



Designed for protection of circuits up to 20 kW on DC and 30 kVA on AC.

Buss No.	Amperes	V	Net Price For Ten	100
HVA	⅜, ½, ¾, 1, 1½, 2	1000	$ 2.50	$21.00
HVB	½, ¾, 1, 1½, 2	2500	3.50	29.00
HVJ	1/16, ⅛, ¼, ⅜, ½, ¾, 1, 1½, 2	5000	6.30	53.00
HVL	1/16, ⅛, ¼, ⅜, ½, ¾, 1, 1½, 2	10K	12.70	106.00

HIGH INTERRUPTING CAPACITY FUSES



Type KTK—For use on circuits as high as 100,000 amps at 600 volts or less, AC only. Glass fiber melamine tubes and sand filler surrounding a silver fuse element. **Amperes:** 1/10, ⅛, 2/10, ¼, 3/10, ½, ¾, 1, 1½, 2, 3, 4, 5, 6, 8, 10, 15, 20, 25 or 30. Lot of 10, Net **$10.20** Lot 100, Net **$85.00**

INDICATING FUSETRON FUSES

Similar to FNM types. Indicating pin extends from fuse when fuse blows. Use in signal fuse block or HPC-C fuseholder (larger than 10 amps units cannot be used in HPC-C). U/L Approved in 0-15 amp sizes.

Buss No.	Amperes	Net Price For Ten	100
FNA	1/10, 15/100, 2/10, 3/10, 4/10, ½, 6/10, 8/10, 1, 1⅛, 1¼, 1-4/10, 1-6/10, 1-8/10, 2, 2¼, 2½, 2-8/10, 3, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6, 6¼, 7, 8, 10	$5.80	$49.00
	12, 15, 20, 25, 30	6.60	55.00

INDICATING, LAMINATED TUBE FUSES

Red button on indicating pin extends from end of fuse when fuse is blown. Units are built in accordance with Navy Specifications. These units may be used in Buss HPC-C fuseholders. Voltage, (1-15 amps), 250, others, 125 V.

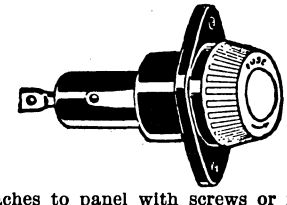
Buss No.	Amperes	Net Price For Ten	100
MIN	1, 2, 3, 5, 10, 15, 20, 25, 30	$3.80	$32.00

SIGNAL OR VISUAL INDICATING FUSES

MIC fuses have silver-plated indicating pin. Pin may be used as visual indicator or may be used to actuate a signal. **MIJ** fuses are similar to MIC types except they have been specially designed for complex circuitry as in computers. Voltage, 250 except 20 amps and over which are 32 V.

Buss No.	Amperes	Net Price For Ten	100
MIC	1, 2, 3, 5, 10, 15, 20, 25, 30	$4.40	$37.00
MIJ	1, 2, 3, 5, 10, 15, 20, 25, 30	4.90	41.00

SCREW-IN KNOB TYPE FUSEHOLDERS

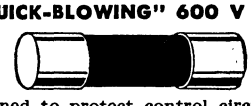


Attaches to panel with screws or rivets; mounts with flange on front side of panel of any thickness; with flange on rear side, panel up to ⅛" thick. Molded black phenolic body with soldered and mechanically held side terminal. Type HPC U/L Approved for 30 amps 600 volts. Type HPC-L U/L Approved for 5 A, 600 V.

Buss No.	For Fuses	Fuse Size, In.	Net Price For Ten	100
HPC	AGU, ABU, BAF, BAN, FNM, MDR, KLM	13/32x1½	$6.00	$50.00
HPC-L	BBS	13/32x1⅜	6.00	50.00
HPC-C	MIN, MIC, FNA	*	7.50	63.00

*Same as HPC but with transparent knob.

"QUICK-BLOWING" 600 V FUSES

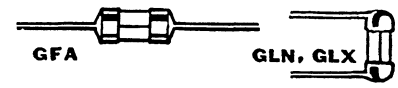


Designed to protect control circuits, fluorescent lighting circuits or similar uses where quick-blowing characteristics are desired. Use HPC-L fuseholder or 3845 fuse block. U/L Approved. Fiber tube 13/32" x 1⅜".

Buss No.	Amperes	Net Price For Ten	100
BBS	4/10, ¾, 8/10	$2.10	$17.00
	1, 2, 3, 4, 5	1.90	16.00

302-68B

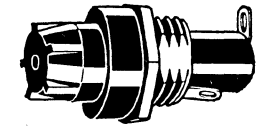
TRON® SUBMINIATURE PIGTAIL FUSES



Glass-tube construction with 1½" leads of #24 tinned copper for 1/100–5 amp ratings, #18 tinned copper for 7–15 amp ratings. Hermetically sealed. Color coded to indicate amp ratings. For circuits with fault current of 50 amps or less (1/100–5 amps for 125 V or less, 7–15 amps for 32 V or less). GLN, GLX body size, .140" x .3"; GFA body size, .145" x .3".

Buss No.	Amperes	Net Price For Ten	100
GLN	1/100	$11.80	$ 99.00
GLN	1/32, 1/20, 1/16, 1/10, 1/8, 3/10, 4/10, 7, 8, 15	10.00	83.00
GLX	15/100, 2/10, 1/4, 1/2, 6/10, 3/4, 1, 1½, 2, 3, 4, 5	13.00	108.00
GFA	1/100, 1/32, 1/20, 1/16, 1/10, 1/8, 15/100, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10	4.30	36.00
GFA	3/4, 1, 1½, 2, 3, 4, 5, 7, 8, 15	3.70	31.00

SPACE SAVER PANEL MOUNTED FUSEHOLDERS

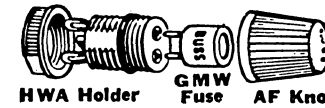


Length 1 5/8"; extends "⅛" behind front of panel. Takes ¼" x 1¼" fuses. Easily converts to take ⅝" x 1¼" fuses by changing screw type knob. Flat part of molded phenolic body locks fuseholder against rotation when used on punched hole. Requires ⅝" mounting hole.

Buss No.	For Fuse Size Dia. x L.	Net Each
HLF	¼" x 1¼"	$0.40
HCL	⅝" x 1¼"	.40
HMB*	¼" x 1¼"	.40
HMM*	¼" x 1¼"	.40

*Requires ½" mounting hole; HMM has screwdriver slot knob.

SUBMINIATURE PRONG TYPE UNIT

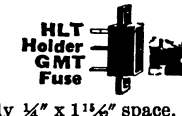


Rated 125 V or less, faulty current not over 300 amps; open at 200% within 10 sec. or less. Use AF knob for waterproof. Size, .27" dia., ¼" lg. (body).

Buss No.	Amperes	Net Price for Ten	100
GMW	1/200, 1/100, ⅛, ½, 1/16	$7.10	$60.00
GMW	1/10, 2/10, ¼, 3/10, 4/10, ½, 6/10, ¾, 1, 1½, 2, 3, 4, 5	5.50	46.00
HWA*	Holder, fits all GMW	6.80	57.00
HWA†	Holder, fits all GMW	6.00	50.00
AF	Knob only, fits HWA	.84	7.00

*With AF knob. †Without AF knob.

SIGNAL-INDICATING ALARM ACTIVATING TYPE UNIT



Takes only ¼" x 1 15/16" space. Color indicator. Rated 300 V or less; 100% for 10 min.; open at 150% within 5 min.

Buss No.	Amperes and Color of Indicator	Net Price for Ten	100
GMT	18/100*, ¼†, ½‡, 65/100§, ¾#, 1•, 1½▲, 2■, 3♦, 5ɪ, 7½ɪ, 10**	$4.20	$35.00
HLT	Holder, fits all GMT	4.30	36.00

Color of Indicator: *Yellow; †violet; ‡red; §black; #brown; •gray; ▲white; ■orange; ♦blue; ɪgreen; ɪblack-white; **red-white.

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Net

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Buss® and Fusetron® Fuses, Holders

INDICATING FUSES

Fiber tube with silver plated indicating pin which extends when fuse is blown. May be used to actuate a signal when used in HKA fuseholder or Signal Fuse Block. Dual tube construction in sizes larger than 5 amps (cannot be used in HKA fuseholder). Voltage, 125 volts, except 8 amp and over which are 32 volts. Size, ¼" x 1¼".

Buss No.	Amperes	Net Price For Five	Net Price For 100
GLD	¾	$2.25	$38.00
	1, 1½, 2, 3, 4, 5	1.75	30.00
	6, 8, 10, 12, 15, 20	2.45	41.00

LAMP-INDICATING BAYONET TYPE

Transparent bayonet knob with indicating light. Molded phenolic body brown for HKR type, black for HKL and HKL-X types. Side terminals held mechanically as well as soldered (also end terminals on HKL and HKL-X). HKR end terminals held mechanically and have ⅛" outward movement when fuse is inserted. Locking slugs available on request without extra charge, 1/16" size. Models HKL and HKL-X are for Neon Lamps, have voltage rating of 90 to 250 and are rated 220,000 Lamp resistor ohms. Model HKL-X has parallel flat-sided knob for positive finger grip. Model HKR is for use with incandescent lamps, rated 22 to 33 volts, and 330 Lamp resistor ohms. Max. amps, 20.

Buss No.	Fuse Size, Inches	Knob Color	Net Price For Ten	Net Price For 100
HKL	¼ x 1¼	Clear	$16.10	$135.00
HKL-X	¼ x 1¼	Clear	16.10	135.00
HKR	¼ x 1¼	Amber	26.50	221.00

LAMP-INDICATING, SIGNAL-ACTIVATING TYPE

When used with GLD fuses in ratings of ¾ to 5 amps, provides simultaneous lamp and external signal indication when the fuse blows. Extension pin of fuse, on blowing, completes a circuit through the knob to indicating lamp of holder and an external signal (to a distant lamp or an audible alarm or relay). Current provided for signaling is 28 volts, .040 ampere. Transparent amber knob. Holder body is molded brown phenolic. Designed for use on circuits where load is 125 volts. Fits panels up to ⅛" thick. Flat area on threaded section to prevent rotation, or permit use of a 1/16" locking slug in a drilled hole (slug available, free).

Buss No. HKA—Net Each..... **$ 3.53**
Lot of 10, Net..... **29.40**

IN-THE-LINE FUSEHOLDERS

Bayonet knob with metal holding ears. Center drilled contacts ready to be staked to ends of wire. Designed to take No. 18–22 wire (suffix **-A**) or 14–16 wire (suffix **-B**). Max. amps, 15.

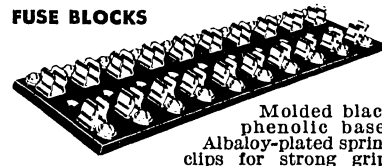
Buss No.	Fuse Size, Inches	Max. Volts	Net Price For Ten	Net Price For 100
HHJ	¼ x 1¼	250	$2.00	$17.00
HHI	¼ x 1 or 1 1/16	250	2.00	17.00
HHH	¼ x ⅞	250	2.00	17.00
HIG	¼ x ¾	250	2.00	17.00
HIF	¼ x ⅝	250	2.00	17.00

FUSEHOLDER ASSEMBLY WITH FUSE

Includes fuse and one of the standard holders listed above with 19" loop of #14 wire staked and soldered to terminals. Spring nut supplied for panel mounting.

Buss No.	Comp. Holder and Fuse Nos.	Net Price For Ten	Net Price For 100
HRJ	HHJ w/SFE 20	$4.00	$33.00
HRI	HHI w/SFE 14	4.00	33.00
HRH	HHH w/SFE 9	4.00	33.00
HRG	HIG w/SFE 6	4.00	33.00
HRF	HIF w/SFE 4	4.00	33.00

STANDARD FUSE BLOCKS



Molded black phenolic base; Albaloy-plated spring clips for strong grip, high corrosion resistance.

SOLDER TERMINAL TYPE ON SMALL BASE

Buss No. for Fuse ¼" x 1¼"	Buss No. for Fuse ¼" x 1"	No. Poles	Base Size*	Net Each
3823-1	3828-1	1	½"	$0.18
3823-2	3828-2	2	1⅛"	.36
3823-3	3828-3	3	1¾"	.54
3823-4	3828-4	4	2⅜"	.72
3823-5	3828-5	5	3"	.90
3823-6	3828-6	6	3⅝"	1.08
3823-7	3828-7	7	4¼"	1.26
3823-8	3828-8	8	4⅞"	1.44
3823-9	3828-9	9	5½"	1.62
3823-10	3828-10	10	6⅛"	1.80
3823-11	3828-11	11	6¾"	1.98
3823-12	3828-12	12	7⅜"	2.16

SCREW TERMINAL TYPE ON FULL BASE

3833-1	.....	1	15/16"	$0.36
3833-2	.....	2	1 1/16"	.72
3833-3	.....	3	2 3/16"	1.08
3833-4	.....	4	3⅛"	1.44
3833-5	.....	5	4 5/16"	1.80
3833-6	.....	6	5 7/16"	2.16
3833-7	.....	7	6 9/16"	2.52
3833-8	.....	8	7 11/16"	2.88
3833-9	.....	9	8 13/16"	3.24
3833-10	.....	10	8 15/16"	3.60
3833-11	.....	11	9 1 1/16"	3.96
3833-12	.....	12	10¾"	4.32

*x 1⅜", 3823 Series; x 1⅝", 3828 Series; x 2⅜", 3833 Series.

FUSETRON DUAL-ELEMENT FUSES

Long time-lag prevents useless shut-downs caused by ordinary fuses opening on starting currents or other harmless overloads, yet protects against short-circuits. On normal installations will guard motors against burnout from overloads or single phasing. U/L Listed for motor running and circuit protection up to 250 volts.

Buss No.	Amperes	Net Price For Ten	Net Price For 100
FRN	1, 1¼, 1-6/10, 2, 2½, 3-2/10, 4, 5, 6¼, 8, 10, 12, 15, 17½, 20, 25, 30	$3.70	$31.00
FRN	35, 40, 45, 50, 60	7.30	61.00

FRN	70, 80, 90, 100	$16.90	$141.00

ONE-TIME FUSES

Get same care in engineering and manufacture as other BUSS products. Each can be depended upon to operate as intended under all service conditions. Carry U/L label. For voltages up to 250.

Buss No.	Amperes	Net Price For Ten	Net Price For 100
NON	1, 3, 6, 10, 15, 20, 25, 30	$1.10	$ 9.00
NON	35, 40, 45, 50, 60	2.10	18.00

NON	70, 80, 90, 100	$9.10	$ 76.00

TRON RECTIFIER FUSES

For Protection of Semiconductor Rectifiers and Similar Applications

Especially designed for protection of semiconductor rectifiers, thyristors and other solid state devices. High interrupting capacity and very fast clearing to restrict let-through current and energy to very low values. Give safe short-circuit protection for systems with fault current to 200 KA at 600 volts or less. Carry 100%, open at 1000 secs between 150% and 180% of rating; open within 1 sec at 250% of rating.

KAA SERIES

Size, 1½" lg. x 1 3/32" dia. Also available up to 1000 amps; prices on request.

Buss No.	Amperes	Max. Volts	Net Each
KAA	½, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20, 25, 30	130	$0.80

KAW SERIES

Size, 1½" lg. x 1 3/32" dia.

KAW	1, 2, 3, 4, 5, 7, 8, 10, 12, 15, 20, 25, 30	130	$0.80

KAB SERIES

Size, 9/16" dia. x 2" lg., values to 30 amps; 1 7/32" dia. x 3⅛" lg., 70 amps to 200 amps. Also available up to 800 amps; prices on request.

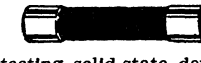
KAB	½, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 17½, 20, 25, 30	250	$0.90
KAB	70, 80, 90, 100, 150, 175, 200	250	5.50

KAC SERIES

Size, 2⅞" lg. x 9/16" dia. Also available up to 800 amps; prices on request.

KAC	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 17½, 20, 25, 30	600	$1.20

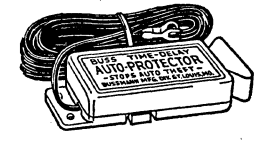
GBB TRON RECTIFIER FUSES



For protecting solid state devices. Extra fast on overloads or fault currents, yet hold max. peak voltage, during interruption to well below PIV of diode being protected. Ceramic tube ¼" x 1¼". All ratings carry 100%, and open within 1 sec. at 250%; units to 10 amps also open in 0.01 sec. at 400%. **Voltage:** Rated 130 V or less for 1, 1¼, 2, 3, 5, 6, 7, 8, 9 or 10 amps. Rated 65 V or less for 12, 15, 20, 25 or 30 amps. Specify which amperage when ordering.

All Values Above—Net Ea., 15 or less. **64c**
Net Each, 16 Up..... **53c**

AUTO PROTECTOR



STOPS AUTO AND TRUCK THEFT

Time-delay device installs in minutes on any car, 6 or 12 volt systems. Allows thief to start engine; fuse opens within blocks and cannot be restarted. Individually bubble packed.

Buss No. AP-1—Net Ea., Lots 1–19 **$3.50**
Net Each, 20 or more..... **3.00**
Buss No. AP-5—Spare fuse refills for above. Net Each..... **$0.75**

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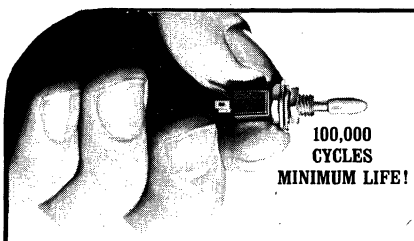
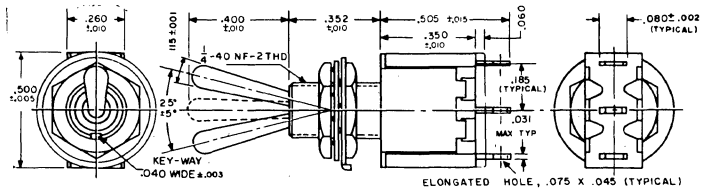


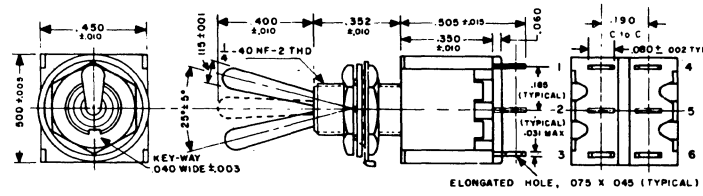
SUBMINIATURE TOGGLE SWITCHES

Designed to meet the highest standards of quality and reliability, C&K's **subminiature toggle switches** successfully combine **maximum** performance with **minimum** weight and small size. All of the switches shown below feature **rugged construction, simple mounting, excellent appearance,** and **long, trouble-free operation!** These new subminiature toggle switches adapt to virtually any manual switching requirement in a very wide range of aerospace/ground/undersea applications where space is at a premium!

SERIES
7100
SPDT

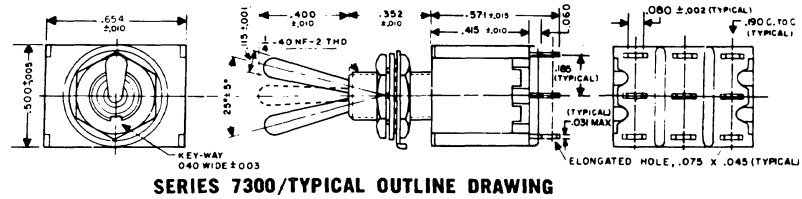


SERIES
7200
DPDT



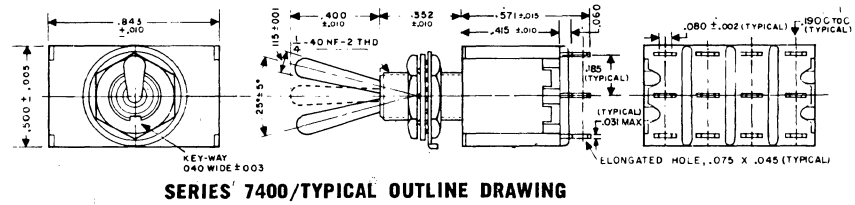
SERIES 7200/TYPICAL OUTLINE DRAWING

SERIES
7300
3PDT



SERIES 7300/TYPICAL OUTLINE DRAWING

SERIES
7400
4PDT



SERIES 7400/TYPICAL OUTLINE DRAWING

C&K COMPONENTS, INC.

quality electro-mechanical products

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GENERAL SPECIFICATIONS

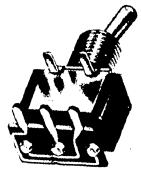
CONTACT RATING:
5 Amperes resistance load @ 115 VAC — 28 VDC
INSULATION RESISTANCE:
1000 megohms minimum
DIELECTRIC STRENGTH:
1000 volts rms at sea level
ELECTRIC LIFE:
100,000 make-and-break cycles minimum on all models ending in **01** only; all other models provide 40,000 cycles. 11.5 V — 28 VDC resistive load.
INITIAL CONTACT RESISTANCE:
10 milliohms maximum at 2-4 VDC, 1 amp.

CONTACTS AND TERMINALS:
Working contacts Coin Silver standard; switches with all contacts copper flash and .0001" of gold plate are available at an additional charge of $.25 per pole up to quantities of 1000 switches.
OPERATING LEVER:
Bright chrome plated brass bat handle toggle is standard; plastic color caps supplied on request.*
CASE MATERIAL:
General purpose phenolic.
STANDARD HARDWARE SUPPLIED:
2 Hex mounting nuts***
1 Internal tooth lockwasher
1 Keyed positioning ring

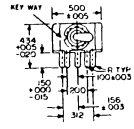
A COMPETITIVELY-PRICED MADE-IN-AMERICA PRODUCT

SERIES
7100 RPC
SPDT

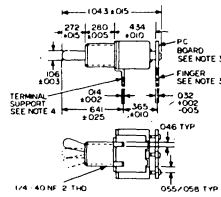
Right-Angle Mounting



Typical Outline Drawing



Mounting Information



Notes:
1. Tolerances unless otherwise specified ± .005.
2. Working contacts are gold-plated Coin Silver.
3. Printed Circuit Board is G10 Epoxy-copper electrotin plated. Fingers only have copper both sides — circuit on P.C. Board has copper outside only.
4. Terminal support is ½ HD. brass electrotin plated.

AVAILABLE TOGGLE LEVER POSITIONS AND CIRCUITS

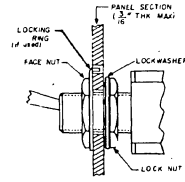
MODEL NO.			KEY-WAY	INDUSTRIAL NET PRICE SCHEDULE	
				LESS THAN 25 (each)	25 to 99 (each)
7101	ON	NONE	ON	$1.65	$1.10
7103	ON	OFF	ON	1.95	1.30
7105	(ON)	OFF	(ON)	1.95	1.30
7107	ON	OFF	(ON)	1.95	1.30
7109	NONE	ON	(ON)	1.95	1.30
7101RPC	ON	NONE	ON	2.70	2.15
7103RPC	ON	OFF	ON	3.10	2.45
7105RPC	(ON)	OFF	(ON)	3.10	2.45
7107RPC	ON	OFF	(ON)	3.10	2.45
7109RPC	NONE	ON	(ON)	3.10	2.45
7201	ON	NONE	ON	2.15	1.43
7203	ON	OFF	ON	2.55	1.70
7205	(ON)	OFF	(ON)	2.55	1.70
7207	ON	OFF	(ON)	2.55	1.70
7209	NONE	ON	(ON)	2.55	1.70
*7211	ON	ON	ON	2.85	1.90
*7213	ON	ON	(ON)	3.15	2.10
*7215	(ON)	ON	(ON)	3.45	2.30
	2-3	2-3	1-2		
	5-6	4-5	4-5		
7301	ON	NONE	ON	3.85	2.57
7303	ON	OFF	ON	4.80	3.20
7305	(ON)	OFF	(ON)	4.80	3.20
7307	ON	OFF	(ON)	4.80	3.20
7309	NONE	ON	(ON)	4.80	3.20
7401	ON	NONE	ON	4.85	3.29
7403	ON	OFF	ON	6.05	4.10
7405	(ON)	OFF	(ON)	6.05	4.10
7407	ON	OFF	(ON)	6.05	4.10
7409	NONE	ON	(ON)	6.05	4.10
*7411	ON	ON	ON	6.90	4.30
*7413	ON	ON	(ON)	6.90	4.30
*7415	(ON)	ON	(ON)	6.90	4.30
	2-3	2-3	1-2		
	5-6	4-5	4-5		
	8-9	8-9	7-8		
	11-12	10-11	10-11		

Circuitry with toggle lever positioned as shown. ( ) Parenthesis indicates momentary position. See printed circuit terminal configuration section on back cover.

All prices F.O.B. Watertown, Mass. TERMS: net 30 days. Prices are subject to change without notice. Production quantity prices available on request.

*See Series 7200-7400 outline drawings for terminal designations.

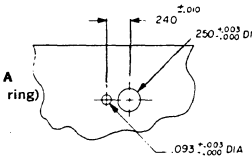
MOUNTING INFORMATION



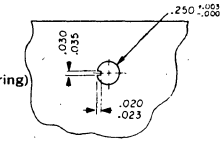
WARNING: Do not torque face nut when lock nut is not in place. for use with panels up to 3/16" thk!

RECOMMENDED PANEL LAYOUTS

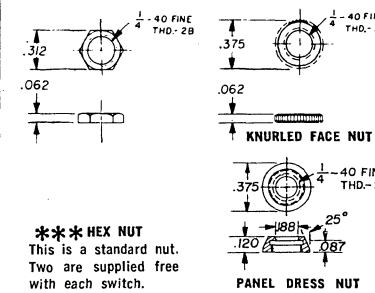
METHOD A (with locking ring)



METHOD B (without locking ring)



MOUNTING NUTS
FINISH: BRIGHT NICKEL PLATE



***HEX NUT
This is a standard nut. Two are supplied free with each switch.

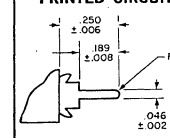
On request, one hex and one special nut may be substituted at no charge.

KNURLED FACE NUT

PANEL DRESS NUT

SPECIAL NUTS
(See note at left)

PRINTED CIRCUIT TERMINAL CONFIGURATION



Terminals for printed circuit applications are available on request on any Model at slight additional cost.

To specify— add PC to Model Number. EXAMPLE: 7101PC

***COLOR CAPS**

COLOR-CAPS (VINYL PLASTISOL) are available for standard bat handle toggles at **no extra cost!** Please specify: BROWN, BLACK, RED, ORANGE, YELLOW, GREEN, BLUE, VIOLET, GRAY, or WHITE.

C&K COMPONENTS, INC.

quality electro-mechanical products

ONE HOLE MOUNTING

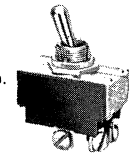
SLOW MAKE, SLOW BREAK A-C SWITCHES

3-6, 10-15 AMP. — ONE AND TWO POLE

Features include: heavy duty independent springs for positive contact pressure, solid silver to silver contacts and strong substantial terminal construction.

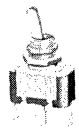
Bushing dia. 15/32", bushing length 15/32". Also available with 11/32" bushing length.

Screw terminals except 7516 and 7517 which have plug-in type terminals. All switches listed except 7516 and 7517 also available with solder lug or spade type terminals.



Cat. No. 7560

Cat. Nos. 7503, 7505



Cat. No. 7511

Cat. No. 7516, 7517 Plastic Superstructure

Circuit Arrangement (A, B, C — Keyway on "C" Side of Switch)			Throws	Catalog Number Screw Terminals△ and 15/32" Bushing Length	
				1 Pole	2 Pole
3 AMP.—250 V. A-C, 6 AMP.—125 V. A-C					
ON	OFF	ON	DT	7581K4	7591K4
ON	OFF	ON*	DT	7586K4	7596K4
ON*	OFF	ON*	DT	7587K4	7597K4
ON	NONE	ON	DT	7582K4	7592K4
ON	NONE	ON*	DT	7585K4	7595K4
ON	NONE	OFF	ST	7516K5△	.....
ON	NONE	OFF	ST	7580K4	7590K4
ON	NONE	OFF*	ST	7584K4	7594K4
OFF	NONE	ON*	ST	7583K4	7593K4
10 AMP.—250 V. A-C, ½ MAX. H.P.—250 V. A-C					
ON	OFF	ON*	DT	7508K6	7568K2
ON*	OFF	ON*	DT	7509K5	7569K2
ON	NONE	ON*	DT	7510K7	7570K5
ON	NONE	OFF	ST	7517K5△	....
ON	NONE	OFF*	ST	7507K4	7567K5
OFF	NONE	ON*	ST	7506K4	7566K5
10 AMP. — 250 V. A-C, 15 AMP. — 125 V. A-C, ¾ MAX. H.P. — 250 V. A-C					
ON	OFF	ON	DT	7502K13	7562K4
ON	NONE	ON	DT	7504K4	7564K6
ON	NONE	OFF	ST	7500K14	7560K5

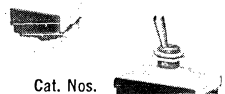
*Momentary contact △7516 and 7517 supplied with plug-in terminals only.

10-15 AMP. LINE — THREE AND FOUR POLE

Bushing dia. 15/32". Bushing length — 15/32" (7610 and 7615 also available with 11/32" bushing).

Ratings — Three pole switches — 10 amp. — 250 V. A-c, 15 Amp. — 125 V. A-c, 1 hp polyphase — 115-575 V. A-c. Four pole switches — 10 Amp. — 250 V. A-c, ½ hp — 230 V. A-c.

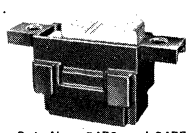
Cat. Nos. 7690, 7697



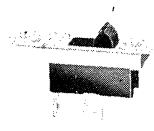
Cat. Nos. 7610, 7618

Circuit Arrangement (A, B, C — Keyway on "C" Side of Switch)			Throws	Catalog Number—15/32" Bushing Length			
				3 Pole		4 Pole	
				Screw Terminals	Solder Lug Terminals	Screw Terminals	Solder Lug Terminals
ON	OFF	ON	DT	7612K2	7613K2	7692K13	7693K2
ON*	OFF	ON	DT	7613K2	.....	.....	.....
ON	NONE	ON	DT	7614K2	7615K2	7694K4	7695K5
ON*	NONE	ON	DT	7618K2	.....	.....	.....
ON	NONE	OFF	ST	7610K2	7611K2	7690K8	7691K14
ON*	NONE	OFF	ST	7616K2	.....	.....	.....
ON*	NONE	OFF	ST	.....	.....	7696K6	7697K6

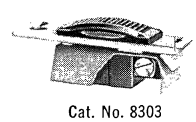
*Momentary contact.



Cat. Nos. 8476 and 8477



Cat. Nos: 8486, 8487, 8488



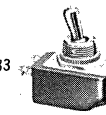
Cat. No. 8303

QUICK MAKE, QUICK BREAK A-C, D-C SWITCHES

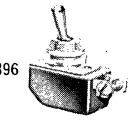
UTILITY TYPE

They have a quick make and quick break over center arrangement on the movable contact which permits exceptionally fast contact action minimizing pitting and erosion of the contact surfaces.

Available with screw terminals, solder lug terminals or with 6" lead wires stripped ¾". Bushing dia. 15/32", bushing length 15/32". Also available with bushing lengths of ¼", 11/32", ¾" and 1" — ¾" and 1" bushings furnished with ball type lever only.

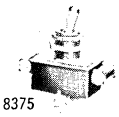


Cat. No. 8383

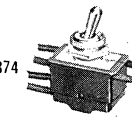


Cat. No. 8396

Cat. Nos. 8363, 8373 With Nylon Paddle Operator



Cat. Nos. 8365, 8375



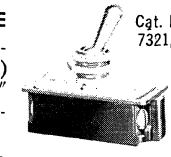
Cat. Nos. 8364, 8374

Nominal Ratings (Amps.)		Poles and Throws	Catalog No.—15/32" Bushing Length		
250 V. A-c, D-c	125 V. A-c, D-c		Screw Terminals	Solder Lug Terminals	Wire Lead Terminals
1	3	SPDT (3 Way)	8297K8	8282K14	8292K14
3	....	SPST	8295K8	8280K16	8290K16
3	....	DPST	8362K7	8360K7	8361K7
3	....	DPDT	8365K7	8363K7	8364K7
3	6	SPST	8396K8	8381K8	8391K8
3	6	DPST	8372K7	8370K7	8371K7
3	6	DPDT	8375K7	8373K7	8374K7

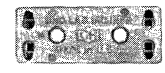
HEAVY DUTY TYPE

Screw terminals or plug-in terminals (connection made by plugging wire into switch body) are available. Plug-in type switches have 3/32" square hole to accept #14, 16 or 18 ga., stranded, tin dipped wire leads skinned 7/32".

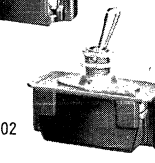
Bushing dia. 15/32", bushing length 15/32". Also available with 11/32" bushing length.



Cat. Nos. 7320, 7321, 7322



Rear view of 7343 showing holes for plug-in wire leads.



Cat. No. 7402

Nominal Ratings (Amperes)		Max Hp Ratings (250 V.)		Poles and Throws	Catalog Number 15/32" Bushing Length	
250 V. A-c, D-c	125 V. A-c, D-c	A-c	D-c		Screw Terminals	Plug-in Terminals
5	....	....	....	DPDT w/o Center Off	8680K2	.....
5	10	½	½	SPST	.....	7347K3
5	10	½	½	DPST	.....	7343K2
8	16	1	1	SPST	7321K3	.....
8	16	1	1	DPST	7320K3	7443K3
10	15	1	½	DPST	.....	7354K3
10	15	1	1½	SPST	7361K5	.....
10	15	1	1½	DPST	7360K8	.....
10	15	....	....	DPDT w/o Center Off	8690K2	.....
20	..	2	2	SPST	7403K2	.....
20	....	2	2	DPST	7402K4	.....

SLIDE BUTTON SWITCHES

FLUSH MOUNTING

SPST and SPDT, flush mounting slide switches.

Mounting centers — 2 3/16"—8303, 1½"—8746 and 8477, 1⅛" on all others.

Operating buttons are red plastic on 8476-77, black phenolic on all others.

Ampere Rating A-c		Maximum Hp Ratings A-c Only		Poles and Throw	Circuit Arrangement (A, B, C)			Catalog Numbers			
125 V.	250 V.	125 V.	250 V.					Screw Term.	.250" Spade Term.	Solder Lug Term.	Plug-In Term.
6	3	...	...	SPST	On	None	Off	.....	.....	.....	8476K1
6*	3*	...	...	SPST	On	None	Off	8303K1	.....	.....	.....
7	3	...	¼	SPST	On	None	Off	.....	8486K1	8486K2	.....
7	3	...	¼	SPDT	On	Off	On	.....	8487K1	8487K2	.....
7	3	...	¼	SPDT	On	None	On	.....	8488K1	8488K2	.....
10	5	½	½	SPST	On	None	Off	.....	.....	.....	8477K1

*A-c and d-c rating.

CUTLER-HAMMER, Inc., Most C-H switches are available with optional features for special applications. See your local Sales Office or Distributor for complete switch listings, accessories and optional features.

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CUTLER-HAMMER SWITCHES

See your local C-H representative for prices and accessory information.

"Commercial Application"

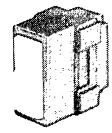
ROCKETTE SWITCHES — A-C ONLY

3-6, 10-15 AMP., A-C LINE

Rockers can be furnished on special order in any color to harmonize with the appliance color. Standard color of rocker is white.

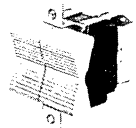
Switches are flush mounting.

Spade terminals available in sizes .250", .205" and .187".

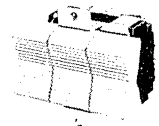


Cat. No's. •8134 & 8144

Cat. No's. 8326, 8329



Double actuator, double pole. Cat. No's. 8133 and 8143



Triple actuator, four pole. Cat. No's. 8131 and 8141

Circuit Arrangement (A B C)			Poles and Throws	Number of Rockers	Catalog Numbers: 3 Amp. 250 V. A-c 6 Amp. 125 V. A-c	Catalog Numbers: 10 Amp. 250 V. A-c 15 Amp. 125 V. A-c ¾ Hp. 250 V. A-c
ON	OFF	ON	SPDT	One	—	8144K20A1M52
ON *	OFF	ON *	SPDT	One	8136K20A1M52	8146K20A1M52
ON	NONE	OFF	SPST	One	8134K21A1M52	8144K21A1M52
ON	NONE	OFF	SPST	One	8326K2	—
ON *	NONE	OFF	SPST	One	8135K21A1M52	—
ON	OFF	ON	DPDT	One	—	8142K20E6M52
ON *	OFF	ON *	DPDT	One	8138K20E6M52	—
ON	NONE	OFF	DPST	One	8132K21E6M52	8142K21E6M52
ON	NONE	OFF	DPST	Two	8133K21E10M52	8143K21E10M52
ON *	NONE	OFF	DPST	One	8137K21E6M52	—
ON	OFF	ON	4PDT	Two	8130K20H14M52	—
ON	NONE	OFF	4PST	Two	8130K21H14M52	8140K21H14M52
ON	NONE	OFF	4PST	Three	8131K21H16M52	8141K21H16M52

*Momentary contact.

PUSHBUTTON SWITCHES

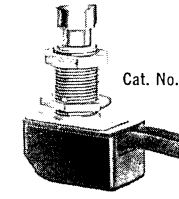
ONE HOLE MOUNTING—

A-C, D-C AND A-C ONLY TYPES

Bushing dia. 15/32". Bushing length; 8411—¼", 7190 and 7196—½", all others 11/16".

All switches are momentary contact type except 7208 and 7206 which are push push type.

8442 and 8444 have standard 17/32" button. Also available with short ¼" button.



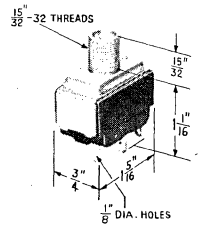
Cat. No. 7207

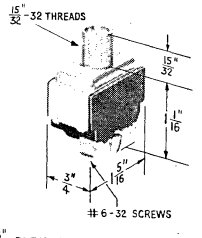
Ratings (Amperes) 125 V.	250 V.	Poles and Throws	Contacts	Catalog Numbers: Screw Term.	Solder Lug Term.	Spade Term.	Wire Leads
A-C, D-C SWITCHES							
.075	.025	SPST	N. O.	8411K12	.....	8411K11	....
.075	.025	SPST	N. C.	8411K7	8411K8	8411K10	....
6	3	SPST	N. O.	7196K1	7190K1	....	7193K1
6	3	SPST	N. O., N. C.	7208K4	7206K4	....	7207K4
A-C ONLY SWITCHES							
6	3	SPST	N. O.	8442K3	....	8442K2	....
15	10	SPST	N. O.	8444K3	....	8444K2	....
15†	10†	SPDT	N. O., N. C.	8446K2	....	....	....
15	10	DPST	N. O.	8448K2	....	8448K1	....

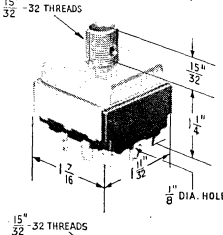
†Applies to N. O. circuit only. Rated 10 A. @ 125 V. and 5 A. @ 250 V. on N. C. circuit.

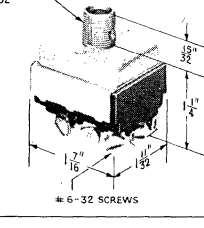
A-C DESIGNER LINE SWITCHES

ONE HOLE MOUNTING









Nominal Ratings: Amperes 125 V A-c	250 V A-c	HP 250 V A-c	Circuit Arrangement (A B C) Keyway on "C" Side of Switch			Complete Designer Line Catalog Number: Basic Switch Number: Screw Terminal	Solder Lug Terminal	Screw Terminal	Solder Lug Terminal	* Lever Shape Suffix No. (Select One)	Cover Suffix No. (Select One)
						Single Pole		Two Pole		A C D E F G	21-White 22-Red 23-Gray 24-Green 25-Yellow 26-Blue 27-Black
6	3	—	ON	NONE	OFF	7590K73	7590K74	7590K53	7590K54		
6	3	—	ON	OFF	ON	7591K73	7591K74	7591K53	7591K54		
6	3	—	ON	NONE	ON	7592K73	7592K74	7592K53	7592K54		
6	3	½	ON *	OFF	ON *	7597K73	7597K74	7569K53	7569K54		
15	10	¾	ON	NONE	OFF	7560K73	7561K74	7560K53	7561K54		
15	10	¾	ON	OFF	ON	7562K73	7563K74	7562K53	7563K54		
15	10	¾	ON	NONE	ON	7564K73	7565K74	7564K53	7565K54		
						Three Pole		Four Pole			
15	10	¾	ON	NONE	OFF	7690K73	7691K74	7690K53	7691K54		
15	10	¾	ON	OFF	ON	7692K73	7693K74	7692K53	7693K54		
15	10	¾	ON	NONE	ON	7694K73	7695K74	7694K53	7695K54		

*Momentary.

how to order

You need a single pole A-c Designer Line switch that's 3-6 amp rated for 125/250V A-c. An "ON-OFF-ON" circuit arrangement. Solder lug terminals. You want toggle lever style "G" and a **yellow** lever. Read across the table, select the rating, circuits, and the type of terminals. Select the lever style and the color. Write the order . . .

7591K74 (basic switch (solder lug terminals)) G (lever style) 25 (lever color)

Complete catalog number — 7591K74G25.

This is only one of the many, many A-c Designer Line switches offered. Need special information and pricing, call your Cutler-Hammer distributor or sales representative. C-H has the capability to design and build the switch to meet your specs. Switch to the A-c Designer Line!

*13/16" Maximum lever height.

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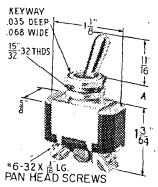
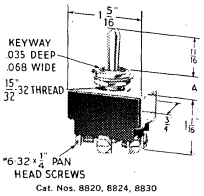
"Military Application"

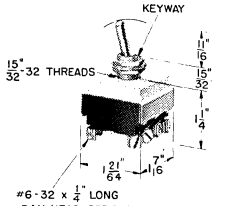
MIL-S-3950B



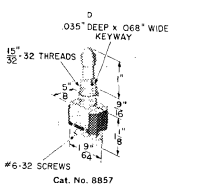
Cat. Nos. 8800, 8804, 8809, 8810, 8812



Cat. Nos. 8820, 8824, 8830



Cat. No. 7660



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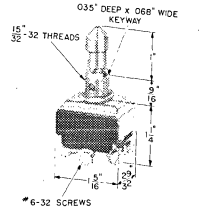
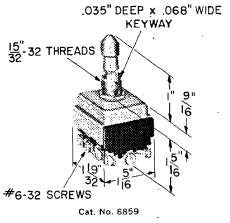
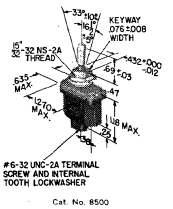


Cat. No. 8858



Cat. No. 8859

MIL-S-3950C



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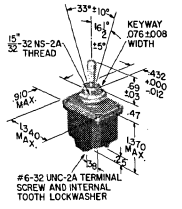

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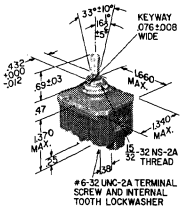

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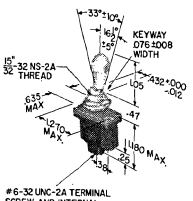

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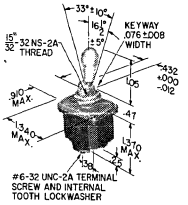

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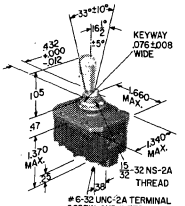

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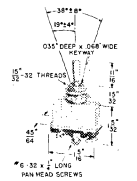

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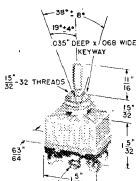

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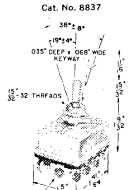

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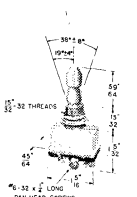

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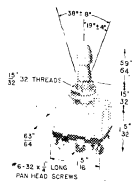

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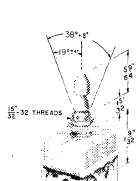

Cat. No. 8845

	Circuit with lever in . . .			MIL-S-3950B		MIL-S-3950C		MIL-S-8834B	
	UP Position	CENTER Position	DOWN Position (Keyway)	① C-H Part Number	MIL-S-Part Number	C-H Part Number	MIL-S-Part Number	① C-H Part Number	MIL-S-Part Number
1 POLE	ON	OFF	ON	8800K16	MS35058-21	8500K1②	MS24523-21	8836K1	MS25306-212
	ON	NONE	OFF	8801K22	MS35058-22	8500K9②	MS24523-22	8836K9	MS25306-222
	ON	NONE	ON	8810K15	MS35058-23	8500K4②	MS24523-23	8836K4	MS25306-223
	ON	OFF	NONE	8801K23	MS35058-24	8500K6②	MS24523-24	8836K6	MS25306-242
	ON	OFF*	NONE	8813K18	MS35058-25	8500K8③	MS24523-25	—	—
	ON	NONE	ON*	8804K13	MS35058-26	8500K5③	MS24523-26	8836K5	MS25306-262
	ON*	OFF	ON*	8812K14	MS35058-27	8500K2③	MS24523-27	8836K2	MS25306-272
	NONE	OFF	ON*	8811K18	MS35058-28	8500K7③	MS24523-28	8836K7	MS25306-282
	ON	NONE	OFF*	8813K17	MS35058-29	8500K10③	MS24523-29	8836K10	MS25306-292
	OFF	NONE	ON*	8811K17	MS35058-30	8500K11③	MS24523-30	8836K11	MS25306-302
	ON	OFF	ON*	8809K16	MS35058-31	8500K3③	MS24523-31	8836K3	MS25306-312
	ON*	ON	NONE	—	—	8500K12③	MS24523-32	—	—
	ON	ON	NONE	—	—	8500K13③	MS24523-33	—	—
2 POLE	ON	OFF	ON	8820K16	MS35059-21	8501K1④	MS24524-21	8837K1	MS25307-212
	ON	NONE	OFF	8822K20	MS35059-22	8501K9④	MS24524-22	8837K9	MS25307-222
	ON	NONE	ON	8824K14	MS35059-23	8501K4④	MS24524-23	8837K4	MS25307-232
	ON	OFF	NONE	8822K21	MS35059-24	8501K6④	MS24524-24	8837K6	MS25307-242
	ON	OFF*	NONE	8826K12	MS35059-25	8501K8⑤	MS24524-25	—	—
	ON	NONE	ON*	8830K13	MS35059-26	8501K5⑤	MS24524-26	8837K5	MS25307-262
	ON*	OFF	ON*	8834K5	MS35059-27	8501K2⑤	MS24524-27	8837K2	MS25307-272
	NONE	OFF	ON*	8826K14	MS35059-28	8501K7⑤	MS24524-28	8837K7	MS25307-282
	ON	NONE	OFF*	8828K13	MS35059-29	8501K10⑤	MS24524-29	8837K10	MS25307-292
	OFF	NONE	ON*	8826K15	MS35059-30	8501K11⑤	MS24524-30	8837K11	MS25307-302
	ON	OFF	ON*	8832K6	MS35059-31	8501K3⑤	MS24524-31	8837K3	MS25307-312
	ON*	ON	NONE	—	—	8501K12③	MS24524-32	—	—
	ON	ON	NONE	—	—	8501K13④	MS24524-33	—	—
4 POLE	ON	OFF	ON	7662K7	MS25068-21	8502K1⑥	MS24525-21	8838K1	MS25308-212
	ON	NONE	OFF	—	—	8502K9⑥	MS24525-22	8838K9	MS25308-222
	ON	NONE	ON	7664K5	MS25068-23	8502K4⑥	MS24525-23	8838K4	MS25308-232
	ON	OFF	NONE	7660K13	MS25068-24	8502K6⑥	MS24525-24	8838K6	MS25308-242
	ON	OFF*	NONE	7668K7	MS25068-25	8502K8⑦	MS24525-25	—	—
	ON	NONE	ON*	7674K5	MS25068-26	8502K5⑦	MS24525-26	8838K5	MS25308-262
	ON*	OFF	ON*	7672K5	MS25068-27	8502K2⑦	MS24525-27	8838K2	MS25308-272
	NONE	OFF	ON*	7666K9	MS25068-28	8502K7⑦	MS24525-28	8838K7	MS25308-282
	ON	NONE	OFF*	—	—	8502K10⑦	MS24525-29	8838K10	MS25308-292
	OFF	NONE	ON*	—	—	8502K11⑦	MS24525-30	8838K11	MS25308-302
	ON	OFF	ON*	7670K6	MS25068-31	8502K3⑦	MS24525-31	8838K3	MS25308-312
	ON*	ON	NONE	—	—	8502K12③	MS24525-32	—	—
	ON	ON	NONE	—	—	8502K13⑥	MS24525-33	—	—
1 POLE	ON➤	◄OFF➤	◄ON	8857K39	MS25125-A1	8503K1⑦	MS24658-21A	8843K1	MS24612-A212
	ON	◄OFF➤	ON	8857K40	MS25125-B1	8503K2⑦	MS24658-21E	8843K2	MS24612-B212
	ON	OFF	◄ON	8857K41	MS25125-C1	8503K3⑦	MS24658-21G	8843K3	MS24612-C212
	ON	◄OFF	NONE	8857K54	MS25125-B4	8503K16③	MS24658-24G	8843K16	MS24612-B242
	ON	◄OFF	ON	8857K42	MS25125-D1	8503K4⑦	MS24658-21N	8843K4	MS24612-D212
	ON➤	OFF	◄ON	8857K43	MS25125-E1	8503K5⑦	MS24658-21D	8843K5	MS24612-E212
	ON	NONE	◄OFF	8857K47	MS25125-C2	8503K9⑦	MS24658-22G	8843K9	MS24612-C222
	ON➤	NONE	◄OFF	8857K48	MS25125-E2	8503K10⑦	MS24658-22D	8843K10	MS24612-E222
	ON	NONE	◄ON	8857K45	MS25125-C3	8503K7⑦	MS24658-23G	8843K7	MS24612-C232
	ON➤	NONE	◄ON	8857K44	MS25125-E3	8503K6⑦	MS24658-23D	8843K6	MS24612-E232
	ON➤	◄OFF	NONE	8857K49	MS25125-J4	8503K11⑦	MS24658-24M	8843K11	MS24612-J242
	ON➤	NONE	ON*	8857K79	MS25125-L6	8503K20③	MS24658-26F	8843K20	MS24612-L262
	ON*	◄OFF➤	ON*	8857K50	MS25125-F7	8503K12③	MS24658-27E	8843K12	MS24612-F272
	ON*	◄OFF	ON*	8857K52	MS25125-H7	8503K14③	MS24658-27N	8843K14	MS24612-H272
	NONE	OFF➤	ON*	8857K53	MS25125-K8	8503K15③	MS24658-28E	8843K15	MS24612-K282
	ON➤	NONE	OFF*	8857K80	MS25125-L9	8503K21③	MS24658-29F	8843K21	MS24612-L292
	OFF➤	NONE	ON*	8857K81	MS25125-L10	8503K19③	MS24658-30F	8843K19	MS24612-L302
	ON	OFF➤	ON*	8857K51	MS25125-G11	8503K13③	MS24658-31L	8843K13	MS24612-G312
	ON	◄OFF➤	ON*	8857K56	MS25125-K11	8503K18③	MS24658-31E	8843K18	MS24612-K312
	ON	◄OFF	ON*	8857K46	MS25125-M11	8503K8③	MS24658-31N	8843K8	MS24612-M312
	ON➤	◄OFF	ON*	8857K55	MS25125-N11	8503K17③	MS24658-31M	8843K17	MS24612-N312
	ON➤	OFF*	NONE	8857K78	MS25125-L5	8530K22③	MS24658-25F	—	—
	ON*	◄ON➤	NONE	—	—	8503K23③	MS24658-32E	—	—
	ON	◄ON➤	NONE	—	—	8503K24②	MS24658-33E	—	—
	ON➤	ON	NONE	—	—	8503K25②	MS24658-33F	—	—
	ON➤	◄ON➤	NONE	—	—	8503K26②	MS24658-33K	—	—
2 POLE	ON➤	◄OFF➤	◄ON	8858K39	MS25126-A1	8504K1④	MS24659-21A	8844K1	MS24613-A212
	ON	◄OFF➤	ON	8858K40	MS25126-B1	8504K2④	MS24659-21E	8844K2	MS24613-B212
	ON	OFF	◄ON	8858K41	MS25126-C1	8504K3④	MS24659-21G	8844K3	MS24613-C212
	ON	◄OFF	NONE	8858K42	MS25126-D1	8504K4④	MS24659-21N	8844K4	MS24613-D212
	ON➤	OFF	◄ON	8858K43	MS25126-E1	8504K5④	MS24659-21D	8844K5	MS24613-E212
	ON	NONE	◄OFF	8858K47	MS25126-C2	8504K9④	MS24659-22G	8844K9	MS24613-C222
	ON➤	NONE	◄OFF	8858K48	MS25126-E2	8504K10④	MS24659-22D	8844K10	MS24613-E222
	ON	NONE	◄ON	8858K45	MS25126-C3	8504K7④	MS24659-23G	8844K7	MS24613-C232
	ON➤	NONE	◄ON	8858K44	MS25126-E3	8504K6④	MS24659-23D	8844K6	MS24613-E232
	ON	◄OFF	NONE	8858K54	MS25126-B4	8504K16④	MS24659-24E	8844K16	MS24613-B242
	ON➤	◄OFF	NONE	8858K49	MS25126-J4	8504K11④	MS24659-24M	8844K11	MS24613-J242
	ON➤	NONE	ON*	8858K79	MS25126-L6	8504K20⑤	MS24659-26F	8844K20	MS24613-L262
	ON*	◄OFF➤	ON*	8858K50	MS25126-F7	8504K12⑤	MS24659-27E	8844K12	MS24613-F272
	ON*	◄OFF	ON*	8858K52	MS25126-H7	8504K14⑤	MS24659-27N	8844K14	MS24613-H272
	NONE	OFF➤	ON*	8858K53	MS25126-K8	8504K15⑤	MS24659-28E	8844K15	MS24613-K282
	ON➤	NONE	OFF*	8858K80	MS25126-L9	8504K21⑤	MS24659-29F	8844K21	MS24613-L292
	OFF➤	NONE	ON*	8858K81	MS25126-L10	8504K19⑤	MS24659-30F	8844K19	MS24613-L302
	ON	OFF➤	ON*	8858K51	MS25126-G11	8504K13⑤	MS24659-31L	8844K13	MS24613-G312
	ON	◄OFF➤	ON*	8858K56	MS25126-K11	8504K18⑤	MS24659-31E	8844K18	MS24613-K312
	ON	◄OFF	ON*	8858K46	MS25126-M11	8504K8⑤	MS24659-31N	8844K8	MS24613-M312
	ON➤	◄OFF	ON*	8858K55	MS25126-N11	8504K17⑤	MS24659-31M	8844K17	MS24613-N312
	ON➤	OFF➤	NONE	8858K78	MS25126-L5	8504K22⑤	MS24659-25F	—	—
	ON*	◄ON➤	NONE	—	—	8504K23⑤	MS24659-32E	—	—
	ON	◄ON➤	NONE	—	—	8504K24④	MS24659-33E	—	—
	ON➤	ON	NONE	—	—	8504K25④	MS24659-33F	—	—
	ON➤	◄ON➤	NONE	—	—	8504K26④	MS24659-33K	—	—
4 POLE	ON➤	◄OFF➤	◄ON	8859K39	MS25127-A1	8505K1⑥	MS24660-21A	8845K1	MS24614-A212
	ON	◄OFF➤	ON	8859K40	MS25127-B1	8505K2⑥	MS24660-21E	8845K2	MS24614-B212
	ON	OFF	◄ON	8859K41	MS25127-C1	8505K3⑥	MS24660-21G	8845K3	MS24614-C212
	ON	◄OFF	ON	8859K42	MS25127-D1	8505K4⑥	MS24660-21N	8845K4	MS24614-D212
	ON➤	OFF	◄ON	8859K43	MS25127-E1	8505K5⑥	MS24660-21D	8845K5	MS24614-E212
	ON	NONE	◄OFF	8859K47	MS25127-C2	8505K9⑥	MS24660-22G	8845K9	MS24614-C222
	ON➤	NONE	◄OFF	8859K48	MS25127-E2	8505K10⑥	MS24660-22D	8845K10	MS24614-E222
	ON	NONE	◄ON	8859K45	MS25127-C3	8505K7⑥	MS24660-23G	8845K7	MS24614-C232
	ON➤	NONE	◄ON	8859K44	MS25127-E3	8505K6⑥	MS24660-23D	8845K6	MS24614-E232
	ON	◄OFF	NONE	8859K54	MS25127-B4	8505K16⑥	MS24660-24E	8845K16	MS24614-B242
	ON➤	◄OFF	NONE	8859K49	MS25127-J4	8505K11⑥	MS24660-24M	8845K11	MS24614-J242
	ON➤	NONE	ON*	8859K79	MS25127-L6	8505K20⑦	MS24660-26F	8845K20	MS24614-L262
	ON*	◄OFF➤	ON*	8859K50	MS25127-F7	8505K12⑦	MS24660-27E	8845K12	MS24614-F272
	ON*	◄OFF•	ON*	8859K52	MS25127-H7	8505K14⑦	MS24660-27N	8845K14	MS24614-H272
	NONE	OFF➤	ON*	8859K53	MS25127-K8	8505K15⑦	MS24660-28E	8845K15	MS24614-K282
	ON➤	NONE	OFF*	8859K80	MS25127-L9	8505K21⑦	MS24660-29F	8845K21	MS24614-L292
	OFF➤	NONE	ON*	8859K81	MS25127-L10	8505K19⑦	MS24660-30F	8845K19	MS24614-L302
	ON	OFF➤	ON*	8859K51	MS25127-G11	8505K13⑦	MS24660-31L	8845K13	MS24614-G312
	ON	◄OFF➤	ON*	8859K56	MS25127-K11	8505K18⑦	MS24660-31E	8845K18	MS24614-K312
	ON	◄OFF	ON*	8859K46	MS25127-M11	8505K8⑦	MS24660-31N	8845K8	MS24614-M312
	ON➤	◄OFF	ON*	8859K55	MS25127-N11	8505K17⑦	MS24660-31M	8845K17	MS24614-N312
	ON➤	OFF➤	NONE	8859K78	MS25127-L5	8505K22⑦	MS24660-25F	—	—
	ON*	◄ON➤	NONE	—	—	8505K23⑦	MS24660-32E	—	—
	ON	◄ON➤	NONE	—	—	8505K24⑥	MS24660-33E	—	—
	ON➤	ON	NONE	—	—	8505K25⑥	MS24660-33F	—	—
	ON➤	◄ON➤	NONE	—	—	8505K26⑥	MS24660-33K	—	—

Arrow ➤ indicates direction of movement against which lever is locked.
*Momentary contact.
Screw terminals are hot dipped. By removing the screws from the terminals, a switch with solder lugs is formed.

①Refer to Table 1 for current rating.
②③④⑤⑥⑦Current rating. Refer to Table 2.

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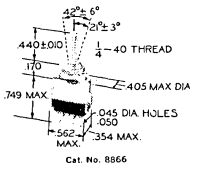
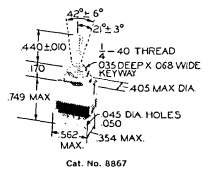
"Military Application"

Miniature — MIL-S-8834B

Positive Action — Solder Lug Terminals — Sealed Lever



Cat. No. 8866



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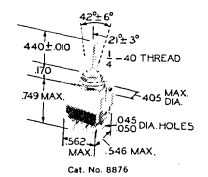

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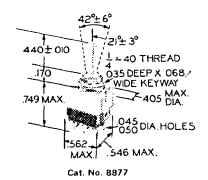

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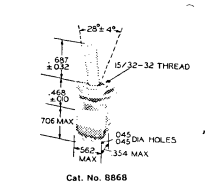

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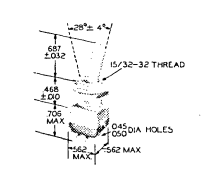

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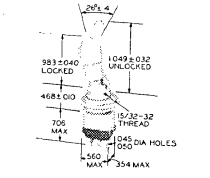

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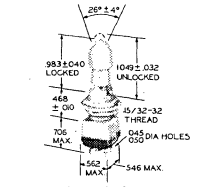


Cat. No. 8856

Small Lever

	Circuit with lever in . . . UP Position	CENTER Position	DOWN Position	C-H Part No.	MS-Part No.	Navy (See Notes ③ & ③)
1 POLE	ON	OFF	ON	8866K1	MS24655-211	1402.15-1
	ON	NONE	OFF	8866K7	MS24655-221	1402.15-2
	ON	NONE	ON	8866K4	MS24655-231	1402.15-3
	ON	OFF	NONE	8866K5	MS24655-241	1402.15-4
	ON *	OFF	ON *	8866K2	MS24655-271	1405.15-5
	NONE	OFF	ON *	8866K6	MS24655-281	1402.15-6
	ON	OFF	ON *	8866K3	MS24655-311	1402.15-7
	NONE	ON	ON *	8866K8	None	None
2 POLE	ON	OFF	ON	8867K1	MS24656-211	1402.16-1
	ON	NONE	OFF	8867K7	MS24656-221	1402.16-2
	ON	NONE	ON	8867K4	MS24656-231	1402.16-3
	ON	OFF	NONE	8867K5	MS24656-241	1402.16-4
	ON *	OFF	ON *	8867K2	MS24656-271	1402.16-5
	NONE	OFF	ON *	8867K6	MS24656-281	1402.16-6
	ON	OFF	ON *	8867K3	MS24656-311	1402.16-7
	NONE	ON	ON *	8867K8	None	None

Small Lever With Keyway③

	Circuit with lever in . . . UP Position	CENTER Position	DOWN Position (Keyway)	C-H Part No.	MS-Part No.
1 POLE	ON	OFF	ON	8876K11	None
	ON	NONE	OFF	8876K17	None
	ON	NONE	ON	8876K14	None
	ON	OFF	NONE	8876K15	None
	ON *	OFF	ON *	8876K12	None
	NONE	OFF	ON *	8876K16	None
	ON	OFF	ON *	8876K13	None
	NONE	ON	ON *	8876K18	None
2 POLE	ON	OFF	ON	8877K11	None
	ON	NONE	OFF	8877K17	None
	ON	NONE	ON	8877K14	None
	ON	OFF	NONE	8877K15	None
	ON *	OFF	ON *	8877K12	None
	NONE	OFF	ON *	8877K16	None
	ON	OFF	ON *	8877K13	None
	NONE	ON	ON *	8877K18	None

Large Bat Lever

	Circuit with lever in . . . UP Position	CENTER Position	DOWN Position (Keyway)	C-H Part No.	MS-Part No.
1 POLE	ON	OFF	ON	8868K1	MS90310-211
	ON	NONE	OFF	8868K7	MS90310-221
	ON	NONE	ON	8868K4	MS90310-231
	ON	OFF	NONE	8868K5	MS90310-241
	ON *	OFF	ON *	8868K2	MS90310-271
	NONE	OFF	ON *	8868K6	MS90310-281
	ON	OFF	ON *	8868K3	MS90310-311
	NONE	ON	ON *	8868K8	MS90310-321
2 POLE	ON	OFF	ON	8869K1	MS90311-211
	ON	NONE	OFF	8869K7	MS90311-221
	ON	NONE	ON	8869K4	MS90311-231
	ON	OFF	NONE	8869K5	MS90311-241
	ON *	OFF	ON *	8869K2	MS90311-271
	NONE	OFF	ON *	8869K6	MS90311-281
	ON	OFF	ON *	8869K3	MS90311-311
	NONE	ON	ON *	8869K8	MS90311-321

Lever Lock Type

	Circuit with lever in . . . UP Position	CENTER Position	DOWN Position (Keyway)	C-H Part No.	MS Part No.
1 POLE	ON	◀OFF	ON	8855K10	MS21026-D211
	ON	◀OFF	ON*	8855K12	MS21026-L311
	ON	◀OFF▶	ON	8855K5	MS21026-B211
	ON*	◀OFF▶	ON*	8855K13	MS21026-F271
	ON	NONE	◀ON	8855K7	MS21026-C231
	ON▶	NONE	◀ON	8855K8	MS21026-E231
	ON	NONE	◀OFF	8855K13	MS21026-G221
	ON▶	NONE	◀OFF	8855K14	MS21026-E221
	ON	◀OFF	NONE	8855K19	MS21026-B241
	ON	OFF▶	ON*	8855K16	MS21026-G311
	ON*	◀OFF	*ON*	8855K17	MS21026-H271
	NONE	OFF▶	ON*	8855K18	MS21026-K281
	ON	◀OFF▶	ON*	8855K20	MS21026-K311
2 POLE	ON	◀OFF	ON	8856K10	MS21027-D211
	ON	◀OFF	ON*	8856K12	MS21027-L311
	ON	◀OFF▶	ON	8856K5	MS21027-B211
	ON*	◀OFF▶	ON*	8856K15	MS21027-F271
	ON	NONE	◀ON	8856K7	MS21027-C231
	ON▶	NONE	◀ON	8856K8	MS21027-E231
	ON	NONE	◀OFF	8856K13	MS21027-G221
	ON▶	NONE	◀OFF	8856K14	MS21027-E221
	ON	◀OFF	NONE	8856K19	MS21027-B241
	ON	OFF▶	ON*	8856K16	MS21027-G311
	ON*	◀OFF	ON*	8856K17	MS21027-H271
	NONE	OFF▶	ON*	8856K18	MS21027-K281
	ON	◀OFF▶	ON*	8856K20	MS21027-K311

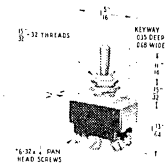
●Momentary Contact.
▶Indicates direction against which "lever lock" switch is locked. (Other locking combinations on request.)
②Part numbers listed in Navy MIL Std. 242E (Navy).
③These switches are listed in NAV. SHIPS HANDBOOK of miniature parts for Electronic Equipment — Nav. Ships 0967-031-1000.
④Small lever switch with keyway is built to MIL-S-8834 requirements, except "without lever seal".

Special Service Devices

Special Circuit — MIL-S-3950B

2 Pole — Double Throw
Sealed Lever — ①Screw Terminals — With Keyway

Standard Bat Lever



Cat. No. 8860

	Circuit, with lever in . . . UP Position	CENTER Position	DOWN Position Keyway	C-H Part No.	①MS-Part No.	Former MS Part No.
2 POLE	②ON	③ON	④ON	8860K4	MS25201-4	MS25201-1
	②ON	③ON	④ON *	8860K5	MS25201-5	MS25201-2
	②ON *	③ON	④ON *	8860K6	MS25201-6	MS25201-3
	②ON	④ON	④ON	8860K7	MS25201-7	None
	③ON	④ON	④ON *	8860K8	MS25201-8	None
	②ON *	④ON	④ON *	8860K9	MS25201-9	None

①Screw terminals are hot tin dipped. By removing the screws from the terminals, a switch with solder lugs is formed.
②Across terminals 2-3 & 5-6
③Across terminals 1-2 & 5-6
④Across terminals 2-3 & 4-5
⑤Across terminals 1-2 & 4-5

Table 1 — Current Ratings

INDEX TO RATING TABLE

C-H Cat. No.	Rating Column
7660 to 7664	22
7666 to 7674	23
8800 to 8804	3
8809	4
8810	3
8811 to 8813	4
8820 to 8824	16
8826 to 8834	17
8836 to 8845	25
8855 -8856	24
8857	3
8857 *	4
8858	16
8858 *	17
8859	22
8859 *	23
8866 to 8877	24

Military Switch Rating Table

Column Number →	3	4	16	17	22	23	24	25
CURRENT CAPACITY ¢	AMPERE VALUE							
Lamp Load / Hot Filament Current — 15 V. D-c	8	6	10	7.5	10	7.5	---	---
30 V. D-c	6	4	7	5	7	5	---	7
125 V. A-c	3	2	4	2	4	2	---	7
Resistance Load — 15 V. D-c	45	30	30	30	30	30	---	---
30 V. D-c	25	20	25	20	30	20	4	25
50 V. D-c	---	---	---	---	---	---	1	---
125 V. A-c	11	11	20	11	20	11	3	25▲
200 V. A-c	6.9	6.9	12.5	6.9	12.5	6.9	---	---
250 V. A-c	5.5	5.5	10	5.5	10	5.5	---	---
440 V. A-c	3	3	5.5	3	5.5	3	---	---
Inductive Load — 15 V. D-c	25	20	25	15	25	15	---	---
30 V. D-c	15	10	20	10	20	10	1	15
50 V. D-c	---	---	---	---	---	---	---	---
125 V. A-c	11	7.5	15	8	15	8	1	15
200 V. A-c	6.9	4.7	9.4	5.0	9.4	5.0	---	---
250 V. A-c	5.5	3.5	7.5	4.0	7.5	4.0	---	---
440 V. A-c	3	2	4	2.2	4	2.2	---	---
●Motor Load — 15 V. D-c	36	24	30	28	25	20	---	---
30 V. D-c	20	16	30	22	20	15	---	---
125 V. A-c	8	7	20	12	10	8	---	---
200 V. A-c	5	4.4	12.5	7.5	6	5	---	---
250 V. A-c	4	3.5	10	6.0	5	4	---	---
440 V. A-c	2.2	2	5.5	3.2	3	2	---	---
CURRENT CARRYING CAPACITY (Any Value) Continuous	50	50	30	30	30	30	---	---
15 Min. of Each Hour	55	55	30	30	30	30	---	---
5 Min. of Each ½ Hour	75	75	40	40	40	40	---	---
1 Min. of Each ¼ Hour	90	90	60	60	60	60	---	---
5 Sec. of Each ½ Hour	200	200	150	150	150	150	---	---
CURRENT-MAKING CAPACITY Maximum Inrush on any type load — 15 V. D-c	80	60	100	75	100	75	---	---
30 V. D-c	60	40	70	50	70	50	---	---
125 V. A-c	30	20	40	20	40	20	---	---
200 V. A-c	18.5	9.4	25	9.4	25	9.4	---	---
250 V. A-c	15	7.5	20	7.5	20	7.5	---	---
440 V. A-c	8.5	5.5	11	5.5	11	5.5	---	---
EMERGENCY CURRENT BREAKING CAPACITY Opening CKT under emergency conditions for 50 operations only — 15 V. D-c	175	150	100	50	100	50	---	---
30 V. D-c	150	75	75	45	75	45	---	---
125 V. A-c	40	40	40	26	40	26	---	---
200 V. A-c	24	24	24	16	24	16	---	---
250 V. A-c	18	18	18	12	18	12	---	---
440 V. A-c	10	10	10	6	10	6	---	---

Note – The values shown for multi-pole switches are amperes per pole except for motor load. See ● below.
Note – Current ratings are established at 77° F.
Note – All current ratings good to 50,000 ft. altitude. For higher altitude check local C-H office.
Note – AC current values good for frequencies from 50 to 400 cycles (except "▲" in Col. 25 is 20 amp. at 50-60 cycles)
*Momentary contact.
¢ These figures are maximum current ratings for 10,000 operations. Longer life (more operations) can be expected when operated at less than rating of switch.
●Motor load values for multi-pole switches are held on all poles of switches being connected in motor circuit and motor stalled current not exceeding 300% of normal running current.

Experience has shown that for voltages not in excess of 250, the current rating of aircraft switches is inversely proportional to the voltage. If the voltage is doubled, the rating is halved.

Therefore, if the 125 volt a-c rating of a switch is known, it follows that on 200 volt ac, the current rating is 125 200 of 62.5% of its 125 volt ac rating.

This rule also applies to two or four pole switches used on polyphase systems. Cutler-Hammer aircraft switches carry per pole ratings and if the current and voltage handled by each pole is known, different rating combinations can be worked out.

A double pole switch, has at least twice the rupturing capacity of one of its poles because there are twice the number of breaks in the circuit. Its life is only slightly more than that of one pole because breaks are not simultaneous. The first pole or break handles twice its normal rating resulting in rapid erosion of contact material.

Table 2 — Current Ratings

Rating Code	28 Volts D.C. Lamp Load	28 Volts D.C. Resistive Load	28 Volts D.C. Inductive Load	115 Volts D.C. 60 or 400 Hz. Lamp Load	115 Volts D.C. 60 or 400 Hz. Resistive Load	115 Volts D.C. 60 or 400 Hz. Inductive Load
②	5	20	15	3	15	10
③	4	15	10	2	15	7
④	7	20	15	4	15	15
⑤	5	18	10	2	11	8
⑥	5	20	12	4	15	15
⑦	4	18	10	2	11	8

The switches listed on these pages represent only a small fraction of the total number of small motor and appliance switches manufactured by C-H. Contact your local Sales Office or Distributor for more complete listings.

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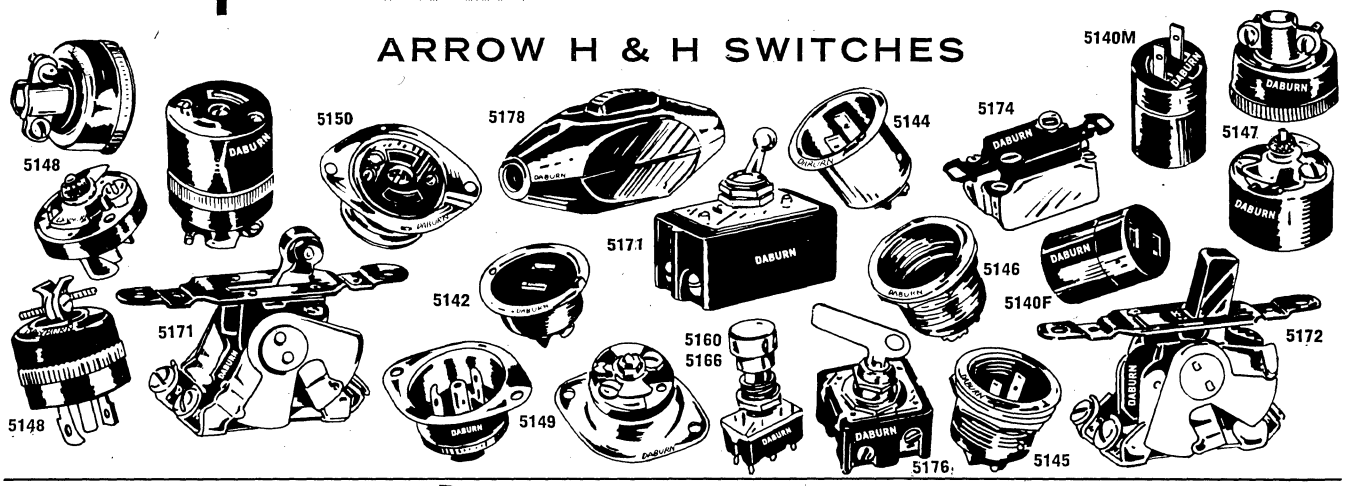
DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

ARROW H & H SWITCHES



DOUBLE ACTION COMPACT PUSH-PUSH SHALLOW

QUICK MAKE AND BREAK

15/32" sleeve diameter, 3 amp., UL approved. Molded phenolic base. Complete with hex and knurled nut; nickel plated. All accept snap button; supplied less insulating button (#5132). (Order separately, red or black.) 1 amp., 250V 3 amp. 125V AC-DC. Solder lug terminals with double wiping blades.

Daburn No.	Descrip.	Sleeve	Width	Lgth.	Hgt.
5160	SPST	9/16"	41/64"	1-1/32"	13/16"
5161	SPDT	9/16"	41/64"	1-1/32"	13/16"
5162	DPST	9/16"	41/64"	1-1/32"	13/16"
5163	DPDT	9/16"	41/64"	1-1/32"	13/16"

Std. Pkg. 25

MOMENTARY ACTION COMPACT PUSH SWITCH

QUICK MAKE AND BREAK

15/32" Sleeve Diameter — 3 Amp.

UL approved. Molded base. Complete with hex and knurled nut; nickel plated. All accept snap button; supplied less insulating button (#5132). (Order separately, red or black.) Solder lug terminals with double wiping blades.

Daburn No.	Descrip.	Sleeve	Width	Lgth.	Hgt.
*5166	SPST	9/16"	41/64"	1-1/32"	13/16"
5167	SPDT	9/16"	41/64"	1-1/32"	13/16"
*5168	DPST	9/16"	41/64"	1-1/32"	13/16"
5169	DPDT	9/16"	41/64"	1-1/32"	13/16"

*SPST and DPST — normally off.

Std. Pkg. 25

HEAVY DUTY SWITCHES

TOGGLE TYPE 30 AMP

UL approved. 30 Amp, 250 Volts, AC-DC, 2HP, 115V-230V AC; 1 HP, 460V AC. Used on machine tools, pumps, food machines, sanders, grinders, etc.

DABURN No.	Description	Std. Pkg.
5171	DPST	5
5172	DPST	5

METAL PUSH BUTTON TYPE

NORMALLY OPEN — 20 AMP

UL approved. 20 Amp.-250V, 2 HP 230V AC, 2 HP 250V DC. Used on floor sander, foot switch etc.

DABURN No.	Description	Std. Pkg.
5174	DPST	5

ROTO-LOCK SWITCH

20 AMP.

UL approved. 20 Amp., 120V, 240V AC.
1½ HP — 120V AC
2 HP — 120V AC
Key removable in off position only.

DABURN No.	Description	Sleeve	Std. Pkg
5176	DPST	9/16"	5
5176K0	Key only for above		5

FEED-THRU CORD SWITCH

10 AMP.

UL approved, sliding lever, black case. 10 Amp.-125V, 5 Amp.-250V. Cord hole—5/16".

DABURN No.	Description	Std. Pkg.
5178	SP	6

FEED-THRU CORD SWITCH

15 AMP.

UL approved for appliance use only. 10 Amp-250V, 15 Amp.-125V.

DABURN No.	Description	Std. Pkg.
5179	DP (3rd Wire Gd.)	5

CORD CONNECTORS

10 AMP.

Complete brown bakelite cord connector. 10 Amp.-250 Volts, end opening for wire size up to 3/8" O.D.

DABURN No.	Description	Std. Pkg.
5140	Complete	10
5140F	Female Part Only	10
5140M	Male Part Only	10

DABURN H & H RECEPTACLES

10 AMP.

SHORT FEMALE FLUSH RECEPTACLE

UL approved. 10 Amp.-250 Volts AC.

DABURN No.	Description	Std. Pkg.
5143	Lock Nut Mounting	5
5142	2 Screw Mounting	5

Complete warehouse inventories on all AH&H numbers.

RECESSED MALE RECEPTACLE

10 AMP.

DABURN No.	Description	Std. Pkg.
5144	2 Screw Mounting	5
5145	Lock Nut Mounting	5

RECESSED FEMALE RECEPTACLE

10 AMP.

DABURN No.	Description	Std. Pkg.
5146	Lock Nut Mounting	5

COMPACT RECEPTACLES — TURN TO LOCK

3 WIRE GROUNDING TYPE

FEMALE CONNECTOR — 15 AMP.-125 VOLT

Brass metal casings, corrosion resistant finish. Black bakelite.

DABURN No.	Description	Std. Pkg.
5147	Female Connector	5

MALE CONNECTOR

15 AMP.-125 VOLT

DABURN No.	Description	Std. Pkg.
5148	Male Connector	5

MALE RECEPTACLES

MALE RECEPTACLES 15 AMP.-125 VOLT

DABURN No.	Description	Std. Pkg.
5149	Male Receptacle	5

FEMALE RECEPTACLE

15 AMP.-125 VOLT

DABURN No.	Description	Std. Pkg.
5150	Female Receptacle	5

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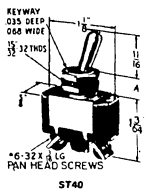
CUTLER-HAMMER•CONTINENTAL-WIRT MAGNETIC PROXIMITY SWITCHES

CUTLER HAMMER POSITIVE ACTION SWITCHES



CIRCUIT IDENT. NO.	CIRCUIT
1	On-Off-On
2	On-None-Off
3	On-None-On
4	On-Off-None
5	On-On-None
6	On-None-Off (Mom.)
7	On-Off-On (Mom.)
8	Off-None-On (Mom.)
9	On (Mom.) Off-On (Mom.)
10	On-None-On (Mom.)
11	On-Off (Mom.)-None
12	On (Mom.)-On-None
13	None-Off-On (Mom.)

ST-40 SERIES
Single Pole with Screws

All ST-40 Series equipped with sealed lever.

Nom. Rating Per Pole: 10 Amp.-115V AC, 20 Amp.-28V DC. Std. Pkg. 10

DABURN No.	CH	JAN-S-23 No.	MIL-S-6745 No.	Type	Circuit Code No.
4360	8801K13	ST40A	AN3021-2	SPST	2
4361	8813K12	ST40B	AN3021-9	SPST	6
4362	8811K12	ST40C	AN3021-8	SPST	10
4363	8810K12	ST40D	AN3021-3	SPDT	3
4364	8800K13	ST40E	AN3021-1	SPDT	1
4365	8804K12	ST40F	—	SPDT	10
4366	8812K13	ST40G	AN3021-7	SPDT	9
4367	8809K13	ST40H	AN3021-5	SPDT	7

ST-42 SERIES
Single Pole with Solder Lugs

Nom. Rating Per Pole: 10 Amp.-115V AC, 20 Amp 28V DC. Std. Pkg. 10

4370	8803K6	ST42A	—	SPST	2
4371	8819K5	ST42B	—	SPST	6
4372	8817K5	ST42C	—	SPST	10
4373	8816K5	ST42D	—	SPDT	3
4374	8802K6	ST42E	—	SPDT	1
4375	8805K5	ST42F	—	SPDT	10
4376	8818K5	ST42G	—	SPDT	9
4377	8815K6	ST42H	—	SPDT	7

ST-45 SERIES
Per JAN-S-23 and MIL-S-6745
Single Pole

Nom. Rating Per Pole: 15 Amp.-115V AC, 20 Amp.-28V DC. Std. Pkg. 10

4440	8201K6	ST45A	AN3022-2	SPST	2
4441	8213K6	ST45B	AN3022-9	SPST	6
4442	8211K7	ST45C	AN3022-8	SPST	10
4443	8210K7	ST45D	AN3022-3	SPDT	3
4444	8200K7	ST45E	AN3022-1	SPDT	1
4445	8215K4	ST45F	AN3022-11	SPDT	10
4446	8212K6	ST45G	AN3022-7	SPDT	9
4447	8209K6	ST45H	AN3022-5	SPDT	7

ST-50 SERIES PER JAN-S-23
2 Pole with Screw Terminals

Nom. Rating Per Pole: 10 Amp.-115V AC, 20 Amp 28V DC.

4380	8822K8	ST50K	AN3027-2	*DPST	2
4381	8828K5	ST50L	—	DPST	6
4382	8826K5	ST50M	—	DPST	10
4383	8824K8	ST50N	AN3027-3	*DPDT	3
4384	8820K10	ST50P	AN3027-1	*DPDT	1
4385	8830K5	ST50R	—	DPDT	10
4386	8834K4	ST50S	AN3027-7	*DPDT	9
4387	8832K4	ST50T	AN3027-8	*DPDT	7

*Equipped with sealed lever per MIL-S-6745. Std. Pkg. 10

ST-52 SERIES PER JAN-S-23
2 Pole with Solder Lugs

Nom. Rating Per Pole: 10 Amp., 115V AC, 20 Amp., 28V DC. Std. Pkg. 10

4390	8823K5	ST52K	—	DPST	2
4391	8829K5	ST52L	—	DPST	6
4391A	8827K5	ST52M	—	DPST	10
4392	8825K5	ST52N	—	DPDT	3
4393	8821K5	ST52P	—	DPDT	1
4394	8831K5	ST52R	—	DPDT	10
4395	8835K3	ST52S	—	DPDT	9
4396	8833K3	ST52T	—	DPDT	7

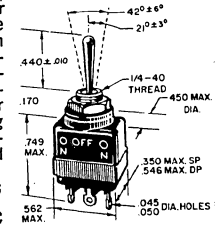
MILITARY SWITCHES

"As Small As A Dime" Built To MIL-S-8834 Specs

Designed for aircraft, missile, electronic application it is extremely compact, highly reliable, power or dry circuit switch, usable as a pre-set switch in aircraft recognition systems, walkie-talkies, instrument and communication systems. Toggle lever seal and panel bushing seal for adverse environmental conditions. Gold plated contacts.

RATINGS: 3 amps., 28V DC; 1 amp., 50V DC 2 amps., 115V AC

WEIGHT: Single pole 5.0 grams, Double pole 6.5 grams



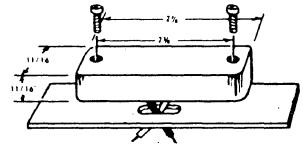
SINGLE POLE

DABURN No.	C-H	Type	Circuit
4480K1	8866K1	SPDT	on-off-on
4480K2	8866K2	SPDT	Mom. on-off-Mom. on
4480K3	8866K3	SPDT	on-off-Mom. on
4480K4	8866K4	SPDT	on-none-on
4480K5	8866K5	SPST	on-off-none
4480K6	8866K6	SPST	None-off-Mom. on
4480K7	8866K7	SPST	on-none-off
4480K8	8866K8	SPDT	None-on-Mom. off

DOUBLE POLE

4481K1	8867K1	DPDT	on-off-on
4481K2	8867K2	DPDT	Mom. on-off-Mom. on
4481K3	8867K3	DPDT	on-off-Mom. on
4481K4	8867K4	DPDT	on-none-on
4481K5	8867K5	DPST	on-off-none
4481K6	8867K6	DPST	none-off-Mom. on
4481K7	8867K7	DPST	on-none-off
4481K8	8867K8	DPDT	none-on-Mom. on

Std. Pkg. 10



MAGNETIC PROXIMITY SWITCH

For Counting Position Limiting Sequence Control Mounts in Any Position

Precision, fast acting, suitable to sequential control functions on machine tools, packaging, material handling and similar industrial devices.

Strong, encapsulated, assures freedom from contamination by cutting oils, dust, powder, chips, etc. Operates up to hundreds of millions of cycles — temperature range −30°C to +105°C. Speed (Max) 200 cycles/sec repeatability within .005".

Switch actuates when brought into proximity with ferrous metals or other magnetic materials. No mechanical linkage necessary for operation. Operating sensitivity in nom. ⅛" make, ½" break. Switch elements sealed in glass, unit is potted in epoxy resin. Case is impervious to oil, water, gas, all common solvents.

Typical actuators include indexing tables, cams, wheels, push rods, die sets, line objects such as food and beverage cans, components, parts, vehicles, rotating and swinging objects, etc.

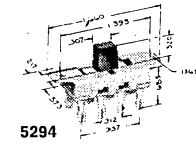
Std. Pkg. 10

1⅛" H x 1⅛" D x 2⅞" W

DABURN No.	Type
4499-128	SPST Norm. Open
4499-138	SPDT
4499-139	SPST Norm. Open (Hi-Load)

Electrical	Resistive Load		Inductive Load	
(Max. Contact Rating)	−128,−138	−139	−128,−138	−139
Amps	.5	.2	.1	1
Volt AC or DC	125	125	125	125
Watts	15	50	5	15

CONTINENTAL-WIRT SLIDE SWITCHES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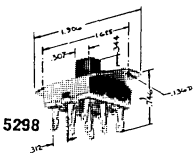
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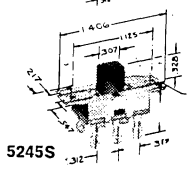
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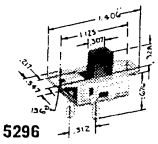
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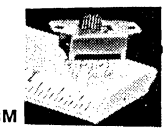
5248M

New "Swidget" Miniature Slide Switch

Mounting area is ½ of standard DPDT slide. Suitable for compact applications. UL approved.

DABURN No.	Type	Rating 125V AC-DC	Std. Pkg.
5248M	DPDT	5 Amp.	25

UL APROVED SLIDE SWITCH
STANDARD DETENT

General purpose switch for hi-fi equipment, instruments, etc. Black phenolic buttons, steel cadmium plated housing.

DABURN No.	Type	Rating at 125V Circuit DC Amp.	AC Amp.
5245	SPST	.75	.75
5246	SPDT	.75	.75
5247	DPST	.5	.5
5248	DPDT	.5	.5
5290	SPST	6.0	1.0
5291	SPDT	6.0	1.0
5292	DPST	6.0	1.0
5293	DPDT	6.0	1.0

Std. Pkg. 25

3 AND 4 POSITION SLIDE SWITCH
WITH DETENT

5294	SP 3 Pos.	.5	.5
5295	DP 3 Pos.	.5	.5
5295A	DP 3 Pos.	6.0	1.0
5295F	DP 4 Pos.	.5	.5

Std. Pkg. 25

3 AND 4 POLE SLIDE SWITCH
WITH DETENT
ALL POLES IN SAME PLANE

5298	3 PDT	.5	.5
5299*	4PDT	.5	.5

*5299 — width of switch 1.005", short terminals. Distance from mounting surface to terminal tip .595"

Std. Pkg. 25

SLIDE SWITCH — SPRING RETURN

5245S	SPST	.5	.5
5246S	SPDT	.5	.5

Std. Pkg. 25

SLIDE SWITCH SHIELD
Suitable for Electrastatic Shielding

Terminal protection. Shield is steel cadmium plated with fibre insulation.

5239	Std. Pkg. 25

* Not UL Approved.

Complete warehouse inventories on all Cutler-Hammer numbers.

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DISTRIBUTOR PRODUCTS

CENTRALAB ROTARY SWITCHES

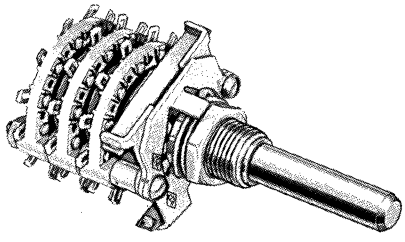
CENTRALAB
Electronics Division
GLOBE-UNION INC.

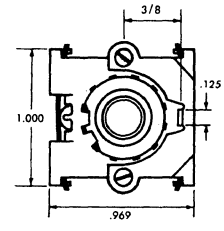
Consistent with all products within Centralab's overall product line, Centralab rotary switches range from highly miniaturized units to heavy-duty types. Centralab rotary switches are well-engineered and manufactured, precision components that may be depended upon to serve reliably. The detailed specifications given in this catalog will help you accurately specify these switches for your applications.

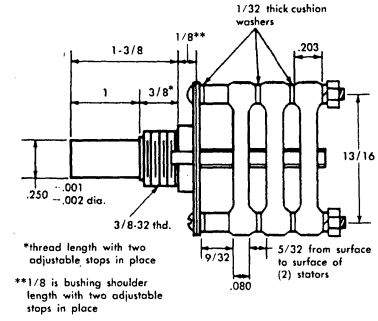
The switches available through your Centralab Distributor are available with machine-assembled "staked" or bolted construction, ceramic or phenolic insulation. Comprehensive coverage of switching arrangements and number of sections per switch add to the total adaptability of this product line. Count on your Centralab Distributor as your source for immediate delivery of the exact switch for your application.

In addition to the thousands of switches available in your Centralab Distributor's stock, parts and kits are available for convenient, quick repair work and prototype assembly applications.

New PSA Sub-Miniature Rotary Switches with Adjustable Stops







These deluxe, sub-miniature switches feature an all-new index mechanism with adjustable stops for extra switching arrangement versatility.

Construction is rugged 2-ball starwheel lateral thrust for exceptionally good torque control and feel. Plus extra application versatility for: band switching, ultra-small electronic equipment, transistor circuits, aircraft instruments, industrial and broadcasting equipment.

Each switch weighs less than one ounce, yet has the same electrical rating as switches much heavier and larger in diameter. Furnished with blue colored diallyl phthalate sections. Separate diallyl phthalate, phenolic and ceramic sections also available.

SPECIFICATIONS

MOUNTING: Bushing mounted

BUSHING: 3/8″—32 NEF Thread by 3/8″ long

LOCATING LUG: On 3/8″ radius

SHAFT: 1/4″ diam., full round, 1 3/8″ L.F.M.S.

INDEX ANGLE: Positive 30°, w/adjustable stops

INDEX STOP STRENGTH: 10 inch-pounds

SECTION SPACING: 5/32″ between front plate and clip surface of first section and 5/32″ spacing between sections (surface-to-surface).

INSULATION: Diallyl Phthalate—(Stator and Rotor). Average surface resistivity: 900,000 megohms. High quality molded thermosetting plastic type SDG per MIL-M-14F. Voltage breakdown between critical parts 750 VAC-RMS.*

SECTION: Diallyl Phthalate .203″ ±.005″ thick across strut holes and .080″ thick across clip surface-to-surface.

CLIPS AND ROTOR CONTACTS: Brass, silver-plated

HARDWARE: Front plate, index plate, bushing, mtg. hdwe., strut nuts and shaft-steel, plated to resist corrosion; index springs, strut screws and lockwashers—stainless steel.

CURRENT AND VOLTAGE RATING: Make and break, resistive load; 0.550 amperes at 28 volts VDC; 170 milliamperes at 115 VAC. (Based on 10,000 cycles load life test.)

CURRENT CARRYING CAPACITY: 7 amperes

CONTACT RESISTANCE: Average initial resistance 5 milliohms

ROTATIONAL LIFE: (Index) 25,000 cycles minimum

PACKAGED: Singly, in sulphur-free cartons and Nox-Tarnish protective wrap insuring long shelf life. Includes mounting nut and lock washer.

*See Catalog 33-1 for INSULATION data for Ceramic and Phenolic Sections.

PSA SERIES SUB-MINIATURE ROTARY SWITCHES

Total Poles	No. of Positions	Poles per Section	No. of Sections	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-12	1	1	PSA-200	PSA-201
2	2-6	2	1	PSA-202	PSA-203
2	2-12	1	2	PSA-204	PSA-205
3	2-5	3	1	PSA-206	PSA-207
3	2-12	1	3	PSA-208	PSA-209
4	2-6	2	2	PSA-210	PSA-211
5	2-3	5	1	PSA-214	PSA-215
6	2-5	3	2	PSA-220	PSA-221
6	2-6	2	3	PSA-222	PSA-223
9	2-5	3	3	PSA-228	PSA-229
10	2-3	5	3	PSA-230	PSA-231
15	2-3	5	3	PSA-238	PSA-239

FOR PROTOTYPES OR FIELD REPAIR

Separate index assemblies and sections are available for "on the spot" assembly of special switching or for repair requirements. Switches with 1-5 sections in Diallyl Phthalate, ceramic or phenolic can be assembled with parts listed below. Same specifications as factory assembled units.

INDEX ASSEMBLIES

For use with sections shown below. Index assemblies furnished with adjustable stops and appropriate hardware.

Catalog No.	No. Sections	No. Pos.	Indexing
PSA-512	1-2	2-12	30°
PSA-513	3-5	2-12	30°

Contains: (1) PSA-512 adjustable stop index, (2) 1/16″, 3/32″, 3/16″ ceramic spacers, (12) 1/64″ plastic spacer washers, (4) 1/32″ glass cushion washers, (2) 1 1/8″ tie bolts, nuts, lockwashers, and assembly instructions.

Contains: (1) PSA-513 adjustable stop index, (2) 1/16″, 3/16″ ceramic spacers, (8) 3/32″ ceramic spacers, (24) 1/64″ plastic spacer washers, (10) 1/32″ glass cushion washers, (2) 1 5/8″ tie bolts, nuts, lockwashers and assembly instructions.

SECTIONS: For use with index assemblies shown above.

				SEPARATE DIALLYL PHTHALATE SECTIONS		SEPARATE CERAMIC & PHENOLIC SECTIONS	
				Ceramic— 1/8″ Thick		Phenolic— 1/16″ Thick	
				Catalog No.		Catalog No.	
No. Poles	No. Pos.	Catalog No. Shorting	Catalog No. Non-Shorting	Shorting	Non-Shorting	Shorting	Non-Shorting
1	2-11	PS-50	PS-51	PS-20	PS-21	PS-40	PS-41
1	2-12						
2	2-5	PS-52	PS-53	PS-22	PS-23	PS-42	PS-43
2	2-6						
3	2-3	PS-54	PS-55	PS-24	PS-25	PS-44	PS-45
3	2-5						
4	2	PS-56	PS-57	PS-26	PS-27	PS-46	PS-47
5	2-3						

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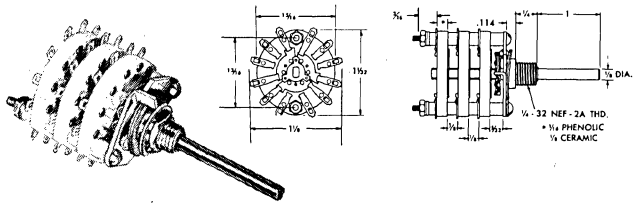
PS Series SUB-MINIATURE ROTARY SWITCHES



Centralab series PS switches are deluxe ceramic insulated ultra-small rotary switches. These switches weigh less than 1 ounce each, and have the same electrical ratings as switches much heavier and larger in diameter. Ideally suited for use in band switching, ultra-small electronic equipment, transistor circuits, aircraft instruments, and guided missiles.

SPECIFICATIONS

CONSTRUCTION: Bolted

MOUNTING: Single hole, bushing mounted

BUSHING: ¼"—32NEF-2A thread, ¼" long, brass cadmium-plated

LOCATING LUG: On ⅜" radius

SHAFT: ⅛" diameter, steel†, 1¼" long from mounting surface

INDEX ANGLE: Positive 30°. Fixed stop.

INDEX STOP STRENGTH: 10-inch pounds

SECTION SPACING: 5/32" ceramic spacing between front plate and first section. ⅛" ceramic spacing between sections.

INSULATION: Ceramic—Centralab steatite, Grade L-422 or better per MIL-I-10A, Dow-Corning 200 silicone treated to prevent accumulation of surface moisture. Voltage breakdown between critical parts 750 VAC-RMS.

INSULATION: Phenolic—High quality laminated phenolic, type PBE, per MIL-P-3115B Voltage breakdown between critical parts 750 VAC-RMS.

SECTIONS: Ceramic—⅛" thick; Phenolic—1/16" thick

CLIPS AND ROTOR CONTACTS: Brass, silver-plated

HARDWARE: Front plate, index plate and shaft—steel†; index spring—beryllium copper; index ball—stainless steel; strut screws, nuts—brass, nickel-plated; lock washers—phosphor bronze. For switches to meet military specifications, see "Military Switches."

CURRENT AND VOLTAGE RATING: Make and break, resistive load; .550 amperes at 28 volts VDC; 170 milliamperes at 115 VAC (Based on 10,000 cycles).

CONTACT RESISTANCE: Average initial resistance 5 milliohms

ROTATIONAL LIFE: (Index) 25,000 cycles minimum

PACKAGED: Singly, in sulphur-free cartons and Nox-Tarnish protective wrap insuring long shelf life. Includes mounting nut, lockwasher, and one 1/16" dia. black pointer knob, Cat. No. P-106

†Suitably plated to resist corrosion.

SUB-MINIATURE CERAMIC ROTARY SWITCHES

Total Poles	No. of Positions	Poles per Section	No. of Sections	Catalog No. Shorting	Catalog No. Non-Shorting
1	11	1	1	PS-100	PS-101
2	11	1	2	PS-102	PS-103
2	5	2	1	PS-104	PS-105
3	11	1	3	PS-106	PS-107
3	3	3	1	PS-108	PS-109
4	5	2	2	PS-110	PS-111
4	2	4	1	PS-112	PS-113
6	5	2	3	PS-114	PS-115
6	3	3	2	PS-116	PS-117
8	2	4	2	PS-118	PS-119
9	3	3	3	PS-120	PS-121
12	2	4	3	PS-122	PS-123

SEPARATE SUB-MINIATURE INDEX ASSEMBLIES

All index assemblies listed below are designed for a maximum 3 sections and contain the following: (1) index and shaft assembly, (1) P-106 pointer knob, (6) 3/32" spacers, (2) 1/16" spacers, (2) ⅛" spacers, (2) 3/16" spacers, (2) 1⅛" tie bolts, nuts, lockwashers, washers and (16) plastic spacer washers.

No. Positions	Catalog No.	No. Positions	Catalog No.
2	P-501	7	P-506
3	P-502	8	P-507
4	P-503	9	P-508
5	P-504	10	P-509
6	P-505	11	P-510
		continuous rotation	P-511

SEPARATE SUB-MINIATURE SECTIONS

Use with index assemblies P-501 thru P-511 for fixed stop indexing and switching not supplied in the completed PS series switches.

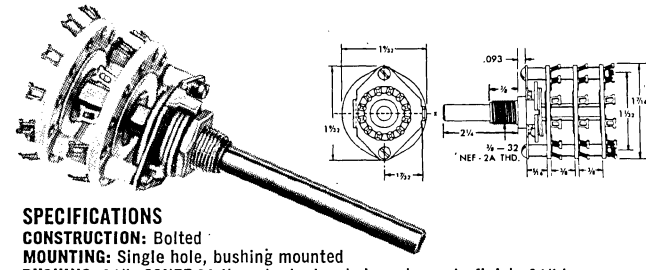
No. Poles	No. Positions	CERAMIC		PHENOLIC	
		Catalog No. Shorting	Catalog No. Non-Shorting	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-11	PS-20	PS-21	PS-40	PS-41
2	2-5	PS-22	PS-23	PS-42	PS-43
3	2-3	PS-24	PS-25	PS-44	PS-45
4	2	PS-26	PS-27	PS-46	PS-47

PA-6000 Series MILITARY SWITCHES

The PA-6000 series is a complete line of miniature ceramic insulated switches which meet the physical, environmental and test specifications of MIL-S-3786, Style SR03.

NOTE: Items requiring certified test data and government source inspection are special; prices and information supplied upon request.

Only 1 3/32" in diameter. The availability of separate sections with phenolic, Mycalex or ceramic insulation and a separate index assembly, provides maximum flexibility for assembling custom switches for special requirements.



SPECIFICATIONS

CONSTRUCTION: Bolted

MOUNTING: Single hole, bushing mounted

BUSHING: ⅜"—32NEF-2A thread, steel cadmium-chromate finish, ⅜" long

LOCATING LUG: On 1 3/32" radius

SHAFT: ¼" diameter, full round, steel, cadmium-chromate finish, 2¼" long from mounting surface

INDEX ANGLE: Positive 30°, adjustable stop, or continuous rotation, except * which has fixed (2 pos.) stop

SECTION SPACING: 5/16" spacing between front plate and first section, ⅜" spacing between sections

INSULATION: Centralab steatite, grade L-422 or better per MIL-I-10A, Dow-Corning 200 silicone treated to prevent accumulation of surface moisture. Voltage breakdown between critical parts, 1000 VAC-RMS. Extremely low frequency loss.

SECTION: Ceramic (steatite)—.125" thick across strut holes; Phenolic—0.062" thick; Mycalex—0.125" thick

CLIPS AND ROTOR CONTACTS: Coin silver alloy clips and contacts. Treated for solderability.

HARDWARE: Index ball, stainless steel; all other metal parts steel cadmium-plated chromate finish.

CURRENT AND VOLTAGE RATING: Make and break resistive load. 450 milliamperes (0.45 amperes) at 115 VAC; 8 amp. & 6 VDC; 2.6 amp. @ 28 VDC; 5.5 amp. @ 12 VDC; 1.1 amp. @ 50 VDC. Based on 10,000 cycle life test.

CONTACT RESISTANCE: Average initial resistance, 2.0 milliohms

ROTATIONAL LIFE: 25,000 cycles minimum

PACKAGED: Singly, includes mounting nut, lockwasher and 1¼" black pointer knob Cat. No. P-120. Sulphur-free cartons and Nox-Tarnish protective wrap insures long shelf life.

PA-6000 SERIES MINIATURE CERAMIC SWITCHES

Total Poles	No. Positions	Poles per Section	No. Sections	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-11	1	1	PA-6000	PA-6001
2	2-5	2	1	PA-6002	PA-6003
2	2-11	1	2	PA-6004	PA-6005
3	2-3	3	1	PA-6006	PA-6007
4	2	4	1	PA-6010*	PA-6011*
4	2-5	2	2	PA-6012	PA-6013
6	2-3	3	2	PA-6018	PA-6019
8	2	4	2	PA-6024*	PA-6025*

*Has fixed (2 pos.) stop

SEPARATE INDEX ASSEMBLY

Use with PA-60, PA-70, or PA-80 series separate sections to assemble special units of 1 to 4 sections. 30° indexing.

Catalog No.	Rear Shaft	Suggested No. of Sections
PA-600	2"	1 to 4

(Contains (1) PA-600 index with adjustable stops, mtg. nut and lockwasher assembled; (1) P-120 pointer knob; (2) P-325 ⅛" ceramic spacers; (2) P-328 ¼" ceramic spacers; (6) P-330 5/16" ceramic spacers; (2) P-395 2½" tie rods; (3) P-396 nuts; (3) P-397 lockwashers; (20) P-398 glass epoxy spacer washers.)

SEPARATE PHENOLIC SECTIONS

For use with PA-600 index assembly. Sections 1 3/32" diameter, 1 1/32" strut centers, 0.062" thick across strut holes. Silver alloy clips and contacts. Terminals treated for solderability. Breakdown voltage 1000 volts AC-RMS between critical parts.

Poles	Positions	Indexing	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-11	30°	PA-60	PA-61
2	2-5	30°	PA-62	PA-63
3	2-3	30°	PA-64	PA-65
4	2	30°	PA-66	PA-67

SEPARATE MYCALEX SECTIONS

For use with PA-600 index assembly. Sections 1 3/32" diameter, 1 1/32" strut centers, 0.125" thick across strut holes. Silver alloy clips and contacts. Terminals treated for solderability. Breakdown voltage between critical parts 1000 volts AC-RMS.

Poles	Positions	Indexing	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-11	30°	PA-70	PA-71
2	2-5	30°	PA-72	PA-73
3	2-3	30°	PA-74	PA-75
4	2	30°	PA-76	PA-77

SEPARATE CERAMIC SECTIONS

For use with PA-600 index assembly. Sections 1 3/32" diameter, 1 1/32" strut centers, 0.125" thick across strut holes. Silver alloy clips and contacts. Terminals treated for solderability. Breakdown voltage 1000 volts AC-RMS between critical parts.

Poles	Positions	Indexing	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-11	30°	PA-80	PA-81
2	2-5	30°	PA-82	PA-83
3	2-3	30°	PA-84	PA-85
4	2	30°	PA-86	PA-87

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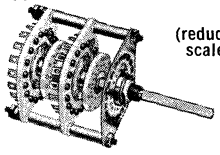
JV-9000 Series SWITCHES

The Centralab JV-9000 Series Heavy-Duty Rotary Power Switch was designed to meet today's requirements for high accuracy and long life. This series meets all engineering requirements for use in transmitters, industrial controls, laboratory test equipment and many other special applications for commercial products.



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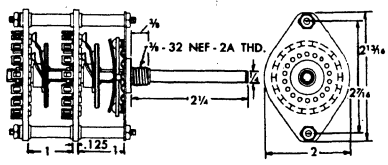


SPECIFICATIONS

CONSTRUCTION: Bolted
MOUNTING: Single hole, bushing mounted
BUSHING: ⅜″ — 32NEF-2A thread, brass*, ⅜″ long
LOCATING LUG: Adjustment of tie rod lengths will provide either one or two locating lugs
SHAFT: ¼″ diameter, double flat, steel*, 2¼″ long from mounting surface
INDEX ANGLE: Positive 20°, two adjustable stops. Removal of stops provides continuous rotation
SECTION SPACING: 1″ spacing between front plate and first section and between all sections
INSULATION: Centralab steatite, grade L-422 or better per MIL-I-10A, Dow-Corning 200 silicone treated to prevent accumulation of surface moisture. Voltage breakdown between critical parts 3000 VAC-RMS (static) except JV-18 and JVN-18 sections which are 2550 VAC-RMS (static). Extremely low frequency loss.
SECTIONS: Ceramic — ⅛″ thick
COLLECTOR RINGS AND CONTACT BUTTONS: Contacting surface is silver alloy
HARDWARE: Contact springs silver-plated spring brass; terminals — brass silver-plate; tie-rods; tie-rod nuts, flat washers and adjustable stop nuts — brass, nickel-plated; front plate, shaft ball holder, adjustable stops, mounting nut and lockwasher — steel cadmium-plated; index spring — steel; index ball and front plate — stainless steel; tie-rod lockwashers — phosphor bronze*; rotor retaining ring — beryllium copper; spacer washers — nylon.
CURRENT AND VOLTAGE RATING: Make and break resistive load; 9 amp. @ 110 VAC-RMS; 15 MA (0.015 amp.) @ 2500 VAC-RMS; 30 amp. @ 5 VDC; 20 amp. @ 12 VDC; 11 amp. @ 28 VDC except JV-18 and JVN-18 sections which are rated 4 amp. @ 110 VAC-RMS.
CONTACT RESISTANCE: Average initial resistance — 7 milliohms
ROTATIONAL LIFE: 25,000 cycles minimum
PACKAGED: Singly, in extra heavy duty carton and Nox-Tarnish protective wrap. Includes 2″ double set-screw pointer knob, Cat. No. P-168, dial plate, adjustable stop pin and nut and instruction sheet.
*Suitably plated to resist corrosion.

JV POWER SWITCHES

Total Poles	No. Positions	Poles per Section	No. Sections	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-17	1	1	JV-9000	JV-9001
2	2-8	2	1	JV-9032	JV-9033
2	2-17	1	2	JV-9004	JV-9005
3	2-5	3	1	JV-9002	JV-9003
3	2-17	1	3	JV-9008	JV-9009
4	2-8	2	2	JV-9034	JV-9035
4	2-17	1	4	JV-9012	JV-9013
5	2-17	1	5	JV-9016	JV-9017
6	2-5	3	2	JV-9006	JV-9007
6	2-8	2	3	JV-9036	JV-9037
6	2-17	1	6	JV-9020	JV-9021
8	2-8	2	4	JV-9038	JV-9039
9	2-5	3	3	JV-9010	JV-9011
12	2-5	3	4	JV-9014	JV-9015
15	2-5	3	5	JV-9018	JV-9019

SEPARATE SECTIONS

For use with JV-7 index assembly. Sections 2¹³⁄₁₆″ high, 2″ wide, 2⁵⁄₁₆″ strut centers, ⅛″ thick.

Poles	Positions	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-17	JV-8	JVN-8
2	2-8	JV-10	JVN-10
3	2-5	JV-9	JVN-9

SEPARATE MULTIPLE FINGER SECTION

Poles	Positions	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-18	JV-18	JVN-18

(Rotor has 17 silver-plated phosphor bronze fingers, making contact with 17 contacts on stator leaving one contact open.) By cutting off unwanted fingers, this section can be adapted for many special circuits. For example, can be adapted to one off, nine progressively shorting positions, pick up and hold each progressive position.

SEPARATE INDEX ASSEMBLY

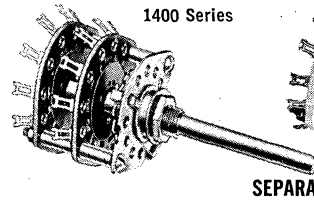
Indexing	Shaft Length	Sections No.	Catalog No.
20°	7″	2-6	JV-7

Contains: (1) JV-7W index with 7″ rotor shaft, (2) P-5637 7¾″ tie-rods, (6) P-5363 tie-rod nuts, (6) P-4665 tie-rod lockwashers, (12) P-9410 ⅞″ spacers, (1) P-168 2″ black pointer knob, (24) P-7963 spacer washers, (1) P-21675 adjustable stop pin, (1) P-4088-1 stop pin nut, mounting nut and lockwasher; instruction sheet.

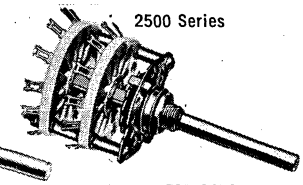
1400 & 2500 Series SWITCHES

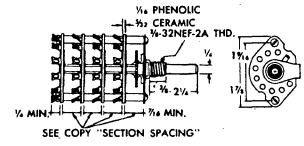
The 1400 Series Phenolic and 2500 Series Ceramic rotary switches provide a complete line of rotary switches used primarily for band change and general tap switch application where miniaturization is not a necessity. Three types of index assemblies combined with an extensive choice of phenolic or ceramic sections, provide exceptional application versatility.

1400 Series



2500 Series





SPECIFICATIONS

CONSTRUCTION: Bolted
MOUNTING: Single hole, bushing mounted
BUSHING: ⅜″ — 32NEF-2A thread, ⅜″ long, steel*
LOCATING LUG: None
SHAFT: ¼″ diameter, full round, 2¼″ long from mounting surface, steel*
INDEX ANGLE: Positive 30°, adjustable stop. Maximum 11 positions without adjustable stop.
SECTION SPACING: ½″ spacing between front plate and first section. ½″ spacing between sections on two section switches; 1″ spacing between sections on all 3 and 4 section switches.
INSULATION: 1400 Series: High quality laminated phenolic, type PBE, per MIL-P-3115B. Voltage breakdown between critical parts 1000 VAC-RMS.
2500 Series: Centralab steatite, grade L-422 or better per MIL-I-10A, Dow-Corning 200 silicone treated to prevent accumulation of surface moisture. Voltage breakdown between critical parts 1500 VAC-RMS. Extremely low frequency loss.
SECTIONS: Phenolic — 1⁄16″ thick; Ceramic — 5⁄32″ thick
CLIPS AND ROTOR CONTACTS: Brass, silver-plated
HARDWARE: All other metal parts, except index ball, steel*
CURRENT AND VOLTAGE RATING: Make and break resistive load: 5.5 amp. @ 6 VDC; 2.75 amp. @ 15 VDC; 2.25 amp. @ 28 VDC; 350 MA @ 115 VAC. Based on 10,000 cycle life test.
CONTACT RESISTANCE: Average initial resistance — 3 milliohms
ROTATIONAL LIFE: 10,000 cycles minimum
PACKAGED: Singly. Includes mounting nut, lockwasher, and 1¼″ black pointer knob, Cat. No. P-120. Sulphur-free cartons and Nox-Tarnish protective wrap insure long shelf life.
*Suitably plated to resist corrosion.

SEPARATE INDEX ASSEMBLIES

One piece construction with .187″ rotor shaft, for use with 1400 Series phenolic or 2500 Series ceramic sections — AD through ZD. 30° positive index with adjustable stop. Packaged singly, including index, mounting nut and lockwasher, 1¼″ black pointer knob Cat. No. P-120 and sufficient spacers, washers, tie-bolts, etc. to assemble complete switch. Assembly instructions furnished.

Suggested No. Sections	Catalog No.	Rear Shaft
1 to 3	P-270	2″
3 to 5	P-271	4″
5 to 10	P-272	8″

SEPARATE PHENOLIC SECTIONS

For use with P-270, P-271 and P-272 index assemblies. Sections 1⅞″ x 1⅝″ with 1⁵⁄₁₆″ strut centers and 1⁄16″ thick. Rotor slot .187″. Clips and contacts, brass silver-plated. Breakdown voltage between critical parts 1000 VAC-RMS.

No. Poles	No. Positions	Shorting	Non-Shorting
1	2-6	AD	HD
1	2-11	BD	JD
2	2-5	CD	KD
3	2-3	DD	LD
4	2	ED	MD
4	2-3	EED	BBD
1	2-5	FD	AAD
(Unused contacts one side of common connected and shorted out.)			
1	2-11	GD	CCD
(All unused contacts connected and shorted out.)			
1	2-10	PID	.....
(Nine active contacts, all open in full CW position, and progressively picked up and shorted to common contact with CCW rotation.)			
Combine for resistance decade		ND PD	....
Capacitance decade		QD	.....

SEPARATE CERAMIC SECTIONS

For use with P-270, P-271 and P-272 index assemblies. Sections 1⅞″ x 1⅝″ with 1⁵⁄₁₆″ strut centers and 5⁄32″ thick. Rotor slot .187″. Clips and contacts, brass silver-plated. Breakdown voltage between critical parts 1500 VAC-RMS.

No. Poles	No. Positions	Shorting	Non-Shorting
1	2-6	TD	XD
1	2-11	UD	YD
2	2-5	RD	RRD
3	2-3	SD	SSD
4	2	VD	ZD
1	2-11	GGD	FFD
(All unused contacts connected and shorted out.)			
1	2-10	PISD	.....
(Nine active contacts, all open in full CW position, and progressively picked up and shorted to common contact with CCW rotation.)			
Combine for resistance decade		NSD PSD	....
Capacitance decade		QSD	.....

1400 SERIES ROTARY PHENOLIC SWITCHES
2500 SERIES ROTARY CERAMIC SWITCHES

Total No. Poles	No. Positions	Poles per Section	No. Sections	CERAMIC Catalog No. Shorting	CERAMIC Catalog No. Non-Shorting	PHENOLIC Catalog No. Shorting	PHENOLIC Catalog No. Non-Shorting
1	2-6	1	1	2500	2501	1400	1401
1	2-11	1	1	2502	2503	1402	1403
2	2-5	2	1	2504	2505	1404	1405
2	2-6	1	2	2510	2511	1410	1411
2	2-11	1	2	2512	2513	1412	1413
3	2-3	3	1	2506	2507	1406	1407
3	2-6	1	3	2520	2521	1420	1421
3	2-11	1	3	2522	2523	1422	1423
4	2	4	1	.....	.....	1408	1409
4	2-5	2	2	2514	2515	1414	1415
4	2-6	1	4	.....	.....	1426	1427
4	2-11	1	4	.....	.....	1428	1429
6	2-3	3	2	2516	2517	1416	1417
6	2-5	2	3	2524	2525	1424	1425
8	2	4	2	.....	.....	1418	1419
8	2-5	2	4	.....	.....	1430	1431

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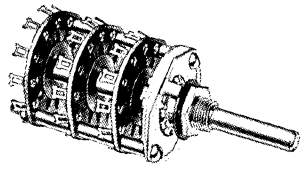
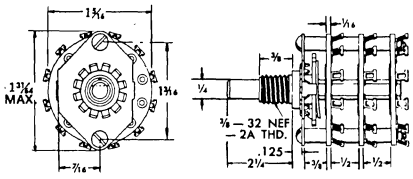
PA-1000 Series Miniature Phenolic SWITCHES



A complete line of laminated phenolic insuated rotary switches, filling the requirements for a miniature switch which will meet rigorous commercial or military applications. Clip and contact arrangements assure low inter-circuit capacitance and low contact resistance. The index assemblies and hardware are identical to those of the PA-2000 Series, allowing interchangeability. The availability of separate sections and index assemblies provides maximum flexibility.



Total Poles	No. Positions	Poles per Section	No. Sections	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-11	1	1	PA-1000	PA-1001
2	2-5	2	1	PA-1002	PA-1003
2	2-11	1	2	PA-1004	PA-1005
3	2-3	3	1	PA-1006	PA-1007
3	2-11	1	3	PA-1008	PA-1009
4	2	4	1	PA-1010	PA-1011
4	2-5	2	2	PA-1012	PA-1013
4	2-11	1	4	PA-1014	PA-1015
5	2-11	1	5	PA-1016	PA-1017
6	2-3	3	2	PA-1018	PA-1019
6	2-5	2	3	PA-1020	PA-1021
6	2-11	1	6	PA-1022	PA-1023
8	2	4	2	PA-1024	PA-1025
8	2-5	2	4	PA-1026	PA-1027
10	2-5	2	5	PA-1030	PA-1031
12	2	4	3	PA-1028	PA-1029
12	2-5	2	6	PA-1032	PA-1033

SPECIAL CIRCUITS

1	2-10	1	1	PA-1034	.....

(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation.)

1	2-10	1	1	PA-1040	.....

(Nine active contacts, all open in full CCW position, and progressively picked up and shorted to common contact with CW rotation.)

60° INDEXING SWITCHES
(1½" SPACING BETWEEN SECTIONS)

Total Poles	No. Positions	Poles per Section	No. Sections	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-6	1	1	.....	PA-1035
2	2-6	1	2	.....	PA-1037

SEPARATE MINIATURE PHENOLIC SECTIONS

Use with Index Assemblies No. PA-300, PA-301, PA-302 (except as noted) for assembly of special switches to meet your requirements.

Poles	Positions	Indexing	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-11	30°	PA-30	PA-31
2	2-5	30°	PA-32	PA-33
3	2-3	30°	PA-34	PA-35
4	2	30°	PA-36	PA-37
1	2-5	30°	PA-38	PA-39

(All unused contacts one side of common connected and shorted out.)

2	2-11	30°	PA-40	PA-41

(All unused contacts connected and shorted out.)

1	2-10	30°	PA-43	.....

(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation.)

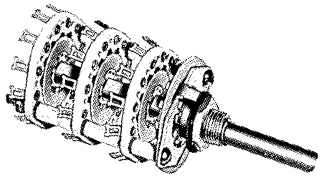
1	2-10	30°	PA-49	.....

(Nine active contacts, all open in full CCW position, and progressively picked up and shorted to common contact with CW rotation.)

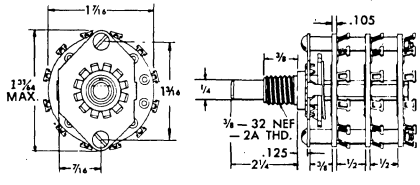
1	2-6	60°	.....	PA-45

(Use with 60° index assemblies PA-304 or PA-305.)

PA-2000 Series SWITCHES



A complete line of ceramic insulated rotary switches, with greater switching combinations per section than any previously available unit. The PA-2000 series offers maximum voltage flash-over, high-Q-low-loss steatite body, minimum intercircuit capacity, and insulated front-back clips. The index assemblies and hardware are identical to those of the PA-1000 Series, allowing interchangeability. The availability of separate sections and index assemblies provides maximum flexibility.



PA-2000 SERIES MINIATURE CERAMIC SWITCHES

Total Poles	No. Positions	Poles per Section	No. Sections	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-12	1	1	PA-2000	PA-2001
2	2-6	2	1	PA-2002	PA-2003
2	2-12	1	2	PA-2004	PA-2005
3	2-5	3	1	PA-2006	PA-2007
3	2-12	1	3	PA-2008	PA-2009
4	2-6	2	2	PA-2010	PA-2011
4	2-12	1	4	PA-2012	PA-2013
5	2-3	5	1	PA-2014	PA-2015
5	2-12	1	5	PA-2016	PA-2017
6	2	6	1	PA-2018	PA-2019
6	2-5	3	2	PA-2020	PA-2021
6	2-6	2	3	PA-2022	PA-2023
6	2-12	1	6	PA-2024	PA-2025
8	2-6	2	4	PA-2026	PA-2027
9	2-5	3	3	PA-2028	PA-2029
10	2-3	5	2	PA-2030	PA-2031
10	2-6	2	5	PA-2032	PA-3033
12	2	6	2	PA-2034	PA-2035
12	2-6	2	6	PA-2036	PA-2037
15	2-3	5	3	PA-2038	PA-2039
18	2	6	3	PA-2040	PA-2041

SPECIAL CIRCUITS

1	2-10	1	1	PA-2052	.....

(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation.)

1	2-10	1	1	PA-2042	.....

(Nine active contacts, all open in full CCW position and progressively picked up and shorted to common contact with CW rotation.)

2	2-12	1	2	PA-2048#	PA-2049#

(Silver alloy clips and contacts.)

2	4	1	2	PA-2050	.....

(For Switching dual lines.)

60° INDEXING SWITCHES
(1½" SPACING BETWEEN SECTIONS)

Total Poles	No. Positions	Poles per Section	No. Sections	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-6	1	1	.....	PA-2043
2	2-6	1	2	.....	PA-2045

SEPARATE CERAMIC SECTIONS

Use with Index Assemblies No. PA-300, PA-301, PA-302, (except as noted) for assembly of special switches to meet your requirements.

No. Poles	No. Positions	Indexing	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-12	30°	PA-0	PA-1
2	2-6	30°	PA-2	PA-3
3	2-5	30°	PA-4	PA-5
5	2-3	30°	PA-6	PA-7
6	2	30°	PA-8	PA-9
1	2-5	30°	PA-10	PA-19

(Unused contacts one side of common connected and shorted out.)

2	2-11	30°	PA-11	PA-18

(All unused contacts connected and shorted out.)

1	2-10	30°	PA-13	.....

(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation.)

1	2-10	30°	PA-12	.....

(Nine active contacts, all open in full CCW position and progressively picked up and shorted to common contact with CW rotation.)

1	2-6	60°	PA-20	PA-17

(Use with 60° Index Assemblies PA-304 and PA-305.)

COIN SILVER ALLOY CLIPS AND CONTACTS

1	2-12	30°	PA-16#	PA-21#
2	2-6	30°	PA-14#	PA-23#
4	2	30°	PA-15#	PA-24#

SPECIFICATIONS FOR PA-1000 AND PA-2000 SERIES

SPECIFICATIONS

CONSTRUCTION: Bolted
MOUNTING: Single hole, bushing mounted
BUSHING: ⅜" — 32NEF-2A thread, ⅜" long, steel, suitably plated to resist rust and corrosion.
LOCATING LUG: On 7/16" radius
SHAFT: ¼" diameter, full round suitably plated to resist rust and corrosion, steel, 2¼" long from mounting surface
INDEX ANGLE: Positive 30°, adjustable stop or continuous rotation, except PA-1035 and PA-1037 in Series PA-1000, and excepting PA-2043 and PA-2045 in Series PA-2000 — 60° indexing.
SECTION SPACING: ⅜" spacing between front plate and first section. ½" spacing between sections
INSULATION: **(PA-1000)** High quality laminated phenolic, type PBE, per MIL-P-3115B. Voltage breakdown between critical parts 1500 VAC-RMS. **(PA-2000)** Centralab steatite, grade L-422 or better per MIL-I-10A, Dow-Corning 200 silicone treated to prevent accumulation of surface moisture. Voltage breakdown between critical parts 1500 VAC-RMS. Extremely low frequency loss.
SECTIONS: **(PA-1000)** Phenolic—1/16" thick. **(PA-2000)** Ceramic (steatite)—100" thick.
CLIPS AND ROTOR CONTACTS: **(PA-1000)** Brass, silver-plated. **(PA-2000)** Brass, silver-plated except # which have silver alloy clips and contacts. Silver alloy clips and contacts carry approximately twice the switching current over that for silver plated brass. Silver alloy service-life is from four to eight times that of silver plated brass.
HARDWARE: All other metal parts, except index spring and ball, steel*. For switches to meet military specifications, see "Military Switches"
CURRENT AND VOLTAGE RATING: Make and break resistive load: 5.5 amp. @ 6 VDC; 2.75 amp. @ 15 VDC; 1.5 amp. @ 28 VDC; 230 MA (0.230 amp.) @ 115 VAC; based on 10,000 cycles life test.
CONTACT RESISTANCE: Average initial resistance — 3.5 milliohms
ROTATIONAL LIFE: 25,000 cycles minimum
PACKAGED: Singly. Includes mounting nut, lockwasher, and 1¼" black pointer knob, Cat. No. P-120. Sulphur-free cartons and Nox-Tarnish protective wrap insure long shelf life.
*Suitably plated to resist corrosion.

SEPARATE INDEX ASSEMBLIES (includes hardware)

Indexing	Rear Shaft Length	Suggested No. Sections	Catalog No.
30°	2"	1 to 3	PA-300
30°	4"	4 to 6	PA-301
30°	6"	7 to 9	PA-302
60°	2"	1 to 3	PA-304
60°	4"	4 to 6	PA-305

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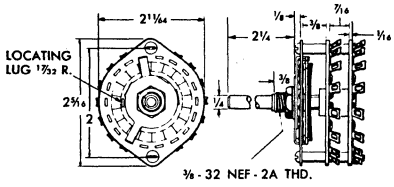
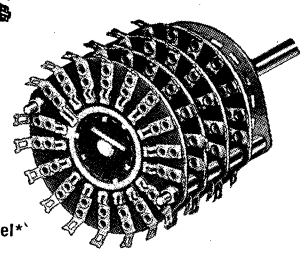
DISTRIBUTOR PRODUCTS

CENTRALAB
Electronics Division
GLOBE-UNION INC.

PA-3000 Series SWITCHES

The PA-3000 Series provides accurate crisp indexing in both single and multiple-section versions through the use of a new hill-and-dale index. Two removable adjustable stops provide a choice of 2 to 17 active positions or removal of the stops for continuous rotation.





SPECIFICATIONS

CONSTRUCTION: Bolted

MOUNTING: Single hole, bushing mounted

BUSHING: 3/8"—32NEF-2A thd., 3/8" long, steel*

LOCATING LUG: On 17/32" radius

SHAFT: 1/4" diameter, full round, 2 1/4" long from mounting surface, steel*

INDEX ANGLE: Positive 20°, adjustable stops or continuous rotation by removing both stops

SECTION SPACING: 3/8" spacing between front plate and first section; 7/16" spacing between sections

INSULATION: High quality laminated phenolic, type PBE per MIL-P-3115B. Voltage breakdown between critical parts 1000 VAC-RMS.

SECTIONS: Phenolic, 1/16" thick

CLIPS AND CONTACTS: Brass, silver-plated. Double eyelet construction clips.

HARDWARE: Index spring and front plate—stainless steel; index ball, black oxide steel; rotor wings—steel nickel-plate; all other parts, steel*

CURRENT AND VOLTAGE RATING: Make and break resistive load: 0.350 amp. @ 115 VAC; 2.25 amp. @ 28 VDC. Based on 10,000 cycle life test.

CONTACT RESISTANCE: Average initial resistance—5 milliohms.

ROTATIONAL LIFE: 25,000 cycles minimum

PACKAGING: Singly. Includes mounting nut and lockwasher. Sulphur-free cartons and Nox-Tarnish protective wrap insure long shelf life.

*Suitably plated to resist corrosion.

Total No. Poles	No. of Positions	Poles per Section	No. of Sections	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-17	1	1	PA-3000	PA-3001
2	2-17	1	2	PA-3002	PA-3003
3	2-17	1	3	PA-3004	PA-3005
4	2-17	1	4	PA-3006	PA-3007

SEPARATE INDEX ASSEMBLY

One piece construction with wing drive rotor shaft for use with PA-393 Phenolic Section. 20° positive index with two adj. stops. Packaged singly including mtg. nut and L.W. and ceramic spacers, washers, tie-bolts and instruction sheet to assemble complete switch.

Catalog No.	Shaft Length	Number of Sections	Indexing
PA-330	4"	1-8	20°

Contains: (1) PA-330 index with 4" rotor shaft, (2) P-149 4 1/4" tie-rods, (3) P-148 tie-rod lockwasher, (3) P-147 tie-rod nut, (3) P-177 spacer washer, (14) P-7611 7/16" spacer, (2) P-7609 5/16" spacer.

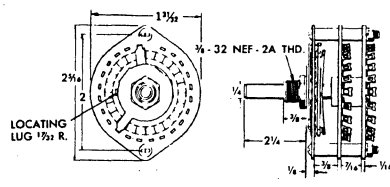
SEPARATE PHENOLIC SECTION

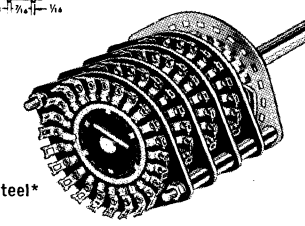
No. Poles	No. Positions	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-17	.....	PA-393

Note: Above section will also replace sections on PA-3003, PA-3005 and PA-3007 Switches.

PA-4000 Series SWITCHES

The PA-4000 Series of phenolic switches is designed to provide accurate, crisp indexing through the use of all new "hill-and-dale" index. All multiple section switches have new "wing type" rotor drive which minimizes rotation lag. Two removable adjustable stops simplify the choice of 2 to 23 active positions. Removal of both stops provide continuous rotation.





SPECIFICATIONS

CONSTRUCTION: Bolted

MOUNTING: Single hole, bushing mounted

BUSHING: 3/8"—32NEF-2A thd., 3/8" long, steel*

LOCATING LUG: On 17/32" radius

SHAFT: 1/4" diameter, full round, 2 1/4" long from mounting surface, steel*

INDEX ANGLE: Positive 15°; adjustable stops or continuous rotation by removing both stops.

SECTION SPACING: 3/8" spacing between front plate and first section; 7/16" spacing between sections.

INSULATION: High quality laminated phenolic, type PBE per MIL P-3115B Voltage breakdown between critical parts 1000 VAC-RMS.

SECTIONS: Phenolic, 1/16" thick

CLIPS AND CONTACTS: Brass, silver-plated

HARDWARE: Index spring, and front plate stainless steel; index ball, black oxide steel; rotor wings, steel nickel-plate; all other parts, steel*

CURRENT AND VOLTAGE RATING: Make and break resistive load: 5.5 amp. @ 6 VDC; 2.75 amp. @ 15 VDC; 1.5 amp. @ 28 VDC; 230 MA (0.230 amp.) @ 115 VAC; based on 10,000 cycles life test.

CONTACT RESISTANCE: Average initial resistance—5 milliohms.

ROTATIONAL LIFE: 25,000 cycles minimum

PACKAGING: Singly. Includes mounting nut and lock-washer. Sulphur-free cartons and Nox-Tarnish protective wrap insure long shelf life.

*Suitably plated to resist corrosion.

Total No Poles	No. of Positions	Poles per Section	No. of Sections	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-23	1	1	PA-4000	PA-4001
2	2-23	1	2	PA-4002	PA-4003
3	2-23	1	3	PA-4004	PA-4005
4	2-23	1	4	PA-4006	PA-4007

SEPARATE INDEX ASSEMBLY

One piece construction with wing drive rotor shaft for use with PA-493 Phenolic Section. 15° positive index with two adj. stops. Packaged singly including mtg. nut and L.W. and ceramic spacers, washers, tie-bolts and instruction sheet to assemble complete switch.

Catalog No.	Rear Shaft	No. of Sections
PA-440	4"	1 to 8

SEPARATE PHENOLIC SECTION

No. Poles	No. Positions	Catalog No. Shorting	Catalog No. Non-Shorting
1	2-23	.....	PA-493

Note: Above section will also replace sections on PA-4003, PA-4005 and PA-4007 Switches.

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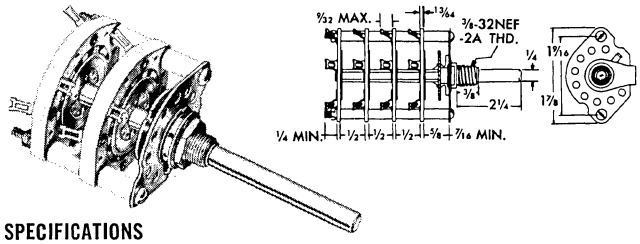
60 and 90 Degree SWITCHES

Centralab 60 and 90 degree indexing switches are particularly adaptable to industrial instrumentation. Rugged construction throughout and thicker than standard steatite sections provide a voltage breakdown of 2000 VAC-RMS. A two-piece steel and fabric-reinforced phenolic plastic shaft provides high voltage breakdown to ground.

Has wide application in radio ham equipment.



SPECIFICATIONS

CONSTRUCTION: Bolted
MOUNTING: Single hole, bushing mounted
BUSHING: ⅛"—32NEF-2A thd. steel*, ⅜" long
LOCATING LUG: None
SHAFT: ¼" diameter, full round, steel*, 2¼" long from mounting surface
INDEX ANGLE: Positive, adjustable stop. 60° switches have 2 to 6 active positions. 90° switches have 2 to 4 active positions.
SECTION SPACING: 5/16" spacing between front plate and first section. ½" spacing between sections.
INSULATION: Centralab steatite, Grade L-422 or better per MIL-I-10A, Dow-Corning 200 silicone treated to prevent accumulation of surface moisture. Voltage breakdown between critical parts 2000 VAC-RMS. Extremely low frequency loss.
SECTIONS: Ceramic—3/64" thick
CLIPS AND ROTOR CONTACTS: Brass, silver-plated
HARDWARE: All other metal parts except index ball, steel*. All switches and separate indexed have phenolic shaft through section rotors which provides high voltage breakdown to ground.
CURRENT AND VOLTAGE RATING: Make and break resistive load: 350 MA @ 115 VAC; 175 MA @ 230 VAC; 5 MA @ 1500 VAC; 2.25 amp. @ 28 VDC, based on 10,000 cycles life test.
CONTACT RESISTANCE: Average initial resistance—3 milliohms
ROTATIONAL LIFE: 10,000 cycles minimum
PACKAGED: Singly. Includes mounting nut and lockwasher and (1) Cat. No. P-120 pointer knob and (1) Cat. No. P-404 dial plate for 60° switches, or (1) Cat. No. P-163 dial plate for 90° switches. Sulphur-free cartons and Nox-Tarnish protective wrap assure long shelf life.

*Suitably plated to resist corrosion.

60° TYPE SWITCHES

Total No. Poles	No. Positions	Poles per Section	No. Sections	Catalog No.
1	2 to 6	1	1	2550
2	2 to 6	1	2	2551
3	2 to 6	1	3	2552
4	2 to 6	1	4	2553
5	2 to 6	1	5	2554

60° Separate Section

1 pole	2-6 position	Non-Shorting	Cat. No. ZZD
(Use with P-273, P-274 and P-275 index assemblies.)			

60° Separate Index Assemblies

Switch Type—60° indexing. Two piece shaft construction, phenolic rear, metal front. Use with ZZD sections. Individuallly cartoned, including instruction sheet, index, pointer knob and sufficient hardware to assemble one complete switch.

Catalog No.	Rear Shaft	Suggested No. Sections
P-273	2"	1 to 2
P-274	4¼"	3 to 4
P-275	7"	5 to 8

90° TYPE SWITCHES

Total No. Poles	No. Positions	Poles per Section	No. Sections	Catalog No.
1	2 to 4	1	1	2542
2	2 to 4	1	2	2543
3	2 to 4	1	3	2544
4	2 to 4	1	4	2545
5	2 to 4	1	5	2546

90° Separate Sections

1 pole	2-4 position	Non-Shorting	Cat. No. XXD
(Use with P-278, P-279 and P-280 index assemblies.)			

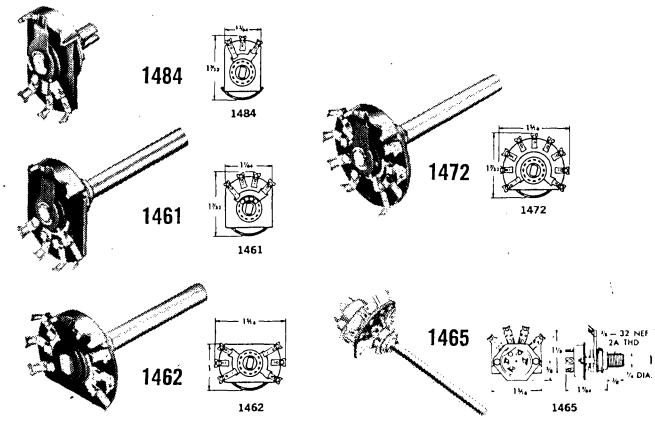
90° Separate Index Assemblies

Switch Type—90° indexing. Two piece shaft construction, phenolic rear, metal front. Use with XXD section. Switches using this index will pass 2000 volts AC breakdown to ground test. Individually cartoned including instruction sheet, index, pointer knob and sufficient hardware to assemble one complete switch.

Catalog No.	Rear Shaft	Suggested No. Sections
P-278	2"	1 to 2
P-279	4¼"	3 to 4
P-280	7"	5 to 8

General Purpose SWITCHES

These general purpose switches are widely used in phono-radio combinations; PA. channel selectors; wave bands; meter reversers; meter selectors; intercom talk-listen; momentary line or remote speaker returns; dual speaker and stereo speaker applications.



SPECIFICATIONS

CONSTRUCTION: Die-cast, one piece frame except 1463, 1464 and 1465 which have stamped steel frames with phenolic section eyeleted in place.

MOUNTING: Single hole, bushing mounted

BUSHING: ⅜"—32NEF-2A thd., zinc die-cast ⅜" long

SHAFTS: ¼" diameter, full round, steel*, 2¼" long from mounting surface except: 1465—2¾" long FMS; 1484—⅝" long FMS; 1486—1⅞" long FMS with split knurl end.

INDEX ANGLE: 30°

INSULATION: Electrical grade laminated phenolic. Voltage breakdown between critical parts 1000 VAC-RMS.

SECTIONS: Phenolic—1/16" thick

CLIPS AND ROTOR CONTACTS: Brass, silver-plated

CURRENT AND VOLTAGE RATING: Make and break resistive load; 230 MA @ 115 VAC-RMS; 1.5 amps @ 28 VDC.

CONTACT RESISTANCE: Average initial resistance—3.5 milliohms

PACKAGED: Singly: includes mounting nut and lockwasher. Nos. 1484 and 1486 also include (1) Cat. No. P-401 black and chrome push on knob and instruction sheet. Sulphur-free cartons and Nox-Tarnish protective wrap insure long shelf life.

*Suitably plated to resist corrosion.

No. of Poles	No. of Positions	Indexing	Cat. No. Shorting	Cat. No. Non-Shorting
1	2	Positive	1460	.....
(Can be used as SPST or SPDT. For phono-radio, tone or sensitivity control.)				
1	3	Positive	1461	.....
(Useful as miniature band change, step-type tone or sensitivity control and P.A. channel selector.)				
2	2	Positive	1462	.....
(Can be used as SPST, SPDT, DPST, DPDT. For meter reversing, P.A., channel or switching both lines on phono-radio controls.)				
1	2	Spring Return	.....	1463
(Useful for meter reversing or inexpensive momentary talk switch on intercom systems.)				
2	2	Spring Return	.....	1464
(Use as meter switch and momentary line or remote speaker return on intercoms.)				
1	4	Positive	1465	.....
(Equipped with AC—DPST line switch. Used as replacement for "on-off," 3 step tone control switch in many AM and FM receivers.)				
2	3	Positive	.....	1472
(Change switch for AM, FM, phono to amplifier in custom installations.)				
2	3	Positive	1473	.....
(Same as 1472)				
1	3	Positive	1483	.....
(Remote speaker switch for use with dual or auxiliary rear seat auto speakers or monitor-remote speaker set ups. Permits operation of either speaker separately or both simultaneously.)				
1	3	Positive	1484	.....
(Same as Cat. No. 1483 except with ¼" bushing and ⅜, split knurl shaft. Includes P-401 knob and instructions.)				
2	3	Positive	1486	.....
(Stereo remote speaker switch enables switching "main pair" of stereo speakers to "remote pair" of stereo speakers or for the operation of all 4 speakers simultaneously. Includes P-401 knob and instructions.) See switch hardware—page 23.				

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DISTRIBUTOR PRODUCTS

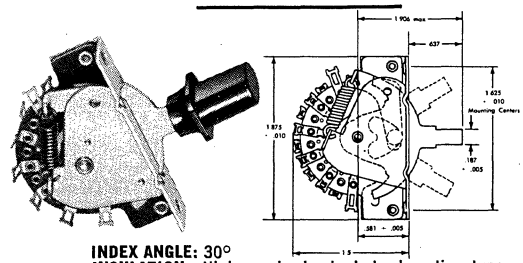
CENTRALAB
Electronics Division
GLOBE-UNION INC.

Lever Action SWITCHES

These units mounted singly or in groups on special plates, are adaptable to intercoms, public address systems, test instruments, broadcast, antenna interchange, speaker selection, record compensation, channel selection, galvanometers and many industrial applications.

SPECIFICATIONS

CONSTRUCTION: Staked
MOUNTING: Bracket mounted. Two 6-32 thd. mounting holes on 1⅝″ centers. Two 6-32 screws furnished.



INDEX ANGLE: 30°
INSULATION: High grade laminated phenolic, type PBE, per MIL-P-3115B. Voltage breakdown between critical parts 1000 VAC-RMS.
CLIPS AND ROTOR CONTACTS: Brass, silverplated.
HARDWARE: All metal parts, except index spring—steel*.
CURRENT AND VOLTAGE RATING: Make and break resistive load: 1.5 amp. @ 28 VDC; 230 MA @ 115 VAC-RMS. Based on 10,000 cycle life test.
CONTACT RESISTANCE: Average initial resistance 3.5 milliohms.
ROTATIONAL LIFE: 25,000 cycles minimum.
PACKAGES: Singly, in sulphur-free carton and Nox-Tarnish protective wrap to insure long shelf life. Includes black push-on knob Cat. P-193 and two mounting screws.
*Suitably plated to resist corrosion.

WALL OUTLET TYPE PLATES

For installations where conduit and outlet boxes are used, permits mounting 1 or 2 units in outlet boxes—chrome satin finish.

No. of Switches	Catalog No.	Length	Width
1	P-222	2¾″	4½″
2	P-221	2¾″	4½″

1452 SERIES—LEVER ACTION SWITCHES

No. Poles	No. Positions	Type Indexing	Cat. No. Shorting	Cat. No. Non-Shorting
2	3	Positive	1452	1454
2	3	Spring Return	1453	1455
2	3	Positive & Sp. Ret.	1466	1467
4	2	Spring Return	1456	1457
4	2	Positive	1459	1458
1	3	Positive	.....	1475*

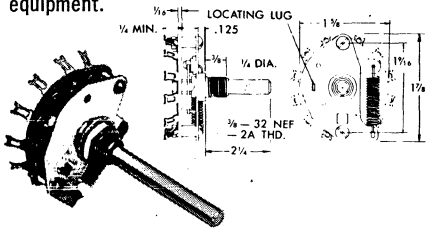
*(Primarily a replacement part for the ganged switches found in tube testers and other testing equipment.)

2	3	Positive	2815	.....

(Special model railroad reversing switch.)

1450, 1451, 1488, and 1489 Rotary Action SWITCHES

These 1⅞″ diameter switches feature various combinations of positive and spring return indexes which are ideally suited for long hard use in test equipment or in P.A. and intercom equipment.



SPECIFICATIONS

CONSTRUCTION: Bolted, except Cat. No. 1450—staked
MOUNTING: Single hole, bushing mounted
LOCATING LUG: 1488, 1489—one lug on 1⅞₂″ radius
SHAFTS: ¼″ diameter full round, steel*, 2¼″ long from mounting surface.
INDEX ANGLE: 1450, 1451, 1488, 1489—30°
INSULATION: High quality laminated phenolic, type, PBE per MIL-P-3115B. Voltage breakdown between critical parts 1000 VAC-RMS.
SECTIONS: Phenolic—1⁄16″ thick
CLIPS AND ROTOR CONTACTS: Brass, silver-plated
HARDWARE: All other metal parts, except index springs, are steel*
CURRENT AND VOLTAGE RATING: Make and break resistive load: 5.5 amp. @ 6 VDC; 2.75 amp. @ 15 VDC; 1.75 amp. @ 28 VDC; 350 MA @ 115 VAC. Based on 10,000 cycle life test.
CONTACT RESISTANCE: Average initial resistance 3 milliohms
ROTATIONAL LIFE: 10,000 cycles minimum
PACKAGED: Singly: including mounting nut and lockwasher. Nos. 1451, 1488, 1489 include (1) P-198 paddle knob. No. 1450 includes (1) P-120 pointer knob. Sulphur-free cartons and Nox-Tarnish protective wrap insure long shelf life.
*Suitably plated to resist corrosion.

ROTARY ACTION SWITCHES

Total No. Poles	No. Positions	No. Sections	Indexing	Cat. No. Non-Shorting
4	2	1	Positive	1450

(Can be used as SPST and up to 4 pole, 2 position.)

4	2	1	Spring Return	1451

(Designed especially for "Press to talk" intercom systems.)

6	3	2	Spring Return	1488

(Spring return both sides to center. Will replace any switch from 2 pole-2 position to 6 pole-3 position.)

6	3	2	Positive & Spring Return	1489

(Spring return index one side to center, positive index opposite side to center.)

SWITCH HARDWARE

FOR 1400 AND 2500 SERIES ROTARY SWITCHES

Catalog No.	Description
P-124	¼″ Metal Spacer
P-125	⅜″ Metal Spacer
P-126	½″ Metal Spacer
P-127	¾″ Metal Spacer
P-128	1″ Metal Spacer
P-136	1″ Screw
P-137	1½″ Screw
P-138	2″ Screw
P-139	2½″ Screw
P-149	4½″ Screw
P-143	5″ Screw
P-145	7″ Screw
P-146	9″ Screw
P-147	Nut (5-40 Thd.)
P-148	Lockwasher
P-177	Phenolic Spacer Washer
P-181	⅛″ Steatite Spacer
P-187	¼″ Steatite Spacer
P-188	⅜″ Steatite Spacer
P-189	½″ Steatite Spacer
P-190	⅝″ Steatite Spacer
P-192	1″ Steatite Spacer

FOR PA-1000 AND PA-2000 SERIES MINIATURE ROTARY SWITCHES

P-319	Miniature Stop Plate
P-325	⅛″ Min. Steatite Spacer
P-326	3⁄16″ Min. Steatite Spacer
P-328	¼″ Min. Steatite Spacer
P-329	5⁄32″ Min. Steatite Spacer
P-330	5⁄16″ Min. Steatite Spacer
P-332	⅜″ Min. Steatite Spacer
P-334	7⁄16″ Min. Steatite Spacer
P-336	½″ Min. Steatite Spacer
P-340	⅝″ Min. Steatite Spacer
P-342	11⁄16″ Min. Steatite Spacer
P-344	¾″ Min. Steatite Spacer
P-348	⅞″ Min. Steatite Spacer
P-350	15⁄16″ Min. Steatite Spacer
P-352	1″ Min. Steatite Spacer

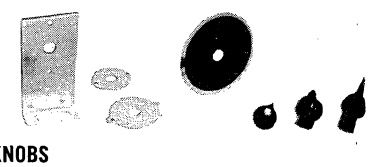
Catalog No.	Description
P-362	1″ Miniature Screw
P-370	2″ Miniature Screw
P-374	2½″ Miniature Screw
P-382	4″ Miniature Screw
P-384	5″ Miniature Screw
P-388	7″ Miniature Screw
P-390	Miniature Nut (4-40 Thd.)
P-392	Miniature Lockwasher
P-394	Miniature Phenolic Spacer Washer

FOR PS-100 SERIES SUBMINIATURE ROTARY SWITCHES

Catalog No.	Description
P-515	1⅛″ Sub-Min. Screw
P-516	Sub-Miniature Nut (2-56 Thd.)
P-527	Sub-Miniature Lockwasher
P-519	Sub-Miniature Spacer Washer
P-520	⅛″ Sub-Miniature Steatite Spacer
P-521	3⁄32″ Sub-Miniature Steatite Spacer
P-522	1⁄16″ Sub-Miniature Steatite Spacer
P-523	3⁄16″ Sub-Miniature Steatite Spacer
P-524	5⁄32″ Sub-Miniature Steatite Spacer

FOR PA-6000 SERIES MINIATURE MILITARY SWITCHES

Catalog No.	Description
P-395	Miniature MIL Screw
P-396	Miniature MIL Nut (4-40 Thd.)
P-397	Miniature MIL Lockwasher
P-398	Miniature MIL Glass Epoxy Spacer Washer



KNOBS

Description	Cat. No.
11⁄16″ Round Pointer Knob, Black, set screw, ⅛″ Dia. Hole	P-106
1¼″ Black Pointer Knob (set screw)	P-120
2″ Black Pointer Knob Brass insert, 2 set screws (power)	P-168
Lever Switch—Black	P-193
Lever Switch—Red	P-194
1½″ Paddle—Walnut (PA and intercom)	P-198
15⁄16″ Round, Split Knurl (Push on), Black with Chrome Center	P-401

INTERSECTION SHIELDS

MINIATURE—.035″ thick, steel. Use with PA-1000 or PA-2000 Series Switches to reduce coupling effects.
Miniature Shield .....Cat. No. P-320

STANDARD—.035″ thick. Use with 1400 or 2500 Series Switches between sections to reduce coupling effects.
Standard Shield .....Cat. No. P-200

DIAL PLATES

Etched aluminum, black background. 1⅞″ dia.

1-2-3	30°	P-178	1-2-3-4	90°	P-162
1 to 5	30°	P-115	10-20-40-80	90°	P-163
1 to 6	30°	P-116	1 to 5	60°	P-402
1 to 10	30°	P-117	10-15-20-40-80	60°	P-404
1 to 11	30°	P-118			
1 to 12	30°	P-112			
1 to 23	15°	P-173			

2¾″ diameter, etched aluminum, 20° marking for power switches.

1 to 5	20°	P-230	1 to 17	20°	P-231
1 to 8	20°	P-232			

MOUNTING BRACKETS

For 1400 and 2500 series. .065″ cadmium-plated steel. Use to mount between sections for rigidity, or at rear of long switch assemblies for more accurate indexing. Footed, with slotted mounting holes (1″ centers) to chassis.

All 1⅝″ wide.
Bracket 1¼″ from Base to Shaft Center Cat. No. P-210
Bracket 2¼″ from Base to Shaft Center Cat. No. P-212
Bracket 3¼″ from Base to Shaft Center Cat. No. P-214

Bracket-Dial Plate—dual speaker
Etched aluminum—(1483-1484 switches) Cat. No. P-216

Bracket-Dial Plate—4 channel dual lines
Etched aluminum (PA-2050 switch) Cat. No. P-218

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ROTARY SWITCH KITS

These Centralab Switch kits afford a convenient, readily available source of stock sections, indexes and hardware for assembling 1 7/16" or 1 7/8" diameter phenolic or ceramic switches. All five SWK-810-860 kits are packed in rugged heavy gauge steel, shelf size cabinets, 23 1/4" wide, 9 1/2" high and 12" deep. All five SWK-400-480 kits are 10" x 11 1/2" x 10".

SWK-400 KIT

PS-100 SERIES SUB-MINIATURE CERAMIC SWITCH PARTS

Ceramic Sections—30° Indexing

Qty.	Cat. No. Shorting	Qty.	Cat. No. Non-Shorting	Poles per Section	No. Positions
3	PS-20	5	PS-21	1	2-11
3	PS-22	5	PS-23	2	2-5
3	PS-24	4	PS-25	3	2-3
3	PS-26	4	PS-27	4	2

Index Assemblies—30° Indexing

Qty.	Catalog No.	No. Positions	Qty.	Catalog No.	No. Positions
2	P-501	2	1	P-506	7
2	P-502	3	1	P-507	8
1	P-503	4	1	P-508	9
2	P-504	5	1	P-509	10
1	P-505	6	2	P-510	11
			2	P-511	Continuous Rotation

One switch cross reference included. Includes all necessary hardware to build 16 switches up to 3 sections per switch.

SWK-410

PA-1000 SERIES MINIATURE PHENOLIC SWITCH KIT

Contains 48—1 7/16" diameter phenolic sections, 13 complete index assemblies, plus hardware for constructing 13 phenolic standard or special switches.

Sections—30° Indexing

Qty.	Cat. No. Shorting	Qty.	Cat. No. Non-Shorting	Poles per Section	No. Positions
4	PA-30	8	PA-31	1	2-11
4	PA-32	8	PA-33	2	2-5
2	PA-34	4	PA-35	3	2-3
2	PA-36	4	PA-37	4	2
2	PA-38	2	PA-39	1	2-5
2	PA-40	2	PA-41	1	2-11
2	PA-49	....	.....	1	2-10

Sections—60° Indexing

....	.....	2	PA-45	1	2-6

13 Index Assemblies and 5 Dial Plates

One switch cross-reference included.
Kit packed in 4 drawer metal cabinet 10" x 11 1/2" x 10".

SWK-420

PA-2000 SERIES MINIATURE CERAMIC SWITCH KIT

Contains 52—1 1/2" diameter ceramic switch sections, 13 complete index assemblies, plus hardware for assembling 13 regular or special ceramic switches.

Sections—30° Indexing

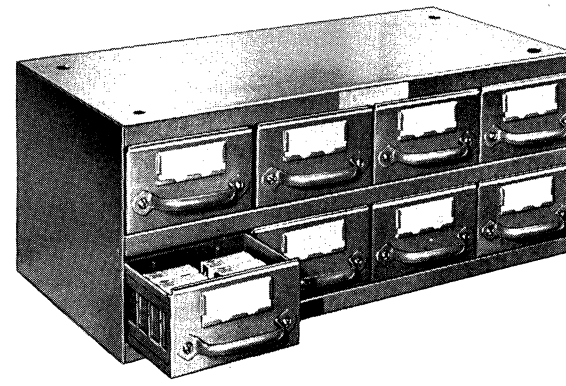
Qty.	Cat. No. Shorting	Qty.	Cat. No. Non-Shorting	Poles per Section	No. Positions
4	PA-0	8	PA-1	1	2-12
4	PA-2	6	PA-3	2	2-6
2	PA-4	4	PA-5	3	2-5
2	PA-6	4	PA-7	5	2-3
2	PA-8	4	PA-9	6	2
2	PA-10	2	PA-19	1	2-5
2	PA-11	2	PA-18	1	2-11
2	PA-12	....	.....	1	2-10

Sections—60° Indexing

....	.....	2	PA-17	1	2-6

13 Index Assemblies and 5 Dial Plates

One switch cross-reference included.
Kit packed in 4 drawer metal cabinet 10" x 11 1/2" x 10".



SWK-810
SWK-814
SWK-820
SWK-825
SWK-860

SWK-460 KIT

CONTAINS PA-6000 SERIES STYLE SR03 MINIATURE MILITARY PHENOLIC SWITCH PARTS BUILT TO MEET MIL-S-3786A

Phenolic Sections—30° Indexing

Qty.	Cat. No. Shorting	Qty.	Cat. No. Non-Shorting	Poles per Section	No. Positions
6	PA-60	8	PA-61	1	2-11
5	PA-62	8	PA-63	2	2-5
4	PA-64	6	PA-65	3	2-3
4	PA-66	4	PA-67	4	2

Index Assembly 30° Indexing			Dial Plates		
Qty.	Catalog No.	Shaft	Qty.	Catalog No.	Positions
15	PA-600	2"	1	P-115	1-5
			1	P-116	1-6
			1	P-117	1-10
			1	P-118	1-11
			1	P-178	1-2-3

Includes all necessary hardware to build 15 MIL switches up to 4 sections per switch.

SWK-480 KIT

CONTAINS PA-6000 SERIES STYLE SR03 MINIATURE MILITARY CERAMIC AND MYCALEX SWITCH PARTS BUILT TO MEET MIL-S-3786A

Ceramic Sections—30° Indexing

Qty.	Cat. No. Shorting	Qty.	Cat. No. Non-Shorting	Poles per	No. Positions
2	PA-80	4	PA-81	1	2-11
2	PA-82	4	PA-83	2	2-5
2	PA-84	4	PA-85	3	2-3
2	PA-86	4	PA-87	4	2

Mycalex Sections—30° Indexing

2	PA-70	2	PA-71	1	2-11
2	PA-72	2	PA-73	2	2-5
2	PA-74	2	PA-75	3	2-3
2	PA-76	2	PA-77	4	2

Index Assembly 30° Indexing			Dial Plates		
Qty.	Catalog No.	Shaft	Qty.	Catalog No.	Positions
15	PA-600	2"	1	P-115	1-5
			1	P-116	1-6
			1	P-117	1-10
			1	P-118	1-11
			1	P-178	1-2-3

Includes all necessary hardware to build 15 MIL switches up to 4 sections per switch.

SWK-810

PA-1000 SERIES MINIATURE PHENOLIC SWITCH PARTS

Phenolic Sections—30° Indexing

Qty.	Cat. No. Shorting	Qty.	Cat. No. Non-Shorting	Poles per Section	No. Positions
10	PA-30	16	PA-31	1	2-11
8	PA-32	14	PA-33	2	2-5
6	PA-34	10	PA-35	3	2-3
4	PA-36	8	PA-37	4	2
4	PA-38	6	PA-39	1	2-5
4	PA-40	4	PA-41	1	2-11
2	PA-43	....	.....	1	2-10
2	PA-49	....	.....	1	2-10

Phenolic Sections—60° Indexing

....	.....	8	PA-45	1	2-6

32 Index Assemblies and 35 Dial Plates

Plus sufficient spacers, screws, washers, nuts, knobs and shields for 32 regular or special switches. One switch cross-reference included.

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DISTRIBUTOR PRODUCTS

CENTRALAB
Electronics Division
GLOBE-UNION INC.

SWK-814
1400 SERIES PHENOLIC SWITCH PARTS

Phenolic Sections—30° Indexing

Qty.	Cat. No. Shorting	Qty.	Cat No. Non-Shorting	Poles per Section	No. Positions
4	AD	8	HD	1	2-6
6	BD	12	JD	1	2-11
8	CD	16	KD	2	2-5
4	DD	8	LD	3	2-3
2	ED	6	MD	4	2
2	EED	4	BBD	4	2-3
2	FD	4	AAD	1	2-5
2	GD	4	CCD	1	2-10
2	PID	....	.....	1	2-10
2	ND	} Combine for resistance decade switch			
2	PD				
2	QD	— for capacitance decade switch			

30 Index Assemblies and 30 Dial Plates

Plus sufficient spacers, screws, washers, nuts, knobs, shields and brackets for 30 regular or special switches. One switch cross-reference included.

SWK-820
PA-2000 SERIES MINIATURE CERAMIC SWITCH PARTS

Ceramic Sections—30° Indexing

Qty.	Shorting Cat. No.	Qty.	Cat. No. Non-Shorting	Poles per Section	No. Positions
8	PA-0	16	PA-1	1	2-12
6	PA-2	12	PA-3	2	2-6
6	PA-4	10	PA-5	3	2-5
4	PA-6	8	PA-7	5	2-3
4	PA-8	6	PA-9	6	2
2	PA-10	2	PA-19	1	2-5
2	PA-11	2	PA-18	1	2-11
2	PA-12	....	.....	1	2-10
2	PA-13	....	.....	1	2-10

Ceramic Sections—60° Indexing

2	PA-20	8	PA-17	1	2-6

32 Index Assemblies and 35 Dial Plates

Plus sufficient spacers, screws, washers, nuts, knobs and shields for 32 regular or special switches. One switch cross-reference included.

SWK-825
2500 SERIES CERAMIC SWITCH PARTS

Ceramic Sections—30° Indexing

Qty.	Cat. No. Shorting	Qty.	Cat No. Non-Shorting	Poles per Section	No. Positions
4	TD	8	XD	1	2-6
6	UD	12	YD	1	2-11
8	RD	14	RRD	2	2-5
6	SD	10	SSD	3	2-3
2	VD	6	ZD	4	2
2	GGD	4	FFD	1	2-10
2	PISD	....	.....	1	2-10
2	NSD	} Combine for resistance decade switch			
2	PSD				
2	QSD	— for capacitance decade switch			

Sections—60° Indexing

....	.....	10	ZZD	1	2-6

29 Index Assemblies and 30 Dial Plates

Plus sufficient spacers, screws, washers, nuts, knobs, shields and brackets for 29 regular or special switches. One switch cross-reference included.

SWK-860 KIT
CONTAINS PA-6000 SERIES STYLE SR03 MINIATURE MILITARY SWITCH PARTS BUILT TO MEET MIL-S-3786A

Ceramic Sections—30° Indexing

Qty.	Cat. No. Shorting	Qty.	Cat No. Non-Shorting	Poles per Section	No. Positions
4	PA-80	5	PA-81	1	2-11
4	PA-82	5	PA-83	2	2-5
4	PA-84	4	PA-85	3	2-3
3	PA-86	3	PA-87	4	2

Phenolic Sections—30° Indexing

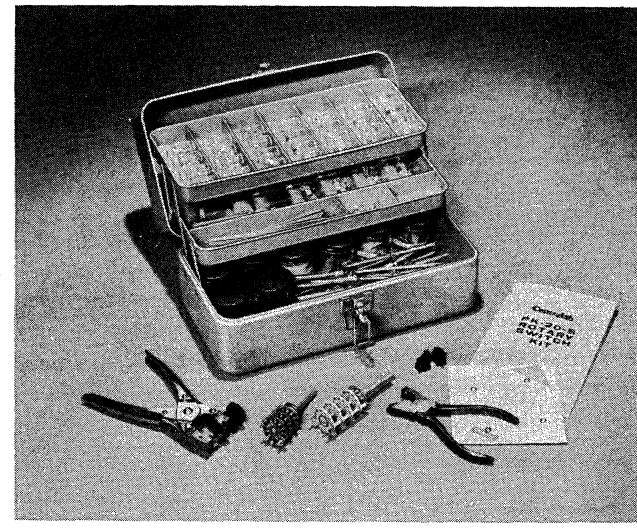
3	PA-60	4	PA-61	1	2-11
3	PA-62	4	PA-63	2	2-5
3	PA-64	3	PA-65	3	2-3
2	PA-66	2	PA-67	4	2

Mycalex Sections—30° Indexing

3	PA-70	3	PA-71	1	2-11
3	PA-72	3	PA-73	2	2-5
2	PA-74	2	PA-75	3	2-3
2	PA-76	2	PA-77	4	2

35 Index Assemblies and 25 Dial Plates

Includes all necessary hardware to build 35 MIL switches with up to 4 sections per switch.



PARTS LIST FOR PK-20-S ROTARY SWITCH KIT

Cat. No.	Description
P8884-11	Clip 60° Short bent
P888-11	Clip 60° Long bent
P18407-11	Clip Reverse Short bent
P18408-11	Clip Reverse Long bent
P17894-11	Clip Insulated Long bent
P17896-11	Clip Insulated Short bent
P32312-11	Plug-in Clip Short bent
P32313-11	Plug-in Clip Long bent
P9251-11	Clip Dummy 60° bent
P30807	Insulator Block glass epoxy
P2708-11	Rivet for insulating to ceramic
Y37987-11	Eyelet for insulating to phenolic
P25611-11	Eyelet for phenolic stator
P16076-11	Eyelet for ceramic stator
P9093	Stator .062 thick phenolic
P31161	Stator .062 thick epoxy glass
P9097	Stator .100 thick ceramic
P9098	Stator .100 thick ceramic
P20483	Stator .031 thick 10 side
P20484	Stator .031 thick 12 side
P9101	Rotor phenolic .036 thick (use 2)
P9107	Rotor ceramic .115 thick
P29716	Rotor ceramic (must use with glass stator)
P10377-11	Contact for phenolic stator
P10225-11	Contact for phenolic stator
P10404-11	Contact for phenolic stator
P10823-11	Contact for phenolic stator
P9979-11	Contact for phenolic stator
P10205-11	Contact for phenolic stator
P10320-11	Contact for phenolic stator
P31990-11	Contact for phenolic stator
P31991-11	Contact for phenolic stator
P10648-11	Contact for ceramic stator
P10375-11	Contact for ceramic stator
P10207-11	Contact for ceramic stator
P10080-11	Contact for ceramic stator
P10218-11	Contact for ceramic stator
P10378-11	Contact for ceramic stator
P10405	Contact for ceramic stator
P18147	Spacers 5/16" long
P18149	Spacers 3/8" long
P18145	Spacers 1/4" long
P31063	Spacers 3/16" long
P18148	Spacers 11/32" long
P9416	Screw 3" long
P10667	Screw 6" long
P9408	Nut for struts
P30201	Lockwasher for struts
P9226	Cushion spacer washer
P10815	Adjustable stop
P9113	Rotor retainer
P10816	Intersection shield
P45121	3 amp 125 volt AC line switch assembly
P37462	Shaft extension to activate line switch
AK-16	Coupler for connecting shafts
P11039-00	C Ring
PS028-008	Index assemblies
PS028-202	60° index front plate assembly
	Contact leg twisting tool
	Eyeletting pliers
	Nibbling pliers with acorn nut
	Punches (Spliting, non-shorting, shorting)
42-927	Series 20 specification sheets
42-212R	Switch visualizer

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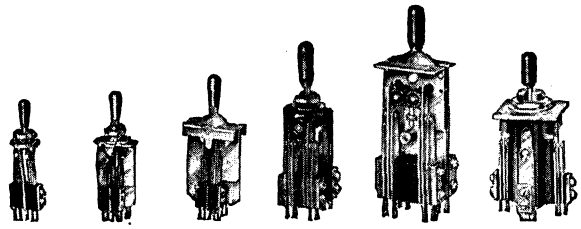
A complete line of LEVER SWITCHES by GENERAL CONTROL COMPANY



RATINGS

Type	*Amps.**	*High*	*Wide*	*Long***
MCS	1 or 3	7/8"	7/8"	2-1/16"
MCT-1	1 or 3	1 1/4"	3/4"	2-5/16"
MCT-4	1 or 3	1 1/2"	3/4"	2-17/32"
MCM	5	1 1/4"	1 1/4"	2-25/32"
MCL	10	1 3/4"	1 3/8"	3-15/16"
MFM	5	1 3/4"	1 3/4"	3"

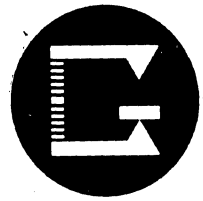
*125 volts, 60 cycles, non-inductive.
**From back panel to end of terminals.

Write for data Sheet CLRM

LEVER OPERATION

Symbol		Three-Position			Two-Position	Half Throw	Two-Position	Full Throw
Lock (Stays put)	Non-lock Spring return							
Designation	MCS	S1	*S2	S3	*S4	*S5		
	MCT1 MCT4	T1	*T2	T3	*T4	*T5		
	MCM	M1	*M2	M3	*M4	*M5	M6	*M7
	MCL	L1	*L2	L3	*L4	*L5		

*Lock and non-lock positions may be reversed. To reverse designate as RS2, RM4, RL5, etc.



SPECIAL MCM LEVER

(A) waterproof lever $4.45 EACH, LIST

MFM

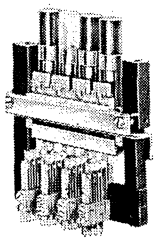
Description		Lock	Non-Lock	Four-Position
SYMBOL				
OPERATION				
Operation No.	M8	M9	M10	M11	M12

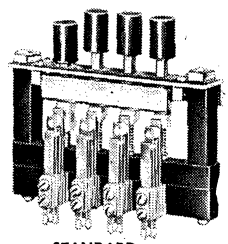
CONTACTS

To obtain list price:— add contact prices to frame price.

Frame Types and Prices	Contact Forms / Circuit	A	B	C	D	E	F	G	H	O (No Contacts)
MS $ 1.80	MCS 1 amp.	0.55	0.55	0.65	*	—	0.65	—	0.65	—
	MCS 3 amp.	.65	.65	.80	*	—	.80	—	.80	—
MCT-4 $ 2.15	MCT-4 1 amp.	.55	.55	.65	.85	.95	.65	—	.65	—
	MCT-4 3 amp.	.65	.65	.80	1.00	1.12	.80	—	.80	—
MCT-1 $ 2.70	MCT-1 1 amp.	.55	.55	.65	.85	.95	.65	—	.65	—
	MCT-1 3 amp.	.65	.65	.80	1.00	1.12	.80	—	.80	—
MCM $ 4.00	MCM 5 amp.	.85	.85	1.00	1.25	1.60	1.00	1.00	1.00	—
MFM $18.50	MFM 5 amp.	.85	.85	1.00	1.25	1.60	1.00	1.00	1.00	—
MCL $ 5.40	MCL 10 amp.	1.25	1.25	1.45	1.75	2.70	1.45	1.45	1.45	—

PUSH-BUTTON SWITCHES by GENERAL CONTROL COMPANY


LIGHTED


STANDARD

SPS-LPS FRAME PRICES 5/8" or 3/4" Button Centers

BUTTONS		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
B12	SPS	$12.00	$14.15	$16.50	$19.40	$22.35	$25.25	$28.15	$31.10	$34.25	$37.45	$40.65	$43.85	$47.00	$ 50.20	$ 53.40
	LPS	21.30	26.50	31.80	38.00	44.20	50.45	56.65	62.85	70.45	77.20	85.55	90.75	97.50	104.30	111.05
B13	SPS	10.95	13.10	15.25	18.15	21.05	24.00	26.90	29.80	32.75	35.90	39.10	42.30	45.50	48.70	51.85
	LPS	20.25	25.45	30.50	36.75	42.95	49.15	55.40	61.60	69.20	75.95	84.25	89.50	96.25	103.00	109.80
B14	SPS	10.35	11.65	13.20	15.30	17.40	19.50	21.55	23.65	26.00	28.40	30.75	33.10	35.50	37.85	40.20
	LPS	19.65	24.05	28.50	33.90	39.25	44.65	50.05	55.45	62.50	68.40	74.35	80.30	86.25	92.20	98.10
B15	SPS	9.30	10.60	11.95	14.00	16.10	18.20	20.30	22.40	24.50	26.85	29.20	31.60	33.95	36.30	28.65
	LPS	18.60	23.00	27.25	32.60	38.00	43.40	48.80	54.20	60.95	66.90	72.80	78.75	84.70	90.65	96.60
B16	SPS	8.20	9.25	10.30	12.30	14.35	16.40	18.45	20.45	22.50	24.75	27.05	29.40	31.70	34.00	36.30
	LPS	17.50	21.60	25.60	30.90	36.25	41.60	46.90	52.25	58.95	64.80	70.70	76.55	82.45	88.35	94.20
B17	SPS	9.25	10.30	11.55	13.60	15.60	17.65	19.70	21.75	24.05	26.30	28.60	30.90	33.20	35.53	37.85
	LPS	18.55	22.65	26.85	32.20	37.50	42.85	48.20	53.50	60.50	66.35	72.20	78.10	84.00	89.90	95.75
B18	SPS	11.60	14.35	17.10	20.85	24.60	28.35	32.05	35.80	34.55	43.50	47.50	51.55	55.55	59.55	63.60
	LPS	20.90	26.75	32.40	39.45	46.50	53.50	60.55	67.60	76.00	83.55	91.15	98.75	106.30	113.90	121.50
B19	SPS	12.65	15.40	18.40	22.10	25.85	29.60	33.35	37.10	41.10	45.05	49.05	53.10	57.10	61.10	65.10
	LPS	21.95	27.80	33.65	40.70	47.75	54.80	61.80	68.85	77.55	85.10	92.70	100.25	107.85	115.45	123.00

Note: Additional frame operations available. Contact General Control.

OPERATIONS

B12 POSITIVE LOCK-IN LOCK-OUT
Only one button can be depressed at a time. The Momentary Release button must be actuated to release any previously depressed button before any other button can be actuated.

B13 ACCUMULATIVE LOCK
Buttons pushed in remain locked in position until released by pushing reset button.

B14 NO-TWO-INTERLOCK
Only one button can be pushed in at one time, and releases any other button.

B15 LOCK-RELEASE
Any button pushed in releases any previously pushed in button.

B16 NON-LOCK
Has no locking action; returns to normal position on release of finger pressure.

B17 NON-LOCK, NO-TWO-OPERATIVE
The same as B16 except that no two buttons can be operated simultaneously.

B18 PUSH-LOCK, PUSH-RELEASE
Any button depressed remains locked in until that button is depressed again.

B19 PUSH-LOCK, PUSH-RELEASE, (WITH LOCK-OUT)
This is the same as B18 except that only one button can be depressed at a time.

CONTACTS

CONTACT FORMS	A	B	C	D	H
1 amp silver	$0.55	$0.55	$0.65	$0.90	$0.65
3 amps paladium alloy	.65	.65	.80	1.05	.80
↑ Direction of Throw				*	

Ratings at 125 volts A. C. n.i. * In place of a "D" contact we can offer a "C" contact adjusted to provide make before break operation.

WRITE FOR DATA SHEET SLRM

ORDERING INFORMATION

1. Frame Type	2. Operation	3. Contacts	4. Contact Location	5. Rating	6. Button Centers
SPS4	B14	A-C-2A-2C	TOP Mounted	3 amps.	5/8"
$13.20		.65+.80+1.30+1.60			= $17.55

"Footrol" FOOT SWITCHES

MA - $8.00

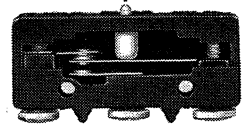
MI - $14.00

MC - $14.00

WRITE FOR BULLETIN FSRM

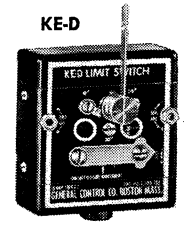
LIMIT SWITCHES

"Du.op - DUS"


Positive Direct Contact Action. Industry Size and Mounting.

$1.80

KE-D



Adjustable contacts open and close in 360°. 73° pre or overtravel clock or counter wise. Quick conversion to rotary switch. Adjustable sensitivity.

Standard Model $18.00

Write for Bulletin KDRM

GENERAL CONTROL COMPANY

***ALL PRICES SUBJECT TO 1967 DISCOUNT SCHEDULE**

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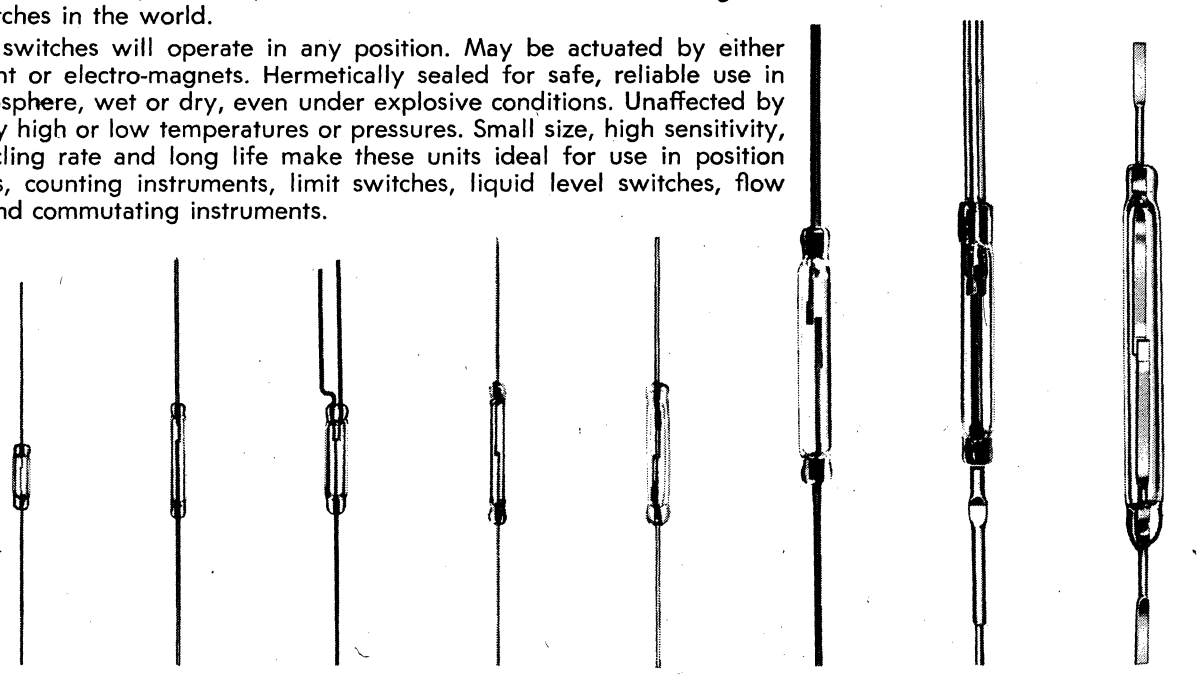
Trade Discount Applies To List Prices Only

THE WORLD'S FINEST SELECTION OF MAGNETIC REED SWITCHES BY HAMLIN INC

HAMLIN, INC. has been the world leader in the design and manufacture of Magnetic Reed Switches since they first introduced them to industry in 1957. **HAMLIN** switches have met every conceivable test in the broad range of environmental and electrical applications. As the pioneer in the development of dry reed switches, **HAMLIN, INC.** offers the finest selection of magnetic reed switches in the world.

HAMLIN switches will operate in any position. May be actuated by either permanent or electro-magnets. Hermetically sealed for safe, reliable use in any atmosphere, wet or dry, even under explosive conditions. Unaffected by extremely high or low temperatures or pressures. Small size, high sensitivity, rapid cycling rate and long life make these units ideal for use in position indicators, counting instruments, limit switches, liquid level switches, flow meters and commutating instruments.

ILLUSTRATIONS ACTUAL SIZE



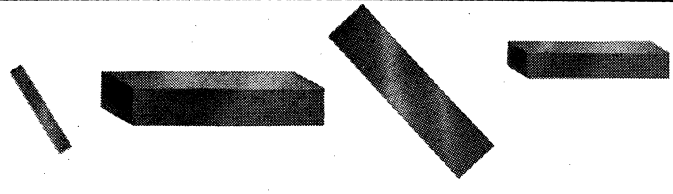
(1) MICRO MINIATURE FORM A | (2) TINY FORM A | (3) TINY FORM C | (4) SUB-MINIATURE FORM A | (5) MINIATURE FORM A | (6) COMPACT FORM A | (7) COMPACT FORM C | (8) STANDARD FORM A

Switch Part No.	Size	Form	Actuating Magnet	D.C. Contact Rating	Maximum Amps	D.C. Maximum Voltage	Maximum Contact Resistance	D.C. Minimum Breakdown Voltage	Quantity Price Break 1-24	25-99	100-999	Special Features
MMRR-2-185	1	A	H-31	.3W	.010	28	.200	250	1.84	1.31	1.05	World's Smallest Reed Switch
MTRR-2-185	2	A	H-33	10W	.250	100	.150	250	1.32	.95	.75	Universal Rhodium Contacts
MRG-DT-175	3	C	H-33	3W	.250	28	.150	250	4.20	3.00	2.40	Smallest Form C
MSRG-2-185	4	A	H-33	10W	.500	50	.150	300	1.05	.75	.60	Low Cost Standard
MSRR-2-185	4	A	H-33	10W	.500	200	.100	300	1.15	.83	.66	Universal Rhodium Contacts
MRG-2-185	5	A	H-33	10W	.500	50	.150	300	1.05	.75	.60	Low Cost Standard
MRR-2-185	5	A	H-33	10W	.500	200	.100	300	1.15	.83	.66	Universal Rhodium Contacts
MRO-2-235	5	A	H-34	1W	.001	1000	.100	2000	6.30	4.50	3.60	High Breakdown Voltage
MRC-3-387	5	A	H-33	28W	1.0	100	.050	1000	4.20	3.00	2.90	Mercury Wetted Contacts
SRR-2-425	6	A	H-32	15W	1.0	400	.060	500	.89	.64	.51	Universal Rhodium Contacts
DRG-DTH-445	7	C	H-32	10W	.500	250	.075	1000	2.63	1.88	1.50	High Breakdown Form C
DRG-2-425	8	A	H-34	15W	1.0	250	.075	500	.79	.56	.45	Low Cost Standard
DRR-1-425	8	A	H-34	15W	1.0	400	.060	500	.89	.64	.51	Universal Rhodium Contacts
DRT-5-425	8	A	H-34	50W	3.0	1000	.100	1500	2.10	1.50	1.20	Inductive Load Type Contacts
DRVT-10-658	8	A	H-34	50W	3.0	5000	.080	10,000	4.20	3.00	2.40	10,000 Volt Breakdown
HRC-1-535	8	A	H-34	50W	3.0	400	.050	1000	2.10	1.50	1.20	Mercury Wetted Contacts

MAGNETS BY HAMLIN INC

ALNICO V BAR MAGNETS

H-31 - 604	1/16 x 1/16 x 1/2"	.30
H-32 - 605	3/16 x 3/16 x 1"	.35
H-33 - 606	1/8 x 1/8 x 3/4"	.30
H-34 - 607	1/4 x 1/4 x 1"	.40



Net

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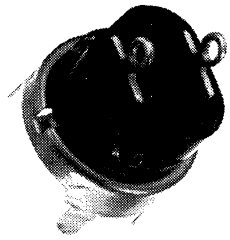
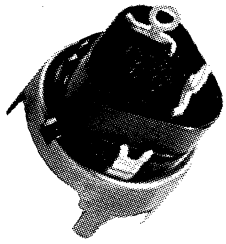
IRC-CTS EXACT DUPLICATE POWER SWITCHES

IRC, DIVISION OF TRW INC.

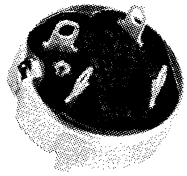
Exact duplicate replacements for pull-on, push-off power switches used on CTS 45 series controls. The quickest, most reliable switch replacements. Easy to install — eliminates double work of removing switch from cover and reinstalling. Prevent costly call-backs on universal adaptations.



TK-1. Latest development of original CTS TK switch. Uses new molded actuator for greater fatigue strength. Mounted on two-tap switch cover for use on CTS 45 series controls ($1\frac{5}{16}$" diameter) without element tap or with either one or two element taps. Replaces TK switch only — not used for replacement of original K switches.

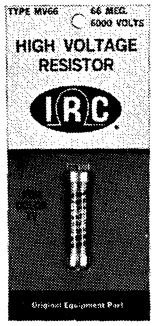


AK-1. Up-rated and improved replacement for CTS K switch. Rated at 5 amperes instead of 3 amperes to withstand heavy surges found in some applications. Mounted on two-tap cover for use on CTS 45 series controls ($1\frac{5}{16}$" diameter) without element tap or with one or two element taps. Replaces K switch only — not used for replacement of original TK switches.



WFR. A reverse-action double pole, single throw switch for bracket-mounting on CTS 45 series controls to provide pull-on, push-off switch action. Switch element only — mounts on original bracket by bending over three labs.

HIGH VOLTAGE RESISTORS FOR COLOR TV



Attractive new SNAP PAK style package. Back of card contains complete replacement information.

SPECIFICATIONS

Type MV47 — 6000 Volts, 47 Meg. ±20%
Type MV66 — 6000 Volts, 66 Meg. ±20%

EXACT DUPLICATE ORIGINAL EQUIPMENT PART is available in two ranges for complete coverage, 47 and 66 megohms.

Film type axial lead resistors. Resistive coating applied in helical path on ceramic tube, providing long, effective resistance length with exceptional stability. Precise mechanical spacing of helical turns gives a uniform pitch, and allows uniform voltage gradient throughout the length of the resistor. All resistors are pre-cured and the resistance coating is stabilized at high temperature to eliminate appreciable aging. Temperature coefficient of approximately −.1%/°C over temperature range of −55°C to +105°C.

HIGH VOLTAGE RESISTOR ASSORTMENTS

ASSORTMENT #100 — 25 MV47 resistors, packaged one to a display card, 5 cards to a strip. Contains 5 strips.

ASSORTMENT #101 — 25 MV66 resistors, packaged one to a display card, 5 cards to a strip. Contains 5 strips.

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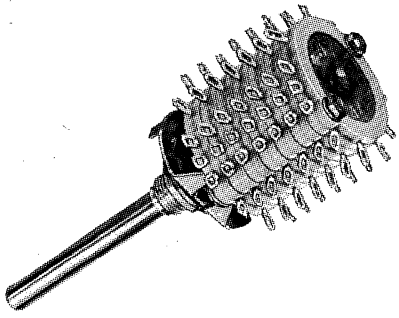
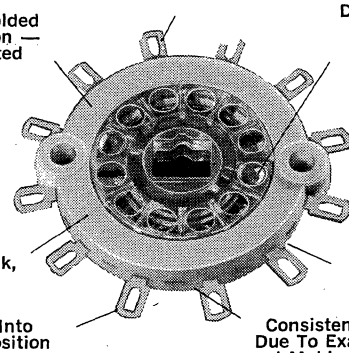
IRC-CTS ROTARY SELECTOR SWITCHES

IRC, DIVISION OF TRW INC.



Switch Wafers Assembled Without Spacers



SELECTOR SWITCH UNIQUE 1-PIECE MOLDED WAFER PROVIDES HIGH RELIABILITY

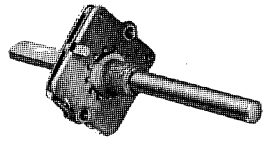
The new IRC-CTS design goes right to the heart of selector switch reliability . . . the wafer. Automated manufacture provides unprecedented uniformity. One-piece *molded* construction of the wafer virtually eliminates drift. In each production run, all switches are identical, terminal placement is exact and permanent. Machine exactness replaces human error and variation, eliminating wide tolerances and assuring high reliability.

- Compact 1 1/16" size design allows more circuitry per unit of depth behind panel.
- Rivet-free construction permits closer stacking.
- Superior insulation due to repetitive exactness in terminal spacing, and molded glass alkyd material.
- Rotor contacts are double-wiping and self-cleaning.
- Stator contacts are integral with terminals.
- Molded stator will not break or crush during ordinary handling, or if it is dropped.

GENERAL SPECIFICATIONS

	COMMERCIAL TYPE 212 SERIES	INDUSTRIAL-MILITARY TYPE M-212 SERIES
INSULATION:	Stator—Glass Alkyd Resin Rotor—IL Grade Glass-Filled Nylon	Stator—Type MAI-30 per MIL-M-21699 Rotor—IL grade glass-filled nylon
STATOR CONTACTS AND TERMINAL LUG MATERIAL	Brass Silver Plated movable contacts. Terminals and stator are brass, silver plated.	Military grade brass, silver plated movable contacts. Terminals and stator are brass, silver plated.
OPERATING TEMPERATURE:	85° C.	125° C.
DETENTS:	Index plate 30° between positions with one fixed and one adjustable stop.	Index plate 30° between positions with one fixed and one adjustable stop.
FINISH:	50-hour salt spray.	50-hour salt spray.
MOUNTING DETAILS:	Bushing—3/8"-32 thread, 3/8" long. Shaft—1/4" diameter round shaft, 1 7/8" beyond end of bushing. Hardware furnished.	Bushing—3/8"-32 thread, 3/8" long. Shaft—1/4" diameter round shaft, 1 7/8" beyond end of bushing. Hardware furnished.
MILITARY APPLICATIONS	Both types 212 and M-212 meet requirements of MIL-S-3786A, type SRO-3.	

EXCLUSIVE MILITARY GRADE CTS-IRC STARWHEEL SHAFT AND 30° DETENT ASSEMBLY



T-180 T-181 T-182

See Page 1256 for Engineering Laboratory Stocks of this Product

A balanced lever arm and star wheel detent assembly free from end and side thrust is available for precision military and instrumentation applications. Star wheel detent provides extremely long life and minimum turning torque variation. Double lever arm construction controls torque in both directions of rotation with practically no change in torque during 100,000 cycles of operation through 12 switch positions.

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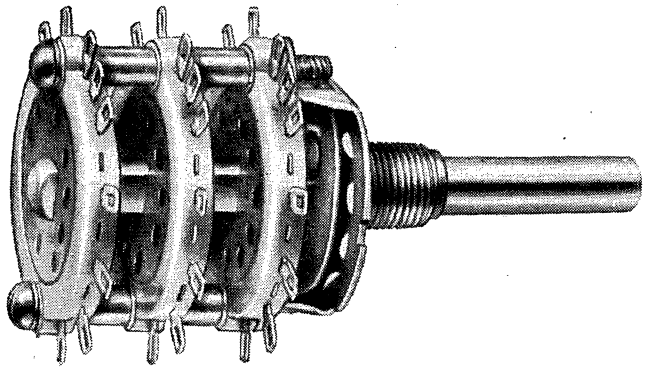
IRC-CTS ROTARY SELECTOR SWITCHES

IRC, DIVISION OF TRW INC.



ELECTRICAL RATING

Voltage and Current Ratings:

1 amp at 28 volts DC
1½ amps at 115 volts AC

High Pot Test:

Between adjacent 30° terminals or terminals to ground: 1,750 volts AC RMS for one minute, Between adjacent 15° terminals: 750 volts AC RMS for one minute.

212 Wafer Assembly

The wafer assembly of the IRC-CTS selector switch can be separated into three basic elements, the rotor insulator, the rotor contacts and the stator. The stator consists of the stator insulator, terminal lugs, contacts, contact ring, which is made as a single unit.

The Stator

The Stator is the heart of the IRC-CTS selector switch and determines the circuitry of the switch in conjunction with the location of the selected rotor contacts. The stator is actually a circuit pattern cut out of metal which forms the terminal lugs, center contact ring and the stator contact.

Stator Insulator

The stator insulator is a circular molding which encloses the mid portion of each contact and serves as a container for the rotor. The stator insulator also serves as a natural solder and flux barrier, thus protecting the contact areas.

Rotor

The rotor of the IRC-CTS selector switch holds the rotor contacts in place and carries the contacts from one position to another, providing controlled float which prevents open circuiting during severe shock or vibration.

Contact Resistance

Circuit resistance ranges from .007 to .008 ohms on standard switches when measured from one terminal to an adjacent terminal. When measured terminals are not adjacent, up to 180° apart, the resistance will measure higher due to the extra metal in the stator circuits. It is to be noted that the circuit resistance check measures all the metal in the circuit. Thus actual resistance at the point of contact is considerably less than the measured resistance. In IRC-CTS assemblies, contact resistance is unusually stable throughout the switch life.

Contact Life:

Standard brass silver plated rotor contacts and brass silver plated stator provide reliable life for a minimum of 25,000 cycles through 12 positions and return without appreciable increase in contact resistance. (See detent life.)

Detent Rotational Life:

The standard 212 detent assembly (T79, T80, T81 & T82) has a rated life of 25,000 cycles through 12 positions and return.

The star wheel detent mechanism (T180, T181, & T182) has a rated life of 100,000 cycles through 12 positions and return.

See Page 1256 for Engineering Laboratory Stocks of this Product

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IRC-CTS ROTARY SELECTOR SWITCHES

IRC, DIVISION OF TRW INC.

IRC-CTS COMMERCIAL TYPE 212

Total Poles	Number of Positions		Poles per Section	Number of Sections	Stock Number	
	Shorting	Non-Shorting			Shorting	Non-Shorting
1	2-11	2-12	1	1	T201	T205
2	2-5	2-6	2	1	T202	T206
3	2-3	2-4	3	1	T203	T207
4	2	2-3	4	1	T204	T208
6		2	6	1		T209
2	2-11	2-12	1	2	T211	T215
4	2-5	2-6	2	2	T212	T216
6	2-3	2-4	3	2	T213	T217
8	2	2-3	4	2	T214	T218
12		2	6	2		T219
3	2-11	2-12	1	3	T221	T225
6	2-5	2-6	2	3	T222	T226
9	2-3	2-4	3	3	T223	T227
12	2	2-3	4	3	T224	T228
18		2	6	3		T229
4	2-11	2-12	1	4	T231	T235
8	2-5	2-6	2	4	T232	T236
12	2-3	2-4	3	4	T233	T237
16	2	2-3	4	4	T234	T238
24		2	6	4		T239

IRC-CTS INDUSTRIAL-MILITARY TYPE M-212

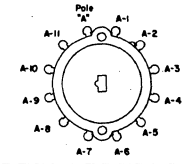
Total Poles	Number of Positions		Poles per Section	Number of Sections	Stock Number	
	Shorting	Non-Shorting			Shorting	Non-Shorting
1	2-11	2-12	1	1	T301	T305
2	2-5	2-6	2	1	T302	T306
3	2-3	2-4	3	1	T303	T307
4	2	2-3	4	1	T304	T308
6		2	6	1		T309
2	2-11	2-12	1	2	T311	T315
4	2-5	2-6	2	2	T312	T316
6	2-3	2-4	3	2	T313	T317
8	2	2-3	4	2	T314	T318
12		2	6	2		T319
3	2-11	2-12	1	3	T321	T325
6	2-5	2-6	2	3	T322	T326
9	2-3	2-4	3	3	T323	T327
12	2	2-3	4	3	T324	T328
18		2	6	3		T329
4	2-11	2-12	1	4	T331	T335
8	2-5	2-6	2	4	T332	T336
12	2-3	2-4	3	4	T333	T337
16	2	2-3	4	4	T334	T338
24		2	6	4		T339

WAFER SECTIONS	Total Poles	Number of Positions		Stock Number	
		Shorting	Non-Shorting	Shorting	Non-Shorting
COMMERCIAL WAFER SECTIONS	1	2-11	2-12	T1	T5
	2	2-5	2-6	T2	T6
	3	2-3	2-4	T3	T7
	4	2	2-3	T4	T8
	6		2		T9
INDUSTRIAL MILITARY WAFER SECTIONS DETENT ASSEMBLIES	1	2-11	2-12	T101	T105
	2	2-5	2-6	T102	T106
	3	2-3	2-4	T103	T107
	4	2	2-3	T104	T108
	6		2		T109

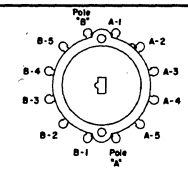
DETENT ASSEMBLIES	Total Positions	Rear Shaft Length	Suggested Number of Sections	Stock Number
STANDARD SHAFT & 30° DETENT ASSEMBLIES	2-12	7/32"	1	T79
	2-12	1- 9/32"	1-3	T80
	2-12	2-15/16"	4-6	T81
	2-12	5- 9/64"	7-10	T82
STARWHEEL SHAFT & 30° DETENT ASSEMBLIES	2-12	1- 9/32"	1-3	T180
	2-12	2-15/16"	4-6	T181
	2-12	5- 9/64"	7-10	T182

TERMINAL SPECIFICATIONS

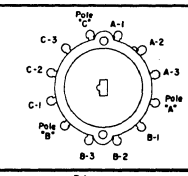
1 Pole
11 Position
Shorting Type
T1 and **T101**



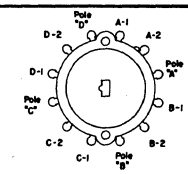
2 Pole
5 Position
Shorting Type
T2 and **T102**



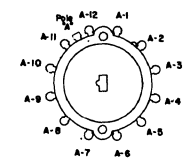
3 Pole
3 Position
Shorting Type
T3 and **T103**



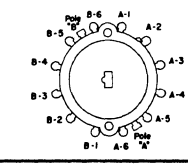
4 Pole
2 Position
Shorting Type
T4 and **T104**



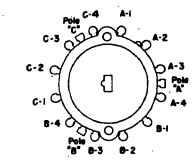
1 Pole
12 Position
Non-Shorting Type
T5 and **T105**



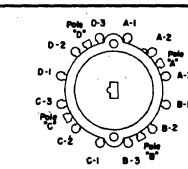
2 Pole
6 Position
Non-Shorting Type
T6 and **T106**



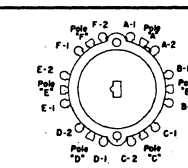
3 Pole
4 Position
Non-Shorting Type
T7 and **T107**



4 Pole
3 Position
Non-Shorting Type
T8 and **T108**



6 Pole
2 Position
Non-Shorting Type
T9 and **T109**



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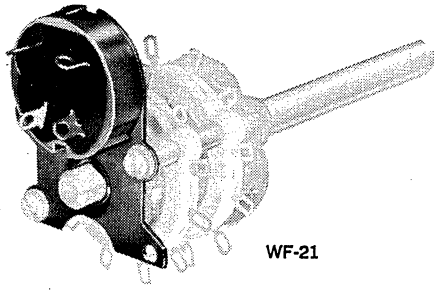
IRC-CTS ROTARY SELECTOR SWITCH ACCESSORIES

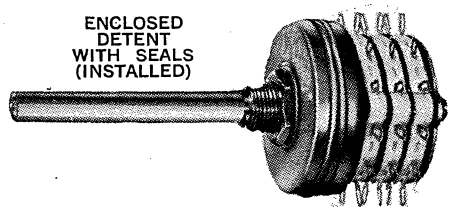
IRC, DIVISION OF TRW INC.

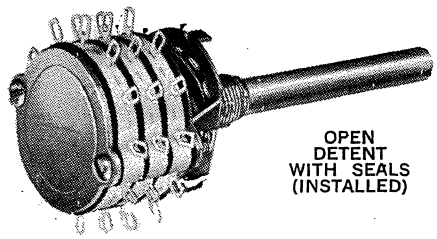
IRC-CTS ATTACHABLE POWER SWITCHES



A selection of reliable AC power switches is available for use with selector switches, giving an original source for both the selector switch and attached switches. These power switches can be mounted on the rear frame of the selector switch or between wafers by means of a specially designed bracket.

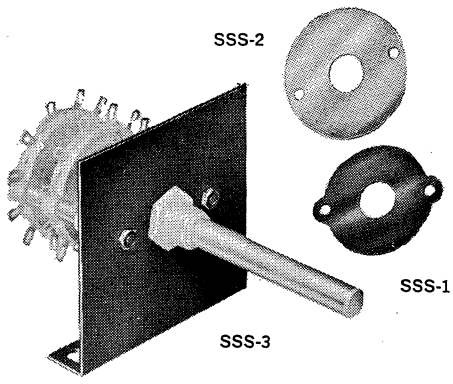
STOCK NO.	DESCRIPTION	VOLTAGE	CURRENT
GC-21	SPST	125	3 Amps
VF-21	SPDT	125	3 Amps
WF-21	DPST	125	3 Amps





SEALED SWITCH KITS

STOCK NO.	DESCRIPTION
SSK-1	Enclosed detent construction seals both the wafer sections and the detent mechanism of the switch against dust, dirt, and moisture.
DSWK-1	Open detent construction protects and seals the wafer sections of the selector switch against dust and dirt.



See Page 1256 for Engineering Laboratory Stocks of this Product

SHIELDS AND MOUNTING BRACKETS

Shielding of switch sections from each other may be accomplished with these Switch Shields.

STOCK NO.	DESCRIPTION
SSS-1	Standard Shields
SSS-2	Brass, Silver Plated Shields
SSS-3	Combination Shields and Mounting Brackets

HARDWARE

STOCK NO.	DESCRIPTION
SSS-4	50 1/4" Spacers
SSS-5	50 3/8" Spacers
SSS-6	50 1/2" Spacers
SSS-7	50 3/4" Spacers
SSS-8	50 1" Spacers

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J-B-T

TOGGLE SWITCHES — HEAVY DUTY

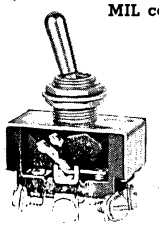
J-B-T INSTRUMENTS, INC. 30th Year

WHY IT PAYS TO SPECIFY J-B-T TOGGLE SWITCHES

• **J-B-T** concentrates on trouble - free switches. Among the four groups of toggle switches J-B-T produces more than 170 models made to Government Specifications. Market studies indicate that while these switches are a must in military applications, almost half are produced for non-military use where the principal requirement is dependability. J-B-T apparently is specified because:

1. **Materials are good.** For instance, in MIL and AN heavy duty models, J-B-T uses generous proportions of selected silver alloys in integral construction for contact surface areas — to add overload protection, dissipate heat, and keep contact resistance under .005 ohms.
2. **The design is good.** All MS models have silicone rubber bushing seal for sand, dust and 15-foot head of water submersion tests. Medium-duty types MS25098 and MS25100 also feature case-to-terminal sealing and a new design which provides fast break and wider gap to surpass the 125 VDC endurance tests of MIL-S-3950C.
3. **The value is good.** The many features required to meet Government standards, and J-B-T's rigid in-plant testing pay off in long, useful life. Nevertheless, because J-B-T makes **only** quality switches, quantity production permits a surprisingly small price differential over run-of-the-mill brands.
4. **Deliveries are comparatively good.** See your distributor. Production is scheduled to back up his stocks with factory inventory of finished switches and work in process to meet predictable demand.

Cut-away view showing heavy duty MIL construction



Group I

HEAVY DUTY SINGLE- AND DOUBLE-POLE — MIL, AN, AND JAN TYPES

Series MS35058, and MS35059 to MIL-S-3950C; Series ST40A-H, ST42A-H, ST50K-T, ST52K-T to JAN-S-23, MIL-S-21195A (Ships), or DDAX Drawings

• **MIL-S-3950C SERIES** — Single-pole MS35058 with suffix —21 and above, and double-pole MS35059 types with suffix —21 and above are recommended when maximum reliability is required. Temperature, endurance, and altitude requirements exceed earlier MS types (suffix —1 to —19), AN3021 and AN3027 switches to MIL-S-6745, and ST styles to JAN-S-23 and MIL-S-21195A (Ships). All MS switches contain a silicone rubber bushing seal to meet sand and dust and 15-foot head of water submersion tests.

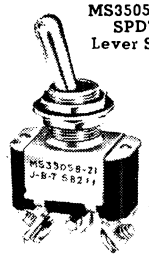
NOMINAL RATINGS: 20 Amp. at 125 VAC, 10 Amp. at 250 VAC.

For MIL Requirements on Electrical Ratings, ask for Condensed Catalog TS-966A.

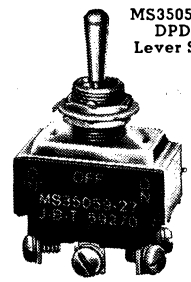
SIZE: Single-hole; bushing 15/32"-32NS-2A by 15/32" high; toggle lever, 11/16" long. Bodies including terminals: **SP:** 1⅛" x ⅝" x 1-1/16" deep; **DP:** 1-21/64" x ¾" x 1-1/32" or 1-13/64" deep.

TERMINALS: MIL-S-3950C switches have solderable 6-32 screw terminals; ST42's and ST52's, solder lugs. Screw type terminals and terminal screws are tin plated.

MS35058-21
SPDT
Lever Seal



MS35059-27
DPDT
Lever Seal



SINGLE AND DOUBLE POLE HEAVY DUTY WITH LEVER SEAL					
MIL-S-3950C	Model No.	2-9☆	10-29	30-99	100-249
SPST — 2 term.					
On-X-Off	MS35058-22	$1.76	$1.32	$1.08	$ .88
On-Off-X	MS35058-24	1.83	1.37	1.12	.92
On-Off*-X	MS35058-25	2.09	1.57	1.28	1.04
X-Off-On*	MS35058-28	2.10	1.57	1.28	1.05
On-X-Off*	MS35058-29	2.01	1.51	1.23	1.00
Off-X-On*	MS35058-30	2.01	1.51	1.23	1.00
SPDT — 3 term.					
On-Off-On	MS35058-21	2.09	1.57	1.28	1.04
On-X-On	MS35058-23	2.09	1.57	1.28	1.04
On-X-On*	MS35058-26	2.25	1.69	1.38	1.12
On*-Off-On*	MS35058-27	2.25	1.69	1.38	1.12
On-Off-On*	MS35058-31	2.30	1.72	1.41	1.15
DPST — 4 term.					
On-X-Off	MS35059-22	1.98	1.81	1.44	1.16
On-Off-X	MS35059-24	1.98	1.81	1.44	1.16
On-Off*-X	MS35059-25	2.62	2.39	1.90	1.53
X-Off-On*	MS35059-28	2.45	2.24	1.78	1.44
On-X-Off*	MS35059-29	2.45	2.24	1.78	1.44
Off-X-On*	MS35059-30	2.30	2.10	1.67	1.35
DPDT — 6 term.					
On-Off-On	MS35059-21	2.30	2.10	1.67	1.35
On-X-On	MS35059-23	2.30	2.10	1.67	1.35
On-X-On*	MS35059-26	2.62	2.39	1.90	1.53
On*-Off-On*	MS35059-27	2.62	2.39	1.90	1.53
On-Off-On*	MS35059-31	2.62	2.39	1.90	1.53

TYPE TERMINALS	SINGLE AND DOUBLE POLE HEAVY DUTY§					
	JAN-S-23	Model No.	2-9☆	10-29	30-99	100-249
SCREW TYPE	**SPST** — 2 term.					
	On-X-Off	ST40A	$1.44	$1.08	$ .93	$ .75
	On-X-Off*	ST40B	1.61	1.21	1.04	.83
	Off-X-On*	ST40C	1.61	1.21	1.04	.83
	SPDT — 3 term.					
	On-X-On	ST40D	1.73	1.30	1.11	.90
	On-Off-On	ST40E	1.73	1.30	1.11	.90
	On-X-On*	ST40F	1.90	1.43	1.23	.99
	On*-Off-On*	ST40G	1.90	1.43	1.23	.99
	On-Off-On*	ST40H	1.90	1.43	1.23	.99
SOLDER TYPE	**SPST** — 2 term.					
	On-X-Off	ST42A	1.35	1.01	.81	.66
	On-X-Off*	ST42B	1.50	1.13	.90	.73
	Off-X-On*	ST42C	1.50	1.13	.90	.73
	SPDT — 3 term.					
	On-X-On	ST42D	1.60	1.20	.96	.78
	On-Off-On	ST42E	1.60	1.20	.96	.78
	On-X-On*	ST42F	1.79	1.34	1.08	.87
	On*-Off-On*	ST42G	1.79	1.34	1.08	.87
	On-Off-On*	ST42H	1.79	1.34	1.08	.87
SCREW TYPE	**DPST** — 4 term.					
	On-X-Off	ST50K	1.82	1.36	1.14	.91
	On-X-Off*	ST50L	2.13	1.60	1.33	1.06
	Off-X-On*	ST50M	2.13	1.60	1.33	1.06
	DPDT — 6 term.					
	On-X-On	ST50N	2.13	1.60	1.33	1.06
	On-Off-On	ST50P	2.13	1.60	1.33	1.06
	On-X-On*	ST50R	2.42	1.82	1.52	1.21
	On*-Off-On*	ST50S	2.42	1.82	1.52	1.21
	On-Off-On*	ST50T	2.42	1.82	1.52	1.21
SOLDER TYPE	**DPST** — 4 term.					
	On-X-Off	ST52K	1.66	1.24	1.04	.83
	On-X-Off*	ST52L	1.85	1.39	1.16	.92
	Off-X-On*	ST52M	1.85	1.39	1.16	.92
	DPDT — 6 term.					
	On-X-On	ST52N	1.85	1.39	1.16	.92
	On-Off-On	ST52P	1.85	1.39	1.16	.92
	On-X-On*	ST52R	2.15	1.61	1.35	1.08
	On*-Off-On*	ST52S	2.15	1.61	1.35	1.08
	On-Off-On*	ST52T	2.15	1.61	1.35	1.08

§ For UL Identification and ratings on Models ST40A through ST52T, see Table on second following page.

☆ On orders for single switches, add 50c.

Prices shown are NET, F.O.B. New Haven, Conn. Domestic Packing, Effective April 1, 1968, subject to change.

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TOGGLE SWITCHES — MEDIUM DUTY & CROSS-REFERENCE

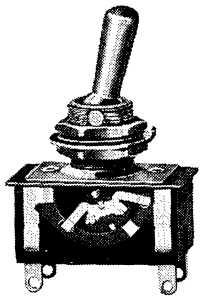
30th Year

Group II

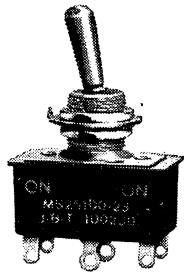
J-B-T INSTRUMENTS, INC.

SINGLE & DOUBLE POLE — GOVERNMENT QUALITY

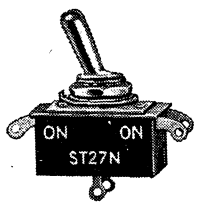
Series MS25098 and MS25100 to MIL-S-3950C; Series ST12-27 to JAN-S-23, MIL-S-21195A (Ships), or DDAX Drawings



Cut-away view showing self-wiping double-grip contacts



MS25100-23 DPDT Rear Connected; Lever Seal



ST27N, DPDT Side and Rear Connected ¼" Bushing

• **MEDIUM DUTY** describes the current-carrying capacity — nominally 6 amp. at 125 VAC, 3 amp, at 250 VAC — rather than the life characteristics. Self-wiping heavily silver plated double grip contacts provide exceptional reliability. Typical uses: instruments, data processing, and communications circuits.

NEW DESIGN FOR MS25098 & MS25100 — Significant internal changes now provide fast break, wide gap, and increased insulation values, to surpass the severe endurance tests of MIL-S-3950C. For example, after 20,000 cycles of operation at 65,000' altitude with resistive load of 5 amps. at 125 VDC, contact resistance was well within the permissible limits. This development is especially important for the double-throw models MS25098-23 and MS25100-23. All MS medium-duty models contain: (a) silicone rubber bushing seal for sand, dust, and 15-foot head of water submersion tests, and (b) case-to-terminal sealing.

SINGLE AND DOUBLE POLE MEDIUM DUTY WITH LEVER SEAL

MIL-S-3950C	Model No.	2-9*	10-29	30-99	100-249
SPST — 2 term.					
On-X-Off	MS25098-22	$1.48	$1.18	$1.11	$1.03
On-X-Off*	MS25098-29	1.90	1.52	1.43	1.33
Off-X-On*	MS25098-30	1.90	1.52	1.43	1.33
SPDT — 3 term.					
On-X-On	MS25098-23	1.69	1.35	1.27	1.18
DPST — 4 term.					
On-X-Off	MS25100-22	2.12	1.69	1.59	1.48
On-X-Off*	MS25100-29	2.47	1.97	1.85	1.73
Off-X-On*	MS25100-30	2.47	1.97	1.85	1.73
DPDT — 6 term.					
On-X-On	MS25100-23	2.30	1.84	1.72	1.61

SIZE AND TERMINALS — Whether MS series to latest MIL-S-3950C or ST series to Specification JAN-S-23 and MIL-S-21195A (Ships), all have solder terminals. Medium-duty types use 11/16" long, toggle lever, bushing 15/32"-32NS-2A by 15/32" (or ¼"). Bodies including terminals are: 1¼" long, 11/16" wide, 29/32" deep, except ST16A, -16B, -16C, -17A, and -27K are 1¾" long by 21/32" deep, while ST16D, -17D, -26N are 1¾" long by 29/32" deep.

SINGLE AND DOUBLE POLE MEDIUM DUTY§

JAN-S-23	Model No.	2-9*	10-29	30-99	100-249
SPST — 2 term.					
On-X-Off	ST12A	$ .98	$ .78	$ .73	$ .68
On-X-Off*	ST12B	1.11	.89	.83	.78
Off-X-On*	ST12C	1.11	.89	.83	.78
On-X-Off	ST13A †	.98	.78	.73	.68
On-X-Off	ST16A ‡	.98	.78	.73	.68
On-X-Off*	ST16B ‡	1.11	.89	.83	.78
Off-X-On*	ST16C ‡	1.11	.89	.83	.78
On-X-Off	ST17A †‡	.98	.78	.73	.68
SPDT — 3 term.					
On-X-On	ST12D	1.11	.89	.83	.78
On-X-On	ST13D †	1.11	.89	.83	.78
On-X-On	ST16D ‡	1.11	.89	.83	.78
On-X-On	ST17D †‡	1.11	.89	.83	.78
DPST — 4 term.					
On-X-Off	ST22K	1.34	1.08	1.01	.95
On-X-Off*	ST22L	1.48	1.19	1.11	1.04
Off-X-On*	ST22M	1.48	1.19	1.11	1.04
On-X-Off	ST23K †	1.34	1.08	1.01	.95
On-X-Off	ST26K ‡	1.34	1.08	1.01	.95
On-X-Off*	ST26L ‡	1.48	1.19	1.11	1.04
Off-X-On*	ST26M ‡	1.48	1.19	1.11	1.04
On-X-Off	ST27K †‡	1.34	1.08	1.01	.95
DPDT — 6 term.					
On-X-On	ST22N	1.48	1.19	1.11	1.04
On-X-On	ST23N †	1.48	1.19	1.11	1.04
On-X-On	ST26N ‡	1.48	1.19	1.11	1.04
On-X-On	ST27N †‡	1.48	1.19	1.11	1.04

NOTES TO TABLES: * On orders for single switches, add 50c; X No position; * Momentary position; † Bushing ¼" high; ‡ Side connected terminals only, except ST16D, -17D, -26N have both side and rear connected terminals; § For UL identification and ratings on Models ST12A through ST27N, see table on following page.

CROSS REFERENCE: AN, MS, AND ST MODEL NUMBERS WITH SIMILAR CIRCUITRY

SCREW TERMINAL				SOLDER LUG	
MIL-S-3950C See Notes A & B	JAN-S-23 & MIL-S-21195A	MIL-S-6745 See Note A	MIL-S-3950 See Notes A & B	JAN-S-23 & MIL-S-21195A (Ships)	MIL-S-3950 See Note A
SPST				SPST	
MS35058-22	ST40A	AN3021-2	#	ST42A	MS35058-9
MS35058-29	ST40B	AN3021-9	#	ST42B	MS35058-10
MS35058-30	ST40C	AN3021-8	#	ST42C	MS35058-11
MS35058-24	#	AN3021-10	MS35058-1	#	MS35058-12
MS35058-28	#	AN3021-11	MS35058-2	#	MS35058-13
MS35058-25	#	AN3021-12	MS35058-3	#	MS35058-14
SPDT				SPDT	
MS35058-23	ST40D	AN3021-3	MS35058-4	ST42D	MS35058-15
MS35058-21	ST40E	AN3021-1	MS35058-5	ST42E	MS35058-16
MS35058-26	ST40F	#	MS35058-6	ST42F	MS35058-17
MS35058-27	ST40G	AN3021-7	MS35058-7	ST42G	MS35058-18
MS35058-31	ST40H	AN3021-5	MS35058-8	ST42H	MS35058-19
#	#	AN3021-6 **	#	#	#

SCREW TERMINAL				SOLDER LUG	
MIL-S-3950C See Notes A & B	JAN-S-23 & MIL-S-21195A	MIL-S-6745 See Note A	MIL-S-3950 See Notes A & B	JAN-S-23 & MIL-S-21195A (Ships)	MIL-S-3950 See Note A
DPST				DPST	
MS35059-22	ST50K	AN3027-2	#	ST52K	MS35059-9
MS35059-29§	ST50L	AN3027-4§	#	ST52L	MS35059-10§
MS35059-30§	ST50M	AN3027-5§	#	ST52M	MS35059-11§
MS35059-24	#	AN3027-9	MS35059-1	#	MS35059-12
MS35059-28	#	AN3027-11	MS35059-2	#	MS35059-13
MS35059-25§	#	AN3027-10§	MS35059-3§	#	MS35059-14§
DPDT				DPDT	
MS35059-23	ST50N	AN3027-3	MS35059-4	ST52N	MS35059-15
MS35059-21	ST50P	AN3027-1	MS35059-5	ST52P	MS35059-16
MS35059-26§	ST50R	AN3027-6§	MS35059-6§	ST52R	MS35059-17§
MS35059-27	ST50S§	AN3027-7§	MS35059-7§	ST52S§	MS35059-18§
MS35059-31§	ST50T§	AN3027-8§	MS35059-8§	ST52T§	MS35059-19§

 # Not included in this specification. ** AN3021-6 same as AN3021-5 with jumper. § Same dimensions as MS35059-27.

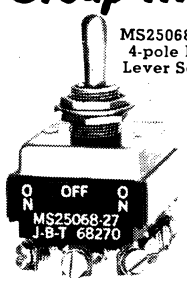
NOTE A: MS and AN types use internal sand and dust toggle seal and other high performance features involving extra cost over ST types. MS types to MIL-S-3950C have internal toggle seal to meet 15 ft. water submersion test. MIL-S-3950 models are superseded by MIL-S-3950C models.
NOTE B: For heavy duty switches in the MS25068, MS35058, and MS35059 Series, MIL-S-3950C calls for SCREW TERMINALS ONLY. These terminals have SOLDERABLE FINISH and may be soldered after removal of screw.

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective April 1, 1968, subject to change.

TOGGLE SWITCHES—4-POLE, SP, DP & UL TABLES

J-B-T INSTRUMENTS, INC. 30th Year

Group III



MS25068-27
4-pole DT
Lever Seal

OUTSTANDING 4-POLE SWITCHES TO MS25068 REQUIREMENTS

• There is no mistaking the light brown color and silver printing of these distinctive J-B-T 4-pole heavy-duty switches. The superior molded body, chosen after extensive tests, features high arc resistance and low shrinkage. As a result the switches exceed the rigorous electrical endurance requirements of MS25068.

Equally important, J-B-T uses generous proportions of selected silver alloys in integral construction for contact surface areas — to add overload protection, dissipate heat, and keep contact resistance under .005 ohms. The 8 models listed here have silicone rubber bushing seals and solderable 6-32 screw terminals, the same as other heavy-duty J-B-T MS switches. Dimensions same as MS35059 except bodies including terminals: 1-11/32" long, 1-9/16" wide, 1-9/32" deep.

4-POLE HEAVY DUTY WITH LEVER SEAL					
MIL-S-3950C	Model No.	2-9★	10-29	30-99	100-249
4PST — 8 term.					
On-Off-X	MS25068-24	$4.50	$3.54	$2.98	$2.47
On-Off*-X	MS25068-25	5.30	4.18	3.51	2.92
X-Off-On*	MS25068-28	5.30	4.18	3.51	2.92
4PDT — 12 term.					
On-Off-On	MS25068-21	5.22	4.11	3.46	2.87
On-X-On	MS25068-23	5.30	4.18	3.51	2.92
On-X-On*	MS25068-26	5.63	4.44	3.73	3.10
On*-Off-On*	MS25068-27	5.63	4.44	3.73	3.10
On-Off-On*	MS25068-31	5.63	4.44	3.73	3.10

★ On orders for single switches, add $1.00
X No position * Momentary position

Other MS25068 Numbers: Models with suffix -1 through -13 as set forth in MIL-S-3950 are superseded by MIL-S-3950 Revision C Types. The latter are interchangeable electrically and mechanically but meet additional performance standards above the former types. Specifically, **MS25068-1** has become MS25068-21; **-3** now -23; **-5** now -31; **-7** now -27; **-10** now -26; **-11** now -24; **-12** now -28; **13** now -25.

UL IDENTIFICATION AND RATINGS: SINGLE AND DOUBLE-POLE; HEAVY DUTY AND MEDIUM DUTY

Underwriters' Laboratories, Inc. lists under "Switches, Special Use" (File E26557) models marked with the J-B-T part number shown below. In some instances, there are minor construction differences from ST switches, but the ratings and external dimensions are the same. UL-marked types are not regularly stocked but only are manufactured in substantial production runs.

Heavy Duty — Single Pole			Heavy Duty — Double Pole			Medium Duty — Single Pole			Medium Duty — Double Pole		
JBT/UL Part No.**	ST Circuit Equivalent	Rating*	JBT/UL Part No.**	ST Circuit Equivalent	Rating*	JBT/UL Part No.**	ST Circuit Equivalent	Rating*	JBT/UL Part No.**	ST Circuit Equivalent	Rating*
401	ST40A	A	501	ST50K	A	121	ST12A	B	221	ST22K	B
402	ST40B	A	502	ST50L	A	122	ST12B	B	222	ST22L	B
403	ST40C	A	503	ST50M	A	123	ST12C	B	223	ST22M	B
404	ST40D	A	504	ST50N	A	124	ST12D	C	224	ST22N	B
405	ST40E	A	505	ST50P	A	131	ST13A	B	231	ST23K	B
406	ST40F	A	506	ST50R	A	134	ST13D	C	234	ST23N	B
407	ST40G	A	507	ST50S	A	161	ST16A	B	261	ST26K	B
408	ST40H	A	508	ST50T	A	162	ST16B	B	262	ST26L	B
421	ST42A	A	521	ST52K	A	163	ST16C	B	263	ST26M	B
422	ST42B	A	522	ST52L	A	164	ST16D	C	264	ST26N	B
423	ST42C	A	523	ST52M	A	171	ST17A	B	271	ST27K	B
424	ST42D	A	524	ST52N	A	174	ST17D	C	274	ST27N	B
425	ST42E	A	525	ST52P	A						
426	ST42F	A	526	ST52R	A						
427	ST42G	A	527	ST52S	A						
428	ST42H	A	528	ST52T	A						

**NOTE: Above model numbers are basic ones for any given type and circuit. Variations, such as length of lever, have a suffix letter "J" and added suffix numbers.

*Ratings

Rating **A**

10 amps, 250 VAC
20 amps, 125 VAC
¾ H.P., 250 VAC
½ H.P., 125 VAC

Rating **B**

3 amps, 250 VAC-DC
6 amps, 125 VAC-DC

Rating **C**

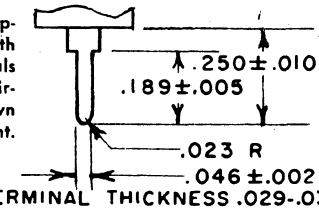
1 amp, 250 VAC-DC
3 amps, 125 VAC-DC

DRAWINGS FOR SUB-MINIATURE TOGGLE SWITCHES ON NEXT PAGE

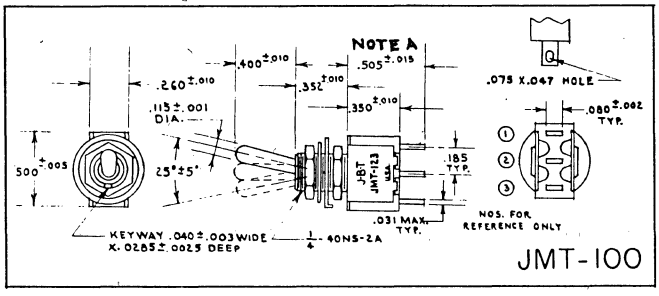
JMT SERIES dimensions and details are shown below.
MPC SERIES is identical with JMT series except that solid terminals are provided for direct insertion in a printed circuit board. For details on MPC terminals, see drawing at right. To obtain MPC model number, substitute MPC for JMT; example: JMT-121 becomes MPC-121. Complete dimensions and model numbers are available on drawings SK-166 through SK-169.

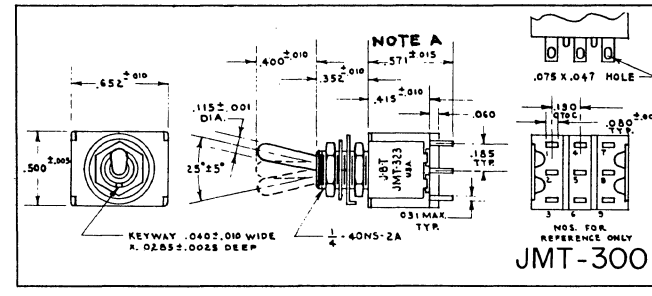
PC1 SERIES can be provided where it is necessary to mount the switch at right angles to the circuit board. A two-prong bracket and attached terminals necessarily add to the cost.

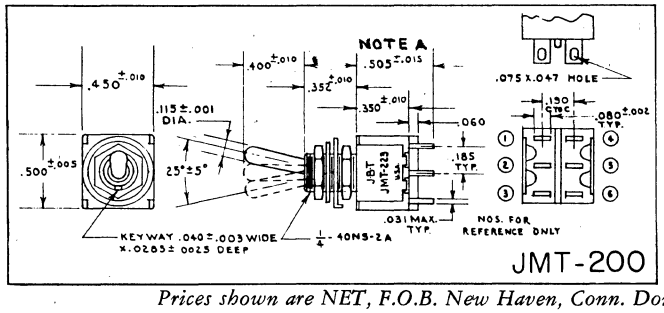
NOTE A — Dimensions shown apply to standard terminals with holes. MPC series solid-terminals to be inserted in a printed circuit, are slightly larger as shown by configuration drawing at right.

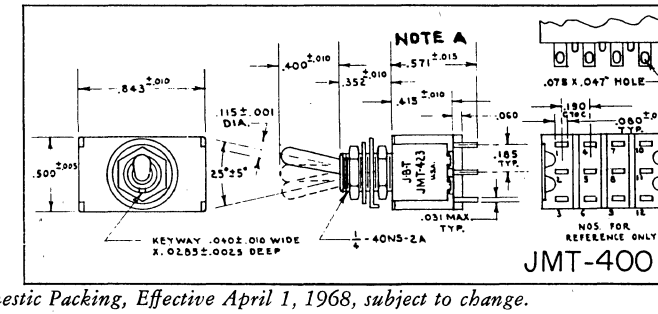


MPC TERMINAL CONFIGURATION









Prices shown are NET, F.O.B. New Haven, Conn. Domestic Packing, Effective April 1, 1968, subject to change.

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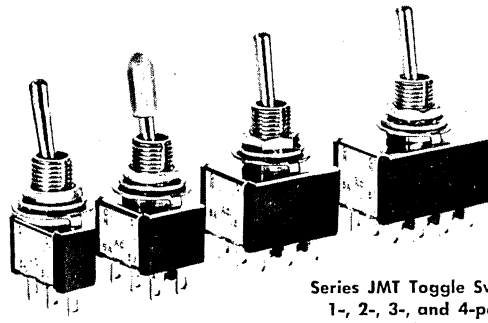
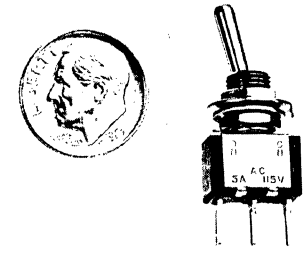
SUB-MINIATURE TOGGLE SWITCHES

30th Year

J-B-T INSTRUMENTS, INC.



Series JMT Toggle Switches
1-, 2-, 3-, and 4-pole DT.



*NEW
Series MPC
For printed circuits
(drawings on preceding page)

Group IV

SERIES JMT, MPC, AND PC1; A BROAD LINE OF SUB-MINIATURE TOGGLE SWITCHES MANUFACTURED IN CONNECTICUT BY J-B-T

MANUFACTURED IN J-B-T's spanking new plant, the sub-miniature types illustrated on this page make up the firm's fourth and newest group of toggle switches. Series JMT combines drastic reduction in size and weight with the trouble-free construction built into standard-size J-B-T switches. Widely used in manually controlled, low-current, solid-state devices and miniaturized circuitry of computers, instruments, space, geophysical, and test apparatus, these tiny switches also have application in aircraft, communications, and electronic equipment, and portable products.

Made with a distinctive GREEN BODY (bright color on some models, forest green on others) single-pole types are ¼" thin, double-pole types less than ½" square, 3-pole and 4-pole types correspondingly small. All use single-hole mounting with ¼" threaded bushing which will not turn or work loose in the J-B-T surface plate. Stringent in-plant controls assure terminals that are firmly staked and will withstand repeated soldering. Terminal holes on JMT Series accept up to three #22 wires. Terminal configuration for MPC Series (printed circuit type) is shown on opposite page.

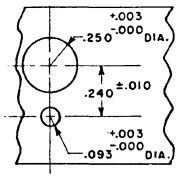
SPECIFICATIONS

Nominal Rating: 5 Amp. resistive load, 125 VAC and 24 VDC. **Initial Contact Resistance:** 5 Milliohms max. 3 VDC, 100 Milliamps. **Insulation Resistance:** 10,000 Megohms, min. **Dielectric Strength:** 1,000 volts rms at sea level. **Life Under Load:** 100,000 make-and-break cycles minimum for all suffix-23 models; 60,000 for others. **Weight, Including Hardware:** SP, 0.19 oz; DP, 0.23 oz.; 3-pole, 0.28 oz.; 4-pole, 0.32 oz.

MATERIALS: Switching contacts and rockers are coin silver; center terminal silver-plated. Bat handle is bright chrome-plated brass. Case and cradle are molded of colored phenolic; models with forest green bodies use glass-filled phenolic selected for extra mechanical strength and arc resistance. Bushing, locking ring, and hex nuts are brass nickel-plated. Clamp and lockwasher are made of (cadmium plated) steel, with chromate treatment, or of stainless steel.

HARDWARE AND MOUNTING

Mounting hardware supplied consists of one locking ring **W-RI-12**, two hex nuts, **W-NU-11**, one internal tooth lockwasher, **W-WA-16**, Knurled nut, **W-NU-12** and tapered panel dress nut, **W-NU-14** are also available.



DIRECTION OF MOVEMENT — All JMT switches make continuity to terminal OPPOSITE throw of lever.

MOUNTING INFORMATION — When mounting switch with locking ring, use drill procedure illustrated.

COLOR CAPS — Switches are normally supplied with bat handles. For color coding, tight-grip insulator caps are available for easy attachment before or after switches are mounted. Price, $10.00 per thousand in bulk; 2c per switch if attached. Specify color and part number:

White	W-CAP-10A	Black	W-CAP-10D	Green	W-CAP-10H
Blue	W-CAP-10B	Brown	W-CAP-10E	Violet	W-CAP-10I
Red	W-CAP-10C	Orange	W-CAP-10F	Gray	W-CAP-10J
		Yellow	W-CAP-10G		

***NEW MPC Series** has terminals for mounting directly in printed circuits, and **PC1 Series** has printed circuit board for right angle mounting.

J-B-T PUSH-BUTTON SUB-MINIATURE TOGGLES

In the life of this catalog, it is expected that the JMT Series will be expanded to include models actuated by a push-button in place of the standard bat handles. Your inquiries are invited.

Circuitry†	Keyway	Model Number**	Quantity net prices ** 2-9‡	10-29	30-99
†SPDT — Series JMT-100					
ON-OFF-ON		JMT-121	$1.95	$1.43	$1.30
ON-NONE-ON		JMT-123	1.65	1.21	1.10
ON-NONE-ON*		JMT-126	1.95	1.43	1.30
ON*-OFF-ON*		JMT-127	2.10	1.54	1.40
ON-OFF-ON*		JMT-131	2.10	1.54	1.40
NONE-ON-ON*		JMT-134	1.95	1.43	1.30
†DPDT — Series JMT-200					
ON-OFF-ON		JMT-221	2.55	1.87	1.70
ON-NONE-ON		JMT-223	2.15	1.58	1.43
ON-NONE-ON*		JMT-226	2.55	1.87	1.70
ON*-OFF-ON*		JMT-227	2.70	1.98	1.80
ON-OFF-ON*		JMT-231	2.70	1.98	1.80
ON-ON-ON		JMT-232	2.85	2.09	1.90
ON-ON-ON*		JMT-233	3.15	2.31	2.10
NONE-ON-ON*		JMT-234	2.55	1.87	1.70
ON*-ON-ON*		JMT-235	3.10	2.26	2.05
†3-POLE DT — Series JMT-300					
ON-OFF-ON		JMT-321	4.25	3.12	2.84
ON-NONE-ON		JMT-323	3.85	2.82	2.57
ON*-OFF-ON*		JMT-327	4.40	3.23	2.93
ON-OFF-ON*		JMT-331	4.40	3.23	2.93
NONE-ON-ON*		JMT-334	4.50	3.30	3.00
†4-POLE DT — Series JMT-400					
ON-OFF-ON		JMT-421	5.45	4.00	3.64
ON-NONE-ON		JMT-423	4.85	3.56	3.24
ON*-OFF-ON*		JMT-427	5.60	4.10	3.74
ON-OFF-ON*		JMT-431	5.60	4.10	3.74
ON-ON-ON		JMT-432	6.00	4.40	4.00
ON-ON-ON*		JMT-433	6.25	4.57	4.15
NONE-ON-ON*		JMT-434	5.90	4.32	3.93
ON*-ON-ON*		JMT-435	6.40	4.70	4.28

NOTES

†These DT switches may also be used as ST by wiring only to applicable terminals. Example: JMT-123 can be connected as an "on and off" switch by using center terminals and terminals on one end only.

‡On orders for single switches, add 50c.

*Momentary position.

**For prices on MPC Series, add $0.10 per pole to the price of the corresponding JMT Model Number in the 2-9 quantity bracket. Example: JMT-121, $1.95; MPC-121, $2.05; JMT-221, $2.55, MPC-221, $2.75.

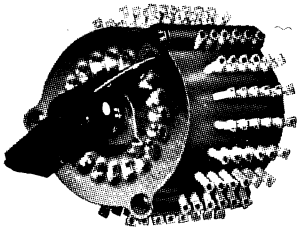
Prices Net, F.O.B. Factory; Domestic Packed, Effective April 1, 1968, subject to change.

MULTI-POLE AND LEVER TYPE SWITCHES

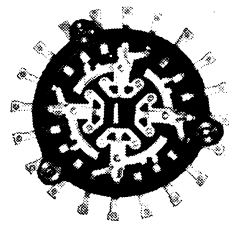
J-B-T INSTRUMENTS, INC. 30th Year

IMPROVED MULTI-POLE MOLDED ROTARY SWITCHES, SERIES 20M.

• Superior Molded Material • All Models Bonded & Ruggedized • Panel Seal Available



Front View Showing Panel Locator which is Normally at 3 o'clock Position.



Rear View with Back Cover Cut Away to Show 4-Pole Construction with 4 Live Switching Contacts.

Although the new 20M- Series is ¼" longer behind the panel than the 20-position molded switches described on the preceding page, the two styles are otherwise interchangeable in dimensions. Providing 19 live positions and off, the 20M- offers these additional features:

1. **Increased Versatility of Circuitry** — up to and including four poles per deck;
2. **Upgraded Insulation Resistance and Dielectric Qualities** — by use of melamine stators and rotors (or other MIL-M-14 molded materials when specially ordered);
3. **Built-in Panel Locator or Non-Turn Device;**
4. **Extended Switch Life** — new contact design with rotor brushes of phosphor bronze heavily silver-plated;
5. **All 20M- Models are Bonded and Ruggedized Construction;**
6. **Radial Alignment of Multi-Pole Contact Surfaces** — by means of newly-designed double-ball detent with diaphragm-type springs.

VARIATIONS OF 20M- — Please request SK-142, Revision of March, 1967, or later for full dimensions and circuit diagrams. Besides the condensed listing in the accompanying table, various combinations of **shorting and non-shorting contacts for each deck** may be made. **Fixed stops** are built-in but may be altered for single-pole switches when specially ordered. **Over six decks** can be supplied for a reasonable number of poles; extra decks add 5/16" per deck and 5/16" per switch for rear support SU-3. **Ring-contact** (suffix R) may be specially ordered.

PANEL SEAL PS20M- SERIES — Sealed shaft and bushing meet the requirements of MIL-S-3786B for sealing. For details ask for SK-143, Revision of March, 1967, or later. The seal (prefix PS) adds $1.75 per switch to catalog price.

SPECIFICATIONS AND TEST DATA — Available on request.

No. of Decks	Depth Behind Panel	Poles per Deck	Model Number	Circuitry Per Pole	Rotation Positions*	Boxed Incl. Knob
1	1-3/16"	1	**20M-1201N**	19 live, 1 off	Continuous	**$3.75**
		1	**20M-1191NF**	19 live, no off	1 thru 19	**4.10**
		1	**20M-1161N**	15 live, 1 off	20 thru 15	**3.75**
		2	**20M-2101N**	9 live, 1 off	20 thru 9	**4.15**
		3	**20M-3051N**	4 live, 1 off	20 thru 4	**4.50**
		4	**20M-4051N**	4 live, 1 off	20 thru 4	**4.85**
2	1-1/2"	1	**20M-1202N**	19 live, 1 off	Continuous	**5.00**
		2	**20M-2102N**	9 live, 1 off	20 thru 9	**5.80**
		3	**20M-3052N**	4 live, 1 off	20 thru 4	**6.50**
		4	**20M-4052N**	4 live, 1 off	20 thru 4	**7.20**
3	1-13/16"	1	**20M-1203N**	19 live, 1 off	Continuous	**6.25**
		2	**20M-2103N**	9 live, 1 off	20 thru 9	**7.45**
		3	**20M-3053N**	4 live, 1 off	20 thru 4	**8.50**
		4	**20M-4053N**	4 live, 1 off	20 thru 4	**9.55**
4	2-3/16"	1	**20M-1204N**	19 live, 1 off	Continuous	**7.70**
		2	**20M-2104N**	9 live, 1 off	20 thru 9	**9.30**
		3	**20M-3054N**	4 live, 1 off	20 thru 4	**10.70**
		4	**20M-4054N**	4 live, 1 off	20 thru 4	**12.10**
		4	**20M-4044N**	3 live, 1 off	20 thru 3	**12.10**
6	2-13/16"	1	**20M-1206N**	19 live, 1 off	Continuous	**10.80**
		1	**20M-1166N**	15 live, 1 off	20 thru 15	**10.80**
		2	**20M-2106N**	9 live, 1 off	20 thru 9	**13.20**

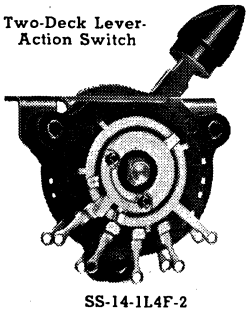
* See MS-20 drawing on following page for location of positions.

Notes: (1) For standard switches, knob pointer (active position) is 180° opposite flat on shaft, and off is at position 20.
(2) **NON**-shorting (N) type — (break-before-make) — is shown. For shorting type (S), add $.05 per pole per deck to catalog price. Example: 3 pole, 3 deck 20M-3053S is $8.95.
(3) All models have 18° angular indexing.
(4) Maximum **LIVE** positions per single pole, 19; per 2-pole, 9; per 3- and 4-pole, 4.
(5) Switches (such as 15 or 18 position) with all live or less than maximum live positions can be provided by fixed stops.
(6) Maximum of 9 decks for 1 pole per deck
6 decks for 2 poles per deck
4 decks for 4 poles per deck.
(7) †Suffix-F denotes all rotation positions shown are **live** with no off.

LEVER ACTION SWITCHES — 6, 5, 4, 3, and 2-Position — LAMINATED, MOLDED, & SUB-MINIATURE

LAMINATED 3- AND 4-POSITION, POSITIVE INDEXING. These lever switches are derived from the J-B-T SS-14 instrument-type rotaries. Specified for tube checkers, inspection equipment, communications systems, control consoles, and other uses where quality is important. 4-position types are interchangeable with 3-position except in length of throw (1" slot for 3-position, 1⅜" for 4-position) — mounting holes for boxed switches come with mounting hardware and KN-17 knob as illustrated; bulk shipments, without knobs. **SINGLE DECK**- spacing between centers: recommended, ¾"; minimum, 9/16". **TWO DECK**- spacing: recommended, 15/16"; minimum, 13/16". ⅜" between decks matches TV twinlead wires. **SPRING RETURN TYPE**- single deck, 3-position switches may be ordered with spring return. Lever returns to position 11*, giving momentary action at positions 9* and 10*. For dimensions on all SS-14-IL series switches, ask for drawing SK-138.

Two-Deck Lever-Action Switch

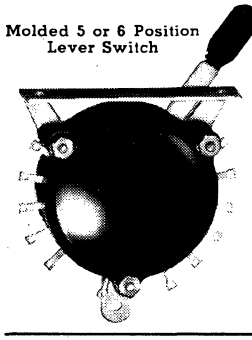


SS-14-1L4F-2

Positions Per Circuit	Circ. (Poles) Per Deck	Decks or Gangs	Short. Non-Short	Stand.* Contact Pos.	Model	Boxed Incl. Knob
3, no "off"	1	1	N-S	A	**SS-14-1L3**	**$1.00**
3, no "off"	2	1	N-S	B	**SS-14-1L3A**	**1.15**
3, no "off"	1	1	S	A	**SS-14-1L3S**	**1.05**
3, no "off"	1	1	N-S	A	**SS-14-1L3R****	**1.15**
3, no "off"	1	1	S	A	**SS-14-1L3S-R****	**1.20**
3, no "off"	1	2	N-S	A	**SS-14-1L3-2**	**1.70**
3, & "off"	1	1	N-S	C	**SS-14-1L4**	**1.10**
4, no "off"	1	1	N-S	D	**SS-14-1L4F**	**1.10**
4, no "off"	1	2	N-S	D	**SS-14-1L4F-2**	**1.90**

* Numbers correspond to contact positions in MS-14-2 drawing on next page. A—common at 12, contacts at 9, 10, 11; B—common at 9, 10, contacts at 6, 7, 8, 12, 13, 14; C—common and off at 12, contacts at 9, 10, 11; D—common at 12, contacts at 8, 9, 10, 11. **—Spring Return.

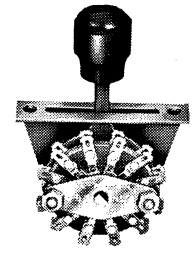
Molded 5 or 6 Position Lever Switch



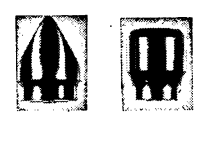
MOLDED 5- and 6-POSITION, POSITIVE-INDEXING. 5 or 6 live positions, two circuits per deck, in enclosed lustrous black molded construction; adapted from the MS-20 series with electrical characteristics as shown on the next page. These models can simplify circuitry for sound systems, control, inspection, test, experimental, and hobby purposes. Individually-boxed switches come with KN-20 threaded black molded knob; bulk shipments, without knobs. For mounting data see SK-64, Rev. H on 5-position and SK-119, Rev. B on 6-position.

MS-20-1L5A-1, 5-position, 2-circuit (1 deck) **$3.25**

MS-20-1L6A-1, 6-position, 2-circuits (1 deck) **3.50**



Sub-Miniature 1 Dual Duty Deck



2 AND 3 POSITION, 1 TO 4 DECKS, 2 TO 8 POLES PER DECK.

SUB-MINIATURE LEVER SWITCHES — Derived from the high-performance sub-miniature switches described on another page, the VL-7000 and the VL-5000 positive indexing series and the VSRL-7000 and VSRL-5000 spring return types provide excellence in lever switches. MIL materials throughout; crisp 30° indexing. Max. depth behind panel 1.250"; panel slot .962" x .062"; other details to SK-139, Rev. A and Catalog SM-32E. Typical switches are:

VL-71031N, single-pole, 3-position, one-deck, non-shorting **$4.80**

VSRL-71031N, same as above, with spring return to center position from either side **5.80**

VL-71032N, single-pole, 3-position, two-deck, non-shorting **7.05**

LEVER KNOBS

KN-17, black pointed with metal insert **$0.19**
KN-18, walnut, same as KN-19 ..... **0.08**
KN-19, black, round, flat-type, push-on **0.08**
KN-20, black, threaded, for MS-20-IL .. **0.20**

Prices shown are NET, F.O.B. New Haven, Conn. Domestic Packing, Effective April 1, 1968, subject to change.

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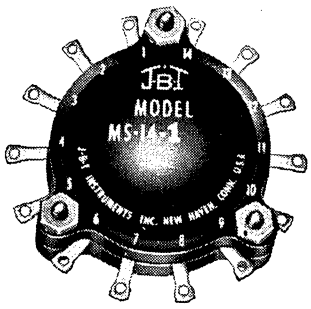
ROTARY SWITCHES — LAMINATED AND MOLDED

J-B-T INSTRUMENTS, INC.

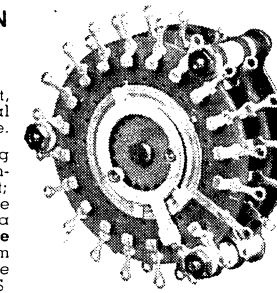


MS-14-1 Molded

- **INSTRUMENT AND TESTER TYPE** • **14- AND 20-POSITION**
- **SINGLE AND MULTI-DECK** • **MILITARY OR COMMERCIAL**

USES -- J-B-T Rotary Selector Switches are extensively used in quality test equipment, portable instruments, inspection setups, and other military aerospace and commercial applications where trouble-free, dependable performance is of major importance.

FEATURES — **Extra Contacts** — 14- and 20-position designs provide extra switching capability. **Dependability** — Sturdy rotors and decks with rigid 3-post deck suspension; current-carrying parts heavily silverplated to meet 100 hour salt spray test; sharp detent mechanism to assure positive indexing; insulation resistance above 50,000 megohms. **Low Contact Loss** — Double-grip collector arms, and large area contacts, silver to silver; average contact resistance, .007 ohms or less. **Ample Dielectric** -- Conservatively rated at 1 amp., 125 VAC, inductive load; maximum momentary capacity (not make-and-break), 5 amp. AC or DC; maximum voltage between contacts, 1500 VAC, R.M.S.; between decks and ground, 2000 VAC, R.M.S



SS-20-2 Laminated

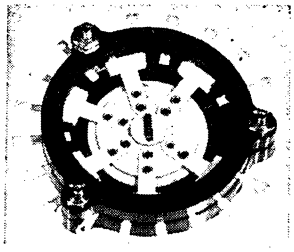
Enclosed -- Molded models have all moving contacts enclosed to minimize dirt and corrosion.

Basic 14-Position: 13 circuits and "off" per deck in 2" circle **(SS-14)** or 2-3/32" circle **(MS-14)** with 25° 43' angular indexing. Supplied individually boxed with **1-1/4" Bar Knob, (KN-14),** not on bulk orders unless specified. For details, **SS-14,** 1 to 6 decks, see Print SK-42 Rev. B. **MS-14** 1 to 6 decks, Print SK-111 Rev. D, 7 decks and over, Print SK-112 Rev. C.

Basic 20-Position: 19 circuits and "off" per deck in 2-23/32" circle **(SS-20)** or 2⅝" circle **(MS-20)** with 18° angular indexing. Supplied individually boxed with 2" **Bar Knob (KN-16)**, not on bulk orders unless specified. For details, **SS-20** 1 to 6 decks, see Print SK-116 Rev. A. **MS-20,** 1 to 6 decks, Print SK-113 Rev. D, 7 decks and over, Print SK-114 Rev. C.

Military or Commercial Variations: Special switches too numerous to list now are being made. Typical are: laminated models with 14 or 20 live positions, no off, designated by suffix F as in SS-14-2F or SS-20-1F. Inquiries are invited.

*****BONDED RUGGEDIZED TYPES** As indicated in the table, all molded rotary switches may be ordered with bonded construction as **MS-14B** or **MS-20B** types using cured laminations for ruggedization, shockproofing and further enclosure. This additional dependability factor adds only approx. 1/64" and 35c catalog price per deck.



MS-20-1-6DT
Double-throw Switching of 6 circuits per deck

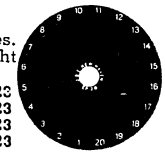
6-POLE DOUBLE-THROW PER DECK —

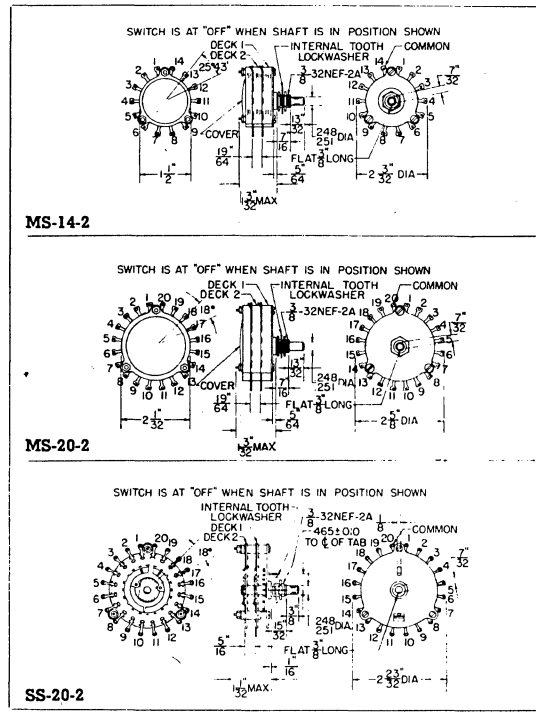
1 or 2 DECKS (DT Series). Widely used for simultaneous double-throw switching of 6 circuits per deck (18° throw). Fully enclosed — illustration shows protective cover cut-away. Circuit arrangement printed on switch front. If DTS Shorting Type, 1500 VAC R.M.S. between contacts and ground, 1000 VAC R.M.S. between contacts. See **MS-20-1-6DT, MS-20-1-6DTS,** and **MS-20-2-6DT** in table.

ETCHED DIAL PLATES

For switches below, also 20M Series. Dull black finish, raised bright numerals, 2¾" dia.

EP-13	off thru 13	**$.23**
EP-14	1 thru 14	**.23**
EP-19	off thru 19	**.23**
EP-20	1 thru 20	**.23**





14-POSITION ROTARY SWITCHES — 25° 43' INDEXING SERIES SS-14, MS-14, MS-14B, MAS-14, and MAS-14B

				LAMINATED (SS)			MOLDED (MS)										
Pos. Per Circ.	Cir. (Poles) Per Deck	Decks or Gangs	Short'g or Non-Sh.	Standard Model	Max(d) Depth Behind Panel	Boxed Inc. Knob	Standard Model	Max. Depth Behind Panel	Boxed Inc. Knob	Bonded Model	Max. Depth Behind Panel	Boxed Inc. Knob	Adjustable Stop Model	Max. Depth Behind Panel	Boxed Inc. Knob	Bonded Adjustable Stop Model	Max. Depth Behind Panel	Boxed Inc. Knob
14	1	1	N-S	SS-14-1	27/32"	$2.30	MS-14-1	27/32"	$2.45	MS-14B-1	7/8"	$2.80	MAS-14-1	31/32"	$3.10	MAS-14B-1*	1"	$3.45
5(a)	2	1	N-S	SS-14-1A*	27/32"	2.45	—	—	—	—	—	—	—	—	—	—	—	—
14	1	1	S	SS-14-1S*	27/32"	2.35	MS-14-1S*	27/32"	2.50	MS-14B-1S*	7/8"	2.85	MAS-14-1S	31/32"	3.20	MAS-14B-1S*	1"	3.55
14	1	1	C-S(c)	SS-14-1CS*	27/32"	2.80	—	—	—	—	—	—	—	—	—	—	—	—
14	1	2	N-S	SS-14-2	1 5/32"	2.90	MS-14-2	1 3/32"	3.10	MS-14B-2	1 1/8"	3.80	MAS-14-2	1 1/32"	3.80	MAS-14B-2	1 1/4"	4.50
5(a)	2	2	N-S	SS-14-2A*	1 5/32"	3.20	—	—	—	—	—	—	—	—	—	—	—	—
14	1	2	S	SS-14-2S*	1 5/32"	3.00	MS-14-2S*	1 3/32"	3.20	MS-14B-2S*	1 1/8"	3.90	MAS-14-2S*	1 1/32"	3.95	MAS-14B-2S*	1 1/4"	4.65
14	1	3	N-S	SS-14-3	1 7/16"	3.50	MS-14-3	1 13/32"	3.75	MS-14B-3	1 15/32"	4.80	MAS-14-3	1 17/32"	4.60	MAS-14B-3*	1 19/32"	5.65
14	1	4	N-S	SS-14-4	1 23/32"	4.40	MS-14-4	1 23/32"	4.85	MS-14B-4	1 25/32"	6.25	MAS-14-4	1 27/32"	5.70	MAS-14B-4	1 15/16"	7.10
14	1	6	N-S	SS-14-6	2 13/32"	6.30	MS-14-6	2 13/32"	7.05	MS-14B-6	2 1/2"	9.15	MAS-14-6	2 17/32"	8.00	MAS-14B-6*	2 19/32"	10.10

20-POSITION ROTARY SWITCHES — 18° INDEXING SERIES SS-20, MS-20, and MS-20B

20	1	1	N-S	SS-20-1	23/32"	4.00	MS-20-1	27/32"	3.10	MS-20B-1	7/8"	3.45
6(b)	2	1	N-S	SS-20-1A*	23/32"	4.15	—	—	—	—	—	—
2	6	1	N-S	—	—	—	MS-20-1-6DT	27/32"	3.90	MS-20B-1-6DT*	7/8"	4.25
2	6	1	S	—	—	—	MS-20-1-6DTS	27/32"	4.00	MS-20B-1-6DTS*	7/8"	4.35
20	1	1	S	SS-20-1S*	23/32"	4.05	MS-20-1S	27/32"	3.15	MS-20B-1S*	7/8"	3.50
20	1	2	N-S	SS-20-2	1 1/32"	4.75	MS-20-2	1 3/32"	3.90	MS-20B-2	1 1/8"	4.60
2	6	2	N-S	—	—	—	MS-20-2-6DT	1 3/32"	5.50	MS-20B-2-6DT*	1 1/8"	6.20
20	1	2	S	SS-20-2S*	1 1/32"	4.85	MS-20-2S	1 3/32"	4.00	MS-20B-2S*	1 1/8"	4.70
20	1	3	N-S	SS-20-3	1 11/32"	5.85	MS-20-3	1 11/32"	5.00	MS-20B-3*	1 15/32"	6.05
20	1	4	N-S	SS-20-4	1 23/32"	7.10	MS-20-4	1 23/32"	6.20	MS-20B-4	1 25/32"	7.60
20	1	6	N-S	SS-20-6	2 11/32"	9.40	MS-20-6	2 13/32"	8.60	MS-20B-6	2 1/2"	10.70

NOTES TO TABLES

* Standard Items, but not regularly stocked; check with your electronic parts distributor.
(a) 5 positions include 4 "live" and 1 "off."
(b) 6 positions include 5 "live" and 1 "off."
(c) Complete shorting—all contacts shorted except one in use.
(d) Dimensions given are for continuous rotation switches. On Standard SS-14 Models only, adjustable stops are also furnished, and when used, increase depth behind panel 3/32" and decrease effective bushing length 3/32".

Non-Shorting — Break before make **Shorting** — Make before break

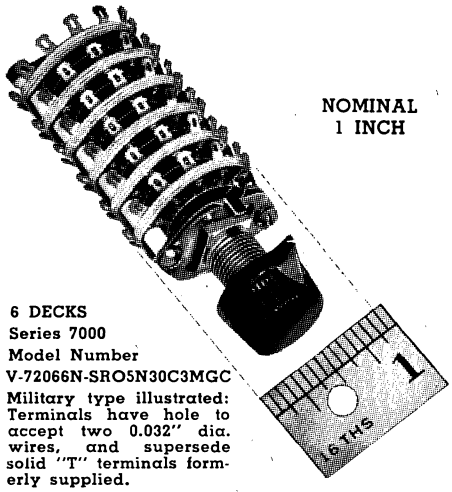
Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective April 1, 1968, subject to change.

SUB-MINIATURE ROTARY AND LEVER SWITCHES

J-B-T INSTRUMENTS, INC. 30th Year

SUB-MINIATURE SWITCHES MADE TO MANY PERFORMANCE LEVELS OF MIL-S-3786B, TYPE SR05; ALSO NON-MILITARY X AND V VERSIONS.

SERIES 7000, FULL 12 LIVE SWITCHING CONTACTS PER DECK; SERIES 5000, UP TO 8 POLES PER DUAL-DUTY DECK.



6 DECKS
Series 7000
Model Number
V-72066N-SRO5N30C3MGC
Military type illustrated: Terminals have hole to accept two 0.032" dia. wires, and supersede solid "T" terminals formerly supplied.

- **Precision built for Low-Current Usage where Size, Weight, Reliability are Important**
- **Unusual Versatility — More Contacts per Deck**
- **Accelerated Snap-Action Detent**
- **MIL Materials Throughout for Military & Non-Military Applications**

CAUTION— MIL-S-3786B, a sophisticated specification, spells out more than one performance level in each of several categories such as Temperature-Life, Vibration, Shock, and Altitude. Each level is designated by its own symbol. J-B-T SRO5 models meet an exceptional number of levels.

- **USES — For test equipment, airborne and transistorized equipment, geophysical apparatus, and other miniaturized electrical and electronic devices.**

TWO BASIC SERIES — Full 12 live switching contacts per deck are available in **Series 7000** using a patented wafer design feature where rotor contacts are on the front, and switching contacts are on the rear of the same deck. 1 to 4 poles per deck 1 to 6 decks, standard.

Up to 8 poles per dual-duty deck are available in **Series 5000** which has up to 12 contacts including common on the front, and up to 12 contacts including common on the rear of the same deck. 1 to 4 poles on each side of dual-duty decks; 1 to 4 decks, standard.

THREE ROTARY TYPES — Both Basic Series are made in 3 types: **MILITARY STYLE SR05,** numbered for specific performance levels of MIL-S-3786B; **V TYPE,** of similar construction to SR05, but not ordinarily subjected to full military test procedures; and X TYPE, using the same materials as V type switches, but intended as replacements for previous models or as original components for non-military devices where requirements are similarly exacting.

LEVER SERIES (L Types) — Outstanding design known as VL-7000 or VL-5000 Series, 1 to 4 decks. Illustrated on a preceding page.

KNOBS — Supplied with individually boxed switches on V and X types; not supplied on SR05 because separate military specification applies.

DIFFERENCES BETWEEN SRO5 MILITARY, V, and X — Switches other than X types use extra rugged index mechanisms and rotor construction.

ITEM	X-7000 X-5000	V-7000 V-5000	MIL-S-3786B V-7000 SRO5 V-5000 SRO5
Terminals	Hole-type not bent	Hole-type not bent	Hole-type; normally not bent
Shaft Bushing	1/8" dia. 1/4" -32NEF-2A, 1/4" long	1/4" dia. 3/8" -32NEF-2A, 3/8" long	1/4" dia. only 3/8"-32NEF-2A, 3/8" long
Rear / Bridge / Non-Turn / Device	Black Identification Normally supplied	Red Identification Normally supplied	Stainless steel, full number Supplied - Spec. requires

FOR ADDITIONAL MODELS AND FULL SPECIFICATIONS, ASK FOR BULLETINS SM-32E AND LAYOUT SHEETS WITH CONTACT ARRANGEMENTS.

MOST FREQUENTLY ORDERED MODELS

DECKS	Circ. (Poles) per Deck	Pos. per Pole	Shorting, Non-Shorting	SHAFT DIA.	V-TYPE OR X-TYPE Model	V-TYPE OR X-TYPE Price	SR05-TYPE Model	SR05-TYPE Price
ONE DECK	1	12	N-S	1/4"	V-71121N	$4.90	V-71121N-SR05*	$5.25
	1	12	S	1/4"	V-71121S	4.90	V-71121S-SR05*	5.25
	1	12	N-S	1/8"	X-71121N	4.70	—	—
	1	12	S	1/8"	X-71121S	4.70	—	—
	2	6	N-S	1/4"	V-72061N	5.00	V-72061N-SR05*	5.35
	4	3	N-S	1/4"	V-74031N	5.20	V-74031N-SR05*	5.50
ONE DUAL DUTY DECK	2	11	N-S	1/4"	V-52111N	5.25	V-52111N-SR05*	5.60
	2	11	S	1/4"	V-52111S	5.25	V-52111S-SR05*	5.60
	4	**5**	**N-S**	1/4"	V-54051N	5.35	V-54051N-SR05*	5.70
	4	**5**	**S**	1/4"	V-54051S	5.35	V-54051S-SR05*	5.70
	8	**2**	N-S	1/4"	V-58021N	5.55	V-58021N-SR05*	5.90
TWO DECKS	**1**	**12**	N-S	1/4"	V-71122N	6.75	V-71122N-SR05*	7.20
	1	**12**	S	1/4"	V-71122S	6.75	V-71122S-SR05*	7.20
	1	**12**	N-S	1/8"	X-71122N	6.45	—	—
	2	6	N-S	1/4"	V-72062N	6.95	V-72062N-SR05*	7.40
	4	3	N-S	1/4"	V-74032N	7.40	V-74032N-SR05*	7.90
TWO DUAL DUTY DECKS	2	11	N-S	1/4"	V-52112N	8.10	V-52112N-SR05*	8.65
	2	11	N-S	1/8"	X-52112N	7.75	—	—
	4	5	N-S	1/4"	V-54052N	8.30	V-54052N-SR05*	8.85
THREE DECKS	1	12	N-S	1/4"	V-71123N	8.85	V-71123N-SR05*	9.45
	2	6	N-S	1/4"	V-72063N	9.15	V-72063N-SR05*	9.70
	4	3	N-S	1/4"	V-74033N	9.85	V-74033N-SR05*	10.45
FOUR DECKS	1	12	N-S	1/4"	V-71124N	11.95	V-71124N-SR05*	12.70
	1	12	N-S	1/8"	X-71124N	11.40	—	—
SIX DECKS	1	12	N-S	1/4"	V-71126N	16.05	V-71126N-SR05*	17.10
ONE DECK	4	3	N-S	—	VL-74031N	$5.15	Levers not in Specs.	
DECK	2	3	N-S	—	VL-72031N	5.05	" " " "	
LEVER	8	2	N-S	—	VL-58021N	5.35	" " " "	

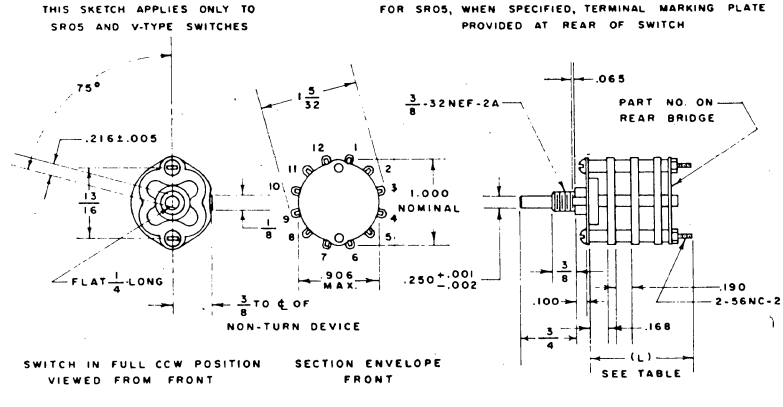
* Typical MIL-S-3786B complete number is V-71121N-SRO5N30C3MGC. Unless otherwise ordered, switches will be furnished according to suffix N30C3MGC. Temperature-Life Characteristic C also qualifies for Characteristics A and B; Vibration Grade Symbol 3 also qualifies for Symbols 1 and 2; Shock Type M, medium impact, normally supplied. Shock Type H available at extra cost on some models when so ordered. Altitude C covers up to 70,000 ft., also meets Characteristic O (up to 10,000 ft.)

SPECIFICATIONS & TEST DATA ON SR05 MILITARY STYLE

NOTE: Most of the values shown here are given in the Specification and do not indicate the extent to which the test results of J-B-T switches were more favorable.
Current-carrying capacity: 5 amps at standard ambient conditions.
Current-breaking capacity: 750 MA at 30 VDC; 300 MA at 120 VDC; 1 AMP at 115 VAC Non-Inductive.
Initial Contact Resistance: .005 ohms max.
Contact Resistance: To MIL-STD-202C, Method 307, which requires Initial — 10 milliohms; After Moisture Resistance Test — 15 milliohms; After Life Test — 20 milliohms.
Materials: Terminals (double-wiping): gold-plated 90% silver alloy. **Rotor Contact:** J-B-T #1800 Silver Alloy. **Shaft & Frame:** Stainless steel, passivated.
Insulation: Wafer, glass epoxy laminate to MIL-P-18177C Type GEB, NEMA G-11; Rotor, ceramic to MIL-I-10A, Grade L-623.
Life Rotational; Temperature-Life Characteristic C, 25,000 rotational cycles at 10 cpm, Temperature —65°C to +125°C; 25,000 cycles at 70,000', room ambient temperature.
Vibration: Grade 3 of Table III MIL-S-3786B, 10 to 2000 cps. Tested in accordance with MIL-STD-202C, Method 204, Test Condition B.
SHOCK: Shock Type M, Medium Impact per Table IV, MIL-S-3786B. Tested in accordance with MIL-STD-202C, Method 205. Mating contacts did not open for more than 10 microseconds. Shock Type H, High Impact, Method 207, specifies not more than 5 milliseconds and does not automatically cover Type M Impact.

MAXIMUM DEPTH (L) BEHIND PANEL, INCHES

	1-Deck	2-Decks	3-Decks	4-Decks	5-Decks	6-Decks
Series V-7000-SR05 or X-7000	0.640	0.918	1.196	1.474	1.752	2.030
Series V-5000-SR05 or X-5000	0.640	0.918	1.196	1.474	—	—



STYLE SR05, V-7000 AND V-5000

Prices Net, F.O.B. Factory; Individually Boxed, Domestic Packed, Effective April 1, 1968, subject to change.

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REMARKABLE NEW 12 POSITION ROTARY SWITCHES

30th Year

J-B-T INSTRUMENTS, INC.

V/M SERIES 12-POSITION ROTARY SWITCHES
ULTRA-HIGH QUALITY WITH ADJUSTABLE TORQUE DETENT

This unusually fine family of fully enclosed rotary switches is being produced in J-B-T's thoroughly modern new plant. Used in precise laboratory test apparatus, test set-ups, telemetering, meter switching, calibration operations and similar applications where circuit stability is essential to accuracy and repeatability. The V/M Series virtually eliminates the influence of extraneous factors to the circuitry, and the initial electrical and mechanical characteristics remain substantially unchanged throughout the long useful life of the switch.

SPECIFICATIONS (Apply only to VMCS7 Models with coin silver contacts and rotor blades.): **Initial Contact Resistance,** .002 ohms; **Maximum Inductance,** less than .03 microhenry; **Capacitance between Segments,** less than 2 PFD; **Thermal EMF,** less than 1 microvolt; **Current Carrying Capacity,** 5 amp.; **Dielectric Strength,** 1000 volts, rms, 60 cy. — terminals to ground and terminals to terminals; **Insulation Resistance,** greater than 500,000 megohms; **Life Cycling** (make and break), 100,000 cycles at 1 amp., 120 VAC, res. and ind., and 28 VDC res. and ind.

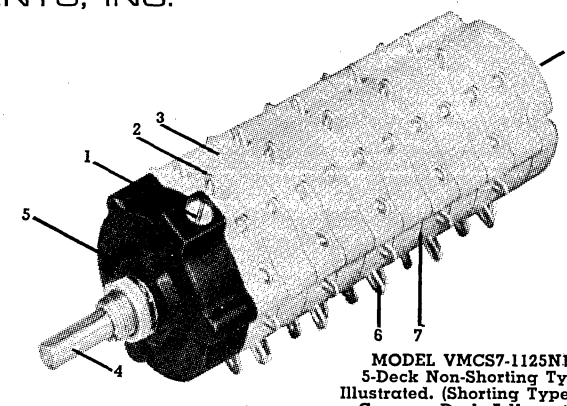
DIMENSIONS: diameter over terminals $1\frac{13}{16}$"; bushing $\frac{3}{8}$-32 x $\frac{3}{8}$" long; non-turn device $\frac{1}{8}$" diam., $\frac{17}{32}$" from shaft centerline.

NOTES:

* Model Number shown is for VMCS7, with coin silver contacts and rotor blades. For nickel silver, model number would be VMNS7; for silver plated brass, VMSB7.

** Unlike other J-B-T rotary switches, VM series is normally shorting type; for non-shorting construction add 50c per deck per switch, Net.

† Includes knob and mounting hardware. Quantity prices on request.



MODEL VMCS7-1125NF2
5-Deck Non-Shorting Type Illustrated. (Shorting Type Has Common Deck Adjacent to Front of Switch)

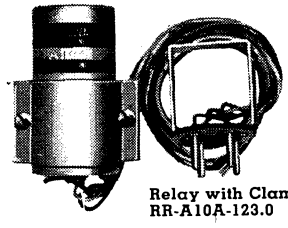
FEATURES:

(1) Adjustable detent action for variable torque (or factory set for 4 inch lbs. max.) (2) Unusually sturdy molded-in terminals .032" thick; accommodate two #18 wires. (3) Distinctive color-coded glass alkyd decks — **gray** for coin silver alloy contacts and rotor blades; **blue** for nickel silver; and **green** for silverplated brass. (4) Husky $\frac{1}{4}$" stainless steel shaft. (5) Permanent identification of positions 0 through 11, cast-in detent housing and molded-in rear deck. (6) Integral connections between contacts and terminals — no mechanical joints. (7) Enclosed decks may be stacked for explosion-proof switch, per methods 3 and 4 of MIL-E-5272.

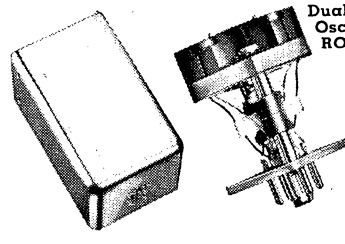
REPRESENTATIVE MODELS AND BASE PRICES
VMCS7, VMNS7, AND VMSB7 ROTARY SWITCHES

Model Number* (Shorting Type)	Poles Per Deck	Positions Per Pole	No. of Decks	Shorting** Non-Sht'g	NET EACH—Quantity 1-9† VMCS7 Coin Silver	VMNS7 Nickel Silver	VMSB7 S.P. Brass	"L" Length Behind Panel
VMCS7-1121SF1	1	12	1	S	$16.00	$10.50	$ 9.25	$1\frac{5}{8}$" max.
VMCS7-2061SF2	2	6	1	S	19.50	12.50	11.25	$1\frac{5}{8}$" max.
VMCS7-1122SF1	1	12	2	S	24.10	15.00	13.75	$2\frac{3}{16}$" max.
VMCS7-2062SF2	2	6	2	S	27.60	17.00	15.75	$2\frac{3}{16}$" max.
VMCS7-1124SF1	1	12	4	S	40.30	24.00	22.75	$3\frac{11}{16}$" max.
VMCS7-2064SF2	2	6	4	S	43.80	26.00	24.75	$3\frac{11}{16}$" max.

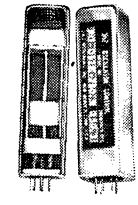
RESONANT REED RELAYS AND OSCILLATOR CONTROLS



Relay with Clamp
RR-A10A-123.0

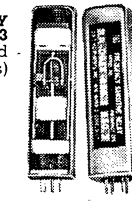


Dual-Reed Oscillator Control
RO-B10B-188.0



Single-Reed Oscillator Control
RO-D62E-250.3
(Vibration-Isolated in All Planes)

Relay
RR-DO2E-250.3
(Vibration-Isolated in All Planes)



Applications: selective-calling mobile communication equipment, remote data transmission, and simultaneous or sequential coding and decoding.

For further data, ask for Bulletins 162-R and D664A. Inquiries are invited on newly-developed miniature combination relay-oscillator types.

J-B-T frequency-sensitive electro-mechanical relays (decoders) are highly stable control devices. They intermittently make and break contacts when a signal of the same frequency as the tuned reed is received. Although the reed has a high Q, the bandwidth at which the relay responds will be proportional to the input signal level.
RR-A11- and RR-A10 types are round, 4-pin plug-in relays, used primarily on existing mobile equipment.

RO-B Oscillator Controls (sometimes known as tone generators or encoders) are dual-reed units internally shock mounted and of sealed construction. These units control the frequency of oscillation in vacuum tube or transistor oscillator circuits. The RO-B type oscillator control is recommended where accurate and stable AC signals are required.

RR-D types are internally shock-mounted resonant reed relays, which are square, sealed units with 7-pin miniature plug. They now are the most widely used J-B-T relays.

RO-D types are single-reed, internally shock mounted oscillator controls for applications where space saving is of importance. Dimensionally they are identical to RR-D relays.

TYPICAL REED RELAY AND OSCILLATOR CONTROL SPECIFICATIONS

Model	Enclosure	Mounting & Connections	Frequency Range CPS	DC Coil Resistance (Standard)	Accuracy to	Change per °C —40° to + 100°C	Individually Boxed
RR-A-10A-Reed Relay	1" round x 2" long	Clamp & Harness* 4 Pin Fits Cinch Socket #9804	67 to 600	200 ohms	±0.3%	±0.005 %	$15.00**
RR-A11A-Reed Relay	1" round x 2" long	Plug In 4 Pin Fits Cinch Socket # 9804	67 to 600	200 ohms	±0.3%	±0.005 %	14.50**
RR-DO2E-Reed Relay	$\frac{25}{32}$" sq. x $3\frac{1}{32}$" lg sealed	7 Pin Miniature Plug In	67 to 1600	600 ohms	±0.1%	±0.0025%	19.00**
RO-B10B-Oscillator Control†	$1\frac{33}{64}$" sq x $2\frac{1}{16}$" long sealed	Octal Plug In	67 to 600	2200 ohms/coil	±0.1%	±0.003 %	26.00**
RO-D62E-Oscillator Control	$\frac{25}{32}$" sq. x $3\frac{1}{32}$" lg sealed	7 Pin Miniature Plug In	67 to 1600	600 ohms	±0.1%	±0.0025%	18.00**

* Supplied with 2-piece clamp and 4-wire cable terminated in a 4-pin base.

** For frequencies 400 cps and up, add $1.00 to catalog price.

† Dual reed construction.

Prices shown are NET, F.O.B., New Haven, Conn., domestic packing, May 1, 1968, subject to change.

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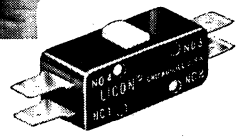
BASIC SWITCHES FROM LICON FASTEST GROWING FULL-LINE SWITCH SUPPLIER

BUTTERFLY® DOUBLE-BREAK SWITCHES

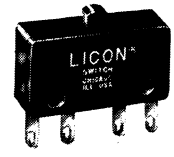
The unique Licon® Butterfly double-break switch design is built around two blades that flex simultaneously, then actuate with a positive snap. A full line of 2, 4 and 6-circuit miniature, subminiature and heavy-duty Butterfly switches meet every basic switch need.



TYPE 11

High electrical rating and long mechanical life in one compact package. Ideal for a wide range of applications.

ELECTRICAL RATING
125/250 v AC: 10 Amps
125 v AC: ½ HP
250 v AC: ¾ HP
30 v DC: Form X or Y—15 Amps Res.
Form X or Y—10 Amps Ind.
Form Z— 10 Amps Res.
Form Z— 7 Amps Ind.



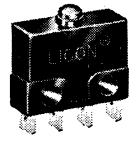
TYPE 16

Features two circuit control, direct cam operation with double bearing guided button plus high shock and vibration resistance.

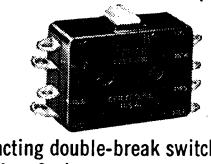
ELECTRICAL RATING
125/250 v AC: 10 Amps
28 v DC:
Form X or Y—10 Amps Res.
Form X or Y—7.5 Amps Ind.
Form Z— 10 Amps Res.
Form Z— 5 Amps Ind.

TYPE 18

Big switch rating in the smallest double-break switch—.200″ x .500″ x .350″.



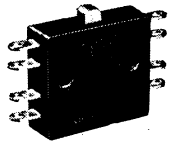
ELECTRICAL RATING
125/250 v. AC: 8 Amps
28 v DC:
Form X or Y—8 Amps Res.
Form X or Y—5 Amps Ind.



TYPE 22

Insures exacting double-break switch performance for 3-phase motors, permits simplified controls for multiple circuits.

ELECTRICAL RATING
125/250 v AC: 10 Amps
125 v AC: ½ HP
250 v AC: ¾ HP
30 v DC: Form XX or YY—15 Amps Res.
Form XX or YY—10 Amps Ind.
Form ZZ— 10 Amps Res.
Form ZZ— 7 Amps Ind.



TYPE 26

Provides simultaneous operation of two Licon Butterfly double-break mechanisms in one case. Eliminates the need for dual components and complicated actuators.

ELECTRICAL RATING
125/250 v AC: 8 Amps
28 v DC: Form XX or YY—10 Amps Res.
Form XX or YY—7.5 Amps Ind.
Form ZZ— 10 Amps Res.
Form ZZ— 5 Amps Ind.

TYPE 36

Simultaneous operation of three poles through a special linkage between mechanisms. Eliminates the need for three components and complementing actuators.

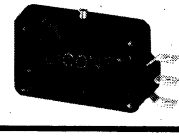
ELECTRICAL RATING
125/250 v AC: 8 Amps Res.
28 v DC: Form XXX or YYY—10 Amps Res.
Form XXX or YYY—7.5 Amps Ind.
Form ZZZ— 10 Amps Res.
Form ZZZ— 5 Amps Ind.

TYPE 25 THIN SWITCH

The thin switch is designed for commercial applications which require utmost reliability at low price. Typical applications include coin and vending machines, timers and counters.

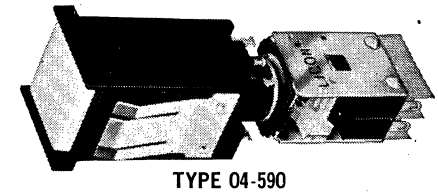
ELECTRICAL RATING

On-Center	Off-Center
12 Amps Res.	6 Amps Res.
7 Amps Ind.	3 Amps Ind.



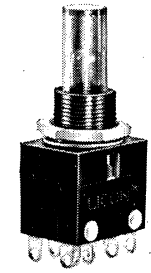
LICON® LIGHTED SWITCHES

Widely used on computers, machine tools, office machines, guidance control and a wide variety of applications. Heart of Licon lighted switches are the ultra-reliable Butterfly® Double-breaks for long life and dependable performance. Wide selection of colors, sizes, mounts and actuators.



TYPE 04-590

Dressy panel appearance with four bulb illumination. Simple snap-on switch module, front-of-panel bulb service. Standard in black or clear anodizing.

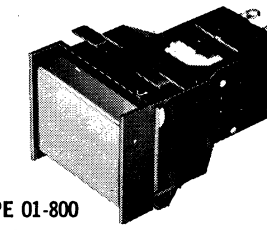


TYPE 04 BARRIER MOUNT

Remove one or more switches without disturbing other units. Serves as safety separator between ganged switches. Also aluminum matrix barriers.

TYPE 01-700

Low cost momentary 1-lite stationary bulb in one-piece molded housing. Cylindrical, square or round lens caps. Front-of-panel bulb servicing.



TYPE 01-800

Styled for maximum in function/appearance criteria. Has integral plastic housing that snaps in from front panel. Available in one and two pole, momentary and alternate action.

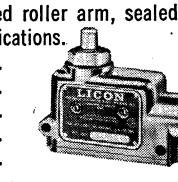
LICON® INDUSTRIAL SWITCHES

The most dependable machine tool and industrial switches on the market. Meet all OEM and replacement needs, and provide compatibility and interchangeability at the lowest possible cost. Wide selection of models, mountings, actuators.

TYPE 30-100 OVERTRAVEL PLUNGER SWITCH

General purpose limit or push button switch for circuit controls of heavy duty applications. The overtravel plunger provides added switch protection and also permits greater flexibility of application. Other models feature roller arm, roller plunger, sealed plunger, sealed roller arm, sealed palm button for a wide variety of applications.

Operating force.....10 oz.±4 oz.
Release force.....3 oz. min.
Pretravel.....030 max.
Overtravel.....7/32 min.
Movement differential.....002 max.



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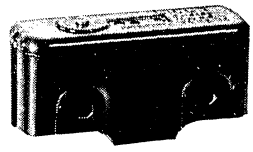
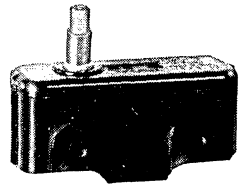
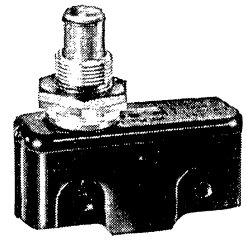
LICON TYPE 10 BASIC SWITCHES



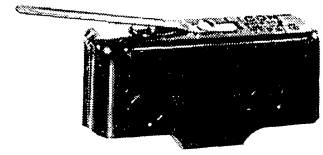
Type 10-122
Basic Switch



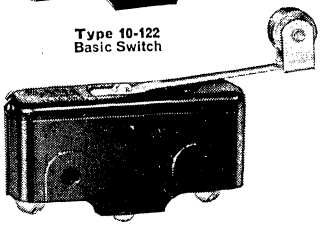
Type 10-222
Overtravel Plunger



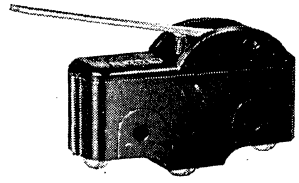
Type 10-322
Panel Mounting



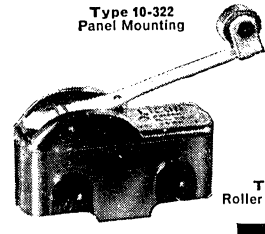
Type 10-422
Leaf Spring Actuator



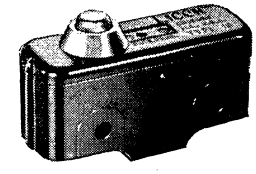
Type 10-522
Roller Leaf Actuator



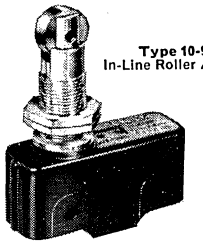
Type 10-622
Hinge-Type Lever



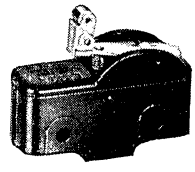
Type 10-722
Roller Lever Actuator



Type 10-822
Cam Actuation



Type 10-922
In-Line Roller Actuator

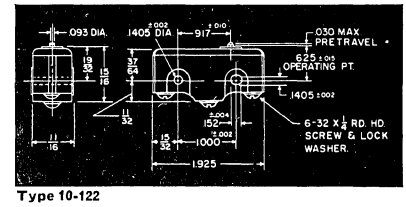


Type 10-72237
One Way Actuator

CHARACTERISTICS

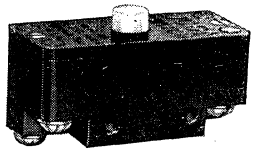
Electrical Rating 15A, 125/250 V a-c, 460 V a-c
15A Res 5A Ind. 5A motor, 30 V d-c
UL APPROVED CSA APPROVED

Splash-proof sealing against moisture, dirt, dust and other harmful elements can be provided for most models. Preloaded reverse action actuator available.

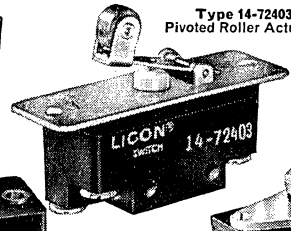


Type 10-122

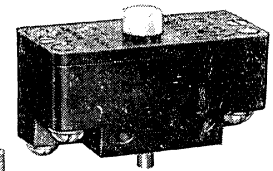
LICON TYPE 14 HEAVY DUTY BASIC SWITCHES



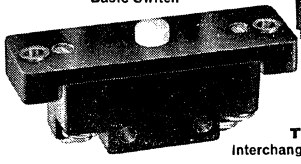
Type 14-124
Basic Switch



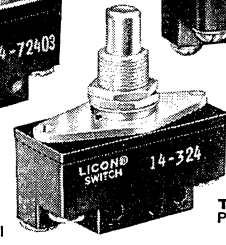
Type 14-72403
Pivoted Roller Actuator



Type 14-1241 Maintained Contact, Reset.



Type 14-128040
Interchangeable and economical



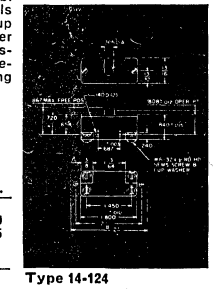
Type 14-324
Panel Mount

Movement differential available from .101" to over .040". 100 gram to 2 lb. operation force available. Terminals available with a No. 6 screw and cup washer, No. 6 screw and lockwasher or No. 8 screw with these same fastener choices. Custom terminal designs available. Auxiliary mounting plate available for panel mount.

ELECTRICAL RATING

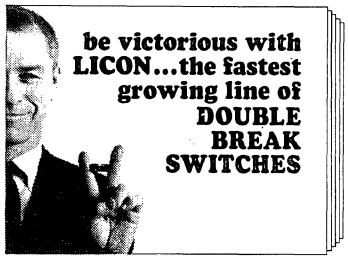
Volts	A.C. Steady	A.C. In-Rush	D.C. D.T.	D.C. S.T.
30	20	80	10	25
110	20	80	.5	2.0
220	20	80	.2	.5
440	15	50		
600	5	10		

UL APPROVED



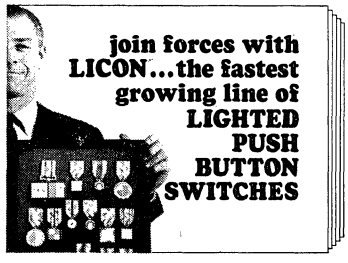
Type 14-124

Get the full story behind the switches you need from the fastest growing full-line switch supplier...LICON



BUTTERFLY® DOUBLE-BREAK SWITCHES

The theory behind the unique Licon Butterfly® Double-Break switch design, switch characteristics and ratings, and a catalog of the complete line.

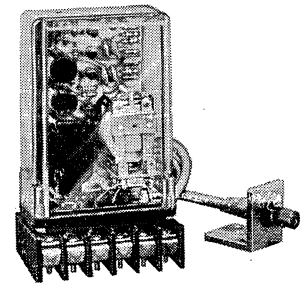


LICON® LIGHTED SWITCHES

A complete description of the Licon Lighted switch line, physical and electrical properties, design considerations and a catalog of the 1-lite, 2-lite, and 4-lite series.

For complete information about the full line of Licon switches, write for G105 catalog.

NEW!
70-700 PROXIMITY SWITCH



The 70-700 consists of two basic modules, a control module and a remote potted sensor. The control module contains a 10 amp relay and a transistor oscillator, both housing in a plastic plug-in case which mates with a 12 terminal heavy duty JIC style socket (supplied). A NEMA Class 1 metal enclosure is also available for housing both the control module and heavy duty socket.

SPECIFICATIONS

Accuracy — The circuit will actuate, at a given sensor to conductor spacing, within 0.0005".

Sensing Range — For the .750" diameter sensor .110" Min. — .261" Max., and for the .440" diameter sensor .048" Min. — .148" Max.

Speed — Up to 1000 operations per minute possible.

Ambient Temperature Ranges — 30° to + 250° F for the remote sensor, 0° to + 150° F for the control module.

LICON
DIVISION ILLINOIS TOOL WORKS INC.

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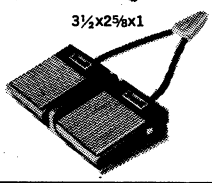
LINEMASTER

America's Footswitch Leader

TREADLITE 3½x2⅝x1 	T-51-S T-51-D T-52-S T-51-SC *T-51-SC3 **T-51-SC36 T-51-S TWIN	SINGLE STAGE MOMENTARY SINGLE STAGE MAINTAINED TWO STAGE MOMENTARY T-51-S COMPLETE WITH 6' CORD SET & SERIES PLUG TWO MOMENTARY SWITCHES ON ONE BASE	SPDT SPDT BOTH STAGES SPDT BOTH SPDT	7 AMP 125-250 VAC 1/6 H.P. 125 VAC	Lowest Cost Foot Switch Formed Steel Housing. Wt.—7 ozs. *Similar to T-51-SC Except Grounded 3 Conductor Cord and 3 Prong Series Plug. **With Grounded 3 Conductor Cord, No Plug.
COMPACT 2⅞x2½x1⅛ 	491-S 491-D 492-S 494-S 491-SC *491-SC3 **491-SC36 491-S TWIN 3B-20A2-S	MOMENTARY MAINTAINED MOMENTARY MOMENTARY 491-S COMPLETE WITH 6' CORD SET & SERIES PLUG TWO MOMENTARY SWITCHES ON ONE BASE MOMENTARY FOOT OPERATED AIR VALVE	SPDT SPST SPDT DPDT BOTH SPDT	10A 125 VAC 10A 125 VAC 20A 125-250 VAC 10A 125 VAC 5A 250 VAC 3-WAY AIR VALVE	Completely Enclosed Interior Switch. Formed Steel Housing. Wt.—7 oz. *Similar to 491-SC Except Grounded 8 Ft. 3 Conductor Cord and 3 Prong Series Plug. **With 6 Ft. Grounded 3 Conductor Cord, No Plug. 20 CFM @ 100 PSI.
CLIPPER 4½x3½x1½ 	632-S 632-D 635-S 634-D 636-S 632-S TWIN 3C-20A2-S	MOMENTARY MAINTAINED MOMENTARY MAINTAINED TWO STAGE MOMENTARY TWO MOMENTARY SWITCHES ON ONE BASE MOMENTARY FOOT OPERATED AIR VALVE	SPDT SPDT DPDT DPDT BOTH STAGES SPDT BOTH SPDT	20A 125-250 VAC 20A 125-250 VAC 15A 125-250 VAC 10A 125 VAC 5A 250 VAC 15A 125-250 VAC 20A 125-250 VAC 3-WAY AIR VALVE	Cast Iron Housing. Also Available with Safety Guard or 7" Wide Treadle. Wt.—2¼ lbs. Twin Has Connecting Interwiring Tube So That Only One Cable Is Used. 20 CFM @ 100 PSI.
JUNIOR 5½x3¼x1¼	121-S 122-S	MOMENTARY MOMENTARY	SPDT SPDT	15A 125-250 VAC 20A 125-250 VAC	Cast Aluminum Housing. Low Tapered Treadle Permits Easy Operation. Wt.—1 lb.
CADET 3⅝x1⅛	HB-2 *HB-3	MOMENTARY	SPDT	7A 125 VAC 1/6 H.P. 125 VAC	Round Switch Operates From Any Position. Switch Comes Complete With Cord set. Wt.—11 ozs. *Similar To HB-2 Except Grounded 6 Ft. 3 Conductor Cord and 3 Prong Series Plug.

MANY OTHER STANDARD MODELS ARE AVAILABLE—WRITE FOR CATALOG

"When awkward jobs hold you up—a LINEMASTER FOOT SWITCH is your third hand!"

Write To Us For Complete Catalog.

LINEMASTER SWITCH CORPORATION

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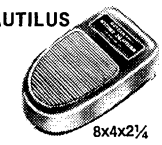
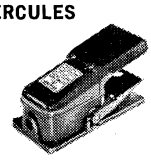
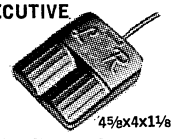
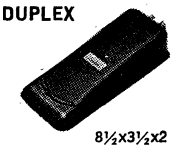
A Modern FOOTSWITCH for Every Use

PRECISION-BUILT • DEPENDABLE • RUGGED • ECONOMICAL • OVER 1000 APPLICATIONS

NAUTILUS  8x4x2¼	WP-541-S	MOMENTARY	SPDT	20A 125-250 VAC	Completely Waterproof. Can Be submerged.
	WP-541-D	MAINTAINED	SPDT	12A 125 VAC 6A 250 VAC	
SENIOR 7x4x3¼	MOMENTARY: 4141-S	MAINTAINED: 4141-D	DPST	20A 125-250 VAC&DC	Cast Iron Housing. Also Available With Complete Safety Guard. Wt.—5¼ lbs.
	4142-S	4142-D	DPDT	10A 125 VAC&DC 5A 250 VAC&DC	
	4143-S	4143-D	SPDT	15A 125 VAC&DC 10A 250 VAC&DC	
	4351-S	4351-D	TPST	15A 125-230 VAC 5A 575 VAC	
HERCULES  8 7/16x4 5/16x4½	531-SW*	571-DW*	SINGLE STAGE — SPDT	20 AMPS 125-480 VAC 1 H.P. 115-230 VAC	Cast Iron Housing. Wt.—7¼ lbs. Also Available With No Guard or Complete Hood. All Models Available in Explosion Proof Version. *Add Letter "N" For Model Without Guard; Add Letter "H", For Model With Full Side Shields.
	532-SW*	572-DW*	SINGLE STAGE — DPDT		
	533-SW*	573-DW*	SINGLE STAGE — TPDT		
	534-SW*	574-DW*	TWO STAGE — SPDT		
	535-SW*	575-DW*	THREE STAGE — SPDT		
POTENTIOMETER 8 7/16x4 5/16x4½	2 WATT: 500 thru 500-AH	5 WATT: 505 thru 505-AH	SPECIFY MAXIMUM RESISTANCE REQUIRED 2 WATT: Ohms 50 thru 1500; 2500 thru 75000; Megohms .1 thru 5.0 5 WATT: Ohms 2 thru 40; 50 thru 1000; 1500 thru 25000		Standard Model Wt. Approx. 7¼ lbs. Details on request
LEKTRO-LOK 5x2½x1⅛	L-2-S	TWO MOMENTARY SWITCHES SIDE BY SIDE	BOTH SIDES SPDT	15A 125-250 VAC	Stamped Metal Housing. Wt.—10 oz.
	L-4-S		BOTH SIDES DPDT	10A 125 VAC 5A 250 VAC	
EXECUTIVE  4⅝x4x1⅛	B-2-S	TWO MOMENTARY SWITCHES SIDE BY SIDE	BOTH SIDES SPDT	15A 125-250 VAC	Stamped Metal Housing. Wt.—14 oz.
	B-4-S		BOTH SIDES DPDT	10A 125 VAC 5A 250 VAC	
DUPLEX  8½x3½x2	475-S	MOMENTARY HEAVY SPRING	BOTH SIDES SPDT	15A 125-250 VAC	Cast Aluminum Housing. Wt.—1¾ lbs.
	476-S	MOMENTARY LIGHT SPRING			

Linemaster also manufactures many other types of foot controls with electronic impulse circuits, gear driven potentiometers, air valves, special cordsets, finishes, etc.

Write To Us For Complete Catalog.

LINEMASTER SWITCH CORPORATION

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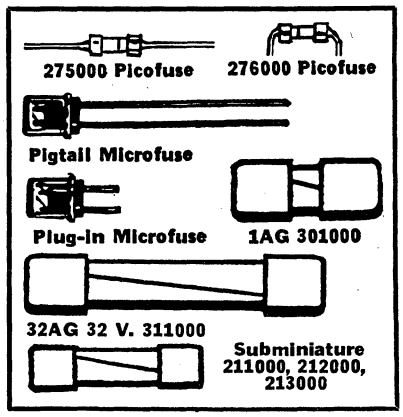
LITTELFUSE Quality Fuses



SUBMINIATURE FUSES

A must for servicing European electronic equipment. **Size:** 20 mm x 5 mm (.8" x .2").

FAST ACTING (250 V) TYPE F

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
212.100	1/10	1.59	26.50	21.20
212.125	1/8	1.59	26.50	21.20
212.200	2/10	1.23	20.50	16.40
212.250	1/4	1.23	20.50	16.40
212.300	3/10	1.23	20.50	16.40
212.400	4/10	1.23	20.50	16.40
212.500	1/2	1.23	20.50	16.40
212.600	6/10	1.23	20.50	16.40
212.700	7/10	1.23	20.50	16.40
212.800	8/10	1.23	20.50	16.40
212001	1	.99	16.50	13.20
2121.25	1-1/4	.99	16.50	13.20
21201.6	1-6/10	.99	16.50	13.20
212002	2	.99	16.50	13.20
21202.5	2-1/2	.99	16.50	13.20
212003	3	.99	16.50	13.20
212004	4	.99	16.50	13.20
212005	5	.99	16.50	13.20
212006	6	.99	16.50	13.20

MEDIUM ACTING (250 V) TYPE M

Net per 5 . . . . . $ 1.23
Net per 100: 100 . . . $20.50; 500 . . . 16.40

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
211.100	1/10	211.500	1/2	211002	2
211.200	2/10	211.600	6/10	211003	3
211.250	1/4	211.800	8/10	211005	5
211.300	3/10	211001	1		
211.400	4/10	21101.6	1-6/10		

SLO BLO FUSES (250 V) TYPE T

Net per 5 . . . . . $ 1.23
Net per 100: 100 . . . $20.50; 500 . . . 16.40

213.100	1/10	213.600	6/10	21302.5	2-1/2
213.125	1/8	213.700	7/10	213003	3
213.200	2/10	213.800	8/10	213004	4
213.250	1/4	213001	1	213005	5
213.300	3/10	2131.25	1-1/4	213006	6
213.400	4/10	21301.6	1-6/10		
213.500	1/2	213002	2		

SUBMINIATURE (125 V MAX.)

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
271.500	1/2	$1.23	$20.50	$16.40
27101.5	1-1/2	.99	16.50	13.20

SUBMINIATURE PICOFUSES

For computer, micro-electronic and areospace circuits of 125 V or less where short-circuit currents as high as 300 amps occur. High accuracy in blowing time at 300% of rating and higher is ideal for sequential switching or in circuits requiring redundancy. Blow time 4 hours min. at 100% of rating; 5 secs. max. at 200%. Amperage printed on body; can be color-coded at additional cost. Ceramic body only 7/32" lg. x 5/64" dia.; tin-coated copper leads .025" dia. Order **275** (prefix) for axial leads 1 9/16" long for diode clip or in-circuit mounting; **276** for radial leads 1 3/8" long for use in printed circuits or receptacles. *Avg., cold.

L.F. No.	Amp Rtg.	Res., Ohms*	Net per 5	Net per 100	
				100	500
275.125	1/8	2.0	$2.13	$35.50	$28.40
275.250	1/4	.71	2.13	35.50	28.40
275.375	3/8	.43	2.13	35.50	28.40
275.500	1/2	.26	2.13	35.50	28.40
275.750	3/4	.157	1.86	31.00	24.80
275001	1	.125	1.86	31.00	24.80
275001.5	1-1/2	.074	1.86	31.00	24.80
275002	2	.055	1.86	31.00	24.80
275003	3	.035	1.86	31.00	24.80
275004	4	.022	1.86	31.00	24.80
275005	5	.014	1.86	31.00	24.80

MICROFUSE SUBMINIATURE FUSES

For printed circuits and other minimum space uses. Ultra-fast blowing. Plug-in types use holder (listed on another page); pigtail types for soldering. Short circuit interrupting capacity 125 V, 10,000 amps DC. **Blow Specs:** 100%, 4-hour min.; 200%, 5-sec. max. **Size:** 1/4" dia. x 1 1/32" (fuse body). Plug-in, transparent cap type listed. Use prefix **272** for plug-in, metal cap; prefix **279** for pigtail, transparent cap; prefix **278** for pigtail, metal cap.

Plug-In L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
273.002	1/500	$5.13	$85.50	$68.40
273.005	1/200	5.13	85.50	68.40
273.010	1/100	5.13	85.50	68.40
273.015	1/64	5.13	85.50	68.40
273.031	1/32	5.13	85.50	68.40
273.050	1/20	4.29	71.50	57.20
273.062	1/16	4.29	71.50	57.20
273.100	1/10	4.29	71.50	57.20
273.125	1/8	4.29	71.50	57.20
273.200	2/10	4.29	71.50	57.20
273.250	1/4	4.29	71.50	57.20
273.300	3/10	4.29	71.50	57.20
273.400	4/10	4.29	71.50	57.20
273.500	1/2	4.29	71.50	57.20
273.600	6/10	4.29	71.50	57.20
273.700	7/10	4.29	71.50	57.20
273.750	3/4	4.29	71.50	57.20
273.800	8/10	4.29	71.50	57.20
273001	1	4.29	71.50	57.20
27301.5	1-1/2	4.29	71.50	57.20
273002	2	4.29	71.50	57.20
273003	3	4.29	71.50	57.20
273004	4	4.29	71.50	57.20
273005	5	4.29	71.50	57.20

HIGH RELIABILITY MICROFUSES

For zero defect programs. Hermetically sealed; gold-plated terminals for soldered or plug-in connections. Fuse rating identified on each fuse. Test data and traceability records are supplied and maintained. Proven performance in the Gemini "critical parts" manned space program. Voltage rating 125 V, blow time same as 273 series; time/current characteristics certified to 1% AQL per MIL-Std-105, Inspection Level II. Short circuit interrupting capacity at 125 V, 10,000 amps DC. **Size:** Fuse cap and body, .290" lg., leads for 262 "plug-in" series .170". Pigtail on 268 series 1.0". Use prefix **268** for pigtail type (e.g., **268.002**).

Plug-In L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
262.002	1/500	$15.00	$250.00	$200.00
262.005	1/200	15.00	250.00	200.00
262.010	1/100	15.00	250.00	200.00
262.015	1/64	15.00	250.00	200.00
262.031	1/32	15.00	250.00	200.00
262.050	1/20	15.00	250.00	200.00
262.062	1/16	15.00	250.00	200.00
262.100	1/10	15.00	250.00	200.00
262.125	1/8	15.00	250.00	200.00
262.200	2/10	15.00	250.00	200.00
262.250	1/4	15.00	250.00	200.00
262.300	3/10	15.00	250.00	200.00

HIGH RELIABILITY PICOFUSES

For soldering into circuits or insertion into diode type clips and mtgs. Fuses rated at 125 V or less and will interrupt short circuit currents to 300 amps at 125 VDC. Non-hygroscopic ceramic bodies. Withstands 5-lb. axial pull test. Blow time 4 hours min., 100% rating; 5 secs. max., 200% rating. Insulation resistance is 1 meg min. measured with 100 V supply. **Size:** Body 7/32" lg., .078" dia. Leads are .025" dia., 1 9/16" lg., gold-plated copper.

Net per 5 . . . . . $15.00
Net per 100: 100 . . $250.00; 500 . . $200.00

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
265.125	1/8	26501.5	1 1/2
265.250	1/4	265002	2
265.375	3/8	265003	3
265.500	1/2	265004	4
265.750	3/4	265005	5
265001.	1		

7AG FUSES (32 V OR LESS)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 20-sec. max. Lg. 7/8", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
303001	1	$0.33	$5.50	$4.40
30302.5	2-1/2	.22	3.60	2.90
303004	4	.22	3.60	2.90
303006	6	.22	3.60	2.90
303015	15	.25	4.10	3.20
303020	20	.25	4.10	3.20
303030	30	.25	4.10	3.20

1AG FUSES (32 V OR LESS)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 20-sec. max. Lg. 7/8", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
301001	1	$0.33	$5.50	$4.40
301002	2	.33	5.50	4.40
30102.5	2-1/2	.33	5.50	4.40
301003	3	.30	5.00	4.00
301005	5	.25	4.10	3.20
301006	6	.25	4.10	3.20
30107.5	7-1/2	.25	4.10	3.20
301010	10	.25	4.10	3.20
301015	15	.25	4.10	3.20
301020	20	.25	4.10	3.20
301025	25	.25	4.10	3.20
301030	30	.25	4.10	3.20

3AG FUSES (32 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 20-sec. max. Length 1 1/4", dia. 1/4".

311004	4	$0.30	$5.00	$4.00
311005	5	.22	3.60	2.90
311006	6	.22	3.60	2.90
31107.5	7-1/2	.22	3.60	2.90
311008	8	.22	3.60	2.90
311010	10	.22	3.60	2.90
311015	15	.22	3.60	2.90
311025	25	.25	4.10	3.20
311030	30	.25	4.10	3.20
311035	35	.30	5.00	4.00

3AG FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1 1/4", dia. 1/4". U/L Approved.

312.010	1/100	$2.07	$34.50	$27.60
312.031	1/32	1.77	29.50	23.60
312.062	1/16	.81	13.50	10.80
312.100	1/10	.81	13.50	10.80
312.125	1/8	.81	13.50	10.80
312.150	15/100	.81	13.50	10.80
312.175	.175	.81	13.50	10.80
312.187	3/16	.81	13.50	10.80
312.200	2/10	.81	13.50	10.80
312.250	1/4	.54	9.00	7.20
312.300	3/10	.54	9.00	7.20
312.375	3/8	.54	9.00	7.20
312.500	1/2	.54	9.00	7.20
312.600	6/10	.54	9.00	7.20
312.750	3/4	.54	9.00	7.20
312001	1	.33	5.50	4.40
3121.25	1-1/4	.33	5.50	4.40
31201.5	1-1/2	.33	5.50	4.40
31201.6	1-6/10	.33	5.50	4.40
312002	2	.33	5.50	4.40
31202.5	2-1/2	.30	5.00	4.00
312003	3	.30	5.00	4.00
312004	4	.42	7.00	5.60
312005	5	.42	7.00	5.60
312006	6	.42	7.00	5.60
312007	7	.42	7.00	5.60
312008	8	.63	10.50	8.40

3AG SLO BLO FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. Length 1 1/4", dia. 1/4". U/L Approved thru 5 amps.

313.010	1/100	$1.53	$25.50	$20.40
313.031	1/32	1.53	25.50	20.40
313.062	1/16	1.11	18.50	14.80
313.100	1/10	1.11	18.50	14.80
313.125	1/8	1.11	18.50	14.80
313.150	15/100	1.11	18.50	14.80
313.175	.175	1.11	18.50	14.80
313.187	3/16	1.11	18.50	14.80
313.200	2/10	1.11	18.50	14.80
313.250	1/4	1.11	18.50	14.80
313.300	3/10	1.11	18.50	14.80
313.375	3/8	1.11	18.50	14.80
313.400	4/10	1.11	18.50	14.80
313.500	1/2	1.11	18.50	14.80
313.600	6/10	1.11	18.50	14.80
313.700	7/10	1.11	18.50	14.80
313.750	3/4	1.11	18.50	14.80
313.800	8/10	1.11	18.50	14.80
313001	1	1.11	18.50	14.80
31301.2	1-2/10	1.02	17.00	13.60
3131.25	1-1/4	1.02	17.00	13.60
31301.5	1-1/2	1.02	17.00	13.60
31301.6	1-6/10	1.02	17.00	13.60
313002	2	1.02	17.00	13.60
31302.5	2-1/2	.81	13.50	10.80
31302.8	2-8/10	.81	13.50	10.80
313003	3	.81	13.50	10.80
31303.2	3-2/10	.81	13.50	10.80
313004	4	.81	13.50	10.80
313005	5	.81	13.50	10.80
3136.25	6-1/4	.81	13.50	10.80
313007	7	.81	13.50	10.80
313008	8	.81	13.50	10.80
313010	10	.81	13.50	10.80
313015	15	.81	13.50	10.80
313020	20	.81	13.50	10.80
313025	25	.81	13.50	10.80
313030	30	.81	13.50	10.80

Net

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LITTELFUSE Quality Fuses

3AG SLO BLO PIGTAIL FUSES (125 V)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 5-sec. min. Lg. 1¼", dia. ¼", 1½" pigtails. U/L App. thru 3.2 amps.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
315.010	1/100	$1.89	$31.50	$25.20
315.031	1/32	1.89	31.50	25.20
315.062	1/16	1.38	23.00	18.40
315.100	1/10	1.38	23.00	18.40
315.125	1/8	1.38	23.00	18.40
315.150	.15	1.38	23.00	18.40
315.175	.175	1.38	23.00	18.40
315.187	3/16	1.38	23.00	18.40
315.200	2/10	1.38	23.00	18.40
315.250	1/4	1.38	23.00	18.40
315.300	3/10	1.38	23.00	18.40
315.375	3/8	1.38	23.00	18.40
315.400	4/10	1.38	23.00	18.40
315.500	1/2	1.38	23.00	18.40
315.600	6/10	1.38	23.00	18.40
315.700	7/10	1.38	23.00	18.40
315.750	3/4	1.38	23.00	18.40
315.800	8/10	1.38	23.00	18.40
315001	1	1.38	23.00	18.40
31501.2	1-2/10	1.29	21.50	17.20
3151.25	1-1/4	1.29	21.50	17.20
31501.5	1-1/2	1.29	21.50	17.20
31501.6	1-6/10	1.29	21.50	17.20
315002	2	1.29	21.50	17.20
31502.5	2-1/2	1.11	18.50	14.80
31502.8	2-8/10	1.11	18.50	14.80
315003	3	1.11	18.50	14.80
31503.2	3-2/10	1.11	18.50	14.80
315004	4	1.11	18.50	14.80
315005	5	1.11	18.50	14.80

3AG PIGTAIL FUSES (250 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1¼", dia. ¼", 1½" pigtails.

318.010	1/100	$2.37	$39.50	$31.60
318.031	1/32	2.07	34.50	27.60
318.062	1/16	1.41	23.50	18.80
318.100	1/10	1.02	17.00	13.60
318.125	1/8	1.02	17.00	13.60
318.150	15/100	1.02	17.00	13.60
318.175	.175	1.02	17.00	13.60
318.187	3/16	1.02	17.00	13.60
318.200	2/10	1.02	17.00	13.60
318.250	1/4	.81	13.50	10.80
318.375	3/8	.81	13.50	10.80
318.500	1/2	.81	13.50	10.80
318.750	3/4	.81	13.50	10.80
318001	1	.63	10.50	8.40
3181.25	1-1/4	.63	10.50	8.40
31801.5	1-1/2	.63	10.50	8.40
31801.6	1-6/10	.63	10.50	8.40
318002	2	.63	10.50	8.40
31802.5	2-1/2	.63	10.50	8.40
318003	3	.63	10.50	8.40
318004	4	.66	11.00	8.80
318005	5	.66	11.00	8.80
318006	6	.66	11.00	8.80
318007	7	.66	11.00	8.80
318008	8	.81	13.50	10.80

3AG INDICATING FUSES (125 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max. Length 1¼", dia. ¼".

334.750	3/4	$2.25	$37.50	$30.00
334001	1	1.77	29.50	23.60
33401.5	1-1/2	1.77	29.50	23.60
334002	2	1.77	29.50	23.60
334003	3	1.77	29.50	23.60
334004	4	1.77	29.50	23.60
334005	5	1.77	29.50	23.60
334006	6*	2.43	40.50	32.40
334008	8*	2.43	40.50	32.40
334010	10*	2.43	40.50	32.40
334012	12*	2.43	40.50	32.40
334015	15*	2.43	40.50	32.40
334020	20*	2.43	40.50	32.40

*32 volt.

3AB TINY MIGHTY (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 30-sec. max. Length 1¼", dia. ¼". U/L Approved thru 15 amps.

314.125	1/8	$0.72	$12.00	$ 9.60
314.250	1/4	.72	12.00	9.60
314.375	3/8	.72	12.00	9.60
314.500	1/2	.72	12.00	9.60
314.750	3/4	.72	12.00	9.60
314001	1	.69	11.50	9.20
314002	2	.69	11.50	9.20
314003	3	.69	11.50	9.20
314004	4	.69	11.50	9.20
314005	5	.66	11.00	8.80
314006	6	.66	11.00	8.80
314007	7	.66	11.00	8.80
314008	8	.66	11.00	8.80
314010	10	.66	11.00	8.80
314012	12	.69	11.50	9.20
314015	15	.69	11.50	9.20
314020	20	.69	11.50	9.20
314025	25	.84	14.00	11.20
314030	30	.84	14.00	11.20

LIMITED CURRENT (250 V) TYPE C

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Prices for applicable **fuse holders** available upon request.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
332.031	1/32	$1.71	$28.50	$22.80
332.062	1/16	1.14	19.00	15.20
332.125	1/8	.84	14.00	11.20
332.187	3/16	.84	14.00	11.20
332.250	1/4	.66	11.00	8.80
332.300	3/10	.66	11.00	8.80
332.375	3/8	.66	11.00	8.80
332.400	4/10	.66	11.00	8.80
332.500	1/2	.66	11.00	8.80
332.700	7/10	.66	11.00	8.80
332.750	3/4	.66	11.00	8.80
332001	1	.39	6.50	5.20
3321.25	1-1/4	.39	6.50	5.20
33201.5	1-1/2	.39	6.50	5.20
3321.75	1-3/4	.39	6.50	5.20
332002	2	.39	6.50	5.20
33202.5	2-1/2	.39	6.50	5.20
332003	3	.39	6.50	5.20
33203.5	3-1/2	.48	8.00	6.40
332004	4	.48	8.00	6.40
332005	5	.48	8.00	6.40
332006	6	.48	8.00	6.40
332007	7*	.48	8.00	6.40
332008	8*	.69	11.50	9.20
332010	10*	.72	12.00	9.60

*125 volt.

LC SLO BLO (125 V) TYPE N

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. Prices for applicable **fuse holders** upon request.

333.010	1/100	$1.62	$27.00	$21.60
333.031	1/32	1.62	27.00	21.60
333.062	1/16	1.17	19.50	15.60
333.100	1/10	1.17	19.50	15.60
333.150	15/100	1.17	19.50	15.60
333.200	2/10	1.17	19.50	15.60
333.250	1/4	1.17	19.50	15.60
333.300	3/10	1.17	19.50	15.60
333.400	4/10	1.17	19.50	15.60
333.500	1/2	1.17	19.50	15.60
333.600	6/10	1.17	19.50	15.60
333.700	7/10	1.17	19.50	15.60
333.750	3/4	1.17	19.50	15.60
333.800	8/10	1.17	19.50	15.60
333001	1	1.17	19.50	15.60
3331.25	1-1/4	1.05	17.50	14.00
33301.6	1-6/10	1.05	17.50	14.00
3331.75	1-3/4	1.05	17.50	14.00
333002	2	1.05	17.50	14.00
33302.5	2-1/2	.99	16.50	13.20
33302.8	2-8/10	.99	16.50	13.20
333003	3	.99	16.50	13.20
33303.2	3-2/10	.99	16.50	13.20
33303.5	3-1/2	.99	16.50	13.20
333004	4	.99	16.50	13.20
333005	5	.99	16.50	13.20
3336.25	6-1/4*	.99	16.50	13.20
333007	7*	.99	16.50	13.20

*32 volt.

SFE AUTO FUSES (32 V OR LESS)

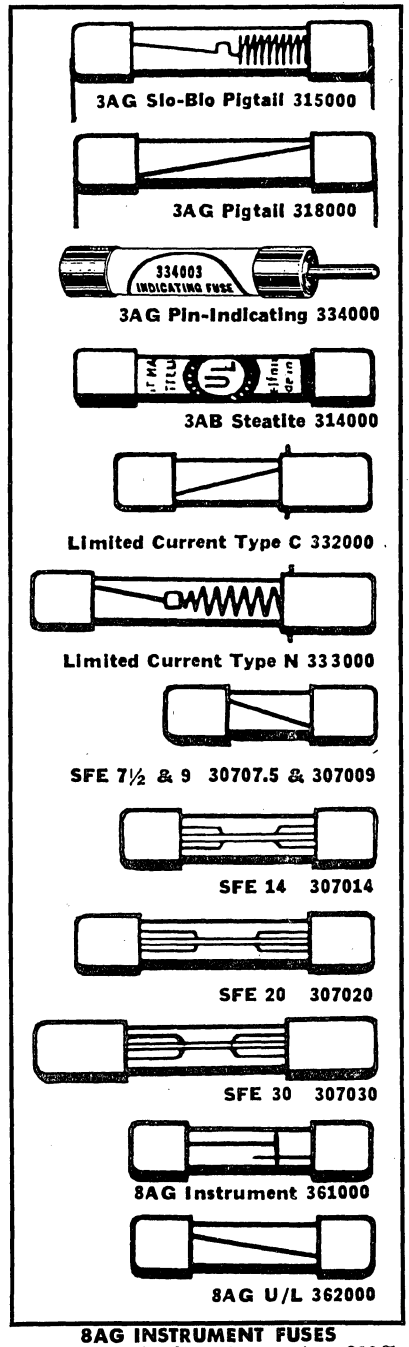
Blow Time: 110%,4-hour min.; 135%, 0–1 hour; 150%, 20 amps or less 0–15 sec., 30 amps or less 0–30 sec. Dia. ¼".

L.F. No.	Amp Rating	Lgth. In.	Net per 5	Net per 100	
				100	500
307004	4	5/8	$0.25	$4.10	$3.20
307006	6	3/4	.25	4.10	3.20
30707.5	7-1/2	7/8	.22	3.60	2.90
307009	9	7/8	.22	3.60	2.90
307014	14	1 1/16	.20	3.30	2.60
307020	20	1¼	.20	3.30	2.60
307030	30	1 1/16	.25	4.10	3.20

8AG FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1", dia. ¼". U/L Approved.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
362.125	1/8	$0.81	$13.50	$10.80
362.250	1/4	.54	9.00	7.20
362.375	3/8	.54	9.00	7.20
362.500	1/2	.54	9.00	7.20
362.750	3/4	.54	9.00	7.20
362001	1	.33	5.50	4.40
36201.5	1-1/2	.33	5.50	4.40
362002	2	.33	5.50	4.40
36202.5	2-1/2	.33	5.50	4.40
362003	3	.33	5.50	4.40
362005	5	.22	3.60	2.90
362006	6	.22	3.60	2.90
362008	8	.22	3.60	2.90
362010	10	.22	3.60	2.90
362012	12	.22	3.60	2.90
362015	15	.22	3.60	2.90
362020	20	.22	3.60	2.90
362025	25	.24	4.10	3.20
362030	30	.24	4.10	3.20



8AG INSTRUMENT FUSES

Blow Time: 100%, 4-hour min.; 200%, 5-sec. max. Length 1", dia. ¼".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
361.002	1/500	$5.43	$90.50	$72.40
361.005	1/200	2.25	37.50	30.00
361.010	1/100	2.07	34.50	27.60
361.031	1/32	1.77	29.50	23.60
361.062	1/16	1.14	19.00	15.20
361.100	1/10	.81	13.50	10.80
361.125	1/8	.81	13.50	10.80
361.187	3/16	.81	13.50	10.80
361.200	2/10	.81	13.50	10.80
361.250	1/4	.54	9.00	7.20
361.375	3/8	.54	9.00	7.20
361.400	4/10	.54	9.00	7.20
361.500	1/2	.54	9.00	7.20
361.750	3/4	.54	9.00	7.20
361001	1	.33	5.50	4.40
36101.5	1-1/2	.33	5.50	4.40
361002	2	.33	5.50	4.40
361003	3	.33	5.50	4.40
361004	4	.33	5.50	4.40
361005	5	.33	5.50	4.40

9AG FUSES (32 V OR LESS)

Blow Time: 100%, 4-hour min.; 125%, 0–1 hour; 200%, 0–25 seconds. Lg. 1 7/16", dia. ¼".

306050	50	$0.45	$7.50	$6.00

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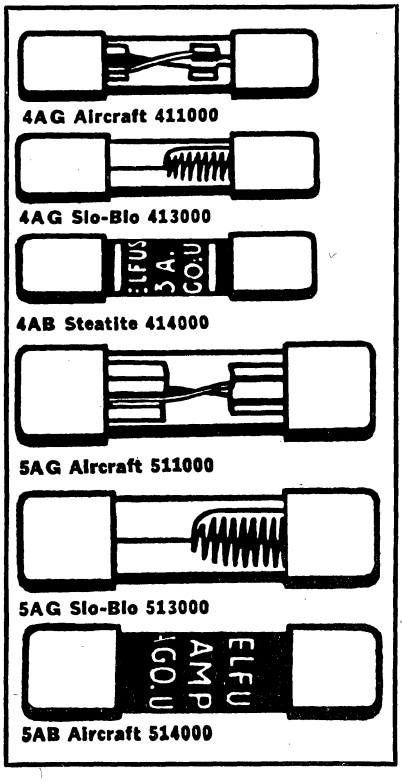
Net

LITTELFUSE Fuses, Fuse Puller



4AG QUICK-ACTING FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1¼", dia. 9/32".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
412.062	1/16	$1.71	$28.50	$22.80
412.125	1/8	1.20	20.00	16.00
412.150	15/100	1.20	20.00	16.00
412.250	1/4	.57	9.50	7.60
412.500	1/2	.57	9.50	7.60
412001	1	.54	9.00	7.20
41201.5	1-1/2	.54	9.00	7.20
412002	2	.54	9.00	7.20
41202.5	2-1/2	.54	9.00	7.20
412003	3	.54	9.00	7.20
412005	5	.45	7.50	6.00
412008	8*	.45	7.50	6.00

*125 volts.

4AG SLO BLO AIRCRAFT FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. Length 1¼", dia. 9/32".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
413.062	1/16	$1.47	$24.50	$19.60
413.100	1/10	1.47	24.50	19.60
413.125	1/8	1.47	24.50	19.60
413.150	15/100	1.47	24.50	19.60
413.200	2/10	1.47	24.50	19.60
413.250	1/4	1.47	24.50	19.60
413.300	3/10	1.47	24.50	19.60
413.400	4/10	1.47	24.50	19.60
413.500	1/2	1.47	24.50	19.60
413.600	6/10	1.47	24.50	19.60
413.750	3/4	1.47	24.50	19.60
413.800	8/10	1.47	24.50	19.60
413001	1	1.47	24.50	19.60
4131.25	1-1/4	1.47	24.50	19.60
41301.5	1-1/2	1.47	24.50	19.60
41301.6	1-6/10	1.47	24.50	19.60
413002	2	1.47	24.50	19.60
41302.5	2-1/2	1.11	18.50	14.80
413003	3	1.11	18.50	14.80
41303.2	3-2/10	1.11	18.50	14.80
413004	4	1.11	18.50	14.80
413005	5	1.11	18.50	14.80
4136.25	6-1/4	1.11	18.50	14.80
413008	8	1.11	18.50	14.80
413010	10	1.11	18.50	14.80
413015	15	1.11	18.50	14.80
413020	20	1.11	18.50	14.80
413025	25	1.11	18.50	14.80
413030	30	1.11	18.50	14.80

4AG AIRCRAFT FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1¼", dia. 9/32".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
411010	10	$0.45	$7.50	$6.00
411015	15	.45	7.50	6.00
411020	20	.45	7.50	6.00
411025	25	.45	7.50	6.00
411030	30	.45	7.50	6.00
411035	35	.54	9.00	7.20
411040	40	.54	9.00	7.20

4AB FUSES (STEATITE)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 30-sec. max. Length 1¼", dia. 9/32".

414001	1	$1.14	$19.00	$15.20
414002	2	1.14	19.00	15.20
414003	3	1.14	19.00	15.20
414005	5	1.02	17.00	13.60
414006	6	1.02	17.00	13.60
414008	8	1.02	17.00	13.60
414010	10	1.02	17.00	13.60
414015	15	1.02	17.00	13.60
414020	20	1.02	17.00	13.60
414025	25	1.02	17.00	13.60
414030	30	1.02	17.00	13.60
414035	35	1.14	19.00	15.20
414040	40	1.14	19.00	15.20

5AG AIRCRAFT FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 20-sec. max. Length 1½", dia. 13/32".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
511010	10	$0.63	$10.50	$8.40
511015	15	.63	10.50	8.40
511020	20	.63	10.50	8.40
511025	25	.63	10.50	8.40
511030	30	.63	10.50	8.40
511035	35	.66	11.00	8.80
511040	40	.66	11.00	8.80
511050	50	.66	11.00	8.80
511060	60	.66	11.00	8.80

5AG QUICK-ACTING FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1½", dia. 13/32".

512001	1	$0.66	$11.00	$8.80
512002	2	.66	11.00	8.80
512003	3	.66	11.00	8.80
512004	4	.66	11.00	8.80
512005	5	.63	10.50	8.40
512008	8*	.63	10.50	8.40

*125 volts.

5AG SLO BLO FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. Length 1½", dia. 13/32".

513.500	1/2	$1.89	$31.50	$25.20
513001	1	1.89	31.50	25.20
513002	2	1.89	31.50	25.20
513003	3	1.47	24.50	19.60
513004	4	1.47	24.50	19.60
513005	5	1.47	24.50	19.60
513010	10	1.47	24.50	19.60
513015	15	1.47	24.50	19.60
513020	20	1.47	24.50	19.60
513025	25	1.65	27.50	22.00
513030	30	1.65	27.50	22.00

5AB AIRCRAFT FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 30-sec. max. Length 1½", dia. 13/32".

514001	1	$1.23	$20.50	$16.40
514002	2	1.23	20.50	16.40
514003	3	1.23	20.50	16.40
51403.5	3-1/2	1.23	20.50	16.40
514005	5	1.20	20.00	16.00
514006	6	1.20	20.00	16.00
5146.25	6-1/4	1.20	20.00	16.00
514007	7	1.20	20.00	16.00
514008	8	1.20	20.00	16.00
514010	10	1.20	20.00	16.00
514015	15	1.20	20.00	16.00
514020	20	1.20	20.00	16.00
514025	25	1.20	20.00	16.00
514030	30	1.20	20.00	16.00

HIGH VOLTAGE FUSES

Designed for use in aircraft radio equipment, transmitting equipment, X-ray apparatus, high voltage rectifiers, etc., for circuits up to 20 kW DC or 30 kVA AC Fuses are fiber enclosed with cadmium plated end caps. Two principles of arc suppression are employed: (1) Multi-break fuse wire which blows at each half inch of its length; (2) Ceramic baffles break the arc into several parts and quench it. **Blow Time:** 110%, 4-hour min.; 135%, 0–1 hour; 200% 0–2 minutes.

1000-VOLT (3" x 13/32")

L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
621.375	3/8	$0.32	$26.50	$21.20
621.500	1/2	.32	26.50	21.20
621.750	3/4	.32	26.50	21.20
621001	1	.32	26.50	21.20
62101.5	1-1/2	.32	26.50	21.20
621002	2	.32	26.50	21.20

2500-VOLT (4½" x 13/32")

L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
622.500	1/2	$0.43	$36.00	$28.80
622.750	3/4	.43	36.00	28.80
622001	1	.43	36.00	28.80
62201.5	1-1/2	.43	36.00	28.80
622002	2	.43	36.00	28.80

3000-VOLT (5½" x 13/32")

L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
623.500	1/2	$0.64	$53.00	$42.40
623.750	3/4	.64	53.00	42.40
623001	1	.64	53.00	42.40
62301.5	1-1/2	.64	53.00	42.40
623002	2	.64	53.00	42.40

1000-VOLT (3" x 13/16")

L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
701.062	1/16	$0.77	$64.50	$51.60
701.125	1/8	.77	64.50	51.60
701.250	1/4	.77	64.50	51.60
701.375	3/8	.77	64.50	51.60
701.500	1/2	.77	64.50	51.60
701.750	3/4	.77	64.50	51.60
701001	1	.77	64.50	51.60
70101.5	1-1/2	.77	64.50	51.60
701002	2	.77	64.50	51.60

5000-VOLT (5" x 13/16")

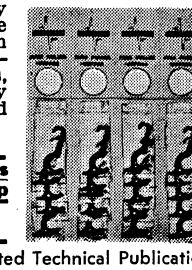
L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
702.062	1/16	$0.79	$65.50	$52.40
702.125	1/8	.79	65.50	52.40
702.250	1/4	.79	65.50	52.40
702.375	3/8	.79	65.50	52.40
702.500	1/2	.79	65.50	52.40
702.750	3/4	.79	65.50	52.40
702001	1	.79	65.50	52.40
70201.5	1-1/2	.79	65.50	52.40
702002	2	.79	65.50	52.40
70202.5	2-1/2	.79	65.50	52.40
702003	3	.79	65.50	52.40

10,000-VOLT (10" x 13/16")

L.F. No.	Amp Rating	Net Each	Net per 100	
			100	500
703.062	1/16	$1.59	$132.50	$106.00
703.125	1/8	1.59	132.50	106.00
703.250	1/4	1.59	132.50	106.00
703.175	3/8	1.59	132.50	106.00
703.500	1/2	1.59	132.50	106.00
703.750	3/4	1.59	132.50	106.00
703001	1	1.59	132.50	106.00
70301.5	1-1/2	1.59	132.50	106.00
703002	2	1.59	132.50	106.00
703003	3	1.59	132.50	106.00

FUSE PULLER AND ASSORTMENT

Handy tool provides safe, easy method of extracting any blown fuse. Hooks around fuse permitting easy jerk-out. Available singly (097006) or in card-mounted assortment of 20 pullers, pressure sensitively attached on a card (094066).



L.F. No.	Net Ea., Lots 1-100	500Up
097006	$0.18	$0.12
094066	5.00	4.17

Net

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LITTELFUSE CIRCUIT BREAKERS, MOUNTINGS AND CLIPS

MOUNTINGS FOR SARKES TARZIAN AND INTERNATIONAL RECTIFIERS

L.F. No.	Description	Net Each, Lots of 5	Net per 100	
			100	500
099062	Single pole, 3/16" base	$0.18	$15.00	$12.00
099063	Double pole, 3/16" base	.34	28.50	22.80
099065	Double pole, 1/16" base	.22	18.50	14.80
099065-3	1/16" Bakelite insulator	.017	1.45	1.16
099067	Single pole 1/16" base	.10	8.00	6.40
099067-3	1/16" Bakelite insulator	.02	.90	.72

STANDARD FUSE CLIPS (PHOSPHOR BRONZE, NICKEL PLATED)

L.F. No.	Fuse Adaptation	Type	Net Each, Lots of 5	Net per 100	
				100	500
101001	SFE, 3AG, 8AG, 3AB	Ear	$0.0246	$ 2.05	$ 1.64
101002	SFE, 3AG, 8AG, 3AB	Earless	.0246	2.05	1.64
101003*	SFE, 3AG, 8AG, 3AB	Lug	.0336	2.80	2.24
103001	4AG, 4AB	Ear	.0414	3.45	2.76
104002	4AG, 4AB	Earless	.0414	3.45	2.76
105001	5AG	Ear	.0504	4.20	3.36
105002	5AG	Earless	.0504	4.20	3.36
107001	9/16" dia.	Ear	.084	7.00	5.60
107002	9/16" dia.	Earless	.084	7.00	5.60
109001	13/16" dia.	Ear	.222	18.50	14.80
109002	13/16" dia.	Earless	.222	18.50	14.80

*Unplated, bright dip.

STANDARD FUSE CLIPS (BERYLLIUM COPPER, SILVER PLATED)

121001	SFE, 3AG, 8AG, 3AB	Ear	$0.0504	$ 4.20	$ 3.36
121002	SFE, 3AG, 8AG, 3AB	Earless	.0504	4.20	3.36
121004	SFE, 3AG, 8AG, 3AB	Lug	.126	10.50	8.40
123001	4AG, 4AB	Ear	.084	7.00	5.60
123002	4AG, 4AB	Earless	.084	7.00	5.60
125001	5AG, hi-volt	Ear	.126	10.50	8.40
125002	5AG, hi-volt	Earless	.126	10.50	8.40
127001	9/16" dia.	Ear	.276	23.00	18.40
127002	9/16" dia.	Earless	.276	23.00	18.40
129001	13/16" dia.	Ear	.648	54.00	43.20
129002	13/16" dia.	Earless	.648	54.00	43.20

3AG MOUNTINGS

L.F. No.	Description	Net Each, Lots of 5	Net per 100	
			100	500
351009	Hinged can cover, 2 pole	$1.482	$123.50	$98.80
351010	Spare, 1 pole	.174	14.50	11.60
352001	Through panel, 1 pole	.288	24.00	19.20
353001	Panel, 1 pole	.51	42.50	34.00

3AG MOUNTINGS WITH SCREW TERMINALS—TYPE T

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
356001	1 pole	$0.36	$ 30.00	$ 24.00
356002	2 pole	.69	57.50	46.00
356003	3 pole	1.04	87.00	69.60
356004	4 pole	1.80	150.00	120.00
356005	5 pole	2.23	186.00	148.80
356006	6 pole	2.63	219.00	175.20
356007	7 pole	3.10	258.00	206.40
356008	8 pole	3.53	294.00	235.20
356009	9 pole	3.95	329.00	263.20
356010	10 pole	4.35	362.50	290.00
356011	11 pole	4.76	397.00	317.60
356012	12 pole	5.11	425.50	340.40

3AG MOUNTINGS WITH SOLDER TERMINALS—TYPE S

357001	1 pole	$0.18	$ 15.00	$ 12.00
357002	2 pole	.34	28.50	22.80
357003	3 pole	.51	42.50	34.00
357004	4 pole	.65	54.00	43.20
357005	5 pole	.80	66.50	53.20
357006	6 pole	.94	78.00	62.40
357007	7 pole	1.06	88.50	70.80
357008	8 pole	1.21	101.00	80.80
357009	9 pole	1.36	113.50	90.80
357010	10 pole	1.52	126.50	101.20
357011	11 pole	1.67	139.00	111.20
357012	12 pole	1.82	151.50	121.20

8AG MOUNTINGS

383001	1 pole*	$0.51	$42.50	$34.00
383002	1 pole†	.34	28.50	22.80

*Thru-panel. †Meter back.

8AG MOUNTINGS WITH SOLDER TERMINALS—TYPE S

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
387001	1 pole	$0.18	$ 15.00	$ 12.00
387002	2 pole	.34	28.50	22.80
387003	3 pole	.51	42.50	34.00
387004	4 pole	.65	54.00	43.20
387005	5 pole	.80	66.50	53.20
387006	6 pole	.94	78.00	62.40
387007	7 pole	1.06	88.50	70.80
387008	8 pole	1.21	101.00	80.80
387009	9 pole	1.36	113.50	90.80
387010	10 pole	1.52	126.50	101.20
387011	11 pole	1.67	139.00	111.20
387012	12 pole	1.82	151.50	121.20

4AG FUSE MOUNTINGS WITH SCREW TERMINALS—TYPE T

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
456001	1 pole	$0.46	$ 38.50	$ 30.80
456002	2 pole	.89	74.00	59.20
456003	3 pole	1.32	110.00	88.00
456004	4 pole	2.38	198.50	158.80
456005	5 pole	2.99	249.00	199.20
456006	6 pole	3.53	294.50	235.60
456007	7 pole	4.16	346.50	277.20
456008	8 pole	4.73	394.50	315.60
456009	9 pole	5.31	442.50	354.00
456010	10 pole	5.89	490.50	392.40
456011	11 pole	6.46	538.50	430.80
456012	12 pole	6.95	579.00	463.20

5AG MOUNTINGS WITH SCREW TERMINALS—TYPE T

556001	1 pole	$0.53	$ 44.50	$ 35.60
556002	2 pole	1.03	85.50	68.40
556003	3 pole	1.52	126.50	101.20
556004	4 pole	2.90	242.00	193.60
556005	5 pole	3.62	301.50	241.20
556006	6 pole	4.29	357.50	286.00
556007	7 pole	5.04	420.00	336.00
556008	8 pole	5.74	478.50	382.80
556009	9 pole	6.45	537.50	430.00
556010	10 pole	7.12	593.00	474.40
556011	11 pole	7.81	651.00	520.80
556012	12 pole	8.40	700.00	560.00

HIGH VOLTAGE FUSE HOLDERS

For 701000 Series Fuses.

L.F. No.	Size, In. L. x H.	Net Each	Net per 100	
			100	500
711001	2½ x 1⅝	$1.76	$146.50	$117.20
For 702000 Series Fuses.				
711002	6½ x 1⅝	$1.97	$164.00	$131.20
For 703000 Series Fuses.				
711003	12 x 3	$4.70	$392.00	$313.60
For 621000 Series Fuses.				
631001	4 x 1 9/64	$0.98	$ 82.00	$ 65.60
For 622000 Series Fuses.				
631002	5¼ x 1 9/64	$1.40	$116.50	$ 93.20
For 623000 Series Fuses.				
631003	6¼ x 1 9/64	$1.52	$126.50	$101.20

TV SNAP-ON FUSE HOLDERS

094025	10 holders*	$2.10	.....	.....
350130	Holders†	.21	$ 12.50	$ 10.00

*In plastic box. †Bulk.

MANUAL RESET CIRCUIT BREAKERS

Exact replacement protector for TV circuits. Ideal for current overload protection for model railroads, toy transformers, hair dryers, small appliances, tools, wiring, etc. For 125 VAC operation. Size, 1¾" x 13/16" x ½".

L.F. No.*	Trip Rating Amps	Skin Pack Net Ea.*	Bulk Pkg. Box of 5
815.650	.650	$0.84	$3.90
815.800	.800	.84	3.90
815001	1	.84	3.90
8151.25	1.25	.84	3.90
81501.5	1.5	.84	3.90
8151.75†	1.75	.84	3.90
815002†	2	.84	3.90
8152.25†	2.25	.84	3.90
81502.5†	2.5	.84	3.90
8152.75†	2.75	.84	3.90
815003†	3	.84	3.90
8153.25†	3.25	.84	3.90
815004†	4	.84	3.90
81504.5†	4.5	.84	3.90
815005	5	.84	3.90
815006	6	.84	3.90
815007†	7	.84	3.90

*Add **C** when ordering (i.e., 815002**C**).

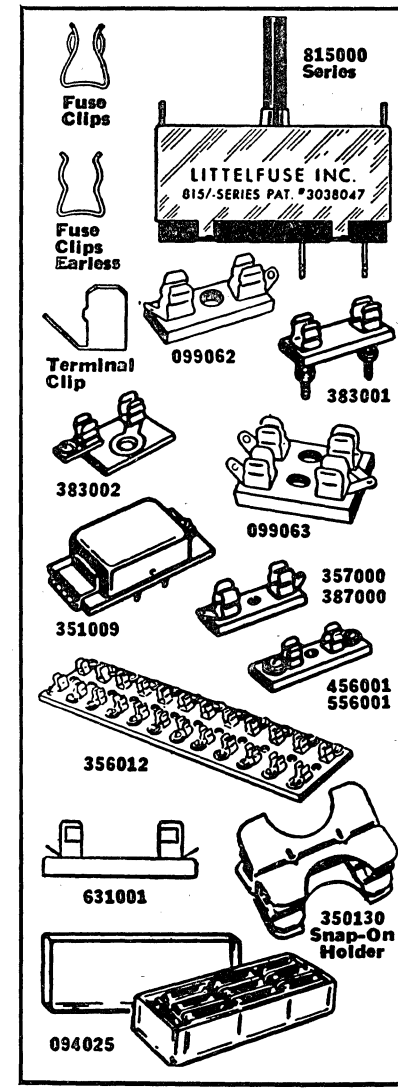
L.F. No. 094084 Bulk Assortment—Ten circuit breakers from the above listing as indicated by (†). Net Each.....**$7.80**

L.F. No. 094085 Card Assortment—Same, but card packaging. Net Each....**$8.40**

L.F. No. 094073 Card Assortment for Color TV—One each 8151.75, 8152.25, 8152.75, 815003, 815007; two 81504.5, three 8153.25. Net Each.....**$8.40**

L.F. No. 094074 Bulk Assortment for Color TV—Same, but bulk packaging. Net Each.....**$7.80**

L.F. No. 815(000) PA-Circuit Breaker Adapter Plate—Net Each **$0.18**; 100 Net: **$15.00** ($100 lots); **$12.00** ($500 lots).



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Net

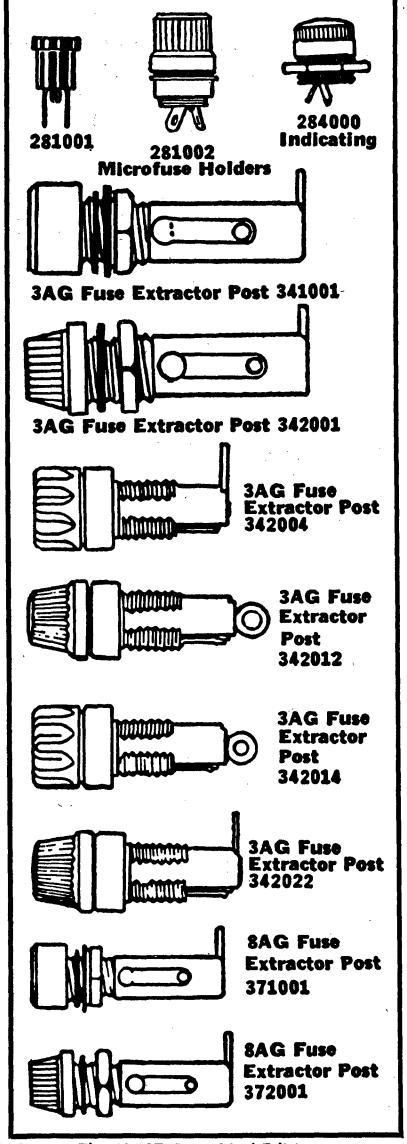
LITTELFUSE Fuses and Holders

FUSES AND ASSORTMENTS

ECON TIME-DELAY PLUG FUSES

Dual-element plug type fuses provide additional protection against blowing during motor starting cycle. U/L Approved. For 125-volt operation.

L.F. No.	Amp Rating	Net per Box of 4	Net per 100
TE3/10	3/10	$0.72	$16.00
TE4/10	4/10	.72	16.00
TE8/10	8/10	.72	16.00
TE1	1	.72	16.00
TE1-1/8	1-1/8	.72	16.00
TE1-1/4	1-1/4	.72	16.00
TE1-4/10	1-4/10	.72	16.00
TE1-6/10	1-6/10	.72	16.00
TE1-8/10	1-8/10	.72	16.00
TE2	2	.72	16.00
TE2-1/4	2-1/4	.72	16.00
TE2-1/2	2-1/2	.72	16.00
TE3-2/10	3-2/10	.72	16.00
TE3-1/2	3-1/2	.72	16.00
TE4	4	.72	16.00
TE4-1/2	4-1/2	.72	16.00
TE5	5	.72	16.00
TE5-6/10	5-6/10	.72	16.00
TE6-1/4	6-1/4	.72	16.00
TE7	7	.72	16.00
TE8	8	.72	16.00
TE9	9	.72	16.00
TE10	10	.72	16.00
TE12	12	.72	16.00
TE14	14	.72	16.00
TE15	15	.37	8.40
TE20	20	.37	8.40
TE25	25	.37	8.40
TE30	30	.37	8.40



CLEARSITE ONE-TIME PLUG HOUSE FUSES

Full visibility design for positive, clear indication of fuse condition. For 125 VAC or DC. U/L Approved. Use with standard Edison base fuse holders.

L.F. No.	Amp Rating	Net per Box of 5	Net per 100
CP10	10	$0.40	$7.20
CP15	15	.37	7.00
CP20	20	.37	7.00
CP25	25	.37	7.00
CP30	30	.37	7.00

UNIVERSAL AUTO FUSE ASSORTMENT

Emergency fuse kit with ten popular replacement fuses for any car.
Littelfuse No. 094080—Net Each.... **78c**

FUSE CADDY

Standard fuse caddy for servicemen to carry in tube caddy. Fifteen compartments for 75 fuses; three spare compartments. See-thru plastic top for easy identification.
Littelfuse No. 094037—Net Each.. **$9.11**

LIMITED-CURRENT FUSE CADDY

Handy, all-inclusive limited-current fuse caddy complete with 75 fuses of 15 different types. Three extra (spare) compartments.
Littelfuse No. 094041—Net Each. **$12.35**

FUSEMASTER DISPLAY

Fuse wall rack with 60 individual compartments for easy, instant self-service. Holds index card on back of rack. Ideal for servicemen, laboratories, etc.
Littelfuse No. 094047—Complete with 100 assorted fuses. Net Each..... **$15.00**
Littelfuse No. 094048—Empty rack. Net Each..... **99c**

FUSE HOLDERS, RETAINERS

MICROFUSE HOLDERS

For mounting of 273000 Series Microfuse. Type 281002 is front panel mounting; 281001 ideal for printed circuit board mtg.; 284000 Series front panel mtg. with indicator bulb.

L.F. No.	Voltage Range	Net Each	Net per 100	
			100	500
281001	.....	$0.28	$ 23.00	$ 18.40
281002	.....	.68	56.50	45.20
282001	.....	1.31	109.00	87.20
282002	.....	1.24	103.00	82.40
284004	2½–7	2.21	184.00	147.20
284005	7–16	2.21	184.00	147.20
284006	16–32	2.21	184.00	147.20
284003	100–125	1.55	129.00	103.20

3AG FUSE EXTRACTOR POSTS

L.F. No.	Type	Net Each	Net per 100	
			100	500
340255A	R/F shld'd (FHN26G2)	$4.50	$375.00	$300.00
340256A	R/F shld'd (FHN20G)	4.50	375.00	300.00
341001A	Screw	.54	45.00	36.00
342001A	Finger	.54	45.00	36.00
342004A	Miniature	.45	37.50	30.00
342005A	Miniature*	.54	45.00	36.00
342006	Watertight	4.10	342.00	273.60
342007	Non-water	2.29	190.50	152.40
342012A	Miniature	.40	33.00	26.40
342013A	Miniature*	.47	39.00	31.20
342014A	Miniature	.40	33.00	26.40
342015A	Miniature*	.47	39.00	31.20
342021A	FHN 26W	4.10	342.00	273.60
342022A	Miniature	.45	37.50	30.00
342023A	Miniature*	.54	45.00	36.00
342024A	FHN 26G2	1.24	103.50	82.80
342025A	FHN 20G	1.28	107.00	85.60

*Dust-proof.

8AG FUSE EXTRACTOR POSTS

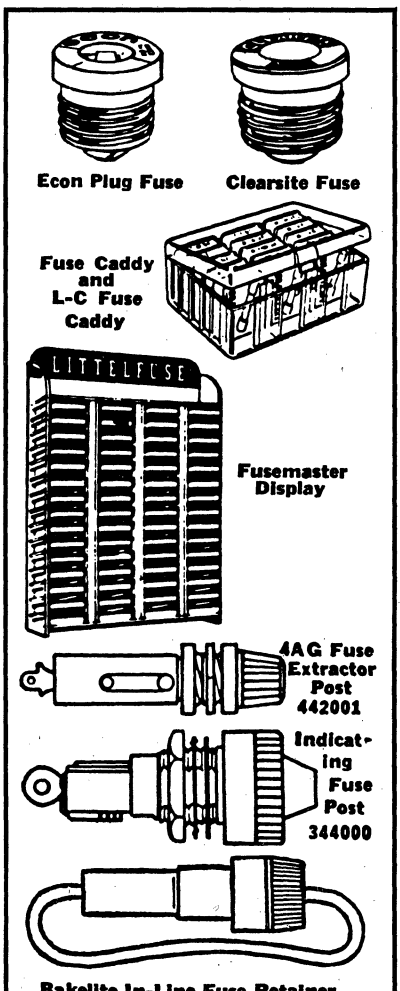
L.F. No.	Type	Net Each	Net per 100	
			100	500
371001	Screw	$0.54	$ 45.00	$ 36.00
372001	Finger	.54	45.00	36.00
372003	FHN31G2	2.50	208.50	166.80

4AG FUSE EXTRACTOR POSTS

442001	Finger	$1.13	$ 94.00	$ 75.20
442006	Watertight	4.10	342.00	273.60
442007	Non-water.	2.29	190.50	152.40
442008	Watertight	4.10	342.00	273.60

5AG FUSE EXTRACTOR POSTS

L.F. No.	Type	Net Each	Net per 100	
			100	500
570001	Non-watertight	$2.90	$241.50	$193.20
571004	Watertight	3.51	292.50	234.00



3AG QUICK-CONNECT POSTS

L.F. No.	Description	Net Each	Net per 100	
			100	500
342028A	3/16" terminals	$0.49	$40.50	$32.40
342038A	3/16" terminals	.49	40.50	32.40
342048A	3/16" terminals	.49	40.50	32.40
342058A	3/16" terminals	.49	40.50	32.40

3AG INDICATING FUSE POSTS

L.F. No.	Voltage	Net Each	Net per 100	
			100	500
344006	2½–7 V	$2.65	$220.50	$176.40
344012	7–16 V	2.65	220.50	176.40
344024	16–32 V	2.65	220.50	176.40
344125	100–125 V	1.61	134.50	107.60
344250	200–250 V	1.61	134.50	107.60

SERIES 346000 LIMITED CURRENT FUSE HOLDERS

For use with regular and Slo-Blo Type C and N limited current fuses. Specify amperage when ordering. **$13.00**
Net per 100..... **$52.00**

UNIVERSAL FUSE RETAINER

Comes with three different length springs for fuse sizes 7½ SFE thru 3AG. **40c**
L.F. No. 150145—Net Each.....
Net 100..**$33.00.** Lots 500, Net 100.**$26.40**

BAKELITE® IN-LINE FUSE RETAINERS ASSEMBLED WITH 19" LEAD

L.F. No.	Use with Fuses	Net Ea., Lots of 5	Net per 100	
			100	500
155004A	SFE 4, 1AG	$0.40	$33.00	$26.40
155006A	SFE 6	.40	33.00	26.40
15507.5A	SFE 7½	.40	33.00	26.40
155009A	SFE 9, 7AG	.40	33.00	26.40
155014A	SFE 14	.40	33.00	26.40
155020A	SFE 20, 3AG	.40	33.00	26.40

®Bakelite Corp.

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MILITARY FUSES, MICROFUSES and FUSEHOLDERS

Cross Reference of Littelfuse Part Number vs. Military Type Designation as per Specification MIL-F-15160D (Qualified Product Listing-Fuses), MIL-F-23419/2F (Microfuses), MIL-F-19207B (Fuse Holders).

New Type Designation (MIL-F-15160D)	Series	Littelfuse Cat. No. Nickel Plated Caps	Silver Plated Caps	List Each	Price per M 1-99	100-499	500-999
FO1A250V 1/200A	361000 Series	364.005	366.005	$0.75	$450.00	$375.00	$300.00
FO1A250V 1/100A		364.010	366.010	.69	414.00	345.00	276.00
FO1A250V 1/32A		364.031	366.031	.59	354.00	295.00	236.00
FO1A250V 1/16A		364.062	366.062	.38	228.00	190.00	152.00
FO1A250V 1/8A	362000 Series	364.125	366.125	.27	162.00	135.00	108.00
FO1A250V 1/4A		364.250	366.250	.18	108.00	90.00	72.00
FO1A250V 3/8A		364.375	366.375	.18	108.00	90.00	72.00
FO1A250V 1/2A		364.500	366.500	.18	108.00	90.00	72.00
FO1A125V 3/4A		364.750	366.750	.18	108.00	90.00	72.00
FO1A125V 1A		364001	366001	.11	66.00	55.00	44.00
FO1A125V 1-1/2A		36401.5	36601.5	.11	66.00	55.00	44.00
FO1A125V 2A		364002	366002	.11	66.00	55.00	44.00
FO2A250V 1/100A	312000 Series	392.010	397.010	.69	414.00	345.00	276.00
FO2A250V 1/32A		392.031	397.031	.59	354.00	295.00	236.00
FO2A250V 1/16A		392.062	397.062	.27	162.00	135.00	108.00
FO2A250V 1/8A		392.125	397.125	.27	162.00	135.00	108.00
FO2A250V 1/4A		392.250	397.250	.18	108.00	90.00	72.00
FO2A250V 3/8A		392.375	397.375	.18	108.00	90.00	72.00
FO2A250V 1/2A		392.500	397.500	.18	108.00	90.00	72.00
FO2A250V 3/4A		392.750	397.750	.18	108.00	90.00	72.00
FO2A250V 1A		392001	397001	.11	66.00	55.00	44.00
FO2A250V 1-1/2A		39201.5	39701.5	.11	66.00	55.00	44.00
FO2A250V 2A		392002	397002	.11	66.00	55.00	44.00
FO2A250V 3A		392003	397003	.10	60.00	50.00	40.00
FO2A250V 4A		392004	397004	.14	84.00	70.00	56.00
FO2A250V 5A		392005	397005	.14	84.00	70.00	56.00
FO2A250V 6A		392006	397006	.14	84.00	70.00	56.00
FO2A32V 10A	(311000) 307000 for 20 ampere	392010	397010	.072	43.00	36.00	28.80
FO2A32V 15A		392015	397015	.072	43.00	36.00	28.80
FO2A32V 20A		392020	397020	.066	40.00	33.00	26.40
FO2B250V 1/100A	313000 Series	393.010	398.010	.51	306.00	255.00	204.00
FO2B250V 1/32A		393.031	398.031	.51	306.00	255.00	204.00
FO2B250V 1/16A		393.062	398.062	.37	222.00	185.00	148.00
FO2B250V 1/8A	313000 Series (Cont'd)	393.125	398.125	$0.37	$222.00	$185.00	$148.00
FO2B250V 1/4A		393.250	398.250	.37	222.00	185.00	148.00
FO2B250V 3/8A		393.375	398.375	.37	222.00	185.00	148.00
FO2B250V 1/2A		393.500	398.500	.37	222.00	185.00	148.00
FO2B250V 3/4A		393.750	398.750	.37	222.00	185.00	148.00
FO2B250V 1A		393001	398001	.37	222.00	185.00	148.00
FO3A250V 1A	314000 Series	394001	399001	.23	138.00	115.00	92.00
FO3A250V 3A		394003	399003	.23	138.00	115.00	92.00
FO3A250V 5A		394005	399005	.22	132.00	110.00	88.00
FO3A250V 8A		394008	399008	.22	132.00	110.00	88.00
FO3A250V 10A		394010	399010	.22	132.00	110.00	88.00
FO3A250V 12A		394012	399012	.23	138.00	115.00	92.00
FO3A250V 15A		394015	399015	.23	138.00	115.00	92.00
FO3A125V 20A		394020	399020	.23	138.00	115.00	92.00
FO3A125V 30A		394030	399030	.28	168.00	140.00	112.00
FO3B250V 1/16A	Ceramic Body Slo-Blo Series	390.062	395.062	.58	348.00	290.00	232.00
FO3B250V 1/8A		390.125	395.125	.58	348.00	290.00	232.00
FO3B250V 15/100A		390.150	395.150	.58	348.00	290.00	232.00
FO3B250V 3/16A		390.187	395.187	.58	348.00	290.00	232.00
FO3B250V 1/4A		390.250	395.250	.58	348.00	290.00	232.00
FO3B250V 3/8A		390.375	395.375	.58	348.00	290.00	232.00
FO3B250V 1/2A		390.500	395.500	.58	348.00	290.00	232.00
FO3B250V 3/4A		390.750	395.750	.58	348.00	290.00	232.00
FO3B250V 1A		390001	395001	.58	348.00	290.00	232.00
FO6A250V 1A	414000 Series	494001	499001	.38	228.00	190.00	152.00
FO6A250V 2A		494002	499002	.38	228.00	190.00	152.00
FO6A250V 3A		494003	499003	.38	228.00	190.00	152.00
FO6A250V 5A		494005	499005	.34	204.00	170.00	136.00
FO6A250V 10A		494010	499010	.34	204.00	170.00	136.00
FO6A250V 15A		494015	499015	.34	204.00	170.00	136.00
FO7A250V 1A	512000 Series	590001	595001	.22	132.00	110.00	88.00
FO7A250V 2A		590002	595002	.22	132.00	110.00	88.00
FO7A250V 3A		590003	595003	.22	132.00	110.00	88.00

NOTE: Add $9.00 Stamping Charge per item, per order, and $3.00 Silver Plating Charge per item, per order when required. The suffix "S" to the type designation indicates that Silver Plated fuse caps are required, for example: FO2A250V 3/4A "S".

MICROFUSES TO MILITARY SPECIFICATION MIL-F-23419/2F

NOTE: STAMPING OR PLATING CHARGES NOT APPLICABLE TO MIL-F-23419/2F.

Mil. Std. Designation (Mil-F-23419/2F)	Type	Littelfuse Catalog No.	List Each	Price Per M 1-99	100-499	500-999
M23419/2-001	FM02 125V 2MA (1/500A)	274.002	$2.50	$1,500.00	$1,250.00	$1,000.00
M23419/2-002	FM02 125V 5MA (1/200A)	274.005	2.50	1,500.00	1,250.00	1,000.00
M23419/2-003	FM02 125V 10MA (1/100A)	274.010	2.50	1,500.00	1,250.00	1,000.00
M23419/2-004	FM02 125V 15MA (1/64A)	274.015	2.50	1,500.00	1,250.00	1,000.00
M23419/2-005	FM02 125V 31MA (1/32A)	274.031	2.50	1,500.00	1,250.00	1,000.00
M23419/2-006	FM02 125V 62MA (1/16A)	274.062	2.15	1,290.00	1,080.00	860.00
M23419/2-007	FM02 125V 1/10A	274.100	2.15	1,290.00	1,080.00	860.00
M23419/2-008	FM02 125V 1/8A	274.125	2.15	1,290.00	1,080.00	860.00
M23419/2-009	FM02 125V 2/10A	274.200	2.15	1,290.00	1,080.00	860.00
M23419/2-010	FM02 125V 1/4A	274.250	2.15	1,290.00	1,080.00	860.00
M23419/2-011	FM02 125V 3/10A	274.300	2.15	1,290.00	1,080.00	860.00
M23419/2-012	FM02 125V 4/10A	274.400	2.15	1,290.00	1,080.00	860.00
M23419/2-013	FM02 125V 1/2A	274.500	2.15	1,290.00	1,080.00	860.00
M23419/2-014	FM02 125V 6/10A	274.600	2.15	1,290.00	1,080.00	860.00
M23419/2-015	FM02 125V 3/4A	274.750	2.15	1,290.00	1,080.00	860.00
M23419/2-016	FM02 125V 1A	274001	2.15	1,290.00	1,080.00	860.00
M23419/2-017	FM02 125V 1½A	27401.5	2.15	1,290.00	1,080.00	860.00
M23419/2-018	FM02 125V 2A	274002	2.15	1,290.00	1,080.00	860.00
M23419/2-019	FM02 125V 3A	274003	2.15	1,290.00	1,080.00	860.00
M23419/2-020	FM02 125V 4A	274004	2.15	1,290.00	1,080.00	860.00
M23419/2-021	FM02 125V 5A	274005	2.15	1,290.00	1,080.00	860.00

(Continued on next page)

FUSEHOLDERS TO MILITARY SPECIFICATION MIL-F-19207B

Type Designation (MIL-F-19207B)	Description	Littelfuse Catalog No.	Commercial Equivalent	List Each	Price per M 1-99	100-499	500-999
FHL 17G2	90-300V INDICATING	349250	.....	$3.31	$1,986.00	$1,655.00	$1,324.00
FHL 18G2-1	12- 22V INDICATING	349012	.....	5.00	3,000.00	2,500.00	2,000.00
FHL 18G2-2	23- 33V INDICATING	349023	.....	5.00	3,000.00	2,500.00	2,000.00
FHL 18G2-3	34- 45V INDICATING	349034	.....	5.00	3,000.00	2,500.00	2,000.00
FHL 18G2-4	46- 60V INDICATING	349046	.....	5.00	3,000.00	2,500.00	2,000.00
FHL 18G2-5	61- 80V INDICATING	349061	.....	5.00	3,000.00	2,500.00	2,000.00
FHL 18G2-6	81- 90V INDICATING	349081	.....	5.00	3,000.00	2,500.00	2,000.00
FHL 44G2-1	Microfuse-Indicating	284007	.....	5.35	3,210.00	2,675.00	2,140.00
FHL 44G2-2	Microfuse-Indicating	284008	.....	6.07	3,642.00	3,035.00	2,428.00
FHL 44G2-3	Microfuse-Indicating	284009	.....	6.07	3,642.00	3,035.00	2,428.00
FHL 44G2-4	Microfuse-Indicating	284010	.....	6.10	3,660.00	3,050.00	2,440.00
FHL 44G2-5	Microfuse-Indicating	284011	.....	6.10	3,660.00	3,050.00	2,440.00
FHL 44G2-6	Microfuse-Indicating	284012	.....	6.10	3,660.00	3,050.00	2,440.00
FHL 45G	Microfuse-Indicating	284013	.....	4.17	2,502.00	2,085.00	1,668.00
FHN 20G	3AG MINIATURE	342025	342004	2.14	1,284.00	1,070.00	856.00
FHN 28G2	3AG MINIATURE	342024	342012	2.07	1,242.00	1,035.00	828.00
FHN 31G2	8AG EXTRACTOR	372003	372001	4.17	2,502.00	2,085.00	1,668.00
FHN 19W	4AG WATERPROOF	442008	442006	6.84	4,104.00	3,420.00	2,736.00
FHN 28W	3AG WATERPROOF	342021	342006	6.84	4,104.00	3,420.00	2,736.00
FHN 28G2	R/F SHIELDED	340255A	.....	7.00	4,200.00	3,500.00	2,800.00
FHN 20G	R/F SHIELDED	340256A	.....	7.00	4,200.00	3,500.00	2,800.00

NOTE: The Suffixes "W" and "G" to the Type Designation Denote Waterproof and Drip-proof, Respectively.

MICROFUSE INDICATING FUSEHOLDERS—RF SHIELDED

Littelfuse Catalog No.	List Each	Price Per M 1-99	100-499	500-999
284107	$13.03	$7,818.00	$6,515.00	$5,212.00
284108	14.71	8,826.00	7,355.00	5,884.00
284109	14.71	8,826.00	7,355.00	5,884.00
284110	14.71	8,826.00	7,355.00	5,884.00
284111	14.71	8,826.00	7,355.00	5,884.00
284112	14.71	8,826.00	7,355.00	5,884.00
284113	10.11	6,066.00	5,055.00	4,044.00
370011 (FHN31G2 Type)	9.03	5,418.00	4,515.00	3,612.00

LITTELFUSE

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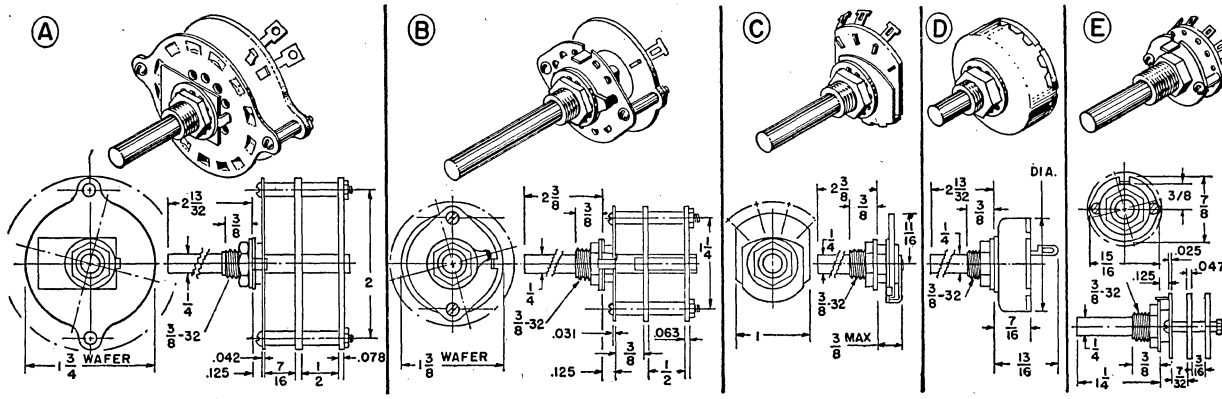
MALLORY Switches



Mallory switches are available in three general styles: Rotary, lever-action and pushbutton. Most styles are supplied in both shorting and non-shorting contacts. Shorting switches have contacts with "make" before "breaking" and are widely used in audio circuits. Contacts in non-shorting switches "break" before "making". These switches may be chosen with phenolic, ceramic or glass-epoxy wafer materials. Ceramic is usually selected for high voltage circuits as in switching RF equipment. All switches are supplied with normal mounting hardware. Dial plates are not included (except for Type 13124L).

PHENOLIC WAFER ROTARY SWITCHES

Mallory phenolic wafer rotary switches come in several sizes and contact arrangements. Supplied with nut, washer and 366-1 black knob. Phenolic is MIL grade Richardson T725.

STANDARD 1¾" DIAMETER (FIG. A)

Rated 1 amp at 300 VDC; 4 amps, 50 VDC; 2 amps, 300 VAC rms; 12 amps, 6 VAC rms. Maximum non-breaking resistive load, 12 amps. Breakdown, 1000 VAC/DC. Contact resistance less than 0.01 ohm. Supplied with adjustment pin and stop plate.

Mallory Number						
Shorting	Non-Shorting	Index	Poles per Section	No. of Sections	Max. Positions	Net Each
1211L	1311L	30°	1	1	11	$2.10
1215L	1315L	30°	2	1	5*	2.10
1213L	1313L	30°	3	1	3*	2.10
1212L	1312L	30°	4	1	2*	2.10
1221L	1321L	30°	1	2	11	2.58
1225L	1325L	30°	2	2	5*	2.58
1223L	1323L	30°	3	2	3*	2.58
1222L	1322L	30°	4	2	2*	2.58
1231L	1331L	30°	1	3	11	3.24
1235L	1335L	30°	2	3	5*	3.24
1233L	1333L	30°	3	3	3*	3.24
1232L	1332L	30°	4	3	2*	3.24
1241L	1341L	30°	1	4	11	3.81
1245L	1345L	30°	2	4	5*	3.81
1243L	1343L	30°	3	4	3*	3.81
1242L	1342L	30°	4	4	2*	3.81
1251L	1351L	30°	1	5	11	4.11
1256L	1356L	30°	2	5	6*	4.53
1261L	1361L	30°	1	6	11	4.83
1266L	1366L	30°	2	6	6*	5.52

*Plus "off" position.

24-POSITION TAP SWITCH (FIG. A)

Includes Mallory No. 394 dial.

.....	13124L	15°	1	1	24	$2.76

5-POSITION HAMSWITCH® (FIG. A)

For measuring up to 5 circuits with a single switch.

.....	151L	60°	1	1	5*	$2.70

*Plus "off" position.

CIRCUIT OPENING SWITCH (FIG. A)

For meter switching or inserting resistors, capacitors, etc. Adjustable stop.

1400L	.....	30°	1	1	11	$4.68

DECADE SWITCHES (FIG. A)

Use four resistors or capacitors for full decade. Type 153L for capacitors; 154L for resistors. Connect in series for multiple decades. Complete with instructions.

.....	153L	36°	Spec.	1	10	$2.70
.....	154L	36°	Spec.	1	10	2.94

MINIATURE 1⅜" DIAMETER (FIG. B)

Rated 350 mA at 500 VAC rms resistive. Breakdown 1700 VAC rms, 60 Hz. Contact resistance 0.005 ohm. Supplied with adjustable stop, 366-1 knob and hex nut.

4M11111	4M21111	30°	1	1	11	$1.80
4M1215	4M2215	30°	2	1	5	1.80
4M1313	4M2313	30°	3	1	3	1.80
4M1412	4M2412	30°	4	1	2	1.80
4M11211	4M21211	30°	1	2	11	2.58
4M1225	4M2225	30°	2	2	5	2.58
4M1323	4M2323	30°	3	2	3	2.58
4M1422	4M2422	30°	4	2	2	2.58
4M11311	4M21311	30°	1	3	11	3.24
4M1235	4M2235	30°	2	3	5	3.24
.....	4M2432	30°	4	3	2	3.24

MINIATURE SWITCHES (CONT'D)

Mallory Number						
Shorting	Non-Shorting	Index	Poles per Section	No. of Sections	Max. Positions	Net Each
4M11411	4M21411	30°	1	4	11	$3.81
4M1245	4M2245	30°	2	4	5	3.81
4M11511	4M21511	30°	1	5	11	4.47
4M1255	4M2255	30°	2	5	5	4.47
4M11611	4M21611	30°	1	6	11	5.04
.....	4M2265	30°	2	6	5	5.04

MINIATURE SPECIAL PURPOSE (FIG. C)

For tone control, radio-phono use, etc. Suffix indicates: **D**, AC line switch; **S**, spring return; **K**, knurled shaft (no knob supplied).

5M1112	.....	30°	1	1	2	$1.08
5M1113	.....	30°	1	1	3	1.08
5M1113K	.....	30°	1	1	3	.75
4M1114D	.....	30°	1	1	4	1.80
.....	42L2212S	30°	2	1	2	1.08
5M1213	5M2213	30°	2	1	3	1.08
.....	4M2412S	30°	4	1	2	1.80

STEREO SPEAKER SWITCH (FIG. C)

For switching stereo speakers. Has "Main", "Both" and "Remote" positions. Phenolic wafer 1⅝" dia.; bushing ⅜"-32 x ⅜" lg.

RSA1213	.....	30°	2	1	3	$1.08

GENERAL PURPOSE ROTARY SWITCHES (FIG. D)

Single section with formed cup enclosing contacts. Rated 0.2 amp at 300 VDC; 5 amps, 6 VDC; 0.25 amp, 300 VAC; 6 amps, 6 VAC. Maximum non-breaking resistive load, 5 amps. Breakdown 500 VAC/DC. Contact resistance 0.01 ohm or less. Comes with 366-1 knob and nut.

Mallory Number						
Shorting	Non-Shorting	Index	No. of Poles	Max. Positions	Base Dia., In.	Net Each
3115J	3215J	30°	1	5	1¼	$1.02
31112J	32112J	30°	1	12	1¼	1.02
3122J	3222J	30°	2	2	1¼	1.02
3123J	3223J	30°	2	3	1¼	1.02
3126J	3226J	30°	2	6	1¼	1.02
3134J	3234J	30°	3	4	1¼	1.05
3142J	3242J	30°	4	2	1¼	1.05
3143J	3243J	30°	4	3	1¼	1.05
31117J	32117J	20°	1	17*	1 1/16	1.56
3129J	3229J	20°	2	9*	1 1/16	1.56
3136J	3236J	20°	3	6*	1 1/16	1.65
3163J	3263J	20°	6	3*	1 1/16	1.65

*Furnished with adjustable stop.

ANTENNA SWITCH

For selecting from two TV or FM antennas. Comes with all mounting hardware.

3122TV	.....	30°	2	2	1¼	$1.31

GLASS-EPOXY WAFER ROTARY SWITCHES (FIG. E)

Subminiature size employs wafers ⅞" dia. Glass-epoxy per MIL-P-18177. Rated 150 mA at 150 V rms. Max. voltage, 225 V rms. Max. current, 2.5 amps at 6 VAC rms. (All specifications at resistive load.) Supplied with nut, washer and 366-1 knob.

Mallory Number						
Shorting	Non-Shorting	Index	Poles per Section	No. of Sections	Max. Positions	Net Each
.....	12M21111G	30°	1	1	11	$4.52
12M1215G	12M2215G	30°	2	1	5	4.52
12M1313G	12M2313G	30°	3	1	3	4.52
.....	12M2412G	30°	4	1	2	4.52
.....	12M21211G	30°	1	2	11	5.58
.....	12M2225G	30°	2	2	5	5.58
.....	12M2323G	30°	3	2	3	5.58
.....	12M2422G	30°	4	2	2	5.58
.....	12M21311G	30°	1	3	11	6.64
12M1235G	12M2235G	30°	2	3	5	6.64
12M1333G	12M2333G	30°	3	3	3	6.64
.....	12M2432G	30°	4	3	2	6.64

Net

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MALLORY Switches

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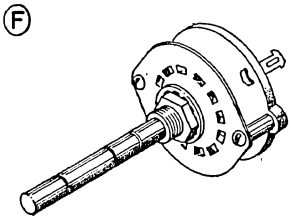

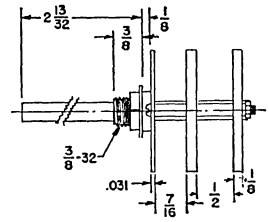

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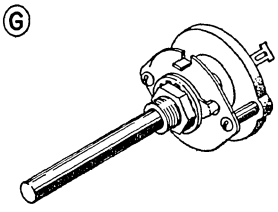

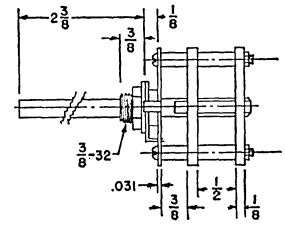

CERAMIC WAFER ROTARY SWITCHES

Mallory ceramic wafer switches are available in two wafer sizes and a variety of circuits. Generally used where high voltages are encountered or in RF circuitry. Ceramic is MIL grade Steatite with Dow-Corning 200 treatment. Switches supplied with 366-1 knob and hex nut.

STANDARD 1¾" DIAMETER (FIG. F)

Rated 0.75 amp at 300 VAC; 10 amps. 6 VAC/DC. Breakdown, 1000 VAC/DC rms. Max. non-breaking resistive load, 5 amps.

Mallory Number			Poles per Section	No. of Sections	Max. Positions	Net Each
Shorting	Non-Shorting	Index				
.....	172C	30°	1	1	10	$2.37
.....	173C	30°	2	1	5*	2.37
.....	174C	30°	3	1	3*	2.37
.....	176C	30°	1	2	10	3.39
.....	177C	30°	2	2	5*	3.39
.....	178C	30°	3	2	3*	3.39
.....	180C	30°	1	3	10	4.32
.....	181C	30°	2	3	5*	4.32
.....	161C	90°	1	1	4	2.16
.....	162C	90°	1	2	4	3.06
.....	163C	90°	1	3	4	3.96
.....	164C	90°	1	4	4	4.86
.....	165C	90°	1	5	4	5.76

*Plus "off" position.

MINIATURE 1⅜" DIAMETER (FIG. G)

Rated 350 mA at 500 VAC rms resistive. Breakdown, 1700 VAC rms, 60 cps. Contact resistance, 0.005 ohm. Adjustable stop.

Mallory Number			Poles per Section	No. of Sections	Max. Positions	Net Each
Shorting	Non-Shorting	Index				
4M11112C	4M21112C	30°	1	1	12	$2.37
4M1216C	4M2216C	30°	2	1	6	2.37
4M1315C	4M2315C	30°	3	1	5	2.37
.....	4M2513C	30°	5	1	3	2.37
.....	4M2612C	30°	6	1	2	2.37
4M11212C	4M21212C	30°	1	2	12	3.39
4M1226C	4M2226C	30°	2	2	6	3.39
.....	4M2325C	30°	3	2	5	3.39
.....	4M2523C	30°	5	2	3	3.39
4M1622C	4M2622C	30°	6	2	2	3.39
4M11312C	4M21312C	30°	1	3	12	4.32
4M1236C	4M2236C	30°	2	3	6	4.32
.....	4M2335C	30°	3	3	5	4.32
.....	4M2533C	30°	5	3	3	4.32
.....	4M2632C	30°	6	3	2	4.32
.....	4M21412C	30°	1	4	12	5.19
.....	4M2246C	30°	2	4	6	5.19
4M1345C	.....	30°	3	4	5	5.19
4M11512C	4M21512C	30°	1	5	12	6.18
.....	4M2256C	30°	2	5	6	6.18
4M11612C	4M21612C	30°	1	6	12	7.20
.....	4M2266C	30°	2	6	6	7.20
.....	4M2116H	60°	1	1	6	2.16
.....	4M2126H	60°	1	2	6	3.06
.....	4M2136H	60°	1	3	6	3.96
.....	4M2146H	60°	1	4	6	4.86
.....	4M2114N	90°	1	1	4	2.16
.....	4M2124N	90°	1	2	4	3.06
.....	4M2134N	90°	1	3	4	3.96

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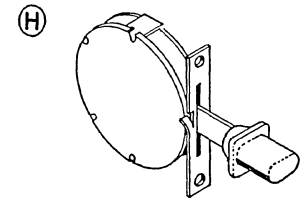

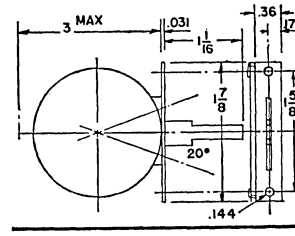

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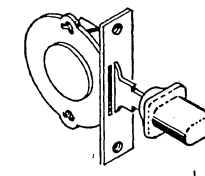

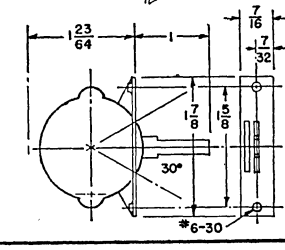

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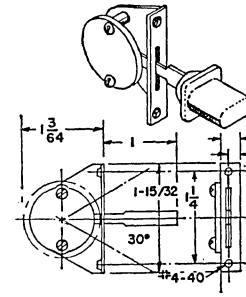

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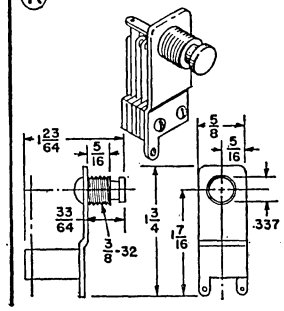

LEVER ACTION SWITCHES

Mallory lever action switches utilize MIL grade phenolic or glass-epoxy for wafer materials. Three wafer sizes available with a variety of circuits and actions. Supplied with mounting screws and knob.

STANDARD 1¾" DIA. PHENOLIC (FIG. H)

Rated 0.2 amp at 300 VDC; 5 amps, 6 VDC; 0.25 amp, 300 VAC; 6 amps, 6 VAC. Positive action. Breakdown, 500 VAC/DC rms. Max. non-breaking resistive load, 5 amps.

Mallory Number			Number of Poles	Number of Positions	Net Each
Shorting	Non-Shorting	Index			
5124	5224	20°	2	4	$1.38
6142	6242	20°	4	2	1.20
6143	6243	20°	4	3	1.20

MINIATURE 1⅜" DIA. PHENOLIC (FIG. I)

Rated 350 mA at 500 VAC rms resistive. Breakdown, 1700 VAC rms, 60 cps. Suffix indicates action (e.g., 6M1213S): **S,** spring return to center; **U,** spring return to one side, positive opposite; no suffix, positive action.

6M1213	6M2213	30°	2	3	$1.20
.....	6M2213S	30°	2	3	1.50
6M1213U	6M2213U	30°	2	3	1.50
.....	6M2412	30°	4	2	1.20
6M1412S	6M2412S	30°	4	2	1.50

SUBMINIATURE ⅞" DIA. GLASS-EPOXY (FIG. J)

Glass epoxy wafers per MIL-P-18177. Rated 150 mA at 150 VAC rms, resistive. Max. voltage, 225 V rms. Max. current, 2.5 amps at 6 VAC rms, resistive. Suffix indicates action (e.g., 12L1213S): **S,** spring return to center; **U,** spring return one side, positive opposite; no suffix, positive action.

12L1213	12L2213	30°	2	3	$3.12
.....	12L2213S	30°	2	3	3.38
12L1413	12L2413	30°	4	3	3.63
12L1612	12L2612	30°	6	2	4.24
12L1612S	12L2612S	30°	6	2	4.47

PUSHBUTTON SWITCHES (FIG. K)

Non-locking for test panels, etc. Silver contacts on alloy springs. Rated 0.4 amp at 300 VDC and 220 VAC; 4 amps, 6 VDC. Bushing ⅜"-32 x ⅜" lg. Integral phenolic knob. With nut and washer.

Mallory No.	Circuit Arrangement	Net Each
1011	SPST—Make	$0.69
1012	SPST—Break	.69
1013	SPDT	.78
1014	DPST—Make 2	.87
1015	DPST—Break 2	.87
1016	DPDT	1.05
1017	DP—Make 2, Break 1	1.05
1018	DPDT—Make before break	1.44

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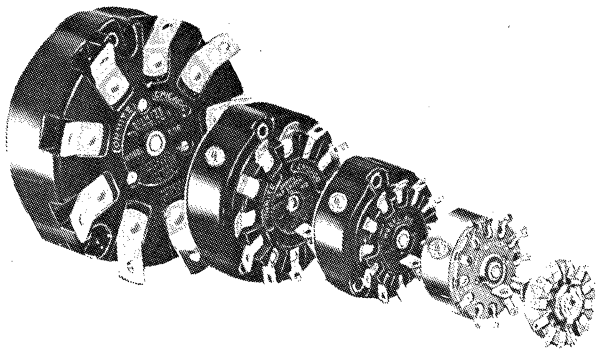
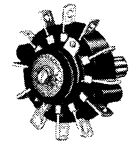
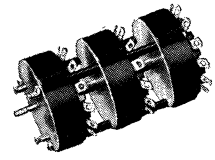
OHMITE power tap switches, high current, non-shorting type

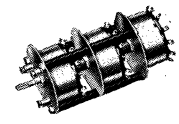


Introducing

MODEL 711
Smallest Switch for Its Rating







Ohmite single pole, rotary, multi-position switches have proven their durability over many years in demanding applications. Such applications are found in switchboards, arc welders, spot welders, battery chargers, motor controls, tapped transformers, X-ray equipment, diathermy equipment, radio transmitters, electrical machine tools and many other products. Six sizes, including the new, miniature Model 711, provide a choice of ratings from 7 amperes at 125 volts to 100 amperes at 300 volts AC. A choice of the number of taps is provided up to the maximums indicated. All switches are enclosed except for the Models 711 and 111. All switches feature the slow-break, quick-make action deemed so desirable for switching of AC current.

The five sizes offering ratings from 15 amperes to 100 amperes (Models 111, 212, 312, 412 and 608) feature all ceramic, arc-proof bodies and solid silver alloy, fixed and movable contacts. The large, thick, silver-alloy fixed contact disks are permanently welded to copper studs. These, in turn, are riveted and soldered to sturdy terminal lugs, assuring a permanent mechanical and electrical joint. The rotor (moving) contact, also of solid silver-alloy, is riveted and soldered to the contact arm. Face of the rotor contact is slightly rounded assuring a perfect seating of the contacts with a slight rubbing, self-cleaning motion on every operation.

The new Model 711 tap switch was designed to achieve high current capability with small size. It is actually smaller than many low current instrument switches. It interrupts 7 amperes at 125 VAC and can carry 15 amperes AC or DC. The Model 711 features a melamine phenolic body with solid silver alloy fixed and movable contacts. Dual-purpose terminals allow connection by soldering or by means of 3/16" quick-connectors. This switch is stocked as a single, unenclosed unit, but is available made-to-order in enclosed tandem assemblies up to 10 units or as a single enclosed unit.

The following Ohmite Tap Switches are listed by the Underwriters' Laboratories, Inc., Reexamination Service for use where the acceptability of combination (with other apparatus) has been determined by them: Models 111, 212, 312 and 412. Variations from the basic switch design, identified by suffixes A, B, C, or X are also Underwriters' approved. When the switches are not factory installed, screw terminals are specified by the Underwriters' Laboratories for Model 312 and soldering lugs for Model 412. Further information on terminal fittings is available on request. When an Underwriters' approved unit is required, specify this on the order.

MOEL 711 TAP SWITCH

Alternating Current Rating **7 Amps. 125 Volts** — Diameter 1⅛" — Shaft Diameter ¼" — Standard Mounting: For ⅛" panel maximum, by means of ⅜"-32 threaded bushing and hex. nut. See mounting illustration "A." Weight, single unit: .047 lb. approximately. Dual-purpose terminals accept 3/16" quick-connectors as well as soldering. Non-turn lug can be positioned at "12, 3, 6, and 9 o'clock."

Depth Behind Panel		Single Unit 1 3/16"	
No. of Taps	Total Rotation	Stock No. [1]	Net* 1-4
3	60°	711-3	$3.44
4	90°	711-4	3.55
5	120°	**711-5**	3.65
6	150°	711-6	3.76
7	180°	711-7	3.87
8	210°	711-8	3.98
9	240°	711-9	4.08
10	270°	711-10	4.19
11	300°	711-11	4.30
Recommended Knobs— See p. 20 for description		Stock No. 5103	

* Without Knob.

MODEL 111 TAP SWITCH

Alternating Current Rating **15 Amps. 125 Volts** — Diameter 1¾" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum, by means of ⅜"-32 threaded bushing and hex. nut. See mounting illustration "A." For Tandem Mounting see illustration "B." Weight, single unit: .16 lb. approximately.

Depth Behind Panel		Single Unit 1⅛"		2 in Tandem 2¾"	
No. of Taps	Total Rotation	Stock No. [1]	Net* 1-4	Stock No. [1]	Net* 1-4
3	60°	**111-3**	$4.00	**111-3 -T2**	$11.50
4	90°	**111-4**	4.15	**111-4 -T2**	11.75
5	120°	**111-5**	4.25	**111-5 -T2**	12.00
6	150°	**111-6**	4.40	111-6 -T2	12.25
7	180°	**111-7**	4.50	111-7 -T2	12.50
8	210°	**111-8**	4.65	**111-8 -T2**	12.75
9	240°	**111-9**	4.75	111-9 -T2	13.00
10	270°	**111-10**	4.90	111-10-T2	13.25
11	300°	**111-11**	5.00	**111-11-T2**	13.50
Recommended Knobs— See p. 20 for description		Stock No. 5150 or 5116		Stock No. 5109 or 5110	

* Without Knob.

MODEL 212 TAP SWITCH

Alternating Current Rating **20 Amps. 150 Volts** — Diameter 2¼" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum, by means of ⅜"-32 threaded bushing and hex. nut — See mounting illustration "C." Tandem Mounting for ¼" panel maximum, three No. 10-32 flat-head machine screws ⅜" long — See mounting illustration "D." Weight, single unit: .4 lb. approximately.

Depth Behind Panel		Single Unit 1¾"		2 in Tandem 4 3/16"		3 in Tandem 6 3/16"	
No. of Taps	Total Rotation	Stock No. [1]	Net* 1-4	Stock No. [1]	Net* 1-2	Stock No. [1]	Net* 1 Qty.
3	60°	**212-3**	$7.80	**212-3 -T2**	$19.05	212-3 -T3	$28.60
4	90°	**212-4**	8.00	212-4 -T2	19.45	212-4 -T3	29.20
5	120°	**212-5**	8.15	212-5 -T2	19.80	212-5 -T3	29.75
6	150°	**212-6**	8.35	**212-6 -T2**	20.20	212-6 -T3	30.30
7	180°	**212-7**	8.55	212-7 -T2	20.55	212-7 -T3	30.90
8	210°	**212-8**	8.75	212-8 -T2	20.95	212-8 -T3	31.45
9	240°	212-9	8.95	212-9 -T2	21.30	212-9 -T3	32.05
10	270°	**212-10**	9.10	212-10-T2	21.70	212-10-T3	32.60
11	300°	**212-11**	9.30	212-11-T2	22.05	212-11-T3	33.15
12	330°	**212-12**	9.50	**212-12-T2**	22.45	212-12-T3	33.75
Recommended Knobs-See p. 20 for description		Stock No. 5150 or 5116		Stock No. 5111 or 5112		Stock No. 5111 or 5112	

* Without Knob.

MODEL 312 TAP SWITCH

Alternating Current Rating **30 Amps. 300 Volts** — 150V A.C. between taps — Diameter 3 5/16" — Shaft Diameter ¼" — Standard Mounting: For ¼" panel maximum, three No. 10-32 flat-head machine screws ⅜" long — See mtg. illus. "D." Weight, single unit: .75 lb. approx.

Depth Behind Panel		Single Unit 2¼"		2 in Tandem 4 5/16"		3 in Tandem 7"	
No. of Taps	Total Rotation	Stock No. [1]	Net* 1-4	Stock No. [1]	Net* 1-2	Stock No. [1]	Net* 1 Qty.
3	60°	**312-3**	$10.50	312-3 -T2	$25.60	312-3 -T3	$38.45
4	90°	**312-4**	10.70	312-4 -T2	26.00	312-4 -T3	39.00
5	120°	312-5	10.90	312-5 -T2	26.40	312-5 -T3	39.55
6	150°	**312-6**	11.05	312-6 -T2	26.75	312-6 -T3	40.15
7	180°	**312-7**	11.25	312-7 -T2	27.15	312-7 -T3	40.70
8	210°	**312-8**	11.45	312-8 -T2	27.50	**312-8 -T3**	41.25
9	240°	312-9	11.65	312-9 -T2	27.90	312-9 -T3	41.85
10	270°	**312-10**	11.80	312-10-T2	28.25	312-10-T3	42.40
11	300°	**312-11**	12.00	312-11-T2	28.65	**312-11-T3**	42.95
12	330°	**312-12**	12.20	312-12-T2	29.00	312-12-T3	43.55
Recommended Knobs-See p. 20 for description		Stock No. 5109 or 5110		Stock No. 5111 or 5112		Stock No. 5111 or 5112	

* Without Knob.

[1] ITEMS APPEARING IN BOLD PRINT ARE POPULAR MODELS AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

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OHMITE power tap switches, high current, non-shorting type

MODEL 412 TAP SWITCH

Alternating Current Rating **50 Amps. 300 Volts** — 150V. A.C. between taps — Diameter 4 3/16" — Shaft Diameter 1/4" — Standard Mounting: For 1/4" panel maximum three No. 10-32 flat-head machine screws 3/8" long — See mtg. illus. "E." Weight, single unit: 1.4 lbs. approx.

Depth Behind Panel		Single Unit 2 1/16"		2 in Tandem 5 1/32"		3 in Tandem 7 5/8"	
No. of Taps	Total Rotation	Stock No. †	Net* 1-4	Stock No. †	Net* 1-2	Stock No. †	Net* 1 Qty.
3	60°	412-3	$13.80	412-3 -T2	$32.15	412-3 -T3	$48.25
4	90°	412-4	14.05	**412-4 -T2**	32.70	412-4 -T3	49.10
5	120°	412-5	14.30	412-5 -T2	33.25	412-5 -T3	49.90
6	150°	**412-6**	14.60	412-6 -T2	33.80	412-6 -T3	50.70
7	180°	412-7	14.85	412-7 -T2	34.35	**412-7 -T3**	51.55
8	210°	**412-8**	15.15	412-8 -T2	34.90	412-8 -T3	52.35
9	240°	412-9	15.40	412-9 -T2	35.45	412-9 -T3	53.15
10	270°	**412-10**	15.70	**412-10-T2**	36.00	**412-10-T3**	54.00
11	300°	412-11	15.95	412-11-T2	36.55	412-11-T3	54.80
12	330°	**412-12**	16.25	**412-12-T2**	37.10	412-12-T3	55.65
Recommended Knobs-See p. 20		Stock No. 5111 or 5112		Stock No. 5111 or 5112		Stock No. 5111 or 5112	

* Without Knob.

MODEL 608 TAP SWITCH

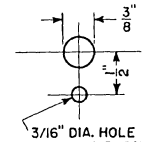
Alternating Current Rating **100 Amps. 300 Volts** — Diameter 6" — Shaft Diameter 3/8" — Standard Mounting: For 1" panel maximum, three flat-head machine screws 1/4"-20 x 1 1/4" — See mounting illustration "F." Weight, single unit: 5 lbs. approx.

Depth Behind Panel		Single Unit 3 5/16"		2 in Tandem 6 13/16"		3 in Tandem 10 5/16"	
No. of Taps	Total Rotation	Stock No. †	Net* 1-4	Stock No. †	Net* 1-2	Stock No. †	Net* 1 Qty.
3	80°	608-3	$25.05	608-3-T2	$57.00	608-3-T3	$84.35
4	120°	608-4	25.40	608-4-T2	57.70	608-4-T3	85.40
5	160°	**608-5**	25.75	608-5-T2	58.40	**608-5-T3**	86.50
6	200°	**608-6**	26.10	**608-6-T2**	59.15	608-6-T3	87.55
7	240°	**608-7**	26.45	608-7-T2	59.85	608-7-T3	88.60
8	280°	**608-8**	26.80	**608-8-T2**	60.55	**608-8-T3**	89.70
Recommended Knobs-See p. 20		Stock No. 5104 or 5105		Stock No. 5104 or 5115 or 5105		Stock No. 5115	

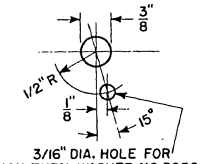
* Without Knob.

TAP SWITCH MOUNTING DIMENSIONS

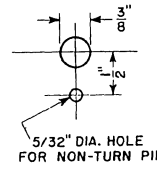
A MODEL 711 & 111 (SINGLE UNIT)



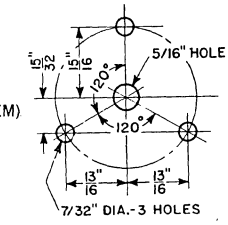
B MODEL 111 (TANDEM)



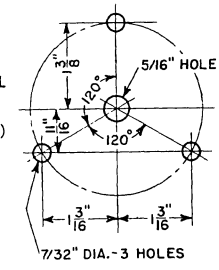
C MODEL 212 (SINGLE UNIT)



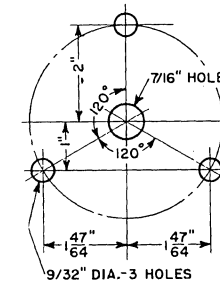
D MODEL 212 (TANDEM) MODEL 312 (ALL UNITS)



E MODEL 412 (ALL UNITS)



F MODEL 608 (ALL UNITS)



†ITEMS APPEARING IN BOLD PRINT ARE POPULAR VALUES AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

ALL CERAMIC OPEN TYPE TAP SWITCHES

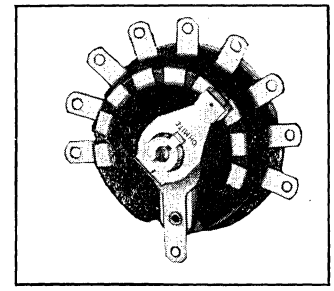
Designed to transfer currents of several amperes in circuits requiring high voltage insulation. Ceramic body construction is the same as employed in Models J and K rheostats (see page 19). Monel metal taps; silver-graphite brush.

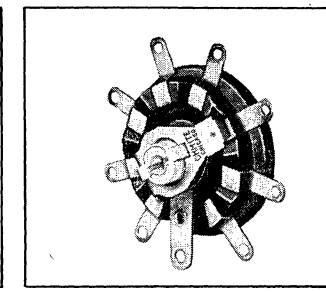
SHORTING TYPE SWITCH: Moving contact bridges closely spaced taps completing a new circuit before breaking the previous one. Switch arm is not indexed and can be left in any position.

NON-SHORTING SWITCH: Positively indexed, moving contact completely disconnects from one tap before contacting succeeding tap.

Switches up to 8 taps are approximately 3 1/4" diameter including lugs; 9 to 12 tap switches are approximately 4 1/4" diameter. Switches can be ordered assembled 2 or 3 in tandem. Single hole mounting by means of 3/8" diameter bushing and hexagon nut accommodates panels up to 1/4" thick (maximum). The "non-turn" lug requires a 3/16" panel hole 1/2" below the center of the shaft. Shaft diameter is 1/4". Recommended knob, Stock No. 5150, see page 20.

Maximum current capacity is 7 amperes but only 3 amperes at 120 V.A.C. should be interrupted. Current ratings are less for all direct current circuits above 20 volts, for inductive circuits and high voltages.





SHORTING TYPE†

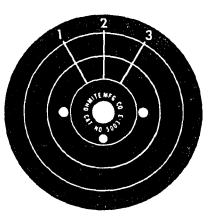
No. of Contacts	Stock No.	Net 1-4 Qty.
4	T-504-S	$4.15
5	T-505-S	4.40
6	T-506-S	4.65
7	T-507-S	4.90
8	T-508-S	5.15
9	T-1009-S	7.40
10	T-10010-S	7.65
11	T-10011-S	7.85
12	T-10012-S	8.15

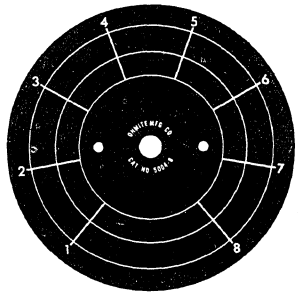
NON-SHORTING TYPE†

No. of Contacts	Stock No.	Net 1-4 Qty.
3	T-503	$4.40
4	T-504	4.65
5	T-505	4.90
6	T-506	5.15
7	T-507	5.40
8	T-508	5.65
9	T-1009	7.90
10	T-10010	8.10
11	T-10011	8.40
12	T-10012	8.65

†Avg. Wt. T-500 Series .28 lb.; T-100 Series .68 lb.

TAP SWITCH DIALS





Dials for Ohmite tap switches are made of aluminum, etched and enameled black. Dial markings are bright aluminum. The number of dial calibrations or position markings agree with the actual number of positions on the switch. Note, in the table, that dials for switches Models 212 and 312 are available in two diameters to suit the recommended knob.

Stock No.	For Model	For Knob	Dial Dia.	Net 1-4
5002-*	111 212 (Single) 312 (Single)	5109 5116 5150	2 3/4"	$0.46
5003-*	212 (Tandem) 312 (Tandem) 412	5111 5152A	3 3/4"	.69
5004-*	608	5104 5115	5 1/2"	.77

* Specify no. of positions as a suffix.

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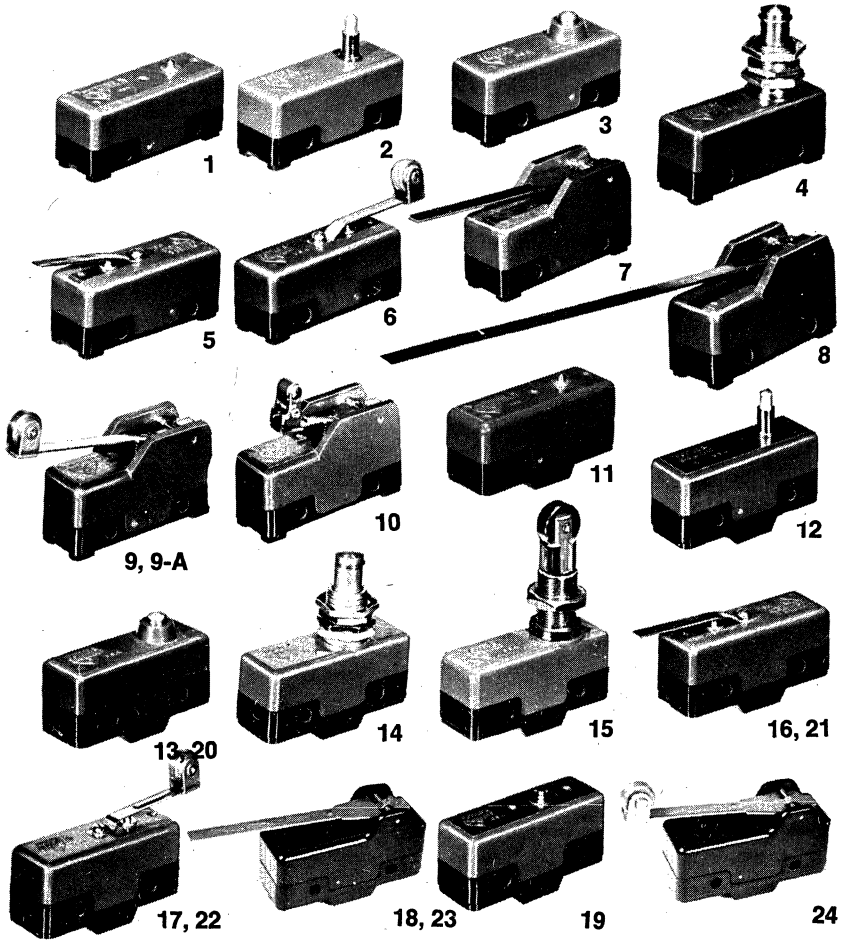
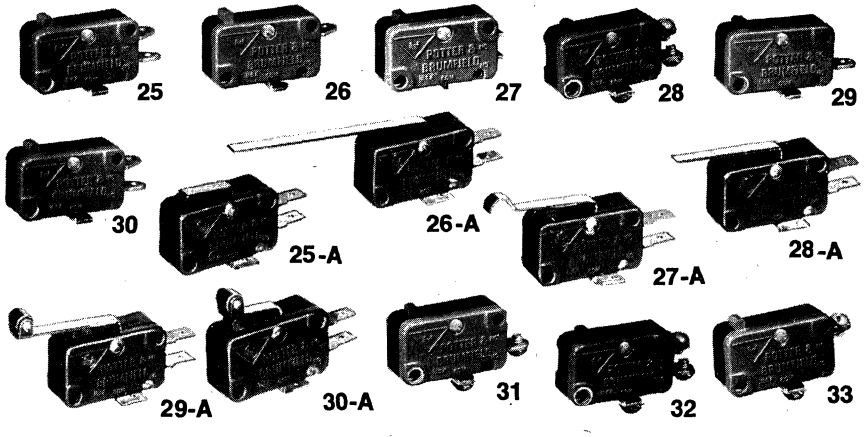
POTTER & BRUMFIELD PRECISION SWITCHES

PRECISION GENERAL PURPOSE SWITCHES—TYPES A1 G

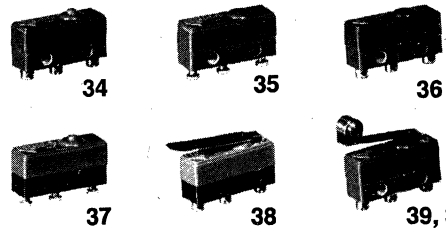
Illustration Fig. Nos.—See back page for Drawing Fig. Nos.



PRECISION MINIATURE SWITCHES—TYPES A1 M



PRECISION SUBMINIATURE SWITCHES—TYPES A1 S



SPECIFICATIONS

PRECISION GENERAL PURPOSE SWITCHES—TYPES A1 G

Meet Underwriters' Laboratories and Canadian Standards Association Requirements

For Types A1 G1—Contact arrangement: SPDT. Ratings: 15 amps, 125, 250, or 480 volts AC; ½ amp 125 volts DC; ¼ amp 250 volts DC; ⅓ HP 125 volts AC; ¼ HP 250 volts AC.

For Types A1 G2—Contact arrangement: SPDT. Ratings: 20 amps, 125, 250, or 480 volts AC; 1 HP 125 volts AC; 2 HP 250 volts AC; 10 amps 125 volts when controlling tungsten filament lamp loads on AC circuits.

PRECISION MINIATURE SWITCHES TYPES A1 M

For Types A1 M1—Contact arrangements: SPDT. Ratings: 30 volts DC; inductive: 10 amps at sea level, 6 amps at 50,000 feet; resistive: 10 amps; motor load: 6 amps.

Meet Underwriters' Laboratories requirements for 15 amps, 125, or 250 volts AC; ⅓ HP 125/250 volts AC; ½ amp 125 volts DC; ¼ amp 250 volts DC.

For Types A1 M2 (low operating force)—Contact arrangements: SPDT. Rating: 30 volts DC; inductive: 5 amps at sea level, 5 amps at 50,000 feet; resistive: 5 amps; motor load: 5 amps.

Meet Underwriters' Laboratories requirements for 10 amps, 125 or 250 volts AC; ½ amp 125 volts DC; ¼ amp 250 volts DC; ⅓ HP 125 volts AC.

For Type A1 M4 (low differential)—Contact arrangement: SPDT. Ratings: 30 volts DC; inductive: 1 amp at sea level, 1 amp at 50,000 feet; resistive: 2 amps; motor load: 1 amp.

Meet Underwriters' Laboratories requirements for 10 amps, 125 or 250 volts AC.

For Type A1 M5 (gold contacts)—Contact arrangement: SPDT. Rating: 28 volts DC; inductive: ½ amp; resistive: 1 amp; inrush: 2 amps.

PRECISION SUBMINIATURE SWITCHES TYPES A1 S

For Types A1 S1—Contact arrangement: SPDT. Rating:

Meet Underwriters' Laboratories requirements for 5 amps, 125 or 250 volts AC. The 30 volt DC rating is as follows: inductive: 3 amps at sea level and 2.5 amps at 50,000 feet; resistive: 5 amps at sea level and 50,000 feet; maximum inrush: 24 amps.

For Types A1 S5 (gold contacts)—Contact arrangement: SPDT. Rating: 28 volts DC; inductive: ½ amp; resistive: 1 amp; inrush: 2 amps.

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POTTER & BRUMFIELD PRECISION SWITCHES

PRECISION GENERAL PURPOSE SWITCHES—TYPES A1 G1

POTTER & BRUMFIELD TYPE	MICRO SWITCH EQUIVALENT	PRE-TRAVEL IN. MAX.	OVER-TRAVEL IN. MIN.	MOVEMENT DIFFERENTIAL INCHES	OPER. FORCE OZS.	RELEASE FORCE OZS. MIN.	Fig. No. Pages 2 & 4	SUGG. RESALE PRICE
A1 G1 111-1	BZ-2R	.016	.005	.0004-.002	9-13	4	1	$1.57
A1 G1 112-1	BZ-2RS	.016	.062	.0004-.002	9-13	4	2	1.95
A1 G1 113-1	BZ-2RD	.016	.062	.0004-.002	9-13	4	3	1.95
A1 G1 114-1	BZ-2RQ1	.015	.219	.0004-.002	9-13	4	4	3.55
A1 G1 115-1	BZ-2RL	.156	.062	.050	5 Max.	0.5	5	1.73
A1 G1 116-1	BZ-2RL2	.141	.062	.050	5 Max.	0.5	6	2.22
A1 G1 117-1	BZ-2RW80	.359	.219	.007 -.050	2½ Max.	0.5	7	2.00
A1 G1 117-1-3	BZ-2RW863	.907	.578	.018 -.140	1 Max.	—	8	2.11
A1 G1 177-1	BZ-2RW84	.203	.219	.007 -.050	1 Max.	.125	7	2.00
A1 G1 119-1	BZ-2RW822	.109	.094	.003 -.020	6 Max.	1.5	9	2.54
A1 G1 117-1-2	BZ-2RW825	.141	.109	.015	8 Max.	1.5	10	3.03
A1 G1 118-1	BZ-2RW82	.249	.156	.004 -.040	3½ Max.	.75	9-A	2.54
A1 G1 111-8	BZ-2R-A2	.016	.005	.0004-.002	9-13	4	11	1.71
A1 G1 112-8	BZ-2RS-A2	.016	.062	.0004-.002	9-13	4	12	2.03
A1 G1 113-8	BZ-2RD-A2	.016	.062	.0004-.002	9-13	4	13	2.03
A1 G1 114-8	BZ-2RQ1-A2	.015	.219	.0004-.002	9-13	4	14	3.64
A1 G1 114-8-1	BZ-2RQ18-A2	.015	.140	.0004-.002	9-13	4	15	6.34
A1 G1 115-8	BZ-2RL-A2	.156	.062	.050	5 Max.	0.5	16	1.87
A1 G1 116-8	BZ-2RL2-A2	.141	.062	.050	5 Max.	0.5	17	2.35
A1 G1 117-8	BZ-2RW80-A2	.359	.219	.007 -.050	2½ Max.	0.5	18	2.09
A1 G1 119-8	BZ-2RW822-A2	.109	.094	.003 -.020	6 Max.	1.5	9	2.62

PRECISION GENERAL PURPOSE SWITCHES—TYPES A1 G2

A1	G2	111-8	BA-2R-A2	.050	.010	.002 -.0075	14-22	10	19	$1.71
A1	G2	113-8	BA-2RB-A2	.050	.093	.002 -.0075	14-22	10	20	2.03
A1	G2	114-1	BA-2RQ1	.050	.219	.002 -.0075	14-22	10	4	3.87
A1	G2	114-8	BA-2RQ1-A2	.050	.219	.002 -.0075	14-22	10	14	3.64
A1	G2	115-1	BA-2RL	.344	.062	.065	9 Max.	1	5	2.00
A1	G2	115-8	BA-2RL-A2	.344	.062	.065	9 Max.	1	21	1.87
A1	G2	116-8	BA-2RL2-A2	.344	.062	.065	9 Max.	1	22	2.35
A1	G2	117-8	BA-2RV-A2	.625	.078	.109	2½ Max.	0.5	23	2.14
A1	G2	118-1	BA-2RV2	.469	.062	.085	2½ Max.	0.5	24	2.86
A1	G2	118-8	BA-2RV2-A2	.469	.062	.085	2½ Max.	0.5	24	2.68

PRECISION MINIATURE SWITCHES—TYPES A1 M

A1	M1	111-B	V3-1	.047	.031	.006 -.016	6-14	4	25	$1.10
A1	M1	111-1	V3-19	.047	.031	.006 -.016	6-14	4	25	1.04
A1	M1	211-1	V3-7	.047	.031	.006 -.016	6-14	4	26	.96
A1	M1	111-2	V3-15	.047	.031	.006 -.016	6-14	4	27	1.04
A1	M1	121-B	V3-29	.047	.031	.006 -.016	6-14	4	28	1.15
A1	M1	311-1	V3-32	.047	.031	.006 -.016	6-14	4	29	.96
A1	M1	181-1	V3-419	.047	.031	.006 -.016	6-14	4	30	2.04
A1	M1	117-6	V3L-1-D8	.060	.031	.016	14 Max.	3	25-A	1.05
A1	M1	117-6-1	V3L-2-D8	.125	.062	.050	8 Max.	1	28-A	1.05
A1	M1	117-6-2	V3L-5-D8	.125	.062	.050	8 Max.	1	27-A	1.05
A1	M1	117-6-3	V3L-6-D8	.260	.100	.090	4 Max.	0.5	26-A	1.05
A1	M1	118-6	V3L-4-D8	.125	.062	.050	8 Max.	1	29-A	1.25
A1	M1	119-6	V3L-3-D8	.060	.031	.016	14 Max.	3	30-A	1.25
A1	M1	311-B	V3-23	.047	.031	.006 -.016	6-14	4	31	1.00
A1	M4	191-B	V3-26	.047	.031	.002 -.006	7-12	5	28	1.25
A1	M1	131-B	V3-601	.047	.010-.024	.006 -.016	6-14	4	32	1.50
A1	M2	171-B	V3-101	.047	.031	.006 -.016	8 Max.	2	28	1.10
A1	M2	271-B	V3-121	.047	.031	.006 -.016	8 Max.	2	33	1.00
A1	M2	371-B	V3-123	.047	.031	.006 -.016	8 Max.	2	31	1.00
A1	M2	171-1	V3-119	.047	.031	.006 -.016	8 Max.	2	25	1.04
A1	M5	151-B	V3-75	.047	.031	.006 -.016	6-14	4	28	3.75

PRECISION SUBMINIATURE SWITCHES—TYPES A1 S

A1	S1	111-1	1SM1	.030	.005	.004	3-5	1	34	$1.20
A1	S1	111-3	1SM1-T	.030	.005	.004	3-5	1	35	1.20
A1	S1	131-1	11SM1	.020	.003	.004	3-5	1	36	1.20
A1	S5	151-1	1SM23	.030	.005	.004	3-5	1	34	2.20
A1	S5	161-1	11SM23	.020	.003	.004	3-5	1	36	2.20
A1	S1	131-3	11SM1-T	.020	.003	.004	3-5	1	37	1.20
A1	S1	115-1-11	111SM1	.219	.030	.030	7 Max.	2	38	1.65
A1	S1	116-1-11	111SM2	.219	.030	.025	7 Max.	2	39	2.00
A1	S1	116-3-11	111SM2-T	.219	.030	.025	7 Max.	2	39-A	2.00
A1	S1	121-1	1SM3	.030	.005	.004	3-5	1	34	1.20
A1	S1	141-1	11SM3	.020	.003	.004	3-5	1	36	1.20

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GEORGE RISK INDUSTRIES

ILLUMINATED SWITCHES & INDICATORS

FEATURES

- Magnetic dry reed type
- Hermetically sealed
- P.C. board mount
- Dry circuits through .5 amps
- High reliability through millions of operations

ELECTRICAL SPECIFICATIONS

Contact Rating:
KBDP — Illuminated and non-illuminated .5 amps, 125 volts, 10 watts max. (resistive)
KB — Non-illuminated .5 amps, 125 volts, 10 watts; illuminated .250 amps, 125 volts, 3 watts

Dielectric Strength: 500 VAC, terminals to case

Contact Bounce: 500 microseconds max.

Contact Resistance: 200 milliohms max.

Insulation Resistance: 100 Megohms

Life Expectancy: 20 million operations at full load
50 million operations at half load
(Resistive load at 28 VDC)

Each Pole Isolated

MECHANICAL SPECIFICATIONS

Internal Atmosphere: Inert gas

Mounting Position: Any plane

Internal Terminal Construction: Welded

Terminal to Case Insulation: Glass-filled Nylon

Switch Case: Glass-filled Nylon

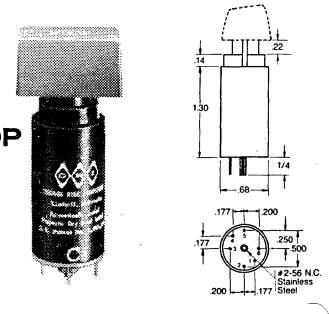
External Switch Terminals: "A" Nickel Alloy, weldable or solderable

Mounting Stud: 2-56 stainless steel (base of switch)

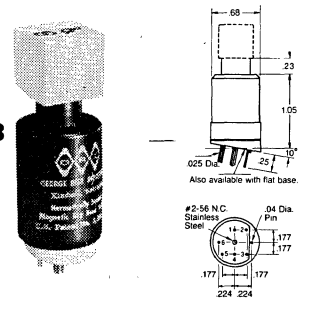
Identification: Switches printed with model number, contact rating, schematic diagram, switch form

	KBDP	KB
Pre-Travel	.062 min.	.062 min.
Differential Travel	.062 max.	.062 max.
Total Travel	.175 ±.020	.175 max.

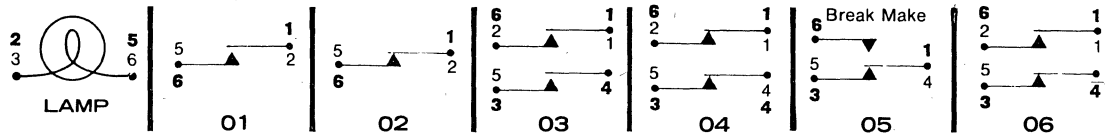
SERIES KBDP



SERIES KB



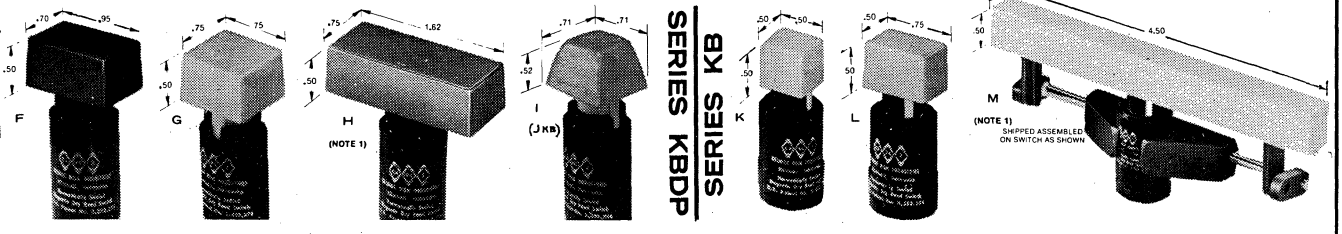
STANDARD SWITCH FORMS (KBDP indicated by light-face numbers, KB by bold-face numbers)



STANDARD KEY TOP SPECIFICATIONS

Colors: Light Gray, Dark Gray, Red, White, Blue, Black — others on request.
Materials: Illuminated = polycarbonate; non-illuminated = ABS
KB available with snap-off, see-through top for inserting specific key information.

(Other key top materials available on request)



TYPICAL ORDERING PATTERN* (with switch form, key top, lamp and pressure specifications)

KBDP or KB — XX — X — XX.X — XX

Switch Forms	
01	SPST-NO
02	SPST-NC
03	DPST-NO
04	DPST-NC
05	SPDT-BM
06	DPST-NO-NC

Key Tops KBDP	
-F	.95 x .70 x .50
-G	.75 x .75 x .50
-H	1.62 x .75 x .50
-I	.71 x .71 x .52
Key Tops KB	
-J	.71 x .71 x .52
-K	.50 x .50 x .50
-L	.75 x .50 x .50
-M	4.50 x .50 x .50

T-1 ¾ Bi-Pin Lamp Voltage	
1.35	10.0
2.5	14.0
2.7	18.0
3.0	24.0
6.0	28.0
6.3	—

When ordering Series KB, specify whether "flat base" or "slant base" is desired.

Operating Pressure ±.5 oz.		
	KBDP	KB
-01	2.5 oz.	2.5 oz
-02	5.0 oz.	—
-03	8.0 oz.	—

Other operating pressures available on request.

NOTE 1:
Illumination is not evenly dispersed over entire key top due to length. If full illumination is required on H and M, auxiliary external lamps would be required.

* To order non-illuminated switches, indicators and key tops, use applicable areas of the above ordering pattern. For example: KB-01-F-01. (Non-illuminated Series KB; .95" x .70" x .50" key top; 2.5 oz. operating pressure.)

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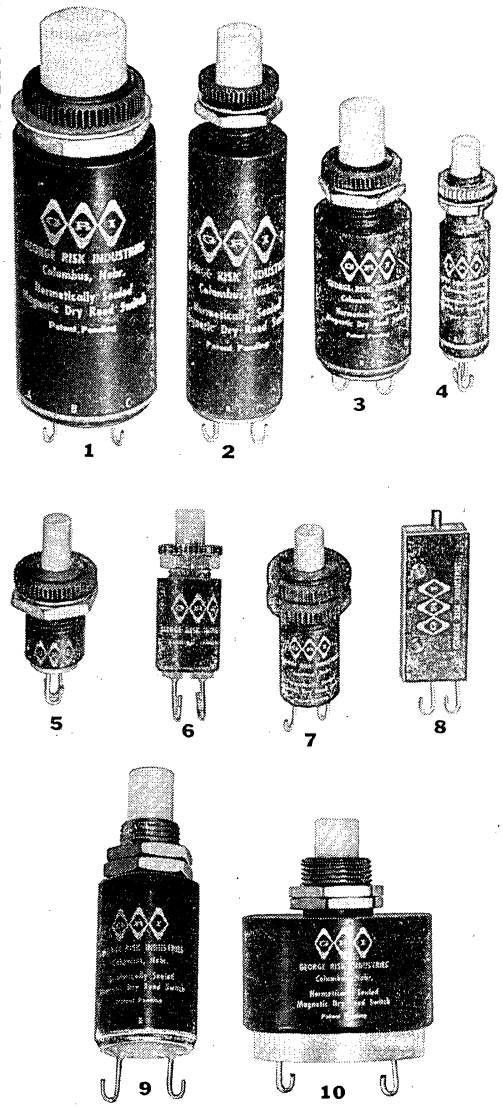
GEORGE RISK INDUSTRIES

Dry Reed Type PUSH BUTTON SWITCHES

FEATURES

- Hermetically sealed contacts
- Exceeds Mil Specs.
- Low closed contact resistance
- Ideal for dry circuits or higher current application
- Life expectancy in the millions
- Explosion proof
- Low bounce characteristics
- Terminals weldable and solderable.



LENGTH OF ALL TERMINALS .300" MAX.

Fig. & Dimensions (L x D)	Mfg. Type	Switch Form	Resistive Current	Resistive Watts	Volts	1-9	10-24	25-49	50-99	100-249
1—Series T 1.75 x .890 Momentary Action	TI-TA4	4PST-NO	3	50	250	17.44	15.70	13.95	12.20	11.35
	TI-HA3	3PST-NO	3	50	250	14.78	13.30	11.80	10.30	9.65
	TI-HA2	2PST-NO	3	50	250	12.32	11.00	9.90	8.70	8.05
	TE-HA4	4PST-NO	1	15	250	15.60	14.05	12.50	10.90	10.15
	TE-HA3	3PST-NO	1	15	250	13.40	12.00	10.70	9.40	8.70
	TE-HA2	2PST-NO	1	15	250	10.35	9.30	8.30	7.25	6.70
	TB-HC4	4PDT-BM	.250	10	250	19.44	17.50	15.50	13.60	12.60
	TB-HC3	3PDT-BM	.250	10	250	16.30	14.70	13.00	11.40	10.60
	TB-HC2	2PDT-BM	.250	10	250	12.32	11.10	9.85	8.65	8.00
2—Series W 1.75 x .625 Momentary Action	WI-HA	SPST-NO	3	50	250	6.96	6.30	5.60	4.90	4.55
	WE-HA	SPST-NO	1	15	250	6.50	5.85	5.20	4.55	4.20
	WB-HC	SPDT-BM	.250	10	250	8.96	8.10	7.15	6.30	5.75
3—Series G .975 x .625 Momentary Action	GC-HA4	4PST-NO	.5	12	125	13.30	12.00	10.60	9.30	8.65
	GC-HA3	3PST-NO	.5	12	125	11.06	10.00	8.90	7.75	7.20
	GC-HA2	2PST-NO	.5	12	125	8.82	7.95	7.05	6.15	5.75
	GC-HA	SPST-NO	.5	12	125	6.58	5.90	5.25	4.60	4.30
	GB-HC2	2PDT-BM	.250	4	125	14.64	13.20	11.70	10.20	9.55
	GB-HC	SPDT-BM	.250	4	125	10.04	9.10	8.05	7.05	6.55
4—Series D .850 x .330 Momentary Action	DC-HA	SPDT-NO	.5	12	125	6.66	6.05	5.35	4.70	4.35
	DB-HC	SPDT-BM	.250	3	125	10.12	9.15	8.15	7.10	6.70
5—Series R .625 x .375 Momentary Action	RB-HA	SPST-NO	.250	3	125	7.28	6.55	5.80	5.10	4.73
	RB-HC	SPDT-BM	.250	3	125	10.14	9.10	8.10	7.10	6.60
6—Series K 750 x .300 Momentary Action	KB-HA	SPST-NO	2.50	3	250	4.93	4.37	3.82	3.26	3.04
	KB-HB	SPST-NC				4.93	4.37	3.82	3.26	3.04
	KB-HC	SPDT-BM				5.28	4.72	4.17	3.61	3.39
7—Series J 1.0 x .375 Momentary Action	JC-HA	SPST-NO	.5	12	250	1.68	1.52	1.35	1.18	1.11
	JB-HC	SPDT-BM	.250	3	250					
8—SeriesB 1" Lx.4Wx.170 Th'k Momentary Action Nylon. Actuating Roller avail. upon request	BC-HA	SPST-NO	.5	12	125	6.60	6.30	6.00	5.70	5.40
9—Series MV .975 x .625 Merc.-Wetted Reed Momentary Action	MVI-HA	A-SPST-NO	3	50	100	8.30	7.90	7.55	7.15	6.70
10—Series MH Merc.-Wetted Reed .750 x 1.225 Momentary Action	CC-HA4	4PST-NO	.5	12	125	14.30	13.00	11.60	10.30	9.65
	CC-HA3	3PST-NO	.5	12	125	12.06	11.00	9.90	8.75	8.20
	CC-HA2	2UST-NO	.5	12	125	9.82	8.95	8.05	7.15	6.75
	CC-HA	SPST-NO	.5	12	125	7.58	6.90	6.25	5.60	5.30
	CB-HC2	2PDT-BM	.250	4	125	15.64	14.20	12.70	11.20	10.55
	CB-HC	SPDT-BM	.250	4	125	11.04	10.10	9.05	8.05	7.55

*NOTE: Button operating force = 8 oz.—all momentary action. Button operating force of 17 grams can be supplied, if needed. To specify, change letter "H" in "Mfg. Type"; (Example: TI-HA4) to "F" (Example: TI-FA4). **To obtain GRI switches in "normally closed" form, use the letter "B" in suffix of "Mfg. Type." (Example: TI-HB4, WI-HB, etc.)

BUTTONS & ACCESSORIES

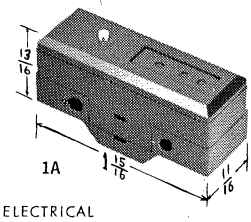
Information on a complete range of button accessories (Delrin and Aluminum) can be obtained by contacting the factory. Colors available for standard buttons and accessories include: white, red, black, green, blue. Illuminated buttons also available.

NO-BOUNCE SWITCHES

GRI now offers mercury-wetted reed switches (momentary). Contact Bounce—none. Maximum contact resistance 50 milliohms after 10 million operations at full load. Mounting Position—30° out of plane (horizontal or vertical). Write for full information.

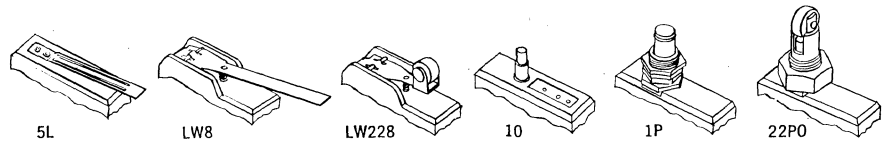
Robertshaw — PRECISION SNAP SWITCHES WITH PATENTED ROLLING SPRING

MODEL B — Long Life



ELECTRICAL
15 amps, 120-240-480 volts A.C.
½ amp, 120 VDC
¼ amp, 240 VDC
Listed by U.L. and C.S.A.

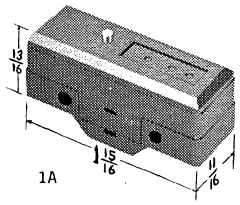
MECHANICAL LIFE
20 Million cycles.



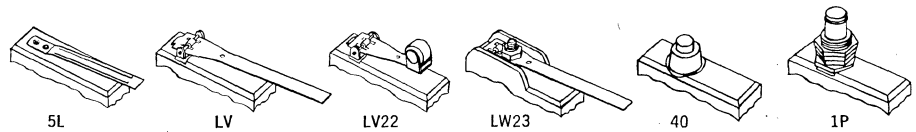
MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL	TERMINAL
BRD2-1A-1S	9-13 oz.	4 oz. Min.	.020 in. Max.	.005 in. Min.	.003 in. Max.	Screw
BRD2-5L-1S	5 oz. Max.	½ oz. Min.	.156 in. Max.	1/32 in. Min.	.050 in. Max.	Screw
BRD2-LW8-1S	2½ oz. Max.	½ oz. Min.	9/32-13/32 in.	.187 in. Min.	.016-.078 in.	Screw
BRD2-LW228-1S	6 oz. Max.	1½ oz. Min.	.045-.140 in.	.080 in. Min.	.006-.031 in.	Screw
BRD2-1O-1S	9-13 oz.	4 oz. Min.	.010-.025 in.	1/16 in. Min.	.003 in. Max.	Screw
BRD2-1P-1S	9-13 oz.	4 oz. Min.	.010-.025 in.	7/32 in. Min.	.003 in. Max.	Screw
BRD2-22PO-1S	9-13 oz.	4 oz. Min.	.010-.025 in.	.140 in. Min.	.003 in. Max.	Screw

TOTAL OF 18 ACTUATORS AVAILABLE.
To order solder terminal, drop "1S" from Model number.

MODEL F — Horsepower Rated



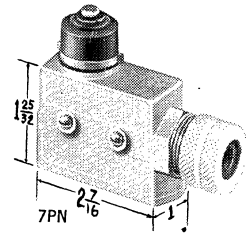
ELECTRICAL
21 amps, 120-240-480 VAC
1 Hp. 120 VAC
2 Hp. 240 VAC
Listed by U.L. and C.S.A.



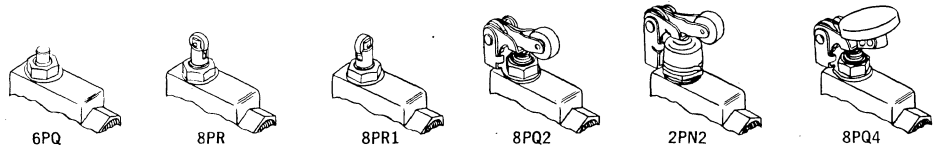
MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL	TERMINAL
FAD2-1A-1S	10-18 oz.	6 oz. Min.	.050 in. Max.	.005 in. Min.	.0075 in. Max.	Screw
FAD2-5L-1S	9 oz. Max.	1 oz. Min.	11/32 in. Max.	1/32 in. Min.	.065 in. Max.	Screw
FAD2-LV-1S	2½ oz. Max.	½ oz. Min.	5/8 in. Max.	.078 in. Min.	.109 in. Max.	Screw
FAD2-LV22-1S	6 oz. Max.	1 oz. Min.	¼ in. Max.	1/32 in. Min.	3/64 in. Max.	Screw
FAD2-LW23-1S	2½ oz. Max.	½ oz. Min.	.375 in. Max.	.093 in. Min.	.007-.050 in.	Screw
FAD2-40-1S	10-18 oz.	6 oz. Min.	.050 in. Max.	3/32 in. Min.	.0075 in. Max.	Screw
FAD2-1P-1S	10-18 oz.	6 oz. Min.	.050 in. Max.	.219 in. Min.	.0075 in. Max.	Screw

TOTAL OF 13 ACTUATORS AVAILABLE.
To order solder terminal, drop "1S" from Model number.

MODEL BH — Split Housing



ELECTRICAL
15 amps, 120-240-480 VAC
The combination of metal enclosure and switch is U.L. and C.S.A. listed.

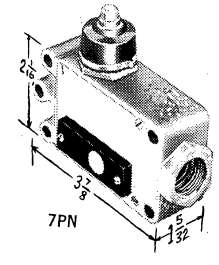


MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL
SBHT-7PN	9-24 ozs.	4 ozs. Min.	.078 in. Max.	.219 in. Min.	.003 in. Max.
SBH-6PQ	9-13 ozs.	4 ozs. Min.	.020 in. Max.	.219 in. Min.	.003 in. Max.
SBH-8PR	9-13 ozs.	4 ozs. Min.	.020 in. Max.	.140 in. Min.	.003 in. Max.
SBH-8PR1	9-13 ozs.	4 ozs. Min.	.020 in. Max.	.140 in. Min.	.003 in. Max.
SBH-8PQ2	10-18 ozs.	6 ozs. Min.	3/16 in. Max.	.219 in. Max.	.006 in. Max.
SBH-2PN2	10-20 ozs.	6 ozs. Min.	.188 in. Max.	.219 in. Min.	.006 in. Max.
SBH-8PQ4	10-18 ozs.	6 ozs. Min.	3/16 in. Max.	.219 in. Max.	.006 in. Max.

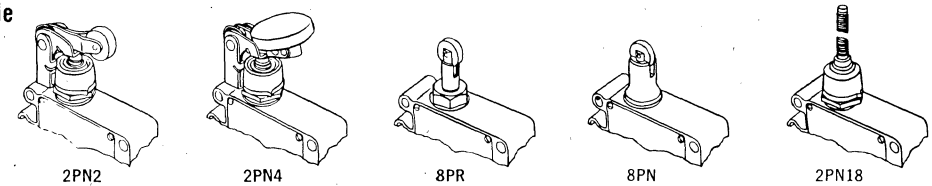
10 ACTUATORS AVAILABLE

"T" designates externally threaded housing. These are available with 7PN, 2PN2, 2PN28, and 2PN4 actuators. Split-housing is available with internally threaded housing. One-piece externally threaded housing models are available with same 10 actuators.

MODEL FH — Mounts Either Side



ELECTRICAL
21 amps at 120-240-480 VAC
1 Hp — 120 VAC
2 Hp — 240 VAC



MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL
• L-FHD2-7PN	2½ lbs. Max.	8 oz. Min.	.094 in. Max.	.219 in. Min.	.010 in. Max.
FHD2-2PN2	2 lbs. Max.	8 oz. Min.	.219 in. Max.	.218 in. Min.	.020 in. Max.
FHD2-2PN4	2 lbs. Max.	8 oz. Min.			
FHD2-8PR	2½ lbs. Max.	8 oz. Min.	.094 in. Max.	.156 in. Min.	.010 in. Max.
FHD2-8PN	8 lbs. Max.	2 lbs. Min.	.125 in. Max.	.175 in. Max.	.0075 in. Max.
# FHD2-2PN18	Above characteristics do not apply to this model switch.				

6 ACTUATORS AVAILABLE.

•Switch with one Acrolite. Silicone boot for 0 F to 200 F range is available.
#Switch operates by moving flexible actuator 15 or more in any direction, except a direct pull.

WRITE FOR CATALOG D — Robertshaw Controls Company, Acro Division

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21 MODELS

- SUBMINIATURE
- MINIATURE
- GENERAL PURPOSE
- METAL CLAD

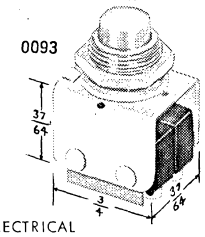
Robertshaw — MR. CONTROLS

MODEL Z — Subminiature

MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL
ZD-0024	85-140 gms.	1 oz. Min.	.008-.020 in.	.010 in. Min.	.001-.004 in.
ZLD-0036	2 oz. Max.	½ oz. Min.	3/32 in. Max.	.045 in. Min.	.015 in. Max.
ZLD-0037	2 oz. Max.	½ oz. Min.	3/32 in. Max.	.045 in. Min.	.015 in. Max.
ZPD-0078	10 oz. Max.	2 oz. Min.	.050 in. Max.	.125 in. Min.	.030 in. Max.
ZPD-0101	10 oz. Max.	2 oz. Min.	.050 in. Max.	.125 in. Min.	.030 in. Max.
ZTD-0081		(Hand operated and these characteristics do not apply)			
ZPD-0093	20 oz. Max.	5 oz. Min.	.010 in. Max.	.010 in. Min.	.010 in. Max.

13 ACTUATORS AVAILABLE.

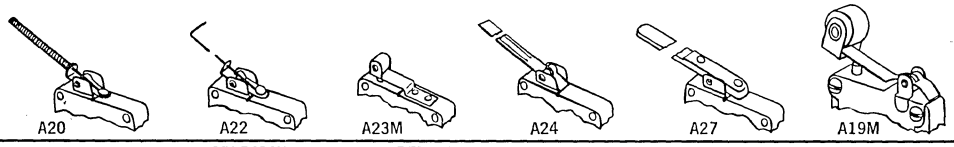
Available with these terminals: Turret, Double Turret, Post, Baton, and Tab.



ELECTRICAL
5 amp, 120-240 VAC
3 amp sea level and 2.5 amp 50,000 ft., 30 VDC inductive
4 amp sea level and 4 amp 50,000 ft., 30 VDC resistive
U.L. listing, 5 amp., 120-240 VAC

MECHANICAL LIFE
One million cycles with .010 gap and .005 overtravel

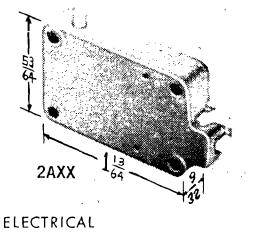
MODEL CM — Low Force



MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL
1CMD1-2AXX	20-27 gms.	12 gms. Min.	.040 in. Max.	.050 in. Max.	.030 in. Max.
1CMD1-18AXX-A20	8 gms. Max.		.400 in. Max.		
1CMD1-2AXX-A22	2.5 gms. Max.	Above characteristics are not applicable to this switch			.500 in. Max.
1CMD1-1AXX-A23M	5-8 oz.	2 oz. Min.	.040 in. Max.	.050 in. Max.	.030 in. Max.
1CMD1-2AXX-A24	2.5 gms. Max.	Above characteristics are not applicable to this switch			.500 in. Max.
*1CMD1-18AXX-A27	6 gms. Max.	Above characteristics are not applicable to this switch			.233 in. Max.
1CMD1-2AXX-A19M	20-27 gms.	12 gms. Min.	.040 in. Max.		.030 in. Max.

8 ACTUATORS AVAILABLE

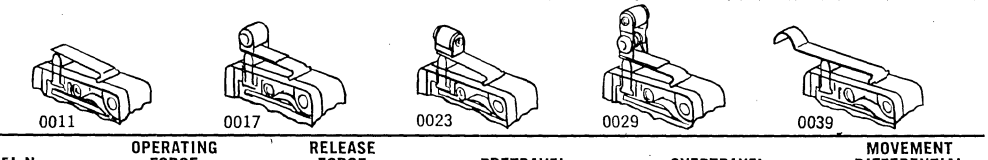
*Actuator bracket and switch are shipped separately.



ELECTRICAL
3 amp, 125-250 VAC
3 amp, 28 VDC
U.L. listing, 3 amp, 125-250 VAC

MECHANICAL LIFE
50 Million cycles.

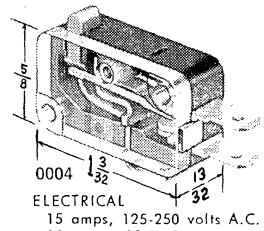
MODEL V — Economical



MODEL No.	OPERATING FORCE	RELEASE FORCE	PRETRAVEL	OVERTRAVEL	MOVEMENT DIFFERENTIAL
VD-0004	14 oz. Max.	4 oz. Min.	.047 in. Max.	.031 in. Min.	.014 in. Max.
VLD-0011	14 oz. Max.	2 oz. Min.	.062 in. Max.	.031 in. Min.	.016 in. Max.
VLD-0017	14 oz. Max.	2 oz. Min.	.062 in. Max.	.031 in. Min.	.016 in. Max.
VLD-0023	14 oz. Max.	2 oz. Min.	.062 in. Max.	.031 in. Min.	.016 in. Max.
VLD-0029	14 oz. Max.	2 oz. Min.	.062 in. Max.	.015 in. Min.	.016 in. Max.
VLD-0039	8 oz. Max.	1 oz. Min.	.125 in. Max.	.062 in. Min.	.050 in. Max.

10 ACTUATORS AVAILABLE.

Available with these terminals: Quick Connect, Solder and Screw.
Actuators are also available with 8 oz. operating force on pin plunger.



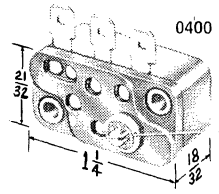
ELECTRICAL
15 amps, 125-250 volts A.C.
10 amps, 30 VDC
Listed by U.L. and C.S.A.

MECHANICAL LIFE
20 Million cycles.

MODEL H — Rotary

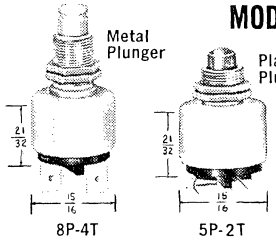
ELECTRICAL
5 amp. — 120-240 VAC
U.L. and C.S.A. listed.
Hi-pot tested 1250 VAC terminal to exposed rivet head.

MECHANICAL LIFE
Minimum operating life of one million cycles. Static load of 15 inch ounces will not change switch characteristics when applied at full travel or start positions and in a direction opposite to normal movement.
Axial movement of shaft will not exceed .010 inch.



MODEL No.	ROTATION	OPERATING FORCE	OPERATING LIMITS DOWN STROKE	AFTER TRAVEL	MOVEMENT DIFFERENTIAL	TERMINAL
HD-0200	CW	3 gms. in. Max.	15-21°	5° Min.	8° Min.	Solder
HD-0300	CW	3 gms. in. Max.	15-21°	5° Min.	8° Min.	Tab .187
HD-0400	CW	3 gms. in. Max.	15-21°	5° Min.	8° Min.	Tab .205
HD-0500	CCW	4 gms. in. Max.	15-21°	5° Min.	8° Min.	Solder
HD-0600	CCW	4 gms. in. Max.	15-21°	5° Min.	8° Min.	Tab .187
HD-0700	CCW	4 gms. in. Max.	15-21°	5° Min.	8° Min.	Tab .205

MODEL D — Panel Mounted



U.L. ELECTRICAL RATING
12 amps — 125 VAC
6 amps — 230 VAC

MECHANICAL LIFE
250,000 cycles

MODEL No.	CIRCUIT	PRETRAVEL	OPERATING FORCE
3DO5-5P	N.O.	.100 in. Max.	10-15 oz.
3DO5-5P-4T	N.O.	.100 in. Max.	10-15 oz.
3DC5-5P	N.C.	.070 in. Max.	10-15 oz.
3DC5-5P-4T	N.C.	.070 in. Max.	10-15 oz.
3DO5-8P	N.O.	.100 in. Max.	10-15 oz.
3DO5-8P-4T	N.O.	.100 in. Max.	10-15 oz.
3DC5-8P	N.C.	.070 in. Max.	10-15 oz.
3DC5-8P-4T	N.C.	.070 in. Max.	10-15 oz.

4T Tab.

NATIONWIDE SALES ASSISTANCE THROUGH LOCAL DISTRIBUTOR OR FACTORY ENGINEER

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SPEMCO® H & H SWITCHES

BALL LEVER TOGGLE SWITCHES

Underwriters' approved, 1 amp. 250 V 3 amp. 125 volts. AC/DC. Laminated bakelite base. Nickel plated finish, except 1120 and 1121.

3 Amp.

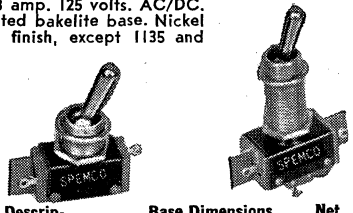
No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
*1120	SPST	15/32"	1 3/16"	1/2"	35/64"	.66 ea.
1122	SPDT	15/32"	1 9/16"	1/2"	35/64"	.84 ea.
1124	DPST	15/32"	1 9/16"	21/32"	35/64"	1.20 ea.
1126	DPDT	15/32"	1 9/16"	21/32"	29/32"	1.38 ea.
*1121	SPST	1"	1 13/16"	1/2"	35/64"	.90 ea.
1123	SPDT	1"	1 9/16"	1/2"	35/64"	1.05 ea.
1125	DPST	1"	1 9/16"	21/32"	35/64"	1.44 ea.
1127	DPDT	1"	1 9/16"	21/32"	29/32"	1.62 ea.

Sleeve Diameter—15/32"
*3 amp. 250 V AC/DC.

BAT LEVER TOGGLE SWITCHES

3 Amp.

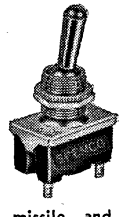
Underwriters' approved, 1 amp. 250 V 3 amp. 125 volts. AC/DC. Laminated bakelite base. Nickel plated finish, except 1135 and 1121B.



No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
*1135	SPST	15/32"	1 3/16"	1/2"	35/64"	.66 ea.
1136	SPDT	15/32"	1 9/16"	1/2"	35/64"	.84 ea.
1137	DPST	15/32"	1 9/16"	21/32"	35/64"	1.20 ea.
1138	DPDT	15/32"	1 9/16"	21/32"	29/32"	1.38 ea.
*1121-B	SPST	1"	1 13/16"	1/2"	35/64"	.90 ea.
1123-B	SPDT	1"	1 9/16"	1/2"	35/64"	1.05 ea.
1125-B	DPST	1"	1 9/16"	21/32"	35/64"	1.44 ea.
1127-B	DPDT	1"	1 9/16"	21/32"	29/32"	1.62 ea.

Sleeve Diameter—15/32"
*3 amp. 250 V AC/DC.

"COMPACT" SWITCH



3 Amp.

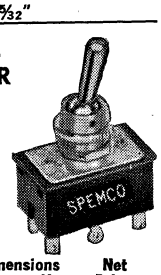
Ideal for aircraft, missile, and electronic applications. Underwriter's approved 1 amp. 250 v., 3 amp. 125 v., AC-DC. Bakelite base. Bright nickel finish.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1205	SPST	15/32"	1 11/64"	41/64"	13/16"	.90 ea.
1206	SPDT	15/32"	1 11/64"	41/64"	13/16"	1.05 ea.
1207	DPST	15/32"	1 11/64"	41/64"	13/16"	1.32 ea.
1208	DPDT	15/32"	1 11/64"	41/64"	13/16"	1.50 ea.

Sleeve Diameter—15/32"

MOLDED BAKELITE SWITCH, BAT LEVER

U.L. approved for 6 amp. 125 volts, 3 amp. 250 volts. *Except for 1143 which is rated at 1 amp. 250 volts, 6 amp. 125 volts. All back connected, slotted sleeve. Positive action.



6 Amp.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1142	SPST	15/32"	1 1/4"	11/16"	15/16"	.90 ea.
*1143	SPDT	15/32"	1 1/4"	11/16"	15/16"	1.05 ea.
1144	DPST	15/32"	1 1/4"	11/16"	15/16"	1.32 ea.
1145	DPDT	15/32"	1 1/4"	11/16"	15/16"	1.50 ea.

Sleeve Diameter—15/32"
*1 amp. 250 volts, 6 amp. 125 volts

BALL or BAT* LEVER TOGGLE SWITCH

6 Amp.

Underwriters' approved 3A 250V, 6A 125V, molded bakelite base. Nickel plated finished. WITH 6" WIRE LEADS

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1154	SPST	3/8"	7/8"	1/2"	5/16"	.93 ea.
*1154B	SPST	3/8"	7/8"	1/2"	5/16"	.93 ea.

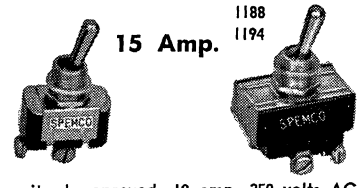
Sleeve Diameter—15/32"

UTILITY SWITCHES—Toggle Type For AC Uses

1185
1186

15 Amp.

1188
1194



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

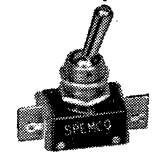
No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1185	SPST	15/32"	1 1/8"	5/8"	15/16"	.78 ea.
1186	SPDT	15/32"	1 1/8"	5/8"	15/16"	.93 ea.
1188	DPST	15/32"	15/16"	3/4"	1 1/16"	1.26 ea.
1194	DPDT	15/32"	15/16"	3/4"	1 1/16"	1.56 ea.

Sleeve Diameter—15/32"

MOMENTARY BAT LEVER TOGGLE SWITCHES

3 Amp.

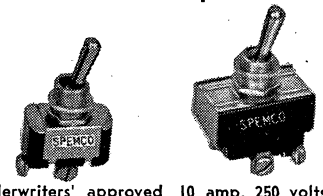
Underwriters' approved, 3 amp. 125 volts, laminated bakelite base. Nickel plated finished.



No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
*1166	SPST	15/32"	1 3/16"	1/2"	35/64"	1.20 ea.
1167	SPDT	15/32"	1 9/16"	1/2"	35/64"	1.23 ea.
*1155	DPST	15/32"	1 9/16"	21/32"	35/64"	1.56 ea.
1150	DPDT	15/32"	1 9/16"	21/32"	29/32"	1.77 ea.

Sleeve Diameter—15/32"
*1166 Normally Off *1155 Normally Off
*3 Amp 250V

15 Amp.



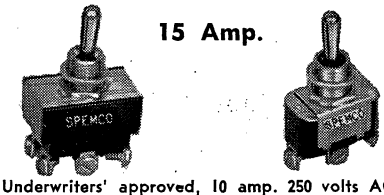
Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
*1196	SPST	15/32"	1 1/8"	5/8"	15/16"	1.14 ea.
*1197	DPST	15/32"	15/16"	3/4"	1 1/16"	1.80 ea.

*Normally Off Sleeve Diameter—15/32"

NEUTRAL CENTER MOMENTARY BOTH ENDS

15 Amp.



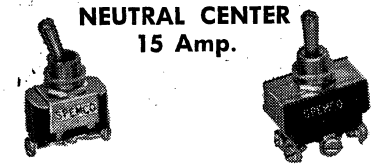
Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1193	DPDT	15/32"	15/16"	3/4"	1 1/16"	2.10 ea.
1195	SPDT	15/32"	1 1/8"	5/8"	15/16"	1.29 ea.

Sleeve Diameter—15/32"

NEUTRAL CENTER

15 Amp.



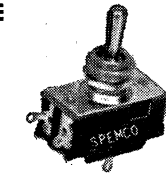
Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1187	SPDT	15/32"	1 1/8"	5/8"	15/16"	.93 ea.
1189	DPDT	15/32"	1 5/16"	3/4"	1 1/16"	1.56 ea.

Sleeve Diameter—15/32"

BAT LEVER TOGGLE SWITCH 6 Amp. Neutral Center

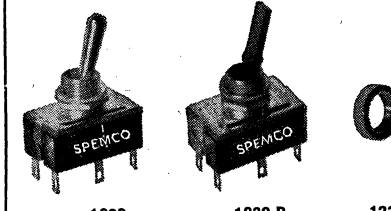
Underwriters' approved, 6 amp. 125 volts, either AC or DC. A 3 position switch, on-off-on. Black bakelite case.



No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1175	SPDT	15/32"	1 13/16"	11/16"	1 1/16"	1.71 ea.
1176	DPDT	15/32"	1 13/16"	11/16"	1 1/16"	2.07 ea.

Sleeve Diameter—15/32"

BAT AND PADDLE LEVER TOGGLE SWITCH 5 Amp.



1232 1232-P 1232-DF
1233 1233-P

This series is unique and used where other switches cannot be reliably used or have no counterpart. Smallest two and three position wiping blade toggle switches at their ratings on the market. Bat lever is nickel-plated brass; paddle lever is black Nylon standard.

Mechanical life expectancy, 100,000 cycles min. Electrical life expectancy, 50,000 cycles min. at full load. Terminals: combination solder lug and quick-connect push-on type terminals. Quick-connect accepts .110" AMP type connector or equal. When wires are soldered, up to two #18 wires or three #20 wires. Weight: double pole, 22.5 grams. Bat lever is 3/4" long; paddle lever is 1 5/16" long, both with a 28 degree throw. 5 amp. 225 volts, 2 amp. 250 volts AC. 4 amps. 125 volts, 1 amp. 250 volts DC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price Each
1232	DPDT (on-off-on)	5/16"	1 13/64"	49/64"	1/2"	$2.55
1232-P	DPDT (on-off-on)	5/16"	1 13/64"	49/64"	1/2"	2.67
1233	SPDT (on-off-on)	5/16"	1 13/64"	49/64"	1/2"	2.04
1233-P	SPDT (on-off-on)	5/16"	1 13/64"	49/64"	1/2"	2.25
1232-DF	Dress face nut (optional) .178" thick					.15

Sleeve Diameter—15/32"

SPECIALTIES MANUFACTURING CO.

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SPEMCO® H & H SWITCHES

PUSH BUTTON DOUBLE ACTION 6 Amp. SWITCH

Underwriters' approved, 6 amp. 125 volts. Press lever to make contact, press lever to break contact. Nickel plated finish or snap-on plastic button, in red or black.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1156	Nickel Plated	9/16"	1 1/8"	1/2"	9/16"	1.02 ea.
1156-A	Red	9/16"	1 1/8"	1/2"	9/16"	1.32 ea.
1156-B	Black	9/16"	1 1/8"	1/2"	9/16"	1.32 ea.

Sleeve Diameter—15/32"

"COMPACT" DOUBLE ACTION (PUSH-PUSH) SWITCH QUICK MAKE AND BREAK ACTION

3 Amp.

Rated at 1 Amp. 250 Volts and 3 Amps. 125 Volts, A.C. and D.C.

Solder lug terminals with double wiping blade mechanism.

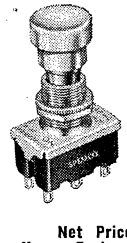
No.	Description	Sleeve	L.	W.	H.	Net Price Each
1215	SPST	9/16"	1 1/32"	41/64"	13/16"	1.17
1215-B	SPST	9/16"	1 1/32"	41/64"	13/16"	1.41
1215-R	SPST	9/16"	1 1/32"	41/64"	13/16"	1.41
1216	SPDT	9/16"	1 1/32"	41/64"	13/16"	1.35
1216-B	SPDT	9/16"	1 1/32"	41/64"	13/16"	1.62
1216-R	SPDT	9/16"	1 1/32"	41/64"	13/16"	1.62
1217	DPST	9/16"	1 1/32"	41/64"	13/16"	1.71
1217-B	DPST	9/16"	1 1/32"	41/64"	13/16"	1.89
1217-R	DPST	9/16"	1 1/32"	41/64"	13/16"	1.89
1218	DPDT	9/16"	1 1/32"	41/64"	13/16"	1.83
1218-B	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.04
1218-R	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.04

(B, means black button, R, means Red button and just the number, nickel.)

Sleeve Diameter — 15/32"

"COMPACT" MOMENTARY ACTION PUSH SWITCH QUICK MAKE AND BREAK ACTION

3 Amp.



Rated at 1 Amp. 250 Volts
3 Amps. 125 Volts A.C.-D.C.

Solder lug terminals with double wiping bade mechanism

No.	Description	Sleeve	L.	W.	H.	Net Price Each
*1219	SPST	9/16"	1 1/32"	41/64"	13/16"	1.44
*1219-B	SPST	9/16"	1 1/32"	41/64"	13/16"	1.65
*1219-R	SPST	9/16"	1 1/32"	41/64"	13/16"	1.65
1220	SPDT	9/16"	1 1/32"	41/64"	13/16"	1.71
1220-B	SPDT	9/16"	1 1/32"	41/64"	13/16"	1.95
1220-R	SPDT	9/16"	1 1/32"	41/64"	13/16"	1.95
*1221	DPST	9/16"	1 1/32"	41/64"	13/16"	1.98
*1221-B	DPST	9/16"	1 1/32"	41/64"	13/16"	2.19
*1221-R	DPST	9/16"	1 1/32"	41/64"	13/16"	2.19
1222	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.13
1222-B	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.31
1222-R	DPDT	9/16"	1 1/32"	41/64"	13/16"	2.31

Sleeve Diameter—15/32"

(B, means black button, R, means Red button and just the number, nickel.)

*SPST & DPST—Normally Off.

MIDGET MOMENTARY PUSH BUTTON SWITCHES

3 Amp.

Underwriters' approved, 3 amp. 120 volts, AC. Molded bakelite base, nickel plated finish.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1141	SP Norm. Closed	9/16"	1 1/32"	9/16"	29/64"	.57 ea.
1141-A	SP Norm. Open	9/16"	1 1/32"	9/16"	29/64"	.57 ea.

Sleeve Diameter—15/32"

3 Amp.

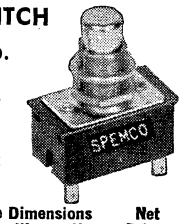
Underwriters' approved, 3 Amp. 120v, AC, Nickel plated finish, Molded bakelite base, Single Pole, slow make and slow break with bakelite snap-On button in red or black. Also white button on request.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1157-A	Open—Red	9/16"	1 1/32"	9/16"	29/64"	.96 ea.
1157-B	Open—Black	9/16"	1 1/32"	9/16"	29/64"	.96 ea.
1157-C	Closed—Red	9/16"	1 1/32"	9/16"	29/64"	.96 ea.
1157-D	Closed—Black	9/16"	1 1/32"	9/16"	29/64"	.96 ea.

Sleeve Diameter—15/32"

INTERMEDIATE MOMENTARY PUSH SWITCH

6 Amp.



U.L. approved for 6 amp. 125 volts, 3 amp. 250 volts. *Except for 1147 which is rated at 1 amp. 250 volts, 6 amp. 125 volts. All back connected, slotted sleeve.

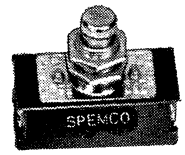
No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
**1146	SPST	1/2"	1 1/4"	11/16"	15/16"	1.71 ea.
*1147	SPDT	1/2"	1 1/4"	11/16"	15/16"	1.89 ea.
**1148	DPST	1/2"	1 1/4"	11/16"	15/16"	2.13 ea.
1149	DPDT	1/2"	1 1/4"	11/16"	15/16"	2.28 ea.

*1 amp. 250 volts, 6 amp 125 volts

**1146 & 1148 Normally off. Sleeve Diameter—15/32"

MOMENTARY PUSH BUTTON SWITCH

16 Amp.



Underwriters' approved, 16 amp. 125 V., 8 amp. 250 V., 1 H.P. 125-250 V. AC-DC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1160	DPST Normally Off	15/32"	1 3/4"	13/16"	25/32"	1.95 ea.
1160-A	DPST Normally On	15/32"	1 3/4"	13/16"	25/32"	1.95 ea.

Sleeve Diameter—15/32"

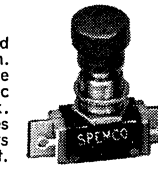
20 Amp.

Underwriters Approved: 20 Amp. 125 V., 10 Amp. 250 V., AC-DC. 1½ H.P. 125-250 V., AC-DC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1230	DPST (Normally Open)	7/16"	1 15/16"	1"	7/8"	3.06 ea.
1231	DPST (Normally Closed)	7/16"	1 15/16"	1"	7/8"	3.06 ea.

Sleeve Diameter—15/32"

1 Amp.



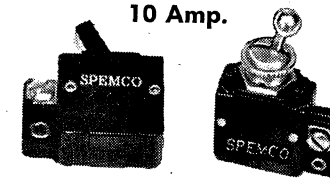
Two circuit, slow make and slow break, momentary switch. One circuit normally on, the other off, with snap-on plastic button, in red or black. (Pushing the button reverses the contact.) 1 Amp. 125 Volts AC. White button on request. Underwriters' Approved.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1158-A	Red	7/16"	1 19/32"	15/32"	17/32"	1.17 ea.
1158-B	Black	7/16"	1 19/32"	15/32"	17/32"	1.17 ea.

Sleeve Diameter—15/32"

POWER SWITCHES

10 Amp.

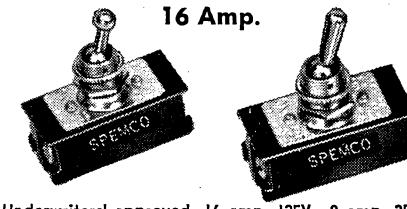


Underwriters' approved, 10 amp. 125 volts. 5 amp. 250 A.C., ¾ H.P. 250V. A.C. ½ H.P. 250V A.C.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
*1133	SPST Bakelite lever	11/32"	15/16"	17/32"	15/16"	1.14 ea.
1133-B		15/16"		17/32"	15/16"	.75 ea.

*15/32" sleeve diameter

16 Amp.



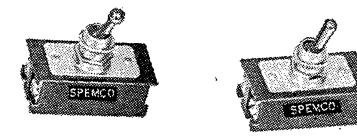
Underwriters' approved, 16 amp. 125V., 8 amp. 250V. A.C.-D.C.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1159	DPST	15/32"	1 3/4"	13/16"	25/32"	1.35 ea.
1159-B	DPST	15/32"	1 3/4"	13/16"	25/32"	1.35 ea.
1159-C	SPDT	15/32"	1 3/4"	13/16"	25/32"	1.35 ea.

1159—Ball Lever 1159-B—Bat Lever

Sleeve Diameter—15/32"

20 Amp.



Underwriters' approved 20 amp, 125 V., 10 amp. 250 V. 1½ H.P. 125-250 V. AC-DC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1134	DPST	15/32"	2"	1"	7/8"	2.28 ea.
1134-B	DPST	15/32"	2"	1"	7/8"	2.28 ea.

1134—Ball Lever 1134-B Bat Lever

Sleeve Diameter—15/32"

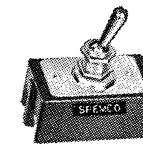
20 Amp.

Fully enclosed tumbler switch, 20 amp. 250V., 1½ H.P. 125V., 2 H.P. 250V.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1170-S	DPST	11/32"	2 1/4"	1 1/8"	15/32"	3.15 ea.

Sleeve Diameter—1/2"

20 Amp.



Fully enclosed tumbler switch, 20 amp. 250V., 1½ H.P. 125V., 2 H.P. 250V.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1170	DPST	17/32"	2 1/4"	1 1/8"	15/32"	3.15 ea.

Sleeve Diameter—15/32"

SPECIALTIES MANUFACTURING CO.

SPEMCO® H & H SWITCHES

EXTRA HEAVY DUTY SWITCH NEUTRAL CENTER 10 Amp.

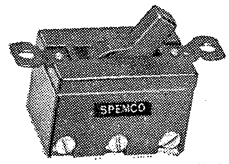
Used in heavy current circuits, such as transmitters, power amplifiers, motors, etc. Contacts have fast 'break' which reduces the tendency to arc. Rated at 10 amp. 125 volts, 5 amp, 250 volts, ¾" HP 250 volts.

Positive off in center.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
*1161-A	DPDT	11/32"	2"	15/16"	1"	4.95 ea.
1161	DPDT	11/32"	2"	15/16"	1"	*4.95 ea.

Straight thru, no off-center* Sleeve Diameter—¾"

20 Amp. & 30 Amp.



3 3/32" mounting centers
1161-B & 1161-D
10 Amp. 250 Volts
20 Amp. 125 Volts
1161-C
20 Amp. 250 Volts
30 Amp. 125 Volts
Both AC-DC

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1161-B	DPDT		2 1/2"	1 19/32"	1 21/32"	7.80 ea.
1161-C	DPDT		2 7/8"	1 13/16"	2"	10.65 ea.
*1161-D	DPDT		2 1/2"	1 19/32"	1 21/32"	7.80 ea.

*20 Amp. Straight thru-no off center.

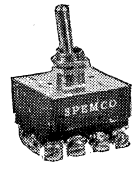
10 Amp.

Rated 10 amp. 125 volts, ½ HP, 115-230 volts AC. 5 amp. 250 volts.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1177	3 PDT	13/32"	2 5/16"	2"	1 1/8"	7.50 ea.
1178	4 PDT	13/32"	2 5/16"	2"	1 1/8"	9.45 ea.

Sleeve Diameter—¾"

THREE & FOUR POLE AC UTILITY SWITCHES 15 Amp. AC



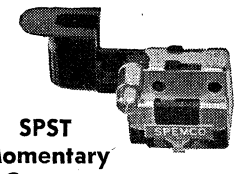
15 amp. 125V., 10 amp. 250V. AC., except Nos. 1200, 1201, 1228 and 1237 which are 10 amp. 250V. AC.

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1198	3PST On-None-Off	15/32"	1 7/16"	1 5/16"	1 1/16"	2.70 ea.
1199	3PDT On-Off-On	15/32"	1 7/16"	1 5/16"	1 1/16"	3.30 ea.
1227	3PDT On-None-On	15/32"	1 7/16"	1 5/16"	1 1/16"	3.30 ea.
1235	3PDT on-off-Mom. on	15/32"	1 7/16"	1 5/16"	1 1/16"	3.60 ea.
1236	3PDT Mom. on-off-Mom. on	15/32"	1 7/16"	1 5/16"	1 1/16"	3.60 ea.
*1200	4PST On-None-Off	15/32"	1 7/16"	1 5/16"	1 1/16"	3.75 ea.
*1201	4PDT On-Off-On	15/32"	1 7/16"	1 5/16"	1 1/16"	4.50 ea.
*1228	4PDT On-None-On	15/32"	1 7/16"	1 5/16"	1 1/16"	4.50 ea.
1237	4PDT Mom. on-Off-Mom. on	15/32"	1 7/16"	1 5/16"	1 1/16"	7.20 ea.

Sleeve Diameter—15/32"

*10 amp. 250 V. A.C. *½ H.P. 115-230 V. A.C.

TOOL HANDLE SWITCH 4 Amp.



Direct Pull Trigger with Latch.
Plug-in Terminal
2 amp., 250 volts.
4 amp., 125 volts.

SPST Momentary Contact

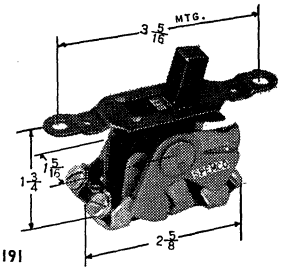
BASE DIMENSIONS

NO.	L.	W.	H.	Net Price
1169	1 5/64"	2 1/32"	1 5/64"	1.14 ea.

HEAVY DUTY SWITCHES Toggle Type

Underwriters' approved, 30 amp. 250 volts, AC DC. 2 H.P., 115V-230V AC; 1 H.P., 460V AC For use on Food Machines, Grinders, Sanders, Machine Tools, Gasoline Pumps, etc.

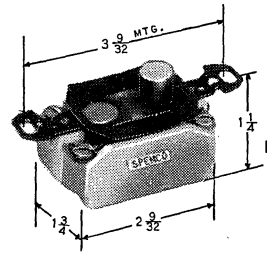
Square Bakelite Lever 30 Amp.



1191

No.	Description	Net Price
1191	DPST Square Lever	2.85 ea.
1190	DPST Roller Type Lever	2.85 ea.

METAL PUSH BUTTON TYPE NORMALLY OPEN 20 Amp.

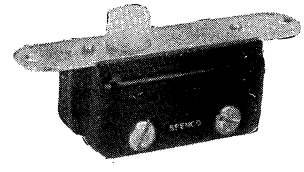


No. 1192

Description	Net Price
DPST	3.10 ea.

Underwriters' approved, 20 amp. 250 volts, 2 H.P. 230V AC, 2 H.P. 250V DC.
For use on Floor Sander, as a foot switch, etc.

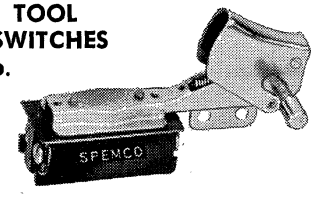
PUSH-BUTTON SWITCH Normally Open 20 Amp.



Enclosed Bakelite—Screw Terminals. Side wired only. Natural color Nylon push button. 20 amp. 120-240 volts AC, 2 H.P., 240 volts AC. U.L. approved.

No.	Description	Base Dimensions L.	W.	H.	Net Price
1240	DPST	2 1/4"	1 1/4"	1"	3.10 ea.

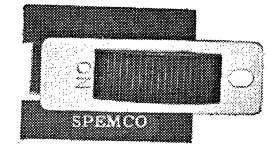
PORTABLE TOOL HANDLE SWITCHES 16 Amp.



Tool handle switch, fully enclosed, normally OFF with locking latches. Rated and approved by the Underwriters' for 8 amp. 250 volts, 16 amp. 125 volts, 1 H.P. 250 volts, 1¾" long, 13/16" wide, ⅞" high.

No.	Description	Net Price
1168	DPST	2.10 ea.

INDICATING SLIDE LEVER SWITCH 6 Amp.

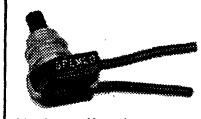


Rated at
3 Amp.—250 volts
6 Amp.—125 volts

SINGLE POLE Screw Terminal

NO.	L.	W.	H.	Net Price
1174	⅞"	½"	17/32"	1.41 ea.

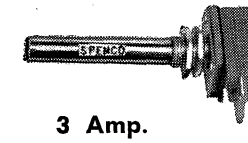
ROTARY CANOPY SWITCH With Fixed Plastic Handle 3 Amp.



Underwriters' approved, 3 amp. 125 volts. 1 amp. 250 volts.

No.	Stem	Wire Lead	Net Price
1179	7/16"	6"	.60 ea.

ROTARY SWITCHES 3 Amp.

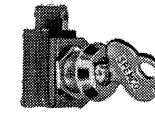


Underwriters' approved, 1 amp. 250 V., 3 amp. 125 V. AC-DC (Except #1128). Nickel plated finish Laminated bakelite base.

No.	Description	Shaft	Sleeve	Base Dimensions L.	W.	H.	Net Price
*1128	SPST	1 1/8"	3/8"	1 3/16"	¾"	9/16"	.96 ea.
1129	SPDT	1 1/8"	3/8"	1 7/16"	¾"	9/16"	1.23 ea.
1130	DPST	1 1/8"	3/8"	1 1/2"	¾"	11/16"	1.56 ea.
1131	DPDT	1 1/8"	3/8"	1 1/2"	¾"	1 1/8"	1.92 ea.

*1128 rated 3 amp. 250 V. AC-DC.
Sleeve Diameter—11/32"

3 Amp. ROTO-LOCK SWITCH

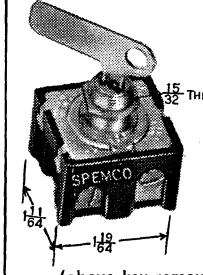


Underwriters' Approved, 3 amp. 250 volts. Except #1129-K & 1131-K

No.	Description	Sleeve	Base Dimensions L.	W.	H.	Net Price
1128-K	SPST (With Key) (above key removable in off position only)	15/32"	1 3/16"	¾"	9/16"	1.74 ea.
1128-KA	Key only for above					.228 ea.
1128-KE	SPST (With Key) (above key removable in either position)	15/32"	1 3/16"	¾"	9/16"	1.74 ea.
*1129-K	SPDT (With Key) (above key removable in either position)	15/32"	1 9/16"	½"	¾"	1.80 ea.
*1131-K	DPDT (With Key) (above key removable in either position)	15/32"	1 9/16"	¾"	¾"	2.34 ea.
1128-KEA	Key-fits 1128-KE, 1129-K, and 1131-K					.228 ea.

*1129-K & 1131-K—U.L. approved, 1 amp. 250 V., 3 amp. 125V., AC-DC. Sleeve Diameter—15/32"

ROTO-LOCK SWITCH 20 Amp.



Underwriters' approved.
20 amp. 120 volts, 240 volts AC.

1½ H.P.—120 volts AC
2 H.P.—240 volts AC

(with key)
(above key removable in off position only)

No.	Description	Sleeve	Net Price
1130-K	(With Key) DPST	9/16"	2.76 ea.
1130-KA	Key Only for above		.30 ea.

SPECIALTIES MANUFACTURING CO.

Net
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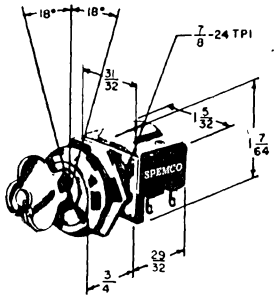
SPEMCO® H & H SWITCHES

TUMBLER LOCK SWITCH



Security type tumbler lock switch, with single hole mounting sleeve. Quick make and break wiping action, and therefore can be considered for both medium power (up to maximum rating) or low energy circuits.

All 6 amp. 125V. AC-DC, 3 amp. 250 V. AC-DC—except 1261 and 1265, which are rated at 6 amp. 125 V. AC-DC, 1 amp 250 V. AC-DC.

Circuit	Key Removable Both Positions	Net Price
SPST	1260	9.00 ea.
SPDT	1261	9.30 ea.
DPST	1262	9.50 ea.
DPDT	1263	9.80 ea.
	Key Removable Off Position Only	
SPST	1264	9.00 ea.
SPDT	1265	9.30 ea.
DPST	1266	9.50 ea.
DPDT	1267	9.80 ea.

HARDWARE

for 15/32" diameter sleeve.

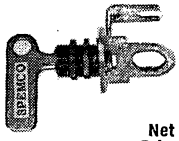
No.	Description	Price
1132-HL	Hi-Lo Plate	.042 ea.
1132	On and Off Plate	.042 ea.
1132-H	Hex Nut	.03 ea.
1132-K	Knurled Nut	.03 ea.
1210	Lockwasher	2.55C
1211	Locking Ring	4.20C

PHENOLIC SNAP-ON BUTTON

No.	Color	Net Price
1212-B	Black	.27 ea.
1212-R	Red	.27 ea.
1212-W	White	.27 ea.

LOCKING BRACKET

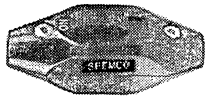
For all bat handle toggle or momentary switches. Any Amp.



No.		Net Price
1226	Fits over 15/32" sleeve diameter.	1.83 ea.
1226-A	Key Only Sleeve diameter 15/32"	.30 ea.

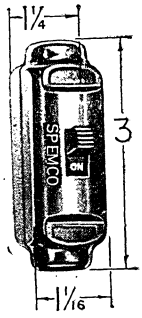
FEED-THROUGH CORD SWITCH

Underwriters approved, black bakelite case, sliding lever, 10 Amp. 125 V., 5 Amp. 250 V.



No.	Description	Net Price
1163	SP	1.62 ea.

FEED THROUGH CORD SWITCH 15 Amp.



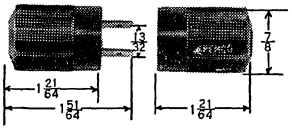
13/32 (.406) Inch Cord Hole

For Appliance Use Only:

Rated at 10 Amp.—250 volts
15 Amp.—125 volts

		Net Price
1164	DP (with 3rd wire ground)	5.28 ea.

CORD CONNECTORS 10 Amp.



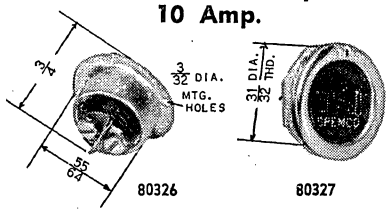
Brown Bakelite Cord Connector Complete, 7/8" O.D. x 2 1/2" long. 10 amps. 250 volts. End opening for wire size up to 3/8" O.D.

No.	Description	Net Price
1162	Complete	2.10 ea.
1162-F	Female Part	1.11 ea.
1162-M	Male Part	1.11 ea.

RECEPTACLES

Underwriters' approved, 10 amp. 250 volts AC.

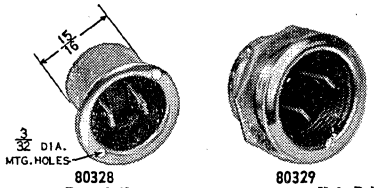
Short Female Flush Receptacle 10 Amp.



80326 80327

No.	Description	Net Price
80326	2 Screw Mounting	1.29 ea.
80327	Lock Nut Mounting	2.04 ea.

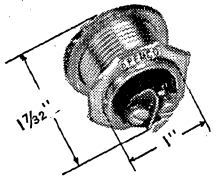
Recessed Male Receptacle 10 Amp.



80328 80329

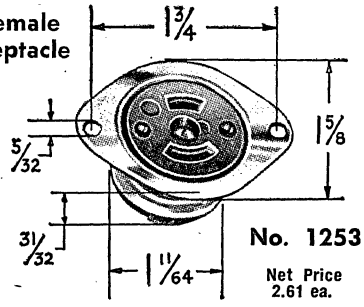
No.	Description	Net Price
80328	2 Screw Mounting	1.44 ea.
80329	Lock Nut Mounting	2.04 ea.

Recessed Female Receptacle 10 Amp.



No. 80331
Description Lock Nut Mounting
Net Price 2.04 ea.

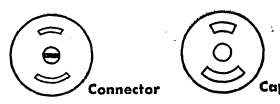
Female Receptacle



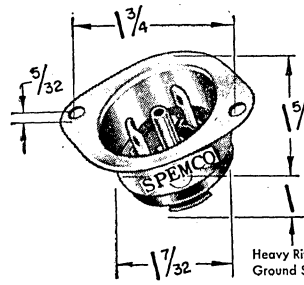
No. 1253

Net Price 2.61 ea.

Configuration

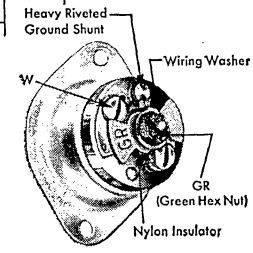


Male Receptacle

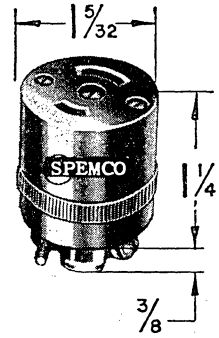


No. 1252

Net Price 2.25 ea.



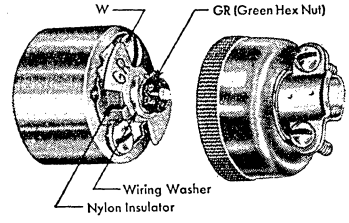
TURN TO LOCK COMPACT RECEPTACLES 3-WIRE GROUNDING TYPE 15 Amp. 125 Volt



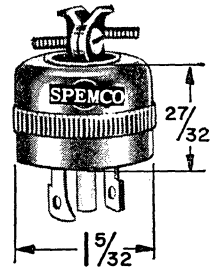
Brass metal casings, finished to resist corosion. Black bakelite is standard.

Female Connector No. 1250

Net Price 2.46 ea.

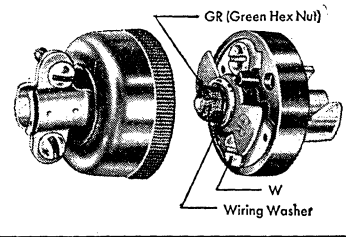


Male Connector



No. 1251

Net Price 1.89 ea.



SPECIALTIES MANUFACTURING CO.

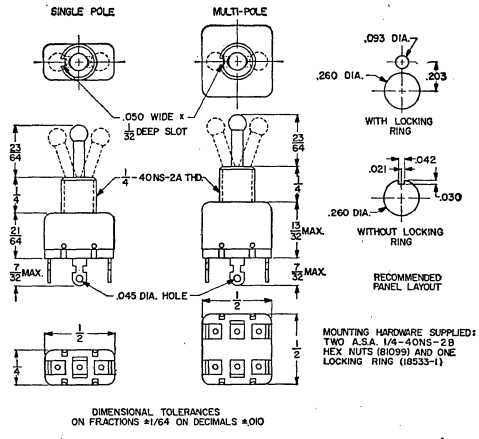
SPEMCO® H & H SUBMINIATURE SWITCHES

Spemco Subminiature Switches are 1/10 the volume of the standard switch.

Photos are actual size of switches.

SUBMINIATURE TOGGLE SWITCHES

Meeting requirements of MIL-S-3950 as applicable to SCL-6305



OPERATING CHARACTERISTICS

CONTACT RATINGS: Low level to 5 amp. resistive at 29 votls DC or 115 volts AC.
INITIAL CONTACT RESISTANCE: 0.01 ohms maximum.
DIELECTRIC STRENGTH: 1000 volts RMS at sea level.
VIBRATION: 5-28 CPS at 0.5 inches double amplitude, 28-2000 CPS at 20 G.
SHOCK: 50G for 11 milliseconds.
ELECTRICAL LIFE (minimum): 20,000 make-and-break cycles.
SEAL: Low temperature rubber boot for panel is available.
WEIGHT: From 3.0 to 5.0 grams maximum.
TERMINALS: Solder lugs.

SPEMCO®

Number	(MS Part No.)	Circuit	Action	Net Price Each
TC-3		SPDT	On-Off-On	$3.00
TC-3-M	(MS-75028-21)	SPDT	On-Off-On	3.20
TE-3		SPDT	On*-Off-On	3.20
TE-3-M	(MS-75028-31)	SPDT	On*-Off-On	3.40
TG-3		SPDT	On*-Off-On*	3.20
TG-3-M	(MS-75028-27)	SPDT	On*-Off-On*	3.40
TM-3		SPDT	On*-None-On	3.20
TM-3-M	(MS-75028-26	SPDT	On*-None-On	3.40
TS-1		SPST	Off-None-On	2.80
TS-1-M	(MS-75028-22)	SPST	Off-None-On	3.00
TS-2		DPST	Off-None-On	3.40
TS-2-M	(MS-75029-22)	DPST	Off-None-On	3.60
TS-3		SPDT	On-None-On	3.00
TS-3-M	(MS-75028-23)	SPDT	On-None-On	3.20
TC-6		DPDT	On-Off-On	3.90
TC-6-M	(MS-75029-21)	DPDT	On-Off-On	4.10
TE-6		DPDT	On*-Off-On	5.00
TE-6-M	(MS-75029-31)	DPDT	On*-Off-On	5.20
TG-6		DPDT	On*-Off-On*	5.00
TG-6-M	(MS-75029-27)	DPDT	On*-Off-On*	5.20
TM-6		DPDT	On*-None-On	5.00
TM-6-M	(MS-75029-26)	DPDT	On*-None-On	5.20
TS-6		DPDT	On-None-On	3.90
TS-6-M	(MS-75029-23)	DPDT	On-None-On	4.10
11-B	Black Rubber Boot			1.00

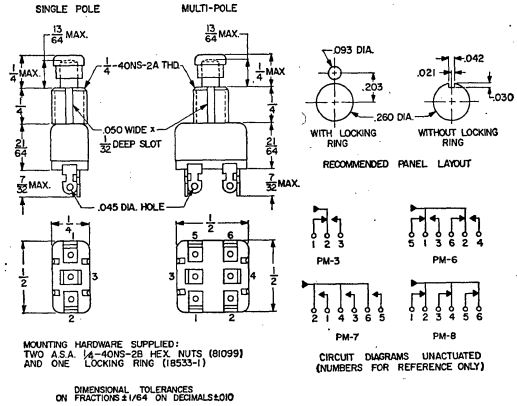
Basic catalog numbers supplied with ball lever.
Military type (suffix "M") supplied with bat lever — suffix "M" switches meet requirements of MIL-S-3950-B.
*Momentary action.

Spemco Subminiature Switches are 1/10 the volume of the standard switch.

Photo is actual size of switch.

SUBMINIATURE PUSH BUTTON SWITCHES, MOMENTARY

Featuring gold plated coin silver contacts and gold plated brass terminals. Ideal for aircraft, missile, electronic and other applications demanding small size and dependability.



OPERATING CHARACTERISTICS

CONTACT RATINGS: 2 amp 29 volt. DC resistive; 1 amp 115 volts AC. Minimum rating for dry circuit application 10 micro amps at 50 MV.
ELECTRICAL LIFE EXPECTANCY: At full load min. 20,000 make-and-break cycles pulsed at rate of 100 cycles per minute.
INITIAL CONTACT RESISTANCE: 0.05 ohms maximum.
VIBRATION: Tested per Mil-Std. −202, Method 204, Condition A.
DIELECTRIC STRENGTH: 1000 volts RMS at sea level for one minute.
TEMPERATURE RANGE: −87°F (−65°C to +200°F (+94°C).
PRETRAVEL: .015″ maximum.
MOVEMENT DIFFERENTIAL: .002″ maximum.
OVERTRAVEL: .010″ maximum.
OPERATE FORCE: 6.6 oz. maximum.
When colored buttons are required, specify the color and add 10c each to the list price. Colors: Black, Red, Yellow, Green, Brown.

SPEMCO®

Number	Circuit	Action	Net Price Each
PM-3	SPDT	Leaf Contact — NO/NC	$2.86
PM-6	DPDT	Leaf Contact — NO/NC	3.51
PM-7	3PST	Leaf Contact — 3P/NO	3.31
PM-8	3PST	Leaf Contact — 3P/NC	4.65
10-B	Black Rubber Boot		1.00

Switches supplied with standard .215″ white (natural) button.

SPECIALTIES MANUFACTURING CO.

Net
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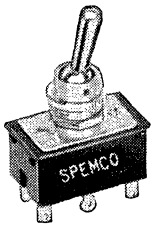
SPEMCO® H & H SWITCHES



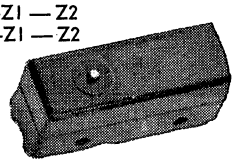
MILITARY TYPE TOGGLE SWITCHES

Manufactured of materials and in accordance with specification Mil-S-3950
MS-25098 and MS-35058—Single Pole MS-25100 and MS-35059—Double Pole

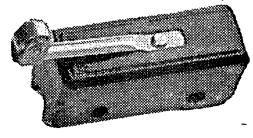
MS Part No.	Up Position	Center Position	Down Position Keyway Side	Net Price	MS Part No.	Up Position	Center Position	Down Position Keyway Side	Net Price
MS-25098-22	On	None	Off	$234.00C	MS-35058-30	Off	None	Mom. On	$193.50C
MS-25098-23	On	None	On	252.00C	MS-35058-31	On	Off	Mom. On	229.50C
MS-25100-22	On	None	Off	287.25C	MS-35059-21	On	Off	On	282.75C
MS-25100-23	On	None	On	306.00C	MS-35059-22	On	None	Off	234.75C
MS-35058-21	On	Off	On	211.50C	MS-35059-23	On	None	On	282.75C
MS-35058-22	On	None	Off	175.50C	MS-35059-24	On	Off	None	234.75C
MS-35058-23	On	None	On	211.50C	MS-35059-25	On	Mom. Off	None	282.75C
MS-35058-24	On	Off	None	175.50C	MS-35059-26	On	None	Mom. On	306.00C
MS-35058-25	On	Mom. Off	None	193.50C	MS-35059-27	Mom. Off	Off	Mom. On	306.00C
MS-35058-26	On	None	Mom. On	229.50C	MS-35059-28	None	Off	Mom. On	282.75C
MS-35058-27	Mom. On	Off	Mom. On	229.50C	MS-35059-29	On	None	Mom. Off	282.75C
MS-35058-28	None	Off	Mom. On	193.50C	MS-35059-30	Off	None	Mom. On	282.75C
MS-35058-29	On	None	Mom. Off	193.50C	MS-35059-31	On	Off	Mom. On	306.00C

SPEMCO® H & H PRECISION SWITCHES — SPDT

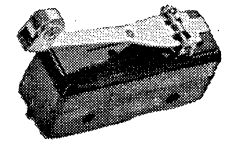
GP3-Z1 — Z2
HD3-Z1 — Z2



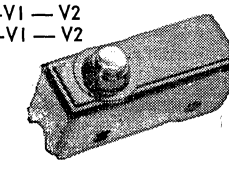
GP3-Q1 — Q2
HD3-Q1 — Q2



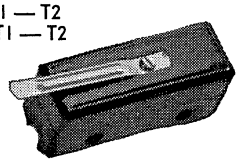
GP3-X1 — X2
HD3-X1 — X2



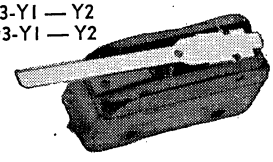
GP3-V1 — V2
HD3-V1 — V2



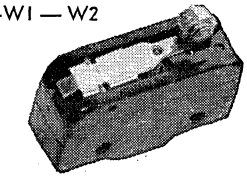
GP3-T1 — T2
HD3-T1 — T2



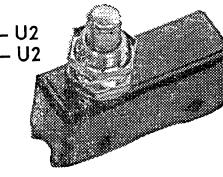
GP3-Y1 — Y2
HD3-Y1 — Y2



GP3-W1 — W2
HD3-W1 — W2



GP3-U1 — U2
HD3-U1 — U2



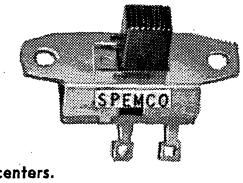
GP indicates **General Purpose** Switches. HD indicates **Heavy Duty** Switches. All UL and CSA approved. **GENERAL PURPOSE SWITCHES:** 15 amp. 480 V. AC; ½ amp. 125 V. DC; ¼ amp. 250 V. DC. **HEAVY DUTY SWITCHES:** 20 amp. 480 V. AC; 10 amp 125 V. AC "L" load, ½ amp. 125 V. DC; ¼ amp. 250 V. DC; 1 H.P. 120 V. AC; 2 H.P. 240 V. AC.

SPEMCO NUMBER Solder Lug	SPEMCO NUMBER Screw Term.	*1 ACTUATOR	OPERATING FORCE	PRETRAVEL	OVERTRAVEL	LIST PRICE Solder Lug	LIST PRICE Screw Term.
GP3-Z1	GP3-Z2	Pin Type	9 to 13 oz.	.015" max.	.005" min.	$155.00 C.	$165.00 C.
GP3-T1	GP3-T2	Flexible Leaf	5 oz. max.	5/32" max.	Not over 1/16"	170.00 C.	180.00 C.
GP3-Q1	GP3-Q2	Std. Roller Leaf	5 oz. max.	5/32" max.	Not over 1/16"	215.00 C.	220.00 C.
GP3-Y1	GP3-Y2	Rigid Hinge Lever	2½ oz.	3/8" max.	.219" min.	200.00 C.	205.00 C.
GP3-X1	GP3-X2	Std. Roller Lever	3½ oz. max.	9/32" max.	.156" min.	250.00 C.	260.00 C.
GP3-W1	GP3-W2	Short Roller Lever	6 oz. max.	9/64" max.	3/32" min.	250.00 C.	260.00 C.
GP3-V1	GP3-V2	Short Overtravel Button	9 to 13 oz.	1/64" max.	1/16" min.	190.00 C.	195.00 C.
GP3-U1	GP3-U2	Panel Mounted Plunger	9 to 13 oz.	1/64" max.	7/32" min.	345.00 C.	350.00 C.
HD3-Z1	HD3-Z2	Pin Type	14 to 22 oz.	.050" max.	.010" min.	$160.00 C.	$170.00 C.
HD3-T1	HD3-T2	Flexible Leaf	9 oz. max.	11/32" max.	Not over 1/16"	180.00 C.	185.00 C.
HD3-Q1	HD3-Q2	Std. Roller Leaf	9 oz. max.	11/32" max.	Not over 1/16"	225.00 C.	230.00 C.
HD3-Y1	HD3-Y2	Rigid Hinge Lever	2½ oz. max.	5/8" max.	.078" min.	205.00 C.	210.00 C.
HD3-X1	HD3-X2	Std. Roller Lever	2½ oz. max.	15/32" max.	1/16" min.	260.00 C.	265.00 C.
HD3-W1	HD3-W2	Short Roller Lever	6 oz. max.	1/4" max.	1/32" min.	260.00 C.	265.00 C.
HD3-V1	HD3-V2	Short Overtravel Button	14 to 22 oz.	.050" max.	.093" min.	195.00 C.	200.00 C.
HD3-U1	HD3-U2	Panel Mounted Plunger	14 to 22 oz.	.050" max.	.219" min.	355.00 C.	360.00 C.

*1 Switches are mounted by two .140 inch diameter holes on one inch centers. Discount: 1-9, none; 10-19, 10%; 20-49, 20%; 50 & over, 30%.

All aforementioned switches, connectors and receptacles are manufactured by H&H for Specialties Manufacturing Company.

Housings are made of steel and are cadmium plated 1 13/32" long, 35/64" wide and 1⅛" mounting centers.



SLIDE SWITCHES

No.	Description	Net Price
1180	SPST 3A-AC .5A-DC 125V	.156 ea.
1181	SPDT .75A AC-DC 125V	.168 ea.
1182	DPST .5A AC-DC 125V	.216 ea.
1183	DPDT 3A-AC .5A-DC 125V	.258 ea.

SPECIALTIES MANUFACTURING CO.

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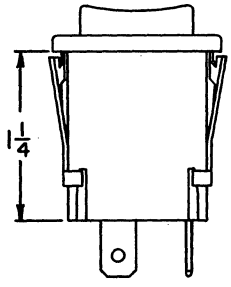
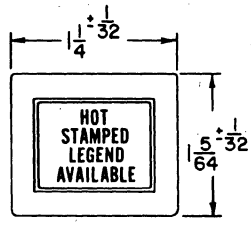
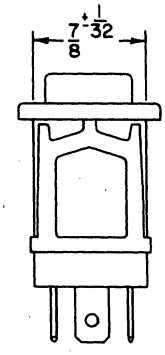
LIGHTED PUSH-BUTTON SWITCHES

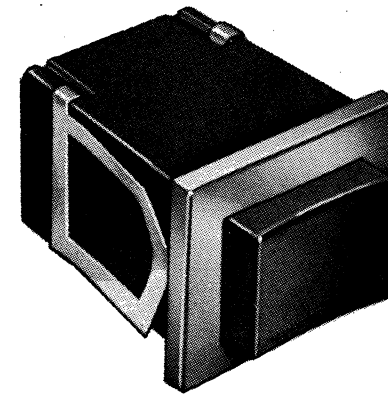
molex®

The Molex 1175 is a light push button switch that is sturdy, well designed and offers a wide choice of features. It is available in alternate action; momentary normally open or momentary normally closed models. The switch snap mounts into place and is offered with spade terminals. Many variations are possible. The button comes in blue, red, amber, yellow, white and green.









Part Number	Volts AC	Amps	Lamp See Note 1	Switch Action See Note 2	Button Color See Note 3	Legend See Note 4	Legend Color See Note 5	1-24 Each	25-49 Each	50-Over Each
117510	6	2	Incandescent	PP, MNO, MNC	W, R, B, G, A, Y	None	N/A	$3.85	$3.55	$3.25
117520	14	2	Incandescent	PP, MNO, MNC	W, R, B, G, A, Y	None	N/A	3.85	3.55	3.25
117530	28	2	Incandescent	PP, MNO, MNC	W, R, B, G, A, Y	None	N/A	4.20	3.85	3.60
117540	125*	8.5	Neon	PP, MNO, MNC	W, R, A, Y	None	N/A	3.45	3.20	2.95
117560	6	2	Incandescent	PP, MNO, MNC	W, R, B, G, A, Y	OFF, ON START, STOP	W, B	4.50	4.20	3.85
117570	14	2	Incandescent	PP, MNO, MNC	W, R, B, G, A, Y	OFF, ON START, STOP	W, B	4.50	4.20	3.85
117580	28	2	Incandescent	PP, MNO, MNC	W, R, B, G, A, Y	OFF, ON START, STOP	W, B	4.90	4.50	4.15
117590	125*	8.5	Neon	PP, MNO, MNC	W, R, A, Y	OFF, ON START, STOP	W, B	4.15	3.85	3.50

*Component U. L. Recognized.

Mechanical life of switch is 25,000 cycles, many test out at considerably more. Bezels are all high quality chrome-plated. Housings are precision molded of durable phenolic, buttons are mar-resistant nylon. All units are supplied with mounting clips for friction locking. Minimum panel thickness, .031". Terminals are standard ¼" male tab for acceptance of WALDOM Type No. SS-1090 ¼" Female Quick Disconnect. Tab also has solder hole for installing wire lead if soldering is desirable.

Notes:

1. Pricing includes permanently installed lamp. 6-volt application, Bulb No. 2114; 14-volt application, Bulb No. 2182; 28-volt application, Bulb No. 2185; 125-volt application, NE 2H, 35K resistor.
2. a. Push-On; Push-Off—add suffix PP to catalog number.
   b. Momentary-Normally Open—add suffix MNO to catalog number.
   c. Momentary-Normally Closed—add suffix MNC to catalog number.
3. Buttons available in White, Red, Blue, Green, Amber and Yellow. Add first initial of color to suffix after designating switch action.
4. Four standard legends are available. They are OFF, ON, START, STOP. Add actual word to catalog number after designating switch action and button color.
5. Color of hot stamping on button is standardized as follows:

Hot Stamping Color	Button Color
White	Red, Blue, Green,
Black	Amber, Yellow,
	White

Recommended Panel Cutout Dimension:
1.115" x .915"

Ordering Examples:

(a) To obtain a 6-volt unit, momentary action, normally open, with red button and no legend—Specify Catalog No. 117510-MNO-R

(b) To obtain a 125-volt unit, push-on, push-off, with yellow button, hot stamped START—Specify Catalog No. 117590-PP-Y-START

These products are manufactured by Molex Products Company, and are available from Electronic/Electrical Distributors through Waldom Electronics.

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American Beauty

SOLDERING IRONS AND SOLDERING ACCESSORIES

Specify voltage, wattage and other options on each order. If your plug needs differ from standard — plug cap on 2-wire cords, NEMA-type plugs on 3-wire cords — specify plug manufacturer's name and catalog number.

LITTLE DANDY

The economy-priced miniature iron that stands up to production line conditions. Steel cored heating element with non-ceramic insulator. Molded handle, aerated finger grip (impervious to oil, perspiration). Balanced, non-roll design. Plug type tips.

Cat. No.	Wattage Std.	Wattage Spec.	Tip Dia.	Shpg. Wt.	Net
3108	20	25/30	1/8"	1/2 lb.	$4.45
3110	25	30/35	3/16"	1/2 lb.	4.45
3112	40	50/60	1/4"	1/2 lb.	5.95

NOTES: Three wattage options each model (3108: 20, 25, 30. 3110: 25, 30, 35. 3112: 40, 50, 60.) For 3-wire cord with NEMA plug, add "S3" to catalog number and $0.70 to price.

BANTAMS

Small irons of traditional American Beauty quality in various inputs and tip diameters.

Cat. No.	Wattage	Tip Dia.	Shpg. Wt.	Net
3114	60	1/4"	1 lb.	$7.45
3118	30	1/8"	3/4 lb.	5.95
3118-X	50	1/8"	3/4 lb.	6.70
3118-XP	50	1/8"	3/4 lb.	6.70
3118-SC	30	1/8"	3/4 lb.	5.95
3118-SCP	30	1/8"	3/4 lb.	5.95
3120	30	3/16"	3/4 lb.	5.95
3120-X	50	3/16"	3/4 lb.	6.70
3120-XP	50	3/16"	3/4 lb.	6.70
3120-SC	30	3/16"	3/4 lb.	5.95
3120-SCP	30	3/16"	3/4 lb.	5.95

NOTES: In above catalog numbers, "X" means "extra heat for continuous duty only; "SC" means "short casing"; "P" means "pencil type handle". For 3-wire cord with NEMA plug, add "S3" to catalog number and $1.40 to price.

B-SERIES IRONS

Best miniature at any price. Advanced design. Precise balance, floating element for fast heat recovery. Boxed with 3 assorted tips.

Cat. No.	Wattage	Tip Point Diameter	Shpg. Wt.	Net
B-2000L	22.5	*	1/2 lb.	$9.30
B-2000P	22.5	1/8"	1/2 lb.	9.30
B-2000PM	22.5	1/16"	1/2 lb.	$9.30
B-2000C	22.5	1/16"	1/2 lb.	9.30
B-2000B	22.5	1/8"	1/2 lb.	9.30
B-2500-L	30	*	1/2 lb.	9.30
B-2500-C	30	3/16" Csl.	1/2 lb.	9.30
B-2500-D	30	3/16" Cone	1/2 lb.	9.30
B-2500-B	30	1/32" Cone	1/2 lb.	9.30
B-2500-PM	30	3/32" Csl.	1/2 lb.	9.30

NOTES: *1 each 1/8" chisel, 1/16" chisel, 1/8" cone. For 3-wire cord with NEMA plug, add "S3" to catalog number and $0.70 to price.

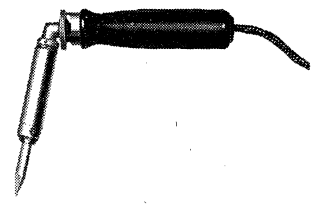
STANDARD IRONS

Production lines around the world use hundreds of thousands of these proven American Beauties.

Cat. No.	Wattage Std.	Wattage Spec.	Tip Dia.	Shpg. Wt.	Net
3125	60	75	1/4"	1 lb.	$7.45
3128	60	75	1/4"	1 lb.	6.70
3138	100	130/150	3/8"	2 lbs.	9.65
3138-X	175	—	3/8"	2 lbs.	10.80
3138-Y	100	130/150	1/4"	2 lbs.	9.65
3138-XY	175	—	1/4"	2 lbs.	10.80
3158	200	—	5/8"	3 lbs.	11.90
3158-X	250	300	5/8"	3 lbs.	13.05
3178	300	—	7/8"	4 lbs.	15.65
3178-X	300	400	7/8"	4 lbs.	16.75
3198	550	675	1 1/8"	5 3/4 lbs.	19.35

NOTES: "X" in catalog number means "extra hot, for continuous duty only." For 3-wire cord with NEMA plug, add "S3" to catalog number and $1.40 to price.

ANGLE TYPE IRONS

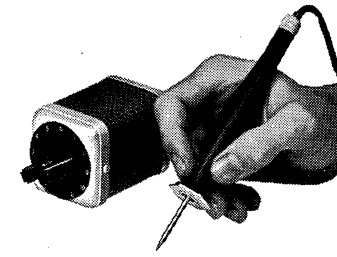


Same quality as American Beauty Standard Irons but angled for soldering hard-to-reach connections.

Cat. No.	Wattage Std.	Wattage Spec.	Tip Dia.	Shpg. Wt.	Net
3118-A	30	40	1/8"	3/4 lb.	$6.70
3118-XA	50	40	1/8"	3/4 lb.	7.45
3120-A	30	40	3/16"	3/4 lb.	6.70
3120-XA	50	40	3/16"	3/4 lb.	7.45
3125-A	60	75	1/4"	1 lb.	8.15
3128-A	60	75	1/4"	1 lb.	7.45
3138-A	100	130/150	3/8"	1 1/4 lb.	10.45

NOTES: "X" in catalog number means "extra hot, for continuous duty only." For 3-wire cord with NEMA plug, add "S3" to catalog number and $1.40 to price.

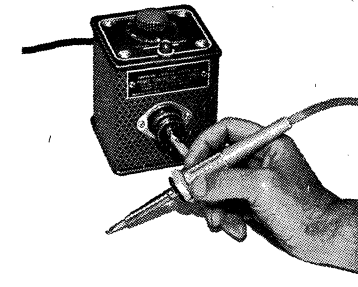
TRANSFORMER TYPE IRONS



Use these American Beauties where isolation from line voltage is necessary. Heating elements in tips for quick tip heat changes. T-6 has variable heat dial. T-12 and T-30, non-variable.

Cat. No.	Wattage Std.	Wattage Spec.	Tip Dia.	Shpg. Wt.	Net
T-6	Variable		9/64"	1 1/2 lbs.	$17.00
T-12E/W T-1216	17	20.	1/16"	1 1/2 lbs.	14.90
T-12E/W T-1218	17	20	1/8"	1 1/2 lbs.	14.90
T-12E/W T-1225	17	20	1/4"	1 1/2 lbs.	14.90
T-12E/W T-1232	12	—	3/32"	1 1/2 lbs.	14.90
T-30E/W T-3016	30	25	1/16"	2 lbs.	16.40
T-30E/W T-3018	30	25	1/8"	2 lbs.	16.40
T-30E/W T-3025	30	25	1/4"	2 lbs.	16.40
T-30E/W T-3032	12	—	3/32"	2 lbs.	16.40

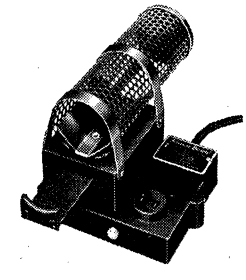
V-3000 SYSTEM



New type system dependably dials and maintains any tip temperature from 350° to 750°. High reserve for fast recovery. Iron is 40-watt, uses any 3/16" plug type tip.

Cat. No.	Wattage	Shpg. Wt.	Net
V-3000	Variable	5 lbs.	$49.00

TEMPERATURE REGULATING STANDS



Maintain soldering iron at preset temperature during idle and intermittent use. Minimizes warmup, prevents over-

Net

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American Beauty

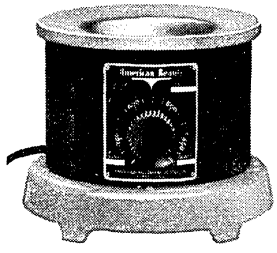
SOLDERING IRONS AND SOLDERING ACCESSORIES

heating, saves current. Pilot light. Adjustable to length of iron.

Cat. No.	Use	Shpg. Wt.	Net
475	For 100W-600W irons	3¼ lbs.	$9.70
476	For 30W-85W irons	3¼ lbs.	9.70

NOTES: For perforated guard (as shown) add "SG" to catalog number and $1.40 to price. Standard cord is HPD; if you want either 2-wire or 3-wire SJO cord specify on order.

GENERAL PURPOSE SOLDER POTS

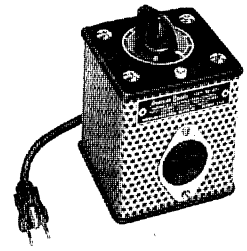


Crucibles of cast iron, chemically stable to keep solder pure. Center tapped for dross skimmer or extra fixturing. Wide lipped for extra fixture mounting. Shallow; 1½" deep. Heat solder to 400° in 15 minutes — 750° in 25 minutes. Adjustable, direct reading thermostat.

Cat. No.	Solder Capacity	Shpg. Wt.	Net
300	1 lb.	6½ lbs.	$28.40
301	(Same as NO. 300, with dross skimmer)	6½ lbs.	31.20
600	2½ lbs.	9 lbs.	29.80
601	(Same as NO. 600, with dross skimmer)	9 lbs.	32.65

NOTES: Standard cords are 2-wire SJO; for 3-wire cord, add "S3" to catalog number and $1.40 to price.

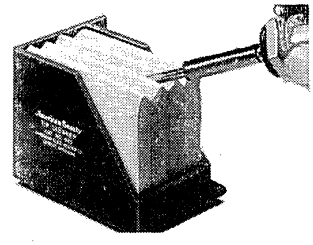
INFINITELY VARIABLE POWER CONTROL UNIT



Dials and accurately controls soldering iron tip heat. (Also reliably controls small motor speeds.) Wattage: zero to 125W; infinitely variable, stepless. Fused. Pilot lighted.

Cat. No.	Shpg. Wt.	Net
477	3¾ lbs.	$16.80

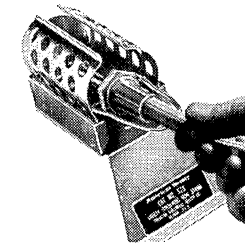
ONE-PASS TIP CLEANERS



Cleans all sides of tip in one motion. Eliminates tip damage, linting, stray solder pellets. Rubberized base, bored for mounting.

Cat. No.	Descrip.	Shpg. Wt.	Net
480	Complete set	½ lb.	$2.10
480-S	Sponges only (ea.)	3 oz.	.15

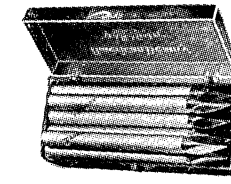
SAFETY SOLDERING IRON STAND



Gravity controlled. Opens, closes automatically. Operator doesn't look up from work. Accommodates all miniature irons.

Cat. No.	Descrip.	Shpg. Wt.	Net
575	Soldering Stand	1 lb.	$2.80

PARAGON QUALITY SOLDERING TIPS

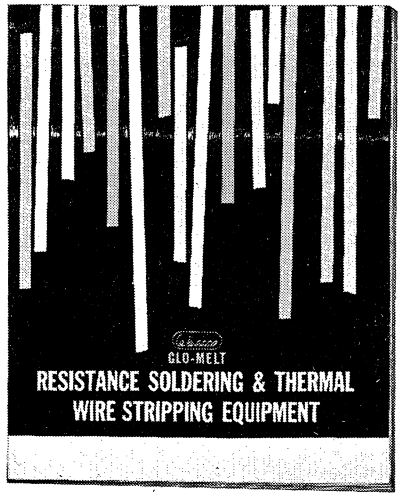


Iron clad tips. Outlast unclad tips many times. Pretinned; point retins self as it works. Clad shank does away with pitting, scaling. Overall chromecoat and minute tapering make tip drip-proof, freeze-free.

ORDERING: Use American Beauty Catalog No. TC-2. Or order tips by carefully specifying shank diameter, overall length, and style of point (diamond, chisel, screwdriver, cone).

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

RESISTANCE-TYPE SOLDERING & THERMAL WIRE STRIPPING EQUIPMENT



Complete, single source for newest equipment from simplest to most sophisticated

RESISTANCE-TYPE SOLDERING

Power units, control consoles, handpieces, accessories . . . Basic building blocks for your automated soldering systems

THERMAL WIRE STRIPPING

Combinations of power and control units, handpieces and accessories for fast, nick free stripping of thermoplastics and other heat strippable insulations

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AMERICAN ELECTRICAL HEATER COMPANY

BEAUCHAINE & SONS INC.

Subsidiary of VERNITRON CORPORATION

BEAU-TECH©
SOLDERING AIDS

The hallmark of quality shows in each detail. Examine the straight or angled tips for the hard-to-reach areas . . . you'll find they're twist-proof, hard-chrome plated to shed solder. More, both ends are insulated from one another. The practical fork-ends are a "must" for twisting or holding wires. And when you want to scrape joints, connections or ream out lug holes, just flip your **Beau-Tech** soldering aid to the spade end. Non-slipping, non-rolling "hex" handles. Available in standard, miniature and single ended models.

STANDARD

Fig. A, Beau-Tech SH-20A Straight Reamer & Forked Tips.
Federal stock no. cross reference: FSN-5120-629-2697.
FSN-3439-330-5075, USAF-3439-608-2392 ..... **Net 98¢**

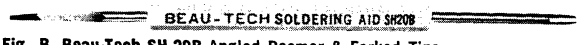


Fig. B, Beau-Tech SH-20B Angled Reamer & Forked Tips.
FSN-3439-633-6232, USAF-3439-019-9882 ..... **Net 98¢**
Fig. , Beau-Tech SH-20-A-SE Straight Tip ..... **Net 87¢**
Fig. , Beau-Tech SH-20-B-SE Angled Tip ..... **Net 87¢**
Fig. , Beau-Tech SH-20-F-SE Forked Tip ..... **Net 87¢**

Fig. C, Beau-Tech SH-20K Brush & Scraper Tips.
FSN-5120-767-9126 ..... **Net 98¢**
Fig. , Beau-Tech SH-20KF Brush & Forked Tip ..... **Net 98¢**

PRINTED CIRCUIT

Fig. D

Fig. D; Beau-Tech SH-20C Printed Circuit Type.
Straight Reamer & Forked Tip USAF-3439-562-7066 ..... **Net 85¢**

Fig. E

Fig. E, Beau-Tech SH-20D Printed Circuit Type.
Angled Reamer & Forked Tips USAF-3439-562-7067 ..... **Net 85¢**

Fig. F

Fig. F, Beau-Tech SH-20E Printed Circuit Type.
Reamer & Scraper Tips USAF-3439-562-7068 ..... **Net 85¢**

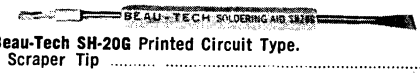
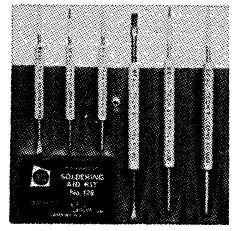
Fig. G 

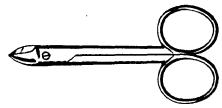
Fig. G, Beau-Tech SH-20G Printed Circuit Type.
Brush & Scraper Tip ..... **Net 92¢**
Fig. , Beau-Tech SH-20-GF Printed Circuit Type.
Brush & Forked Tip ..... **Net 92¢**

Fig. H

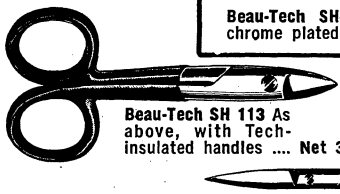


Soldering Aid Kit includes:
Fig. H, BeauTech SH-120
SH-20E, SH-20D, SH-20C,
SH-20K, SH-20B, SH-20A ..... **Net 5.35**

SCISSORS

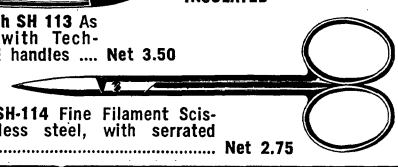


Beau-Tech SH-112 Filament Scissors, chrome plated over surgical steel ..... **Net 2.75**



INSULATED

Beau-Tech SH 113 As above, with Tech-insulated handles .... **Net 3.50**



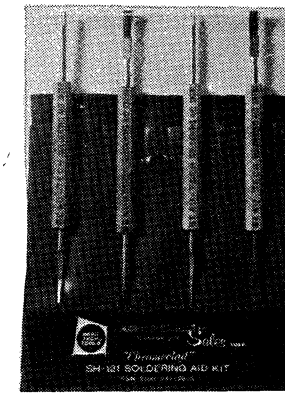
Beau-Tech SH-114 Fine Filament Scissors, stainless steel, with serrated edges ..... **Net 2.75**

BEAU-TECH©
SOLDERING AID KIT

MINIATURE

Beau-Tech SH-121, consists of 4 popular, BEAU-TECH miniature soldering aids, each approx. 5½" long, with flexible case. Working tips of tool steel, heat-treated in Swedish manner, hand-ground, machined and polished before chrome plating. Stainless brushes. Varnished New Hampshire hardwood handles. Kit includes: SH-20-C Soldering Aid straight tip and forked tip, SH-20-D Soldering Aid angled tip and forked tip, SH-20-G Soldering Aid brush and scraper tip, SH-20-GF Soldering Aid brush and forked tip.

SH-121 Kit ..... **Net 4.35**

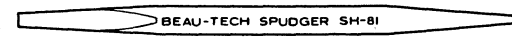


BEAU-TECH©
SPUDGERS

Fig. K

Fig. K, Beau-Tech SH-80 Spudger. Widely used by telephone and electronics technicians for checking circuitry, wiring, and as a soldering aid. WE 709, 733; KS-1102 ..... **Net 55¢**

Fig. L, Beau-Tech SH-81 Spudger. Same as SH-80, meets MIL-specs and Federal Stock Number requirements. Both are made of red vulcanized fibre. FSN-5120-408-1764, FSN-5120-293-3112, ORD Dwg. A-7578690 ..... **Net 55¢**

Fig. L 

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PROBERS

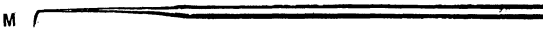
Fig. M 

Fig. M, Beau-Tech SH-116 Prober #6, stainless steel, vinyl hang-up pouch ..... **Net 98¢**

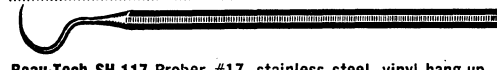
Fig. N 

Fig. N, Beau-Tech SH-117 Prober #17, stainless steel, vinyl hang-up pouch ..... **Net 98¢**

Fig. O

Fig. O, Beau-Tech SH-123 Prober #23, stainless steel, vinyl hang-up pouch ..... **Net 98¢**

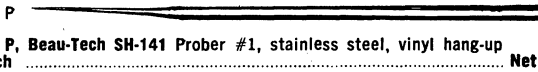
Fig. P 

Fig. P, Beau-Tech SH-141 Prober #1, stainless steel, vinyl hang-up pouch ..... **Net 98¢**

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INSPECTION MIRRORS

INSULATING HARWOOD HANDLES

Fig. Q

Fig. Q, Beau-Tech SH-131 Inspection Mirror, ¾", 3x magnification .. **Net 85¢**
Fig. Q, Beau-Tech SH-132 Inspection Mirror, 1", 3x magnification .... **Net 85¢**
Fig. Q, Beau-Tech SH-133 Inspection Mirror, ¾" plain ..... **Net 85¢**
Fig. Q, Beau-Tech SH-134 Inspection Mirror, 1" plain ..... **Net 85¢**

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MICRO-MINIATURE TWEEZERS

MADE IN U.S.A.

These tools have been specifically designed and precision-shaped for ease of handling micro-miniature parts in electronic instrumentation and related fields — where extremely sharp, strong points and delicate tension are required.

Fig. A

Fig. A, Beau-Tech SH-380 General use, strong blades, fine points, stainless steel, non-magnetic, 4½" ..... **Net 3.50**

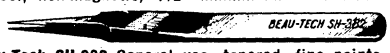
Fig. B 

Fig. B, Beau-Tech SH-382 General use, tapered, fine points, stainless steel, non-magnetic, 4½" ..... **Net 3.85**

Fig. C

Fig. C, Beau-Tech SH-383 Assembly work, very fine points, stainless steel, non-magnetic, 4½" ..... **Net 3.75**

Fig. D

Fig. D, Beau-Tech SH-384 Extra-fine work, blades taper sharply from body, stainless steel, superfine points, non-magnetic, 4½" **Net 4.75**

Fig. E

Fig. E, Beau-Tech SH-385 Assembly work, superfine points, stainless steel, non-magnetic, 4½" ..... **Net 5.00**

Fig. F

Fig. F, Beau-Tech SH-394 Extra-fine work, blades taper sharply from body, bent points, stainless steel, non-magnetic, 4½" ..... **Net 5.00**

STANDARD TWEEZERS

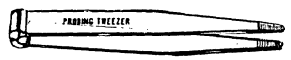
Fig. G 

Fig. G, Beau-Tech SH-24A 7" Probing Tweezer, Plastic ..... **Net 50¢**

Fig. I

Fig. I, Beau-Tech SH-100 Filament Holder, stainless steel. Includes vinyl hang-up pouch ..... **Net 2.00**

Fig. J

Fig. J, Beau-Tech SH-101 Angular Filament Holder, stainless steel. Includes vinyl hang-up pouch. Redstone Arsenal Stock No. 025-29075-5 ..... **Net 2.00**

Fig. K

Fig. K, Beau-Tech SH-102 Utility Tweezer No. 1, plated. Includes vinyl hang-up pouch ..... **Net 79¢**

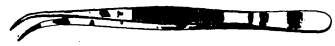
Fig. M 

Fig. M, Beau-Tech SH-104 Fine Filament Holder, stainless steel. Includes vinyl hang-up pouch. Redstone Arsenal Stock No. 025-29075-5 ..... **Net 2.00**

Fig. N

Fig. N, Beau-Tech SH-105 Lock-type Filament Holder, stainless steel ..... **Net 3.25**

Fig. O

Fig. O, Beau-Tech SH-106 Heavy Gripper, stainless steel. Includes vinyl hang-up pouch ..... **Net 2.25**

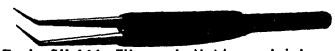
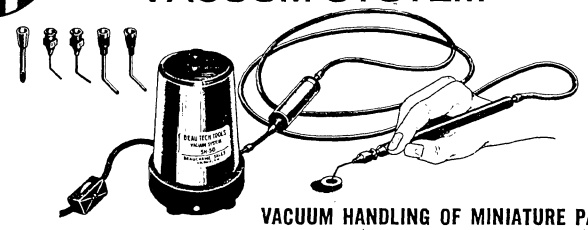
Fig. P 

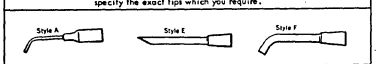
Fig. P, Beau-Tech SH-111 Filament Holder, stainless steel, tec-insulated handle. Includes vinyl hang-up pouch ..... **Net 2.25**

BEAU-TECH©
VACUUM SYSTEM



VACUUM HANDLING OF MINIATURE PARTS

System normally supplied with Tips No. 11, 12, 20, 22, and 24, however, you may specify the exact tips which you require.



Tip No.	I. D.	O. D.	Style	Mat'l of Hub	Metal needle	All Plastic	List	Over 20 Each No.
SH-50-11	.03	.10	E			X	.95	.85
SH-50-12	.06	.12	E			X	.95	.85
SH-50-13	.12	.19	E			X	.95	.85
SH-50-14	.03	.10	F			X	1.90	1.71
SH-50-15	.06	.12	F			X	1.90	1.71
SH-50-16	.12	.19	F			X	1.90	1.71
SH-50-17	.25	.31	F			X	1.90	1.71
SH-50-20	.007	.016	A	Metal	X		1.25	1.13
SH-50-21	.010	.020	A	Metal	X		1.25	1.13
SH-50-22	.013	.025	A	Metal	X		1.25	1.13
SH-50-23	.016	.028	A	Metal	X		1.25	1.13
SH-50-24	.020	.032	A	Metal	X		1.25	1.13
SH-50-25	.025	.036	A	Metal	X		1.25	1.13
SH-50-26	.033	.050	A	Metal	X		1.25	1.13
SH-50-27	.035	.057	A	Metal	X		1.60	1.44
SH-50-28	.043	.064	A	Metal	X		1.60	1.44
SH-50-29	.052	.071	A	Metal	X		1.60	1.44
SH-50-30	.070	.095	A	Metal	X		1.60	1.44

Beau-Tech SH-50, consists of a small electric vacuum generator producing up to 14" Hg vacuum, an inline filter which protects the generator from foreign matter, an SH-52 Cylindrical Probe and five Probe tips from the selection listed at left, and a 4" length of vacuum tubing. The operation of the SH-50 Vacuum System is simplicity itself—plug in the generator line cord, turn on the switch and you're in business. Objects are picked up by holding the index finger over the hole in the handpiece, raising the finger to release. .....**Net 36.95 ea., 10 or more 33.25 ea.**

SH-52 CYLINDRICAL PROBE (Handpiece) **Net 6.25**

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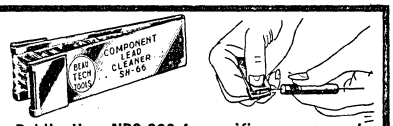

Beau-Tech SH-66, NASA Quality Publication NPC-200-4 specifies component leads must have all oxides removed before being soldered in place. Beau-Tech SH-66 is a unique and inexpensive hand tool (Stainless Steel) and complies completely with these specs. .....**Net $1.50 ea., 10 or more 1.35 ea.**

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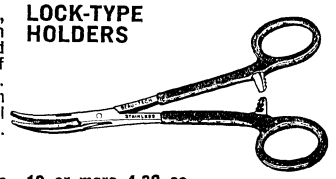
Beau-Tech SH-90-C and **SH-90-S,** Stainless Steel tools have 2-position snap-locks. Excellent clamp and heat sink for the soldering of diodes, transistors, components. Handy as a "third hand". With TEC-COATED handles, and vinyl hang-up pouch. Length, approx. 5½".



SH-90-C (Curved Jaws) **Net 4.80 ea., 10 or more 4.32 ea.**
SH-90-S (Straight Jaws) **Net 4.80 ea., 10 or more 4.32 ea.**

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Fig. R

Fig. R, Beau-Tech SH-301 Tweezers #1 .....**Net 3.00**
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Fig. S

Fig. S, Beau-Tech SH-303C Tweezers #3C .....**Net 3.20**
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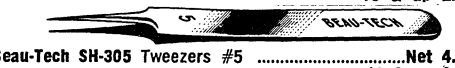
Fig. T 

Fig. T, Beau-Tech SH-305 Tweezers #5 .....**Net 4.00**
10 & up 3.60

Fig. U

Fig. U, Beau-Tech SH-307 Tweezers #7, Fine Points .....**Net 4.30**
10 & up 3.87

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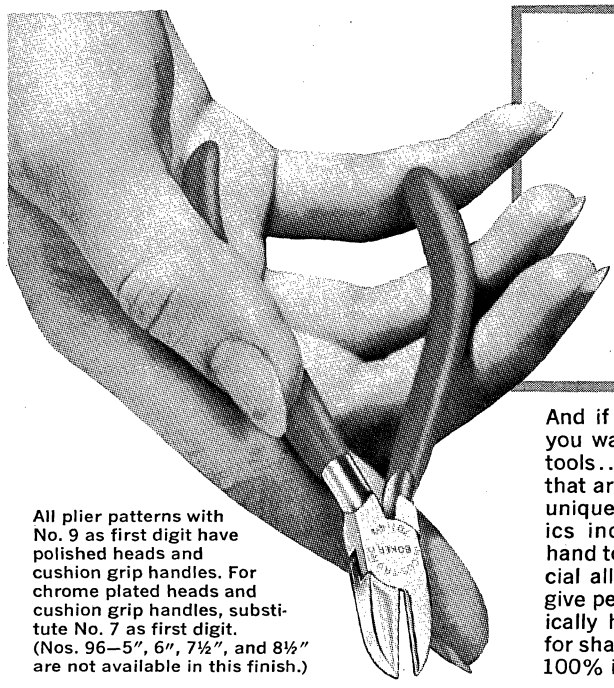

All plier patterns with No. 9 as first digit have polished heads and cushion grip handles. For chrome plated heads and cushion grip handles, substitute No. 7 as first digit. (Nos. 96—5", 6", 7½", and 8½" are not available in this finish.)

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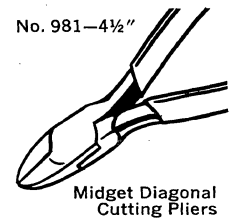
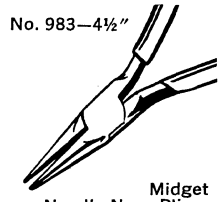
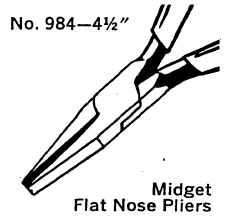


No. 981—4½"
Midget Diagonal Cutting Pliers

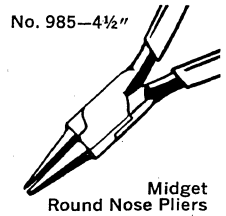
No. 982—4½"
Midget End Cutting Nippers



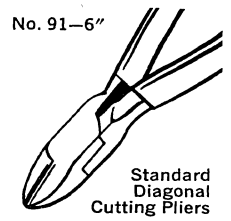
No. 983—4½"
Midget Needle Nose Pliers



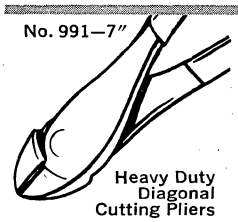
No. 984—4½"
Midget Flat Nose Pliers



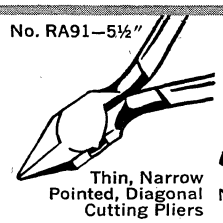
No. 985—4½"
Midget Round Nose Pliers



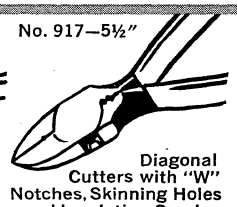
No. 91—6"
Standard Diagonal Cutting Pliers



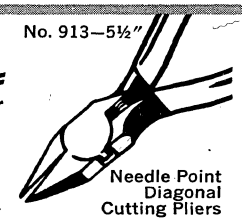
No. 991—7"
Heavy Duty Diagonal Cutting Pliers



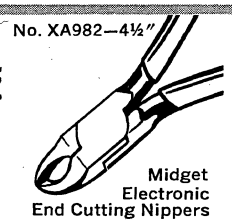
No. RA91—5½"
Thin, Narrow Pointed, Diagonal Cutting Pliers



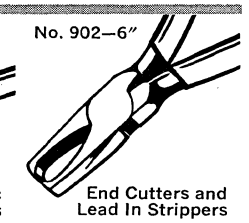
No. 917—5½"
Diagonal Cutters with "W" Notches, Skinning Holes and Insulation Crusher



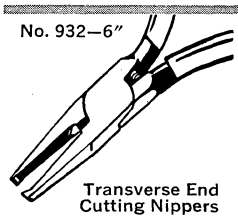
No. 913—5½"
Needle Point Diagonal Cutting Pliers



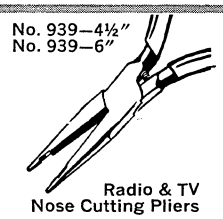
No. XA982—4½"
Midget Electronic End Cutting Nippers



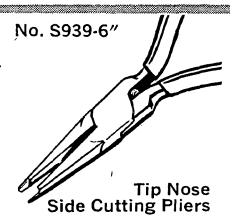
No. 902—6"
End Cutters and Lead In Strippers



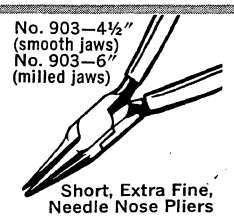
No. 932—6"
Transverse End Cutting Nippers



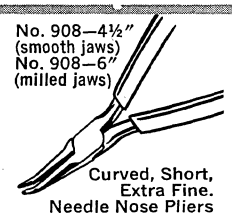
No. 939—4½"
No. 939—6"
Radio & TV Nose Cutting Pliers



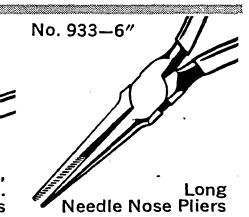
No. S939-6"
Tip Nose Side Cutting Pliers



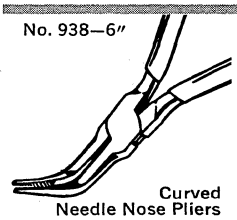
No. 903—4½" (smooth jaws)
No. 903—6" (milled jaws)
Short, Extra Fine, Needle Nose Pliers



No. 908—4½" (smooth jaws)
No. 908—6" (milled jaws)
Curved, Short, Extra Fine. Needle Nose Pliers

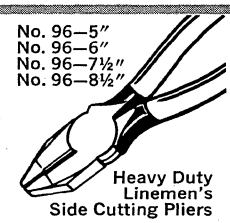


No. 933—6"
Long Needle Nose Pliers

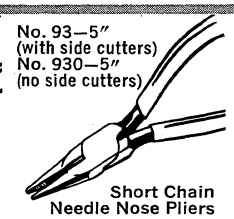


No. 938—6"
Curved Needle Nose Pliers

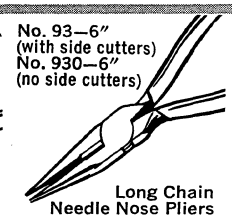
No. P6507—6½"
No. P6507—8"
No. P6507—10"
"Groove Grip" Utility Pliers. Five Positions



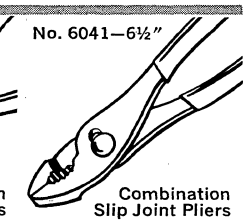
No. 96—5"
No. 96—6"
No. 96—7½"
No. 96—8½"
Heavy Duty Linemen's Side Cutting Pliers



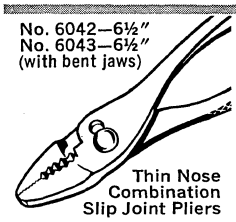
No. 93—5" (with side cutters)
No. 930—5" (no side cutters)
Short Chain Needle Nose Pliers



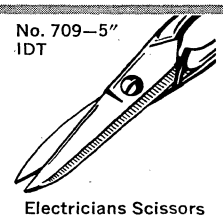
No. 93—6" (with side cutters)
No. 930—6" (no side cutters)
Long Chain Needle Nose Pliers



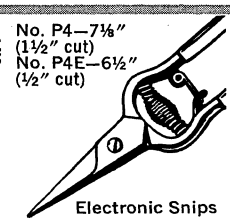
No. 6041—6½"
Combination Slip Joint Pliers



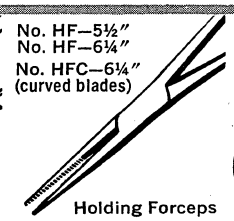
No. 6042—6½"
No. 6043—6½"
(with bent jaws)
Thin Nose Combination Slip Joint Pliers



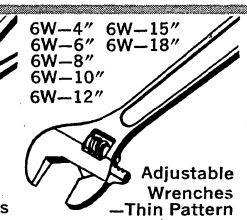
No. 709—5"
IDT
Electricians Scissors



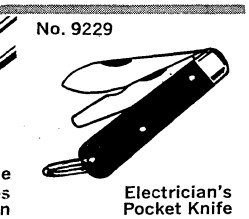
No. P4—7⅛"
(1½" cut)
No. P4E—6½"
(½" cut)
Electronic Snips



No. HF—5½"
No. HF—6¼"
No. HFC—6¼"
(curved blades)
Holding Forceps



6W—4" 6W—15"
6W—6" 6W—18"
6W—8"
6W—10"
6W—12"
Adjustable Wrenches —Thin Pattern



No. 9229
Electrician's Pocket Knife

BOKER MANUFACTURING CO.
A Subsidiary of THE NEW BRITAIN MACHINE CO.

BOKER IN-DUS-TRONIC TOOLS

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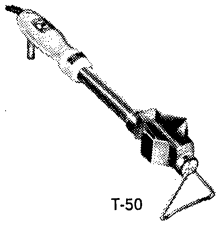
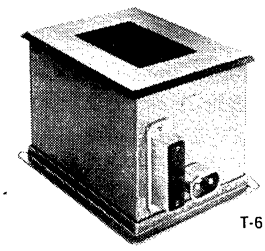
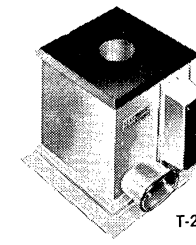
CAIG LABORATORIES INC.

SOLDER BATHS and GENERAL USE HEATING CONTROLS


T-50

R-4A


T-6


T-2

RECTANGULAR AND ROUND SOLDER BATHS

Catalog No.	Watts	Volts	Approx. Temperature (°C)	(°F)	Internal Dimensions Approx. (Inches) Length	Width	Depth	Contents Approx. (CC)	Heat Control	Weight Approx. (Lbs.)	Price
T-50	65	110	300	572	1.10	0.78	0.55	7	Full Heat	1.00	$ 9.75
T-100	130	110	340	644	2.37	1.18	1.18	25	Full Heat	1.50	10.50
T-250A*	260	110	420	788	2.94	2.37	1.56	100	Full & Half	5.00	34.50
T-2*	240	110	600	1112	—	0.97 dia.	1.84	17	Full & Half	3.00	28.00
T-3*	350	110	430	806	3.94	1.18/0.59	2.14	120	Full & Half	5.50	32.00
T-4*	400	110	410	770	2.00	2.00	3.28	220	Full & Half	8.50	40.00
T-6*	1000	110	560	1040	4.69	3.13	2.39	570	Full & Half	11.25	61.00
T-9**	2800	230	650	1202	6.50	5.33	3.94	2080	3 Step Sw.	31.00	175.00
T-1212	2000	230	372	700	12.00	12.00	2.00	90 lbs.	Automatic	55.00	175.00
T-1218‡	2800	230	372	700	18.00	12.00	2.00	135 lbs.	Automatic	70.00	210.00
T-1418‡	3000	230	372	700	18.00	14.00	2.00	175 lbs.	Automatic	60.00	290.00
R-1.5A	200	110	288	550	—	1.50 dia.	1.50	1 lb.	Automatic	5.00	33.00
R-4A†	300	110	288	550	—	3.00 dia.	1.50	4 lbs.	Automatic	6.00	34.00
R-10A†	500	110	288	550	—	3.50 dia.	2.50	10 lbs.	Automatic	11.00	47.00
R-20A†	1100	110	372	700	—	5.00 dia.	4.00	20 lbs.	Automatic	33.00	91.00
R-40A	1500	230	372	700	—	6.00 dia.	6.00	40 lbs.	Automatic	40.00	103.00
R-80X	3000	230	538	1000	—	8.00 dia.	5.50	80 lbs.	Full Heat	45.00	150.00
R-80AXP	3000	230	538	1000	—	8.00 dia.	5.50	80 lbs.	Automatic	60.00	280.00
R-4X	800	110	538	1000	—	3.00 dia.	1.50	4 lbs.	Full Heat	6.00	42.00
R-4AX†	900	110	538	1000	—	3.00 dia.	1.50	4 lbs.	Automatic	9.00	73.00

NOTES: (*) Can be Switched to Half Wattage Rating. (**) With 3-Step Switch. (†) Non-Indicating Thermostat Bimetal Control. (‡) For Partlow Indicating Control add $150.00 to Base Price. Otherwise non-indicating thermostat supplied, control knob.

MODEL 30 CONTROL TRANSFORMER

FOR ALL 6 VOLT SOLDERING IRONS

The **R30,** transformer model has a primary voltage regulator for 110, 125, 150, 220 and 240 volts. The secondary voltage is also variable within the range of 5 to 6.5 volts, thus making it possible to select a temperature range between 240 to 480°C. When not in use, a solder iron may rest on a special nozzle provided on the transformer. This protects against overheating. The **R30,** permits universal use of all the various 6 volt irons with their different capacities, up to 30 watts.

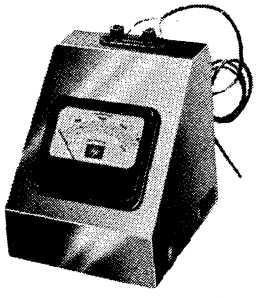
MODEL R30, rated 30 VA, 5.1#. Price....**$28.00**

INPUT VOLTAGE REGULATOR

(SOLID STATE CONTROL)

Model RSCR-400, infinite, constant control of voltage, rated up to 400 watts @ 115 volts A.C. Control in-put voltage to any resistive load — such as soldering iron, solder pot, even control speed of small fractional HP-A.C.-D.C. motors. Amps. 3.5 max. Just plug-in load and set knob for any heat or speed requirement. Supplied with 3 wire rubber covered conductor wire, 5 feet, and standard grounding plug. Red Light Indicator. On-Off switch. Size 2¼ x 2¼ x 4. Weight approx. 1 lb.

Price **$28.00**



PYROMETERS INDICATING

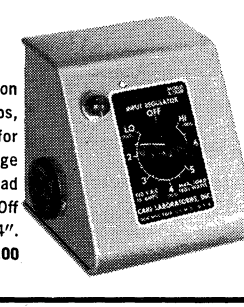
Model IPL-500, low temperature, indicating pyrometer, range 0° to +650°F, scale 3½", graduations: 5°F, Dimensions 7" H. x 6" W. x 6" L., 15 feet #20 ga. I/C thermocouple & lead wire. Weight 4 lb. Price.....**$38.00**
Extra thermocouple. Price..... **$14.50**

Model IPH-500, high temperature, indicating pyrometer, range 0° to +2000°F, scale 3½", graduations: 20°F, Dimensions 7" H. x 6" W. x 6" L., #14 ga. C/A thermocouple ¼" dia. x 12" long, protected ceramic beads, 3 feet lead wire. Weight 4 lb. Price.....**$40.50**
Extra thermocouple. Price.....**$14.50**

INPUT VOLTAGE REGULATOR

(BI-METAL CONTROL)

Model R-1800, infinite control, bi-metal, proportion input voltage of any resistive load up to 15 amps, 115 volts. Just plug-in your load and set knob for any heat requirement. Behaves as a percentage timer. Supplied with 3 wire rubber covered lead wire 5 feet and standard grounding plug. On-Off switch. Red Light indicator. Size 4" x 4" x 4". Weight approx. 2 lbs. Price.....**$28.00**



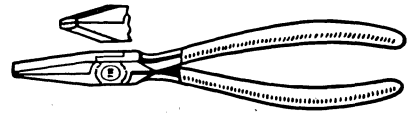
TOOLS BY

CHANNEL LOCK®

Specially Designed ELECTRONICS PLIERS

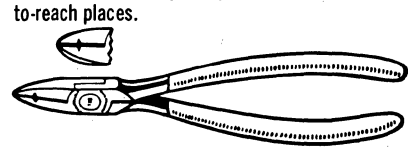
Four matched, long-reach pliers with precision matched jaws, hand honed cutting edges. Drop forged of special analysis steel, properly heat treated. Polished finish. Smooth, dipped plastic, blue grips.

No.	Size	Net
718G	8″	$2.27
728G	7½″	2.80
738G	8″	2.27
748G	8″	2.53



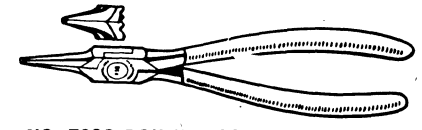
NO. 718G FLAT NOSE PLIERS

Precision-matched jaws give firm grip in hard-to-reach places.



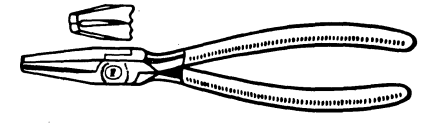
NO. 728G DIAGONAL CUTTER

Patented wire-stripping notch that **really works!**



NO. 738G ROUND NOSE PLIERS

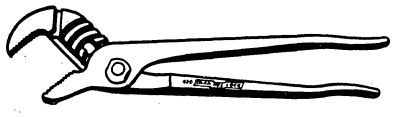
You can pick up a hair with these precision machined points.



NO. 748G END CUTTER

Fine enough to cut a human hair, sturdy enough to cut 12 gauge copper wire.

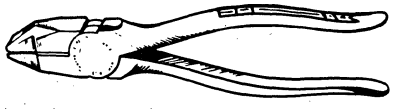
TONGUE AND GROOVE PLIERS



The **original, genuine** tongue and groove plier. Patented, non-slip undercut channels. Patented reinforcing rib for extra strength. Dipped plastic grips optional at slight extra cost.

No.	Size	Adjust	Capacity	Net
420	9½″	5	1½″	$2.40
424	4½″	4	½″	1.80
426	6½″	5	⅞″	1.80
430	10″	7	2″	2.60
440	12″	7	2¼″	2.67
460G	16″	8	4¼″	3.80

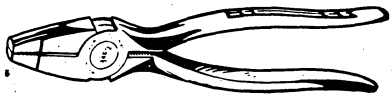
LINEMEN'S PLIER—Bevel Nose



Polished steel finish. Knurled grips. Side cutter. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
3046	6″	$2.53
3047	7″	2.80
3048½	8½″	3.54

LINEMEN'S PLIER—Rounded Nose



Polished steel finish. Knurled grips. Side cutter. Dipped plastic grips optional at slight extra cost.

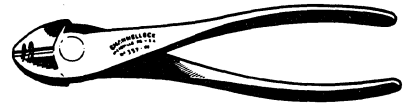
No.	Size	Net
346	6″	$2.53
347	7″	2.80
348½	8½″	3.53

WIREMASTER PLIER

Finest wire-cutting plier ever made. Joint rivet closer to cutting edge provides 40% more cutting power than standard design pliers. Special enclosed-joint construction holds cutter edges in perfect alignment for life of plier. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
349	9″	$4.53

ELECTRICIAN'S WIRING PLIER



Triple-use wiring plier: Cuts, strips insulation, loops wire. Patented wire stripping notches strip insulation from 14 and 12 gauge copper wire quickly, cleanly. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
337-W	7″	$2.73

HEATSORB CLAMP

Specially designed "heat sink" that prevents heat damage to electronic components during soldering. Also a handy, self-gripping "third hand" that holds and retrieves small parts in close work.

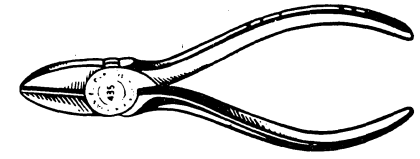
No.	Size	Net
46	5″	$1.00

LONG NOSE PLIER

Point 3/32″ round. Polish steel finish. Knurled grips. Dipped plastic grips optional at slight extra cost.

No.	Size	Side Cutter	Net
317½	7½″	With	$2.87
3017½	7½″	Without	2.27
326	6″	With	2.53
3026	6″	Without	2.07

DIAGONAL CUTTER—Box Joint



Precision honed cutting edges. Polished steel finish. Knurled grips. Dipped plastic grips optional at slight extra cost.

No.	Size	Net
435	5″	$2.33
436	6″	2.53
437	7″	2.87

SLIP JOINT PLIERS

Thin Nose. Polished steel. Wire cutting shear.

No.	Size	Net
516	6″	$1.67

With Side Cutter. Polished steel. Precision tool with fine cutting edge.

No.	Size	Net
537	7″	$2.80

Heavy Duty With Cutter. Finest quality. Polished steel.

No.	Size	Net
546	6″	$1.80
548	8″	2.20
5410	10″	2.47

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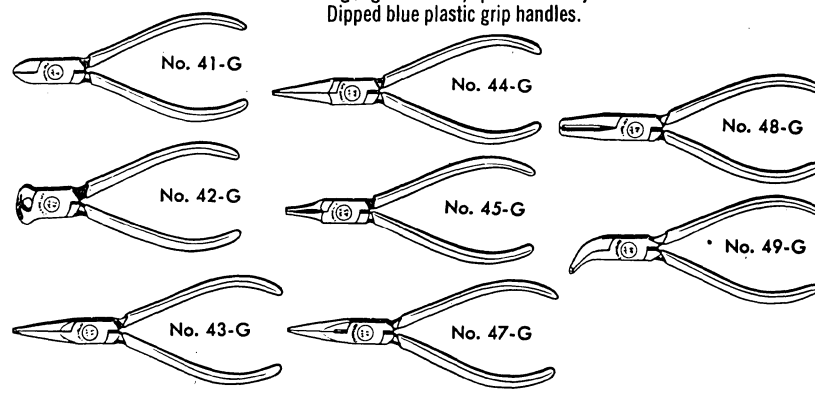
TOOLS BY

CHANNELLOCK®

Little Champ PRECISION PLIERS

Finest quality, small precision pliers specially designed for electronic work. Drop forged from high grade steel, polished to jeweller's finish. Dipped blue plastic grip handles.

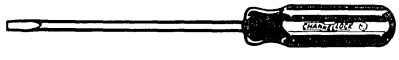
No.	Style	Length	Net
41G	Diagonal Cutter	4¼"	$2.40
41GS	Diagonal Cutter, Coiled Spring	4¼"	2.60
42G	End Cutting Nipper	4"	2.53
43G	Needle Nose, No Side Cutter, Plain Nose	4¾"	2.13
43GS	Needle Nose, No Cutter, Plain Nose, Coiled Spring	4¾"	2.33
44G	Plain Nose	4¾"	2.20
45G	Round Nose	4½"	2.27
47G	Needle Nose, Side Cutter Nose Serrations	4¾"	2.60
47GS	Needle Nose, Side Cutter, Nose Serrations, Coiled Spring	4¾"	2.80
48G	Transverse End Cutter	4¾"	2.60
49G	Curved Needle Nose	4½"	2.53



SCREWDRIVERS AND NUTDRIVERS

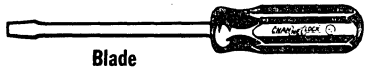
Blades forged from tough chrome vanadium steel. Tips ground lengthwise for greater end strength and snug fit in screw slot. Opaque blue plastic (UL) handles are shockproof, breakproof and shaped for non-slip grip.

ROUND SHANK



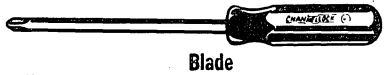
No.	Blade Size, In.	Net	No.	Blade Size, In.	Net
181RD	⅛ x 1	$ .53	31610RD	3/16 x 10	$ .96
3164RD	3/16 x 4	.67	144RD	¼ x 4	.84
3166RD	3/16 x 6	.73	146RD	¼ x 6	.93
3168RD	3/16 x 8	.84	5166RD	5/16 x 6	1.07

SQUARE SHANK



No.	Blade Size, In.	Net	No.	Blade Size, In.	Net
141SQ	¼ x 1	$ .53	5166SQ	5/16 x 6	$1.12
3164SQ	3/16 x 4	.72	5168SQ	5/16 x 8	1.23
144SQ	¼ x 4	.88	388SQ	⅜ x 8	1.47
146SQ	¼ x 6	.99	3812SQ	⅜ x 12	2.34
148SQ	¼ x 8	1.09			

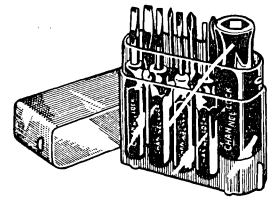
PHILLIPS SCREWDRIVERS



No.	Blade Size, In.	Net
102-SP	¼ x 1 5/16	$ .77
101-P	3/16 x 3	.75
102-P	¼ x 4	.91
103-P	5/16 x 6	1.23
104-P	⅜ x 8	1.55

SCREWDRIVER KIT

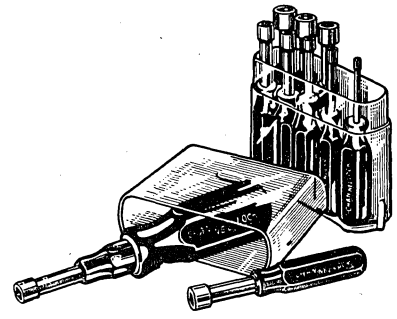
Pocket-size, handy bench sets, color coded. Special E-Z Grip handle included.



SD-5 Set Includes—
5 Screwdrivers: 3/32", ⅛", 5/32", 3/16", ¼"
3 Phillips Head: No. 0, No. 1 and No. 2
Net $3.73

NUTDRIVER KIT

Pocket-size, handy bench sets, color coded. Special E-Z Grip handle included.



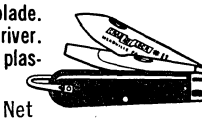
ND-1 Set Includes—
10 Nutdrivers: 3/32", ⅛", 5/32", 3/16", 7/32", ¼", 9/32", 5/16", 11/32", ⅜"
Net $5.20

ADJUSTABLE WRENCHES

Drop forged of special analysis steel. Chrome plated. Dipped plastic grips optional at slight extra cost.

No.	Size	Capacity	Net	No.	Size	Capacity	Net
804	4"	½"	$2.11	810	10"	1⅛"	$3.08
806	6"	¾"	2.13	812	12"	1 15/16"	4.46
808	8"	15/16"	2.41	815	15"	1 11/16"	6.70

ELECTRICIAN'S KNIFE



2½" precision-honed blade. 3" self-locking screwdriver. Unbreakable phenolic plastic handle.

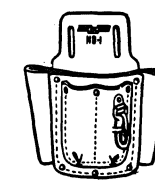
No.	Closed Length	Net
11	3¾"	$2.46

SKINNING KNIFE

3" precision-honed blade. Self-locking. Unbreakable phenolic plastic handle.

No.	Closed Length	Net
10	4"	$2.53

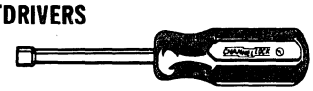
TOOL HOLSTERS



Highest quality top grain leather. Stress points reinforced with rivets. Convenient knife or wrench snap.

No.	Size	No. Pkts.	Net
1	9¼" x 8½"	5	$3.74
2	9¼" x 10½"	5	4.00

NUTDRIVERS

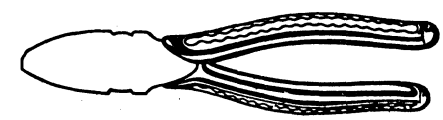


Hex	Lgth.	Net	Hex	Lgth.	Net
5/16	3	$ .75	11/32	3	$ .75
7/32	3	.75	⅜	3	.75
¼	3	.75	7/16	3⅛	.96
9/32	3	.75	½	3⅛	.96
5/16	3	.75			

SUPERIOR PLASTIC GRIPS

For maximum hand comfort, durable molded plastic grips. Blue color for good visibility, reduces plier loss. Easy to install. Order by desired grip size.

Plier Size	Grip Size	Net
6"	Small	$ .43
7"	Medium	.47
8", 9½", 10"	Large	.50



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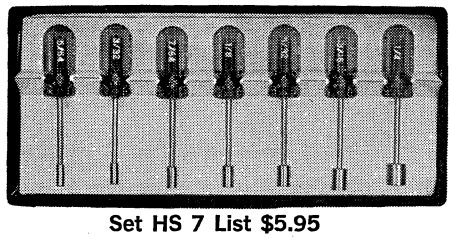
Net

DESCO*

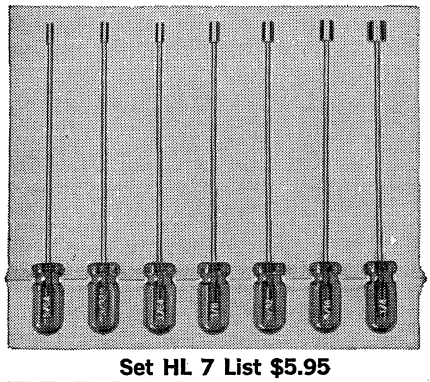
PROPERLY PROPORTIONED MINIATURE TOOLS

For precision instrument and model work use Desco "7" Miniature Nut Drivers. Available with Tenite handles, or for use with jewelers' screw driver handles. Also made with 5½" long shanks for those hard-to-get-to places.

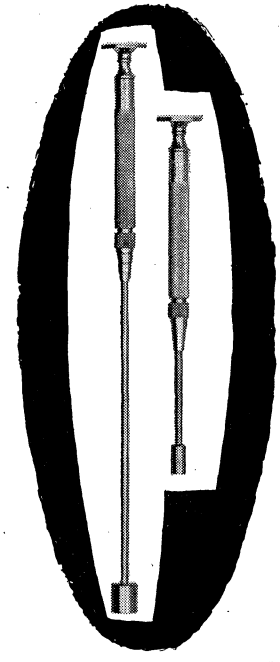
DESCO "7" Sizes across flats
5/64 3/32 7/64 1/8 5/32 3/16 1/4

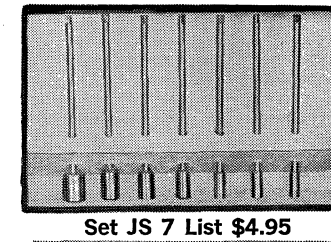


Set HS 7 List $5.95

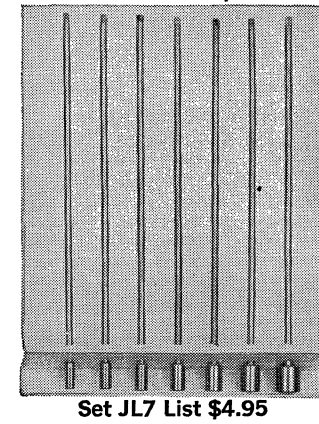


Set HL 7 List $5.95





Set JS 7 List $4.95

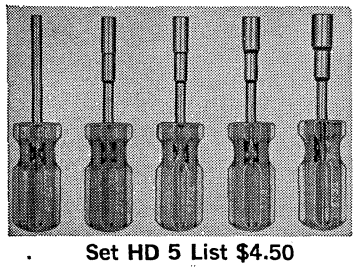


Set JL7 List $4.95

NON-MAGNETIC NUT DRIVERS available in HL7 and HS 7 series only.
Specify "No-Mag" with the code number — same prices.

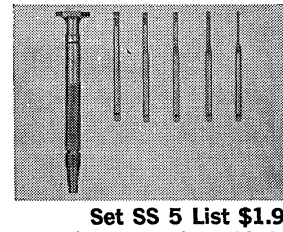
INTRODUCING THE DESCO "5" Series of Miniature Tools

Set JD 5 List $3.50

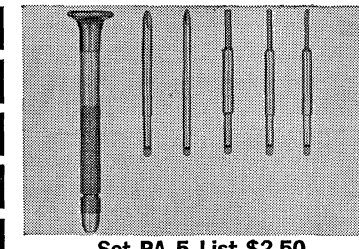


Set HD 5 List $4.50
Deeper and more rugged than the "7" Series. Made only in 5/64, 3/32, 7/64, 1/8 and 5/32.

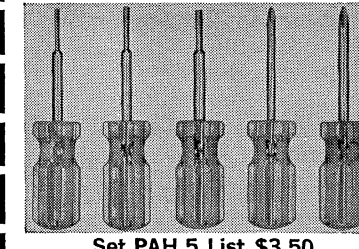
Set EW 5 Steel List $2.50
Set EWN 5 Non-Magnetic List $2.50
A practical miniature end wrench to fit the smallest nuts made 5/64 3/32 7/64 1/8 5/32.



Set SS 5 List $1.98
Contains four screw driver blades and a fine scriber.



Set PA 5 List $2.50



Set PAH 5 List $3.50
Includes the two smallest Phillips drivers and the three smallest Allen wrenches.

* T. M.

All of the DESCO "5" and "7" Series are complete as shown.

DESCO MFG. CO.

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ENTERPRISE DEVELOPMENT CORPORATION

THE ORIGINAL VACUUM DESOLDERING/RESOLDERING IRON
INDUSTRIAL PRICE SCHEDULE

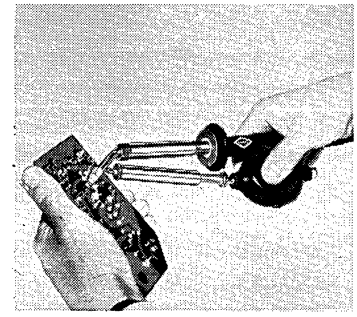
DESOLDERING IRONS

MODEL 100-A
120 VAC 75 W

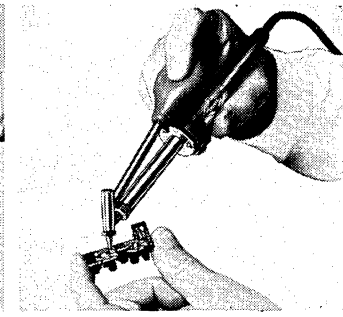
	List	1-11	30-96	108-up
Model 100-A (with 2-wire cord)	$27.50	$20.65	$18.60	$16.75
Model 100-A-3 (with 3-wire cord)	28.85	21.65	19.50	17.55
Model 100-A-3TL (with 3-wire cord twist lock cap)	Prices on Request			

MODEL 300
120 VAC 40 W

	List	1-11	30-96	108-up
Model 300 (with 2-wire cord)	14.60	10.95	9.85	8.85
Model 300 (with 3-wire cord)	15.95	11.95	10.75	9.70



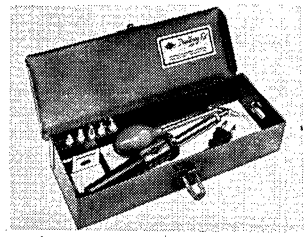
MODEL 100-A



MODEL 300

9-Piece Desoldering Kit

Kit Model 300K with Model 300 iron illustrated.
Military models available. Prices on request.
Kit Model 300MDK
Stock No. FSN 3439-907-5806.
Kit Model 100A-MDK
Stock No. FSN 3439-917-5632.
New Kit Model 100-AK with Model 100-A iron also available.



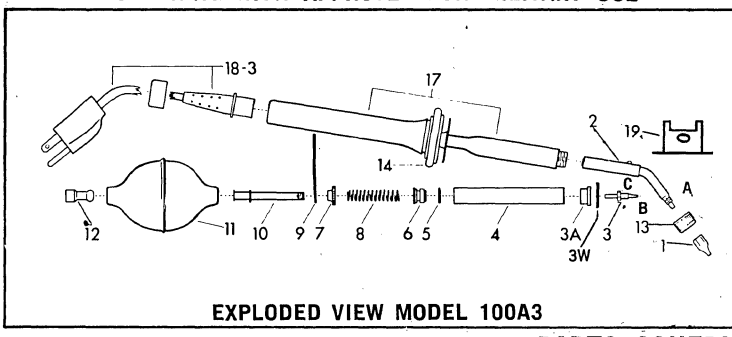
Here in one convenient lifetime package is all you need to handle almost any desoldering and resoldering job. For even though the Model 300 Endeco is only 8" long and weighs just 3½ ounces, it's a giant in performance. It removes miniature soldered components in seconds without damage . . . then resolders new connections even faster and better than regular soldering irons with its 360° "wrap-around" contact. One-hand operation . . . self-cleaning . . . 40 watts . . . 120 volts. Order from your distributor.

KIT PRICES

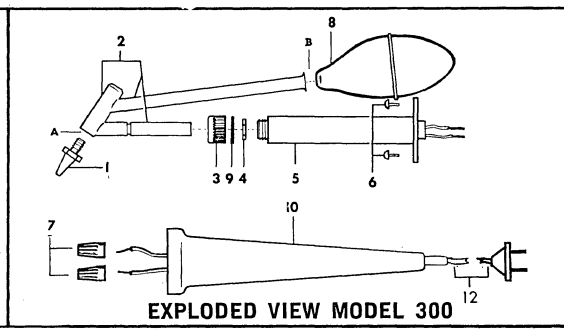
MODEL	List	1-11	12-49	50-up
300K (w/2 wire cord)	$26.55	$19.90	$17.90	$16.10
300K-3 (w/3 wire cord)	27.85	20.90	18.80	16.90
100-AK (w/2 wire cord)	36.50	27.40	24.65	22.20
100-AK-3 (w/3 wire cord)	37.85	28.40	25.55	23.00

(BOX, STAND AND CLEANING TOOL AVAILABLE SEPARATELY—WRITE FOR PRICES.)

ONLY DESOLDERING IRON APPROVED FOR MILITARY USE



EXPLODED VIEW MODEL 100A3



EXPLODED VIEW MODEL 300

PARTS SCHEDULE

PART NOS. FOR MODEL 100-A

Fig. No.	Part No.	Description	List	Industrial Cost
1	100T.096	Desoldering Tip Formerly 1B	$3.00/3PK	$2.25/3PK
1	100T.018*	Desoldering Tip Formerly 1A	3.00/3PK	2.25/3PK
1	100T.067	Desoldering Tip	3.00/3PK	2.25/3PK
1	100T.059	Desoldering Tip Formerly 1C	3.00/3PK	2.25/3PK
1	100T.046	Desoldering Tip	3.00/3PK	2.50/3PK
1	100T.035	Desoldering Tip Formerly 1D	3.00/3PK	2.50/3PK
1	100TP	6 Assorted Tips for Model 100-A	6.00	4.50
2	2A	Tip Body (750°F Standard) (600°F Special)	3.35	2.50
3	3S	Front Connecting Tube	.60	.45
3A	3B	Front Air Seal	.60	.45
3W	3W	Protective Washer	.15	.10
4	4A	Solder Collection Tube	1.45	1.10
5	5A	"O" Ring (2 Required)	.40/2	.30/2
6	6A	Rear Air Seal	1.50	1.15
7	7A	Knurled Sleeve	.55	.40
8	8	Tension Spring	.35	.25
9	9A	Supporting Bracket	.68	.50
10	10A	Rear Connecting Tube	1.15	.85
11	11	Vacuum Bulb	1.35	1.00
12	12	Valve	.60	.45
13	13	Female Tip Fastening Nut	.90	.65
14	14	Rubber Shock Absorber	.90	.65
17	17	75W Iron (Less Cord)	11.00	8.25
17	17-2	75W Iron (w/2-wire Cord)	12.50	9.40
17	17-3	75W Iron (w/3-wire Cord)	13.95	10.45
18	18-2	2-wire Cord Only	2.00	1.50
18	18-3	3-wire Cord Only	3.35	2.50
18	18-3TL	3-wire Twist Lock Cord Only	4.65	3.50
19	300-KS	Iron Stand	.35	.25

PART NOS. FOR MODEL 300

Fig. No.	Part No.	Description	List	Industrial Cost
1	300T.090	Replaceable Desoldering Tip	$3.00/3PK	$2.25/3PK
1	300T.078	Replaceable Desoldering Tip	3.00/3PK	2.25/3PK
1	300T.063*	Replaceable Desoldering Tip	3.00/3PK	2.25/3PK
1	300CT.063	Industrial Desoldering Tip	4.50/3PK	3.30/3PK
1	300T.059	Replaceable Desoldering Tip	3.00/3PK	2.25/3PK
1	300T.046	Replaceable Desoldering Tip	3.00/3PK	2.25/3PK
1	300T.038	Replaceable Desoldering Tip	3.00/3PK	2.25/3PK
1	300TP	6 Assorted Tips for Model 300	6.00	4.50
2	300-BE	Sub-Assembly	5.70	4.30
2	300-BECO	Sub-Assembly Complete with Tip Fastening Nut & Bulb	8.50	6.35
3	300-13	Sub-Assembly Fastening Nut	.50	.35
4	300-5	Sub-Assembly Retaining Pin	.14	.10
5	300-17E	(New) Ceramic Filled Heating Element 40W	4.35	3.25
6	300-17SC	Screws (3 Required)	.30/3	.23/3
7	300-17TC	Terminal Connectors (2 Required)	.40/2	.30/2
8	300-11.75	Vacuum Bulb ¾ oz. Light Duty	.90	.65
8	300-11.100	Vacuum Bulb 1 oz. Heavy Duty (Standard)	1.10	.80
9	300-6	Sub-Assembly Retaining Ring	.10	.08
10	300-17HA	Handle	.60	.45
12	300-18-2	2-wire Cordset	1.50	1.15
12	300-18-3	3-wire Cordset	2.70	2.00
	300-17CO-2	40W Iron w/2-wire Cord	8.25	6.20
	300-17CO-3	40W Iron w/3-wire Cord	9.50	7.30

REPLACEABLE TIPS FOR ENDECO MODEL 100-A

Fig. No.	Part No.	Description	Formerly	Tip I.D.	Tip O.D.
1	100T.096	Desoldering Tip	1B	.096	.187
1	100T.078*	Desoldering Tip	1A	.078	.156
1	100T.067	Desoldering Tip		.067	.135
1	100T.059	Desoldering Tip	1C	.059	.125
1	100T.046	Desoldering Tip		.046	.095
1	100T.035	Desoldering Tip	1D	.035	.078

* Standard as Supplied on Iron.

REPLACEABLE TIPS FOR ENDECO MODEL 300

Fig. No.	Part No.	Description	Tip I.D.	Tip O.D.
1	300T.090	Desoldering/Resoldering Tip	.090	.170
1	300T.078	Desoldering/Resoldering Tip	.078	.155
1	300T.063	Desoldering/Resoldering Tip	.063	.135*
1	300CT.063	Industrial Desoldering Tip	.063	.135
1	300T.059	Desoldering/Resoldering Tip	.059	.125
1	300T.046	Desoldering/Resoldering Tip	.046	.095
1	300T.038	Desoldering/Resoldering Tip	.038	.078

* Standard as Supplied on Iron.

Price Subject to Change Without Notice

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Trade Discount Applies To List Prices Only

Norseman ELECTRONIC TOOLS

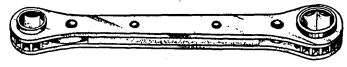
STICKLE-BACK DRILSAWS

TEC IMPORTS STICKLEBACK

Made in Germany, this tool will drill holes in wood, plaster board, etc. and saw in any direction.

#0—5 x 5/32" dia.	$ .98 net
#1—7 x 3/16" dia.	1.85 net
#2—10 x 1/4" dia.	2.45 net
#3—13 x 5/16" dia.	2.95 net
#4—15 x 3/8" dia.	3.25 net
#5—13 x 1/2" dia. (saw rasp)	2.25 net

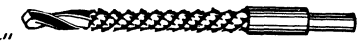
REVERSIBLE RATCHETS



A rugged ratcheting box wrench. No buttons, no levers — just turn it over to reverse the ratchet.

1/4" x 5/16"	$2.60 net	5/8" x 11/16"	$4.25 net
3/8" x 7/16"	2.90 net	5/8" x 3/4"	4.25 net
1/2" x 9/16"	3.90 net	3/4" x 7/8"	4.80 net

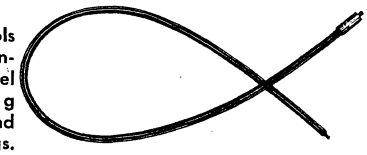
DRILL ROUTERS



Another "Stickle-back" tool, similar to the Drilsaw, but for use in electric drills.

#318-1 2 3/8" x 1/4" dia.	$1.40 net
#318-2 4 1/2" x 1/4" dia.	1.60 net

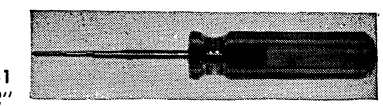
TIPPY STICKS



Flexible alignment tools of tenite II with a non-magnetic stainless steel tip. Permits snaking around obstructions and still turn screws and slugs.

ST-186	6" long	.40 net
ST-1810	10" long	.45 net
ST-1814	14" long	.50 net

TRI-TAPS

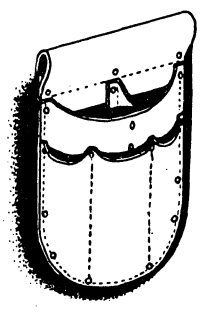


The original 3-in-1 tool with 6/32", 8/32" and 10/32" taps to clean or cut three of the most common threads used in electronic work.

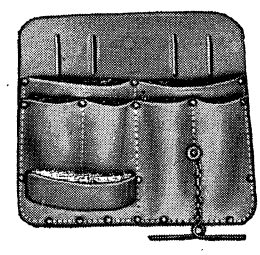
T-3 ..... $2.50 net T-4 tap only for HT-24 .... $1.65 net

HT-24 with replaceable tap ..... $3.00 net

TOOL POUCHES



#14 Telephone lineman's pouch of chrome-tanned cowhide. One large separated pocket with three smaller ones in front. Riveted and stitched with linen thread. 6" x 9 1/4" ..... $4.95 net



Electrician's Pouch. Bark-tanned top grain cowhide, riveted and stitched with linen thread. 7 pockets, loop for hammer, T-chain for roll of tape

#17 10" x 9" ..... $4.95 net

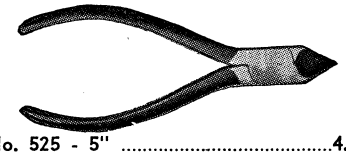
12 OTHER POUCHES AVAILABLE

Berg SWEDISH STEEL PLIERS

MADE IN ESKILSTUNA, SWEDEN, BY E. A. BERG MFG. CO. LTD. • EST. 1880

Only the best Swedish Charcoal Steel is used in the manufacture of Berg Pliers. Produced under exacting standards of control, they embody the most modern techniques of heat treatment and manufacture. Each plier is carefully engineered and designed to afford the greatest practical utility; lightness and ease of operation; and strength coupled with durability.

Special Electronic Diagonal Cutting Pliers with extra thin cutting edges, pointed nose and BOX JOINT



No. 525 - 5" 4.95

ANGLE NOSE Diagonal Cutting Pliers

No. 2528 ..... 6 1/2" 4.75 7 1/2" 5.50

PIANO WIRE Diagonal Cutting Pliers

	4 1/2"	5 1/2"	6 1/2"	7 1/2"
No. 1528	3.50	4.25	4.75	5.25

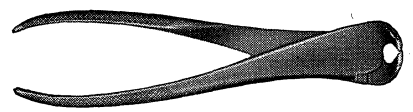
PIANO WIRE Side Cutting Nippers with replaceable blades

No. 1518	9"	7.50	10"	8.50
Extra Blades	9"	2.30	10"	2.55

PIANO WIRE End Cutting Nippers with replaceable blades

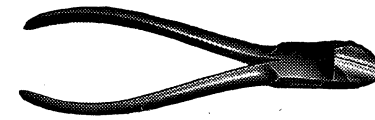
No. 1519 - 9" 9.50
Extra Blades 2.90

PIANO WIRE End Cutting Nippers



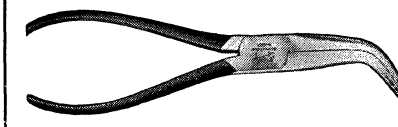
No. 527 - 7" 4.25

Straight Cutting Pliers with extended jaws



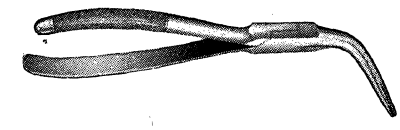
No. 1529 - 6 1/2" 4.50

Special Bent Nose Pliers



No. 2533-B - 8" 5.50

Curved Nose Pliers



No. 1631 - 5 1/2" 4.50

50 OTHER SIZES AND TYPES AVAILABLE

ERIKSON SPECIALIZED TOOL COMPANY

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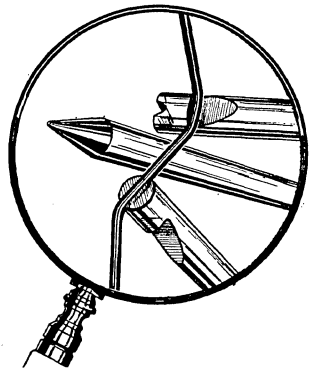
Norseman
ELECTRONIC TOOLS

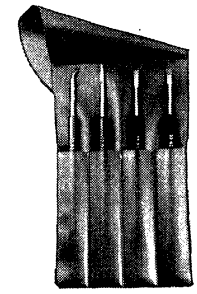
JIGGLE STICKS

Probes of Lucite, 1 end forked for pushing other end pointed for probing, notched on side for pulling wires.

PR 532-6 5/32" dia. .30 net
PR 316-8 3/16" dia. .35 net



NORSEMAN SOLDERING AID KIT



MTSA-4 miniature soldering aid kit with 4 tools M2T, M3T, M4T, M5T in vinyl kit complete ..... $4.50 net

Vinyl plastic kit, packed with 4 Norseman Soldering Aids (TN-22, TN-33, TN-44, TN-55) as illustrated.
TNSA-4 complete kit ..... $4.50 net

Kit with 4 Norseman Soldering Aids with unbreakable aluminum handles (AL-22, AL-33, AL-44 & AL-55).
ALSA-4 complete kit ..... $4.50 net

NORSEMEN SOLDERING AIDS

Red Handle

TN-22 Tenite II Handle .....7⅝" Long..... $ .90 net
M2T Tenite II Handle .....5¼" Long..... $ .90 net
AL-22 Aluminum Handle.....7⅝" Long..... $ .90 net

Green Handle

TN-33 Tenite II Handle .....7⅝" Long..... $ .90 net
M3T Tenite II Handle .....5¼" Long..... $ .90 net
AL-33 Aluminum Handle .....7⅝" Long..... $ .90 net

Black Handle

TN-44 Tenite II Handle .....7½" Long.....$1.05 net
M4T Tenite II Handle.....5¼" Long.....$1.05 net
AL-44 Aluminum Handle .....7½" Long.....$1.05 net

Blue Handle

TN-55 Tenite II Handle .....6¾" Long.....$1.05 net
M5T Tenite II Handle.....5¼" Long.....$1.05 net
AL-55 Aluminum Handle .....6¾" Long.....$1.05 net

PLASTIC HANDLES— (TN-22, TN-33, TN-44, TN-55) (M2T, M3T, M4T, M5T) are of Tenite II, hex and will not roll off the work bench. Shock-proof, practically unbreakable and will stand rough use on industrial production lines.

METAL HANDLES—(AL-22, AL-33, AL-44, AL-55) are aluminum alloy 4" x ⅜" hex and won't roll off the work bench. Being metal, are NOT SHOCK-PROOF and hence not recommended for ordinary radio-TV service work, especially on a 'live' unit. However, these handles are practically unbreakable and were designed to take rough use on industrial assembly lines and can be used as PRY BARS in lining up components.

METAL ENDS—(separated from each other) non-magnetic stainless steel, to which solder won't adhere. Are firmly seated in handles and are twist-proof.

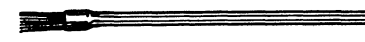
FORKED END—straddles the wire and with a slight twist, grips it for easy unwinding and removal, or guides it into another lug for soldering. Since plastic handles act as insulation, there is no danger of shock when working on sets in operation. ⅛" forks are made especially for use on printed circuits and transistors.

SPADE END—is a reamer to clean lug holes of solder.

CURVED END—can be used as a scriber for marking chassis. As a circuit tracer when looking for loose connections. As a dial cord stringer. Hook can be bent to a 90 degree angle if desired.

KNIFE & SCRAPER—for cutting and repairing printed circuits.

WIRE BRUSH — has approx. 200 bristles of stainless wire .0035 in dia. to which solder will not adhere. For use in cleaning connections before soldering, brushing out splattered solder and in repairing printed circuits.



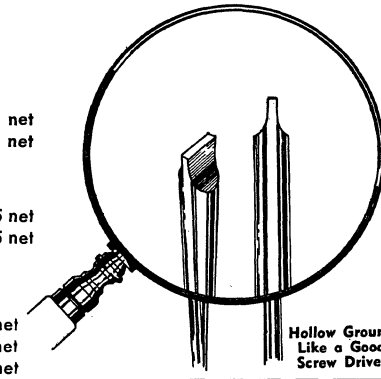
STAINLESS STEEL WIRE BRUSHES
on steel shaft approximately 2" long overall. Can be used in a regular pin vise. **.35 net**
Packed 25 or 50 per box

DIDDLE STICKS

Alignment tools —
Lucite 5/32" dia.
LU-53210 10" long ...25 net
LU-53214 14" long ...35 net

Rigid Vinyl 3/16" dia.
RV-31610 10" long.....25 net
RV-31614 14" long.....35 net

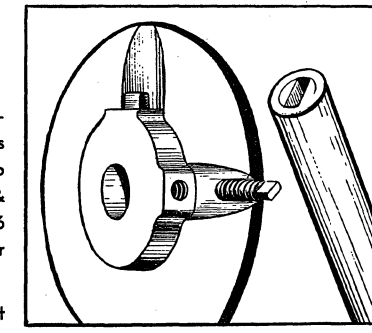
Fibre Glass ⅛" dia.
FG-1810 10" long....35 net
FG-1814 14" long....50 net
FG-1818 18" long....65 net



SLAB-HEAD DRIVERS

Drivers for SLAB-HEAD screws as used in Delco auto radios, Zenith & Arvin TV and 1956 models of Webcor recorders.

246-P .....$2.00 net



Clutch Head Screw and Driver

ERIKSON SPECIALIZED TOOL COMPANY

© United Technical Publications

GC ELECTRONICS

SERVICE AIDS

GC 7-PIN MINIATURE TEST SOCKET ADAPTER

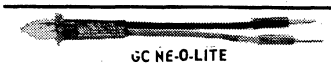
Cat. No. 9247 Net 1.65

GC 9-PIN MINIATURE TEST SOCKET ADAPTER

Cat. No. 9249 Net 1.87

GC 8-PIN OCTAL TEST SOCKET ADAPTER

Cat. No. 9248 Net 1.57



GC NE-O-LITE

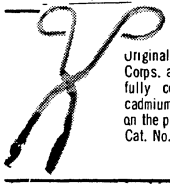
Electrical circuit tester...easy to use with a Neon Glow Lamp which varies in light intensity according to voltages. Traces all types of trouble, such as grounded lines, open circuits, short circuits, etc.

Cat. No. 5100 Net .50

GC MINIATURE TUBE PIN STRAIGHTENER

Precision-constructed steel die, for straightening pins on fragile miniature tubes of the 1S5, 6AK5, 9002 variety.

For 7-pin Min. Tubes (red base)
Cat. No. 5191 Net 1.00
For 9-pin Jumbo Tubes (blue base)
Cat. No. 8105 Net 1.00



GC TUBE & PARTS EXTRACTOR

Originally designed by the U.S. Signal Corps. as standard equipment. Skillfully constructed of spring steel, cadmium plated. Has rubber cushion on the prongs.

Cat. No. 5092 Net .98

GC TV "HIGH-VOLT" SAFETY PROBE & TESTER

Handy tester for quickly checking TV high voltage circuits. Tester will glow when high voltage is okay.

Cat. No. 8836 Net 2.13

GC SPEEDEX FUSE PULLERS

Inexpensive...non-slip, fuse puller. Safe and handy for cartridge fuses.

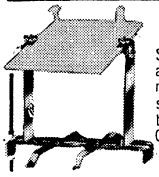
Cat. No. 5525 Midget size for fuses 1/4" to 1/2" diameter Net .60

Cat. No. 5526 Pocket size for fuses 1/2" to 1-1/2" dia. Voltages to 200 amps at 250 volts and 100 amps at 600 volts. Net 1.30

GC AMO MINIATURE TUBE PULLER

AMO makes it possible to easily remove or insert miniature tubes such as 6AG5, 50B5, etc. It works on the suction and vacuum principle.

Cat. No. 5093 For 7-pin tubes Net 2.50
Cat. No. 8106 For 9-pin tubes Net 2.50



GC PHONO TURNTABLE STAND

Stand raises the turntable about 15" above the bench for repairs. Easily adjusted to all sizes and types of phono turntables. Sturdily made of steel.

Cat. No. 5205 Net 4.95

GC DUPLEX TUBE PIN STRAIGHTENER

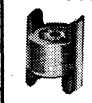
The handiest tubepin straightener for both miniature and jumbo miniature tubes of the 7- and 9-pin types.

Cat. No. 8655 Net 2.00

GC 4-IN-1 TUBE GADGET

Four tools in one. Pure rubber, will not break.

Cat. No. 9130 Net 1.25



GC DUAL TUBE PIN STRAIGHTENER

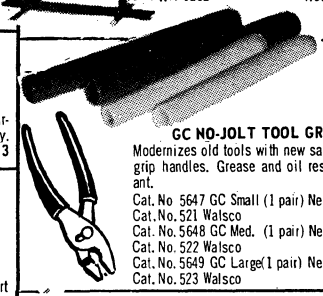
A handy, miniature pin straightener for 7-pin and 9-pin miniature tubes. Metal inserts on either end of the tool body, each of hardened metal for accuracy and long life.

Cat. No. 9092 Net 3.20

GC "QUICK-RIG" RADIO-PHONO CHASSIS REPAIR CRADLE

Complete 360 degree rotation to lock chassis at best working angle. Clamps security, makeshift setups, all metal.

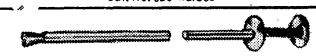
Cat. No. 5212 Net 7.50



GC NO-JOLT TOOL GRIPS

Modernizes old tools with new safety grip handles. Grease and oil resistant.

Cat. No 5647 GC Small (1 pair) Net .23
Cat. No. 521 Walsco
Cat. No. 5648 GC Med. (1 pair) Net .27
Cat. No. 522 Walsco
Cat. No. 5649 GC Large(1 pair) Net .33
Cat. No. 523 Walsco



GC HANDY PICK-UP TOOL

One of the handiest tools you can have in your home, shop, office or farm. Tool is 15 inches long.

Cat. No. 5089 GC 2563 Walsco Net 1.15

GC TWEEZER KIT

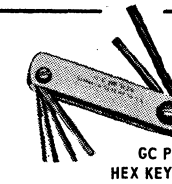
For the shop or laboratory to pick up and examine small parts, start screws and nuts, etc.

Cat. No 7950 GC 575 Walsco Net 2.84

GC HEX-KEY AND SPLINE WRENCH KIT

For both hex and spline type screws. 12 wrenches in leatherette case.

Cat. No. 5028 GC 560 Walsco Net 1.35



GC POCKET HEX KEY WRENCH SET

7 popular size wrenches. .050 to 3/16" fitted in a steel case-like pocket knife blades.

Cat. No. 9124 GC 564 Walsco Net 1.83

GC TWEEZERS

Self-closing tweezer opens when squeezed; blunt points.

Cat. No 7946 GC 570 Walsco Net .99

6½" heavy duty type, with slide lock feature; blunt points.

Cat. No. 7947 GC 571 Walsco Net 1.10

4½" tweezer, narrow pointed ends for delicate work.

Cat. No. 7948 GC 572 Walsco Net .75

COLOR TV SERVICE MIRROR

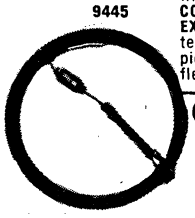
High quality polished glass mirror in metal frame, nickel plated. 10" x 12". Complete with adjustable, collapsible stand for easy storage.

Cat. No. 8390 Net 5.91

COLOR TV SERVICE AIDS

RCA COLOR TV HARNESSES & SOCKETS FOR SERVICE & REPLACEMENT

Part No.	Description	Net
9436	**ADAPTER SOCKET**..... Converts 23" & 25" CRT Base to 21" type for use with current test equipment. RCA No. 937848; Admiral No. BP196.	3.50
9437	**UNIVERSAL KINESCOPE SOCKET EXTENSION CABLE**—fits all 21", 23" and 25" round and rectangular CRT. 48" leads. RCA No. 13B111 and 937846; Admiral No. BP191.	7.50
9438	**KINESCOPE EXTENSION SOCKET**..... 48" leads—converts a 23" or 25" CRT base to 21" type for use with current test equipment. RCA No 13B111 and 937847; Admiral No. BP190.	8.95
9439	**KINESCOPE SOCKET EXTENSION CABLE**..... For all 21AXP or equivalent round picture tubes. Extends kinescope socket cable for chassis removal when servicing, or use with color test tube jig. Admiral No. BP192.	4.95
9441	**REPLACEMENT SOCKET & LEADS**..... For 21" color tubes—24" leads.	2.25
9443	**REPLACEMENT SOCKET & LEADS**..... For 23" and 25" color tubes—24" leads.	2.25
9447	**DEFLECTION YOKE EXTENSION CABLE**..... For 21" color tubes—48" leads. Use with all 21AXP22 or equivalent tubes. Extends yoke cable for servicing chassis without removing picture tube.	4.85
9448	**DEFLECTION YOKE EXTENSION CABLE**..... 48" leads extend yoke cable when chassis is removed for servicing. For 23" or 25" picture tubes. Male octal plug one end, push-on connectors on other end for connecting to deflection yoke, or test jig.	1.95
9453	**ANODE EXTENSION**..... High voltage extension cable with 48" leads for use when TV chassis is removed from set for servicing.	1.95
9445	**CONVERGENCE MAGNET DEFLECTION YOKE EXTENSION.** For RCA, Admiral, Motorola, Zenith. Extension leads for chassis removal without removing picture tube. For RCA CTC7 to CTC15 chassis. Deflection yoke extension for RCA 600 & 700 series.	4.95



GC DEGAUSSING COIL *PROFESSIONAL MODEL*

Eliminates stray magnetic fields in color TV sets as required prior to purity adjustment. Durable, molded hi-impact case. Supplied with 9' cord, momentary push-button switch which permits de-energizing of coil without pulling plug. Safe, easy to use; will last a lifetime.

Cat. No. 9317 Net 19.95

7" DEGAUSSING COIL *IN-THE-HOME MODEL*

For the home or serviceman. Molded of hi-impact plastic with momentary push-button switch, this coil will easily fit into tube caddy or will hang on the back of TV set. Low cost...easy resale to TV set owner.

Cat. No. 2592 Net 5.95

GC SERVICE AIDS

SLAB TYPE CLUTCH-HEAD SCREWDRIVERS

The only tools for servicing the Admiral Tilt-Out Tuner TV sets. Two sizes are available. A must for working on Color TV sets.

Cat. No. 12-015 for No. 6 clutch-head screws Net 1.95
Cat. No. 12-016 for No.8 clutch-head screws Net 1.95

GC TUBE PIN STRAIGHTENER

Plastic 6" ruler tube pin straightener for Compactrons, large 7-pin, 9 and 10 pin, and 7-pin tubes. Drilled holes for bench mounting.

Cat. No. 9135 Net .59

WALSCO SPECIAL TOOLS

PROTECTO TUBE

Insulate the handles of your pliers, wire cutters, screwdriver shanks neatly and effectively with Walsco Protecto Tube.

Cat. No. 18K Net 1.20

GC TV 3-WAY ANTENNA KLIP

Buy them by the bag and have clips ready to sell and ready to install on TV sets.

Cat. No. 9015-X bag of 10 Net 1.63

"QUICK SNAP" ANTENNA CLIP

New side clip allows fast connecting with antenna lines; ideal for the service bench. Accepts A-N-P, Pin, and flat terminal type lines.

Cat. No. 9030 bag of 2 clips Net .49

GC 3-STEP TAP

Three-in-1 tool for tapping or rethreading holes. 3 most popular tap sizes: 6-32, 8-32 and 10-32. Heavy plastic handle.

Cat. No. 8871 G.C. 2574 Walsco Net 3.75

REACH-ALL PEN OILER

Precision instrument oiler. Features extending and retracting tube. Disposes a drop or fraction of a drop of high quality oil.

Cat. No. 984 Net .99

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

Net

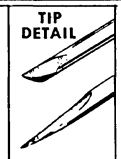
© United Technical Publications

GC ELECTRONICS

ALIGNMENT TOOLS & Service Aids

REAMER AND SCRAPER TIP

TIP DETAIL



Twist-proof, chrome plated steel to shed solder. Printed circuit type solder aid tool with straight tip. Reamer and scraper tips for scraping joints or reaming out lug holes. Both ends are insulated from one another.

No.		Std. Pkg.	Net
9069	Reamer and Scraper	12	.85

BRUSH AND FORKED TIP

Chrome plated steel to shed solder. Printed circuit type solder aid tool with brush on one end, forked tip on the other. Forked tip is for twisting or holding wires. Both ends are insulated from one another.

No.		Std. Pkg.	Net
9073	Brush and Forked Tip	12	.92

BRUSH AND SCRAPER TIP

Printed Circuit type solder aid with brush on one end for dusting away excess solder chips, and scraper tip for scraping joints. Both ends are insulated from one another.

No.		Std. Pkg.	Net
9074	Brush and Scraper Tip	12	.92

STRAIGHT PROBE AND FORKED TIP

Prevents solder from sticking. A must for the serviceman's bench or tool kit. Made from heat-treated tool steel, nickel plated to eliminate solder from sticking. Forked tip on one end, straight probe on the other.

GC No.	Walsco		Std. Pkg.	Net
9075	2570	Forked and Straight Tip	12	.80

ANGLE PROBE AND FORKED TIP

Nickel plated tool steel prevents solder from sticking to tool. Forked tip on one end for twisting or holding wires, angled probe on the other end.

GC No.	Walsco		Std. Pkg.	Net
9076	2571	Forked and Angled Tip	12	.80

SPEEDEX AUTOMATIC WIRE STRIPPER

Equipped with "Trig-O-Matic" Stay-Open feature; keeps wires from being crushed.

No.	For Sizes Listed Below
744	12 to 20 Wire
744-A	14 to 30 Wire
744-B	10 to 18 Wire
744-C	8 to 10 Wire
744-D	16, 18, 20, 22 Wires
744-E	14, 16, 18 Wires
744-F	10, 12, 14 Wires
744-G	For No. 18 POSJ or Parallel Wire
744-H	For 300 ohm TV and FM twin transmission line
744-I	10, 12, 14, 16, 18, 20, 22 Wire
744-M	10 to 20 Wire
744-N	Straight Cutter Blades

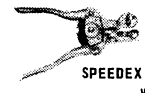
Cat. No. 744 ..... Net **$5.93**

SPEEDEX STANDARD WIRE STRIPPER

Popular inexpensive Speedex model for 90% of all stripping jobs. Blades are inter-changeable, hardened and precision ground to razor sharp edges

No.	For Sizes Listed Below
733	12 to 20 Wire
733-A	14 to 30 Wire
733-B	10 to 18 Wire
733-C	8 to 10 Wire
733-D	16, 18, 20, 22 Wires
733-E	14, 16, 18 Wires
733-F	10, 12, 14 Wires
733-G	For No. 18 POSJ or Parallel Wire
733-H	For 300 ohm TV and FM twin transmission line
733-I	10, 12, 14, 16, 18, 20, 22 Wire
733-M	10 to 20 Wire
733-N	Straight Cutter Blades

Cat. No. 733 ..... Net **$4.77**



SPEEDEX SPEED-O-MATIC WIRE STRIPPER

Fully automatic delayed return action to prevent crushing fine wires. The Speed-O-Matic combines the features of all Speedex Wire Strippers.

No.	For Sizes Listed Below
766	12 to 20 Wire
766-A	14 to 30 Wire
766-B	10 to 18 Wire
766-C	8 to 10 Wire
766-D	16, 18, 20, 22 Wire
766-E	14, 16, 18 Wire
766-F	10, 12, 14 Wire
766-G	For No. 18 POSJ or Parallel Wire
766-H	For 300 ohm TV and FM twin transmission line
766-I	10, 12, 14, 16, 18, 20, 22 Wire
766-M	10 to 20 Wire
766-N	Straight Cutter Blades

Cat. No. 766 ... . Net **$5.93**

G-C TV CHASSIS SUPPORT

Prop chassis to easy working position on your bench or in the home. Simply slip on the flange of chassis, tighten thumb screws and tilt chassis to position desired.

Cat. No. 9176 Pair ..... Net **$1.80**

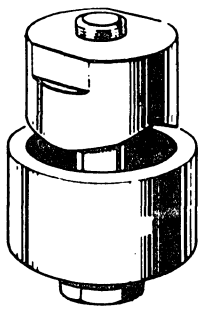
SPEEDEX WIRE STRIPPER KITS

Complete with Wire Strippers and seven different size blades in plastic box. Handy for tool box, home workshop, maintenance and production.

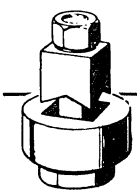
Cat. No. 733-K ... Standard Stripper Kit ... Net **$10.83**
744-K .. Automatic Stripper Kit .. Net **$13.16**
766-K .Speed-O-Matic Stripper Kit Net **$13.16**

CHASSIS PUNCHES

ROUND PUNCHES



SQUARE PUNCHES



METER HOLE PUNCHES (Round) For Standard Meters

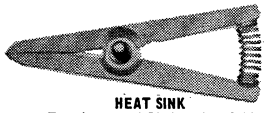
DESCRIPTION	PART NO.	GREENLEE PART NO.	PUNCH SIZE	PILOT BOLT SIZE	PILOT HOLE DRILL SIZE	NET EACH
ROUND PUNCHES	3050-R	730 1/2	1/2"	1/4"	5/16"	2.70
	3052-R	730 9/16	9/16"	1/4"	5/16"	2.70
	3062-R	730 5/8	5/8"	1/4"	3/8"	2.70
	3069-R	730 11/16	11/16"	3/8"	7/16"	2.70
	3075-R	730 3/4	3/4"	3/8"	7/16"	2.70
	3081-R	730 13/16	13/16"	3/8"	7/16"	2.70
	3087-R	730 7/8	7/8"	3/8"	7/16"	2.70
	3094-R	730 15/16	15/16"	3/8"	7/16"	3.00
	3100-R	730 1"	1"	3/8"	7/16"	3.00
	3106-R	730 1-1/16	1-1/16"	3/8"	7/16"	3.15
	3112-R	730 1-1/8	1-1/8"	3/8"	7/16"	3.15
	3116-R	730 1-5/32	1-5/32"	3/8"	7/16"	3.15
	3119-R	730 1-3/16	1-3/16"	3/8"	7/16"	3.15
	3125-R	730 1-1/4	1-1/4"	3/8"	7/16"	3.15
	3131-R	730 1-5/16	1-5/16"	3/8"	7/16"	3.75
	3137-R	730 1-3/8	1-3/8"	1/2"	9/16"	3.75
	3150-R	730 1-1/2	1-1/2"	1/2"	9/16"	4.25
	3162-R	730 1-5/8	1-5/8"	3/4"	7/8"	5.10
	3175-R	730 1-3/4	1-3/4"	3/4"	7/8"	5.85
	3187-R	730 1-7/8	1-7/8"	3/4"	7/8"	7.30
	3200-R	730 2"	2"	3/4"	7/8"	7.80
	3212-R	730 2-1/8	2-1/8"	3/4"	7/8"	8.45
	3225-R	730 2-1/4	2-1/4"	3/4"	7/8"	8.45
	3250-R	730 2-1/2	2-1/2"	3/4"	7/8"	13.75
	3275-R	730 2-3/4	2-3/4"	3/4"	7/8"	19.00
	3300-R	730 3"	3"	3/4"	7/8"	26.50
SQUARE PUNCHES	3050-S	731 1/2	1/2"	1/4"	3/8"	6.45
	3062-S	731 5/8	5/8"	3/8"	1/2"	6.35
	3075-S	731 3/4	3/4"	3/8"	1/2"	7.10
	3087-S	731 7/8	7/8"	3/8"	1/2"	8.30
	3100-S	731 1"	1"	3/8"	1/2"	8.60
METER HOLE PUNCHES (Round) For Standard Meters	3278	730 M	2-25/32"	3/4"	7/8"	13.10

WRITE FOR CATALOG #FR-69 FOR COMPLETE LISTINGS

GC ALIGNMENT TOOLS & Service Aids

GC ELECTRONICS — Walsco ELECTRONICS

(D) WALSCO STRIP-ER-CLIP. A brand new precision tool with an exclusive safeguard that prevents accidental nicking or cutting while wires are being stripped. Strips and clips all wires ranging from 12 to 26 gauge.
Cat. No. 595X Walsco ..... Net **$1.38**
760 G.C.



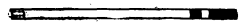
HEAT SINK
Protects Transistors and Diodes when Soldering. firm grip. Aluminum will not stick to solder.
Cat. No. 9077 GC ..... Net **$ .36**
2577 Walsco

ALIGNMENT TOOL FOR WESTINGHOUSE, ETC.
Especially designed to fit Westinghouse and other sets. Very thin tip for small can openings.
Cat. No. 2541 ..... 5-3/4" long ..... Net **$ .57**

1/4" HEX I.D. NEUTRALIZING WRENCH.
Made of tough, flexible, Lo-loss plastic. If corners wear round, just trim back, 7-1/2" long. 3/8" round O.D.
Cat. No. 2503 ..... Net **$ .37**

CAPACITOR AND TUNER ADJUSTING TOOL
For trimmer capacitors, sealed capacitors, and miniature L. C. Tuners. White Delrin with .050" hex head one end and screwdriver tip on the other end. Overall length 5-1/8".
Cat. No. 8605 ..... Net **$ .63**

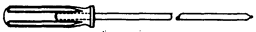
MASTER DELUXE TOOL KIT
A super-deluxe kit in a leatherette roll type case. Contains 25 tools and includes all TV alignment tools except extra long ones (over 9").
Cat. No. 8283 ..... Net **15.83**



G-C ALIGNMENT SCREWDRIVER
Low inductance metal tip screwdriver made of Butyrate material.
5000 GC 1/4" Dia. x 6" Tool. ... Net **$ .42**
2525 Walsco

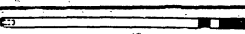
COLOR TV ALIGNMENT TOOL KIT
Kit contains 5 different Hex alignment tools for all standard adjustments in Color TV. Tools packed in pocket saver and includes extender to make each tool a long reach aligner when needed.
Part No. 8454 ..... Net **$2.49**

NEW "SLIM FIBREGLASS STICKS." New precision made Walsco Slim-Sticks are made of durable fibreglass. Completely non-metallic.
Cat. No. 2531-X Walsco 1/8" Dia. x 12 Net **$ .53**
8728 G.C. 1/8" Dia. x 12
2532-X Walsco 1/8" Dia. x 16 Net **.70**
8729 G.C. 1/8" Dia. x 16
2534-X Walsco 5/32" Dia. x 12 Net **.48**
9293 G.C. 5/32" Dia. x 12
2535-X 5/32" Dia. x 16" Long Net **.72**



WALSCO "GLAS-STICKS." Precision made machined fiberglas reinforced polyester alignment screwdriver.
Cat. No 2537 Walsco 5/32" Dia., 7" blade Net **$ .85**
9291 G.C.
2538 Walsco 5/32" Dia., 14" blade **1.15**

G-C ZENITH-ADMIRAL NYLON HEX WRENCH
New nylon hex wrench alignment tool for Zenith, Admiral and other sets.
Cat. No. 8606 ... 5" wrench, 11" long. Net **$ .48**
Cat. No. 8606-L ... 11" wrench, 11" long .. **.63**



(N) I.F. ALIGNER TOOL. Designed for I.F. Alignment of Zenith, RCA and other similar types. Made of molded plastic 5-1/2" long.
Cat. No. 2521 ..... Net **$ .53**

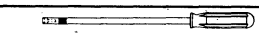
GC MAGNAVOX TUNING TOOL
Head for Magnavox chassis Nos. 201 and 202 and other sets. Hex wrench on both ends, one end undercut so it will reach bottom slugs in iron coils.
Cat. No. 8284 ..... Net **$ .48**

G-C TV CHANNEL TUNING TOOL
Completely insulated, non-metallic tool with long 1/8" narrow blade. Made of bone fibre.
Cat. No. 8195 7-1/4" long, 1/8" shaft dia. Net **$ .72**

G-C TV AND FM TUNING TOOL
Special short tool with fine recessed screwdriver top for Television and FM adjustments. Made of Butyrate
Cat. No. 8196 ..... Net **$ .42**
2-1/2" long, 7/32" shaft dia.

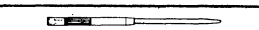
G-C TV CORE ALIGNER
For Motorola and other sets using Stackpole or other stud type cores that are not slotted. Milled steel insert on one end, thin screwdriver blade on other end.
Cat. No. 8271 16" long, 7/32" shaft dia. Net **$ .60**

G-C TV I.F. OSCILLATOR ALIGNER
Specially made for I.F. and oscillator adjustments. Will fit all makes of sets–R.C.A., G.E., Philco, Admiral and others.
Cat. No. 8272 GC 6-1/2" long, 1/4" tip dia. Net **$1.20**
2518 Walsco



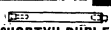
G-C TV ALL-PURPOSE ALIGNER
Specially made for TV I.F. adjustments. Very thin spring steel tip is recessed so the tool will guide itself over the screws.
Cat. No. 8273 GC 8" long, 7/32" shaft dia. Net **$ .92**
2516 Walsco

G-C TV LONG REACH ALIGNER
Specially made for Admiral, Zenith, R.C.A. and other sets for adjustments of nested iron cores that are hard to reach.
Cat. No. 8274 .. 9" long, 1/8" shaft dia. .. Net **$ .90**

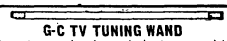


G-C TV ZENITH UNIVERSAL ALIGNER
Specially designed for Zenith and other sets. Made of bone fibre and plastic handle.
Cat. No. 8275 5" long, 1/8" shaft dia., 1/4" Net **$ .52**

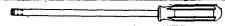
G-C TV DUPLEX ALIGNER
An all-purpose TV aligner for trimmers and I.F. transformers. Made of Butyrate material with extra thin spring steel tips.
Cat. No. 8276 6" long, 7/32" shaft dia. Net **$ .52**



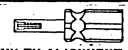
G-C TV "SHORTY" DUPLEX ALIGNER
Specially made for trimmer and I.F. transformers where space does not permit the use of a longer tool.
Cat. No. 8277 2-1/2" long, 7/32" shaft dia. Net **$ .52**



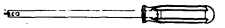
G-C TV TUNING WAND
Brass insert on end reduces inductance and iron core on other end increases the inductance.
Cat. No. 8278 6" long, 7/32" shaft dia. Net **$ .60**



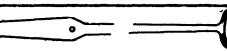
G-C TV CORE ALIGNER
Tool has a recessed steel milled slot to fit over the Stackpole and other type stud cores that are not slotted.
Cat. No. 8279 ..... Net **$1.00**
7-1/2" long, 7/32" shaft dia.



G-C "SHORTY" TV ALIGNMENT SCREW DRIVER
Only 2" long overall to adjust hard-to-get-at places under TV tubes, etc.
Cat. No. 8289 2" long, 7/32" shaft dia. Net **$ .60**

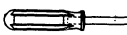


G-C UNIVERSAL SCREW DRIVER ALIGNER
Made of unbreakable flexible clear plastic shaft and an amber plastic handle.
Cat. No. 8290 7" long, 7/32" shaft dia. Net **$ .70**



G-C NEW ALL PLASTIC INSPECTION MIRROR
Use to inspect coils, resistors, sockets, etc. while the chassis is hot. No danger of shorting.
Cat. No. 5090-P ... 7-7/8" Plastic Mirror .. Net **$ .38**

G-C K-TRAN TOOL
Specially designed for K-tran and I.F. transformers. Butyrate material, screwdriver on both ends.
Cat. No. 5097 ..... Net **$ .78**
6" long, 5/32" Delrin tip, 1/8" metal Tip



G-C SHORTY ALIGNMENT TOOL
A convenient tool for hard-to-get-at places. Has 3/16" shaft, 2" length. Over
3/16" shaft, 2" length. Overall length of tool 4".
Cat. No. 9298 ..... Net **$ .48**

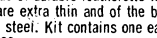
GC ALIGNMENT TOOLS ● GC ALIGNMENT TOOLS ● GC ALIGNMENT TOOLS

G-C NEW NYLON TV LONG REACH ALIGNER
Long-reach TV aligner with insulated metal shaft and nylon tip. 12-1/4" long overall, .195 Shaft Dia.
Cat. No. 8607 GC ... TV Tool ..... Net **$1.60**
2523 Walsco

G-C CONTACT BURNISHING TOOL KIT
A complete kit for the servicing of relays, switches, etc. where critical contact points must be kept clean.
Cat. No. 9339 ..... Net **$ .95**

G-C TV 2-IN-1 LONG-REACH DUPLEX ALIGNER
Made of clear, unbreakable plastic material. Ends colored red and blue for size identification. Tips are made of spring steel recessed for easy location of stud.
Cat. No. 8721 9" long, 7/32" Shaft Dia. Net **$ .78**
8722 7" long, 7/32" Shaft Dia. Net **$ .67**
Walsco 2519 7" long, 7/32" Shaft Dia. Net **$ .67**

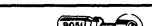
DELUXE ALIGNMENT TOOL KIT
Case is made of durable leatherette for long service. Steel tips are extra thin and of the best grade hardened spring steel. Kit contains one each of 16 tools.
Cat. No. 8280 ..... Net **10.30**



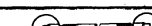
NEW G-C K-TRAN TELEVISION ALIGNER
Specially made for K-Tran I.F. Transformer tuner slugs. Precision made of bone fibre.
Cat. No. 8727 6-1/4" long, 5/32" Tip Dia. Net **$ .65**

TV LONG REACH ALIGNMENT SCREWDRIVER
Made of bone fibre, extra thin 1/8" diameter screw drivers for adjustment of TV receivers. Screw driver tip on both ends–can be re-ground.
Cat. No. 8728A ..... 1/8"x 7" long ..... Net **$ .43**
8728 ..... 1/8"x12" long ..... **.53**
8729 ..... 1/8"x16" long ..... **.70**

G-C LONG ARM TV TOOL PLASTIC SHAFT
Extra-long-reach alignment tool for Zenith sets and others where adjustments are hard to get at. Tool is 18" long overall. 18" long, 7/32" Shaft Diameter.
Cat. No. 8821 TV Tool (Type A) ..... Net **$1.00**
8896 ..... TV Tool (Type B) **1.00**
8897 ..... TV Tool (Type C) **1.00**

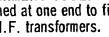


ZENITH-RCA ALIGNING TOOL WITH HANDLE
For better grip and easier adjustments. Length is 2-1/2" with a 1-1/2" shaft length. 7/32" diameter blade with recessed slot in blade end.
Cat. No. 9051 GC ..... Net **$ .58**
2527 Walso



G-C STANDARD COIL SLUG TUNER ADJUSTING TOOL
A new special slug tuning tool for adjusting Standard Tuners, etc. Completely insulated. 7-1/2" long, 1/4" shaft diameter. shaft ends .170 diameter.
Cat. No. 9087 ..... Net **$ .75**

K-TRAN ALIGNMENT TOOL. This tough, double-use tool is machined at one end to fit the slots on all K-Tran miniature I.F. transformers.
Cat. No. 2515 ..... Net **$ .60**



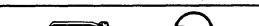
G-C ADJUSTABLE SHORTY
Recessed tip TV alignment tool. Adjustable from 1-1/4" to 2" in length, for hard-to-get-at places.
Cat. No. 9090 ..... Net **$ .65**

G-C DOUBLE END IRON CORE TOOL
All nylon hex tool for cores with .125 hex opening. One end of tool undercut so it can reach the bottom slug in coils without turning the top slug.
Cat. No. 9091 GC ..... 5" long ..... Net **$ .48**
Walsco 2542
9091-L GC ..... 11" long ..... Net **.70**

G-C PRINT KOTE SOLDER AID PROBE
Handy, fine point probe specially designed to aid in probing and soldering printed circuits.
Cat. No. 9093 GC ... 8" Length ..... Net **$1.00**
2530 Walsco

STUBBY STUD DRIVER. The only screwdriver only 2" long overall. Fits No. 6 studs.
Cat. No. 2517 ..... Net **$ .60**

G-C PRINT KOTE BRUSH AND SCRAPER
Fine Stainless Steel brush and hardened steel scraper are required to scrape and clean the Silicone Resin from printed circuits.
Cat. No. 9094 ..... 8" Length ..... Net **$ .98**

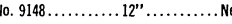


G-C SLUG RETRIEVER TOOL
A precision made tool with hardened steel tips made for removing lost TV tuner slugs in Standard Coil tuners. Ends ground to fit standard coils.
Cat. No. 9096 ..... 12" Retreiver ..... Net **$2.70**
9097 ..... 15" Retreiver **3.25**

G-C MINI HOLD SCREWDRIVERS
Designed with exclusive "Wedge Action" for gripping of tiny screws. (Nos. 0, 1, 2, 3 and No. 8 set screws and smaller) Special short length (2-7/8" when in use).
Cat. No. 9346 GC 3-1/4" long, 2-7/8" in use Net **$2.14**
2568 Walsco
9347 GC 7" long, 6-3/4" in use **2.40**
2569 Walsco

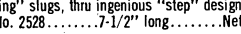
G-C RCA TV ALIGNMENT TOOL
Double end nylon tool with a recessed metal tip on one end and a plastic slot on the other end.
Cat. No. 9150 ..... 6" Length ..... Net **$ .93**

G-C SCREW STARTER SCREW DRIVER
A handy screw holding screwdriver that will start screws in hard-to-get-at places. Holds the screw securely while it starts it.
Cat. No. 9148 ..... 12" ..... Net **$2.75**



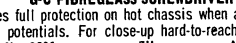
G-C DUAL NUT STARTER
New tool that holds and starts hex nuts or hex head screws in hard-to-get-at places. Fits 1/4" and 5/16" hex nuts. Pat. 2664021.
Cat. No. 9147 ..... Net **$1.85**

(F) "SLUG SAVER" TUNER TOOL. New patented tool for aligning "Standard Coil" front ends. Prevents "loosing" slugs, thru ingenious "step" design.
Cat. No. 2528 ..... 7-1/2" long ..... Net **$ .75**



G-C TV AND AUTO RADIO WRENCH
Special female slotted wrench to remove screws and stud screws from auto radios and backs of TV sets, etc.
Cat. No. 9211 ..... Net **$1.20**

G-C FIBREGLASS SCREWDRIVER
Gives full protection on hot chassis when adjusting high potentials. For close-up hard-to-reach places.
Cat. No. 9291 ..... 7" ..... Net **$ .85**



G-C NYLON HEX TOOLS
For adjusting iron cores inside mounted chassis, and tuner adjustment of iron and brass slugs with hex heads. Has .100" hex and 5/32" handle.
Cat. No. 9295 GC ..... .11" x .100" Hex. . Net **$ .63**
2544 Walsco
9296 GC ..... .11" x .075" Hex. . **.63**
2545 Walsco
9297 GC ..... .11" x .075" Hex. . **.63**
2547 Walsco

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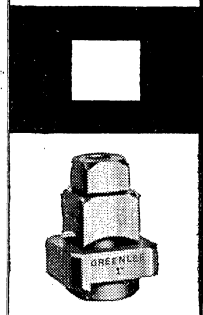
GREENLEE TOOL CO
DIVISION OF GREENLEE BROS & CO

CHASSIS PUNCHES

ROUND, SQUARE, "KEY," AND "D" TYPES

NO. 730 ROUND PUNCH

Swiftly cuts clean, accurate holes in radio chassis for sockets, switches, controls and other equipment. Operates simply with an ordinary wrench for drive power . . . just insert in a small drilled hole and turn drive screw. No reaming or filing . . . hole is smooth, perfect. 29 sizes from 1/2" to 3 1/8" diameter. New Ball-Bearing Drive available for even easier, speedier operation.

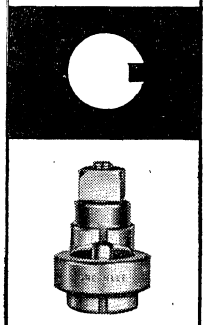


NO. 731 SQUARE PUNCH

Cuts square or oblong openings as desired. Available in five sizes for making 1/2", 5/8", 3/4", 7/8", and 1" square holes. Drive screw fits into 1/2" hole, which can be drilled or made with 1/2" No. 730 GREENLEE Round Punch. Operates with an ordinary wrench for drive power. Individually packed.

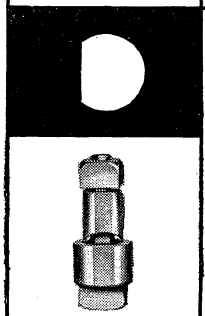
NO. 731-R KHP RELAY PUNCH

Makes clean, accurate, *finished* holes in up to 16-gauge metal for Potter & Brumfield KHP miniature relay sockets. Makes 1.015" x .859" hole.



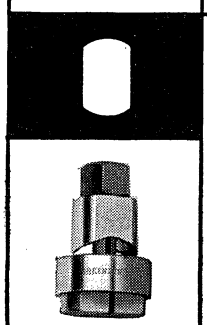
NO. 732 "KEY" PUNCH

Quickly, easily cuts holes for keyed radio sockets. Operates on same principle as other GREENLEE Radio Chassis Punches . . . an ordinary wrench supplies the drive power. In five sizes to make openings of 15/32", 15/16", 1 11/64", 1 17/64", 1 21/64". Drive screw fits into 1/2" hole. Individually packed.



NO. 733 "D" PUNCH

Simplifies and speeds the work of making "D"-shaped openings for high-frequency, miniature tube sockets and other equipment using this type opening. Available in 1/2" and 5/8" sizes. Operates on same principle as other GREENLEE Radio Chassis Punches with an ordinary wrench supplying the drive power. Drive screw fits into 3/8" drilled hole. Individually packed.



NO. 734 DOUBLE "D" PUNCH

Quickly makes standard electrical receptacle openings. Cuts standard hole 1 1/8" dia. across parallel sides, 1 3/8" dia. across rounded ends. Simply insert into a 1/2" hole and turn with an ordinary wrench. Does the work in less than five minutes . . . eliminates all tedious hand filing . . . gives a smooth, perfect opening.

No. 730 ROUND PUNCH

Size	Net User Price	Size	Net User Price
1/2"	$2.70	1 3/4"	$5.85
9/16"	2.70	1 7/8"	7.30
5/8"	2.70	2"	7.80
11/16"	2.70	2 1/8"	8.45
3/4"	2.70	2 1/4"	8.45
13/16"	2.70	2 1/2"	13.75
7/8"	2.70	2 3/4"	19.00
15/16"	3.00	2 25/32"	13.10
1"	3.00	3"	26.50
1 1/16"	3.15	3 1/8"	28.75
1 1/8"	3.15	Following sizes also available with larger drive screw for cutting thicker metals (No. 730X)	
1 5/32"	3.15		
1 3/16"	3.15		
1 7/32"	5.75		
1 1/4"	3.15	1 1/8"	6.40
1 5/16"	3.75	1 3/16"	6.40
1 3/8"	3.75	1 1/4"	6.40
1 1/2"	4.25	1 3/8"	7.35
1 5/8"	5.10	1 1/2"	8.30

No. 731 SQUARE PUNCH

Size	Net User Price	Size	Net User Price
1/2"	$6.45	7/8"	$8.30
5/8"	6.35	1"	8.60
3/4"	7.10		

No. 731-R KHP RELAY PUNCH

Size	Net User Price
1.018" x .861"	$14.30

No. 731-R KU & KUP RELAY PUNCH

Size	Net User Price
1 1/4" x 1 3/8"	$19.00

No. 732 "KEY" PUNCH

Size	Net User Price	Size	Net User Price
15/32"	$6.00	1 17/64"	$7.60
15/16"	6.10	1 21/64"	8.50
1 11/64"	6.80		

No. 733 "D" PUNCH

Size	Net User Price	Size	Net User Price
1/2"	$4.90	5/8"	$5.25

No. 734 DOUBLE "D" PUNCH

Size	Net User Price
1 1/8" x 1 3/8"	$28.00

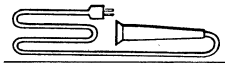
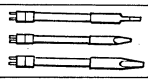
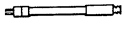
SOLDERING IRONS

6 to 230 VOLTS 12 to 140 WATTS

A complete line of high quality soldering irons specifically designed for production-line soldering in the electronic, instrument, and communications industries — including irons for soldering miniature and subminiature components. Also ideally suited for intermittent operations such as repair, maintenance, laboratory work, and electronic kit construction. Irons up to 1250 watts are available.

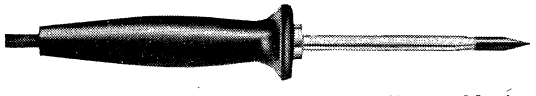
PENLINE-120 SOLDERING IRONS — 120 VOLTS; 25, 30, 40 AND 45 WATTS — UL LISTED

Lowest cost GE iron; ideally suited for light to medium production in electronics, communications, and allied industries, for repair and maintenance operations, and by the "do-it-yourself" electronics kit builder.

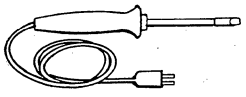
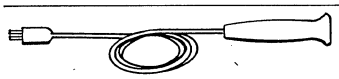
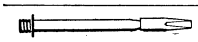
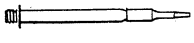
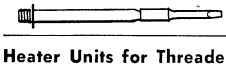
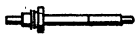
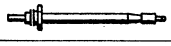
Description		Cat. No.
Handle and 6-foot Cordset		
	Two-conductor	6D400
	Three-conductor, with NEMA standard plug	6D400G2
Tip and Heater Units — Ironclad		
	1/8" Chisel Tip 30 watts	6D410
	5/32" Chisel Tip 30 watts	6D411
	3/32" Chisel Tip 45 watts	6D412
Heater for Threaded Tips		
	25 watts	6D415
	30 watts	6D414
	40 watts	6D413

Use interchangeable threaded tips listed on next page.

LIGHTWEIGHT SOLDERING IRONS — 120 VOLTS; 40 AND 60 WATTS — UL LISTED

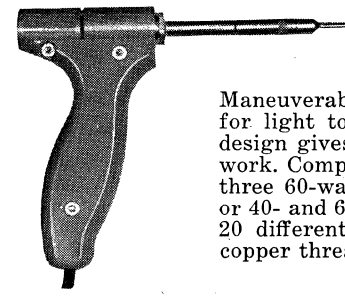


Ideal for light and medium production-line soldering and maintenance and repair operations in electronics and communications industries. Tip and heater units can be changed in seconds.

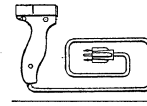
Complete Iron — Includes handle and 6-foot cordset, and tip and heater unit		
	7/32" Ironclad Chisel Tip	6A273
	3/16" Ironclad Pyramid Tip	6A283
	3/16" Ironclad Chisel Tip	6A283G23
Handle and 6-foot Cordset		
	Two-conductor	6A273G62
	Three-conductor with NEMA standard plug	6A273G63
Tip and Heater Units		
	7/32" Ironclad Chisel Tip	6A300
	3/16" Ironclad Pyramid Tip	6A301
	3/16" Ironclad Chisel Tip	6A301G4
Heater Units for Threaded Tips		
	40 watts	6A304
	60 watts	6A301G7

Use interchangeable threaded tips listed on next page.

PISTOL-GRIP SOLDERING IRONS — 120 VOLTS; 40 AND 60 WATTS

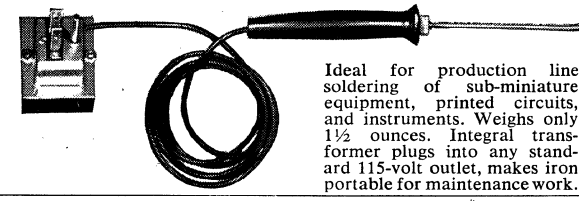


Maneuverable and comfortable, excellent for light to medium production. Unique design gives operator a clear view of the work. Complete versatility with choice of three 60-watt tip and heater assemblies; or 40- and 60-watt heater assemblies with 20 different interchangeable ironclad or copper threaded tips.

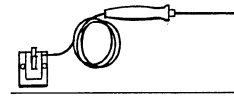
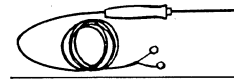
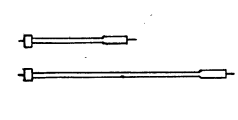
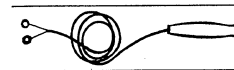
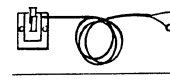
Description		Cat. No.
	Handle and cordset, three-wire with NEMA plug	6A303

Can be used with Lightweight tip and heater units, or with Lightweight heater units and interchangeable threaded tips listed on next page.

MINIATURE SOLDERING IRONS — 6 VOLTS, 12 WATTS



Ideal for production line soldering of sub-miniature equipment, printed circuits, and instruments. Weighs only 1½ ounces. Integral transformer plugs into any standard 115-volt outlet, makes iron portable for maintenance work.

Complete Iron — Includes tip and heater unit, 6-foot cordset, and transformer with grounded plug.		
	5/64" Chisel Tip 3" Shank	6A428G3
	5/64" Chisel Tip 6" Shank	6A428G4
	5/64" Pyramid Tip 3" Shank	6A428G7
	5/64" Pyramid Tip 6" Shank	6A428G8
Complete Iron Less Transformer — Includes tip and heater unit, and 6-foot cordset with terminals		
	5/64" Chisel Tip 3" Shank	6A428G5
	5/64" Chisel Tip 6" Shank	6A428G6
Renewal Tip and Heater Units		
	5/64" Chisel Tip 3" Shank	6A429G3
	5/64" Chisel Tip 6" Shank	6A429G4
	5/64" Pyramid Tip 3" Shank	6A429G5
	5/64" Pyramid Tip 6" Shank	6A429G6
Handle and Cordset Only		
	6-foot Cordset with Terminals	6A428G62
Renewal Transformer — Includes — 6-foot integral cordset		
	6-volt Secondary 115-volt Primary	6A430

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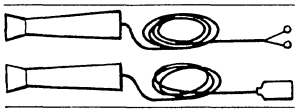
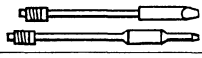
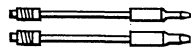
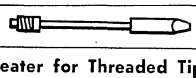
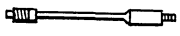
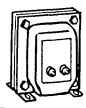
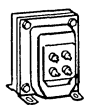
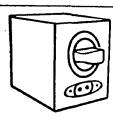
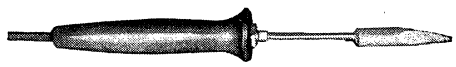
MIDGET SOLDERING IRONS — 6 VOLTS; 18 to 45 WATTS (with transformers) — UL LISTED

A versatile iron for light production in electronics, and communication industries — handles like a pencil, weighs but 1¾ oz. Tip renewal is easy and fast — complete tip and heater unit can be changed in a few seconds. Heat output can be varied from 18 to 45 watts with standard GE transformers.

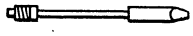
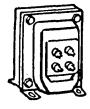
Description		Cat. No.
Handle and 6-foot cordset		
	For single- and 4-tap transformers	6A203
	For transformer with 3-heat switch	6A203G2
Tip and Heater Units — All ironclad tips		
	5/32" Chisel Tip 25 watts	6A211
	1/8" Cone Tip 25 watts	6A213
	3/16" Pyramid Tip 25 watts	6A215
	1/8" Chisel Tip 25 watts	6A217
	3/16" Chisel Tip 45 watts	6A211G31
Heater for Threaded Tips		
	25 watts	6A221
Transformers for Midget Iron — 115-volt Primary*		
	Single Tap 6.3-volt secondary	6A362G2
	Four Tap 5.4/5.7/6.0/6.3-volt secondary	6A364G2
	With Three-heat Switch 4.9/6.3/6.9-volt secondary For use only with Handle and Cordset 6A203G2.	6A434

* Single- and four-tap transformers are available with 240-volt primary in quantities of 36 or more, specify catalog number desired and note on order, "except with 240-volt primary." Use interchangeable threaded tips.

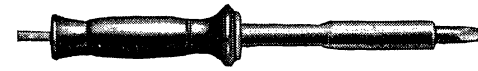
MIGHTY MIDGET SOLDERING IRON — 12 VOLTS; 100 WATTS



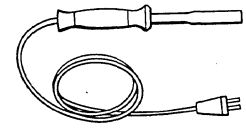
A lightweight iron with high heat capacity for heavy soldering where larger irons, up to 200 watts, prove unwieldy for rapid repetitive soldering, such as production soldering of tuner chassis, tinware, can seams, etc.

Handle and Cordset — Two-conductor		
		6A210G61
Tip and Heater Unit		
	½" Ironclad Chisel Tip	6A211G33
Transformer for Mighty Midget — 115-volt primary		
	Four Tap — for 55/70/85/100 watts	6A364G7

6A160 SERIES SOLDERING IRONS — 115 VOLTS§, 75 TO 140 WATTS — UL LISTED



Ideal for medium to heavy production, and maintenance and repair operations. Available with any of 12 different tips, calorized or ironclad.

Description		Cat. No.
Complete Iron Less Tip — Includes 6-foot two-conductor cordset		
	75 Watts	6A161
	100 Watts	6A162
	110 Watts	6A162G6
	125 Watts	6A162G3
	140 Watts	6A162G12

Tips — Fit all irons listed above

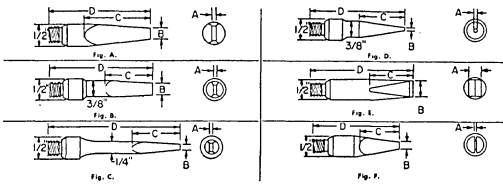
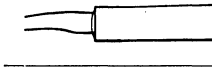
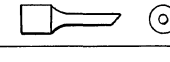
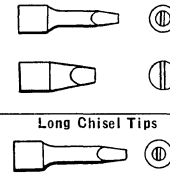
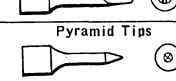
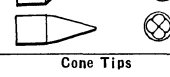
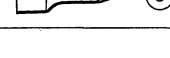


Fig.		A	B	C	D	
A. ½"-Dia. Chisel	Calorized	1/32	3/16	1½	2⅜	6D1P1
	Ironclad	1/16	7/32	1½	2⅜	6D1P2
	Calorized	1/16	7/32	2¾	4	6D1P3
	Ironclad	3/32	¼	2¾	4	6D1P4
	Calorized	5/32	¼	1¼	2⅛	6D1P11
B. ⅜"-Dia. Chisel	Ironclad	1/16	3/16	1⅛	2⅜	6D1P8
	Calorized	1/32	9/32	1⅛	2⅜	6D1P6
	Ironclad	1/16	5/16	1⅛	2⅜	6D1P7
C. ¼"-Dia. Chisel	Ironclad	1/16	⅛	1	3⅛	6D1P5
D. Cone	Ironclad	1/16	1/16	13/16	2⅜	6D1P12
E. Pointed Chisel	Ironclad	¼	13/32	1	1⅞	6D1P9
	Ironclad	¼	13/32	1	2⅜	6D1P10
F. Slim Chisel	Ironclad	1/16	5/32	⅞	2	6D1P19

Renewal Heater — 115 Volts§		
	75 Watts	6A31
	100 Watts	6A32
	110 Watts	7C342
	125 Watts	8A88
	140 Watts	7C474

§ Also available for 230-volt operation.

INTERCHANGEABLE THREADED TIPS For Penline-120, Pistol-grip, Lightweight, and Midget Irons

	Description (Copper Tip, Surface Plating)	Cat. No.
Spade Tips	1/16" Dia—Nickel	6D4P1
	5/32" Dia—Ironclad	6D4P2
	1/8" Dia—Nickel	6D4P3
	5/32" Dia—Ironclad	6D4P4
Chisel Tips	1/16" Dia—Nickel	6D4P5
	1/16" Dia—Ironclad	6D4P21
	3/32" Dia—Ironclad	6D4P6
	1/8" Dia—Nickel	6D4P7
	1/8" Dia—Ironclad	6D4P22
	5/32" Dia—Ironclad	6D4P8
	3/16" Dia—Nickel	6D4P9
	7/32" Dia—Ironclad	6D4P10
	5/32" Dia—Nickel	6D4P11
	3/16" Dia—Ironclad	6D4P12
Long Chisel Tips	3/16" Dia—Nickel	6D4P13
	7/32" Dia—Ironclad	6D4P14
Pyramid Tips	1/8" Dia—Nickel	6D4P15
	5/32" Dia—Ironclad	6D4P16
	11/32" Dia—Nickel	6D4P17
	3/8" Dia—Ironclad	6D4P18
Cone Tips	1/8" Dia—Nickel	6D4P19
	5/32" Dia—Ironclad	6D4P20

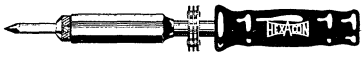
ELECTRIC SOLDERING IRONS

HEXACON

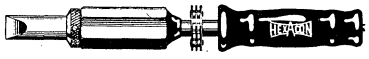
VOLTAGE RANGE: 6 to 250 OPERATES IDENTICALLY ON A.C. OR D.C., ANY CYCLE
STANDARD VOLTAGES 110/120, 121/130, 220/250 SPECIFY VOLTAGE ON ORDER

Equipped with flexible 6-ft. approved Neoprene rubber heater cord, which is water-proof, kink-free, and resistant to oil, abrasion and heat. Nickel-chromium replaceable heating elements, insulated with finest mica, protected by rugged outer housing. Replaceable tips.

PLUG-TIP IRONS



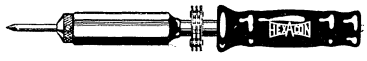
Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
P70	100	3/8"	1 1/8 lbs.	8.33	7.95
P100	110	3/8"	1 3/8 lbs.	8.89	8.44
P111	125	3/8"	1 3/8 lbs.	8.89	8.44
P115	150	3/8"	1 1/2 lbs.	9.03	8.58
P150	150	3/8"	1 1/2 lbs.	9.73	9.28
P153	175	3/8"	1 1/2 lbs.	10.08	9.63
P155	200	3/8"	1 1/2 lbs.	10.08	9.63
P151	175	1/2"	1 5/8 lbs.	10.50	9.66
P152	200	1/2"	1 5/8 lbs.	10.50	9.66
P200	200	5/8"	2 3/8 lbs.	11.06	9.94
P250	250	5/8"	2 3/8 lbs.	12.60	11.48



P300	300	7/8"	3 lbs.	14.28	12.01
P550	550	1 1/8"	4 3/8 lbs.	19.32	14.95

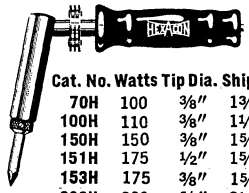
SUPER-POWERED IRONS

HIGHER SPEED SMALLER TIPS



Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
P114	100	1/4"	1 3/8 lbs.	9.73	9.42
P154	150	1/4"	1 1/2 lbs.	10.50	10.19
P238	200	3/8"	2 1/4 lbs.	11.34	10.89
P212	200	1/2"	2 1/4 lbs.	11.69	10.85
P338	300	3/8"	2 3/4 lbs.	16.24	15.79

HATCHET TYPE IRONS



Perfect Balance
Less Fatigue
See What You
Solder

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
70H	100	3/8"	1 3/8 lbs.	10.50	10.12
100H	110	3/8"	1 1/2 lbs.	10.78	10.33
150H	150	3/8"	1 5/8 lbs.	11.55	11.10
151H	175	1/2"	1 5/8 lbs.	12.18	11.34
153H	175	3/8"	1 5/8 lbs.	11.97	11.52
200H	200	5/8"	2 1/4 lbs.	12.67	11.55
300H	300	7/8"	3 lbs.	16.24	14.00

SCREW TIP IRONS

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
85	90	1/2"	1 1/8 lbs.	9.73	9.17
120	120	5/8"	1 3/8 lbs.	10.50	9.63
170	175	1"	2 1/4 lbs.	13.37	11.52

225	250	1 1/8"	2 3/4 lbs.	15.82	13.37
350	350	1 3/8"	3 1/2 lbs.	18.49	14.81
500	500	1 5/8"	4 3/8 lbs.	20.93	15.51
700	700	1 3/4"	5 5/8 lbs.	38.15	31.15

SUPER-PENCIL IRONS

HOT TIP COOL HANDLE

Weighs only 2 oz

Short Reach 3"

All the advantages of a Soldering Pencil, but a full-fledged industrial soldering iron with nickle-chromium mica-wound element. Tiny tips outperform irons with larger tips and higher wattages.

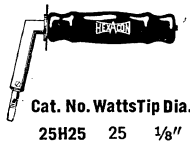
Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
25S25	25	1/8"	1/2 lb.	5.39	5.22
25S20	20	1/8"	1/2 lb.	5.39	5.22
25S30	30	1/8"	1/2 lb.	5.39	5.22
25S35	35	1/8"	1/2 lb.	5.39	5.22
*25S50	50	1/8"	1/2 lb.	6.09*	5.92
26S30	30	3/16"	1/2 lb.	5.46	5.25
26S35	35	3/16"	1/2 lb.	5.46	5.25
26S40	40	3/16"	1/2 lb.	6.16*	5.95
*26S50	50	3/16"	1/2 lb.	6.16*	5.95

FASTEST AND MOST DURABLE PENCIL IRON. Weighs but 2 oz.

*24S40	50	1/4"	1/2 lb.	6.23*	5.95
*24S50	40	1/4"	1/2 lb.	6.23*	5.95
*24S60	60	1/4"	1/2 lb.	6.23*	5.95

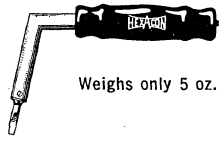
BANTAM HATCHET IRONS

PERFECT BALANCE
FOR INACCESSIBLE PLACES



Weighs only 3 oz.

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
25H25	25	1/8"	1/2 lb.	6.51	6.34
25H35	35	1/8"	1/2 lb.	6.51	6.34
*25H50	50	1/8"	1/2 lb.	6.51*	6.34
26H30	30	3/16"	1/2 lb.	6.58	6.37
26H35	35	3/16"	1/2 lb.	6.58	6.37
*26H50	50	3/16"	1/2 lb.	6.58*	6.37
24H40	40	1/4"	1/2 lb.	6.65*	6.37
24H50	50	1/4"	1/2 lb.	6.65*	6.37
*24H60	60	1/4"	1/2 lb.	6.65*	6.37

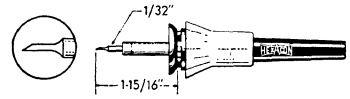


Weighs only 5 oz.

30H40	40	1/4"	7/8 lb.	7.21	6.93
30H50	50	1/4"	7/8 lb.	7.21	6.93
30H60	60	1/4"	7/8 lb.	7.21	6.93
30H70	70	1/4"	7/8 lb.	7.28*	7.00
30H80	80	1/4"	7/8 lb.	7.28*	7.00

*STANDARD EQUIPMENT **DUROTHERM** NON-STICKING LONG-LIFE TIPS.

HEXACON HORNET Model H10



World's Smallest Industrial Soldering Iron for Micro-Electronic Soldering

Cat. No. H10 Iron less tip, 12 Watts.....**Net $5.81**
Cat. No. H11 Iron less tip, 17 Watts.....**Net $5.81**
Cat. No. H14 Iron less tip, 20 Watts.....**Net $5.81**
Iron with 3-wire cord and Nema plug available

- Smallest Iron — Only 5 7/8"
- Lowest Wattage — 12 Watts
- Hot tip Gets In and Out Fast
- No Damage to Insulation
- Lightweight • Cool Handle

DUROTHERM and **XTRADUR** long-life tips 1/32", 1/16" and 1/8" diameters

MINI-IRONS

Cat. No.	Tip Dia.	Price Less tip	
21A	1/8"	4.55	Slim Design
22A	3/16"	4.55	Rugged Construction
23A	1/4"	5.81	Dependable Performance Up to 60 Watts

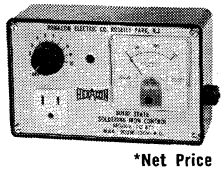
PINPOINT SOLDERING IRONS

FOR PINPOINT ACCURACY
ON PRECISION SOLDERING
Long Reach 4 1/2" (Weigh Only 3 oz.)

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Net Price	Less Tip
P2525	25	1/8"	1/2 lb.	5.39	5.22
P2530	30	1/8"	1/2 lb.	5.39	5.22
P2535	35	1/8"	1/2 lb.	5.39	5.22
*P2550	50	1/8"	1/2 lb.	5.39*	5.22
P2630	30	3/16"	1/2 lb.	5.46	5.25
P2635	35	3/16"	1/2 lb.	5.46	5.25
P2640	40	3/16"	1/2 lb.	5.46*	5.25
*P2650	50	3/16"	1/2 lb.	5.46*	5.25
*P2440	40	1/4"	1/2 lb.	5.95*	5.67
*P2450	50	1/4"	1/2 lb.	5.95*	5.67
*P2460	60	1/4"	1/2 lb.	5.95*	5.67
P3040	40	1/4"	7/8 lb.	6.58	6.30
P3050	50	1/4"	7/8 lb.	6.58	6.30
P3060	60	1/4"	7/8 lb.	6.58	6.30
P3070	70	1/4"	7/8 lb.	6.65*	6.37
P3080	80	1/4"	7/8 lb.	6.65*	6.37

*STANDARD EQUIPMENT **DUROTHERM** NON-STICKING LONG-LIFE TIPS.

TEMPERATURE CONTROL UNITS



Solid State
Soldering Iron Controls

Cat. No.		*Net Price
TC 870	Control Socket	14.67
TC 871	Voltmeter and Control Socket	22.37
TC 872	Voltmeter and Two Sockets	27.97

CORD AND CORD SETS

2 WIRE 18 GAUGE, 2 CONDUCTOR 18/2

Cord Assembled to Iron Cat. No.	Extra Net	Cord and Plug Only Cat. No.	Extra Net
*SP2S	No	SP2S	1.12
**PN2S	Extra	PN2S	1.12
SJ2S	Charge	SJ2S	1.19
HD2S	.35	HD2S	1.40
*KSV2S	2.03	*KSV2S	2.73
KPN2S	.70	KPN2S	1.40

3 WIRE 18 GAUGE, 3 CONDUCTOR 18/3

Cord Assembled to Iron Cat. No.	Net	Cord and Plug Only Cat. No.	Net
*SP3N	1.12	SP3N	1.89
SP3C	1.12	SP3C	1.89
**SJ3N	1.19	SJ3N	1.96
*HD3N	1.19	*HD3N	1.96
*KSV3N	3.29	*KSV3N	3.99

*Standard on INSTRUMENT IRONS **Standard on LARGE IRONS

HEXACON ELECTRIC COMPANY

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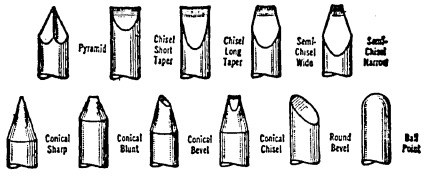
HEXACON LONG-LIFE SOLDERING TIPS

OUTLAST COPPER TIPS UP TO 20 TO 1

HEXACON

DUROTHERM NON-FREEZING TIPS: Iron coated and immunized. Absolutely prevents tips from sticking. Minimum loss of heat delivery.

Note: Also available; XTRADUR Iron-coated Pretinned Tips. Multi-coated for extra long wear which immunizes shank of tip from solder, thus preventing adhering of solder, except on working surface of tip — prevents creeping and spilling of solder.

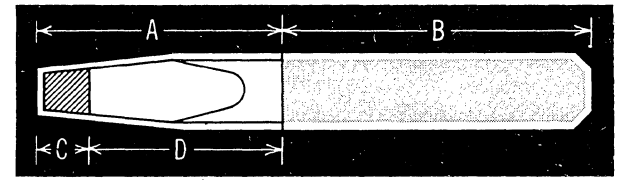


BASIC TIP SHAPES

YOUR SPECIAL TIPS QUOTED ON REQUEST
FIT ALL MAKES

CONSTRUCTION OF DUROTHERM NON-FREEZING TIP — U.S. Pat. No. 3,109,231

A — Heavy Iron Coating
B — Scale-Resistant DUROTHERM COATING Bonded to Base Copper
C — Pretinned Section
D — Multi-coated and immunized



LONGEST WEARING AND BEST PERFORMING TIP EVER PRODUCED

HEXCLAD, XTRADUR AND DUROTHERM TIPS AVAILABLE IN ALL CATALOG NUMBERS LISTED BELOW

Tip No.	Style of Point	Net Price
1/8" x 2 1/4" Fit Iron Nos. 25S, P25, 25H		
HT248D	Pyramid	$1.61
HT249D	Chisel, short	1.61
HT376D	Chisel, long	1.61
HT560D	Semi-chisel	1.61
HT222D	Conical, blunt	1.61
HT331D	Conical, sharp	1.61
HT638D	Round,bevel	1.61
HT361D	Chisel, TT 1/4"	2.00
HT693D	R. B., TT 1/16"	2.00
HT104D	R. B., TT 1/32"	2.00
HT609	Chisel, long	1.61
HT610	Semi-chisel	1.61
3/16" x 2 1/4" Fit Iron Nos. 26S, P26, 26H		
HT251D	Pyramid	1.68
HT294D	Chisel, short	1.68
HT195D	Chisel, long	1.68
HT207D	Semi-chisel,N	1.68
HT190D	Semi-chisel, W	1.68
HT214D	Conical, blunt	1.68
HT281D	Conical, sharp	1.68
HT288D	Pyramid, TT 1/8"	1.79
HT290D	Chisel, TT 1/8"	1.79
HT548D	S-Chisel, N, TT 1/8"	1.79
HT479D	Conical TT 1/8"	1.79
HT220D	R.B., TT 1/16"	2.07
HT392D	Chisel, long	1.68
HT423D	Semi-chisel	1.68
1/4" x 2 1/4" Fit Iron Nos. 24S, P24, 24H		
HT325D	Pyramid	1.93
HT553D	Chisel, short	1.93
HT313D	Semi-chisel, W	1.93
HT397D	Semi-chisel, M	1.93
HT417D	Semi-chisel, N	1.93
HT418D	Conical, blunt	1.93
HT102D	Round, bevel	1.93
HT586D	Conical, S-chisel	2.00
HT691D	Chisel, TT 1/16"	2.17
HT699D	S-chisel, Lg. TT 1/8"	2.00
HT451D	Chisel, L, TT 1/8"	2.00
HT324D	Chisel, S, TT 1/8"	2.00
HT513D	Conical, TT 1/8"	2.00
HT463D	Chisel, L, TT 3/16"	2.00
HT841D	S-chisel, N, TT 1/8"	2.00
HT692D	Chisel, L, TT 1/8"	2.17
HT552D	S-chisel, 3/8" Shank	2.42
1/4" x 2 3/4" Fit Iron Nos. P30, 30H		
HT252D	Pyramid	1.93
HT253D	Chisel, short	1.93
HT202D	S-chisel, Wide	1.93
HT426D	S-chisel, N	1.93
HT131D	Conical, sharp	1.93
HT263D	Pyramid, TT 1/8"	2.00
HT264D	Chisel, Sh, TT 1/8"	2.00
HT356D	Chisel, M, TT 1/8"	2.00
HT685D	Chisel, Lg, TT 1/8"	2.00
HT452D	Conical, TT 1/8"	2.00
HT580D	Conical, TT 3/16"	2.00
HT473D	Chisel, TT 3/16"	2.00
HT130D	Round,bevel	1.93
1/4" x 3" Extra long for P30, 30H Also for competitive makes		
HT413D	Pyramid, long	1.93
HT468D	Chisel, long	1.93
HT299D	Semi-chisel, W	1.93
HT328D	Semi-chisel, N	2.00
HT708D	S-chisel, N, Lg	2.00
HT453D	Conical, bevel	2.00
HT234D	Chisel, Lg, TT 5/32"	2.00
HT487D	Chisel, Lg, TT 1/8"	2.00
HT519D	Chisel, Lg, TT 1/8"	2.00
HT362D	Conical groove	2.21
1/4" x 3 3/4" Extra long for P30, 30H Also for competitive makes		
HT563D	Pyramid, long	1.93
HT188D	Chisel, long	1.93
HT382D	Semi-chisel, W	1.93
HT626D	Pyramid, TT 1/8"	2.00
HT698D	S-chisel, TT 1/8"	2.00
HT603D	Chisel, Lg, TT 1/8"	2.00
HT391D	Semi-chisel, N	2.00
HT277D	Chisel, Lg, TT 3/16"	2.00
1/4" x 4" Fit Irons P114, P154, P214		
HT496D	Chisel, long	2.14
HT494D	Semi-chisel, N	2.14
HT495D	Chisel, Lg, TT 3/16"	2.24
1/4" x 4 1/2" Fit Irons P114, P154, P214		
HT258D	Pyramid	2.21
HT259D	Chisel, short	2.21
HT230D	Semi-chisel, W	2.21
HT460D	Conical, bevel	2.31
3/8" x 4 3/16" Fit Iron Nos. P100, P150, P238, P338, 100H, 150H		
HT255D	Pyramid	2.07
HT493D	Chisel, short	2.07
HT151D	Semi-chisel, W	2.07
HT183D	Semi-chisel, N	2.07
HT108D	Conical,sharp	2.07
HT114D	Conical, blunt, Sm	2.07
HT240D	Conical, blunt M	2.07
HT374D	Semi-chisel, W	2.07
HT265D	Pyramid, TT 1/4"	2.42
HT266D	Chisel, Sh, TT 1/4"	2.42
HT335D	Chisel, Lg, TT 1/4"	2.42
HT177D	S-chisel, W, TT 1/4"	2.42
HT577D	S-chisel, N, TT 1/4"	2.42
HT145D	Chisel, Sh, TT 3/16"	2.42
HT475D	S-chisel, N, TT 3/16"	2.42
HT289D	Pyramid, TT 1/8"	2.42
3/8" x 4" Fit Iron Nos. P100, P150, P238, 100H, 150H; Extra long for P70, 70H; Also other makes		
HT566D	Pyramid	2.07
HT198D	Chisel, short	2.07
HT918D	S-chisel, Sh, M	2.07
HT365D	Semi-chisel, thin	2.07
HT370D	S-chisel, Lg, N	2.42
HT140D	Semi-chisel, W	2.07
HT430D	Round,bevel	2.07
HT319D	S-chisel, N, TT 1/4"	2.42
HT481D	Chisel, N, Sh, TT 1/8"	2.42
3/8" x 3 3/4" Fit Iron Nos. P70, 70H; Also fit other makes		
HT254D	Pyramid	2.07
HT488D	Chisel, short	2.07
HT129D	Semi-chisel, W	2.07
HT510D	Conical, sharp	2.07
HT309D	Conical. blunt	2.07
HT464D	Conical, chisel	2.21
HT339D	S-chisel, N, TT 1/4"	2.42
HT581D	Chisel, Sh, TT 1/4"	2.42
HT498D	Chisel, Lg, TT 1/4"	2.42
HT291D	S-chisel, W, TT 1/4"	2.42
HT497D	Chisel, Lg, TT 3/16"	2.42
1/2" x 4 1/8" Fit Iron Nos. P151, 151H, P212		
HT257D	Pyramid	3.26
HT293D	Chisel, short	3.26
HT323D	Chisel, short, blunt	3.26
HT163D	S-chisel, N	3.26
HT194D	Semi-chisel, thin	3.40
HT444D	S-chisel, Lg, Taper	3.50
HT203D	Conical, blunt	3.26
HT446D	S-chisel, Lg, Taper	3.50
HT123D	S-chisel, N, TT 3/8"	3.50
5/8" x 4" Fit Iron Nos. P125, P200, 200H, P250		
HT256D	Pyramid	3.43
HT891D	Chisel, long	3.43
HT178D	Semi-chisel, W	3.43
5/8" x 4 3/16" Fit Iron Nos.		
HT260D	Pyramid	3.43
HT499D	Chisel, long	3.43
HT371D	Semi-chisel, N	3.57
HT180D	Semi-chisel	3.43
HT802D	S-chisel, TT 3/8"	3.71
HT766D	Shisel, TT 1/16"	3.71
7/8" x 4 3/4" Fit Iron Nos. P300, 300H		
HT261D	Chisel, short	5.53
HT179D	Semi-chisel, W	5.32
1 1/8" x 5 1/4" Fits No. 500		
HT262X	Chisel	7.74
HT229X	Semi-chisel	7.74
HT233X	Pyramid	7.74

SCREW TIPS

All Conventional Semi-chisel Types

Tip No.	Dia.	Thread	Iron Fits All Makes No.	Net
HT267X	7/16"	1/4-20	50	1.82
HT268X	1/2"	5/16-18	60 and 85	2.35
HT269X	5/8"	3/8-18	120	2.94
HT270X	7/8"	1/2-13	130	4.27
HT271X	1"	1/2-13	170	4.87
HT272X	1 1/8"	5/8-11	225	6.48
HT273X	1 3/8"	5/8-11	350	9.10
HT274X	1 5/8"	5/8-11	500	12.29
HT275X	1 3/4"	5/8-11	700	14.60

HORNET TIPS

TIPS FOR IRONS Nos. H10 and H11

No.	Dia.	Duotherm Net	Xtradur Net
HT866D	1/32"	.84	
HT867D	1/32"	.84	
HT868D	1/16"	.84	
HT869D	1/16"	.84	
HT864X	1/8"		.63
HT870X	1/8"		.63
HT871X	1/8"		.63
HT873X	1/8"		.63

TIPS FOR IRON No. H14

No.	Dia.	Xtradur Net
HT654X	1/8"	.84
HT655X	1/8"	.84
HT656X	3/16"	.63
HT657X	3/16"	.63
HT658X	1/8"	.84
HT659X	1/8"	.84

CATALOG NOS. shown are for DUROTHERM. For HEXCLAD drop "D"; cost approximately 30% less than DUROTHERM. For XTRADUR substitute "X" for "D"; cost approximately 10% less than DUROTHERM.
ABBREVIATIONS: TT, Turned to; S-chis, Semi-chisel; W. Wide; N, Narrow; Lg, Long; Sh, Short; L, Large; M, Medium; Sm, Small; RB, Round Bevel.
SAMPLE TIPS for your evaluation. Ask for new Tip Sketch Catalog with detailed sketches of 180 Standard Coated Tips.

SOLDERING ACCESSORIES

HEAT SINKS — Copper Tipped Clips

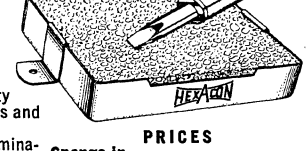
Net Price $.63
No. 34C
1 1/8" Long

Net Price $1.61
No. 60A 2 1/2" long

Net Price $1.61
No. 30A 1 1/2" long

Protect heat sensitive components such as transistors and diodes from thermal damage.

TIP CLEANING SPONGE IN METAL TRAY



Insures reliability of soldered joints and extends tip life. Eliminates contamination. Pure cellulose sponge contains no harmful acids.

PRICES

Sponge in Metal Tray	#810.....	$1.19 Net
Sponge only	#8101....	.46 Net
Tray only	#8102....	.77 Net

ANTI-WICKING TWEEZERS Solid Berillium Copper

Cat. No.	Gauge	Net Price	Cat. No.	Gauge	Net Price
817	16-18	$5.67	820N	20*	$5.67
821	20-22	5.67	822N	22*	5.67
825	24-26	5.67	824N	24*	5.67
830	28-30	5.67	826N	26*	5.67

Prevents harmful effects of excess capillary action of solder along stranded wire beneath insulation. Order tool number by wire size being used.
*"N" Type Tweezers are made for one gauge wire only (not for a range of sizes). Therefore give better fit on wire for greater efficiency. Shorter tip hole provides for close inspection gap on precision soldering such as called for in current NASA specifications.

HEXACON ELECTRIC COMPANY

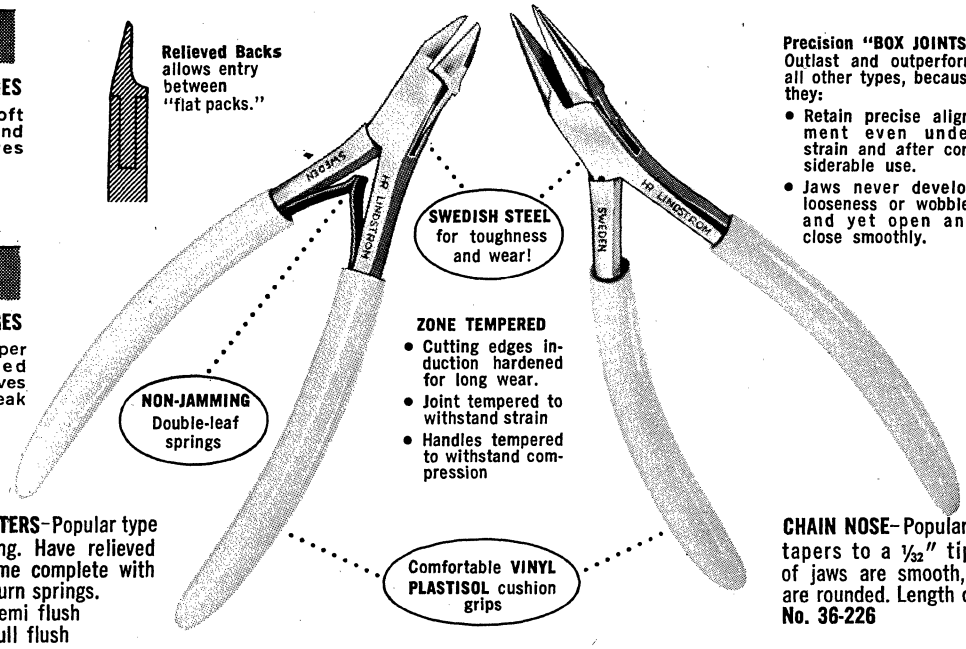
Lindstrom® Swedish PLIERS AND NIPPERS

MINIATURE TOOLS for use on the compact electronic circuits, assemblies and components in today's space age technology. The heads easily reach into confined spaces to perform intricate work, while their light weight, perfect balance, and comfortable grip provide fatigue-free use during continuous operations.

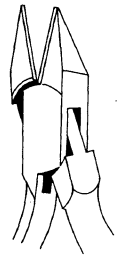
FULL-FLUSH EDGES
For cutting soft wires straight and flush . . . leaves no wire peak

SEMI-FLUSH EDGES
For cutting copper and insulated wires . . . leaves a very small peak

Relieved Backs allows entry between "flat packs."



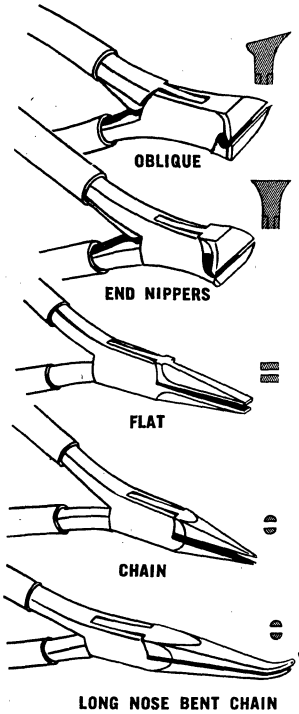
Precision "BOX JOINTS" Outlast and outperform all other types, because they:
- Retain precise alignment even under strain and after considerable use.
- Jaws never develop looseness or wobble, and yet open and close smoothly.



DIAGONAL CUTTERS–Popular type for side cutting. Have relieved backs, and come complete with double-leaf return springs.
No. 36-237S—semi flush
No. 36-238S–full flush

CHAIN NOSE–Popular snipe nose tapers to a 1/32" tip — Insides of jaws are smooth, and edges are rounded. Length of jaws 3/4". **No. 36-226**

All Supreme Tools are Approximately 4 1/2" Long.



Supreme NIPPERS

All Nippers have vinyl plastisol handles and double-leaf return springs.

OBLIQUE — Head is angled 15°, with tip coming to a point. **No. 36-234S** semi-flush edges. **No. 36-235S** full flush edges

OBLIQUE WITH SHORT HEAD — Similar to above except back edge is ground off so head can be fitted into inaccessable areas. **No. 36-242S** full flush edges

END NIPPERS — Jaws are set straight across with both ends coming to a point. **No. 36-231S** semi-flush edges. **No. 36-232S** full flush edges

END WITH NARROW HEAD — Head is only 1/8" wide at cutting edge. **No. 36-246S** flush edges

Supreme PLIERS

All pliers have vinyl Plastisol handles. Double-leaf return springs available

FLAT — 1/8" wide at tip. Insides of jaws are smooth and edges are rounded. Length of jaws 3/4". **No. 36-221**

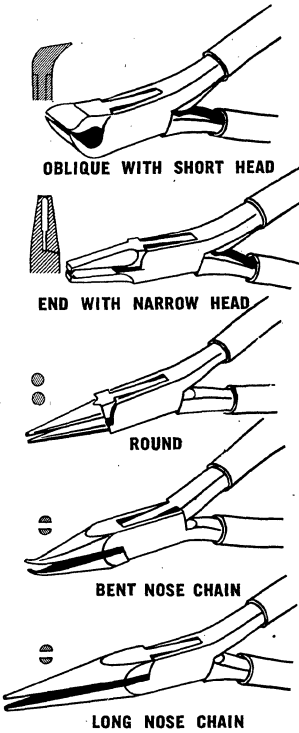
ROUND — Jaws are smooth and taper to a 1/32" tip. Insides of jaws are smooth and edges are rounded. Length of jaws 3/4". **No. 36-224**

CHAIN — Popular snipe nose tapers to a 1/32" diameter at the tip. Length of jaws 3/4". **No. 36-226**

BENT NOSE CHAIN — Tips are angled at 45° for picking up and manipulating precision wires. Length of jaws 3/4". **No. 36-227**

LONG NOSE BENT CHAIN — Tips are angled at 60° for picking up and manipulating precision wires. Length of jaws 1 1/4". **No. 36-229**

LONG NOSE CHAIN — Extra length jaws for getting into tight places. Snipe nose tapers to 1/32". Length of jaws 1 1/4". **No.36-228**



Catalog showing full Lindstrom line on request.

HAMMEL, RIGLANDER & COMPANY, INCORPORATED

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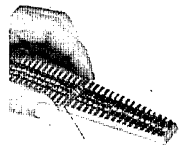
YOUR SINGLE SOURCE FOR THE MOST COMPLETE LINE OF PRECISION ELECTRONIC ASSEMBLY TOOLS

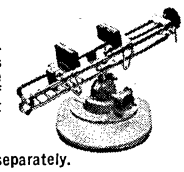
LEAD BENDING GAUGE



Fast, accurate lead forming with perfect reliability . . . no nicks! Up to 1200 component leads per hour may be formed with the simple precise Hunter Gauge offered in 4 standard sizes. All models have 40 lead forming positions. Light-weight, high-impact, Cycolac plastic.

Stock No.	Description	Price
51KL	¼ watt size, .375 to 1.50″	4.50
51KM	½ watt size, .050 to 1.50″	4.50
51KN	Set of 1 ea. 51KL and 51KM	9.00
51KP	1 watt size, .75 to 2.50″	5.63
51KQ	2 watt size, .875 to 2.50″	5.63
51KR	Set of 1 ea. 51KP and 51KQ	11.21

QUICK ADJUST VISE



Fully positionable, quick action vise, to meet the needs of the electronics/aerospace industry. Combination of vise, positioner, and cast iron base.

62E4 — Price 34.13 Net

Each unit is also available separately.

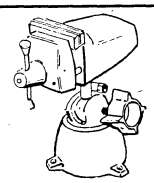
61E1 — Positioner only. Price — 12.00 Net

62E2-1— Vise only. Price 14.40 Net

62E3 — Combination of positioner (62E1) and vise (62E2) only. Price 26.40 Net

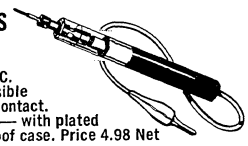
62K3 — Cast iron base. Price 7.73 Net

PANA-VISE



Solves holding problems for small complicated assemblies. 62 — Complete with base and vertical head. Unit 8″ high, 6″ long, 5″ wide. Pivots work 360 degrees in any tangent to half a sphere, achieves any compound angle. Price 17.30 Net

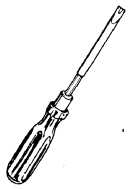
CIRCUIT TESTERS



Traces any circuit — dead or alive — to 600 volts A.C. or D.C. Signal light clearly visible in the tip at point of contact. Sturdy — pocket size — with plated brass parts; shock proof case. Price 4.98 Net

MAGIC TIP SCREWHOLDER

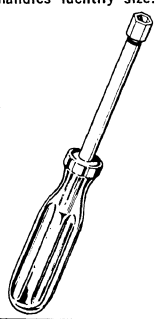
Holds screws tight when inserting or removing. Center pin grips screw tightly at slightest pressure.



Stock No.	Overall Length	Slot Fits Screw	Net Price
10E3	2½″	#00 to #2	1.92
10E4	4″	#00 to #2	2.27
10E7	7″	#00 to #2	2.33
10M3	3½″	#3 to #6	1.80
10M5	5¼″	#3 to #6	2.22
10M8	8¼″	#3 to #6	2.45
10M12	11¼″	#3 to #6	2.67
10A	4″	#6 to #10	1.92
10B	6¼″	#7 to #10	2.33
10C	7½″	#7 to #10	2.37
10D	11¼″	#7 to #10	2.66

NUT DRIVERS

These nut drivers have hollow shafts. Color coded Tenite II plastic handles identify size.



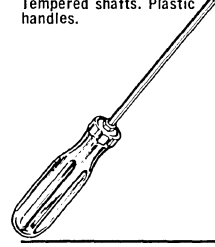
Stock No.	Hex-agon Size	Overall Length	Color	Net Price
19W	5/32″	6¾″	Maroon	.98
20	3/16″	6¾″	Black	.98
20A	7/32″	6¾″	Brown	.98
20B	¼″	6¾″	Red	.98
20C	9/32″	6¾″	Orange	.98
20D	5/16″	6¾″	Amber	.98
20E	11/32″	6¾″	Green	.98
20F	⅜″	6¾″	Blue	.98
20G	7/16″	7″	Brown	1.13
20H	½″	7″	Red	1.13
20H1	9/16″	7¼″	Orange	1.28
20I	¼″	3″	Red	.87
20J	5/16″	3″	Amber	.87
20K	⅜″	3″	Blue	.87

HUNTER KNIVES

E20 — Utility knife. Blade is replaceable. Made of light weight aluminum. Knife is 5/16″ in diameter and 5″ long. Pirce .57 Net

HEX DRIVERS

Screwdriver type wrenches for speedy drive socket screws. Tempered shafts. Plastic handles.



Stock No.	Size	Overall	Net Price
4Y	.028	4″	.69
4Z	.035	4″	.69
5	.050	4⅝″	.57
5A	1/16″	5⅛″	.60
5B	5/64″	6″	.63
5C	3/32″	6⅜″	.66
5C1	7/64″	6¾″	.69
5D	⅛″	6¾″	.69
5D1	9/64″	7″	.69
5E	5/32″	7⅝″	.69
5F	3/16″	8″	.75
5G	7/32″	8⅜″	.84

"SMITTY" WRENCHES

Convenient, easy to use, gives the right key size when you want it.

1P4 — 6″ handle, 5″ blades. 3/32, ⅛, 5/32, 3/16, 7/32, ¼. Price 2.43 Net

1P5 — 4″ handle, 2″ blades. 3/32, ⅛, 5/32, 3/16, 7/32. Price 1.20 Net

1P6 — 3″ handles, 2″ blades. .050, 1/16, 5/64, 3/32, ⅛, 5/32. Price 1.16 Net

1P7 — 3″ handle, 2″ blades. .050, 1/16, 5/64, 3/32, 7/64, ⅛, 9/64. Price 1.20 Net

1P8 — 4″ handle, 3″ blades. 3/32, 7/64, ⅛, 9/64, 5/32, 3/16, 7/32, ¼. Price 1.73 Net

THERMAL WIRE STRIPPER

Plier is 8″ long, ½″ wide at tip, 2½″ wide at handle, ⅞″ thick with 36″ cord. Plier stripper weighs only 8 oz., total unit weighs only 3 lbs. Ideal for research and development work.

80 — Standard control box, plier-type wire stripper. Price 81.00 Net

80C — Same as above but with heavy duty (3-wire) cord and grounds. Price 85.28 Net

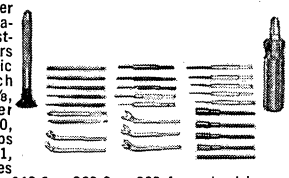
80A — Replacement filaments for plier-type stripper. Price 3.00 Net

HUNTER WIRE STRIPPERS

Cuts and strips both stranded and insulated wire. Positive adjustment, user can preset tool for any wire size from #10 to #20.

55BB — Wire stripper w/plastic grips & spring. Price 1.49 Net

HUNTER SUB-MINIATURE TOOLS



K24M — Master set of sub-miniature tools consisting of jewelers handle, red plastic handle, wrench blades 5/64, 3/32, ⅛, 5/32, screwdriver blades .055, .070, .080, .100, Phillips blades #0, #1, awl, spline blades .033-4, .048-4, .048-6, .060-6, .069-4, nut driver blades 5/64, 3/32, 7/64, ⅛, 5/32 and hex key blades .028, .035, .050, ⅛, 3/64. Price 12.38 Net

HUNTER EREMADIUM CUTTERS

These specially tempered eremadium cutting edges are designed for cutting newer wires containing nickel, iron, etc., up to 22 gauge wire. The most popular are the cutters with full flush or semi-flush cutting edges, lasting 3 to 5 times longer.

A95E — Full flush cut plier 4″ long, designed to cut 22 gauge wire or less. Price 5.42 Net

A95EL — Same as A95 only with leaf spring. Price 5.72 Net

A97E — Semi-flush cut plier 4″ long, designed to cut 22 gauge wire or less. Price 4.55 Net

A97EL — Same as A97E only with leaf spring. Price 4.85 Net

A86E — Taper Jaw Dyke 4¾″ long for No. 20-22 gauge wire. Semi-flush cut. Price 5.91 Net

A86EL — Same as an A86E only with leaf spring. Price 6.23 Net

EREMADIUM
CHROME VANADIUM STEEL

HUNTER TIP-O-DYKE

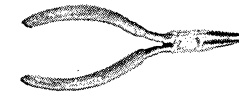
Special precise full flush cutting instruments that will cut flat, soft nickel ribbon wire and increase reliability. Cuts at tip with perfect angle.

A90E — 4⅜″ overall, 22 gauge AS copper wire. Price 9.91 Net

A90EL — Same as an A90E only with leaf spring. Price 10.15 Net

EREMADIUM
CHROME VANADIUM STEEL

HUNTER PLIERS



A11 — 4¾″ narrow chain nose. Smooth jaws, radius edges will not mar wire. Price 3.74 Net

A11L — Same as A11 only with leaf spring. Price 4.04 Net

A14-4½ - A14-6 — Extra long needle nose, 4½″. Optional: 6″. Radius edges. Price 4.20, 6″ Price 4.70.

A14L-4½ - A14L-6 — Same as an A14-4½ only with leaf spring. Price 4.62, - 6″ 5.00

HUNTER NIPPER

CHROME PLATED STEEL

F213 — Straight Blade nipper, 4½″ long. Designed to be held in palm of hand and keep fingers free for use. Price 2.63 Net

F213A — Same as an F213 only heavy duty. Price 2.97 Net

F214 — Same as an F213 only with curved blades. Price 2.85 Net

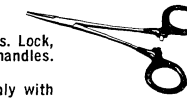
HUNTER SCISSORS

NICKEL PLATED STEEL

F299 — Straight blade electronic shear. 5″ long. Price 2.33 Net

HUNTER SCISSOR CLAMPS

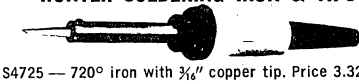
STAINLESS STEEL



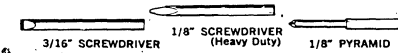
F35 — Straight end scissor clamp. 5″ long. Precision box joint, fine serrated jaws. Lock, opens easily. Cushion-grip handles. Price 4.80 Net

F36 — Same as an F35, only with curved end. Price 4.80 Net

HUNTER SOLDERING IRON & TIPS



S4725 — 720° iron with 3/16″ copper tip. Price 3.32 Net

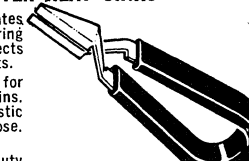


S13C — Screwdriver type 3/16″ copper tip. Price .36 Net

S14C — Pyramid type ⅛″ copper tip. Price .36

S25C — Screwdriver type heavy duty ⅛″ copper tip. Price .36 Net

HUNTER HEAT SINKS



Absorbs and dissipates heat instantly during soldering — protects delicate components.

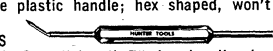
51G — Small model for delicate work. 1¼-ins. long. Coated plastic handle. Tweezer nose. Price .56 Net

51F — Medium Duty Unit. Plastic coated handles. Fed. Stock No. 3439-856-9497. Price .69 Net

51E — Heavy Duty. Has copper jaw. Plastic covered handle. Fed. Stock No. 3439-856-9496. Price .72 Net

HUNTER SOLDERING AIDS

Blades of non-magnetic steel to which solder won't adhere. Turquoise plastic handle; hex shaped, won't roll off table.



REGULAR MODELS

51 — Fork & Hook. Overall length 7″; hex handle size ⅜″ x 3″; blade size 5/32″ x 2″. Price .90

51A — Fork & Brush. Overall length 7″; hex handle size ⅜″ x 3″; blade size 5/32″ x 2″. Price .90

51B — Knife & Brush. Overall length 7″; hex handle size ⅜″ x 3″; blade size 5/32″ x 2″. Price .90

51C — Fork & Reamer. Overall length 7″; hex handle size ⅜″ x 3″; blade size 5/32″ x 2″. Price .90

MICRO MODELS

51C1 — Fork & Hook. Overall length 6″; hex handle size ¼″ x 3″; blade size ⅛ x 1½″. Price .90

51C2 — Fork & Reamer. Overall length 6″; hex handle size ¼″ x 3″; blade size ⅛ x 1½″. Price .90

The original "wedge-type" screwdriver

QUICK-WEDGE®

SCREW-HOLDING SCREWDRIVERS

HOLDS - STARTS - DRIVES - SETS the Screw — Unconditionally Guaranteed

17 Different Sizes Handle Every Screwdriving Job!

Last digit(s) of model number indicates blade length. "E" after number indicates electrical sizes with color-matched, shockproof, Vinyl covered tubing. Not available on No. 1732.

© 1968 by Kedman Company
Quick-Wedge Reg. U.S. Pat. Off.

• One screwdriver drives many sizes of screws • Shockproof, unbreakable Tenite II handle • Hollow-ground bit fits any slotted screw • Use instead of conventional screwdriver • Tough, durable spring steel blades. Positively will not mar screw slot • Fast positive action — easy to use • No pressure wedge to wear out • Foolproof construction.

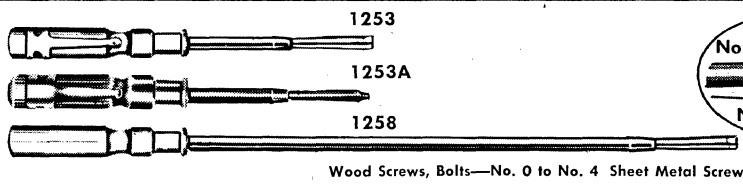
Prices subject to change without notice. Net Prices effective November 1, 1966.

ULTRA-MINIATURE

0-80 and other extremely tiny screws

No.	Blade Diam.	Wt. Lbs. Per Box*	Per Box*	Each Price
1253B	1/8"	9 oz.	$15.00	$1.50
1253B-E	1/8"	9 oz.	16.50	1.65

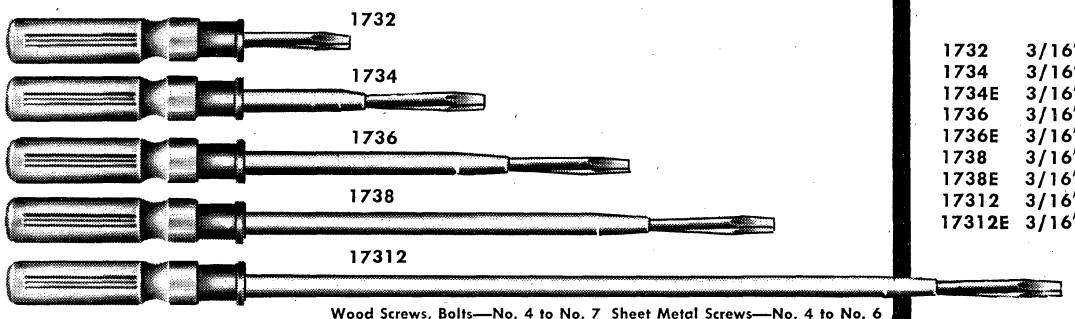
MIDGET



Wood Screws, Bolts—No. 0 to No. 4 Sheet Metal Screws—No. 2 to No. 4

1253	1/8"	9 oz.	12.50	1.25
1253E	1/8"	9 oz.	14.00	1.40
1253A	1/8"	9 oz.	14.00	1.40
1253AE	1/8"	9 oz.	15.50	1.55
1258	1/8"	15 oz.	15.00	1.50
1258E	1/8"	15 oz.	16.50	1.65
1258A	1/8"	15 oz.	16.50	1.65
1258AE	1/8"	15 oz.	18.00	1.80

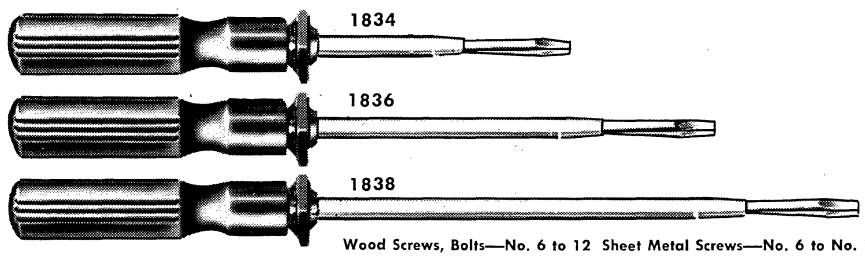
SMALL



Wood Screws, Bolts—No. 4 to No. 7 Sheet Metal Screws—No. 4 to No. 6

1732	3/16"	¾	13.00	1.30
1734	3/16"	1	13.50	1.35
1734E	3/16"	1	15.00	1.50
1736	3/16"	1¼	14.00	1.40
1736E	3/16"	1¼	15.50	1.55
1738	3/16"	1½	14.50	1.45
1738E	3/16"	1½	16.00	1.60
17312	3/16"	2	16.00	1.60
17312E	3/16"	2	17.50	1.75

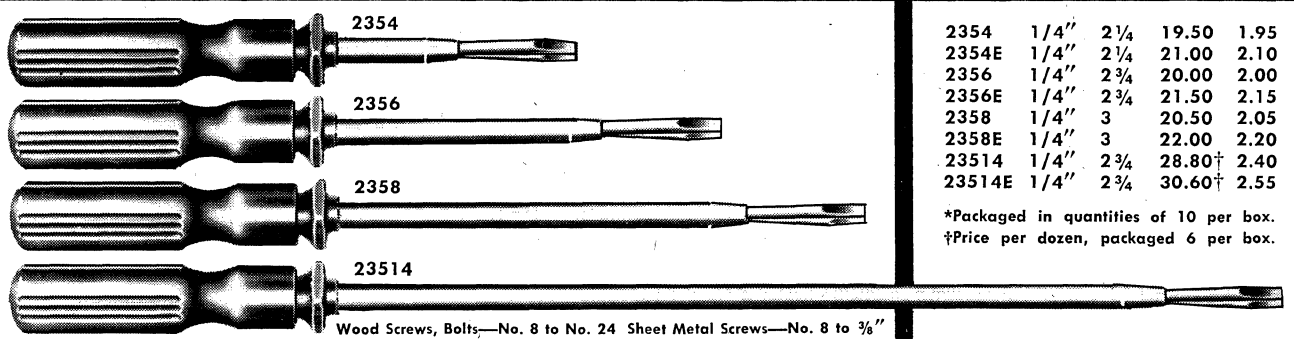
MEDIUM



Wood Screws, Bolts—No. 6 to 12 Sheet Metal Screws—No. 6 to No. 12

1834	3/16"	1¾	18.50	1.85
1834E	3/16"	1¾	20.00	2.00
1836	3/16"	2	19.00	1.90
1836E	3/16"	2	20.50	2.05
1838	3/16"	2¼	19.50	1.95
1838E	3/16"	2¼	21.00	2.10

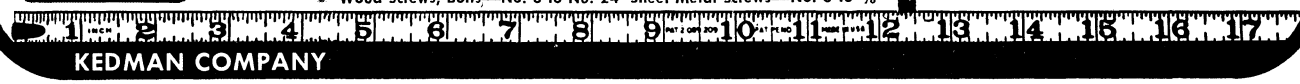
HEAVY DUTY



Wood Screws, Bolts—No. 8 to No. 24 Sheet Metal Screws—No. 8 to ⅜"

2354	1/4"	2¼	19.50	1.95
2354E	1/4"	2¼	21.00	2.10
2356	1/4"	2¾	20.00	2.00
2356E	1/4"	2¾	21.50	2.15
2358	1/4"	3	20.50	2.05
2358E	1/4"	3	22.00	2.20
23514	1/4"	2¾	28.80†	2.40
23514E	1/4"	2¾	30.60†	2.55

*Packaged in quantities of 10 per box.
†Price per dozen, packaged 6 per box.



KEDMAN COMPANY

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Get Fast, Safe Heat With The World's Finest...

MASTER FLAMELESS HEAT TOOLS!

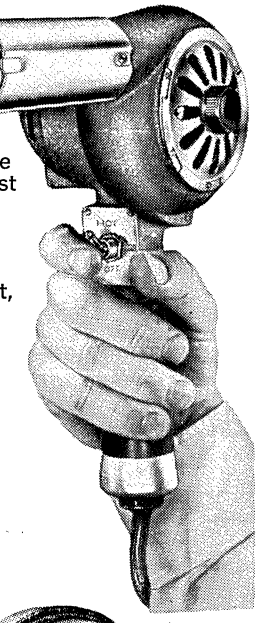
• shrink tubing • de-solder • set pre-coated rivets • soften, mold, weld, form plastics • dry paint, plastic finishes, condensation, or parts after washing • speed plastic and epoxy curing • handle hundreds of other jobs.

Flameless Heat Guns

Master UP TO 1000° F.

MODEL	VOLTAGE	AMP.	TEMP. F.°	NET
HG 201	115	5	200/300	$44.30
HG 202	230	3	200/300	51.95
HG 301	115	12	300/500	44.30
HG 302	230	5	300/500	51.95
HG 501	115	14	500/750	49.90
HG 502	230	8	500/750	55.25
HG 751	115	20	750/1000	59.95
HG 752	230	9	750/1000	67.85

Have adjustable air intake for controlling the air blast temperature; double jacketed heater housing, made of rugged, die-cast aluminum; 3-wire U.L. approved cord; fast, quiet, efficient turbo type fan. 50/60 and 400 cycle models available. Attachments available. Choose from 8 models.

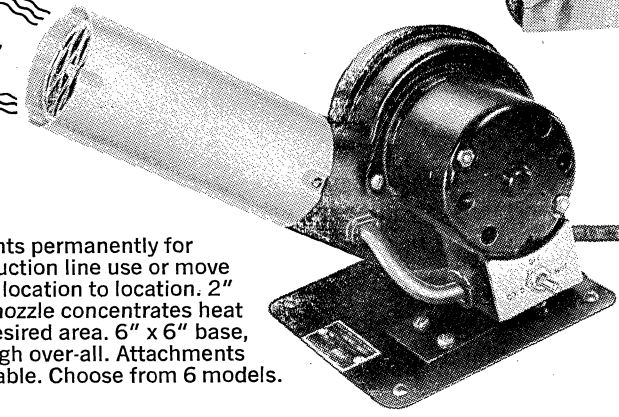


Flameless Continuous Duty Air Heater Blowers

Master UP TO 750°

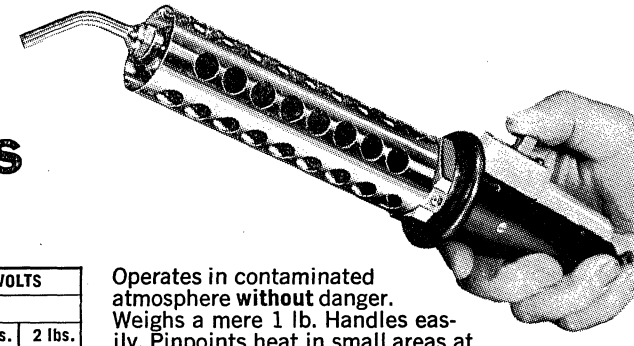
MODEL	VOLTAGE A.C.	CYCLE	AMP.	TEMP. F°	AIR VOLUME C.F.M.	AIR VELOCITY F.P.M.	NET RESALE
AH 301	115	60	10	300	14.82	1425	$56.65
AH 302	230	60	5	300	16.2	1550	68.35
AH 501	115	60	14	500	13.75	1375	59.95
AH 502	230	60	6	500	14	1400	71.65
AH 751	115	60	18	750	13.5	1350	78.35
AH 752	230	60	11	750	13.5	1350	90.25

Mounts permanently for production line use or move from location to location. 2" dia. nozzle concentrates heat on desired area. 6" x 6" base, 6" high over-all. Attachments available. Choose from 6 models.



New Master Flameless Air Heat Torch

CHART OF APPROXIMATE TEMPERATURES OBTAINED ¼" FROM NOZZLE IN F° @ 120 VOLTS								
SPECIFY RATING WHEN ORDERING	NET RESALE	POUNDS OF PRESSURE						
		RATING 8 lbs.	7 lbs.	6 lbs.	5 lbs.	4 lbs.	3 lbs.	2 lbs.
FHT-67-1 W/Shield FHT-67-2 Less/Shield	$88.00 85.00	250 Watts 250°	300°	330°	360°	390°	420°	500°
FHT-67-1 W/Shield FHT-67-2 Less/Shield	90.50 87.50	350 Watts 350°	400°	450°	550°	550°	600°	700°
FHT-67-1 W/Shield FHT-67-2 Less/Shield	92.50 89.50	450 Watts 450°	500°	550°	600°	650°	700°	850°
FHT-67-1 W/Shield FHT-67-2 Less/Shield	94.50 91.50	550 Watts 550°	600°	650°	700°	775°	875°	1050°



Operates in contaminated atmosphere **without** danger. Weighs a mere 1 lb. Handles easily. Pinpoints heat in small areas at any selected pressure. Lets you hold temperatures plus or minus 1°. Works off conventional air compressors, small motor driven compressors or inert gas. Has a molded handle, all stainless steel barrel and nozzel. Comes with 10' contaminate-proof hose. Welds PVC's, polypropylenes, polyethylenes, Welding tips and carrying case available as optional equipment.

WHY INDUSTRY LEADERS EVERYWHERE SPECIFY MASTER FLAMELESS HEAT TOOLS!

The reason is simple. Master Appliance Corporation pioneered flameless heat tool development. So it's natural that they know more about designing and building quality heat tools than any other manufacturer. In short, people who want the best insist on Master capacity, performance and trouble-free dependability. Isn't it time you found out for yourself?

AVAILABLE AT LEADING DISTRIBUTORS.

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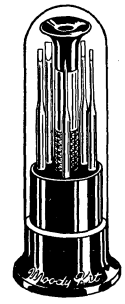
Moody® PRECISION HAND TOOLS

Screw Driver & Awl Set

Contains four interchangeable screw driver blades and an awl. Complete with swivel top, knurled chuck type handle.

Sizes .055", .070", .080", .100", awl

Cat. No. SC-5 **List $1.75**

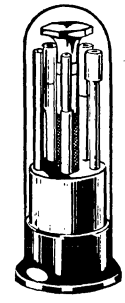


Socket Wrench Set

Five interchangeable box or socket wrenches that fit the same magnetic handle. Thread sizes #00, #0, #1.

Sizes (all hex) 5/64", 3/32", 7/64", 1/8", 5/32"

Cat. No. BW-5 **List $3.95**

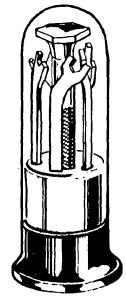


Offset Open End Wrench Set

Contains five offset open end wrenches, interchangeable in the chuck handle.

Sizes 5/64", 3/32", 7/64", 1/8", 5/32"

Cat. No. OE-5 **List $2.50**

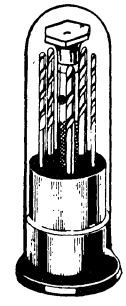


Tap Drill Set

Contains five tap drills. Handle has a solid-locking chuck-nose and swivel-top. A companion piece to the Moody TS-5 Tap Set.

Drill Sizes 3/64", #53, #50, #47, #43

Cat. No. 70 **List $3.50**

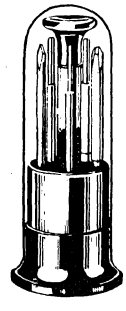


Cross Recessed Driver & Allen Type Wrench Set

Contains five interchangeable tools with chuck-type, swivel top handle. A torque hole in the handle enables fastenings to be set up tight.

Cross recessed drivers #0, #1
Allen type wrenches #4, #6, #8

Cat. No. PA-5 **List $2.50**

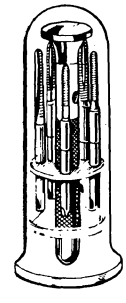


Tap Set

Contains five interchangeable taps and handle for cutting inside threads. Torque hole in handle enables you to maintain a steady firm leverage.

Tap Sizes 0-80, 1-72, 2-56 3-48, 4-40

Cat. No. TS-5 **List $6.95**

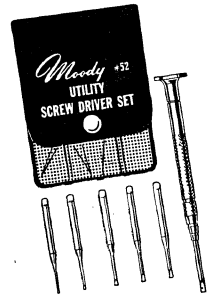


Utility Screw Driver Set

Consists of a precision screw driver and six interchangeable blades. The screw driver handle is knurled for positive gripping.

Sizes .025", .040", .055", .070", .080", .100"

Cat. No. 52 List $2.50

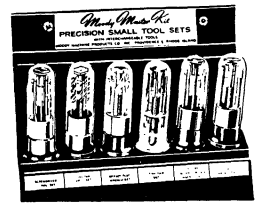


Machinist Scriber

Approximately 8½" overall with a right angle point and a straight point, both properly tapered and swaged into a knurled aluminum finger grip handle.

Cat. No. MS-2 **List $ .75**

Moody Master Kit



A popular compact kit of six tool sets, stored in a leatherette case. Contains Screw Driver & Awl Set, Cross Recessed Driver & Allen Type Wrench Set, Socket Wrench Set, Offset Open End Wrench Set, Tap Drill Set, Tap Set.

Cat. No. MMK-6 **List $22.95**

Send for Free Catalog on the complete line of Moody Tools

MOODY MACHINE PRODUCTS CO., INC.

Moody® MACHINE PRODUCTS CO., INC.

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ERSIN Multicore

5-core solder

Available in 1-lb. and 7-lb. reels

TECHNICAL ADVANTAGES:

Ersin Flux is exclusive to Multicore and will not be found in any other solder. It is a high-grade, water-white rosin, homogeneously activated.

Ersin Flux has a vigorous fluxing action and possesses the non-corrosive and protective features of the original rosin. Soldered joints made with Ersin Flux do not corrode even after prolonged exposure to any degree of humidity. Ersin Flux reduces the surface tension of molten solder, causing it to wet metals rapidly, increasing speed of operation with resultant production economies.

Free from objectionable odor. Non-toxic in use.

Leaves nothing but pure rosin on the work after soldering, and may be used wherever plain rosin is specified.

Conforms with all pertinent federal specifications.

Multicore construction: Five separate cores of flux eliminate possibility of no flux in a portion of the wire, which may occur in single corded solder. Guaranteed continuity of the flux stream prevents "dry" joints, i.e., those having high electrical resistance.

Although there are five cores of flux in Multicore, the total percentage of flux to solder is less than many single cored solders.

Very rapid melting results from the multiple core construction which provides thinner walls of solder than are found in same gauge single cored solder. Multicore's unique properties make perfect joints possible on difficult metals and alloys, even if oxidized.

Ability to tin rapidly produces perfect joints with less solder. Greater coverage per pound.

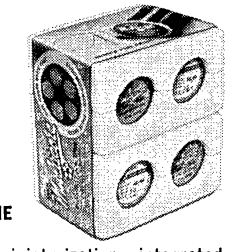
NOTE: Multicore presents an entirely new concept in solder packaging designed to bring the solder to you in perfect condition at all times. The attractive polystyrene foam container resists damage in shipping and each individual reel is **skin packed** to keep the solder clean and fresh and to minimize oxidation no matter how long it may be stored.

STANDARD TIN/LEAD ALLOYS AND GAUGES

Available from stock: 63/37; 60/40, 50/50, 40/60; Savbit; Special Alloys — H.M.P. (High melting point, 565°F); L.M.P. (low melting point, 354°F). Other alloys upon request.

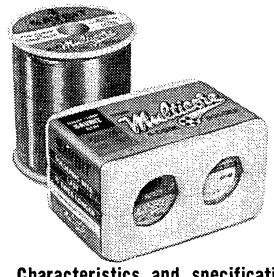
Gauges: 14 s.w.g. (.080") through 24 s.w.g. (.009").

NOTE: Soldering iron tips should always be 108°F above melting point of alloy.



NEEDLE FINE GAUGES

For microminiaturization, integrated circuits and other similar requirements. Off-the-shelf delivery in alloys 63/37 and 60/40, in even gauges from 22 s.w.g. (.022") through 34 s.w.g. (.009").



COPPER-LOADED SAVBIT ALLOY

Copper-loaded SAVBIT stops the wear and erosion of copper soldering iron tips . . . increases tip life by 1,000%.

Characteristics and specifications: Savbit Alloy is available in Ersin Multicore 5-core solder containing non-corrosive extra-fast Ersin Flux in 14, 16, 18, 20, 22 and 24 gauge. Melting point: Virtually the same as standard tin/lead alloys. Excellent conductivity, tensile and shear strength.

Available in new 1-lb. and 7-lb. reels, skin wrapped and foam packaged.

NEW ERSIN LIQUID FLUXES

Meet the same high quality standards as Ersin Multicore Solder. Three new Fluxes: Formula No. 5380 and Formula No. 0360 meet Government MIL specifications for active and non-activated liquid fluxes, respectively. Formula No. 4370 is an activated liquid flux which is the external counterpart of the flux contained in Ersin Multicore 5-Core Solder. Conforms to the latest Federal Specification QQ-S-571d.

NEW MULTICORE HIGH PURITY EXTRUDED SOLID BAR SOLDER

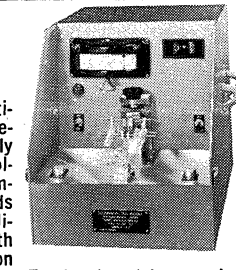
Offers higher purity achieved through greater quality control, only possible with extrusions. Available in skin packaging as well as bulk. Available in two alloys: 60/40 and 63/37.

PC (PRINTED CIRCUIT) PAK
60/40—22 s.w.g. (.028")

NEW EASY DISPENSER PAK
60/40—18 s.w.g. (.048")

Ideal for servicemen, hobbyists, lab technicians. Paks are flameproof—can be used close to the heat.

NEW SOLDERABILITY TEST MACHINE



Designed and built by Multicore Solders Ltd., this precision machine accurately measures the degree of solderability of terminal component wires and affords positive and totally reliable results. Complies with International Specification I.E.C. Publication 68-2 Test T.; developed in association with the International Electrotechnical Commission.

ERSIN Multicore's national network of industrial distributors, in 50 states, facilitates prompt off-the-shelf delivery at factory-low prices.

Free Evaluation Test Samples and "Modern Solders" technical booklet available.

Imported from England
Conforms to all applicable Federal Specifications QQS-571.

Multicore Sales Corp.
Div. British Industries, Corp.

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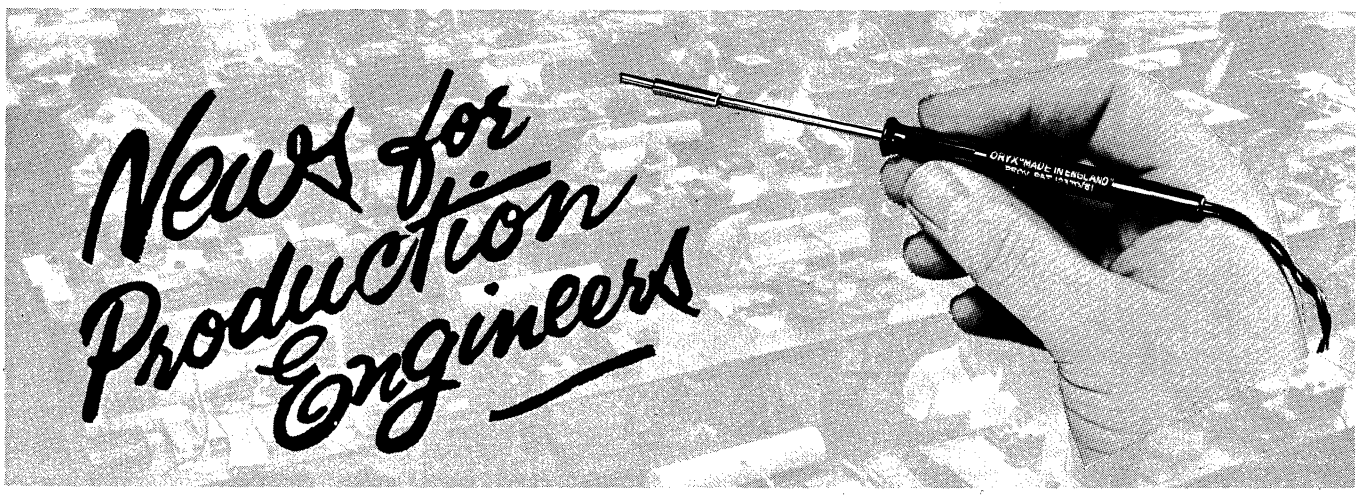
ORYX PRECISION SOLDERING INSTRUMENTS



Oryx industrial soldering instruments offer these important advantages:

MINIATURE SIZE

FEATHER WEIGHT

HIGH EFFICIENCY

SAFETY

ORYX soldering irons are small and easy to handle as pencils. Their miniature size helps to speed any precision soldering operation. Damage to adjacent components is eliminated. If you can see it, you can solder it with ORYX!

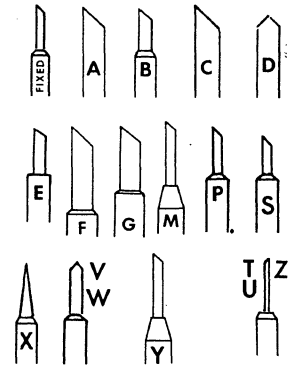
A standard, utility-type 100 watt soldering iron weighs about 2 lbs. The so-called pencil-type irons typically weigh between 2 and 6 ounces. ORYX soldering irons, by contrast, weigh as little as ¼ ounce. This true feather weight virtually eliminates hand fatigue. Workers can turn out many more joints per hour with fewer rejects.

All ORYX soldering irons utilize a unique element-in-the-tip design principle. By generating the heat **within** the tip, far fewer watts are needed to achieve results comparable to much larger irons. This principle also provides quicker heat recovery because the heat path between element and joints is so very short. The need for large insulating handles is eliminated.

ORYX low-voltage irons are polarized, making it possible to directly ground the shaft, tip, and one side of the heating element. This provides a maximum degree of safety, both to the operator and to delicate circuitry. The ORYX line of 115 V. plug-in models includes 3-wire styles whose shafts and tips may be connected to ground for safety.

LOW-VOLTAGE, MINIATURE PRODUCTION SOLDERING IRONS

	Model	Volts	Watts	Temp.	Length	Weight	Tip Type	Tip Dia.	Net Ea.	12 or More
MICROCIRCUIT MODELS for joints having negligible mass.	**5S**	4.5	4.5	575°F.	4¾″	⅕ oz.	S	1/16″	**$5.95**	**$5.35**
	6	6	6	652°F.	6″	¼ oz.	Fixed	1/16″	**5.95**	**5.35**
PRINTED CIRCUIT MODELS for normal component parts such as diodes, ¼ and ½ watt resistors, transistors, etc.	**6A**	6	6	690°F.	6″	¼ oz.	B	3/32″	**5.95**	**5.35**
	9-6	6*	8.3	750°F.	6″	¼ oz.	A	5/32″	**5.95**	**5.35**
HIGH-TEMPERATURE MODEL for special solder alloys.	**11-6**	6	10	835°F.	6″	¼ oz.	E	5/32″	**7.45**	**6.70**
HEAVY-DUTY MODELS for tube socket terminals, lugs, 1 and 2 watt resistors, etc.	**12-6**	6*	12	700°F.	6¼″	½ oz.	C	3/16″	**5.95**	**5.35**
	18-6	6	18	800°F.	7¼″	¾ oz.	F	3/16″	**7.95**	**7.15**



* 12-volt models also available on special order at no additional charge.

NOTE: See following page for Telvac transformers to operate low-voltage soldering irons.

REPLACEMENT TIPS for low-voltage soldering irons

Oryx tips are precision machined from a special copper alloy with outstanding heat conduction characteristics. Nickel plating reduces scaling. Iron-plated tips and solid nickel tips give much longer life with slightly reduced heat transfer. Gold tips recommended for microcircuits only.

Type	Material	Plating	Diameter	For Model	Net Ea.
A	Copper alloy	Nickel	5/32″	9-6	$ .54
B	Copper alloy	Nickel	3/32″	6A, 9-6	.54
C	Copper alloy	Nickel	3/16″	12-6	.54
D	Solid Nickel	—	5/32″	11-6	1.80
E	Solid Nickel	—	3/32″	11-6	1.80
F	Copper alloy	Nickel	3/16″	18-6	1.25
G	Solid nickel end	Nickel	5/32″	18-6	1.85
M	Solid nickel end	Nickel	3/32″	18-6	1.85
N	Copper alloy	Nickel	1/8″	TW-12	1.25
P	Copper alloy	Nickel	1/16″	5S, 6A	.60

Type	Material	Plating	Diameter	For Model	Net Ea.
S	Copper alloy	Nickel	1/16″ (short)	5S	$ .60
T	Gold end, copper body	Nickel	1/25″	5S, 6A	2.35
U	Gold end, nickel body	—	1/25″	5S, 6A	2.35
V-PL	Copper alloy	Iron	3/32″	6A, 9-6	1.50
W	Copper alloy	Bare (NASA)	3/32″	6A, 9-6	.45
X	Copper alloy	Nickel	1/25″	5S, 6A	.85
X-PL	Copper alloy	Iron	1/25″	6A, 9-6	1.50
Y-PL	Copper alloy	Iron	3/32″	18-6	2.25
Z	Copper alloy	Nickel	1/25″	5S	.85
Z-PL	Copper alloy	Iron	1/25″	6A, 9-6	1.50

TELVAC INSTRUMENT CO. National Sales Agency

Net

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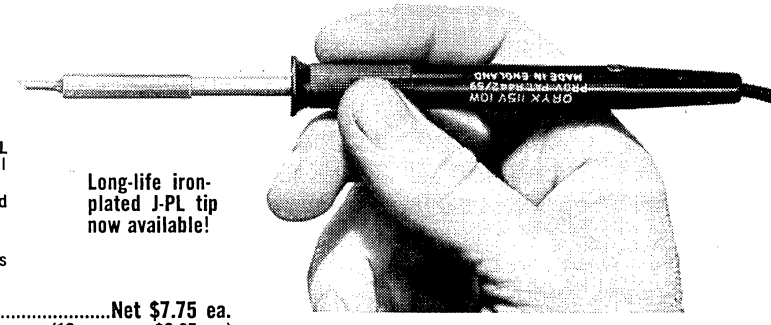
ORYX PRECISION SOLDERING EQUIPMENT

15 W. MINIATURE PLUG-IN IRON



Long-life iron-plated J-PL tip now available!

- **NO TRANSFORMER.** Standard model furnished with U/L approved 4½′ cord set. Ready to plug in! Three-wire model (less plug) also available.
- **COMPACT DESIGN** for light production, laboratory, and service use. Irons weigh only 1 oz., plus cord.
- **HEATS QUICKLY** (about 1 minute) to 725°F. (15 W.)
- **REPLACEABLE TIPS.** Furnished with 3/32″ J tip (also takes other tips and solder cups listed below).

MODEL 115 - 15J ..... **Net $7.75 ea.**
(12 or more, $6.95 ea.)

NOTE: This model previously furnished with 1/16″ K tip. Because of trend to smaller components, the 3/32″ J tip is now furnished as standard. A 3-wire grounding-cord model (less plug) is also available at no extra cost. Add "-3" to catalog number.

REPLACEMENT TIPS AND ELEMENTS for model 115-15J

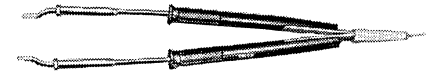
Type	Material	Diameter	Net ea.
J	Copper alloy	3/32″	$1.55
J-PL	Copper, Iron plated	3/32″	2.25
K	Copper alloy	1/16″	1.70
R	Solid nickel end	1/16″	$1.85
115-10E	Replacement element — 10 watts (special)		3.60
115-15E	Replacement element — 15 watts (standard)		3.60

SOLDERING TWEEZERS

Unique tools with heating elements in each arm. Speed soldering time by heating both sides of joint. Tweezer action conducts heat quickly into joint. Low-voltage operation assures safety to circuitry and to operator.

MODEL TW-6 — Precision model for semiconductors, solid state, hairspring movements, miniature relays, thermostats, etc. Solid Nickel 3/32″ fixed tips. Nominal temperature 550° F. Weighs 1 oz. 6-volts, 18-watts, AC or DC.

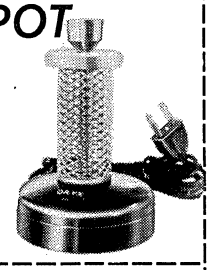
MODEL TW-6, complete with 4½′ cord ..... Net **$14.95** ea.
MODEL TW-6E (spare element assembly) ..... Net **$ 5.30** ea.



MODEL TW-12
Heavy duty model for regular production-line soldering of radio, TV, radar, telephone, and switchboard assemblies. Furnished with replaceable 1/8″ N tips. Nominal temperature 625°F. Weighs 2 oz. 12-volts, 25-watts, AC or DC.

MODEL TW-12, complete with 4½′ cord ..... Net **$16.50** ea.
Spare Tips "N" ..... Net **$ 1.25** ea.
SK-12 stripper heads for TW-12 (kit of 2 heads and 2 screws) ..... Net **$ 1.35** kit

MINIATURE SOLDER POT

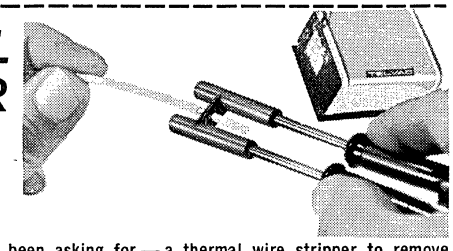


Quick-heating, miniature solder pot for production, service, or laboratory use. Heats to 550°F in just 4 minutes. For tinning wires and component leads; heating waxes and potting compounds. Capacity 2.5 cc. For 115 V. AC or DC.

SP-115. With cord set ready to plug in.
SP-115-3. 3-wire grounding model, less plug.
EITHER MODEL ..... Net **$12.95** ea.
SPC. Replacment cup and stem ..... **2.85** ea.
SP-115-E. Replacement element ..... **3.60** ea.
60-40 solder slugs for above ..... **.54** ea.

THERMAL STRIPPER FOR TEFLON*

* DuPont trademark



Here is the tool you've been asking for — a thermal wire stripper to remove those difficult p.t.f.e. insulations. The new ORYX ST-60 has special high-temperature heads that quickly melt through tough insulation, yet will not damage those critical inner conductors. This compact 2-oz. stripper reaches easily into hard-to-get-at spots, making it ideal for repair and prototype use, as well as for production. Use the ST-60 with Telvac transformer #5024, or any other 24-volt 60-watt power source. Transformer #5024 has a 12-volt tap, allowing use of the ST-60 on PVC and other low-temperature insulations. (Transformer may also be used to power other Oryx 12-volt and 24-volt tools.)

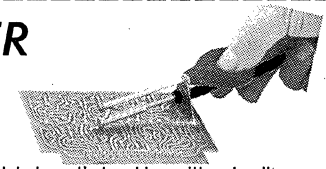
MODEL ST-60 (Stripper only) ..... Net **$19.95** ea.
MODEL 5024 (Transformer only) ..... Net **8.95** ea.
MODEL ST-60E (Spare element assembly) ..... Net **9.95** ea.

SOLDER CUPS

Solder cups replace tips on Oryx model 18 and 115-15 soldering irons. For tinning wires and component leads. Hold 2.5 cc. Nominal temperature 550-600°F.

SC-18 (Use with Oryx 18-6 soldering iron.)
SC-115 (Use with Oryx 115-15 soldering iron.)
EITHER MODEL ..... Net **$2.25** ea.

SOLDER SUCKER



Removes excess solder from circuit boards and terminals. Small and light — easily used with one hand. Has its own built-in stand, so it can simply be put down on the bench between operations. Solder reservoir is stainless steel, easily cleaned. Suction tip is heavily chrome plated so that solder will not adhere. The Oryx solder sucker operates on safe low voltage. Requires just 18 watts at 6 volts AC or DC. May be used with transformer 54203-6V or 54204-T listed below, or other 6-volt power source.

MODEL SS-18-6 ..... Net **$19.95** ea.

"PVC" WIRE STRIPPERS

Reach those hard-to-get-at spots. Miniature tweezer design.

Ideal for repair and prototye work where a bench stripper is unsuitable. Strips Nylon, rubber, PVC, Kel-F, Polystyrene, and similar medium-temperature insulations. Stainless steel stripping heads are abrasive-tumbled to eliminate sharp edges which might damage conductors. Operating temperature: 400°F. Furnished with 4½′ cord.

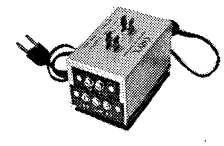
MODEL ST-6. For 6-volts, AC-DC, 12 watts ..... Net **$15.95** ea.
ST-6E Replacement element-head assembly for **ST-6** ..... Net **5.30** ea.

TRANSFORMERS

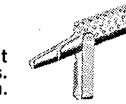
6-VOLT TRANSFORMER — Model 54203-6V. Output 6-volts, 18-watts. For use with all 6-volt Oryx tools. Operates on 115 V. AC. with 4½′ cord set — ready to plug in. Clip-holder on top for iron ..... Net **$5.50** ea.

TAPPED TRANSFORMER — Output 4½ to 6-volts in ½ v. steps. For exact temperature control on all Oryx 6-volt tools. Operates on 115 V. AC — ready to plug in. Model 54204-T ..... Net **$6.50** ea.

24-VOLT/12-VOLT TRANSFORMER — Output 24-volts with 12-volt tap. For use with ST-60 thermal stripper and Oryx 12-volt tools. For 115 V. AC. Ready to plug in Model 5024 ..... Net **$8.95** ea.



STAND



A small, adjustable stand to fit all Oryx soldering instruments. Designed to be screwed to bench. Heavily plated.

MODEL S-1 ..... Net **$1.95** ea.

TELVAC INSTRUMENT CO. — National Sales Agency

TELVAC LABORATORY TOOLS / APPARATUS

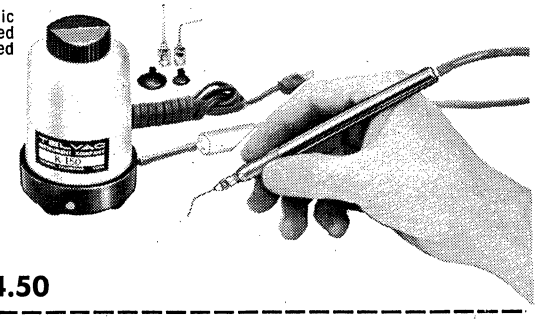
VACUUM TWEEZER SYSTEM

This new parts-handling system positively and precisely lifts parts varying in size from microscopic to those weighing several ounces. Parts are handled without damage or contamination. Defects caused by pinching, scratching, or marring are eliminated. Critical surfaces are protected. Vacuum is turned on and off with the forefinger. For 115 V. A.C. Complete system, ready to plug in.

Individual Vacuum Components

Cat. No.	Description	Net ea.	Cat. No.	Description	Net ea.
1505	Vacuum generator	$22.50	1565	Tip, .047" i.d., #16	$ .49
1575	Probe	4.95	1568*	Tip, .085" i.d., #12	.69
1550	Tip, .006" i.d., #30	.49	1580	Neoprene cup, .5" dia.	.90
1555	Tip, .01" i.d., #25	.49	1585	Neoprene cup, .25" i.d.	.90
1560	Tip, .016" i.d., #22	.49	1587*	Neoprene cup, .18" i.d.	.90
1562*	Tip, .023" i.d., #20	.49	1510	Tubing, 4' length	1.00
1564*	Tip, .033" i.d., #18	.49	1590	Filter	.90

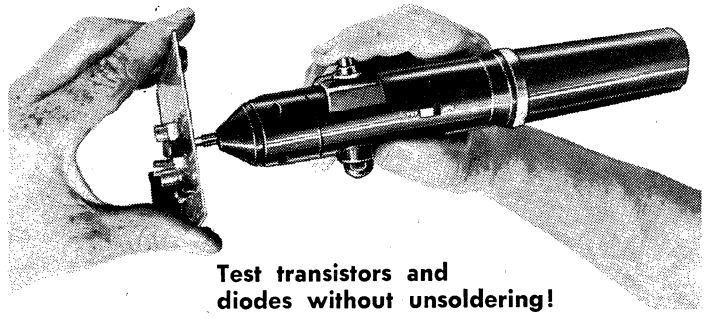
* Not included in K-150 system.



Complete System K-150

Net ea. **$34.50**

"IN-CIRCUIT" TRANSISTOR TESTER

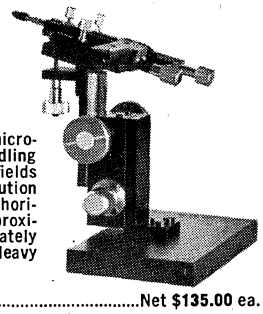


Test transistors and diodes without unsoldering!

A new test instrument for the circuit designer or test technician. Makes rapid "go - no go" evaluations of semiconductors while they are still in the circuit. Checks cut-off and condution on PNP and NPN transistors and diodes without the need for costly unsoldering. To use, the operator sets the selector switch to NPN or PNP. He then presses the tester's sharp spring-loaded pins (arranged in TO-5 configuration) against the transistor's printed circuit connections. Open and shorted transistors are readily identified by noting the condition of the tester's pilot light. Diodes and unmounted transistors are similarly tested using a set of extending leads and clips. An optional 7-position diode adapter may be used to test dodes in the circuit. Furnished complete with extending leads and alkaline battery, ready to operate.

MODEL SC-4 TESTER .....Net **$72.50** ea.
MODEL 1330 DIODE ADAPTER .....Net **16.50** ea.
APX-24 BATTERY .....**$1.00** **223 LAMP** ..... **.35 ea.**

"MICRO-MAN" MANIPULATOR



A new micromanipulator used for probing micro-circuits, aligning laser and maser systems, handling radioactive samples. Has many applications in fields of physics, microelectronics, and biology. Resolution 0.0001" in the vertical plane — 0.004" in the horizontal plane. Left and right movements: approximately 2". Fore and back movements approximately 1". Tilt capability 60°. Overall height 7". Heavy cast iron base.

MODEL MM .....Net **$135.00** ea.

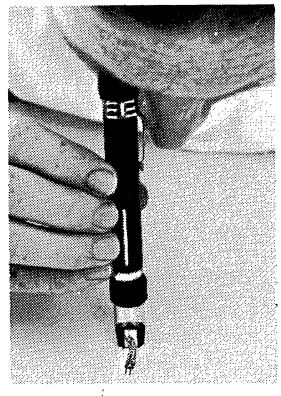
INSTRUMENT REPAIR KIT

A 35-piece kit of fine precision tools for the instrument shop or laboratory. Includes miniature soldering iron, taper-jaw diagonal cutter, needle-nose plier, precision screwdriver kit, tiny stub-nose scrissors, eye loupe, needle-file set, 11-piece knife set, hex wrench set, spline-key set, soldering aid set, and a precision Dumont-type tweezer.

MODEL K-50 .....Net **$49.50 ea.**

POCKET MICROSCOPE

- **ADJUSTS 40 to 60 POWER**
- **REFLECTING MIRROR**



An outstanding instrument that makes microscopic inspection possible wherever you may be. High magnification (x 60) reveals much more than ordinary magnifiers. Reflecting mirror almost doubles surface illumination. Model 890-M has calibrating scale that measures in both millimeters and thousandths of an inch. Both models have dustproof optics and are furnished with a case.

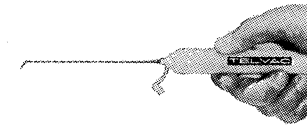
MODEL 890 .....Net **$12.95** ea.
MODEL 890-M .....Net **19.95** ea.

ANTI-SEIZE

Provides gas- and moisture-tight seal to screw threads, antenna, or conduit connections. Eliminates seizing and galling. No mixing — ready to use. Meets MIL-A-907.

NSTK-1 (1-oz. sample tin) .....Net **$ .29** ea.
NSTK-16 (1-lb. can) .....Net **3.50** ea.

INSTRUMENT OILER



The Telvac Reach-All pen oiler is fitted with an extending/retracting stainless tube that lets you reach a full 9½" to put oil exactly where you want it. Dispenses one drop at a time. Comes filled with highest quality instrument oil that meets MIL-L-6085. Pen size—handy pocket clip.

MODEL TVO .....Net **$ .99** ea.

"LAB-VAC" VACUUM CLEANER

A compact vacuum cleaner to keep everything "clean room" clean. Clean inside chassis, instruments, racks, optical apparatus, etc. Has a 5" tapered accessory nozzle to reach into corners and tight spots. A brush is also included for cleaning flat surfaces and table tops. For 115 V. AC.

MODEL TVM .....Net **$24.95** ea.

HEADBAND VIEWER

Stereoscopic magnifier for precision work. Accurately ground lenses with required prismatic effect prevent eyestrain. Magnification 2½X at 8". Watchmaker's glass folds down to increase magnification to 5X at 2 - 3". A hood shields the eyes from glare. The lower side is open, allowing downward vision for handling tools and taking notes. May be used with glasses.

MODEL 606 .....Net **$17.95** ea.

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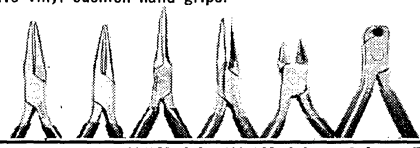
TELVAC INSTRUMENT ASSEMBLY TOOLS

INSTRUMENT PLIERS

Precision tools for delicate instrument and electronic work. Featuring box joints and unusually small, fine heads. Each pair of pliers accurately adjusted. All models have vinyl cushion hand grips.

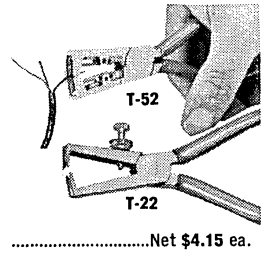


Description	5½″ Models Cat. No.	4½″ Models Cat. No.	Prices - Either Size Net ea.	10 or more
Flat nose	11B	10B	$3.75	$3.35
Round nose	21B	20B	3.75	3.35
Needle nose	26B	25B	3.95	3.55
Chain nose	31B	30B	3.75	3.35
Diagonal cutter	—	40B	5.25	4.75
Diagonal cutter (hard wire)	—	46B	8.90	7.95
Flush end cutter	—	50B	5.25	4.75
Relay adjusting (straight)	53B	—	4.75	4.25
Relay adjusting (angled)	57B	—	4.95	4.45

Plastic cushion grips on all models to reduce operator fatigue. Needle-nose pliers have smooth surfaces with radius edges for bending fine wires. Chain-nose pliers have fine serrations on tips for gripping. Diagonal cutter 40B is a fine taper-jaw style that gives flush cut on soft wires. Diagonal cutter 46B is Swedish-style made of special steel for use on nickel and hardwires and for extra-long life on normal wires. Cutters only are available with return spring. Add X to catalog number and 25¢ to net price. Relay adjusting pliers have thin, flat surfaces for reaching into restricted spaces.

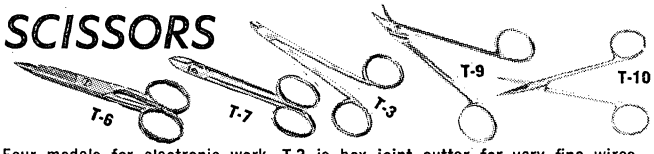
WIRE STRIPPERS

Unique wire-stripping pliers for wires #8 through #24. Just squeeze and pull! T-52 has 11 narrow cutting blades that close in around the wire to automatically provide the correct stripper opening and cutting tension. No operator adjustments required when changing from one wire size to another! T-22 is set to required wire size by operator. Tool steel heads have razor-sharp edges. Both models have red vinyl cushion handle grips.



T-52 .....Net **$6.95** ea. **T-22** .....Net **$4.15** ea.

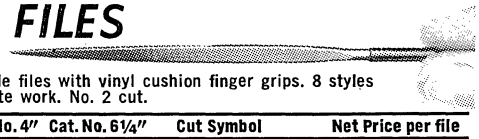
SCISSORS



Four models for electronic work. T-3 is box joint cutter for very fine wires. T-6 is popular "electrician's" model for all cutting jobs. T-7 has small cut length for close-quarter jobs and wire cutting. T-9 is a high-leverage cutter for very hard wires and light sheet metal. T-10 is extra-fine pointed scissor for cutting the very finest wires and materials.

Cat. No.	Description	Length	Net ea.	10 or more
T-3	Fine wire nipper	4″	$3.55	$3.20
T-6	Electrician's scissors	5″	2.65	2.40
T-7	Stub-nosed scissors	4″	2.65	2.40
T-9	High-leverage cutter	4¾″	7.49	6.75
T-10	Fine pointed scissors	4½″	3.25	2.95

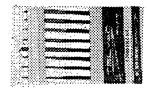
NEEDLE FILES



Precision Swiss needle files with vinyl cushion finger grips. 8 styles in 2 sizes. For delicate work. No. 2 cut.

Style	Cat. No. 4″	Cat. No. 6¼″	Cut Symbol	Net Price per file
Round	1000	1100		
Square	1001	1101		4″ styles .....$.59
Triangular	1002	1102		(10 or more, $.53)
Knife	1003	1103		
Equalling	1004	1104		6¼″ styles ..$.82
Oval	1005	1105		(10 or more, $.78)
Flat	1006	1106		
Half round	1007	1107		

FILE KITS

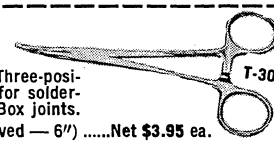


Set of 8 precision Telvac files in plastic case.

Cat. No. 2000 (4″ styles) .....Net **$5.75** ea.

Cat. No. 2100 (6¼″ styles) .....Net **6.95** ea.

HEMOSTATS



Versatile tools with unusual holding qualities. Three-position snap lock clamps work tightly. Holds wire for soldering; acts as a heat sink; retrieves small parts. Box joints.

T-20 (straight — 6″) ....Net **$3.85** ea. **T-30** (curved — 6″) .....Net **$3.95** ea.

T-25 (straight — 5″) ....Net **3.25** ea. **T-35** (curved — 5″) .....Net **3.35** ea.

TWEEZERS

102

612

ASSEMBLY TWEEZERS

Industrial assembly tweezers with vinyl cushion finger grips to reduce operator fatigue. Bright nickel plated. 11 models.

Cat. No.	End Style	Configuration	Length	Net ea.	10 or more
102	Pointed	Straight	4″	$1.35	$1.22
112	Pointed	Angled	4″	1.35	1.22
202	Round	Straight	4″	1.35	1.22
302	Flat	Straight	4″	1.10	1.00
312	Flat	Angled	4″	1.55	1.35
612	Medium oblong	Angled	4½″	1.45	1.30

STAINLESS STEEL TEFLON-COATED TWEEZERS

216

All models are stainless steel. All models have broad holding surfaces. 700-series are reverse-action clamping types for holding or heat-sink. Teflon coated models are used where metal cannot touch parts being handled.

Cat. No.	Style	Length	Configuration	Teflon Coated?	Net ea.	10 or more
603	Semiconductor	4½″	Straight	No	$1.95	$1.75
613	Semiconductor	4½″	Angled	No	2.35	2.10
653	Semiconductor	4½″	Straight	Yes	3.75	3.35
663	Semiconductor	4½″	Angled	Yes	4.00	3.60
216	Heavy-duty	7″	Angled	No	3.85	3.45
266	Heavy-duty	7″	Angled	Yes	6.25	5.65
702	Small clamping	4″	Straight	No	2.95	2.65
712	Small clamping	4″	Angled	No	3.15	2.85
752	Small clamping	4″	Straight	Yes	4.65	4.20
762	Small clamping	4″	Angled	Yes	4.95	4.45

DUMONT STYLE TWEEZERS

105

For extremely delicate work. Dumont-style tweezers are an order of magnitude finer than ordinary tweezers. 103, 105 and 107 are stainless steel.

Cat. No.	Style	Description	Length	Net. ea.	10 or more
103	#3	Fine points	4½″	$3.90	$3.50
105	#5	Extra-fine points	4½″	4.20	3.80
107	#7	Fine points, curved	4½″	4.60	4.15
10-D	D	Top flush cutter	4½″	3.75	3.35

PRECISION DRIVERS

SCREWDRIVER SETS in plastic cases

Precision jewelers-type screwdriver sets for miniature slotted fasteners. Set 540 has 5 insulated-handle drivers from .04 to .12″. Set 579 has 6 drivers from .025 to .1″, with removable chrome-vanadium blades. Set 583 includes 6 fixed-blade drivers from .025 to .1″.

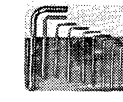
MODEL 540 (Insulated set) .....Net **$4.95** ea.

MODEL 579 (Removable-blade set) .....Net **9.95** ea.

Cat. No. B-579H (Set of blades for #579) .....Net **1.75** ea.

MODEL 583 (Fixed-blade set) .....Net **2.95** ea.

SPLINE- AND HEX-KEY SETS



10-piece short-arm key sets in plastic cases. Includes all small sizes used in instruments and precision electronics. Set 850 has Allen wrenches from .028″ to 5/32″. Set 870 includes all Bristol-type spline keys from .033-4 to .133-6.

MODEL 850 (Hex-key set) .....Net **$1.10** ea.

MODEL 870 (Spline-key set) .....Net **1.10** ea.

INSTRUMENT DRIVER SET 24-PIECES WITH CASE

A new 24-piece driver set for use on miniature instrument fasteners. Includes two jewelers-type handles, 6 slotted driver blades .025 to .1″, marking awl, #0 to #1 Phillips driver blades, 5 nut-driver blades 5/64 to 5/32″, 5 open-end wrench blades 5/64 to 5/32″, and 3 Allen-type blades for #4, #6 and #8 setscrews. Plastic case.

MODEL K-200 .....Net **$11.95** ea.

PRECISION KNIFE SET

A beautifully-made set for deburring, scraping, stripping fine wires, printed-circuit repairs, etc. Kit consists of handle and an assortment of 10 tiny blades in a plastic case.

KIT, MODEL K-90 .....Net **$3.15**

EXTRA BLADES, **Cat. No. 9100** Package of 10 blades (assorted) .....Net **1.98**

BURNISHER

Inexpensive, non-residual contact burnisher for silver, platinum, gold, palladium, tungsten, molybdenum, and all other precious-metal contacts. This tool leaves no filings, grit, or film. Plastic insulating handle. Vinyl case.

Cat. No. 960 (Package of 3 burnishers) .....Net **$1.49** ea.

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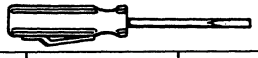
SCREW DRIVERS

- Precision Ground...Unconditionally Guaranteed
- Comfordome® Slo-Burn S/B AMBERYL® Handles are easy on the hands
- Nickel-Chrome Plated #6150 Steel Blades will not rust or corrode

ROUND BLADE SCREW DRIVERS

Pocket Clip Styles

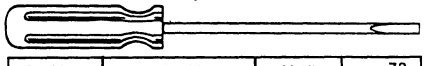


Stock No.	Blade Diameter and Length	Overall Length	Price
A 010	3/32" x 1 3/8"	3 1/8"	$ .26
A 230-2	1/8" x 2"	3 3/4"	.27
A 130-2	1/8" x 2"	3 7/8"	.33
A 130-3	1/8" x 3"	4 7/8"	.33
A 116-2	3/32" x 2"	4 1/2"	.39
A 116-3	3/32" x 3"	5 1/2"	.39
A 116-4	3/32" x 4"	6 1/2"	.39
A 131-2	1/8" x 2"	4 1/2"	.39
A 131-3	1/8" x 3"	5 1/2"	.39

Electrical and Cabinet Styles

A 216-2	1/8" x 2"	4 3/4"	.56
A 216-3	1/8" x 3"	5 3/4"	.62
A 216-4	1/8" x 4"	6 3/4"	.63
A 216-6	1/8" x 6"	8 3/4"	.65
A 216-8	1/8" x 8"	10 3/4"	.70
A 216-10	1/8" x 10"	12 3/4"	.78

General Service Styles

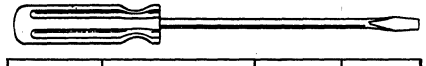


A 316-3	3/16" x 3"	6 1/4"	.78
A 316-4	3/16" x 4"	7 1/4"	.83
A 316-6	3/16" x 6"	9 1/2"	.93
A 316-8	3/16" x 8"	11 1/2"	.98
A 316-10	3/16" x 10"	13 1/2"	1.06
A 416-3	1/4" x 3"	6 5/8"	.99
A 416-4	1/4" x 4"	7 5/8"	1.01
A 416-6	1/4" x 6"	9 5/8"	1.06
A 416-8	1/4" x 8"	11 5/8"	1.12
A 416-10	1/4" x 10"	13 5/8"	1.22

Heavy Duty Styles (Keystone)

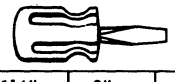
A 516-4	5/16" x 4"	8"	1.29
A 516-6	5/16" x 6"	10"	1.34
A 516-8	5/16" x 8"	12"	1.43

Extra Heavy Duty Styles (Keystone)



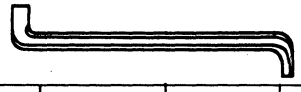
A 616-6	3/8" x 6"	10 1/4"	1.60
A 616-8	3/8" x 8"	12 1/4"	1.71
A 616-10	3/8" x 10"	14 1/2"	1.94

Stubby Styles



A 132	1/4" x 1 1/4"	3"	.76
A 135	5/16" x 1 3/4"	3 1/8"	.99

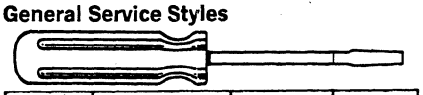
OFFSET SCREW DRIVERS—REGULAR TYPE



Stock No.	For Screw No.	Overall Length	Price
VO 1	2 to 6	3"	$ .44
VO 2	6 to 10	4"	.70
VO 3	8 to 12	5"	.80
VO 4	12 to 16	6"	1.01

SQUARE BLADE SCREW DRIVERS

General Service Styles



Stock No.	Blade Size and Length	Overall Length	Price
C 33	3/16" x 3"	6 1/2"	$ .98
C 34	3/16" x 4"	7 1/2"	1.01
C 36	3/16" x 6"	9 1/2"	1.05
C 38	3/16" x 8"	11 1/2"	1.12

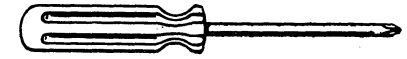
Medium Duty Styles

C 43	1/4" x 3"	6 5/8"	1.14
C 44	1/4" x 4"	7 5/8"	1.21
C 46	1/4" x 6"	9 5/8"	1.26
C 48	1/4" x 8"	11 5/8"	1.39
C 410	1/4" x 10"	13 5/8"	1.60
C 54	5/16" x 4"	8 1/4"	1.60
C 56	5/16" x 6"	10 1/4"	1.66
C 58	5/16" x 8"	12 1/4"	1.68
C 510	5/16" x 10"	14 1/4"	1.84

Heavy Duty Styles

C 66	3/4" x 6"	10 1/2"	1.84
C 68	3/4" x 8"	12 1/2"	1.97
C 610	3/4" x 10"	14 1/2"	2.24
C 612	3/4" x 12"	16 1/2"	2.35

PHILLIPS SCREW DRIVERS



Stock No.	Handle Diameter and Length	Point No.	Overall Length	Price
P 01	5/16" x 2 3/4"	0	5 1/4"	$ .67
P 1	7/8" x 3 1/2"	1	6 1/2"	.90
P 2	1" x 3 5/8"	2	7 7/8"	1.14
P 3	1 1/16" x 4"	3	10"	1.55
P 4	1 3/16" x 4 1/2"	4	12 1/2"	1.84
P 5	1 1/4" x 2 1/2"	2	3 7/8"	.99
P 6	1 1/8" x 1 3/4"	1	3"	.90

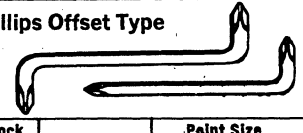
Pocket Clip Type

P 12	1/2" x 2 1/2"	0	5"	.67

Extra Long Blade

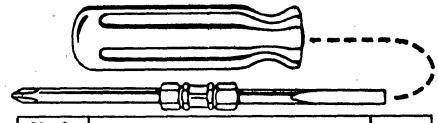
P 18	7/8" x 3 1/2"	1	11 1/2"	1.01
P 28	1" x 3 5/8"	2	11 5/8"	1.18
P 212	1" x 3 5/8"	2	15 5/8"	1.32
P 202	1 3/16" x 4 1/2"	2	24 1/4"	2.18

Phillips Offset Type



Stock No.	Style	Point Size On End	Price
P 111	Single End	#1 on Both Ends	$ .49
P 120	Double End	#1 and #2	.62
P 222	Single End	#2 on Both Ends	.54
P 230	Double End	#2 and #3	1.01
P 340	Double End	#3 and #4	1.18

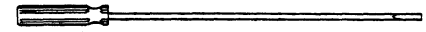
REVERSIBLE SCREW DRIVERS



Stock No.	Type and Size of Blade	Price
DU 2	No. 1 Phillips x 3/16" Regular	$1.31
DUH 4	No. 2 Phillips x 1/4" Regular	1.58
DU 5	No. 2 Phillips x 1/4" Reg. (Stubby)	1.58
DU 11	No. 1 Phillips x 3/16" Reg. plus 1/4" Hex.	1.53
DUP 12	No. 1 Phillips x No. 2 Phillips	1.74
DU 34	3/16" Regular x 1/4" Regular	1.53
DU 45	1/4" Clutch Head x 5/32" Clutch Head	1.34
DU 68	3/16" Clutch Head x 1/4" Clutch Head	1.73

SPECIALTY SCREW DRIVERS

Radio & Television Aligners

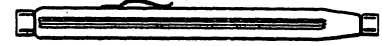


Stock No.	Size or Type	Overall Length	Price
AT 55	—	7 1/2"	$ .67
AT 510	—	12 1/2"	.78

Neon Tester Screw Drivers

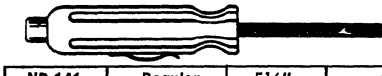
AN 2	Pocket Clip	5 1/2"	.98
AN 44	—	7 5/8"	1.60

Double End Nut Drivers



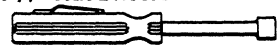
DE 810	1/4" & 5/16"	6"	.98
DE 1210	5/16" & 3/8"	6"	1.18

Combination Screw & Nut Drivers



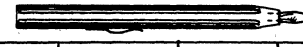
ND 141	Regular	5 1/2"	.98

Midget 1/4" Nut Drivers



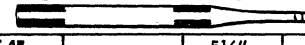
PK 8	—	3 3/4"	.58

Slimline Drivers



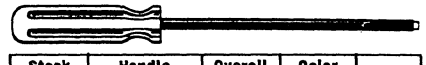
A 86	—	5 7/16"	.72
A 99	—	8"	.86

Non-Magnetic Metal Tip Aligner



AT 45	—	5 1/2"	.54

Insulated Screw Drivers



Stock No.	Handle Size	Overall Length	Color Key	Price
VR 241	3/4" x 3"	7"	Grey	$ .84
VR 261	3/4" x 3"	9"	Grey	.95
VR 281	3/4" x 3"	11"	Grey	.99
VR 341	7/8" x 3 1/2"	7 1/2"	Black	1.06
VR 361	7/8" x 3 1/2"	9 1/2"	Black	1.10
VR 381	7/8" x 3 1/2"	11 1/2"	Black	1.16
VR 441	1" x 3 5/8"	7 5/8"	Red	1.26
VR-461	1" x 3 5/8"	9 5/8"	Red	1.34
VR 481	1" x 3 5/8"	11 5/8"	Red	1.43
VR 561	1 1/16" x 4"	10"	Yellow	1.70
VR 581	1 1/16" x 4"	12"	Yellow	1.79
VR 591	1 1/16" x 4"	14"	Yellow	1.94

Beryllium Copper (Non-Magnetic)

Round

Stock No.	Handle Size	Overall Length	Price
VB 26	3/4" x 2 3/4"	8 3/4"	$1.21
VB 210	5/8" x 2 3/4"	12 3/4"	1.34
VB 38	7/8" x 3 1/2"	11 1/2"	2.14
VB 46	1" x 3 5/8"	9 5/8"	2.66
VB 48	1" x 3 5/8"	11 5/8"	2.92

Square

VB 550	1 1/16" x 4 1/2"	9 1/2"	3.85
VB 660	1 3/16" x 4 1/2"	10 1/2"	5.83

Phillips

PB 14	7/8" x 3 1/2"	6 1/2"	1.99
PB 26	1" x 3 5/8"	7 5/8"	2.80

Net

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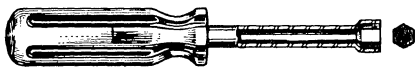
NUT DRIVERS SCREW LAUNCHERS SPECIALTY TOOLS

HOLLOW SHAFT NUT DRIVERS



- Extra Hard Tempered Sockets
- Beautiful Polished Nickel-Chrome Finish
- Large Colored-For-Size Handles

Extra Small Hex Size

Stock No.	Handle Dia. and Length	Hex Size	Overall Length	Handle Color	Price
S 4	7/8" x 3 1/2"	1/8"	6 1/2"	Amber	$ .93
S 5	7/8" x 3 1/2"	5/32"	6 1/2"	Amber	.93

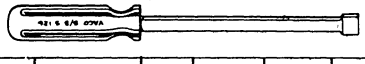
3" Shaft Length

S 6	1" x 3 5/8"	3/16"	6 5/8"	Black	.93
S 7	1" x 3 5/8"	7/32"	6 5/8"	Amber	.93
S 8	1" x 3 5/8"	1/4"	6 5/8"	Red	.93
S 9	1" x 3 5/8"	9/32"	6 5/8"	Amber	.93
S 10	1" x 3 5/8"	5/16"	6 5/8"	Amber	.93
S 11	1" x 3 5/8"	11/32"	6 5/8"	Green	.93
S 12	1" x 3 5/8"	3/8"	6 5/8"	Blue	.93
S 14	1 1/16" x 4"	7/16"	7"	Brown	1.14
S 16	1 1/16" x 4"	1/2"	7"	Orange	1.14

Extra Large Hex Size 4" Shaft Length

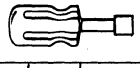
S 18	1 1/16" x 4"	9/16"	8"	Amber	1.48
S 20	1 1/16" x 4"	5/8"	8"	Amber	1.68

Extra Long 6" Shaft Length



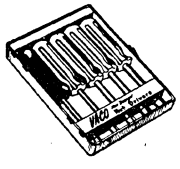
S 66	1" x 3 5/8"	3/16"	9 5/8"	Black	1.19
S 86	1" x 3 5/8"	1/4"	9 5/8"	Red	1.19
S 106	1" x 3 5/8"	5/16"	9 5/8"	Amber	1.19
S 116	1" x 3 5/8"	11/32"	9 5/8"	Green	1.19
S 126	1" x 3 5/8"	3/8"	9 5/8"	Blue	1.19
S 146	1 1/16" x 4"	7/16"	10"	Brown	1.41
S 166	1 1/16" x 4"	1/2"	10"	Orange	1.41

Stubby Style 1 1/4" Shaft Length



SS 8	1 1/4" x 2 1/8"	1/4"	3 1/2"	Amber	.83
SS 10	1 1/4" x 2 1/8"	5/16"	3 1/2"	Amber	.83
SS 12	1 1/4" x 2 1/8"	3/8"	3 1/2"	Amber	.83

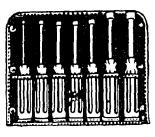
SP-500 Plastic Boxed Set



An elegant two tone gift or storage box with hinged cover contains these five popular sizes: 3/16", 1/4", 5/16", 11/32", 3/8". Size of box is 5" wide x 7" long x 1 1/8" deep.

Price $5.13

K-7 Stand Up—Hang Up Kit



An ideal kit for the workbench or to roll up and store in the tool box. Contains the following drivers: S6, S8, S10, S11, S12, S14, S16.

Price $8.15

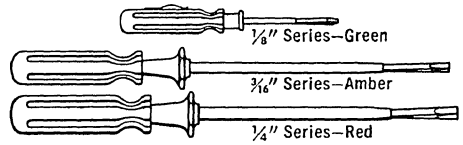
S-700 All Metal Stand

Seven of the most popular nut driver sizes are fitted into this metal stand especially designed for the workbench or for hanging on the wall. Contains one each of: S6, S8, S10, S11, S12, S14, S16.

Price $7.65

SCREW LAUNCHERS

hold . . . start . . . drive
screws with power and comfort



Unique design, double blade bit grips screws securely while working in tight quarters or awkward places. Easy to operate.

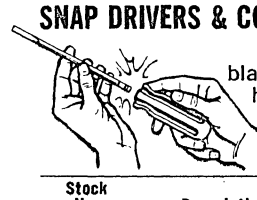
Stock No.	Blade Size	Handle Size	Overall Length	Price
K-21*	Mini Tip	5/8" x 2 3/4"	5 3/4"	$1.20
K-23*	1/8" x 3"	5/8" x 2 3/4"	5 3/4"	1.08
K-28	1/8" x 8"	5/8" x 2 3/4"	10 3/4"	1.28
K-34	3/16" x 4"	7/8" x 3 1/2"	7 1/2"	1.56
K-36	3/16" x 6"	7/8" x 3 1/2"	9 1/2"	1.60
K-38	3/16" x 8"	7/8" x 3 1/2"	11 1/2"	1.64
K-44	1/4" x 4"	1" x 3 5/8"	7 5/8"	1.64
K-46	1/4" x 6"	1" x 3 5/8"	9 5/8"	1.72
K-48	1/4" x 8"	1" x 3 5/8"	11 5/8"	1.76

Phillips Screw Launchers

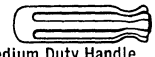
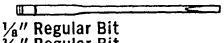
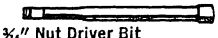
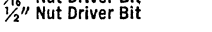
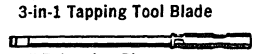
Stock No.	Length	Price
K-13	3"	$1.48
K-14*	5"	1.84
K-15	5"	1.72
K-16	7"	1.80
K-19	9"	1.88

*Pocket Clip Style

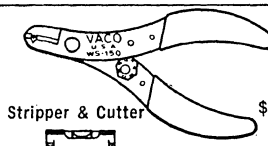
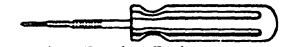
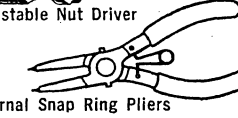
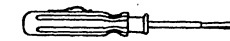
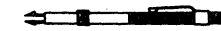
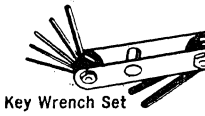
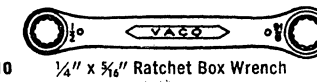
SNAP DRIVERS & COMPONENTS

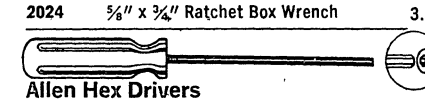


Interchangeable blades snap into Vaco handle . . . holds like one piece tool. Build your own kit of specialty blades.

Stock No.	Description	Price
		
ZH-1	Medium Duty Handle	$ .98
ZH-2	Heavy Duty Handle	1.34
ZA-1	1/16" Allen Hex Bit	.63
ZA-2	3/64" Allen Hex Bit	.65
ZA-3	1/32" Allen Hex Bit	.67
ZA-35	7/64" Allen Hex Bit	.70
ZA-4	1/8" Allen Hex Bit	.70
ZA-45	9/64" Allen Hex Bit	.72
ZA-5	5/32" Allen Hex Bit	.72
ZA-6	3/16" Allen Hex Bit	.76
		
ZB-24	1/8" Regular Bit	.49
ZB-34	3/16" Regular Bit	.62
ZB-45	1/4" Regular Bit	.62
ZP-01	No. 0 Phillips Bit	.58
ZP-14	No. 1 Phillips Bit	.62
ZP-24	No. 2 Phillips Bit	.65
		
ZS-6	3/16" Nut Driver Bit	.70
ZS-8	1/4" Nut Driver Bit	.70
ZS-10	5/16" Nut Driver Bit	.70
ZS-11	11/32" Nut Driver Bit	.70
ZS-12	3/8" Nut Driver Bit	.70
ZS-14	7/16" Nut Driver Bit	.90
ZS-16	1/2" Nut Driver Bit	.90
		
ZT-310	3-in-1 Tapping Tool Blade	2.08
		
ZX-56	5" Extension Piece	.98

SPECIALTY TOOLS

Stock No.	Description	Price
		
WS-150	Wire Stripper & Cutter	$1.28
ML-7	Magnetic Level & Protractor	2.80
		
TT-31	3-in-1 Tapping Tool	2.20
DU-1*	Mini Reversible Driver	1.00
SA-711	Adjustable Nut Driver	3.00
		
210	Internal Snap Ring Pliers	2.35
220	External Snap Ring Pliers	2.35
		
K-21*	Mini Screw Launcher	1.20
K-23*	1/8" x 3" Screw Launcher	1.08
		
K-14*	5" Phillips Screw Launcher	1.84
TK-500	100-500V Circuit Tester	.80
		
HK-17	Hex Key Wrench Set	1.18
		
810	1/4" x 5/16" Ratchet Box Wrench	2.30
1214	3/8" x 7/16" Ratchet Box Wrench	2.60
1618	1/2" x 5/8" Ratchet Box Wrench	3.45
2022	5/8" x 11/16" Ratchet Box Wrench	3.60
2024	5/8" x 3/4" Ratchet Box Wrench	3.60



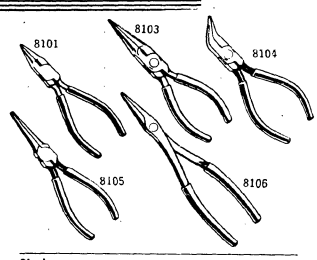
Allen Hex Drivers

Stock No.	Handle Size	Hex Size	Cap Screw	Set Screw	Price
AL 2	3/4" x 3"	.050"	0 & 1	3 & 4	$ .82
AL 4	3/4" x 3"	1/16"	2	5 & 6	.82
AL 5	3/4" x 3"	5/64"	3 & 4	8	.82
AL 6	7/8" x 3 1/2"	3/32"	5 & 6	10	.82
AL 7	7/8" x 3 1/2"	7/64"	7	—	.94
AL 8	7/8" x 3 1/2"	1/8"	8	1/4	.94
AL 9	7/8" x 3 1/2"	9/64"	9	—	.94
AL 10	7/8" x 3 1/2"	5/32"	10	5/16	.94
AL 12	7/8" x 3 1/2"	3/16"	1/4	3/8	.94
AL 14	1" x 3 5/8"	7/32"	5/16	7/16	1.04
AL 16	1" x 3 5/8"	1/4"		1/2	1.04

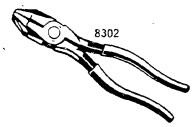
HEX KEY WRENCHES, in above sizes, are available in short, long, extra long, and 12" lengths.

PLIERS • WRENCHES

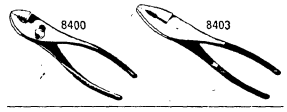
- Precision Ground and Polished Heads
- Milled Sure Grip Jaws, Hand Honed Cutters
- Cushion Grip Handles
- Unconditionally Guaranteed



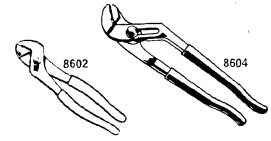
Stock No.	Description	Price
8101	Short Ndle. Nose w/Cut. 5″	$3.12
8102	Long Ndle. Nose w/Cut. 6″	3.36
8103	Long Ndle. Nose w/Cut. 7″	3.92
8104	Curved Nose 6″	3.44
8105	Long Nose 6″	3.20
8106	Long Needle Nose 7½″	3.40



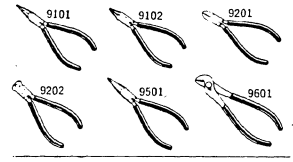
8301	Lineman's Side Cut. 6½″	$3.28
8302	Lineman's Side Cut. 7½″	3.80
8303	Lineman's Side Cut. 8¾″	4.56



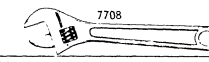
8400	Slip Joint Plier	$1.04
8401	Slip Joint 6½″	1.56
8402	Slip Joint 8″	1.92
8403	6″ Slip Joint w/Cutter	2.20



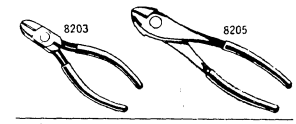
8602	Vacgruv Plier Wrench 6″	$2.64
8604	Vacgruv Plier Wrench 10″	3.36



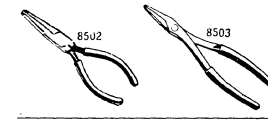
9101	Midget Long Nose 4½″	$3.20
9102	Midget Round Nose 4½″	3.20
9201	Midget Diagonal 4½″	3.20
9202	Midget End Cutter 4½″	3.20
9501	Midget Flat Nose 4½″	3.20
9601	Midget Vacgruv 5″	3.20



7704	4″ Adjustable Wrench	$2.68
7706	6″ Adjustable Wrench	2.68
7708	8″ Adjustable Wrench	3.00
7710	10″ Adjustable Wrench	3.92
7712	12″ Adjustable Wrench	5.60

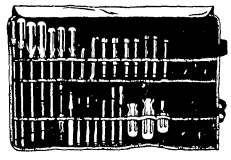


8201	Diagonal Cutter 4½″	$2.96
8202	Diagonal Cutter 5″	3.00
8203	Diagonal Cutter 6″	3.36
8204	Diagonal Cutter 7½″	3.84
8205	H. D. Diagonal Cutter 7¼″	3.52



8501	Flat Nose w/ Cutter 6″	3.44
8502	Flat Nose 6″	2.96
8503	Flat Nose 7½″	3.28

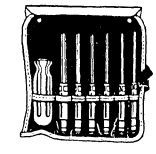
VACOMBO® KITS



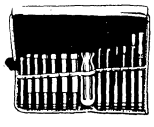
KIT NO. TV-27 Deluxe 27-piece kit contains practically every hand tool necessary for TV and radio work, plus extra pockets for pliers and other personal tools. Size, 20″ x 13½″. Price...$23.86

KIT NO. ZB-50 A fine, all-purpose snap driver kit of interchangeable regular and Phillips blades that fit same handle. Includes durable leatherette bag. Size, 6½″ x 7″. Price...$3.77

KIT NO. ZBX-51 Same as Vaco No. ZB-50 except includes 5″ blade extension. Price...$4.70



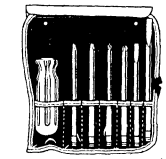
KIT NO. ZA-70 This useful snap driver kit consists of 6 Allen type hexagon blades plus handle and bag. Services screw numbers 4, 5, 6, 8, 10, ¼″, 5/16″, and ⅜″. Size, 6½″ x 7″. Price...$4.62



KIT NO. RT-14 Handy 14-piece snap driver kit for radio and TV service men. Contains nut drivers, Phillips and regular drivers, heavy duty handle, and 5″ blade extension which doubles the usefulness of each blade. Size, 10½″ x 8″. Price...$10.82

KIT NO. ZS-60 A most versatile and complete hexagon nut driver kit for radio, TV or any other work requiring speedy nut setting. All sockets are super hard. Size, 6½″ x 7″. Price...$4.84

KIT NO. ZSX-61 Same as Vaco Kit No. ZS-60 except includes 5″ blade extension. Price...$5.69



KIT NO. ZC-80 Specially designed snap driver kit includes socket head (Robertson), Phillips, and regular blades; particularly suited for Canadian use. Size, 6½″ x 7″. Price...$5.02

KIT NO. ZF-40 Here is a special snap driver kit designed to take care of all popular sizes of fluted spline or Bristol type recess head screws used on electronic and electrical equipment, air conditioning, refrigeration, and office machines. Size, 6½″, x 7″. Price...$4.35

RATCHET DRIVERS QUALITY FASTENERS

VACO POW'RIVETS . . . the blind rivet for foolproof fastening every time

Step 1 Step 2 Step 3

THERE IS A DIFFERENCE! Only Vaco Pow'-Rivets adapt to hole size variance, and pull up snug regardless of material thickness. That's why 4 sizes do the job of 11 ordinary rivets. Three step illustration at left shows unique "bubble action" sequence which assures positive, goof-proof fastening every time.

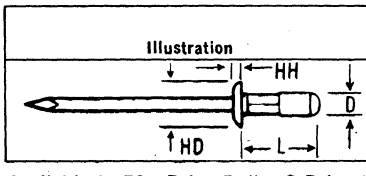
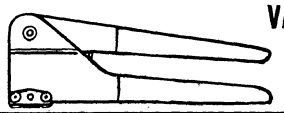


Illustration	Stock No.	Dia. "D"	Length "L"	Grip Range	Head Dia. "HD"	Head Ht. "HH"	Hole Size	Drill
	425	⅛	.400	To .250	.215	.044	.136	#29
	528	5/32	.470	To .280	.255	.057	.166	#19
	631	3/16	.530	To .312	.349	.070	.199	#8
	650	3/16	.720	To .500	.349	.070	.199	#8
	400	Assortment Pak						

Available in 50¢ Paks, Dollar $ Paks, "C" (100) Paks, and "MB" (1000) Paks.

VACO POW'RIVETER

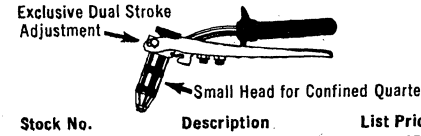


Stock No.	Description	List Price
495	Popular Rivet Tool for ⅛″, 5/32″, 3/16″ Rivets	$4.95

RATCHET DRIVERS

Stock No.	Handle Dia. and Length	Overall Length	Blade Dia.	Price
111001	1⅛″ x 4¼″	10″	¼″	$2.40
111002	1 1/16″ x 4½″	10½″	5/16″	2.60
111004	1⅛″ x 4¼″	Handle Only	For use with Snap Blades	2.80

VACO PROFESSIONAL POW'RIVETER



Stock No.	Description	List Price
175002	Unique 2 in 1 Action for Professional Applications	$22.95

Trade Discount Applies To List Prices Only
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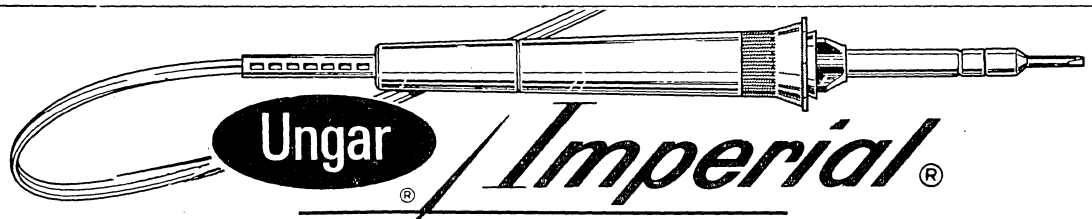
MOST VERSATILE SOLDERING IRON EVER INVENTED



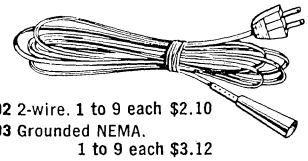
COOL, LIGHTWEIGHT, EASY-HANDLING

Ungar...developers of the industry's first miniature, low wattage, high temperature, pencil type iron... now brings you the ultimate in time-saving, money-saving soldering irons.

PERMA COOL COLORED HANDLES

#6100 turquoise, beige, ivory, and black* 1 to 9 each $1.47

INTERCHANGEABLE CORD SETS
2-wire or grounded 3-wire



#6102 2-wire. 1 to 9 each $2.10
#6103 Grounded NEMA. 1 to 9 each $3.12

*Note: Designate color for handles and cord sets by adding suffice (—1 for turquoise, —2 for beige, —3 for ivory, —5 for black).

NEW 100 WATT
"Long Life" Interchangeable Heat Cartridges.

#6207 100 Watt (850-1150°F temp. range). 1 to 9 each $6.56
#6203 60 Watt (850-1050°F temp. range). 1 to 9 each $4.53
#6200 40 Watt (750-950°F temp. range). 1 to 9 each $3.93
#6201 30 Watt (650-850°F temp. range). 1 to 9 each $3.93
#6202 25 Watt (600-800°F temp. range). 1 to 9 each $3.93
#6206 15 Watt (700-750°F temp. range). 1 to 9 each $3.93

IMPERIAL MINI-TIP®
Thread-on soldering tips

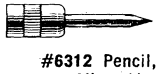
All easy-thread tips are completely interchangeable.

#6304 Micro-Chisel, Iron Clad, Gold Plated (24 kt.) 3/64 x ½ 1 to 9 each $1.03

#6305 Micro-Spade, Iron Clad, Gold Plated (24 kt.) 3/64 x ½ 1 to 9 each $1.03

#6482 Micro-Spade, Stepped, Iron Clad, Gold Plated (24 kt.) 3/64 x ½ 1 to 9 each $1.03

#6481 Tapered Screwdriver, Iron Clad, Gold Plated (24 kt.) ¾ x 3/32. 1 to 9 each $1.03



#6312 Pencil, Rugged Copper Alloy, ⅛ x ¾ 1 to 9 each $.46

#6313 Pencil, Iron Clad, Gold Plated (24 kt.) ⅛ x ¾ 1 to 9 each $1.03

#6316 Pencil, Offset, Iron Clad, Gold Plated (24 kt.) 1 to 9 each $1.03

#6318 Long Taper Chisel, Rugged Copper Alloy, ⅛ x ¾ 1 to 9 each $.46

#6319 Long Taper Chisel, Iron Clad, Gold Plated (24 kt.) ⅛ x ¾ 1 to 9 each $1.03

#6324 Long Taper Pyramid, Rugged Copper Alloy, ⅛ x ¾ 1 to 9 each $.46

#6325 Long Taper Pyramid, Iron Clad, Gold Plated (24 kt.) ⅛ x ¾ 1 to 9 each $1.03

#6331 Screwdriver, Iron Clad, Gold Plated (24 kt.) ⅛ x ¾ 1 to 9 each $1.03

#6333 Needle, Iron Clad, Gold Plated (24 kt.) ⅛ x ¾ 1 to 9 each $1.03

#6336 Spade, Iron Clad, Gold Plated (24 kt.) ⅛ x ¾ 1 to 9 each $1.03

#6366 Long Taper Chisel, Iron Clad, Gold Plated (24 kt.) 3/16 x ¾ 1 to 9 each $1.18

#6368 Long Taper Pyramid, Rugged Copper Alloy, 3/16 x ¾ 1 to 9 each $.54

#6372 Screwdriver, Iron Clad, Gold Plated (24 kt.) 3/16 x ¾ 1 to 9 each $1.18

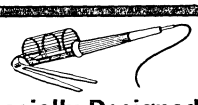
#6373 Slotted Tip, Rugged Copper Alloy, 3/16 x ¾ 1 to 9 each $1.03

#6390 Screwdriver, Iron Clad, Gold Plated (24 kt.) 3/16 x 1½ 1 to 9 each $1.22

#6424 Long Taper Chisel, Iron Clad, Gold Plated (24 kt.) ¼ x ¾ 1 to 9 each $1.22

#6473 Long Taper Chisel, Rugged Copper Alloy, ⅜ x ¾ 1 to 9 each $.54

#6474 Long Taper Chisel, Iron Clad, Gold Plated (24 kt.) ⅜ x ¾ 1 to 9 each $1.50



Specially Designed IMPERIAL HOLDER

Protects iron, keeps it safely out of the way. Black with gold cage guard and heat sink. #6800. 1 to 9 each $1.96

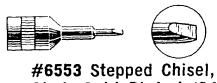
STANDARD HOLDER for Ungar Standard Line Irons. 1 to 9 each $1.96

New heavy duty tips.
#6500 Long taper chisel, Tellurium Copper, Iron Clad, Gold Plated. 1 to 9 each $2.38
#6520 Long taper chisel, Tellurium Copper.
Use above tips only with #6207 Cartridge. 1 to 9 each $1.22

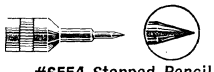
NEW MICRO-TIPS
Thread-on soldering tips
For use with Imperial 15 watt cartridges only.

#6550 Tapered Screwdriver, Iron Clad, Gold Plated (24 kt.) .040 x .40 1 to 9 each $1.18

#6551 Stepped Spade, Iron Clad, Gold Plated (24 kt.) .050 x .40 1 to 9 each $1.18



#6553 Stepped Chisel, Iron Clad, Gold Plated (24 kt.) .050 x .40 1 to 9 each $1.18



#6554 Stepped Pencil, Iron Clad, Gold Plated (25 kt.) .050 x .40 1 to 9 each $1.18

NEW...FOR MICROSCOPIC ASSEMBLY

#6391 Precision Point, Tellurium Copper. .770 L. x .125 D. stepped to .090 D., ground and honed to .005 P. 1 to 9 each $.74

#6392 Precision Point, Tellurium Copper, Iron Clad, Gold Plated (24 kt.). .770 L. x .135 D. stepped to .098 D., ground and honed to .010 P. 1 to 9 each $1.50

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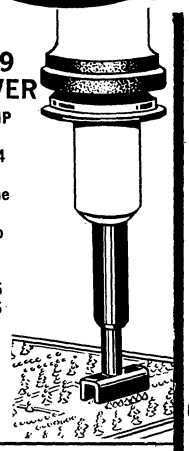
Ungar® STANDARD LINE SOLDERING IRON

NEW #859 IC REMOVER



DESOLDERING TIP
For fast accurate desoldering of 14 and 16 pin dual inline ICs. Chrome plated for longer life. Pre-tinned to inhibit oxidation.
1-9 each $1.65
10-49 each $1.35
50-up each $1.25
FOR TIP ONLY
Use only with Ungar handles and #4045 heating unit (47½ watt).

#8001 ANTI-SEIZE
½ oz. tube. Ungar's Anti-Seize guards against thread and tip seizure.
1 to 9 each $.61

#7805 SOLDER-OFF
TFE Tipped bulb for safe, easy removal of components from printed circuit boards. 1to 9 each $1.19

#400 KLEEN-TIP SPONGE and TRAY
Removes oxidation, doubles tip life.
1 to 9 each $1.09

#455 REFILL SPONGES 1-9 each $.42

#7800 HOT-VAC DE-SOLDERING TOOL

Vacuum action lifts solder from board. Coating on tip and metal parts prevents solder from sticking or clogging.
1 to 9 each $11.49

NEW

Replacement tips for #7800 HOT-VAC

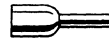
#7812 Hole Dia. .033	1 to 9 ea. $.75
#7813 Hole Dia. .069	1 to 9 ea. $.75
#7806 Hole Dia. .057	1 to 9 ea. $.75

New UNGAR HEATING UNITS AND THREAD-ON TIPS for Hi-Speed Repeat Soldering

#537 Hi-Speed Heating Unit — 600° to 650°F — 23½ Watts
1 to 9 each $1.66

#1237 Hi-Speed Heating Unit — 750°-800°F. 37½ Watts
1 to 9 each $1.99

#4037 Hi-Speed Heating Unit — 850°-900°F. 47½ Watts.
1 to 9 each $2.97



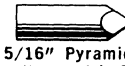
#PL 111 PENCIL TIP. ⅛" x ¾" iron clad, Silver Plated.
1 to 9 each $.75

#111 Plain Copper 1 to 9 each $.37

#PL 113 CHISEL TIP. ⅛" x ¾" iron clad, Silver Plated.
1 to 9 each $.75

#113 Plain Copper. 1 to 9 each $.37

#PL 114 Stepped Micro-Spade, Iron Clad, Silver Plated
1 to 9 each $.75

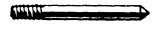


#116 5/16" Pyramid, Rugged Copper Alloy 1 to 9 each $.37

#PL 116 5/16" Pyramid, Iron Clad, Silver Plated 1 to 9 each $.75

UNGAR TIPLET Soldering Tips
for Heating Units shown below

800 Series TIPLETS fits Ungar **#4045** heating unit only.



#PL 331 Pencil Tip. ⅛" x 1", iron clad, Silver Plated. 1 to 9 each $.57

#331 Plain Copper. 1 to 9 each $.23

#PL 332 Pencil Offset. ⅛" x 1", iron clad, Silver Plated. 1 to 9 each $.57

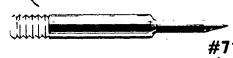
#332 Plain Copper. 1 to 9 each $.23

#PL 333 Chisel, Long Taper. ⅛" x 1", iron clad, Silver Plated. 1 to 9 each $.57

#333 Plain Copper. 1 to 9 each $.23

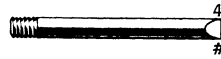
#PL 338 Tapered Needle. 1/16" x 1¾", iron clad. Silver Plated. 1 to 9 each $.57

#PL 340 Micro-Needle. 3/64"x¾", for microscopic soldering, iron clad, Silver Plated—Actual size.
1 to 9 each $.57



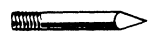
#7154 Stepped Pencil, 1/16" pencil tip. Iron clad, silver plated. Fits #535, 1235, and 4035. 1 to 9 each $.57

#7155 Stepped Chisel, 1/16" chisel tip. Iron clad, silver plated. Fits #535, 1235 and 4035. 1 to 9 each $.57



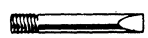
#PL 833 Chisel, Long Taper. 3/16" x 1¾", iron clad. Silver Plated. 1 to 9 each $.95

#PL 834 Chisel, Long Taper, Offset. 3/16" x 1¾", iron clad, Silver Plated. 1 to 9 each $.95



#PL 823 Pyramid, 3/16" x 1", iron clad, Silver Plated. 1 to 9 each $.65

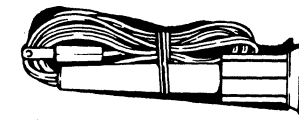
#823 Plain Copper. 1 to 9 each $.25



#PL 824 Chisel, Long Taper. 3/16" x 1", iron clad. Silver Plated. 1 to 9 each $.65

#824 Plain Copper. 1 to 9 each $.25

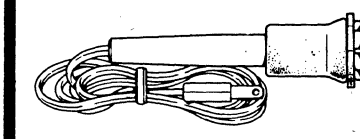
New#777"CLEANROOM" Soldering Handle



"CLEAN ROOM" GRIP • STAINLESS STEEL HEAT REFLECTOR • FULL-CONTACT SPRING SOCKET, NO TIP WOBBLE • HANDLE IN PASTEL COLOR • NEW POLY-VINYL INSULATED CORD • OCTAGON SHAPE GUARD WASHER
1 to 9 each $1.76

#776 SOLDERING HANDLE

Ungar's red handle with cork grip. Same features as above.



1 to 9 each $1.55

New...Special Purpose Tiplets

#7012 Precision Point, Cadmium Copper. .770 L. x .125 D. stepped to .090 D., ground and honed to .005 P.
1 to 9 each $.57

#7062 Precision Point, Cadmium Copper, Iron Clad, Silver Plated. .770 L. x .135 D. stepped to .098 D., ground and honed to .010 P.
1 to 9 each $1.11

Ungar Interchangeable Tips...the right tip at the right temperature.

TIP TEMPERATURES	CHISEL TIP LONG TAPER	PYRAMID TIP	CHISEL TIP SHORT TAPER	THREAD-IN HEATING UNITS
850° to 1000° F. #4000 Super Hi-Heat Series 47-1/2 Watt	**#4033** Tip 1-5/8" long, 1/4" wide. New copper alloy, iron clad, silver plated. 1 to 9 each $2.97	**#4036** Tip 1-1/8" long, 3/8" diameter. Copper, iron clad, silver plated. 1 to 9 each $2.97	**#4039** Tip 1-1/8" long, 3/8" diameter. Copper, iron clad, silver plated. 1 to 9 each $2.97	**#4035** Steel body, nickel plated. For use with 300 Series Tiplets. **#4045.** For use with 800 Series Tiplets. ABOVE 1 to 9 each $2.97
750° to 800° F. #1200 Hi-Heat Series 37-1/2 Watt	**#1233** Tip 1-5/8" long, 1/4" wide. Copper, unplated. 1 to 9 each $1.80	**#1236** Tip 1-1/8" long, 5/16" diameter. Pure solid Armco iron, silver plated. 1 to 9 each $1.80	**#1239** Tip 1-1/8" long, 3/8" diameter. Pure solid Armco iron, silver plated. 1 to 9 each $1.80	**#1235** 37½ watt. Hi-Temperature steel body specially treated for corrosion resistance. 1 to 9 each $1.80
650° to 750° F. #500 Standard Series 23-1/2 Watt	**#533** Tip 1-5/8" long, 3/16" wide. Copper, unplated. 1 to 9 each $1.44	**#536** Tip 1-1/8" long, 5/16" diameter. Copper, unplated. 1 to 9 each $1.44	**#539** Tip 1-1/8" long, 5/16" diameter. Copper, unplated. 1 to 9 each $1.44	**#535** 23½ watt. Hi-Temperature steel body specially treated for corrosion resistance. 1 to 9 each $1.44

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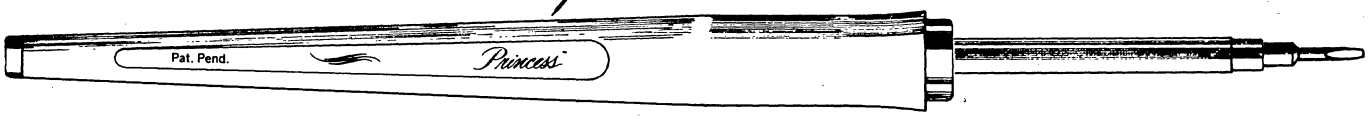
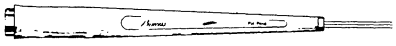
Ungar® Princess™



NEW for MICROelectronic soldering

UNGAR Electric Tools, alert to the changing profile of the electronic industry, introduces **Princess,** a completely new **miniature** soldering iron.

HANDLES

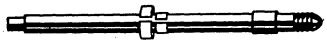


Turquoise, molded of heat resistant ABS. Two and three conductor cords are flexible, vinyl covered. Rated 120V AC-DC.

#6902—Two wire handle. U.L. listed 1 to 9 each $2.84

#6903—Three wire handle with molded NEMA plug. 1 to 9 each $3.84

HEAT CAPSULES



Rated at 120V; copper alloy heating conductor is threaded to accept ⅛" Nibs. Over-all-length: 3⅛". Extends 1⅝" from handle. U.L. listed.

#6906—Tip temperature from 400°F to 450°F. 6W. 1 to 9 each $3.47

#6910—Tip temperature from 550°F to 650°F. 10W. 1 to 9 each $3.47

#6915—Tip temperature from 700°F to 800°F. 15W. 1 to 9 each $3.47

#6918—Tip temperature from 900°F to 1000°F. 18W. 1 to 9 each $3.47

SOLDERING NIBS

Copper alloy; also in iron clad, gold plated (24K). Threaded (⅛") to fit PRINCESS Heat Capsules.

#6950—Pencil Nib. Cad. copper, .61"L. stepped to .080" D. x .015" P. 1 to 9 each $.36

#6960—Iron clad, gold plated. Same as #6950. 1 to 9 each $.63

#6951—Screwdriver Nib. Cad. copper, .68" L. stepped to .080" D. x .055" P. 1 to 9 each $.36

#6961—Iron clad, gold plated. Same as #6951. 1 to 9 each $.63

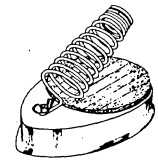
#6952—Spade Nib. Cad. copper, 61" L. stepped to .080" D. with 45° spade tip. 1 to 9 each $.36

#6962—Iron clad, gold plated. Same as #6952. 1 to 9 each $.63

#6953—Precision Point Nib. Cad. copper, .61" L. stepped to .080" D. x .005" P. 1 to 9 each $.64

#6963—Iron clad, gold plated. Same as #6953. 1 to 9 each $1.22

PRINCESS HOLDER



#6990—Base and sponge holder molded of thermoset plastic. Stainless steel cage mounted on a swivel. Equipped with specially processed sponge. 1 to 9 each $3.05

#6991—Refill sponge. 1 to 9 each $.48

PRE-ASSEMBLED PACKAGED COMBINATIONS

#6975—Assembled and Packaged Princess Soldering Iron. Consists of the following parts:

(1) One **#6902** Handle, Two-Wire

(2) One **#6910** 10-Watt Heat Capsule

(3) One each of the following Princess copper Soldering Nibs:

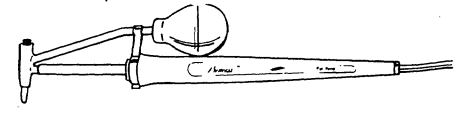
#6950—Pencil **#6951**—Screwdriver **#6952**—Spade
1 to 9 each $6.95

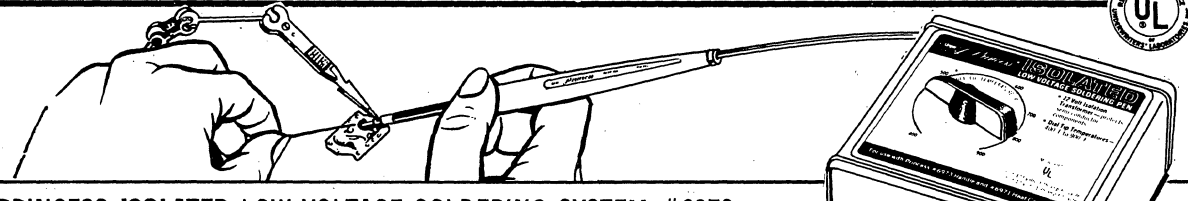
#6900—Princess Packaged Soldering Station. Consists of the following units: A complete assembled iron consisting of:

One **#6902** Handle, Two-Wire
One **#6910** 10-Watt Head Capsule
One **#6950** Pencil Copper Nib
One **#6951** Screwdriver, Copper Nib
One **#6952** Spade Copper Nib
One **#6990** Princess Soldering Iron Holder, equipped with one (1) **#6991** Sponge
1 to 9 each $9.95

NEW PRINCESS de-Solderette'

#6992 For removal of Microminiature Components... ideal for I.C. Chip re-word and repair... Fast... Safe Efficient.
1 to 9 each $13.95





PRINCESS **ISOLATED** LOW VOLTAGE SOLDERING SYSTEM #6970

For safer assembly of discrete components and IC systems.

Its single heat capsule permits tip temperature range from 450°F to 900°F.

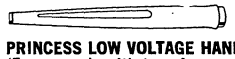
The **isolated** low voltage transformer prevents current leakage which destroys the thin insulating film of bi-polar or metal oxide silicone ICs.

The **isolated** heat capsule eliminates current paths that degrade the thin metalization in bi-polar ICs.

A Clean Room unit. Input: 120 volts 60 cycle. Output: 6 volts to 12 volts.

COMPLETE STATION INCLUDES: Low voltage **ISOLATED** transformer with temperature setting dial, 1.35 amp. 3-amp. bayonet type fuse, pilot light and 3 wire cord with Nema attachment plug; Princess handle, heat capsule and 3 soldering nibs, #s 6971, 6950 and 6952. Shipping weight: 3 lbs. 14 ozs. #6970: 1-3 each $24.95, 4-11 each $22.95, 12-up each $21.00.

LOW VOLTAGE ISOLATED REPLACEMENT PARTS



PRINCESS LOW VOLTAGE HANDLE: (For use only with transformer #6970 and #6971 heat capsule.) Highly flexible vinyl cord with 4 pin connector. #6973 1-3 each $3.98, 4-11 each $3.69, 12-up each $3.39

LOW VOLTAGE HEAT CAPSULE: (Use only with transformer #6970 and handle #6973.) Rated 18 watts at 12 volts. Heating unit located in tip of capsule makes for maximum heat transfer and recovery. #6971: 1-3 each $3.98, 4-11 each $3.69, 12-up each $3.39

SOLDERING NIBS: All Princess nibs and Standard Line ⅛" tiplets thread into the #6971 heat capsule.

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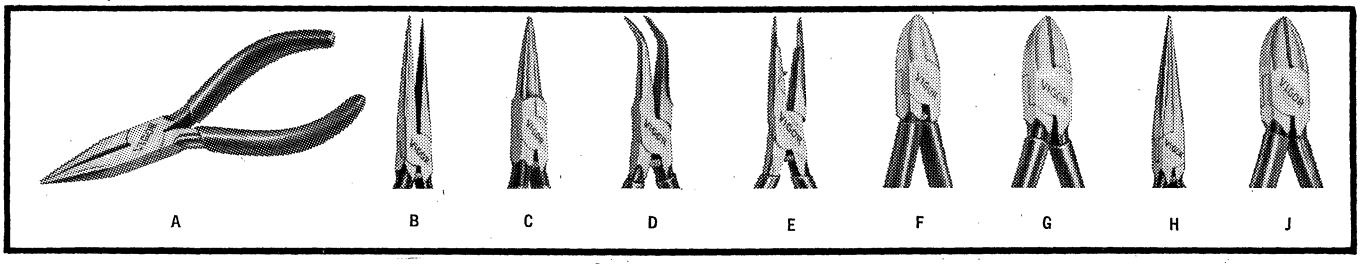
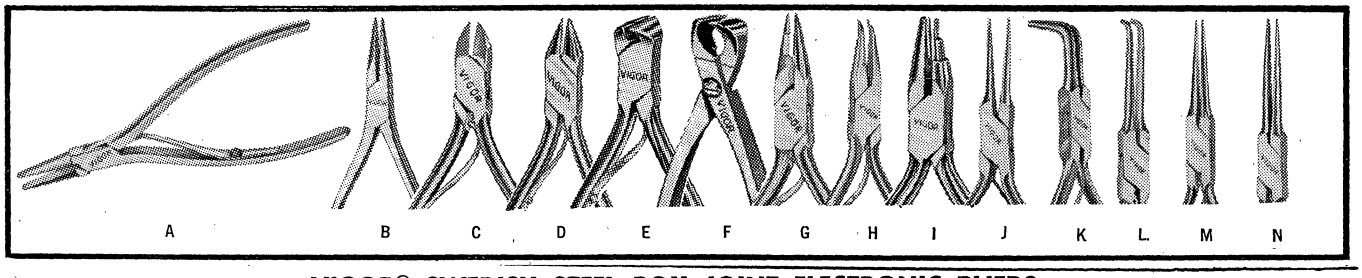


VIGOR® PRECISION PLIERS

Drop forged of the finest tool steel. All have fully polished heads and red cushion grip non-slip handles. Perfectly proportioned for all day production use. Points taper to 1/16″ on all long nose pliers except PL-118 which tapers to 3/32″. Available with and without coil spring as indicated.

Fig.	Stock No.	Length Overall Jaws	Description	List Price
A	PL-108	5″	Chain Nose — Side Cutting — Serrated Jaws	$2.75
A	PL-110	5½″	Chain Nose — Side Cutting — Serrated Jaws	2.82
A	PL-111	6″	Chain Nose — Side Cutting — Serrated Jaws	2.88
A	PL-112	5″	Chain Nose — Side Cutting with Coil Spring — Serrated Jaws	3.85
A	PL-113	5½″	Chain Nose — Side Cutting with Coil Spring — Serrated Jaws	3.12
A	PL-114	6″	Chain Nose — Side Cutting with Coil Spring — Serrated Jaws	3.18
B	PL-115	6″	Long Chain Nose — Serrated Jaws	2.88
B	PL-116	6″	Long Chain Nose with Coil Spring — Serrated Jaws	3.36
C	PL-117	5½″	Slim Nose — Serrated Jaws — Coil Spring	3.30
D	PL-118		Curved Slim Nose — Serrated Jaws — Coil Spring	3.76
E	PL-119	5½″	Chain with Cutter Tips and Centering Pin — Smooth Jaws — Coil Spring	4.90
F	PL-120	4½″	Semi-Flush Diagonal with Coil Spring	3.50
F	PL-121	5″	Semi-Flush Diagonal with Coil Spring	3.78
F	PL-122	6″	Semi-Flush Diagonal with Coil Spring	4.44
G	PL-123	4½″	Electricians Diagonal	2.68
G	PL-126	5″	Electricians Diagonal	2.80
G	PL-127	6″	Electricians Diagonal	3.36
H	PL-130	6″	Box Joint — Long Slim Nose — Coil Spring	4.20
J	PL-131	5″	Box Joint Diagonal Cutter	4.10

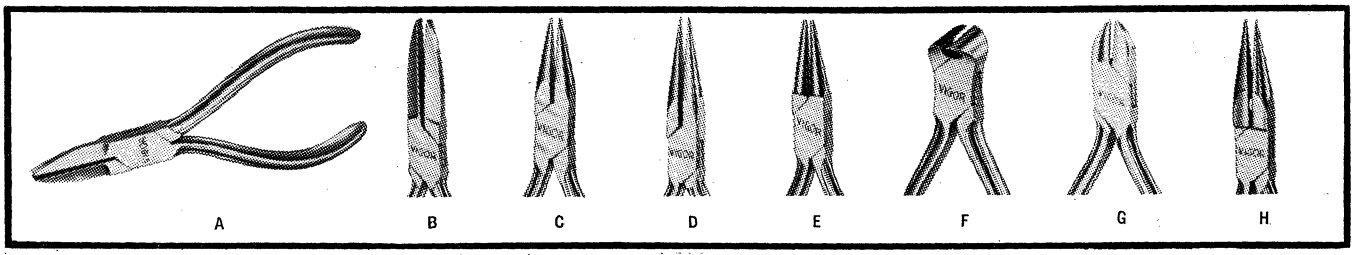


VIGOR® SWEDISH STEEL BOX JOINT ELECTRONIC PLIERS

For Special Purpose Applications

Fully polished from head to handle. Lightweight for miniature assembly and soft wire cutting and bending. Very popular with female production workers because special designs reduce fatigue yet box joints and Swedish steel add strength and durability. For cushion grips specify CG after stock number and add 25¢ per plier.

Fig.	Stock No.	Length Overall Jaws	Description	List Price
A	PL-1005	4¾″	7/8″ Flat Nose — Smooth Jaw Light Work	$3.20
A	PL-1105	4¾″	5/16″ Chain Nose — Smooth Jaws Light Work	3.20
A	PL-1205	4¾″	¾″ Round Nose — Light Work	3.20
B	PL-281	4½″	7/8″ Flat Nose — Smooth Jaws Delicate Work Only	2.95
B	PL-286	4½″	7/8″ Chain Nose — Smooth Jaws Delicate Work Only	2.95
B	PL-291	4½″	¾″ Round Nose — Delicate Work Only	2.95
C	PL-297	4½″	9/16″ Flush Midget Diagonal Cutter for Soft Wire Only — Coilspring Only	7.35
D	PL-301	4½″	½″ Flush Pointed Midget — Diagonal Cutter for Soft Wire Only — Coilspring Only	7.20
E	PL-804½	4½″	¾″ Flush Right Angle End Cutter for Soft Wire Leaf Spring Only	7.20
E	PL-850	4½″	¾″ Same as 804½ but with Square Handles no springs	7.35
E	PL-904½	4½″	1 9/32″ Flush Oblique Angle End Cutter for Soft Wire Leaf Spring Only	7.45
E	PL-950	4½″	1 9/32″ Same as 904½ but with square Handles no spring	7.35
F	PL-217	4⅜″	2 1/32″ Oblique Flush Nipper with Adjustment Screw — Straight Handles	8.00
F	PL-217C	4⅛″	9/16″ Oblique Flush Nipper with Adjustment Screw — Straight Handles	8.00
F	PL-219	4 5/16″	5/8″ Oblique Flush Nipper with Adjustment Screw Curved Handles	8.00
F	PL-219N	4 5/16″	5/8″ Same as PL-219 but Nickeled and with Leaf Spring	14.75
G	PL-204½E	4½″	1½″ Chain Nose with Cutter Coil Spring Only — Smooth Jaws	6.75
G	PL-704½E	4½″	1½″ Chain Nose with Cutter Coil Spring Only — Serrated Jaws	6.75
H	PL-204½L	4½″	1″ Chain Nose with Curved Tips Smooth Jaw — Coil Spring Only	5.50
I	PL-39	4½″	Wire Coiling Plier with Stepped Nose	4.90
J	PL-1405½F	5½″	1 9/16″ Long Chain Nose with Flush Cut Nipper Tips Leaf Spring Only Soft Wire	8.20
K	PL-1405½H	5½″	1¼″ Curved Needle Nose — Serrated Tips	7.45
L	PL-1406J	6″	7/16″ Long Needle Nose with Curved Tips Smooth Jaws	7.45
M	PL-1406K	6″	2 13/16″ Fine Long Needle Nose — Smooth Jaw	7.10
M	PL-1456K	6″	2 13/16″ Fine Long Needle Nose — Serrated Jaw	7.10
N	PL-1406I	6″	1 7/8″ Long Chain Nose Plier — Smooth Jaw	7.10
N	PL-1406I	6″	1 7/8″ Long Chain Nose Plier — Serrated Jaw	7.10



DESCRIPTION ON FOLLOWING PAGE

Trade Discount Applies To List Prices Only
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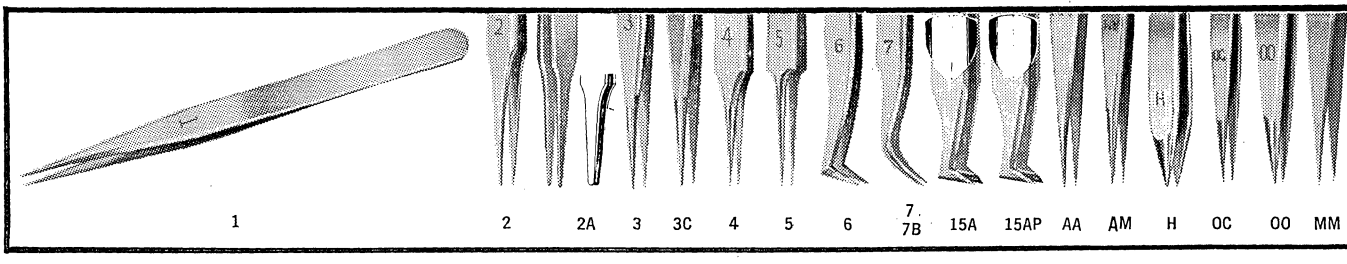
VIGOR® Tool Company **Division of: B. JADOW and SONS, INC.**

VIGOR® SWEDISH STEEL BOX JOINT JEWELERS PLIERS

Drop forged of selected Swedish Tool Steel, carefully machined and heat treated. Hand finished and fully polished from head to handle. Box joints assure perfect alignment of points and cutting edges and guarantee durability. For Cushion Grips specify CG after stock number and add 25¢ per plier.

Fig.	Stock No.	Length Overall	Jaws	Description	List Price
A	PL-104	4″	2 9/32″	Flat Nose — Smooth Jaws	$4.60
A	PL-604	4″	2 9/32″	Flat Nose — Serrated Jaws	4.60
A	PL-104½	4½″	1 1/32″	Flat Nose — Smooth Jaws	4.75
A	PL-604½	4½″	1 1/32″	Flat Nose — Serrated Jaws	4.75
A	PL-105	5″	1⅛″	Flat Nose — Smooth Jaws	5.00
A	PL-605	5″	1⅛″	Flat Nose — Serrated Jaws	5.00
B	PL-1504½	4½″	1 5/16″	Long Flat Nose — Smooth Jaws	4.75
B	PL-1554½	4½″	1 5/16″	Long Flat Nose — Serrated Jaws	4.75
B	PL-1505	5″	1½″	Long Flat Nose — Smooth Jaws	5.00
B	PL-1555	5″	1½″	Long Flat Nose — Serrated Jaws	5.00
C	PL-204	4″	2 9/32″	Chain Nose — Smooth Jaws	4.60
C	PL-704	4″	2 9/32″	Chain Nose — Serrated Jaws	4.60
C	PL-204½	4½″	1 1/32″	Chain Nose — Smooth Jaws	4.75
C	PL-704½	4½″	1 1/32″	Chain Nose — Serrated Jaws	4.75
C	PL-205	5″	1⅛″	Chain Nose — Smooth Jaws	5.00
C	PL-705	5″	1⅛″	Chain Nose — Serrated Jaws	5.00
D	PL-1404½	4½″	1 5/16″	Long Chain Nose — Smooth Jaws	4.75
D	PL-1454½	4½″	1 5/16″	Long Chain Nose — Serrated Jaws	4.75
D	PL-1405	5″	1½″	Long Chain Nose — Smooth Jaws	5.00
D	PL-1455	5″	1½″	Long Chain Nose — Serrated Jaws	5.00
E	PL-304	4″	⅞″	Round Nose	4.60
E	PL-304½	4½″	1″	Round Nose	4.75
E	PL-305	5″	1⅛″	Round Nose	5.00
F	PL-404	4″	¾″	End Cutter	5.65
F	PL-404½	4½″	⅞″	End Cutter	5.65
F	PL-405	5″	1″	End Cutter	5.95
G	PL-504	4″	1 9/32″	Diagonal Cutter	5.25
G	PL-504½	4½″	1 3/64″	Diagonal Cutter	5.65
G	PL-505	5″	¾″	Diagonal Cutter	5.95
H	PL-254½	4½″	1 1/16″	Combination Pliers — Smooth Jaws	6.15
H	PL-754½	4½″	1 5/16″	Combination Pliers — Serrated Jaws	6.15
H	PL-255	5″	1½″	Combination Pliers — Smooth Jaws	6.40
H	PL-755	5″	1½″	Combination Pliers — Serrated Jaws	6.40

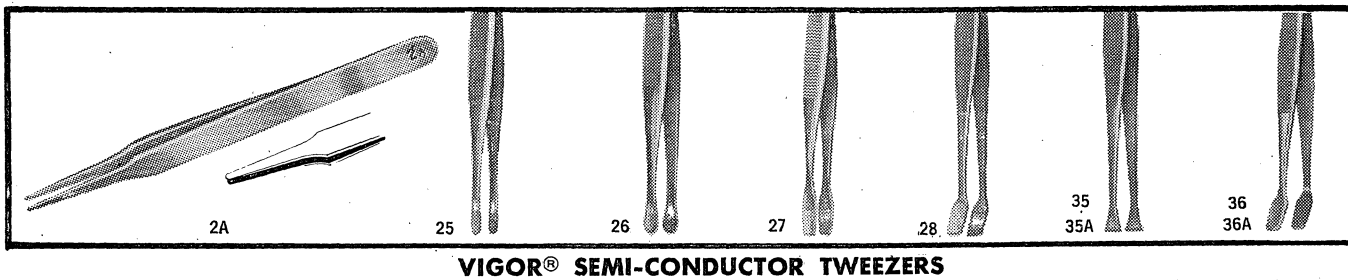


VIGOR® SWISS PRECISION TWEEZERS For MINIATURE and MICROMINIATURE ASSEMBLY

Precise Sharp and Shaped Points

VIGOR Swiss Precision Tweezers are made in carbon (C), non-magnetic steel (NM), stainless steel (SS), carbon steel with nickel plating (CNP), and brass (B), as indicated below. Non-magnetic VIGOR Tweezers will not rust and are acid resistant. All points are ground flat on the inside. Beveled and rounded points refer to the outside diameter.

Style No.	Vigor Stock No.	Type Steel Used	Total Length	Points	List Price
1	TW-201	C	4¾″	Beveled — Sharp	$2.25
1	TW-601	NM	4¾″	Beveled — Sharp	3.25
1	TW-701	SS	4¾″	Beveled — Sharp	2.65
2	TW-202	C	4¾″	Beveled — Dull	2.45
2	TW-602	NM	4¾″	Beveled — Dull	3.45
2	TW-702	SS	4¾″	Beveled — Dull	2.85
2A	TW-602A	NM	4¾″	Dull — Flat — .050″ tip	4.50
3	TW-203	C	4¾″	Round — Sharp	2.45
3	TW-603	NM	4¾″	Round — Sharp	3.45
3	TW-703	SS	4¾″	Round — Sharp	2.85
3C	TW-203C	C	4¼″	Round — Sharp	2.45
3C	TW-603C	NM	4¼″	Round — Sharp	3.45
3C	TW-703C	SS	4¼″	Round — Sharp	3.30
4	TW-204	C	4½″	Round — Sharp	2.90
4	TW-604	NM	4½″	Round — Sharp	3.90
4	TW-704	SS	4½″	Round — Sharp	3.30
5	TW-205	C	4⅜″	Round — Sharp	3.20
5	TW-605	NM	4⅜″	Round — Sharp	4.20
5	TW-705	SS	4⅜″	Round — Sharp	3.60
6	TW-206	C	4¼″	Beveled — Sharp	$3.50
6	TW-606	NM	4¼″	Beveled — Sharp	4.50
6	TW-706	SS	4¼″	Beveled — Sharp	3.90
7	TW-207	C	4⅜″	Round — Sharp	3.50
7	TW-607	NM	4⅜″	Round — Sharp	4.50
7	TW-707	SS	4⅜″	Round — Sharp	3.90
7B	TW-207B	C	4⅜″	Same as #7 with	
7B	TW-707B	SS	4⅜″	Serrated tip	3.90
15A	TW-215A	C	4¼″	Flush Cutting Nipper	8.25
15AP	TW-215AP	C	4¼″	Flush Cutting Nipper	8.25
AA	TW-301	CNP	4⅜″	Beveled — Medium	1.25
AM	TW-363	B	5″	Round — Sharp	1.80
H	TW-229	C	3½″	Stubby — Sharp	2.25
H	TW-729	SS	3½″	Stubby — Sharp	2.65
OC	TW-230C	C	3½″	Round — Sharp	2.65
OC	TW-730C	SS	3½″	Round — Sharp	3.05
OO	TW-200	C	4½″	Heavy — Dull	2.65
OO	TW-700	SS	4½″	Heavy — Dull	3.05
MM	TW-306	CNP	5″	Beveled — Medium	1.35



VIGOR® SEMI-CONDUCTOR TWEEZERS

Mirror-smooth finish will hold discs such as germanium and silicone wafers without scratching surface. Large surface provides positive grip. Thin edge permits simple pick-up. Available in nickel finish; stainless steel or non-magnetic, anti-acid steel as indicated below.

Vigor Stock No.	Pattern	Description	List Price
TW-602A	2A	Thin extra narrow jaws. Approximate width at tip .050″. Rustless — Length 4¾″	$3.45
TW-702A	2A	Same as above but stainless	2.85
TW-902A	2A	Same as above but Carpenter 20 steel non-magnetic, anti-acid	5.00
TW-325	25	Thin narrow round jaws. Approximate width at tip 9/64″. Serrated handle grip. Carbon Steel, Nickel Plated — Length 4¾″	1.75
TW-326	26	Thin round jaws. Approximate width at tip 1/64″. Serrated handle grip. Carbon Steel, Nickel Plated — Length 4¾″	1.75
TW-327	27	Oblong and offset jaws. Approximate width at tips 3/16″. Serrated handle grip. Carbon Steel, Nickel Plated — Length 4″	1.75
TW-328	28	Oblong and offset jaws. Approximate width at tips 3/16″. Serrated handle grip. Carbon Steel, Nickel Plated — Length 4″	1.95
TW-335	35	Medium flange jaws. Approximate width at tip 1/64″. Serrated handle grip. Carbon Steel, Nickel Plated — Length 4¾″	1.95
TW-335A	35A	Same as above but Rustless, Non-magnetic and Anti-acid	3.50
TW-336	36	Oblong and Offset jaw. Approximate width at tip 5/16″. Serrated handle grip. Carbon Steel, Nickel Plated — Length 4¾″	1.95
TW-336A	36A	Same as above, but Rustless, Non-magnetic and Anti-acid	3.50

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Weller® DUAL HEAT Soldering Guns

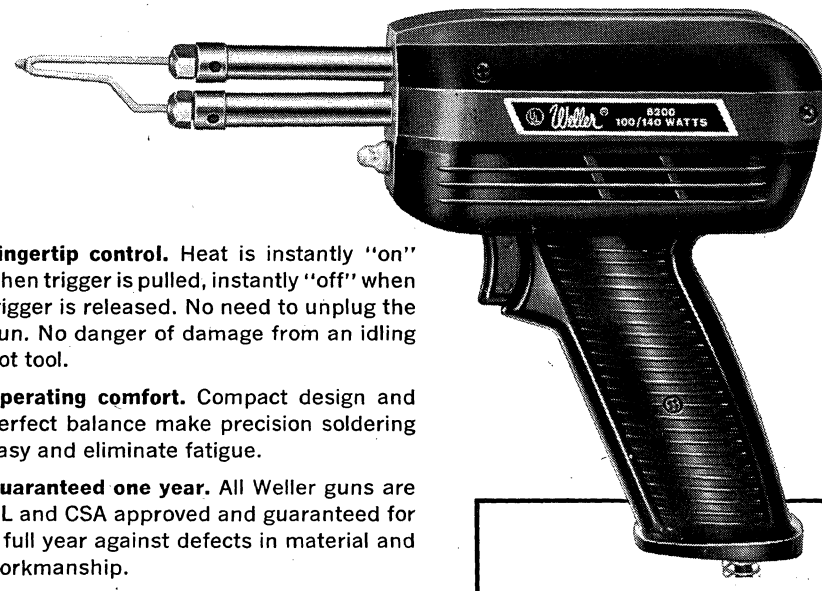
Dual heat. All Weller guns offer Dual Heat —an original Weller feature that provides two tip temperatures from the same gun. Two trigger positions permit instant switching to high or low heat, whichever is best suited for the job. The use of low heat prevents damage when soldering near heat-sensitive components and prolongs tip life. High heat is instantly available when needed.

Instant heat. Solders in seconds. No waiting for the tip to heat. No wasted current.

High-efficiency tip. Made of copper for superior heat transfer and optimum soldering results. Slips easily into difficult places.

Exclusive tip grip. Wiping action of tip fastening nuts eliminates contact resistance and oxidation. This assures full, constant heat.

Spotlight. Illuminates the work and eliminates shadows.



Fingertip control. Heat is instantly "on" when trigger is pulled, instantly "off" when trigger is released. No need to unplug the gun. No danger of damage from an idling hot tool.

Operating comfort. Compact design and perfect balance make precision soldering easy and eliminate fatigue.

Guaranteed one year. All Weller guns are UL and CSA approved and guaranteed for a full year against defects in material and workmanship.

3 Dual Heat Models

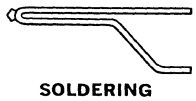
MODEL 8200—100/140 watts
MODEL D-440—145/210 watts
MODEL D-550—240/325 watts

KITS WITH ACCESSORIES

MODEL 8200PK—Dual heat 100/140 watt gun, 3 soldering tips, tip-changing wrench, flux brush, soldering aid, solder, plastic case.

MODEL D-550PK—Heavy-duty 240/325 watt dual heat gun; soldering, cutting and smoothing tips; tip-changing wrench; solder; plastic case.

Accessory and Replacement Tips for Weller Dual Heat Guns



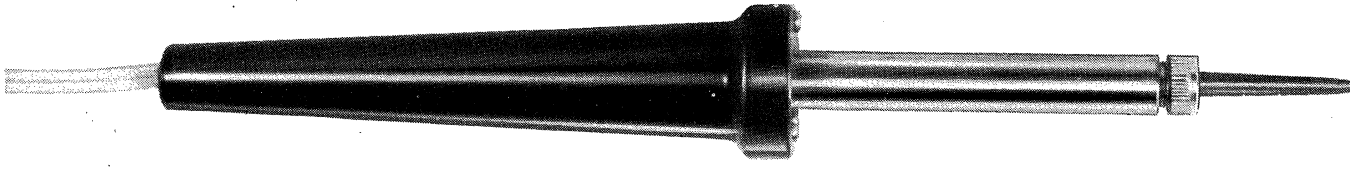
SOLDERING
For gun models 8200 and D-440—Tip 7135N
For gun model D-550—Tip 7250N

SMOOTHING
For gun models D-440 and 8200—Tip 6120
For gun model D-550—Tip 6140

CUTTING
For gun models D-440 and 8200—Tip 6110
For gun model D-550—Tip 6130

Weller® TEMPERATURE-CONTROLLED Soldering Irons

...with Energy Reserve



Three temperature-controlled line voltage tools cover the 15 through 300-watt spectrum with Weller's exclusive Energy Reserve design. Interchangeable Weller tips triple the working capacity over conventional irons which often weigh twice as much. All sizes are available with standard 2-wire or 3-wire cords.

- Tip temperature constant to within ±3% when idling
- Energy Reserve provides ample working temperature, quick recovery

STANDARD WELLER IRONS

MODEL NO.	WATTAGE/120V	WEIGHT	TIP SUPPLIED*
W-60	60, covers 15 to 100-watt loads	2½ oz.	800°F ⅛" screwdriver
W-100	100, covers 50 to 150-watt loads	3½ oz.	800°F ¼" screwdriver
W-200	200, covers 150 to 300-watt loads	10 oz.	800°F 7/16" chisel

*Weller "Temperature Sensing" tips are available in standard industrial configurations at 500°, 600°, 700° and 800°F for these tools.

- One tool does the work of several higher wattage irons
- Light weight and cool handles increase operator comfort

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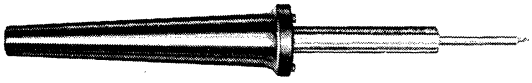
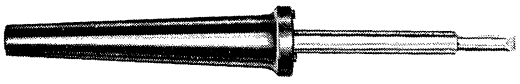
Weller® UTILITY Soldering Irons

THE "MARKSMAN" LINE

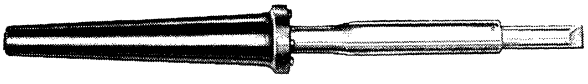
Five ruggedly designed general-purpose tools featuring stainless steel construction, long-reach barrels, and replaceable tips.



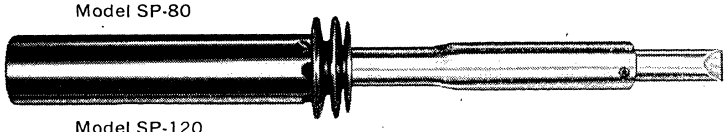
Model SP-23*



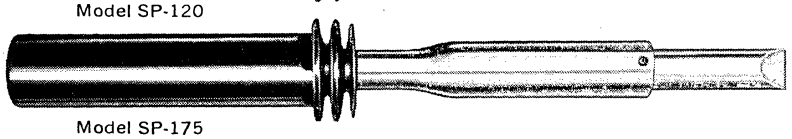
Model SP-40



Model SP-80



Model SP-120



Model SP-175

MODEL NO.	WATTAGE/120V	WEIGHT
SP-23*	25	1¾ oz.
SP-40	40	2 oz.
SP-80	80	4 oz.
SP-120	120	10 oz.
SP-175	175	16 oz.

*Also available as kit model SP-23K, including iron; screwdriver, cone and chisel tips; soldering aid and solder.

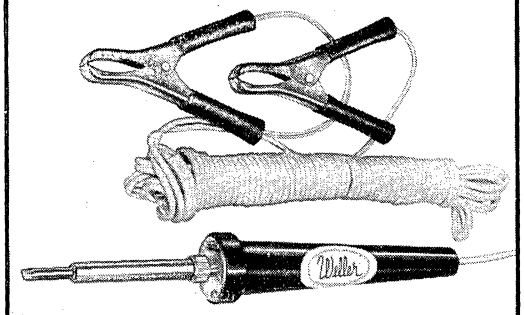
"INDUSTRIAL RATED" SOLDERING PENCIL

Ideal for soldering transistor sockets and other miniaturized circuit components, this low-cost 115-volt iron provides a tip temperature of 860°F with a 25-watt input. Other features include:

- High efficiency and rapid recovery
- Does the work of higher wattage irons
- Lightweight design reduces operator fatigue
- Rugged heating element for long-life service
- Readily replaceable parts

Interchangeable 1/16", 3/32", 1/8" and 3/16" screwdriver tips available—premium plated for long life. Model WPS.

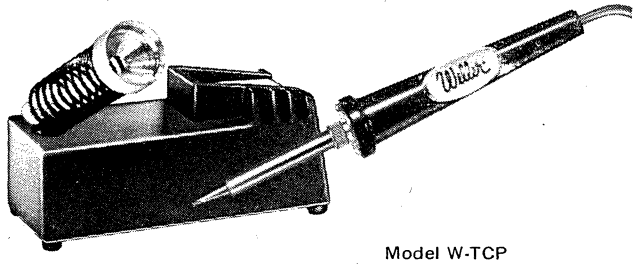
NEW! . . . with Energy Reserve Weller 12 Volt Soldering Iron For field servicing requirements



A modern service tool for 12-volt battery or AC/DC power supply operation. Model TCP-12 requires only 30-41 watts, weighs only 1¼ oz., yet provides all the advantages of Weller's "Temperature Sensing" system. Supplied complete with 700°F 3/16" screwdriver tip, 12-ft. power cord and clips, and impact resistant handle. Also available for 24-28 volt operation (Model TCP-24).

Weller® TEMPERATURE-CONTROLLED Soldering Stations

. . . with Energy Reserve



Model W-TCP

Model W-TCP is a low voltage soldering unit featuring a 2½ oz. pencil that does the work of several irons. Efficient 24-volt operation with interchangeable Weller "Temperature Sensing" tips, burn-proof cord, self-contained 120 or 230-volt transformer, pencil holder and cleaning sponge. Wide selection of tip configurations provide a choice of controlled temperatures from 500° to 800°F. Also available with thermistor and SCR switching circuit for continuously variable 200°-450°F tip temperature—20-watt Model W-TCP-2.

SPECIFICATIONS

MODEL	WATTAGE	VOLTAGE	WT. WITH TIP, LESS POWER UNIT & CORD	OVERALL LENGTH WITH TIP	TIP RETAINER O.D.
W-TCP	60	120V,* 50-60 cycles	1¼ oz.	7½"	5/16"
W-TCP-2	20	"	"	"	"

*230/250V, 50-60 cycle version available

WELLER ELECTRIC CORPORATION

WORLD LEADER IN SOLDERING TOOLS

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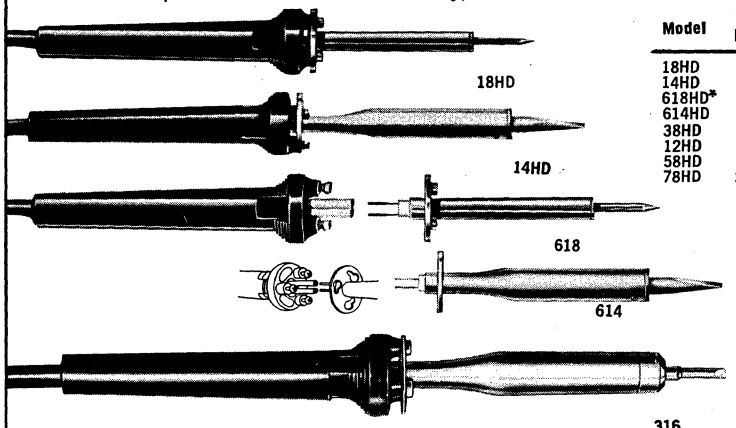
SINCE 1864

WALL BRAND

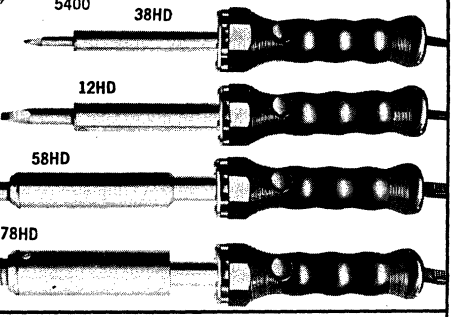
SOLDERING PENCILS, IRONS, GUNS AND HOLDERS

WallBrand pencils and irons are Thermogram Rated for better efficiency, with cooler handles, feather weight, perfect balance. Production Line models are engineered for continuous precision soldering applications. Wall's own plating facilities produce tips to meet the demanding applications of micro-circuitry, high density packaging, precision work on solid state devices, printed circuits, or production line work requiring continuous heat. The Wall line includes soldering pencils with a plug-in type system. All heating elements for the 614-618 are interchangeable with one handle and cord assembly. HD Type for continuous, heavy duty soldering requirements have triple-life resistance wire wound on pure mica; constant tip temperature with extra fast recovery; excellent balance. 120 volts AC or DC (other voltages on request).

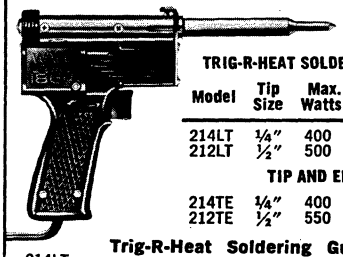


Model	Watt Input	Tip Size	Length W/O Tip	Therma/ Gram Value
18HD	25	1/8"	6 5/8"	300
14HD	40	1/4"	7 1/2"	900
618HD*	25	1/8"	6 5/8"	300
614HD	40	1/4"	7 1/2"	900
38HD	80	3/8"	10 1/4"	1500
12HD	125	1/2"	10 1/4"	2000
58HD	200	5/8"	12 1/4"	3500
78HD	250	7/8"	12 3/8"	5400

*Also available in 11, 15 or 20 watts



Model	Tip Size	Watts	Volts
316 (Light duty)	3/16	30	120



214LT

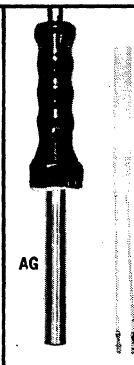
TRIG-R-HEAT SOLDERING GUN SPECIFICATIONS

Model	Tip Size	Max. Watts	Min. Watts	Voltage AC or DC	Weight W/O Cord
214LT	1/4"	400	150	120	14 oz.
212LT	1/2"	500	300	120	24 oz.

TIP AND ELEMENT ASSEMBLY

214TE	1/4"	400	150	120
212TE	1/2"	550	300	120

Trig-R-Heat Soldering Gun—Feather light, 14 oz., no heavy transformer. Reaches hard-to-get-at spots; tip will not deform. Heats and recovers instantly. Rugged, precision-built. Easily changed tip and element assemblies.



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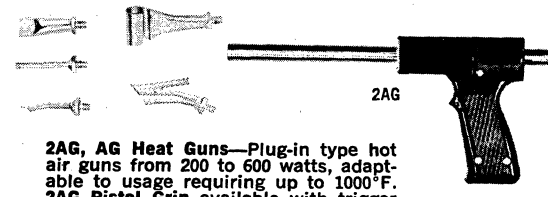
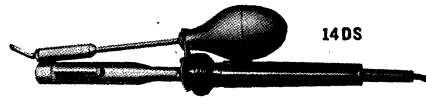
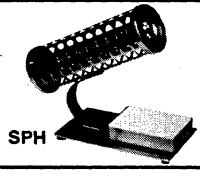


2AG, AG Heat Guns—Plug-in type hot air guns from 200 to 600 watts, adaptable to usage requiring up to 1000°F. **2AG Pistol Grip** available with trigger (additional cost). Opens air and heat at the same time. **AG Handle Grip.** One heating element fits both guns. All five tip styles interchangeable. Special tips on request. Three-wire cord assembly. Hundreds of uses—shape, form, weld and seal thermoplastics. Gun includes neoprene air hose, hose fittings, pressure regulator and gauge.



14DS Desoldering Tool—Keeps solder in a molten state in reservoir, operated with one hand, fits existing Wall 14HD iron. Replaceable tip, .080 opening. Other sizes by special request.

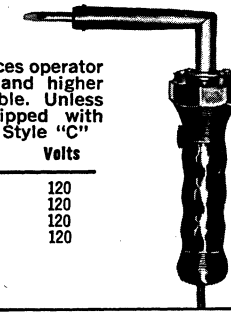


SPH

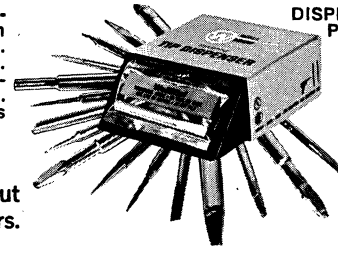
SPH Soldering Pencil Holder for units up to 5/8" diameter shaft—**SIH Soldering Iron Holder** for units up to 1" diameter shaft. Can be mounted on top, in front or below bench. Adjusts to any angle. Bench models include tip cleaning sponge.

Hatchet Irons—New high reserve models that enable user to make more solder connections faster. Reduces operator fatigue, with better quality control and higher production. 1/4" and 3/8" tips available. Unless otherwise specified, irons are equipped with 2-wire HPN cords and Wallbrand Tip Style "C"

Model	Tip Size	Watts	Volts
714-60	1/4 in.	60	120
714-75	1/4 in.	75	120
738-80	3/8 in.	80	120
738-100	3/8 in.	100	120



Soldering Tips for Pencils and Irons—Three grades: **Anniversary:** Industrial, highest quality. Copper core, special iron coating. Anti-seize life for rigorous production line demand. **WallKlad**—Industrial, copper core, iron coating chrome plated. Production line and critical laboratory use. **WallBrand**—Commercial, copper, nickel plated. All commercial applications. Tip sizes from 1/8" through 7/8". Special tips to specifications designed on request.



DISPENSER PAC

Soldering Tip Dispenser Pac—Iron-plated or copper tips, 1/8" through 3/8", are available in handy tip dispenser pac. Keeps tips individually sealed in color-coded, continuous belting, plastic envelope. Ideally suited for production line station or stock distribution.

Send for illustrated catalog I-1265 about Wall's tips, irons, pencils, and holders.

WALL BRAND **WALL MANUFACTURING CO.**

Industrial Soldering Pencils are built to exceed federal specification W-S-570a as amended. WallBrand soldering products are UL and CSA listed.

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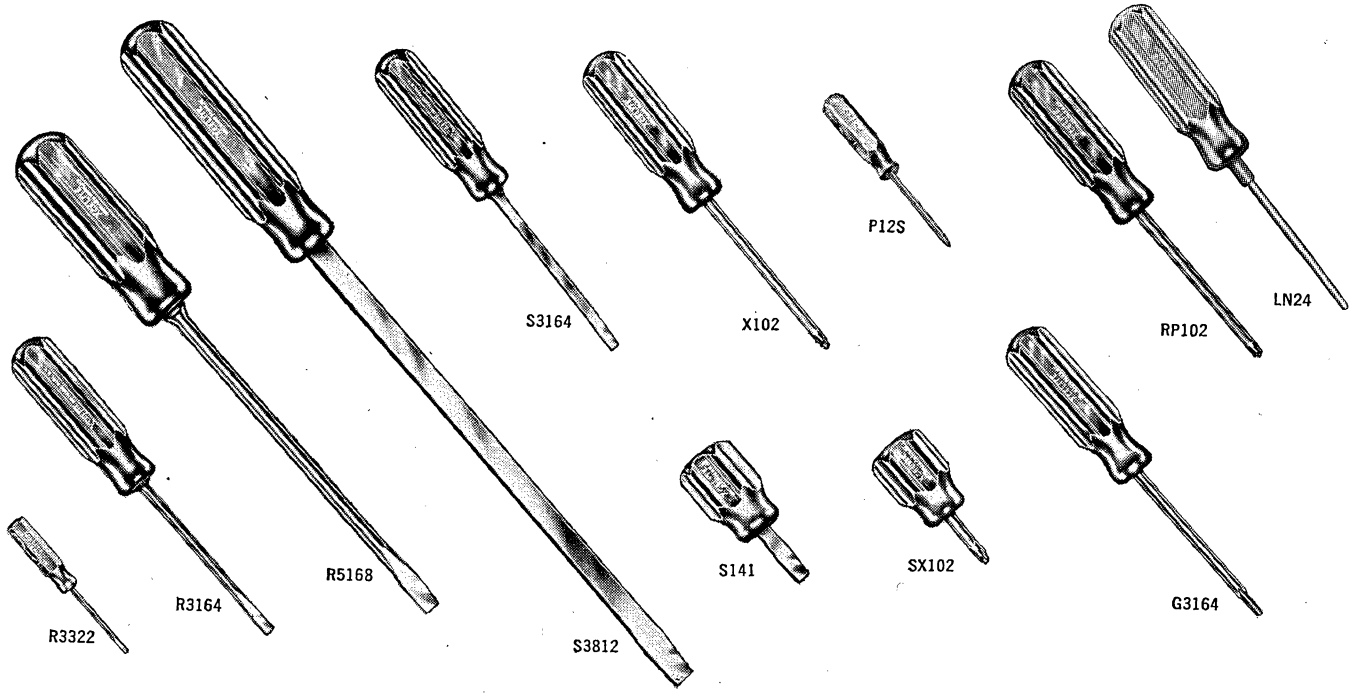
XCELITE® QUALITY PROFESSIONAL TOOLS

SCREWDRIVERS

AISI 6150 chrome vanadium steel blades. Shockproof, breakproof, plastic (UL) handles.



ROUND BLADE

Number	Blade	Overall	List
	Regular		
R182	1/8" x 2"	4 5/8"	$ .65
R184	1/8" x 4"	6 5/8"	.75
R186	1/8" x 6"	8 5/8"	.85
R188	1/8" x 8"	10 5/8"	1.00
R1810	1/8" x 10"	12 5/8"	1.15
R5323	5/32" x 3"	5 5/8"	.80
R5324	5/32" x 4"	6 5/8"	.80
R5325	5/32" x 5"	7 5/8"	.85
R5328	5/32" x 8"	10 5/8"	1.10
R3163	3/16" x 3"	6 5/8"	1.10
R3164	3/16" x 4"	7 5/8"	1.20
R3166	3/16" x 6"	9 5/8"	1.25
R3168	3/16" x 8"	11 5/8"	1.45
R31610	3/16" x 10"	13 5/8"	1.65
R142	1/4" x 2"	6 1/8"	1.25
R144	1/4" x 4"	8 1/8"	1.55
R146	1/4" x 6"	10 1/8"	1.70
R148	1/4" x 8"	12 1/8"	1.80
R1410	1/4" x 10"	14 1/8"	1.90
R5164	5/16" x 4"	8 1/8"	1.75
R5166	5/16" x 6"	10 1/8"	1.90
R5168	5/16" x 8"	12 1/8"	2.05
R388	3/8" x 8"	12 1/2"	2.75
	Pocket Clip Style		
R3322	3/32" x 2"	4 1/4"	$ .55
R3323	3/32" x 3"	5 1/4"	.60
R3324	3/32" x 4"	6 1/4"	.65
R181	1/8" x 2"	4 1/4"	.55
R183	1/8" x 3"	5 1/4"	.60
R184 1/2	1/8" x 4"	6 1/4"	.65

SQUARE BLADE

Number	Blade	Overall	List
	Regular		
S3163	3/16" x 3"	6 5/8"	$1.15
S3164	3/16" x 4"	7 5/8"	1.25
S3166	3/16" x 6"	9 5/8"	1.45
S3168	3/16" x 8"	11 5/8"	1.70
S31610	3/16" x 10"	13 5/8"	2.00
S142	1/4" x 2"	6 1/8"	1.30
S144	1/4" x 4"	8 1/8"	1.55
S146	1/4" x 6"	10 1/8"	1.70
S148	1/4" x 8"	12 1/8"	1.90
S1424	1/4" x 24"	28 1/8"	4.25
S5162	5/16" x 2"	6 1/4"	1.50
S5164	5/16" x 4"	8 1/4"	1.75
S5166	5/16" x 6"	10 1/4"	2.00
S5168	5/16" x 8"	12 1/4"	2.20
S51610	5/16" x 10"	14 1/4"	2.50
S51612	5/16" x 12"	16 1/4"	3.00
S388	3/8" x 8"	12 1/2"	2.75
S3812	3/8" x 12"	17 7/8"	4.00
S3818	3/8" x 18"	23 7/8"	4.50
S7166	7/16" x 6"	11 7/8"	3.50
S71612	7/16" x 12"	17 7/8"	4.25
S71618	7/16" x 18"	23 7/8"	5.00
	Stubby		
S3161	3/16" x 1"	2 3/4"	$ .85
S141	1/4" x 1"	3 1/4"	.90
S5161	5/16" x 1"	3 1/4"	.90

PHILLIPS

Number	Point	Blade	Overall	List
		Extra Long		
X1010	1	3/16" x 10"	13 5/8"	$1.90
X1020	2	1/4" x 10"	14 1/8"	2.15
		Regular		
X100	0	1/8" x 2"	4 1/2"	$ .85
X101	1	3/16" x 3"	6 5/8"	1.30
X108	1	3/16" x 6"	9 5/8"	1.50
X102	2	1/4" x 4"	8 1/8"	1.60
X103	3	5/16" x 6"	10 1/4"	2.25
X104	4	3/8" x 8"	12 1/2"	2.75
		Stubby		
SX101	1	3/16" x 1 7/16"	2 15/16"	$1.20
SX102	2	1/4" x 1 5/16"	3 5/16"	1.35
		Pocket Clip Style		
P12S	0	1/8" x 2"	4 1/4"	$ .75

ALLEN TYPE

Number	Hex	Blade	Overall	List
LN20	.050"	4"	6 5/8"	$1.25
LN21	1/16"	4"	6 5/8"	1.25
LN22	5/64"	4"	6 5/8"	1.25
LN23	3/32"	4"	7 1/8"	1.25
LN764	7/64"	4"	7 1/8"	1.25
LN24	1/8"	4"	7 1/8"	1.35
LN964	9/64"	4"	7 1/8"	1.35
LN25	5/32"	6"	9 1/8"	1.35
LN26	3/16"	6"	10 1/8"	1.35
LN27	7/32"	6"	10 1/8"	1.50
LN28	1/4"	6"	10 1/8"	1.50

FREARSON (Reed & Prince)

Number	Point	Blade	Overall	List
RP101	1	3/16" x 3"	6 5/8"	$1.30
RP102	2	1/4" x 4"	8 1/8"	1.60
RP103	3	5/16" x 6"	10 1/4"	2.25
RP104	4	3/8" x 8"	12 1/2"	2.75

CLUTCH HEAD (Type G)

Number	Tip	Blade	Overall	List
G3324	3/32"	1/8" x 4"	6 1/4"	$1.40
G183	1/8"	3/16" x 3"	6 5/8"	1.40
G5324	5/32"	3/16" x 4"	7 5/8"	1.65
G3164	3/16"	1/4" x 4"	8 1/8"	1.65
G146	1/4"	5/32" x 6"	10 1/8"	2.05
G5166	5/16"	3/8" x 6"	10 1/2"	2.50

SCRULOX®

Number	Tip	Blade	Overall	List
SL-00-FH	#00	3 1/2"	7 1/4"	$1.50
SL-0-FH	#0	3 1/2"	7 1/4"	1.50
SL-1-FH	#1	3 1/2"	7 1/4"	1.50
SL-2-FH	#2	3 1/2"	7 1/4"	1.50
SL-3-FH	#3	3 1/2"	7 1/4"	1.50

BERYLLIUM COPPER

Non-magnetic • Non-sparking
Higher fatigue resistance than steel.

Number	Blade	Overall	List
	Regular		
BR186	1/8" x 6"	8 5/8"	$1.55
BR1810	1/8" x 6"	12 5/8"	1.80
BR3168	3/16" x 8"	11 5/8"	3.00
BR146	1/4" x 6"	10 1/8"	3.30
BR148	1/4" x 8"	12 1/8"	3.60
	Pocket Clip Style		
BR181	1/8" x 2"	4 1/4"	$ .80

PHILLIPS

Number	Point	Blade	Overall	List
BRX100	#0	1/8" x 2"	4 1/2"	$1.13
BRX101	#1	3/16" x 3"	6 5/8"	2.80
BRX102	#2	1/4" x 4"	8 1/8"	3.00
BRX103	#3	5/16" x 6"	10 1/4"	6.13
BRX104	#4	3/8" x 8"	12 1/2"	8.25

SUBJECT TO DISCOUNT

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XCELITE® QUALITY PROFESSIONAL TOOLS

COMBINATION-REVERSIBLE BLADE SCREWDRIVERS AND KITS

AISI 6150 chrome vanadium steel blades. Shockproof, breakproof, plastic (UL) handles.
Patented spring holds blades securely. 7/16" hex opening doubles as a nutdriver.

COMPLETE UNITS

Regular Type	List
CR1—No. 25 handle & RB1 blade	$2.50
CR2—No. 25 handle & RB2 blade	2.50
CR3—No. 25 handle & RB3 blade	2.50
Stubby Type	
CS1—No. 26 handle & SB1 blade	$2.40
CS2—No. 26 handle & SB2 blade	2.40

HANDLES ONLY

25—Regular	$1.05
26—Stubby	1.00

BLADES ONLY

Regular Type	
RB1—No. 1 Phillips & 3/16" Slotted	$1.45
RB2—No. 2 Phillips & 1/4" Slotted	1.45
RB3—No. 3 Phillips & 5/16" Slotted	1.45
RB12—No. 1 & No. 2 Phillips	1.70
GB1—3/16"G & 5/32"G Clutch	1.75
GB2—5/16"G & 1/4"G Clutch	1.75
Stubby Type	
SB1—No. 1 Phillips & 3/16" Slotted	$1.40
SB2—No. 2 Phillips & 1/4" Slotted	1.40
GS1—3/16"G & 5/32"G Clutch	1.50

POCKET ROLL KITS

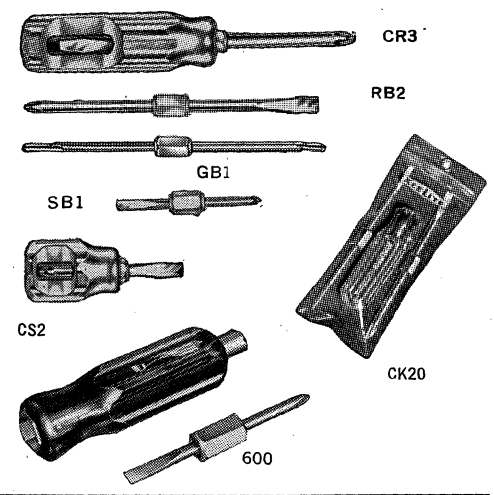
CK2 — Contains RB1, RB2 blades and No. 25 handle $4.85
CK3 — Same as CK2, plus RB3 blade .. 6.25
CK5 — Same as CK2, plus RB3, GB1, and GB2 blades 9.75

PLASTIC VIEW KITS

SK20 — Contains SB1, SB2 blades and No. 26 handle $4.25
CK20 — Contains RB1, RB2 blades and No. 25 Handle 5.00
CK23 — Same as CK20, plus RB3 blade 6.45

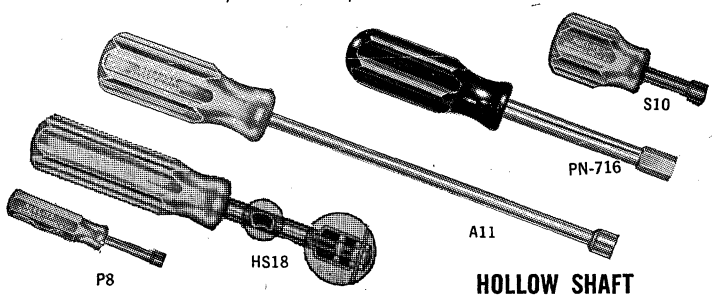
COMBINATION SCREW AND NUTDRIVER TOOL

600—Handy 4-way tool with pocket clip. 1/4" and 7/16" hex openings. Reversible SB1 blade ..... List $2.75



NUTDRIVERS (Color-Coded Handles)

Polished-plated, steel shafts. Shockproof, breakproof, plastic (UL) handles. Precision, cold drawn, case hardened sockets.



REGULAR SHAFT

Number	Handle Color	Hex Opening	List
	(6 1/8" Overall Length)		
5	Amber	5/32"	$1.40
6	Black	3/16"	1.40
7	Brown	7/32"	1.40
8	Red	1/4"	1.40
9	Orange	9/32"	1.40
10	Amber	5/16"	1.40
11	Green	11/32"	1.40
12	Blue	3/8"	1.40
	(6 1/2" Overall Length)		
14	Brown	7/16"	$1.70
16	Red	1/2"	1.70

STUBBY

	(3 1/8" Overall Length)		
S6	Black	3/16"	$1.25
S8	Red	1/4"	1.25
S10	Amber	5/16"	1.25
S11	Green	11/32"	1.25
S12	Blue	3/8"	1.25

POCKET CLIP STYLE

	(3 1/2" Overall Length)		
P3	Amber	3/32"	$ .90
P4	Red	1/8"	.90
P5	Amber	5/32"	.90
P6	Black	3/16"	.90
P7	Brown	7/32"	.90
P8	Red	1/4"	.90
P9	Orange	9/32"	.90
P10	Amber	5/16"	.90
P11	Green	11/32"	.90
P12	Blue	3/8"	.90

HOLLOW SHAFT

Number	Handle Color	Hex Opening	List
	(6 1/4" Overall Length)		
HS6	Black	3/16"	$1.65
HS7	Brown	7/32"	1.65
	(7 1/4" Overall Length)		
HS8	Red	1/4"	$1.65
HS9	Orange	9/32"	1.65
HS10	Amber	5/16"	1.65
HS11	Green	11/32"	1.65
HS12	Blue	3/8"	1.65
HS13	Amber	13/32"	1.90
HS14	Brown	7/16"	1.90
HS15	Amber	15/32"	1.90
HS16	Red	1/2"	1.90
HS17	Amber	17/32"	2.00
HS18	Orange	9/16"	2.00
HS19	Amber	19/32"	2.25
	(7 5/8" Overall Length)		
HS20	Amber	5/8"	$2.25
HS22	Amber	11/16"	3.25
HS24	Amber	3/4"	3.25

EXTRA LONG

	(9" Overall Length)		
A6	Black	3/16"	$1.95
A7	Brown	7/32"	1.95
A8	Red	1/4"	1.95
A9	Orange	9/32"	1.95
A10	Amber	5/16"	1.95
A11	Green	11/32"	1.95
A12	Blue	3/8"	1.95

EXTERNAL HEX

(For control shaft nuts on Arvin and Philco portable stereo sets. 6 1/4" Overall Length. 7/16" External Hex.)

PN-716	Black	....	$1.55

SUBJECT TO DISCOUNT

NUTDRIVER SETS (Color-Coded Handles)

Nos. 77 and HS6-18 plastic cases keep tools orderly on workbench or in tool caddy. Molded plastic "Tray Bien" bench trays have fold-away stands and provision for wall mounting. Snap lock feature holds tools securely, yet permits easy removal.

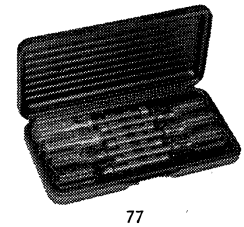
No. 77 CARRYING CASE — List $11.25
Contains solid shaft Nos. 6, 7, 8, 9, 10, 11 and 12.

No. HS6-18 CARRYING CASE — List $19.38
Contains hollow shaft Nos. HS6, HS7, HS8, HS9, HS10, HS11, HS12, HS14, HS16 and HS18.

No. 127TB "TRAY BIEN" — List $11.00
Contains solid shaft Nos. 6, 7, 8, 9, 10, 11 and 12.

No. 137TB "TRAY BIEN" — List $12.25
Contains solid shaft Nos. 6, 8, 10, 11 and 12 and hollow shaft Nos. HS16 and HS18.

No. 147TB "TRAY BIEN" — List $14.50
Contains hollow shaft Nos. HS8, HS9, HS10, HS11, HS12, HS14 and HS16.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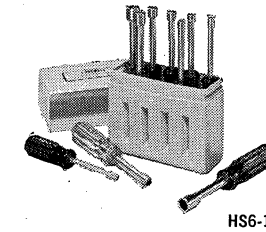
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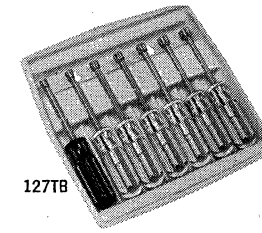
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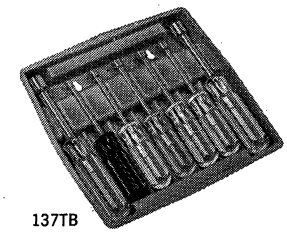
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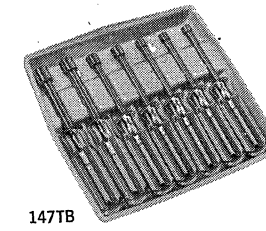
147TB

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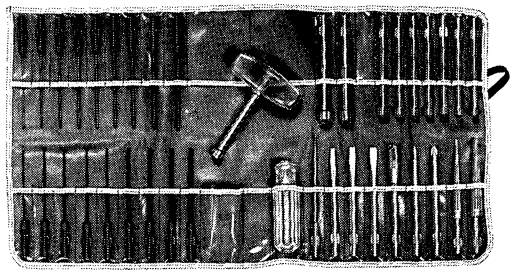
XCELITE® QUALITY PROFESSIONAL TOOLS

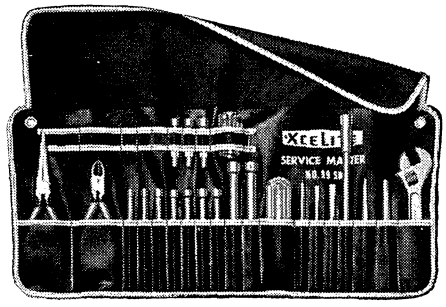
SERIES "99" SERVICE KITS, BLADES, AND HANDLES



No. 99MP MULTI-PURPOSE TOOL KIT **List $47.25**

39-piece kit contains 99-1 (Regular) and 99-4 (Tee) handles, ten regular nutdrivers (99-5 thru 99-16), nine Allen Hex type screwdrivers (99-20, thru 99-26), nine Bristol Multiple Spline screwdrivers (99-61 thru 99-69), three slotted screwdrivers (99-811, 99-250, 99-312), two Phillips screwdrivers (99-821, 99-822), two reamers (99-38, 99-39), awl/scriber (99-70), extension blade (99-X5).

99MPK, Canvas case only..... **List $5.45**



No. 99SM SERVICE MASTER **List $43.00**

23-piece kit contains 99-1 (Regular) and 99-3 (Stubby) handles, nine regular and three stubby nutdrivers (99-6 thru 99-16), two slotted screwdrivers (99-811, 99-812), one Phillips screwdriver (99-821), two reamers (99-38, 99-39), extension blade (99-X10), 6" long nose cushion grip plier (52CG), 5" diagonal cushion grip plier (55CG), 6" adjustable wrench (46C).

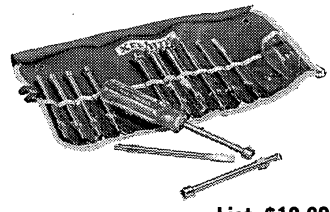
99SMK, Canvas case only..... **List $3.75**

ROLL KITS

No. 99PR ROLL KIT **List $15.70**

Contains nine regular nutdrivers (99-6 thru 99-16), 99-811 and 99-250 (slotted) and 99-821 and (Phillips) screwdriver blades, 99-1 handle (Regular).

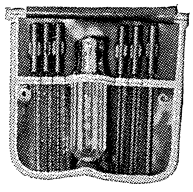
99K, Kit only .....**List $1.75**



No. 99JR ROLL KIT **List $13.80**

Contains seven regular nutdrivers (99-6 thru 99-12) four screwdriver blades 99-811 and 99-812 (Slotted), and 99-821 and 99-822 (Phillips), 99-2 handle (Junior).

99KJR, Kit only .....**List $1.75**



No. 99LN ROLL KIT **List $7.45**

Contains six Allen type screwdriver blades (99-21, 22, 23, 24, 25, 26) and 99-1 handle (Regular).

No. 99-30 CLEAR PLASTIC POUCH **List $5.40**

Heat sealed plastic snap case with size numbers on pockets for convenient selecting and storing. Contains six Allen type screwdriver blades (99-21, 22, 23, 24, 25 and 26).

PLASTIC VIEW KITS

No. 99SL **List $6.25**

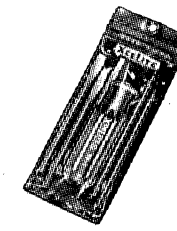
Contains five Scrulox® screwdriver blades for square recess screws (SL 00, 0, 1, 2, 3), 99-1 handle (Regular).

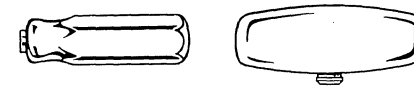
No. 99PV4 **List $4.45**

Contains three slotted screwdriver blades (99-811, 99-250, 99-312), 99-1 handle (Regular).

No. 99PV6 **List $6.25**

Contains three slotted screwdriver blades (99-811, 99-250, 99-312), two Phillips screwdriver blades (99-821, 99-822), 99-1 handle (Regular).





	List
Handles: 99-1 Regular (1 1/16" x 4 1/8") — for all blades, single-end and reversible	1.15
99-2 Junior (1" x 3 1/8") — for single-end blades only	1.05
99-3 Stubby (1 1/16" x 2") — for single-end blades only	1.00
99-4 Tee (1" x 3 3/8") — for single-end blades only	1.50
Nutdriver Blades: 99-5 (5/32"), 99-6 (3/16"), 99-7 (7/32"), 99-8 (1/4"), 99-9 (9/32"), 99-10 (5/16"), 99-11 (11/32"), 99-12 (3/8")	1.05
99-14 (7/16"), 99-16 (1/2")	1.30
Stubby Nutdriver Blades: 99-S8, 99-S10, 99-S12	.85
Allen Hex Type Screwdriver Blades: 99-20 (.050"), 99-21 (1/16"), 99-22 (5/64"), 9-23 (3/32"), 99-764 (7/64"), 99-24 (1/8"), 99-964 (9/64"), 99-25 (5/32"), 99-26 (3/16")	.95
Bristol Multiple-Spline Type Screwdriver Blades: 99-61 (.048", flute), 99-62 (.060", 6-flute), 99-63 (.069", 4-flute), 99-64 (.072", 6-flute), 99-65 (.076", 4-flute), 99-66 (.096", 6-flute), 99-67 (.111", 6-flute), 99-68 (.145", 6-flute), 99-69 (.183", 6-flute)	.95
Frearson and Clutch Head Reversible Screwdriver Blades:	
99-83 Frearson (3/16" and 9/32")	1.75
99-84 Clutch Head (3/16" G and 5/32" G)	1.75
Slotted Screwdriver Blades: 99-811 (3/16"), 99-250 (1/4"), 99-812 (9/32"), 99-312 (5/16")	1.05
Phillips Screwdriver Blades: 99-821 (#1), 99-822 (#2)	1.05
Scrulox Screwdriver Blades: 99SL-00 (#00), 99SL-0 (#0), 99SL-1 (#1), 99SL-2 (#2), 99SL-3 (#3)	1.05
Awl/Scriber: 99-70 (4 1/2" overall length)	1.00
Reamers: 99-38 (1/8" - 3/8")	2.25
99-39 (1/4" - 1/2")	2.85
Extension Blades:	
99-X5 (adds 4" reach to single-end blades)	1.55
99-X10 (adds 7" reach to single-end blades)	1.60

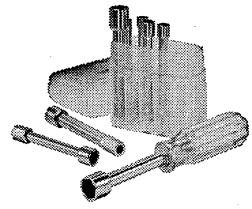
SUBJECT TO DISCOUNT

XCELITE® QUALITY PROFESSIONAL TOOLS

COMPACT SETS

No. HSC-1 INTERCHANGEABLE HOLLOW SHAFT NUTDRIVER SET

Contains special thru-drilled handle and eight interchangeable hollow nutdriver shafts in 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16" hex sizes. Screwdriver blade may be run down through center of handle and hollow nutdriver shaft to make combination locknut/slotted screw adjustments. **List $14.75**

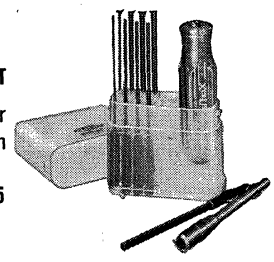


Series "99" Sets

Each set contains a Series "99" regular handle and various Series "99" interchangeable blades and extension. See-thru plastic case is pocket size, has flat base that permits its use as a bench stand.

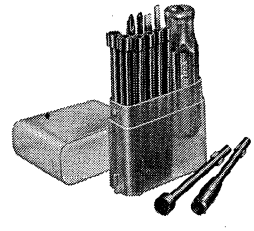
No. 99PS-40 ALLEN HEX TYPE SCREWDRIVER SET

Includes nine Allen Hex type screwdriver blades (99-20 thru 99-26), 99-X5 extension blade, 99-1 handle, and see-thru case. **List $11.25**



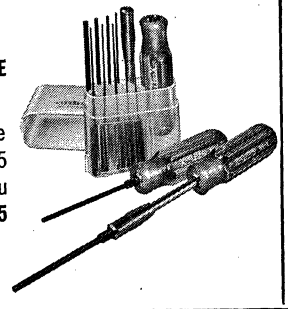
No. 99-PS50 NUTDRIVER/SCREWDRIVER SET

Includes seven regular nutdriver blades (99-6 thru 99-12), two slot tip screwdriver blades (99-811 and 99-812), two Phillips screwdriver blades (99-821 and 99-822), 99-X5 extension blade, 99-1 handle, and see-thru case. **List $14.25**



No. 99PS-60 BRISTOL MULTIPLE-SPLINE TYPE SCREWDRIVER SET

Includes nine Bristol Multiple-Spline type screwdriver blades (99-61 thru 99-69), 99-X5 extension blade, 99-1 handle, and see-thru case. **List $11.25**



Convertible Nutdriver and Screwdriver Sets

Black plastic torque amplifier handle (1" x 3 1/8") slips over handles of pocket size (3 1/2") nutdrivers and screwdrivers . . . provides larger grip, extends reach and increases driving power to that of standard size tools. See-thru plastic case fits pocket, stands upright on bench.

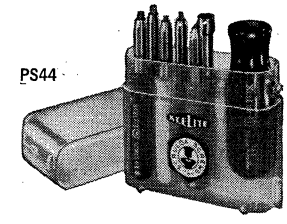
No. PS7 NUTDRIVER/SCREWDRIVER SET

Contains two nutdrivers (1/4" and 5/16"), two slot tip screwdrivers (3/16" and 3/32"), two Phillips screwdrivers (#0 and #1), hollow handle, and case. **List $6.50**

No. PS44 SCRULOX SCREWDRIVER SET

Includes five Scrulox screwdrivers (#1 thru #14), one nutdriver (1/4"), hollow handle, and case. **List $5.75**

PS44



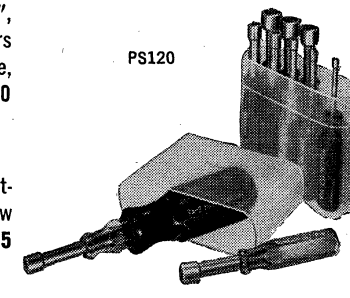
No. PS88 SCREWDRIVER SET

Contains five slot tip screwdrivers (3/32", 1/8", 5/32", 3/16", 1/4"), three Phillips screwdrivers (#0, #1, #2), hollow handle, and case. **List $7.00**

No. PS120 NUTDRIVER SET

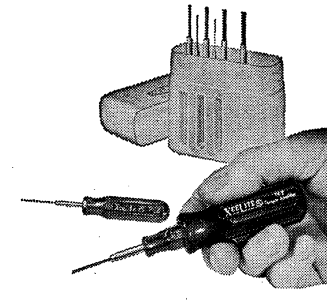
Contains ten color coded nutdrivers (3/32" thru 3/8"), hollow handle, and case. **List $9.75**

PS120



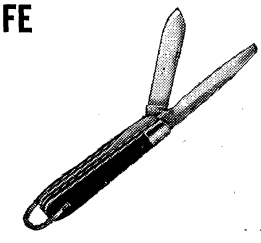
No. PS89 ALLEN HEX TYPE SCREWDRIVER SET

Contains eight Allen hex type screwdrivers (hex sizes .028", .035", .050", 1/16", 5/64", 3/32", 7/64", 1/8"), hollow handle, and case. **List $7.25**



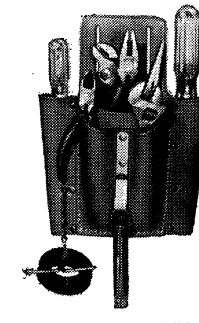
No. K22 ELECTRICIAN'S KNIFE

Two blades. One is combination insulation-scraper and screwdriver. Has positive lock when open .....**List $3.40**



No. 150 TOOL HOLSTER

Has tape holder, knife clip, and 5 tool pockets. Durably made of pliable saddle leather with natural cowhide finish. Features comfortable hip-contoured back, hot-waxed stitching, and brass rivets ..**List $6.40**



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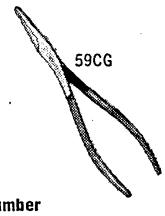
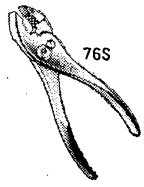
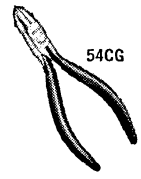
PLIERS

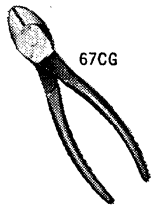
Precision-machined forged alloy steel. Perfectly aligned jaws. Hand-honed, mated cutting edges. Polished heads.

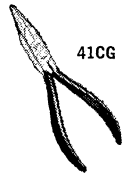


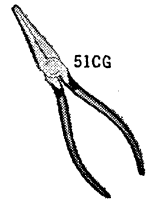




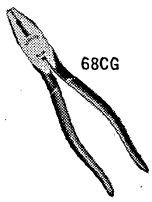
Number		List
59CG	— CHAIN NOSE ELECTRICIAN'S PLIERS (8″)—Cushion Grip	$4.84
75C	— COMBINATION SLIP JOINT PLIER (5″)—Chrome-Plated	2.30
76C	— COMBINATION SLIP JOINT PLIER (6″)—Chrome-Plated	2.36
76S	— Satin Finish	1.44
78C	— COMBINATION SLIP JOINT PLIER (8″)—Chrome-Plated	2.90
54	— DIAGONAL PLIER (Midget 4″)	4.20
54CG	— Cushion Grip	4.44
55	— DIAGONAL PLIER (5″)	4.28
55CG	— Cushion Grip	4.52
66CG	— DIAGONAL PLIER (6″)—Cushion Grip	4.92

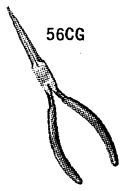


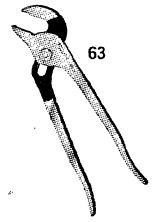




Number		List
67	— DIAGONAL PLIER (7″)	4.56
67CG	— Cushion Grip	4.92
41CG	— LONG NOSE PLIER (Midget 4″)—Without Side Cutters—Cushion Grip	4.04
52	— LONG NOSE PLIER (6″)—Without Side Cutters	3.76
52CG	— Cushion Grip	4.00
51	— LONG NOSE PLIER (6″)—With Side Cutters	4.86
51CG	— Cushion Grip	5.12



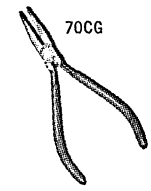


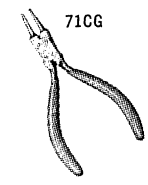


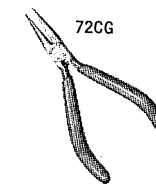
Number		List
56CG	— NEEDLE NOSE PLIER (6″)—Cushion Grip	4.72
58CG	— RADIO AND TV PLIER (6″)—Cushion Grip	5.96
60CG	— SIDE CUTTING PLIER (6″)—Cushion Grip	4.80
68CG	— SIDE CUTTING PLIER (8″)—Cushion Grip	5.96
62CG	— TRAVERSE CUTTING PLIER (6″)—Cushion Grip	5.56
53CG	— UTILITY PLIER (6″)—Forged Rib-Lock—Cushion Grip	4.00
63	— UTILITY PLIER (10″)—Forged Rib-Lock	4.84
63CG	— Cushion Grip	5.40

MINIATURE ELECTRONIC PLIERS

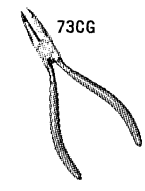
Small, lightweight. For handling fine wires. All cushion grip handles. Coil spring openers. Polished heads and shoulders.

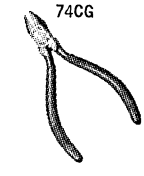


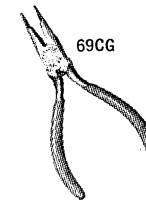




Number		List
70CG	— FLAT NOSE PLIERS (4½″)	$5.20
71CG	— ROUND NOSE PLIERS (4½″)	5.10
72CG	— CHAIN NOSE PLIERS (4″)	5.20



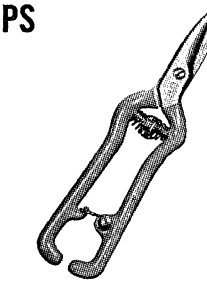




Number		List
73CG	— SPECIAL TIP CUTTING PLIERS (4½″)	7.00
74CG	— DIAGONAL FLUSH CUTTING PLIERS (4″)	6.80
69CG	— RADIO AND TV PLIER (5″)	7.60

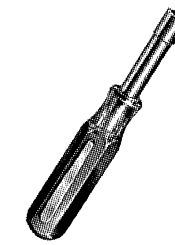
No. 86CG ELECTRONIC SNIPS

6½″ size. Shearing action of pointed blades (1½″ cut) prevents peaks on fine wire and filaments. Useful also for removing insulation and cutting light sheet metal. Coil spring opens blades . . . latch holds them closed. Cushion grip **List $4.60**



TERMINAL WRENCHES

For spanner nuts on external antenna and earphone jacks of transistor radios and CB walkie-talkies. 3⅝″ overall length.



Number	Handle Color	Spanner Nut O.D.	List
TW32	Green	¼″	$ .80
TW140	Red	5/16″	.80

ADJUSTABLE WRENCHES

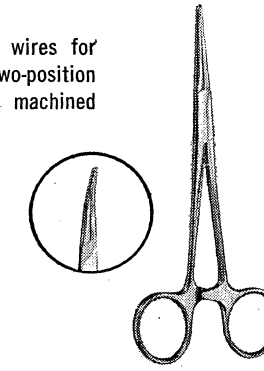
Thin-pattern permits access to close-quarter work. Chrome-plated forged alloy steel. Polished heads.

Plain Handle Number	List	Size	Cushion Grip Number	List
44C	$3.80	4″	**44CG**	$4.20
46C	3.80	6″	**46CG**	4.20
48C	4.32	8″	**48CG**	4.72
40-10C	5.56	10″	**40-10CG**	6.12
40-12C	8.20	12″	**40-12CG**	8.72

REGULAR AND JR. SEIZER®

Outreach, outhold needle nose pliers. Clamp tightly. Hold wires for soldering and serve as heat sinks. Retrieve small parts. Two-position snap-lock. Stainless steel, box-joint construction. Precision machined and tempered.

Regular 6″ Seizers have serrated jaws. Jr. Seizers are 5″ long, have smooth jaws that won't mar delicate materials.



Number		List
42H	—6″ Straight Nose	$5.90
43H	—6″ Curved Nose	6.10
32H	—5″ Straight Nose	5.90
33H	—5″ Curved Nose	6.10

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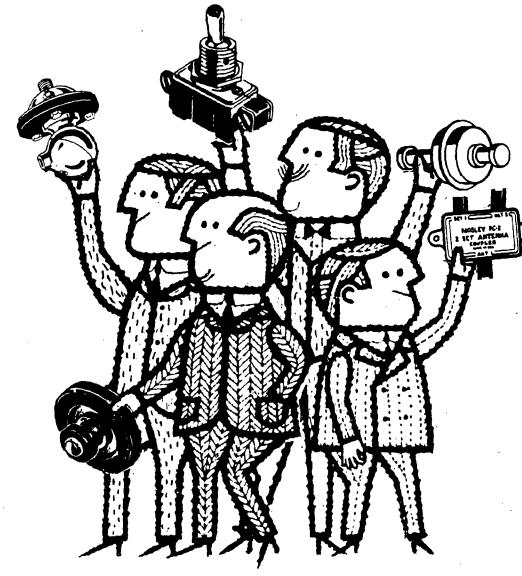

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Acme Electric's engineering and experience have developed thousands of custom-designed constant voltage transformers for a variety of industrial markets. These areas of production and development include such industries as: data processing, communications, automation, instrumentation, office copying equipment, medicine, photography, to name but a few. And, each unit has been designed to meet the customer's exact requirements.

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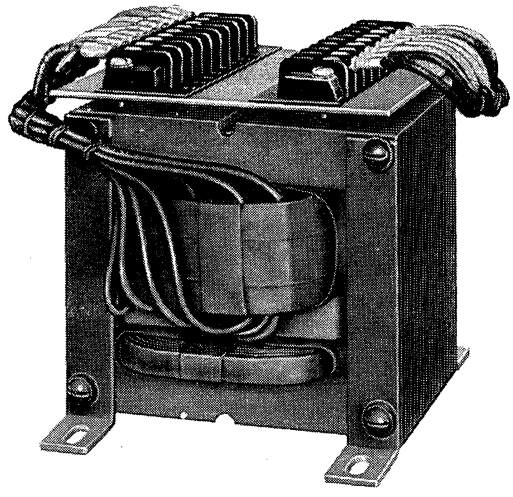

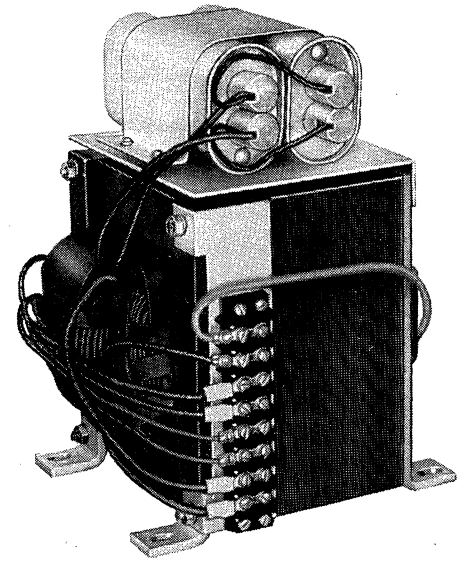

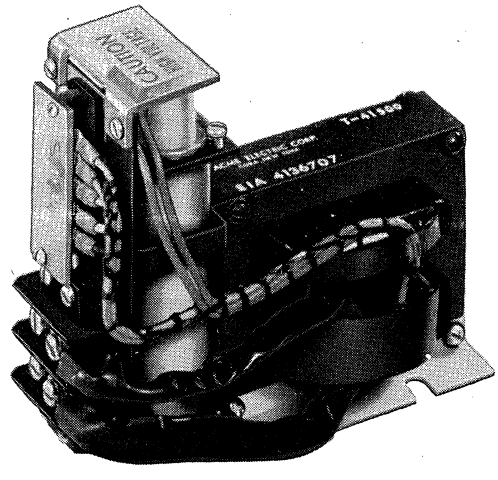

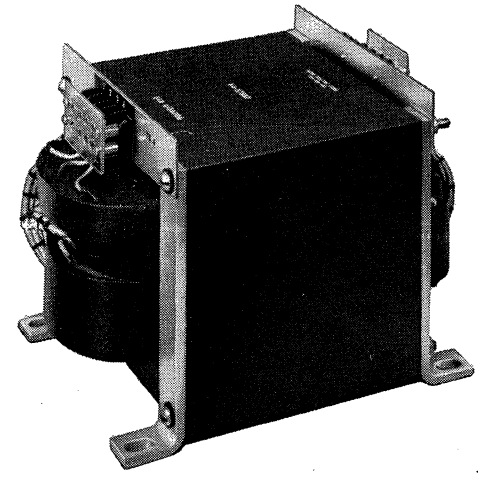

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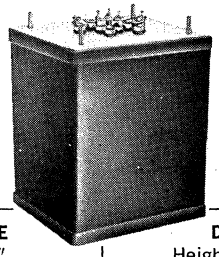
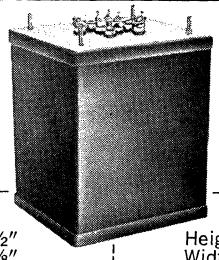
BROADCAST QUALITY COMPONENTS

CASE DIMENSIONS



DC-2B CASE
Height: 3½″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32
Knockout: 1½″ dia.

DC-4A CASE
Height: 3¾″
Width: 3⅛″
Depth: 3″
Mtg. Cen.: 2½″x2½″
Studs: 4 8-32
Knockout: 2″ dia.



DC-2B CASE
Height: 3½″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32
Knockout: 1½″ dia.

DC-4A CASE
Height: 3¾″
Width: 3⅛″
Depth: 3″
Mtg. Cen.: 2½″x2½″
Studs: 4 8-32
Knockout: 2″ dia.

DC-4B CASE
Same as 4A—4″ high

DC-5B CASE
Height: 4½″
Width: 4⅛″
Depth: 3½″
Mtg. Cen.: 3″x2⅝″
Studs: 4 10-32
Knockout: 3″ dia.

DC-6A CASE
Height: 4⅞″
Width: 5″
Depth: 4⅛″
Mtg. Cen.: 3¾″x3″
Studs: 4 10-32
Knockout: 3″ dia.

DC-6B CASE
Height: 6″
Width: 5″
Depth: 4⅛″
Mtg. Cen.: 3¾″x3″
Studs: 4 10-32
Knockout: 3″ dia.

DC-7 CASE
Height: 5⅜″
Width: 5½″
Depth: 5″
Mtg. Cen.: 4⅜″x3¾″
Studs: 4 ¼″-20
Knockout: 3″ dia.

INPUT TRANSFORMERS
Frequency Response 20-20,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 1	Universal 500 ohm line to push-pull grids	U-500	100,000 split	+10	1:14.1	70	0	0	DC-2B
QGA 2	Universal 500 ohm line to push-pull grids	U-500	100,000 split	+10	1:14.1	90	0	0	DC-2B
QGA 3	Universal 500 ohm line to single or push-pull grids	U-500	60,000 split	+10	1:11	70	0	0	DC-2B
QGA 4	Universal 500 ohm line to single or push-pull grids	U-500	60,000 split	+10	1:11	90	0	0	DC-2B
QGA 5	Universal low impedance microphone, pickup or line to single or push-pull grids	U-60	60,000 split	+10	1:31.6	70	0	0	DC-2B
QGA 6	Universal low impedance microphone, pickup or line to single or push-pull grids	U-60	60,000 split	+10	1:31.6	90	0	0	DC-2B

U-60 IMPEDANCES IN OHMS:
2.5, 5, 10, 15, 20, 30, 40, 60

U-500 IMPEDANCES IN OHMS:
50, 125, 200 CT, 250, 330, 500 CT.
125 and 500 ohms can be used for 150 and 600 ohms.

HYBRID AND REPEAT COILS
Frequency Response 20-20,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 7	Hybrid. Unbalanced 500/600 ohm lines to 600 ohms.	Total Pri 1200/1000 split 300/250 300/250	600/150 or 500/125 split	+10	1.41:1	70	0	0	DC-2B
QGA 8	Hybrid. Balanced 500/600 ohm lines to 600 ohms. Longitudinal balance 70 DB	Total Pri 1200/1000 split 300/250 C.T. 300/250 C.T.	600/150 or 500/125 split	+10	1.41:1	70	0	0	DC-2B
QGA 9	Hybrid. Unbalanced 500/600 ohm lines to triode plate. No. D.C. in secondary	Total Pri 1200/1000 split 300/250 300/250	15,000 or 12,500	+10	1:3.54	70	0	0	DC-2B
QGA 10	Hybrid. Balanced 500/600 ohm lines to triode plate. No. D.C. in secondary. Longitudinal balance 70 DB.	Total Pri 1200/1000 split 300/250 C.T. 300/250 C.T.	15,000 or 12,500	+10	1:3.54	70	0	0	DC-2B
QGA 11	Repeat coil for low frequency ringing. Longitudinal balance 70 DB.	600/500 split	600/500 split Balanced		1:1	90	0	0	DC-4A

INTERSTAGE TRANSFORMERS
Frequency Response 20-20,000 C.P.S. ±10 D.B. *50-20,000 C.P.S. ±1.0 D.B.

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 12	Bridging line to single or push-pull grids.	10,000	60,000 split	+10	1:2.45	70	0	0	DC-2B
QGA 13	Single 6C4, 6J5 ½ 6SN7 triode to push-pull grids. Shunt feed.	15,000	60,000 split	+18	1:2	45	0	0	DC-2B
QGA 14*	Single 6C4, 6J5 ½ 6SN7 triode to push-pull grids.	15,000	60,000 split	+18	1:2	45	8	8	DC-2B
QGA 15	Push-pull triode plates to push-pull class A grids.	20,000 split	45,000 split	+25	1:1.5	30	8	0.5	DC-4A

HIGH LEVEL OUTPUT TRANSFORMERS
Frequency Response 20-30,000 C.P.S. ±0.5 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Watts	Ratio	Maximum D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 25	PP 5881, 6B4, 6L6, 300A, 275A to Universal 500 ohm line.	5,000 split	U-500	+42	15	3.16:1	70	7	DC-5B
QGA 26	As above to Universal voice coil.	5,000 split	U-16	+42	15	17.7:1	70	7	DC-5B
QGA 27	Push-pull 6V6, 6AQ5, 7C5, 6N7 to Universal 500 ohm line.	8,000 split	U-500	+42	15	4:1	50	5	DC-5B
QGA 28	As above to Universal voice coil.	8,000 split	U-16	+42	15	22.4:1	50	5	DC-5B
QGA 29	P.P. 6F6, 6V6, 6AQ5, 7C5, 7B5, 6AR5, 6K6, 6L6 to Universal 500 ohm line.	10,000 split	U-500	+42	15	4.47:1	40	4	DC-5B
QGA 30	As above to Universal voice coil.	10,000 split	U-16	+42	15	25:1	40	4	DC-5B
QGA 31	P.P. 807, 1614, KT-66, (Williamson Amplifier) to Universal 500 ohm line.	10,000 split	U-500	+45.5	36	4.47:1	60	6	DC-6A
QGA 32	As above to Universal voice coil.	10,000 split	U-16	+45.5	36	25:1	60	6	DC-6A
QGA 33	P.P. Parallel, 6A5G, 300A to Universal 500 ohm line.	2,500 split	U-500	+45.5	36	2.24:1	100	10	DC-6A
QGA 34	As above to Universal voice coil.	2,500 split	U-16	+45.5	36	12.5:1	100	10	DC-6A
QGA 35	P.P. 6L6 or P.P. Parallel 6L6 to Universal 500 ohm line.	3,800 split	U-500	+47	50	2.75:1	140	14	DC-6B
QGA 36	As above to Universal voice coil.	3,800 split	U-16	+47	50	15.4:1	140	14	DC-6B
QGA 37	High level multiple line to Universal voice coil.	U-500	U-16	+42	15	5.6:1	0	0	DC-5B
QGA 38	High level multiple line to Universal voice coil.	U-500	U-16	+47	50	5.6:1	0	0	DC-6B
QGA 39*	5881 or 6146 Class AB1 to Universal 500 ohm line.	6,600 split	U-500	+45.5	36	3.64:1	70	7	DC-6A
QGA 40*	5881 or 6146 Class AB1 to Universal voice coil.	6,600 split	U-16	+45.5	36	20:1	70	7	DC-6A
QGA 41	6550 AB1 or 6146 AB2 to Universal 500 ohm line.	5,000 split	U-500	+50	100	3.16:1	140	14	DC-7
QGA 42	6550AB1 or 6146AB2 to Universal voice coil.	5,000 split	U-16	+50	100	17.7:1	140	14	DC-7

*These units supplied with taps for applying screen feedback
U-16 IMPEDANCES IN OHMS: 2, 4, 8, 12, 16.

U-500 IMPEDANCES IN OHMS. 50, 125, 200, C.T., 250, 330, 500 C.T.
125 and 500 ohms can be used for 150 and 600 ohms.

LOW LEVEL OUTPUT, MIXING, MATCHING TRANSFORMERS
Frequency Response 20-20,000 C.P.S. ±1.0 DB *50-20,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 16	Single plate or bridging line to Universal 500 ohm line. Shunt feed.	15,000	U-500	+18	5.5:1	70	0	0	DC-2B
QGA 17*	Single plate to Universal 500 ohm line.	15,000	U-500	+18	5.5:1	70	8	8	DC-2B
QGA 18	Push-pull triode plates to Universal 500 ohm line.	20,000 C.T.	U-500	+25	6.3:1	70	8	0.5	DC-2B
QGA 19	Mixing, low impedance microphone or line to Universal 500 ohm line.	U-500	U-500	+12	1:1	70	0	0	DC-2B
QGA 20	Line level mixing and matching.	U-500	U-500	+30	1:1	70	0	0	DC-2B
QGA 21	High mu-triode photo-cell to Universal 500 ohm line.	100,000	U-500	+12	14.1:1	70	0	0	DC-2B

DRIVER TRANSFORMERS
Frequency Response 20-20,000 C.P.S. ±1.0 DB

Catalog No.	Application	Primary Impedance Ohms	Maximum Power Level DBM	Turn Ratio Pri.: ½ Sec.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 22	Universal 500 ohm line to Class B grids.	U-500	+40	1:1	0	0	DC-4A
QGA 23	Push-pull 6J5, etc. to push-pull 2A3's, 6L6's, etc.	20,000 C.T.	+30	3.2:1	8	0.5	DC-2B
QGA 24	Push-pull 2A3, 6B4 to push-pull 809, 12-40, 4/125A.	5,000 C.T.	+40	3.1:1	50	5	DC-4B

See Freed Price Pages 1441-1443
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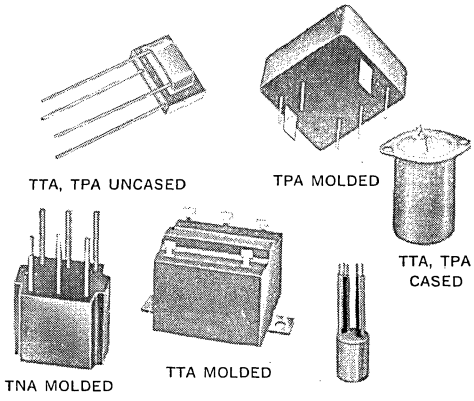
FREED TRANSFORMER CO., INC.

MINIATURE TRANSISTOR AUDIO TRANSFORMERS

These high quality miniature transformers are high efficiency audio components featuring hermetic sealing for maximum protection against electrolysis and subsequent corrosion of fine wires caused by moisture penetration. The units are constructed in accordance with MIL-T-27A Specifications. Transistor transformers can also be supplied in an open or encapsulated type of construction.

TYPE		TSA			TNA			TPA			TTA		
MAX. POWER		500 MW			1 W			3 W			5 W		
FREQ. RESPONSE		.3 — 15 KC ± 2DB			.2 — 15 KC ± 2 DB			.15 — 15 KC ± 2 DB			.15 — 15 KC ± 2 DB		
SIZE	UNCASED	—			—			¾ x 1⅝₂ x ¾			1⅞ x 1⅜ x 1⅜		
	CASED MIL-T-27A-4RX	¾ D., 1⅝₂ H.			¾ D. x 2⅝₂ H.			1⅜ D. x 1⅜ H.			1⅜ D. x 1⅜ H.		
	MOLDED MIL-T-27A-5RX	½ D. x ½ H.			1⅝₂ x 1⅝₂ x 1⅝₂			⅞ x 2⅝₂ x 1⅝₂			1⅝₂ x 1 x 2⅝₂		
MATCHING IMP. Pri.	MATCHING IMP. Sec.	Cat. No.	Max. I (MA) Total Pri.	Max I dc (MA) Unbal. ½ Pri.	Cat. No.	Max. I (MA) Total Pri.	Max I dc (MA) Unbal. ½ Pri.	Cat. No.	Max. I (MA) Total Pri.	Max I dc (MA) Unbal. ½ Pri.	Cat. No.	Max. I (MA) Total Pri.	Max I dc (MA) Unbal. ½ Pri.
150 (CT)	3.2	28	35	12	28	40	16	30	45	20	15	130	50
150 (CT)	12	29	35	12	29	40	16	31	45	20	17	130	50
150 (CT)	50	30	35	12	30	40	16	32	45	20	18	130	50
300 (CT)	3.2	31	30	8	31	32	14	33	35	16	20	100	35
300 (CT)	12	32	30	8	32	32	14	34	35	16	21	100	35
300 (CT)	50	33	30	8	33	32	14	35	35	16	22	100	35
500 (CT)	500	34	20	6	34	22	10	36	25	12	1	80	25
600 (SP)	3.2	1	16	6	1	18	8	1	20	10	23	65	25
600 (SP)	12	2	16	6	2	18	8	2	20	10	24	65	25
600 (SP)	50	35	16	6	35	18	8	3	20	10	25	65	25
600 (SP)	600 (SP)	3	16	6	3	18	8	4	20	10	26	65	25
600 (SP)	1.2K (CT)	22	16	6	22	18	8	37	20	10	7	65	25
1K (CT)	3.2	36	14	4	36	15	6	38	16	8	19	50	20
1K (CT)	12	37	14	4	37	15	6	39	16	8	27	50	20
1K (CT)	50	26	14	4	26	15	6	40	16	8	13	50	20
1.2K (SP)	3.2	4	12	4	4	14	6	5	16	8	28	40	15
1.2K (SP)	12	5	12	4	5	14	6	6	16	8	29	40	15
1.2K (SP)	50	38	12	4	38	14	6	7	16	8	30	40	15
1.2K (SP)	600 (SP)	6	12	4	6	14	6	8	16	8	31	40	15
2K (SP)	3.2	7	9	3	7	10	5	9	14	6	10	25	12
2K (SP)	12	8	9	3	8	10	5	10	14	6	32	25	12
2K (SP)	600 (SP)	9	9	3	9	10	5	11	14	6	33	25	12
4K (SP)	3.2	10	6.5	2	10	8	3	12	9	4	11	20	10
4K (SP)	12	11	6.5	2	11	8	3	13	9	4	34	20	10
4K (SP)	600 (SP)	12	6.5	2	12	8	3	14	9	4	9	20	10
10K (SP)	3.2	13	5	1	13	6	2	15	7	3	35	15	9
10K (SP)	12	14	5	1	14	6	2	16	7	3	36	15	9
10K (SP)	50	39	5	1	39	6	2	17	7	3	37	15	9
10K (SP)	600 (SP)	15	5	1	15	6	2	18	7	3	38	15	9
10K	1K	40	5	1	40	6	1.5	19	7	1.8	39	15	5
10K	10K (SP)	16	5	1	16	6	1.5	20	7	1.8	40	15	5
20K (CT)	50	25	2.5	.8	25	3	1	21	5	2	12	8	6
20K (CT)	600 (CT)	41	2.5	.8	41	3	1	22	5	2	16	8	6
25K (CT)	600 (CT)	23	2.5	.8	23	3	1	23	5	2	8	6	4
25K (CT)	1.2K (CT)	21	2.5	.8	21	3	1	24	5	2	5	6	4
50K (CT)	6 (CT)	18	2	.6	18	2.5	1	25	3.5	1	3	5	3
50K (CT)	500 (CT)	17	2	.6	17	2.5	1	26	3.5	1	2	5	3
50K (CT)	1.2K (CT)	20	2	.6	20	2.5	1	27	3.5	1	6	5	3
100K (CT)	1K (CT)	27	2	.4	27	2	.8	28	2	1	14	4	2
100K (CT)	1.2K (CT)	19	2	.4	19	2	.8	29	2	1	4	4	2



TYPE		TUA
MAX. POWER		500 MW
FREQ. RESPONSE		.4 — 15 KC ± 2 DB
SIZE	UNCASED	—
	CASED MIL-T-27A-4RX	1⅝₂ D. x ½ H.
	MOLDED	—

MATCHING IMP. Pri.	MATCHING IMP. Sec.	Cat. No.	Max. I (MA) Total Pri.	Max. I dc (MA) Unbal. ½ Pri.	MATCHING IMP. Pri.	MATCHING IMP. Sec.	Cat. No.	Max. I (MA) Total Pri.	Max. I dc (MA) Unbal. ½ Pri.
150 (CT)	3.2	16	15	10	2K (CT)	3.2	28	3.5	2.5
150 (CT)	12	17	15	10	2K (CT)	12	29	3.5	2.5
150 (CT)	50	21	15	10	2K (CT)	600	30	3.5	2.5
300 (CT)	3.2	20	9	7	4K (CT)	3.2	8	3.5	1.5
300 (CT)	12	19	9	7	4K (CT)	12	9	3.5	1.5
300 (CT)	50	22	9	7	4K (CT)	600	10	3.5	1.5
500 (CT)	500	23	7	5	10K (CT)	3.2	7	2	1
600 (CT)	3.2	1	7	5	10K (CT)	12	11	2	1
600 (CT)	12	2	7	5	10K (CT)	50	12	2	1
600 (CT)	50	13	7	5	10K (CT)	600	15	2	1
600 (CT)	600	3	7	5	10K (CT)	1K	18	2	1
600 (CT)	1.2K	24	7	5	10K	10K (CT)	31	2	1
1K (CT)	3.2	4	6	3.5	20K (CT)	50	32	2	.8
1K (CT)	12	25	6	3.5	20K (CT)	600 (CT)	33	2	.8
1K (CT)	50	14	6	3.5	25K (CT)	600 (CT)	34	2	.8
1.2K (CT)	3.2	26	6	3.5	25K (CT)	1.2K (CT)	35	2	.8
1.2K (CT)	12	5	6	3.5	50K (CT)	6 (CT)	36	2	.6
1.2K (CT)	50	27	6	3.5	50K (CT)	500 (CT)	37	2	.5
1.2K (CT)	600	6	6	3.5	50K (CT)	1.2K (CT)	38	2	.5

CT = Center Tap. SP = Split Winding.

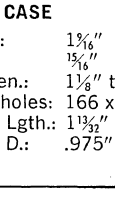
MINIATURE AUDIO TRANSFORMERS

These high quality, miniature transformers feature hermetically sealing for maximum protection from moisture penetration with subsequent electrolysis and corrosion of fine wires. While primarily intended for non-military equipment, these units are constructed in accordance with MIL-T-27A Specifications.

Frequency response: ± 2DB 30-20,000 CPS *± 2DB 200-10,000 CPS.

Catalog No.	Application	MIL Type	Impedance Level Ohms Primary	Impedance Level Ohms Secondary	Max. Power Level DBM	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
PMA 1	Line or microphone to single or push-pull grids.	TF4RX10YY	50/200/500	60,000 C.T.	+8	1:11		0	0	DM-20
PMA 2	Dynamic microphone or speaker voice coil to single or P.P. grid.	TF4RX10YY	4/8	60,000 C.T.	+8	1:86.6		0	0	DM-20
PMA 3	Line or microphone to single or push-pull grids. Magnetically shielded.	TF4RX10YY	50/200/500	60,000 C.T.	+8	1:11	30	0	0	DM-20
PMA 4	Single triode plate to single or push-pull grids.	TF4RX10YY	15,000	60,000 C.T.	+8	1:2		0	0	DM-20
PMA 5*	Single triode plate to push-pull grids.	TF4RX12YY	15,000	60,000 C.T.	+8	1:2		2	2	DM-20
PMA 6	Single triode plate to multiple line.	TF4RX16YY	15,000	50/200/500	+8	5.48:1		0	0	DM-20
PMA 7*	Single triode plate to multiple line.	TF4RX12YY	15,000	50/200/500	+8	5.48:1		2	2	DM-20
PMA 8	Push-pull triode plates to multiple line.	TF4RX12YY	30,000 C.T.	50/200/500	+8	7.75:1		2	0.25	DM-20
PMA 9	Crystal mike or pickup to multiple line.	TF4RX16YY	60,000 C.T.	50/200/500	+8	11:1		0	0	DM-20
PMA 10	Mixing or matching.	TF4RX16YY	50/200	50/200/500	+8	1:1.50		0	0	DM-20
PMA 11	Parallel Feed Reactor.	TF4RX20YY	40 hy, 3 ma dc, 3500 ohms d.c. resistance							DM-20
PMA 12	Microphone or line to grid.	TF4RX10YY	50/200/500	60,000 C.T.	+5	1.11		0	0	DM-20
PMA 13	Mixing and matching.	TF4RX16YY	150/600	600 C.T.	+8	1.1		0	0	DM-20
PMA 14	Single triode plate to push-pull grids.	TF4RX15YY	15,000	95,000 Split	+5	1:2.5		0	0	DM-20
PMA 15*	Single triode plate to push-pull grids.	TF4RX15YY	15,000	95,000 Split	15	1:2.5		4	4	DM-20

CASE DIMENSIONS



DM-20 CASE

Height: 1⁹⁄₁₆″
Dia.: ¹⁵⁄₁₆″
Mtg. Cen.: 1⅛″ to 1⁷⁄₃₂″
Mtg. 2 holes: 166 x .120
Flange Lgth.: 1¹³⁄₃₂″
Flange D.: .975″

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FREED TRANSFORMER CO., INC.

MINIATURE TRANSISTOR TRANSFORMERS

These high quality miniature transformers are high efficiency audio components featuring hermetically sealing for maximum protection against electrolysis and subsequent corrosion of fine wires caused by moisture penetration. The units are constructed in accordance with MIL-T-27A Specifications.

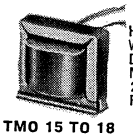
Transistor Transformers can also be supplied in an open or encapsulated type of construction

CASE DIMENSIONS

DM-01 CASE

Height: 2″
Width: 1½″
Depth: 1½″
Mtg. Cen.: 1⅛″x1⅛″
Studs: 4 6-32
Knockout: 1⅜″ dia.

UNCASED DIMENSIONS



TMO 1 TO 14

Height: 1⅜″
Width: 1¼″
Depth: 2¼″
Mtg. Cen.: 1⅜″
2 Mtg. Holes: .120 dia.
Flange Lgth: 1⅝″

TMO 15 TO 18

Height: 2³⁄₃₂″
Width: 9⁄₁₆″
Depth: 1³⁄₁₆″

TMO-19

Height: 1³⁄₁₆″
Width: 1¹⁵⁄₃₂″
Depth: 1½″
Mtg. Cen.: 1¾″
2 Mtg. Holes: ¾₁₆″ dia.
Flange Lgth: 2¹⁄₁₆″

Catalog No.	MIL Type	Impedance Ohms Pri.	Ct.	Sec.	Ct.	D.B.	Frequency Response C.P.S.	Unbalance Primary Current M.A./D.C.	D.C. Resistance Ohms Pri.	Sec.	Max. Power Output M.W.	Case No.
TMA 1*	TF4RX16YY	500		500		1	200 to 15,000	0	18	24	250	DM-20
TMA 2*	TF4RX12YY	50K		500		2	300 to 15,000	3	2,200	49	250	DM-20
TMA 3*	TF4RX13YY	50K		6		2	300 to 15,000	3	2,200	.55	250	DM-20
TMA 4*	TF4RX12YY	100K		1.2K	✓	3	300 to 15,000	1	2,790	95	100	DM-20
TMA 5*	TF4RX12YY	25K		1.2K	✓	2	200 to 15,000	3	1,740	110	250	DM-20
TMA 6*	TF4RX12YY	50K		1.2K	✓	2	300 to 15,000	3	2,200	106	250	DM-20
TMA 7*	TF4RX17YY	600/150		1.2K	✓	1	200 to 15,000	4	30	95	250	DM-20
TMA 8*	TF4RX12YY	25K		600		2	200 to 15,000	3	1,740	61	250	DM-20
TMA 9*	TF4RX12YY	4K	✓	600/150	✓	1	200 to 15,000	1	274	43	250	DM-20
TMA 10*	TF4RX13YY	2K		3.2		2	200 to 15,000	10	160	.28	250	DM-20
TMA 11*	TF4RX13YY	4K	✓	3.2		1	200 to 15,000	1	274	.26	250	DM-20
TMA 12*	TF4RX13YY	20K		50		2	300 to 15,000	4	1,340	2.9	250	DM-20
TMA 13*	TF4RX17YY	1K		50		2	300 to 15,000	8	42.6	2.5	250	DM-20
TMA 14*	TF4RX16YY	100K		1K		2	300 to 15,000	0	1,550	16.8	100	DM-20
TMO 15		20K		50		2	300 to 15,000	1	2,215	7.25	40	open
TMO 16		20K		600		2	300 to 15,000	1	2,215	102	40	open
TMO 17		1K		50		2	300 to 15,000	3	93	5.6	60	open
TMO 18		100K		1K		2	300 to 15,000	0	3,000	57.5	100	open
TMA 19*	TF4RX13YY	1K		3.2		2	200 to 15,000	20	38	.19	1000	DM-01

*When ordering open units specify TMO -- when ordering encapsulated units specify TMC.

PROFESSIONAL GRADE COMPONENTS

This group of components has been designed for use in high fidelity and professional equipment and for public address service. Freed has developed this series of units employing the latest design techniques and the best commercially available materials. Except for units carrying unbalanced direct current the frequency response is ± 1 DB from 30 to 15,000 cps. All units feature excellent performance characteristics with minimum size and weight.

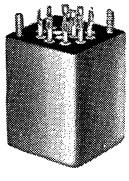
All units are vacuum varnished and then potted in compound to insure long life and trouble free performance.

Professional Grade components are supplied cased. Upon request these units can be supplied open or in shell type construction.

All cased Professional Grade Components supplied with terminals meet "EIA" standards.

Transformers PGA 1 through PGA 10 are supplied in hermetically sealed cases.

CASE DIMENSIONS



DM-01 CASE

Height: 2¼″
Width: 1½″
Depth: 1½″
Mtg. Cen.: 1⅛″x1⅛″
Studs: 2 6-32
Knockout: 1⅜″ dia.

DC-1A CASE

Height: 2½″
Width: 2⅛″
Depth: 1¹³⁄₁₆″
Mtg. Cen.: 1½″x1¼″
Studs: 4 8-32

DC-2A CASE

Height: 3″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32

INPUT TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
PGA 1	Universal 500 ohm line to single grid.	U-500	50,000	+12	1:10	50	0	0	DM-01
PGA 2	Universal 500 ohm line to push-pull grids.	U-500	60,000 split	+12	1:11	50	0	0	DM-01
PGA 3	Universal 500 ohm line to push-pull grids.	U-500	100,000 split	+12	1:14.1	50	0	0	DM-01
PGA 4	Bridging line to single grid.	10,000	60,000	+12	1:2.45	50	0	0	DM-01
PGA 5	Bridging line to push-pull grids.	10,000	60,000 center tap	+12	1:2.45	50	0	0	DM-01
PGA 6	Low level line matching.	U-500	U-500	+18	1:1	50	0	0	DM-01

LOW LEVEL OUTPUT AND MIXING TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Ratio	Max. Pri. D.C. Per Side Ma.	D.C. Unbalance Ma.	Case Number
PGA 7	Single triode plate to Universal 500 ohm line. Shunt feed.	15,000	U500	+18	5.48:1	0	0	DM-01
PGA 8	Single triode plate to Universal 500 ohm line.	15,000	U500	+18	5.48:1	8	8	DM-01
PGA 9	Push-pull triode plates to Universal 500 ohm	20,000 CT	U500	+30	6.32:1	8	0.5	DM-01
PGA 10	Low level line matching.	U500	U500	+18	1:1	0	0	DM-01

U-500 IMPEDANCES IN OHMS: 50, 125, 200 CT, 250, 330, 500 CT. 125 and 500 ohms can be used for 150 and 600 ohms.

DRIVER TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No.	Application	Primary Impedance Ohms	Turn Ratio Pri: ½ Sec.	Max. Level DBM	Max. Pri. D.C. Per Side Ma.	Max. D.C. Unbalance Ma.	Case Number
PGA 11	Universal 500 ohm line to push-pull grids.	U500	1:1	+40	0	0	DC-2A
PGA 12	Push-pull 6C4, 6SN7 triodes to push-pull 2A3, 6L6 grids.	20,000 C.T.	3.0:1	+30	10	1	DC-1A
PGA 13	Push-pull 2A3, 6B4, 6A5G to push-pull 809, TZ-40, 4/125A	5,000 C.T.	3.2:1	+40	50	5	DC-2A

All units supplied with leads.

See Freed Price Pages 1441-1443

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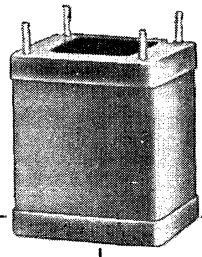
FREED TRANSFORMER CO., INC.

PROFESSIONAL GRADE COMPONENTS

CASE DIMENSIONS



DC-1A CASE
Height: 2½″
Width: 2 1/16″
Depth: 1 13/16″
Mtg. Cen.: 1½″x1¼″
Studs: 4 8-32
Knockout: 1¼″ dia.

DC-4A CASE
Height: 3¾″
Width: 3⅛″
Depth: 3″
Mtg. Cen.: 2½″x2½″
Studs: 4 8-32
Knockout: 2″x1¾″

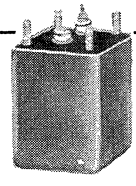
DC-2A CASE
Height: 3″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32
Knockout: 1½″x1⅜″

DC-5A CASE
Height: 3⅞″
Width: 4⅛″
Depth: 3½″
Mtg. Cen.: 3⅛″x2⅝″
Studs: 4 10-32
Knockout: 2½″x2″

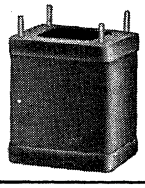
DC-2B CASE
Height: 3½″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32
Knockout: 1½″x1⅜″

DC-6A CASE
Height: 4⅞″
Width: 5″
Depth: 4⅛″
Mtg. Cen.: 3¾″x3″
Studs: 4 10-32
Knockout: 3″x2½″

CASE DIMENSIONS



DM-01 CASE
Height: 2″
Width: 1½″
Depth: 1½″
Mtg. Cen.: 1 1/16″x1 1/16″
Studs: 4 6-32



DC CASE STYLE

DC-2B
Height: 3½″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32

DC-1A
Height: 2½″
Width: 2 1/16″
Depth: 1 13/16″
Mtg. Cen.: 1½″x1¼″
Studs: 4 8-32

DC-4A
Height: 3¾″
Width: 3⅛″
Depth: 3″
Mtg. Cen.: 2½″x2½″
Studs: 4 8-32

DC-2A
Height: 3″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″x1¾″
Studs: 4 8-32

DC-5A CASE
Height: 3⅞″
Width: 4⅛″
Depth: 3½″
Mtg. Cen.: 3⅛″x2⅝″
Studs: 4 10-32

DC-5B
Height: 4½″
Width: 4⅛″
Depth: 3½″
Mtg. Cen.: 3⅛″x2⅝″
Studs: 4 10-32

HIGH LEVEL OUTPUT TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Maximum Power Level DBM	Watts	Ratio	Max. Pri. D.C. Per Side Ma	DC Unbalance Ma	Case Number
PGA 14	P.P. 6K6, 6AR5, 7B5 Class A to Universal voice coil.	12,000 C.T.	U16	+40	10	27.4:1	40	4	DC-2B
PGA 15	P.P. 6F6 Cl. AB_2, P.P. 6V6, 6AQ5, 7C5, Cl. AB_1, 6L6 or 5881 Triode to Universal voice coil.	10,000 C.T.	U16	+43	20	25:1	50	5	DC-4A
PGA 16	P.P. 6L6 Cl. AB_2, self bias to Universal 500 ohm line.	9,000	U500	+44.8	30	4.23:1	50	5	DC-4A
PGA 17	As above to Universal voice coil.	9,000	U16	+44.8	30	23.7:1	50	5	DC-4A
PGA 18	P.P. 6N7 Cl. B, P.P. 6V6, 6AQ5, 7C5, Cl. AB_1 to Universal voice coil.	8,000 C.T.	U16	+41.8	15	22.3:1	45	5	DC-4A
PGA 19*	P.P. 6L6, fixed bias, Cl. AB_1, to Universal 500 ohm line.	6,600 C.T.	U500	+44.8	30	3.63:1	70	7	DC-4A
PGA 20	As above to Universal voice coil.	6,600 C.T.	U16	+44.8	30	20.3:1	70	7	DC-4A
PGA 21	P.P. 6L6 Cl. A, P.P. 2A3, 6A5G, 6B4 self bias P.P. Par. 6V6 Cl. AB_1 to Universal voice coil.	5,000 C.T.	U16	+43	20	17.7:1	80	8	DC-4A
PGA 22	P.P. Par 6L6 Cl. AB_1, self bias P. P. 6L6 Cl. AB_2 fixed bias PP807 Cl. AB_2 to Universal 500 ohm line.	4000 C.T.	U500	+47	50	2.83:1	100	10	DC-5A
PGA 23	As above to Universal voice coil.	4000 C.T.	U16	+47	50	15.8:1	100	10	DC-5A
PGA 24	P.P. 6A5G, 6B4, 2A3, fixed bias Universal voice coil.	3000 C.T.	U16	+41.8	15	13.7:1	75	7.5	DC-4A
PGA 25	P.P. Par. 807 Cl. AB_2 to Universal 500 ohm line.	2100 C.T.	U500	+51.8	150	2.05:1	240	12	DC-6A
PGA 26	P.P. Par 2A3, 6A5G, fixed bias 6B4, 300A Cl. AB_1, P.P. Par 6L6 Cl. A to Universal 500 ohm line.	1500 C.T.	U500	+44.8	30	1.73:1	180	15	DC-4A
PGA 27	As above to Universal voice coil.	1500 C.T.	U16	+44.8	30	9.7:1	150	15	DC-4A
PGA 28	Matching line to Universal voice coil.	U500	U16	+44.8	30	5.6:1	0	0	DC-4A
PGA 29	Matching line to Universal voice coil.	U500	U16	+47	50	5.6:1	0	0	DC-5A
PGA 30	Matching line to Universal voice coil.	U500	U16	+50	100	5.6:1	0	0	DC-6A

†Available with taps to apply screen feedback.

U-16 IMPEDANCES IN OHMS:
2, 4, 8, 12, 16
U-500 IMPEDANCES IN OHMS:
50, 125, 200 C.T., 250, 330, 500 C.T., 125 and 500 ohms can be used for 150 and 600 ohms.

*PGA 28, 29 & 30 supplied with terminals, all other units with leads.

A 70 volts level can be obtained for the following impedances:
500 ohms — 10 watts +40 DBM
330 ohms — 15 watts +42 DBM
250 ohms — 20 watts +43 DBM
200 ohms — 25 watts +44 DBM
125 ohms — 40 watts +46 DBM
50 ohms — 100 watts +50 DBM

FILTER REACTORS

Inductance measured at 50V, 60 cycles with rated direct current in the winding

Catalog No.	Inductance in Henries	Rated Current D.C. Ma.	D.C. Resistance Ohms	Dielectric Test Voltage VRMS	Case Number
PGC 1	40	15	2000	1000	DM-01
PGC 2	12	40	400	1000	DC-1A
PGC 3	8	50	300	1000	DC-1A
PGC 4	20	50	425	2500	DC-2A
PGC 5	10	70	250	2500	DC-2A
PGC 6	6	100	160	2500	DC-2A
PGC 7	6	150	115	2500	DC-2B
PGC 8	10	150	160	2500	DC-4A
PGC 9	5.5	200	95	2500	DC-4A
PGC 10	10	200	150	2500	DC-4A
PGC 11	10	250	135	2500	DC-5B
PGC 12	8	300	95	2500	DC-5B
PGC 13	7	400	60	2500	DC-5B
		PARALLEL FEED	AUDIO CHOKES		
PGC 14	100	10	3500	1000	DM-01
PGC 15	30	50	650	1500	DC-2A
PGC 16	400	1	6000	1000	DM-01

SWINGING INPUT REACTORS

Catalog No.	Inductance in Henries*	Rated Current D.C. Ma.	D.C. Resistance Ohms	Dielectric Test Voltage VRMS	Case Number
PGC 17	5-20	150	160	1500	DC-4A
PGC 18	5-20	250	135	1500	DC-5B
PGC 19	3-15	300	95	1500	DC-5B
PGC 20	3-15	400	60	1500	DC-5B

*Inductance values for 100% and 10% of rated Direct Current.

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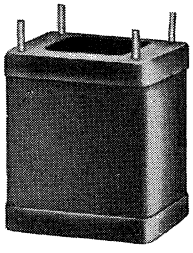
FREED TRANSFORMER CO., INC.

PROFESSIONAL GRADE COMPONENTS



DC-2B	DC-5B
Height: 3½"	Height: 4½"
Width: 2⅝"	Width: 4⅛"
Depth: 2¼"	Depth: 3½"
Mtg. Cen.: 2"x1¾"	Mtg. Cen.: 3⅛"x2⅝"
Studs: 4 8-32	Studs: 4 10-32
DC-4A	**DC-6A CASE**
Height: 3¾"	Height: 4⅞"
Width: 3⅛"	Width: 5"
Depth: 3"	Depth: 4⅛"
Mtg. Cen.: 2½"x2½"	Mtg. Cen.: 3¾"x3"
Studs: 4 8-32	Studs: 4 10-32
DC-5A CASE	**DC-7B CASE**
Height: 3⅞"	Height: 6¾"
Width: 4⅛"	Width: 5½"
Depth: 3½"	Depth: 5"
Mtg. Cen.: 3⅛"x2⅝"	Mtg. Cen.: 4⅜"x3¾"
Studs: 4 10-32	Studs: 4½-20

POWER TRANSFORMERS

ALL PRIMARIES ARE FOR 115V., 50/60 c.p.s. **Temperature rises range from 45° to 50°C.**

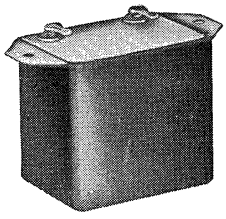
Catalog No.	Py Va	Hi Volt	Choke Input D.C.V.	Choke Input D.C. Ma	Con. Input D.C.V.	Con. Input D.C. Ma.	Bias Tap.	Rectifier	Fil. No. 1	Fil. No. 2	Fil. No. 3	Case No.
PGP 1	15	440V C.T.	Low flux density, hum-bucking. For Preamplifier service.		270	15		6X4	6.3VCT @ 0.6A	6.3V @ 0.3A		DC-2B
PGP 2	30	550V C.T.	Low flux density, hum-bucking. For Preamplifier service.		310	35		6X4	6.3VCT @ 0.6A	6.3VCT@0.9A		DC-4A
PGP 3	45	500V C.T.			270	40		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 2A		DC-4A
PGP 4	57	600V C.T.			330	50		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 2.5A		DC-4A
PGP 5	64	650V C.T.			370	50		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 3A		DC-4A
PGP 6	73	600V C.T.			320	70		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 3A		DC-4A
PGP 7	110	650V C.T.	225	140	330	100		5Y3, 5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 8	76	700V C.T.	260	100	385	70		5Y3	5V @ 2A	6.3V @ 2.5A		DC-5A
PGP 9	108	700V C.T.	250	125	370	90		5Y3, 5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 10	127	700V C.T.	260	170	350	120		5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 11	146	700V C.T.	260	210	350	150		5U4	5V @ 3A	6.3V @ 5A	6.3V @ 1A	DC-6A
PGP 12	207	800V C.T.	295	280	400	200		5U4, 2-5Y3	5V @ 4A	6.3V @ 6A		DC-6A
PGP 13	225	800V C.T.	295	280	400	200	80	5U4, 2-5Y3	5V @ 4A	6.3V @ 6A	5/6.3V @ 2A	DC-6A
PGP 14	268	840V C.T.	330	350	450	250	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	DC-6A
PGP 15	320	900V C.T.	340	420	490	300	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	DC-7B
PGP 16	127	900V C.T.	360	150				5U4	5V @ 3A	6.3V @ 5A		DC-6A
PGP 17	150	900V C.T.	350	200				5U4	5V @ 3A	6.3V @ 5A		DC-6A
PGP 18	203	1100V C.T.	400	250				5R4GY	5V @ 3A	6.3V @ 5A		DC-6A
PGP 19	248	1100V C.T.	420	300				2-5R4GY	5V @ 4A	6.3V @ 7A		DC-6A
PGP 20	310	1280V C.T.	480	350				2-5R4GY	5V @ 4A	6.3V @ 7A		DC-7B

All units supplied with leads.

PQC HIGH Q REACTORS

PQC-Reactors are low-priced High Q components designed for use in selective circuits such as wave filters, wave traps, and noise suppressors.

CASE DIMENSIONS



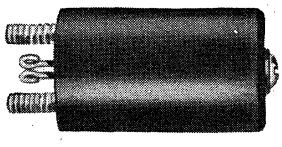
DM-02 CASE
Height: $1\frac{21}{32}$"
Width: $1\frac{21}{32}$"
Depth: $1\frac{13}{32}$"
Flange L: 2⅜"
Mtg. Cen.: 2"

Catalog No.	Application	Rated Ind. in Henries	Q	Tuning Capacitor (MF)	Case Size
PQC 1	60 cps resonant trap	14.00	10	.5	DM-02
PQC 2	400 cps resonant trap	1.58	15	.1	DM-02
PQC 3	1000 cps resonant trap	1.00	20	.025	DM-02
PQC 4	Dynamic noise suppression inductor	2.40	20 @ 4 KC		DM-02
PQC 5	Dynamic noise suppression inductor	2.00	15 @ 4 KC		DM-02
PQC 6	Dynamic noise suppression inductor	1.30	15 @ 4 KC		DM-02
PQC 7	Dynamic noise suppression inductor	.80	15 @ 4 KC		DM-02
PQC 8	Dynamic noise suppression inductor	.60	15 @ 4 KC		DM-02
PQC 9	Dynamic noise suppression inductor	.40	15 @ 4 KC		DM-02

MINIATURE VARIABLE HIGH FREQUENCY INDUCTORS

- Continuous variation of inductance
- Q practically constant over whole range of variation
- Hermetically sealed
- Inductances other than those listed can be supplied to special order

CASE DIMENSIONS



VI-1
Height: 1"
Diameter: ¾"
2 Studs: 4-40
Mtg. Cen.: ⅜"

Catalog No.	Test Freq. (MC)	Inductance Min.	Inductance Max.	Variations of Q @ L Min.	Variations of Q @ L Max.	RDC (Ω) Nominal	Self Res. Freq. (MC) @ L Max.	Max. Non Destruct Current (MA)	Case Size
VHI-1	.1	1.1 MH	1.75 MH	93.5	100.5	.75	2.2	250	VI-1
VHI-2	.1	1.7 MH	2.5 MH	94.5	96.5	1.1	1.9	200	VI-1
VHI-3	.1	2.3 MH	3.7 MH	94.5	97.2	1.4	1.6	200	VI-1
VHI-4	.1	3. MH	4.5 MH	100.7	101.7	1.9	1.4	160	VI-1
VHI-5	.1	4. MH	5.7 MH	107.	108.	2.2	1.3	160	VI-1
VHI-6	.1	5.5 MH	7.5 MH	112.	119.	3.1	1.	130	VI-1
VHI-7	.1	7. MH	10.5 MH	116.	120.5	4.5	.9	100	VI-1
VHI-8	.1	10. MH	15. MH	106.	109.	6.6	.85	80	VI-1
VHI-9	.1	14.5 MH	20.5 MH	101.	101.5	9.2	.6	60	VI-1
VHI-10	.1	20. MH	30. MH	105.	115.	13.7	.55	50	VI-1
VHI-11	1.	9.50 μH	11.0 μH	104.	114.	.24	>10	150	VI-1
VHI-12	1.	14.0 μH	15.6 μH	113.	127.	.29	>10	150	VI-1
VHI-13	1.	24.5 μH	28.0 μH	145.	156.	.37	>10	150	VI-1
VHI-14	1.	47.0 μH	52.0 μH	178.	195.	.46	>10	150	VI-1
VHI-15	.5	71.0 μH	79.5 μH	152.	168.	.56	>10	150	VI-1
VHI-16	.5	94.0 μH	105.0 μH	165.	173.	.64	>10	150	VI-1
VHI-17	.5	145.0 μH	165.0 μH	200.	222.	.75	9.7	150	VI-1
VHI-18	.5	191.0 μH	218.0 μH	204.	229.	.9	9.4	150	VI-1
VHI-19	.5	234.0 μH	265.0 μH	216.	238.	1.0	8.3	150	VI-1
VHI-20	.5	279.0 μH	318.0 μH	219.	236.	1.1	7.	150	VI-1
VHI-21	.5	380.0 μH	416.0 μH	216.	230.	1.3	6.5	150	VI-1
VHI-22	.5	480.0 μH	545.0 μH	220.	237.	1.5	7.	150	VI-1

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FREED TRANSFORMER CO., INC.

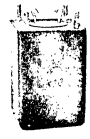
HIGH "Q" REACTORS

QGC—are hermetically sealed, MIL-T-27A, Grade 4, Class R, High Q Reactors for low audio frequency application with an excellent inductance stability with variations of A.C. and D.C. currents, frequencies and temperatures.

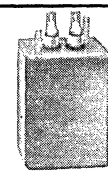
SPECIAL REACTORS:

(1) with a center tap
(2) with a split winding
(3) with inductances other than those listed can be supplied.

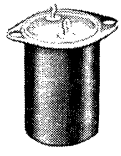
DC-2A CASE
Height: 3″
Width: 2⅝″
Depth: 2¼″
Mtg. Cen.: 2″ x 1¾″
Studs: 4 8-32
Knockout: 1½″ x 1⅜″



AJ CASE
Height: 2⅜″
Width: 1⅝″
Depth: 1⅝″
Mtg. Cen: 1 3/16″ x 1 3/16″
Studs: 4 6-32

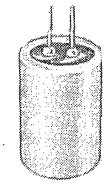


AH CASE
Height: 1¾″
Width: 1 5/16″
Depth: 1 5/16″
Mtg. Cen.: 1¼″
Studs: 2 6-32



DM-20 CASE
Height: 1 1/16″
Diameter: 15/16″
Flange L: 1 13/32″
Flange D: 0.975″
Mtg. Cen.: 1⅛″ x 1 7/32″
2 Slots: .166″ x .120″
Knockouts: .875″

DM-30 CASE
Height: 2 9/32″
Diameter: 15/16″
Flange L: 1 13/32″
Flange D: 0.975″
Mtg. Cen.: 1⅛″ to 1 7/32″
2 Slots: .166″ x .120″
Knockouts: .875″



DM-40 CASE
Height: 2 1/32″
Diameter: 9/16″
Pig Tails:

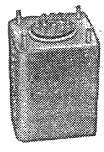
Catalog No.	Ind. H (±2%)	Ω/H Max.	Max. Norm DC*	Max. Norm AC**	Self Res. Freq. ±25%	Case	"Q" Max.	@ Freq.
QGC-1	100						40	250
QGC-2	75						48	280
QGC-3	50						51	300
QGC-4	25	20	85	0.58	$Fo = 22/\sqrt{LH}$	DC-2A	53	320
QGC-5	10						58	350
QGC-6	5						59	400
QGC-7	1						60	400
QGC-8	75						32	600
QGC-9	50						37	600
QGC-10	25						39	700
QGC-11	10	55	60	0.5	$Fo = 7.2/\sqrt{LH}$	AJ	43	700
QGC-12	5						46	700
QGC-13	1						53	800
QGC-14	50						29.5	500
QGC-15	25						31.5	500
QGC-16	10	70	40	0.25	$Fo = 35/\sqrt{LH}$	AH	32	600
QGC-17	5						33	600
QGC-18	1						36	700
QGC-19	10						23	700
QGC-20	7.5						23	730
QGC-21	5	110	15	0.15	$Fo = 34/\sqrt{LH}$	DM-20	24	730
QGC-22	2.5						24	750
QGC-23	1						25	750
QGC-24	.5						25	750
QGC-25	5						23	1500
QGC-26	2.5						23	1550
QGC-27	1						24	1600
QGC-28	.75	250	13	0.11	$Fo = 35/\sqrt{LH}$	DM-30	24	1650
QGC-29	.5						24	1700
QGC-30	.2						25	1750
QGC-31	.1						25	1800
QGC-32	2						15	1500
QGC-33	1.5						15	1500
QGC-34	1						15	1800
QGC-35	.75						15	1800
QGC-36	.5						16	2000
QGC-37	.25	500	10	0.04	$Fo = 45/\sqrt{LH}$	DM-40	16	2000
QGC-38	.1						16	2000
QGC-39	.075						17	2200
QGC-40	.05						17	2200
QGC-41	.025						17	2500
QGC-42	.01						17	2500

*Max. Norm. D.C. = I D.C. (MA) $\sqrt{LH}$ } at which the inductance
**Max. Norm. A.C. = V/F ~ $\sqrt{LH}$ } will decrease by 20%.

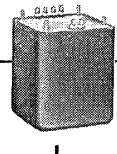
STANDARD MILITARY TRANSFORMERS

The group comprises audio and power units designed to meet MIL-T-27 A specifications.
The functional characteristics of these transformers were established by the Armed Service Standardization Program. These units are supplied in standard MIL cases.

CASE DIMENSIONS



AJ CASE
Height: 2⅜″
Width: 1⅝″
Depth: 1⅝″
Mtg. Cen.: 1 3/16″x1 3/16″
Studs: 4 6-32
Cut Out: 1⅛″ D



HA CASE
Height: 4¼″
Width: 3 1/16″
Depth: 2⅝″
Mtg. Cen.: 2 19/64″x1 55/64″
Studs: 4 8-32

LB CASE
Height: 4½″
Width: 4 5/16″
Depth: 3 1/16″
Mtg. Cen.: 3 5/16″x2 11/16″
Studs: 4 10-32

JB CASE
Height: 3⅞″
Width: 3 9/16″
Depth: 3 1/16″
Mtg. Cen.: 2 5/8″x2⅛″
Studs: 4 8-32

MB CASE
Height: 4 15/16″
Width: 4 11/16″
Depth: 4″
Mtg. Cen.: 3 11/16″x3″
Studs: 4 ¼-20

KB CASE
Height: 4 5/16″
Width: 3 15/16″
Depth: 3⅜″
Mtg. Cen.: 3″x2 7/16″
Studs: 4 10-32

NB CASE
Height: 5½″
Width: 5 1/16″
Depth: 4 5/16″
Mtg. Cen.: 4 1/16″x3 5/16″
Studs: 4 ¼-20

Transformers meeting MIL-T-27A specifications Grade 1 through 6 with temperature characteristics of Class S, T, or U can be supplied on special order.
Encapsulated units using either Epoxy-Resins or Fosterite can be supplied for Grade 2 and 5.
Class U components can be supplied molded in special high temperature Freed resin.

STANDARD MILITARY AUDIO TRANSFORMERS

Frequency Response 300-10,000 C.P.S. ±2 DB

Catalog No.	Application	Type Designation	Impedance Level in Ohms Primary	Impedance Level in Ohms Secondary	Ratio	Max. Power Level DBM	Pri. D.C. Per Side in Ma	Max. D.C. unbalance	Case
MGA 1	Transformer; interstage, single or P.P. plates to single or P.P. grid	TF4RX15AJ	10,000 C.T.	90,000 split and C.T.	1:3 overall	+15	10	10	AJ
MGA 2	Transformer; matching 600 ohm line to voice coil.	TF4RX16AJ	600 split	4, 8, 16	6.12:1 overall	+33	0	0	AJ
MGA 3	Transformer; input, 600 ohm line to single or P.P. grids.	TF4RX10AJ	600 split	135,000 C.T.	1:15	+15	0	0	AJ
MGA 4	Transformer; matching, 600 ohm line to 600 ohm line.	TF4RX16AJ	600 split	600 split	1:1	+15	0	0	AJ
MGA 5	Transformer; output, single plate 7,600 ohm, 4,800 ohm to 600 ohm line.	TF4RX13AJ	7,600 tap @ 4,800	600 split	3.56:1	+33	40	40	AJ
MGA 6	Transformer; output, single plate 7,600 ohm, 4,800 ohm to voice coil.	TF4RX13AJ	7,600 tap @ 4,800	4, 8, 16	21.8:1	+33	40	40	AJ
MGA 7	Transformer; output, single or P.P. plates to 600 ohm line.	TF4RX13AJ	15,000 C.T.	600 split	5:1	+33	10	10	AJ
MGA 8	Transformer; output, P.P. plates to 600 ohm line.	TF4RX13AJ	24,000 C.T.	600 split	6.32:1	+30	10	1	AJ
MGA 9	Transformer; output, P.P. plates to 600 ohm line.	TF4RX13AJ	60,000 C.T.	600 split	10:1	+27	10	1	AJ

STANDARD MILITARY POWER TRANSFORMERS

Primary 105/115/125V 60~

SINGLE PHASE 400 CPS, AND THREE PHASE 60 AND 400 CPS TRANSFORMERS CAN BE SUPPLIED ON SPECIAL ORDER.

Catalog No.	MIL-T-27 Type Designation	Hi Volt	D.C. Volts	D.C. Amps	Fil. No. 1	Fil. No. 2	Case
MGP 1	TF4RX03HA001	200/100/0/100/200	185	.070	5/6. 3V @ 2A	6. 3V @ 3A	HA
MGP 2	TF4RX03JB002	650 C.T.	260	.070	5/6. 3V @ 2A	6. 3V @ 4A	JB
MGP 3	TF4RX03KB006	650 C.T.	245	.150	6. 3V @ 5A	5V @ 3A	KB
MGP 4	TF4RX03LB003	800 C.T.	318	.175	5V @ 3A	6. 3V @ 8A	LB
MGP 5	TF4RX03MB004	900 C.T.	345	.250	5V @ 3A	6. 3V @ 8A	MB
MGP 6	TF4RX02KB001	700 C.T.	255	.250			KB
MGP 7	TF4RX02LB002	1100 C.T.	419	.250			LB
MGP 8	TF4RX02NB003	1600 C.T.	640	.250			NB

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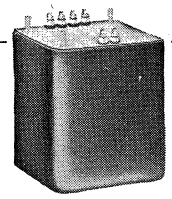
FREED TRANSFORMER CO., INC.

STANDARD MILITARY TRANSFORMERS



EB CASE
Height: 2 7/16"
Width: 1 15/16"
Depth: 1 13/16"
Mtg. Cen.: 1 3/8" x 1 1/4"
Studs: 4 6-32

FB CASE
Height: 2 1/2"
Width: 2 5/16"
Depth: 2 1/16"
Mtg. Cen.: 1 11/16" x 1 7/16"
Studs: 4 6-32

GB CASE
Height: 2 13/16"
Width: 2 3/4"
Depth: 2 3/16"
Mtg. Cen.: 2 1/8" x 1 3/4"
Studs: 4 6-32

HB CASE
Height: 3 3/16"
Width: 3 1/16"
Depth: 2 5/16"
Mtg. Cen.: 2 19/64" x 1 55/64"
Studs: 4 8-32

STANDARD MILITARY FILAMENT TRANSFORMERS

Primary 105/115/125V 60~

SINGLE PHASE 400 CPS, AND THREE PHASE 60 AND 400 CPS TRANSFORMERS CAN BE SUPPLIED ON SPECIAL ORDER.

Catalog No.	MIL-T-27 Type Designation	Secondary Volts	Secondary Current Amps	Secondary Test Volts RMS	Case
MGF 1	TF4RX01EB002	2.5	3.0	2,500	EB
MGF 2	TF4RX01GB003	2.5	10.0	2,500	GB
MGF 3	TF4RX01FB004	5.0	3.0	2,500	FB
MGF 4	TF4RX01HB005	5.0	10.0	2,500	HB
MGF 5	TF4RX01FB006	6.3	2.0	2,500	FB
MGF 6	TF4RX01GB007	6.3	5.0	2,500	GB
MGF 7	TF4RX01JB008	6.3	10.0	2,500	JB
MGF 8	TF4RX01KB009	6.3	20.0	2,500	KB
MGF 9	TF4RX01JB012	2.5	10.0	10,000	JB
MGF 10	TF4RX01KB013	5.0	10.0	10,000	KB

*Standard Military Filament and Power Transformers are also available in Grade 4.

HERMETICALLY SEALED PULSE TRANSFORMERS

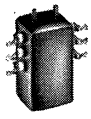
Hermetically sealed Pulse Transformers for use in blocking oscillator, low level interstage coupling, and modulator output circuits. These components meet MIL-T-27 A specifications. The pulse transformers are designed for maximum power, efficiency, and optimum pulse performance. Balanced coil structures permit series or parallel connection of windings for turn ratios other than unity. Pulse characteristics, voltages and impedance levels will depend upon the interconnections made.

CASE DIMENSIONS

DM-8 CASE
Height: 1 1/2"
Width: 1 3/32"
Flange D.: 1 1/4"

DM-01 CASE
Height: 2"
Width: 1 1/2"
Depth: 1 1/2"
Mtg. Cen.: 1 1/16" x 1 1/16"
Studs: 4 6-32
Knockout: 1 1/4 dia.

DM-20 CASE
Height: 1 9/16
Diameter: 1 1/16"
Flange L: 1 13/32"
Flange D: 0.975"
Mtg. Cen.: 1 1/8" x 1 7/32"
2 Holes: .147 wide
Knockout: .875



DM-18 CASE
Height: 1"
Width: 2 1/4"
Depth: 1 1/8"
Mtg. Cen.: 9/16"
Studs: 2 6-32

MM-1
Length: 3/4"
Diameter: 1/2"

MM-2
Length: 23/32"
Width: 23/32"
Height: 1/2"

MM-3
Length: 1 1/4"
Width: 1 1/4"
Height: 1/2"
Mtg. Cen.: 1 1/2"
Mtg. Flange: 1 11/16"

MM-4
Length: 1 13/16"
Depth: 1 1/4"
Height: 1/2"
Mtg. Cen.: 2 1/8"
Mtg. Flange: 2 1/2"

MOLDED DIMENSIONS

MMO-1
Diameter: 11/16"
Thickness: 29/64"

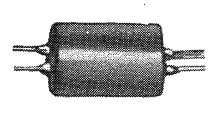
MMO-2
Diameter: 13/16"
Thickness: 19/32"

PULSE TRANSFORMERS

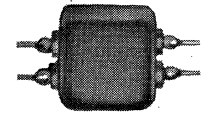
Catalog No.	MIL Type	Blocking Osc.	Interstage Coupling	Low Power Output	Pulse Voltage Kilovolts	Pulse Duration Microseconds	Duty Date	No. of Windings	Test Voltage KV., RMS	Characteristic Impedance Ohms	Case No.
MPT-1	TF4RX35YY	✓	✓		0.25/0.25/0.25	0.2-1.0	.004	3	0.7	250	DM-20
MPT-2	TF4RX35YY	✓	✓		0.25/0.25	0.2-1.0	.004	2	0.7	250	DM-20
MPT-3	TF4RX35YY	✓	✓		0.5/0.5/0.5	0.2-1.5	.002	3	1.0	250	DM-18
MPT-4	TF4RX35YY	✓	✓		0.5/0.5	0.2-1.5	.002	2	1.0	250	DM-18
MPT-5	TF4RX35YY	✓	✓		0.5/0.5/0.5	0.5-2.0	.002	3	1.0	500	DM-20
MPT-6	TF4RX35YY	✓	✓		0.5/0.5	0.5-2.0	.002	2	1.0	500	DM-20
MPT-7	TF4RX35YY	✓	✓	✓	0.7/0.7/0.7	0.5-1.5	.002	3	1.5	200	DM-18
MPT-8	TF4RX35YY	✓	✓	✓	0.7/0.7	0.5-1.5	.002	2	1.5	200	DM-18
MPT-9	TF4RX35YY	✓	✓	✓	1.0/1.0/1.0	0.7-3.5	.002	3	2.0	200	DM-18
MPT-10	TF4RX35YY	✓	✓	✓	1.0/1.0	0.7-3.5	.002	2	2.0	200	DM-18
MPT-11	TF4RX35YY	✓	✓	✓	1.0/1.0/1.0	1.0-5.0	.002	3	2.0	500	DM-01
MPT-12	TF4RX35YY	✓	✓	✓	0.15/0.15/0.3/0.3	0.2-1.0	.004	4	0.7	700	DM-8

ULTRA MINIATURE PULSE TRANSFORMERS

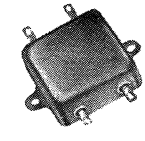
- Meet all requirements of MIL-T-27 A.
- Negligible weight.
- Exceedingly small size.
- Encapsulated or hermetically sealed.



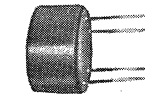
MM-1



MM-2



MM-3
MM-4



MMO-1
MMO-2

Catalog No.	MIL Type	Application	Pulse Volts	Pulse Width usec	Rise time usec	Inductance Prin. uhy	Inductance Leakage uhy	PPS. Mcs	Turns Ratio	Zo ohms	Case Des.
EPT-1	TF4RX31YY	Impedance matching & Interstage coupling	20	.07	.03	125	12	2	1:1	200	MM-1
EPT-2	TF4RX31YY		20	.07	.03	150	15	2	2:1	200	MM-1
EPT-3	TF4RX31YY		20	.07	.03	160	15	2	3:1	100	MM-1
EPT-4	TF4RX31YY		20	.07	.03	200	20	2	4:1	100	MM-1
EPT-5	TF4RX31YY		17	.10	.04	200	6	2	4:1	100	MM-1
EPT-6	TF4RX31YY		15	.10	.04	200	5	2	5:1	100	MM-1
EPT-7	TF4RX31YY		25	.50	.05	1,200	20	1	7:1:1		MM-1
EPT-8	TF4RX31YY		10	10	.04	12,000	70	.01	5:1		MM-2
EPT-9	TF4RX31YY		10	5	.04	7,500	22	.01	3:1	100	MM-2
EPT-11	TF4RX35YY	Blocking oscillator	100	.25	.02	200	2	.012	1:1		MM-1
EPT-12	TF4RX35YY		50	.33	.07	240	2	.002	1:1		MM-1
EPT-13	TF4RX35YY		40	.5	.07	6,000	15		2:1		MM-2
EPT-14	TF4RX35YY		15	6	.1	16,000	15	.0004	1:1.4		MM-2
EPT-15	TF4RX36YY	Memory core &	5	1.5	.25	4,000	300		5:5:1PP	10	MM-4
EPT-16	TF4RX36YY	Current driver	2.5	2.4	.2	2,800	200		3.3:3.3:1PP	6	MM-4
EPT-17	TF4RX32YY	Current driver	21	1.4	.22	18,000	800	.250	6:1	200	MM-3
EPT-18	TF4RX32YY	Current transformer	10	6	.2	90,000	200	.05	11:1	75	MM-3
EPT-19	TF4RX36YY	Pulse inversion	22	1.7	.25	55,000	300	.05	6:1.1	400	MM-3

When ordering encapsulated units add "M" to the catalog number.

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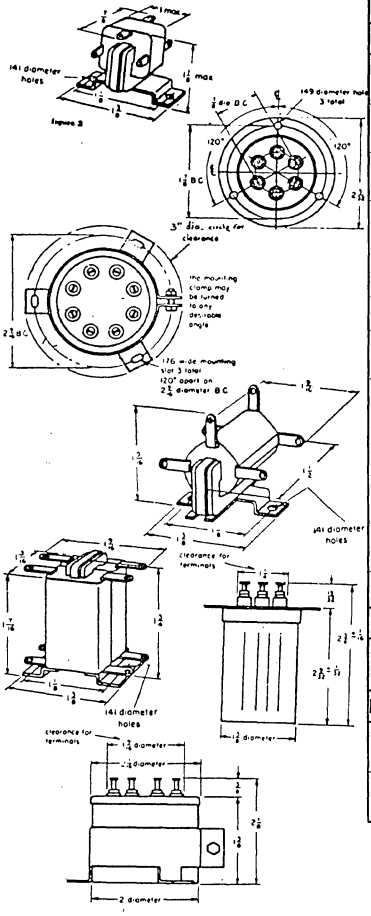
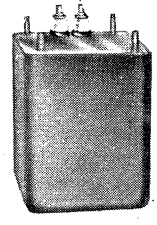
PULSE TRANSFORMERS



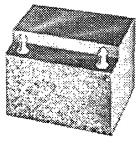
Freed No.	Radiation Laboratory No.	Westinghouse No.	Dimension Figure	GUIDANCE VALUES: Pulse Voltage (KV)	Pulse Duration (Microseconds)	Maximum Duty Ratio	Load Impedance (Ohms)	Test Voltage (60 Cycle RMS)
BLOCKING OSCILLATOR, REGENERATIVE DRIVER OR COUPLING TRANSFORMERS								
MPT-13C	132AW2	1P1	1	1.0/1.0/1.0	0.3 to 1.5	0.002	250	1000
MPT-13M	132AW2F	7P1	1					
MPT-13H	132AW2P	4P101	4					
MPT-14C	132BW2	1P2	1	0.5/0.5/0.5/0.15	0.3 to 1.5	0.002	200	1000
MPT-14M	132BW2F	7P2	1					
MPT-14H	132BW2P	4P102	5					
MPT-15C	132DW2	1P3	1	0.5/0.5/0.5	0.1 to 0.5	0.002	300	1000
MPT-15M	132DW2F	7P3	1					
MPT-15H	132DW2P	4P103	4					
MPT-16C	134BW2	1P4	3	2.5/2.5; 2.5/1.25	1 to 2.5	0.002	1500	1500
MPT-16M	134BW2F	7P4	3	1.5/1.5; 1.5/0.75	1 to 5	0.002	1500	
MPT-16H	134BW2P	4P104	5					
MPT-17C	134CW2	1P5	1	2.0/2.0/1.0	1 to 2.5	0.002	1200	1000
MPT-17M	134CW2F	7P5	1	1.5/1.5/0.75	1 to 5	0.002	1200	
MPT-17H	134CW2P	4P105	4					
MPT-18C	134EW2	1P6	2	2.0/2.0/1.0	0.3 to 1	0.002	800	750
MPT-18M	134EW2F	7P6	2	1.5/1.4/0.75	0.3 to 1.5	0.002	800	
MPT-19C	145CW2	1P7	1	0.5/0.5/0.5	1.0 to 5	0.002	500	1000
MPT-19M	145CW2F	7P7	1					
MPT-19H	145CW2P	4P107	4					
MPT-20C	145EW2	1P8	1	1.0/1.0/1.0	1.0 to 5	0.002	800	1000
MPT-20M	145EW2F	7P8	1					
MPT-20H	145EW2P	4P108	4					
MPT-21C	166AW2	1P9	1	1.0/0.67/0.67	1.0 to 5	0.002	800	1000
MPT-21M	166AW2F	7P9	1					
MPT-21H	166AW2P	4P109	4					
MPT-22C	176AW2	1P10	1	2.0/1.0/1.0	1 to 2.5	0.002	1000	1000
MPT-22M	176AW2F	7P10	1	1.5/0.75/0.75		0.002	1000	
MPT-22H	176AW2P	4P110	4					
MPT-23C	187AW2	1P11	1	1.0/0.5/0.5	0.5 to 2	0.002	400	1000
MPT-23M	187AW2F	7P11	1					
MPT-23H	187AW2P	4P111	4					
MPT-24C	224AW2	1P12	2	1.0/1.0/1.0/0.3	0.1 to 0.5	0.002	1000	750
MPT-24M	224AW2F	7P12	2					
PULSE TRIGGERING OR CURRENT TRANSFORMERS								
MPT-25C	139DW2	1P13	1		0.25 to 5	0.002		1000
MPT-25M	139DW2F	7P13	1					
MPT-25H	139DW2P	4P113	4					
PULSE OUTPUT TRANSFORMERS								
MPT-26C	148CW2	1P14	3	0.2/2.0	0.6 to 3	0.002	1600	1500
MPT-26M	148CW2F	7P14	3	0.4/2.0	0.25 to 1.25	0.002	1000	
MPT-26H	148CW2P	4P114	5	0.4/2.0	0.5 to 2.5	0.002	2000	
MPT-27C	148DW2	1P15	3	0.29/2.0	0.5 to 2.5	0.002	1200	1500
MPT-27M	148DW2F	7P15	3	0.57/2.0	0.2 to 1.0	0.002	800	
MPT-27H	148DW2P	4P115	5	0.57/2.0	0.4 to 2.0	0.002	1500	

C Indicates—varnish impregnated commercial construction.
M Indicates—encapsulated or molded construction to MIL-T-27A Grade 5 Class R.
H Indicates—hermetically sealed to MIL-T-27A Grade 4 Class R.

HERMETICALLY SEALED FILTER REACTORS



Case	Height	Depth	Width	Mtg. Centers	Studs
AJ	2 3/8	1 5/8	1 5/8	1 3/16 x 1 3/16	4 6-32
EB	2 7/16	1 13/16	1 13/16	1 3/8 x 1 1/4	4 6-32
FA	3 1/8	2 1/16	2 5/16	1 11/16 x 1 7/16	4 6-32
GA	3 13/16	2 3/8	2 1/4	2 1/8 x 1 3/4	4 6-32
HB	3 3/16	3 1/16	2 5/8	2 19/64 x 1 55/64	4 8-32
JA	3 9/16	3 1/16	4 7/8	2 5/8 x 2 1/8	4 8-32
JB	3 7/8	3 1/16	3 5/16	2 5/8 x 2 1/8	4 8-32
KB	4 5/16	3 3/8	3 15/16	3 x2 7/16	4 10-32
LA	5 5/16	3 11/16	4 5/16	3 5/16 x 2 11/16	4 10-32
LB	4 1/2	3 11/16	4 5/16	3 5/16 x 2 11/16	4 10-32
MB	4 15/16	4	4 11/16	3 11/16 x 3	4 1/4-20



MC-10 CASE
Height: 15/16"
Width: 1 1/4"
Depth: 15/16"
Mtg. Cen.: 5/16" x 7/8"
Mtg.: 2 4-40 threaded inserts

MEET MIL-T-27A SPECIFICATIONS

Catalog No.	MIL Type	Inductance Henry	Rat. Current DC Ma.	DC Res. Ohms	Test Volt Kilovolts	Case No.
MGC 1	TF4RX04AJ	100	10	3,500	1.	AJ
MGC 2	TF4RX04AJ	4	50	230	1.	AJ
MGC 3	TF4RX04EB	10	50	325	1.	EB
MGC 4	TF4RX04FA	20	50	475	1.5	FA
MGC 5	TF4RX04FA	30	50	650	1.5	FA
MGC 6	TF4RX04AJ	3	75	175	1.	AJ
MGC 7	TF4RX04EB	6	75	235	1.5	EB
MGC 8	TF4RX04FA	12	75	265	1.5	FA
MGC 9	TF4RX04EB	3.5	100	145	1.	EB
MGC 10	TF4RX04FA	8	100	180	1.5	FA
MGC 11	TF4RX04GA	12	100	190	2.	GA
MGC 12	TF4RX04EB	2	150	92	1.5	EB
MGC 13	TF4RX04FA	4	150	115	1.5	FA
MGC 14	TF4RX04GA	8	150	125	2.	GA
MGC 15	TF4RX04JB	11	150	120	2.5	JB
MGC 16	TF4RX04FA	2.5	200	70	1.5	FA
MGC 17	TF4RX04GA	4	200	80	2.	GA
MGC 18	TF4RX04HB	7	200	135	2.	HB
MGC 19	TF4RX04JA	10	200	125	2.5	JA
MGC 20	TF4RX04GA	2.5	300	50	2.	GA
MGC 21*	TF4RX04HB	4	300	62	2.5	HB
MGC 22	TF4RX04JB	6	300	85	2.5	JB
MGC 23*	TF4RX04KB	8	300	65	2.5	KB
MGC 24	TF4RX04LA	10	300	100	2.5	LA
MGC 25*	TF4RX04HB	2	400	37	2.5	HB
MGC 26	TF4RX04KB	6	400	60	2.5	KB
MGC 27*	TF4RX04JA	2	500	35	2.5	JA
MGC 28	TF4RX04KB	4	500	45	2.5	KB
MGC 29*	TF4RX04MB	7	500	50	2.5	MB
MGC 30*	TF4RX04LB	2	700	20	2.5	LB
MGC 31*	TF4RX04MB	1.75	1,000	12.5	2.5	MB

*Not stocked, available on short delivery.
Above units available in Grade 4.

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FREED TRANSFORMER CO., INC.

HERMETICALLY SEALED, MIL-T-27A, GRADE 5, CLASS S FILTER REACTORS

These reactors have a split winding for series or parallel connections.

When using two sections in parallel, double the Idc. Both inductance and resistance are divided by 4.

Catalog No.	Min. Inductance @ Idc (Series Connection)				Max. Rdc	Test Voltage	Case No.
MGC-32	3.2 H @ Odc	2.1 H @ 25 MA	1.70 H @ 35 MA	1.4 H @ 45 MA	220 Ohms	1000 V	MC-10
MGC-33	1.3 H @ Odc	1.1 H @ 50 MA	0.8 H @ 70 MA	0.5 H @ 90 MA	100 Ohms	1000 V	MC-10
MGC-34	400 MH @ Odc	300 MH @ 100 MA	240 MH @ 130 MA	190 MH @ 160 MA	35 Ohms	1000 V	MC-10
MGC-35	105 MH @ Odc	100 MH @ 200 MA	80 MH @ 250 MA	50 MH @ 300 MA	10 Ohms	1000 V	MC-10
MGC-36	25 MH @ Odc	23.5 MH @ 400 MA	15 MH @ 500 MA	11 MH @ 600 MA	2 Ohms	1000 V	MC-10
MGC-37	5.7 MC @ Odc	4.5 MH @ 0.8 A	3.9 MH @ 1 A	3 MH @ 1.2 A	0.5 Ohms	1000 V	MC-10

TOROIDAL INDUCTORS

Using the latest developments in the field of magnetic materials and new impregnation and molding techniques the Freed Transformer Co. makes available to the industry the most extensive line of toroidal inductors.

Freed toroids are available in three types of constructions. Open units coated with a special high temperature extremely low loss compound, hermetically sealed in metal cases or molded in special **Freed Epoxy Resin.** Both hermetically sealed and molded units meet the latest military specification MIL-T-27A(graded 1 or 4 and 2 or 5 respectively.)Freed toroidal inductors are supplied with either molypermalloy or carbonyl iron powder cores

1. Temperature Stabilization:

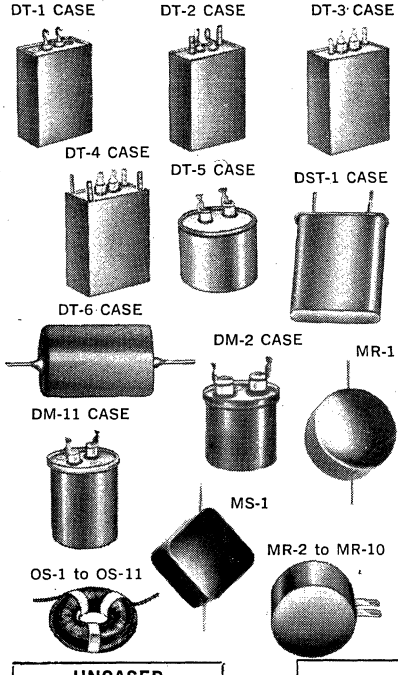
The molypermalloy and carbonyl iron powder cores have a temperature coefficient of inductance. Depending on the degree of temperature stabilization the cores have different temperature coefficients. The degree of stabilization is denoted by a two-letter code.

SF Non-stabilized cores, ±2½% inductance variations from —55°C to +85°C.
SN Non-stabilized cores, +2% inductance variations from —55°C to +85°C.
SE Temperature stabilized cores, +0.1% to —0.4% inductance variations from —1.5°C to +54°C.
SB Temperature stabilized cores, ±0.1% inductance variations from +13°C to +35°C.
SD Temperature stabilized cores, ±0.1% inductance variations from —1.5°C to +54°C.
SW Temperature stabilized cores, ±0.25% inductance variations from —54°C to +85°C.
SM Temperature stabilized cores, ±.25% —65°C to +125°C.
SP Temperature stable carbonyl iron cores, ±0.3% inductance variations from —55°C to +85°C.

The temperature (stabilization) coefficient of an inductor will depend upon the nominal inductance value, operating frequency and A.C. voltage across the coil. Under some unfavorable working conditions the temperature coefficient of inductance corresponding to a given stability characteristic may be exceeded.

Toroids with special requirements such as tapped toroids, toroidal transformers, molded and cased units with dimensions other than standard sizes and high temperature toroids can be supplied on request. Our engineering and laboratory facilities are available for consultation, research and development.

CASED, UNCASED AND MOLDED UNITS



TOROIDAL INDUCTORS

Type	Ω/H	Max. Norm. Idc	Max. Norm. Iac	Max. Norm. Vac	Type	Ω/H	Max. Norm. Idc	Max. Norm. Iac	Max. Norm. Vac
TI- 1	70	55	73.5	0.46	TI-19	4,500	25	29	0.18
TI- 1A	68	75	90.5	0.57	TI-20	2,750	100	*	*
TI- 2	160	90	135	0.85	TI-21	1,200	350	*	*
TI- 3	600	100	67	0.42	TI-22	5,600	210	*	*
TI- 3A	310	150	240	1.5	TI-23	7,000	250	*	*
TI- 4	110	55	67	0.42	TI-24	330	15	18	0.11
TI- 5	260	28	35	0.22	TI-25	200	20	24	0.15
TI- 6	230	75	125	0.80	TI-26	150	25	32	0.20
TI- 7	480	40	53	0.33	TI-27	76.5	50	62	0.39
TI- 8	1,500	50	80	0.5	TI-28	48.5	50	64	0.40
TI- 9	150	200	240	1.5	TI-29	33.5	70	88	0.55
TI-10	430	125	270	1.7	TI-30	28	100	135	0.84
TI-11	30	120	190	1.2	TI-31	19.5	100	136	0.85
TI-12	45	100	160	1	TI-32	48.5	6	14.5	0.09
TI-13	55	140	175	1.1	TI-33	2,150	8	13	0.08
TI-14	580	150	—	—	TI-34	1,700	8	9.5	0.06
TI-15	900	100	—	—	TI-35	4,100	10	18	0.11
TI-16	600	16	21	0.13	TI-36	3,950	10	11	0.07
TI-17	1,200	20	29	0.18	TI-37	23.5	10	32	0.20
TI-18	2,600	30	40	0.25	TI-38	100	4	9.5	0.06

*TI-20 through TI-23 have a very low voltage coefficient and inductance will change very little with voltage. Because of high frequency application, the maximum voltage is limited rather by breakdown than by saturation.

UNCASED		
Type	O.D.	Hi.
OS-1	5/8"	5/16"
OS-2	7/8"	3/8"
OS-3	1"	3/8"
OS-4	1"	5/16"
OS-5	1 5/16"	5/8"
OS-6	1 5/8"	7/8"
OS-7	1 11/16"	5/8"
OS-8	1 7/8"	11/16"
OS-9	2 1/4"	1 1/8"
OS-10	2 3/8"	1 1/4"
OS-11	2 5/8"	1 1/8"
OS-12	13/16"	3/8"
OS-13	3/8"	1/4"
OS-14	7/16"	7/32"

CASE							
Type	Hi.	Dia.	Length	Width	Mtg.	Mtg. Cen.	Cutout
DT-1	1 1/32"		1 1/16"	1/2"	2 4-40 inserts	3/4"	5/16" x 1/2"
DT-2	1 3/4"		1 7/16"	13/16"	2 6-32 studs	7/8" x 3/32"	3/8" x 1 1/16"
DT-3	2"		1 25/32"	7/8"	2 6-32 studs	1 1/4" x 3/8"	3/8" x 3/4"
DT-4	3 1/8"		2 3/4"	1 5/16"	4 8-32 studs	2 1/16" x 1 1/16"	3/4" x 3/8"
DT-5	1 3/16"	1 13/16"			2 6-32 inserts	1 1/8"	3/8" x 1"
DT-6	5/8"	1/2"			Pig Tails		
DM-2	1"	1 1/8"			2 4-40 inserts	5/8"	3/8" x 7/8"
DM-11	1 1/2"	1 3/8"			2 6-32 inserts	7/8"	3/8" x 7/8"
DST-1	25/32"		3/4"	11/32"	1/4" long pins	To fit 1/2" crystal socket	

MOLD			
Type	O.D.	Hi.	Clearance Hole Mounting
MR-1	7/8"	13/32"	Pig Tails
MR-2	1 1/16"	1/2"	No. 4
MR-3	1 3/16"	1/2"	No. 6
MR-3A	1 3/16"	11/16"	No. 6
MR-4	1 1/2"	3/4"	No. 8
MR-5	1 7/8"	1"	No. 8
MR-6	2 1/8"	7/8"	No. 8
MR-7	2 3/8"	1 5/16"	No. 10
MR-8	2 1/2"	1 3/8"	No. 10
MR-9	2 5/8"	1 7/16"	No. 10
MR-10	2 7/8"	1 3/8"	No. 10
MR-11	7/16"	1/4"	Pig Tails
MS-1	25/32"x25/32"	13/32"	Pig Tails

See Freed Price Pages 1441-1443
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FREED TRANSFORMER CO., INC.

LOW FREQUENCY TOROIDAL INDUCTORS

Freq. Range	100 ~ to 10 KC			200 ~ to 12 KC								Freq. Range
TYPE	TI-38	TI-32	TI-37	TI-24	TI-25	TI-26	TI-27	TI-28	TI-29	TI-30	TI-31	TYPE
Temp. Stability	SF	SF	SF	SN	SN	SN	SN	SN	SN	SN	SN	Temp. Stability
Size / Uncased Case Mold	OS1 DST1 MR1, MS1	OS3 DT1, DM2 MR3	OS5 DT2, DM11 MR4	OS1 DST1 MR1, MS1	OS12 DT1 MR2	OS3 DT1, DM2 MR3	OS5 DT2, DM11 MR4	OS8 DT3, DT5 MR6	OS9 DT4 MR7	OS9 DT4 MR8	OS11 DT4 MR10	Size / Uncased Case Mold
Nominal Inductance	CATALOG NUMBER											Nominal Inductance
1 MH				F2400	F2450	F2500	F2550	F2600	F2650	F2700	F2750	1 MH
2 MH				F2401	F2451	F2501	F2551	F2601	F2651	F2701	F2751	2 MH
3 MH				F2402	F2452	F2502	F2552	F2602	F2652	F2702	F2752	3 MH
5 MH	F3550			F2403	F2453	F2503	F2553	F2603	F2653	F2703	F2753	5 MH
7.5 MH	F3551			F2404	F2454	F2504	F2554	F2604	F2654	F2704	F2754	7.5 MH
10 MH	F3552			F2405	F2455	F2505	F2555	F2605	F2655	F2705	F2755	10 MH
15 MH	F3553			F2406	F2456	F2506	F2556	F2606	F2656	F2706	F2756	15 MH
20 MH	F3554			F2407	F2457	F2507	F2557	F2607	F2657	F2707	F2757	20 MH
30 MH	F3555			F2408	F2458	F2508	F2558	F2608	F2658	F2708	F2758	30 MH
50 MH	F3556	F2800	F4000	F2409	F2459	F2509	F2559	F2609	F2659	F2709	F2759	50 MH
75 MH	F3557	F2801	F4001	F2410	F2460	F2510	F2560	F2610	F2660	F2710	F2760	75 MH
100 MH	F3558	F2802	F4002	F2411	F2461	F2511	F2561	F2611	F2661	F2711	F2761	100 MH
150 MH	F3559	F2803	F4003	F2412	F2462	F2512	F2562	F2612	F2662	F2712	F2762	150 MH
200 MH	F3560	F2804	F4004	F2413	F2463	F2513	F2563	F2613	F2663	F2713	F2763	200 MH
300 MH	F3561	F2805	F4005	F2414	F2464	F2514	F2564	F2614	F2664	F2714	F2764	300 MH
400 MH	F3562	F2806	F4006	F2415	F2465	F2515	F2565	F2615	F2665	F2715	F2765	400 MH
500 MH	F3563	F2807	F4007	F2416	F2466	F2516	F2566	F2616	F2666	F2716	F2766	500 MH
750 MH	F3564	F2808	F4008	F2417	F2467	F2517	F2567	F2617	F2667	F2717	F2767	750 MH
1 H	F3565	F2809	F4009	F2418	F2468	F2518	F2568	F2618	F2668	F2718	F2768	1 H
1.25 H	F3566	F2810	F4010	F2419	F2469	F2519	F2569	F2619	F2669	F2719	F2769	1.25 H
1.5 H	F3567	F2811	F4011	F2420	F2470	F2520	F2570	F2620	F2670	F2720	F2770	1.5 H
1.75 H	F3568	F2812	F4012	F2421	F2471	F2521	F2571	F2621	F2671	F2721	F2771	1.75 H
2 H	F3569	F2813	F4013	F2422	F2472	F2522	F2572	F2622	F2672	F2722	F2772	2 H
2.25 H	F3570	F2814	F4014		F2473	F2523	F2573	F2623	F2673	F2723	F2773	2.25 H
2.5 H	F3571	F2815	F4015		F2474	F2524	F2574	F2624	F2674	F2724	F2774	2.5 H
3 H	F3572	F2816	F4016		F2575	F2525	F2575	F2625	F2675	F2725	F2775	3 H
3.5 H	F3573	F2817	F4017		F2476	F2526	F2576	F2626	F2676	F2726	F2776	3.5 H
4 H	F3574	F2818	F4018		F2477	F2527	F2577	F2627	F2677	F2727	F2777	4 H
4.5 H	F3575	F2819	F4019		F2478	F2528	F2578	F2628	F2678	F2728	F2778	4.5 H
5 H	F3576	F2820	F4020		F2479	F2529	R2579	F2629	F2679	F2729	F2779	5 H
7.5 H	F3577	F2821	F4021		F2480	F2530	F2580	F2630	F2680	F2730	F2780	7.5 H
10 H	F3578	F2822	F4022		F2481	F2531	F2581	F2631	F2681	F2731	F2781	10 H
15 H		F2823	F4023			F2532	F2582	F2632	F2682	F2732	F2782	15 H
20 H		F2824	F4024			F2533	F2583	F2633	F2683	F2733	F2783	20 H
25 H			F4025									25 H
30 H									F2684	F2734	F2784	30 H
40 H									F2685	F2735	F2785	40 H
50 H									F2686	F2736	F2786	50 H
75 H											F2787	75 H
100 H											F2788	100 H

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FREED TRANSFORMER CO., INC.

LOW FREQUENCY TOROIDAL INDUCTORS

Freq. Range	1 KC to 15 KC									Freq. Range
TYPE	TI-33	TI-34	TI-16	TI-5	TI-4	TI-1	TI-1A	TI-12	TI-11	TYPE
Temp. Stability	SN	SN	SN	SN, SE SD	SN, SD, SW	SN	SN, SD SW	SN, SD, SW	SN, SD, SW	Temp. Stability
Size / Uncased Case Mold	OS13 DT6 MR11	OS14 DT6 MR11	OS1 DST1 MR1, MS1	OS3 DT1, DM2, MR3	OS5 DT2, DM11, MR4	OS8 DT3, DT5, MR6	OS9 DT4 MR7	OS9 DT4 MR8	OS11 DT4 MR10	Size / Uncased Case Mold
Nominal Inductance	Catalog Number									Nominal Inductance
.25 MH	F2850	F2900								.25 MH
.5 MH	F2851	F2901								.5 MH
.75 MH	F2852	F2902								.75 MH
1 MH	F2853	F2903	F2050				F1500	F1655	F1747	1 MH
1.5 MH	F2854	F2904								1.5 MH
2 MH	F2855	F2905					F1501	F1656	F1748	2 MH
2.5 MH	F2856	F2906								2.5 MH
3 MH	F2857	F2907	F2051				F1502	F1657	F1749	3 MH
4 MH	F2858	F2908					F1503	F1658	F1750	4 MH
5 MH	F2859	F2909	F2052	F1700	F850	F800	F1504	F1659	F1751	5 MH
7.5 MH	F2860	F2910					F1505	F1660		7.5 MH
10 MH	F2861	F2911	F2053	F1701	F851	F801	F1506	F1661	F1752	10 MH
12.5 MH	F2862	F2912								12.5 MH
15 MH	F2863	F2913	F2054	F1702	F852	F802	F1507	F1662	F1753	15 MH
17.5 MH	F2864	F2914								17.5 MH
20 MH	F2865	F2915								20 MH
25 MH	F2866	F2916								25 MH
30 MH	F2867	F2917	F2055	F1703	F853	F803	F1508	F1663	F1754	30 MH
50 MH		F2918	F2056	F1704	F854	F804	F1509	F1664	F1755	50 MH
75 MH		F2919	F2057	F1705	F855	F805	F1510	F1665	F1756	75 MH
100 MH		F2920	F2058	F1706	F856	F806	F1511	F1666	F1757	100 MH
150 MH			F2059	F1707	F857	F807	F1512	F1667	F1758	150 MH
200 MH			F2060	F1708	F858	F808	F1513	F1668	F1759	200 MH
300 MH			F2061	F1709	F859		F1514	F1669	F1760	300 MH
400 MH			F2062	F1710	F860		F1515	F1670	F1761	400 MH
500 MH			F2063	F1711	F861	F809	F1516	F1671	F1762	500 MH
600 MH				F1712	F862		F1517	F1672		600 MH
700 MH				F1713	F863					700 MH
750 MH			F2064			F810	F1518	F1673	F1763	750 MH
800 MH				F1714	F864					800 MH
900 MH				F1715	F865					900 MH
1.0 HY			F2065	F1716	F866	F811	F1519	F1674	F1764	1.0 HY
1.25 HY			F2066	F1717	F867	F812				1.25 HY
1.5 HY			F2067	F1718	F868	F813	F1520	F1675	F1765	1.5 HY
1.75 HY			F2068	F1719	F869	F814				1.75 HY
2 HY			F2069	F1720	F870	F815	F1521	F1676	F1766	2 HY
2.25 HY					F871	F816				2.25 HY
2.5 HY					F872	F817	F1522	F1677	F1767	2.5 HY
2.75 HY					F873	F818				2.75 HY
3 HY					F874	F819	F1523	F1678	F1768	3 HY
3.5 HY					F875	F820	F1524	F1679	F1769	3.5 HY
4 HY					F876	F821	F1525	F1680	F1770	4 HY
4.5 HY					F877	F822	F1526	F1681	F1771	4.5 HY
5 HY					F878	F823	F1527	F1682	F1772	5 HY
6 HY						F824	F1528	F1683		6 HY
7 HY						F825	F1529	F1684		7 HY
7.5 HY									F1773	7.5 HY
8 HY						F826	F1530	F1685		8 HY
9 HY						F827	F1531	F1686		9 HY
10 HY						F828	F1532	F1687	F1774	10 HY
12 HY							F1533	F1688		12 HY
15 HY						F829	F1534	F1689	F1775	15 HY
17 HY							F1535	F1690		17 HY
20 HY						F830	F1536	F1691	F1776	20 HY
25 HY							F1537	F1692	F1777	25 HY
30 HY							F1538	F1693	F1778	30 HY
40 HY									F1779	40 HY
50 HY									F1780	50 HY

MEDIUM FREQUENCY TOROIDAL INDUCTORS

Freq. Range	10 KC to 50 KC							30 KC to 75 KC				Freq. Range
TYPE	TI-35	TI-36	TI-17	TI-7	TI-6	TI-2	TI-13	TI-18	TI-8	TI-10	TI-9	TYPE
Temp. Stability	SN	SN	SN	SN	SN, SD SW	SD	SN	SN	SN, SD	SB	SB	Temp. Stability
Size / Uncased Case Mold	OS13 DT6 MR11	OS14 DT6 MR11	OS1 DST1 MR1, MS1	OS3 DT1, DM2 MR3	OS5 DT2, DM11 MR4	OS6 DT3, DT5 MR5	OS9 DT4 MR8	OS1 DST1 MR1, MS1	OS3 DT1, DM2 MR3	OS7 DT3, DT5 MR5	OS10 DT4 MR9	Size / Uncased Case Mold
Nominal Inductance	Catalog Number											Nominal Inductance
.1 MH			F2100					F2140	F1821			.1 MH
.2 MH			F2101					F2141	F1822			.2 MH
.25 MH	F2950	F3000										.25 MH
.3 MH			F2102					F2142	F1823			.3 MH
.4 MH			F2103					F2143	F1824			.4 MH
.5 MH	F2951	F3001	F2104	F1781				F2144	F1825			.5 MH
.75 MH	F2952	F3002										.75 MH
1 MH	F2953	F3003	F2105	F1782	F1726	F1800	F1629	F2145	F1826	F1579	F1554	1 MH
1.5 MH	F2954	F3004										1.5 MH
2 MH	F2955	F3005	F2106	F1783	F1727	F1801	F1630	F2146	F1827	F1580	F1555	2 MH
2.5 MH	F2956	F3006										2.5 MH
3 MH	F2957	F3007	F2107	F1784	F1728	F1802	F1631	F2147	F1828	F1581	F1556	3 MH
4 MH	F2958	F3008	F2108		F1729	F1803	F1632	F2148	F1829	F1582	F1557	4 MH
5 MH	F2959	F3009	F2109	F1785	F1730	F1804	F1633	F2149	F1830	F1583	F1558	5 MH
7.5 MH	F2960	F3010	F2110	F1786	F1731		F1634	F2150	F1831	F1584	F1559	7.5 MH
10 MH	F2961	F3011	F2111	F1787	F1732	F1805	F1635	F2151	F1832	F1585	F1560	10 MH
12.5 MH	F2962	F3012										12.5 MH
15 MH	F2963	F3013	F2112	F1788	F1733	F1806	F1636	F2152	F1833	F1586	F1561	15 MH
17.5 MH		F3014										17.5 MH
20 MH		F3015	F2113	F1789	F1734			F2153	F1834			20 MH
25 MH		F3016		F1790					F1835			25 MH
30 MH		F3017	F2114	F1791	F1735	F1807	F1637	F2154	F1836	F1587	F1562	30 MH
40 MH				F1792					F1837			40 MH
50 MH			F2115	F1793	F1736	F1808	F1638	F2155	F1838	F1588	F1563	50 MH
75 MH			F2116	F1794	F1737	F1809	F1639	F2156	F1839	F1589	F1564	75 MH
100 MH			F2117	F1795	F1738	F1810	F1640	F2157	F1840	F1590	F1565	100 MH
150 MH				F1796	F1739	F1811	F1641			F1591	F1566	150 MH
200 MH				F1797	F1740	F1812	F1642			F1592	F1567	200 MH
250 MH					F1741							250 MH
300 MH					F1742	F1813	F1643				F1568	300 MH
400 MH						F1814	F1644				F1569	400 MH
500 MH					F1743	F1815	F1645				F1570	500 MH

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FREED TRANSFORMER CO., INC.

HIGH FREQUENCY TOROIDAL INDUCTORS

Freq. Range	10 KC to 100 KC		50 KC to 200 KC			20 KC to 2 MC	50 KC to 5 MC		100 KC to 10 MC	Freq. Range
TYPE	TI-15	TI-14	TI-19	TI-3	TI-3A	TI-20	TI-22	TI-23	TI-21	TYPE
Temp. Stability	SN	SN	SN	SD	SB	SP	SP	SP	SP	Temp. Stability
Size / Uncased Case Mold	OS3 DT1, DM2 MR3	OS5 DT2, DM11 MR4	OS1 DST 1 MR1, MS1	OS6 DT3, DT5 MR5	OS10 DT4 MR8	OS4 DT2 MR3A	OS2 DT1 MR2	OS2 DT1 MR2	OS1 DT1 MR1, MS1	Size / Uncased Case Mold
Nominal Inductance	Catalog Number									Nominal Inductance
.010 MH							F2270	F2301	F2240	.010 MH
.015 MH							F2271	F2302	F2241	.015 MH
.020 MH							F2272	F2303	F2242	.020 MH
.030MH							F2273	F2304	F2243	.030MH
.040 MH							F2274	F2305	F2244	.040 MH
.050 MH						F2201	F2275	F2306	F2245	.050 MH
.075 MH							F2276	F2307	F2246	.075 MH
.100 MH	F1870		F2180	F1846		F2202	F2277	F2308	F2247	.100 MH
.125 MH									F2248	.125 MH
.150 MH							F2278	F2309	F2249	.150 MH
.200 MH	F1871		F2181	F1847		F2203	F2279	F2310		.200 MH
.300 MH	F1872		F2182	F1848		F2204	F2280	F2311		.300 MH
.400 MH	F1873		F2183	F1849			F2281	F2312		.400 MH
.500 MH	F1874		F2184	F1850		F2205	F2282	F2313		.500 MH
.600 MH			F2185				F2283			.600 MH
.700 MH			F2186				F2284			.700 MH
.750 MH						F2206				.750 MH
.800 MH			F2187							.800 MH
.900 MH			F2188							.900 MH
1 MH	F1875	F1920	F2189	F1851		F2207				1 MH
1.5 MH						F2208				1.5 MH
2 MH	F1876	F1921	F2190	F1852		F2209				2 MH
2.5 MH						F2210				2.5 MH
3 MH	F1877	F1922	F2191	F1853		F2211				3 MH
3.5 MH						F2212				3.5 MH
4 MH	F1878	F1923	F2192	F1854		F2213				4 MH
4.5 MH						F2214				4.5 MH
5 MH	F1879	F1924	F2193	F1855		F2215				5 MH
7.5 MH	F1880	F1925		F1845						7.5 MH
10 MH	F1881	F1926		F1844	F1856					10 MH
15 MH	F1882	F1927			F1857					15 MH
20 MH	F1883	F1928			F1858					20 MH
25 MH	F1884									25 MH
30 MH	F1885	F1929			F1659					30 MH
40 MH	F1886				F1860					40 MH
50 MH	F1887	F1930			F1861					50 MH
75 MH	F1888	F1931			F1862					75 MH
100 MH	F1889	F1932			F1863					100 MH
150 MH		F1933								150 MH
200 MH		F1934								200 MH
250 MH		F1935								250 MH
300 MH		F1936								300 MH

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FREED TRANSFORMER CO., INC.

MAGNETIC AMPLIFIERS AND SATURABLE TRANSFORMERS

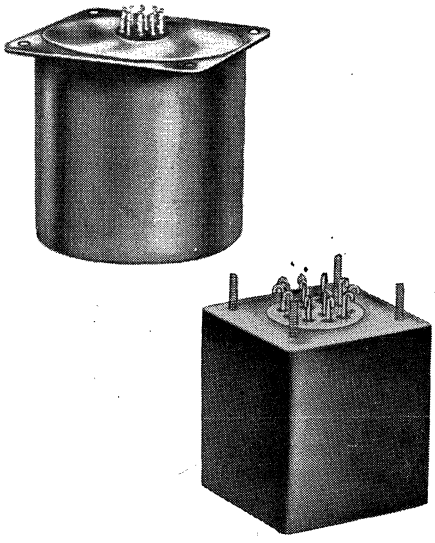
The ever increasing demand for reliability, ruggedness, miniaturization and high performance has made the magnetic amplifier an indispensable component of many military and industrial automatic control and servo systems. Recent advances in materials and techniques permit an even greater utilization of the well-known inherent advantages of magnetic amplifiers such as direct operation from line voltage, no warm-up time, long-life components, ease of signal mixing and hermetic sealing.

Freed Transformer Co. manufactures an extensive line of magnetic amplifiers, ranging from saturable transformers to half-wave type, fast-response servo amplifiers. Choice of catalog amplifiers assures standardization, lowest possible cost and rapid delivery.

All standard units are designed for continuous operation and will operate in an ambient temperature range of —55°C to +75°C.

In addition to standard items, Freed Transformer Co. has extensive facilities for the design and production of special amplifiers, saturable reactors and magnetic components.

ALL ITEMS LISTED ARE AVAILABLE FROM STOCK.



FAST RESPONSE MAGNETIC AMPLIFIERS

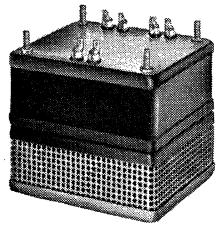
The MAF Type of fast response magnetic amplifier combines high power gain, ruggedness, and reliability with a maximum 2 cycle response. All MAF units are phase-reversible.

Freed No.	MAF-4*	MAF-5*	MAF-6	MAF-7
Power Supply	115V 400 cps	115V 400 cps	115V 400 cps	115V 400 cps
Maximum Output Wattage	10	15	10	15
Output Voltage	57.5V RMS	57.5V RMS	57.5V RMS	57.5V RMS
Typical Load	Kearfott R110-2 Kearfott R111-2	Kearfott R112-2	Kearfott R110-2 Kearfott R111-2	Kearfott R111-2 Kearfott R112-2
Input Signal Required for Full Output	8V AC	8V AC	R110-2 10K 1K 1.2V .4V R111-2 10K 1K 1.6V .6V	R111-2 10K 1K 1.2V .6V R112-2 10K 1K 2.5V 1.0V
Control Winding Resistance	60 Ohms CT 150 Ohms CT	60 Ohms CT 150 Ohms CT	AC or DC 10,000 Ohms Min. 1,000 Ohms Min.	AC or DC 10,000 Ohms Min. 1,000 Ohms Min.
Physical Dimensions	2 3/16" O.D. x 2 3/8" H	2 1/2" O.D. x 2 1/2" H	4 3/8" x 4 1/4" x 2 7/8" H	4 3/8" x 4 1/4" x 2 7/8" H
Weight	13 oz.	18 oz.	4 1/2 lbs.	4 1/2 lbs.

*Designed for use with MAT-1 Transistor Preamplifier.

PUSH-PULL MAGNETIC AMPLIFIERS

The map line of push-pull magnetic amplifiers features high gain, polarity-sensitive amplification and a phase-reversible output.



Freed No.	MAP-1	MAP-2	MAP-3	MAP-301
Power Supply	115V A.C. 60 Cycles (To MAPT-1)	115V A.C. 60 Cycles (To MAPT-2)	115V A.C. 60 Cycles (To MAPT-3)	115V A.C. 60 Cycles (To MAPT-301)
Maximum Output Wattage	2.8 Watts	15 Watts	50 Watts	50 Watts
Voltage	140V	150V	120V	140V
Typical Load	Kollsman 951-0160	Diehl FPE 25-11	Diehl FPF 49-9	Diehl FPF 49-9
Input Signal Required for Full Output	1.2 ma.	1 ma.	2 ma.	4.5 ma.
Resp. Time	ON OFF 15 cycles 60	ON OFF 5 cycles 38	ON OFF 3 cycles 15	ON OFF 5 cycles 20
Control Winding Resistance	620 ohms each	1230 ohms each	250 ohms each	1700 ohms each
Physical Dimensions	3 3/8"x3 1/4"x5 7/8"H M.A. 2 5/8"x2 1/4"x3"H T.	3 7/8"x4 5/8"x7"H M.A. 2 5/8"x2 3/4"x3 3/4"H T.	5 1/8"x6 7/8"x8"H M.A. 3 3/8"x3 7/8"x4 1/4"H T.	5 1/8"x5"x8"H M.A. 3 5/8"x4 1/4"x3 3/8"H T.
Weight	6 lbs. M.A. 3 lbs. T.	11 lbs. M.A. 3 1/2 lbs. T.	26 1/2 lbs. M.A. 8 lbs. T.	20 lbs. M A. 8 lbs. T.

Freed No.	MAP-4	MAP-7	MAP-8	MAP-11
Power Supply	115V A.C. 60 Cycles (To MAPT-4)	115V A.C. 400 Cycles	115V A.C. 400 Cycles (To MAPT-8)	115V A.C. 400 Cycles
Maximum Output Wattage	175 Watts	15 Watts	50 Watts	10 Watts
Voltage	130V	125V	115V	115V
Typical Load	Diehl FPF 85-18-1	Kearfott R112-2A	Bendix CK-3000-1-A	Kearfott R111-2A
Input Signal Required for Full Output	8 ma.	.5 ma.	1.8 ma.	.9 ma.
Resp. Time	ON OFF 17 cycles 66	ON OFF 5 cycles 15	ON OFF 45 cycles 60	ON OFF 4 cycles 75
Control Winding Resistance	3000 ohms each	4,400 ohms each	320 ohms each	3300 ohms each
Physical Dimensions	7 1/4"x5"x7 7/8"H M.A. 4"x4 3/4"x5 5/8"H T.	3 1/4"x3 5/8"x7"H	3 7/8"x3 7/8"x7 7/8"H M.A. 2 15/16"x2 3/4"x3 3/4"H T.	4 1/8"x3 1/2"x5 1/4"H
Weight	35 lbs. M.A. 12 lbs. T.	7 lbs.	7 1/2 lbs. M.A. 4 lbs. T.	5 lbs.

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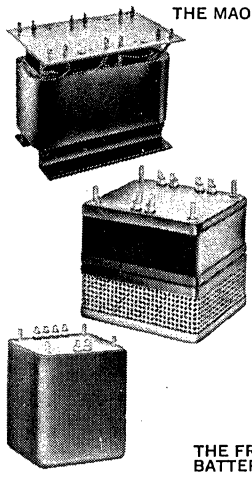
FREED TRANSFORMER CO., INC.

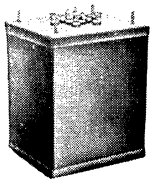
SINGLE ENDED MAGNETIC AMPLIFIERS



THE MAO LINE OF SINGLE-ENDED MAGNETIC AMPLIFIERS PROVIDES A SINGLE STAGE OF DC CONTROLLED AMPLIFICATION, UTILIZING POSITIVE FEEDBACK TO OBTAIN MUCH HIGHER GAIN THAN THAT OF A SATURABLE REACTOR.

Freed No.	MAO-1	MAO-2	MAO-3	MAO-4	MAO-5
Power Supply	115V A.C. 60 Cycles	115V A.C. 60 Cycles	115V A.C. 60 Cycles	115V A.C. 60 Cycles	115V A.C. to the MAO-T-5 Transformer 60 Cycles
Maximum Output Wattage	4 watts	20 watts	100 watts	400 watts	575 watts
Voltage	120V	120V	100V	100V	135V
Typical Load	4000 ohms	700 ohms	100 ohms	25 ohms	25 ohms
Input Signal Req. for Full Output	3 ma.	1.8 ma.	9 ma.	9 ma.	6 ma.
Control Winding Resistance	300 ohms each	700 ohms each	5600 ohms each	4500 ohms each	4,500 ohms
Physical Dimensions	3¼"x4"x3½" H	4¼"x3⅝"x6⅜" H	3¼"x5½"x4 13/16"H	5"x7½"x6" H	5"x7½"x6" H Trans. 3⅞"x3¾"x3¾" H
Weight	4 lbs.	7 lbs.	8½ lbs.	21 lbs.	21 lbs. Trans. 7¼ lbs.

TRANSISTOR CONVERTERS



THE FREED LINE OF DC TO AC AND DC TO DC TRANSISTOR CONVERTERS PROVIDE A HIGH EFFICIENCY VOLTAGE CONVERSION FROM BATTERY SOURCES TO AN AC LINE VOLTAGE OR HIGH DC VOLTAGE WITHOUT THE USE OF MOVING PARTS.

Freed Transformer Co. maintains a stock line of reliable, highly efficient static DC to DC and DC to AC converters. DC to DC converters in hermetically sealed cans. RF filters included inside case.

The MAC Line of Static DC to AC Converters provide a highly efficient voltage conversion from battery sources to AC voltage without the use of moving parts.

The output voltage and/or frequency is directly proportional to source voltage variation.

Special regulators can be supplied to compensate for this variation.

- **RUGGED, QUIET, MAINTENANCE FREE, LONG LIFE OPERATION.**
- **HIGH POWER TO WEIGHT RATIO, ARC-FREE OPERATION.**

DC TO DC CONVERTERS

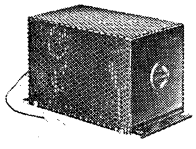
All TDC units are Hermetically Sealed, Oil Filled. Mtg. base plate must be mounted on a sink of sufficient area to maintain a base temperature of 70°C. Maximum output regulation 5% from half load to full load. Ripple frequency 4 to 5 KC; Ripple content 0.1%.

UNREGULATED TDC STOCK UNITS

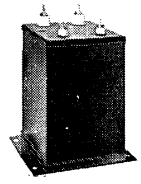
Type No.	NOM. V in	V out	MAX 1 out MA	Case Size	Type No.	NOM. V in	V out	MAX 1 out MA	Case Size
TDC 6-15-03	6v	150	50	2 x 2¼ x 3⅛	TDC 28-30-15	28v	300	150	2⅝ x 2¼ x 3½
TDC 12-30-15	12v	300	150	2⅝ x 2¼ x 3½	TDC 28-25-12	28v	250	120	2⅝ x 2¼ x 3½
TDC 12-25-12	12v	250	120	2⅝ x 2¼ x 3½	TDC 28-30-05	28v	300	50	2 x 2¼ x 3⅛
TDC 12-30-05	12v	300	50	2 x 2¼ x 3½	TDC 28-20-05	28v	200	50	2 x 2¼ x 3⅛
TDC 12-20-05	12v	200	50	2 x 2¼ x 3⅛	TDC 48-20-15	48v	200	150	2⅝ x 2¼ x 3½
					TDC 48-30-15	48v	300	150	2⅝ x 2¼ x 3½

DC TO AC TRANSISTOR CONVERTERS

Input Voltage—12 VDC Output Frequency—60 CPS.—Square Wave

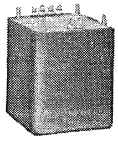


OPEN CASE



SEALED CASE

Freed No.	Output Voltage	Power	Type of Case	Dimensions
MAC 12-3-60	115 VRMS	30 VA	Cased	7¼" x 3⅛" x 4⅜"
MAC-12-10-1	115 VRMS	100 VA	Cased	7¼" x 4" x 5"
MAC 12-10-2	115 VRMS	100 VA	Herm. Sealed	7¼" x 4⅛" x 4 13/16"
MAC 12-20-1	115 VRMS	180 VA	Cased	6" x 4⅛" x 6"
MAC 12-20-2	115 VRMS	180 VA	Herm. Sealed	6" x 4⅛" x 6"
MAC 12-30-1	115 VRMS	250 VA	Cased	5⅞" x 6⅛" x 7 1/16"
MAC 12-30-2	115 VRMS	250 VA	Herm. Sealed	5⅞" x 6⅛" x 7 1/16"



- Output Waveform — Square Wave
- Output Frequency — 60 cps (Adjustment Control)
- Frequency Stability ±3%
- Hermetically Sealed
- Maximum Ambient Temperature 50°C
- Temperautre of Base Mounting Plate must not exceed 70°C.
- Output Voltage Variation — Varies Directly with Input Voltage

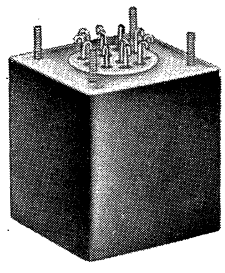
	Nominal Input V.D.C.	Output @ 115V VA	Case Size
TAC 6-50	6	50	4⅛ x 3½ x 4½ H
TAC-12-50	12	50	4⅛ x 3½ x 4½ H
TAC-12-90	12	90	4⅛ x 3½ x 4⅞ H
TAC-12-175	12	175	5 x 4⅛ x 6 H
TAC-28-50	28	50	4⅛ x 3½ x 4½ H
TAC-28-100	28	100	4⅛ x 3½ x 4⅞ H
TAC-28-175	28	175	5 x 4⅛ x 6 H
TAC-28-250	28	250	5½ x 5 x 6¾ H

400 CYCLE TRANSISTOR CONVERTERS
Frequency Regulation ±2%

Type No.	Nom. Input V.D.C.	Output VA	Case Size
TAC-12-50-4	12	50	3 x 3⅛ x 3¾
TAC-12-100-4	12	100	4⅛ x 3½ x 4½
TAC-28-50-4	28	50	3 x 3⅛ x 3⅜
TAC-28-150-4	28	150	4⅛ x 3½ x 4½

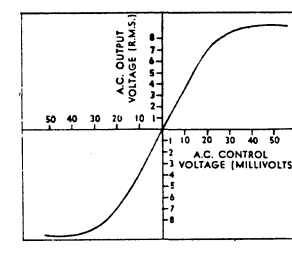
MINIATURIZED SILICON TRANSISTOR PREAMPLIFIER

THE MAT TYPE OF TRANSISTOR PREAMPLIFIER COMBINES LOW POWER CONSUMPTION, HIGH POWER GAIN AND SMALL SIZE AND WEIGHT.



Freed No.	MAT-1-1
Power Supply	115V 400~
Voltage Gain	400
Maximum Output Voltage	10V (RL = 1.5K)
Typical Load	Freed MAF-4 and MAF-5 Magnetic Amplifiers
Input Signal Required for Full Output	50MV
Input Impedance	>10,000 OHMS
Physical Dimensions	1¾" x 1⅛" x 2⅝" H
Weight	10 oz.

TRANSFER CHARACTERISTIC CURVE



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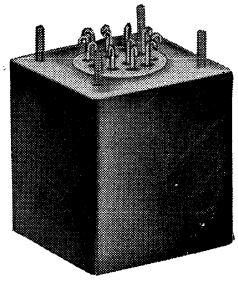
See Freed Price Pages 1441-1443

FREED TRANSFORMER CO., INC.

FREED SATURABLE TRANSFORMERS

DC CONTROLLED

The MAS line of saturable transformers, commonly controlled by dual-triodes or transistors, emphasizes low cost, small size, extreme reliability (no rectifiers) and phase-reversible output.



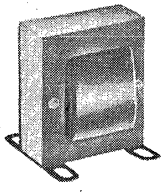
Freed No.	MAS-1	MAS-101	MAS-2	MAS-3	MAS-4	MAS-5	MAS-6	MAS-7	MAS-9
Power Supply	115V A.C. 60 Cycles	115V A.C. 60 Cycles	115V A.C. 400 Cycles	115V A.C. 60 Cycles	115V A.C. 60 Cycles	115V A.C. 400 Cycles	115V A.C. 400 Cycles	115V A.C. 400 Cycles	115V A.C. 60 Cycles
Maximum Output	15 watts	15 watts	6 watts	30 watts	60 watts	2.7 watts	30 watts	40 watts	125 watts
Wattage Voltage	130V	120V	120V	120V	120V	26V	120V	115V	115V
Typical Load	Diehl FPE 25-11	Diehl FPE 25-11	Kearfott R-110	Diehl FPE 49-7	250 ohms	Kearfott R-118	Diehl FPE 49-13-1	Bendix CK-3000-1A	110 Ω
Input Signal Required for Full Output	6 ma.	9 ma.	3 ma	8 ma.	20 ma.	4 ma.	4 ma.	6 ma.	15 ma. D-C
Resp. Time	ON OFF 2 cycles 5	ON OFF 3 cycles 6	ON OFF 3 cycles 6	ON OFF 3 cycles 30	ON OFF 5 cycles 35	ON OFF 10 cycles 35	ON OFF 12 cycles 9	ON OFF 12 cycles 9	ON OFF 5 cycles 35
Control Winding Resistance	14 K ohms each	3200 ohms each	2000 ohms each	6800 ohms each	2000 ohms each	1500 ohms each	4000 ohms each	4000 ohms each	500 ohms each
Physical Dimensions	3½"x4⅛" x5½" H	3½"x4⅛" x5½" H	1¾"x2⅜" 2⅜" H	4¾"x5¼" x5½" H	7"x5¼" x7" H	2¼"x2⅛" x2¼" H	3¾"x3¼" x4" H	3¾"x3¼" x4" H	9"x6¾"x8"
Weight	9 lbs.	9.75 lbs.	2 lbs.	18.5 lbs.	29 lbs.	1.25 lbs.	6 lbs.	6 lbs.	65 lb.

CONSTANT VOLTAGE TRANSFORMERS

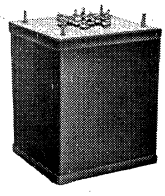
The MCV line of constant voltage transformers provides accurate regulation against line and/or load variations, without the use of tubes or moving parts.

- MILITARY SPECIFICATIONS
- NO TUBES
- COMMERCIAL
- NO MOVING PARTS
- ACCURATE REGULATIONS
- FAST RESPONSE
- FULLY AUTOMATIC

Rated output within ±2% of nominal value. Regulation automatically maintained within ±1%. Regulation from 25% to full load ±2%.



COMMERCIAL



MILITARY

Reg. Output in R.M.S. Volts	Input Range in R.M.S. Volts	Output in V.A. P.F-1	CATALOG NUMBERS 60 Cycles Comm.	60 Cycles Military*	400 Cycles Comm.*	400 Cycles Military*
115	95-130	5	MCV65LC	MCV65LM	MCV45LC	MCV45LM
115	95-130	25	MCV625LC	MCV625LM	MCV425LC	MCV425LM
115	95-130	75	MCV675LC	MCV675LM	MCV475LC	MCV475LM
115	95-130	125	MCV6125LC	MCV6125LM	MCV4125LC	MCV4125LM
115	95-130	175	MCV6175LC	MCV6175LM	MCV4175LC	MCV4175LM
115	95-130	250	MCV6250LC	MCV6250LM	MCV4250LC	MCV4250LM
115	95-130	375	MCV6375LC	MCV6375LM	MCV4375LC	MCV4375LM
115	95-130	500	MCV6500LC	MCV6500LM	MCV4500LC	MCV4500LM
115	95-130	750	MCV6750LC	MCV6750LM	MCV4750LC	MCV4750LM
115	95-130	1000	MCV61000LC	MCV61000LM	MCV41000LC	MCV41000LM
26	95-130	5	MCV654FC	MCV654FM	MCV454FC	MCV454FM
26	95-130	25	MCV6254FC	MCV6254FM	MCV4254FC	MCV4254FM
26	95-130	75	MCV6754FC	MCV6754FM	MCV4754FC	MCV4754FM
26	95-130	125	MCV61254FC	MCV61254FM	MCV41254FC	MCV41254FM
6.4	95-130	5	MCV65FC	MCV65FM	MCV45FC	MCV45FM
6.4	95-130	25	MCV625FC	MCV625FM	MCV425FC	MCV425FM
6.4	95-130	75	MCV675FC	MCV675FM	MCV475FC	MCV475FM
6.4	95-130	125	MCV6125FC	MCV6125FM	MCV4125FC	MCV4125FM

*Condensers are not provided with units. Where condensers are provided they are external to units.

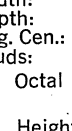
TELEMETERING COMPONENTS

A complete line of Band Pass Filters, Low Pass Filters and Discriminators is available for multi-channel telemetering applications. These components cover the frequency range from 400 cps to 70,000 cps. The filters feature **exceptional phase linearity,** excellent selectivity characteristics and plug-in construction. The Discriminators, either fixed or slug tuned, have exceptional linearity, high amplification, and utmost stability.

TELEMETERING BAND PASS FILTERS

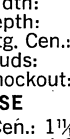
Hermetically sealed to MIL-T-27A and MIL-F-18327

These filters cover the frequencies from 400 c.p.s. to 70KC. Narrow frequency B.P.F. have a band width of ±9¾% of center frequency and 45 DB (minimum) points at ±7½% of center frequency of higher or lower adjacent channels. Wide frequency B.P.F. have a band width of ±19½% of center frequency and 50 D.B. points at ±15% of center frequencies of higher or lower second adjacent channels.



FA-5 CASE

Height: 4½"
Width: 3½"
Depth: 2⅞"
Mtg. Cen.: 2⅞"x1⅛"
Studs: 5 8-32x½"
Octal Header



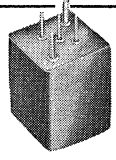
FA-10 CASE

Height: 4½"
Width: 3½"
Depth: 2⅞"
Mtg. Cen.: 1¹¹⁄₁₆"x1⅛"
Studs: 4 8-32x½"
Knockout: 1½" dia.

FA-15 CASE

Height: 4½"
Width: 2⅞"
Depth: 2⅛"
Mtg. Cen.: 1¹¹⁄₁₆"x1⅛"
Studs: 4 8-32x½"
Knockout: 1½" dia.

CASE SIZES



DF-01
¾ x ¾ x 1⅜
MTN-2.3 Thru MTW-70

DF-02
1 x 1 x 1⅜
MTN-4 Thru MTN 1.7

Characteristic Impedance 500 Ω			
Catalog No.	Center Frequency c.p.s.	3 DB Band Width % of C.F.	Case No.
FBP-10	400	± 9¾	FA-10
FBP-11	560	± 9¾	FA-10
FBP-12	730	± 9¾	FA-10
FBP-13	960	± 9¾	FA-10
FBP-14	1,300	± 9¾	FA-10
FBP-15	1,700	± 9¾	FA-10
FBP-16	2,300	± 9¾	FA-10
FBP-17	3,000	± 9¾	FA-15
FBP-18	3,900	± 9¾	FA-15
FBP-19	5,400	± 9¾	FA-15
FBP-20	7,350	± 9¾	FA-15
FBP-21	10,500	± 9¾	FA-15
FBP-22	12,300	± 9¾	FA-15
FBP-23	14,500	± 9¾	FA-15
FBP-24	22,000	± 9¾	FA-15
FBP-25	22,000	±19½	FA-15
FBP-26	30,000	± 9¾	FA-15
FBP-27	30,000	±19½	FA-15
FBP-28	40,000	± 9¾	FA-15
FBP-29	40,000	±19½	FA-15
FBP-30	52,500	± 9¾	FA-15
FBP-31	52,500	±19½	FA-15
FBP-32	70,000	± 9¾	FA-15
FBP-33	70,000	±19½	FA-15

Characteristic Impedance 2,500 Ω			
Catalog No.	Center Frequency c.p.s.	3 DB Band Width % of C.F.	Case No.
FBP-34	400	± 9¾	FA-5
FBP-35	560	± 9¾	FA-5
FBP-36	730	± 9¾	FA-5
FBP-37	960	± 9¾	FA-5
FBP-38	1,300	± 9¾	FA-5
FBP-39	1,700	± 9¾	FA-5
FBP-40	2,300	± 9¾	FA-5
FBP-41	3,000	± 9¾	FA-5
FBP-42	3,900	± 9¾	FA-5
FBP-43	5,400	± 9¾	FA-5
FBP-44	7,350	± 9¾	FA-5
FBP-45	10,500	± 9¾	FA-5
FBP-46	12,300	± 9¾	FA-5
FBP-47	14,500	± 9¾	FA-5
FBP-48	22,000	± 9¾	FA-5
FBP-49	22,000	±19½	FA-5
FBP-50	30,000	± 9¾	FA-5
FBP-51	30,000	±19½	FA-5
FBP-52	40,000	± 9¾	FA-5
FBP-53	40,000	±19½	FA-5
FBP-54	52,500	± 9¾	FA-5
FBP-55	52,500	±19½	FA-5
FBP-56	70,000	± 9¾	FA-5
FBP-57	70,000	±19½	FA-5

SUBMINIATURE TELEMETERING BAND PASS FILTERS

Manufactured to Specification MIL-F-18327A—Type FR-4RX22YY
RBD Standard Frequency Channels

Input and Output Impedance 10K ohms							
Type No.	Center Frequency Fo - in KC	Band Width <3DB	Stop Band Attenuation	Type No.	Center Frequency Fo - in KC	Band Width <3DB	Stop Band Attenuation
MTN-.4	.4	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTN-14.5	14.5	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-.56	.56	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTN-22	22	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-.73	.73	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTN-30	30	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-.96	.96	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTN-40	40	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-1.3	1.3	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTN-52.5	52.5	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-1.7	1.7	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTN-70	70	±7½%	≧ 38 DB @ 1.75 & .58 Fo
MTN-2.3	2.3	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTN-22	22	±15%	≧ 40 DB @ 2.5 & .4 Fo
MTN-3.0	3.0	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTW-30	30	±15%	≧ 40 DB @ 2.5 & .4 Fo
MTH-3.9	3.9	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTW-40	40	±15%	≧ 40 DB @ 2.5 & .4 Fo
MTN-5.4	5.4	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTW-52.5	52.5	±15%	≧ 40 DB @ 2.5 & .4 Fo
MTN-7.35	7.35	±7½%	≧ 38 DB @ 1.75 & .58 Fo	MTW-70	70	±15%	≧ 40 DB @ 2.5 & .4 Fo
MTH-10.5	10.5	±7½%	≧ 38 DB @ 1.75 & .58 Fo				

See Freed Price Pages 1441-1443

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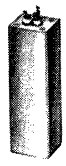
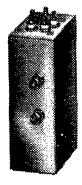
FREED TRANSFORMER CO., INC.

CASE DIMENSIONS

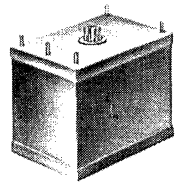


FA-1 CASE
Height: 4½"
Width: 1½"
Depth: 1½"
Mtg. Cen.: 31/32" sq.
4 Inserts: 6-32
Knockout: 1"

FA-185 CASE
Height: 4½"
Width: 1⅞"
Depth: 1⅝"
Mtg. Cen.: 1 15/64" x 1 1/16"
4 Inserts: 6-32
Knockout: 1½"



FA-190 CASE
Height: 4½"
Width: 2¼"
Depth: 1⅝"
Mtg. Cen.: 1 1/32" x 1 1/16"
4 Inserts: 6-32
Knockout: 1½"



FA-410 CASE
Height: 4½"
Width: 6"
Depth: 4"
Mtg. Cen.: 5¼" x 3¼"
5 Studs: 10-32
Octal Header

DISCRIMINATOR INPUT LOW PASS FILTER

HERMETICALLY SEALED TO MIL-T-27A AND MIL-F-18327 SPECIFICATIONS

Catalog No.	Fo Center Freq. in c.p.s.	Characteristic Impedance Ohms	Case No.
LPI-10	400	30,000	FA-1
LPI-11	560	30,000	FA-1
LPI-12	730	30,000	FA-1
LPI-13	960	30,000	FA-1
LPI-14	1,300	30,000	FA-1
LPI-15	1,700	30,000	FA-1
LPI-16	2,300	30,000	FA-1
LPI-17	3,000	30,000	FA-1
LPI-18	3,900	30,000	FA-1

Band Pass Attenuation: 0.05 DB ±9¾% of Center Frequency
30 DB at second harmonic of Pass Band Frequencies
50 DB at third harmonic of Pass Band Frequencies
40 DB above third harmonic of Pass Band Frequencies

Catalog No.	Fo Center Freq. in c.p.s.	Characteristic Impedance Ohms	Case No.
LPI-19	5,400	30,000	FA-1
LPI-20	7,350	30,000	FA-1
LPI-21	10,500	30,000	FA-1
LPI-22	12,300	30,000	FA-1
LPI-23	14,500	30,000	FA-1
LPI-24	22,000	5,100	FA-1
LPI-25	30,000	5,100	FA-1
LPI-26	40,000	5,100	FA-1
LPI-27	52,500	5,100	FA-1
LPI-28	70,000	5,100	FA-1

Band Pass Attenuation: 0.05 DB ±15% of Center Frequency
30 DB at second harmonic of Pass Band Frequencies
50 DB at third harmonic of Pass Band Frequencies
40 DB above third harmonic of Pass Band Frequencies

DISCRIMINATOR OUTPUT LOW PASS FILTER

HERMETICALLY SEALED TO MIL-T-27A AND MIL-F-18327 SPECIFICATIONS

Catalog No.	Fo c.p.s.	Characteristic Impedance Ohms	Case No.
LPO-10	6	330	FA-410
LPO-11	8	330	FA-410
LPO-12	11	330	FA-410
LPO-13	14	330	FA-410
LPO-14	20	330	FA-410
LPO-15	25	330	FA-410
LPO-16	35	330	FA-410
LPO-17	45	330	FA-410
LPO-18	60	330	FA-410
LPO-19	81	330	FA-410
LPO-20	110	330	FA-410
LPO-21	160	330	FA-410
LPO-22	185	330	FA-410

Catalog No.	Fo c.p.s.	Characteristic Impedance Ohms	Case No.
LPO-23	220	330	FA-410
LPO-24	330	330	FA-410
LPO-25	450	330	FA-410
LPO-26	600	330	FA-410
LPO-27	660	330	FA-410
LPO-28	790	330	FA-410
LPO-29	900	330	FA-410
LPO-30	1,050	330	FA-410
LPO-31	1,200	330	FA-410
LPO-32	1,600	330	FA-410
LPO-33	2,100	330	FA-410
LPO-34	7,200	330	FA-410
LPO-35	10,000	330	FA-410

Attenuation: <0.2 DB up to 0.5 times Fo
<0.7 DB from 0.5 to 1. times Fo
>20 DB at 2 Fo to 2.5 Fo
>30 DB from 2.5 times Fo to 100 Kc

FIXED DISCRIMINATORS

HERMETICALLY SEALED TO MIL-T-27A AND MIL-F-18327 SPECIFICATIONS

Catalog No.	Center Frequency (cps)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-10	400	±8½	±0.5%	32.5	FA-185
DST-11	560	±8½	±0.5%	32.5	FA-185
DST-12	730	±8½	±0.5%	32.5	FA-185
DST-13	960	±8½	±0.5%	32.5	FA-185
DST-14	1,300	±8½	±0.5%	32.5	FA-185
DST-15	1,700	±8½	±0.5%	32.5	FA-185
DST-16	2,300	±8½	±0.5%	32.5	FA-185

SLUG TUNED DISCRIMINATORS

Catalog No.	Center Frequency (Kc.)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-17	3.0	±8½	±0.5%	32.5	FA-190
DST-18	3.9	±8½	±0.5%	32.5	FA-190
DST-19	5.4	±8½	±0.5%	32.5	FA-190
DST-20	7.35	±8½	±0.5%	32.5	FA-190
DST-21	10.5	±8½	±0.5%	32.5	FA-190
DST-22	12.3	±8½	±0.5%	32.5	FA-190
DST-23	14.5	±8½	±0.5%	32.5	FA-190
DST-24	22.0	±8½	±0.5%	32.5	FA-190
DST-25	30.0	±8½	±0.5%	32.5	FA-190

Catalog No.	Center Frequency (Kc)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-26	40.0	±8½	±0.5%	32.5	FA-190
DST-27	52.5	±8½	±0.5%	32.5	FA-190
DST-28	70.0	±8½	±0.5%	32.5	FA-190
DST-29	22.0	±15	±1.0%	26.0	FA-190
DST-30	30.0	±15	±1.0%	26.0	FA-190
DST-31	40.0	±15	±1.0%	26.0	FA-190
DST-32	52.5	±15	±1.0%	26.0	FA-190
DST-33	70.0	±15	±1.0%	26.0	FA-190

FREED FILTERS

To MIL-T-27A and MIL-F-18327

Freed Standard Filters are **Hermetically Sealed Miniature and Sub-Miniature** high performance components designed for both production and laboratory applications in the Communications and Electronic industry. In order to achieve attenuation requirements not obtainable with one single filter, one can combine several standard filters of different transmission characteristics. Wide Band Pass characteristics are obtainable by combining low and high Pass Units. The astatic construction of inductive components together with special shielding reduces the hum pick-up of the standard filters.

The standard filters are available in Low Pass, High Pass and Band Pass Filters.

Low Pass Filters: The attenuation characteristics of Low Pass Filters are 6db or less at cut-off frequency, 35db or more at 1.5 cut-off frequency and 40db or more at 2 cut-off frequency.

ILP Interstage Low Pass Filter. Characteristic Impedance 10,000 ohms, in and out.

LLP Line Low Pass Filter. Characteristic Impedance 500 to 600 Ω, in and out.

High Pass Filters: The attenuation characteristics of High Pass Filters are 6db or less at cut-off frequency, 35db and 40db or more at 0.67 and 0.5 cut-off frequency.

IHP Interstage High Pass Filter. Characteristic Impedance 10,000 ohms, in and out.

LHP Line High Pass Filter. Characteristic Impedance 500 to 600 Ω, in and out.

Band Pass Filters: The attenuation characteristics of Band Pass Filters are 2db or less at plus or minus 3% of center frequency 40db or more at 0.5 and 2 center frequency.

IBP Interstage Band Pass Filter. Nominal input impedance—10,000 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 2:1. (Output voltage to source voltage.)

LBP Line Band Pass Filter. Nominal input impedance 500 to 600 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 9:1. (Output voltage to source voltage.)

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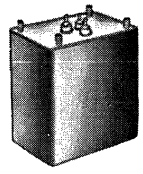
FREED TRANSFORMER CO., INC.

FREED FILTERS
TO MIL-T-27A AND MIL-F-18327



DF-1 CASE

Height: 2½"
Width: 1 11/16"
Depth: 1¾"
Mtg. Cen.: 1¼"x¾"
Studs: 4 6-32x⅜"
Knockout: ⅞" dia.

Catalog No.	Cut-off Frequency c.p.s.
ILP- 100	100
ILP- 200	200
ILP- 300	300
ILP- 500	500
ILP- 750	750
ILP- 1,000	1,000
ILP- 1,500	1,500
ILP- 2,000	2,000
ILP- 2,500	2,500
ILP- 3,000	3,000
ILP- 5,000	5,000
ILP- 7,000	7,000
ILP- 10,000	10,000
ILP- 15,000	15,000
ILP- 20,000	20,000
ILP- 23,000	23,000
ILP- 25,000	25,000
ILP- 32,000	32,000
ILP-130,000	130,000
ILP-150,000	150,000

Special filters in all six types are available for any frequency from 100 to 20,000 cycles

Catalog No.	Cut-off Frequency c.p.s.
LLP- 500	500
LLP- 1,000	1,000
LLP- 1,500	1,500
LLP- 1,600	1,600
LLP- 2,000	2,000
LLP- 2,500	2,500
LLP- 3,000	3,000
LLP-16,000	16,000
LLP-20,000	20,000
LLP-70,000	70,000
LLP-80,000	80,000
IHP- 200	200
IHP- 250	250
IHP- 300	300
IHP- 400	400
IHP- 500	500
IHP- 1,000	1,000
IHP- 2,000	2,000
IHP- 3,000	3,000
IHP-10,000	10,000
IHP-15,000	15,000
LHP- 200	200
LHP- 300	300
LHP- 400	400
LHP- 500	500
LHP- 800	800
LHP- 1,000	1,000
LHP- 2,000	2,000
LHP- 6,000	6,000
LHP-10,000	10,000

Catalog No.	Cut-off Frequency c.p.s.
IBP- 100	100
IBP- 200	200
IBP- 250	250
IBP- 400	400
IBP- 500	500
IBP- 700	700
IBP- 800	800
IBP- 900	900
IBP- 1,000	1,000
IBP- 1,500	1,500
IBP- 2,000	2,000
IBP- 3,000	3,000
IBP- 5,000	5,000
IBP- 7,200	7,200
IBP-10,000	10,000
IBP-12,000	12,000
IBP-15,000	15,000
IBP-30,000	30,000
IBP-57,600	57,600
LBP- 100	100
LBP- 300	300
LBP- 400	400
LBP- 600	600
LBP- 800	800
LBP- 1,000	1,000
LBP- 1,500	1,500
LBP- 2,000	2,000
LBP- 3,000	3,000
LBP- 7,200	7,200
LBP-10,000	10,000
LBP-14,400	14,400
LBP-20,000	20,000
LBP-28,800	28,800

HERMETICALLY SEALED SUB-MINIATURE FILTERS

Low Pass Filters: The attenuation characteristics of Low Pass Filters are 6db or less at cut-off frequency, 30db or more at 1.5 cut-off frequency and 40db or more at 2 cut-off frequency.

ILM Interstage Low Pass Filter. Characteristic impedance 10,000 ohms, in and out.

LLM Line Low Pass Filter. Characteristic Impedance 500 to 600 ohms, in and out.

High Pass Filters: The attenuation characteristics of High Pass Filters are 6db or less at cut-off frequency, 30db and 40db or more at 0.67 and 0.5 cut-off frequency.

IHM Interstage High Pass Filter. Characteristic Impedance 10,000 ohms, in and out.

LHM Line High Pass Filter. Characteristic Impedance 500 to 600 ohms, in and out.

Band Pass Filters: The attenuation characteristics of Band Pass Filters are 2db or less at plus or minus 3% of center frequency 35db or more at 0.5 and 2 center frequency.

IBM Interstage Band Pass Filter. Nominal input impedance—10,000 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 2:1. (Output voltage to source voltage.)

LBM Line Band Pass Filter. Nominal input impedance 500 to 600 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 5:1. (Output voltage to source voltage.)

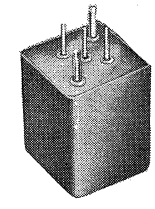
Special filters in all six types are available for any frequency from 200 to 20,000 cycles.

Catalog No.	Cut-off Freq. c.p.s.	Case No.
IBM- 400	400	DF-02
IBM- 500	500	DF-02
IBM- 700	700	DF-02
IBM- 800	800	DF-02
IBM- 900	900	DF-02
IBM- 1,000	1,000	DF-02
IBM- 1,500	1,500	DF-02
IBM- 2,000	2,000	DF-01
IBM- 3,000	3,000	DF-01
IBM- 5,000	5,000	DF-01
IBM- 7,200	7,200	DF-01
IBM-10,000	10,000	DF-01
IBM-12,000	12,000	DF-01
IBM-15,000	15,000	DF-01
IBM-30,000	30,000	DF-01
IBM-57,600	57,600	DF-01
IHM- 300	300	DF-01
IHM- 400	400	DF-01
IHM- 500	500	DF-01
IHM- 1,000	1,000	DF-01
IHM- 2,000	2,000	DF-01
IHM- 3,000	3,000	DF-01
IHM-10,000	10,000	DF-01
IHM-15,000	15,000	DF-01

Catalog No.	Cut-off Freq. c.p.s.	Case No.
ILM- 300	300	DF-01
ILM- 500	500	DF-01
ILM- 750	750	DF-01
ILM- 1,000	1,000	DF-01
ILM- 1,500	1,500	DF-01
ILM- 2,000	2,000	DF-01
ILM- 2,500	2,500	DF-01
ILM- 3,000	3,000	DF-01
ILM- 5,000	5,000	DF-01
ILM- 7,000	7,000	DF-01
ILM- 10,000	10,000	DF-01
ILM- 15,000	15,000	DF-01
ILM- 20,000	20,000	DF-01
ILM- 23,000	23,000	DF-01
ILM- 25,000	25,000	DF-01
ILM- 32,000	32,000	DF-01
ILM-130,000	130,000	DF-01
ILM-150,000	150,000	DF-01
LHM- 300	300	DF-03
LHM- 400	400	DF-03
LHM- 500	500	DF-03
LHM- 800	800	DF-03
LHM- 1,000	1,000	DF-02
LHM- 2,000	2,000	DF-02
LHM- 6,000	6,000	DF-02
LHM-10,000	10,000	DF-02

Catalog No.	Cut-off Freq. c.p.s.	Case No.
LBM- 300	300	DF-02
LBM- 400	400	DF-02
LBM- 600	600	DF-02
LBM- 800	800	DF-02
LBM- 1,000	1,000	DF-01
LBM- 1,500	1,500	DF-01
LBM- 2,000	2,000	DF-01
LBM- 3,000	3,000	DF-01
LBM- 7,200	7,200	DF-01
LBM-10,000	10,000	DF-01
LBM-14,400	14,400	DF-01
LBM-20,000	20,000	DF-01
LBM-28,800	28,800	DF-01
LLM- 500	500	DF-03
LLM- 1,000	1,000	DF-03
LLM- 1,500	1,500	DF-02
LLM- 1,600	1,600	DF-02
LLM- 2,000	2,000	DF-02
LLM- 2,500	2,500	DF-02
LLM- 3,000	3,000	DF-02
LLM-16,000	16,000	DF-02
LLM-20,000	20,000	DF-02
LLM-70,000	70,000	DF-02
LLM-80,000	80,000	DF-02

CASE DIMENSIONS



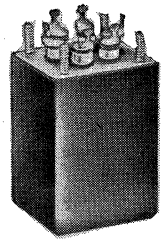
DF CASE STYLE

DF-01
Height: 1⅜"
Width: ¾"
Depth.: ¾"
Mtg. Cen.: 9/16" Diag.
Studs: 2 ÷ 4-40

DF-02
Height: 1⅜"
Width: 1"
Depth.: 1"
Mtg. Cen.: ¾" Diag.
Studs: 2 ÷ 4-40

DF-03
Height: 1¾"
Width: 1"
Depth.: 1"
Mtg. Cen.: ¾"
Studs: 2 ÷ 4-40

SERIES 1950 NULL "T" FILTERS



The Freed Series 1950 Null T networks consist of two resistance capacitance networks, whose outputs completely cancel each other at the balance frequency. They may be used as rejection networks particularly at low frequencies where LC filters become excessively large and unstable.

Standard models are available for 30, 60 and 120 cycles in a wide range of impedances. Each network will give a minimum of 50 db attenuation at the null frequency.

The null frequency is adjusted to a tolerance of ±2%.

All Null T Filters are hermetically sealed.

Prices on request.

Catalog No.	Frequency
NTF- 30	30 cps
NTF- 60	60 cps
NTF-120	120 cps

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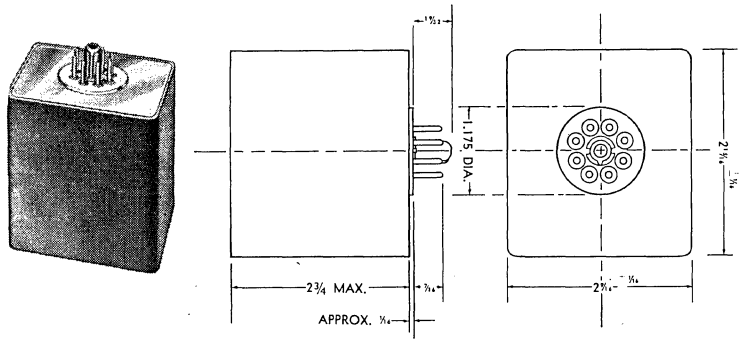
FREED TRANSFORMER CO., INC.

TELEGRAPH TONE CHANNEL FILTERS

HERMETICALLY SEALED TO MIL-T-27A AND MIL-F-18327 SPECIFICATIONS

Freed Band Pass Filters are extensively used in multiplex frequency shift transmitting and receiving. Stock filters cover all narrow and wide band channels. All units are built with a standard octal socket.

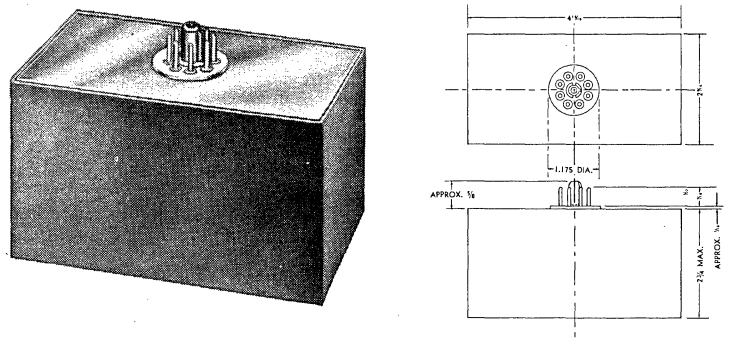
FBT Transmitting Filters are built for a 600 ohm in and out characteristic impedance. Filter configuration allows paralleling of channel outputs. 10db adjacent channel crossover attenuation.



RECEIVING FILTERS

Catalog No. Case FA-950	Center Frequency (c.p.s.) Insertion Loss 6db	Pass Band (c.p.s.) Attenuation 2db	Stop Band (c.p.s.) Attenuation 33db
FBR-10	425	±42.5	±130
FBR-11	595	±42.5	±130
FBR-12	765	±42.5	±130
FBR-13	935	±42.5	±130
FBR-14	1,105	±42.5	±130
FBR-15	1,275	±42.5	±130
FBR-16	1,445	±42.5	±130
FBR-17	1,615	±42.5	±130
FBR-18	1,785	±42.5	±130
FBR-19	1,955	±42.5	±130
FBR-20	2,125	±42.5	±130
FBR-21	2,295	±42.5	±130
FBR-22	2,465	±42.5	±130
FBR-23	2,635	±42.5	±130
FBR-24	2,805	±42.5	±130
FBR-25	2,975	±42.5	±130
FBR-26	1,955	±85	±260
FBR-27	2,380	±85	±260
FBR-28	2,805	±85	±260
FBR-29	3,230	±85	±260

FBR Receiving Filters are designed for a characteristic impedance of 600 ohms in and out. Filter configuration permits paralleling of channel inputs. 20db adjacent channel crossover attenuation.

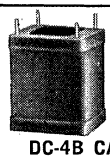


TRANSMITTING FILTERS

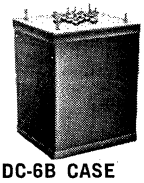
Catalog No. Case FA-955	Center Frequency (c.p.s.) Insertion Loss 5db	Pass Band (c.p.s.) Attenuation 2db	Stop Band (c.p.s.) Attenuation 20db
FBT-10	425	±42.5	±130
FBT-11	595	±42.5	±130
FBT-12	765	±42.5	±130
FBT-13	935	±42.5	±130
FBT-14	1,105	±42.5	±130
FBT-15	1,275	±42.5	±130
FBT-16	1,445	±42.5	±130
FBT-17	1,615	±42.5	±130
FBT-18	1,785	±42.5	±130
FBT-19	1,955	±42.5	±130
FBT-20	2,125	±42.5	±130
FBT-21	2,295	±42.5	±130
FBT-22	2,465	±42.5	±130
FBT-23	2,635	±42.5	±130
FBT-24	2,805	±42.5	±130
FBT-25	2,975	±42.5	±130
FBT-26	1,955	±85	±260
FBT-27	2,380	±85	±260
FBT-28	2,805	±85	±260
FBT-29	3,230	±85	±260

ULTRASONICS

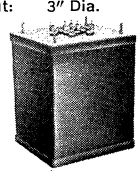
CASE DIMENSIONS



DC-4B CASE
Height: 4¾″
Width: 3⅛″
Length: 3″
Mounting: 4 8-32 Studs
Mtg. Cen.: 2½″x2½″
Cutout: (2) 1⅜″x⅝″

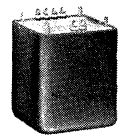


DC-6B CASE
Height: 6″
Width: 5″
Length: 4½″
Mounting: 4 10-32 Studs
Mtg. Cen.: 3¾″x3″
Cutout: 3″ Dia.

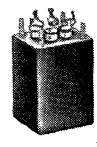


MA-2 CASE
Height: 4″
Width: 4⅝″
Length: 3⅛″
Mounting: 4 10-32 Studs
Mtg. Cen.: 2½″x3¾″
Cutout: (2) 2¾″x¾″

OL-112-1 CASE
Height: 6″
Width: 5⅛″
Length: 4¾″
Mounting: 4 ¼-20 Studs
Mtg. Cen.: 4¾″x3⅝″
Cutout: 3″ dia.



EA CASE
Height: 2¹¹⁄₁₆
Width: 1⅞″
Length: 1¾″
Mounting: 4 6-32 Studs
Mtg. Cen.: 1⅜″x1¼″
Cutout: 1³⁄₁₆″



DM-03 CASE
Height: 2½″
Width: 1½″
Length: 1½″
Mounting: 4 6-32 Studs
Mtg. Cen.: 1⅛″x1⅛″
Cutout: 1¼″ Dia.

New developments and applications of ultrasonics for industrial cleaning, soldering, welding, and mixing have created a demand for generators and components specifically designed for ultrasonic applications.

Using the latest developments in the field of special magnetic materials the FREED ultrasonic transformers are designed for greatest efficiency and maximum reliability. They feature small size excellent performance and long life under continuous duty operation.

Transformers with an extended frequency range (frequencies up to 2 MC) can be supplied upon request.

ULTRASONIC DRIVER AND INPUT TRANSFORMERS
Frequency Response: ±1 DB 10 KC to 60 KC.

Catalog No.	Application	Primary Impedance Ohms	Ratio	Maximum Power Watts	Maximum Primary D.C. per Side Ma.	Case Size
ULI-20	Transducer to PP 811A	1, 2, 4	1:17.3	5		DM-03
ULD-20	PP 6CM6 to PP 811A	10,000	4.4:1	5	50	DM-03
ULD-50	PP 5881 to PP 8000	7,200	1.7:1	25	90	EA

ULTRASONIC OUTPUT TRANSFORMERS
Frequency response: ±1 DB 20 KC to 60 KC.

Catalog No.	Application	Impedance in Ohms Primary	Secondary	Maximum Power Watts	Maximum Primary D.C. per Side Ma.	Case Size
ULO-10	PP 6083 to transducer	7,600	1/4	100	120	DC-4B
ULO-11	Same	7,600	2/8	100	120	DC-4B
ULO-12	Same	7,600	4/16	100	120	DC-4B
ULO-13	Same	7,600	7.5/30	100	120	DC-4B
ULO-30	PP 811A to transducer	12,400	1/4	300	170	DC-4B
ULO-31	Same	12,400	2/8	300	170	DC-4B
ULO-32	Same	12,400	4/16	300	170	DC-4B
ULO-33	Same	12,400	7.5/30	300	170	DC-4B
ULO-34	Same	12,400	25	300	170	DC-4B
ULO-35	Same	12,400	125/500	300	170	DC-4B
ULO-36	Same	12,400	250/1000	300	170	DC-4B
ULO-37	Same	12,400	75/300	300	170	DC-4B
ULO-52	PP 8000 to transducer	10,800	4/16	500	230	MA-2
ULO-53	Same	10,800	7.5/30	500	230	MA-2
ULO-54	Same	10,800	25/100	500	230	MA-2
ULO-55	Same	10,800	125/500	500	320	MA-2
ULO-56	Same	10,800	250/1000	500	230	MA-2
ULO-101	PP. Par. 8000 to transducer	5,400	25/100	1000	430	DC-6B
ULO-104	Same	5,400	75/300	1000	430	DC-6B
ULO-110	PP 4-250A to transducer	10,900	18.8/75/300	800	250	OL-112-1

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FREED TRANSFORMER CO., INC.

COMMERCIAL GRADE COMPONENTS

These components are designed to meet the demand for low-cost replacement parts for commercial electronic equipment.

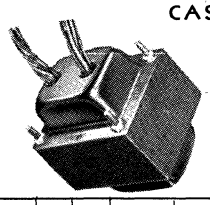
The best commercially available materials have been utilized in the design of these units, to insure reliability and excellent performance characteristics. Vacuum impregnation with a non-hygroscopic varnish to prevent penetration of humidity are employed to give these units long life and trouble-free performance.

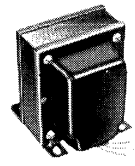
230-115 V, 50-60 C.P.S. Stepdown Transformers rated from 25 V A up to 5,000 V A Rating and line booster transformers are included in this series.

All units, with only a few exceptions, are uncased or of shell-type construction.

Isolation transformers and Stepdown transformers are equipped with line cord and receptacle.

CASE DIMENSIONS





Case No.	Height	Width	Depth	Mtg. Centers	Mtg. Studs
HS300	2⅝	3	2½	2½x2	(4) 3/16x3/8
HS303	2⅞	3	2½	2½x2	(4) 3/16x3/8
HS306	3¼	3	2½	2½x2	(4) 3/16x3/8
HS307	3⅜	3	2½	2½x2	(4) 3/16x3/8
HS503	3½	3¾	3⅛	3/16x2½	(4) 3/16x3/8
HS505	3¾	3¾	3⅛	3/16x2½	(4) 3/16x3/8
HS603	3¾	4½	3¾	3¾x3	(4) 3/16x3/8
HS605	4	4½	3¾	3¾x3	(4) 3/16x3/8
HS606	4⅜6	4½	3¾	3¾x3	(4) 3/16x3/8
HS610	4⅝	4½	3¾	3¾x3	(4) 3/16x3/8
HS612	4⅞	4½	3¾	3¾x3	(4) 3/16x3/8
HS708	5⅞	5¼	4⅜	4⅜x3½	(4) 9/32x21/32
HS709	6	5¼	4⅜	4⅜x3½	(4) 9/32x21/32

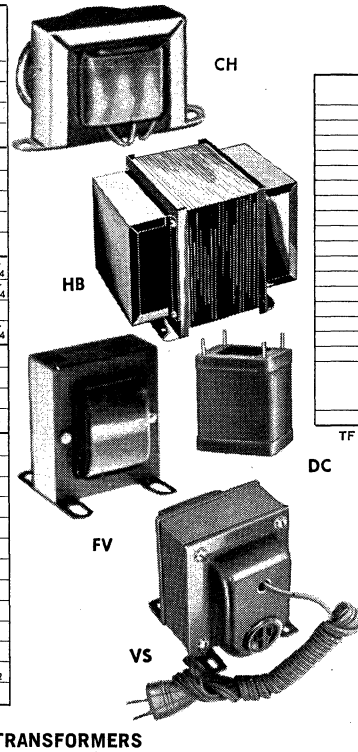
Case No.	Height	Width	Depth	Mtg. Centers	Mtg. Holes
VS300	3 5/32	2⅝	2¾	2x1 11/16	(4) 3/16x3/8
VS303	3 5/32	2⅝	3	2x1 15/16	(4) 3/16x3/8
VS304	3 9/32	4¼	3¼	2½x3	(4) 3/16x3/8
VS306	3 5/32	2⅝	3⅜	2x2 1/16	(4) 3/16x3/8
VS307	3 5/32	2⅝	3½	2x2 7/16	(4) 3/16x3/8
VS503	3 9/32	3¼	3⅝	2½x2 5/16	(4) 3/16x3/8
VS505	3 9/32	3¼	3⅞	2½x2 5/8	(4) 3/16x3/8
VS506	3 9/32	3¼	4¼	2¼x3	3/16x3/8
VS508	3⅝	2⅝	3⅛	2x2 1/8	(4) 3/16x3/8
VS603	4 1/32	3⅜	3⅜	3x2 11/16	(4) 3/16x3/8
VS605	4 1/32	3⅜	4⅛	3x2 15/16	(4) 3/16x3/8
VS606	4 1/32	3⅜	4¼	3x3 1/8	(4) 3/16x3/8
VS610	4 1/32	3⅜	4¾	3x3 5/16	(4) 3/16x3/8
VS612	4 1/32	3⅜	5	3x3 15/16	(4) 3/16x3/8
VS708	5 1/16	4 5/16	5¾	3½x4	(4) 9/32x21/32
VS709	5 1/16	4 5/16	5⅞	3½x4 1/8	(4) 9/32x21/32

POWER TRANSFORMERS

All primaries designed for 115-volt, 50-60 cycle operation.

Catalog No.	Py Va	Hi Volt	Choke Input D.C.V.	Choke Input D.C.Ma.	Cond. Input D.C.V.	Cond. Input D.C.Ma.	Bias Tap	Rectifier	Fil. No.1	Fil. No. 2	Fil. No. 3	Case No.
RGP 1	45	500V CT			270	40		6X4,5Y3	5/6.3V @ 2A	6.3V @ 2A		VS300
RGP 2	45	500V CT			270	40		6X4,5Y3	5/6.3V @ 2A	6.3V @ 2A		HS300
RGP 3	57	600V CT			330	50		6X4,5Y3	5/6.3V @ 2A	6.3V @ 2.5A		VS303
RGP 4	57	600V CT			330	50		6X4,5Y3	5/6.3V @ 2A	6.3V @ 2.5A		HS303
RGP 5	64	650V CT			370	50		6X4,5Y3	5/6.3V @ 2A	6.3V @ 3A		VS303
RGP 6	64	650V CT			370	50		6X4,5Y3	5/6.3V @ 2A	6.3V @ 3A		HS303
RGP 7	73	600V CT			320	70		6X4,5Y3	5/6.3V @ 2A	6.3V @ 3A		VS306
RGP 8	73	600V CT			320	70		6X4,5Y3	5/6.3V @ 2A	6.3V @ 3A		HS306
RGP 9	110	650V CT	225	140	330	100		5Y3,5U4	5V @ 3A	6.3V @ 5A		VS503
RGP 10	110	650V CT	225	140	330	100		5Y3,5U4	5V @ 3A	6.3V @ 5A		HS503
RGP 11	76	700V CT	260	100	385	70		5Y3	5V @ 2A	6.3V @ 2.5A		VS307
RGP 12	76	700V CT	260	100	385	70		5Y3	5V @ 2A	6.3V @ 2.5A		HS307
RGP 13	108	700V CT	250	125	370	90		5Y3,5U4	5V @ 3A	6.3V @ 5A		VS503
RGP 14	108	700V CT	250	125	370	90		5Y3,5U4	5V @ 3A	6.3V @ 5A		HS503
RGP 15	127	700V CT	260	170	350	120		5U4	5V @ 3A	6.3V @ 5A		VS505
RGP 16	127	700V CT	260	170	350	120		5U4	5V @ 3A	6.3V @ 5A		HS505
RGP 17	146	700V CT	260	210	350	150		5U4	5V @ 3A	6.3V @ 5A	6.3V @ 1A	VS603
RGP 18	146	700V CT	260	210	350	150		5U4	5V @ 3A	6.3V @ 5A	6.3V @ 1A	HS603
RGP 19	207	800V CT	295	280	400	200		5U4,2-5Y3	5V @ 4A	6.3V @ 6A		VS606
RGP 20	207	800V CT	295	280	400	200		5U4,2-5Y3	5V @ 4A	6.3V @ 6A		HS606
RGP 21	225	800V CT	295	280	400	200	80	5U4,2-5Y3	5V @ 4A	6.3V @ 6A	5/6.3V @ 2A	VS606
RGP 22	225	800V CT	295	280	400	200	80	5U4,2-5Y3	5V @ 4A	6.3V @ 6A	5/6.3V @ 2A	HS606
RGP 23	268	840V CT	330	350	450	250	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	VS612
RGP 24	268	840V CT	330	350	450	250	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	HS612
RGP 25	320	900V CT	340	420	490	300	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	VS708
RGP 26	320	900V CT	340	420	490	300	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	HS708
RGP 27	127	900V CT	360	150				5U4	5V @ 3A	6.3V @ 5A		VS603
RGP 28	127	900V CT	360	150				5U4	5V @ 3A	6.3V @ 5A		HS603
RGP 29	150	900V CT	350	200				5U4	5V @ 3A	6.3V @ 5A		VS605
RGP 30	150	900V CT	350	200				5U4	5V @ 3A	6.3V @ 5A		HS605
RGP 31	203	1100V CT	400	250				5R4GY	5V @ 3A	6.3V @ 5A		VS610
RGP 32	203	1100V CT	400	250				5R4GY	5V @ 3A	6.3V @ 5A		HS610
RGP 33	248	1100V CT	420	300				2-5R4GY	5V @ 4A	6.3V @ 7A		VS612
RGP 34	248	1100V CT	420	300				2-5R4GY	5V @ 4A	6.3V @ 7A		HS612
RGP 35	310	1280V CT	480	350				2-5R4GY	5V @ 4A	6.3V @ 7A		VS709
RGP 36	310	1280V CT	480	350				2-5R4GY	5V @ 4A	6.3V @ 7A		HS709

Case No.	Height	Width	Depth	Mtg. Centers	Mtg. Studs
DC2B	3½	2⅝	2¼	2x1¾	(4) 8-32
DC4A	3¾	3⅛	3	2½x2½	(4) 8-32
DC5C	4⅞	4⅛	3½	3⅛x2⅝	(4) 10-32
DC6A	4⅞	5	4⅛	3¾x3	(4) 10-32
CH50	1 11/16	2 13/16	1¾	2⅜	(2) 3/16
CH60	2	3¼	1¾	2 13/16	(2) 3/16
CH62	2	3¼	2⅛	2 13/16	(2) 3/16
CH70	2 5/16	3 11/16	2¼	3⅛	(2) 3/16
CH80	2⅝	4	2⅝	3 9/16	(2) 3/16
FV10	3⅛	2½	2 9/16	2x2	(4) 13/64x21/64
FV12	3⅛	2½	2 11/16	2x2½	(4) 13/64x21/64
FV22	3 7/16	2 13/16	2⅞	2¼x2¼	(4) 3/16x3/8
FV30	4 1/32	3⅛	3	2½x2¼	(4) 13/64x21/64
HB718	6¼	6½	8½	4¾x4½	(4) 9/32x21/32
HB728	6¼	6½	9¾	4¾x5¾	(4) 9/32x21/32
HB828	6⅝	7 5/16	9⅞	5 5/16x5¾	(4) 9/32x21/32
HB920	6⅝	7⅞	10¼	6½x7 5/16	(4) 9/32x21/32
VS300	3 5/32	2⅝	3	2x2	(4) 3/16x3/8
VS401	3 5/16	2 15/16	3¼	2¼x1 13/16	(4) 3/16x3/8
VS501	3 9/32	3¼	3⅜	2½x2 1/16	(4) 3/16x3/8
VS503	3 9/32	3¼	3⅝	2½x2 5/16	(4) 3/16x3/8
VS601	4 1/32	3⅞	3⅝	3x2 1/16	(4) 3/16x3/8
VS604	4 1/32	3⅞	4	3x2 7/8	(4) 3/16x3/8
VS611	4 1/32	3⅞	4⅞	3x3 1/16	(4) 3/16x3/8
VS612	4 1/32	3⅞	5	3x3 1/16	(4) 3/16x3/8
VS700	5 1/16	3⅞	5	3½x3¼	(4) 3/16x3/8
VS706	5 1/16	4 5/16	5½	3½x3¾	(4) 3/16x3/8
VS714	5 1/16	4 5/16	6½	3½x4¾	(4) 3/16x3/8
VS718	5 1/16	4 5/16	7	3½x5¼	(4) 9/32x21/32
VS728	5 1/16	4 5/16	8¼	3½x6½	(4) 3/16x3/8



FILAMENT TRANSFORMERS

All primaries are for 115V, 50/60 c.p.s.

Catalog No.	Secondary Voltage	Secondary Current Amps	Secondary Test Voltage RMS	Case Size
TF 1	2.5 (C.T.)	7.5	1500	CH60
TF 2	2.5 (C.T.)	10	1500	CH70
TF 3	2.5 (C.T.)	5	7500	DC2B
TF 4	2.5 (C.T.)	10	7500	DC4A
TF 5	5.0 (C.T.)	4	1500	CH60
TF 6	5.0 (C.T.)	6	1500	CH70
TF 7	5.0 (C.T.)	10	1500	CH80
TF 8	5.0 (C.T.)	10	1500	FV10
TF 9	5.0 (C.T.)	20	2500	FV30
TF 10	5.0 (C.T.)	20	10,000	DC6A
TF 11	6.3 (C.T.)	1.35	1500	CH50
TF 12	6.3 (C.T.)	3	1500	CH60
TF 13	6.3 (C.T.)	5	1500	CH70
TF 14	6.3 (C.T.)	7	1500	FV12
TF 15	6.3 (C.T.)	10	1500	FV22
TF 16	10 (C.T.)	5	2500	CH80
TF 17	10 (C.T.)	5	2500	FV10
TF 18	10 (C.T.) or 11 (C.T.) (tapped primary)	12 or 11	7500	DC-5C
TF 19	12.6 (C.T.)	2	1500	CH62

TF 3, 4, 10 & 18 supplied with terminals. All others with leads.

AUTO TRANSFORMERS

To be used as step-down transformer. Equipped with standard receptacle and line cord.

Catalog No.	Transformation	VA Rating	Weight (lbs.)	Case Size
SDT 1*	230/115 V. 50/60 c.p.s.	25	1	CH-60
SDT 2*	230/115 V. 50/60 c.p.s.	50	1¼	CH-62
SDT 3	230/115 V. 50/60 c.p.s.	50	2½	VS-300
SDT 4	230/115 V. 50/60 c.p.s.	100	3	VS-401
SDT 5	230/115 V. 50/60 c.p.s.	200	5	VS-501
SDT 6	230/115 V. 50/60 c.p.s.	300	6½	VS-601
SDT 7	230/115 V. 50/60 c.p.s.	400	8	VS-604
SDT 8	230/115 V. 50/60 c.p.s.	500	11	VS-611
SDT 9	230/115 V. 50/60 c.p.s.	750	15	VS-706
SDT 10	230/115 V. 50/60 c.p.s.	1000	23	VS-718
SDT 11	230/115 V. 50/60 c.p.s.	1500	29½	VS-728
SDT 12*	230/115 V. 50/60 c.p.s.	2000	37	HB-718
SDT 13*	230/115 V. 50/60 c.p.s.	2500	47	HB-728
SDT 14*	230/115 V. 50/60 c.p.s.	3000	58	HB-828
SDT 15*	230/115 V. 50/60 c.p.s.	5000	72	HB-920

*Supplied with leads without line cord and receptacle.

ISOLATION TRANSFORMERS

Electrostatic shield between primary and secondary. Equipped with standard receptacle and line cord.

Catalog Number	Primary Voltage 50/60 c.p.s.	Secondary Voltage	VA Rating	Case Size
IT 1	115	115	50	VS-401
IT 2	115	115	100	VS-503
IT 3	115	115	300	VS-700
IT 4	115	115	500	VS-714
IT 5*	220/440	110/220	250	VS-612
IT 6*	220/440	110/220	500	VS-714

*Supplied with leads without line cords and receptacle.

LINE BOOSTER TRANSFORMERS

Operates from 90 to 110 volts input to provide 10% step-up.

Catalog Number	Primary Voltage	Secondary Voltage	VA Rating	Case Size
LB-1	90-110	1.1 x input	350	VS-300
LB-2	90-110	1.1 x input	2000	VS-611

See Freed Price Pages 1441-1443

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COMMERCIAL GRADE COMPONENTS

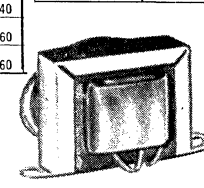
AUDIO TRANSFORMERS

Catalog No.	Application	Impedance Level Ohms Primary	Secondary	Max. Power Level DBM or Power in Watts	Ratio	Max. Pri D.C. per Side Ma.	D.C. Unbalance Ma.	Freq. Response C.P.S.	Case No.
RGA 1	Input; multiple line or double button mike to single or push-pull grids.	500 CT 200 CT	100,000 CT	+20	1:14.1	50	5	±2DB 200-5000	CH-40
RGA 2	Input; single button mike to single or push-pull grids.	100	100,000 CT	+20	1:31.6	50		±2DB 200-5000	CH-40
RGA 3	Input; voice coil to grid. Intercom	3.2	100,000	+20	1:179			±2DB 200-5000	CH-40
RGA 4	Mixing and matching line to line	600 CT 500 CT 200 CT 150/125/50	600 CT 500 CT 200 CT 150/125/50	+20	1:1			±2DB 100-5000	CH-40
RGA 5	Interstage; single triode plate to single or P.P. grids.	10,000	90,000 CT	+30	1:3	10		±2DB 200-5000	CH-40
RGA 6	Output; single plate to line or mixer.	10,000	600 CT 500 CT 200 CT 150/125/50	+30	4.8:1	10		±2DB 200-5000	CH-40
RGA 7	Output; Push-pull plate to line or mixer.	20,000 CT	600 CT 500 CT 200 CT 150/125/50	+30	6.32:1	10	1	±2DB 200-5000	CH-40
RGA 8	Output; plate to V.C. 6AL6, 6L6, 6Y6, 25B6, 25C6, 35A5, 35B5, 35C5, 50B5, 50C5, 50C6, 50L6, 117N7.	2500	3.2	5W		70		±3DB 200-10000	CH-40
RGA 9	Output; plate to V.C. 6V6, 6AQ5, 6AS5, 7C5.	5000	3.2	5W		50		±3DB 200-10000	CH-40
RGA 10	Output; plate to V.C. 6AR5, 6K6, 6Y6, 7B5, 14A5, 3S4, 3U4, 3Q4, 3Q5, 3C5, 3A4.	10,000 or 7500	3.2	5W		30		±3DB 200-10000	CH-40
RGA 11	Output; P.P. plates to V.C. P.P. 6V6, PP6K6.	12,000 CT or 8000 CT	3.2	15W		50	5	±2DB 200-8000	CH-60
RGA-12	Output: TP to V.C. 6V6, 6AQ5, 7C5. C1AB.	10,000 CT	3.2	10W	5.6:1	40	4	±3DB 200-10000	CH-60

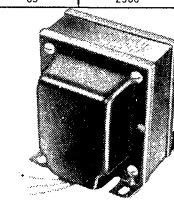
COMMERCIAL GRADE CHOKES

Catalog No.	Inductance in Henries	Rated Current D.C. Ma.	D.C. Resistance	Dielectric Test Voltage	Case Number
RGC 17	40	15	2000	1000	CH-40
RGC 1	4	40	200	1000	CH-40
RGC 2	9	40	400	1000	CH-40
RGC 3	6	50	400	1000	CH-40
RGC 18	20	50	425	1500	CH-60
RGC 4	10	55	400	1500	CH-50
RGC 19	3	75	200	1500	CH-40
RGC 5	10	75	250	1500	CH-60
RGC 6	10	75	250	1500	VS-100
RGC 7	6	100	150	1500	CH-60
RGC 8	6	100	150	1500	VS-100
RGC 9	3.5	150	100	1500	CH-60
RGC 10	3.5	150	100	1500	VS-100
RGC 20	12	160	180	2500	VS-306
RGC 11	2	200	60	1500	CH-60
RGC 12	2	200	60	1500	VS-100
RGC 13	3.7	200	65	1500	CH-80
RGC 21	7	200	100	2500	VS-303
RGC 14	3.7	200	65	1500	VS-300
RGC 15	2.8	300	65	1500	CH-80
RGC 16	2.8	300	65	1500	VS-300
RGC 22	5	300	65	2500	VS-308

CASE DIMENSIONS



CH CASE



VS CASE

CH-40 CASE
Height: 1 7/16"
Width: 2 3/16"
Depth: 1 3/16"
Mtg. Cen.: 2"

CH-50 CASE
Height: 1 11/16"
Width: 2 13/16"
Depth: 1 3/4"
Mtg. Cen.: 2 3/8"

CH-60 CASE
Height: 2"
Width: 3 1/4"
Depth: 1 3/4"
Mtg. Cen.: 2 13/16"

CH-80 CASE
Height: 2 5/8"
Width: 4"
Depth: 2 5/8"
Mtg. Cen.: 3 1/16"

VS-100 CASE
Height: 2 11/32"
Width: 1 7/8"
Depth: 2 1/4"
Mtg. Cen.: 1 1/2"x1 7/16"

VS-300 CASE
Height: 3 3/32"
Width: 2 5/8"
Depth: 2 3/4"
Mtg. Cen.: 2"x1 11/16"

VS-303 CASE
Height: 3 5/32"
Width: 2 5/8"
Depth: 3"
Mtg. Cen.: 2x1 15/16"
Mtg. Hole: (4) 7/16x3/8"

VS-306 CASE
Height: 3 5/32"
Width: 2 5/8"
Depth: 3 3/8"
Mtg. Cen.: 2x2 5/16"
Mtg. Hole: (4) 3/16x3/8"

VS-308 CASE
Height: 3 33/64"
Width: 2 27/32"
Depth: 3 3/8"
Mtg. Cen.: 2"x2 9/16"

PRICE LIST

Catalog No.	Net Price
EPT-1	8.75
EPT-2	8.75
EPT-3	8.75
EPT-4	8.75
EPT-5	8.75
EPT-6	8.75
EPT-7	8.75
EPT-8	11.00
EPT-9	11.00
EPT-11	8.75
EPT-12	8.75
EPT-13	11.00
EPT-14	11.00
EPT-15	14.00
EPT-16	14.00
EPT-17	13.50
EPT-18	13.50
EPT-19	13.50
Note—Molded Units $1.00 additional.	
IT-1	7.25
IT-2	11.40
IT-3	26.40
IT-4	31.95
IT-5	26.40
IT-6	34.95
KA-10	19.00
KP-11	10.50
KC-10	5.40
KC-11	1.90
LB-1	8.40
LB-2	23.25
MAC-5-2-F1	42.50
MAC-5-1-F2	42.50
MAC-5-3F2	42.50
MAC-5-4-F	42.50
MAC-12-3-60	29.95
MAC-12-10-1	36.50
MAC-12-10-2	44.20
MAC-12-20-1	46.50
MAC-12-20-2	57.00
MAC-12-30-1	63.70
MAC-12-30-2	77.50
MAF-4	78.00
MAF-5	80.00
MAF-6	180.00
MAF-7	180.00
MAO-1	70.00
MAO-2	102.00
MAO-3	110.00
MAO-4	155.00
MAO-5	175.00
MAP-1	90.00
MAP-2	150.00
MAP-3	225.00
MAP-301	175.00
MAP-4	280.00
MAP-7	105.00
MAP-8	133.00
MAP-11	95.00

Catalog No.	Net Price
MAS-1	55.00
MAS-2	37.00
MAS-3	65.00
MAS-4	73.00
MAS-5	33.00
MAS-6	50.00
MAS-7	60.00
MAS-8	24.00
MAS-9	87.50
MAS-101	62.50
MAT-1-1	148.50
MCV-4-5LC	14.00
MCV-4-25LC	20.00
MCV-4-75LC	30.00
MCV-4-125LC	38.00
MCV-4-175LC	45.00
MCV-4-250LC	54.00
MCV-4-375LC	69.00
MCV-4-500LC	85.00
MCV-4-750LC	115.00
MCV-4-1000LC	143.00
MCV-4-5-4FC	14.00
MCV-4-25-4FC	20.00
MCV-4-75-4FC	30.00
MCV-4-125-4FC	38.00
MCV-4-5FC	15.00
MCV-4-25FC	21.00
MCV-4-75FC	31.00
MCV-4-125FC	39.00
MCV-4-5LM	22.00
MCV-4-25LM	28.00
MCV-4-75LM	39.00
MCV-4-125LM	48.00
MCV-4-175LM	55.00
MCV-4-250LM	66.00
MCV-4-375LM	81.00
MCV-4-500LM	100.00
MCV-4-750LM	131.00
MCV-4-1000LM	160.00
MCV-4-5-4FM	22.00
MCV-4-25-4FM	28.00
MCV-4-75-4FM	39.00
MCV-4-125-4FM	48.00
MCV-4-5FM	23.00
MCV-4-25FM	29.00
MCV-4-75FM	40.00
MCV-4-125FM	49.00
MCV-6-5LC	11.00
MCV-6-25LC	17.00
MCV-6-75LC	27.00
MCV-6-125LC	34.00
MCV-6-175LC	41.00
MCV-6-250LC	50.00
MCV-6-375LC	64.00
MCV-6-500LC	76.00
MCV-6-750LC	104.00
MCV-6-1000LC	128.00
MCV-6-54FC	11.00
MCV-6-25-4FC	17.00
MCV-6-75-4FC	27.00
MCV-6-125-4FC	34.00

Catalog No.	Net Price
MCV-6-5FC	12.00
MCV-6-25FC	18.00
MCV-6-75FC	28.00
MCV-6-125FC	35.00
MCV-6-5LM	20.00
MCV-6-25LM	26.00
MCV-6-75LM	37.00
MCV-6-125LM	45.00
MCV-6-175LM	53.00
MCV-6-250LM	62.00
MCV-6-375LM	76.00
MCV-6-500LM	90.00
MCV-6-750LM	123.00
MCV-6-1000LM	150.00
MCV-6-54FM	20.00
MCV-6-25-4FM	26.00
MCV-6-75-4FM	37.00
MCV-6-125-4FM	45.00
MCV-6-5FM	21.00
MCV-6-25FM	27.00
MCV-6-75FM	38.00
MCV-6-125FM	46.00
MGA-1	13.75
MGA-2	13.25
MGA-3	12.75
MGA-4	12.75
MGA-5	11.65
MGA-6	12.00
MGA-7	11.65
MGA-8	12.00
MGA-9	11.65
MGC-1	8.65
MGC-2	7.10
MGC-3	7.50
MGC-4	8.35
MGC-5	8.65
MGC-6	7.10
MGC-7	7.50
MGC-8	8.05
MGC-9	7.50
MGC-10	8.05
MGC-11	10.00
MGC-12	7.50
MGC-13	8.05
MGC-14	10.00
MGC-15	10.90
MGC-16	8.05
MGC-17	10.00
MGC-18	11.50
MGC-19	14.40
MGC-20	10.00
MGC-21	*
MGC-22	10.90
MGC-23	*
MGC-24	20.70
MGC-25	*
MGC-26	18.40
MGC-27	*
MGC-28	18.40
MGC-29	*
MGC-30	*

Catalog No.	Net Price
MGC-31	*
MGC-32	7.90
MGC-33	7.90
MGC-34	7.90
MGC-35	7.90
MGC-36	7.90
MGC-37	7.90
*Not stocked, available on short delivery. Prices on request.	
MGF-1	13.50
MGF-2	15.00
MGF-3	13.50
MGF-4	18.00
MGF-5	13.50
MGF-6	15.00
MGF-7	19.50
MGF-8	24.00
MGF-9	19.50
MGF-10	22.50
MGP-1	22.20
MGP-2	24.00
MGP-3	26.40
MGP-4	33.00
MGP-5	39.00
MGP-6	21.00
MGP-7	28.50
MGP-8	37.50
MPT-1	20.20
MPT-2	17.25
MPT-3	25.90
MPT-4	23.00
MPT-5	20.20
MPT-6	17.25
MPT-7	20.20
MPT-8	17.25
MPT-9	25.90
MPT-10	23.00
MPT-11	20.20
MPT-12	31.60
MPT-13C	13.40
MPT-13M	17.70
MPT-13H	22.10
MPT-14C	19.45
MPT-14M	24.00
MPT-14H	29.00
MPT-15C	17.95
MPT-15M	22.40
MPT-15H	30.50
MPT-16C	21.70
MPT-16M	26.30
MPT-16H	32.30
MPT-17C	22.40
MPT-17M	26.00
MPT-17H	30.60
MPT-18C	14.70
MPT-18M	19.10
MPT-19C	22.40
MPT-19M	26.00
MPT-19H	26.00

Catalog No.	Net Price
MPT-20C	17.00
MPT-20M	21.40
MPT-20H	27.60
MPT-21C	24.00
MPT-21M	27.00
MPT-21H	27.60
MPT-22C	22.40
MPT-22M	26.00
MPT-22H	30.60
MPT-23C	24.00
MPT-23M	27.10
MPT-23H	29.40
MPT-24C	15.75
MPT-24M	19.30
MPT-25C	16.10
MPT-25M	20.80
MPT-25H	26.60
MPT-26C	24.00
MPT-26M	25.30
MPT-26H	34.50
MPT-27C	23.40
MPT-27M	25.30
MPT-27H	34.50
PGA-1	16.50
PGA-2	16.50
PGA-3	16.50
PGA-4	14.10
PGA-5	14.85
PGA-6	18.15
PGA-7	12.40
PGA-8	12.40
PGA-9	12.40
PGA-10	13.20
PGA-11	14.05
PGA-12	14.05
PGA-13	16.50
PGA-14	16.50
PGA-15	20.65
PGA-16	20.65
PGA-17	20.65
PGA-18	19.00
PGA-19	20.65
PGA-20	20.65
PGA-21	20.65
PGA-22	22.55
PGA-23	22.55
PGA-24	20.65
PGA-25	36.30
PGA-26	20.65
PGA-27	20.65
PGA-28	20.65
PGA-29	20.65
PGA-30	36.30
PGC-1	6.30
PGC-2	6.30
PGC-3	6.30
PGC-4	7.05
PGC-5	7.05
PGC-6	7.05
PGC-7	7.65
PGC-8	8.70

Catalog No.	Net Price
PGC-9	8.70
PGC-10	9.00
PGC-11	12.30
PGC-12	12.30
PGC-13	13.95
PGC-14	8.75
PGC-15	9.45
PGC-16	9.15
PGC-17	8.70
PGC-18	12.20
PGC-19	12.20
PGC-20	13.85
PGP-1	16.20
PGP-2	18.00
PGP-3	9.60
PGP-4	10.08
PGP-5	10.08
PGP-6	10.80
PGP-7	12.60
PGP-8	10.80
PGP-9	12.60
PGP-10	13.20
PGP-11	16.60
PGP-12	19.80
PGP-13	21.80
PGP-14	26.15
PGP-15	30.40
PGP-16	15.12
PGP-17	16.20
PGP-18	21.80
PGP-19	26.15
PGP-20	32.40
PMA-1	10.90
PMA-2	8.93
PMA-3	12.58
PMA-4	8.93
PMA-5	8.93
PMA-6	10.90
PMA-7	10.90
PMA-8	10.90
PMA-9	10.90
PMA-10	10.23
PMA-11	7.92
PMA-12	10.90
PMA-13	9.90
PMA-14	11.10
PMA-15	10.90
PQC-1	9.40
PQC-2	9.40
PQC-3	9.40
PQC-4	9.40
PQC-5	9.40
PQC-6	9.40
PQC-7	9.40
PQC-8	9.40
PQC-9	9.40
QGA-1	22.30
QGA-2	27.70
QGA-3	19.80
QGA-4	27.70
QGA-5	25.20

Catalog No.	Net Price
QGA-6	29.20
QGA-7	19.80
QGA-8	27.70
QGA-9	27.70
QGA-10	31.60
QGA-11	23.80
QGA-12	23.80
QGA-13	19.80
QGA-14	20.50
QGA-15	25.20
QGA-16	20.50
QGA-17	20.50
QGA-18	22.90
QGA-19	20.50
QGA-20	26.30
QGA-21	23.80
QGA-22	39.60
QGA-23	27.70
QGA-24	27.70
QGA-25	27.70
QGA-26	27.70
QGA-27	27.70
QGA-28	27.70
QGA-29	27.70
QGA-30	27.70
QGA-31	35.60
QGA-32	35.60
QGA-33	35.60
QGA-34	35.60
QGA-35	39.20
QGA-36	39.20
QGA-37	23.80
QGA-38	39.20
QGA-39	27.70
QGA-40	27.70
QGA-41	39.20
QGA-42	39.20
QGC-1	22.50
QGC-2	22.50
QGC-3	22.50
QGC-4	22.50
QGC-5	22.50
QGC-6	22.50
QGC-7	22.50
QGC-8	15.00
QGC-9	15.00
QGC-10	15.00
QGC-11	15.00
QGC-12	15.00
QGC-13	15.00
QGC-14	13.50
QGC-15	13.50
QGC-16	13.50
QGC-17	13.50
QGC-18	13.50
QGC-19	11.50
QGC-20	11.50
QGC-21	11.50
QGC-22	11.50
QGC-23	11.50
QGC-24	11.50

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PRICE LIST

Catalog No.	Net Price
QGC-25	10.50
QGC-26	10.50
QGC-27	10.50
QGC-28	10.50
QGC-29	10.50
QGC-30	10.50
QGC-31	10.50
QGC-32	10.50
QGC-33	10.50
QGC-34	10.50
QGC-35	10.50
QGC-36	10.50
QGC-37	10.50
QGC-38	10.80
QGC-39	10.50
QGC-40	10.50
QGC-41	10.50
QGC-42	10.50
RGA-1	4.50
RGA-2	3.63
RGA-3	3.63
RGA-4	4.50
RGA-5	3.63
RGA-6	4.33
RGA-7	4.50
RGA-8	2.06
RGA-9	2.06
RGA-10	2.48
RGA-11	3.63
RGA-12	4.50
RGC-1	1.69
RGC-2	1.69
RGC-3	1.69
RGC-4	1.90
RGC-5	2.29
RGC-6	3.41
RGC-7	2.29
RGC-8	3.41
RGC-9	2.29
RGC-10	3.41
RGC-11	2.29
RGC-12	3.41
RGC-13	3.62
RGC-14	5.17
RGC-15	3.62
RGC-16	5.17
RGC-17	2.07
RGC-18	2.60
RGC-19	1.69
RGC-20	5.85
RGC-21	5.85
RGC-22	7.60
RGP-1	6.62
RGP-2	6.62
RGP-3	7.04
RGP-4	7.04
RGP-5	7.04
RGP-6	7.04
RGP-7	7.75
RGP-8	7.75
RGP-9	9.50
RGP-10	9.50
RGP-11	7.75
RGP-12	7.75
RGP-13	9.50
RGP-14	9.50
RGP-15	10.00
RGP-16	10.00
RGP-17	11.74
RGP-18	11.74
RGP-19	12.40
RGP-20	12.40
RGP-21	16.20
RGP-22	16.20
RGP-23	21.80
RGP-24	21.80
RGP-25	26.00
RGP-26	26.00
RGP-27	9.65
RGP-28	9.65
RGP-29	11.74
RGP-30	11.74
RGP-31	17.30
RGP-32	17.30
RGP-33	21.80
RGP-34	21.80
RGP-35	26.00
RGP-36	26.00
SDT-1	2.63
SDT-2	3.07
SDT-3	5.39
SDT-4	7.18
SDT-5	8.98
SDT-6	12.05
SDT-7	12.78
SDT-8	13.51
SDT-9	18.30
SDT-10	23.30
SDT-11	36.10
SDT-12	42.00
SDT-13	54.80
SDT-14	72.00
SDT-15	112.50
TAC 6-50	55.75
TAC-12-50	65.55
TAC-12-90	73.00
TAC-12-175	88.50
TAC-28-50	73.50
TAC-28-100	81.50
TAC-28-175	95.50
TAC-28-250	105.50
TAC-12-50-4	65.50
TAC-12-100-4	73.00
TAC-28-50-4	73.50
TAC-28-150-4	81.50
TDC-6-15-05	39.50
TDC-12-30-15	51.70
TDC-12-25-12	50.55
TDC-12-30-05	42.50
TDC-12-20-05	39.50
TDC-28-30-15	56.45
TDC-28-25-12	54.80
TDC-28-30-05	45.30
TDC-28-20-05	42.90
TDC-48-20-15	72.50
TDC-48-30-15	75.00
TF-1	3.42
TF-2	4.55
TF-3	11.40
TF-4	14.00
TF-5	3.42
TF-6	4.55
TF-7	5.00
TF-8	7.15
TF-9	8.74
TF-10	18.20
TF-11	2.28
TF-12	3.42
TF-13	4.55
TF-14	5.53
TF-15	6.74
TF-16	5.00
TF-17	7.15
TF-18	18.20
TF-19	3.80
TMA-1	8.25
TMA-2	10.56
TMA-3	8.60
TMA-4	10.90
TMA-5	10.90
TMA-6	10.90
TMA-7	8.90
TMA-8	10.56
TMA-9	8.60
TMA-10	8.25
TMA-11	8.60
TMA-12	10.90
TMA-13	8.25
TMA-14	10.90
TMO-15	4.30
TMO-16	4.30
TMO-17	3.64
TMO-18	4.30
TMA-19	8.25
TNA-1	6.95
TNA-2	6.95
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TTA-1	8.90
TTA-2	7.26
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TTA-4	10.00
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TUA-10	7.26
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TUA-16	6.27
TUA-17	6.27
TUA-18	7.26
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TUA-23	6.60
TUA-24	6.71
TUA-25	6.60
TUA-26	6.60
TUA-27	5.94
TUA-28	6.60
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TUA-37	7.59
TUA-38	7.59
ULD-20	12.50
ULD-50	19.55
ULI-20	12.50
ULO-10	31.20
ULO-11	31.20
ULO-12	31.20
ULO-13	31.20
ULO-30	35.75
ULO-31	35.75
ULO-32	35.75
ULO-33	35.75
ULO-34	35.75
ULO-35	35.75
ULO-36	35.75
ULO-37	35.75
ULO-52	93.75
ULO-53	93.75
ULO-54	93.75
ULO-55	93.75
ULO-56	93.75
ULO-101	181.00
ULO-104	181.00
ULO-110	181.00
VHI-1	9.50
VHI-2	9.50
VHI-3	9.50
VHI-4	9.50
VHI-5	9.50
VHI-6	9.50
VHI-7	9.50
VHI-8	9.50
VHI-9	9.50
VHI-10	9.50
VHI-11	9.50
VHI-12	9.50
VHI-13	9.50
VHI-14	9.50
VHI-15	9.50
VHI-16	9.50
VHI-17	9.50
VHI-18	9.50
VHI-19	9.50
VHI-20	9.50
VHI-21	9.50
VHI-22	9.50

Filters & Discriminators

MTN .4 TO 7.35	35.00
MTN 10.5 to MTW 70	40.00
IBM*	25.00
	35.00
IBP*	25.00
	35.00
IHM*	25.00
	35.00
IHP*	25.00
	35.00
ILM*	25.00
	35.00
ILP*	25.00
	35.00
LBM*	25.00
	35.00
LBP*	25.00
	35.00
LHM*	25.00
	35.00
LHP*	25.00
	35.00
LLM*	25.00
	35.00
LLP*	25.00
	35.00

*Stock Frequencies are $35.00 Net.
Special Frequencies are $40.00 Net

DSF-10	39.50
DSF-11	39.50
DSF-12	39.50
DSF-13	39.50
DSF-14	39.50
DSF-15	39.50
DSF-16	39.50
DSF-17	39.50
DSF-18	39.50
DSF-19	39.50
DSF-20	39.50
DSF-21	39.50
DSF-22	39.50
DSF-23	39.50
DSF-24	39.50
DSF-25	39.50
DSF-26	39.50
DSF-27	39.50
DSF-28	39.50
DSF-29	39.50
DST-10	50.00
DST-11	50.00
DST-12	50.00
DST-13	50.00
DST-14	50.00
DST-15	50.00
DST-16	60.00
DST-17	50.00
DST-18	50.00
DST-19	50.00
DST-20	50.00
DST-21	50.00
DST-22	50.00
DST-23	50.00
DST-24	60.00
DST-25	60.00
DST-26	60.00
DST-27	50.00
DST-28	60.00
DST-29	60.00
DST-30	60.00
DST-31	60.00
DST-32	60.00
DST-33	60.00
FBP-10	86.00
FBP-11	86.00
FBP-12	86.00
FBP-13	86.00
FBP-14	70.80
FBP-15	70.80
FBP-16	70.80
FBP-17	70.80
FBP-18	70.80
FBP-19	70.80
FBP-20	70.80
FBP-21	70.80
FBP-22	70.80
FBP-23	70.80
FBP-24	86.00
FBP-25	70.80
FBP-26	86.00
FBP-27	86.00
FBP-28	86.00
FBP-29	86.00
FBP-30	86.00
FBP-31	86.00
FBP-32	86.00
FBP-33	86.00
FBP-34	73.00
FBP-35	73.00
FBP-36	73.00
FBP-37	73.00
FBP-38	73.00
FBP-39	80.00
FBP-40	88.00
FBP-41	88.00
FBP-42	88.00
FBP-43	88.00
FBP-44	88.00
FBP-45	88.00
FBP-46	88.00
FBP-47	88.00
FBP-48	88.00
FBP-49	88.00
FBP-50	88.00
FBP-51	88.00
FBP-52	88.00
FBP-53	88.00
FBP-54	88.00
FBP-55	88.00
FBP-56	88.00
FBP-57	88.00
FBR-10	89.50
FBR-11	89.50
FBR-12	89.50
FBR-13	89.50
FBR-14	89.50
FBR-15	89.50
FBR-16	89.50
FBR-17	89.50
FBR-18	89.50
FBR-19	89.50
FBR-20	89.50
FBR-21	89.50
FBR-22	89.50
FBR-23	89.50
FBR-24	89.50
FBR-25	89.50
FBR-26	89.50
FBR-27	89.50
FBR-28	89.50
FBR-29	89.50
FBT-10	42.50
FBT-11	42.50
FBT-12	42.50
FBT-13	42.50
FBT-14	42.50
FBT-15	42.50
FBT-16	42.50
FBT-17	42.50
FBT-18	42.50
FBT-19	42.50
FBT-20	42.50
FBT-21	42.50
FBT-22	42.50
FBT-23	42.50
FBT-24	42.50
FBT-25	42.50
FBT-26	42.50
FBT-27	42.50
FBT-28	42.50
FBT-29	42.50
LPI-10	43.25
LPI-11	43.25
LPI-12	43.25
LPI-13	43.25
LPI-14	43.25
LPI-15	43.25
LPI-16	43.25
LPI-17	43.25
LPI-18	43.25
LPI-19	43.25
LPI-20	43.25
LPI-21	43.25
LPI-22	43.25
LPI-23	43.25
LPI-24	43.25
LPI-25	43.25
LPI-26	43.25
LPI-27	43.25
LPI-28	43.25
LPO-10	93.30
LPO-11	85.50
LPO-12	81.30
LPO-13	85.00
LPO-14	72.00
LPO-15	68.85
LPO-16	64.50
LPO-17	62.50
LPO-18	61.60
LPO-19	62.80
LPO-20	61.15
LPO-21	55.60
LPO-22	55.60
LPO-23	48.20
LPO-24	47.10
LPO-25	47.10
LPO-26	47.10
LPO-27	48.20
LPO-28	47.10
LPO-29	47.10
LPO-30	47.10
LPO-31	48.20
LPO-32	47.10
LPO-33	47.10
LPO-34	47.10
LPO-35	47.10
NTF-30	25.00
NTF-60	25.00
NTF-120	25.00

Toroidal Inductors

Prices shown are Net for Hermetically Sealed. Deduct $1.50 from Net for Uncased units. Add $1.00 to Net for Encapsulated units.

Type TI-1

F-800	6.65
F-801	6.65
F-802	6.65
F-803	7.10
F-804	6.60
F-805	6.60
F-806	8.50
F-807	8.50
F-808	8.50
F-809	9.50
F-810	9.50
F-811	10.50
F-812	10.50
F-813	10.50
F-814	10.50
F-815	10.50
F-816	11.00
F-817	11.50
F-818	12.00
F-819	12.35
F-820	12.65
F-821	12.75
F-822	13.00
F-823	13.30
F-824	13.75
F-825	14.25
F-826	14.50
F-827	14.80
F-828	15.20
F-829	16.15
F-830	17.10

Type TI-4 and 4s

F-850	7.90
F-851	7.90
F-852	7.90
F-853	7.90
F-854	7.90
F-855	7.90
F-856	8.25
F-857	8.60
F-858	8.80
F-859	8.95
F-860	9.05
F-861	9.20
F-862	9.35
F-863	9.50
F-864	9.80
F-865	10.35
F-866	10.65
F-867	10.65
F-868	10.65
F-869	11.15
F-870	11.15
F-871	11.15
F-872	11.50
F-873	11.50
F-874	12.00
F-875	12.45
F-876	12.90
F-877	13.40
F-878	13.90

Type TI-1A and As

F-1500	7.50
F-1501	7.50
F-1502	7.50
F-1503	7.50
F-1504	7.50
F-1505	7.50
F-1506	7.50
F-1507	7.75
F-1508	7.75
F-1509	7.75
F-1510	7.75
F-1511	7.75
F-1512	7.75
F-1513	7.90
F-1514	7.90
F-1515	7.90
F-1516	8.10
F-1517	8.10
F-1518	8.10
F-1519	8.35
F-1520	8.35
F-1521	8.55
F-1522	8.55
F-1523	8.75
F-1524	8.75
F-1525	9.05
F-1526	9.05
F-1527	9.25
F-1528	9.75
F-1529	10.10
F-1530	10.10
F-1531	10.35
F-1532	10.75
F-1533	11.25
F-1534	11.75
F-1535	11.75
F-1536	12.75
F-1537	13.10
F-1538	13.60

Type TI-9s

F-1554	16.60
F-1555	16.80
F-1556	17.00
F-1557	17.30
F-1558	17.40
F-1559	17.50
F-1560	17.80
F-1561	17.80
F-1562	18.05
F-1563	18.30
F-1564	18.50
F-1565	18.50
F-1566	19.00
F-1567	19.50
F-1568	19.95
F-1569	20.40
F-1570	21.40

Type TI-10s

F-1579	14.15
F-1580	14.15
F-1581	14.35
F-1582	14.45
F-1583	14.50
F-1584	14.60
F-1585	14.70
F-1586	14.80
F-1587	14.90
F-1588	15.00
F-1589	15.10
F-1590	15.30
F-1591	15.40
F-1592	15.60

Type TI-13

F-1629	16.60
F-1630	16.80
F-1631	17.00
F-1632	17.30
F-1633	17.40
F-1634	17.50
F-1635	17.60
F-1636	17.80
F-1637	18.05
F-1638	18.30
F-1639	18.50
F-1640	18.50
F-1641	19.00
F-1642	19.50
F-1643	19.95
F-1644	20.40
F-1645	21.40

Type TI-12 and 12s

F-1655	13.60
F-1656	13.60
F-1657	13.60
F-1658	14.05
F-1659	14.05
F-1660	14.05
F-1661	14.65
F-1662	14.65
F-1663	15.10
F-1664	15.10
F-1665	13.75
F-1666	13.75
F-1667	14.15
F-1668	14.15
F-1669	14.65
F-1670	14.65
F-1671	14.65
F-1672	15.10
F-1673	15.60
F-1674	16.05
F-1675	16.05
F-1676	16.50
F-1677	16.50
F-1678	17.00
F-1679	17.00
F-1680	17.50
F-1681	17.50
F-1682	17.50
F-1683	17.95
F-1684	17.95
F-1685	17.95
F-1686	18.45
F-1687	18.90
F-1688	19.50
F-1689	19.95
F-1690	20.40
F-1691	20.90
F-1692	21.40
F-1693	21.85

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PRICE LIST

Type TI-5

Catalog No.	Net Price
F-1700	5.70
F-1701	5.70
F-1702	5.70
F-1703	6.20
F-1704	6.65
F-1705	6.90
F-1706	7.10
F-1707	7.35
F-1708	7.60
F-1709	7.85
F-1710	8.05
F-1711	8.30
F-1712	9.00
F-1713	9.60
F-1714	9.80
F-1715	10.25
F-1716	10.60
F-1717	10.95
F-1718	11.20
F-1719	11.50
F-1720	11.90

Type TI-5s

Catalog No.	Net Price
F-1700s	7.90
F-1701s	7.90
F-1702s	7.90
F-1703s	7.90
F-1704s	7.90
F-1705s	8.15
F-1706s	8.25
F-1707s	8.50
F-1708s	8.80
F-1709s	8.95
F-1710s	9.05
F-1711s	9.20
F-1712s	9.30
F-1713s	9.60
F-1714s	9.80
F-1715s	10.25
F-1716s	10.65
F-1717s	10.85
F-1718s	11.20
F-1719s	11.50
F-1720s	11.90

Type TI-6 and 6s

Catalog No.	Net Price
F-1726	8.15
F-1727	8.15
F-1728	8.15
F-1729	8.15
F-1730	8.15
F-1731	8.15
F-1732	8.45
F-1733	8.45
F-1734	8.55
F-1735	8.55
F-1736	8.55
F-1737	9.00
F-1738	10.00
F-1739	10.00
F-1740	10.00
F-1741	10.00
F-1742	10.45
F-1743	11.90

Type TI-11s

Catalog No.	Net Price
F-1747	14.20
F-1748	14.20
F-1749	14.20
F-1750	14.20
F-1751	14.20
F-1752	15.20
F-1753	15.20
F-1754	15.20
F-1755	15.20
F-1756	15.20
F-1757	14.20
F-1758	14.20
F-1759	14.65
F-1760	14.65
F-1761	15.20
F-1762	15.85
F-1763	16.15
F-1764	16.65
F-1765	17.10
F-1766	17.60
F-1767	17.80
F-1768	18.05
F-1769	18.45
F-1770	18.45
F-1771	18.45
F-1772	19.00
F-1773	19.50
F-1774	19.95
F-1775	20.40
F-1776	20.90
F-1777	21.85
F-1778	22.80
F-1779	23.75
F-1780	24.70

Type TI-7

Catalog No.	Net Price
F-1781	7.90
F-1782	7.90
F-1783	7.90
F-1784	7.90
F-1785	7.90
F-1786	7.90
F-1787	8.05
F-1788	8.05
F-1789	8.25
F-1790	8.25
F-1791	8.45
F-1792	8.65
F-1793	8.65
F-1794	8.65
F-1795	9.00
F-1796	9.45
F-1797	10.00

Type TI-2s

Catalog No.	Net Price
F-1800	14.20
F-1801	14.20
F-1802	14.20
F-1803	14.20
F-1804	14.20
F-1805	14.65
F-1806	14.65
F-1807	14.65
F-1808	14.65
F-1809	14.65
F-1810	14.65
F-1811	14.90
F-1812	14.90
F-1813	14.90
F-1814	14.90
F-1815	14.90

Type TI-8 and 8s

Catalog No.	Net Price
F-1821	8.65
F-1822	8.65
F-1823	8.65
F-1824	8.65
F-1825	8.65
F-1826	8.65
F-1827	8.65
F-1828	8.65
F-1829	8.65
F-1830	8.65
F-1831	8.65
F-1832	8.75
F-1833	8.85
F-1834	9.00
F-1835	9.00
F-1836	9.00
F-1837	9.10
F-1838	9.40
F-1839	9.50
F-1840	9.90

Type TI-3s

Catalog No.	Net Price
F-1844	14.25
F-1845	14.25
F-1846	14.25
F-1847	14.25
F-1848	14.25
F-1849	14.25
F-1850	14.25
F-1851	14.25
F-1852	14.25
F-1853	14.25
F-1854	14.25
F-1855	14.25

Type TI-3As

Catalog No.	Net Price
F-1856	20.00
F-1857	20.50
F-1858	20.50
F-1859	22.30
F-1860	22.80
F-1861	22.80
F-1862	23.30
F-1863	23.30

Type TI-15

Catalog No.	Net Price
F-1870	7.25
F-1871	7.25
F-1872	7.25
F-1873	7.25
F-1874	7.25
F-1875	7.25
F-1876	7.25
F-1877	7.25
F-1878	7.25
F-1879	7.25
F-1880	7.25
F-1881	7.45
F-1882	7.45
F-1883	7.65
F-1884	7.65
F-1885	7.85
F-1886	8.05
F-1887	8.05
F-1888	8.05
F-1889	8.45

Type TI-14

Catalog No.	Net Price
F-1920	7.40
F-1921	7.40
F-1922	7.40
F-1923	7.40
F-1924	7.40
F-1925	7.40
F-1926	7.85
F-1927	7.85
F-1928	7.95
F-1929	7.95
F-1930	7.95
F-1931	8.40
F-1932	8.75
F-1933	8.75
F-1934	9.00
F-1935	9.25
F-1936	9.75

Type TI-16

Catalog No.	Net Price
F-2050	6.05
F-2051	6.05
F-2052	6.05
F-2053	5.85
F-2054	5.85
F-2055	6.30
F-2056	6.80
F-2057	7.05
F-2058	7.25
F-2059	7.35
F-2060	7.70
F-2061	8.00
F-2062	8.20
F-2063	8.45
F-2064	9.75
F-2065	10.80
F-2066	11.00
F-2067	11.40
F-2068	11.65
F-2069	12.00

Type TI-17

Catalog No.	Net Price
F-2100	7.90
F-2101	7.90
F-2102	7.90
F-2103	7.90
F-2104	7.90
F-2105	7.90
F-2106	7.90
F-2107	7.90
F-2108	7.90
F-2109	7.90
F-2110	7.90
F-2111	8.05
F-2112	8.05
F-2113	8.25
F-2114	8.25
F-2115	8.65
F-2116	8.65
F-2117	9.05

Type TI-18

Catalog No.	Net Price
F-2140	8.65
F-2141	8.65
F-2142	8.65
F-2143	8.65
F-2144	8.65
F-2145	8.65
F-2146	8.65
F-2147	8.65
F-2148	8.65
F-2149	8.65
F-2150	8.65
F-2151	8.75
F-2152	8.85
F-2153	9.00
F-2154	9.00
F-2155	9.20
F-2156	9.50
F-2157	9.70

Type TI-19

Catalog No.	Net Price
F-2180	7.90
F-2181	7.90
F-2182	7.90
F-2183	7.90
F-2184	7.90
F-2185	7.90
F-2186	7.90
F-2187	7.90
F-2188	7.90
F-2189	7.90
F-2190	7.90
F-2191	7.90
F-2192	7.90
F-2193	7.90

Type TI-20s

Catalog No.	Net Price
F-2201	6.40
F-2202	6.40
F-2203	6.95
F-2204	6.95
F-2205	6.95
F-2206	7.15
F-2207	7.45
F-2208	8.10
F-2209	8.10
F-2210	8.10
F-2211	8.10
F-2212	8.10
F-2213	8.10
F-2214	8.10
F-2215	8.10

Type TI-21s

Catalog No.	Net Price
F-2240	6.00
F-2241	6.00
F-2242	6.00
F-2243	6.00
F-2244	6.00
F-2245	6.00
F-2246	6.40
F-2247	6.40
F-2248	6.40
F-2249	6.40

Type TI-22s

Catalog No.	Net Price
F-2270	6.00
F-2271	6.00
F-2272	6.00
F-2273	6.00
F-2274	6.00
F-2275	6.00
F-2276	6.40
F-2277	6.40
F-2278	6.40
F-2279	6.40
F-2280	7.15
F-2281	7.15
F-2282	7.15
F-2283	7.15
F-2284	7.15

Type TI-23s

Catalog No.	Net Price
F-2301	6.25
F-2302	6.25
F-2303	6.25
F-2304	6.25
F-2305	6.25
F-2306	6.25
F-2307	6.75
F-2308	6.75
F-2309	6.75
F-2310	6.75
F-2311	7.50
F-2312	7.50
F-2313	7.50

Type TI-24

Catalog No.	Net Price
F-2400	5.90
F-2401	5.90
F-2402	5.90
F-2403	5.90
F-2404	6.05
F-2405	6.05
F-2406	6.05
F-2407	6.05
F-2408	6.30
F-2409	6.30
F-2410	6.80
F-2411	7.05
F-2412	7.25
F-2413	7.35
F-2414	7.70
F-2415	8.00
F-2416	8.20
F-2417	8.45
F-2418	9.75
F-2419	10.50
F-2420	10.80
F-2421	11.00
F-2422	11.40

Type TI-25

Catalog No.	Net Price
F-2450	7.90
F-2451	7.90
F-2452	7.90
F-2453	7.90
F-2454	7.70
F-2455	7.70
F-2456	7.50
F-2457	7.50
F-2458	7.30
F-2459	7.30
F-2460	7.20
F-2461	7.10
F-2462	7.10
F-2463	7.05
F-2464	7.00
F-2465	7.00
F-2466	7.05
F-2467	7.10
F-2468	7.20
F-2469	7.20
F-2470	7.40
F-2471	7.40
F-2472	7.60
F-2473	7.80
F-2474	8.00
F-2475	8.40
F-2476	8.80
F-2477	9.50
F-2478	9.80
F-2479	9.95
F-2480	10.20
F-2481	10.50

Type TI-26

Catalog No.	Net Price
F-2500	5.70
F-2501	5.70
F-2502	5.70
F-2503	5.70
F-2504	5.70
F-2505	5.70
F-2506	5.70
F-2507	5.70
F-2508	6.05
F-2509	6.20
F-2510	6.60
F-2511	6.80
F-2512	7.10
F-2513	7.35
F-2514	7.60
F-2515	7.80
F-2516	8.05
F-2517	8.30
F-2518	8.50
F-2519	8.70
F-2520	8.90
F-2521	9.20
F-2522	9.50
F-2523	9.90
F-2524	10.30
F-2525	10.80
F-2526	11.05
F-2527	11.30
F-2528	11.50
F-2529	11.90
F-2530	12.20
F-2531	12.60
F-2532	13.05
F-2533	13.80

Type TI-27

Catalog No.	Net Price
F-2550	7.90
F-2551	7.90
F-2552	7.90
F-2553	7.90
F-2554	7.90
F-2555	8.10
F-2556	8.10
F-2557	8.20
F-2558	8.40
F-2559	8.20
F-2560	8.30
F-2561	8.50
F-2562	8.60
F-2563	8.80
F-2564	8.95
F-2565	9.10
F-2566	9.30
F-2567	9.50
F-2568	9.90
F-2569	10.50
F-2570	10.70
F-2571	10.90
F-2572	11.40
F-2573	11.60
F-2574	12.10
F-2575	12.40
F-2576	12.90
F-2577	13.40
F-2578	13.70
F-2579	13.90
F-2580	14.20
F-2581	14.20
F-2582	14.50
F-2583	14.50

Type TI-28

Catalog No.	Net Price
F-2600	6.75
F-2601	6.85
F-2602	6.90
F-2603	6.95
F-2604	7.05
F-2605	7.10
F-2606	7.30
F-2607	7.40
F-2608	7.60
F-2609	7.80
F-2610	7.20
F-2611	7.60
F-2612	8.40
F-2613	8.50
F-2614	8.70
F-2615	9.20
F-2616	9.40
F-2617	9.55
F-2618	9.70
F-2619	9.90
F-2620	10.05
F-2621	10.10
F-2622	10.20
F-2623	10.30
F-2624	10.50
F-2625	10.80
F-2626	11.80
F-2627	12.20
F-2628	12.35
F-2629	12.65
F-2630	13.30
F-2631	14.65
F-2632	15.20
F-2633	16.15

Type TI-29

Catalog No.	Net Price
F-2650	8.05
F-2651	8.10
F-2652	8.20
F-2653	8.20
F-2654	8.20
F-2655	8.20
F-2656	8.20
F-2657	8.30
F-2658	8.10
F-2659	8.10
F-2660	7.90
F-2661	7.60
F-2662	7.70
F-2663	7.75
F-2664	7.80
F-2665	7.90
F-2666	7.90
F-2667	8.00
F-2668	8.00
F-2669	8.10
F-2670	8.15
F-2671	8.20
F-2672	8.25
F-2673	8.30
F-2674	8.35
F-2675	8.40
F-2676	8.50
F-2677	8.60
F-2678	8.75
F-2679	8.75
F-2680	9.25
F-2681	10.10
F-2682	10.75
F-2683	11.75
F-2684	12.75
F-2685	13.60
F-2686	13.80

Type TI-30

Catalog No.	Net Price
F-2700	12.05
F-2701	12.30
F-2702	12.50
F-2703	12.80
F-2704	12.95
F-2705	13.20
F-2706	13.50
F-2707	13.70
F-2708	13.90
F-2709	14.20
F-2710	14.50
F-2711	13.60
F-2712	13.75
F-2713	14.10
F-2714	14.20
F-2715	14.30
F-2716	14.50
F-2717	14.70
F-2718	15.10
F-2719	15.20
F-2720	15.30
F-2721	15.50
F-2722	15.70
F-2723	15.80
F-2724	15.95
F-2725	16.05
F-2726	16.20
F-2727	16.50
F-2728	16.70
F-2729	17.00
F-2730	17.50
F-2731	17.95
F-2732	18.90
F-2733	19.45
F-2734	20.40
F-2735	21.85
F-2736	22.50

Type TI-31

Catalog No.	Net Price
F-2750	14.40
F-2751	14.80
F-2752	14.90
F-2753	14.90
F-2754	14.90
F-2755	14.90
F-2756	14.90
F-2757	14.90
F-2758	15.05
F-2759	15.10
F-2760	15.20
F-2761	15.20
F-2762	14.50
F-2763	14.80
F-2764	15.10
F-2765	15.50
F-2766	15.80
F-2767	16.05
F-2768	16.10
F-2769	16.20
F-2770	16.40
F-2771	16.60
F-2772	16.80
F-2773	17.00
F-2774	17.10
F-2775	17.40
F-2776	17.60
F-2777	17.90
F-2778	18.05
F-2779	18.45
F-2780	19.00
F-2781	19.50
F-2782	19.95
F-2783	20.90
F-2784	21.80
F-2785	22.80
F-2786	23.80
F-2787	24.70
F-2788	27.50

Type TI-32

Catalog No.	Net Price
F-2800	7.40
F-2801	7.60
F-2802	7.80
F-2803	8.40
F-2804	8.60
F-2805	8.70
F-2806	8.80
F-2807	8.90
F-2808	9.60
F-2809	9.80
F-2810	10.20
F-2811	10.40
F-2812	10.60
F-2813	10.80
F-2814	11.05
F-2815	11.20
F-2816	11.40
F-2817	11.65
F-2818	12.10
F-2819	12.20
F-2820	12.30
F-2821	12.50
F-2822	12.70
F-2823	13.05
F-2824	13.30

Type TI-33

Catalog No.	Net Price
F-2850	5.90
F-2851	6.00
F-2852	6.10
F-2853	6.30
F-2854	6.40
F-2855	6.70
F-2856	6.90
F-2857	7.10
F-2858	7.30
F-2859	7.40
F-2860	7.60
F-2861	7.70
F-2862	7.80
F-2863	8.10
F-2864	8.20
F-2865	8.30
F-2866	8.50
F-2867	8.60

Type TI-34

Catalog No.	Net Price
F-2900	5.60
F-2901	5.60
F-2902	5.60
F-2903	5.60
F-2904	5.60
F-2905	5.80
F-2906	5.80
F-2907	6.00
F-2908	6.00
F-2909	6.00
F-2910	6.30
F-2911	6.60
F-2912	6.60
F-2913	7.30
F-2914	8.30
F-2915	8.30
F-2916	8.40
F-2917	8.60
F-2918	8.80
F-2919	8.80
F-2920	8.90

Type TI-35

Catalog No.	Net Price
F-2950	6.60
F-2951	6.90
F-2952	7.20
F-2953	7.40
F-2954	7.60
F-2955	7.80
F-2956	8.00
F-2957	8.10
F-2958	8.30
F-2959	8.50
F-2960	8.70
F-2961	8.90
F-2962	9.05
F-2963	9.20

Type TI-36

Catalog No.	Net Price
F-3000	5.90
F-3001	5.90
F-3002	5.90
F-3003	6.00
F-3004	6.00
F-3005	6.15
F-3006	6.30
F-3007	6.30
F-3008	6.60
F-3009	6.60
F-3010	6.80
F-3011	7.20
F-3012	7.40
F-3013	7.70
F-3014	8.20
F-3015	8.50
F-3016	8.80
F-3017	8.90

Type TI-38

Catalog No.	Net Price
F-3550	7.50
F-3551	7.50
F-3552	7.50
F-3553	7.45
F-3554	7.40
F-3555	7.35
F-3556	7.30
F-3557	7.25
F-3558	7.75
F-3559	8.00
F-3560	8.25
F-3561	8.50
F-3562	8.65
F-3563	8.85
F-3564	9.00
F-3565	9.10
F-3566	9.30
F-3567	9.60
F-3568	9.80
F-3569	10.20
F-3570	10.60
F-3571	10.90
F-3572	11.15
F-3573	11.50
F-3574	11.90
F-3575	12.30
F-3576	12.70
F-3577	13.10
F-3578	13.50

Type TI-37

Catalog No.	Net Price
F-4000	9.30
F-4001	9.30
F-4002	9.30
F-4003	9.30
F-4004	9.10
F-4005	9.10
F-4006	9.05
F-4007	9.00
F-4008	8.80
F-4009	8.70
F-4010	8.60
F-4011	8.80
F-4012	8.90
F-4013	9.20
F-4014	9.30
F-4015	9.50
F-4016	9.70
F-4017	9.90
F-4018	10.30
F-4019	10.60
F-4020	11.10
F-4021	11.70
F-4022	12.50
F-4023	13.10
F-4024	13.50
F-4025	13.90

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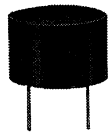
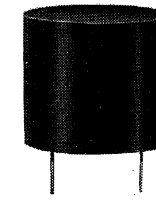


HIGH "Q" INDUCTORS



FREQUENCY RANGE: 1 KHz to 30 KHz

MIL-T-27B: TF4(OR 5)RX

TYPE		PFL 1	PFL 2	PFL 3	PFL 4	PFL 5	PFL 6	PFL 7	PFL 8
Size	Dia.	21/32	27/32	1"	1-1/4	1-3/8	1-1/2	1-3/4	2"
	H'ght	15/32	9/16	5/8	1-1/8	1-1/4	1-5/16	1-7/16	1-1/2
Typi-	Ind.	1.5 MH	2.7 MH	3.9 MH	10 MH	22 MH	39 MH	68 MH	180 MH
cal	Freq.	250KHz	200KHz	180KHz	50KHz	35KHz	15KHz	10KHz	5KHz
"Q"	"Q"	300	350	300	400	400	450	380	300
Inductance		Catalog Number							
1.0	MH	F5000	F5050	F5100	F5150	F5200	F5250	F5300	F5400
1.2	MH	F5001	F5051	F5101	F5151	F5201	F5251	F5301	F5401
1.5	MH	F5002	F5052	F5102	F5152	F5202	F5252	F5302	F5402
1.8	MH	F5003	F5053	F5103	F5153	F5203	F5253	F5303	F5403
2.2	MH	F5004	F5054	F5104	F5154	F5204	F5254	F5304	F5404
2.7	MH	F5005	F5055	F5105	F5155	F5205	F5255	F5305	F5405
3.3	MH	F5006	F5056	F5106	F5156	F5206	F5256	F5306	F5406
3.9	MH	F5007	F5057	F5107	F5157	F5207	F5257	F5307	F5407
4.7	MH	F5008	F5058	F5108	F5158	F5208	F5258	F3308	F5408
5.6	MH	F5009	F5059	F5109	F5159	F5209	F5259	F5309	F5409
6.8	MH	F5010	F5060	F5110	F5160	F5210	F5260	F5310	F5410
8.2	MH	F5011	F5061	F5111	F5161	F5211	F5261	F5311	F5411
10	MH	F5012	F5062	F5112	F5162	F5212	F5262	F5312	F5412
12	MH	F5013	F5063	F5113	F5163	F5213	F5263	F5313	F5413
15	MH	F5014	F5064	F5114	F5164	F5214	F5264	F5314	F5414
18	MH	F5015	F5065	F5115	F5165	F5215	F5265	F5315	F5415
22	MH	F5016	F5066	F5116	F5166	F5216	F5266	F5316	F5416
27	MH	F5017	F5067	F5117	F5167	F5217	F5267	F5317	F5417
33	MH	F5018	F5068	F5118	F5168	F5218	F5268	F5318	F5418
39	MH		F5069	F5119	F5169	F5219	F5269	F5319	F5419
47	MH		F5070	F5120	F5170	F5220	F5270	F5320	F5420
56	MH		F5071	F5121	F5171	F5221	F5271	F5321	F5421
68	MH		F5072	F5122	F5172	F5222	F5272	F5322	F5422
82	MH		F5073	F5123	F5173	F5223	F5273	F5323	F5423
100	MH		F5074	F5124	F5174	F5224	F5274	F5324	F5424
120	MH		F5075	F5125	F5175	F5225	F5275	F5325	F5425
150	MH		F5076	F5126	F5176	F5226	F5276	F5326	F5426
180	MH		F5077	F5127	F5177	F5227	F5277	F5327	F5427
220	MH		F5078	F5128	F5178	F5228	F5278	F5328	F5428
270	MH		F5079	F5129	F5179	F5229	F5279	F5329	F5429
330	MH			F5130	F5180	F5230	F5280	F5330	F5430
390	MH			F5131	F5181	F5231	F5281	F5331	F5431
470	MH			F5132	F5182	F5232	F5282	F5332	F5432
560	MH			F5133	F5183	F5233	F5283	F5333	F5433
680	MH				F5184	F5234	F5284	F5334	F5434
820	MH				F5185	F5235	F5285	F5335	F5435
1.0	H				F5186	F5236	F5286	F5336	F5436
1.2	H				F5187	F5237	F5287	F5337	F5437
1.5	H				F5188	F5238	F5288	F5338	F5438
1.8	H				F5189	F5239	F5289	F5339	F5439
2.2	H				F5190	F5240	F5290	F5340	F5440
2.7	H					F5241	F5291	F5341	F5441
3.3	H					F5242	F5292	F5342	F5442
3.9	H					F5243	F5293	F5343	F5443
4.7	H					F5244	F5294	F5344	F5444
5.6	H					F5245	F5295	F5345	F5445
6.8	H						F5296	F5346	F5446
8.2	H						F5297	F5347	F5447
10	H						F5298	F5348	F5448
12	H							F5349	F5449
15	H							F5350	F5450
18	H							F5351	F5451
22	H							F5352	F5452
27	H								F5453
33	H								F5454

FREQUENCY RANGE: 200 KHz to 2,500 KHz

MIL-T-27B: TF4(OR 5)RX

TYPE		PFM 1	PFM 2	PFM 3	PFM 4	PFM 5	PFM 6	PFM 7	PFM 8
Size	Dia.	21/32	27/32	1"	1-1/4	1-3/8	1-1/2	1-3/4	
	H'ght	15/32	9/16	5/8	1-1/8	1-1/4	1-5/16	1-7/16	
Typi-	Ind.	56 μH	68 μH	100 μH	150 μH	270 μH	680 μH	2.2 MH	
cal	Freq.	1 MHz	400KHz	400KHz	250KHz	200KHz	150KHz	100KHz	
"Q"	"Q"	300	300	400	500	700	650	750	
Inductance		Catalog Number							
15	μH	F5500	F5550	F5600	F5650	F5700	F5750	F5800	
18	μH	F5501	F5551	F5601	F5651	F5701	F5751	F5801	
22	μH	F5502	F5552	F5602	F5652	F5702	F5752	F5802	
27	μH	F5503	F5553	F5603	F5653	F5703	F5753	F5803	
33	μH	F5504	F5554	F5604	F5654	F5704	F5754	F5804	
39	μH	F5505	F5555	F5605	F5655	F5705	F5755	F5805	
47	μH	F5506	F5556	F5606	F5656	F5706	F5756	F5806	
56	μH	F5507	F5557	F5607	F5657	F5707	F5757	F5807	
68	μH	F5508	F5558	F5608	F5658	F5708	F5758	F5808	
82	μH	F5509	F5559	F5609	F5659	F5709	F5759	F5809	
100	μH	F5510	F5560	F5610	F5660	F5710	F5760	F5810	
120	μH	F5511	F5561	F5611	F5661	F5711	F5761	F5811	
150	μH	F5512	F5562	F5612	F5662	F5712	F5762	F5812	
180	μH	F5513	F5563	F5613	F5663	F5713	F5763	F5713	
220	μH	F5514	F5564	F5614	F5664	F5714	F5764	F5814	
270	μH	F5515	F5565	F5615	F5665	F5715	F5765	F5815	
330	μH	F5516	F5566	F5616	F5666	F5716	F5766	F5816	
390	μH	F5517	F5567	F5617	F5667	F5717	F5767	F5817	
470	μH	F5518	F5568	F5618	F5668	F5718	F5768	F5818	
560	μH	F5519	F5569	F5619	F5669	F5719	F5769	F5819	
680	μH	F5520	F5570	F5620	F5670	F5720	F5770	F5820	
820	μH	F5521	F5571	F5621	F5671	F5721	F5771	F5821	
1.0	MH	F5522	F5572	F5622	F5672	F5722	F5772	F5822	
1.2	MH	F5523	F5573	F5623	F5673	F5723	F5773	F5823	
1.5	MH	F5524	F5574	F5624	F5674	F5724	F5774	F5824	
1.8	MH	F5525	F5575	F5625	F5675	F5725	F5775	F5825	
2.2	MH	F5526	F5576	F5626	F5676	F5726	F5776	F5826	
2.7	MH	F5527	F5577	F5627	F5677	F5727	F5777	F5827	
3.3	MH	F5528	F5578	F5628	F5678	F5728	F5778	F5828	
3.9	MH	F5529	F5579	F5629	F5679	F5729	F5779	F5829	
4.7	MH	F5530	F5580	F5630	F5680	F5730	F5780	F5830	
5.6	MH	F5531	F5581	F5631	F5681	F5731	F5781	F5831	
6.8	MH	F5532	F5582	F5632	F5682	F5732	F5782	F5832	
8.2	MH	F5533	F5583	F5633	F5683	F5733	F5783	F5733	
10.0	MH	F5534	F5584	F5634	F5684	F5734	F5784	F5834	
12.0	MH	F5535	F5585	F5635	F5685	F5735	F5785	F5835	
15.0	MH	F5536	F5586	F5636	F5686	F5736	F5786	F5836	
18.0	MH	F5537	F5587	F5637	F5687	F5737	F5787	F5837	
22.0	MH		F5588	F5638	F5688	F5738	F5788	F5838	
27.0	MH		F5589	F5639	F5689	F5739	F5789	F5839	
33.0	MH		F5590	F5640	F5690	F5740	F5790	F5840	
39.0	MH		F5591	F5641	F5691	F5741	F5791	F5841	
47.0	MH		F5592	F5642	F5692	F5742	F5792	F5842	
56.0	MH			F5643	F5693	F5743	F5793	F5843	
68.0	MH			F5644	F5694	F5744	F5794	F5844	
82.0	MH				F5695	F5745	F5795	F5845	
100.0	MH						F5796	F5846	

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HIGH "Q" INDUCTORS

PRICE LIST

Catalog No.	Net Price
F5000	11.75
F5001	11.75
F5002	11.75
F5003	11.75
F5004	11.75
F5005	11.75
F5006	11.75
F5007	11.75
F5008	11.75
F5009	11.75
F5010	11.75
F5011	11.75
F5012	11.75
F5013	11.75
F5014	11.75
F5015	11.75
F5016	11.75
F5017	11.75
F5018	11.75
F5050	11.75
F5051	11.75
F5052	11.75
F5053	11.75
F5054	11.75
F5055	11.75
F5056	11.75
F5057	11.75
F5058	11.75
F5059	11.75
F5060	11.75
F5061	11.75
F5062	11.75
F5063	11.75
F5064	11.75
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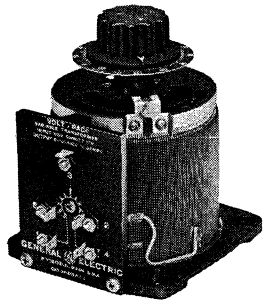
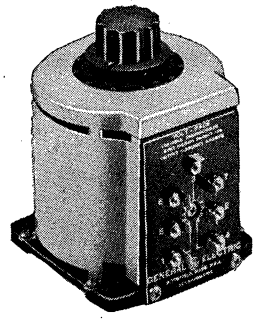
volt-pac® VARIABLE TRANSFORMERS

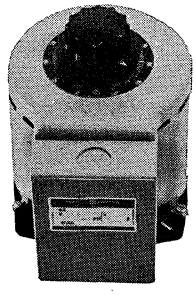
NEW IDEAS IN ELECTRONICS



Manual uncased unit—exposed terminals



Manual cased unit—exposed terminals



Manual cased unit—enclosed terminals

The Volt-Pac variable transformer is a control device which provides continuously adjustable output voltage from a fixed line input to vary the voltage applied to a particular electrical load. With Volt-Pac units, output voltage is changed by flux transformation . . . in the unsaturated range of the magnetic core. The results . . . low cost, versatility, reliability, simplicity, and no wave form distortion.

Volt-Pac units, for surface or back-of-panel mounting, are designed for operation in ambients of —20C to +40C at full rated load, and under all load conditions have low electrical losses.

* When Overvoltage Connection is used, rated current should not be exceeded. Output kva for Overvoltage Connection is maximum output voltage times rated current.

† When using extended tap connections, operation is for 60 cycles per second only.

‡ Output at Overvoltage Connection is 0-132 volts.

§ When operated on lower input-voltage tap, rated current must be reduced when output voltage exceeds 140 percent of input voltage.

¶ For Line-voltage Connection only — No Overvoltage Connection provided.

■ For 240-volt input, 0-240-volt output, application only.

• For 480-volt input, 0-480-volt output, application only.

ϕ 60 cycles only.

Line-voltage Connection		Over-voltage Con-nection,	UNCASED MODELS Exposed Terminals		CASED MODELS Exposed Terminals		Enclosed Terminals	
Rated Amp	Max Amp	Amp*	Model Number	List Price	Model Number	List Price	Model Number	List Price
MANUAL — SINGLE-PHASE, 50/60 CYCLES								
120 VOLT INPUT: OUTPUT — 0-120 VOLT (LINE VOLTAGE CONN.) 0-140 VOLT (OVERVOLTAGE CONN.)								
2.5‡	3.2	2.5	9T92A1	$11.00	.....	.....	.....	.....
4.5†	6.5	4.0	9T92Y5	16.00	.....	.....	.....	.....
7.5†	10.8	7.5	9T92Y7	20.00	9T92Y7G2	$25.00	9T92Y7G3	$26.00
9.0†	11.5	9.0	9T92Y9	21.00	9T92Y9G2	26.00	9T92Y9G3	27.00
10.0ϕ	13.0	None	9T92Y8¶	21.00	9T92Y8G2¶	26.00	9T92Y8G3¶	27.00
11.5ϕ	14.5	None	9T92Y10¶	23.00	9T92Y10G2¶	28.00	9T92Y10G3¶	29.00
15.0†	19.0	15.0	9T92Y27	39.00	9T92Y27G2	44.00	9T92Y27G3	47.00
18.0†	21.7	18.0	9T92Y28	49.00	9T92Y28G2	54.00	9T92Y28G3	57.00
30.0†	34.0	30.0	9T92Y37	93.00	9T92Y37G2	99.00	9T92Y37G3	104.00
37.0†	37.0	37.0	9T92Y38	114.00	9T92Y38G2	120.00	9T92Y38G3	125.00
50.0	55.0	50.0	9T92Y49	140.00	9T92Y49G2	146.00	9T92Y49G3	154.00
60.0	60.0	60.0	9T92Y50	215.00	9T92Y50G2	221.00	9T92Y50G3	229.00
74.0†	74.0	74.0	9T92Y41	256.00	9T92Y41G2	268.00	9T92Y41G3	278.00
100.0	110.0	100.0	9T92Y53	311.00	9T92Y53G2	323.00	9T92Y53G3	339.00
120.0	120.0	120.0	9T92Y54	460.00	9T92Y54G2	472.00	9T92Y54G3	488.00
150.0	165.0	150.0	9T92Y55	543.00	9T92Y55G2	561.00	9T92Y55G3	585.00
180.0	180.0	180.0	9T92Y56	710.00	9T92Y56G2	728.00	9T92Y56G3	752.00
240.0	240.0	240.0	9T92Y57	1010.00	9T92Y57G2	1034.00	9T92Y57G3	1068.00
300.0	300.0	300.0	9T92Y58	1260.00	9T92Y58G2	1290.00	9T92Y58G3	1332.00
360.0	360.0	360.0	9T92Y59	1560.00	9T92Y59G2	1596.00	9T92Y59G3	1646.00
120/240 VOLT INPUT§ OUTPUT 0-240 VOLT (LINE VOLTAGE CONN.) 0-280 VOLT (OVERVOLTAGE CONN.)								
4.0†	5.0	4.0	9T92Y13	$25.00	9T92Y13G2	$30.00	9T92Y13G3	$31.00
4.0ϕ	5.8	None	9T92Y12■	25.00	9T92Y12G2■	30.00	9T92Y12G3■	31.00
5.0ϕ	6.8	None	9T92Y14■	27.00	9T92Y14G2■	32.00	9T92Y14G3■	33.00
7.0†	10.1	7.0	9T92Y29	39.00	9T92Y29G2	44.00	9T92Y29G3	47.00
8.5†	11.0	8.5	9T92Y30	49.00	9T92Y30G2	54.00	9T92Y30G3	57.00
14.0†	14.0	14.0	9T92Y39	93.00	9T92Y39G2	99.00	9T92Y39G3	104.00
16.0†	16.0	16.0	9T92Y40	114.00	9T92Y40G2	120.00	9T92Y40G3	125.00
30.0	33.0	30.0	9T92Y51	140.00	9T92Y51G2	146.00	9T92Y51G3	154.00
35.0	35.0	35.0	9T92Y52	215.00	9T92Y52G2	221.00	9T92Y52G3	229.00
60.0	66.0	60.0	9T92Y60	357.00	9T92Y60G2	369.00	9T92Y60G3	385.00
70.0	70.0	70.0	9T92Y61	460.00	9T92Y61G2	472.00	9T92Y61G3	488.00
90.0	99.0	90.0	9T92Y62	580.00	9T92Y62G2	598.00	9T92Y62G3	622.00
105.0	105.0	105.0	9T92Y63	710.00	9T92Y63G2	728.00	9T92Y63G3	752.00
120.0	132.0	120.0	9T92Y5021	830.00	9T92Y5021G2	854.00	9T92Y5021G3	888.00
140.0	140.0	140.0	9T92Y64	1025.00	9T92Y64G2	1049.00	9T92Y64G3	1083.00
175.0	175.0	175.0	9T92Y65	1260.00	9T92Y65G2	1290.00	9T92Y65G3	1332.00
210.0	210.0	210.0	9T92Y66	1560.00	9T92Y66G2	1596.00	9T92Y66G3	1646.00
240/480 VOLT INPUT§ OUTPUT 0-480 VOLT (LINE VOLTAGE CONN.) 0-560 VOLT (OVERVOLTAGE CONN.)								
4.0†	5.0	4.0	9T92Y17	$64.00	9T92Y17G2	$74.00	9T92Y17G3	$76.00
4.0ϕ	5.8	None	9T92Y16•	66.00	9T92Y16G2•	76.00	9T92Y16G3•	78.00
5.0ϕ	6.8	None	9T92Y18•	68.00	9T92Y18G2•	78.00	9T92Y18G3•	80.00
7.0†	10.1	7.0	9T92Y31	86.00	9T92Y31G2	96.00	9T92Y31G3	102.00
8.5†	11.0	8.5	9T92Y32	118.00	9T92Y32G2	128.00	9T92Y32G3	134.00
14.0†	14.0	14.0	9T92Y42	202.00	9T92Y42G2	214.00	9T92Y42G3	224.00
16.0†	16.0	16.0	9T92Y43	236.00	9T92Y43G2	248.00	9T92Y43G3	258.00
30.0	33.0	30.0	9T92Y67	311.00	9T92Y67G2	323.00	9T92Y67G3	339.00
35.0	35.0	35.0	9T92Y68	440.00	9T92Y68G2	452.00	9T92Y68G3	468.00
60.0	66.0	60.0	9T92Y69	810.00	9T92Y69G2	834.00	9T92Y69G3	868.00
70.0	70.0	70.0	9T92Y70	990.00	9T92Y70G2	1014.00	9T92Y70G3	1048.00
90.0	99.0	90.0	9T92Y71	1230.00	9T92Y71G2	1266.00	9T92Y71G3	1316.00
105.0	105.0	105.0	9T92Y72	1530.00	9T92Y72G2	1566.00	9T92Y72G3	1616.00
MANUAL — THREE-PHASE, 50/60 CYCLES								
240 VOLT LINE TO LINE INPUT: OUTPUT — 0-240 VOLT (LINE VOLTAGE CONN.) 0-280 VOLT (OVERVOLTAGE CONN.)								
2.5ϕ	3.2	None	9T92Y3¶	$60.00	.....	.....	.....	.....
4.5ϕ	6.5	None	9T92Y6¶	71.00	.....	.....	.....	.....
7.5	10.8	7.5	9T92Y19	75.00	9T92Y19G2	$90.00	9T92Y19G3	$93.00
9.0	11.5	9.0	9T92Y21	77.00	9T92Y21G2	92.00	9T92Y21G3	95.00
10.0ϕ	13.0	None	9T92Y20¶	70.00	9T92Y20G2¶	85.00	9T92Y20G3	88.00
11.5ϕ	14.5	None	9T92Y22¶	77.00	9T92Y22G2¶	92.00	9T92Y22G3	95.00
15.0	19.0	15.0	9T92Y33	138.00	9T92Y33G2	153.00	9T92Y33G3	162.00
18.0	21.7	18.0	9T92Y34	175.00	9T92Y34G2	190.00	9T92Y34G3	199.00
30.0	34.0	30.0	9T92Y44	307.00	9T92Y44G2	325.00	9T92Y44G3	340.00
37.0	37.0	37.0	9T92Y45	368.00	9T92Y45G2	386.00	9T92Y45G3	401.00
50.0	55.0	50.0	9T92Y74	517.00	9T92Y74G2	535.00	9T92Y74G3	559.00
60.0	60.0	60.0	9T92Y75	680.00	9T92Y75G2	698.00	9T92Y75G3	722.00
74.0	74.0	74.0	9T92Y48	830.00	9T92Y48G2	866.00	9T92Y48G3	896.00
100.0	110.0	100.0	9T92Y78	1120.00	9T92Y78G2	1156.00	9T92Y78G3	1206.00
120.0	120.0	120.0	9T92Y79	1530.00	9T92Y79G2	1566.00	9T92Y79G3	1616.00
240/480 VOLT LINE TO LINE INPUT§ OUTPUT — 0-480 VOLT (LINE VOLTAGE CONN.) 0-560 VOLT (OVERVOLTAGE CONN.)								
4.0	5.0	4.0	9T92Y25	$89.00	9T92Y25G2	$104.00	9T92Y25G3	$107.00
4.0ϕ	5.8	None	9T92Y24•	86.00	9T92Y24G2•	101.00	9T92Y24G3	104.00
5.0ϕ	6.8	None	9T92Y26•	90.00	9T92Y26G2•	115.00	9T92Y26G3	118.00
7.0	10.1	7.0	9T92Y35	138.00	9T92Y35G2	153.00	9T92Y35G3	162.00
8.5	11.0	8.5	9T92Y36	175.00	9T92Y36G2	190.00	9T92Y36G3	199.00
14.0	14.0	14.0	9T92Y46	307.00	9T92Y46G2	325.00	9T92Y46G3	340.00
16.0	16.0	16.0	9T92Y47	368.00	9T92Y47G2	386.00	9T92Y47G3	401.00
30.0	33.0	30.0	9T92Y76	520.00	9T92Y76G2	538.00	9T92Y76G3	562.00
35.0	35.0	35.0	9T92Y77	680.00	9T92Y77G2	693.00	9T92Y77G3	722.00
60.0	66.0	60.0	9T92Y80	1120.00	9T92Y80G2	1156.00	9T92Y80G3	1206.00
70.0	70.0	70.0	9T92Y81	1530.00	9T92Y81G2	1566.00	9T92Y81G3	1616.00

Trade Discount Applies To List Prices Only

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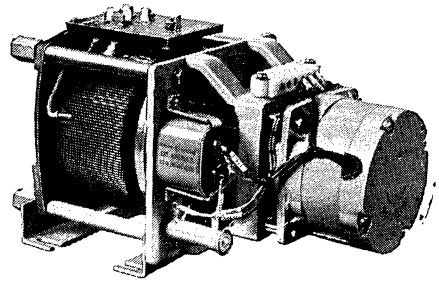
volt-pac® VARIABLE TRANSFORMERS

NEW IDEAS IN ELECTRONICS



Motor uncased unit — exposed terminals

Line Voltage Connection Rated Amp	Line Voltage Connection Max Amp	Over-voltage Connection Amp*	UNCASED MODELS Exposed Terminals Model Number (For 28-second Operation Only△)	List Price	CASED MODELS Enclosed Terminals Model Number (For 28-second Operation Only△)	List Price
MOTOR-OPERATED — SINGLE-PHASE, 50/60 CYCLES						
120 VOLT INPUT: OUTPUT 0-120 VOLT (LINE VOLTAGE CONN) 0-140 VOLT (OVERVOLTAGE CONN)						
2.5‡	3.2	2.5	9T92A1G51	$117.00	.....	.....
4.5†	6.5	4.5	9T92Y5G51	122.00	.....	.....
7.5†	10.8	7.5	9T92Y7G51	130.00	9T92Y7G54	$136.00
9.0†	11.5	9.0	9T92Y9G51	131.00	9T92Y9G54	137.00
10.0ϕ	13.0	None	9T92Y8G51¶	131.00	9T92Y8G54¶	137.00
11.5ϕ	14.5	None	9T92Y10G51¶	133.00	9T92Y10G54¶	139.00
15.0†	19.0	15.0	9T92Y27G51	175.00	9T92Y27G54	183.00
18.0†	21.7	18.0	9T92Y28G51	185.00	9T92Y28G54	193.00
30.0†	34.0	30.0	9T92Y37G51	229.00	9T92Y37G54	240.00
37.0†	37.0	37.0	9T92Y38G51	250.00	9T92Y38G54	261.00
50.0	55.0	50.0	9T92Y49G51	276.00	9T92Y49G54	280.00
60.0	60.0	60.0	9T92Y50G51	351.00	9T92Y50G54	359.00
74.0†	74.0	74.0	9T92Y41G51	392.00	9T92Y41G54	414.00
100.0	110.0	100.0	9T92Y53G51	447.00	9T92Y53G54	475.00
120.0	120.0	120.0	9T92Y54G51	576.00	9T92Y54G54	624.00
150.0	165.0	150.0	9T92Y55G51	679.00	9T92Y55G54	721.00
180.0	180.0	180.0	9T92Y56G51	846.00	9T92Y56G54	888.00
240.0	240.0	240.0	9T92Y57G51	1146.00	9T92Y57G54	1204.00
300.0	300.0	300.0	9T92Y58G51	1396.00	9T92Y58G54	1468.00
360.0	360.0	360.0	9T92Y59G51	1696.00	9T92Y59G54	1782.00
120/240 VOLT INPUT§: OUTPUT 0-240 VOLT (LINE VOLTAGE CONN) 0-280 VOLT (OVERVOLTAGE CONN)						
4.0†	5.0	4.0	9T92Y13G51	$135.00	9T92Y13G54	$141.00
4.0ϕ	5.8	None	9T92Y12G51■	135.00	9T92Y12G54■	141.00
5.0ϕ	6.8	None	9T92Y14G51■	137.00	9T92Y14G54■	143.00
7.0	10.1	7.0	9T92Y29G51	175.00	9T92Y29G54	183.00
8.5†	11.0	8.5	9T92Y30G51	185.00	9T92Y30G54	193.00
14.0†	14.0	14.0	9T92Y39G51	229.00	9T92Y39G54	240.00
16.0†	16.0	16.0	9T92Y40G51	250.00	9T92Y40G54	261.00
30.0	33.0	30.0	9T92Y51G51	276.00	9T92Y51G54	290.00
35.0	35.0	35.0	9T92Y52G51	351.00	9T92Y52G54	365.00
60.0	66.0	60.0	9T92Y60G51	493.00	9T92Y60G54	521.00
70.0	70.0	70.0	9T92Y61G51	596.00	9T92Y61G54	624.00
90.0	99.0	90.0	9T92Y62G51	716.00	9T92Y62G54	758.00
105.0	105.0	105.0	9T92Y63G51	846.00	9T92Y63G54	888.00
120.0	132.0	120.0	9T92Y5021G51	966.00	9T92Y5021G54	1024.00
140.0	140.0	140.0	9T92Y64G51	1161.00	9T92Y64G54	1219.00
175.0	175.0	175.0	9T92Y65G51	1396.00	9T92Y65G54	1468.00
210.0	210.0	210.0	9T92Y66G51	1696.00	9T92Y66G54	1782.00
240/480 VOLT INPUT§: OUTPUT 0-480 VOLT (LINE VOLTAGE CONN) 0-560 VOLT (OVERVOLTAGE CONN)						
4.0†	5.0	4.0	9T92Y17G51	$174.00	9T92Y17G54	$186.00
4.0ϕ	5.8	None	9T92Y16G51•	176.00	9T92Y16G54•	188.00
5.0ϕ	6.8	None	9T92Y18G51•	178.00	9T92Y18G54•	190.00
7.0†	10.1	7.0	9T92Y31G51	222.00	9T92Y31G54	238.00
8.5†	11.0	8.5	9T92Y32G51	254.00	9T92Y32G54	270.00
14.0†	14.0	14.0	9T92Y42G51	338.00	9T92Y42G54	360.00
16.0†	16.0	16.0	9T92Y43G51	372.00	9T92Y43G54	394.00
30.0	33.0	30.0	9T92Y67G51	447.00	9T92Y67G54	475.00
35.0	35.0	35.0	9T92Y68G51	576.00	9T92Y68G54	604.00
60.0	66.0	60.0	9T92Y69G51	946.00	9T92Y69G54	1004.00
70.0	70.0	70.0	9T92Y70G51	1126.00	9T92Y70G54	1184.00
90.0	99.0	90.0	9T92Y71G51	1366.00	9T92Y71G54	1452.00
105.0	105.0	105.0	9T92Y72G51	1666.00	9T92Y72G54	1752.00
140.0	140.0	140.0	9T92Y73G51	2320.00	9T92Y73G54	2435.00

△ Time to change output from 0 to 100%. Other times, from 2.5 to 60 sec, are available.

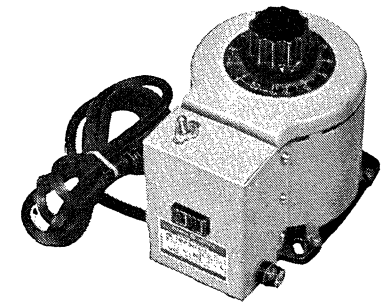
○ When operated on 120-volt input taps, rated current must be reduced when output voltage exceeds 168 volts.

For other footnotes, see opposite page.

Line Voltage Connection Rated Amp	Line Voltage Connection Max Amp	Over-voltage Connection Amp*	UNCASED MODELS Exposed Terminals Model Number (For 28-second Operation Only△)	List Price	CASED MODELS Enclosed Terminals Model Number (For 28-second Operation Only△)	List Price
MOTOR-OPERATED — THREE-PHASE, 50/60 CYCLES†						
240 VOLT LINE TO LINE INPUT: OUTPUT 0-240 VOLT (LINE VOLTAGE CONN) 0-280 VOLT (OVERVOLTAGE CONN)						
2.5ϕ	3.2	None	9T92A3G51	$166.00	.....	.....
4.5ϕ	6.5	None	9T92Y6G51	177.00	.....	.....
7.5	10.8	7.5	9T92Y19G51	185.00	9T92Y19G54	$203.00
9.0	11.5	9.0	9T92Y21G51	187.00	9T92Y21G54	205.00
10.0ϕ	13.0	None	9T92Y20G51¶	180.00	9T92Y20G54¶	198.00
11.5ϕ	14.5	None	9T92Y22G51¶	187.00	9T92Y22G54¶	205.00
15.0	19.0	15.0	9T92Y33G51	274.00	9T92Y33G54	298.00
18.0	21.7	18.0	9T92Y34G51	311.00	9T92Y34G54	335.00
30.0	34.0	30.0	9T92Y44G51	442.00	9T92Y44G54	476.00
37.0	37.0	37.0	9T92Y45G51	504.00	9T92Y45G54	537.00
50.0	55.0	50.0	9T92Y74G51	653.00	9T92Y74G54	695.00
60.0	60.0	60.0	9T92Y75G51	816.00	9T92Y75G54	858.00
74.0	74.0	74.0	9T92Y48G51	966.00	9T92Y48G54	1032.00
100.0	110.0	100.0	9T92Y78G51	1256.00	9T92Y78G54	1342.00
120.0	120.0	120.0	9T92Y79G51	1666.00	9T92Y79G54	752.00
150.0	165.0	150.0	9T92Y82G51	1905.00	9T92Y82G54	2035.00
180.0	180.0	180.0	9T92Y83G51	2500.00	9T92Y83G54	2630.00
240/480 VOLT LINE TO LINE INPUT§: OUTPUT 0-480 VOLT (LINE VOLTAGE CONN) 0-560 VOLT (OVERVOLTAGE CONN)						
4.0	5.0	4.0	9T92Y25G51	$199.00	9T92Y25G54	$217.00
4.0ϕ	5.8	None	9T92Y24G51•	196.00	9T92Y24G54•	214.00
5.0ϕ	6.8	None	9T92Y26G51•	200.00	9T92Y26G54•	228.00
7.0	10.1	7.0	9T92Y35G51	274.00	9T92Y35G54	298.00
8.5	11.0	8.5	9T92Y36G51	311.00	9T92Y36G54	335.00
14.0	14.0	14.0	9T92Y46G51	442.00	9T92Y46G54	476.00
16.0	16.0	16.0	9T92Y47G51	504.00	9T92Y47G54	537.00
30.0	33.0	30.0	9T92Y76G51	656.00	9T92Y76G54	698.00
35.0	35.0	35.0	9T92Y77G51	816.00	9T92Y77G54	858.00
60.0	66.0	60.0	9T92Y80G51	1256.00	9T92Y80G54	1342.00
70.0	70.0	70.0	9T92Y81G51	1666.00	9T92Y81G54	1752.00
90.0	99.0	90.0	9T92Y84G51	1905.00	9T92Y84G54	2035.00
105.0	105.0	105.0	9T92Y85G51	2500.00	9T92Y85G54	2630.00

PLUG-IN SETS

For laboratory or shop source of adjustable a-c voltage. Provides output voltage of 0-117% of input voltage. Equipped with a line switch and a fuse for overload protection.



Cord is 6 feet long.

Connection† Line Voltage Rated Amp†	Line Voltage Max Amp	Over-voltage Connection Amp*	New Model Number	List Price	Type Plug and Rec	Receptacle Configuration Fig. No.
120 VOLT INPUT: OUTPUT 0-120 VOLT (LINE VOLTAGE CONN) 0-140 VOLT (OVERVOLTAGE CONN)						
7.5	10.8	7.5	9T92Y90	$27.00	Ungrounded	Fig. 2
7.5	10.8	7.5	9T92Y86	31.00	Grounded	Fig. 1
9.0	11.5	9.0	9T92Y91	28.00	Ungrounded	Fig. 2
9.0	11.5	9.0	9T92Y87	33.00	Grounded	Fig. 1
15.0	19.0	15.0	9T92Y88	54.00	Grounded	Fig. 1
18.0	21.7	18.0	9T92Y89	70.00	Grounded	Fig. 3
120/240 VOLT INPUT○: OUTPUT 0-240 (LINE CONN) 0-280 VOLT (OVERVOLTAGE CONN)						
4.0	5.0	4.0	9T92Y93	$33.00	Ungrounded	Fig. 2
4.0	5.0	4.0	9T92Y95	39.00	Grounded	Fig. 4
7.0	10.1	7.0	9T92Y96	53.00	Grounded	Fig. 4
8.5	11.0	8.5	9T92Y97	70.00	Grounded	Fig. 4

RECEPTACLE CONFIGURATIONS

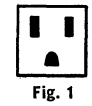


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Prices subject to change without notice.

GENERAL ELECTRIC

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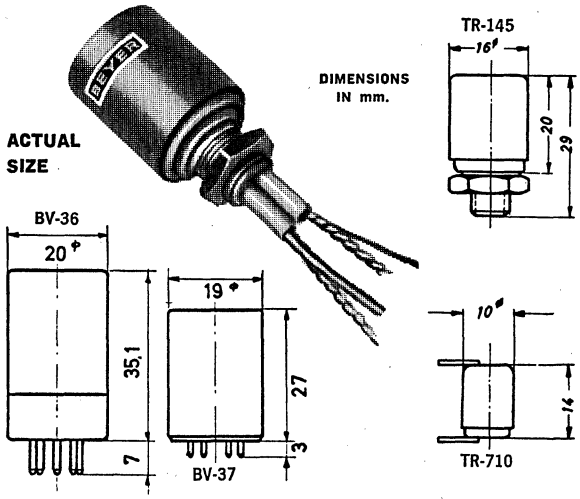
GOTHAM

BEYER TRANSFORMERS
MINIATURE AUDIO



The BEYER line of miniature audio transformers distributed by GOTHAM represents over 30 years of experience in the field on the part of one of Europe's largest quality microphone manufacturers. It is for this reason that we make only one type of transformer in two sizes: A low level audio transformer suitable for microphones, tape playback heads, etc.

A special winding process permits these transformers to be made in this miniature size while maintaining studio quality frequency response, distortion, and level capability. The coil is wound on a continuous laminated core which means the elimination of the split core with its inherent losses. Result is a semi-toroidal construction with its superior resistance to hum induction.

BEYER transformers are used in professional audio equipment by such outstanding manufacturers as Ampex, Bauer, Collins, Precision Instrument, Rust, and many others. All transformers are made to special order to O.E.M. users' specifications. Samples can be supplied within 2 weeks, production usually within 4 weeks.

FOUR PHYSICAL MOUNTINGS ARE AVAILABLE:

Threaded Stud: The Model TR-45 Commercial Quality and TR-145 Studio Quality units are offered in mu-metal housing with threaded stud supplied with two nuts.

Solder Lug: The Model TR-45L and TR-145L are same as above but have radial lugs each end of housing to permit terminal board or Vector socket mounting. Also available in sub-miniature TR-710 Model (see fig.). Primary and secondary windings brought out opposite ends of mu-metal can.

Plug-in: The Model BV-36 is encapsulation of TR-45 and TR-145 Models shown above in molded plastic housing with 7-pin miniature plug base. Same mu-metal shielding.

Printed Circuit: The Model BV-37 is encapsulation of TR-45 and TR-145 Models shown above in molded plastic housing only 1.09″ high with special 7-pin, 8-pin, or 9-pin printed circuit base.

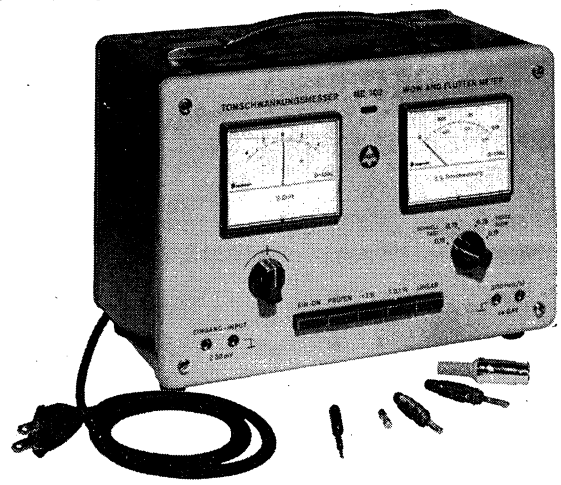
ELECTRICAL CHARACTERISTICS:

Transformers are supplied with any turns ratio from 1:1 to 1:150, tapped and split windings, static shielding, high voltage test, vacuum impregnating or other requirements.

TYPICAL TRANSFORMER SPECIFICATIONS:
Model TR-145/BV35570 (This Model stocked)

Turns ratio	1:15 ±10%
Impedance ratio	200/45,000 Ohms nominal
Frequency response	±0.2 dB 20 - 20,000 cps.
Maximum input level at 1% THD	370 mV at 30 cps.
Primary open circuit inductance (50 cps)	6.0 H
Primary open circuit impedance (50 cps)	1000 Ohms
Primary DC resistance	70 Ohms
Secondary DC resistance	10,000 Ohms
Hum shielding (EIA std.)	>70 dB.
BASIC PRICE IN QUANTITY OF 1000 UNITS	$5.37 each

WOW & FLUTTER METERS
ME 101/102



The ME-101/102 instruments are intended for the measurement of the wow and flutter content of all types of recording and reproducing devices. They are fully transistorized, simple and convenient to use. The units are particularly suited for production testing and service work in addition to laboratory testing.

An internal signal generator provides the standard frequency of 3150 Hz. For the purpose of static and dynamic recalibration of the measuring unit, the generator can be detuned in a definite manner or can be frequency modulated from the power line.

Tone fluctuations from ±0.02 to ±2.5% for the ME-101 and ±0.01 to ±0.75% for the ME-102 can be read linearly or weighted as quasi-peak values (according to CCIR and DIN). Hence the properties of high quality tape and record playing equipment, as well as those of dictating machines and home equipment come within the ranges of the instruments. The fluctuation meter ballistics conform to the CCIR standard. A second instrument, the "drift" indicator, measures the frequency deviation of the recorded tone from 3150 Hz. Both indicating instruments can be switched to "rapid" or "slow" indication, as desired.

Besides the normal measuring connections on the front of the instruments, the back is provided with a connector for testing home tape recorders and record players. Other connectors are provided for the connection of external filters, oscilloscopes and graphic recorders.

SPECIFICATIONS

POWER: ..... 110-125/220-240V, 40-60 Hz.

OSCILLATOR UNIT:

Measuring frequency: 3150 Hz (constancy 1 × 10^3 after starting up period).

Output voltage: Approx. 0.4Vrms at test output connector.

Calibrating device: +2% detuning for static and ±0.3% (60 Hz) for dynamic recalibration of measuring unit.

MEASURING UNIT:

Input voltage: ..... 30mV to 30V, 3150 Hz ±5%.

Input impedance: ..... >10 kOhm.

Measuring ranges: ME-101 — ±0.02 to ±0.5% and ±0.1 to ±2.5%; ME-102 — ±0.15% and ±0.75%.

Frequency response of fluctuation indication: Linear position, 0.50 to 500 Hz (-3 dB points). Weighted position, according to CCIR standard with external filter as required.

Drift indication: ..... Max. ±4.5%.

Auxiliary output: ..... Approx. 20V peak to peak at 22 kOhm.

Dimensions: ..... 7″ x 8″ x 11¾″.

Weight: ..... Approx. 11 lbs.

ME-101 — net price F.O.B. N.Y. ..... $375.

ME-102 — net price F.O.B. N.Y. ..... $395.

GOTHAM AUDIO CORPORATION

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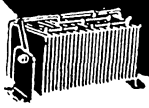
DIRECTRON

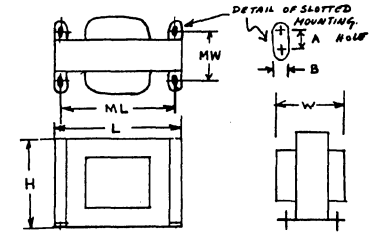


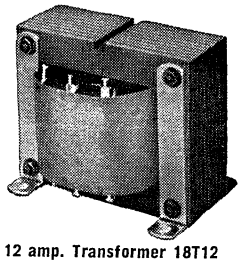
Industrial Transformers, Selenium and Silicon Rectifiers, Chokes and Power Supplies

RECTIFIER TRANSFORMERS

Transformers are with 2 — 18 volt center-tapped windings. Connected in series delivers 36 volts as rated. Connected in parallel — delivers 18 volts at twice rated current. (Taps 9, 18, 27, 36 V.)

Primary taps at 100, 105, 110 and 115 volts available on 12 amp, 24 amp, 30 amp and 50 amp transformers. No extra charge.





12 amp. Transformer 18T12

Part No.	Amp.	Users Net Price	L (MAX)	W (MAX)	H (MAX)	ML ±1/16	MW ±1/8	A ±1/64	B ±1/64	Weight
18 T 1	1	$ 6.20	2 31/32	3	2 3/4	2 1/2.	2 1/4	1/8	13/64	2.5
18 T 2	2	8.55	3 13/16	3	2 3/8	3 1/8	2	↓	↓	3.4
18 T 4	4	11.70	4 3/16	3	3 3/4	3 7/16	2 3/8	↓	↓	5.5
18 T 8	8	17.85	4 5/16	3 5/8	4	3 3/4	3	↓	↓	9.5
18 T 12	12	19.90	5 5/16	4 1/4	4 1/2	4 3/8	3 3/8	↓	9/32	14.5
18 T 24	24	42.25	6 1/2	4 5/8	5 1/2	5 5/16	3 3/8	9/32	↓	22
18 T 30	30	52.00	6 1/2	5	5 1/2	5 5/16	3 5/8	↓	↓	25
18 T 50	50	61.20	6 1/2	5 3/4	5 1/2	5 5/16	4 3/8	↓	↓	33

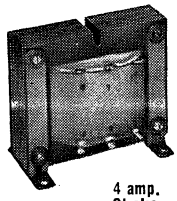
WITH 2-28 CENTER TAP WINDINGS

28 T 2	2	$10.15	3 7/8	3 1/4	3 1/8	2 1/2	2 3/8	1/8	13/16	5
28 T 4	4	14.85	4 1/4	3 3/4	3 7/16	3	3	↓	↓	8
28 T 6	6	27.50	5 5/16	4 1/4	4 1/2	4 3/8	3 5/8	3/8	9/32	14
28 T 12	12	36.30	6 1/2	5	5 1/2	5 5/16	3 3/8	↓	↓	21
28 T 24	24	74.00	6 1/2	6 1/2	5 1/2	5 3/8	3 1/2	↓	↓	24.5

STEP UP TRANSFORMERS

PRIMARY WINDINGS — 100-105-110-115 VOLT			SECONDARY WINDINGS — 130-135-140 VOLT		
Part No.	Amps.	Users Net Price	Part No.	Amps.	Users Net Price
SU 10	10	$ 70.00	SU 25	25	$128.00
SU 15	15	85.00	SU 30	30	160.00
SU 20	20	112.50	SU 35	35	185.00

HIGH CURRENT CHOKES



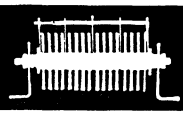
4 amp. Choke CK4

Part No.	Amps.	Hy.	Ohms	Users Net Price	L (MAX)	W (MAX)	H (MAX)	ML ±1/16	MW ±1/8	A ±1/64	B ±1/64	Weight
CK 1	1	.1	1.5	$ 5.90	3 1/32	2 3/4	2 3/4	2 1/2	2	1/8	13/64	2
CK 2	2	.04	.9	7.20	3 7/16	3 3/4	3 1/8	2 13/16	2 1/8	↓	↓	3.1
CK 4	4	.07	.6	9.25	3 13/16	3 1/8	3 3/8	3 1/8	2 1/2	↓	↓	5
CK 8	8	.03	.3	14.60	4 3/16	3 5/8	3 3/4	3 7/16	3	↓	↓	8
CK 12	12	.01	.1	18.00	5 5/16	3 3/4	4 1/2	4 3/8	2 7/8	↓	9/32	11.5
CK 20	20	.004	.05	21.00	5 1/4	5	4 1/2	4 1/2	4	1/2	↓	14
CK 24	24	.004	.025	31.25	5 5/16	4 3/4	4 1/2	4 3/8	3 7/8	↓	↓	17.5
CK 30	30	.003	.01	41.75	6 1/2	4 5/8	5 1/2	5 5/16	3 3/8	↓	↓	22
CK 50	50	.001	.001	53.85	6 1/2	4 7/8	5 1/2	5 1/16	3 3/8	↓	↓	23
CK 100	100	.0005	.005	62.35	6 1/2	6	5 1/2	5 5/16	4 1/8	↓	↓	30

CUSTOM BUILT TRANSFORMERS AND CHOKES — 48 HOUR SERVICE

POWER SUPPLIES TO **YOUR** SPECIFICATIONS, QUOTATIONS ON REQUEST

SEE OUR AD UNDER "RECTIFIERS" IN SECTION 4800 FOR SELENIUM AND SILICON STACKS



Mfd. by SANFORD MILLER CORP.

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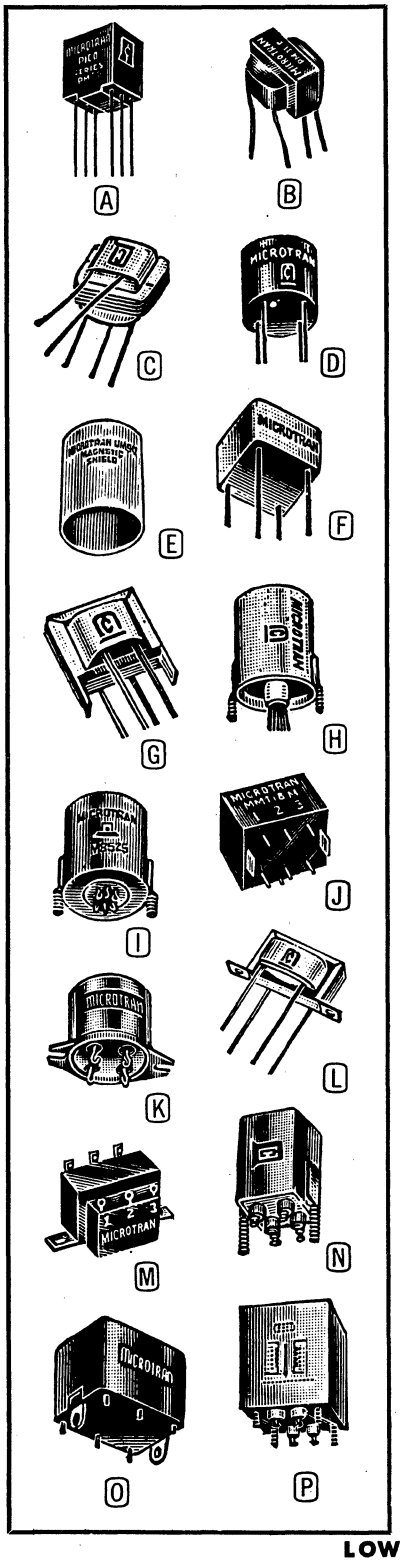
MICROTRAN MINIATURIZED MILITARY TRANSFORMERS



PICO MINIATURE TRANSFORMERS—PM SERIES

PM-M (Fig. A): Epoxy molded finish; gold plated leads, 0.020″ x ¾″. Frequency response ±2 db, 300 Hz to 100 kHz (PM3 and PM5, to 45 kHz). Power level given for 15% max. distortion, except PM35, 20% and PM37, 25%. Size, .410″ x .465″ x .310″ max. Wt., 0.1 oz. MIL type TF5RX—ZZ. **PM-F (Fig. B):** Open frame, resin impregnated, 4″ #30 plastic leads. Size, .250″ x .375″ x .406″ max. Wt., .05 oz. MIL type TF6RX—ZZ.

Microtran No.†	Application	Impedance Primary	Impedance Secondary	Pri. DC mA*	DC Resist., Ohms Pri.	DC Resist., Ohms Sec.	Power Level, mW	MIL No.	Net Each, Lots of 1-9* -M	Net Each, Lots of 1-9* -F
PM3-	Input	200K CT	1K CT	0	5300	110	10	16	$10.80	.....
PM5-	Input	200K	1K	0	5300	110	10	16	10.20	.....
PM7-	Interstage	50K CT	1K CT	0	3300	75	10	16	10.35	.....
PM9-	Interstage	50K	1K/250‡	0	3300	75	10	16	10.50	.....
PM11-	Interstage	25K CT	1K CT	0.5	1700	110	40	12	9.75	.....
PM13-	Interstage	25K	1K/250‡	0.25	1700	110	40	12	10.20	.....
PM15-	Interstage	25K	1K	0.25	1700	110	40	12	8.85	$5.10
PM17-	Isolation	10K CT	10K CT	1	1000	1300	50	12	9.15	.....
PM19-	Driver	10K CT	2K CT	1	1000	300	50	12	9.00	.....
PM21-	Driver	10K	2K/500‡	0.5	1000	300	50	12	9.15	.....
PM23-	Driver	10K CT	1200 CT	1	1050	280	50	12	9.00	.....
PM25-	Driver	10K	1200/300‡	0.5	1050	280	50	12	9.30	.....
PM27-	Driver	10K	1200	0.5	1050	280	50	12	8.10	4.80
PM29-	Driver	10K CT	500 CT	1	1050	80	50	12	9.15	.....
PM31-	Isolation	2500	2500 CT	1	250	325	50	12	8.55	6.60
PM33-	Output	1500 CT	600	3	170	135	50	12	8.40	4.95
PM34-	Output	600 CT	600 CT	3	72	92	50	17	8.55	.....
PM35-	Output	500	50	3	60	8	50	17	7.80	4.35
PM36-	Output	500	500/125‡	3	72	85	50	17	9.00	.....
PM37-	Output	120 CT	3.2	10	16	0.75	50	17	8.10	4.65
PM38-	Output	300 CT	600	7	41	98	50	17	8.10	4.80
PM39-	Audio	6 H		2	1800	.....	.....	20	7.65	4.20
PM40-	Choke	3.5 H		2	560	.....	.....	20	7.20	4.05
PM41-		.3 H		4	43	.....	.....	20	6.75	3.90
PM90-	Magnetic shield mu-metal slip-on can; 20 db shld.								1.05	.....

*Unbalanced. ‡Split.

ULTRA-MINIATURE TRANSISTOR TRANSFORMERS—UM SERIES

Frequency Response: ±2 db, 300-10K Hz. Leads supplied, 4″ #27 color-coded. Power levels given for 7½% max. distortion. **UM-F (Fig. C):** Size, ⅜″ x ⅜″ x 11/32″. Weight, 0.08 oz. MIL type TF6RX—ZZ (Insert MIL No. from table). **UM-M (Fig. D):** Size, ½″ dia. x ½″, with 1″ leads. Weight, 0.14 oz. MIL type TF5RX—ZZ.

Microtran No.†	Application	Impedance Primary	Impedance Sec.	Unbal. Pri., DC mA	DC Resis., Ohms Pri.	DC Resis., Ohms Sec.	Level at 1 kHz mW	MIL No.	Net Each, 1-9* -F	Net Each, 1-9* -M
UM21-	Input	100K	1K	0	1900	135	70	16	$6.00	$7.20
UM22-	Driver	20K	1K	0.5	1100	100	300	13	4.35	5.85
UM23-	Driver	20K	1200 CT	0.5	1100	110	300	13	4.65	6.60
UM24-	Output	1K	50	3	65	10	500	17	3.90	5.40
UM25-	Output	400	50	3	35	5	500	17	3.90	5.40
UM26-	Output	400	11	3	35	1.5	500	17	3.90	5.40
UM27-	Output	400 CT	11	6	35	1.5	500	17	4.20	5.70
UM28-	Choke	10 H, 0 DC; 8 H, 0.5 mA			650	.....	.....	20	3.75	5.70
UM29-	Interstage	600 CT	600 CT	7	45	60	400	21	4.65	6.30
UM30-	Choke	1.5 H, 0 DC; .7 H, 2 mA			100	.....	.....	20	3.60	4.80
UM31-	Interstage	10K CT	1200 CT	2	850	120	500	21	4.80	7.20
UM32-	Output	1500 CT	600	5	135	65	500	13	4.35	5.85
UM33-	Output	1K CT	600	6	80	65	500	17	4.35	5.85
UM34-	Driver	10K CT	600 CT	2	850	40	500	13	4.50	6.90
UM35-	Isolation	15K CT	15K CT	1	930	1210	300	15	4.95	7.05
UM36-	Driver	20K CT	800 CT	0.5	1100	80	500	13	4.80	6.75
UM37-	Driver	10K	2K CT	1	850	200	500	13	4.50	6.00
UM39-	Interstage	2.5K CT	600 CT	2	250	50	500	13	4.50	6.00
UM90	Magnetic shield mu-metal slip-on can; 20 db shld. (Fig. E)								1.35	.....

VERI-MINIATURE TRANSISTOR TRANSFORMERS—VM SERIES

Frequency Response: ±2 db, 200-10K Hz. Leads supplied, 4″ #27 color-coded. Power levels given for 7½% max. distortion. **VM-M (Fig. F):** For plug-in printed circuit applications. Cast epoxy resin provides high resistance. Size, 9/16″ x 9/16″ x ½″. Weight, 0.25 oz. MIL type TF5RX—ZZ (Insert MIL No. from table). **VM-FPB (Fig. G):** Plug-in tab mounted channel. Size, 17/32″ x 15/32″ x 7/16″. Weight, 0.2 oz. MIL type TF6RX—ZZ.

Micro. No.†	Application	Impedance Primary	Impedance Secondary	DCR, Ohms Pri.	DCR, Ohms Sec.	Level, mW	MIL No.	Net Ea., 1-9* -FPB	Net Ea., 1-9* -M
VM1-	Input	50	600, 1.5 mA	7	90	15	21	$4.20	$5.55
VM2-	Input or intrstg.	200K	600, 1.0 mA	3000	110	2.5	21	5.70	7.20
VM3-	Interstage	25K	600, 1.0 mA	720	45	2.5	21	4.50	6.30
VM4-	Input or intrstg.	200K	1200, .72 mA	3100	165	5	21	5.70	7.20
VM5-	Interstage	50K	600, 1.0 mA	830	55	5	21	4.65	6.60
VM6-	Interstage	100K	1200‡ .72 mA	2000	150	5	21	5.85	7.35
VM7-	Output	500, 3.5 mA	3.4	50	0.5	15	21	4.20	5.55
VM8-	Output	1250, 2.0 mA	3.4	135	0.5	15	21	4.35	5.70
VM9-	Output	1250, 2.0 mA	50	135	6.5	15	21	4.35	5.70
VM10-	Interstage	2500, 1.5 mA	2500 CT.	225	215	3	21	4.65	6.90
VM11-	Choke	20 H, 0 mA; 12 H, .5 mA		1000	.....	.....	21	4.05	5.10
VM12-	Interstage	20K	1000, .75 mA	625	85	5	21	4.50	6.30
VM13-	Interstage	20K	1000‡ .75 mA	625	85	5	21	4.65	6.90
VM14-	Interstage	600‡, 7 mA	600 CT	50	65	15	17	4.50	6.75
VM15-	Isolation	50K CT	50K CT	2000	2600	5	15	6.00	8.40
VM16-	Driver	500‡ 7.5 mA	250 CT	40	13	15	17	4.50	6.75
VM17-	Interstage	10K CT	5K CT	400	300	5	17	5.85	7.35
VM90	Magnetic shield mu-metal slip-on can; 20 db shld.							1.95	.....

‡CT.

LOW LEVEL CHOPPER INPUT TRANSFORMERS

Efficiently transfer 30–500 Hz signals to instrument amplifiers. Signal level range, 0.5 μV to 0.5 V. Resin impregnated. Three mu-metal, two copper shields; 90 db shielding. Size, 1⅜″ dia. x 1 25/32″ h. with 6–32 x ⅜″ studs on 1½″ ctrs. Wt., 5 oz.

CASED (FIG. H)

Microtran No.	Turn Ratio Full Pri.-Full Sec.	Turn Ratio ½ Pri.-Full Sec.	Full Pri. H*	Full Pri. Imped.*	DC Resis. Full Pri.	DC Resis. Sec.	Net Each, 1-9*
M8025	1:7.7	1:15.4	17.5	6600	365Ω	4140Ω	$13.80
M8026	1-3.2	1:6:4	60	22,500	455Ω	3500Ω	13.80
M8052	1:4.53	1:9:06	90	34,000	760Ω	5220Ω	14.25
M8053‡	1:0.5	1:1	140	53,000	920Ω	653Ω	13.65
M8112	1:0.5	1:1	450	80,000	2300Ω	1600Ω	14.40

HERMETIC (FIG. I)

Microtran No.	Turn Ratio Full Pri.-Full Sec.	Turn Ratio ½ Pri. Full Sec.	Full Pri. H*	Full Pri. Imped.*	DC Resis. Full Pri.	DC Resis. Sec.	Net Each, 1-9*
M8525	1:7.7	1:15.4	17.5	6600	365Ω	4140Ω	$16.65
M8526	1:3.2	1:6.4	60	22,500	455Ω	3500Ω	16.65
M8552	1:4.53	1:9.06	90	34,000	760Ω	5220Ω	17.10
M8553‡	1:0.5	1:1	140	53,000	920Ω	653Ω	16.50

*At 0.5 V, 60 Hz. ‡Secondary is center tapped.

★SEE OTHER MICROTRAN PAGES FOR QTY. PRICING, MIL CASE SIZES. †ORDER BY COMPLETE MICROTRAN NO. (PM3-M)

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MICROTRAN — MINIATURIZED MILITARY TRANSFORMERS

MICRO-MINIATURE AUDIO AND TRANSISTOR TRANSFORMERS—MM AND MMT SERIES

MM-M (Fig. J): Molded, for plug-in printed circuit applications. Cast epoxy resin for high resistance to extremes of ambient temperature. MIL Type TF5RX—ZZ. Size, 7/8" x 25/32" x 17/32" with 5/32" pins, .020" dia. Weight, 1/2 oz. **MM-H (Fig. K):** Hermetically sealed with high compression glass terminals. Gray enamel finish. MIL Type TF4RX—YY. Size, 15/16" dia. x 11/16". Weight, 3/4 oz.

MM-FB (Fig. L): Open frame with channel. Available with plug-in tab channel or without channel on special order. MIL Type TF6RX—ZZ. Size, 13/16" x 19/32" x 15/32", plus tabs. **MM-CM (Fig. M):** Contour molded on special order only; for mtg. on top of chassis. Size, 7/8" x 9/16" x 25/32". Prices on request.

Microtran No.†	Application	Impedance Pri.	Impedance Sec.	Pri. Unbal. DC mA	Oper. Level, dbm	Freq. Resp. ±2 db, Hz	MIL No.	Net Each, Lots of 1-9* -FB	-H	-M
MM1-	Input	200/50	250K/62.5K	0	4	200–10K	10	$4.50	$7.35	$8.55
MM2-	Interstage 3:1	10K	90K	0	4	150–10K	10	4.80	7.50	8.70
MM3-	Plate to line	10K	200	3	20	150–10K	13	4.20	7.20	8.40
MM4-	Output	30K	50	1	20	150–10K	13	4.05	7.05	8.25
MM5-	Reactor 50 H at 1 mil DC	4.7K ohms DC Res.		.....	.....	.....	20	4.05	6.90	8.10
MM6-	Output	100K	60	0.5	20	250–10K	13	4.20	7.20	8.40
MM7-	Output	30K	1200	0.5	20	200–10K	13	3.30	6.45	7.65
MMT1-	Line to base	600	600	8	22	200–15K	17	3.90	7.35	8.55
MMT3-	Coll. to base or line	50K	600	0.7	20	200–15K	13	4.05	7.50	8.70
MMT4-	P-p coll. to p-p base	50K CT	600 CT	1.4	20	200–15K	13	4.80	8.55	9.75
MMT5-	Coll. to speaker	50K	6	1	20	200–15K	13	4.35	7.95	9.15
MMT7-	Coll. to p-p base	25K	1200 CT	1	20	200–15K	13	4.50	8.40	9.60
MMT8-	P-p coll. to p-p base	50K CT	1200 CT	1.4	20	200–15K	13	4.65	8.55	9.75
MMT9-	Line to p-p base	600 CT	1200 CT	16	22	200–15K	17	4.20	7.65	8.85
MMT10-	Coll. to base	25K	600	1	20	200–15K	13	3.45	7.20	8.40
MMT11-	P-p coll. to p-p base or line	4K CT	600 CT	5	28	200–15K	12	4.35	7.80	9.00
MMT12-	Coll. to speaker	2K	3.4	5	28	200–15K	13	3.90	7.35	8.55
MMT13-	Output p-p coll. to speaker	4K CT	3.4	5	28	200–15K	13	4.05	7.50	8.70
MMT16-	Coll. to p-p base	10K	1500 CT	1	20	200–15K	13	4.50	8.40	9.60
MMT17-	P-p coll. to p-p base	10K CT	200 CT	6	20	200–15K	13	4.50	8.10	9.30
MMT18-	P-p coll. to p-p base	25K CT	1200 CT	2	20	200–15K	13	4.65	8.55	9.75
MMT19-	Coll. to p-p base	2500	2500 CT	2	23	200–15K	13	4.05	7.50	8.70
MMT21-	P-p coll. to p-p base	4K CT	600/150 split	5	28	200–15K	13	4.65	8.55	9.75
MMT25-	P-p coll. to p-p base	7500 CT	600 CT	4	22	200–15K	13	4.35	7.80	9.00
MMT26-	Line to base	600 CT	600 CT	16	22	200–15K	17	4.20	7.65	8.85
MMT27-	P-p coll. to p-p base	25K CT	600 CT	2	20	200–15K	13	4.50	8.40	9.60
MMT28-	P-p coll. to p-p base	10K CT	1500 CT	2	20	200–15K	13	4.65	8.55	9.75
MMT29-	Driver/Isolation	10K CT	10K CT	2	20	200–15K	13	4.65	8.55	9.75
MMT30-	P-p coll. to p-p base	7500 CT	1200 CT	4	22	200–15K	13	4.50	8.40	9.60
MMT31-	P-p coll. to p-p base	2K CT	500 CT	10	28	200–15K	13	4.35	8.25	9.45
MMT32-	Line to p-p base	600 CT	1.2K/300 split	16	22	200–15K	17	4.65	8.55	9.75
MMT33-	Line to p-p base	600 CT	600/150 split	16	22	200–15K	10	4.50	8.40	9.75
MMT35-	P-p coll. to p-p base	10K CT	150/37.5 split	2	20	200–15K	13	4.80	8.70	9.90

SUBMINIATURE AUDIO AND TRANSISTOR TRANSFORMERS—SM AND SMT SERIES

SM-AF (Fig. N): MIL-T-27B-AF modified case; compression sealed ceramic terminals; gray enamel finish. MIL type TF4RX—YY. Size, 3/4" x 3/4" x 1 1/8" max. with two 4-40NC-2 spade mtg. bolts. Wt., 1 1/8 oz. **SM-H (Fig. K):** Hermetically sealed; high compression glass terminals; gray enamel finish. MIL type TF4RX—YY. Size, 15/16" dia. x 15/16" h. Weight, 1 oz.

SM-FB (Fig. L): Open frame with channel. With plug-in tab mounted channel or without channel on special order. MIL type TF6RX—ZZ. Size, 15/16" x 19/32" x 3/4", plus tabs. Wt., 0.750 oz. **SM-M (Fig. O):** Molded, for plug-in PC applications. MIL type TF5RX—ZZ. Size, 1 5/32" x 7/8" x 3/4" max. Wt., 1 1/2 oz. **SM-CM (Fig. M):** Contour molded on special order; prices on request.

Microtran No.†	Application	Impedance Pri.	Impedance Sec.	Pri. Unbal. DC mA	Oper. Level, dbm	Frequency Resp., ±2 db, Hz	MIL No.	Net Each, Lots of 1-9* -AF	-FB	-H	-M
SM1-	Input	200/50	250K/62.5K	0	6	80–10K	10	$9.00	$4.35	$7.20	$9.00
SM2-	Interstage 3:1	10K	90K	0	8	100–10K	10	8.70	3.90	6.90	9.00
SM3-	Plate to line	10K	200	3	21	150–10K	13	8.70	3.90	6.90	9.00
SM4-	Output	30K	50	1	21	150–10K	13	8.70	3.90	6.90	9.00
SM5-	Reactor 50 H at 1 mil DC	3K ohms DC Resis.		.....	.....	.....	20	7.20	3.30	6.30	8.40
SM6-	Output	100K	60	0.5	21	150–10K	13	8.70	4.35	7.05	9.00
SMT1-	Line to base	600	600	9	23	200–15K	17	6.75	3.90	6.00	7.20
SMT3-	Coll. to base or line	50K	600	1	20	300–15K	13	7.35	4.50	6.60	7.80
SMT4-	P-p coll. to p-p base	50K CT	600 CT	2	20	200–15K	13	.....	4.95	7.05	8.25
SMT5-	Coll. to speaker	50K	6	1	20	300–15K	13	7.20	4.35	6.45	7.65
SMT7-	Coll. to p-p base	25K	1200 CT	1.5	20	200–15K	13	7.50	4.65	6.75	7.95
SMT8-	P-p coll. to p-p base	50K CT	1200 CT	2	20	200–15K	13	.....	4.95	7.05	8.25
SMT9-	Line to p-p Base	600 CT	1200 CT	18	23	200–15K	17	.....	4.20	6.30	7.50
SMT10-	Coll. to base	25K	600	2	20	200–15K	13	7.05	4.20	6.30	7.50
SMT12-	Output coll. to speaker	2K	3.4	5	30	200–15K	13	6.75	3.90	6.00	7.20
SMT13-	Output p-p coll. to speaker	4K CT	3.4	5	30	200–15K	13	6.90	4.05	6.15	7.35
SMT16-	Coll. to p-p base	10K	1500 CT	1	23	200–15K	13	7.50	4.65	6.75	7.95
SMT17-	P-p coll. to p-p base	10K CT	200 CT	6	20	200–15K	13	.....	4.80	6.90	8.10
SMT18-	P-p coll. to p-p base	25K CT	1200 CT	3	20	200–15K	13	.....	4.95	7.05	8.25
SMT19-	Coll. to p-p base	2500	2500 CT	5	26	200–15K	13	7.50	4.65	6.75	7.95
SMT26-	Line to base	600 CT	600 CT	18	23	200–15K	17	.....	4.50	6.60	7.80
SMT36-	Interstage	2.5K CT	2.5K/625 split	10	26	200–15K	13	.....	5.10	7.20	8.40

TRANSISTOR DRIVER AND OUTPUT TRANSFORMERS (FIG. P)

Hermetically sealed to MIL-T-27B construction. MIL type TF4RX—(Add MIL No. 17 except as noted, and case from table). When present stock is depleted, M8006, M8007 and M8014 will be available on special order only.

Micro. No.	Application	Impedance Pri.	Impedance Sec.	Pri. Unb. DC mA	Level Watts	Freq. Resp. ±2 db, Hz	MIL Case	Net Ea., 1-9*
M8002*	Coll. to p-p base	560	400 CT	18	0.15	200–20K	AJ	$12.75
M8003*	Coll. to p-p base	625 CT	100 CT	20	1.5	200–20K	AJ	13.05
M8004	Coll. to p-p base	5400	600 CT	15	0.075	200–15K	AH#	14.85
M8005	Coll. to p-p base	7000	320 CT	7	0.040	70–15K	AH#	14.85
M8006	Coll. to p-p base	10K	6500 CT	0.75	0.005	200–15K	YY#	9.45
M8008	Coll. to speaker	25	3–4	600	3	200–20K	AJ	12.30
M8007*	P-p auto transformer	30 CT	3–4	200	2	100–20K	AJ	12.60
M8009	P-p output to spkr.	48 CT	3.2/8	50	5	200–20K	AJ	12.75
M8010	P-p coll. to servo	120 CT	1K	40	6	300–15K	AJ	12.60
M8011	P-p output to spkr.	125 CT	3–4	20	1.5	200–15K	AH	14.55
M8012*	P-p coll. to servo	140 CT	500	50	6	300–15K	AJ	12.75
M8013*	P-p output to spkr.	250 CT	3–4	20	0.4	70–15K	AH	14.55
M8014	P-p output to spkr.	400 CT	11	2	0.25	300–15K	YY	9.15
M8015	P-p coll. to servo	1600 CT	800	5	2.5	150–20K	AJ#	12.90
M8016	P-p output to spkr.	2500 CT	12	4	0.10	300–15K	YY#	9.30
M8054	P-p output to servo	250 CT	130	20	3	200–15K	AH	14.55

*Bifilar wound to minimize switching transients. #MIL No. 13.

MODEL 400K TRANSISTOR TRANSFORMER SELECTOR KIT

Set of nine transistor transformer covers impedance range of 150 through 200K ohms, matching most new transistor impedance ratings. Ideal for breadboard circuitry. Sizes range from a 3/8" cube to 3/4" x 3/4" x 1". All are vacuum resin impregnated and have 4" color-coded leads. Includes full design data; nomographs and circuitry for determining correct impedances for Class A and B transistor amplifiers; power versus dbm chart; terminal connection sheet; MIL-T-27B guide; cross reference index; outline drawings for later selection of stock items with same electrical ratings in many other mechanical constructions and reactance chart. Each transformer individually boxed in transparent plastic case.

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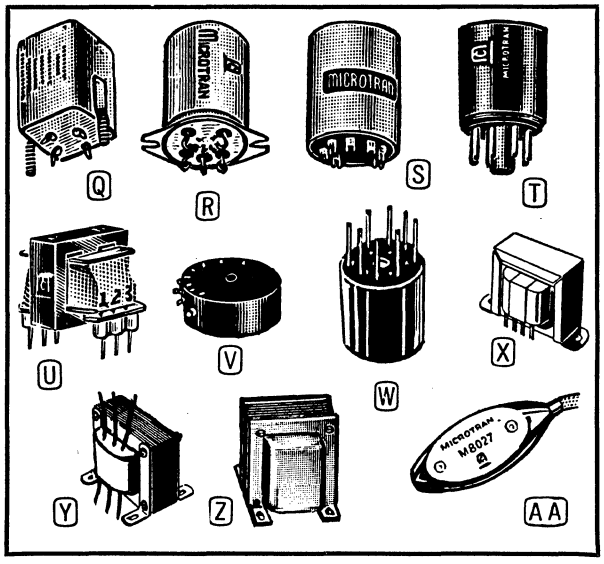
MINIATURIZED MILITARY TRANSFORMERS



MINIATURE TRANSISTOR AND AUDIO TRANSFORMERS—M AND MT SERIES

M-M (Fig. O): Molded, for plug-in printed circuit use. Cast epoxy resin provides highest resistance to temperature extremes. MIL Type TF5RX—ZZ (Insert MIL No. from table). Max. Size, 1 5/32" x 7/8" x 7/8". Weight, 1¾ oz. **M-AG (Fig. Q):** Enclosed in modified MIL-T-27B AG case with compression sealed ceramic terminals. MIL Type TF4RX—YY. Max. Size, 1" x 1" x 1 3/8". Weight, 2⅜ oz. **M-H (Fig. R):** Hermetically sealed with high compression glass terminals, gray enamel finish. Available on special order with .120" holes. MIL Type TF4RX—YY. Size, 15/16" dia. x 1 7/16" max. Weight, 1¼ oz. **M-A (Fig. S):** Aluminum case with 2-56 screws. MIL Type TF3RX—YY. Size, .875" dia. x 1 3/16". Weight, 1.25 oz. **M-FB (Fig. L):** Open frame with channel. Available with plug-in tab channel or without channel on special order. MIL Type TF6RX—ZZ. Size, 1 3/4" x 13/16" x 27/32" max., plus tabs. Weight, 1.13 oz. **M-P (Fig. T):** Octal plug-in type in sealed plastic housing. MIL Type TF6RX—ZZ. Size, 1 5/32" dia. x 1 15/32". Wt., 2 oz. **M90 Shield (Fig. E):** 25 db magnetic shield for Type M-A. Two clearance holes on 11/16" centers. **M-PC (Fig. U):** Open frame PC with terminals molded into bobbin to maintain accurate dimensions for PC board. MIL Type TF6RX—ZZ. Size, 7/8" x 1 1/32" x 1"; terminals 3/16" below bobbin. Wt., 1.2 oz. **M-CM (Fig. M):** Contour molded on special order only; for mtg. on top of chassis. Size, 1 5/32" x 7/8" x 7/8" Prices on request.

MINIATURE AUDIO TRANSFORMERS—M SERIES

Microtran No.†	Application	Impedance Pri.	Impedance Sec.	Pri. DC mA*	Oper. Level, dbm	Freq. Resp. ±2 db, Hz	MIL No.	Net Each, Lots of 1-9* -A	-AG	-FB, -PC	-H	-M	-P
M1-♦	Mike or line to 1 grid	‡	50K	0	5	20–20K	10	$8.10	$ 9.90	$5.10	$ 9.00	$ 9.90	$8.85
M2-♦	Mike or line to 2 grids	‡	50K CT	0	5	20–20K	10	8.25	10.35	5.25	9.45	10.20	8.85
M3-	Dynamic mike to 1 grid	7.5/30	50K	0	5	20–20K	10	7.80	9.90	4.95	9.00	9.75	8.40
M4-	Single plate to 1 grid	15K	60K	0	6	20–15K	10	6.75	8.55	3.75	7.65	8.55	7.50
M5-	Single plate to 1 grid	15K	60K	4	14	200–20K	15	6.75	8.55	3.75	7.65	8.55	7.50
M6-	Single plate to 2 grids	15K	95K CT	0	5	20–15K	10	7.65	9.45	4.65	8.55	9.45	8.25
M7-	Single plate to 2 grids	15K	95K CT	4	11	200–20K	15	7.65	9.75	3.90	8.85	9.75	8.25
M8-♦	Single plate to line	15K	‡	0	8	20–20K	16	8.25	10.50	5.10	9.60	10.50	8.85
M9-♦	Single plate to line	15K	‡	4	21	150–20K	13	8.25	10.50	4.20	9.60	10.50	8.85
M10-♦	Push-pull plates to line	30K, p-p	‡	0	8	30–50K	16	8.40	10.80	5.25	9.60	10.80	9.00
M11-♦	Crystal mike to line	50K	‡	0	5	20–20K	16	8.10	10.50	5.10	9.30	10.50	8.85
M12-♦	Mixing and matching	§	‡	0	8	20–20K	16	7.80	10.50	4.95	9.30	10.50	9.00
M13-	Reactor	300#	•	.....	.....	6K ohms DCR	20	6.30	8.25	3.45	7.35	8.25	7.50
M14-	50:1 mike to grid	200	½ meg.	0	9	80–3K	10	7.50	9.90	4.65	9.00	10.20	8.85
M15-	10:1 plate to grid	10K	1 meg.	0	11	100–2500	10	7.50	9.30	4.50	8.40	9.30	8.85
M90	Magnetic shield mu-metal slip on can; 25 db shielding							1.35	.....	.....	.....	.....	.....

MINIATURE TRANSISTOR TRANSFORMERS—MT SERIES

MT1-	Line to base	600	600	10	23	200–15K	17	$7.20	$8.70	$3.60	$7.80	$9.00	$7.35
MT2-♦	Coll. to p-p base 2N57	100	10 CT/ 40 CT	100	27	200–20K	17	8.10	9.60	4.20	8.70	9.90	8.25
MT3-	Coll. to base or line	50K	600	3	20	300–15K	13	7.80	9.30	3.90	8.40	9.60	7.95
MT5-	Coil to speaker	50K	6	3	20	300–15K	13	7.80	9.30	3.90	8.40	9.60	7.95
MT6-	Coll. to p-p base	100K	1200 CT	1.4	17	200–15K	13	7.95	9.45	4.20	8.55	9.75	8.10
MT7-♦	Coll. to p-p base	25K	1200 CT	3	22	200–15K	13	7.95	9.45	4.20	8.55	9.75	8.10
MT8-	P-p coll. to p-p base	50K CT	1200 CT	3	20	300–15K	13	8.10	9.60	4.35	8.70	9.90	8.25
MT9-	Line to p-p base	600 CT	1200 CT	4	23	200–15K	17	8.10	9.60	4.35	8.70	9.90	7.80
MT10-♦	Coll. to base	25K	600	3	22	200–15K	13	7.80	9.30	3.90	8.40	9.60	7.95
MT11-	P-p coll. to p-p base	4K CT	600 CT	3	32	200–15K	13	8.10	9.60	4.35	8.70	9.90	8.25
MT12-	Output coll. to spkr.	2K	3.4	10	32	200–15K	13	7.80	9.30	3.90	8.40	9.60	7.95
MT13-♦	P-p coll. to spkr.	4K CT	3.4	3	32	200–15K	13	7.95	9.45	4.05	8.55	9.75	8.10
MT14-	Coll. to spkr. 2N179	400	10	50	25	200–20K	17	7.20	8.70	3.60	7.80	9.00	7.35
MT15-♦	P-p servo output 2N57	500 CT	210	30	27	300–20K	17	7.80	9.30	3.90	8.40	9.60	7.95
MT18-♦	P-p coll. to p-p base	25K CT	1200 CT	6	22	200–15K	13	8.10	9.60	4.35	8.70	9.90	8.25
MT20-♦	P-p coll. to p-p base	50K CT	▲	3	20	300–15K	13	8.40	9.90	4.65	9.00	10.20	8.55
MT21-♦	P-p coll. to p-p base	4K CT	■	3	32	200–15K	13	8.25	9.75	4.50	8.85	10.05	8.40
MT22-♦	Line to p-p base	■	1200 CT	4	23	200–15K	17	8.25	9.75	4.50	8.85	10.05	8.40
MT23-	P-p coll. to servo	250 CT	1000	10	30	200–15K	17	7.80	9.30	3.90	8.40	9.60	7.95
MT24-♦	Coll. to p-p base	2500	600 CT	10	32	200–15K	13	7.80	9.30	3.90	8.40	9.60	7.95
MT25-	P-p coll. to p-p base	7500CT	600 CT	8	32	200–15K	12	8.10	9.60	4.35	8.70	9.90	8.25
MT26-	Line to p-p base	600 CT	600 CT	20	23	200–15K	17	7.95	9.45	4.20	8.55	9.75	8.10
MT29-	P-p coll. to servo	1600CT	450	15	30	200–15K	13	7.80	9.30	3.90	8.40	9.60	7.95
MT30-	P-p coll. to servo	250 CT	500	10	30	200–15K	17	7.80	9.30	3.90	8.40	9.60	7.95
MT33-♦	Line to p-p base	■	■	20	23	200–20K	17	8.40	9.90	4.65	9.00	10.20	8.55
MT34-♦	P-p coll. to p-p base	10K/ 2500 split	2000/500 split	4	20	200–20K	13	8.55	10.05	4.80	9.15	10.35	8.70

*Unbalanced. ‡50/250/600 CT. §50/250 CT. #H 0 DC. •50 H at 3 mA. ▲1200/300 split. ■600/150 split. ♦Not available in -PC type.

DC TO DC CONVERTER TRANSFORMERS—BLOCKING OSCILLATOR TYPE

Laminated series blocking oscillator type. Approximate repetition rate, 400 Hz. All are **Fig. L** except M8051, **Fig. Q.** DC output voltage for all but M8073 is given for transformer used in blocking oscillator circuit with single capacitor-input rectifier. DC input current, output current and output voltage of Model M8073 depend on load and bias; frequency varies from 100 to 2800 Hz. Fig. L types are open frame units meeting MIL designation TF6RX09ZZ; Fig. Q type is enclosed unit meeting MIL designation TF4RX09YY.

Microtran No.	Turns Ratio HV: Coll.: Feedback	Input DC V	Input DC mA	Output DC Volts	Output DC µA	Size, Inches W. x D. x H.	Mtg. Ctr., In.	Net Each, 1-9*
M8050	600:12:1	3	20	1000	25	13/16x1 11/16x 27/32	1 3/8	$ 6.30
M8051	600:12:1	3	20	1000	25	1 x1 x1 3/8	1 1/8	11.85
M8073	44:1:1	4	2–15	425–500	50*	3/8x 3/8 x 3/8	.....	5.25
M8074	65.5:.33:1	3	45	535	90	13/16x1 11/16x 27/32	1 3/8	5.10

*Maximum.

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MICROTRAN — MINIATURIZED MILITARY TRANSFORMERS

DC TO DC CONVERTER TRANSFORMERS—SWITCHING TYPE

LAMINATED SERIES

Provide improved reliability and efficiency over vibrator and rotary power converters. Approximate repetition rate, 800 Hz. Full wave and CT loads may be simultaneously drawn, but total VA output should not be exceeded for continuous-duty operation. All are **Fig. P** except M8072 and M8120, **Fig. L.** Transistors listed are for reference only; user must verify that max. ratings will not be exceeded.

Microtran No.	Input VDC	Output VA	Transistors Suggested	DC Output FW V	DC Output FW mA	DC Output CT FW V	DC Output CT FW mA	Size, Inches W. x D. x H.	Mtg. Ctrs., In. ML	Mtg. Ctrs., In. MW	MIL Case	Net Each, 1-9*
M8034	28	125	2N174	500	250	250	420	2 3/8 x 2 3/4 x 3 13/16	2 1/8	1 3/4	GA	$31.50
M8035	13.6	125	2N442	500	250	250	420	2 3/8 x 2 3/4 x 3 13/16	2 1/8	1 3/4	GA	31.50
M8036	13.6	40	2N442	450	90	225	155	2 1/16 x 2 5/16 x 3 1/8	1 11/16	1 7/16	FA	30.00
M8072	2.7	190§	2N1307	480*	400‡	....	....	13/16 x 1 11/16 x 27/32	1 3/8	....	ZZ	7.20
M8120	28	190§	2N3417	480*	400‡	....	....	13/16 x 1 11/16 x 27/32	1 3/8	....	ZZ	7.20

TOROIDAL SERIES (FIG. V)

Permit conversion of low-voltage direct current to higher voltages for operating mobile electronic equipment. Operating frequencies between 1500 and 5000 Hz. Case is epoxy molded with terminals and clearance hole for mounting. DC output shown is based on 1 volt drop per rectifier.

M8113	13.8	50	2N278	28	1750	14	3500	2 1/16 x 1 1/4 #	.170•	....	$16.05
M8114	28	50	2N375	28	1750	14	3500	2 1/16 x 1 1/4 #	.170•	....	16.05
M8115	13.8	5	2N376	500	10	250	20	1 1/4 x 3/4 #	.140•	....	12.30
M8116	13.8	50	2N278	70	700	35	1400	2 1/16 x 1 1/4 #	.170•	....	16.05
M8117	28	5	2N375	500	10	250	20	1 1/4 x 3/4 #	.140•	....	12.30
M8118	28	50	2N375	70	700	35	1400	2 1/16 x 1 1/4 #	.170•	....	16.05

*Output when used with half-wave capacitor-input rectifier. †Bridge. ‡μA. §mW. #Dia. x ht. •Clearance hole dia.

POWER SUPPLY TRANSFORMERS (FIG. P)

For silicon rectifier circuitry and filament applications. Hermetically sealed. Primary, 105/115/125 V. Output voltage given for resistive or inductive loads, based on approx. 1 V drop per rectifier. MIL Type TF4RX01— (add MIL case type from table) per MIL-T-27B.

400 Hz TYPE

Micro. No.	Secondary VAC	Secondary rms	Rect. Cir. VDC*	Rect. Cir. VDC†	Size, Inches W. x D. x H.	MIL Case	Net, 1-9*
M8063‡•	2.85	.045 A	1.5§	3	15/16 dia. x 1 1/16	YY	$10.50
	2.85	.045 A					
M8064‡	6.3 CT	.6 A	1.9	3.8	1 5/16 x 1 5/16 x 1 3/4	AH	11.10
M8075‡•	6.3 CT	.3 A	1.9	3.8	15/16 dia. x 1 1/16	YY	9.75
M8076‡	12.6 CT	.3 A	4.7	9.4	1 5/16 x 1 5/16 x 1 3/4	AH	11.70
M8039	12.6	.8 A	10.5§	21§	1 5/8 x 1 5/8 x 2 3/8	AJ	18.00
	12.6 CT	.8 A					
M8077	12.6	2 A	10.5§	21§	2 1/16 x 2 5/16 x 3 1/8	FA	19.05
	12.6 CT	2 A					
M8038	12.6	.3 A	16§	32§	1 5/8 x 1 5/8 x 2 3/8	AJ	18.60
	12.6	.3 A					
	12.6	.3 A					
M8018	18.5 CT	1 A	7.4	14.8	1 13/16 x 1 15/16 x 2 3/4	EA	16.50
M8019	18.5 CT	3 A	7.4	14.8	2 1/16 x 2 5/16 x 3 1/8	FA	18.00
M8065	26 CT	1.5 A	10.8	21.6	1 13/16 x 1 15/16 x 2 3/4	EA	16.35
M8066	26 CT	3 A	10.7	21.5	2 1/16 x 2 5/16 x 3 1/8	FA	25.50
M8079	26 CT	4 A	10.8	21.6	2 3/8 x 3 1/16 x 4 1/4	HA	26.85
M8067	30 CT	1.5 A	12.5	25	2 1/16 x 2 5/16 x 2 1/2	FB	21.09
M8020	35 CT	3 A	14.5	29	2 3/8 x 2 3/4 x 3 13/16	GA	24.00
M8068	40 CT	.2 A	17	34	1 5/8 x 1 5/8 x 2 3/8	AJ	13.20
M8041‡	50 CT	.25 A	21.5	43	1 5/16 x 1 5/16 x 1 3/4	AH	11.10
M8080	50 CT	.2 A	21.5	43	1 5/8 x 1 5/8 x 2 3/8	AJ	13.80
M8069‡•	60 CT	.003 A	26	52	15/16 dia. x 1 1/16	YY	9.75
M8070‡	65 CT	.170 A	28.4	56.8	1 5/16 x 1 5/16 x 1 3/4	AH	11.25
M8081‡•	65 CT	.030 A	28.4	56.8	15/16 dia. x 1 1/16	YY	9.75
M8021	70 CT	1 A	30	60	2 1/16 x 2 5/16 x 3 1/8	FA	23.25
M8071	80 CT	.90 A	35	70	2 1/16 x 2 5/16 x 3 1/8	FA	22.20

60 Hz TYPE

M8042	6.3 CT	.6 A	1.9	3.8	1 5/8 x 1 5/8 x 2 3/8	AJ	$12.00
M8043	6.3 CT	2 A	1.9	3.8	2 1/16 x 2 5/16 x 2 1/2	FB	15.60
M8086	6.3 CT	6 A	1.9	3.8	2 3/8 x 2 3/4 x 3 13/16	GA	18.90
M8087	12.6 CT	3 A	4.7	9.4	2 3/8 x 2 3/4 x 3 13/16	GA	18.90
M8044	12.6	2 A	10.5§	21§	3 1/16 x 3 9/16 x 3 7/8	JB	21.60
	12.6 CT	2 A					
M8022	18.5 CT	3 A	7.4	14.8	3 1/16 x 3 9/16 x 3 7/8	JB	22.80
M8088	26 CT	2.5 A	10.8	21.6	2 3/8 x 3 1/16 x 4 1/4	HA	22.20
M8045	28 CT	.6 A	11.7	23.4	2 1/16 x 2 5/16 x 3 1/8	FA	18.00
M8055	30 CT	2.5 A	12.5	25	3 1/16 x 3 9/16 x 4 7/8	JA	25.65
M8023	35 CT	3 A	14.5	29	3 3/8 x 3 15/16 x 5 1/4	KA	26.10
M8089	40 CT	.1 A	17	34	1 5/8 x 1 5/8 x 2 3/8	AJ	12.00
M8090	40 CT	.3 A	17	34	1 13/16 x 1 15/16 x 2 3/4	EA	18.00
M8091	40 CT	.75 A	17	34	2 3/8 x 2 3/4 x 2 15/16	GB	18.45
M8046	49 CT	2.5 A	21	42	3 11/16 x 4 5/16 x 5 9/16	LA	29.70
M8024	70 CT	1 A	30	60	3 1/16 x 3 9/16 x 4 7/8	JA	25.65
M8056	80 CT	.6 A	35	70	2 5/8 x 3 1/16 x 4 1/4	HA	22.20

*Full-wave CT. †Full-wave bridge. ‡Primary 115 V only. §Series. •Fig. K.

400 Hz ISOLATION TRANSFORMERS (FIG. P)

Electrostatic shielding. Also for use in either FW bridge or FW CT circuit. MIL Type TF4RX01—.

Micro. No.	Input Volts	Output Volts	rms Amps	VA	Size, Inches W. x D. x H.	MIL Case	Net, 1-9*
M8058†	115	115 CT	.017	2	15/16 dia. x 1 7/16	YY	$ 9.60
M8059	115	115 CT	.35	40	1 13/16 x 1 15/16 x 2 7/16	EB	14.70
M8060	115	115 CT	1.3	150	2 3/8 x 2 3/4 x 3 13/16	GA	26.40
M8061	115*	115 CT	2.6	300	3 1/16 x 3 9/16 x 4 7/8	JA	36.30
M8062	115*	115 CT	4.4	500	3 3/8 x 3 15/16 x 5 1/4	KA	43.50
M8082†	26	12.6 CT	.15	1.9	15/16 dia. x 1 7/16	YY	10.50
		12.6	.15	1.9			
M8083	115	115 CT	.03	10	1 5/8 x 1 5/8 x 2 3/8	AJ	18.60
		12.6 CT	.25	total			
		12.6	.25				
M8084	115	115 CT	.12	14	1 5/8 x 1 5/8 x 2 3/8	AJ	13.50
M8085	115	115 CT	.7	80	2 1/16 x 2 5/16 x 3 1/8	FA	23.55

*Primary 105/115/125 V. †Fig. K.

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400 Hz TOROIDAL POWER TRANSFORMERS (FIG. W)

Ideal for applications requiring minimum size and weight. Feature epoxy molded case and printed circuit pins which can be bent for chassis mounting. Toroidal cores provide greater efficiency and low phase shift. All have 115 V primary windings and center .170" clearance hole for #8 screw. MIL Type TF5SX01ZZ.

Micro. No.	Secondary V	Secondary mA	VA	Size, Inches O.D. x Ht.	Wt., Oz.	Net Ea., 1-9*
M8106	28 CT	320	9	1 5/32 x 1 1/8	2	$15.30
M8107	28 CT	710	20	1 1/2 x 1 1/4	4	15.90
M8108	56 CT	160	9	1 5/32 x 1 1/8	2	15.60
M8109	56 CT	356	20	1 1/2 x 1 1/4	4	16.20
M8110	115 CT	78	9	1 5/32 x 1 1/8	2	15.90
M8111	115 CT	170	20	1 1/2 x 1 1/4	4	16.50

60 Hz ISOLATION/POWER TRANSFORMERS (FIG. P)

Electrostatic shielding. Center tap permits use in either FW bridge or FW CT circuit. MIL type TF4X01—.

Micro. No.	Input Volts	Output Volts	rms Amps	VA	Size, Inches W. x D. x H.	MIL Case	Net Ea., 1-9*
M8094	115	115 CT	.0085	1	1 5/16 x 1 5/16 x 1 3/4	AH	$12.30
M8095	115	115 CT	.03	3.5	1 13/16 x 1 15/16 x 2 3/4	EA	18.90
		12.6 CT	.25	3.15			
		12.6	.25	3.15			
M8096*	115	115 CT	.35	40	2 3/8 x 2 3/4 x 3 3/16	GA	19.50
M8078*	115	115 CT	.9	100	3 3/8 x 3 15/16 x 5 1/4	KA	29.10

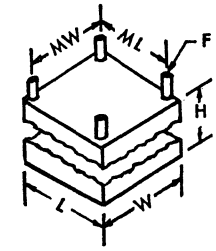
*Primary 105/115/125 V.

FILTER INDUCTORS (FIG. P)

For transistor and low-voltage applications. May be connected in series or parallel for varied inductive requirements. MIL Type TF4RX04—. Tested 1500 V.

Microtran No.	Series Connected Induct. H	Series Connected DC Amps	Series Connected DC Res. Ohms	Parallel Connected Induct. H	Parallel Connected DC Amps	Parallel Connected DC Res. Ohms	MIL Case	Net Each, 1-9*
M8098	3.5	.05	200	.875	.10	50	AH	$ 9.90
M8099	1.0	.15	65	.25	.30	16	AJ	12.90
M8100	.5	.3	30	.125	.6	7.5	EB	14.70
M8101	.32	.6	16	.08	1.2	4	FB	16.65
M8102	.2	1.0	4	.05	2.0	1	JA	21.60
M8103	.07	2.5	.84	.0175	5.0	.21	JA	24.00
M8104	.022	4.0	.4	.0055	8.0	.1	JA	22.80
M8105	.022	5.0	.2	.0055	10	.05	KA	25.65

STANDARD MIL-T-27B CASE SIZES



Case symbol **YY**—all metal cases not included below or with non-standard mounting centers. Case symbol **ZZ**—open type and encapsulated units. In tabulation below, * indicates not in conformance with MIL-T-27B; † indicates two studs in a diagonal.

Case Type	Size, Inches W. x L. x H.	Mtg. Centers, In. MIL	Mtg. Centers, In. MW	Stud Type F
AF	3/4 x 3/4 x 1 1/8	13/16*	.....	4-40 x 3/8
AG	1 x 1 x 1 3/8	1 1/8*	.....	6-32 x 3/8
AH	1 5/16 x 1 5/16 x 1 3/4	1 1/4†	.....	6-32 x 3/8
AJ	1 5/8 x 1 5/8 x 2 3/8	1 3/16	1 3/16	6-32 x 3/8
EA	1 13/16 x 1 15/16 x 2 3/4	1 3/8	1 1/4	6-32 x 3/8
EB	1 13/16 x 1 15/16 x 2 7/16	1 3/8	1 1/4	6-32 x 3/8
FA	2 1/16 x 2 5/16 x 3 1/8	1 11/16	1 7/16	6-32 x 3/8
FB	2 1/16 x 2 5/16 x 2 1/2	1 11/16	1 7/16	6-32 x 3/8
GA	2 3/8 x 2 3/4 x 3 13/16	2 1/8	1 3/4	6-32 x 3/8
HA	2 5/8 x 3 1/16 x 4 1/4	2 19/64	1 55/64	8-32 x 3/8
JA	3 1/16 x 3 9/16 x 4 7/8	2 5/8	2 1/8	8-32 x 3/8
JB	3 1/16 x 3 9/16 x 3 7/8	2 5/8	2 1/8	8-32 x 3/8
KA	3 3/8 x 3 15/16 x 5 1/4	3	2 7/16	10-32 x 1/2
LA	3 11/16 x 4 5/16 x 5 9/16	3 5/16	2 11/16	10-32 x 1/2
NB	4 5/16 x 5 1/16 x 5 1/2	4 1/16	3 5/16	1/4-20 x 5/8
OA	4 1/2 x 5 1/2 x 6 3/4	3 3/4	3	1/4-20 x 5/8

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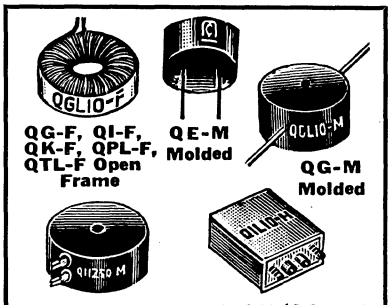
MICROTRAN — MINIATURIZED MILITARY TOROIDAL INDUCTORS

ULTRA-MINIATURE TOROIDAL INDUCTORS—QE-M SERIES

Affords new application opportunities in high density packaging. Ultra miniaturized with low height design. Exceptionally high "Q" and wide frequency range. Available on special order with ±1% inductance tolerance. Frequency range of QEL Series 1 to 300 kHz; QEM, 3 to 500 kHz. Accuracy, ±2%. Molded in epoxy resin with .020" x 2" gold-plated nickel alloy leads. Size, .450" dia. x .285".

Inductance	QEL-M Series Microtran No.	Typ. DC Res., Ohms	Typ. Dist. Cap., pF	Net Ea., Lots of 1-9*	QEM-M Series Microtran No.	Typ. DC Res., Ohms	Typ. Dist. Cap., pF	Net Ea., Lots of 1-9*
.5 mH	.....	.....	.....	.....	•QEM05-M	1.6	9	$8.40
1 mH	•QEL1-M	1.5	9	$7.95	•QEM1-M	2.8	10	8.40
2 mH	•QEL2-M	2.7	10	7.95	QEM2-M	6.1	12	8.40
5 mH	QEL5-M	6.7	13	8.40	QEM5-M	16	15	8.85
10 mH	QEL10-M	15.6	15	8.55	QEM10-M	29	19	9.00
15 mH	•QEL15-M	24	18	8.70	•QEM15-M	43	21	9.15
25 mH	QEL25-M	38	22	9.00	•QEM25-M	56	25	9.45
50 mH	QEL50-M	55	25	9.15	•QEM50-M	127	30	9.75
100 mH	•QEL100-M	125	30	9.60	.....	.....	.....	.....

•These items not normally carried in stock; available on special order only.



QG-F, QI-F, QK-F, QPL-F, QTL-F Open Frame — QE-M Molded — QG-M Molded

QI-M, QK-M, QPL-M, QTL-M Molded — QI-H, QK-H 2 studs QPL-H, QTL-H 4 studs Hermetic

MICRO-MINIATURE TOROIDAL INDUCTORS—QG SERIES

Frequency range of QGL Series, to 20 kHz; QGM Series, 2 to 100 kHz. Accuracy, ±2%. **QG-F:** Open frame, microcrystalline wax dipped with 4" #28 plastic leads. Size, 5/8" dia. x 9/32". **QG-M:** Molded in high temperature epoxy resin with .020" x 2" gold plated nickel alloy leads. Leads may be bent downward for plug-in printed circuit use. Size, 7/8" dia. x 3/8". **QGH:** Hermetically sealed on special order only (**$12.50** setup charge in Lots of 1-49). Size, 11/16" dia. x 13/32". **QG-HC:** Hermetic crystal can. Special order only; prices setup charge same as QG-H Series. Size, 23/32" x 11/32" x 49/64".

QGL SERIES

Microtran No.†	Inductance	Typ. DC Res., Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9* -F	-H	-M
QGL5-	5 mH	2.5	30	$4.35	$7.50	$6.60
QGL10-	10 mH	5	33	4.35	7.50	6.60
QGL15-	15 mH	8	34	4.50	7.65	6.75
•QGL30-	30 mH	17	37	4.65	7.80	6.90
QGL50-	50 mH	28	40	4.80	7.95	7.05
QGL100-	100 mH	50	42	$4.95	$ 8.40	$7.20
QGL250-	250 mH	130	46	5.10	8.40	7.35
QGL500-	500 mH	290	48	5.85	9.15	8.85
QGL1000-	1.0 H	530	51	6.75	9.60	9.45
QGL1500-	1.5 H	825	53	6.90	10.20	9.90

QGM SERIES

Microtran No.†	Inductance	Typ. DC Res., Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9* -F	-H	-M
QGM1-	1 mH	1.4	22	$4.80	$8.10	$7.05
QGM2-	2 mH	2.5	25	4.80	8.10	7.05
QGM5-	5 mH	6	28	5.10	8.25	7.20
QGM10-	10 mH	12	31	5.25	8.25	7.35
QGM15-	15 mH	18	32	$5.40	$8.40	$7.50
QGM25-	25 mH	30	35	5.70	8.55	7.65
QGM50-	50 mH	52	37	6.30	9.60	7.80
•QGM100-	100 mH	115	39	6.45	9.90	8.55

SUBMINIATURE TOROIDAL INDUCTORS—QIL SERIES

Frequency range to 20 kHz; accuracy, ±2%. **QIL-M:** Molded in high temperature epoxy with silver plated turret lugs. Size, 13/16" dia. x 1/2". **QIL-H:** Hermetically sealed in metal case with Teflon® terminals. Size, 1 1/16" x 1/2" x 1 7/32". **QIL-F:** Open frame. Microcrystalline wax dipped with 4" #28 plastic leads. Size, 1" dia. x 13/32".

®Registered DuPont trademark

Microtran No.†	Inductance	Typ. DC Res., Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9* -F	-H	-M
•QIL3-	3 mH	.73	36	$3.90	$6.75	$6.30
QIL5-	5 mH	1.1	38	3.90	6.75	6.30
QIL10-	10 mH	2.1	40	3.90	6.75	6.30
•QIL15-	15 mH	3.3	42	3.90	6.75	6.45
QIL25-	25 mH	5.3	45	4.05	7.20	6.45
QIL50-	50 mH	11	47	4.05	7.20	6.60
QIL100-	100 mH	22	49	4.20	7.65	6.90
•QIL150-	150 mH	34	50	$4.35	$ 7.80	$ 7.05
QIL250-	250 mH	55	53	4.50	8.25	7.20
QIL500-	500 mH	95	55	4.80	8.55	7.65
QIL1000-	1.0 H	210	57	5.10	9.00	8.10
•QIL1500-	1.5 H	335	59	5.85	9.45	8.85
QIL2500-	2.5 H	550	61	6.75	10.80	10.35

MINIATURE TOROIDAL INDUCTORS—QK SERIES

Frequency range of QKL Series, to 10 kHz; QKM Series, 5 to 50 kHz. Accuracy, ±2%. **QK-F:** Open frame, microcrystalline wax dipped; 4" #28 plastic leads. Size, 1 1/4" dia. x 5/8". **QK-H:** Hermetic with Teflon terminals. Size, 1 15/32" x 25/32" x 1 47/64". **QK-M:** Molded in high temperature epoxy resin; silver plated turret lugs. Size, 1 3/8" dia. x 3/4"; #8 clearance hole.

QKL SERIES

Microtran No.†	Inductance	Typ. DC Res., Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9* -F	-H	-M
•QKL5-	5 mH	.62	60	$4.35	$7.05	$6.90
QKL10-	10 mH	1.1	66	4.50	7.20	6.90
•QKL15-	15 mH	1.7	68	4.50	7.35	6.90
•QKL25-	25 mH	2.8	72	4.65	7.50	7.05
QKL50-	50 mH	6	76	4.65	7.80	7.05
QKL100-	100 mH	11	81	4.80	8.40	7.50
•QKL150-	150 mH	17	83	4.95	8.55	7.65
QKL250-	250 mH	28	87	$4.95	$ 8.85	$ 7.80
QKL500-	400 mH	63	91	5.10	9.15	7.95
QKL1000-	1.0 H	110	96	5.25	9.60	8.40
•QKL1500-	1.5 H	175	98	5.40	9.75	8.55
•QKL2500-	2.5 H	275	103	6.00	10.05	8.70
QKL5000-	5 H	645	106	6.75	11.10	9.60
QKL10,000-	10 H	1175	112	7.50	12.45	10.95

QKM SERIES

Microtran No.†	Inductance	Typ. DC Res., Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9* -F	-H	-M
QKM2-	2 mH	.45	52	$5.10	$8.25	$7.50
QKM5-	5 mH	1.1	58	5.25	8.40	7.50
QKM10-	10 mH	2.5	62	5.25	8.55	7.65
•QKM25-	25 mH	6.5	70	5.40	8.85	7.80
•QKM50-	50 mH	11	74	5.55	9.00	7.95
•QKM100-	100 mH	25	79	$5.70	$ 9.00	$8.10
•QKM250-	250 mH	65	87	5.85	9.30	8.40
•QKM500-	500 mH	115	92	6.15	9.60	8.70
•QKM1000-	1.0 H	250	97	6.45	10.65	9.90

HIGH-Q TOROIDAL INDUCTORS—QPL SERIES

Frequency range to 10 kHz; accuracy, ±2%. **QPL-F:** Open frame, microcrystalline wax dipped; 4" #24 leads. Size, 1 15/16" dia. x 7/8". **QPL-H:** Hermetically sealed with Teflon terminals. Size, 1 15/16" x 1 1/16" x 2 9/32". **QPL-M:** Molded in high temperature epoxy resin; silver plated turret lugs. Size, 2" dia. x 1".

Microtran No.†	Inductance	Typ. DC Res., Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9* -F	-H	-M
QPL25-	25 mH	1.5	100	$6.90	$10.35	$ 9.90
QPL50-	50 mH	2.5	105	7.05	10.50	10.05
QPL100-	100 mH	6	110	7.20	10.65	10.20
•QPL250-	250 mH	15	115	7.35	10.80	10.50
QPL500-	500 mH	25	120	7.50	10.95	10.80
QPL1000-	1.0 H	60	125	7.80	11.40	11.25
•QPL1500-	1.5 H	90	130	8.10	11.70	11.55
•QPL2500-	2.5 H	150	133	$ 8.70	$12.30	$12.15
QPL5000-	5.0 H	350	138	9.45	13.20	12.90
•QPL7500-	7.5 H	525	140	10.05	14.10	13.65
QPL10,000-	10 H	600	142	11.10	15.00	14.85
•QPL15,000-	15 H	900	146	12.00	15.75	15.60
QPL25,000-	25 H	1500	150	13.05	17.55	17.40

HIGH-Q TOROIDAL INDUCTORS—QTL SERIES

Frequency range to 15 kHz; accuracy, ±2%. **QTL-F:** Open frame, microcrystalline wax dipped; 4" #24 leads. Size, 2 7/16" dia. x 1". **QTL-H:** Hermetic, Teflon terminals. Size, 2 9/16" x 1 5/16" x 2 13/16". **QTL-M:** Molded in epoxy resin. Size, 2 7/8" dia. x 1 3/8".

Microtran No.†	Inductance	Typ. DC Res., Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9* -F	-H	-M
•QTL25-	25 mH	0.85	127	$10.80	$13.50	$12.60
QTL50-	50 mH	1.5	136	10.95	13.65	12.75
QTL100-	100 mH	2.8	144	11.25	13.95	13.05
•QTL150-	150 mH	3.9	149	11.70	14.25	13.65
•QTL250-	250 mH	7	156	12.00	14.55	13.95
QTL500-	500 mH	15	164	12.15	14.85	13.95
QTL1000-	1.0 H	27	173	12.15	15.15	13.95
QTL1500-	1.5 H	40	177	$12.45	$15.45	$14.25
QTL2500-	2.5 H	70	184	13.05	16.05	14.85
QTL5000-	5 H	140	192	13.05	16.65	15.00
•QTL10,000-	10 H	270	200	14.25	17.25	16.20
•QTL15,000-	15 H	430	205	15.30	18.30	17.25
QTL25,000-	25 H	850	212	16.50	19.50	18.45
•QTL50,000-	50 H	1500	221	22.20	25.20	24.15

•These items not normally carried in stock; available on special order.

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MICROTRAN MINIATURIZED INDUSTRIAL TRANSFORMERS AND CHOKES

60 Hz CONTROL/POWER SUPPLY TRANSFORMERS

For low voltage, high current applications such as filament supplies, relays, silicon rectifiers, etc. Primary 105/115/125 VAC. Open frame construction.

Micro. No.	Fig.	Secondary VAC	Secondary rms A	Rectifier VDC*	Rectifier VDC‡	Size, Inches W. x D. x H.	Net Ea., 1-9*
M8242	X	6.3 CT	.6	1.9	3.8	2⅜ x1⅜x1½	$ 3.75
M8243	X	6.3 CT	2.0	1.9	3.8	2 9/32 x1⅜x1 15/16	4.50
M8286	X	6.3 CT	6.0	1.9	3.8	3 11/16x2⅛x2¼	5.55
M8287	X	12.6 CT	3.0	4.7	9.4	3 11/16x2⅛x2¼	5.55
M8247#	Y	12	4.0	9.9§	19.8§	4⅛ x3⅛x3¾	12.15
		12	4.0	9.9§	19.8§		
M8244	Y	12.6 CT	2.0	10.5§	21§	3⅜ x2⅞x3 3/32	7.95
		12.6	2.0	10.5§	21§		
M8222	Y	18.5 CT	3.0	7.4	14.8	3⅜ x2½x3 3/32	7.20
M8288	Y	26 CT	2.5	10.8	21.6	3 x2¾x2¾	7.05
M8245	X	28 CT	.6	11.7	23.4	2 9/32 x2⅛x1 15/16	5.55
M8255	Y	30 CT	2.5	12.5	25	3¾ x2¾x3 15/32	8.25
M8223	Y	35 CT	3.0	14.5	29	4⅛ x3 x3¾	12.45
M8289	X	40 CT	.1	17	34	2⅜ x1⅜x1½	3.75
M8290	X	40 CT	.3	17	34	2 13/16x1⅝x1⅝	4.50
M8291	X	40 CT	.75	17	34	3 11/16x2⅛x2¼	5.55
M8246	Y	49 CT	2.5	21	42	4½ x3¼x4 1/32	8.70
M8224	Y	70 CT	1.0	30	60	3¾ x2¾x3 15/32	8.25
M8256	Y	80 CT	.6	35	70	3 x2⅝x2¾	7.05

DC output for resistive or inductive load, output volts based on 1 V approx., drop/rectifier. Full wave *CT; ‡bridge. §Series. #Sec. connected series, 24 V at 4 A; parallel, 12 V at 8 A.

60 Hz ISOLATION AND POWER TRANSFORMERS

With center tap for use in either full wave bridge or full wave CT circuitry. Electrostatic shielding; open frame.

Micro. No.	Fig.	Volts Input	Volts Output	rms Amps	VA	Size, Inches W. x D. x H.	Net Ea., 1-9*
M8294	X	115	115 CT	.0085	1	2⅛ x1⅛x1 3/16	$ 3.90
M8295	X	115	115 CT	.030	3.5	2 13/16x1⅛x1⅝	5.25
			12.6 CT	.25	3.15		
			12.6	.25	3.15		
M8296	Z	115*	115 CT	.35	40	2⅜ x3 3/16x2¾	7.20
M8278	Y	115*	115 CT	.9	100	3¾ x3¼x3 15/32	12.45

*Primary 105/115/125 volts.

FILTER INDUCTORS (FIG. X)

Windings may be connected in series or parallel for varied inductive requirements. Tested at 1500 volts.

Micro-tran No.	Series Connected Ind., H	Series Connected DC Amps	Series Connected DCR Ohms	Parallel Connected Ind., H	Parallel Connected DC Amps	Parallel Connected DCR Ohms	Mtg. Ctrs., Inches	Net Each, 1-9*
M8198	3.5	.050	200	.875	.10	50	1¾	$ 2.85
M8199	1.0	.15	65	.25	.30	16	2	3.00
M8200	.5	.3	30	.125	.6	7.5	2⅜	3.30
M8201	.32	.6	16	.08	1.2	4	2 5/16	4.20
M8202*	.2	1.0	4	.05	2.0	1	2 13/16x2⅛	9.60
M8203*	.07	2.5	.84	.0175	5.0	.21	3⅛x2½	11.25
M8204*	.022	4.0	.4	.0055	8.0	.1	2 13/16x2½	10.95
M8205*	.022	5.0	.2	.0055	10	.05	3¾x2½	13.20

*Fig. Y.

DECI-MINIATURE PC CHOKES (FIG. U)

For audio frequency, servo mechanisms, computer applications, etc. **Size:** 13/16" w. x 19/32" d. x 15/16" h. Open frame.

Micro. No.	Inductance, Henries At 0 mA	Inductance, Henries At Rated Cur.	DC Res., Ohms	Net Each, 1-9*
DCM51-PC	10	5 at 3 mA	300	$3.60
DCM52-PC	5	2 at 5 mA	155	3.30
DCM53-PC	2.5	1 at 7 mA	75	3.15

TRANSISTOR AUDIO TRANSFORMERS (FIG. X)

Designed for input, interstage, isolation, output and impedance matching of solid state circuits. Primary and secondary windings may be interchanged with only slight differences in impedance ratios. Open frame construction. **Size:** 8316, 1 9/32" w. x 11/16" d. x 21/32" h.; 8304, 5, 11 and 13, 2 1/16" w. x 1¼" d. x 1 3/16" h.; all others, 2⅜" w. x 1⅜" d. x 1⅜" h.

Micro-tran No.	Impedance Pri.	Impedance Sec.	Unbal. Pri. mADC	Level Watts	Freq. Resp. ±2 db, Hz	Net Each, 1-9*
M8302	560	400 CT	18	.15	200–20K	$4.20
M8303	625 CT	100 CT	20	1.5	200–20K	4.35
M8304	5400	600 CT	15	.075	200–20K	3.90
M8305	7000	320 CT	7	.040	70–15K	4.05
M8308	25	3–4	600	3.0	200–20K	3.90
M8309	48 CT	3.2/8.0	50	5.0	200–20K	4.05
M8310	120 CT	1000	40	6.0	300–15K	4.20
M8311	125 CT	3–4	20	1.5	200–15K	4.20
M8312	140 CT	500	50	6.0	300–15K	4.20
M8313	250 CT	3–4	20	.4	70–15K	3.75
M8315	1600 CT	800	5.0	2.5	150–20K	4.05
M8316	2500 CT	12	4.0	.1	300–15K	3.60

MICROPHONE INPUT TRANSFORMERS (FIG. T)

Broadcast fidelity type, double mu-metal shielded. M8030 designed to replace Ampex No. 1733-1. Frequency response, ±2 db, 20–20,000 Hz except M8027, 50–20,000 Hz, and M8031, 30–20,000 Hz. Magnetic shielding, 65 db; low level, 5 dbm.

Micro. No.	Impedance, Ohms Primary	Impedance, Ohms Sec.	Size, In. H. x Dia.	Base	Wt., Oz.	Net Ea., 1-9*
M8027	200	40K	2¾ x1 3/16x⅞	*	2	$ 9.00
M8030	200/50 CT	50K	2⅛ x1⅛	Octal	6	13.50
M8031	600 CT/150	50K	2⅛ x1⅛	Octal	6	13.35
M8032	250 CT	50K	2⅛ x1⅛	9-pin‡	6	13.05
M8033	50 CT	50K	2⅛ x1⅛	9-pin‡	6	13.05
M1-S	50/250 CT	50K	1 17/32x1 1/16	Wire leads§	3	10.95
	600 CT					

*In-line, 20" shielded cable; 25 db single mu-metal magnetic shield; Fig. AA. ‡Mates with many RCA amplifier sockets. §Fig. H.

DECI-MINIATURE PC TRANSFORMERS (FIG. U)

Primary and secondary windings may be interchanged to obtain varied matching requirements such as input, interstage, output and isolation. Designed for printed circuits; frequency response: ±2 db, 200–15,000 Hz. **Size:** 13/16" w. x 19/32" d. x ¾" h.

Micro. No. DCM	Impedance Primary	Impedance Secondary	Unbal. Pri. mADC	Oper. Level dbm	Net Each, 1-9*
1-PC	25K CT	1200 CT	2	18	$4.95
2-PC	15K CT	15K CT	3	19	5.10
3-PC	15K CT	600 CT	3	19	4.80
4-PC	10K CT	5000 CT	4	20	4.95
5-PC	10K	2500/625 split	2	20	4.95
6-PC	10K CT	1500 CT	4	20	4.65
7-PC	5000 CT	80K CT	6	15	5.25
8-PC	4000 CT	1200 CT	6	20	4.50
9-PC	4000 CT	600 CT	6	20	4.35
10-PC	4000	600/150 split	3	20	4.80
11-PC	2500 CT	2500 CT	8	20	4.50
12-PC	2500	2500/625 split	4	20	4.80
13-PC	2500 CT	625 CT	8	20	4.35
14-PC	2500 CT	200 CT	8	20	4.20
18-PC	600 CT	50K CT	16	20	4.65
19-PC	600	8000/2000 split	8	20	4.80
20-PC	600 CT	200 CT	16	20	4.05
21-PC	600 CT	600 CT	16	20	4.05
22-PC	250 CT	600 CT	25	20	4.05

★QUANTITY PRICING

Net Each, 1-9	Net Each, Lots of 10-49	50-99	100-249	Net Each, 1-9	Net Each, Lots of 10-49	50-99	100-249	Net Each, 1-9	Net Each, Lots of 10-49	50-99	100-249	Net Each, 1-9	Net Each, Lots of 10-49	50-99	100-249
$1.05	$0.95	$0.88	$0.70	$ 7.35	$ 6.62	$ 6.13	$4.90	$12.30	$11.07	$10.25	$ 8.20	$17.55	$15.80	$14.63	$11.70
1.35	1.22	1.13	.90	7.50	6.75	6.25	5.00	12.45	11.21	10.38	8.30	18.00	16.20	15.00	12.00
1.95	1.76	1.63	1.30	7.65	6.89	6.38	5.10	12.60	11.34	10.50	8.40	18.30	16.47	15.25	12.20
2.85	2.57	2.38	1.90	7.80	7.02	6.50	5.20	12.75	11.48	10.63	8.50	18.45	16.61	15.38	12.30
3.00	2.70	2.50	2.00	7.95	7.16	6.63	5.30	12.90	11.61	10.75	8.60	18.60	16.74	15.50	12.40
3.15	2.84	2.63	2.10	8.10	7.29	6.75	5.40	13.05	11.75	10.88	8.70	18.90	17.01	15.75	12.60
3.30	2.97	2.75	2.20	8.25	7.43	6.88	5.50	13.20	11.88	11.00	8.80	19.05	17.15	15.88	12.70
3.45	3.11	2.88	2.30	8.40	7.56	7.00	5.60	13.35	12.02	11.13	8.90	19.50	17.55	16.25	13.00
3.60	3.24	3.00	2.40	8.55	7.70	7.13	5.70	13.50	12.15	11.25	9.00	21.60	19.44	18.00	14.40
3.75	3.38	3.13	2.50	8.70	7.83	7.25	5.80	13.65	12.29	11.38	9.10	21.90	19.71	18.25	14.60
3.90	3.51	3.25	2.60	8.85	7.97	7.38	5.90	13.80	12.42	11.50	9.20	22.20	19.98	18.50	14.80
4.05	3.65	3.38	2.70	9.00	8.10	7.50	6.00	13.95	12.56	11.63	9.30	22.80	20.52	19.00	15.20
4.20	3.78	3.50	2.80	9.15	8.24	7.63	6.10	14.10	12.69	11.75	9.40	23.25	20.93	19.38	15.50
4.35	3.92	3.63	2.90	9.30	8.37	7.75	6.20	14.25	12.83	11.88	9.50	23.55	21.20	19.63	15.70
4.50	4.05	3.75	3.00	9.45	8.51	7.88	6.30	14.40	12.96	12.00	9.60	24.00	21.60	20.00	16.00
4.65	4.19	3.88	3.10	9.60	8.64	8.00	6.40	14.55	13.10	12.13	9.70	24.15	21.74	20.13	16.10
4.80	4.32	4.00	3.20	9.75	8.78	8.13	6.50	14.70	13.23	12.25	9.80	25.20	22.68	21.00	16.80
4.95	4.46	4.13	3.30	9.90	8.91	8.25	6.60	14.85	13.37	12.38	9.90	25.50	22.95	21.25	17.00
5.10	4.59	4.25	3.40	10.05	9.05	8.38	6.70	15.00	13.50	12.50	10.00	25.65	23.09	21.38	17.10
5.25	4.73	4.38	3.50	10.20	9.18	8.50	6.80	15.15	13.64	12.63	10.10	26.10	23.49	21.75	17.40
5.40	4.86	4.50	3.60	10.35	9.32	8.63	6.90	15.30	13.77	12.75	10.20	26.40	23.76	22.00	17.60
5.55	5.00	4.63	3.70	10.50	9.45	8.75	7.00	15.45	13.91	12.88	10.30	26.85	24.17	22.38	17.90
5.70	5.13	4.75	3.80	10.65	9.59	8.88	7.10	15.60	14.04	13.00	10.40	28.50	25.65	23.75	19.00
5.85	5.27	4.88	3.90	10.80	9.72	9.00	7.20	15.75	14.18	13.13	10.50	29.10	26.19	24.25	19.40
6.00	5.40	5.00	4.00	10.95	9.86	9.13	7.30	15.90	14.31	13.25	10.60	29.40	26.46	24.50	19.60
6.15	5.54	5.13	4.10	11.10	9.99	9.25	7.40	16.05	14.45	13.38	10.70	29.70	26.73	24.75	19.80
6.30	5.67	5.25	4.20	11.25	10.13	9.38	7.50	16.20	14.58	13.50	10.80	30.00	27.00	25.00	20.00
6.45	5.81	5.38	4.30	11.40	10.26	9.50	7.60	16.35	14.72	13.63	10.90	31.50	28.35	26.25	21.00
6.60	5.94	5.50	4.40	11.55	10.40	9.63	7.70	16.50	14.85	13.75	11.00	36.00	32.40	30.00	24.00
6.75	6.08	5.63	4.50	11.70	10.53	9.75	7.80	16.65	14.99	13.88	11.10	36.30	32.67	30.25	24.20
6.90	6.21	5.75	4.60	11.85	10.67	9.88	7.90	17.10	15.39	14.25	11.40	42.00	37.80	35.00	28.00
7.05	6.35	5.88	4.70	12.00	10.80	10.00	8.00	17.25	15.53	14.38	11.50	43.50	39.15	36.25	29.00
7.20	6.48	6.00	4.80	12.15	10.94	10.13	8.10	17.40	15.66	14.50	11.60	48.00	43.20	40.00	32.00

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OHMITE variable transformers

Unique for the design innovations they incorporate, Ohmite "OHMITRAN" v.t.® variable transformers include exclusive field-proven features. They offer long, low maintenance operation with excellent regulation at any voltage setting within the rated load plus an output free of waveform distortion. Six frame sizes offer a wide range of electrical ratings to meet most industrial applications. These include three new, compact, low-power models (VT1, VT02, VT3,) which permit a fine choice of six ratings from 1 to 3 amperes.

The VT1, rated 1 ampere, is the smallest commercial variable transformer available.

UL LISTING: Most single and tandem VT4, VT8 and VT20 transformers used for 120 volt line operation are Underwriters' Laboratories listed. Consult factory for specific approvals.

POSITIVE CURRENT TRANSFER . . . achieved with specially designed brushes connected through high conductivity contact arms or pigtails to a large slip ring which contacts a wide area of the collector ring. The brush contact assembly on the VT1, VT02, and VT3 is instantly replaceable, when necessary, as a result of a slide-on, snap-in design. Brushes of the other models are easily replaced also.

ADJUSTABLE SHAFT: On all Ohmite transformers, except the VT2LN, the shaft may be extended out from either the brush or opposite side as desired. On the VT1, VT02 and VT3, both single and tandem assemblies, this is an **exclusive** Ohmite feature which affords greater versatility of mounting and application. For example, substitution of a longer shaft or extension of the standard shaft allows actuation of other devices, such as switches or potentiometers without special construction. The shaft is freed simply by loosening set screw in the hub assembly. A double flat on the shaft permits two knob positions.

On the VT4, VT8, and VT20 types, the adjustable shaft feature permits **table or panel use.** "Ganged" or tandem VT4, VT8 and VT20 units employ a thru-shaft offering the same flexibility. On VT4 and VT8 units, shafts are fixed in the desired position by means of socket head screws located in the hub of each "brush-radiator" plate. The VT20 employs a unique collet-type shaft lock.

INTERCHANGEABLE WITH OTHER POPULAR TYPES: Basic "v.t." units have mounting provisions which match those of virtually all popular transformers of comparable current rating. Models VT4, VT8 and VT20 mount by means of bolts. Normally 3-hole mounting, single VT4 units can be "4-hole mounted" by means of adapter plate, see page 34. Individual Model VT1, VT02, VT2LN, or VT3 units mount by means of a standard ⅜-32 threaded bushing. All tandem assemblies mount by means of bolts or nuts. Knob, dial and mounting hardware are included with each transformer.

DIRECT READING, TWO SCALE DIAL . . . calibrated on one side for overvoltage connection; on the reverse side for line voltage connection. Dials normally included with transformer read clockwise for increasing voltage; counter-clockwise calibration available—see page 27.

WIRING AND CONNECTIONS: Wiring instructions to arrange various modes of operation are enclosed with all OHMITE variable transformers. Terminal panels or adjacent nameplate carry convenient wiring diagram, coded terminals and input and output data. Three way terminals on VT1, VT2LN, VT02, VT3 will accept ¼" push-on connectors, screws and nuts, or conventional soldering.

ROTATION OPTION: On VT4, VT8 and VT20 transformers connected for overvoltage, either clockwise or counter-clockwise increase of voltage can be arranged easily by the user. Increasing voltage in either direction can be arranged on all units connected for no-overvoltage output. Dials for counter-clockwise operation are stocked. See "Accessories."

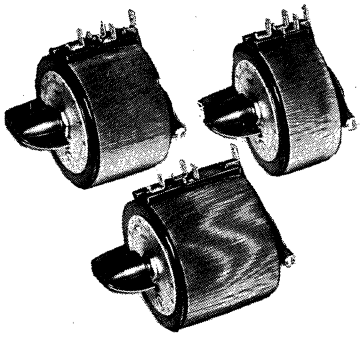
OVERVOLTAGE OPTION: On all transformers with overvoltage feature, no-overvoltage operation can be arranged on the terminal panel.

NO-OVERVOLTAGE TRANSFORMERS ("N" suffix): Provide considerably more current due to heavier gage winding.

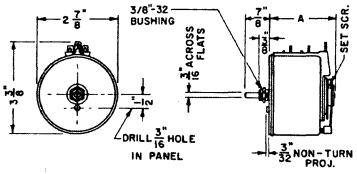
240-VOLT INPUT ("H" suffix): On units which are wound for 240-volt input, a 120 volt input tap is also provided. With the use of this input, the maximum current rating applies up to 120 volts output but beyond this reduces proportionately to approximately 50% at maximum voltage output.

LOW VOLTAGE INPUT ("L" feature): Designed for a maximum input of approximately 40 volts, with high current output.

GROUNDED INPUT & OUTPUT ("C" feature): Units in type F or G cases can be provided with a three-conductor cord and outlet. One conductor is grounded to the case. This feature standard on all cased VT20 units and on all metered units.

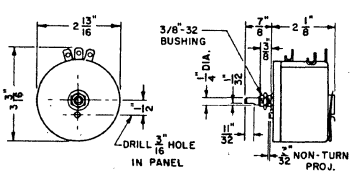


VT1, VT02, VT2LN, VT3, SINGLE, UNCASED
Angle of rotation 320° ±5°

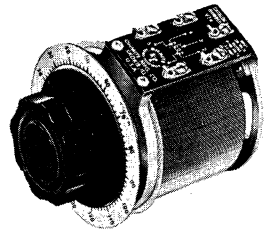


"A" DIMENSION

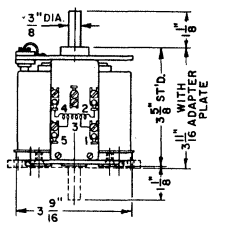
VT1, VT1N	1 13/16"
VT02, VT02N	2 5/16"
VT3, VT3N	2 13/16"

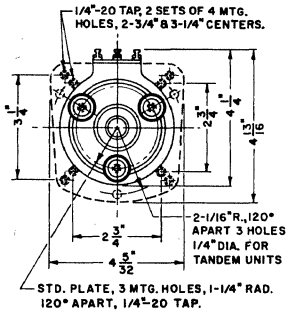


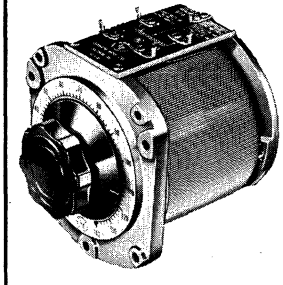
VT2LN
U.S. Patent Nos. 2,790,882
2,985,857



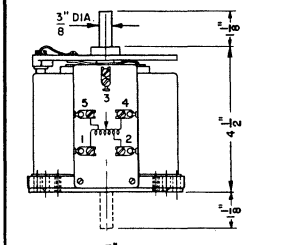
VT4 TYPES, SINGLE, UNCASED
Angle of rotation: 324° ±5°

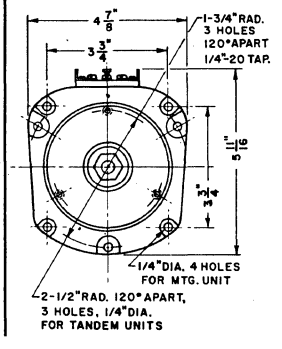


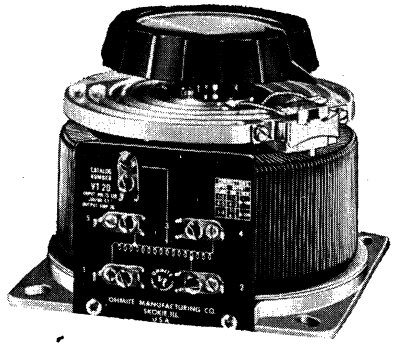




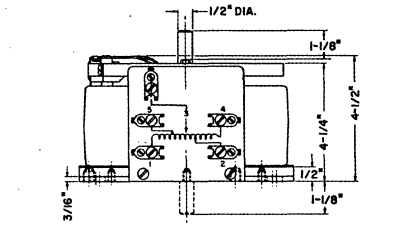
VT8 TYPES, SINGLE, UNCASED
Angle of rotation: 324° ±5°

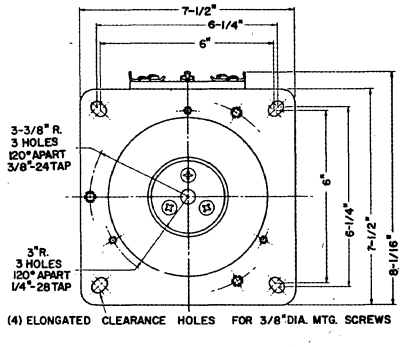






VT20 TYPES, UNCASED
Angle of rotation: 317° ±5°





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OHMITE variable transformers

ENCLOSED OR CASED UNITS: In grey wrinkle finish. "Basic protective enclosures" (Type B) expose the transformer's terminal panel and mounting base and are supplied presently on VT20 models only. (See tandems in "B" enclosures below.) "Fixed mounting enclosures" (Type E) are intended for permanent mounting on table, panel or inconduit-line. Standard portable units (Type F) carry a line cord, outlet socket, and fuse except for VT20F which has a circuit breaker. Deluxe portable units (Type G) utilize a circuit breaker, can be switched to overvoltage or no-overvoltage as desired, have a handle which also serves as an easel.

METERED ENCLOSURES: VT8NFC, VT8GC, VT20NFC and VT20GC transformers are available with voltmeter (V), voltmeter and ammeter (A) or voltmeter and wattmeter (W). The metered transformer enclosures are larger than the non-metered types of comparable designation, (see dimensions below). All stock metered units have the three-conductor grounded cord and outlet and all, except the VT8NF group, are equipped with carrying handles.

SINGLE UNIT CASE DIMENSIONS

Series	Case◆	W	D	H
VT1 or VT02	E	3⅜	2½*	4¼
	F	3⅜	2½*	4¼
VT4	E	4½	4½*	6⅜16
	F	4⅞	4½*	6¼
VT8	E	5⅜16	5¼*	7⅜16
	F	5¹⁄32	5¼*	7⅜
	FV, FVA, FVW	7⅜	5¼*	10½
	G	5⅜16†	5¼*	7⅜‡
	GV, GVA, GCW	7	5¼*	10½‡
	3E	5⅜16	15¾*	7⅜16
VT20	B	7⅝	8⅛	4⅞*
	E	7¾	5½*	10¹⁵⁄16
	F	8¼	5½*	11¼
	FV, FVA, FVW	8¼	5½‡	14‡
	G	7¾§	5½*	11¼‡
	GV, GVA, GVW	8¼	5½‡	14‡

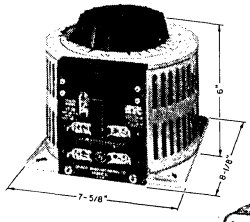
* Add 1" for knob thickness for VT8 types; ⅞" for VT1, 02 and VT4 types, 1¼" for VT20 types.

† 5¾" including handle fittings.

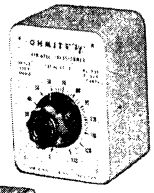
‡ Case height only.

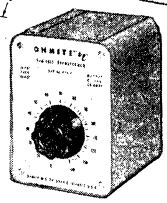
§ 9" including handle fittings.

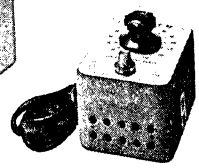
◆ V, A and W = voltmeter, ammeter and wattmeter respectively.

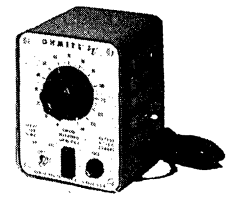


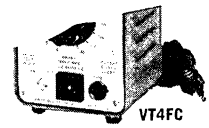
VT20B


VT02E


VT4E


VT02F


VT4F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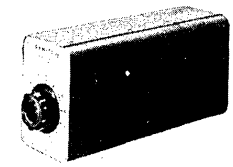
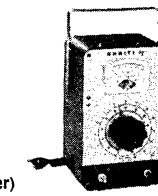
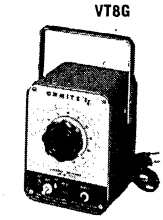

VT8-3E

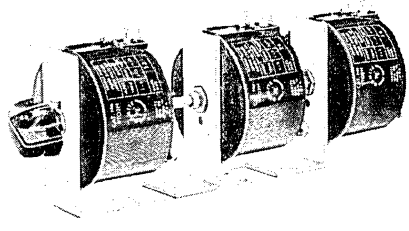


VT8G

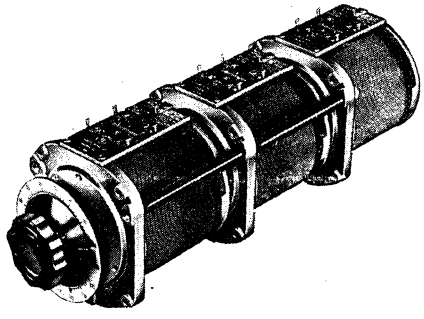
VT8GCV (with voltmeter)

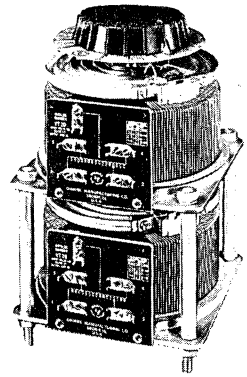
TANDEM OR GANGED UNITS: Two or 3-in-tandem assemblies are standard. Larger tandem assemblies available made to order. All tandem assemblies are normally furnished with inter-connections between the units. A few cased tandems are stocked. Tandems in "B" type enclosures have individual cases on each transformer.

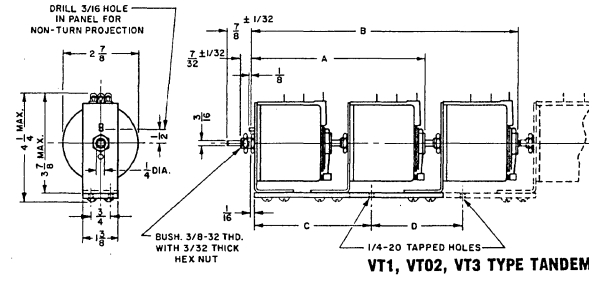
TANDEM VT1, VT02, VT3 DIMENSIONS

	A	B	C
VT1	4⅞32	6¹⁷⁄32	4¼
VT02	5⅞32	8⅛32	4½
VT3	6¹⁷⁄32	9²⁷⁄32	4½

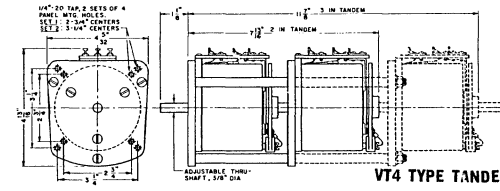

VT02N-3


VT8-3

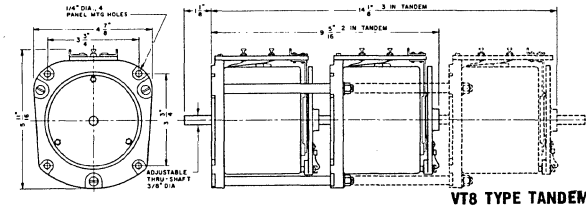

VT20-2



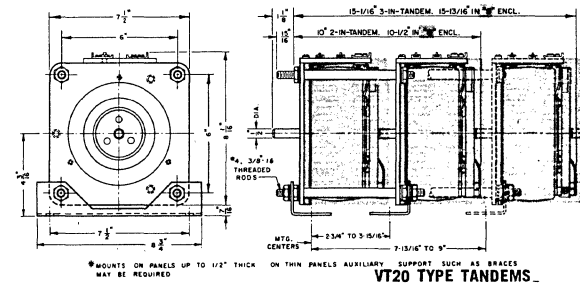
VT1, VT02, VT3 TYPE TANDEMS



VT4 TYPE TANDEMS



VT8 TYPE TANDEMS



VT20 TYPE TANDEMS

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OHMITE variable transformers

STOCK VARIABLE TRANSFORMERS

SINGLE PHASE

SINGLE TRANSFORMERS — UNCASED (Dimensions p. 24)

Input Volts	Freq.[1] cps. from	Maximum Output Amps	Maximum Output Volts	Feature or Connection	Stock No.[11]	Wt. Lbs.[7]	Net $[7] 1-9
40	60	5	0-40	Hi-amps, low volts	**VT2LN**	2.4	12.25
40	50	12.0	0-40	Hi-amps, low volts	VT4LN	5.25	17.25
40	50	22.0	0-40	Hi-amps, low volts	**VT8LN**	10.25	22.25
120	60[8]	1.0	0-120/132	Basic 1.0A Model	**VT1**	1.5	9.00
120	60	1.2	0-120	No overvoltage	**VT1N**	1.5	9.00
120	60[8]	1.75	0-120/132	Basic 1.75A Model	**VT02**	2.25	10.00
120	60	2.0	0-120	No overvoltage	**VT02N**	2.25	10.00
120	60[8]	2.6	0-120/132	Basic 2.6A Model	**VT3**	3.0	11.50
120	60	3.0	0-120	No overvoltage	**VT3N**	3.0	11.50
120	50	3.5	0-120/140	Basic 3.5A Model	**VT4**	5.25	15.00
120	50	4.75	0-120	No overvoltage	**VT4N**	5.25	15.00
120	50	7.5	0-120/140	Basic 7.5A Model	**VT8**	10.25	20.00
120	50	10.0	0-120	No overvoltage	**VT8N**	10.25	20.00
120	50	20.0	0-120/140	Basic 20A Model	**VT20**	22.0	55.00
120	50	25.0	0-120	No overvoltage	**VT20N**	22.0	55.00
240[2]	50	3.0	0-240/280	240V Input[2]	**VT8H**	10.25	22.25
240[2]	50	4.0	0-240	240V In. No ovrvlt.[2]	VT8HN	10.25	22.25
240[2]	50	9	0-240/280	240V Input[2]	VT20H	22.0	57.25
240[2]	50	11	0-240	240V In. No ovrvlt.[2]	VT20HN	22.0	57.25

SINGLE TRANSFORMERS — CASED (Dimensions p. 25)

120	60[8]	.8	0-120/132[4]	Fixed Mtg.	VT1E	1.9	14.50
120	60[8]	1.0	0-132[3]	Portable	VT1F	2.3	16.50
120	60	1.0	0-120	Fixed Mtg.	VT1NE	1.9	14.50
120	60	1.2	0-120	Portable	VT1NF	2.3	16.50
120	60[8]	1.4	0-120/132[4]	Fixed Mtg.	**VT02E**	2.8	15.50
120	60[8]	1.75	0-132[3]	Portable	**VT02F**	3.2	17.50
120	60	1.6	0-120	Fixed Mtg.	VT02NE	2.8	15.50
120	60	2.0	0-120	Portable	**VT02NF**	3.2	17.50
120	50	2.8	0-120/140[4]	Fixed Mtg.	VT4E	7.4	20.50
120	50	3.5	0-140[3]	Portable	**VT4F**	7.8	22.50
120	50	3.5	0-140[3]	VT4F w/gnd. in. & out.	**VT4FC**	7.8	26.00
120	50	3.8	0-120	Fixed Mtg.	VT4NE	7.4	20.50
120	50	4.75	0-120	Portable	VT4NF	7.8	22.50
120	50	4.75	0-120	VT4NF w/gnd. in. & out.	VT4NFC	7.8	26.00
120	50	6.0	0-120/140[4]	Fixed Mtg.	**VT8E**	13.5	25.50
120	50	7.5	0-140[3]	Portable	**VT8F**	13.8	27.50
120	50	7.5	0-140[3]	VT8F w/gnd. in. & out.	**VT8FC**	13.8	31.00
120	50	6.0	0-120/140[3]	Deluxe Portable	**VT8G**	14.2	31.00
120	50	6.0	0-120/140[3]	VT8G w/gnd. in. & out.	VT8GC	14.2	34.50
120	50	8.0	0-120	Fixed Mtg.	VT8NE	13.5	25.50
120	50	10.0	0-120	Portable	VT8NF	13.8	27.50
120	50	10.0	0-120	VT8NF w/gnd. in. & out.	VT8NFC	13.8	31.00
120	50	20.0	0-120/140	Basic Case	**VT20B**	22.5	61.00
120	50	25.0	0-120	Basic Case	VT20NB	22.5	61.00
120	50	20.0	0-120/140[4]	Fixed Mtg.	VT20E	29.0	75.00
120	50	20.0	0-140	Portable	VT20FC	31.0	83.50
120	50	20.0	0-120/140[3]	Portable	VT20GC	31.0	97.00
120	50	25.0	0-120	Fixed Mtg.	VT20NE	29.0	75.00
120	50	25.0	0-120	Portable	VT20NFC	31.0	83.50
240[2]	50	9.0	0-240/280	Basic Case	VT20HB	21.5	63.25
240[2]	50	11.0	0-240	Basic Case	VT20HNB	21.5	63.25
240[2]	50	9.0	0-240/280[4]	Fixed Mtg.	VT20HE	28.0	77.25
240[2]	50	11.0	0-240	Fixed Mtg.	VT20HNE	28.0	77.25
240[2]	50	9.0	0-240/280	Portable	VT20HFC	30.0	85.75
240[2]	50	11.0	0-240	Portable	VT20HNFC	30.0	85.75

SINGLE TRANSFORMERS — CASED WITH METERS (Dimensions p. 25)

120	50	6.0	0-120/140[3]	w/voltmeter, gnd. conn.	**VT8GCV**	15.2	64.50
120	50	6.0	0-120/140[3]	w/volt. & ammtr., gnd. conn.	VT8GCVA	15.5	97.50
120	50	6.0	0-120/140[3]	w/volt. & wattmtr., gnd. conn.	VT8GCVW	15.5	130.50
120	50	10.0	0-120	w/voltmeter, gnd. conn.	VT8NFCV	14.8	61.00

SINGLE PHASE (contd.)

SINGLE TRANSFORMERS — CASED WITH METERS (Dimensions p. 25) (contd.)

Input Volts	Freq.[1] cps. from	Maximum Output Amps	Maximum Output Volts	Feature or Connection	Stock No.[11]	Wt. Lbs.[7]	Net $[7] 1-9
120	50	10.0	0-120	w/volt. & ammtr., gnd. conn.	VT8NFCVA	15.2	94.00
120	50	10.0	0-120	w/volt. & wattmtr., gnd. conn.	VT8NFCVW	15.2	127.00
120	50	20.0	0-120/140[3]	w/voltmeter, gnd. conn.	VT20GCV	32.0	139.00
120	50	20.0	0-120/140[3]	w/volt. & ammtr., gnd. conn.	VT20GCVA	32.2	172.00
120	50	20.0	0-120/140[3]	w/volt. & wattmtr., gnd. conn.	VT20GCVW	32.2	246.00
120	50	25.0	0-120	w/voltmeter, gnd. conn.	VT20NFCV	32.0	125.50
120	50	25.0	0-120	w/volt. & ammtr., gnd. conn.	VT20NFCVA	32.2	158.50
120	50	25.0	0-120	w/volt. & wattmtr., gnd. conn.	VT20NFCVW	32.2	232.50

TWO-IN-TANDEM ASSEMBLIES[5] [10] (Dimensions p. 25)

240	60[8]	1.0	0-240/264	Series Conn.[6]	VT1-2	3.5	28.00
240	60	1.2	0-240	Series Conn.[6]	VT1N-2	3.5	28.00
240	60[8]	1.75	0-240/264	Series Conn.[6]	VT02-2	5.25	30.00
240	60	2.0	0-240	Series Conn.[6]	VT02N-2	5.25	30.00
240	60[8]	2.6	0-240/264	Series Conn.[6]	VT3-2	6.5	33.00
240	60	3.0	0-240	Series Conn.[6]	VT3N-2	6.5	33.00
240	50	3.5	0-240/280	Series Conn.[6]	VT4-2	11.3	42.50
240	50	4.75	0-240	Series Conn.[6]	VT4N-2	11.3	42.50
240	50	7.5	0-240/280	Series Conn.[6]	VT8-2	20.6	52.50
240	50	10.0	0-240	Series Conn.[6]	VT8N-2	20.6	52.50
240	50	20.0	0-240/280	Series Conn.[6]	VT20-2	45.0	126.00
240	50	20.0	0-240/280	Above unit, B case	VT20-2B	46.0	138.00
240	50	25.0	0-240	Series Conn.[6]	VT20N-2	45.0	126.00
240	50	25.0	0-240	Above unit, B case	VT20N-2B	46.0	138.00
480[2]	50	3.0	0-480/560	Series Conn.[6]	VT8H-2	20.6	57.00
480[2]	50	4.0	0-480	Series Conn.[6]	VT8HN-2	20.6	57.00
480[2]	50	9.0	0-480/560	Series Conn.[6]	VT20H-2	43	130.50
480[2]	50	11.0	0-480	Series Conn.[6]	VT20HN-2	43	130.50

THREE PHASE

120	60[8]	1.0	0-120/132	Open Delta Conn.	VT1-2	3.5	28.00
120	60	1.2	0-120	Open Delta Conn.	VT1N-2	3.5	28.00
120	60[8]	1.75	0-120/132	Open Delta Conn.	VT02-2	5.25	30.00
120	60	2.0	0-120	Open Delta Conn.	VT02N-2	5.25	30.00
120	60[8]	2.6	0-120/132	Open Delta Conn.	VT3-2	6.5	33.00
120	60	3.0	0-120	Open Delta Conn.	VT3N-2	6.5	33.00
120	50	3.5	0-120/140	Open Delta Conn.	VT4-2	11.3	42.50
120	50	4.75	0-120	Open Delta Conn.	VT4N-2	11.3	42.50
120	50	7.5	0-120/140	Open Delta Conn.	VT8-2	20.6	52.50
120	50	10.0	0-120	Open Delta Conn.	**VT8N-2**	20.6	52.50
120	50	20.0	0-120/140	Open Delta Conn.	VT20-2	45.0	126.00
120	50	20.0	0-120/140	Above unit, B case	VT20-2B	46.0	138.00
120	50	25.0	0-120	Open Delta Conn.	VT20N-2	45.0	126.00
120	50	25.0	0-120	Above unit, B case	VT20N-2B	46.0	138.00
240[2]	50	3.0	0-240/280	Open Delta Conn.	VT8H-2	20.6	57.00
240[2]	50	4.0	0-240	Open Delta Conn.	VT8HN-2	20.6	57.00
240[2]	50	9.0	0-240/280	Open Delta Conn.	VT20H-2	43	130.50
240[2]	50	11.0	0-240	Open Delta Conn.	VT20HN-2	43	130.50

THREE-IN-TANDEM ASSEMBLIES[5] [10] (Dimensions p. 25)

240	60	1.0	0-240[9]	"Y" Conn.	VT1-3	5.3	41.00
240	60	1.75	0-240[9]	"Y" Conn.	**VT02-3**	8.0	44.00
240	60	2.6	0-240[9]	"Y" Conn.	VT3-3	9.8	48.50
240	60[8]	3.5	0-240/280	"Y" Conn.	VT4-3	17.0	61.00
240	60[8]	7.5	0-240/280	"Y" Conn.	VT8-3	31.0	76.00
240	60[8]	6.0	0-240/280	Above unit, E case	VT8-3E	40.0	92.50
240	60[8]	20.0	0-240/280	"Y" Conn.	VT20-3	68.0	185.00
240	60[8]	20.0	0-240/280	Above unit, B case	VT20-3B	69.5	203.00
240	60	25.0	0-240	"Y" Conn.	VT20N-3	68.0	185.00
240	60	25.0	0-240	Above unit, B case	VT20N-3B	69.5	203.00
480[2]	60[8]	3.0	0-480/560	"Y" Conn.	VT8H-3	31.0	82.75
480[2]	60[8]	9.0	0-480/560	"Y" Conn.	VT20H-3	65.0	191.75
480[2]	60	11.0	0-480	"Y" Conn.	VT20HN-3	65.0	191.75

Footnotes for Stock Table

[1] Frequency shown is a minimum — units may be used up to 1000 cps.

[2] VT8H and VT20H and 240V output for VT8HN and VT20HN. With use of 120V input VT8H, VT8HN, VT20H, VT20HN also have taps for 120V input with 280V output for the max. current rating applies up to 120V output but reduces to approx. 50% at max. output voltage. In the case of tandem units, use of the low voltage inputs would correspondingly derate the current at the higher output voltages.

[3] Connected at factory for overvoltage output — easily reconnected by user for no-overvoltage output. On VT8G and VT20G, switch selects overvoltage or no-overvoltage.

[4] User wires for desired output. Dial normally calibrated for overvoltage.

[5] 2-in-tandem normally wired for series connection; 3-in-tandem for Y connection.

[6] When transformers are series connected, load cannot be grounded.

[7] Includes knob, dial and mounting hardware.

[8] May be used at 50 cps if connected for no-overvoltage output.

[9] Overvoltage connection must not be used.

[10] 240/280 volt cw dial standard except on VT1, VT02 and VT3 tandems where 240/264 volt dial is standard or on VT8H-2, VT8HN-2, VT8H-3, VT20H-2, VT20HN-2, VT20H-3 and VT20HN-3 where 480/560 volt dial is standard. Request other dials if desired — see "Dials" above.

[11] **ITEMS APPEARING IN BOLD PRINT ARE POPULAR MODELS AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS**

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OHMITE variable transformers

ACCESSORIES — PARTS

ADAPTER PLATE for 4-hole mtg. of VT4 — matches other popular 4-hole mtgs.; dimensions same as shown for front plate of VT4 tandems, page 35.
Stock No. 6512 ..... Net 1-9 $1.00

Brush-Contact Assemblies for . . .

	Stock No.	Net 1-9
VT1, VT1N, VT02, VT02N, VT3, VT3N	6507	$1.00
VT2LN	6517	2.00
VT4 Types except VT4LN	6515	1.00
VT8 Types except VT8H, HN, LN	6515	1.00
VT4LN	6518	2.00
VT8H, HN only	6516H	1.25
VT8LN only	6519	2.50
VT20 Types and VT20N	6594	1.75
VT20H, HN only	6596	1.75

ADJUSTABLE STOP for limiting rotational arc of transformers.

	Stock No.	Net 1-9
Stop for VT4 types	6536	$ .50
Stop for VT8 types	6537	.50
Stop for VT20 types	6538	1.00

EXTRA DIALS OR DIALS WITH C.C.W. CALIBRATION

"v.t."	Dial Calibration	Stock No.	Net 1-9
VT1, VT02, VT2LN, VT3	0-120, 0-132 CW	5005	$ .25
	0-100, 100-0* CW	5011	.25
	0-240, 0-264 CW	5019	.25
VT4 and VT8	0-120, 0-140 CW	5006	.50
	0-120, 0-140 CCW	5008	.50
	0-240, 0-280 CW	5009	.50
	0-240, 0-280, CCW	5010	.50
	0-100, 100-0* CW	5012	.50
	0-480, 0-560 CW	5018	.50
VT20	0-120, 0-140 CW	5013	1.20
	0-120, 0-140 CCW	5014	1.20
	0-240, 0-280 CW	5015	1.20
	0-240, 0-280 CCW	5016	1.20
	0-100, 100-0 CW	5017	1.20

*Percent-of-output dial furnished with "LN" series units.

EXTRA KNOBS FOR UNCASED UNITS

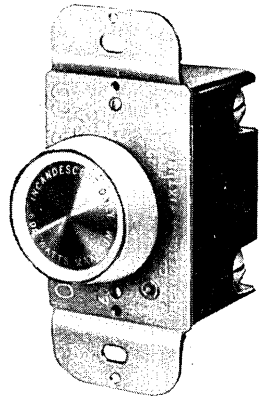
	Stock No.	Net 1-9
For VT1, VT02, VT2LN, VT3 types	5158	$.35
For VT4, VT8 types	5155	1.00
For VT20 Types	5157	1.75

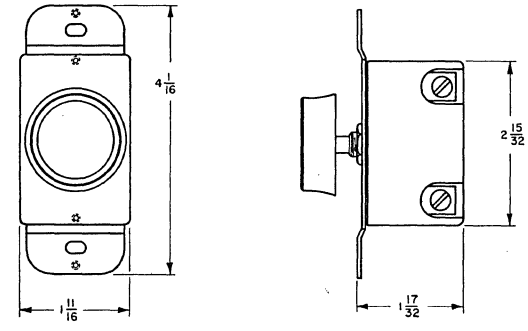
MOTOR-DRIVEN ASSEMBLIES
Single or tandem assemblies can be supplied with motor drives, direct from the factory. Either AC or DC motors are available. Standard AC motor drives have traverse speeds of 3-4, 10-12, 40-50, 100-120 seconds. Typical traverse speeds for DC drives are 4, 8, 16, 30 and 45 seconds. Write to the factory for more information.

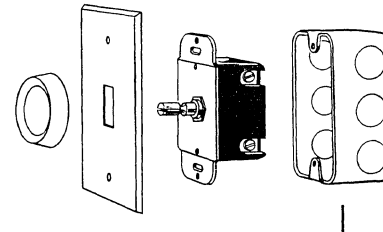
solid state electronic dimmers for incandescent lighting

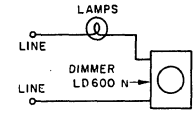
600 WATTS

Replace Any
2 or 3-Way
Switch
Made by OHMITE
Famous Producer of
Quality Components

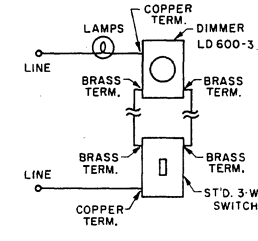








CONNECTIONS—
DIMMER SINGLE POLE



CONNECTIONS—
3-WAY

CONTINUOUSLY VARIABLE DIMMING by means of silicon symmetrical switch — a modern semiconductor device.

PUSH-PUSH KNOB for ON/OFF at **any** light setting.

CONSERVES POWER — Draws only the power needed by the circuit at the light level desired.

SCREW TERMINALS for convenient wiring without splicing or wire fastening nuts — eliminates space consuming leads — permits use of dimmer even in shallow boxes.

NO RADIO OR TV INTERFERENCE due to special filter.

GUARANTEED for 1 year against defects in materials and workmanship provided units have been properly installed and operated.

INSTALLATION NOTES

Maximum Ambient — 120°F.
Use only 1 dimmer for each lighting circuit.
Install dimmer with power OFF.

Ganging — Several dimmers may be installed in a common box provided units are derated as follows: two units, 500 watts each; three or more units, 400 watts each.

ORDERING INFORMATION

Stock No.[1]	UL Listed	Description	Net $
LD600 N	—	Single-Pole Push-Push Switch	7.00
LD600	Yes	600 Watts, 120 Volts, 60 Cycle	9.30
LD600-3 N	—	3-Way Push-Push Switch	9.50
LD600-3	Yes	600 Watts, 120 Volts, 60 Cycle	11.30

[1]ITEMS APPEARING IN BOLD PRINT ARE POPULAR MODELS AND ARE USUALLY STOCKED BY AUTHORIZED OHMITE DISTRIBUTORS

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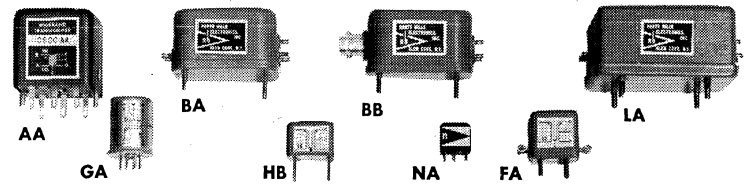
NORTH HILLS ELECTRONICS, INC.

WIDEBAND TRANSFORMERS — PULSE AND CW 20 Hz TO 400 MHz

OVERALL DIMENSIONS (In.)

Case Style	W	L	H	Package
AA	1.4	1.4	1.4	Aluminum Can
BA	1.3	2.3	1.1	Hermetically Sealed Steel Can
BB	1.3	2.6	1.1	Hermetically Sealed Steel Can
FA	0.9	0.9	1.0	Hermetically Sealed Steel Can
GA	0.9 Dia.		1.1	Hermetically Sealed Steel Can
HB	0.9	0.9	0.7	Hermetically Sealed Steel Can
JA	0.8	2.0	0.8	Hermetically Sealed Steel Can
LA	1.7	2.8	1.2	Hermetically Sealed Steel Can
NA	0.56	0.56	0.3	Molded Case



1 Watt Series in AA, BA, BB, FA, GA, HB Cases

Unbalanced to Balanced Designs. Secondaries are center-tapped and d.c. isolated.

Type No.	Impedance Ratio	Bandwidth MHz	Type No.	Impedance Ratio	Bandwidth MHz
0001	50:50	.1-125	1300	75:100	.1-100
0101	50:75	.1-125	1302	75:124	.1-100
0300	50:100	.1-100	1400	75:150	.1-100
0307	50:124	.1-100	1500	75:200	.1-100
0400	50:150	.1-100	1501	75:300	.1-100
0500	50:200	.1-100	1600	75:450	.1-60
*0503	50:200	.5-250	1700	75:600	.1-60
0501	50:300	.1-100	1701	75:600	.3-100
0600	50:450	.1-65	1702	75:600	.007-8
0700	50:600	.1-65	1800	75:800	.1-30
0800	50:800	.1-60	1900	75:1200	.1-30
0900	50:1200	.1-30	1901	75:1850	.01-10
1100	75:75	.1-100	7700	600:600	.1-30

* No d.c. isolation.

Unbalanced to Unbalanced Designs (No d.c. Isolation)

0103	50:75	.1-200	0504	50:200	.1-200

25 Watt Series in BA and BB Cases

Unbalanced to Balanced Designs. Secondaries are center-tapped and d.c. isolated.

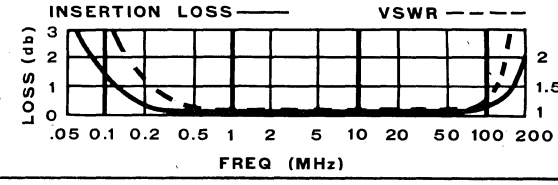
0106	50:75	30-80	1303	75:100	30-80
0305	50:100	30-80	1304	75:100	.1-30
0308	50:100	.1-30	1401	75:150	.1-30
0402	50:150	.1-30	1402	75:150	30-80
0403	50:150	30-80	1509	75:300	30-80
0507	50:200	30-80	1510	75:300	.1-30
0512	50:200	.1-30	1703	75:600	.1-30
0701	50:600	.1-30			

100 Watt Series in BA and BB Cases

Unbalanced to Balanced Designs. Secondaries are center-tapped and d.c. isolated.

0105	50:75	.5-30	0506	50:300	.5-30
0304	50:100	.5-30	1403	75:150	.5-30
0404	50:150	.5-30	1505	75:300	.5-30

TYPICAL CHARACTERISTICS



Subminiature Series in NA Case

Unbalanced to Unbalanced Designs

Type No.	Impedance Ratio	Bandwidth MHz
Non-inverting		
0002	50:12.5	.1-400
0508	50:200	.1-400
1506	75:300	.1-400
Phase reversing		
0003	50:50	.1-400
1106	75:75	.1-400
2200	90:90	.1-400
Phase-reversing, d.c. isolated		
0007	50:50	.1-400
1107	75:75	.1-400
2201	90:90	.1-400

Unbalanced to Balanced Designs
Balanced side center-tapped

Type No.	Impedance Ratio	Bandwidth MHz
0004	50:50	.1-400
0509	50:200	.1-400
1101	75:75	.1-400
1507	75:300	.1-400

Balanced to Balanced Designs
center-tapped

0510	50:200	.1-400
1508	75:300	.1-400

Video Series in LA Case

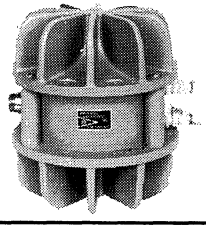
Unbalanced to Balanced Designs. Secondaries are center-tapped and d.c. isolated.

0306	50:124	.001-20	1704	75:600	.001-10
0511	50:200	.001-15	1902	75:1200	.001-9
1301	75:124	.001-20	1903	75:1850	.001-6
1502	75:300	.001-15	2300	90:124	.001-15

Unbalanced to Unbalanced Designs — d.c. Isolated. * Phase Rev.

0005	50:50	.001-40	1103	75:75	.001-40
*0006	50:50	.001-15	*1104	75:75	.001-15
0505	50:200	.001-15	1504	75:300	.001-10

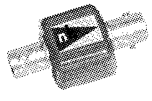
1KW Power Units Wide Band 2-30 MHz



Type No.	Impedance Unb/Bal
0501 KA	50 ohms/300 ohms
0700 KA	50 ohms/600 ohms
1501 KA	75 ohms/300 ohms
1700 KA	75 ohms/600 ohms

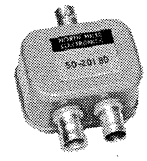
Special — Specify ratio, bandwidth, power

Type 0102 JA Wide Band Adapter

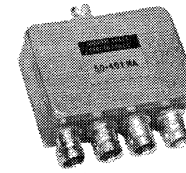


50Ω Unbalanced to 75Ω Unbalanced
Low VSWR
Flat 1 db 0.08 to 250 MHz
BNC Connectors.

Hybrids-Power Dividers and Adders Wide Band 2-32 MHz



50-201 BD (50Ω)
75-201 BD (75Ω)



50-401 MA (50Ω)
75-401 MA (75Ω)

	2:1	4:1
Impedance at all ports (Ohms):	50 (50-201) 75 (75-201)	50 (50-401) 75 (75-401)
Frequency range (MHz)	2-32	2-32
Isolation (Minimum db):	30	30
VSWR (Maximum):	1.1	1.1
Insertion loss (db maximum):	0.2	0.2
Size of can:	1.1″ x 1.9″ x 1.3″	1″ x 1.7″ x 2.5″
Connectors:	BNC	BNC
Mounting:	2 #4-40 Studs	4 #6-32 Studs

SEE SECTION 1800 FOR COILS

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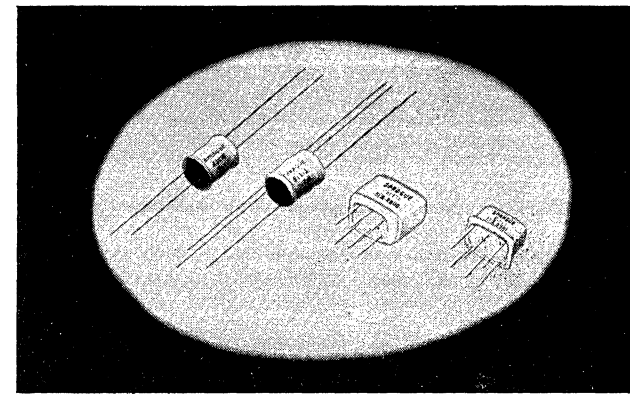
SPRAGUE PULSE TRANSFORMERS

Type 11Z

TRIGATE® PULSE TRANSFORMERS

FLEXIBLE LEAD AND PRINTED WIRING BOARD DESIGNS FOR LOW-COST SCR CIRCUIT APPLICATIONS

- Specifically Designed For Commercial and Industrial SCR Triggering Applications Where Low Cost and Excellent Performance Are Required
- Single-ended Pulse Transformers Are Designed With Leads Especially Intended For Mounting On Printed Wiring Boards; These Units are Self Supporting
- Balanced Pulse Characteristics and Energy Transfer Between Windings
- Minimum Saturation Effect To Allow Operation Where Increased Pulse Widths Are Required
- Fast Pulse Rise Time and Increased Current Capability To Prevent SCR di/dt Failure
- Operating Temperature Range of −10 C to +70 C
- For Complete Technical Data, See Latest Issue of Sprague Engineering Bulletin 40003
- Call Your Sprague Industrial Distributor For Current Quantity Prices



DIMENSIONS

FLEXIBLE LEAD	HORIZONTAL PLUG-IN
D. x L.	L. x W. x H.
.593 x .828	.968 .775 .800

FLEXIBLE LEAD DESIGN

Turns Ratio	Catalog Number	Min. Lp (μH)	Max. L_L (μH)	Max. C_C (pF)	Max. DCR (Ω)	60 Cycle Dielectric Test (Volts RMS)	Max. 60 Cy A-C Line Voltage (Volts RMS)
1:1	11Z12	200	3	800	1.5-1.5	1600	240
1:1:1	11Z13	200	3	800	2-2-2	1600	240
2:1	11Z14	1000	10	1300	10-2	1600	240
2:1:1	11Z15	1000	15	1300	10-2-2	1600	240
5:1	11Z16	5000	1500	400	19-3	1600	240

HORIZONTAL PLUG-IN DESIGN

Turns Ratio	Catalog Number	Min. Lp (μH)	Max. L_L (μH)	Max. C_C (pF)	Max. DCR (Ω)	60 Cycle Dielectric Test (Volts RMS)	Max. 60 Cy A-C Line Voltage (Volts RMS)
1:1	11Z2000	200	3.0	800	1.5-1.5	1600	240
1:1	11Z2001	1000	12.0	2000	8-8	1600	240
2:1	11Z2003	1000	10.0	1300	10-2	1600	240
5:1	11Z2004	5000	1500	400	19-3	1600	240
1:1:1	11Z2100	200	3.0	800	2-2-2	1600	240
1:1:1	11Z2101	1000	12.0	1400	10-10-10	1600	240
2:1:1	11Z2103	1000	15.0	1300	10-2-2	1600	240
5:1:1	11Z2104	5000	1500	400	20-4-4	1600	240

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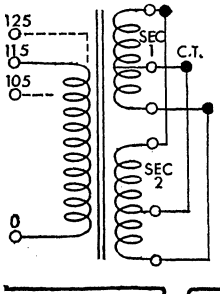
HIGH & LOW CURRENT TRANSFORMERS

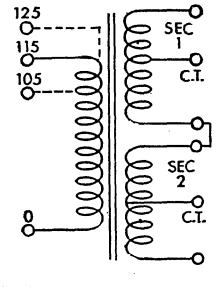
OPEN FRAME • EPOXY ENCAPSULATED (GRADE 5) • HERMETICALLY SEALED (GRADE 4)

SECONDARY VOLTS	Part No.	Primary Volts	SECONDARY AMPS Series	SECONDARY AMPS Parallel	OPEN FRAME OR EPOXY ENCAPSULATED* Mtg. Style	L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.	HERMETICALLY SEALED IN STEEL CASE‡ L	W	H	ML	MW	Mtg. Stud
10 or 5 V C.T. Series 0 - 2.5 - 5 - 7.5 - 10 V Parallel 0 - 2.5 - 5 V @ 2 x Current	10-0.1	115	0.1	0.2	C	2	1½	1¾	1 23/32	—	#8	0.3	1 5/8	1 5/8	2 3/16	1 3/16	1 3/16	6-32 x 3/8
	10-0.25	115	0.25	0.5	C	2 3/8	1½	2	2	—	#8	0.5	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	6-32 x 3/8
	10-0.5	115	0.5	1.0	C	2 3/8	1¾	2	2	—	#8	0.8	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	6-32 x 3/8
	10-1	115	1	2	C	2 7/8	1¾	2 5/16	2 3/8	—	#8	1.0	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	10-2	115	2	4	C	3 1/8	2 1/8	2 3/4	2 13/16	—	#8	1.5	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	10-4	115	4	8	C	3 7/16	2 3/8	3 1/16	3 1/8	—	#8	2.3	3 1/4	2 3/4	2 7/8	2 1/2	2	8-32 x 3/8
	10-6	115	6	12	B	3 3/8	2 3/4	2 13/16	2 13/16	2 1/8	#8	3.3	3 5/8	3	3 1/4	2 13/16	2 1/8	8-32 x 3/8
	10-8	115	8	16	B	3 3/8	3 1/8	2 13/16	2 13/16	2 1/2	#8	4.0	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	10-12	115	12	24	B	3 3/4	3 1/4	3 1/8	3 1/8	2 1/2	#8	5.0	4 1/8	3 3/4	3 1/2	3 1/8	2 1/2	10-32 x 1/2
	10-25	115	25	50	B	4 1/2	3 3/4	3 3/4	3 3/4	2 3/4	#10	8.7	4 3/4	5 1/4	4 1/4	3 3/4	4 1/4	10-32 x 1/2
	10-50	105, 115, 125	50	100	B	5 1/4	5 1/2	4 3/8	4 3/8	3 5/8	1/4	17.0	5 1/2	7	5 1/2	4 3/8	5 7/8	1/4-20 x 5/8
	10-100	105, 115, 125	100	200	B	6 3/8	7 1/4	5 5/16	5 5/16	4 3/8	1/4	34.5	6 3/4	8 3/4	6 1/2	5 5/16	6 1/4	1/4-20 x 5/8
12.8 or 6.4 C.T. Series 0 - 3.2 - 6.4 - 9.6 - 12.8 V Parallel 0 - 3.2 - 6.4 V @ 2 x Current	12.8-0.1	115	0.1	0.2	C	2	1½	1¾	1 23/32	—	#8	0.3	1 5/8	1 5/8	2 3/16	1 3/16	1 3/16	6-32 x 3/8
	12.8-0.25	115	0.25	0.5	C	2 3/8	1½	2	2	—	#8	0.5	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	6-32 x 3/8
	12.8-0.5	115	0.5	1	C	2 7/8	1 5/8	2 5/16	2 3/8	—	#8	0.8	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	12.8-1	115	1	2	C	2 7/8	2	2 5/16	2 3/8	—	#8	1.2	2 5/16	2 1/16	2 1/2	1 11/16	1 7/16	6-32 x 3/8
	12.8-2A	115	2	4	C	3 1/8	2 1/8	2 3/4	2 13/16	—	#8	1.5	2 3/4	2 5/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	12.8-2	115	2	4	B	3	2 1/2	2 1/2	2 1/2	2	#8	2.3	3 1/4	2 3/4	2 7/8	2 1/2	2	8-32 x 3/8
	12.8-4	115	4	8	B	3	2 7/8	2 1/2	2 1/2	2 3/8	#8	2.8	3 1/4	3 1/8	2 7/8	2 1/2	2 3/8	8-32 x 3/8
	12.8-6	115	6	12	B	3 3/8	3 1/16	2 13/16	2 13/16	2 1/2	#8	4.0	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	12.8-8	115	8	16	B	3 3/4	3 1/8	3 1/8	3 1/8	2 1/4	#8	4.5	4 1/8	3 1/2	3 1/2	3 1/8	2 1/4	10-32 x 1/2
	12.8-12	115	12	24	B	4 1/8	3 1/4	3 1/16	3 7/16	2 3/8	#10	6.0	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	12.8-25	115	25	50	B	5 1/4	4 1/4	4 3/8	4 3/8	2 7/8	#10	12.5	5 1/2	5 3/4	5 1/4	4 3/8	4 5/8	1/4-20 x 5/8
	12.8-50	105, 115, 125	50	100	B	5 1/4	6	4 3/8	4 3/8	4 1/8	1/4	20.7	5 1/2	7 1/2	5 1/2	4 3/8	6 3/8	1/4-20 x 5/8
	12.8-100	105, 115, 125	100	200	B	6 3/8	7 1/4	5 5/16	5 5/16	4 3/8	1/4	34.5	6 3/4	8 3/4	6 1/2	5 5/16	6 1/4	6-20 x 5/8
16 or 8 V C.T. Series 0 - 4 - 8 - 12 - 16 V Parallel 0 - 4 - 8 @ 2 x Current	16-0.1	115	0.1	0.2	C	2	1 5/8	1¾	1 23/32	—	#8	0.4	1 5/8	1 5/8	2 3/16	1 3/16	1 3/16	6-32 x 3/8
	16-0.25	115	0.25	0.5	C	2 3/8	1¾	2	2	—	#8	0.7	1 15/16	1 3/16	2 7/16	1 3/8	1 1/4	6-32 x 3/8
	16-0.5	115	0.5	1	C	2 7/8	1 5/8	2 5/16	2 3/8	—	#8	0.8	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	16-1	115	1	2	C	2 7/8	2	2 5/16	2 3/8	—	#8	1.2	2 5/16	2 1/16	2 1/2	1 11/16	1 7/16	6-32 x 3/8
	16-2	115	2	4	C	3 1/8	2 1/4	2 3/4	2 13/16	—	#8	1.7	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	16-4	115	4	8	B	3 3/8	2 3/4	2 13/16	2 13/16	2 1/8	#8	3.3	3 5/8	3	3 1/4	2 13/16	2 1/8	8-32 x 3/8
	16-6	115	6	12	B	3 3/4	3 1/8	3 1/8	3 1/8	2 1/4	#10	4.5	4 1/8	3 1/2	3 1/2	3 1/8	2 1/4	10-32 x 1/2
	16-8	115	8	16	B	3 3/4	3 1/2	3 1/8	3 1/8	2 5/8	#10	5.4	4 1/8	3 3/4	3 1/2	3 1/8	2 1/2	10-32 x 1/2
	16-12	115	12	24	B	4 1/8	3 7/8	3 5/8	3 7/16	3	#10	7.9	4 1/2	4 1/2	3 7/8	3 7/16	3	10-32 x 1/2
	16-25	115	25	50	B	4 1/2	5 3/8	4	3 3/4	4	#10	14.5	4 3/4	6 1/2	4 1/4	3 3/4	5 1/2	10-32 x 1/2
	16-50	105, 115, 125	50	100	B	6 3/8	5 3/4	5 5/16	5 5/16	3 3/4	1/4	26.5	6 3/4	6 5/8	6	5 5/16	5 1/8	1/4-20 x 5/8
	16-100	105, 115, 125	100	200	B	7 1/2	7 1/2	6 3/8	6 3/4	4 5/8	1/4	50.0	8	8 1/2	7	6 3/4	7 1/4	1/4-20 x 5/8
24 or 12 C.T. Series 0 - 6 - 12 - 18 - 24 V Parallel 0 - 6 - 12 V @ 2 x Current	24-0.1	115	0.1	0.2	C	2 3/8	1½	2	2	—	#8	0.5	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	6-32 x 3/8
	24-0.25	115	0.25	0.5	C	2 7/8	1¾	2 5/16	2 3/8	—	#8	1.0	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	24-0.5	115	0.5	1	C	2 7/8	2	2 5/16	2 3/8	—	#8	1.2	2 5/16	2 1/16	2 1/2	1 11/16	1 7/16	6-32 x 3/8
	24-1A	115	1	2	C	3 1/8	2 1/8	2 3/4	2 13/16	—	#8	1.5	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	24-1	115	1	2	B	3	2 1/2	2 1/2	2 1/2	2	#8	2.3	3 1/4	2 3/4	2 7/8	2 1/2	2	8-32 x 3/8
	24-2	115	2	4	B	3	2 7/8	2 1/2	2 1/2	2 3/8	#8	2.9	3 1/4	3 1/8	2 7/8	2 1/2	2 3/8	8-32 x 3/8
	24-4	115	4	8	B	3 3/4	3 1/8	3 1/8	3 1/8	2 1/4	#8	4.5	4 1/8	3 1/2	3 1/2	3 1/8	2 1/4	10-32 x 1/2
	24-6	115	6	12	B	4 1/8	3 1/4	3 7/16	3 7/16	2 3/8	#10	5.8	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	24-8	115	8	16	B	4 1/8	3 7/8	3 5/8	3 7/16	3	#10	7.9	4 1/2	4 1/2	3 7/8	3 7/16	3	10-32 x 1/2
	24-12	105, 115, 125	12	24	B	4 1/2	4 1/2	3 3/4	3 3/4	3 3/8	#10	11.0	4 3/4	5 3/8	4 1/4	3 3/4	4 3/8	10-32 x 1/2
	24-20	105, 115, 125	20	40	B	5 1/4	4 3/4	4 3/8	4 3/8	3 3/8	1/4	15.3	5 1/2	5 1/2	5 1/4	4 3/8	3 1/2	1/4-20 x 5/8
	24-25	105, 115, 125	25	50	B	5 1/4	5 5/8	4 3/8	4 3/8	4 1/8	1/4	19.5	5 1/2	6 1/2	5 1/4	4 3/8	5 3/8	1/4-20 x 5/8
	24-50	105, 115, 125	50	100	B	6 3/8	6 1/4	5 5/16	5 5/16	4 3/8	1/4	31.3	6 3/4	7 1/2	6	5 5/16	6	1/4-20 x 5/8
	24-100	115/230	100	200	B	7 1/2	7	6 3/8	6 3/4	4 1/8	1/4	43	8	8	7	6 3/4	6 3/4	1/4-20 x 5/8
36 or 18 V C.T. Series 0 - 9 - 18 - 27 - 36 V Parallel 0 - 9 - 18 V @ 2 x Current	36-0.1	115	0.1	0.2	C	2 3/8	1 5/8	2	2	—	#8	0.5	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	6-32 x 3/8
	36-0.25	115	0.25	0.5	C	2 7/8	1 5/8	2 5/16	2 3/8	—	#8	0.8	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	36-0.5	115	0.5	1	C	3 1/8	2	2 3/4	2 13/16	—	#8	1.3	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	36-1A	115	1	2	C	3 7/16	2 3/8	3 1/16	3 1/8	—	#8	2.3	3 1/4	2 3/4	2 7/8	2 1/2	2	8-32 x 3/8
	36-1	115	1	2	B	3	2 3/4	2 1/2	2 1/2	2 1/4	#8	2.6	3 1/4	3 1/8	2 7/8	2 1/2	2 3/8	8-32 x 3/8
	36-2	115	2	4	B	3 3/8	2 15/16	2 13/16	2 13/16	2 3/8	#8	3.8	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	36-4	115	4	8	B	4 1/8	3 3/8	3 7/16	3 7/16	2 5/8	#10	6.8	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	36-6	115	6	12	B	4 1/2	3 3/4	3 3/4	3 3/4	2 3/4	#10	8.7	4 3/4	4 1/4	4 1/4	3 3/4	2 7/8	10-32 x 1/2
	36-8	105, 115, 125	8	16	B	4 1/2	4 1/2	4 1/8	3 3/4	3 3/8	#10	11.0	4 3/4	5	4 3/8	3 3/4	3 3/8	10-32 x 1/2
	36-12	105, 115, 125	12	24	B	5 1/4	5	4 3/8	4 3/8	3 3/8	1/4	15.0	5 1/2	5 1/2	5 1/4	4 3/8	3 1/2	1/4-20 x 5/8
	36-20	105, 115, 125	20	40	B	6 3/8	5 3/8	5 5/16	5 5/16	3 3/8	1/4	22.8	6 3/4	5 3/4	5 3/4	5 5/16	4 1/4	1/4-20 x 5/8
	36-25	105, 115, 125	25	50	B	6 3/8	5 3/4	5 5/16	5 5/16	3 3/4	1/4	26.5	6 3/4	6 5/8	6	5 5/16	5 1/8	1/4-20 x 5/8
	36-30	105, 115, 125	30	60	B	6 3/8	6	5 5/16	5 5/16	4 3/8	1/4	31.5	6 3/4	7 1/2	6	5 5/16	6	1/4-20 x 5/8
	36-50	115/230	50	100	B	6 3/8	7 1/4	5 5/16	5 5/16	5 1/8	1/4	40.0	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
	36-100	115/230	100	200	B	7 1/2	9	6 1/4	6 3/4	5 7/16	1/4	63.5	8	10	7	6 3/4	8 3/4	1/4-20 x 5/8
56 or 28 V C.T. Series 0 - 14 - 28 - 42 - 56 V Parallel 0 - 14 - 28 V @ 2 x Current	56-0.1	115	0.1	0.2	C	2 3/8	1 3/4	2	2	—	#8	.8	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	6-32 x 3/8
	56-0.25	115	0.25	0.5	C	2 7/8	2	2 5/16	2 3/8	—	#8	1.2	2 5/16	2 1/16	2 1/2	1 11/16	1 7/16	6-32 x 3/8
	56-0.5	115	0.5	1	C	3 1/8	2 1/4	2 3/4	2 13/16	—	#8	1.7	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	56-1	115	1	2	B	3 3/8	2 7/8	2 13/16	2 13/16	2 1/4	#8	3.5	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	56-2	115	2	4	B	3 3/4	3 1/4	3 1/8	3 1/8	2 1/2	#8	5.0	4 1/8	3 3/4	3 1/2	3 1/8	2 1/2	10-32 x 1/2
	56-4	115	4	8	B	4 1/8	3 3/4	3 7/16	3 7/16	3	#10	7.7	4 1/2	4 1/2	3 7/8	3 7/16	3	10-32 x 1/2
	56-6	115	6	12	B	5 1/4	4 1/4	4 3/8	4 3/8	2 7/8	#10	12.0	5 1/2	4 3/4	5	4 3/8	3	1/4-20 x 5/8
	56-8	105, 115, 125	8	16	B	5 1/4	5	4 3/8	4 3/8	3 5/8	1/4	17.0	5 1/2	5 1/2	5 1/4	4 3/8	3 1/2	1/4-20 x 5/8
	56-12	105, 115, 125	12	24	B	6 3/8	5 1/4	5 5/16	5 5/16	3 3/8	1/4	22.0	6 3/4	5 3/4	5 3/4	5 5/16	4 1/4	1/4-20 x 5/8
	56-25	105, 115, 125	25	50	B	6 3/8	7 1/8	5 5/16	5 5/16	5 1/8	1/4	38.0	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
	56-50	115/230	50	100	B	7 1/2	7 1/2	6 1/4	6 3/4	4 7/8	1/4	56.3	8	8 1/2	7	6 3/4	7 1/4	1/4-20 x 5/8
	56-100	115/230	100	200	B	7 1/2	11 1/4	6 1/4	6 3/4	8 1/4	1/4	95.0	8	13	7	6 3/4	11 3/4	1/4-20 x 5/8



PARALLEL CONNECTED SECONDARIES

SERIES CONNECTED SECONDARIES



All transformers are designed conservatively for a max of 45°C rise above ambient, for use on 115V power line from 50-500 cps. Only prime raw materials are used. Units are thoroughly impregnated and baked with Signal's own high gloss black baking varnish. The transformers and chokes are rugged in construction, well-insulated, and have a consistently uniform appearance. All ratings are at full load current continuous operation.

Electrical ratings have been chosen to cover a wide range of applications. All transformers have two center-tapped secondary windings.

SIGNAL TRANSFORMER CO., INC

ENGINEERS • DESIGNERS • MANUFACTURERS

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HIGH & LOW CURRENT TRANSFORMERS

FOR POWER OR RECTIFIER APPLICATIONS
CURRENTS FROM 0.1 TO 200 AMPS
VOLTAGES FROM 2.5 TO 300 VOLTS

IDEAL FOR USE IN SINGLE OR DUAL DC POWER SUPPLIES

SECONDARY VOLTS	Part No.	Primary Volts	SECONDARY AMPS Series	SECONDARY AMPS Parallel	OPEN FRAME OR EPOXY ENCAPSULATED* Mtg. Style	L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.	HERMETICALLY SEALED IN STEEL CASE‡ L	W	H	ML	MW	Stud Mtg.
68 or 34 C.T. Series 0 - 17 - 34 - 51 - 68 V Parallel 0 - 17 - 34 V @ 2 x Current	68-0.1	115	0.1	0.2	C	2 7/8	1 5/8	2 5/16	2 3/8	—	#8	0.8	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	68-0.25	115	0.25	0.5	C	2 7/8	2	2 5/16	2 3/8	—	#8	1.2	2 5/16	2 1/16	2 1/2	1 11/16	1 7/16	6-32 x 3/8
	68-0.5A	115	0.5	1	C	3 1/8	2 1/4	2 3/4	2 13/16	—	#8	1.7	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	68-0.5	115	0.5	1	B	3	2 3/4	2 1/2	2 1/2	2 1/4	#8	2.7	3 1/4	3 1/8	2 7/8	2 1/2	2 3/8	8-32 x 3/8
	68-1	115	1	2	B	3 3/8	2 15/16	2 13/16	2 13/16	2 3/8	#8	3.8	3 3/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	68-2	115	2	4	B	4 1/8	3 3/8	3 7/16	3 7/16	2 5/8	#10	6.8	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	68-4	115	4	8	B	4 1/2	4 1/2	4 1/8	3 3/4	3 3/8	#10	11.5	4 3/4	5	4 3/8	3 3/4	3 3/8	10-32 x 1/2
	68-6	105, 115, 125	6	12	B	5 1/4	5	4 3/8	4 3/8	3 3/8	1/4	15.0	5 1/2	5 1/2	5 1/4	4 3/8	3 1/2	1/4-20 x 5/8
	68-8	105, 115, 125	8	16	B	5 1/4	5 1/2	4 3/8	4 3/8	3 7/8	1/4	19.0	5 1/2	6	5	4 3/8	3 7/8	1/4-20 x 5/8
	68-12	105, 115, 125	12	24	B	6 3/8	5 3/4	5 5/16	5 5/16	3 3/4	1/4	26.5	6 3/4	6 5/8	6	5 5/16	5 1/8	1/4-20 x 5/8
	68-25	115/230	25	50	B	6 3/8	7 1/4	5 5/16	5 5/16	5 1/8	1/4	39.7	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
	68-50	115/230	50	100	B	7 1/2	9	6 1/4	6 3/4	5 7/16	1/4	58.5	8	10	7	6 3/4	8 3/4	1/4-20 x 5/8
80 or 40 C.T. Series 0 - 20 - 40 - 60 - 80 V Parallel 0 - 20 - 40 V @ 2 x Current	80-0.1	115	0.1	0.2	C	2 7/8	1 5/8	2 5/16	2 3/8	—	#8	0.8	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	80-0.25	115	0.25	0.5	C	3 1/8	2	2 3/4	2 13/16	—	#8	1.3	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	80-0.5A	115	0.5	1	C	3 5/16	2 3/8	3 1/16	3 1/8	—	#8	2.2	3 1/4	2 3/4	2 7/8	2 1/2	2	8-32 x 3/8
	80-0.5	115	0.5	1	B	3	2 3/4	2 1/2	2 1/2	2 1/4	#8	2.8	3 1/4	3 1/8	2 7/8	2 1/2	2 3/8	8-32 x 3/8
	80-1	115	1	2	B	3 3/8	3 1/16	2 13/16	2 13/16	2 1/2	#8	4.0	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	80-2	115	2	4	B	4 1/8	3 3/8	3 7/16	3 7/16	2 5/8	#10	6.8	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	80-4	115	4	8	B	5 1/4	4 1/4	4 3/8	4 3/8	2 7/8	1/4	12.3	5 1/2	4 3/4	5	4 3/8	3	1/4-20 x 5/8
	80-6	105, 115, 125	6	12	B	5 1/4	5 1/2	4 5/8	4 3/8	3 7/8	1/4	19.0	5 1/2	6	5	4 3/8	3 7/8	1/4-20 x 5/8
	80-8	105, 115, 125	8	16	B	6 3/8	5 1/4	5 5/16	5 5/16	3 1/4	1/4	20.5	6 3/4	5 3/4	5 3/4	5 5/16	4 1/4	1/4-20 x 5/8
	80-12	105, 115, 125	12	24	B	6 3/8	6	5 5/16	5 5/16	4 1/8	1/4	29.0	6 3/4	6 5/8	6	6 5/16	5 1/8	1/4-20 x 5/8
	80-25	115/230	25	50	B	7 1/2	6 1/2	6 1/4	6 3/4	3 7/8	1/4	40.3	8	7	7	6 3/4	6 3/4	1/4-20 x 5/8
	80-50	115/230	50	100	B	7 1/2	9	6 1/4	6 3/4	6 1/2	1/4	78.0	8	10	7	6 3/4	8 3/4	1/4-20 x 5/8
88 or 44 C.T. Series 0 - 22 - 44 - 66 - 88 V Parallel 0 - 22 - 44 V @ 2 x Current	88-0.1	115	0.1	0.2	C	2 7/8	1 3/4	2 5/16	2 3/8	—	#8	1.0	2 1/16	2 1/16	2 1/2	1 7/16	1 7/16	6-32 x 3/8
	88-0.25	115	0.25	0.5	C	3 1/8	2 1/8	2 3/4	2 13/16	—	#8	1.5	2 3/4	2 3/8	2 7/8	2 1/8	1 3/4	6-32 x 3/8
	88-0.5	115	0.5	1	C	3 5/16	2 3/8	3 1/16	3 1/8	—	#8	2.2	3 1/4	2 3/4	2 7/8	2 1/2	2	8-32 x 3/8
	88-1	115	1	2	B	3 3/4	3	3 1/8	3 1/4	2 1/4	#8	4.5	4 1/8	3 1/2	3 1/2	3 1/8	2 1/4	10-32 x 1/2
	88-2	115	2	4	B	4 1/8	3 3/8	3 7/16	3 7/16	2 5/8	#10	6.8	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	88-4	115	4	8	B	5 1/4	4 1/2	4 3/8	4 3/8	3 1/8	1/4	13.4	5 1/2	4 3/4	5	4 3/8	3	1/4-20 x 5/8
	88-6	105, 115, 125	6	12	B	5 1/4	5 1/2	4 3/8	4 3/8	3 7/8	1/4	19.0	5 1/2	6	5	4 3/8	3 7/8	1/4-20 x 5/8
	88-8	105, 115, 125	8	16	B	6 3/8	5 3/8	5 5/16	5 5/16	3 3/8	1/4	22.8	6 3/4	5 3/4	5 3/4	5 5/16	4 1/4	1/4-20 x 5/8
	88-12	105, 115, 125	12	24	B	6 3/8	6 1/2	5 5/16	5 5/16	4 5/8	1/4	35.0	6 3/4	7	5 3/4	5 5/16	5 1/2	1/4-20 x 5/8
	88-25	115/230	25	50	B	7 1/2	8	6 1/4	6 3/4	5 5/8	1/4	62.0	8	10	7	6 3/4	8 3/4	1/4-20 x 5/8
	88-50	115/230	50	100	B	7 1/2	11	6 1/4	6 3/4	8 5/8	1/4	100.0	8	13	7	6 3/4	11 3/4	1/4-20 x 5/8
120 or 60 C.T. Series 0 - 30 - 60 - 90 - 120 V Parallel 0 - 30 - 60 V @ 2 x Current	120-0.5	115	0.5	1.0	B	3 3/8	2 7/8	2 13/16	2 13/16	2 1/4	#8	3.2	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	120-1	115	1	2	B	3 3/4	3 3/8	3 1/8	3 1/8	2 3/4	#8	5.8	4 1/8	4	3 1/2	3 1/8	2 7/8	10-32 x 1/2
	120-2	115	2	4	B	4 1/2	3 3/4	3 3/4	3 3/4	2 3/4	#10	8.5	4 3/4	4 1/4	4 1/4	3 3/4	2 7/8	10-32 x 1/2
	120-4	115	4	8	B	5 1/4	5 1/2	4 3/8	4 3/8	3 7/8	1/4	17.0	5 1/2	6	5	4 3/8	3 7/8	1/4-20 x 5/8
	120-6	105, 115, 125	6	12	B	6 3/8	6	5 5/16	5 5/16	3 7/8	1/4	27.0	6 3/4	6 5/8	6	5 5/16	5 1/8	1/4-20 x 5/8
	120-8	105, 115, 125	8	16	B	6 3/8	6 1/2	5 5/16	5 5/16	4 5/8	1/4	34.0	6 3/4	7	5 3/4	5 5/16	5 1/2	1/4-20 x 5/8
	120-12	105, 115, 125	12	24	B	6 3/8	7 1/4	5 5/16	5 5/16	5 3/8	1/4	42.0	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
	120-20	105, 115, 125	20	40	B	7 1/2	8	6 1/4	6 3/4	5 3/8	1/4	57.0	8	9	7	6 3/4	7 3/4	1/4-20 x 5/8
160 or 80 C.T. Series 0 - 40 - 80 - 120 - 160 V Parallel 0 - 40 - 80 V @ 2 x Current	160-0.5	115	0.5	1	B	3 3/8	3 1/16	2 13/16	2 13/16	2 1/2	#8	4.0	3 5/8	3 3/8	3 1/4	2 13/16	2 3/8	8-32 x 3/8
	160-1	115	1	2	B	4 1/8	3 5/8	3 7/16	3 7/16	2 5/8	#10	6.5	4 1/2	3 3/4	3 7/8	3 7/16	2 3/8	10-32 x 1/2
	160-2	115	4	8	B	4 1/2	4 3/8	3 3/4	3 3/4	3 3/8	#10	11.0	4 3/4	5	4 3/8	3 3/4	3 3/8	10-32 x 1/2
	160-4	105, 115, 125	4	8	B	6 3/8	5 1/4	5 5/16	5 5/16	3 1/4	1/4	21.0	6 3/4	5 3/4	5 3/4	5 5/16	4 1/4	1/4-20 x 5/8
	160-8	105, 115, 125	8	16	B	6 3/8	6 3/4	5 5/16	5 5/16	4 7/8	1/4	36.0	6 3/4	7 1/2	6	5 5/16	6	1/4-20 x 5/8
	160-12	115/230	12	24	B	7 1/2	6 1/2	6 1/4	6 3/4	3 7/8	1/4	39.8	8	8	7	6 3/4	6 3/4	1/4-20 x 5/8
180 or 90 C.T. Series 0 - 45 - 90 - 135 - 180 V Parallel 0 - 45 - 90 @ 2 x Current	180-0.5	115	0.5	1	B	3 3/4	3 3/8	3 1/8	3 1/8	2 3/4	#8	5.8	4 1/8	4	3 1/2	3 1/8	2 3/8	10-32 x 1/2
	180-1	115	1	2	B	4 1/8	3 7/8	3 5/8	3 7/16	3	#10	8.2	4 1/2	4 1/2	3 7/8	3 7/16	3	10-32 x 1/2
	180-2	115	2	4	B	5 1/4	5	4 3/8	4 3/8	3 5/8	1/4	15.8	5 1/2	5 1/2	5 1/4	4 3/8	3 1/2	1/4-20 x 5/8
	180-4	115	4	8	B	6 3/8	5 3/4	5 5/16	5 5/16	3 3/4	1/4	27.0	6 3/4	6 5/8	6	5 5/16	5 1/8	1/4-20 x 5/8
	180-6	105, 115, 125	6	12	B	6 3/8	7 1/4	5 5/16	5 5/16	5 1/8	1/4	37.0	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
	180-8	105, 115, 125	8	16	B	6 3/8	7 3/4	5 5/16	5 5/16	5 5/8	1/4	42.0	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
	180-12	105, 115, 125	12	24	B	7 1/2	8 1/4	6 1/4	6 3/4	5 5/8	1/4	62.0	8	9	7	6 3/4	7 3/4	1/4-20 x 5/8
230 or 115 C.T. Series 0-57 1/2-115-172 1/2-230 V Parallel 57 1/2 - 115 V @ 2 x Current	230-0.5	115	0.5	1	B	3 3/4	3 5/8	3 1/8	3 1/8	3	#8	6.5	4 1/8	4	3 1/2	3 1/8	2 7/8	10-32 x 1/2
	230-1	115	1	2	B	4 1/2	3 3/4	3 3/4	3 3/4	3	#10	9.4	4 3/4	4 1/4	4 1/4	3 3/4	2 7/8	10-32 x 1/2
	230-2	115	2	4	B	5 1/4	4 3/4	4 3/8	4 3/8	3 3/8	1/4	14.5	5 1/2	5 1/2	5 1/4	4 3/8	3 1/2	1/4-20 x 5/8
	230-4	105, 115, 125	4	8	B	6 3/8	6	5 5/16	5 5/16	4 1/8	1/4	28.4	6 3/4	6 3/8	6	5 5/16	5 1/8	1/4-20 x 5/8
	230-6	105, 115, 125	6	12	B	6 3/8	7 1/4	5 5/16	5 5/16	5 1/8	1/4	38.0	6 3/4	8	6	5 5/16	6 1/2	1/4-20 x 5/8
300 or 150 C.T. Series 0-75-150-225-300 V Parallel 0 - 75 - 150 V @ 2 x Current	300-0.5	115	0.5	1	B	4 1/2	3 1/2	3 3/4	3 3/4	2 1/2	#10	7.0	4 3/4	4 1/4	4 1/4	3 3/4	2 7/8	10-32 x 1/2
	300-1	115	1	2	B	5 1/4	4 1/8	4 3/8	4 3/8	3	1/4	12.8	5 1/2	4 3/4	5	4 3/8	3	1/4-20 x 5/8
	300-2	115	2	4	B	5 1/4	5 3/4	4 3/8	4 3/8	4 1/2	1/4	21.0	5 1/2	6 1/4	5	4 3/8	5 1/8	1/4-20 x 5/8
	300-4	105, 115, 125	4	8	B	6 3/8	5 3/4	5 5/16	5 5/16	3 7/8	1/4	27.5	6 3/4	6 3/8	6	5 5/16	5 1/8	1/4-20 x 5/8

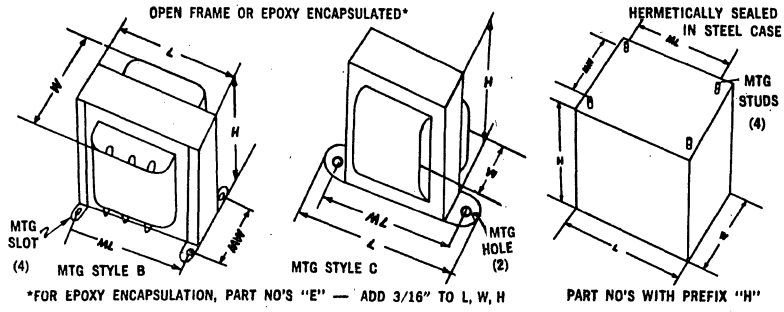
AVAILABLE IN 3 STYLES

FOR OPEN FRAME USE PART NUMBERS SHOWN

*for epoxy encapsulation add prefix "E" to part no., e. g., E-36-1 add 3/16 to l, w, h, bim. grade 5.
‡for hermetically sealed units add prefix "H" to part no., e. g., H-36-1, grade 4.

METHOD OF DETERMINING SECONDARY CURRENT RATINGS

RECTIFIER TYPE	FILTER TYPE	RMS SECONDARY CURRENT
Full Wave Center-Tap	Choke Input	.7 × DC amps
Full Wave Center-Tap	Capacitor Input	1.2 × DC amps
Full Wave Bridge	Choke Input	= to DC amps
Full Wave Bridge	Capacitor Input	1.8 × DC Amps



*FOR EPOXY ENCAPSULATION, PART NO'S "E" — ADD 3/16" TO L, W, H

PART NO'S WITH PREFIX "H"

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HIGH & LOW CURRENT CHOKES 0.1 to 1000 AMPS

OPEN FRAME • EPOXY ENCAPSULATED (GRADE 5) • HERMETICALLY SEALED (GRADE 4)

Signal's line of High Current Chokes is the most extensive available. It is designed to complement the selection of High Current Transformers so that a set may be specified for power supplies using inductive filters.

The inductance ratings given are minimum values guaranteed at full DC current. All resistance ratings are maximum values.

Special variations or intermediate values of inductance, current, or resistance can be supplied promptly and accurately.

				OPEN FRAME OR EPOXY ENCAPSULATED*							HERMETICALLY SEALED IN STEEL CASE‡					
PART No.	IND. (MHY)	CURR. (Amps)	RES. (Ohms)	MTG. STYLE	L	W	H	ML	MW	MTG. SCREW	APPR. LBS.	L	W	H	ML	MW	MTG. STUD
CH-0.1	1000	0.1	25	C	2	1½	1¾	1 23/32	—	#8	0.3	1⅝	1⅝	2 3/16	1 3/16	1 3/16	6-32 x ⅜
CH-0.2	800	0.2	15	C	2⅜	1⅝	2	2	—	#8	0.7	1 15/16	1 13/16	2 7/16	1⅜	1¼	6-32 x ⅜
CH-0.25	800	0.25	10.0	C	2⅞	1¾	2 5/16	2⅜	—	#8	1.0	2 1/16	2 1/16	2½	1 7/16	1 7/16	6-32 x ⅜
CH-0.5	400	0.5	4.0	C	3⅛	2⅛	2¾	2 13/16	—	#8	1.5	2¾	2⅜	2⅞	2⅛	1¾	6-32 x ⅜
CH-1	100	1	1.5	B	3	2½	2½	2½	2	#8	2.3	3¼	2¾	2⅞	2½	2	8-32 x ⅜
CH-2	70	2	0.9	B	3⅜	2¾	2⅞	2 13/16	2⅛	#8	3.2	3⅝	3	3¼	2 13/16	2⅛	8-32 x ⅜
CH-4	70	4	0.6	B	3¾	3⅛	3¼	3⅛	2½	#8	5.3	4⅛	3½	3½	3⅛	2½	8-32 x ⅜
CH-6	40	6	0.4	B	3¾	3⅝	3¼	3⅛	3	#8	6.5	4⅛	4	3½	3⅛	2⅞	8-32 x ⅜
CH-8	30	8	0.3	B	4⅛	3⅝	3½	3 1/16	3	#10	8	4½	4	3⅞	3 1/16	3	10-32 x ½
CH-12	15	12	0.1	B	5¼	4	4 7/16	4⅜	3⅛	#10	13.7	5½	4½	5	4⅜	3⅛	10-32 x ½
CH-16	15	16	.08	B	5¼	4⅝	4 7/16	4⅜	3⅝	#10	17.5	5½	5⅛	5	4⅜	3⅝	10-32 x ½
CH-20	7	20	.05	B	5¼	4	4 7/16	4⅜	3⅛	#10	13.3	5½	4¾	5	4⅜	3⅛	10-32 x ½
CH-25	5	25	.025	B	5¼	4¾	4 7/16	4⅜	3⅞	#10	17.8	5½	5⅜	5	4⅜	3⅞	¼-20 x ⅝
CH-30	4	30	.01	B	6⅜	5	5⅜	5 5/16	3⅜	¼	24.4	6¾	5¼	5⅞	5 5/16	3⅜	¼-20 x ⅝
CH-50	1.4	50	0.01	B	6⅜	5¼	5⅜	5 5/16	3¾	¼	26.7	6¾	5¼	5⅞	5 5/16	3¾	¼-20 x ⅝
CH-100	0.5	100	0.005	B	6⅜	6¼	5⅜	5 5/16	4⅛	¼	31.4	6¾	6⅝	5⅞	5 5/16	4⅛	¼-20 x ⅝
CH-200	0.3	200	0.0025	B	7½	7	6⅜	6¾	4⅛	¼	48.0			NOT AVAILABLE			
CH-500	0.055	500	0.00027	B	7½	6½	6⅜	6¾	4⅛	¼	50.0			NOT AVAILABLE			
CH-1000	0.015	1,000	0.000065	B	7½	6½	6¾	6¾	4⅜	¼	70.0			NOT AVAILABLE			

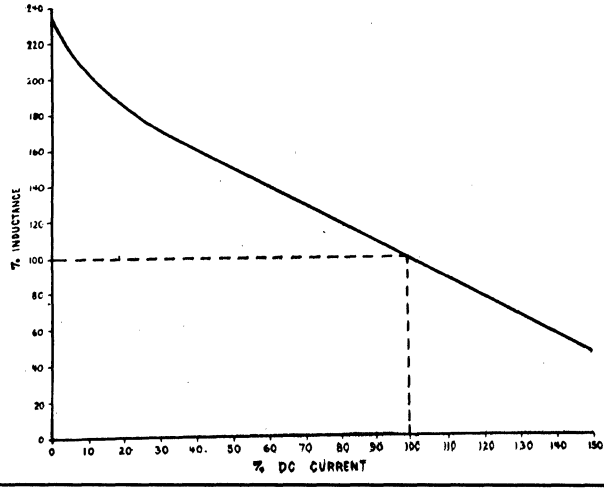
AVAILABLE IN 3 STYLES

FOR MECHANICAL DIMENSIONS REFER TO TRANSFORMER OUTLINES ON PREVIOUS PAGE.

* For epoxy encapsulation add prefix "E-" to Part No., e.g., E-CH-1 add 3/16 to L, W, H W, H Dim. Grade 5.

‡ For hermetically sealed units add prefix "H" to Part No., e.g., H-CH-1, Grade 4.

INDUCTANCE VARIATION WITH DC CURRENT



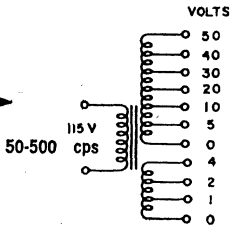
The curve shown applies to the whole line of chokes. It allows the user to determine the value of inductance which will be obtained at intermediate and overload values of DC current. The values on the curve are stated in generalized coordinates of % inductance versus % DC current.

For example, the CH-100 at 50 amperes (50% DC Current) will have an inductance of 0.75 MHY (150% of rating), the CH-25 at 31 amperes (125% DC current) will have an inductance of 3.5 MHY (70% of rating).

It is not recommended that chokes be used at over 100% of rated current since temperature rise will then be excessive. However, if load current is intermittent, and RMS current is less than maximum rated current, it is permissible.

Special "swinging chokes" can be supplied where the slope of this characteristic is emphasized. Specify minimum inductance required at two current values (usually maximum and minimum current) and we will furnish prompt quotations.

MULTI-VOLT 1 to 54 VOLTS in 1 VOLT STEPS



"MV" LINE

MV (multi-voltage) secondaries may be series connected for any output from 1 to 54 volts, in 1 volt steps, at rated current. This is accomplished by using the small buck-boost secondary.

Part No.	Secondary Amps.	DIMENSIONS L	W	H	ML	MW	Appr. Wt.
MV-1	1	3⅜	2¾	2 13/16	2 13/16	2⅛	3.2
MV-2	2	3¾	3⅛	3⅛	3⅛	2⅜	5.0
MV-4	4	4½	3⅝	3¾	3¾	2½	7.5
MV-6	6	5¼	4	4⅜	4⅜	2⅞	12
MV-12	12	5¼	6	4⅜	4⅜	4⅝	23

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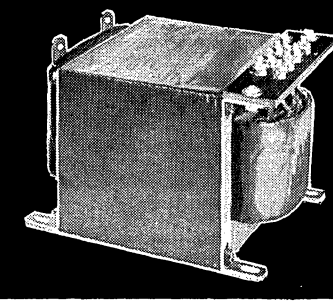
VERY HIGH CURRENT

TRANSFORMERS & CHOKES

500 to 1400 AMPERES

NEVER AVAILABLE BEFORE

STOCKED FOR SAME DAY SHIPMENT

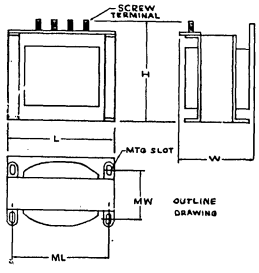


TRANSFORMERS

Part No.	Secondary Volts	Secondary Amps. Nominal (45°C rise)	Secondary Amps. Max. (100°C rise)	Dimensions L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.
6-500	6	500	700	7½	6	7¼	6¾	4⁹⁄₁₆	¼	40
9-500	9	500	700	7½	7½	7¼	6¾	6⅛	¼	60
12-500	12	500	700	7½	9	7¼	6¾	7⁹⁄₁₆	¼	80
3-1000	3	1000	1400	7½	6	7¼	6¾	4⁹⁄₁₆	¼	40
6-1000	6	1000	1400	7½	9	7¼	6¾	7⁹⁄₁₆	¼	80

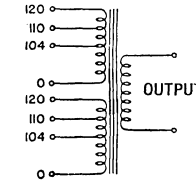
CHOKES

Part No.	Inductance (Milli-hy)	Current (Amperes)	Resis. (Ohms)	L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.
CH-500	.055	500	.00027	7½	6½	6¼	6¾	4⅛	¼	50
CH-1000	.015	1000	.000065	7½	7½	6¼	6¾	5⅛	¼	70

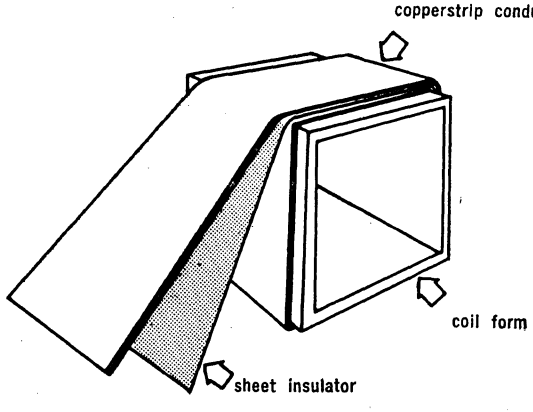


As shown on the schematic diagram dual primaries are provided. This permits parallel connection for 104, 110, or 120 volts or series connection for 208, 214, 220, 230, and 240 volts. Frequency range is 50 to 500 cps.

It is important to note that primary taps may be used to adjust the secondary voltages. Line voltages up to 125V (parallel) or 250V (series) may be used on the lowest primary tap. Nickel plated screw terminals are provided on a heavy phenolic board for easy primary connections.



WINDINGS OF HEAVY COPPER STRIP



STRIP-WOUND SECONDARIES

At the heavy current used in this line it becomes practical and desirable to use wide copper strip (as wide as the coil itself) for windings. Besides the obvious advantages of excellent winding space factor, the heat dissipation of the coil is improved. This improvement is due to the fact that the heat generated in the windings has a pure copper path to the coil ends, where it can be dissipated. In conventional windings of many turns per layer this heat flow is impeded by wire insulation and air spaces between turns. Therefore, the use of copper strip windings yields a dramatic reduction in size and weight.

GRAIN-ORIENTED STEEL CORE

These cores permit the use of higher peak flux densities for the same core loss. This results in a lower number of turns required and therefore, a smaller, more compact transformer.

CLASS F INSULATION USED THROUGHOUT

Class F insulation is rated for unlimited life at a total temperature of 155°C (ambient plus temperature rise).

Class A insulation has a maximum temperature rating of 105°C. The "nominal" current ratings given to this series are for a temperature rise of 45°C above 55°C ambient (Class A). Since Class F insulation is used it is permissible to increase these ratings by 40% (700 and 1400 amperes) without reducing the reliability of the transformer. The temperature rise will be 100°C over a 55°C ambient. The only limitation is not the transformer, but the temperature rating of surrounding components which may be affected by the additional heat radiated by the transformer.

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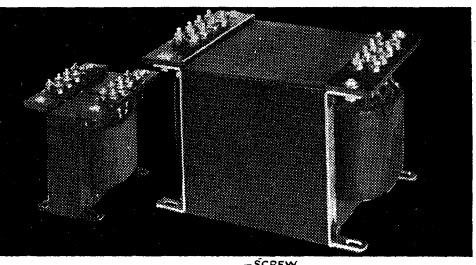
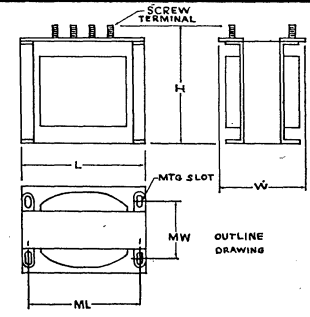
INDUSTRIAL GRADE
STEP-UP OR STEP-DOWN
POWER ISOLATION OR AUTO-TRANSFORMERS
HIGH DEGREE OF VERSATILITY OFFERS MANY POSSIBLE VOLTAGE RATINGS



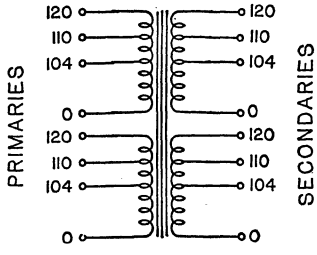
AVAILABLE FROM STOCK FOR IMMEDIATE SHIPMENT

The "DU" and "UP" lines are designed for a maximum of 55°C rise above ambient, for use on standard power lines from 50 to 500 Cps. Only prime raw materials are used. Units are thoroughly impregnated and baked with Signal's own high gloss black baking varnish. The transformers are rugged in construction, well-insulated, and have a consistently uniform appearance. All ratings are at full load current, continuous operation.

Heavy ¼ inch phenolic terminal boards are provided with plated brass screws and flat washers. Connections can be easily made with a nut driver. It is also simple to alter the inter-connections to change transformer ratings.



"DU SERIES" 110/220 Dual Primary To 110/220 Dual Sec.

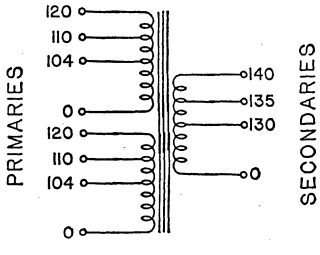


As shown on the schematic diagram the "DU" line is designed with dual primaries and secondaries. All four windings are identically rated at 0/104/110/120 volts. This permits series or parallel connections on either primary or secondary. Therefore, a nominal 110 to 110 volt, 220 to 220 volt, 110 to 220 volt, or 220 to 110 volt transformer can be set up. The winding taps permit intermediate series ratings such as 208, 214, or 230 volts.

It is also possible to make auto-transformer connections by connecting a primary group in series with a secondary group. Such nominal ratings as 440 to 220 volts or 220 to 440 volts can be set-up, in addition to the standard ratings described above. A further advantage to auto-transformer connection is the fact that the KVA rating of a particular type is **doubled.**

Part No.	KVA	Series Secondaries		Parallel Secondaries		Mechanical Dimensions					Mtg. Screw	Appr. Lbs.
		Volts	Max. Amps	Volts	Max. Amps	L (Max.)	W (Max.)	H (Max.)	ML ± 1/32	MW ± 1/16		
DU-¼	¼	0/208/220/240	1.1	0/104/110/120	2.2	5 5/16	4¼	5¼	4⅜	2½	#10	12
DU-½	½	0/208/220/240	2.3	0/104/110/120	4.6	5 5/16	5 5/16	5¼	4⅜	3⅝	#10	18
DU-1	1	0/208/220/240	4.5	0/104/110/120	9	7 9/16	6¼	7¼	6¾	4⅛	¼	33
DU-2	2	0/208/220/240	9	0/104/110/120	18	7 9/16	8¼	7¼	6¾	6	¼	56
DU-3	3	0/208/220/240	14	0/104/110/120	28	7 9/16	9¼	7¼	6¾	7	¼	70
DU-5	5	0/208/220/240	23	0/104/110/120	46	7 9/16	10¾	7¼	6¾	8½	¼	89
DU-7.5	7.5	0/208/220/240	31	0/104/110/120	62	9	9	8	7½	6½	¼	105
DU-10	10	0/208/220/240	41	0/104/110/120	83	9	12	8	7½	9	¼	150

"UP SERIES" 110/220 Dual Primary To 0/130/135/140 V. Sec.



The "UP" line utilizes the same dual primary as the "DU" line. It has, however, a single secondary rated at 0/130/135/140 volts.

This type is quite useful to boost low line voltages or raise line voltages to compensate for drops in series elements. It also finds application in bridge rectifiers for DC voltage outputs of approximately 115 to 130 volts.

Part No.	KVA	Secondary Volts	Max. Secondary Amps	L (Max.)	W (Max.)	H (Max.)	ML ± 1/32	MW ± 1/16	Mtg. Screw	Appr. Lbs.
UP-2	¼	0/130/135/140	2	5 5/16	4¼	5¼	4⅜	2½	#10	12
UP-4	½	0/130/135/140	4	5 5/16	5 5/16	5¼	4⅜	3⅝	#10	18
UP-8	1	0/130/135/140	8	7 9/16	6¼	7¼	6¾	4⅛	¼	33
UP-15	2	0/130/135/140	15	7 9/16	8¼	7¼	6¾	6	¼	56
UP-25	3	0/130/135/140	25	7 9/16	9¼	7¼	6¾	7	¼	70
UP-40	5	0/130/135/140	40	7 9/16	10¾	7¼	6¾	8½	¼	89

SIGNALS CUSTOM SERVICE

Many of our customers do not realize that the major portion of our shipments consists of "special" or "custom" items.

Usually, the final application of one of our stock transformers does not require the full number of taps or windings provided. These naturally are part of the cost of the item. If we are advised as to the specific taps used or as to what intermediate voltage or current is required we can begin production quickly on this variation of our stock item. If we define production quantities as roughly over 50 pieces, the customer will do better price-wise on his custom made item than on the standard.

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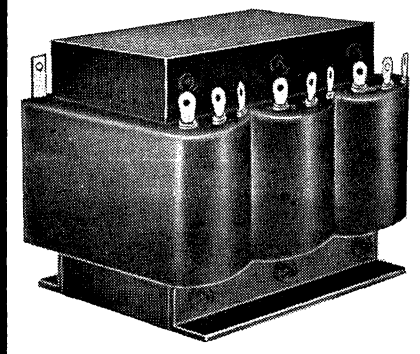
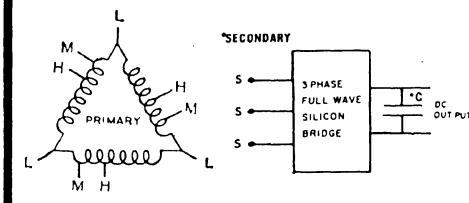
3 PHASE HIGH CURRENT RECTIFIER TRANSFORMERS

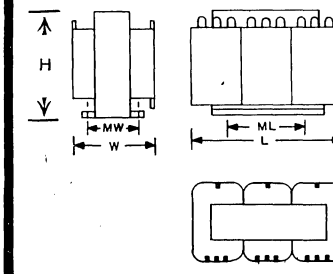


SCHEMATIC DIAGRAM



*C — Optional, no capacitor will give DC output shown at approx. 5% ripple.

MECHANICAL DIMENSIONS



DC OUTPUT VOLTAGE

PART NO.	PRI TAP "L" SUPPLY VOLTAGE 208	PRI TAP "L" SUPPLY VOLTAGE 220	PRI TAP "M" SUPPLY VOLTAGE 208	PRI TAP "M" SUPPLY VOLTAGE 220	PRI TAP "H" SUPPLY VOLTAGE 208	PRI TAP "H" SUPPLY VOLTAGE 220	DC RATED AMPS	APPROX. DIMENSIONS L	W	H	ML	MW	APX. LBS.
3PH 24-50	24	25	26	27.5	28	30	50	7¾	6	5½	4.8	4⅞	35
3PH 24-100	24	25	26	27.5	28	30	100	11½	5	8¼	7.2	4	42
3PH 24-200	24	25	26	27.5	28	30	200	11½	8⅝	8¼	7.2	6¼	90
3PH 48-30	42	44	47	50	52	55	30	7¾	6	5½	4.8	4⅞	35
3PH 48-60	42	44	47	50	52	55	60	11½	5	8¼	7.2	4	42
3PH 48-120	42	44	47	50	52	55	120	11½	8⅝	8¼	7.2	6¼	90

At higher power loads (above 2-3 KVA) it becomes inefficient to use single phase 115 or 230 volt standard lines. With this in mind, our engineering staff has developed a line of 3 phase transformers for use off 208 or 220V 3 phase power lines. These offer the significantly higher conversion efficiency and lighter power line drain of 3 phase systems. Since the principal application of these items is in high power dc power supplies, output ratings are given in dc voltage and current assuming the use of a 3 phase full wave rectifier.

STEP DOWN AUTO TRANSFORMERS

230 TO 115 VOLTS 50/60 CPS

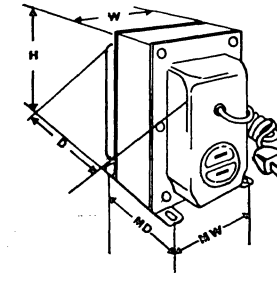
"SD" SERIES — LINE CORD & RECEPTACLE

VA Rating	Part No.	W	D	H	MW	MD	Mtg. Screw	Appr. Lbs.
100	SD-100	2⅝	2⅞	3⅛	2	1 13/16	#8	2.3
150	SD-150	2⅝	3½	3⅛	2	2 1/16	#8	3.6
250	SD-250	3⅞	3½	4⅝	3	2⅜	#8	6.2
350	SD-350	3⅞	4¼	4⅝	3	3 1/16	#8	8.3
500	SD-500	3⅞	4¾	4⅝	3	3 5/16	#8	10.5
750	SD-750	4⅝	5⅜	5⅜	3½	3¾	¼	14.5
1000	SD-1000	4⅝	5⅞	5⅜	3½	4¼	¼	18
1500	SD-1500	4⅝	6⅝	5⅜	3½	5	¼	22
2000	SD-2000	4⅝	7⅛	5⅜	3½	5½	¼	26

(100-2000 VA)

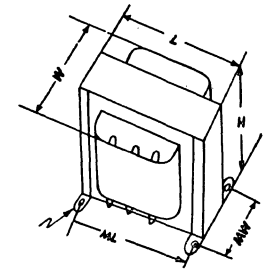
TYPE SD

Low Regulation • Fully encased — Black Wrinkle Finish • 45°C Temperature Rise • U/L Approved 2 prong line cord and receptacle.



"SDO" SERIES — OPEN FRAME • SOLDER LUGS

VA Rating	Part No.	L	W	H	ML	MW	Mtg. Screw	Appr. Lbs.
100	SDO-100	3	2½	2½	2½	2⅛	#8	2.3
150	SDO-150	3	3¼	2½	2½	2¾	#8	3.6
250	SDO-250	4½	2¾	3¾	3¾	2	#10	6.2
350	SDO-350	4½	3¾	3¾	3¾	2¾	#10	8.3
500	SDO-500	4½	4¼	3¾	3¾	3¼	#10	10.5
750	SDO-750	5¼	4½	4⅜	4⅜	3⅜	¼	14.5
1000	SDO-1000	5¼	5	4⅜	4⅜	3⅞	¼	18
1500	SDO-1500	5¼	5¾	4⅜	4⅜	4⅝	¼	22
2000	SDO-2000	5¼	6¼	4⅜	4⅜	5⅛	¼	26



TYPE SDO

Same Electrically as Type SD. Open Frame • Black Enamel Finish • Solder Lugs • Inexpensive Version for Use in Equipment.

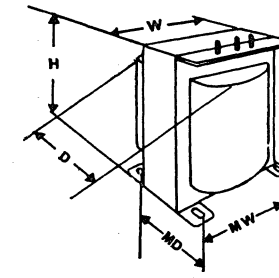
"HSD" SERIES
RUGGED • HEAVY DUTY • PHENOLIC TERMINAL BOARDS

VA Rating	Part No.	W	D	H	MW	MD	Mtg. Screw	Appr. Lbs.
3000	HSD-3000	7½	6	6¾	6¾	4⅛	¼	40
4000	HSD-4000	7½	6½	6¾	6¾	4⅝	¼	46
5000	HSD-5000	7½	7	6¾	6¾	5⅛	¼	52
6000	HSD-6000	7½	8	6¾	6¾	6⅛	¼	65

(3000-6000 VA)

TYPE HSD

Very low Regulation • 45°C Temperature Rise • Black High Gloss Enamel Finish • Screw type terminals on phenolic board.



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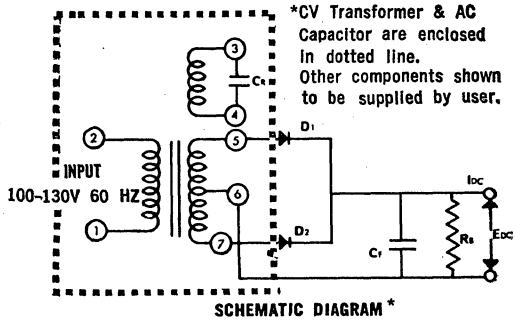
CONSTANT VOLTAGE TRANSFORMERS

FOR USE IN DC POWER SUPPLIES (TYPE CDC)



SCHEMATIC DIAGRAM *

CDC CONSTANT VOLTAGE TRANSFORMERS

Signal's CDC Regulating Transformers are specifically manufactured for use in DC Power Supplies. They are designed and rated for use with a full wave center-tapped silicon rectifier. CDC transformers are operated in ferro-resonance and are used in conjunction with an AC **tuning capacitor** (Cr in schematic diagram), which is supplied with the transformer.

In order to construct a regulated power supply the only other parts necessary are two diodes (D_1 and D_2), an electrolytic computer grade capacitor (C_f) and a bleeder resistor (R_b). These are standard shelf items.

The specification chart lists specific outputs available and the recommended auxiliary components. Part numbers are coded in terms of DC outputs, e.g., CDC-15-2 will give an output of 15V DC at 2 amps DC.

Electrical performance is completely specified. The DC voltage is constant to ±1% over the line voltage range of 100 to 130V at 60 HZ. The nominal output is held to ±2%. Closer tolerance on nominal output (±1%) can be obtained on special order at slightly higher cost.

Load regulation is specified as the rise in dc voltage output (increase in E_{dc}) from full load to the no load, ¼ load, and ½ load points. The filter capacitor (C_f) specified should be used and will yield the values of ripple voltage shown.

A significant protection feature is the fact that the DC short circuit current is limited to a maximum of 2 times rated current (3 times in size "C-6" units). This protects the entire circuit against shorts.

OUTPUT D.C. VOLTS	DC Amps I_{dc}	Part Number	Load Regulation (Rise in DCV from FL) NL-FL	¼-FL	½-FL	Ripple Volts (RMS)	Recommended Diodes (D_1 & D_2) P.I.V.	I/Cell	Filter Cap. (C_f) MFD.	DCWV	Bleeder‡ Resistor (R_b) Ohms	Watts	Style* & Size
6 vdc	0.8	CDC-6-0.8	2.0	1.5	0.8	0.3	50	1	3K	10	50	2	C-6
	4.5	CDC-6-4.5	1.0	0.7	0.5	0.4	50	6	15K	10	10	5	B-25
	9.0	CDC-6-9	1.0	0.7	0.5	0.4	50	16	25K	10	6	10	B-50
	16	CDC-6-16	1.0	0.7	0.4	0.4	50	16	75K	10	5	10	B-120
	40	CDC-6-40	0.7	0.4	0.2	0.4	50	60	150K	10	3	20	B-250
	75	CDC-6-75	0.8	0.6	0.4	0.4	50	100	200K	10	1	40	B-500
12 vdc	0.4	CDC-12-0.4	3.0	2.2	1.1	0.3	100	1	2K	15	150	2	C-6
	2.2	CDC-12-2.2	1.5	1.0	0.6	0.4	100	3	8K	15	25	10	B-25
	4.5	CDC-12-4.5	1.2	0.7	0.5	0.4	100	6	15K	15	25	10	B-50
	9.0	CDC-12-9	1.0	0.7	0.4	0.4	100	16	40K	15	10	20	B-120
	20	CDC-12-20	0.8	0.5	0.3	0.3	100	40	75K	15	5	40	B-250
	38	CDC-12-38	0.9	0.7	0.4	0.4	100	60	120K	15	4	50	B-500
15 vdc	0.35	CDC-15-0.35	3.5	2.3	1.3	0.3	100	1	1.5K	20	200	2	C-6
	2.0	CDC-15-2	1.6	1.0	0.6	0.4	100	2	7K	20	50	5	B-25
	3.5	CDC-15-3.5	1.3	0.8	0.6	0.3	100	6	15K	20	25	10	B-50
	8	CDC-15-8	1.5	0.9	0.6	0.4	100	16	30K	20	15	20	B-120
	16	CDC-15-16	1.0	0.8	0.5	0.3	100	16	75K	20	10	30	B-250
	30	CDC-15-30	1.0	0.6	0.4	0.3	100	40	120K	20	5	50	B-500
18 vdc	0.32	CDC-18-0.32	3.7	2.3	1.3	0.4	100	1	1K	20	300	2	C-6
	1.8	CDC-18-1.8	2.0	1.2	0.7	0.4	100	2	7K	20	100	5	B-25
	3	CDC-18-3	1.7	1.2	0.7	0.3	100	3	12K	20	50	10	B-50
	6	CDC-18-6	1.7	0.9	0.6	0.3	100	6	30K	20	25	20	B-120
	13	CDC-18-13	1.3	1.0	0.7	0.3	100	16	50K	20	15	30	B-250
	26	CDC-18-26	1.5	0.6	0.5	0.3	100	40	120K	20	10	50	B-500
24 vdc	0.25	CDC-24-0.22	4.0	3.4	1.5	0.3	200	1	1K	25	350	2	C-6
	1.2	CDC-24-1.2	2.0	1.2	0.7	0.4	200	2	5K	25	100	10	B-25
	2.1	CDC-24-2.1	1.8	1.5	1.0	0.3	200	3	10K	25	50	20	B-50
	4.5	CDC-24-4.5	2.0	1.0	0.7	0.3	200	6	25K	25	50	20	B-120
	11	CDC-24-11	1.3	1.0	0.5	0.3	200	16	50K	25	25	30	B-250
	20	CDC-24-20	1.5	0.7	0.3	0.3	200	40	75K	25	15	50	B-500
28 vdc	0.22	CDC-28-0.25	5.6	4.0	2.3	0.3	200	1	1K	35	500	2	C-6
	1.0	CDC-28-1	2	1.5	0.6	0.3	200	1	5K	35	100	10	B-25
	2.0	CDC-28-2	2.5	1.5	1.0	0.3	200	2	10K	35	100	10	B-50
	4.0	CDC-28-4	2.0	1.2	0.8	0.3	200	6	25K	35	50	20	B-120
	9.0	CDC-28-9	1.3	1.0	0.5	0.3	200	16	50K	35	25	40	B-250
	16	CDC-28-16	1.7	0.8	0.3	0.3	200	16	75K	35	15	60	B-500
36 vdc	0.18	CDC-36-0.18	7.0	5.5	3.5	0.3	200	1	1K	50	1K	2	C-6
	0.9	CDC-36-0.9	2.0	1.4	0.8	0.3	200	1	5K	50	150	10	B-25
	1.8	CDC-36-1.8	3.0	2.0	1.3	0.3	200	2	8K	50	100	20	B-50
	3.2	CDC-36-3.2	2.5	1.4	0.7	0.3	200	3	20K	50	100	20	B-120
	6	CDC-36-6	2.0	1.5	1.0	0.3	200	16	25K	50	25	60	B-250
	12	CDC-36-12	1.8	1.0	0.7	0.3	200	16	50K	50	25	60	B-500
48 vdc	0.12	CDC-48-0.12	8.0	6.0	4.0	0.2	200	1	1K	50	1.5K	2	C-6
	0.6	CDC-48-0.6	2.5	2.0	1.0	0.3	200	1	3K	50	300	10	B-25
	1.5	CDC-48-1.5	3.0	1.5	1.0	0.3	200	2	6K	50	250	10	B-50
	2.5	CDC-48-2.5	3.0	1.5	1.0	0.2	200	2	15K	50	200	20	B-120
	5.0	CDC-48-5	2.0	1.0	0.6	0.3	200	6	15K	50	50	50	B-250
	10	CDC-48-10	2.0	1.0	0.5	0.4	200	16	25K	50	50	50	B-500
60 vdc	0.1	CDC-60-0.1	8.0	6.0	4.0	0.2	400	1	1K	75	2.5K	2	C-6
	0.5	CDC-60-0.5	3.0	2.0	1.2	0.4	400	1	2K	75	500	10	B-25
	1.2	CDC-60-1.2	4.2	3.0	2.0	0.3	400	2	5K	75	400	10	B-50
	2.0	CDC-60-2	3.5	2.0	1.0	0.3	400	2	10K	75	300	20	B-120
	4	CDC-60-4	1.5	1.2	1.0	0.4	400	6	12K	75	75	50	B-250
	8	CDC-60-8	3.0	2.0	0.6	0.4	400	16	20K	75	75	50	B-500
120 vdc	0.05	CDC-120-0.05	9.0	8.0	5.0	0.2	400	1	0.5K	150	10K	2	C-6
	0.3	CDC-120-0.3	6.0	4.0	2.5	0.3	400	1	2K	150	2K	10	B-25
	0.6	CDC-120-0.6	5.5	3.5	2.5	0.3	400	1	3K	150	1.5K	10	B-50
	1.0	CDC-120-1	5.5	3.2	2.0	0.4	400	1	4K	150	1K	20	B-120
	2	CDC-120-2	4.0	3.0	2.0	0.3	400	2	9K	150	250	60	B-250
	4	CDC-120-4	4.0	2.0	0.8	0.4	400	6	15K	150	150	100	B-500

* See mechanical dimensions on opposite page.

‡ Bleeder resistor may be eliminated if load current does not fall to zero. DC amp rating may be increased accordingly.

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CONSTANT VOLTAGE TRANSFORMERS

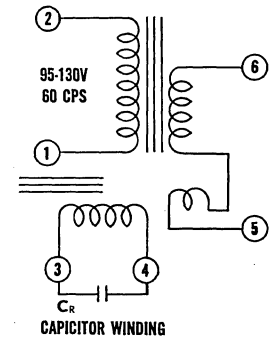
FOR USE IN AC APPLICATIONS (TYPE ACV)

PART NO.	VOLTS AC	AMPS AC	STYLE & SIZE
6 ACV-6.4	6.4	1	C-6
6 ACV-12.8	12.8	0.5	C-6
6 ACV-26	26	0.25	C-6
6 ACV-118	118	0.05	C-6
25 ACV-6.4	6.4	4	B-25
25 ACV-12.8	12.8	2	B-25
25 ACV-26	26	1	B-25
25 ACV-118	118	0.25	B-25
50 ACV-6.4	6.4	8	B-50
50 ACV-12.8	12.8	4	B-50
50 ACV-26	26	2	B-50
50 ACV-118	118	0.43	B-50
120 ACV-6.4	6.4	20	B-120
120 ACV-12.8	12.8	10	B-120
120 ACV-26	26	5	B-120
120 ACV-118	118	1	B-120
250 ACV-12.8	12.8	20	B-250
250 ACV-26	26	10	B-250
250 ACV-118	118	2.2	B-250
500 ACV-118	118	4.5	B-500

Signal ACV transformers are manufactured for use with AC loads. They are simple and rugged designs and will regulate to within plus or minus 1% for input variations from 95-130V at 60 cps. If regulation of plus or minus ½% or better is desired, special units can be made to your order. ACV transformers will regulate with loads that are not unity power vactor.

Full regulation is maintained at any load from about 20% to 100%. Overload current is limited to a maximum of 200% of rated current at short circuit. The 6.4 and 12.8V ratings are ideal for use with tube or lamp loads since the short circuit current rating limits the inrush current to cold filaments. Stabilization of the voltage results in longer filament life.

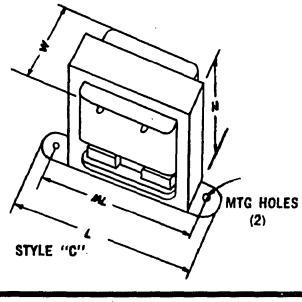
ACV transformers are "normal" harmonic type with approximately a square wave output.

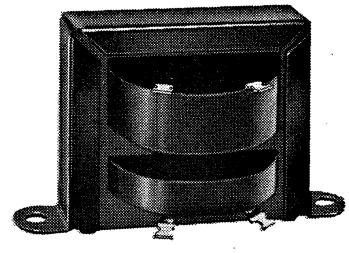


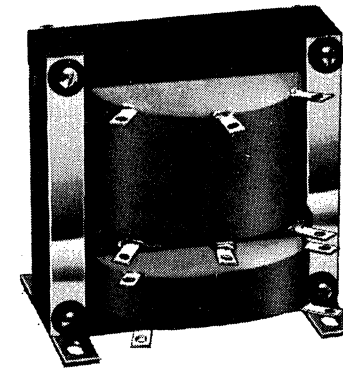
CAPICITOR WINDING SCHEMATIC DIAGRAM

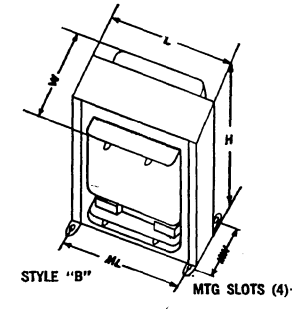
MECHANICAL DIMENSIONS

STYLE & SIZE	L	W	H	ML	MW	MTG. SCREW
C-6	3¼	1⅞	1 15/16	2 13/16	—	#8
B-25	3	2⅝	3⅛	2⅝	1 15/16	#8
B-50	3	3⅝	3⅛	2⅝	2 1/16	#8
B-120	4	3⅞	4 1/16	3½	2⅜	#10
B-250	4	5¾	4 1/16	3½	3 15/16	#10
B-500	5	5¾	5 1/16	4⅜	3 15/16	#10









ADVANTAGES OF CONSTANT VOLTAGE TRANSFORMERS

REGULATION — output regulated to plus or minus 1% for line voltage variations of 95 to 130V at 60 cps.

SELF-PROTECTION — against output short circuit. Current limited to a maximum of 2 times rated current.

MECHANICALLY RUGGED — as resistant to mechanical shock as conventional power transformers.

NO MOVING PARTS — no adjustment or maintenance necessary.

SQUARE WAVE OUTPUT — ideal for use in rectifier circuits — little filtering needed.

HIGH DEGREE OF ISOLATION — between input and output circuits — both physical and electrical isolation, electro-static shields not necessary.

RESONATING CAPACITOR — supplied with transformers.

EPOXY IMPREGNATION — minimizes acoustic noise.

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PRICE LIST

Part No.	User Net
10-0.1	3.40
10-0.25	3.60
10-0.5	3.75
10-1	4.15
10-2	5.20
10-4	6.50
10-6	8.40
10-8	9.00
10-12	10.50
10-25	18.20
10-50	26.50
10-100	43.00
12.8-0.1	3.40
12.8-0.25	3.65
12.8-0.5	4.00
12.8-1	4.45
12.8-2A	5.15
12.8-2	6.35
12.8-4	7.70
12.8-6	9.00
12.8-8	9.60
12.8-12	11.00
12.8-25	22.40
12.8-50	30.50
12.8-100	44.00
16-0.1	3.50
16-0.25	3.70
16-0.5	3.95
16-1	4.30
16-2	5.35
16-4	8.10
16-6	9.50
16-8	10.30
16-12	12.75
16-25	24.00
16-50	38.00
16-100	64.00
24-0.1	3.50
24-0.25	4.10
24-0.5	4.50
24-1A	4.90
24-1	6.35
24-2	7.30
24-4	9.15
24-6	11.00
24-8	15.20
24-12	17.80
24-20	22.40
24-25	30.00
24-50	44.00
24-100	70.00
36-0.1	3.60
36-0.25	4.00
36-0.5	4.55
36-1A	5.65
36-1	6.60
36-2	7.80
36-4	10.90
36-6	15.60
36-8	16.70
36-12	20.00
36-20	33.70
36-25	39.60
36-30	44.00
36-50	55.00
36-100	108.00
56-0.1	3.80
56-0.25	4.45
56-0.5	5.00
56-1	8.00
56-2	8.90
56-4	14.90
56-6	21.50
56-8	26.50
56-12	35.00
56-25	57.00
56-50	102.00
56-100	151.00
68-0.1	3.90
68-0.25	4.40
68-0.5A	5.10
68-0.5	6.75
68-1	7.90
68-2	10.00
68-4	18.80
68-6	21.50
68-8	25.80
68-12	38.00
68-25	57.00
68-50	103.00
80-0.1	4.00
80-0.25	4.60
80-0.5A	5.60
80-0.5	6.75
80-1	8.50
80-2	12.70
80-4	21.00
80-6	27.00
80-8	32.50
80-12	41.00
80-25	69.50
80-50	124.00
88-0.1	4.10
88-0.25	4.80
88-0.5	5.70
88-1	8.80
88-2	12.90
88-4	22.00
88-6	27.50
88-8	33.50
88-12	42.00
88-25	72.00
88-50	128.00
120-0.5	8.20
120-1	10.40
120-2	14.70
120-4	28.00
120-6	34.00
120-8	42.50
120-12	52.50
120-20	76.50
160-0.5	8.70
160-1	12.90
160-2	18.00
160-4	31.00
160-8	48.50
160-12	65.00
180-0.5	9.10
180-1	14.20
180-2	20.00
180-4	36.00
180-6	42.50
180-8	52.00
180-12	78.00
230-0.5	10.50
230-1	15.00
230-2	21.50
230-4	42.00
230-6	50.00
300-0.5	11.00
300-1	19.70
300-2	31.00
300-4	48.50
CH-0.1	2.25
CH-0.2	2.60
CH-0.25	3.00
CH-0.5	3.80
CH-1	5.70
CH-2	6.60
CH-4	8.80
CH-6	11.00
CH-8	14.00
CH-12	18.00
CH-16	20.00
CH-20	19.50
CH-25	27.50
CH-30	33.00
CH-50	38.00
CH-100	43.00
CH-200	68.00
CH-500	92.00
CH-1000	102.00
E-10-0.1	5.10
E-10-0.25	5.43
E-10-0.5	5.80
E-10-1	6.35
E-10-2	8.00
E-10-4	11.10
E-10-6	13.00
E-10-8	14.00
E-10-12	16.55
E-10-25	28.80
E-10-50	42.20
E-10-100	69.00
E-12.8-0.1	5.10
E-12.8-0.25	5.51
E-12.8-0.5	6.05
E-12.8-1	6.75
E-12.8-2A	7.85
E-12.8-2	9.75
E-12.8-4	11.85
E-12.8-6	13.90
E-12.8-8	14.90
E12.8-12	17.20
E-12.8-25	35.40
E-12.8-50	48.60
E-12.8-100	70.50
E-16-0.1	5.25
E-16-0.25	5.57
E-16-0.5	5.96
E-16-1	6.52
E-16-2	8.16
E-16-4	12.45
E-16-6	14.70
E-16-8	16.05
E-16-12	20.00
E-16-25	38.00
E-16-50	61.00
E-16-100	102.00
E-24-0.1	5.25
E-24-0.25	6.20
E-24-0.5	6.85
E-24-1A	7.50
E-24-1	9.77
E-24-2	11.22
E-24-4	14.20
E-24-6	17.05
E-24-8	23.60
E-24-12	27.80
E-24-20	35.00
E-24-25	47.10
E-24-50	69.50
E-24-100	111.00
E-36-0.1	5.40
E-36-0.25	6.03
E-36-0.5	6.88
E-36-1A	8.55
E-36-1	10.05
E-36-2	11.90
E-36-4	16.80
E-36-6	24.20
E-36-8	26.00
E-36-12	31.20
E-36-20	52.80
E-36-25	62.20
E-36-30	69.50
E-36-50	87.50
E-36-100	173.00
E-56-0.1	5.70
E-56-0.25	6.70
E-56-0.5	7.55
E-56-1	12.10
E-56-2	13.50
E-56-4	22.80
E-56-6	33.10
E-56-8	41.10
E-56-12	54.50
E-56-25	89.50
E-56-50	161.00
E-56-100	240.00
E-68-0.1	5.85
E-68-0.25	6.62
E-68-0.5A	7.70
E-68-0.5	10.22
E-68-1	12.00
E-68-2	15.30
E-68-4	28.80
E-68-6	33.10
E-68-8	40.00
E-68-12	59.50
E-68-25	90.00
E-68-50	165.00
E-80-0.1	6.00
E-80-0.25	6.95
E-80-0.5A	8.50
E-80-0.5	10.30
E-80-1	13.10
E-80-2	19.60
E-80-4	32.60
E-80-6	42.00
E-80-8	51.00
E-80-12	64.70
E-80-25	110.00
E-80-50	198.00
E-88-0.1	6.15
E-88-0.25	7.23
E-88-0.5	8.65
E-88-1	13.45
E-88-2	19.90
E-88-4	34.10
E-88-6	42.80
E-88-8	52.50
E-88-12	66.30
E-88-25	114.00
E-88-50	204.00
E-120-0.5	12.30
E-120-1	15.70
E-120-2	22.40
E-120-4	43.10
E-120-6	52.60
E-120-8	65.80
E-120-12	83.00
E-120-20	122.00
E-160-0.5	13.05
E-160-1	19.50
E-160-2	27.40
E-160-4	47.70
E-160-8	75.60
E-160-12	103.00
E-180-0.5	13.65
E-180-1	21.40
E-180-2	30.40
E-180-4	55.50
E-180-6	65.80
E-180-8	81.00
E-180-12	123.00
E-230-0.5	15.75
E-230-1	22.80
E-230-2	33.00
E-230-4	65.00
E-230-6	77.50
E-300-0.5	16.50
E-300-1	30.00
E-300-2	48.00
E-300-4	75.60
E-CH-0.1	2.90
E-CH-0.2	3.40
E-CH-0.25	3.95
E-CH-0.5	5.00
E-CH-1	7.60
E-CH-2	8.80
E-CH-4	11.80
E-CH-6	14.80
E-CH-8	18.90
E-CH-12	24.50
E-CH-16	27.40
E-CH-20	26.80

Net

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SIGNAL TRANSFORMER PRICE LIST

Part No.	User Net
E-CH-25	38.00
E-CH-30	45.70
E-CH-50	52.70
E-CH-100	60.00
E-CH-200	96.00
E-CH-500	132.00
E-CH-1000	148.00
H-10-0.1	9.85
H-10-0.25	10.50
H-10-0.5	10.95
H-10-1	12.10
H-10-2	15.25
H-10-4	19.30
H-10-6	25.20
H-10-8	27.10
H-10-12	31.70
H-10-25	55.20
H-10-50	77.80
H-10-100	133.00
H-12.8-0.1	9.85
H-12.8-0.25	10.60
H-12.8-0.5	11.65
H-12.8-1	13.00
H-12.8-2A	15.10
H-12.8-2	18.75
H-12.8-4	22.80
H-12.8-6	26.70
H-12.8-8	28.80
H-12.8-12	33.20
H-12.8-25	68.30
H-12.8-50	93.70
H-12.8-100	137.00
H-16-0.1	10.20
H-16-0.25	10.75
H-16-0.5	11.50
H-16-1	12.60
H-16-2	15.70
H-16-4	23.80
H-16-6	28.00
H-16-8	30.50
H-16-12	38.00
H-16-25	72.00
H-16-50	114.00
H-16-100	192.00
H-24-0.1	10.20
H-24-0.25	11.90
H-24-0.5	13.10
H-24-1A	14.35
H-24-1	18.70
H-24-2	21.50
H-24-4	27.20
H-24-6	32.80
H-24-8	45.70
H-24-12	53.50
H-24-20	67.40
H-24-25	90.50
H-24-50	134.00
H-24-100	214.00
H-36-0.1	10.45
H-36-0.25	11.60
H-36-0.5	13.25
H 36-1A	16.50
H-36-1	19.35
H-36-2	22.90
H-36-4	32.10
H-36-6	46.00
H-36-8	49.50
H-36-12	59.40
H-36-20	100.00
H-36-25	118.00
H-36-30	131.00
H-36-50	165.00
H-36-100	326.00
H-56-0.1	11.00
H-56-0.25	12.90
H-56-0.5	14.55
H-56-1	23.30
H-56-2	26.00
H-56-4	43.60
H-56-6	63.10
H-56-8	78.40
H-56-12	104.00
H-56-25	170.00
H-56-50	305.00
H-56-100	455.00
H-68-0.1	11.30
H-68-0.25	12.78
H-68-0.5A	14.90
H-68-0.5	19.70
H-68-1	23.00
H-68-2	29.30
H-68-4	55.50
H-68-6	63.80
H-68-8	77.00
H-68-12	113.50
H-68-25	174.00
H-68-50	316.00
H-80-0.1	11.60
H-80-0.25	13.35
H-80-0.5A	16.45
H-80-0.5	20.00
H-80-1	25.10
H-80-2	37.70
H-80-4	62.50
H-80-6	81.00
H-80-8	97.80
H-80-12	124.00
H-80-25	212.00
H-80-50	380.00
H-88-0.1	11.90
H-88-0.25	13.95
H-88-0.5	16.75
H-88-1	26.00
H-88-2	38.30
H-88-4	65.50
H-88-6	82.50
H-88-8	101.00
H-88-12	127.00
H-88-25	219.00
H-88-50	392.00
H-120-0.5	23.80
H-120-1	30.40
H-120-2	43.20
H-120-4	83.00
H-120-6	100.00
H-120-8	127.00
H-120-12	157.00
H-120-20	232.00
H-160-0.5	25.20
H-160-1	37.70
H-160-2	52.80
H-160-4	92.00
H-160-8	145.00
H-160-12	195.00
H-180-0.5	26.40
H-180-1	41.50
H-180-2	58.70
H-180-4	106.00
H-180-6	126.00
H-180-8	155.00
H-180-12	234.00
H-230-0.5	30.50
H-230-1	43.80
H-230-2	63.10
H-230-4	124.00
H-230-6	149.00
H-300-0.5	31.90
H-300-1	57.50
H-300-2	91.00
H-300-4	143.00
H-CH-0.1	6.50
H-CH-0.2	7.55
H-CH-0.25	8.75
H-CH-0.5	11.10
H-CH-1	16.70
H-CH-2	19.50
H-CH-4	26.20
H-CH-6	33.00
H-CH-8	42.20
H-CH-12	54.50
H-CH-16	60.80
H-CH-20	59.30
H-CH-25	83.80
H-CH-30	101.00
H-CH-50	117.00
H-CH-100	133.00
6-500	98.00
9-500	127.00
12-500	158.00
3-1000	104.00
6-1000	168.00
MV-1	13.50
MV-2	16.00
MV-4	21.00
MV-6	29.00
MV-12	40.00
3PH-24-50	90.00
3PH-24-100	127.00
3PH-24-200	207.00
3PH-48-30	90.00
3PH-48-60	127.00
3PH-48-120	207.00
SD-100	7.30
SD-150	8.60
SD-250	10.00
SD-350	13.00
SD-500	15.10
SD-750	19.25
SD-1000	23.00
SD-1500	27.00
SD-2000	35.00
SDO-100	5.00
SDO-150	6.00
SDO-250	7.40
SDO-350	10.50
SDO-500	12.40
SDO-750	16.50
SDO-1000	20.20
SDO-1500	23.50
SDO-2000	31.80
HSD-3000	55.00
HSD-4000	60.00
HSD-5000	69.00
HSD-6000	76.00
DU-¼	27.80
DU-½	34.50
DU-1	55.00
DU-2	75.00
DU-3	107.00
DU-5	144.00
DU-7½	185.00
DU-10	235.00
UP-2	28.00
UP-4	32.50
UP-8	53.00
UP-15	77.00
UP-25	99.00
UP-40	138.00
CDC-6-0.8	14.00
CDC-6-4.5	19.90
CDC-6-9	23.50
CDC-6-16	29.50
CDC-6-40	44.40
CDC-6-75	68.00
CDC-12-0.4	13.95
CDC-12-2.2	19.80
CDC-12-4.5	23.40
CDC-12-9	29.40
CDC-12-20	44.10
CDC-12-38	67.80
CDC-15-0.35	13.90
CDC-15-2	19.70
CDC-15-3.5	23.30
CDC-15-8	29.20
CDC-15-16	43.90
CDC-15-30	67.60
CDC-18-0.32	13.85
CDC-18-1.8	19.60
CDC-18-3	23.20
CDC-18-6	29.10
CDC-18-13	43.90
CDC-18-26	67.50
CDC-24-0.22	13.80
CDC-24-1.2	19.50
CDC-24-2.1	23.10
CDC-24-4.5	29.00
CDC-24-11	43.80
CDC-24-20	67.30
CDC-28-0.25	13.75
CDC-28-1	19.40
CDC-28-2	23.00
CDC-28-4	28.90
CDC-28-9	43.70
CDC-28-16	67.20
CDC-36-0.18	13.65
CDC-36-0.9	19.30
CDC-36-1.8	22.90
CDC-36-3.2	28.80
CDC-36-6	43.50
CDC-36-12	67.00
CDC-48-0.12	13.60
CDC-48-0.6	19.20
CDC-48-1.5	22.80
CDC-48-2.5	28.70
CDC-48-5	43.40
CDC-48-10	66.80
CDC-60-0.1	13.40
CDC-60-0.5	19.10
CDC-60-1.2	22.70
CDC-60-2	28.50
CDC-60-4	43.30
CDC-60-8	66.70
CDC-120-0.05	13.40
CDC-120-0.3	19.00
CDC-120-0.6	22.60
CDC-120-1	28.40
CDC-120-2	43.20
CDC-120-4	66.50
6ACV-6.4	14.10
6ACV-12.8	13.90
6ACV-26	13.70
6ACV-118	13.40
25ACV-6.4	20.00
25ACV-12.8	19.80
25ACV-26	19.50
25ACV-118	19.00
50ACV-6.4	23.60
50ACV-12.8	23.20
50ACV-26	22.70
50ACV-118	22.20
120ACV-6.4	29.10
120ACV-12.8	28.90
120ACV-26	28.60
120ACV-118	28.20
250ACV-12.8	44.00
250ACV-26	43.00
250ACV-118	41.90
500ACV-118	68.00

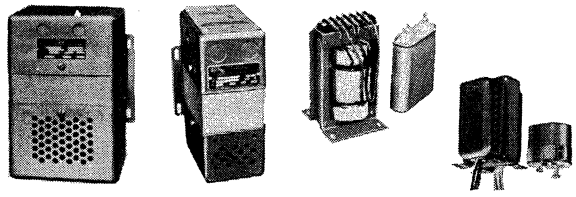
OEM DISCOUNT SCHEDULE

QTY.	DISCOUNT	QTY.	DISCOUNT
1-9	NET	50-99	33⅓%
10-24	15%	100-199	40%
25-49	25%	200 Over	QUOTE

TERMS: NET 30 DAYS ON APPROVED CREDIT
FOB: FACTORY, BROOKLYN, N. Y.

SIGNAL TRANSFORMER CO., INC
ENGINEERS • DESIGNERS • MANUFACTURERS

SOLA® constant voltage transformers



The SOLA® constant-voltage (CV) transformer is a static-magnetic voltage regulator which provides a stabilized output voltage even though the input voltage varies over a wide range.

Stabilized voltage is required for the efficient operation of many types of electrical and electronic equipment, and also prolongs the life of electronic components by eliminating over-and-under-voltages and protects against excessive inrush and fault currents.

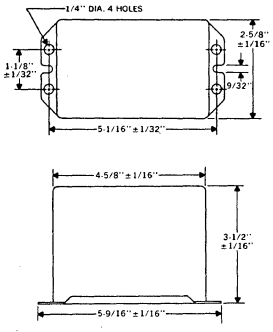
Sola transformers are available in designs with harmonic neutralized (CVS) and normal harmonic (CVN) wave-shape outputs. The CVS is used where a distortion-free output is required to drive sensitive instruments and equipment. Electronic-power types are also available for filament (CVF) and plate-filament (CVE) service.

This catalog lists the wide range of stock ratings and types available off-the-shelf from your nearest Sola stocking distributor. For custom designs in OEM quantities, contact your nearest Sola sales offices or the factory.

SOLA® CVS-harmonic neutralized type

Sola CVS type transformers contain less than 3% total rms harmonic content in the output. Recommended for all AC applications where harmonics can affect operation, CVS types are the only constant voltage transformers with built-in harmonic neutralizing circuits. CVS transformers use no filters and therefore do not need extra capacitors and noisy chokes. CVS transformers are smaller and more rugged than transformers employing filters for wave-shape improvement. Regulation is ±1% for an input range of ±15% of nominal voltage.

60 Hertz single phase

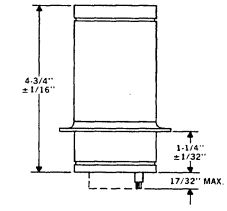


Structure Code 1

VA	Voltage Rating: Regulated Output	Voltage Rating: Input Range	Catalog Number	Structure/ Adapter Code	Dimensions (inches): A	B	C	E	F	Price 1-4 pcs.	Approx. Shipping Weight (Lbs.)
30	118	95-130	23-13-030-2	4/d	6 1/8	5 3/16	3 1/4	3 1/2	3	$ 28.35	8
60		95-130	23-13-060-2	4/d	6 15/16	5 3/16	3 1/4	3 1/2	3	33.60	10
60		190-260X380-520	23-23-060-2	4/d	6 15/16	5 3/16	3 1/4	3 1/2	3	36.75	10
120		95-130X190-260	23-22-112-2	4/d	8 1/8	5 3/16	3 1/4	3 1/2	3	43.05	14
120		190-260X380-520	23-23-112-2	4/d	8 1/8	5 3/16	3 1/4	3 1/2	3	46.20	14
250		95-130X190-260	23-22-125	4/b	9 5/8	7 7/16	4 1/2	4 3/4	4 1/8	58.80	28
250		190-260X380-520	23-23-125	4/b	9 5/8	7 7/16	4 1/2	4 3/4	4 1/8	63.00	29
500		95-130X190-260	23-22-150	4/c	12 7/16	6 7/16	7 25/32	8 1/8	5 5/8	91.35	45
500	118x 236	190-260X380-520	23-26-150	4/c	12 7/16	6 7/16	7 25/32	8 1/8	5 5/8	97.65	46
750		95-130X175-235X190-260	23-25-175	4/c	16 13/16	6 7/16	7 25/32	8 1/8	5 5/8	126.00	54
1000		95-130X175-235X190-260	23-25-210	4/—	17 7/8	6 7/16	7 25/32	8 1/8	5 5/8	153.30	72
1000		190-260X380-520	23-26-210	4/—	17 7/8	6 7/16	7 25/32	8 1/8	5 5/8	153.30	72
1500		95-130X175-235X190-260	23-25-215	5/—	19 5/16	9 1/32	10 5/16	11 3/4	3 15/16	204.75	128
2000		95-130X175-235X190-260	23-25-220	5/—	19 7/8	9 1/32	10 5/16	11 3/4	4 1/2	278.25	140
2000		190-260X380-520	23-26-220	5/—	19 7/8	9 1/32	10 5/16	11 3/4	4 1/2	278.25	148
3000		95-130X175-235X190-260	23-25-230-3	5/—	21 7/8	9 1/32	10 5/16	11 3/4	6 7/16	373.80	194
3000		190-260X380-520	23-26-230	5/—	21 7/8	9 1/32	10 5/16	11 3/4	6 7/16	373.80	196
5000		95-130X175-235X190-260	23-25-250	6/—	20 13/16	9 1/32	25 13/16	24 13/16	5 7/16	583.80	335
5000		190-260X380-520	23-26-250	6/—	20 13/16	9 1/32	25 13/16	24 13/16	5 7/16	583.80	342
7500		190-260X380-520	23-28-275	†/—	20 13/16	9 3/8	38 1/4	37 7/32	5 7/16	867.30	502

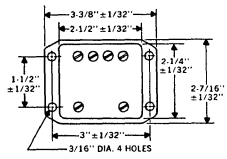
† Triplex assembly, same as structure code 6 except addition of one more transformer.

50 Hertz single phase



60	118	95-130	23-13-560-2	4/d	7 1/4	5 13/16	3 1/4	3 1/2	3	$ 38.85	11
60		190-260X380-520	23-23-560-2	4/d	7 1/4	5 13/16	3 1/4	3 1/2	3	42.00	11
120		95-130X190-260	23-22-612	4/b	8 3/4	7 7/16	4 1/2	4 3/4	4 1/8	49.35	21
250		95-130X190-260	23-22-625	4/c	11 5/16	6 7/16	7 25/32	8 1/8	5 5/8	67.20	35
500		95-130X190-260	23-22-650-1	4/c	13	6 7/16	7 25/32	8 1/8	5 5/8	105.00	53
1000	118x 236	95-130X175-235X190-260	23-25-710	5/—	18 7/8	9 1/32	10 5/16	11 3/4	3 1/2	176.40	120
2000		95-130X175-235X190-260	23-25-720	5/—	20 5/8	9 1/32	10 5/16	11 3/4	5 1/4	320.25	170
3000		95-130X175-235X190-260	23-25-730	5/—	26 5/8	9 1/32	10 5/16	11 3/4	7 5/16	429.25	227

SOLA® plate-filament service (CVE) 60 Hertz



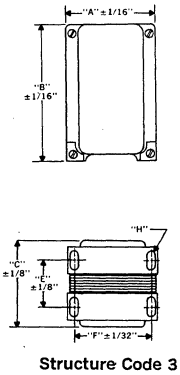
Structure Code 2

Typical Rectifier Tube	Average D.C. Input Volts to Filter	Filament Windings: 6.3 Volts	Filament Windings: 5.0 Volts	Input Voltage Range	Catalog Number	Structure Code	Dimensions (inches): A	B	C	E	F	Price 1-9 pcs.	Approx. Shipping Weight (Lbs.)
5Y3	275v D.C. @ 50 M.A.	2.5 amps C.T.	2.0 amps	100-130	7104	3	3 1/8	4 13/16	3 5/16	2 1/8	2 1/2	$14.04	6
5Y3	385v D.C. @ 110 M.A.	3.0 amps C.T.	2.0 amps	100-130	7106	3	3 1/8	4 13/16	3 15/16	2 7/8	2 1/2	17.28	8
5U4	380v D.C. @ 250 M.A.	No. 1:40 amps No. 2:80 amps unregulated	3.0 amps	100-130	7107	3	4 1/2	7	4 7/8	3 3/8	3 5/8	32.40	19

50 Hertz

5Y3	175v D.C. @ 50 M.A.	2.5 amps C.T.	2.0 amps	100-130	71B04	3	3 1/8	4 13/16	3 5/16	2 1/4	2 1/2	$16.20	6
				180-250	71MB04	3	3 1/8	4 13/16	3 5/16	2 1/4	2 1/2	16.20	6
	385v D.C. @ 110 M.A.	3.0 amps C.T.	2.0 amps	100-130	71B06	3	3 1/8	4 13/16	4 5/16	3 1/4	2 1/2	19.44	10
				180-250	71MB06	3	3 1/8	4 13/16	4 5/16	3 1/4	2 1/2	19.44	10

SOLA® filament service (CVF) 60 Hertz



Structure Code 3

VA	Voltage Rating: Regulated ±1% Output	Voltage Rating: Input Range	Output Capacity in Amps	Catalog Number	Structure Code	Dimensions (inches): A	B	C	E	F	Price 1-4 pcs.	Approx. Shipping Weight (Lbs.)
	6.0	95-130	2.50	20-01-015	1	*	*	*	*	*	$16.80	4
15				20-06-015	3	2 1/32	4 5/16	2 5/16	1 3/4	1 7/8	15.75	3
	6.3	95-130	2.38	20-02-015	1	*	*	*	*	*	16.80	4
15				20-03-015	2	*	*	*	*	*	23.10	4
15				20-04-015	3	2 1/32	4 5/16	2 5/16	1 3/4	1 7/8	15.75	3
32		95-130X190-260	5.0	20-04-030	3	3 1/8	4 13/16	3 1/8	2 1/16	2 1/2	17.85	6
63			10.0	20-04-065	3	3 1/8	4 13/16	3 11/16	2 11/16	2 1/2	23.10	8
95			15.0	20-04-095	3	3 1/8	4 13/16	4 1/16	3 5/8	2 1/2	27.30	11
158			25.0	20-04-116	3	4 1/2	7	5 11/16	4 1/8	3 5/8	39.90	23

50 Hertz

15	6.3	95-130	2.38	20-02-515	1	*	*	*	*	*	$18.90	4
32		95-130X190-260	5.0	20-04-530	3	3 1/8	4 13/16	3 5/16	2 1/4	2 1/2	21.00	7
63		95-130X190-260	10.0	20-04-565	3	3 1/8	4 13/16	4 1/16	3	2 1/2	26.25	9

(1) Adapter Kit code designates type of adapter required to convert standard internal wiring hookup to line cord and plug input and plug receptacle output.

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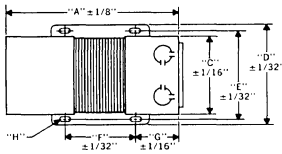
SOLA® constant voltage transformers

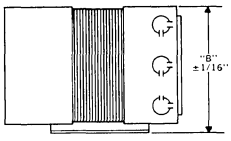
SOLA® CVN-normal harmonic type

Sola CVN type transformers provide the same ±1% regulation as the sinusoidal series. CVN transformers contain an average of 20% rms harmonic content and are recommended for electrical loads not affected by harmonics, such as solenoids, relays, filaments and where rectification is required.

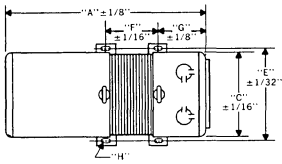
60 Hertz single phase

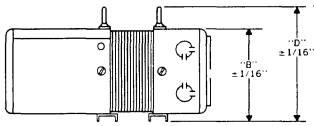
VA	Voltage Rating: Regulated Output	Voltage Rating: Input Range	Catalog Number	Structure/ Adapter Code	Dimensions (inches) A	B	C	E	F	Price 1-4 pcs.	Approx. Shipping Weight (Lbs.)
15	118	95-130	20-10-015	1/—	*	*	*	*	*	$ 16.80	4
			20-11-015	2/—	*	*	*	*	*	23.10	4
			20-14-015	3/—	2 1/32	4 5/16	2 7/16	1 3/4	1 7/8	15.75	3
30			20-14-030	3/—	2 1/32	4 5/16	3 5/16	2 5/8	1 7/8	17.85	5
			20-13-030-2	4/d	5 7/8	5 3/16	3 1/4	3 1/2	3	23.10	7
60			20-13-060-2	4/d	6 1/32	5 3/16	3 1/4	3 1/2	3	28.35	10
			20-14-060	3/—	3 1/8	4 13/16	3 7/8	2 13/16	2 1/2	24.15	8
120	118	95-130	20-14-112	3/—	3 1/8	4 13/16	4 13/16	3 7/8	2 1/2	32.55	11
			20-13-112-2	4/d	7 3/8	5 3/16	3 1/4	3 1/2	3	37.80	12
	236	190-260	20-21-112-2	4/d	7 3/8	5 3/16	3 1/4	3 1/2	3	37.80	13
150		95-130	20-13-115	4/b	8 3/4	7 1/16	4 1/2	4 3/4	4 1/8	45.15	22
			20-13-125	4/c	11 1/8	6 7/16	5 23/32	6 1/8	4 7/16	55.65	25
250	118	95-130X190-260	20-22-125	4/c	11 1/16	6 7/16	5 23/32	6 1/8	4 7/16	55.65	25
		190-260X380-520	20-23-125	4/c	11 1/8	6 7/16	5 23/32	6 1/8	4 7/16	55.65	25
		95-130	20-13-150	4/c	12 5/16	6 7/16	5 23/32	6 1/8	4 7/16	87.15	36
500		95-130X190-260	20-22-150	4/c	12 5/16	6 7/16	5 23/32	6 1/8	4 7/16	87.15	36
		190-260X380-520	20-23-150	4/c	12 5/16	6 7/16	5 23/32	6 1/8	4 7/16	87.15	36
	236	190-260X380-520	20-24-150	4/c	12 1/2	6 7/16	5 23/32	6 1/8	4 7/16	87.15	38
	118x 236	190-260X380-520	20-26-150	4/c	12 5/16	6 7/16	5 23/32	6 1/8	4 7/16	93.45	37
1000	118	95-130	20-13-210	4/—	15 1/8	6 7/16	5 23/32	6 1/8	4 7/16	144.90	48
		190-260	20-20-210	4/—	15 1/8	6 7/16	5 23/32	6 1/8	4 7/16	144.90	48
		95-130X190-260	20-22-210	4/—	15 1/8	6 7/16	5 23/32	6 1/8	4 7/16	144.90	48
2000	118x 236	95-130X175-235X190-260	20-25-220	5/—	20	9 1/32	8 3/8	9 1/2	4 7/16	263.55	128
3000			20-25-230	5/—	22	9 1/32	8 3/8	9 1/2	6 7/16	357.00	170
5000		190-260X380-520	20-27-250	5/—	21	12 5/8	11 7/8	13	7	555.45	290
10000			20-36-310	6/—	21	12 5/8	29 7/16	27 15/16	7	1048.95	590





Structure Code 4

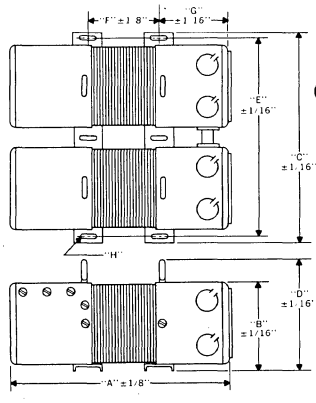




Structure Code 5

50 Hertz single phase

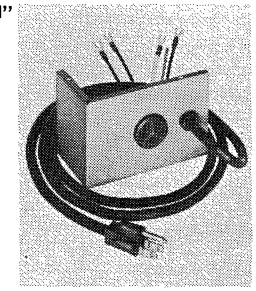
15	118	95-130	20-10-515	1/—	*	*	*	*	*	$ 18.90	5
30		95-130	20-13-530-2	4/d	6 5/32	5 3/16	3 1/4	3 1/2	3	26.25	6
30		95-130	20-14-530	3/—	3 1/8	4 13/16	3 7/32	2 5/32	2 1/2	21.00	6
60		95-130	20-13-560-2	4/d	6 5/16	5 3/16	3 1/4	3 1/2	3	32.55	11
60		95-130	20-14-560	3/—	3 1/8	4 13/16	4 3/16	3 1/8	2 1/2	27.30	9
120		95-130	20-13-612	4/b	8 3/4	7 1/16	4 1/2	4 3/4	4 1/8	43.05	22
150		95-130	20-13-615	4/b	9 1/16	7 1/16	4 1/2	4 3/4	4 1/8	51.45	25
250		95-130	20-13-625-1	4/c	11 7/16	6 7/16	5 23/32	6 1/8	4 7/16	64.05	27
250		95-130X190-260	20-22-625	4/c	11 7/16	6 7/16	5 23/32	6 1/8	4 7/16	64.05	28
250		190-260X380-520	20-23-625-1	4/c	11 7/16	6 7/16	5 23/32	6 1/8	4 7/16	64.05	28
500		95-130	20-13-650-1	4/c	12 13/16	6 7/16	5 23/32	6 1/8	4 7/16	99.75	43
500		95-130X190-260	20-22-650	4/c	12 13/16	6 7/16	5 23/32	6 1/8	4 7/16	99.75	41
500		190-260X380-520	20-23-650-1	4/c	12 13/16	6 7/16	5 23/32	6 1/8	4 7/16	99.75	41
500	118x 236	190-260X380-520	20-26-650	4/c	12 13/16	6 7/16	5 23/32	6 1/8	4 7/16	107.10	42
1000	118	190-260	20-20-710	5/—	18 7/16	9 1/32	8 3/8	9 1/2	3 1/16	166.95	125
1000		95-130X190-260	20-22-710	5/—	18 7/16	9 1/32	8 3/8	9 1/2	3 1/16	166.95	125
2000	118x 236	95-130X190-260X190-260	20-25-720	5/—	20 3/4	9 1/32	8 3/8	9 1/2	5 5/16	303.45	144



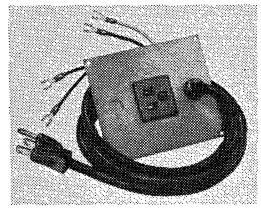
Structure Code 6

cord/receptacle adapter kits

Style "d"



Style a, b, & c



Adapter kits may be used when the convenience of input plug and output receptacle is preferred to the standard arrangement of terminals in the transformer housing.

Adapter Code	Adapter Kit Catalog No.	Input Cord	Output Connections	Price 1-4 pcs.
a	999-004	2-wire	2-wire receptacle	2.50
	999-018	3-wire	3-wire receptacle	3.75
b	999-005	2-wire	2-wire receptacle	2.50
	999-019	3-wire	3-wire receptacle	3.75
c	999-009	2-wire	2-wire receptacle	3.25
	999-020	3-wire	3-wire receptacle	3.75
d	999-104	2-wire	2-wire receptacle	3.75
	999-105	3-wire	3-wire receptacle	3.75

SOLA ELECTRIC STB

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SOLATRON® line voltage regulators

The Solatron® LVR is the first regulator to combine in one unit the qualities of **fast response, "tight" voltage regulation, no moving parts, adjustable output, compactness, and high kva capacity.**

The Solatron® regulator holds voltage constant within ±1% for any combination of line, load, and frequency, in the face of line variations up to +10/−20%, load variation from 0-100%, and frequency variation of ±5% or greater.

The Solatron is a solid-state device with no moving parts, requiring no adjustment, maintenance, or attention. It combines the ruggedness typical of transformers with the light weight of electronic control circuitry, resulting in a regulator of remarkable compactness. It has great versatility in location, floor or wall mounting, and installation.

60 cycle (57-63 Hz) single-phase

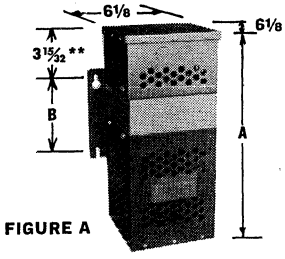


FIGURE A

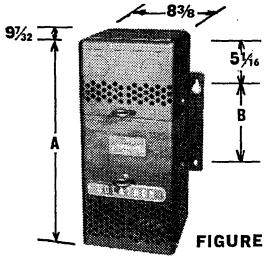


FIGURE B

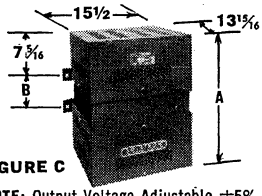


FIGURE C

ELECTRICAL SPECIFICATIONS				MECHANICAL SPECIFICATIONS			
Output KVA Rating	Nominal Output Voltage	Input Voltage Range	Catalog Number	A	B	Outline Dimensions Figure	Approx. Shipping Weight
.5	120	±10%	**31-16-150**	12¾	5⅜	A	30
.5	120	+10/−20%	**33-16-150**	13⅞	5⅜	A	40
1	120	±10%	**31-16-210**	13⅞	5⅜	A	40
1	120	+10/−20%	**33-16-210**	16 5/16	5⅜	A	58
1	240	±10%	**31-26-210**	13⅞	5⅜	A	40
2	120	±10%	**31-16-220**	16 5/16	5⅜	A	55
2	120	+10/−20%	**33-16-220**	21	6¼	B	100
2	240	+10/−20%	**33-26-220**	21	6¼	B	100
3	120	±10%	**31-16-230**	15⅛	4½	B	78
3	120	+10/−20%	**33-16-230**	22¼	6¼	B	130
3	240	±10%	**31-26-230**	15⅛	4½	B	78
3	240	+10/−20%	**33-26-230**	22¼	6¼	B	130
5	120	±10%	**31-16-250**	16¾	6¼	B	100
5	120	+10/−20%	**33-16-250**	25¼	10¼	B	185
5	240	±10%	**31-26-250**	16¾	6¼	B	100
5	240	+10/−20%	**33-26-250**	25¼	10¼	B	185
7.5	120	±10%	**31-16-275**	18⅜	8¼	B	132
7.5	120	+10/−20%	**33-16-275**	19⅛	4½	C	275
10	120	±10%	**31-16-310**	20⅜	10¼	B	170
10	120	+10/−20%	**33-16-310**	20	5⅜	C	310
10	240	±10%	**31-26-310**	20⅜	10¼	B	170
10	240	+10/−20%	**33-26-310**	20	5⅜	C	310
15	120	±10%	**31-16-315**	20	5⅜	C	275
15	120	+10/−20%	**33-16-315**	23⅝	9	C	400
25	120	±10%	**31-16-325**	22⅜	7¾	C	400
25	120	+10/−20%	**33-16-325**	31⅝	9¾	C	520
25	240	±10%	**31-26-325**	22⅜	7¾	C	400
25	240	+10/−20%	**33-26-325**	31⅝	9¾	C	520
37.5	120	±10%	**31-16-337**	24⅜	9¾	C	525

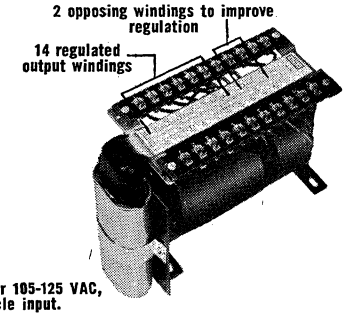
NOTE: Output Voltage Adjustable ±5%.
NOTE: 7%* Harmonics Max. for ±10% range; 5% Harmonics Max. for +10/−20% range.
* Filter Available for 3% Harmonics Max.
** For Catalog Number 31-16-150, dim. is 2 3/16.

Also available in 208, 277 & 480 volt
Also available 50 Hz & 400 Hz
Also available 3φ Δ or Y up to 112.5 KVA

SOLA® Multi-tap[T.M.] CVR regulated power supply transformer

The SOLA Multi-tap[T.M.] CVR is a constant voltage transformer with taps to provide special voltages ready for rectification with stock silicon rectifiers to complete a regulated d.c. power supply. In effect, the Multi-tap CVR is a custom SOLA CV transformer with off-the-shelf availability, at low cost, for small quantity requirements. Six models provide over 100 regulated output voltages. The relatively square wave-shape makes the Multi-tap CVR especially suited to rectifier applications.

All CVR transformers are designed to operate in Full wave center tap or bridge type circuits with readily available stock silicon rectifiers. The regulating ability and typical characteristics of the CVR are similar to the familiar Sola constant voltage (CVN) transformer.

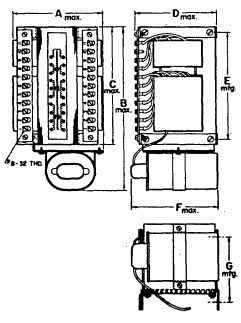


Designed for 105-125 VAC, 60-cycle input.

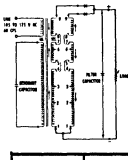
applications for the Multi-tap[T.M.] CVR

- **Design of a regulated d.c. power supply requiring custom output for short-run production.**
- **Building block systems requiring voltage adjustability for later additions of components.**
- **Systems requiring voltage adjustability to compensate for line drop to remote units.**
- **Immediate requirements when custom Sola CV is being designed and manufactured.**
- **Short-run production requiring low-cost, and "off-the-shelf" custom Sola CV.**
- **Prototypes requiring custom Sola CV transformers.**
- **Immediate requirements for experimentation.**

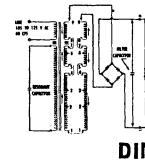
schematics for CVR series



Connection for Full-wave center tap rectification for maximum output.



Connection for Full-wave Bridge rectification, for maximum output.



Each CVR model has the winding arrangement and terminal numbering shown in the schematics at left. The primary winding is connected to the two terminals marked "line" on the capacitor side of the transformer or terminals marked #11. Write for complete hook-up tables showing output possibilities.

DIMENSIONS

Capacity VA	Price 1 - 4 pcs.	Catalog No.	Dimensions, inches						
			A	B	C	D	E	F	G
40	27.82	73-13-040	4¼	6 5/16	4⅞	3 13/16	4 5/16	3⅝	2½
75	36.38	73-13-075	4¼	6 5/16	4⅞	3 13/16	4 5/16	3 5/16	3¼
150	50.29	73-13-115	4¾	8⅝	6⅞	4⅞	6 5/16	5⅝	2⅝
225	62.06	73-13-122	5⅝	9⅝	6⅞	4⅞	6 5/16	4¼	3 5/16
300	72-76	73-13-130	5½	9⅝	6⅞	4⅞	6 5/16	5⅜	3 13/16
450	100.58	73-13-145	6⅝	9⅝	6⅞	4⅞	6 5/16	5	4 13/16

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120 VOLTS SINGLE PHASE PANEL MOUNTING

Cased and unCased units designed for mounting in panels ¼" thick to ⅝" thick. Most panel mounting units can also be bench mounted.

Mfr's Type No.	Mfr's Old Type No.	Volts	Output Amps	KVA	Size	Weight Lbs.	Price
121	100BU	*0-132	1.25	.165	$2^{13}/_{16} \times 2^{3}/_{32}$	3	$10.00
171	175BU	*0-132	1.75	.23	$2^{13}/_{16} \times 2^{3}/_{32}$	3	10.25
241	T21U	0-120/140	2.4	.33	$2^{13}/_{16} \times 2^{9}/_{16}$	4	17.50
251	250BU	*0-132	2.5	.33	$3\frac{1}{4} \times 3\frac{1}{4} \times 3^{15}/_{16}$	3.5	11.25
301	300BU	*0-120/140	3.0	.42	$3^{11}/_{16} \times 3^{11}/_{16}$	5	15.50
371	375BU	*0-120/140	3.75	.53	$3\frac{3}{4} \times 3\frac{3}{4} \times 3\frac{1}{4}$	5	14.75
501	451	0-120/140	5.0	.70	$3\frac{3}{4} \times 3\frac{3}{4} \times 3^{9}/_{16}$	5	16.00
601	T51U	0-120/140	6.0	.84	$4\frac{1}{2} \times 4\frac{1}{2} \times 3^{15}/_{16}$	6	21.00
751	500BU	0-120/140	7.5	1.05	$5^{11}/_{16} \times 5$	10	20.00
SQ751	SQ500BU	0-120/140	7.5	1.05	$4\frac{1}{2} \times 4\frac{1}{2} \times 3^{15}/_{16}$	10	19.50
1010	1000	0-120/140	10.0	1.4	$5^{9}/_{16} \times 5 \times 4^{3}/_{16}$	11	20.50
1010CT	1000CT	0-120/140	10.0	1.4	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	11.5	27.50
SQ1010	T101U	0-120/140	10.0	1.4	$5\frac{3}{4} \times 5\frac{3}{4} \times 3\frac{3}{4}$	14	35.00
1210	1200	**0-120	12.5	1.4	$5^{9}/_{16} \times 5 \times 4^{3}/_{16}$	11	22.50
1210CT	1200CT	**0-120	12.5	1.4	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	11.5	28.75
1510	T1500U	0-120/140	15.0	2.1	$6\frac{1}{4} \times 6\frac{3}{4} \times 4\frac{3}{4}$	20	38.50
R1510C	1500B	†0-140	15.0	2.1	$8 \times 8^{1}/_{16} \times 5^{11}/_{16}$	20	52.50
2510	2500BU	0-120/140	25.0	3.5	$8^{3}/_{16} \times 7\frac{3}{4} \times 4\frac{1}{8}$	25	56.50
2510CT	2500B	0-120/140	25.0	3.5	$9\frac{3}{4} \times 7\frac{3}{4} \times 4\frac{1}{4}$	25	62.00
5010	T501U	0-140	50.0	7.0	$12\frac{1}{2} \times 12\frac{1}{2} \times 6\frac{1}{2}$	60	139.50
5010CT	T501B	†0-140	50.0	7.0	$15\frac{5}{8} \times 14 \times 6\frac{1}{2}$	65	145.00

*60 cycle operation only at overvoltage. †Factory connection for line voltage output. **60 cycle operation only.

120 VOLT SINGLE PHASE MODELS WITH CORD & RECEPTACLE

All models housed in rugged cases include pilot light, switch, fuse, line cord, plug and matching receptacle.
2PF models are equipped with 2-wire cords, plugs and receptacles.
3PN models are equipped with 3-wire grounded cords, plugs, and receptacles.
Model 2PFR1510BV is equipped with output voltmeter.

Mfr's Type No.	Mfr's Old Type No.	Volts	Output Amps	KVA	Size	Weight Lbs.	Price
2PF121	PA-1	**0-132	1.25	.165	$3\frac{1}{8} \times 3\frac{1}{8} \times 3\frac{1}{2}$	3.5	$18.50
2PF171	PA-175	**0-132	1.75	.23	$3\frac{1}{8} \times 3\frac{1}{8} \times 3\frac{1}{2}$	3.5	19.00
3PN171	3PNPA-175	**0-132	1.75	.23	$3\frac{1}{8} \times 3\frac{1}{8} \times 3\frac{1}{2}$	3.5	21.00
2PF371	PA-375	*0-120/140	3.75	.53	$6\frac{1}{2} \times 6\frac{1}{4} \times 6\frac{1}{2}$	7	21.75
3PN371	3PNPA-375	*0-120/140	3.75	.53	$6\frac{1}{2} \times 6\frac{1}{4} \times 6\frac{1}{2}$	7	24.00
2PF501	2PF451	0-120/140	5.0	.70	$6\frac{1}{2} \times 6\frac{1}{4} \times 6\frac{1}{2}$	7	22.50
3PN501	3PN451	0-120/140	5.0	.70	$6\frac{1}{2} \times 6\frac{1}{8} \times 6\frac{1}{2}$	7	24.50
3PN601	3PNT51B	0-140	6.0	.84	$4\frac{7}{8} \times 4\frac{3}{8} \times 6\frac{1}{2}$	8	35.00
2PF751	500B	0-120/140	7.5	1.05	$5^{11}/_{16} \times 7\frac{1}{4} \times 5\frac{3}{4}$	11	28.00
3PN751	3PN500B	0-120/140	7.5	1.05	$5^{11}/_{16} \times 7\frac{1}{4} \times 5\frac{3}{4}$	11	32.00
2PF1010	2PF1000	0-120/140	10.0	1.4	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	12.5	28.50
3PN1010	3PN1000	0-120/140	10.0	1.4	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	12.5	32.50
2PF1210	2PF1200	**0-120	12.5	1.4	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	12.5	30.50
3PN1210	3PN1200	**0-120	12.5	1.4	$6\frac{3}{8} \times 5 \times 4^{7}/_{16}$	12.5	34.50
2PFR1510BV	1500BD	0-140	15.0	2.1	$8^{1}/_{16} \times 10 \times 5^{11}/_{16}$	22.5	85.00
3PN1710	3PN180 B	0-140	17.0	2.4	$10\frac{3}{4} \times 7\frac{5}{8} \times 4\frac{1}{4}$	28	79.00

*60 cycle operation only on overvoltage. **60 cycle operation only.

240 VOLT SINGLE PHASE PANEL MOUNTING

Cased and unCased units designed for mounting in panels ¼" thick to ⅝" thick. Most panel mounting units can also be bench mounted.

Mfr's Type No.	Mfr's Old Type No.	Volts	Output Amps	KVA	Size	Weight Lbs.	Price
752	520BU	0-240/280	3.0	.84	$5^{11}/_{16} \times 5$	10	$22.50
1020	—	0-240/280	3.5	.98	$5^{9}/_{16} \times 5 \times 4^{3}/_{16}$	11	23.50
1020CT	—	0-240/280	3.5	.98	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	11.5	30.00
1220	1030	0-240	5.0	1.2	$5^{9}/_{16} \times 5 \times 4^{3}/_{16}$	11	25.50
1220CT	1030CT	0-240	5.0	1.2	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	11.5	33.00
1520	T1520U	0-240/280	9.5	2.7	$6\frac{1}{4} \times 6\frac{3}{4} \times 4^{13}/_{16}$	23	38.50
R1520C	1520B	*0-280	9.0	2.5	$8 \times 8^{1}/_{16} \times 5^{11}/_{16}$	24	52.50
2520	2520BU	0-240/280	10.0	2.8	$8^{9}/_{16} \times 7\frac{5}{8} \times 4\frac{1}{8}$	25	56.50
2520CT	2520B	0-240/280	10.0	2.8	$9\frac{3}{4} \times 7\frac{3}{4} \times 4\frac{1}{4}$	25	62.00
5020	T502U	0-240/280	28.0	7.8	$12\frac{1}{2} \times 12\frac{1}{2} \times 6\frac{1}{2}$	60	139.50
5020CT	T502B	0-240/280	28.0	7.8	$15\frac{5}{8} \times 14 \times 6\frac{1}{2}$	65	145.00

*Factory connection for line voltage output.

240 VOLT SINGLE PHASE MODELS WITH CORD & RECEPTACLE

All models housed in rugged cases include pilot light, switch, fuse, line cord, plug, and matching receptacle.
2PF models are equipped with 2-wire cords, plugs, and receptacles.
3PN models are equipped with 3-wire grounded cords, plugs, and receptacles.
Model 2PFR 1520BV is equipped with output voltmeter.

Mfr's Type No.	Mfr's Old Type No.	Volts	Output Amps	KVA	Size	Weight Lbs.	Price
2PF752	520B	0-280	3.0	.84	$5^{11}/_{16} \times 7\frac{1}{4} \times 5\frac{3}{4}$	11	$32.50
3PN752	3PN520B	0-280	3.0	.84	$5^{11}/_{16} \times 7\frac{1}{4} \times 5\frac{3}{4}$	11	36.00
2PF1020	—	0-280	3.5	.98	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	12.5	33.00
3PN1020	—	0-280	3.5	.98	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	12.5	37.00
2PF1220	2PF1030	**0-240	5.0	1.2	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	12.5	35.00
3PN1220	3PN1030	**0-240	5.0	1.2	$6\frac{3}{4} \times 5 \times 4^{7}/_{16}$	12.5	39.50
2PFR1520BV	1520BD	0-240	9.0	2.5	$8^{1}/_{16} \times 10 \times 5^{11}/_{16}$	22.5	85.00
3PN2520	3PN2520B	0-240	10.0	2.8	$9\frac{5}{8} \times 7\frac{3}{4} \times 4\frac{1}{8}$	28	79.00

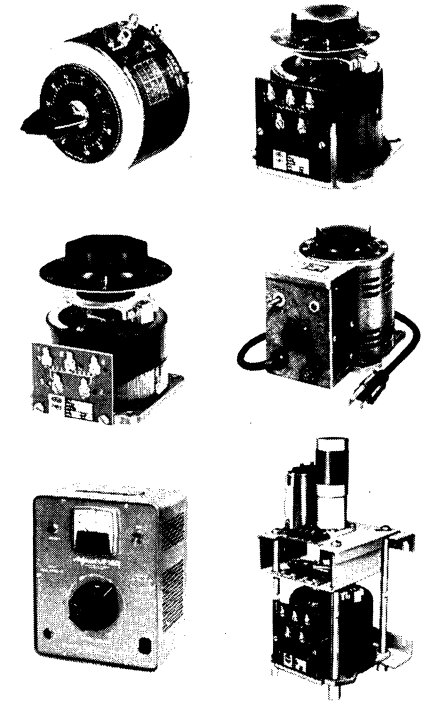
**60 cycle Operation only.

120 VOLT VARIABLE ISOLATION TRANSFORMERS

STACO Isolated Variable Autotransformers provide a means for smooth control of an electrically isolated AC voltage output. Uncased models offer isolated, non-isolated, voltage doubler, and series connections with proper external hook-up. Cased models feature circuit breaker (except fused type J201BV), switch, pilot light, output voltmeter, 3-wire grounded cord, plug, and matching receptacles. Cased models available in isolated connection only. Ratings shown are for isolated connections.

Mfr's Type No.	Mfr's Old Type No.	Volts	Output Amps	KVA	Size	Weight Lbs.	Price
J201	1V-1-2U	0-140	2.0	.28	$4\frac{1}{2} \times 4\frac{1}{2} \times 4^{7}/_{16}$	8	$33.50
J401	1V-1-4U	0-140	4.0	.56	$6\frac{1}{4} \times 6\frac{3}{4} \times 4\frac{1}{4}$	15	46.25
J901	1V-1-9U	0-140	9.0	1.26	$8^{9}/_{32} \times 7\frac{3}{4} \times 5\frac{1}{4}$	28	65.00
J201BV	1V-1-2M	0-140	2.0	.28	$8 \times 6\frac{3}{4} \times 8^{9}/_{16}$	13	78.00
J401BV	1V-1-4M	0-140	4.0	.56	$8\frac{1}{4} \times 7\frac{1}{2} \times 9\frac{1}{2}$	20	89.50
J901BV	1V-1-9M	0-140	9.0	1.26	$9\frac{1}{4} \times 9\frac{1}{4} \times 11\frac{1}{2}$	32	110.00

STACO® Variable Autotransformers



When you specify Staco Variable Autotransformers you get all these important advantages: Variable output voltages with high efficiency, reliability and minimum maintenance; epoxy coated coils (where possible) that increase commutator stability; optimum core and coil design results in higher current ratings and greater overload capabilities; delivery of output voltages of zero to line voltage or zero to 17% above line voltage; terminals permit connection for increasing voltage in either clockwise or counter-clockwise rotation of knob; regulation is independent of load . . . zero wave form distortion; moderate temperature rise; precious metal plating of commutator surface eliminates oxidation and deterioration; all units designed for 50/60 cycle operation except as noted.

STACO® INCORPORATED

STANCOR STANDARD TRANSFORMERS

When you use STANCOR STANDARD Transformers you are assured of . . .

IMMEDIATE AVAILABILITY

Sold by Industrial Electronic Distributors in major marketing areas — AT FACTORY PRICES IN ANY QUANTITY.

HIGHEST QUALITY

Millions of standard transformers, time-tested and field-proven for over 35 years.

COMPETITIVE PRICES

Mass production facilities — to supply its extensive distributor organization — enable Stancor to manufacture at lowest costs.

STOCK IN DEPTH

Over 300,000 transformers stocked in our warehouses strategically located throughout the country.

SERVICE REPLACEMENT

Available from over 1000 Industrial and Service Parts Electronic Distributors located in over 500 cities.

SOLD NATIONALLY
THROUGH ELECTRONIC DISTRIBUTORS BY

ESSEX WIRE
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CONTROLS DIVISION
STANCOR / RBM CONTROLS

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2BS-150	18c	25.23	A-3842	6d	6.76	A-4748	9a	3.55	A-8108	8c	3.47	C-1709	21b	2.97	DCT-2	24b	22.91
A-52C	10e	2.83	A-3845	11c	7.58	A-4749	9a	8.94	A-8109	8b	3.17	C-1710	21c	4.65	DGC-100	33	20.07
A-53	10d	2.58	A-3848	7a	3.33	A-4752	11a	3.90	BD-1	11c	40.12	C-1718	22b	5.91	*DY-1A	31a	.....
A-53C	10e	3.02	A-3849	7a	4.02	A-4761	11b	13.57	BI-1	10a	35.47	C-1720	22b	14.73	DY-2A	31a	.....
A-62C	10e	3.33	A-3850	7a	4.21	A-4762	11b	15.67	BI-2	10a	45.24	C-1721	21d	9.43	DY-8A	31a	.....
A-63C	10e	3.55	A-3851	6c	9.89	A-4765	11b	16.80	BI-3	10a	39.14	C-1722	21d	13.19	DY-9A	31a	.....
A-64C	10e	3.51	A-3852	7a	5.03	A-4770	6b	7.09	BI-4	10a	39.22	C-1723	21a	2.04	DY-10A	31a	.....
A-73C	10e	4.18	A-3856	7a	3.52	A-4773	10g	7.42	BI-5	10a	69.85	C-2303	21c	2.79	DY-11A	31a	.....
A-2203	6a	2.92	A-3857	6d	3.05	A-4774	10g	4.04	BI-6	10a	40.12	C-2304	21c	2.83	*DY-12A	31a	.....
A-2312	6d	3.67	A-3870	7a	5.19	A-4778	9c	5.36	BI-7	10a	37.15	C-2305	21b	4.55	DY-13A	31b	.....
A-2313	6b	3.36	A-3871	11c	5.75	A-4779	9c	3.37	BM-1	11e	84.55	C-2307	22b	15.24	DY-14A	31b	.....
A-2855	7a	5.57	A-3872	6c	5.75	A-4780	9c	5.93	BO-1	7c	18.67	C-2308	21d	15.61	DY-15A	31b	.....
A-3250	6bd	5.09	A-3876	6a	1.84	A-7947	8d	3.62	BO-2	7c	22.55	C-2309	21c	3.33	DY-16A	31b	.....
A-3303	6d	8.66	A-3877	6a	1.84	A-7949	8d	4.24	BO-5	7c	28.71	C-2317	11f	7.31	*DY-17A	31b	.....
A-3304	6c	8.06	A-3878	6b	1.92	A-8050	7b	17.48	BO-6	7c	34.64	C-2318	21a	2.42	DY-21A	31c	.....
A-3307	6c	9.34	A-3879	6b	1.87	A-8052	7b	16.89	BO-9	7c	36.22	C-2325	21c	3.60	DY-23A	31c	.....
A-3309	6a	2.41	A-3880	7a	5.52	A-8053	7b	17.90	BR-1	11e	132.60	C-2326	21d	3.60	DY-24A	31c	.....
A-3310	6a	7.70	A-3881	6b	2.39	A-8054	7b	17.93	C-1001	21c	4.52	C-2327	21c	2.41	*DY-25A	31c	.....
A-3311	6c	8.13	A-3882	8d	10.01	A-8056	7b	17.93	C-1002	21b	3.47	C-2328	22a	4.54	DY-26A	31c	.....
A-3315	6bd	11.41	A-3883	8d	4.24	A-8060	7b	13.34	C-1003	21b	2.62	*C-2332-1	7d	18.19	DY-27A	31c	.....
A-3327	6b	2.36	A-3885	6c	10.89	A-8061	7b	16.99	C-1080	21a	2.01	C-2334	21d	6.79	DY-28A	31d	.....
A-3328	6a	1.79	A-3890	7a	7.69	A-8062	7b	16.94	C-1215	21a	2.08	C-2335	21c	6.51	DY-29A	31d	.....
A-3329	6b	1.86	A-3891	11d	12.92	A-8063	7b	16.93	*C-1227	21a	2.41	C-2340	11g	40.26	DY-30A	31d	.....
A-3330	6a	2.72	A-3892	11d	16.69	A-8064	7b	16.99	*C-1277	21a	2.45	C-2343	21d	2.14	DY-31A	31d	.....
A-3332	6a	1.73	A-3893	11d	17.30	A-8070	6a	2.79	C-1279	21a	2.04	C-2344	21a	1.55	DY-32A	31d	.....
A-3335	6d	3.93	A-3894	11d	22.70	A-8072	7b	21.42	C-1325	21a	2.17	C-2345	21a	4.34	DY-33A	31d	.....
A-3336	6a	2.53	A-3898	11d	145.75	A-8080	8b	3.55	C-1333	21a	2.25	C-2346	21a	2.15	DY-34A	31d	.....
A-3337	6a	2.89	A-3899	11d	166.71	A-8081	8b	3.90	C-1355	21b	3.30	C-2347	22a	3.47	DY-35A	31e	.....
A-3496	6d	3.68	A-4208	10f	8.00	A-8082	8b	4.73	C-1400	22b	6.46	C-2685	22c	4.35	DY-37A	31e	.....
A-3800	6c	8.55	A-4212	11b	6.87	A-8083	8b	2.75	C-1401	22b	7.81	C-2686	22c	7.59	DY-38A	31e	.....
A-3801	6c	10.88	A-4292	11a	3.13	A-8084	8b	3.64	C-1402	22b	8.91	C-2687	22c	9.95	DY-39A	31e	.....
A-3802	6c	19.75	A-4350	8e	5.28	A-8087	8a	2.67	C-1403	22b	15.60	C-2688	22c	11.55	DY-40A	31e	.....
A-3808	11c	21.27	A-4351	9c	6.01	A-8088	8a	3.40	C-1404	22b	20.85	C-2689	22c	17.32	DY-41A	31e	.....
A-3812	11c	3.08	A-4352	9c	6.30	A-8090	9a	2.44	C-1405	22b	62.37	C-2690	22c	9.45	DY-42A	31e	.....
A-3817	9a	4.17	A-4407	8e	12.24	A-8091	9a	2.63	C-1410	21c	5.93	C-2691	22c	13.15	*DY-43A	31f	.....
A-3818	8d	6.13	A-4431	6a	2.40	A-8092	6a	2.74	C-1411	21c	7.12	C-2692	22c	.....	DY-44A	31f	.....
*A-3820	8d	15.21	A-4432	6c	3.60	A-8093	6d	2.86	C-1412	21d	8.77	C-2704	21c	3.99	DY-45A	31f	.....
A-3822	7a	2.52	A-4702	11a	6.49	A-8094	6c	5.45	C-1413	22a	15.34	C-2705	21d	9.32	DY-46A	31f	.....
A-3823	7a	4.17	A-4705	9b	4.15	A-8095	8a	3.19	C-1414	22a	20.12	C-2706	22a	7.92	DY-47A	31f	.....
A-3824	7a	4.04	A-4706	9b	3.01	A-8096	8a	4.67	C-1415	22a	67.64	C-2707	21a	1.90	DY-48A	31f	.....
A-3825	7a	3.35	A-4708	9b	4.29	A-8097	8a	5.75	C-1420	21b	6.21	C-2708	22a	3.84	DY-49A	31f	.....
A-3829	11c	25.94	A-4709	9c	7.26	A-8098	6c	10.64	C-1421	21c	5.67	C-2709	22a	5.71	*DY-50A	31f	.....
A-3830	7a	5.38	A-4711	10f	4.24	A-8099	8a	3.52	C-1515	21a	2.86	*CIC-1	9c	17.89	DY-51A	31g	.....
A-3831	6c	3.47	A-4713	11a	2.75	A-8101	8d	2.22	C-1645	22b	8.63	CIS-1	9c	23.93	DY-52A	31g	.....
A-3833	9a	4.64	A-4719	10e	6.81	A-8102	8b	4.37	C-1646	21c	8.73	*CIS-2	9c	11.47	DY-53A	31g	.....
A-3836	9a	3.49	A-4723	11a	2.81	A-8103	8b	5.99	C-1702	22b	8.85	COC-1	6a	9.96	DY-54A	31g	.....
A-3837	8d	5.33	A-4742	9b	4.55	A-8104	8d	5.25	C-1703	21d	7.94	*COC-2	6b	10.84	DY-56A	31g	.....

• New part number.
*Available until stock is depleted.

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• DY-62A	31h	.....	HO-238	29	.....	HO-334	29	.....	• HO-601C	29	.....	P-6137	19b	11.77	P-6492	19b	14.74
• DY-63A	31h	.....	HO-239	29	.....	HO-335	29	.....	• HO-602C	29	.....	P-6138	19c	9.47	P-6493	33b	6.95
• DY-64A	31h	.....	HO-240	29	.....	HO-336	29	.....	• HO-607C	29	.....	P-6139	19d	9.49	P-6494	33b	4.97
• DY-90AC	31h	.....	HO-242	29	.....	HO-337	29	.....	IS-50	27d	18.34	P-6141	27a	21.53	P-6495	33b	7.16
• DY-91AC	31h	.....	HO-243	29	.....	HO-338	29	.....	IS-100	27d	25.12	P-6143	17e	15.23	P-6496	24d	16.39
F-25	19a	16.09	HO-244	29	.....	HO-339	29	.....	IS-150	27d	30.27	P-6144	20a	11.11	P-6497	33b	5.00
F-54	19a	11.70	HO-245	29	.....	HO-340	29	.....	IS-250	27d	35.30	P-6146	15b	10.77	P-6499	33a	11.27
F-58	19a	17.68	*HO-246	29	.....	HO-341	29	.....	NCF-1550	26a	10.56	P-6160	27e	19.07	P-8025	28b	120.15
F-63	19b	11.94	HO-247	29	.....	HO-342	29	.....	NCF-1650	26a	8.94	P-6161	27e	26.27	P-8026	28b	120.64
F-65	19c	14.69	HO-248	29	.....	HO-343	29	.....	NCF-2425	26a	7.47	P-6166	24d	18.80	P-8027	28b	118.29
F-104	19c	14.52	*HO-249	29	.....	HO-344	29	.....	NCF-2450	26a	8.83	P-6287	27a	9.30	P-8028	28b	134.80
*F-106	19d	21.59	HO-251	29	.....	HO-345	29	.....	NCF-2475	26a	9.82	P-6298	27e	67.41	P-8029	28b	165.45
F-210	19a	16.22	HO-252	29	.....	HO-346	29	.....	NCF-24100	26a	13.15	P-6302	19b	41.82	P-8030	28c	131.46
F-210H	19a	18.73	HO-254	29	.....	HO-347	29	.....	NCF-24150	26a	17.63	P-6305	19b	42.37	P-8031	28b	161.00
F-215H	19a	30.90	HO-255	29	.....	HO-348	29	.....	NCF-3250	26a	9.34	P-6308	19c	8.08	P-8032	28c	150.27
F-510H	19b	32.31	HO-256	29	.....	HO-349	29	.....	NCF-3275	26a	10.56	P-6309	19c	12.31	P-8033	28c	194.12
F-516	19b	22.36	*HO-257	29	.....	HO-350	29	.....	NCF-32150	26a	16.61	P-6315	17b	18.54	P-8034	28c	185.00
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F-725	19c	36.66	HO-269	29	.....	HO-356	29	.....	P-2126	28c	249.39	P-6358	16b	7.18	*P-8044	28b	52.93
F-751	19c	64.05	HO-271	29	.....	HO-357	29	.....	P-2520	28c	151.64	P-6371	27e	24.33	P-8130	19d	4.35
F-1010	19d	23.15	HO-272	29	.....	HO-358	29	.....	P-3020	19d	12.70	P-6375	26d	4.04	P-8150	18d	10.99
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*HO-177	29	.....	HO-290	29	.....	HO-372	29	.....	P-4086	19b	42.21	P-6426	18f	2.03	P-8176	16e	13.44
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TC-1	22c	1.60
TC-2	22c	1.59
TP-1	25a	6.16
TP-2	25a	4.98
TP-3	25a	6.68
TP-4	25a	11.21
*UM-110	14c	6.79
*UM-113	14c	5.19
*UM-114	14c	4.65
UME-11	12c	8.45
UME-12	12c	6.62
UME-13	12c	8.45
UME-14	12c	6.62
UME-15	12c	6.62
UME-16	12c	6.77
UME-17	12c	8.92
UME-18	12c	5.90
UME-19	12c	7.39
UME-20	12c	7.72
UME-21	12c	8.92
UME-22	12c	6.67
UME-23	12c	7.72
UME-24	12c	6.77
UME-25	12c	6.77
UME-26	12c	6.77
UME-27	12d	6.77
UME-28	12d	7.92
UME-29	12d	7.92
UME-30	12d	6.77
UME-31	12d	6.77
UME-32	12d	6.77
UME-33	12d	10.65
UME-34	12d	8.45
UME-35	12d	7.92
UME-36	12d	6.67
UME-37	12d	5.90
UME-38	12d	5.90
UME-39	12d	6.77
VBO-194	32f	.....
VBO-195	32f	.....
VBO-198	32f	.....
VBO-199	32f	.....
VBO-200	32f	.....
VBO-201	32f	.....
VO-83	32a	.....
VO-84	32a	.....
VO-85	32a	.....
VO-87	32a	.....
VO-88	32a	.....
VO-89	32a	.....
VO-90	32a	.....
VO-91	32a	.....
VO-92	32a	.....
VO-93	32b	.....
VO-94	32b	.....
VO-95	32b	.....
VO-96	32b	.....
VO-97	32b	.....
VO-98	32b	.....
VO-99	32b	.....
VO-100	32c	.....
VO-101	32c	.....
VO-102	32c	.....
VO-103	32c	.....
VO-105	32c	.....
VO-106	32c	.....
VO-108	32c	.....
VO-109	32c	.....
VO-110	32c	.....
VO-111	32c	.....
VO-112	32c	.....
VO-113	32d	.....
VO-114	32d	.....
VO-115	32d	.....
VO-116	32d	.....
VO-117	32d	.....
VO-118	32d	.....
VO-119	32d	.....
VO-120	32d	.....
VO-122	32e	.....
VO-123	32e	.....
VO-126	32e	.....
VO-127	32e	.....
VO-128	32e	.....
VO-129	32e	.....
VO-700C	32e	.....
VO-701C	32e	.....
WG/1/1A	33d	.....
WC-2	33d	.....
WC-5	33d	.....
WC-6	33e	.....
WC-7	33e	.....
WC-8	33e	.....
WC-10 10A	33e	.....
WC-11	33e	.....
WC-13	33f	.....
WC-14	33f	.....
WC-18	33f	.....
WC-2A	33d	.....
WC-4A	33d	.....
WC-5A	33d	.....
WC-6A	33e	.....
WC-7A	33e	.....
WC-8A	33e	.....
WC-14A	33f	.....
WC-18A	33f	.....
WF-20	10b	21.02
WF-21	10b	27.12
WF-22	10b	21.17
WF-28	10b	20.39
WF-30	10b	22.42
WF-35	10b	21.83
WF-36	10b	39.67
WM-8	7	6.78
• YA-1	31	.....
• YA-2	31	.....
• YA-3	31	.....
• YA-4	31	.....

• New part number.
*Available until stock is depleted.

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STANCOR OUTPUT TRANSFORMER CHART

audio transformers

A simplified selection of the proper transformer for use as a replacement in radio receivers or in the construction of audio amplifiers. **To use this chart,** check the first column for the tube being used, then read across for the applicable operating characteristics and correct Stancor transformer. In most cases, two Stancor part numbers are indicated in order to give a choice of Mounting styles.

Tube	Use	Class	Watts	Load Res. in Ohms	Stancor Part No.	Universal Type
1A5-GT	S.	A	.10	25K	A-3327	
1AC5	S.	A	.05	25K	A-3327	
1AG4	S.	A	.035	12K	A-3879	A-3822
1B8-GT	S.	A	.21	14K	A-3881	A-3848
1C5-GT	S.	A	.24	8K	A-3329	A-3848
1D8-GT	S.	A	.20	12K	A-3879	A-3822
1E7-G (GT)	S.	A	.29	16K	A-3881	A-3848
	P.P.	A	.575	24K	A-3857	
1F4	S.	A	.31	16K	A-3881	A-3848
1F5-G	S.	A	.31	16K	A-3881	A-3848
1G5-G	S.	A	.55	9K	A-3879	A-3822
1G6-GT	P.P.	B	.675	12K	A-3831	A-3856
1J5-G	S.	A	.45	13.5K	A-3881	A-3848
1J6-G (GT) (GX)	P.P.	B	2.1	10K	A-3831	A-3856
1LA4	S.	A	.1	25K	A-3327	
1LB4	S.	A	.2	12K	A-3879	A-3822
1N6-G (GT)	S.	A	.1	25K	A-3327	
1Q5-GT	S.	A	.27	8K	A-3329	A-3848
1S4	S.	A	.27	8K	A-3329	A-3848
1T5-GT	S.	A	.17	14K	A-3881	A-3848
1V5	S.	A	.05	25K	A-3327	
1W4	S.	A	.2	12K	A-3879	A-3822
2A3	S.	A	3.5	2.5K	A-3876	A-3825
	P.P.	AB1	15	3K	A-3301	A-3830
2A5	S.	A	4.8	7K	A-3878	A-3850
	P.P.	AB2	18.5	10K	A-3311	A-3830
2E24	S.	A	3.9	6K	A-3878	A-3848
2E26	S.	A	4.0	5.5K	A-3877	A-3849
2E30	S.	A	4.5	4.5K	A-3877	A-3849
3A4	S.	A	.7	8K	A-8114	A-3822
3B5-GT	S.	A	.2	5K	A-3878	A-3856
3B7/1291	P.P.	AB2	1.5	16K	A-2312	A-3880
3C5-GT	S.	A	.2	8K	A-3329	A-3848
	S.	A	.26	10K	A-3879	A-3848
3D6	S.	A	.6	14K	A-3881	A-3848
3E5	S.	A	.25	8K	A-3329	A-3848
3LE4	S.	A	.325	6K	A-3878	A-3848
3LF4	S.	A	.4	8K	A-3329	A-3848
3Q4	S.	A	.27	10K	A-3879	A-3822
3Q5-GT	S.	A	.4	8K	A-3329	A-3822
3S4	S.	A	.18	5K	A-3877	A-3856
	S.	A	.27	8K	A-3329	A-3848
3V4	S.	A	.27	10K	A-3879	A-3822
3W4	S.	A	0.25	11K	A-3879	A-3822
4A6-G	P.P.	B	1.0	8K		A-3856
5AQ5	S.	A	2.0	5.5K	A-3877	A-3849
	S.	A	4.5	5K	A-3877	A-3849
5CM6	S.	A	4.5	5K	A-3877	A-3856
	P.P.	AB1	10.	10K	A-3335	A-3823
5CZ5	S.	A	5.4	5K	A-3877	A-3849
	P.P.	AB1	21.5	7.5K		A-3830
5V6(GT)	S.	A	5.5	5K	A-3877	A-3823
	P.P.	AB1	10.	10K	A-3311	A-3880
6A3	S.	A	3.2	2.5K	A-3876	A-3825
	P.P.	AB1	15	3K	A-3301	A-3830
6A4/LA	S.	A	1.4	8K	A-8114	A-3822
6A5-G	S.	A	3.75	2.5K	A-3876	A-3825
	P.P.	A	15	3K	A-3301	A-3830
6A6	P.P.	B	10	8K	A-3329	A-3822
6AB8	S.	A	1.4	11K	A-3879	
6AC5-GT	P.P.	B	8	10K	A-3335	A-3823
6AC6-GT	S.	A	3.6	3.5K	A-2203	A-3825
6AD7-G	S.	A	3.2	7K	A-2313	A-3822
6AE7-GT	P.P.		9.5	10K	A-2312	A-3880
6AG6-G	S.	A	3.8	8.4K	A-3329	A-3822
6AG7	S.	A	3	10K	A-3879	A-3822
6AH5-G	S.	A	10.8	4.2K	A-3337	A-3849
6AJ5	P.P.	AB1	1.0	28K	A-3857	
6AK6	S.	A	1.1	10K	A-3879	A-3822
6AK7	S.	A	3	10K	A-3879	A-3822
6AL6-G	S.	A	6.5	2.5K	A-3876	A-3825
6AL11	S.	A1	4	5K	A-3877	A-3856
6AM5	S.	A	1.4	16K	A-3881	A-3848
	P.P.	AB1	4.8	20K	A-3857	A-3856
6AN5	S.	A	1.3	2.5K	A-3332	A-3825
6AQ5A/W	S.	A	4.5	5K	A-3877	A-3849
6AQ5A/W	P.P.	AB1	10	10K	A-3335	A-3852
6AR5	S.	A	3.4	7.6K	A-8114	A-3822
6AS5	S.	A	2.2	4.5K	A-3877	A-3849
6B4-G	S.	A	3.2	2.5K	A-3876	A-3825
	P.P.	AB	15	3K	A-3301	A-3830
6B5	S.	A	4	7K	A-2313	A-3823
6BF5	S.	A	1.9	2.5K	A-3332	A-3825
6BF6	S.	A	0.3	10K	A-3879	A-3822
6BJ5	S.	A	4.0	7K	A-3878	A-3849
6BK5	S.	A	3.5	6.5K	A-3878	A-3849
6BM5	S.	A	3.5	7K	A-3878	A-3849
6BM8	S.	A	3.5	5.6K	A-3877	A-3822
6BQ5	S.	A	5.7	4.5K	A-8092	A-3849
	P.P.	AB1	11.0	8K	A-3335	A-3852
6BS5	S.	A	4.5	5K	A-3877	A-3849
6BU6	S.	A	0.3	10K	A-3879	A-3822
6BW6	S.	A	4.5	5K	A-3877	A-3823
	S.	A	5.5	8.5K	A-3879	A-3849
6CA5	S.	A1	1.5	4.5K	A-3877	A-3856
6CA7	S.	A	11.0	2K		A-3849
6CL6	S.	A	2.8	7.5K	A-3329	A-3822
6CM6	S.	A	4.5	5K	A-3877	A-3823
	P.P.	AB1	10.	10K	A-3335	A-3852
6CS5	S.	A	3.8	4K	A-3877	A-3856
6CU5	S.	A	2.3	2.5K	A-3332	A-3825
6CZ5	S.	A	5.4	5K	A-8092	A-3823
	P.P.	AB1	21.5	7.5K		A-3830
6D5G	S.	A	1.4	7.2K	A-3878	A-3856
6DB5	S.	A	3.8	4K	A-3877	A-3856
6DG6-GT	S.	A	3.8	4K	A-3877	A-3856
6DS5	S.	A	3.6	8K	A-8114	A-3822
6DZ8	S.	A	2.0	2.5K	A-3822	A-3825
6E6	P.P.	A	1.6	14K	A-3496	A-3856
6EH5	S.	A	1.4	3K	A-3328	A-3825
	P.P.	A	3.8	6K		A-3822
6F6(GT)	S.	A	4.8	7K	A-3878	A-3822
	P.P.	AB	18.5	10K	A-3311	A-3870
6FE5	S.	A1	4	1K	A-8070	
	P.P.	A1	8	1.6K		
6G6-G	S.	A	1.1	10K	A-3879	A-3822
6GC5	S.	A1	2	2K	A-3876	A-3856
	S.	A1	4	4K	A-2203	A-3856
6GK6	S.	A1	5.7	5.2K	A-3877	A-3823
	P.P.	AB1	17	8K		A-3852
6HG5	S.	A1	4.5	5K	A-8092	A-3823
6K6-GT	S.	A	4.5	9K	A-3879	A-3822
	P.P.	A	10.5	12K	A-2312	A-3880
6J10	S.	A1	4.2	5K	A-8092	A-3823
6L6(G) (GA)	S.	A	6.5	2.5K	A-3876	A-3825
	S.	A	10.8	4.2K	A-2203	A-3849
	P.P.	A	17.5	5K	A-3872	A-3830
	P.P.	AB1	26.5	6.6K	A-3801	A-3830
	P.P.	AB1	18	3.8K	A-3802	A-3830
	P.P.	AB2	31	6K	A-3307	
	P.P.	AB2	47	3.8K	A-3802	
6M5	S.	A	3.9	7K	A-3878	A-3824
	P.P.	AB1	9.4	7K	A-3801	A-3880
6N6-G	S.	A	4	7K	A-3878	A-3824
6N7	P.P.	B	10	8K		A-3880
6R8	S.	A	0.3	10K	A-3879	A-3856
6SR7	S.	A	0.3	10K	A-3879	A-3856
6U6-GT	S.	A	5.5	3K		A-3849
6V6-GT	S.	A	4.5	5K	A-3877	A-3824
	P.P.	AB1	10	10K	A-3311	A-3880
6V6(GT)	S.	A	5.5	5K	A-3877	A-3823
	P.P.	AB1	10	10K	A-3311	A-3880
6V7-G	S.	A	0.35	20K	A-3327	
6W6-GT	S.	A	3.8	5K	A-3877	A-3849
6Y6-G(GT)	S.	A	6.0	2.6K	A-3876	A-3825
6Y7-G	P.P.	B	8.0	14K	A-2312	A-3823
6Z7-G	P.P.	B	4.2	12K	A-3831	A-3823
7A5	S.	A	1.5	2.5K	A-3332	A-3849
7B5	S.	A	4.5	9K	A-3879	A-3822
	P.P.	AB2	19	10K	A-2312	A-3880
7C5	S.	A	5.5	8.5K	A-3879	A-3822
	P.P.	A	8	10K	A-3335	A-3823
8BQ5	S.	A	5.7	4.5K	A-8092	A-3849
	P.P.	AB1	11.0	8K	A-3335	A-3852
9DZ8	S.	A	2.0	2.5K	A-3332	A-3825
10AL11	S.	A1	4	5K	A-3877	A-3856
11C5	S.	A	1.5	2.5K	A-3332	A-3825
12A5	S.	A	3.4	3.3K	A-2203	A-3825
12A6(GT)	S.	A	3.4	7.5K	A-8114	A-3822
12A7	S.	A	.55	13.5K	A-3881	A-3848
12AB5	S.	A	4.5	5K	A-3877	A-3823
	P.P.	AB1	10.0	10K	A-3335	A-3849
12AL8	S.	A	0.02	.8K	TA-9	
12AL11	S.	A1	4	5K	A-3877	A-3856
12AQ5	S.	A	4.5	5K	A-3877	A-3823
	P.P.	AB1	10.0	10K	A-3335	A-3852
12BF6	S.	A	0.3	10K	A-3879	A-3856
12BK5	S.	A	3.5	6.5K	A-3878	A-3849
12BU6	S.	A	0.3	10K	A-3879	A-3856
12C5	S.	A	2.3	2.5K	A-3332	A-3825
12CA5	S.	A	1.5	4.5K	A-3877	A-3856
12CM6	S.	A1	2.0	5.5K	A-3877	A-3849
	S.	A1	5.5	8.5K		A-3849
12CS5	S.	A	3.8	4K	A-3877	A-3856
12CU5	S.	A	2.3	2.5K	A-3332	A-3825
12DB5	S.	A	3.8	4K	A-3877	A-3856
12DL8	S.	A	0.04	.8K	TA-9	
12DM5	S.	A	1.9	2.5K	A-3332	A-3825
12DU7	S.	A	0.025	2.7K	TA-29	
12DV8	S.	A	0.005	1.25K	TA-26	
12DZ8	S.	A	2.0	2.5K	A-3332	A-3825
12ED5	S.	A	1.5	4.5K	A-3328	A-3825
12EH5	S.	A	1.4	3K	A-3328	A-3825
	P.P.	AB1	3.8	6K		A-3822
12EM6	S.	A	0.01	3.5K	TA-45	
12FX5	S.	A1	1.3	3K	A-3336	A-3856
12J8	S.	A	0.02	2.7K	TA-29	
12K5	S.	A	0.04	.8K	TA-25	
12L6-GT	S.	A	3.8	4K	A-3877	A-3856
12L8-GT	S.	A	1.0	10K	A-3879	A-3848
12V6-GT	S.	A	4.5	5K	A-3877	A-3823
	P.P.	AB1	10.0	10K	A-8093	A-3880
12W6-GT	S.	A	3.8	4K	A-3877*	A-3856
13J10	S.	A1	4.2	5K	A-8092	A-3823
14A5	S.	A	2.8	7.5K	A-8114	A-3822
14C5	S.	A	5.5	8.5K	A-2313	A-3849
	P.P.	AB	14	8K		A-3880
17C5	S.	A	2.3	2.5K	A-3332	A-3825
17CA5	S.	A	1.5	4.5K	A-3877	A-3856
17CU5	S.	A	2.3	2.5K	A-3332	A-3825
17L6-GT	S.	A	3.8	4K	A-3877	A-3856
19	P.P.	B	2.1	10K	A-3335	A-3880
19AQ5	S.	A	4.5	5K	A-3877	A-3849
25A6(GT)	S.	A	2.2	5K	A-3877	A-3849
25A7-GT	S.	A	.77	4.5K	A-3877	A-3825
25AC5-GT	P.P.	B	6	4.8K	A-3872	A-3823
	S.	A	2	2K	A-3332	A-3825
25B5	S.	A	3.9	4K	A-2203	A-3825
25B6-G	S.	A	7.1	2.5K	A-3876	A-3849
25BK5	S.	A	3.5	6.5K	A-3878	A-3849
25C5	S.	A1	2	2.5K	A-3332	A-3856
25C6-G	S.	A	6.0	2.6K	A-3876	A-3849
25CA5	S.	A	1.5	4.5K	A-3328	A-3825
25EH5	S.	A	1.4	3K	A-3328	A-3825
	P.P.	AB1	3.8	6K		A-3822
25F5	S.	A	1.2	2.5K	A-3332	A-3825
	P.P.	A	2.9	4.5K	A-3872	A-3823
25L6(GT)	S.	A	2.1	2K	A-3876	A-3849
	S	A	4.3	3K		A-3823
	S.	A	3.8	4K	A-2203	A-3823
25N6-G	S.	A	3.8	4K	A-2203	A-3822
25W6	S.	A	3.8	4K	A-3877	A-3856
26A7-GT	S.	A	.18	1.5K	A-3332	A-3825
26E6-G	S.	A	6.0	2.6K		A-3825
28D7	S.	A	.1	4K	A-3328	A-3848
32ET5	S.	A	1.2	2.8K	A-3328	A-3825
32L7-GT	S.	A	1	2.6K	A-3332	A-3822
34GD5A	S.	A	1.4	2.5K	A-3332	A-3856
35A5	S.	A	1.5	2.5K	A-3332	A-3856
	S.	A	3	5K	A-3877	A-3849
35B5	S.	A	1.5	2.5K	A-3332	A-3856
35C5	S.	A	1.5	2.5K	A-3332	A-3849
35DZ8	S.	A	2.0	2.5K	A-3332	A-3825
35EH5	S.	A1	1.2	3K	A-3336	A-3856
35L6-GT	S.	A	1.5	2.5K	A-3332	A-3856
	S.	A	3	5K	A-3877	A-3849
42	S.	A	4.8	7K	A-3878	A-3849
	P.P.	A	18.5	10K	A-3311	A-3830
50A5	S.	A	2.1	2K	A-3876	A-3856
	S.	A	3.8	4K	A-2203	A-3825
50B5	S.	A	1.9	2.5K	A-3332	A-3825
50BK5	S.	A	3.5	6.5K	A-3878	A-3856
50C5	S.	A	1.9	2.5K	A-3332	A-3825
50C6-G	S.	A	3.6	2K	A-3876	A-3825
50CA5	S.	A	1.1	3.5K	A-3328	A-3825
50EH5	S.	A	1.4	3K	A-3328	A-3825
	P.P.	A	3.8	6K		A-3822
50FE5	S.	A1	4	1K	A-8070	
	P.P.	A1	8	1.6K		
50FK5	S.	A1	1.2	3K	A-3336	A-3856
50L6-GT	S.	A	2.1	2K	A-3876	A-3856
	S.	A	3.8	4K	A-2203	A-3825
60FX5	S.	A1	1.3	3K	A-3336	A-3856
70A7-GT	S.	A	1.5	2.5K	A-3332	A-3825
70L7-GT	S.	A	1.8	2K	A-3332	A-3825
117L7/M7-GT	S.	A	.85	4K	A-2203	A-3825
117N7-GT	S.	A	1.2	3K	A-3332	A-3825
117P7-GT	S.	A	.85	4K	A-2203	A-3825
1631	P.P.	AB1	26.5	6.6K	A-3801	
1632	S.	A	2.1	2K	A-3332	A-3825
1644	P.P.	A	1.0	10K	A-3831	A-3856
5640	S.	A	1.25	3K	A-3332	A-3825
5670	P.P.	AB1	1.0	27K	A-3857	
5672	S.	A	.065	20K	A-3327	
5686	S.	A	2.7	9K	A-3879	A-3822
5812	S.	A	4.3	1.7K	A-3876	A-3825
5824	S.	A	4.3	1.7K	A-3876	A-3825
5871	S.	A	5.5	8.5K	A-3879	A-3822
5902	S.	A	1	3K	A-3328	A-3825
6005	S.	A	2.0	5.5K	A-4431	A-3856
6095	P.P.	AB1	10.0	10K	A-3335	A-3852
6216	S.	A	3.8	4.5K	A-3877	A-3856
6287	S.	A	4.5	6K	A-4431	A-3823
6360	P.P.	AB1	9.3	8K	A-3335	A-3852
6516	S.	A	1.4	16K	A-3881	A-3856
6526	S.	A	0.375	10K	A-3879	A-3856
6669	S.	A	4.5	5K	A-3877	A-3823
	P.P.	AB1	10.0	10K	A-8093	A-3880
6677	S.	A	2.8	7.5K	A-8114	A-3822
6945	S.	A	0.8	3K	A-3328	A-3825
6973	P.P.	AB1	15	5.5K	A-3307	A-3880
	P.P.	AB1	20	7.5K	A-3885	A-3830
7061	S.	A	3.0	5K	A-3877	A-3856

High Fidelity Applications

Tube	Use	Class	Watts	Load Res. in Ohms	Stancor Part No.
807/W	P.P.	A*	8.0	10K	A-8054
	P.P.	A#	25.0	7.6K	A-8072
	P.P.	AB1	15.0	3K	A-8052
	P.P.	AB2	55.0	3.2K	A-8052
1614	P.P.	A*	10.0	10K	BO-12
	P.P.	AB1	26.5	6.6K	A-8056
5881	P.P.	A*	8.0	10K	BO-12
	P.P.	A#	25.0	7.6K	A-8072
	P.P.	AB1	26.5	6.6K	A-8056
6146	P.P.	A*	18.0	10K	BO-13
6550	P.P.	A	55.0	3.5K	A-8052
	P.P.	AB1#	60.0	4.3K	BO-15
	P.P.	AB1#•	100.0	5K	BO-14
7027	P.P.	AB1	31.5	4.5K	A-8053
	P.P.	AB1	34.0	6.6K	A-8056
	P.P.	AB1	50.0	6K	A-8056
	P.P.	AB	24.0	8K	A-8072
7189	P.P.	AB1	24.0	8K	A-8072
	P.P.	AB1	16.5	11K	BO-13
7212	P.P.	TR1	22.0	8K	A-8072
	P.P.	AB1	37.0	6.6K	A-8056
7408	S.	A1	4.5	5K	A-8092
7868	S.	A1	11	3K	A-3830
	P.P.	AB1	30	6.6K	A-8056
EL-34	P.P.	AB1	37.0	6.6K	A-8056
(6CA7)	P.P.	AB1#	60.0	4.3K	BO-15
EL-37	P.P.	AB1	69.0	3.25K	BO-15
EL-84	S.	A	5.7	5.2K	A-8053
(6BQ5)	P.P.	AB1	17.0	8K	A-8072
KT-66	P.P.	A*	10.0	10K	A-8054
	P.P.	AB1#	20.0	10K	BO-13
	P.P.	AB1#	25.0	7.6K	A-8072
KT-88	P.P.	AB1#	60.0	4.3K	BO-15
	P.P.	AB1#•	100.0	5K	BO-14

K is symbol for 1,000: 25K=25,000 2.5K=2,500 .25K=250 *Triode Connected (Williamson Circuit). #Ultra Linear (Williamson Circuit).

STANCOR PAGE 5

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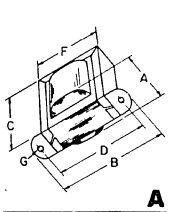

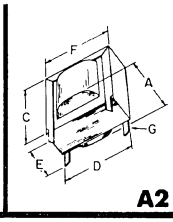

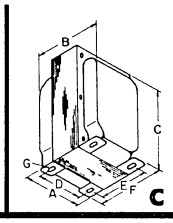

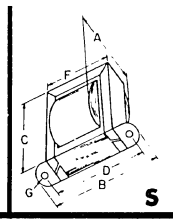

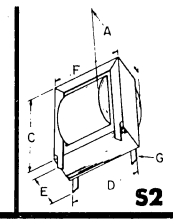

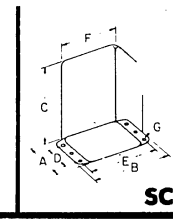

STANCOR

COMMERCIAL

output transformers

OUTPUT: SINGLE PLATE TO VOICE COIL AND/OR LINE

	Catalog No.	Impedance in Ohms Primary	Impedance in Ohms Secondary	Max Pri DCMA	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
a	A-8070	1000	4.0	90	4	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3332	2000	3.2	50	3	Leads	Leads	A	1 1/4	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4
	A-3330	2000 a	3.5	60	5	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3876	2000	4.0	60	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3336	2500 b	3.5	50	5	Leads	Leads	A	1 5/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3328	4000	3.5	10	3	Leads	Leads	A	1 1/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4
	A-2203	4000	8.0	40	5	Leads	Leads	A	1 1/2	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-3877	5000	4.0	40	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3309	5000	3-4	35	3	Leads	Leads	A	1 3/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4
	A-8092	5000	3-4	50	8	Leads	Leads	A	1 1/2	2 7/8	1 5/8	2 3/8	—	2	3/16	0.5
	A-3337	5000	6-8	40	10	Leads	Leads	S	1 3/4	2 7/8	2 3/8	2 3/8	—	2	3/16	1.0
	A-3310	5000	500/15/8/4	55	20	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5
	COC-1	5000	600/150/16/8/4	55	5	Leads	Leads	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.25
	COS-1	5000	600/150/16/8/4	55	5	Lugs	Lugs	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.25
	A-4431	6000	3-4	35	5	Leads	Leads	A2	1 1/2	—	1 5/8	1 3/4	11/16	2	5/32	0.8
b	A-3878	7000	4.0	30	5	Leads	Leads	A	1 1/4	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-2313	7000	8.0	40	10	Leads	Leads	A	2	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	A-3841	7000/6000/5000 4000/2500	500	60	10	Lugs	Lugs	S	2	3 1/8	2 3/4	2 13/16	—	2 1/4	3/16	1.5
	A-4770	7000/6000/5000 4000/2500	500	60	20	Leads	Lugs	S	2 1/8	3 5/8	3 1/8	3 1/8	—	2 5/8	3/16	2.4
	A-8114	7600	3.2	32	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3329	8000	3.5	10	3	Leads	Leads	A	1 1/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4
	*COC-2	8000	600/150/16/8/4	55	5	Leads	Leads	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.25
	COS-2	8000	600/150/16/8/4	55	5	Lugs	Lugs	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.25
	A-3879	10000	4.0	30	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3881	15000	4.0	10	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3250	20000/10000 5000	500/333/200 125/50	15	5	Lugs	Lugs	A	1 7/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	A-3315	20000/10000 5000	500/333/200 125/50	35	20	Lugs	Lugs	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.7
	A-3327	25000	4.0	5	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4

OUTPUT: PUSH-PULL PLATES TO VOICE COIL AND/OR LINE

	Catalog No.	Impedance in Ohms Primary	Impedance in Ohms Secondary	Max Pri DCMA	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
c	A-8098	2000 C.T.	32/16/8	140	15	Leads	Leads	C	2 1/2	3 1/4	3 1/8	2	2 1/4	2 7/8	3/16 x 3/8	3.3
	A-3802	3800/3300 C.T.	500/250/8/4	125	75	Leads	Leads	C	3 3/4	4	4 11/16	3	2 13/16	3 5/8	3/16 x 3/8	7.9
	A-8094	4000 C.T.	32/16/8	80	7.5	Leads	Leads	A	2 1/4	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.5
	A-3851	4400 C.T. c	500/250/15/8/4	70	30	Leads	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.6
	A-3872	5000 C.T.	15/8/4	75	18	Leads	Leads	SC	2 1/4	2 3/4	2 11/16	1 1/2	2 3/8	2	3/16	1.7
	A-3800	5000 C.T.	500/250/15/8/4	80	30	Leads	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.7
	A-3307	6000 C.T.	500/15/8/4	100	30	Leads	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.5
	*PCO-200	6000 C.T. c	600/150/16/8/4	250	30	Leads	Leads	SC	4 9/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	7/32	9.0
	PSO-200	6000 C.T. c	600/150/16/8/4	250	30	Lugs	Lugs	SC	4 9/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	7/32	9.0
	A-3801	6600 C.T.	500/250/15/8/4	150	35	Leads	Leads	C	3 1/8	3 1/2	3 7/8	2 1/2	2 3/16	3 1/16	3/16 x 3/8	4.8
	A-3885	9000 C.T.	500/250/15/8/4	150	35	Leads	Leads	C	3 1/8	3 3/8	3 7/8	2 1/2	2 3/16	3 1/16	3/16 x 3/8	4.8
	A-4432	10000 C.T.	4.0	50	10	Leads	Leads	S2	1 5/8	—	2 3/8	1 7/8	11/16	2	5/32	1.0
	A-3304	10000/7000 C.T.	500/15/8/4	60	25	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.7
	A-3311	10000 C.T.	500/15/8/4	70	25	Leads	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.5
	A-3831	10000 C.T.	8/4/2	40	5	Leads	Leads	A	1 3/4	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
d	A-8093	10000 C.T.	3-4	40	10	Leads	Leads	A	1 1/2	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-3335	10000 C.T.	6-8/3.2-4	40	10	Leads	Leads	S	2	2 7/8	2 3/8	2 3/8	—	2	3/16	1.0
	PCO-150	10000 C.T. c	600/150/16/8/4	200	15	Leads	Leads	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 15/16	7/32	5.0
	PSO-150	10000 C.T. c	600/150/16/8/4	200	15	Lugs	Lugs	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 15/16	7/32	5.0
	A-3839	10000 C.T.	2000 and 15/8/4	30	10	Leads	Leads	SC	2 1/4	2 3/4	2 11/16	1 1/2	2 3/8	2	3/16	1.3
	PCO-150A	12000 C.T.	600/150/16/8/4	200	15	Leads	Leads	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 15/16	7/32	5.0
	A-2312	14000 C.T.	4.0	40	10	Leads	Leads	A	1 7/8	2 7/8	1 5/8	2 3/8	—	2	3/16	1.0
	A-3496	14000 C.T.	4.0	25	5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3303	14000 C.T.	500/15/8/4	55	20	Leads	Leads	C	2 1/2	2 5/8	3 1/8	2	1 11/16	2 5/16	3/16 x 3/8	2.7
	A-3842	14000/12000 10000/8000 C.T.	500	55	10	Lugs	Lugs	S	2	3 1/8	2 3/4	2 13/16	—	2 1/4	3/16	1.7
	A-3250	20000 C.T.	500/333/200 125/50	15	5	Lugs	Lugs	A	1 7/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	A-3315	20000 C.T.	500/333/200 125/50	35	20	Lugs	Lugs	C	2 1/2	2 3/4	3 1/8	2	1 11/16	2 1/2	3/16 x 3/8	2.7
	A-3857	25000 C.T.	4.0	10	5	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4

a Has 4.5% primary Tap.

b Has 3% and 6% primary Taps.

c. Has Tertiary Winding to provide 10% inverse feedback.

*Available until stock is depleted

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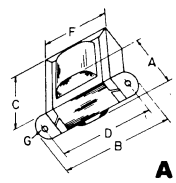
output transformers



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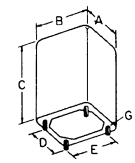

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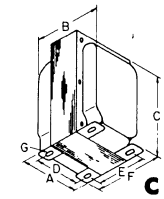

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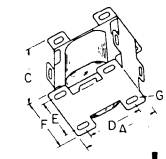


L

UNIVERSAL OUTPUT

	Catalog No.	Impedance in Ohms: Primary	Impedance in Ohms: Secondary	Max Pri DCMA	Audio Watts	Termination: Pri	Termination: Sec	Style	Dimensions: A	B	C	D	E	F	G	WT. Lbs.
a	A-3856	S. or P.P. Plates 4000 to 14000	.05 to 122	35	4	Leads	Lugs	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3822	S. Plate 7000 to 10000	.7 to 4	35	4	Leads	Lugs	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3848	S. Plate 7000 to 16000	.4 to 4	10	5	Leads	Lugs	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3823	S or P.P. Plates 4000 to 14000	.05 to 122	40	8	Leads	Lugs	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-3850	S or P.P. Plates 4000 to 14000	.05 to 122	40	8	Leads	Lugs	S	1 5/8	2 3/8	2	2	—	1 5/8	3/16	0.7
	A-3825	S. Plate 1500 to 4500	.3 to 4	75	8	Leads	Lugs	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/16	0.9
	A-3824	S. or P.P. Plates 6000 to 10000	.6 to 4	75	8	Leads	Lugs	A	2	3 1/4	2	2 13/16	—	2 3/8	3/16	1.4
	A-3849	S. Plate 1500 to 10000	.02 to 21	55	10	Lugs	Lugs	A	1 1/2	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-3880	P.P. Plates 4000 to 14000	.05 to 122	40	15	Lugs	Lugs	A	2 1/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.7
	A-2855	P.P. Plates 4000 to 14000	.05 to 122	50	15	Lugs	Lugs	L	2 3/8		2	1 1/2	1 3/16	1 5/8	3/16 x 1/2	1.0
	A-3890	P.P. Plates 4000 to 14000	.05 to 122	50	15	Leads	Leads	SC	2 1/4	2 3/4	2 11/16	1 1/2	2 3/8	2	3/16	1.5
	A-3852	P.P. Plates 4000 to 14000	.05 to 122	40	18	Leads	Lugs	S	2	2 7/8	2 3/8	2 3/8	—	2	3/16	1.3
	A-3870	P.P. Plates 4000 to 14000	.05 to 122	50	18	Lugs	Lugs	A	2	3 1/4	2	2 13/16	—	2 3/8	3/16	1.3
	A-3830	P.P. Plates 3000 to 10000	.04 to 122	60	20	Leads	Lugs	S	2 1/8	3 1/8	2 3/4	2 13/16	—	2 1/4	3/16	1.8
OUTPUT: HIGH FIDELITY: FREQ. RESPONSE ±1 DB 20 TO 20,000 CYCLES																
b	A-8050	1500 C.T.	16/8	200	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8060	1500 C.T.	500	200	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8061	2500 C.T.	500	150	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8052	3000 C.T.	16/8	175	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8062	3000 C.T.	500	175	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8053	5000 C.T.	16/8	150	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8063	5000 C.T.	500	150	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8056	6600 C.T.	16/8	125	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8066	6600 C.T.	500	125	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8072	7600 C.T. a	16/8/4	100	25	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8054	9000 C.T.	16/8	100	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
	A-8064	9000 C.T.	500	100	50	Leads	Leads	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	6.5
OUTPUT: HIGH FIDELITY: FREQ. RESPONSE ±1 1/2 DB 30 TO 20,000 CYCLES																
c	BO-1	15,000 b	600/150	10	.032	Lugs	Lugs	B	2 3/8	2 1/2	3 1/16	1 11/16	1 13/16	—	6-32	2.25
	BO-2	20,000 C.T.	600/150	10	1.0	Lugs	Lugs	B	2 11/16	2 7/8	3 1/2	1 7/8	2	—	8-32	3.0
	BO-5	10,000 C.T.	600/150/16/8/4	45	5.0	Lugs	Lugs	B	3	3 1/4	3 7/8	2 1/8	2 3/8	—	8-32	4.0
	BO-6	7500 C.T.	20/8	80	20	Lugs	Lugs	B	3 5/16	3 11/16	4 5/16	2 3/8	2 5/8	—	10-32	5.75
	BO-9	5000/3000 C.T.	600/150/16/8/4	75	15	Lugs	Lugs	B	3 5/16	3 11/16	4 5/16	2 3/8	2 5/8	—	10-32	6.0
TONE CONTROL CHOKE: WRITE FOR BULLETIN 456R																
d	*C-2332-1	1.6 hy	For use in Pre-amplifiers for Separate Tone Control						h=2 1/2, w=2, d=2 1/8,							1.3

a. Has Screen grid taps on primary. b. Has Tertiary Winding to provide 15% inverse feedback. c. Has cathode feedback Winding.
*Available until stock is depleted

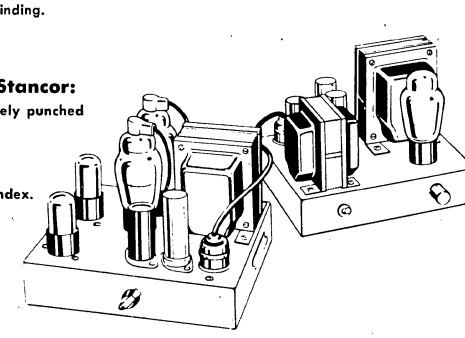
STANCOR-WILLIAMSON ULTRA-LINEAR HIGH FIDELITY AMPLIFIER

Has had wide acceptance due to its fine perfomance characteristics and ease of assembly.

Power output — 25 watts with less than 1% total Harmonic distortion and negligible intermodulation distortion. Frequency response — flat from 20 cycles to 40KC. Write for Bulletin 479 for complete Parts List, schematic and performance curves.

Parts Available from Stancor:

WM-8 Chassis set — Completely punched and finished
PC-8412 Power Transformer
C-1411 Choke
A-8072 Output Transformer
For Transformer ratings, refer to index.



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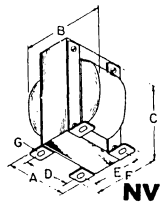

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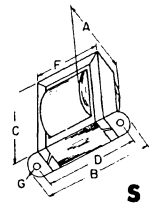

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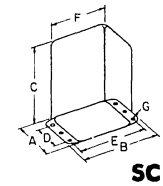

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STANCOR
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audio transformers

25 VOLT LINE TO VOICE COIL

	Catalog No.	Impedance in Ohms Primary	Impedance in Ohms Secondary	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT Lbs.
a	A-8099	312/625/1250	8/4	2/1/.5	Lugs	Lugs	A	1 3/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.3
	A-8087	312/625/1250	8	2/1/.5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-8088	156/312/625/1250 2500/5000	8	4/2/1/.5 .25/.12	Leads	Leads	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-8095	125/250/500 1000/2000	8/4	5/2.5/1.25 .62/.31	Lugs	Lugs	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-8096	78/156/312/625 1250	16/8/4	8/4/2/1/.5	Lugs	Lugs	S	1 5/8	2 3/8	2	2	—	1 5/8	3/16	0.65
	A-8097	39/78/156/312 625/1250	16/8/4	16/8/4/2 1/.5	Lugs	Lugs	S	2 1/8	3 1/8	2 3/4	2 13/16	—	2 1/4	3/16	1.6

70.7 VOLT LINE TO VOICE COIL

	Catalog No.	Impedance in Ohms Primary	Impedance in Ohms Secondary	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT Lbs.
b	A-8109	2500/5000/10000	8/4	2/1/.5	Lugs	Lugs	A	1 3/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.3
	A-8083	2500/5000/10000	8	2/1/.5	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-8084	1250/2500/5000 10000/20000/40000	8	4/2/1/.5 .25/.12	Leads	Leads	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-8105	1000/2000/4000 8000/16000	8/4	5/2.5/1.25 .62/.31	Lugs	Lugs	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-8080	1000/1250/1667 2500/5000	16/8	5/4/3/2/1	Lugs	Lugs	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-8102	625/1250/2500 5000/10000	16/8/4	8/4/2/1/.5	Lugs	Lugs	S	1 1/2	2 3/8	2	2	—	1 5/8	3/16	0.7
	A-8081	500/555/625 715/833	16/8	10/9/8/7/6	Lugs	Lugs	S	1 5/8	2 3/8	2	2	—	1 5/8	3/16	0.7
	A-8082	333/357/384 417/455	16/8	15/14/13 12/11	Lugs	Lugs	S	1 3/4	2 7/8	2 3/8	2 3/8	—	2	3/16	1.2
	A-8103	312/625/1250 2500/5000/10000	16/8/4	16/8/4 2/1/.5	Lugs	Lugs	S	2 1/8	3 1/8	2 3/4	2 13/16	—	2 1/4	3/16	1.5

140 VOLT LINE TO VOICE COIL

	Catalog No.	Impedance in Ohms Primary	Impedance in Ohms Secondary	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT Lbs.
c	A-8108	4000/8000 16000/32000	8/4	5/2.5/1.25 .62	Lugs	Lugs	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-8106	2500/5000 10000/20000	16/8/4	8/4/2/1	Lugs	Lugs	S	1 5/8	2 3/8	2	2	—	1 5/8	3/16	0.7
	A-8107	1250/2500/5000 10000/20000	16/8/4	16/8/4/2/1	Lugs	Lugs	S	2	3 1/8	2 3/4	2 13/16	—	2 1/4	3/16	1.8

LINE TO VOICE COIL

	Catalog No.	Impedance in Ohms Primary	Impedance in Ohms Secondary	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT Lbs.
d	A-8101	500	6-8/3.2	5	Lugs	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-3883	500	15/8/6/4	25	Lugs	Lugs	S	1 3/4	2 7/8	2 3/8	2 3/8	—	2	3/16	1.1
	A-3882	500/333/250	15/8/4	25	Lugs	Lugs	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.4
	A-3818	1500/1000/500	15/8/4	25	Lugs	Lugs	S	2 1/8	3 5/8	3 1/8	3 1/8	—	2 5/8	3/16	2.2
	A-7947	2000/1500/1000 500	6-8/3.2	8	Lugs	Lugs	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-7949	2000/1500/1000 500	6-8/3.2	12	Lugs	Lugs	S	1 3/4	2 7/8	2 3/8	2 3/8	—	2	3/16	1.1
	* A-3820	2000/1500/1000 500	15/8/4	40	Lugs	Lugs	C	3 7/16	3 3/4	4 1/8	2 3/4	2 5/16	3 3/8	3/16 x 3/8	5.0
	A-8104	3000/2000/1500 1000/500	16/8/4	10	Lugs	Lugs	S	1 3/4	2 7/8	2 3/8	2 3/8	—	2	3/16	1.5
	A-3837	500	.06 to 48	15	Lugs	Lugs	S	2	2 7/8	2 3/8	2 3/8	—	2	3/16	1.4

LINE TO LINE

	Catalog No.	Impedance in Ohms Primary	Impedance in Ohms Secondary	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT Lbs.
e	A-4350	500/333/200 125/50	500/333/200 125/50	10	Lugs	Lugs	A	1 7/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	A-4407	500/333/200 125/50	500/333/200 125/50	20	Lugs	Lugs	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.4
	A-3838	500	250/166/125 100/84	30	Lugs	Lugs	NV	2 1/2	2 5/16	3 1/8	2	2	2 11/16	5/16 x 3/8	2.3

*Available until stock is depleted

The following table lists various amplifier power outputs with the corresponding impedance tap on the output transformer which will supply these three basic line voltages:

POWER OUTPUT	IMPEDANCE FOR 140 VOLT LINE	IMPEDANCE FOR 70.7 VOLT LINE	IMPEDANCE FOR 25 VOLT LINE
WATTS	OHMS	OHMS	OHMS
5	4,000	1,000	125
10	2,000	500	62.5
15	3,333	333	41.7
20	1,000	250	31.2
25	800	200	25
30	666	166	21
40	500	125	15.6
50	400	100	12.5
60	333	83	10.5
80	250	62.5	7.8
100	200	50	6.3

For power ratings not shown in this table, use the following formula:

$$Z = \frac{E^2}{W}$$

Z=Ohms
E=Volts
W=Watts Output

Impedance Tap for:

$$140 \text{ volt line} = \frac{20{,}000}{W}$$

$$70.7 \text{ volt line} = \frac{5{,}000}{W}$$

$$25 \text{ volt line} = \frac{625}{W}$$

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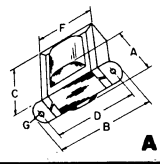

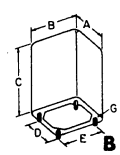

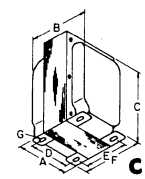

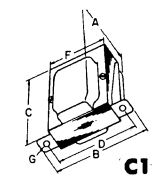

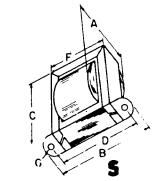

FOR INTERCOMS AND TRANSCEIVERS

a

Catalog No.	Application	Impedance in Ohms Primary	Impedance in Ohms Sec.	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT Lbs.
A-4744	Intercom Input	4	25,000	—	Leads	Leads	VE	1 ½	2 ⅜	1 ⅜	2	—	1 ¾	⅜	0.5
A-4748	Intercom Input	45 or 50	50,000	—	Leads	Leads	A	1 ⅜	2 ⅛	1 ¼	1 ¾	—	1 ½	⅜	0.4
A-8090	Line to Voice Coil	45 or 50	6-8/3-4	3	Lugs	Lugs	A	1 ¼	2 ⅜	1 ⅜	2	—	1 ¾	⅜	0.5
A-8091	Line to Voice Coil	45 or 50	6-8/3-4	8	Lugs	Lugs	A	1 ½	2 ⅞	1 ⅝	2 ⅜	—	2	⅜	0.7
A-3817	Transceiver Modulation and Output	5000/ 6750 @ 50Madc	4	10	Leads	Leads	S	2	2 ⅜	2	2	—	1 ⅝	⅜	0.7
A-3833	Transceiver Input Mic. or Flate to Grid	5000/200	60,000	5	Leads	Leads	A	1 ⅝	2 ⅞	1 ⅝	2 ⅜	—	2	⅜	0.7
A-3836	Transceiver Output	10,000	2000/50	5	Leads	Leads	A	1 ¹¹⁄₁₆	2 ⅞	1 ⅝	2 ⅜	—	2	⅜	0.7
A-4749	Telephone patch Circuit	10,000	500	—	Leads	Leads	TD	1 ½	2 ¼	1 ¹³⁄₁₆	—	1 ¹³⁄₁₆	1 ½	⅜	1.0

MICROPHONE, PICKUP OR LINE TO GRID

b

Catalog No.	Application	Impedance in Ohms Primary	Impedance in Ohms Secondary	Ratio	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
A-4705	S.B. Mic. to S. Grid	200 /70	80,000	1:20	Leads	Leads	A	1 ⅜	2 ⅜	1 ⅜	2	—	1 ¾	⅜	0.5
A-4706	S.B. Mic. to S. Grid	100	60,000	1:24.5	Leads	Leads	A	1 ½	2 ⅜	1 ⅜	2	—	1 ¾	⅜	0.5
A-4708	D.B. Mic. to S. Grid	200 C.T.	57,000	1:17	Lugs	Lugs	S	1 ½	2 ⅜	2	2	—	1 ⅝	⅜	0.7
A-4742	S.B. Mic to P.P. Grids	100	400,000 C.T.	1:64	Leads	Leads	S	1 ⅞	2 ⅞	2 ⅜	2 ⅜	—	2	⅜	1.2
A-4747	S.B. Mic. or Line to S. Grid	70	1,300,000	1:137	Leads	Leads	VE	1 ¼	1 ¹³⁄₁₆	1 ⅞	1 ½	—	1 ¼	⅜	0.5

MICROPHONE, PICKUP OR LINE TO GRID

c

Catalog No.	Application	Impedance in Ohms Primary	Impedance in Ohms Secondary	Ratio	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
A-4351	Mic. or Line to S. Grid	500/333/200 125/50	89,000	1:13.3	Leads	Leads	SC	2 ¼	2 ¹¹⁄₁₆	2 ¹¹⁄₁₆	1 ½	2 ⅜	2	⅜	1.4
A-4352	Mic or Line to P.P. Grids	500/333/200 125/50	89,000 C.T.	1:13.3	Lugs	Lugs	A	1 ⅞	3 ¼	2	2 ¹³⁄₁₆	—	2 ⅜	⅜	1.0
A-4709	Dyn. mic or Pickup to S. Grid	30/15/8/4	106,000	1:60	Leads	Leads	SC	2 ¼	2 ¹¹⁄₁₆	2 ¹¹⁄₁₆	1 ½	2 ⅜	2	⅜	1.7
A-4778	Line to S. Grid	600/500 C.T.	240,000	1:20	Leads	Leads	C1	1 ¹³⁄₁₆	2 ⅞	2 ¼	2 ⅜	—	2	⅜	1.0
A-4779	Line to S. or P.P. Grids	600/500 C.T.	60,000 C.T.	1:10	Leads	Leads	A	1 ⅜	2 ⅜	1 ⅜	2	—	1 ¾	⅜	0.5
A-4780	Line to P.P. Grids	600/500 C.T.	240,000 C.T.	1:20	Leads	Leads	VE	1 ¹¹⁄₁₆	3 ¼	2	2 ¹³⁄₁₆	—	2 ⅜	⅜	1.0
CIC-1	Line to P.P. Grids	600/150	100,000 C.T.	1:13	Leads	Leads	TD	1 ½	2 ¼	2 ⅛	—	1 ¹³⁄₁₆	1 ½	⅜	0.75
CIS-1	Line to P.P. Grids	600/150	100,000 C.T.	1:13	Lugs	Lugs	TD	1 ½	2 ¼	2 ⅛	—	1 ¹³⁄₁₆	1 ½	⅜	0.75
* CIS-2	S.B. or D.B. Mic. to P.P. Grids	125/50	125,000	1:32	Lugs	Lugs	TD	1 ½	2 ¼	2 ⅛	—	1 ¹³⁄₁₆	1 ½	⅜	0.75

*Available until stock is depleted

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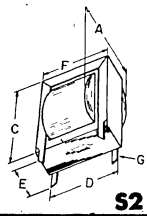
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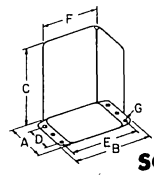
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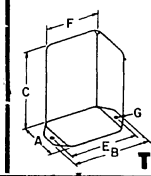
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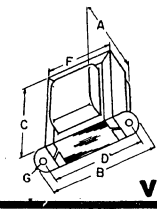
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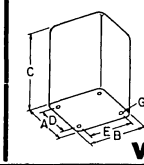
WF

STANCOR
COMMERCIAL audio transformers

INPUT: HIGH FIDELITY–SHIELDED–FREQ. RESPONSE ±1 DB 30 TO 15,000 CYCLES

	Catalog No.	Application	Impedance in Ohms Primary	Impedance in Ohms Secondary	Audio Level	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
a	BI-1	Line to S. or P.P. Grids	600/150 C.T.	50,000 C.T.	+15 dbm	Lugs	Lugs	B	2 1/8	2 1/4	2 11/16	1 3/8	1 5/16	—	6-32	1.5
	BI-2	Line to S. or P.P. Grids	600/150 C.T.	50,000 C.T.	+15 dbm	Lugs	Lugs	B	2 1/8	2 1/4	2 11/16	1 3/8	1 5/16	—	6-32	1.5
	BI-3	Line Bridging to P.P. Grids	8000/6000C.T.	50,000 C.T.	+15 dbm	Lugs	Lugs	B	2 1/8	2 1/4	2 11/16	1 3/8	1 5/16	—	6-32	1.5
	BI-4	Line to Line	600/150 C.T.	600/150 C.T.	+15 dbm	Lugs	Lugs	B	2 1/8	2 1/4	2 11/16	1 3/8	1 5/16	—	6-32	1.5
	BI-5	Line to Line	600/150 C.T.	600/150 C.T.	+30 dbm	Lugs	Lugs	B	3	3 1/4	3 3/8	2 1/8	2 3/8	—	8-32	3.25
	BI-6	P.P. Plates to S. or P.P.Grids	20,000 C.T.	50,000 C.T.	+15 dbm	Lugs	Lugs	B	2 1/8	2 1/4	2 11/16	1 3/8	1 5/16	—	6-32	1.5
	BI-7	Mic., Pickup or Line to Grid	600/250/150 50	50,000 C.T.	+15 dbm	Lugs	Lugs	B	2 1/8	2 1/4	2 11/16	1 3/8	1 5/16	—	6-32	1.5

INPUT: WF SERIES–SHIELDED–FREQ. RESPONSE ±2 DB 30 TO 20,000 CYCLES

b	WF-20	Mic., pickup or Line to Grid	500-600/333 250/200 125-.50/50	50,000 C.T.	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 5/32	1 5/32	—	4-40	0.6
	WF-21	Mic., pickup or Line to Grid	500/200/50	50,000 C.T.	+7 db	Lugs	Lugs	WFa	1 1/2	1 1/2	2	1 5/32	1 5/32	—	4-40	0.6
	WF-22	Mic., pickup or Line to Grid	500-600/333 250/200/ 125-150/50	80,000 C.T.	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 5/32	1 5/32	—	4-40	0.6
	WF-28	S. or P.P. Plates to S. or P.P. Grids	15,000 C.T.	80,000 C.T.	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 5/32	1 5/32	—	4-40	0.6
	WF-30	Mixer, Mic., pickup, or Line to Line	500-600/333 250/200/ 125-150/50	500-600/333 250/200/ 125-150/50	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 5/32	1 5/32	—	4-40	0.6
	WF-35	S. Plate to Line	15,000	500-600/333 250/200/ 125-150/50	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 5/32	1 5/32	—	4-40	0.6
	WF-36	PP. Plates to Line	30,000 C.T.	500-600/333 250/200/ 125-150/50	+7 db	Lugs	Lugs	WF	1 1/2	1 1/2	2	1 5/32	1 5/32	—	4-40	0.6

INTERSTAGE: SINGLE PLATE (7,000 TO 20,000 OHM) TO SINGLE GRID

	Catalog No.	Ratio	Max. Pri DCMA	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
d	A-53	1:3	10	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5

INTERSTAGE: SINGLE PLATE (7,000 TO 15,000 OHM) TO PUSH PULL GRIDS

e	A-52C	1:2	10	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	A-62C	1:2	10	Leads	Leads	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-4745	1:2	10	Leads	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.7
	A-53C	1:3	10	Leads	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5
	A-63C	1:3	10	Leads	Leads	A	1 1/2	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-73C	1:3	10	Leads	Leads	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	A-4719	1:3	10	Leads	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.7
	A-64C	1:4	10	Leads	Leads	S	1 5/8	2 3/8	2	2	—	1 5/8	3/16	0.7

INTERSTAGE: PUSH-PULL PLATES (7,000 TO 15,000 OHMS) TO PUSH-PULL GRIDS

	Catalog No.	Ratio	Max. Pri DCMA	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
f	A-4711	1:1	10	Leads	Leads	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-4208	1:1.4	15	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5

INTERSTAGE: MULTI-PURPOSE (7,000 TO 15,000 OHM PLATES)

g	A-4774	1:3	10	Leads	Leads	S	1 3/4	2 7/8	2 3/8	2 3/8	—	2	3/16	1.2
	A-4773	1:3	10	Leads	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.7
		Proper Connections will provide Ratios of 1:1, 1:3, or 1:6 May be Used for Single or Push-Pull Plates to Single or Push-Pull Grids												

*Available until stock is depleted

a. Has multiple infernal magnetic shields.

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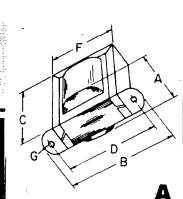
STANCOR COMMERCIAL audio transformers



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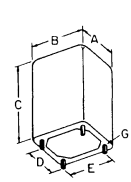

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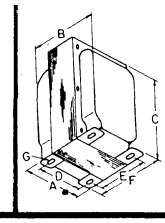

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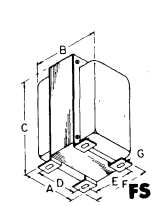

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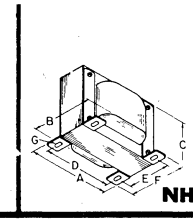

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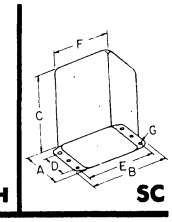

SC

DRIVER: SINGLE PLATE TO PUSH-PULL GRIDS

	Catalog No.	Pri. Impedance in Ohms	Max Pri DCMA	Ratio Pri: ½ Sec	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
a	A-4713	10,000	30	2:1	5	Leads	Leads	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-4752	10,000	40	2/1.5/1:1	10	Leads	Leads	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/16	1.2
	A-4292	10,000	20	2.5:1	5	Leads	Leads	A	1 1/2	2 1/8	1 3/8	2 3/8	—	2	3/16	0.7
	A-4723	10,000	30	3:1	5	Leads	Leads	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-4702	1500 to 5000	80	5:1	20	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5

DRIVER: PUSH-PULL PLATES TO PUSH-PULL GRIDS

b	A-4208	10,000 to 30,000 C.T.	15	2.8:1	15	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5
	A-4212	1500 to 5000 C.T.	50	3.2:1	20	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5

DRIVER: "POLY-PEDANCE"-MULTIPLE TAPS OFFER A WIDE RANGE OF RATIO SELECTION

b	A-4761	5000 to 15,000 C.T.	100	{2.4/2.2/2.1/1.8/ 1.6/1.4/1.25:1}	15	Leads	Leads Lugs	C	2 1/2	3 1/8	3 1/8	2	2 1/8	2 3/4	3/16 x 3/8	3.4
	A-4762	5000 to 15,000 C.T.	100	{5/4.5/4/3.4/3.2 3.1/2.6:1}	15	Leads	Leads Lugs	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.7
	A-4765	500	—	{1.33/1.2/1/.8/.7/ .5/.45/.4/.36 .32:1}	15	Leads	Leads Lugs	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	3.2

DRIVER: BROADCAST FREQ. RESPONSE ±1 DB 30 TO 15,000 CYCLES

c	aD-1	3000 C.T.	100	3.5:1	10	Terms	Terms	B	3 1/4	3 5/8	4 5/16	2 3/8	2 5/8	—	10-32	6.5

MODULATION

	Catalog No.	Impedance in Ohms Primary	Impedance in Ohms Secondary	Max. Sec DCMA	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
c	A-3812	10,000 C.T.	4000	50	5	Leads	Leads	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	A-3871	4500	8500	50	10	Leads	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.4
	A-3845	10,000 C.T.	8000/6500/5000/3000	100	25	Leads	Leads	C	2 1/2	2 7/8	3 1/8	2	1 7/8	2 1/2	3/16 x 3/8	2.8
	A-3808	3800/3300 C.T.	{10 000/7500/5000/ 4000}	170	60	Lugs	Lugs	C	3 3/4	4	4 11/16	3	2 13/16	3 5/8	3/16 x 3/8	7.7
	A-3829	9000/6900 C.T.	6250/5000/4000/3300	300	175	Lugs	Lugs	C	3 3/4	5	4 11/16	3	3 13/16	4 5/8	3/16 x 3/8	11.4

MODULATION: "POLYPEDANCE" — MULTIPLE TAPS OFFER A WIDE RANGE OF IMPEDANCE MATCH

d	A-3891	2000 to 20,000	2000 to 20,000	100	15	Lugs	Lugs	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5
	A-3892	2000 to 20,000	2000 to 20,000	150	30	Lugs	Lugs	C	3 1/8	3 1/2	3 7/8	2 1/2	2 3/16	3	3/16 x 3/8	4.3
	A-3893	2000 to 20,000	2000 to 20,000	180	60	Lugs	Lugs	C	3 1/8	4	3 7/8	2 1/2	2 11/16	3 1/2	3/16 x 3/8	6.2
	A-3894	2000 to 20,000	2000 to 20,000	225	125	Lugs	Lugs	C	3 3/4	4 1/2	4 11/16	3	3 5/16	4 1/8	3/16 x 3/8	9.4
	A-3898	2000 to 20,000	2000 to 20,000	260	300	Terms	Terms	FS	5 3/4	7 5/8	8 1/8	4 5/8	4 3/4	5 3/4	3/8 x 1/2	38
	A-3899	2000 to 20,000	2000 to 20,000	500	600	Terms	Terms	FS	7 1/4	10 1/4	9 1/8	6	5 5/8	6 7/8	7/16 x 5/8	70

MODULATION: BROADCAST FREQ. RESPONSE ±1 DB 30 TO 15,000 CYCLES

e	BM-1	7500 C.T.	5000	0	125	Terms	Terms	SC	6 1/8	6 1/2	7 1/16	4 1/4	6	5 1/4	1/4	25

MODULATION REACTOR:

	Catalog No.	Inductance in Henries	DCMA	Insul. Test RMS Volts	Termination		Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
e	BR-1	65	250	7500	Terms		SC	7 1/16	7 7/8	8 1/16	5	7	5 1/4	1/4	41

SPLATTER CHOKES: FOR HIGH LEVEL "CLIPPER" FILTERS

f	C-2317	.048 to 0.9	300	5000	Lugs		NH	3	3	2 3/8	2 1/2	2	2 3/4	3/16 x 5/16	2.3

BAND PASS FILTER: 200 TO 3,000 CYCLES

g	* C-2340	10,000	500 or 100,000	10 V. output	Lugs	Lugs	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	0.6

FOR TRANSISTOR MOBILE MODULATOR (WRITE FOR BULLETIN 545 FOR CIRCUIT)

	Catalog No.	Application	Impedance in Ohms Pri	Impedance in Ohms Sec	Max Pri DCMA	Audio Watts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
h	TA-15	Input	50 to 100	10	50	.005	Leads	Leads	A	1	1 5/8	13/16	1 3/8	—	1 1/16	1/8	0.15
	TA-16	Driver	20	36 C.T.	400	1.0	Leads	Leads	A	1 1/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.20
	TA-17	Modulation	8 C.T.	{7500/5000} @ 120 Ma	—	35.0	Leads	Leads	C	2 1/2	3	3 1/8	2	2	2 5/8	3/16 x 3/8	3.0

*Available until stock is depleted

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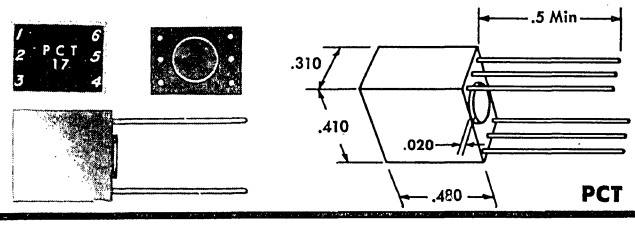
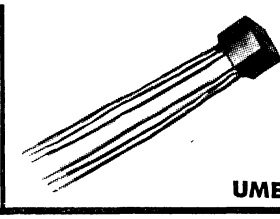




STANCOR
COMMERCIAL
miniature audio

POLYCHROMATRANS With Multiples of 0.1" Grid Spacing for Printed Circuits.

COLOR CODING by application to assure immediate and positive transformer identification.

RECTANGULAR SHAPE allows the utmost utilization of space and stacking in limited area.

PROTECTIVE STAND-OFF prevents solder flow-back and maximum lead exit protection.

SPACED LEADS of fatigue resistant gold plated nickel-iron alloy are .020" in diameter, 9/16" long and have multiples of 0.1" grid spacing for printed circuit application.

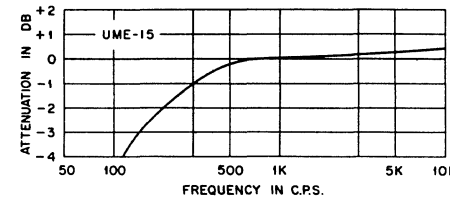
	Catalog No.	Power Level in M.W.	Application	Color Application Guide	Matching Impedance Primary	Matching Impedance Secondary	Max. MA. D.C. Unbal. in Pri.	D.C. Resistance Primary	D.C. Resistance Secondary	Overall Turns Ratio	RMS Test Volts
a	PCT-14	15	Input	Brown	200,000 CT	1,000 CT	0	6300	130	14.1:1	500
	PCT-15	35	Input	Brown	50,000 CT	1,000 CT	0	4600	90	7.1:1	500
	PCT-16	.5	Input	Brown	250,000	250,000	0	3500	4500	1:1	500
	PCT-17	15	Input	Brown	200,000	1,000	0	6300	130	14.1:1	500
	PCT-21	55	Interstage	Red	25,000	1,000	.5	2000	140	5:1	500
	PCT-23	55	Interstage	Red	25,000 CT	1,000 CT	.5	2000	140	5:1	500
	PCT-25	75	Interstage	Red	10,000 CT	1,500 CT	1	1250	360	2.57:1	500
	PCT-30	75	Driver	Orange	10,000 CT	1,200 CT	1	1250	240	2.88:1	500
	PCT-31	75	Driver	Orange	10,000 CT	2,000 CT	1	1250	400	2.24:1	500
	PCT-39	75	Driver	Orange	10,000 CT	500 CT	1	1250	100	4.47:1	500
	PCT-43	75	Output	Yellow	1,000	50	3	175	9.5	4.4:1	500
	PCT-54	75	Output	Yellow	600 CT	12	4.5	92	3.6	7.06:1	500
	PCT-60	75	Output	Yellow	500 CT	600	3	80	118	1.1:1	500
	PCT-61	75	Output	Yellow	900 CT	600	4	125	115	1.22:1	500
	PCT-62	75	Output	Yellow	1,500 CT	600	3	200	110	1.58:1	500
b	PCT-70	75	Output	Yellow	320 CT	3.2	6	52	.9	10:1	500
	PCT-71	75	Output	Yellow	600 CT	3.2	4.5	84	1	13.6:1	500
	PCT-76	75	Output Isolation	Green	10,000 CT	10,000 CT	1	1100	1400	1:1	500
	PCT-77	75	Output Isolation	Green	600 CT	600 CT	3	85	110	1:1	500
	PCT-116	—	Choke	Blue	6 HYS.	—	2	1800	—	—	500
	PCT-117	—	Choke	Blue	1.25 HYS.	—	2	200	—	—	500
	PCT-118	—	Choke	Blue	3.5 HYS.	—	2	1200	—	—	500
	PCT-128	—	Choke	Blue	.3 HY.	—	4	50	—	—	500

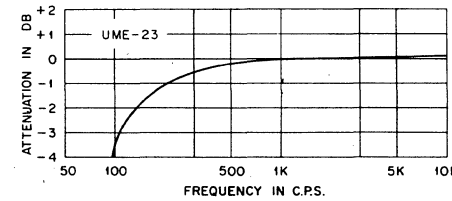
SPCT-10 Magnetic Alloy Shield-fits all PCT Transformers.

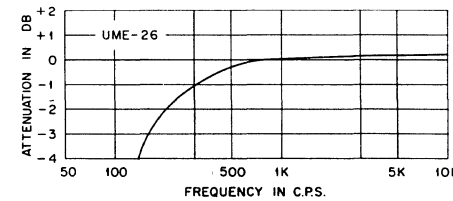
ULTRA MINIATURE ENCAPSULATED TRANSFORMERS Size .312" x .400" x .426". Insulation Test — 100 Volts

	Catalog No.	Application	Pri. Res.	Pri. Imp. in Ohms	D.C. MA in Pri.	Sec. Imp. in Ohms	Sec. Res.	Mw. Level
c	UME-11	interstage	1500	30,000	.5	1200	185	50
	UME-12	output	120	600	3	60	13	100
	UME-13	output	250	1200	3	60	17	100
	UME-14	output	70	600	3	3.2	.7	100
	UME-15	output	170	1200	2	3.2	.75	100
	UME-16	output	1200	10,000	1	3.2	.7	100
	UME-17	input	7500	200,000	0	1000	260	25
	UME-18	reactor	1000	3 hy @ 2 MADC	2	—	—	—
	UME-19	output or driver	1100	12,500 CT	1	600 CT	45	100
	UME-20	driver	1000	12,500	1	1500 CT	100	100
	UME-21	driver	1100	12,500	1	2500 CT	160	100
	UME-22	single or PP output	25	200 CT	10	16	3	500
	UME-23	single or PP output	35	400 CT	7	16	2.5	500
	UME-24	single or PP output	75	800 CT	5	16	2	500
	UME-25	single or PP output	85	1070 CT	4	16	2	500
	UME-26	single or PP output	120	1330 CT	3.5	16	2	500
d	UME-27	single or PP output	225	2000 CT	3	16	2.5	500
	UME-28	single or PP output	750	10,000 CT	1	16	2.5	500
	UME-29	output	35	300 CT	7	600	110	500
	UME-30	output	60	500 CT	5.5	600	110	500
	UME-31	output	105	900 CT	4	600	110	500
	UME-32	output	200	1500 CT	3	600	120	500
	UME-33	interstage	1500	30,000 CT	.5	1200 CT	175	100
	UME-34	input	6500	200,000 CT	0	1000 CT	250	25
	UME-35	interstage	1000	12,000 CT	1	1800 CT	115	100
	UME-36	reactor	2600	6 hy @ 2 MADC	2	—	—	—
	UME-37	reactor	190	1 hy @ 2 MADC	2	—	—	—
	UME-38	reactor	1800	12 hy @ 0 DC	0	—	—	—
	UME-39	reactor	2700	20 hy @ 0 DC	0	—	—	—

Typical Response Curves







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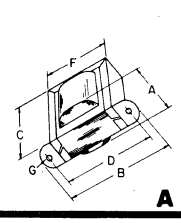
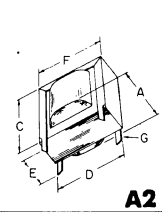
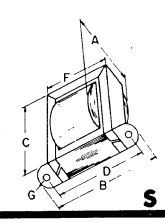
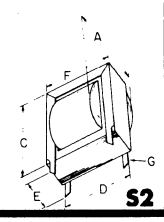
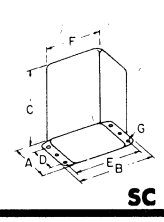
transistor transformers

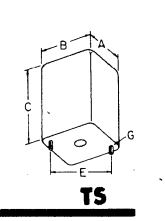












FOR AUDIO APPLICATIONS: ALL UNITS TERMINATE WITH LEADS

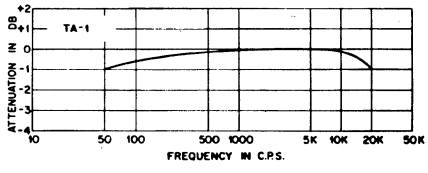
	Catalog No.	Application	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Max. Pri. DCMA	Audio Watts	D.C. Res. in Ohms Pri	D.C. Res. in Ohms Sec	Style	Dimensions A	B	C	D	E	F	G	WT Lbs.
a	TA-1	Input	600 C.T.	10	20	.05	42	0.8	A	1	1 5/8	13/16	1 3/8	—	1 1/16	1/8	.07
	TA-2	Interstage	100 C.T.	10 C.T.	100	.25	4.3	0.8	A	1 1/2	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	.25
	TA-3	Interstage	100	1000 C.T.	100	.25	5.8	45	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	.35
	TA-4	Interstage	500 C.T.	5000 C.T.	12	.03	37	250	A	1 5/8	2 3/8	1 3/8	2	—	1 3/4	3/16	.35
	TA-5	Driver	1000	200 C.T.	10	.05	400	115	A	5/8	1 5/16	11/16	1 1/16	—	13/16	1/8	.05
	TA-6	Driver	2000	200 C.T.	5	.05	720	115	A	5/8	1 5/16	11/16	1 1/16	—	13/16	1/8	.05
	TA-7	Driver	100	100 C.T.	100	.5	12	12	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	.60
	TA-8	Output	9800	15	2	.05	640	2	A	5/8	1 5/16	11/16	1 1/16	—	13/16	1/8	.05
	TA-9	Output	1000	16/8/4	10	.2	180	3.5	A	7/8	1 5/8	13/16	1 3/8	—	1 1/16	1/8	.07
	TA-10	Output	2000 C.T.	16/8/4	—	.2	250	4	A	7/8	1 5/8	13/16	1 3/8	—	1 1/16	1/8	.08
	TA-11	Output	48 C.T.	16/8	275	5	5	1.5	A	1 7/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	TA-12	Output	20 C.T.	8	500	10	.55	.35	A	1 5/8	2 3/8	1 3/8	2	—	1 3/4	3/16	.45
	TA-13	Driver	200 C.T.	400 C.T.	10	.6	4	7	SC	2 1/4	2 11/16	2 15/16	1 1/2	2 3/8	2	3/16	1.5
	TA-14	Output	24 C.T.	16/4	200	10	2	1.2	SC	3 11/16	4 7/16	4 5/16	2 3/4	3 7/8	3 1/4	3/16	6.6
	TA-56	Output	48 C.T.	16/8/3.2	550	10	3.6	1.4	S†	1 3/4	2 7/8	2 3/8	2 3/8	—	2	3/16	.90
	TA-57	Output	100 C.T.	16/8/3.2	500	10	6.6	1.5	S	1 7/8	2 7/8	2 3/8	2 3/8	—	2	3/16	.95
	TA-58	Driver	100	200 C.T.	200	.5	6.5	15.5	A	1 1/4	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	.20
	TA-59	Driver	500 C.T.	200 C.T.	50	.5	36.5	15.5	A	1 3/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	.20
	TA-60	Output	125 C.T.	8	50	1.5	7.5	0.9	TS	1 5/16	1 5/16	1 11/16	—	1 9/32	—	6-32	.30
	TA-61	Driver	*	*	—	—	1.8	1.8	S	1 1/2	2 3/8	2	2	—	1 5/8	3/16	.60
	TA-62	Output	25	4	400	4	1.5	0.4	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	.60

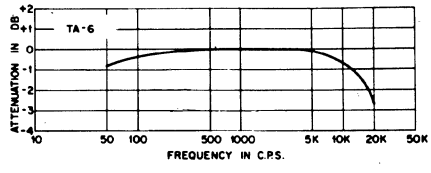
FOR TRANSISTORIZED AUTO RADIOS

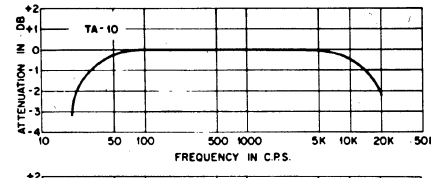
b	TA-48	Interstage	1000	40	10	2	136	2.8	S2	1 1/4	—	1 3/4	1 3/16	7/16	1 3/8	1/8	.35
	TA-49	Output	30 C.T.	4	50	10	2.2	0.3	S	1 1/2	2 7/8	2 3/8	2 3/8	—	2	3/16	.80
	TA-50	Output	9	4	920	10	1.5	1.0	A2	1 5/8	—	2	2	3/4	2 3/8	3/16	1.0
	TA-51	Interstage	1000	10	10	2	170	1.0	S2	1 1/4	—	1 3/4	1 3/16	7/16	1 3/8	1/8	.35

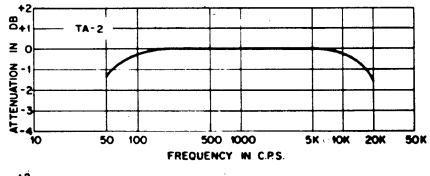
*Trifilar Wound-Ratio 1:1:1. †Has Lugs on Secondary.

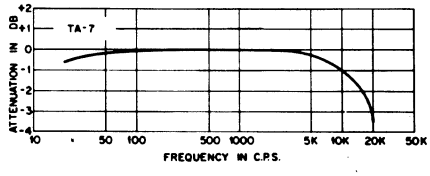
TYPICAL FREQUENCY RESPONSE CURVES

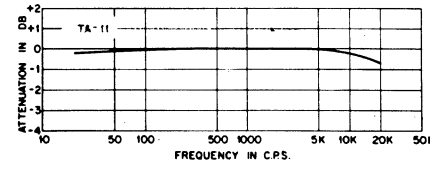


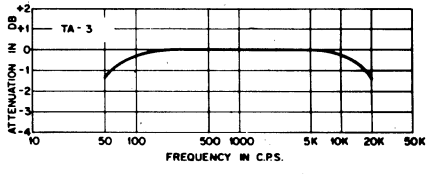


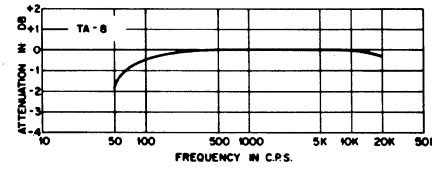


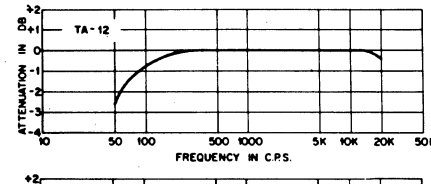


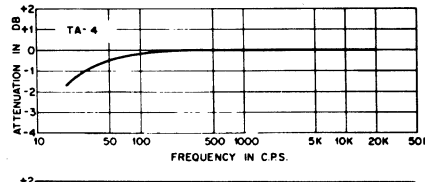


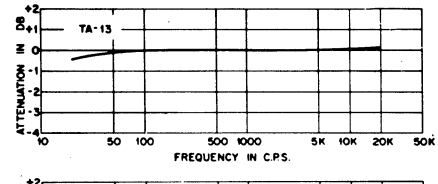


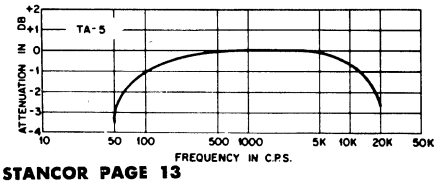


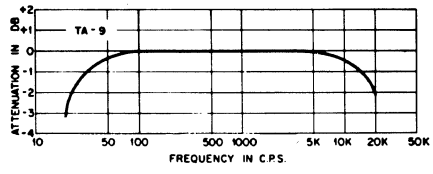


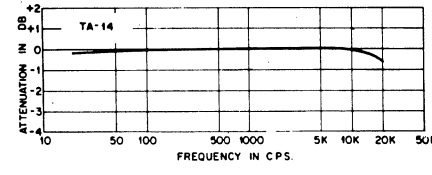












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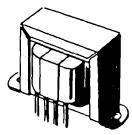

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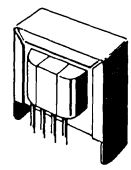


A1

STANCOR

COMMERCIAL

transistor transformers

MINIATURE AUDIOS

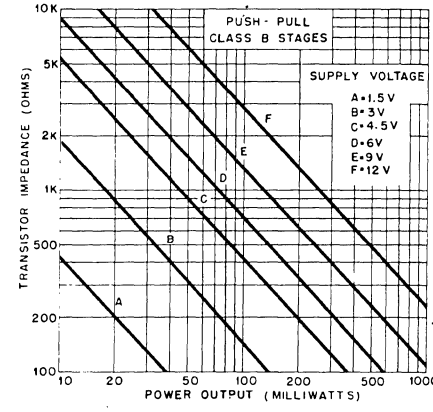
.150 WATT GROUP — Dimensions: HxWxD, 2 1/32" x 13/16" x 5/8". Mounting tabs 3/16" wide, 2 5/32" centers • Weight .65 oz. Mounting Type A1.

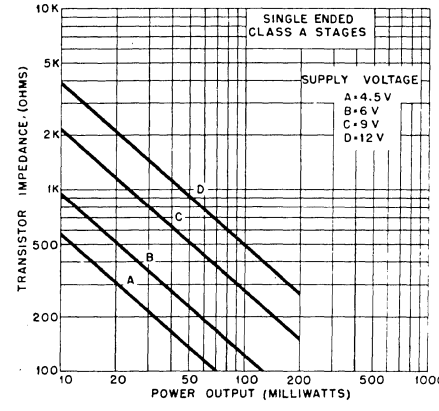
	Catalog No.	Application	Turns Ratio Pri. to Sec.	Impedance in Ohms Pri.	Impedance in Ohms Sec.	D.C. Res. in Ohms Pri.	D.C. Res. in Ohms Sec.
a	TA-18	Input	1.00:45.5	30 CT	50,000	14.7	4060
	TA-19	Interstage	3.08:1	100 CT	10 CT	19	1.27
	TA-20	Output	5.22:1	350 CT	4, 12	38	1.45
	TA-21	Output	5.53:1	500 CT	4, 8, 16	75.3	3.55
	TA-22	Interstage	3.16:1	500 CT	50	59.7	7.9
	TA-23	Output	5.65:1	600 CT	4, 8, 16	73.2	3.2
	TA-24	Interstage	10.0:1	500 CT	50,000	76.8	5135
	TA-25	Output	6.75:1	825 CT	4, 8, 16	74	2.7
	TA-26	Output	9.80:1	1,250	4, 12	132.5	1.4
	TA-27	Interstage	1:4.08	1,200	20,000 CT	142	1860
	TA-28	Interstage	1.65:1	1,500	500 CT	104	46.5
	TA-29	Output	11.8:1	2,500	4, 16	370	2.3
	TA-30	Interstage	1.00:1.22	5,000 CT	7,500 CT	650	790
	TA-31	Interstage	1.00:1.41	5,000 CT	10,000 CT	635	825
	TA-53	Interstage	3:1	5,000 CT	45,000	310	1400
	TA-32	Interstage	1.00:4	5,000 CT	80,000 CT	500	5200
	TA-33	Output	24.6:1	10,000 CT	4, 8, 16	1174	2.6
	TA-34	Interstage	6.97:1	10,000	200 CT	1200	33.4
	TA-35	Interstage	2.24:1	10,000	2,000 CT	1200	257
	TA-36	Interstage	1.83:1	10,000	3,000 CT	1200	385
	TA-54	Interstage	5:1	20.000	800 CT	1350	95
	TA-37	Output	5.55:1	400 CT	11	71.5	1.5
	TA-38	Interstage	1.72:1	500 CT	150 CT	62	21.2

.300 WATT GROUP — Dimensions: HxWxD, 13/16" x 1 5/8" x 3/4". Mounting Centers: 1 3/8" • Weight 1.2 oz. Mounting Type A.

	Catalog No.	Application	Turns Ratio Pri. to Sec.	Impedance in Ohms Pri.	Impedance in Ohms Sec.	D.C. Res. in Ohms Pri.	D.C. Res. in Ohms Sec.
b	TA-39	Output	2.5:1	100 CT	4, 8, 16	10.9	1.45
	TA-40	Output	3.27:1	160	4, 8, 16	18.7	1.4
	TA-41	Output	5.00:1	400 CT	4, 8, 16	34	1.5
	TA-42	Output	5.60:1	500 CT	4, 8, 16	47	.85
	TA-52	Interstage	1:1	500 CT	500 CT	40	55
	TA-43	Output	6.63:1	700 CT	4, 8, 16	77	1.15
	TA-44	Output	12.5:1	2,500	4, 8, 16	172	1.15
	TA-45	Output	13.7:1	3,000	4, 8, 16	192	1.2
	TA-46	Interstage	8.17:1	100,000	1,500 CT	3250	143
	TA-55	Input	50:1	500,000	200 CT	7000	8.5
	TA-47	Input	1.00:14.1	1,000 CT	200,000 CT	123	1815
	TA-63	Driver	3.17:1	20,000 CT	2,000 CT	2140	325

Transistor Impedance Characteristic Curves





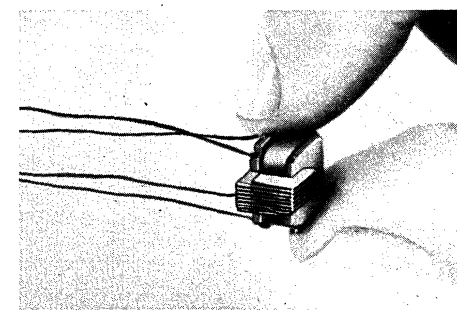
ULTRA MINIATURE

Here are the smallest iron core audio transformers ever built. They weigh less than 1/10 ounce and are no larger than the transistors they power.

These transformers are designed primarily for transistor audio applications but they can be used wherever low power is involved. Useful range, below 1 mw level. They are constructed of extremely fine wire, wound on molded nylon bobbins, with special nickel alloy steel laminations.

Catalog No.	Application	Pri. Imp.	Sec. Imp.	Pri. DC Res.	Sec. DC Res.	Weight
*UM-110	Interstage	20,000	1,000	1675	285	0.07
*UM-113	Interstage	20,000	1,000	1350	205	0.10
*UM-114	Output or matching	500	50/60	70	9.0	0.10

Dimensions* UM-110, 1/4" x 3/8" x 3/8"; UM-113, 114, 3/8" x 3/8" x 3/8". Dimensions ±.015". *Available until stock is depleted.



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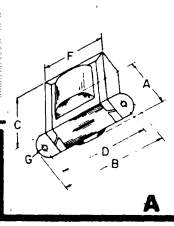
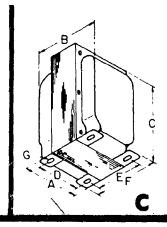
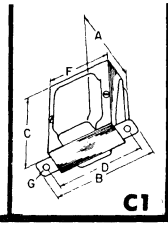
STANCOR

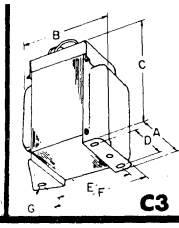
COMMERCIAL

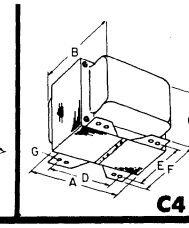
power transformers

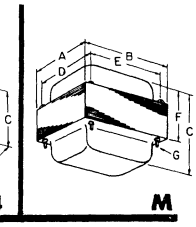












Stancor's broad line of commercial grade power transformers offers a choice of standard mounting styles. Listings are in ascending order of plate-supply voltage for ease of selection.

All units are designed and built to meet the exacting requirements of EIA for electrical tolerances, dielectric strength, temperature rise and construction. All are insulated with class A materials; (105°C max. operating temperature).

Transformers designed for full-wave C.T. rectification with capacitor input filter may be used with choke input filter allowing an increase in D.C. current of 30%.

Transformers designed for full-wave C.T. rectification with choke input filter may be used with capacitor input filter requiring a decrease in D.C. current of 25%.

CONSULT FACTORY for detailed information concerning electrical rating and/or mechanical characteristics.

FOR CAPACITOR INPUT SYSTEMS — PRIMARIES 117 VOLTS 60 CYCLES

	Catalog No.	Plate Windings		Rectifier Fil.		Other Windings		Termination		Style	Dimensions							Wt. lbs.
		AC Volts	DCMA	Volts	Amps	Volts	Amps	Pri.	Sec.		A	B	C	D	E	F	G	
a	P-8379	115[a]	290			2.7 6.3	.45 8.0	Leads	Leads	M†	2 13/16	3 7/16	4	2 7/16	3	2 7/8	8-32	5.7
	P-8158	117[a]	200			6.3 6.3 6.3	4.25 4.0 2.0	Leads	Leads	M†	3 7/16	4 3/16	3 5/8	2 3/4	3 7/16	2 3/8	8-32	6.2
	P-8336	117[a]	280			6.3 6.3 6.3	9.5 1.2 .6	Leads	Leads	M†	3 3/4	4 9/16	4 1/4	3 1/4	4 1/16	3	8-32	8.0
	P-8386	117[a]	300			6.3	10.0	Leads	Leads	C4†	3 3/4	4	3 1/8	2 1/8	2 1/2	2 5/8	3/16 x 3/8	6.9
b	P-6146	120-0-120	250	5.0	3.0			Leads	Leads	C	3 1/8	3 1/4	3 7/8	2 1/2	1 15/16	2 15/16	3/16 x 3/8	4.2
	PS-8415	125[b]	15			6.3	.6	Leads	Leads	S	1 3/8	2 3/8	1 15/16	2	—	1 11/16	3/16	.7
	PS-8416	125-0-125	25			6.3	1.0	Leads	Leads	S	1 3/4	2 13/16	2 5/16	2 3/8	—	2	3/16	1.0
	PA-8421	125[b]	50			6.3	2.0	Leads	Leads	A	2 1/8	3 11/16	2 1/4	3 1/8	—	2 3/4	3/16	1.5
	P-8181	150[b]	25			6.3 C.T.	.5	Leads	Leads	VE	1 13/16	2 3/8	1 15/16	2	—	1 5/8	3/16	.8
	P-8372	150[b]	250			6.3 6.3	8.0 1.2	Leads	Leads	M	3 3/4	4 1/2	4 1/8	3	3 3/4	2 5/8	8-32	8.7
	P-9000C	155[a]	450			6.3 6.3	2.0 13.5	Leads	Leads	C†	3 1/2	4 7/8	4 3/16	3 1/16	3 13/16	4 1/2	1/4 x 3/8	12.0
	P-8359	190-160-0-160-190	70			6.3 C.T. 6.3	3.0 .6	Leads	Leads	C	2 1/2	2 5/8	3 1/8	2	1 7/8	2 5/16	3/16 x 3/8	2.8
	P-8383	200-0-200	110			6.3 6.3 C.T.	2.0 4.0	Leads	Leads	C	2 1/2	3 1/4	3 1/8	2	2 1/4	2 5/16	3/16 x 3/8	3.0
	PC-8417	220-0-220	50			6.3 25.2	.6 .5	Leads	Leads	C	2 1/2	2 5/8	3 1/8	2	1 5/16	2 5/16	3/16 x 3/8	2.2
c	PCC-40	225-0-225	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	SC	2 7/8	3 1/2	3 1/2	2	3 1/8	2 11/16	3/16	3.2
	PSC-40	225-0-225	40	5.0	2.0	6.3 C.T.	2.0	Lugs	Lugs	SC	2 7/8	3 1/2	3 3/4	2	3 1/8	2 11/16	3/16	3.2
	P-8155	225-0-225	90	5.0	2.0	6.3	5.15	Leads	Leads	M	2 13/16	3 3/8	3 3/4	2 1/4	2 13/16	2 1/2	8-32	4.5
	PC-8418	230-0-230	50			6.3	2.5	Leads	Leads	C	2 1/2	2 5/8	3 1/8	2	1 5/16	2 5/16	3/16 x 3/8	2.2
	PM-8418	230-0-230	50			6.3	2.5	Leads	Leads	M	2 1/2	3	2 5/8	2	2 1/2	1 1/2	8-32	2.2
	PC-8401	235-0-235	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	C	2 1/2	2 5/8	3 1/8	2	1 5/16	2 5/16	3/16 x 3/8	2.2
	PM-8401	235-0-235	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	M	2 1/2	3	2 5/8	2	2 1/2	1 7/8	8-32	2.2
	P-8374	235-0-235	260	5.0	6.0	6.3 6.3 6.3	5.0 5.0 1.2	Leads	Leads	M†	3 7/16	4 3/16	4 7/8	3	3 11/16	3 5/8	8-32	10.0
	P-8382	235[b] 35	20 1	5.0	2.0	6.3	2.85	Leads	Leads	M6	2 3/16	2 5/8	3 1/8	2 13/16	—	—	.136	2.5
	PC-8402	240-0-240	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 7/16	3/16 x 3/8	2.4
	PM-8402	240-0-240	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	M	2 1/2	3	2 3/4	2	2 1/2	1 7/8	8-32	2.4
d	P-6348	240-0-240	60			6.3 C.T.	2.75	Leads	Leads	M	2 3/16	2 5/8	2 3/4	1 15/16	—	2 1/8	6-32	2.3
	PC-8419	240-0-240	70			6.3	3.0	Leads	Leads	C	2 1/2	2 7/8	3 1/8	2	1 13/16	2 9/16	3/16 x 3/8	2.6
	PM-8419	240-0-240	70			6.3	3.0	Leads	Leads	M	2 1/2	3	2 7/8	2	2 1/2	2	8-32	2.6
	P-8173	250-0-250	10			6.3 6.3	.6 1.2	Leads	Leads	C1	2 7/8	2 1/8	2 1/4	2 3/8	—	1 1/2	3/16	1.0
	P-8174	250-0-250	20			6.3 6.3	.6 1.2	Leads	Leads	C1	3 5/16	2 1/4	2 5/8	2 13/16	—	2 5/16	3/16	1.5
	PC-8403	250-0-250	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	C	2 1/2	3 1/8	3 1/8	2	2 1/16	2 13/16	3/16 x 3/8	3.2
	PM-8403	250-0-250	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	M	2 1/2	3	3 1/8	2	2 1/2	2 1/4	8-32	3.2
	PC-8404	260-0-260	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	C	2 13/16	3 1/2	3 1/2	2 1/4	2 1/4	3 1/16	3/16 x 3/8	4.0
	PM-8404	260-0-260	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	M	2 13/16	3 3/8	3 1/2	2 1/4	2 13/16	2 3/8	8-32	4.0
	PC-8420	260-0-260	90			6.3	4.0	Leads	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 13/16	3/16 x 3/8	3.5
	PM-8420	260-0-260	90			6.3	4.0	Leads	Leads	M	2 13/16	3 3/8	3 1/2	2 1/4	2 13/16	2 1/8	8-32	3.5
	P-8354	260-0-260	325	5.0 C.T.	6.0	6.3	11.0	Leads	Leads ‡	M5†	3 3/4	4 1/2	5 1/4	3 5/16	4 1/16	4	8-32	11.0
	P-8353	265-0-265	300	5.0	6.0	12.6 C.T.	6.0	Leads	Leads ‡	C3	3 3/4	4 3/4	5 7/8	3	4	5 1/4	7/32 x 1/2	12.5
e	PCC-55	270-0-270	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	SC	2 7/8	3 1/2	3 1/2	2	3 1/8	2 11/16	3/16	3.5
	PSC-55	270-0-270	55	5.0	2.0	6.3 C.T.	2.0	Lugs	Lugs	SC	2 7/8	3 1/2	3 3/4	2	3 1/8	2 11/16	3/16	3.5
	PC-8405	270-0-270	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	C	3 1/8	3 1/2	3 7/8	2 1/2	2 5/16	3 1/16	3/16 x 3/8	4.9
	PM-8405	270-0-270	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	M	3 1/8	3 3/4	3 7/16	2 1/2	3 1/8	2 3/8	8-32	4.9
	P-8172	270-0-270	200	5.0	3.0	6.3	8.5	Leads	Leads	M	3 1/8	3 3/4	4 7/16	2 11/16	3 5/16	3 1/4	8-32	7.0
	P-8356	270-0-270	260	5.0	3.0	6.3	8.8	Leads	Leads	C†	3 1/8	3 3/8	3 7/8	2 1/2	2 1/4	2 15/16	.136	6.5
	P-8376	270-0-270	320	5.0	4.0	6.3	10.0	Leads	Leads	M†	3 7/16	4 1/4	4 1/8	3	3 11/16	2 7/8	8-32	8.5
	P-8377	270-0-270	280	5.0	3.0	6.3	10.0	Leads	Leads	M†	3 1/8	3 15/16	3 5/8	2 11/16	3 5/16	2 3/4	8-32	6.7
	P-8334	275-0-275	305	5.0	5.0	6.3 6.3	8.5 1.2	Leads	Leads	M†	3 3/4	4 9/16	5 1/8	3 1/4	4 1/16	4	8-32	13.0
	P-8167	280-0-280	400	5.0	6.0	6.3 6.3	4.5 8.5	Leads	Leads	M†	3 3/4	4 9/16	5 1/2	3 1/4	4 1/16	4 1/4	8-32	13.0
	P-8332	280-0-280	260	5.0	5.0	6.3 6.3 6.3	7.1 1.2 .9	Leads	Leads	M†	3 3/4	4 9/16	4 15/16	3 1/4	4 1/16	3 5/8	8-32	11.0

a. For use in Voltage Doubler Circuits. b. For use in Half-Wave Circuits. † With Copper shorting band to reduce external Magnetic Field.
‡ Plate wdg and rectifier filament wdg Connected to Tube Socket. *Available until stock is depleted

STANCOR PAGE 15 **ALL SECONDARY A.C. VOLTAGES ±3%** **ALL PCC AND PSC NUMBERS MAY BE OPERATED AT 50 CYCLES**

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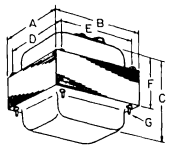

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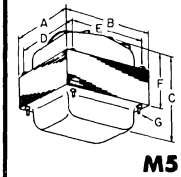

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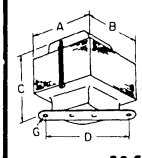

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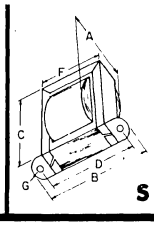

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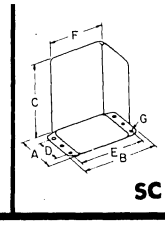

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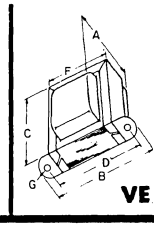

VE

STANCOR
COMMERCIAL
power transformers

FOR CAPACITOR INPUT SYSTEMS — PRIMARIES 117 VOLTS 60 CYCLES

	Catalog No.	Plate Windings AC Volts	Plate Windings DCMA	Rectifier Fil. Volts	Rectifier Fil. Amps	Other Windings Volts	Other Windings Amps	Termination Pri.	Termination Sec.	Style	Dimensions A	B	C	D	E	F	G	Wt. lbs.
a	P-8373	280-0-280	280	5.0	3.0	6.3 24.0	10.0 2.6	Leads	Leads	M	3⅛	3¾	4¼	2 11/16	3 5/16	3⅛	8-32	8.0
	P-8378	280-0-280 250-0-250	300	5.0/3.0	4.5	6.3 24.0 6.3	10.0 1.2 7.5	Leads	Leads	C†	3⅛	4⅝	3⅞	2½	3¼	4 3/16	3/16 x 3/8	7.9
	P-8375	283-0-283	210	5.0 C.T.	3.0	6.3 6.3	1.5 1.2	Leads	Leads ‡	M3†	3¾	4 9/16	4 5/8	3	3¾	3¼	8-32	8.3
	P-8355	285-0-285	250	5.0	3.0	6.3	9.5	Leads	Leads	C4†	3¾	3½	3 3/16	2½	2 3/16	2¾	8-32	6.5
	P-8365	285-0-285	325	5.0	6.0	12.6 C.T	6.0	Leads	Leads	M†	3¾	4 9/16	4 5/16	3	3¾	3	8-32	10.2
	P-8352	290-0-290	240	5.0	3.0	12.6 C.T	5.25	Leads	Leads	C	3¾	3 15/16	4 13/16	3	3 5/8	4¾	3/16 x ½	8.5
	P-8367	290-0-290	270	5.0	6.0	6.3 6.3	8.5 1.2	Leads	Leads ‡	M5†	3¾	4½	5⅛	3	3¾	3¾	8-32	12.5
	P-8381	290-0-290	290	5.0	3.0	6.3 6.3	5.0 5.0	Leads	Leads	M†	3⅛	3 13/16	5	2 11/16	3 5/16	3⅞	8-32	6.9
	P-8333	295-0-295	225	5.0 C.T.	3.0	6.3 6.3	11.4 .9	Leads	Leads ‡	M3†	3¾	4 9/16	4⅞	3¼	4 1/16	3 5/8	8-32	10.0
b	PCC-60	300-0-300	60	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	SC	3¼	4	3⅞	2¾	3½	2 15/16	7/32	4.5
	PSC-60	300-0-300	60	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	SC	3¼	4	4¼	2¼	3½	2 15/16	7/32	4.5
	P-6358	300-0-300	65			6.3 C.T.	2.7	Leads	Leads	C	2½	2½	3⅛	2	1¾	2 3/16	3/16 x 3/8	3.0
	P-8175	300-0-300	70	5.0	3.0	6.3 C.T.	3.0	Leads	Leads	C	2⅞	3⅛	3½	2¼	2¼	3⅛	3/16 x 7/16	4.0
	PM-8423	300-0-300	90	5.0	2.0	6.3 C.T.	3.5	Leads	Leads	M	2 13/16	3⅜	3	2¼	2 13/16	2	8-32	4.0
	P-8177	300-0-300	120	5.0	3.0	6.3 C.T.	3.0	Leads	Leads	C	3 3/16	3 5/8	3⅞	2¾	2 9/16	3 5/8	3/16 x ½	5.8
	P-8164	300-0-300	225	5.0	3.0	6.3	9.0	Leads	Leads	M†	3 7/16	4 9/16	4⅛	2¾	3 7/16	3⅛	8-32	7.5
	P-8335	300-0-300	325	5.0	6.0	6.3 6.3	8.8 1.5	Leads	Leads	M†	3¾	4 9/16	5⅛	3¼	4 1/16	4	8-32	13.0
	P-8331	310-0-310	240	5.0	3.0	6.3 6.3	6.4 3.0	Leads	Leads	M†	3¾	4 9/16	4½	3¼	4 1/16	3¼	8-32	9.0
	P-8370	310-0-310	320	5.0 C.T.	6.0	6.3 6.3 6.3	11.0 1.2 1.2	Leads	Leads ‡	M5†	3¾	4⅝	5⅝	3	3¾	4⅜	8-32	14.0
	P-8337	315-0-315	225	5.0	3.0	6.3	8.25	Leads	Leads ‡	M3†	3¾	4½	4½	3¼	4 1/16	3¼	8-32	8.5
c	P-8338	315-0-315	310	5.0	6.0	6.7 6.4	10.0 1.6	Leads	Leads	M†	3⅞	4¾	5⅜	3	3¾	4	10-32	12.5
	P-8371	320-0-320 200-0-200	200 80	5.0 C.T.	3.0	6.3 6.3	4.0 3.0	Leads	Leads ‡	M3†	3¾	4⅝	5⅜	3	3¾	4	8-32	11.3
	P-6010	325-0-325	40	5.0 C.T.	2.0	6.3 C.T.	2.0	Leads	Leads	M	2½	3	2¾	2	2½	1⅞	8-32	2.4
	PC-8406	325-0-325	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	C	2½	2¾	3⅛	2	1 11/16	2 7/16	3/16 x 3/8	2.4
	PM-8406	325-0-325	40	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	M	2½	3	2¾	2	2½	1⅞	8-32	2.4
	PC-8407	325-0-325	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	C	2½	3⅛	3⅛	2	2 1/16	2 13/16	3/16 x 3/8	3.2
	PM-8407	325-0-325	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	M	2½	3	3⅛	2	2½	2¼	8-32	3.2
	PC-8422	325-0-325	150	5.0	3.0	6.3 C.T.	5.0	Leads	Leads	C	3⅛	3⅞	3⅞	2½	2 9/16	3 7/16	3/16 x 3/8	5.8
	PM-8422	325-0-325	150	5.0	3.0	6.3 C.T.	5.0	Leads	Leads	M	3⅛	3¾	3⅝	2½	3⅛	2⅝	8-32	5.8
	P-8339	325-0-325	255	5.0	3.0	12.6 C.T.	5.25	Leads	Leads	C	3¾	4	4⅞	3	3¾	4¾	3/16 x ½	8.5
	P-8369	325-0-325	240	5.0 C.T.	3.0	6.3 6.3 6.3	10.0 .9 1.2	Leads	Leads ‡	M3†	3¾	4⅝	5⅜	3	3¾	4⅛	8-32	11.5
d	PCC-85	330-0-330	85	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	SC	3 11/16	4 7/16	4 5/16	2¾	3⅞	3¼	7/16	6.0
	PSC-85	330-0-330	85	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	SC	3 11/16	4 7/16	4 5/16	2¾	3⅞	3¼	7/32	6.0
	PCC-70	335-0-335	70	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	SC	3¼	4	3⅞	2¼	3½	2 15/16	7/32	4.5
	PSC-70	335-0-335	70	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	SC	3¼	4	4¼	2¼	3½	2 15/16	7/32	4.5
	P-5059	337-0-337	200	5.0 C.T.	3.0	6.3 C.T.	5.0	Leads▲	Leads	C	3¾	4 5/16	4 11/16	3	3 3/16	4	3/16 x 3/8	9.6
	PC-8408	340-0-340	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	C	2 13/16	3⅜	3½	2¼	2⅛	2 15/16	3/16 x 3/8	3.8
	PM-8408	340-0-340	70	5.0	2.0	6.3 C.T.	2.5	Leads	Leads	M	2 13/16	3⅜	3½	2¼	2 13/16	2¼	8-32	3.8
	P-8166	340-0-340	330	5.0	6.0	6.3 6.3 6.3	2.5 5.0 5.0	Leads	Leads	M†	3¾	4 9/16	5⅜	3¼	4 1/16	4⅛	8-32	13.0
	PCC-105	345-0-345	105	5.0	2.0	6.3 C.T.	3.5	Leads	Leads	SC	3 11/16	4 7/16	4 5/16	2¾	3⅞	3¼	7/32	6.5
	PSC-105	345-0-345	105	5.0	2.0	6.3 C.T.	3.5	Lugs	Lugs	SC	3 11/16	4 7/16	4 11/16	2¾	3⅞	3¼	7/32	6.5
	P-6011	350-0-350	70	5.0 C.T.	3.0	6.3 C.T.	2.5	Leads	Leads	M	2½	3	3⅜	2	2½	2½	8-32	3.5
	P-6012	350-0-350	90	5.0 C.T.	3.0	6.3 C.T.	3.5	Leads	Leads	M	2 13/16	3⅜	3½	2¼	2 13/16	2½	8-32	4.2
	PC-8409	350-0-350	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	C	2 13/16	3⅝	3½	2¼	2⅜	3 3/16	3/16 x 3/8	4.5
	PM-8409	350-0-350	90	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	M	2 13/16	3⅜	3½	2¼	2 13/16	2½	8-32	4.5
e	P-8176	350-0-350	110	5.0	2.0	6.3 C.T. 6.3 C.T.	3.0 3.0	Leads	Leads	C	3¼	3⅞	3 13/16	2¾	3	3⅞	1/16 x ½	5.5
	P-6013	350-0-350	120	5.0 C.T.	3.0	6.3 C.T.	4.7	Leads	Leads	M	3⅛	3¾	3⅜	2½	3⅛	2⅜	8-32	5.2
	P-8345	350-0-350	215	5.0	3.0	6.3 6.3	9.0 1.2	Leads	Leads	M†	3¾	4 9/16	5	3¼	4 1/16	3 5/8	8-32	11.5
	P-8350	350-0-350	270	5.0 5.0	6.0 2.0	6.3 6.6	1.5 7.8	Leads	Leads	M†	3¾	4 9/16	5½	3¼	4 1/16	4	8-32	13.0
	P-8340	355-0-355	270	5.0	6.0	6.3 6.3 6.3	9.5 1.65 2.4	Leads	Leads	M†	3¾	4 9/16	5⅜	3¼	4 1/16	4⅛	8-32	12.0
	PC-8410	360-0-360	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	C	3⅛	3¾	3⅞	2½	2 7/16	3 5/16	3/16 x 3/8	5.5
	PM-8410	360-0-360	120	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	M	3⅛	3¾	3½	2½	3⅛	2½	8-32	5.5

† With Copper shorting band to reduce external Magnetic Field. ‡ Plate wdg and rectifier filament wdg Connected to Tube Socket. ▲ Primary for 117-107 volts.
*Available until stock is depleted

ALL SECONDARY A.C. VOLTAGES ±3% — **ALL PCC AND PSC NUMBERS MAY BE OPERATED AT 50 CYCLES** — **STANCOR PAGE 16**

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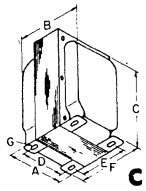

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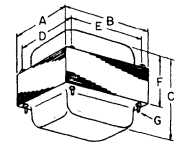

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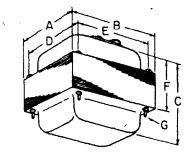

M3

FOR CAPACITOR INPUT SYSTEMS — PRIMARIES 117 VOLTS 60 CYCLES

	Catalog No.	Plate Windings AC Volts	DCMA	Rectifier Fil. Volts	Amps.	Other Windings Volts	Amps	Termination Pri.	Sec.	Style	Dimensions A	B	C	D	E	F	G	Wt. lbs.
a	P-8341	360-0-360 220-0-220	175 110	5.0 5.0	3.0 2.0	12.6 C.T.	5.45	Leads	Leads	C†	3¾	4⅞	4¾	3	3½	4⁹⁄₁₆	⅜ x ½	11.0
	P-8349	360-0-360	260	5.0	6.0	5.0 6.3	2.0 8.85	Leads	Leads	M†	3¾	4⁹⁄₁₆	5½	3¼	4⅛	4	8-32	13.0
	P-8351	360-0-360	240	5.0	6.0	6.5	9.3	Leads	Leads	M	3¾	4⁹⁄₁₆	4¹⁵⁄₁₆	3¼	4⅛	3⅝	8-32	10.5
	P-8343	360-0-360 220-0-220	220 110	5.0 5.0	3.0 2.0	12.8 C.T.	5.8	Leads	Leads	C	3¾	5¼	4¾	3	3⅞	4¹³⁄₁₆	⅜ x ½	11.5
	P-8344	365-0-365 200-0-200	170 84	5.0 5.0	3.0 2.0	12.6	4.25	Leads	Leads	C†	3¾	4½	4¾	3	3⅛	4⅜	⅜ x ½	9.0
	P-8342	365-0-365	260	5.0	6.0	6.3 6.3	8.85 1.2	Leads	Leads	M†	3¾	4⁹⁄₁₆	5⅜	3¼	4⅛	4	8-32	13.0
b	P-8348	365-0-365	270	5.0	6.0	6.7	4.5	Leads	Leads	M†	3¾	4⁹⁄₁₆	4⅞	3¼	4⅛	3⅜	8-32	10.0
	PCC-150	370-0-370	150	5.0	3.0	6.3 C.T. 6.3 C.T.	4.0 1.0	Leads	Leads	SC	4⁹⁄₁₆	5¼	5⁵⁄₁₆	2½	4¾	4⅛	¹⁵⁄₆₄	11.5
	PSC-150	370-0-370	150	5.0	3.0	6.3 C.T. 6.3 C.T.	4.0 1.0	Lugs	Lugs	SC	4⁹⁄₁₆	5¼	5⁵⁄₁₆	2½	4¾	4⅛	¹⁵⁄₆₄	11.5
	P-6315	370-0-370	275	5.0 C.T	3.0	6.3 C.T.	7.0	Leads	Leads	M	3¾	4½	4¼	3	3¾	3	8-32	9.3
	P-8366	370-0-370	220	5.0	6.0	6.3 6.3 6.3	6.0 4.0 1.2	Leads	Leads	M†	3¾	4⁹⁄₁₆	5¼	3	3¾	3½	8-32	11.0
	* PCC-120	375-0-375	120	5.0	3.0	6.3 C.T.	4.0	Leads	Leads	SC	4⁹⁄₁₆	5¼	5⁵⁄₁₆	2½	4¾	4⅛	¹⁵⁄₆₄	9.5
	PSC-120	375-0-375	120	5.0	3.0	6.3 C.T.	4.0	Lugs	Lugs	SC	4⁹⁄₁₆	5¼	5⁵⁄₁₆	2½	4¾	4⅛	¹⁵⁄₆₄	9.5
	P-6014	375-0-375	150	5.0 C.T	3.0	6.3 C.T.	5.0	Leads	Leads	M	3⅛	3¾	3¾	2½	3⅛	2¾	8-32	6.0
	PC-8411	375-0-375	150	5.0	3.0	6.3 C.T.	4.5	Leads	Leads	C	3⁷⁄₁₆	4	4¼	2¾	2¹³⁄₁₆	3¹¹⁄₁₆	⅜ x ⅜	5.8
	PM-8411	375-0-375	150	5.0	3.0	6.3 C.T.	4.5	Leads	Leads	M	3⁷⁄₁₆	4⅛	3⅞	2¾	3⁷⁄₁₆	2½	8-32	5.8
c	P-8171	375-0-375	225	5.0 C.T	3.0	6.3 6.3	2.0 9.0	Leads	Leads ‡	M3†	3¾	4½	4⅞	3	3¾	3⅝	8-32	10.5
	P-8169	380-0-380	220	5.0	3.0	6.3 6.3 6.3	1.2 5.0 7.0	Leads	Leads	M†	3¾	4⁹⁄₁₆	4¾	3	3¾	3½	8-32	10.5
	P-8170	380-0-380	220	5.0	3.0	6.3 6.3 6.3	1.2 5.0 7.0	Leads	Leads	C†	3¾	4¾	4¾	3	3⁹⁄₁₆	4⁷⁄₁₆	⅜ x ⅜	10.5
	PCC-200	385-0-385	200	5.0	3.0	6.3 C.T. 6.3 C.T.	4.5 1.0	Leads	Leads	SC	4⁹⁄₁₆	5¼	5⁵⁄₁₆	2½	4¾	4⅛	¹⁵⁄₆₄	12.0
	PSC-200	385-0-385	200	5.0	3.0	6.3 C.T. 6.3 C.T.	4.5 1.0	Lugs	Lugs	SC	4⁹⁄₁₆	5¼	5⁵⁄₁₆	2½	4¾	4⅛	¹⁵⁄₆₄	12.0
d	P-8347	385-0-385	230	5.0	3.0	5.0 6.45 6.3	2.0 7.4 1.6	Leads	Leads	M†	3¾	4⁹⁄₁₆	5⁹⁄₁₆	3¼	4⅛	4	8-32	13.0
	* P-8161	385-0-385	230	5.0	3.0	5.0 6.3	2.0 9.0	Leads	Leads	M†	3¾	4½	5⁹⁄₁₆	3¼	4⅛	3⅞	8-32	11.8
	P-6007	400-0-400	110	5.0 C.T.	3.0	2.5 C.T. 2.5 C.T.	15.0 3.5	Leads	Leads	M	3⅛	3¾	3½	2½	3⅛	2½	8-32	5.4
	P-4004	400-0-400 80v. Bias	175	5.0 C.T.	3.0	2.5 6.3 C.T. 6.3 C.T.	1.75 2.5 2.5	Leads ▲	Leads	C	3¾	3⅞	4¹¹⁄₁₆	3	2¹³⁄₁₆	3⁹⁄₁₆	⅜ x ⅜	8.3
e	P-8346	400-0-400 330-0-330	180 180	5.0 5.0	3.0 3.0			Leads	Leads	C	3¾	4¾	4¾	3	3½	4⁷⁄₁₆	⅜ x ½	11.0
	PC-8412	400-0-400	200	5.0	3.0	6.3 C.T.	5.0	Leads	Leads	C	3¾	4	4¹¹⁄₁₆	3	2¹³⁄₁₆	3¹¹⁄₁₆	⅜ x ⅜	8.2
	PM-8412	400-0-400	200	5.0	3.0	6.3 C.T.	5.0	Leads	Leads	M	3¾	4½	3⅞	3	3¾	2⅝	8-32	8.2
	PC-8413	400-0-400	250	5.0	4.0	6.3 C.T.	5.0	Leads	Leads	C	3¾	4½	4¹¹⁄₁₆	3	3⁵⁄₁₆	4³⁄₁₆	⅜ x ⅜	10.0
	PCC-250	400-80-0-80-400	250	5.0	6.0	5.0 6.3 C.T.	2.0 7.0	Leads	Leads	SC	5⁵⁄₁₆	5⅞	6⅛	3½	5⅜	4¾	1⅞4	15.0
	*PSC-250	400-80-0-80-400	250	5.0	6.0	5.0 6.3 C.T.	2.0 7.0	Lugs	Lugs	SC	5⁵⁄₁₆	5⅞	6⅛	3½	5⅜	4¾	1⅞4	15.0
	P-8360	437-0-437	185	5.0	3.0	6.3 6.3	3.0 4.0	Leads	Leads	C	3¾	4½	4¹¹⁄₁₆	3	3⅜	4³⁄₁₆	⅜ x ⅜	9.5
	P-6143	440-0-440	130	5.0	3.0	6.3 C.T.	3.5	Leads	Leads	C	3⁷⁄₁₆	4¹⁄₁₆	4¼	2¾	2¹³⁄₁₆	3¾	⅜ x ⅜	7.0
	PC-8414	600-0-600	200	5.0	3.0	6.3 6.3	3.0 3.0	Leads	Leads	C	3¾	4¼	4¹¹⁄₁₆	3	3¹⁄₁₆	3¹⁵⁄₁₆	⅜ x ⅜	8.3

† With Copper shorting band to reduce external Magnetic Field. ‡ Plate wdg and rectifier filament wdg Connected to Tube Socket. ▲ Primary for 117-107 Volts. f. Intermittent duty.
*Available until stock is depleted

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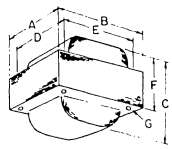

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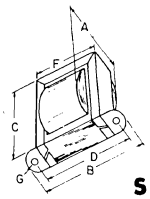

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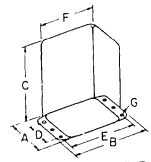

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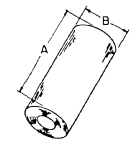

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FOR REACTOR INPUT SYSTEMS — PRIMARIES 117 VOLTS 50/60 CYCLES

	Catalog No.	Plate Windings AC Volts	Plate Windings DCMA	Rectifier Fil. Volts	Rectifier Fil. Amps.	Other Windings Volts	Other Windings Amps.	Termination Pri.	Termination Sec.	Style	Dimensions A	B	C	D	E	F	G	Wt. lbs.
a	PCR-55	350-0-350	55	5.0	2.0	6.3 C.T.	2.0	Leads	Leads	SC	2 7/8	3 1/2	3 1/2	2	3 1/8	2 11/16	3/16	3 1/4
	PSR-55	350-0-350	55	5.0	2.0	6.3 C.T.	2.0	Lugs	Lugs	SC	2 7/8	3 1/2	3 3/4	2	3 1/8	2 11/16	3/16	3 1/4
	PCR-70	425-0-425	70	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	SC	3 1/4	4	3 7/8	2 1/4	3 1/2	2 15/16	7/32	4 1/2
	PSR-70	425-0-425	70	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 15/16	7/32	4 1/2
	PCR-85	440-0-440	85	5.0	2.0	6.3 C.T.	3.0	Leads	Leads	SC	3 11/16	4 7/16	4 5/16	2 3/4	3 7/8	3 1/4	7/32	6
	PSR-85	440-0-440	85	5.0	2.0	6.3 C.T.	3.0	Lugs	Lugs	SC	3 11/16	4 7/16	4 5/16	2 3/4	3 7/8	3 1/4	7/32	6
	PCR-105	450-0-450	105	5.0	2.0	6.3 C.T.	3.5	Leads	Leads	SC	3 11/16	4 7/16	4 5/16	2 3/4	3 7/8	3 1/4	7/32	6 1/2
	PSR-105	450-0-450	105	5.0	2.0	6.3 C.T.	3.5	Lugs	Lugs	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 7/8	3 1/4	7/32	6 1/2
	PCR-120	500-0-500	120	5.0	3.0	6.3 C.T.	4.0	Leads	Leads	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	15/64	9 1/2
	PSR-120	500-0-500	120	5.0	3.0	6.3 C.T.	4.0	Lugs	Lugs	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	15/64	9 1/2
	PCR-150	510-0-510	150	5.0	3.0	6.3 C.T. 6.3 C.T.	1.0 4.0	Leads	Leads	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	15/64	11 1/2
	PSR-150	510-0-510	150	5.0	3.0	6.3 C.T. 6.3 C.T.	1.0 4.0	Lugs	Lugs	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	15/64	11 1/2
	PCR-200	520-0-520	200	5.0	3.0	6.3 C.T. 6.3 C.T.	1.0 4.5	Leads	Leads	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	15/64	12 1/4
	PSR-200	520-0-520	200	5.0	3.0	6.3 C.T. 6.3 C.T.	1.0 4.5	Lugs	Lugs	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	15/64	12 1/4
	PCR-300	550-370-75-0 -75-370-550	300	5.0	6.0	6.3 C.T. 6.3 C.T.	1.0 5.0	Leads	Leads	SC	5 5/16	5 7/8	6 1/16	3 1/2	5 3/8	4 3/4	17/64	17 1/2
	PSR-300	550-370-75-0 -75-370-550	300	5.0	6.0	6.3 C.T. 6.3 C.T.	1.0 5.0	Lugs	Lugs	SC	5 5/16	5 7/8	6 1/16	3 1/2	5 3/8	4 3/4	17/64	17 1/2

FOR REGULATED POWER SUPPLIES — PRIMARIES 117 VOLTS 50/60 CYCLES

b	PSC-165	440-0-440	165	5.0	3.0	6.3 6.3 6.3 6.3	0.6 3.0 3.0 7.5	Lugs	Lugs	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	15/64	12
	PSC-205	450-0-450	200	5.0	2.0	6.3 6.3 6.3	0.6 4.0 4.0	Lugs	Lugs	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	15/64	12

FOR BIAS SUPPLIES — PRIMARIES 117 VOLTS 50/60 CYCLES

c	IBC-150	180-160-140-120-0-120-140-160-180	150	5.0	3.0			Leads	Leads	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 15/16	7/32	5
	IBS-150	180-160-140-120-0-120-140-160-180	150	5.0	3.0			Lugs	Lugs	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 15/16	7/32	5
	2BC-150	180-160-140-120-0-120-140-160-180	150	5.0	3.0	(Pri.-230v.)		Leads	Leads	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 15/16	7/32	5
	2BS-150	180-160-140-120-0-120-140-160-180	150	5.0	3.0	(Pri.-230v.)		Lugs	Lugs	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	2 15/16	7/32	5
	P-6317	200-170-130-90-0-90-130-170-200	200	5.0	3.0			Leads	Leads/ Lugs	C	3 1/8	3 7/8	3 7/8	2 1/2	2 3/16	3 1/16	3/16 x 3/8	4.9
	P-6318	450-400-350-250-0-250-350-400-450	200	5.0	3.0			Leads	Leads/ Lugs	C	3 7/16	4 1/4	4 5/16	2 3/4	2 13/16	3 15/16	3/16 x 3/8	7.0

FOR CATHODE RAY TUBES — PRIMARIES 117 VOLTS 60 CYCLES

d	P-8150	1550 b	1.5	2.5	1.75			Leads	Leads	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 5/16	3/16	1.8
	P-8179	1600 b	3.0			6.3/5/2.5 6.3/5/2.5	1.0 3.0	Lugs	Lugs	M	2 1/2	3	3 1/2	2	2 1/2	2 1/2	8-32	3.5
	P-8178	1800 b	2.0	2.5	1.8	2.5 6.3	2.2 0.6	Leads	Leads	C	3 1/8	3 3/4	3 7/8	2 1/2	2 1/2	3 5/16	3/16 x 3/8	5
	P-8151	2400 b	5.0	2.5	2.0	2.5	2.0	Leads	Leads	C	3 7/16	3 7/8	4 1/4	2 3/4	2 11/16	3 9/16	3/16 x 3/8	6.4

FOR SOLAR CF-160 CONDENSER TESTER — PRIMARY 117 VOLTS 60 CYCLES

e	P-6459	550 b 55	30 60			6.3 6.3	0.9 0.6	Leads	Leads	R	2 3/16	2 5/8	2 1/4	1 3/4	2 3/16	1 11/16	5/32	1.4

FOR 100 WS ELECTRONIC PHOTOFLASH — PRIMARY 105/115/125 VOLTS 60 CYCLES

f	P-6425	380 b Charges 1050 mfd. to 450 volts D.C.	20					Leads	Leads	S	2	2 7/8	2 5/16	2 3/8	—	2	3/16	1.4
	P-6426	Trigger Coil for use with P-6425 Ratio 1 to 35 Write for Bulletin #470R for Circuit Details						Leads	Leads	W	3/4	9/16	—	—	—	—	—	.2

b. For use in Half-Wave Circuits.

ALL SECONDARY A.C. VOLTAGES ±3%

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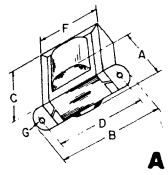

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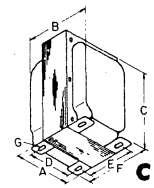

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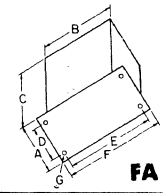

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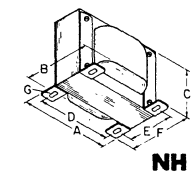

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WITH SINGLE SECONDARY: ALL PRIMARIES 50/60 CYCLES

	Catalog No.	Secondary Volts	Secondary Amps.	Insulation Test RMS Volts	Primary Volts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT Lbs.
a	P-4026	2.5	1.5	2500	117	Leads	Leads	A	1 5/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	P-4082	2.5 CT	2.5	2500	117/107	Leads	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.5
	P-6133†	2.5 CT	5.0	7500	117	Leads	Leads	S	2 1/4	3 1/8	2 3/4	2 13/16	—	2 1/4	3/16	1.5
	F-25	2.5 CT	5.25	3500	115/230	Lugs	Lugs	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.0
	P-4083†	2.5 CT	6.0	2500	117/107	Leads	Leads	C	2 1/2	2 1/2	3 1/8	2	1 1/2	2 1/8	3/16 x 3/8	2.2
	P-3024†	2.5 CT	10.0	2500	117/107	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5
	P-6454	2.5 CT	10.0	7500	117/107	Leads	Leads	S	2 1/2	3 5/8	3 1/8	3 1/8	—	2 3/8	3/16	2.5
	P-3060	2.5 CT	10.0	10000	117	Lugs	Lugs	NV	2 13/16	2 3/8	3 7/16	2 1/4	1 7/8	2 1/2	3/16 x 5/16	2.5
	F-210	2.5 CT	10.0	5000	115/230	Terms	Terms	SC	2 7/8	3 1/2	3 3/4	2	3 1/8	2 11/16	3/16	3.0
	F-210H	2.5 CT	10.0	9000	115/230	Terms	Terms	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	3	3/16	4.0
	F-215H	2.5 CT	15.0	9000	115/230	Terms	Terms	SC	3 11/16	4 7/16	4 5/16	2 3/4	3 7/8	3 1/4	3/16	6.0
	P-3026†	5.0 CT	3.0	2500	117/107	Leads	Leads	C	2 1/2	2 5/8	3 1/8	2	1 5/8	2 1/4	3/16 x 3/8	2.4
	P-4088†	5.0 CT	3.0	2500	117	Lugs	Lugs	NV	2 1/2	1 5/8	3 1/8	2	1 5/8	2 1/4	3/16 x 5/16	1.8
	P-6467	5.0 CT	3.0	2500	117	Leads	Leads	A	2 1/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.4
	F-54†	5.0 CT	4.0	2500	115/230	Lugs	Lugs	SC	2 1/2	3	3 5/16	1 3/4	2 11/16	2 3/8	3/16	2.2
	P-6455	5.0 CT	6.0	2000	117/107	Leads	Leads	S	2 1/8	3 1/8	2 3/4	2 13/16	—	2 1/4	3/16	2.0
	P-3062†	5.0 CT	6.0	2500	117	Lugs	Lugs	NV	2 1/2	2 1/4	3 1/8	2	2	2 5/8	3/16 x 5/16	2.3
	P-5000†	5.0 CT	6.0	2500	117/107	Leads	Leads	C	2 1/2	3	3 1/8	2	2	2 5/8	3/16 x 3/8	3.1
	P-6135	5.0 CT	10.0	2500	117	Leads	Leads	NV	2 1/2	2 3/4	3 1/8	2	2 3/8	3	3/16 x 5/16	3.0
	F-58	5.0 CT	10.0	2500	115/230	Terms	Terms	SC	2 7/8	3 1/2	3 3/4	2	3 1/8	2 11/16	3/16	3.5
b	F-510H†	5.0 CT	10.0	10000	115/230	Terms	Terms	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 7/8	3 1/4	3/16	6.5
	P-4086†	5.0 CT	14.0	10000	117/107	Terms	Terms	FA	4 1/4	5 1/2	5 1/8	2 3/4	6	7	1/4	12.3
	P-6433†	5.0 CT	15.0	2500	117	Leads	Leads Lugs	NV	2 1/2	2 3/4	3 1/8	2	2 1/4	2 7/8	3/16 x 5/16	3.0
	F-516	5.0 CT	20.0	2500	115/230	Terms	Terms	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 7/8	3 1/4	3/16	6.5
	F-520HB	5.0 CT	20.0	10000	115/230	Terms	Terms	SC	4 9/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	13.0
	P-6432†	5.0 CT	21.0	2500	117	Leads	Leads Lugs	NV	3 1/8	2 7/8	3 13/16	2 1/2	2 1/4	2 7/8	3/16 x 5/16	4.5
	P-6302†	5.0 CT	22.0	10000	117/107	Terms	Terms	FA	4 1/4	5 1/2	5 1/8	2 3/4	6	7	1/4	13.5
	P-6492	5.0 CT	30.0	2500	117	Leads	Leads	C	3 3/4	4	4 11/16	3	2 13/16	3 5/8	3/16 x 3/8	7.5
	P-6468†	5.0 CT	30.0	2500	117/107	Lugs	Lugs	C	3 7/16	3 7/8	4 1/4	2 3/4	2 11/16	3 1/2	3/16 x 3/8	6.3
	F-530	5.0 CT	30.0	2500	115/230	Terms	Terms	SC	4 9/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	10.5
	P-6305†	5.0 CT	30.0	10000	117/107	Terms	Terms	FA	4 1/4	7	5	3 3/8	7 3/4	8 1/2	1/4	18.3
	P-6137†	5.25 CT	13.0	2500	117	Leads	Leads	NV	3 1/8	2 7/8	3 13/16	2 1/2	2 1/2	3 1/8	3/16 x 5/16	5.2
	P-8385	6.3 CT	0.3	1500	117	Leads	Leads	A	1 3/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.3
	P-6465	6.3 CT	.6	1500	117	Leads	Leads	A	1 1/2	2 3/8	1 3/8	2	—	1 3/4	3/16	0.4
	P-8389	6.3	1.0	1500	117	Leads	Leads	A	1 1/2	2 7/8	1 5/8	2 3/8	—	2	3/16	0.6
	P-6134	6.3 CT	1.2	3000	117	Leads	Leads	A	1 7/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.8
	P-8190	6.3	1.2	5000	117	Leads	Leads	A	1 7/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	P-8191	6.3	1.2	5000	6.3	Leads	Leads	A	2	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	F-615†	6.3 CT	1.5	2500	115/230	Lugs	Lugs	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.0
	F-63†	6.3 CT	3.0	2500	115/230	Lugs	Lugs	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.0
c	P-5014†	6.3 CT	3.0	2500	117	Lugs	Lugs	NV	2 1/2	2	3 1/8	2	1 3/4	2 3/8	3/16 x 5/16	2.0
	P-6466	6.3 CT	3.0	2500	117	Leads	Leads	A	2 1/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.4
	P-6462	6.3	3.0	7000	117/107	Leads	Leads	S	2 3/8	3 5/8	3 1/8	3 1/8	—	2 3/8	3/16	2.0
	P-4019†	6.3 CT	4.0	2500	117/107	Leads	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.7
	F-65	6.3 CT	5.5	2500	115/230	Lugs	Lugs	SC	2 7/8	3 1/2	3 3/4	2	3 1/8	2 11/16	3/16	3.0
	P-3064†	6.3 CT	6.0	2500	117	Lugs	Lugs	NV	2 1/2	2 3/8	3 1/8	2	2	2 5/8	3/16 x 5/16	2.4
	P-4089†	6.3 CT	6.0	2500	117/107	Leads	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.5
	P-6456	6.3 CT	6.0	2000	117/107	Leads	Leads	A	2 3/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	2.0
	P-6464	6.3 CT	10.0	2000	117	Leads	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.5
	P-6308†	6.3 CT	10.0	2500	117/107	Leads	Leads	NV	2 13/16	2 5/8	3 7/16	2 1/4	2 1/8	2 3/4	3/16 x 5/16	3.4
	F-610	6.3 CT	10.0	2500	115/230	Terms	Terms	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	3	3/16	5.0
	P-6309†	6.3 CT	20.0	2500	117/107	Leads	Leads	NV	3 3/4	3 3/8	4 9/16	3	2 3/8	3	3/16 x 5/16	6.7
	P-5015†	7.5 CT	4.0	2500	117	Lugs	Lugs	NV	2 1/2	2 1/4	3 1/8	2	2 1/8	2 3/4	3/16 x 5/16	2.7
	P-4091†	7.5 CT	5.0	2500	117/107	Leads	Leads	C	2 13/16	3 1/8	3 1/2	2 1/4	1 7/8	2 5/8	3/16 x 3/8	3.4
	P-6138†	7.5 CT	8.0	2500	117	Leads	Leads	NV	3 1/8	2 3/4	3 13/16	2 1/2	2 3/8	3	3/16 x 5/16	4.7
	F-712	7.5 CT	12.0	2500	115/230	Terms	Terms	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 7/8	3 1/4	3/16	6.5
	P-6457	7.5 CT	21.0	2000	117/107	Leads	Leads	C	3 3/4	4	4 5/8	3	2 3/4	4	1/4 x 1/2	8.0
	F-725	7.5 CT	25.0	2500	115/230	Terms	Terms	SC	4 9/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	12.0
	F-751	7.75 CT	51.0	2500	115/230	Terms	Terms	SC	6 1/8	6 1/2	7 1/16	4 1/4	6	5 1/4	1/4	29.0
	P-8380	10.0 CT	3.0	1500	117	Leads	Leads	A	2 1/4	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.6
	F-104	10.0 CT	4.0	2500	115/230	Lugs	Lugs	SC	2 7/8	3 1/2	3 3/4	2	3 1/8	2 11/16	3/16	3.2
d	P-5016†	10.0 CT	4.0	2500	117	Lugs	Lugs	NV	2 13/16	2 1/2	3 7/16	2 1/4	2	2 5/8	3/16 x 5/16	3.3
	P-6458	10.0 CT	5.0	2000	117/107	Leads	Leads	NV	2 1/2	2 1/2	3 1/16	2 1/8	1 15/16	2 3/4	3/16 x 1/2	3.0
	P-4096†	10.0 CT	5.0	2500	117/107	Leads	Leads	C	3 1/8	3 1/4	3 7/8	2 1/2	1 15/16	2 3/4	3/16 x 3/8	4.0
	F-106	10.0 CT	6.5	2500	115/230	Terms	Terms	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	3	3/16	5.0
	P-6139†	10.0 CT	8.0	2500	117	Leads	Leads	NV	3 1/8	3	3 13/16	2 1/2	2 3/8	3	3/16 x 5/16	4.9
	P-4097†	10.0 CT	8.0	2500	117/107	Leads	Leads	C	3 1/8	3 3/4	3 7/8	2 1/2	2 1/2	3 1/8	3/16 x 3/8	5.2
	P-6461	10.0 CT	10.0	2000	117	Leads	Leads	C	3 1/4	3 9/16	3 7/8	2 3/4	2 11/16	2 11/16	3/16 x 1/2	5.0
	F-1010	10.0 CT	10.0	2500	115/230	Terms	Terms	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 7/8	3 1/4	3/16	6.5
	P-5002†	10.0 CT	12.0	7500	117/107	Terms	Terms	FA	4 1/4	5 1/2	5 1/8	2 3/4	6	7	1/4	14.7
	P-3020†	11.0 CT	10.0	2500	117/107	Leads	Leads	C	3 3/4	3 5/8	4 11/16	3	2 7/16	3 1/4	3/16 x 3/8	7.7
	P-8384	12.6 CT	1.0	1500	117	Leads	Leads	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/16	0.9
	P-8130	12.6 CT	2.0	1500	117	Leads	Leads	A	2 1/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.4
	P-8358	12.6 CT	3.0	1500	117	Leads	Leads	A	2 1/4	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.6
	P-6469	25.2	1.0	1500	117	Leads	Leads	A	2 1/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.4
	P-8180	25.2 CT	1.0	1500	117	Leads	Leads	A	2 1/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.4
	P-8357	25.2 CT	2.0	1500	117	Leads	Leads	A	2 1/4	4	2 5/8	3 5/16	—	3 1/8	3/16	2.2
	P-8388	25.2 CT	2.8	1500	117	Leads	Leads	A	2 1/4	4	2 5/8	3 5/16	—	3 1/8	3/16	2.2

ALL SECONDARY VOLTAGES ±3%

*Available until stock is depleted

†Has Electrostatic shield.

Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts.

New part number

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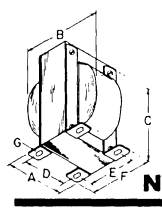

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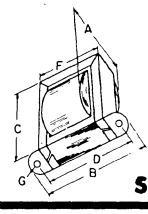

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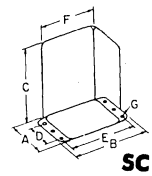

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WITH MULTIPLE SECONDARIES: ALL PRIMARIES 50/60 CYCLES

	Catalog No.	Secondary Volts	Secondary Amps.	Insulation Test RMS Volts	Primary Volts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT Lbs.
a	P-6144†	2.5 CT 5.0 CT 6.3 CT	3.5 3.0 3.0	2500	117	Leads	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.7
	P-6338	2.5 5.0 5.0 CT 6.3 CT	3.0 3.0 2.0 3.0	2500	117	Leads	Leads	NH	3 3/8	2 3/4	2 7/8	2 13/16	2 1/8	2 3/4	3/16 x 5/16	3.4
c	P-5009†	5.0 CT 6.3 CT	3.0 6.0	2500	117/107	Leads	Leads	C	3 1/8	3 3/8	3 7/8	2 1/2	2 1/16	2 7/8	3/16 x 3/8	4.5
	P-5008†	5.0 CT 6.3 CT	4.0 3.6	2500	117/107	Leads	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.8
	P-4022†	5.0 CT 6.3 CT	6.0 6.0	2500	117/107	Leads	Leads	C	3 1/8	3 1/2	3 7/8	2 1/2	2 1/16	2 7/8	3/16 x 3/8	4.8
d	P-6333	5.0 5.0 6.3 CT 7.5/6.3 CT	3.0 3.0 4.0 3.0	2500	117	Lugs	Lugs	NH	3 3/8	3 1/4	2 7/8	2 13/16	2 3/4	3 3/8	3/16 x 5/16	4.7
	P-6463	6.0 CT or 6.5 CT or 7.0 CT	13	2000	117	Lugs	Lugs	NV	2 13/16	2 7/8	3 7/16	2 1/4	2 11/16	3 5/16	3/16 x 5/16	4.5
e	P-6428†	6.3 6.3 6.3 6.3 CT	1.75 1.75 1.75 1.75	2500	117	Leads	Leads	C	2 1/2	3 1/8	3 1/8	2	2	2 5/8	3/16 x 3/8	3.0
	P-6430†	6.3 CT 6.3 CT	3.0 3.0	2500	117	Leads	Leads	C	2 1/2	2 7/8	3 1/8	2	1 7/8	2 1/2	3/16 x 3/8	2.8
f	P-6429†	6.3 6.3 6.3 6.3 CT	3.5 3.5 3.5 3.5	2500	117	Leads	Leads	C	3 1/8	3 1/2	3 7/8	2 1/2	2 3/16	3	3/16 x 3/8	4.8
	P-6431†	6.3 CT 6.3 CT	6.0 6.0	2500	117	Leads	Leads	C	3 1/8	3 1/2	3 7/8	2 1/2	2 3/16	3	3/16 x 3/8	4.8

MULTI-TAPPED FOR TUBE CHECKERS: PRIMARY 50/60 CYCLES

		Secondary Rating (RMS)		Primary Volts	Termination Pri	Termination Sec	Style	Dimensions A	B	C	D	E	F	G	WT Lbs.
g	P-1834-3	117/110/85	@ .20A	105/115/125	Leads	Leads/ Lugs	A	2 7/8	4	2 5/8	3 9/16	—	3 1/8	3/16	2.4
		70	@ .30A												
		50	@ .50A												
		35	@ .60A												
		30/25/20/12	@ .80A												
		7.5/7/6.3/5 4/3.3/2.5/2 1.5/1.4/1.1	@ 3.0A												

*Available until stock is depleted
†Has Electrostatic shield.
ALL SECONDARY VOLTAGES ±3%

Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts.

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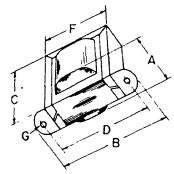

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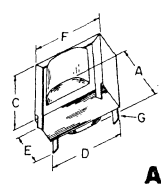

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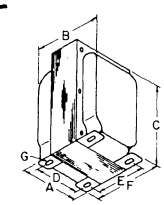

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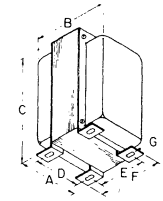

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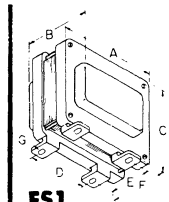

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SMOOTHING CHOKES: INDUCTANCE TOLERANCE-MINUS 15% PLUS 50% AT 10 VOLTS 60 CYCLES

	Catalog No.	Inductance Henries	DCMA	DC. Res. ohms	Insul. Test RMS Volts	Termination	Style	Dimensions A	B	C	D	E	F	G	WT Lbs
a	C-2345	350	5	5600	2500	Leads	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	C-2344	1.5	10	85	2500	Leads	A	1 1/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4
	C-2707	2.0	15	70	1500	Leads	A	1 1/8	2 1/8	1 1/4	1 3/4	—	1 1/2	3/16	0.4
	C-1515	20.0	15	900	1500	Leads	A	1 3/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	C-2346	35	15	1800	1500	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5
	C-2318	12.0	30	400	2000	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5
	RC-1540	15.0	40	475	2500	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.5
	RS-1540	15.0	40	475	2500	Lugs	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.5
	C-1080	3.5	50	200	1500	Leads	A	1 3/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	C-1706	4.5	50	300	1500	Leads	A	1 1/4	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5
	C-1723	4.5	50	325	1500	Leads	A	1 3/8	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5
	C-1325	5.0	50	250	1500	Leads	A	1 1/4	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	* C-1277	7.0	50	300	1500	Leads	A	1 3/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	* C-1227	7.0	50	350	1500	Leads	A	1 3/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	C-1707	7.0	50	550	1500	Leads	A	1 1/4	2 3/8	1 3/8	2	—	1 3/4	3/16	0.5
	C-1333	8.0	50	450	1500	Leads	A	1 3/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	C-1279	8.5	50	400	1500	Leads	A	1 3/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	C-1215	9.0	50	500	1500	Leads	A	1 3/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
b	C-1003	16.0	50	580	1500	Leads	A	1 5/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	RC-1055	10.0	55	230	2500	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.7
	RS-1055	10.0	55	230	2500	Lugs	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.7
	RC-1555	15.0	55	380	2500	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	2.0
	RS-1555	15.0	55	380	2500	Lugs	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	2.0
	C-1708	13.0	65	500	1500	Leads	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	C-1355	8.0	75	290	1500	Lugs	L	2 3/8	—	2	1 1/2	1 3/16	1 5/8	3/16 x 1/2	1.0
	C-1002	15.0	75	400	1500	Leads	A	1 7/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.7
	C-1420	16.0	80	360	1500	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5
	C-1709	8.0	85	250	1500	Leads	A	1 7/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.4
	RC-1085	10.0	85	175	2500	Leads	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.5
	RS-1085	10.0	85	175	2500	Lugs	SC	2 1/2	3	3 5/16	1 3/4	2 11/16	2 3/8	3/16	2.5
	RC-1585	15.0	85	285	2500	Leads	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.7
	RS-1585	15.0	85	285	2500	Lugs	SC	2 1/2	3	3 5/16	1 3/4	2 11/16	2 3/8	3/16	2.7
	C-2305	5.0	100	300	1500	Leads	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.5
	RC-8105	8.0	105	100	2500	Leads	SC	2 7/8	3 1/2	3 1/2	2	3 1/8	2 11/16	3/16	3.7
	RS-8105	8.0	105	100	2500	Lugs	SC	2 7/8	3 1/2	3 3/4	2	3 1/8	2 11/16	3/16	3.7
	RC-12105	12.0	105	170	2500	Leads	SC	2 7/8	3 1/2	3 1/2	2	3 1/8	2 11/16	3/16	4.0
c	RS-12105	12.0	105	170	2500	Lugs	SC	2 7/8	3 1/2	3 3/4	2	3 1/8	2 11/16	3/16	4.0
	C-1001	10.5	110	225	3000	Leads	A	2 1/8	4	2 5/8	3 9/16	—	3 1/8	3/16	2.3
	C-2704	9.0	125	250	1500	Leads	A	1 7/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.8
	C-2303	2.5	130	100	2000	Leads	A	1 5/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	C-1421	7.0	140	165	3000	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.5
	C-2304	2.3	150	60	1500	Leads	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	C-2309	3.0	150	90	2000	Leads	A	1 7/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.7
	C-2335	7.0	150	170	1500	Leads	SC	2 1/2	3	3 1/16	1 3/4	2 11/16	2 3/8	3/16	2.3
	C-1710	7.0	150	200	1500	Leads	A	2	4	2 5/8	3 9/16	—	3 1/8	3/16	2.2
	RC-8150	8.0	150	100	2500	Leads	SC	3 1/4	4	3 7/8	2 1/4	3 1/2	3	3/16	5.2
	RS-8150	8.0	150	100	2500	Lugs	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	3	3/16	5.2
	RC-12150	12.0	150	150	2500	Leads	SC	3 1/4	4	3 7/8	2 1/4	3 1/2	3	3/16	5.5
	RS-12150	12.0	150	150	2500	Lugs	SC	3 1/4	4	4 1/4	2 1/4	3 1/2	3	3/16	5.5
	C-1410	4.0	175	100	3000	Leads	C	2 1/2	2 3/4	3 1/4	2	1 3/4	2 3/8	3/16 x 3/8	2.4
	C-2327	1.5	200	85	1500	Leads	A	1 1/2	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	C-2325	2.0	200	60	1500	Leads	A	1 7/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.8
	C-1411	4.5	200	80	3000	Leads	C	2 13/16	4 1/4	3 1/2	2 1/4	2	2 3/4	3/16	3.5
	C-1646	5.0	200	90	5000	Leads	C	3 1/8	3 1/2	3 7/8	2 1/2	2 3/16	3	3/16 x 3/8	4.5
d	RC-8200	8.0	200	85	2500	Leads	SC	3 11/16	4 7/16	4 5/16	2 3/4	3 7/8	3 1/4	3/16	7.0
	RS-8200	8.0	200	85	2500	Lugs	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 7/8	3 1/4	3/16	7.0
	C-1721	8.5	200	120	3000	Leads	NV	2 13/16	2 5/8	3 7/16	2 1/4	2 1/2	3 1/8	3/16 x 5/16	4.4
	C-2705	10.0	200	150	2500	Leads	C	2 13/16	3 9/16	3 1/2	2 1/4	2 5/16	3 1/16	3/16 x 3/8	4.5
	RC-12200	12.0	200	140	2500	Leads	SC	3 11/16	4 7/16	4 5/16	2 3/4	3 7/8	3 1/4	3/16	7.0
	RS-12200	12.0	200	140	2500	Lugs	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 7/8	3 1/4	3/16	7.0
	C-1703	4.0	250	60	3000	Lugs	NV	2 13/16	2 5/8	3 7/16	2 1/4	2 1/2	3 1/8	3/16 x 5/16	4.2
	C-1412	4.0	250	60	3000	Leads	C	2 13/16	3 5/8	3 1/2	2 1/4	2 3/8	3 1/8	3/16 x 3/8	4.3
	RC-8250	8.0	250	90	2500	Leads	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	10.5
	RS-8250	8.0	250	90	2500	Lugs	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	10.5
	C-2343	0.75	300	32	1500	Leads	A	1 3/8	2 7/8	1 5/8	2 3/8	—	2	3/16	0.7
	C-2326	1.0	300	43	1500	Leads	A	2	3 3/4	2 3/4	3 1/8	—	2 3/4	3/16	1.7
	C-2334	2.8	300	60	1500	Leads	A	2 1/8	4	2 5/8	3 9/16	—	3 1/8	3/16	2.5
	* R-63	6.0	300	35	7500	Terms	SC	5 5/16	5 7/8	6 1/16	3 1/2	5 3/8	4 3/4	1/4	16.5
	RC-8300	8.0	300	60	3500	Leads	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	12.5
	RS-8300	8.0	300	60	3500	Lugs	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	12.5
	C-1722	8.0	300	80	3000	Leads	NV	3 3/4	3	4 9/16	3	2 1/2	3 1/8	3/16 x 5/16	7.3
	C-2308	8.0	300	80	3000	Leads	C	3 3/4	4	4 11/16	3	2 13/16	3 5/8	3/16 x 3/8	7.8

*Available until stock is depleted.

Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts.

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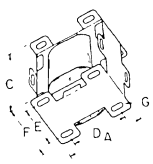

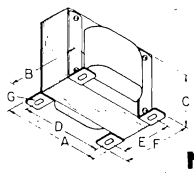

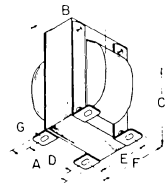

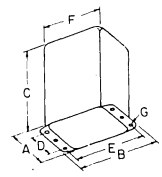

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SMOOTHING CHOKES: INDUCTANCE TOLERANCE-MINUS 15% PLUS 50% AT 10 VOLTS 60 CYCLES

	Catalog No.	Inductance Henries	DCMA	DC. Res. ohms	Insul. Test RMS Volts	Termination	Style	Dimensions A	B	C	D	E	F	G	WT Lbs
a	C-1413	8.0	300	80	3000	Lugs	C	3 3/4	4	4 11/16	3	2 13/16	3 5/8	3/16 x 3/8	7.8
	R-103	10.0	300	40	2500	Terms	SC	6 1/8	6 1/2	7 1/16	4 1/4	6	5 1/8	1/4	22.0
	C-2706	2.6	310	50	1500	Leads	C	2 1/2	3 3/8	3 1/8	2	2 3/8	3	3/16 x 3/8	4.0
	C-2347	1.0	350	40	1500	Leads	A	1 3/4	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	C-2328	0.8	375	25	1500	Leads	A	1 7/8	3 3/4	2 3/8	3 1/8	—	2 3/4	3/16	1.5
	C-2709	2.0	400	40	2500	Leads	A	2 1/8	4	2 5/8	3 9/16	—	3 1/8	3/16	2.3
	C-1414	7.5	400	60	5000	Lugs	C	3 3/4	5	4 11/16	3	3 13/16	4 5/8	3/16 x 3/8	11.8
	R-65	6.0	500	35	9000	Terms	FS1	7 1/2	3 1/4	7	4 3/4	5 1/4	6 3/8	3/8 x 3/4	35.0
	C-1415	6.0	500	75	7500	Terms	FS	5 5/8	5 1/2	7 1/8	4 5/8	3 5/8	4 5/8	3/8 x 1/2	23.7
	R-105	10.0	500	40	9000	Terms	FS1	7 1/2	4	7	4 3/4	6	7 1/8	3/8 x 3/4	35.0
	C-2708	0.32	600	10	1500	Leads	A	1 5/8	3 1/4	2	2 13/16		2 3/8	3/16	1.3

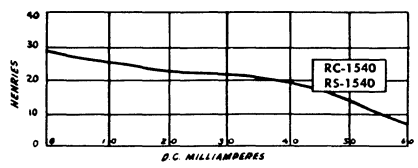
SWINGING CHOKES: INDUCTANCE MEASURED AT 50 VOLTS 60 CYCLES

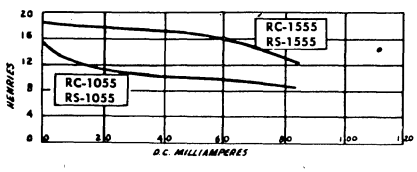
b	C-1718	13.5 3.5	15 150	130	2000	Leads	C	2 1/2	2 5/8	3 1/8	2	1 5/8	2 1/4	3/16 x 3/8	2.3
	C-1400	12.0 2.0	17.5 175	100	3000	Leads	C	2 1/2	2 3/4	3 1/8	2	1 3/4	2 3/8	3/16 x 3/8	2.4
	C-1401	12.0 2.0	20 200	80	3000	Leads	C	2 13/16	3 1/4	3 1/2	2 1/4	2	2 3/4	3/16 x 3/8	3.5
	C-1645	12.0 2.0	20 200	90	5000	Leads	C	3 1/8	3 1/2	3 7/8	2 1/2	2 3/16	3	3/16 x 3/8	4.5
	C-1702	12.0 2.0	25 250	60	3000	Lugs	NV	2 13/16	2 3/4	3 7/16	2 1/4	2 1/2	3 1/8	3/16 x 5/16	4.3
	C-1402	12.0 2.0	25 250	60	3000	Leads	C	2 13/16	3 5/8	3 1/2	2 1/4	2 3/8	3 1/8	3/16 x 3/8	4.3
	C-1720	20.0 4.0	30 300	80	3000	Leads	NV	3 3/4	3 1/8	4 9/16	3	2 1/2	3 1/8	3/16 x 5/16	7.2
	C-2307	20.0 4.0	30 300	80	3000	Leads	C	3 3/4	4	4 11/16	3	2 13/16	3 5/8	3/16 x 3/8	7.9
	C-1403	20.0 4.0	30 300	80	5000	Lugs	C	3 3/4	4	4 11/16	3	2 13/16	3 5/8	3/16 x 3/8	7.7
	C-1404	17.0 3.0	40 400	60	5000	Lugs	C	3 3/4	5	4 11/16	3	3 13/16	4 5/8	3/16 x 3/8	11.7
	C-1405	16.0 4.0	50 500	75	7500	Terms	FS	5 5/8	5 1/4	7 1/8	4 5/8	3 5/8	4 5/8	3/8 x 1/2	24.3

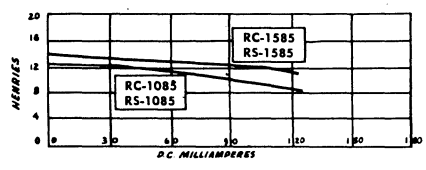
HIGH CURRENT CHOKES: INDUCTANCE MEASURED AT 1 VOLT 60 CYCLES

	Catalog No.	Inductance Millihenries	DC Amps	DC. Res. ohms	Insul. Test RMS Volts	Termination	Style	Dimensions A	B	C	D	E	F	G	WT Lbs
c	TC-1	3.0	1.0	.25	1000	Leads	A2	1 1/8	—	1 3/16	1 3/16	7/16	1 1/2	3/32	0.6
	TC-2	11.0	1.0	.75	1000	Leads	A2	1 1/8	—	1 3/16	1 3/16	7/16	1 1/2	3/32	0.6
	C-2690	300 or 75	1.0 2.0	3.0 .75	1500	Leads	NV	2 13/16	3	3 7/16	2 1/4	2 5/8	3 1/4	3/16 x 5/16	5.0
	C-2685	35	2.0	.75	1500	Leads	NH	2 5/8	2 1/8	2 5/16	2 3/16	2	2 5/8	3/16 x 5/16	1.9
	C-2691	80 or 20	2.5 5.0	.60 .15	1500	Leads	NV	3 1/8	3 1/2	3 13/16	2 1/2	3	3 5/8	3/16 x 5/16	7.0
	C-2686	25	4.0	.425	1500	Leads	NH	3 3/8	2.5/8	2 7/8	2 13/16	2 1/8	2 3/4	3/16 x 5/16	3.4
	C-2687	10	8.0	.15	1500	Leads	NH	3 3/4	3	3 3/16	3 1/8	2 1/2	3 1/8	3/16 x 5/16	5.3
	C-2688	10	12.5	.11	1500	Leads	NH	4 1/8	2 7/8	3 1/2	3 7/16	2 3/8	3	3/16 x 5/16	5.9
	C-2689	5	22.5	.03	1500	Leads	NH	4 1/2	4 3/8	3 13/16	3 3/4	3 1/2	4 1/8	3/16 x 5/16	11.9
	C-2692	24 6	20 40	.12 .029	1500	Self Leads	NV	4 7/16	5 1/4	5 1/4	3 1/2	4 1/4	4 7/8	3/16 x 5/16	21.2

TYPICAL INDUCTANCE CHARACTERISTIC CURVES







Insulation Test Voltage: Twice Allowable RMS Working Voltage plus 1000 Volts. *Available until stock is depleted.

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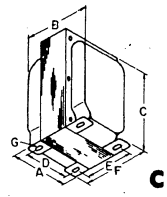

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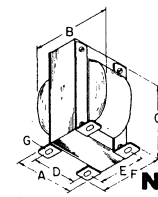


NV

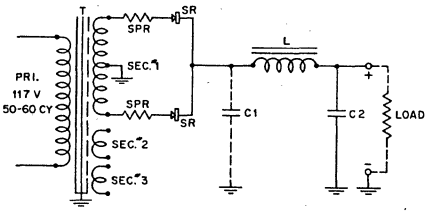
SILICON RECTIFIER POWER TRANSFORMERS: Primaries — 117 Volts 50/60 Cycle-Lead Wire Termination.

a

Catalog No.	Secondary #1 Volts	Secondary #1 DCMA†	Secondary #2 Volts	Secondary #2 Amps.	Secondary #3 Volts	Secondary #3 Amps.	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
RP-400	400 C.T.	400	6.3	3.0	6.3	3.0	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	7.1
RP-600	300 C.T.	600	6.3	2.5	6.3	2.5	C	3 7/16	4 1/4	4 1/4	2 3/4	3 1/16	3 7/8	3/16 x 3/8	7.1
RP-800	200 C.T.	800	6.3	2.0	6.3	2.0	C	3 7/16	4 1/8	4 1/4	2 3/4	2 15/16	3 3/4	3/16 x 3/8	6.9
RP-1600	100 C.T.	1600	6.3	1.5	6.3	1.5	C	3 7/16	3 7/8	4 1/4	2 3/4	2 11/16	3 1/2	3/16 x 3/8	6.0
RP-2000	80 C.T.	2000	6.3	1.5	6.3	1.5	C	3 7/16	4	4 1/4	2 3/4	2 13/16	3 5/8	3/16 x 3/8	6.5
RP-2500	60 C.T.	2500	6.3	1.5	6.3	1.5	C	3 7/16	3 7/8	4 1/4	2 3/4	2 11/16	3 1/2	3/16 x 3/8	6.0

†Refer to operating. Conditions as shown below.

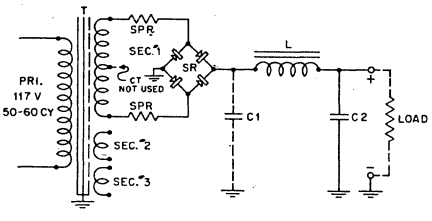
b



FULL-WAVE C.T.

T Stancor No.	SR★	L Stancor No.	C1 (in MFD)	C2 (in MFD)	SPR*	D.C. Ouput Volts	D.C. Ouput MA.	Rectifier Load
RP-400	Four #F-4	C-2709	10	10	Yes	192	400	Capacitive
RP-400	Four #F-4	C-2690	—	200	No	173	540	Inductive
RP-600	Four #F-6	C-2690	80	80	Yes	190	600	Capacitive
RP-600	Four #F-6	C-2690	—	125	No	126	1090	Inductive
RP-800	Two #40-L	C-2690	40	150	Yes	105	800	Capacitive
RP-800	Two #40-L	C-2690	—	350	No	86	1340	Inductive
RP-1600	Two #40-L	C-2690	200	200	Yes	53	1600	Capacitive
RP-1600	Two #40-L	C-2691	—	300	No	41	2600	Inductive
RP-2000	Two #40-L	C-2690	500	500	Yes	47	2000	Capacitive
RP-2000	Two #40-L	C-2686	—	1000	No	33	2950	Inductive
RP-2500	Two #40-LF	C-2691	500	500	Yes	31	2500	Capacitive
RP-2500	Two #40-LF	C-2686	—	1000	No	23	3950	Inductive

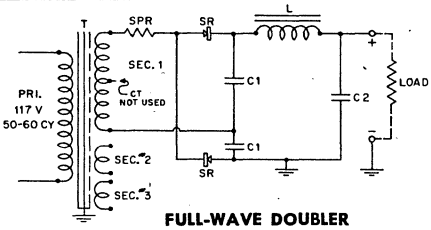
c



FULL-WAVE BRIDGE

T Stancor No.	SR★	L Stancor No.	C1 (in MFD)	C2 (in MFD)	SPR*	D.C. Ouput Volts	D.C. Ouput MA.	Rectifier Load
RP-400	Four #F-4	C-1710	8	10	Yes	502	150	Capacitive
RP-400	Four #F-4	C-1722	—	20	No	330	302	Inductive
RP-600	Four #F-6	C-2334	8	20	Yes	322	305	Capacitive
RP-600	Four #F-6	C-2690	—	125	No	285	425	Inductive
RP-800	Four #F-6	C-2709	30	40	Yes	247	377	Capacitive
RP-800	Four #F-6	C-2708	—	250	No	172	625	Inductive
RP-1600	Four #F-4	C-2690	40	80	Yes	100	880	Capacitive
RP-1600	Four #F-4	C-2690	—	300	No	88	1160	Inductive
RP-2000	Four #F-4	C-2690	100	100	Yes	93	810	Capacitive
RP-2000	Four #40-L	C-2690	—	250	No	71	1450	Inductive
RP-2500	Four #40-L	C-2690	200	200	Yes	70	1060	Capacitive
RP-2500	Four #40-L	C-2690	—	500	No	50	1950	Inductive

d



FULL-WAVE DOUBLER

T Stancor No.	SR★	L Stancor No.	C1 (in MFD)	C2 (in MFD)	SPR*	D.C. Ouput Volts	D.C. Ouput MA.	Rectifier Load
RP-400	Four #F-6	C-1420	8	0.5	Yes	1040	75	Capacitive
RP-600	Four #F-6	—	60	—	Yes	802	142	Capacitive
RP-800	Two #F-6	—	80	—	Yes	536	188	Capacitive
RP-1600	Two #F-6	C-2326	80	16	Yes	240	325	Capacitive
RP-2000	Two #F-6	—	150	—	Yes	212	390	Capacitive
RP-2500	Two #40-L	—	500	—	Yes	150	553	Capacitive

Note: Filtering shown permits maximum output ripple voltage of 3% or less.
★Quantity Shown is Total Number used in a given circuit. Rectifiers should be equivalent to Sarkes Tarzian numbers shown.
*Surge protection resistors are recommended when capacitor input filters are used. Allow 3.3 ohms per 70 volts R.M.S. applied voltage. Transformer secondary winding D.C. resistance may be used as part or all of the amount required.

FOR TRANSISTOR POWER SUPPLIES: Primary 117 Volts 60 Cycles — Lead Wire Termination.

e

Catalog No.	Secondary #1 Volts	Secondary #1 Amperes	Secondary #2 Volts	Secondary #2 Amperes	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
• P-8197	50 C.T.	1.0 Amp. RMS	—	—	C	2 1/2	2 11/16	3 1/8	2	1 3/4	2 1/2	3/16 x 3/8	2.3
• P-8198	54 C.T.	.5 Amp. RMS	6.3	.5 Amps. RMS	C	2 3/16	2 9/16	2 5/8	1 3/4	1 5/8	2 5/8	3/16 x 1/4	1.7
P-8193▲	17/18	6 Amps. RMS	—	—	NV	3 1/8	3 1/8	3 13/16	2 1/2	2 5/8	3 5/16	3/16 x 5/16	6.0
P-8194▲	36	3 Amps. RMS	36	3 Amps. RMS	NV	3 3/4	3 3/4	4 9/16	3	3	3 11/16	3/16 x 5/16	10
P-8196	80 C.T.	1.2 Amps. DC	—	—	C	2 13/16	3 5/8	3 1/2	2 1/4	2 3/8	3 1/8	3/16 x 3/8	4.5

• New part number

▲Write for Bulletin #587 for Rectifier Circuits showing D.C. Voltages and allowable D.C. Current.

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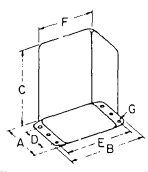

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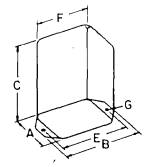


TD

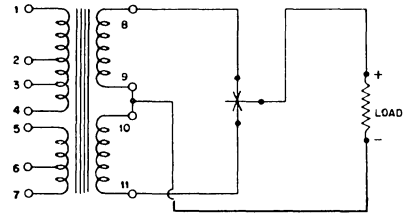
SILICON OR SELENIUM RECTIFIER TRANSFORMERS:

Primary — 117 Volts 50/60 Cycles.
Solder Lug Termination

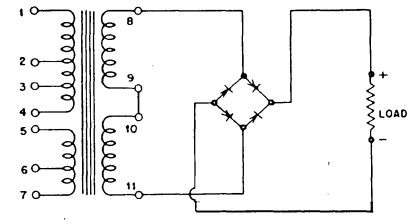
These transformers have been designed to operate in full-wave center tap or bridge rectifier circuits. The D.C. voltages shown are approximate since they depend on the internal drop of the rectifiers used.

Primary taps and an additional buck or boost tapped winding provides a wide range of output voltages. For detailed terminal connections, output voltages, etc. write for bulletin 518-R. For matching high current chokes see page 22.

FULL-WAVE C. T.



FULL-WAVE BRIDGE



a

Catalog No.	Rectifier Circuit	Range of Applied A.C. Volts Under Load (Approx.)	Output Resistive or Inductive Load Max D.C. Volts	Output Resistive or Inductive Load Max D.C. Amps.	Output Capacitive Load* Max. D.C. Volts	Output Capacitive Load* Max. D.C. Amps.	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
RT-201	C. T. Bridge	11.7 to 29.4 11.1 to 28.5	11.2 23.0	2.0 1.25	13.8[1] 30.0[2]	2.0 1.25	NV	2 1/2	2 3/8	3 1/8	2	2 1/8	2 13/16	3/16 s 5/16	2.5
RT-202	C. T. Bridge	12.0 to 29.8 12.0 to 29.8	11.1 24.3	4.0 2.0	14.7[3] 33.0[1]	4.0 2.0	NV	2 13/16	2 3/4	3 7/16	2 1/4	2 3/8	3 1/16	3/16 x 5/16	3.8
RT-204	C. T. Bridge	11.7 to 29.2 11.6 to 29.2	12.0 24.0	8.0 4.0	14.5[4] 32.4[3]	8.0 4.0	NV	3 1/8	3 1/2	3 13/16	2 1/2	2 7/8	3 9/16	3/16 x 5/16	6 1
RT-206	C. T. Bridge	12.0 to 29.7 12.0 to 29.7	11.5 24.0	12.0 6.0	14.4[5] 32.0[6]	12.0 6.0	NV	3 7/16	4	4 3/16	2 3/4	3 1/4	3 15/16	3/16 x 5/16	9.1
RT-208	C. T. Bridge	12.1 to 29.2 12.1 to 29.2	11.4 23.7	15.0 8.0	14.8[7] 32.5[4]	15.0 8.0	NV	3 3/4	5	4 9/16	2 15/16	3 3/4	4 7/16	3/16 x 5/16	12.6
RT-2012	C. T. Bridge	12.2 to 29.0 12.2 to 29.0	11.4 23.5	22.5 12.0	14.3[8] 33.0[5]	22.5 12.0	NV	4 3/8	5 7/8	5 5/16	3 1/2	4 1/4	4 15/16	3/16 x 5/16	20.5
RT-408	Bridge	25.0 to 53.5	44.0	8.0	63.0[4]	8.0	NV	4 3/8	6 3/4	5 5/16	3 1/2	5 1/4	5 15/16	3/16 x 5/16	26.5
RT-4012	Bridge	25.0 to 53.0	43.5	12.0	60.0[5]	12.0	NV	5 3/8	6	7 1/8	4 5/8	5 1/2	6 1/2	3/8 x 1/2	34

*MFD Filter Capacitor 1-1000, 2-500, 3-2000, 4-4000, 5-6000, 6-3000, 7-7500, 8-12000.

TRANSISTOR INVERTER TRANSFORMERS:

Write for Bulletin CT-43 for Circuit Diagram.
Lead Wire Termination.

b

Catalog No.	Input	Output Volts	MADC	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
*DCT-1	12 Volts D.C.	275 D.C.	125	TD	1 7/8	2 7/16	2 1/4	—	2 1/8	1 7/8	3/16	0.9
*DCT-2	12 Volts D.C.	250 D.C. or 500 D.C.	275 165	SC	2 1/4	2 11/16	2 11/16	1 1/2	2 3/8	2	3/16	1.5

TRANSISTOR INVERTER TRANSFORMER:

With 12 Volts D.C. and 117 Volts 60 Cycle Primary.
Write for Bulletin 596 for Circuit Diagram.

c

Catalog No.	D.C. Output Volts	D.C. Output DCMA	Filament Winding	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
P-8195	280	150 CCS 250 ICAS	12.6 V. @ 3 Amps. (with 117 V. Pri)	C	3 1/8	3 15/16	3 7/8	2 1/2	2 5/8	3 7/8	3/16 x 3/8	6.0

SPECIAL VIBRATOR TRANSFORMERS:

With D.C. and 117 Volts 60 Cycle Primary.
Lead Wire Termination.

d

Catalog No.	D.C. Pri.	Plate Winding A.C. Volts	Plate Winding DCMA	Buffer Cap.	Filament Winding Volts	Filament Winding Amps.	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
P-6166	6 V.	350-0-350	135	.01 mfd	6.3	2.25	C	3 3/4	3 3/4	4 11/16	3	2 5/16	3 3/8	3/16 x 3/8	6.9
P-6496	12 V.	350-0-350	100	.005 mfd	12.6 C.T.	2.0	C	3 3/4	4	4 11/16	3	2 13/16	3 5/8	3/16 x 3/8	7.9

*Available until stock is depleted.

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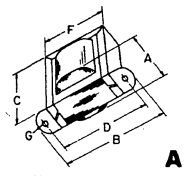
STANCOR
COMMERCIAL
rectifier & control trans.



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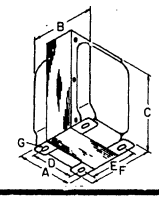

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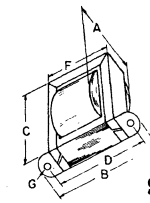
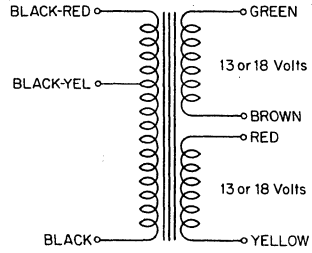


S

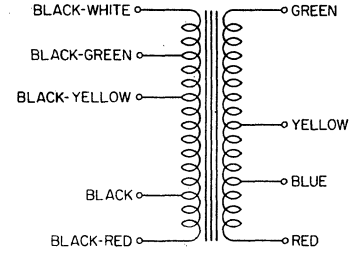
RECTIFIER TRANSFORMERS: Primary 117 Volts 60 Cycles—Lead Wire Termination

Multiple Primary and Secondary Taps offer a wide selection of output Voltages. All D.C. current ratings are based on capacitor input Filtering. Max. D.C. Ma For TP-1 is for each Secondary.

TP-1



TP-2 TP-3 TP-4



Typical Secondary AC Voltages

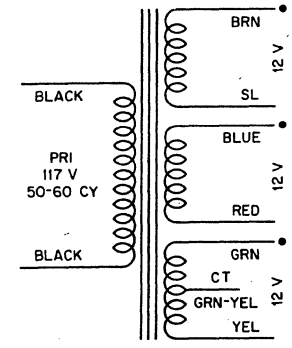
6.5	21 C.T.
7.5	22
8	24
9	26.5 C.T.
9.5	27
10	28
13.5 C.T.	29 C.T.
14.5 C.T.	31.5
16 C.T.	32 C.T.
18 C.T.	35.5 C.T.
19 C.T.	37 C.T.
20	42 C.T.

a

Catalog No.	MAX. D.C. MA. Full-Wave CT	Bridge	Half-Wave	Style	Dimensions A	B	C	D	E	F	G	Wt. Lbs.
TP-1	1500	900	450	C	2½	3	3⅛	2	2	2⅝	3/16 x ⅜	2.7
TP-2	150	100	50	A	1⅞	2⅞	1⅝	2⅜	—	2	3/16	0.7
TP-3	400	300	150	A	2⅛	3¾	2⅜	3⅛	—	2¾	3/16	1.5
TP-4	1500	1000	500	C	2½	3⅛	3⅛	2	2⅛	2¾	3/16 x ⅜	3.2

VERSATILE LOW CURRENT CONTROL TRANSFORMERS: Primary 117 Volts 50/60 Cycles Lead Wire Termination

Three isolated 12 Volt Secondaries (one with a center tap) provide many combinations of output voltages and current by series or parallel combinations.



b

Catalog No.	Amperes Each Sec.	Style	Dimensions A	B	C	D	E	F	G	Wt. Lbs.
●P-8361	.10	S	1½	2	1¾	1¾	—	1⅜	3/16	.36
●P-8362	.15	S	1¾	2⅜	2	2	—	1⅝	3/16	.60
●P-8363	.25	S	1¾	2⅞	2⅜	2⅜	—	2	3/16	.85
●P-8364	.50	S	2⅛	2⅞	2⅜	2⅜	—	2	3/16	1.25

MINIATURIZED CONTROL TRANSFORMERS: Primary 117 Volts 60 Cycles Secondary 12 Volts—Lead Wire Termination

c

Catalog No.	Secondary Amperes RMS	Bridge	Half-Wave	Style	Dimensions A	B	C	D	E	F	G	Wt. Lbs.
●P-8390	.150	.100 DC	.050 DC	A	1¼	2⅛	1¼	1¾	—	1½	3/16	.25
●P-8391	.350	.225 DC	.110 DC	A	1⅜	2⅜	1⅜	2	—	1¾	3/16	.35
●P-8392	.700	.450 DC	.225 DC	A	1½	2⅞	1⅝	2⅜	—	2	3/16	.60
●P-8393	1.200	.750 DC	.375 DC	A	1⅝	3¼	2	2 13/16	—	2⅜	3/16	.85

MINIATURIZED CONTROL TRANSFORMERS: Primary 117 Volts 60 Cycles Secondary 24 Volts C.T.—Lead Wire Termination

d

Catalog No.	Secondary Amperes RMS	Full-Wave CT	Bridge	Style	Dimensions A	B	C	D	E	F	G	Wt. Lbs.
●P-8394	.085	.135 DC	.065 DC	A	1¼	2⅛	1¼	1¾	—	1½	3/16	.25
●P-8395	.200	.275 DC	.135 DC	A	1⅜	2⅜	1⅜	2	—	1¾	3/16	.35
●P-8396	.400	.550 DC	.270 DC	A	1½	2⅞	1⅝	2⅜	—	2	3/16	.60
●P-8397	.700	.925 DC	.450 DC	A	1⅝	3¼	2	2 13/16	—	2⅜	3/16	.85

●New Part Number

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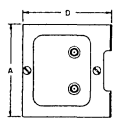
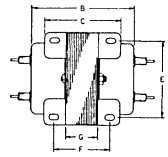
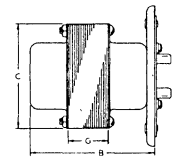
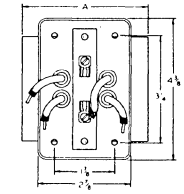




NCF & PCF





PCC

STANCOR
COMMERCIAL
control transformers

NORMAL REACTANCE TYPE: Primary 115 Volts 50/60 Cycles — Lead Wire Termination.

a

Catalog Number	Secondary			Dimensions in Inches							Approx. Weight Lbs.
	Volts	Amps.	V-A Cap.	A	B	C	D	E	F	G	
NCF-1650	16	3.15	50	3	3 1/4	2 3/8	2 3/4	2 3/8	1 3/4	1	3 1/2
NCF-2425	24	1.05	25	2 5/8	2 1/2	2 1/8	2 1/2	2 1/8	1 1/2	7/8	2 1/4
NCF-2450	24	2.1	50	3	3 1/4	2 3/8	2 3/4	2 3/8	1 3/4	1	3 1/2
NCF-2475	24	3.15	75	3 1/2	3 5/8	2 7/8	3 3/16	3	2 1/4	1 7/16	4 1/2
NCF-24100	24	4.15	100	3 15/16	3 15/16	3 13/16	3 1/2	3 3/16	2 15/16	1 9/16	5 1/4
NCF-24150	24	6.25	150	4 1/2	4 1/8	3 3/4	4	3 3/4	3	1 1/2	8 1/2
NCF-3250	32	1.55	50	3	3 1/4	2 3/8	2 3/4	2 3/8	1 3/4	1	3 1/2
NCF-3275	32	2.35	75	3 1/2	3 5/8	2 7/8	3 3/16	3	2 1/4	1 7/16	4 1/2
NCF-32150	32	4.7	150	4 1/2	4 1/8	3 3/4	4	3 3/4	3	1 1/2	8 1/2
NCF-1550	550	(NL)	50	2 7/8	2 7/8	2 7/8	3 1/2	2 1/4	2 1/8	1 1/8	3 1/2

POWER CIRCUIT TRANSFORMERS: Primary 50/60 Cycles. Lead Wire Termination.

b

Catalog Number	Primary Volts	Secondary			Dimensions in Inches							Weight Lbs.
		Volts	Amps.	V-A Cap.	A	B	C	D	E	F	G	
PCF-2025	230	115	.25	25	3	3	2 1/8	2 13/16	2 3/8	1 1/2	3/4	2
PCF-2050	230	115	.45	50	3	3 1/2	2 5/8	2 13/16	2 3/8	2	1 1/4	2 3/4
PCF-24075	230/460	115	.65	75	3 1/2	3 5/8	2 7/8	3 3/16	3	2 1/4	1 7/16	4 1/4
PCF-24250	230/460	115	2.2	250	5 1/4	4 9/16	3 15/16	4 9/16	4 1/4	3	1 11/16	12

POWER CIRCUIT TRANSFORMERS: Conduit Box Mounting

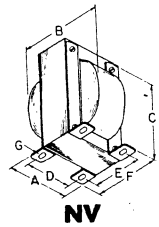
c

Catalog Number	Primary		Secondary			Dimensions in Inches				Weight Lbs.
	Volts	Cycles	Volts	Amps.	V-A Cap.	A	B	C	G	
* PCC-24250	230/460	50-60	115	2.2	250	5 1/4	4 7/8	4 5/16	1 11/16	11 1/2

CONTROL TRANSFORMERS: Primary — 115/230 Volts 50/60 Cycles — Solder Lug Termination.

d

Typical Applications: Automatic Assembly equipment. Relays, Solenoids, Small Motors, Speed Changers, Recording Device, Pumps, Electronic Tubes, Heating Elements, Elevators, Door Openers, Automatic Musical Instruments, Low Voltage Lighting Signal Lamps, Spark Plug Testers, Control Valves for Fluids and Gases, Fans and Blowers, Mechanical and Electrical Signs and similar applications.



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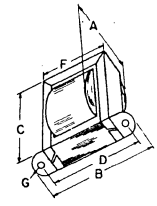

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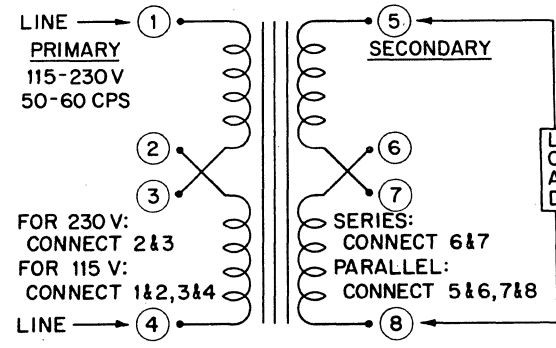

Catalog No.	VA Cap.	Secondary		Style	Dimensions							WT. Lbs.
		Parallel	Series		A	B	C	D	E	F	G	
P-6375	12	6V @ 2A	12V @ 1A	S	1 5/8	2 7/8	2 3/8	2 3/8	—	2	3/16	1.0
P-6376	24	6V @ 4A	12V @ 2A	S	1 7/8	3 1/8	2 3/4	2 13/16	—	2 1/4	3/16	1.5
P-6377	48	12V @ 4A	24V @ 2A	S	2 1/4	3 5/8	3 1/8	3 1/8	—	2 5/8	3/16	2.5
P-6378	96	12V @ 8A	24V @ 4A	NV	2 13/16	2 7/8	3 7/16	2 1/4	2 1/4	2 7/8	3/16 x 5/16	4.2
P-6379	192	12V @ 16A	24V @ 8A	NV	3 7/16	3 3/8	4 3/16	2 3/4	3	3 11/16	3/16 x 5/16	8.0

*Available until stock is depleted.

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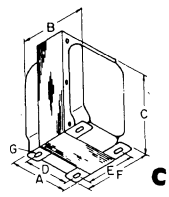
isolation/auto transformers



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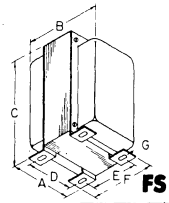
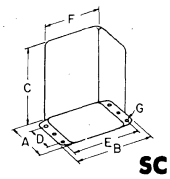


FS



SC

STEP-DOWN AUTO-TRANSFORMERS:
Primary — 230 Volts 50/60 Cycles — Line Cord and Plug.
Secondary — 115 Volts — Standard Female Receptacle.

	Catalog No.	Watts	Style	Dimensions A	B	C	D	E	F	G	Wt. Lbs.
a	P-6287	40	C	2 5/8	2 1/2	3 1/2	2	1 1/2	2 1/8	3/16 x 3/8	2.2
	P-5062	80	C	2 13/16	3 3/8	3 1/2	2 1/4	2 1/8	2 7/8	3/16 x 3/8	3.8
	P-5063	100	C	3 1/8	3 5/8	3 7/8	2 1/2	2 1/16	2 7/8	3/16 x 3/8	4.5
	P-5064	150	C	3 7/16	3 5/8	4 1/4	2 3/4	2 7/16	3 1/4	3/16 x 3/8	5.2
	P-5065	300	C	3 3/4	4 1/4	4 11/16	3	3 1/16	3 7/8	3/16 x 3/8	8.8
	P-6141	500	C	3 3/4	5 1/4	4 11/16	3	4 1/16	4 7/8	3/16 x 3/8	13.7
	P-6124	1000	FS	5 5/8	6 3/4	7 1/8	4 5/8	4	5	3/8 x 1/2	24.7
b	SD-50	50	SC	2 7/8	3 1/2	3 1/2	2	3 1/8	2 11/16	3/16	2.8
	SD-100	100	SC	3 11/16	4 7/16	4 5/16	2 3/4	3 7/8	3 1/4	3/16	4.3
	SD-150	150	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	7.0
	SD-250	250	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	8.8
	SD-500	500	SC	5 5/16	5 7/8	6 1/16	3 1/2	5 3/8	4 11/16	1/4	14.5
	SD-1000	1000	SC	6 1/8	6 1/2	7 1/16	4 1/4	6	5 1/8	1/4	22.5

LINE ADJUSTING AUTO-TRANSFORMERS:
Primary — 50/60 Cycle. Line Cord and Selector Switch.
Secondary — Female Receptacle with Voltmeter.

	Catalog No.	Watts	Input Voltage	Output Voltage	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
c	PV-6441	150	65/75/90/100/115/130/145	115	C	3 3/4	5 3/8	5 1/2	3	4 5/16	5 1/8	3/16 x 3/8	6.4
	PV-6442	350	65/75/90/100/115/130/145	115	C	3 3/4	6 1/8	5 1/2	3	5 1/16	5 7/8	3/16 x 3/8	10.5
	PV-6443	500	65/75/90/100/115/130/145	115	C	3 3/4	6 7/8	5 1/2	3	5 13/16	6 5/8	3/16 x 3/8	15
	PV-6444	750	65/75/90/100/115/130/145	115	C	4 5/8	8 1/8	6 5/16	3 1/2	6 5/8	7 3/4	1/4 x 5/8	19

LINE ADJUSTING ISOLATION TRANSFORMERS:
Primary — 50/60 Cycles. Line Cord and Selector Switch.
Secondary Standard Female Receptacle.

	Catalog No.	Watts	Input Voltage	Output Voltage	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
d	IS-50	50	105/115/125	††125/115/105	SC	3 11/16	4 7/16	4 11/16	2 3/4	3 7/8	3 1/4	3/16	5
	IS-100	100	105/115/125	††125/115/105	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	8.5
	IS-150	150	105/115/125	††125/115/105	SC	5 5/16	5 7/8	6 1/16	3 1/2	5 3/8	4 11/16	1/4	12.5
	IS-250	250	105/115/125	††125/115/105	SC	5 5/16	5 7/8	6 1/16	3 1/2	5 3/8	4 11/16	1/4	18.3

STRAIGHT ISOLATION: ELECTROSTATIC SHIELDS GROUNDED TO CORE:
Primary — 50/60 Cycles. Line Cord.
Secondary — Female Receptacle except P-6411 lead termination.

	Catalog No.	Watts	Input Voltage	Output Voltage	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
e	●P-6411	.15	115	115	A	1 7/8	3 1/4	2	2 13/16	—	2 3/8	3/16	1.0
	P-6410	50	115	115	C	2 13/16	3 1/8	3 1/2	2 1/4	1 7/8	2 5/8	3/16 x 3/8	3.7
	P-6160†	100	105/115/125	115	C	3 3/4	3 3/4	4 11/16	3	2 9/16	3 3/8	3/16 x 3/8	7.0
	P-6371	175	117	117	SC	4 5/16	5 1/4	5 5/16	2 1/2	4 3/4	4 1/8	3/16	9.0
	P-6161†	250	105/115/125	115	C	3 3/4	5 1/2	4 11/16	3	4 5/16	5 1/8	3/16 x 3/8	14.2
	P-6298†	500	105/115/125	115	FS	5 5/8	7 1/8	7 5/8	4 5/8	4 1/4	5 1/4	3/8 x 1/2	28
	P-6125▲	1000	105/115/125	115	FS	5 5/8	7 3/4	7 1/8	4 5/8	5	6	3/8 x 1/2	35
	P-6123▲	1500	105/115/125	115	FS	5 5/8	9	7 1/8	4 5/8	6 1/4	7 1/4	3/8 x 1/2	50

STEP-DOWN ISOLATION: ELECTROSTATIC SHIELDS GROUNDED TO CORE
Primary — 50/60 Cycles. Line Cord.
Secondary — Female Receptacle.

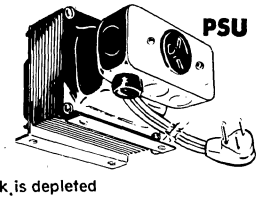
	Catalog No.	Watts	Input Voltage	Output Voltage	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
f	P-6383†	100	210/230/250	115	C	3 3/4	3 3/4	4 11/16	3	2 9/16	3 3/8	3/16 x 3/8	7.3
	P-6385†	250	210/230/250	115	C	3 3/4	5 1/2	4 11/16	3	4 5/16	5 1/8	3/16 x 3/8	14.2
	P-6387†	500	210/230/250	115	FS	5 5/8	7 1/8	7 3/4	4 5/8	4 1/4	5 1/4	3/8 x 1/2	29.5
	P-6389▲	1000	210/230/250	115	FS	5 5/8	7 7/8	7 1/8	4 5/8	5	6	3/8 x 1/2	34
	P-6390▲	1500	210/230/250	115	FS	5 5/8	9 3/8	7 1/8	4 5/8	6 1/2	7 1/2	3/8 x 1/2	50

ISOLATION TESTING TRANSFORMERS: ELECTROSTATIC SHIELD GROUNDED TO CORE
Primary—50/60 Cycles. Line Cord.
Secondary—Three Female Receptacles.

	Catalog No.	Watts	Input Voltage	Output Voltage	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
g	P-6415	350	117	105/115/125	C	4 5/8	5 11/16	5 3/8	3 1/2	4 11/16	5 3/16	1/4 x 5/8	17

STEP UP — STEP-DOWN AUTO-TRANSFORMERS:
(Three wire Line Cord and Receptacle)
208 V./230 V., or 230 V./208 V. 60 Cy. by means of Connection. Change inside outlet Box.

	Catalog No.	Application	Style	Height	Base Area	Mtg Ctrs	Wt. Lbs.
j	PSU-2000	2.3 KVA for 1/2 to 1 hp Motors	PSU	3 1/2	3 3/4 x 6 1/2	2 7/8 x 3 1/4	9
	PSU-3000	3 KVA for 1 to 2 hp Motors	PSU	4	4 1/2 x 6	2 1/2 x 3 3/4	10


PSU

† Has Primary Switch. ▲ Has Primary Terminals. †† With 115 volt input. * Available until stock is depleted

STANCOR PAGE 27 ● New part number

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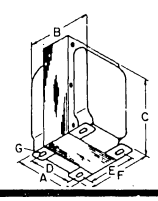

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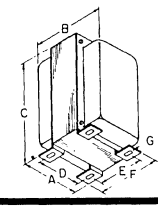

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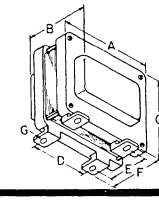

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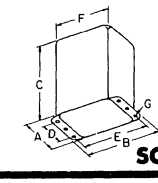

SC

STANCOR
COMMERCIAL
plate transformers

FOR REACTOR INPUT SYSTEMS: All Primaries — 50/60 Cycles.

	Catalog No.	Plate Winding AC Volts	DC Volts	DCMA CCS	DCMA ICAS	Primary Volts	Style	Dimensions A	B	C	D	E	F	G	WT. Lbs.
a	P-8040▲	500-40-0-500	400 / 40	300	375	115	C	3¾	4⅝	4 11/16	3	3 7/16	4¼	3/16 x ⅜	9.8
	P-8041▲	615-520-40-0 / 520-615	500 / 400 / 40	250	310	115	C	3¾	5¼	4 11/16	3	4 1/16	4⅞	3/16 x ⅜	13.6
	P-45††	675-575-0 / 575-675	500 / 400	250	325	115/230	SC	4 9/16	5¼	5 5/16	2½	4¾	4⅛	3/16	12.0
	P-8042▲	770-510-40-0 / 510-770	600 / 400 / 40	300	375	115	C	3¾	6½	4 11/16	3	5 5/16	6⅛	3/16 x ⅜	18.0
	P-67††	900-735-0 / 735-900	750 / 600	250	325	115/230	SC	4 9/16	5¼	5 5/16	2½	4¾	4⅛	3/16	13.5
	P-8043▲	950-750-40-0 / 750-950	750 / 600 / 40	300	375	115	FS	5⅝	6¾	7⅛	4⅝	4	5	⅜ x ½	29.0
b	*P-8044▲	1200-0-1200† / 535-0-535	1000 / 400	150 / 150	190 / 190	115	FS	6⅛	8¼	7⅝	4¾	4	5	5/16 x ¾	29.8
	P-8025▲	1230-940-0 / 940-1230	1000 / 750	400	500	115	FS	5⅝	7½	7⅛	4⅝	4¾	5¾	⅜ x ½	35.0
	P-1240††	1425-0-1425† / 600-0-600	1250 / 400	150 / 200	200 / 260	115/230	SC	5 5/16	5⅞	6 1/16	3½	5⅜	4 11/16	¼	26.0
	P-8026▲	1475-1175-0 / 1175-1475	1250 / 1000	300	375	115	FS	5⅝	7½	7⅛	4⅝	4¾	5¾	⅜ x ½	36.5
	P-8027▲	1510-1210-0 / 1210-1510	1250 / 1000	500	625	115	FS	5⅝	8¼	7⅛	4⅝	5½	6½	⅜ x ½	45.2
	P-1512††	1710-1430-0 / 1430-1710	1500 / 1250	300	425	115/230	FS-1	7½	7	7	4¾	6	7⅛	⅜ x ¾	43.0
	P-8028▲	1740-1460-0 / 1460-1740	1500 / 1250	300	375	115	FS	5⅝	7¾	7⅛	4⅝	5	6	⅜ x ½	38.7
	P-8029▲	1775-1500-0 / 1500-1775	1500 / 1250	500	625	115/230	FS	7¼	8⅛	9	6	5⅝	6⅞	7/16 x ⅝	65.0
	P-8031▲	2075-1775-0 / 1775-2075	1750 / 1500	500	625	115/230	FS	7¼	8⅛	9	6	5⅝	6⅞	7/16 x ⅝	65.0
c	P-8030▲	2100-1800-0 / 1800-2100	1750 / 1500	300	375	115	FS	5⅝	7¼	7⅛	4⅝	5½	6½	⅜ x ½	45.8
	P-8033▲	2375-2065-0 / 2065-2375	2000 / 1750	500	625	115/230	FS	7¼	8⅜	9	6	5⅞	7⅛	7/16 x ⅝	77.0
	P-8032▲	2400-2100-0 / 2100-2400	2000 / 1750	300	375	115	FS	5⅝	8	7⅛	4⅝	6¼	7¼	⅜ x ½	46.0
	P-2520††	2820-2260-0 / 2260-2820	2500 / 2000	300	425	115/230	FS-1	8⅞	7½	8½	5½	6⅝	8⅛	⅜	71.0
	P-8034▲	2900-2385-0 / 2385-2900	2500 / 2000	300	375	115/230	FS	7¼	8⅛	9	6	5⅝	6⅞	7/16 x ⅝	62.8
	P-2126††	2900-2320-0 / 2320-2900	2600 / 2100	500	700	115/230	FS	7¼	10½	9	6	7¾	9	7/16 x ⅝	95.0
	P-8035▲	2950-2375-0 / 2375-2950	2500 / 2000	500	575	115/230	FS	7¼	9⅝	9	6	7 1/16	8⅜	7/16 x ⅝	80.0
	P-4353††	4600-4050-3400 / 0-3400-4050 / 4600	4000 / 3500 / 3000	600	800	115/230	FS-1	13⅞	10	12¾	9	8⅞	10½	½	150.

WITH PLATE LEADS OUT OF TOP: For Reactor Input Systems. All Primaries — 50/60 Cycles.

d	PT-8311††	1200-0-1200	1000	225	280	117	C	3¾	5¼	4 11/16	3	4 1/16	4⅞	3/16 x ⅜	13.0
	PT-8312††	1200-0-1200	1000	325	405	117	C	4⅝	6¾	5⅜	3½	5⅛	6¼	¼ x ⅝	22.5
	PT-8313††	1475-0-1475	1250	250	310	117	C	4⅝	6⅝	5⅜	3½	5	6⅛	¼ x ⅝	22.0
	PT-8314††	1790-0-1790	1500	225	280	117	C	4⅝	6½	5⅜	3½	4⅞	6	¼ x ⅝	21.5
	PT-8315††	2065-0-2065	1750	200	250	117	C	4⅝	6⅝	5⅜	3½	5	6⅛	¼ x ⅝	22.0

CCS RATING FOR REACTOR INPUT — ICAS RATING FOR CAPACITOR INPUT: All Primaries — 50/60 Cycles.

e	PC-8301††	415-0-415	300 / 425	200	160	117	C	3⅛	3½	3⅞	2½	2 3/16	3	3/16 x ⅜	4.8
	PC-8302††	515-0-515	385 / 500	235	200	117	C	3 7/16	4⅛	4¼	2¾	2 15/16	3¾	3/16 x ⅜	6.8
	PC-8303††	665-0-665	500 / 750	250	200	117	C	3¾	4⅜	4 11/16	3	3 3/16	4	3/16 x ⅜	9.6
	PC-8304††	750-0-750	600 / 850	265	200	117	C	3¾	4⅞	4 11/16	3	3 11/16	4½	3/16 x ⅜	11.5
	PC-8305††	920-0-920	750 / 1000	250	200	117	C	3¾	5	4 11/16	3	3 13/16	4⅝	3/16 x ⅜	11.9
	PC-8306††	920-0-920 / 500-0-500 ††	750 / 1100	150	125	117	C	3¾	5	4 11/16	3	3 13/16	4⅝	3/16 x ⅜	11.9
			380 / 550	150	125										

All "C" style have Leads; "SC" style have lugs; "FS" and "FS1" have Terminals.
†Both Secondaries may be Loaded Simultaneously.
*Available until stock is depleted.
††Secondary C.T. must be grounded.
▲May be used with Secondary C.T. ungrounded.
All Secondary A.C. Voltages ±3%.

STANCOR PAGE 28

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STANCOR

COMMERCIAL

t.v. replacement

T.V. REPLACEMENT FLYBACKS

REFER TO STANCOR T. V. REPLACEMENT GUIDE FOR APPLICATION

Part No.	Mtg. Type	Part No.	Mtg. Type	Part No.	Mtg. Type	Part No.	Mtg. Type
HO-158	1	HO-242	26	HO-311	38	HO-362	68
HO-159	2	HO-243	39	HO-312	9	HO-363	68
HO-160	3	HO-244	40	HO-313	8	HO-364	68
HO-161	4	HO-245	40	HO-314	8	HO-365	68
HO-162	5	HO-246	41	HO-315	42	HO-366	68
HO-163	5	HO-247	30	HO-316	50	HO-367	68
HO-164	6	HO-248	42	HO-317	26	HO-368	67
HO-165	7	HO-249	30	HO-318	26	HO-369	67
HO-166	8	HO-251	41	HO-319	40	HO-370	67
HO-167	8	HO-252	43	HO-320	40	HO-371	40
HO-169	10	HO-254	43			HO-372	40
HO-173	12	HO-255	45	HO-321	53	HO-373	40
HO-175	12	HO-256	8	HO-323	26	HO-374	40
HO-177	13	HO-259	13	HO-324	42	HO-375	55
HO-178	13	HO-264	42	HO-329	27	HO-376	49
HO-179	14	HO-265	49	HO-330	55	HO-377	44
HO-180	14	HO-267	62	HO-331	14	HO-378	44
HO-181	16	HO-268	35	HO-332	27	HO-379	40
HO-182	8	HO-269	35	HO-333	40	HO-380	68
HO-183	17					HO-381	40
HO-184	17	HO-271	52	HO-334	40	HO-382	40
HO-185	39	HO-272	53	HO-335	40	HO-383	40
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HO-203	25	HO-282	56	HO-343	55	• HO-391	71
HO-204	26	HO-283	58	HO-344	55	• HO-392	71
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HO-240	31	HO-308	54	HO-361	53		

*Available until stock is depleted • New Part Number. † For Color T.V.

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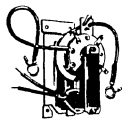
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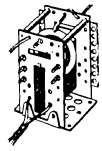
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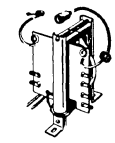
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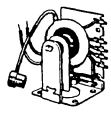
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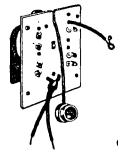
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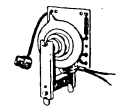
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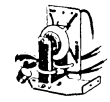
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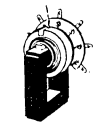
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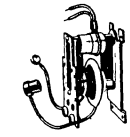
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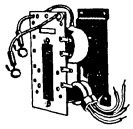
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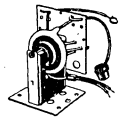
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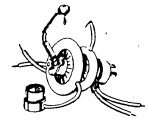
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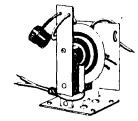
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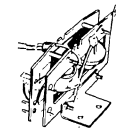
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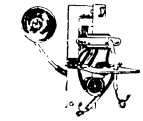
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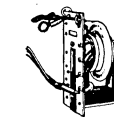
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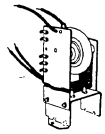
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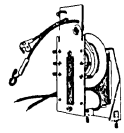
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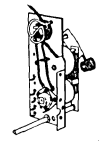
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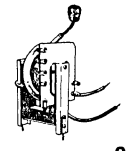
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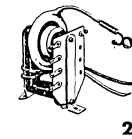
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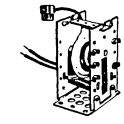
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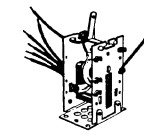
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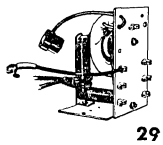
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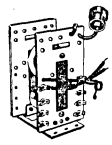
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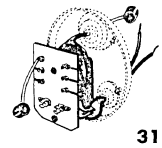
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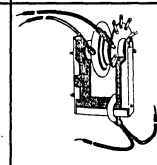
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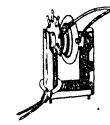
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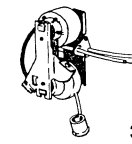
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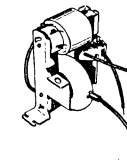
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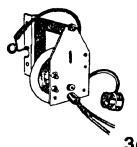
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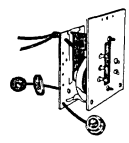
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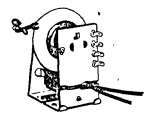
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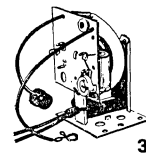
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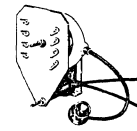
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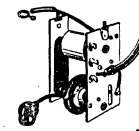
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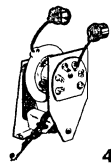
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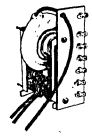
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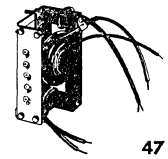
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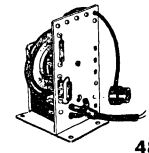
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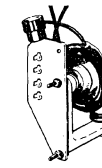
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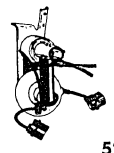
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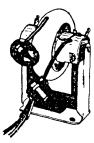
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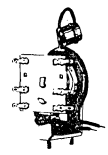
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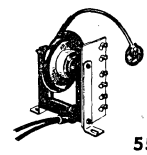
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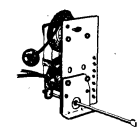
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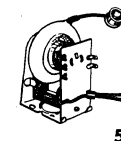
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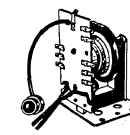
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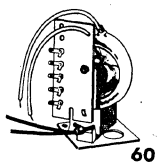
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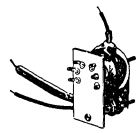
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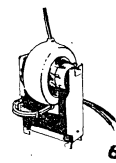
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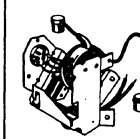
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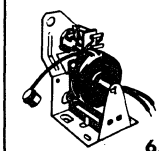
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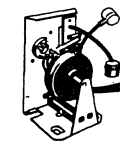
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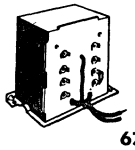
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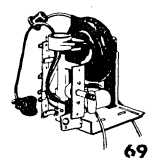
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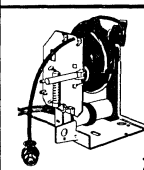
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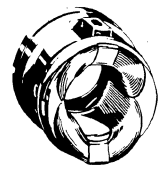
STANCOR
COMMERCIAL
t.v. replacement


DY

DY

DEFLECTION YOKES

Refer to Stancor T.V. replacement guide for Application.

	Part No.	Coil Inductance in MH		Coil Resistance in Ohms		Max. Scan.	Case Diam.	Unit Length	Mtg. Type	Application
		Horizontal	Vertical	Horizontal	Vertical					
a	* DY-1A	8.3	50	13.5	66	53°	3 1/8	3	DY	Multi-Purpose
	DY-2A	10.3	50	14.5	66	70°	3 1/8	2 3/4	DY	Multi-Purpose
	DY-8A	8.5	50	14.5	52.5	70°	3 1/8	2 3/4	DY	Multi-Purpose
	DY-9A	13.5	50	17.5	53.5	70°	3 1/8	2 3/4	DY	Multi-Purpose
	DY-10A	30.0	3.5	45	3.5	70°	3 1/8	2 3/4	DY	Multi-Purpose
	DY-11A	20.0	50	31	50	70°	3 1/8	2 3/4	DY	Multi-Purpose
	* DY-12A	30.0	50	22	50	70°	3 1/8	2 3/4	DY	Multi-Purpose
b	DY-13A	12.5	48	15	52	90°	3 1/2	3	DY	Muntz
	DY-14A	30.0	3.5	45	3.5	70°	3 1/8	2 3/4	DY	RCA
	DY-15A	25.0	40.0	35	50	70°	3 1/8	2 3/4	DY	Motorola
	DY-16A	20	44.0	26	45	90°	3 7/8	3 1/8	DY	Multi-Purpose
	* DY-17A	12.0	42.0	20	43	90°	3 3/4	3	DY	G. E.
c	DY-21A	14.5	3.1	10	3.5	70°	3 1/8	2 7/8	DY	RCA
	DY-23A	20.0	45.0	27	43	90°	3 3/4	3 1/8	DY	RCA
	DY-24A	18.5	11.0	34	11.5	90°	4	2 3/4	DY	RCA
	* DY-25A	24.0	11.0	46	11.0	90°	4	2 3/4	DY	Emerson
	DY-26A	19.0	11.5	34	16.5	110°	4 1/4	2 1/4	DY	RCA
	DY-27A	17.5	12.3	35.5	13.5	110°	4 1/4	2 1/4	DY	RCA
d	DY-28A	24	3.2	36	3.4	70°	3 1/4	2 7/8	DY	Motorola
	DY-29A	24	3.2	36	3.4	70°	3 1/4	2 7/8	DY	Motorola
	DY-30A	24	3.2	36	3.4	70°	3 1/4	2 7/8	DY	Motorola
	DY-31A	24	42	44.2	42	90°	4 1/4	3 1/4	DY	Motorola
	DY-32A	24	42	34	42	90°	4 1/8	3 1/4	DY	Motorola
	DY-33A	30.5	43	34	50	70°	3 3/4	2 1/2	DY	Philco
	DY-34A	30	47	45	42	90°	3 3/4	2 3/4	DY	Philco
e	DY-35A	20	45	28	45	90°	4	3	DY	Philco
	DY-37A	20	45	28	45	90°	4	3 1/4	DY	Emerson
	DY-38A	20	34.4	38	34	110°	4 1/4	3 3/4	DY	Emerson
	DY-39A	13	40	22	41	90°	4	3 1/4	DY	Zenith
	DY-40A	12	40	17	39	110°	4 1/4	3 3/4	DY	G. E.
	DY-41A	13.3	41	20	54	70°	3 1/4	3	DY	RCA
	DY-42A	30.4	34	47.2	34	110°	4 1/4	3 3/4	DY	RCA
f	* DY-43A	24	3.3	31	3	90°	4	3	DY	Motorola
	DY-44A	18.5	34	33	34	110°	4 1/4	2 1/8	DY	Westinghouse
	DY-45A	18.6	14.8	35	13.8	110°	4 1/4	3 3/4	DY	Admiral
	DY-46A	20	40	38	39	110°	4 1/4	3 3/4	DY	Olympic
	DY-47A	8.2	41	19.7	72	70°	3 1/2	2 1/2	DY	G. E.
	DY-48A	14	29	33	60	70°	3 1/2	2 1/2	DY	G. E.
	DY-49A	44	38	110	80	70°	3 3/4	2 7/8	DY	G. E.
	* DY-50A	12	33	28	83	70°	3 3/8	2 3/8	DY	G. E.
g	DY-51A	18.6	15	38	17.2	110°	3 3/4	3	DY	Packard-Bell
	DY-52A	20.5	37.5	30	35	90°	3 1/4	3 3/4	DY	Westinghouse
	DY-53A	24	39	40	37.0	110°	3 1/8	3 3/8	DY	Philco
	DY-54A	24	40	40	37	110°	3 1/4	3 1/4	DY	Philco
	DY-56A	15	40	29.5	39.5	110°	3 3/4	3 1/4	DY	Zenith
h	DY-57AT	24	70	40	29	114°	3 1/4	2 3/4	DY	Multi-Purpose
	DY-58AT	18.5	70	30	29	114°	3 1/4	2 3/4	DY	Multi-Purpose
	DY-59AT	24	15	40	6	114°	3 1/4	2 3/4	DY	Multi-Purpose
	DY-61AT	20	20	22	5.5	114°	3 1/4	2 3/4	DY	Multi-Purpose
	• DY-62A	12.5	48	22	40	92°	4 1/4	3 1/4	DY	Zenith
	• DY-63A	18.5	13.5	35	14	110°	4 1/4	3 1/4	DY	Multi-Purpose
	• DY-64A	12.5	44	22	44	92°	4 1/4	3 1/4	DY	Zenith
	• DY-90AC	12	39	6.5	23	70°	6 7/8	4 1/4	DY	Multi-Purpose
	• DY91AC *	11.5	23.5	8.5	12.5	90°	6 1/2	3 3/4	DY	Zenith Color

• New part number * Available until stock is depleted

* Adaptor plugs are available to extend the usability of the DY-91AC.
For schematic and application list, write for YA series bulletin.

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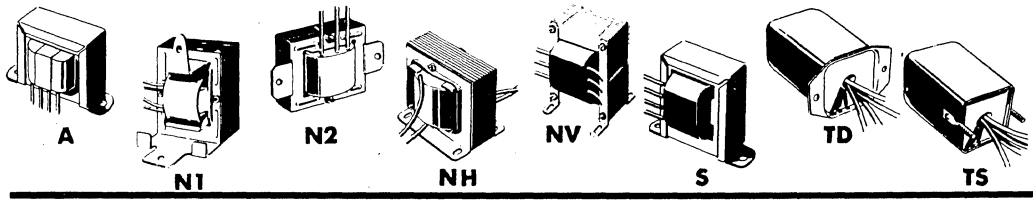

STANCOR
COMMERCIAL
t.v. replacement

VERTICAL DEFLECTION OUTPUT TRANSFORMERS: Refer to Stancor T.V. replacement guide for Application.

	Part No.	Turns Ratio Pri./Sec.	Primary Impedance#	D.C. Res. In Ohms Pri.	D.C. Res. In Ohms Sec.	Height Overall	Base Area	Mtg. Ctrs.	Mtg. Type	Shpg. Wt. In Lbs.
a	VO-83	10:1	18,000 Ω @ 12 DCMA	1300	10	2	1 3/4 x 3 1/4	2 13/16	A	1.0
	VO-84	8:8:1	16,500 Ω @ 10 DCMA	700	12	2	1 3/4 x 3 1/4	2 13/16	A	1.0
	VO-85	10:1	19,000 Ω @ 13 DCMA	600	7	3 1/16	2 1/2 x 2 1/2	1 19/32 x 2	NV	2.5
	VO-87§	11.4:1	17,000 Ω @ 20 DCMA	1200	11	2	1 3/4 x 3 1/4	2 13/16	A	1.2
	VO-88	44:1	11,000 Ω @ 20 DCMA	400	0.3	3 1/16	2 1/2 x 2 1/2	1 19/32 x 2	NV	2.5
	VO-89§	18:1	30,000 Ω @ 10 DCMA	1650	4.5	2 1/4	3 3/4 x 2 1/8	3 1/8	A	1.5
	VO-90	8:1	19,000 Ω @ 13 DCMA	540	10.5	2 5/8	2 1/4 x 3	2 3/8 x 1 5/8	NH	2 1/2
	VO-91	10:1	14,000 Ω @ 15 DCMA	625	14	2 1/4	2 1/4 x 3 5/8	3 1/8	A	2
	VO-92	9:1	9,500 Ω @ 30 DCMA	540	15	2 1/4	1 3/4 x 3 5/8	3 1/8	A	1 1/2
b	VO-93	9:1	11,000 Ω @ 19 DCMA 6,000 Ω @ 145 DCMA	540	14	2 5/8	2 1/4 x 2 1/2	3	N1	2
	VO-94§▲	6.9:1	4,700 Ω @ 50 DCMA	375	10	2	1 7/8 x 3 1/4	2 13/16	A	1 1/2
	VO-95§	6:1	3,200 Ω @ 40 DCMA 6,000 Ω @ 15 DCMA	300	9	2	1 3/4 x 3 1/4	2 13/16	A	1
	VO-96§▲	8:1	4,700 Ω @ 50 DCMA	375	6.5	2	1 7/8 x 3 1/4	2 13/16	A	1 1/2
	VO-97§	6.9:1	11,500 Ω @ 20 DCMA	330	8.5	2	1 5/8 x 3 1/4	2 13/16	A	1
	VO-98§	9:1	11,000 Ω @ 19 DCMA	450	11.3	2	3 3/4 x 2 3/16	3 5/16	N2	1.7
	VO-99	7.5/15:1	8,500 Ω @ 19 DCMA	580	6.7	2 1/4	3 3/4 x 2 1/4	3 1/8	N1	1.7
c	VO-100§◆	9.2:1	7,500 Ω @ 30 DCMA	360	14.0	2 1/8	3 5/8 x 1 7/8	3 1/8	A	1 1/2
	VO-101§	12:1	16,000 Ω @ 15 DCMA	675	6.8	2 1/4	3 5/8 x 1 3/4	3 1/8	A	1 1/2
	VO-102§	6.5:1	6,700 Ω @ 25 DCMA	275	10	2 5/8	4 x 2 1/4	3 9/16	A	2 1/2
	VO-103§	16:1	10,000 Ω @ 15 DCMA	530	5.5	2	3 1/4 x 1 1/2	2 13/16	A	1 1/2
	VO-105§	44.5:1	24,000 Ω @ 15 DCMA	740	.8	2	3 1/4 x 1 1/2	2 13/16	A	1 1/2
	VO-106	35.5:1	35,000 Ω @ 0 DCMA	1400	3.8	1 5/8	2 7/8 x 1 1/2	2 3/8	A	1
	VO-108§	9:1	10,000 Ω @ 25 DCMA	350	10.3	2	3 1/4 x 2	2 13/16	A	1.3
	VO-109	Multi-Ratio 5:1 to 50:1	40 MA Max.			2	3 1/4 x 2	2 13/16	A	1.3
	VO-110	16:1	18,000 Ω @ 20 DCMA	1670	7.0	2	2 x 3 1/4	2 13/16	A	1.3
	VO-111	18-1	20,000 Ω @ 20 DCMA	1425	7.5	2	2 x 3 1/2	2 13/16	A	1.3
	VO-112	8:1	7,000 Ω @ 30 DCMA	384	3.5	2 1/4	3 5/8 x 2 1/8	3 1/8	A	1.8
d	VO-113§	15:1	13,000 Ω @ 20 DCMA	1435	19.7	2 5/16	1 3/4 x 2 15/16	2 3/8	S	1.3
	VO-114	6:1	5,000 Ω @ 30 DCMA	250	6.0	2	3 1/4 x 1 5/8	2 13/16	A	1
	VO-115§	12:1	7,000 Ω @ 35 DCMA	360	2.4	2 5/16	3 3/4 x 1 7/8	3 1/8	A	1.4
	VO-116	18:1	32,000 Ω @ 15 DCMA 11,000 Ω @ 30 DCMA	1500	5.3	2 5/16	3 3/4 x 1 13/16	3 1/8	A	1.5
	VO-117	13:1	9,500 Ω @ 25 DCMA 8,000 Ω @ 50 DCMA	275	4.0	2 5/16	3 3/4 x 2 3/16	3 1/8	A	2.0
	VO-118	8:1	6,000 Ω @ 30 DCMA 4,500 Ω @ 60 DCMA	350	4.0	2 5/16	3 3/4 x 2	3 1/8	A	1.6
	VO-119§	7:1	9,000 Ω @ 35 DCMA 3,000 Ω @ 70 DCMA	385	8.0	2 5/16	3 3/4 x 1 7/8	3 1/8	A	1.5
	VO-120§	7.5:1	7,800 Ω @ 35 DCMA 5,000 Ω @ 70 DCMA	235	6.0	2 5/16	3 3/4 x 2 1/16	3 1/8	A	1.8
e	VO-122§	6.5:1	3,500 Ω @ 45 DCMA 2,000 Ω @ 65 DCMA	145	4.0	2 5/16	3 3/4 x 1 7/8	3 1/8	A	1.5
	VO-123◆	7:1	5,300 Ω @ 35 DCMA 2,000 Ω @ 70 DCMA	180†	4.0	2 5/16	3 3/4 x 2	3 1/8	A	1.6
	VO-126§	14.5:1	6,000 Ω @ 40 DCMA 1,800 Ω @ 80 DCMA	260	1.4	2 5/16	3 3/4 x 2	3 1/8	A	1.6
	VO-127§	16:1	10,500 Ω @ 20 DCMA 8,000 Ω @ 40 DCMA	460	3.4	2 5/16	3 3/4 x 2	3 1/8	A	1.6
	VO-128§▲	17:1	20,000 Ω @ 20 DCMA 4,800 Ω @ 45 DCMA	2250	8.0	2	2 x 3 1/4	2 13/16	A	1
	VO-129§▲	11:1	6,000 Ω @ 50 DCMA 4,000 Ω @ 75 DCMA	430	4.5	2 3/16	2 x 3 3/4	3 1/8	A	1.6
	VO-700C†	10:1	7,500 Ω @ 32 DCMA	370	20	2 5/16	2 3/8 x 3 3/4	3 1/8	A	1.6
	•VO-701C	10:1	4.5K @ 50ma	—	—	2 9/32	2 1/2 x 3 3/4	3 1/8	A	1.6

VERTICAL BLOCKING-OSCILLATOR TRANSFORMERS

	Part No.	Turns Ratio Pri./Sec.	Height Overall	Base Area	Mounting Centers	Mounting Type	Shpg. Wt. In Lbs.
f	VBO-194	1:4.2	1 3/8	1 1/2 x 2 1/2	2	A	0.4
	VBO-195	1:4.2	1 3/4	1 1/2 x 2 5/16	1 15/16	TD	0.4
	VBO-196	1:4.2	1 9/16	1 3/16 x 1 3/16	1 13/64	TS	0.3
	VBO-198	1:4.2	1 3/16	2 3/16 x 1 1/4	1 3/4	A	0.4
	VBO-199	1:1.5	1 3/4	1 1/2 x 2	1 3/4	S	0.5
	VBO-200	1:1.5	1 3/8	1 1/2 x 2 1/2	2	A	0.5
	VBO-201	1:3.33	1 3/16	2 3/16 x 1 1/4	1 3/4	A	0.4

• New part number †For color T.V. ▲Has vertical blanking winding. ◆Has screen grid tap. §Autoformer.

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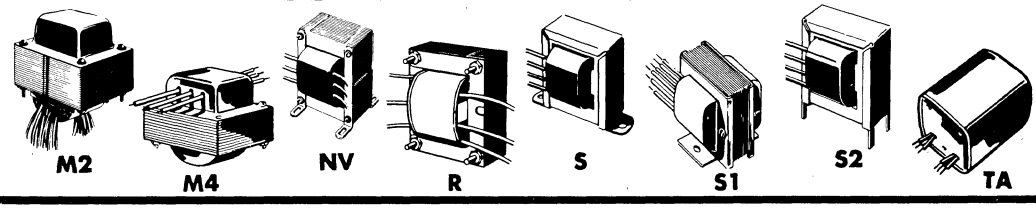
radio & t.v. replacement



AUTO RADIO VIBRATOR TRANSFORMERS Exact Duplicate for 6 Volt D.C. Primary.

	Part No.	Original Part No.	Trade Name	D.C. Volts at Filter Input	D.C. MA.	Mtg. Type	Recommended Buffer Cap. (mfd.)	Height Overall	Base Area	Shpg. Wt. In Lbs.
a	P-6471	25B472533 D71014	Motorola (408, 508, etc.) Colonial-Detrola No. 8072	235	70	TA	0.006	3	2 3/8 x 2 3/16	2.0
a	P-6476	D70267 C70267	Colonial-Detrola No. 7070 Col.-Mot.-Det. No. 8030	220	53.5	TA	0.008	2 5/8	2 27/32 x 2 5/32	2.0
a	P-6477	25C500189	Motorola	150	50	M2	0.03	2	1 7/8 x 2 1/4	1.0
a	P-6478	25C501644	Motorola	225	70	R	0.02	2 1/4	2 3/16 x 2 5/8	1.5
a	P-6480	65-0347	Philco	225	70	R	0.0033	2 3/16	2 1/4 x 2 5/8	1.5
a	P-6481	32-8313-1	Philco	250	60	M4	0.0068	2 1/4	2 3/16 x 2 5/8	1.5
a	P-6490	C 291787-1	Bendix (Ford Model 5B8F)	265	52	R	0.006	2 1/8	2 3/16 x 2 5/8	1.5
a	P-6499	1220163[1]	United Motors (Delco)	250	60	TA	0.006	3 7/32	2 5/8 x 2 1/2	2.3
	Exact Duplicate For 12 Volt D.C. Primary									
b	P-6482	6084	United Motors (Delco)	250	60	TA	.004	3 1/4	2 11/16 x 2 11/16	2.5
b	P-6489	6067	United Motors (Delco)	250	60	R	.004	2 3/16	2 3/16 x 2 5/8	2.0
b	P-6493	*25C535794	Motorola	275	75	S1	(See Footnote)	2 3/4	2 3/8 x 2	1.7
b	P-6494	32-8592-1	Philco	245	70	R	0.0047	2 3/16	2 5/8 x 2 1/8	1.5
b	P-6495	*25K535795	Motorola	275	75	S1	(See Footnote)	2 3/4	2 3/8 x 2 1/8	1.7
b	P-6497	7265604[2]	United Motors (Delco)	250	55	S2	.007[3]	2 9/16	2 1/4 x 2	1.8

*2 buffer capacitors used 0.5 mfd. and 0.04 mfd. as in original circuit.

[1]17261386 and 7262956 replaced by P-6499
[2]7269118 replaced by P-6497
[3]+15K—1W. Res.

UNIVERSAL VIBRATOR TRANSFORMERS With 6 Volts D.C. Primary

	Part No.	Secondary A.C. Volts	D.C. Volts At Filter Input	D.C. M.A.	Recommended Buffer Cap.	Mtg. Type	Height Overall	Base Area	Mtg. Ctrs.	Shpg. Wt. In Lbs.
c	P-6491	188-0-188	200	40	0.003 mfd.	S	2 1/4	3 1/8 x 2 1/8	2 13/16	1.5
c	P-4062	300-0-300	260	65	0.006 mfd.	NV	3 1/8	2 1/2 x 2 5/8	2 x 2	2.3
c	P-4063	320-0-320	285	75	0.006 mfd.	NV	3 1/8	2 1/2 x 2 3/4	2 x 2 1/4	2.8
c	P-6131	370-0-370	330	100	0.007 mfd.	NV	3 1/2	2 7/8 x 2 7/8	2 1/4 x 2 1/4	3.5

WIDTH AND LINEARITY CONTROLS

	Stancor No.	Application	Ind. in Mh.	Res. in Ohms	AGC Ind. in Mh.	AGC Res. in Ohms
d	RTC-8628†	Width or Linearity Coil	2.5-17.	24	—	—
d	RTC-8629†	Width or Linearity Coil	15.-60.	55	—	—
d	WC-1*,WC-1A*‡	Width Coil	.05-50.	.53	—	—
d	WC-2*,WC-2A*	Tapped Linearity Coil	.55-4.6	8.3	—	—
d	WC-5*,WC-5A*	Width or Linearity Coil	4.-39.	32.	2.7-7.6	19.5
e	WC-6*,WC-6*A	Tapped Linearity Coil	1.3-4.1	5.6	—	—
e	WC-7*,WC-7A*	Width Coil	.5-3.5	2.3	—	—
e	WC-8*,WC-8A*	Width Coil	1.-10.	8.0	—	—
e	WC-10*,WC-10A*‡	Width Coil with AGC	2.6-7.5	12.	4.-28.	32.
e	WC-11▲	Tapped Width Coil	2.3-11.8	10.	—	—
f	WC-13§	Width Coil with AGC	4.-30.	27.	.185-1.82	3.
f	WC-14*,WC14-A*	Width Coil	45.-215.	130.	—	—
f	WC-18*,WC-18A*	Width Coil	4.-29.	29.	—	—

*Available for either 5/16" or 7/16" Mounting hole. Use suffix "A" for 7/16" hole.
†Adapter supplied for either 5/16" or 7/16" Mounting hole.
▲Only for 7/16" Mounting hole.
§For 1 3/4" Mounting Centers equipped with slider.
#Shipped without core, use original core.
‡Available until stock is depleted

COLOR DEGAUSSING COIL:

Catalog No. — **DGC-100**

With 10-foot Line Cord and In-Line Switch

Full 12" Diameter for Faster — Better Demagnetizing of Color TV Sets.

C.R. TUBE BOOSTER:

Catalog No. — **P-8192** (For parallel heaters only)

- **No connections to solder.**
- **HI-LO switch provides two levels of brilliance.**
- **Does not require AC line connections.**
- **Measures only 3 1/2" high, 1 1/2" in diameter.**
- **Does not change CR tube space requirements.**

CRTB

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Div. of "POWER ALTERNATING DIRECT CORP."

Engineered for Industry

RECTIFIERS — TRANSFORMERS — CHOKES
FOR ALL YOUR DC POWER REQUIREMENTS

"TECHNICAL APPARATUS BUILDERS" mfgr. Power Rectifiers to your specs. From one amp up to and above 1000 amps, convection or fan cooled, single or 3 phase. "NEMA" & Jan. Specs.

SILTAB

*"SILTAB" ® FWB SILICON RECTIFIER FINNED STACKS -65%C to +150%C CONVECTION COOLED**

Max DC Amps	36VAC 32VDC		70VAC 62VDC		140VAC 125VDC		280VAC 250VDC		840VAC 750VDC		1120VAC 1000VDC		1400VAC 1250VDC		2800VAC 2500VDC	
1.5	JA36	$1.50	JA70	$ 1.60	JA140	$ 1.75	JA280	$ 1.90	JA840	$6.00	JA1120	$9.00	JA1400	$12.00	JA2800	$15.00
6	JJ36	5.90	JJ70	6.90	JJ140	7.90	JJ280	8.90	JJ840	18.00	JJ1120	21.00	JJ1400	24.00	JJ2800	36.00
12	JL36	7.50	JL70	8.80	JL140	11.75	JL280	15.00	JL840	29.45	JL1120	36.00	JL1400	43.00	JL2800	54.00
24	JN36	10.00	JN70	15.00	JN140	20.00	JN280	30.00								
36	JR36	13.60	JR70	20.30	JR140	30.90	JR280	41.60								
50	JS36	20.00	JS70	27.00	JS140	36.15	JS280	45.45								
100	JT35	27.00	JT70	36.75	JT140	45.90	JT280	63.00								
150	JO35	30.15	JO70	42.30	JO140	54.30	JO280	99.00								
*250	JY35	39.90	JY70	51.00	JY140	88.45	JY280	144.00								
*400	JZ35	70.60	JZ70	108.45	JZ140	147.30	JZ280	270.00								

*Force Air Cool — for capacitive, battery & motor loads derate 20%! Fuse input & output DC use Amptrap single cycle fuses available from us.

SELENIUM-SILICON-GERMANIUM
COP-OX — ALL GOV'T TYPES — LOW PRICES!

FAST REPLACEMENT DELIVERIES ON VICKERS — KOTRON — FEDERAL — CHATHAM — G.E. — WESTINGHOUSE — MALLORY — I.R.C. — S.C.A. — R.R. — I.T.T. — B.L. — OTHER SIZES & TYPES AVAILABLE. SPECIFY YOUR NEEDS!

3 φ THREE PHASE FULL WAVE BRIDGE 3 φ

DC Amps	36VAC 48VDC		105VAC 144VDC		185VAC 248VDC		280VAC 375VDC	
2	YE36	$3.90	YE105	$ 7.30	YE185	$10.00	YE280	$13.45
12	YJ36	7.45	YJ105	13.75	YJ185	21.00	YJ280	30.00
18	YW36	10.00	JW105	18.60	YW185	33.45	YW280	45.60
60	YS36	27.75	YS105	37.90	YS185	48.15	YS280	60.00
*100	YT36	36.00	YT105	48.60	YT185	57.90	YT280	69.30
*250	YY36	49.00	YY105	63.60	YY185	81.45	YY280	100.00
*400	YZ36	99.15	YZ105	148.00	YZ185	198.00	YZ280	290.00

C.T. 3 Star

DC Amps	18V to C.T. 24VDC	
2	FE36	1.15
6	FJ36	3.75
18	FW36	4.90
60	FS36	17.00
100	FT36	22.00
250	FY36	31.00
400	FZ36	66.00

24-HOUR SERVICE ON REPLACEMENT
We can supply exact equals on all makes and types of rectifiers — size, type current to your specifications.

"SURGTAB" ® SILICON DIODE TRANSIENT PEAK VOLTAGE CLIPPER CLAMP! PROTECTS SILICON RECTIFIERS!

MFGR. TYPE	— VOLTS — RMS	PEAK	USER NET	MFGR. TYPE	— VOLTS — RMS	PEAK	USER NET	MFGR. TYPE	— VOLTS — RMS	PEAK	USER NET	MFGR. TYPE	— VOLTS — RMS	PEAK	USER NET
SB18	18	27	$.50	SB54	54	76	$.70	SB150	150	215	$1.00	SB250	250	340	$1.30
SB22	22	31	.50	SB70	70	100	.80	SB180	180	260	1.05	SB266	266	380	1.45
SB26	26	37	.50	SB75	75	108	.80	SB200	200	290	1.15	SB300	300	430	1.60
SB40	40	58	.60	SB100	100	145	.80	SB210	210	300	1.15	SP320	320	460	3.00
SB50	50	71	.70	SB125	125	180	.90	SB225	225	320	1.30	SP630	630	900	6.15

Other sizes & types available. Send data for correct type & size "Surgtab" clipper for diode protection from input & output transients!

"TEKSEL" SELENIUM RECTIFIER STACKS

Full Wave Bridge — Single Phase — Full Wave Bridge Dated and Guaranteed

Max. DC Amps	18VAC 14VDC		36VAC 28VDC		54VAC 42VDC		72VAC 56VDC		130VAC 100VDC		144VAC 118VDC		266VAC 217VDC		DC Amps Max.
0.5	BV18	$1.00	BV36	$1.90	BV54	$2.90	BV72	$3.85	BV130	$5.00	BV144	$6.75	BV266	$9.75	0.5
1	BA18	1.40	BA36	2.30	BA54	3.45	BA72	4.90	BA130	5.45	BA144	10.65	BA266	16.00	1
2	BE18	2.30	BE36	3.00	BE54	5.25	BE72	6.25	BE130	7.60	BE144	14.00	BE266	21.90	2
3	BF18	2.90	BF36	4.15	BF54	6.40	BF72	8.60	BF130	9.00	BF144	17.25	BF266	39.75	3
4	BG18	3.65	BG36	7.35	BG54	11.40	BG72	16.00	BG130	19.90	BG144	28.50	BG266	47.60	4
6	BJ18	4.40	BJ36	7.90	BJ54	12.75	BJ72	18.75	BJ130	32.60	BJ144	36.00	BJ266	63.45	6
10	BK18	6.35	BK36	12.60	BK54	19.50	BK72	26.30	BK130	35.60	BK144	48.75	BK266	95.00	10
12	BL18	8.00	BL36	15.75	BL54	21.95	BL72	30.95	BL130	45.00	BL144	52.50	BL266	103.60	12
15	BW18	10.30	BW36	20.90	BW54	29.30	BW72	40.00	BW130	48.15	BW144	64.45	BW266	108.15	15
20	BM18	12.90	BM36	25.30	BM54	37.45	BM72	49.90	BM130	78.75	BM144	90.00	BM266	169.00	20
24	BN18	16.00	BN36	32.00	BN54	44.60	BN72	57.50	BN130	85.00	BN144	96.50	BN266	188.75	24

Three Phase 3 φ — Full Wave Bridge — Guaranteed

Max. DC Amps	16VAC 20VDC		30VAC 36VDC		120VAC 150VDC		208VAC 256VDC		240VAC 300VDC		420VAC 460VDC		Center Tap Full Wave 30VAC 12VDC		Max. DC Amps
1	PA16	$3.75	PA30	$4.90	PA120	$17.90	PA208	$33.75	PA240	$36.00	PA420	$63.20	CA30	$2.40	1
2	PE16	5.95	PE30	7.45	PE120	21.75	PE208	39.90	PE240	42.00	PE420	66.90	CE30	2.90	2
4	PG16	8.60	PG30	9.90	PG120	33.15	PG208	62.15	PG240	65.00	PG420	93.75	CG30	3.60	4
6	PJ16	9.90	PJ30	12.90	PJ120	46.90	PJ208	81.75	PJ240	85.00	PJ420	108.60	CJ30	4.70	6
12	PL16	15.90	PL30	18.45	PL120	66.60	PL208	132.15	PL240	139.00	PL420	212.60	CL30	7.60	12

"TABTRAN" RECTIFIER TRANSFORMERS AND CHOKES

Transformer Number	Secondaries	Second AC Amps	Primary Volts	Net Price
TR4000R	Dual (2) Sec'd each 0-16V	1	115	$4.00
TR4001	Dual (2) Sec'd each 0-9-15-18	1	115	5.45
TR4002	Volts at rated current per	2	115	7.15
TR4003	each winding. Secondary series connected.	5	115	12.30
TR4005	Taps give 0-3-6-9-12-15-18-21-	12	115	18.90
TR4006	24-27-30-33-36 Volts	25	115	35.00
TR4007	Secondary parallel 0-9-15-18	50	115 & 220	50.00
TR4008	Volts at twice (2X) the current.	100	115 & 220	99.00

Choke Number	Inductance Henries	AC Amps	Resistance Ohms	IR Drop Volts	Net Price
CR6001	0.1	1	1.4	1.4	$3.90
CR6002	0.1	2	0.67	1.34	5.60
CR6007	0.01	4	0.1	0.04	5.90
CR6003	0.07	5	0.6	3.00	11.00
CR6004	0.015	12	0.1	1.2	5.90
CR6005	0.005	25	0.025	0.60	25.45
CR6006	0.001	50	0.001	0.05	34.00
CR8010	0.5	100	.005		40.00
CR6011	0.3	200	.0025		60.00
CR6012	0.055	500	.00027		90.00
CR6013	0.015	1000	.000065		100.00

All prices and specifications subject to change

"TABTRAN" INDUSTRIAL TRANSFORMERS & CHOKES

Transformer Number	Secondaries	Second AC Amps	Primary Volts	Net Price
T5601	56V or 28 V.C.T.	1	115	$8.25
T5602	Dual (2) sec'd each 28 V.C.T.	2	115	8.80
T5604	Series 0-14-28-42-56V	4	115	13.60
T5608	at Secondary AC-Amps	8	115	26.50
T5612	Parallel 0-14-28V	12	115	32.00
T5625	at 2X Current	25	115	53.00
T1200		.5	115	8.20
T1201	120V or 60 V.C.T.	1	115	9.80
T1202	Dual (2) sec'd each 60 V.C.T.	2	115	14.70
T1204	Series 0-30-60-90-120V	4	115	25.60
T1206	At Secondary AC-Amps	6	115	32.70
T1208	Parallel 0-30-60V	8	115	39.50
T1212	at 2X Current	12	115	48.00
T1220		20	115	58.00

INDUSTRIAL ISOLATION & CONTROL TRANSFORMERS ELECTRO-STATIC SHIELDED

CT050/50 WATTS	$15.00	CT500/500 WATTS	$39.00
CT075/75 WATTS	18.00	CT750/750 WATTS	50.00
CT100/100 WATTS	22.00	CT1000/1KVA	60.00
CT150/150 WATTS	26.00	CT2000/2KVA	79.00
CT250/250 WATTS	31.00	CT3000/3KVA	115.00

FOR (230/460V/Sec'd) ADD LETTER (D) DCT & 25% TO PRICE.

"TABPOST" Heavy Duty Insulated Five Way Binding Posts

Type	Amps	Price	
BP10*	10	.20	WRITE FOR QUANTITY DISCOUNTS
BP30*	30	.33	
BP60*	60	2.75	
BP100	100	4.00	

"TABCAP" Electrolytic Hi-Amp Filter Capacitors

Type	MFD	D.C.V.	Price	
CE152M*	2000	15	$1.00	
CE156M	6000	15	2.00	WRITE FOR COMPLETE LISTING
CE505C*	500	50	1.00	
CE5025M	2500	50	3.30	
CE5080M	8000	50	6.00	
CE2005C	500	200	3.00	

Brackets for capacitors 25¢ each

We reserve the right to change specifications and prices without notice.

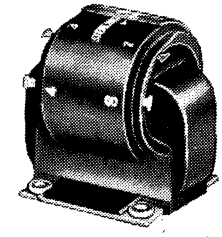
STERLING TRANSFORMER

ENCAPSULATED 400 cps transformers

CLIPPER SERIES

Fig.	Cat. No.	Sec. Volts	Sec. Amp	Insul. Volts (RMS)	Pri. Volts	Mold Size	Net Price
19	4C1	6.3 CT	0.8	1500	115	SM3	13.80
19	4C2	6.3 CT	1.2	1500	115	SM2	13.80
19	4C3	6.3 CT	6.8	1500	110/115/120	2	22.15
20	4C4	6.3 6.3	4.9 2.7	1500	115	3	19.80
19	4C5	6.3 CT	7.2	1500	115	35	23.00
21	4C6	6.3 6.3 6.3	7 7 1.5	1500 1500 1500	120	35	22.40
22	4C7	6.3 CT 6.3 CT	7 7	1500 1500	120	4	26.65
21	4C8	6.3 6.3 6.3	13.7 2.9 0.3	1500 1500 1500	115	4	26.65
19	4C9	6.3 CT	12.3	1500	115	5	24.65
21	4C11	6.3 6.3 6.3	2.4 2.5 2.7	1500	115	3	24.65
19	4C26	6.3 CT	2	1500	115	SM1	17.55
19	4C27	6.3 CT	3	1500	115	1A	18.25
19	4C28	6.3 CT	5	1500	115	2	18.90
19	4C29	5 CT	3	2500	115	SM1	17.55
19	4C30	5 CT	6	2500	115	2	18.90
19	4C31	8.5 CT	12	1500	115	5	24.63
19	4C32	8.5 CT	23	1500	115	7	27.30
19	4C33	8.5 CT	35	1500	115	8	29.75
19	4C34	8.5 CT	45	1500	115	9	35.90
19	4C12	14.1	3	1500	115	3	18.79
19	4C35	21 CT	4.5	1500	115	5	24.63
19	4C13	21 CT	9	1500	115	7	21.30
19	4C36	21 CT	18	1500	115	9	35.90
19	4C10	20 CT	0.6	1500	115	SM1	17.55

FREQUENCY
380-1000 cps.



FOR MINIMUM SIZE & MINIMUM WEIGHT
- CONTOUR MOLDED
- HIPERSIL CORES

MIL-T27B Specifications

MIL Type TF5SX01ZZ

85°C Max. Ambient Operating Temp.

HIGH SHOCK EXTREME ENVIRONMENT CONDITIONS
LIGHT WEIGHT FOR AIRBORNE USE
10,000 HOUR PLUS-LIFE SERVO APPLICATIONS
ISOLATION POWER SUPPLIES
AIRBORNE CONTROL CIRCUITS
MISSILE CIRCUITS

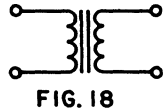


FIG. 18

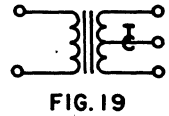


FIG. 19

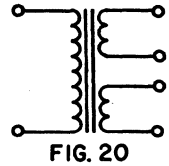


FIG. 20

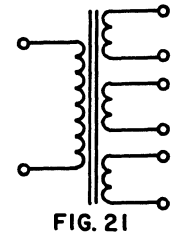


FIG. 21

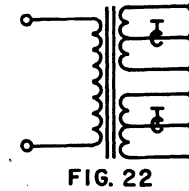


FIG. 22

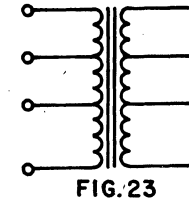


FIG. 23

STERLING TRANSFORMER CORP.

Net

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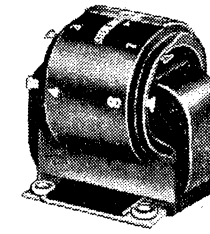
STERLING TRANSFORMER

ENCAPSULATED 400 cps transformers

CLIPPER SERIES

Fig.	Cat. No.	Sec. Volts	Sec. Amp.	Insul. Volts (RMS)	Pri. Volts	Mold Size	Net Price
19	4C37	21 CT	24	1500	115	10	43.10
19	4C38	24 CT	4	1500	115	5	24.63
19	4C39	24 CT	8	1500	115	7	27.30
19	4C40	24 CT	16	1500	115	9	35.90
19	4C41	24 CT	21	1500	115	10	43.10
19	4C14	26	0.5	1500	115	SM1	17.12
19	4C15	26 CT	1.5	1500	115	3	18.79
19	4C23	26 CT	3	1500	115	4	21.30
19	4C24	26 CT	5	1500	115	6	24.85
19	4C16	28 CT 6.3 CT	0.8 7	1500	115	3	26.62
19	4C42	41 CT	2.3	1500	115	5	24.63
19	4C43	41 CT	4.5	1500	115	7	27.30
19	4C44	41 CT	9	1500	115	9	35.90
19	4C45	41 CT	12	1500	115	10	43.10
19	4C46	48 CT	2	1500	115	5	24.63
19	4C47	48 CT	4	1500	115	7	27.30
19	4C48	48 CT	8	1500	115	9	35.90
19	4C49	48 CT	10	1500	115	10	43.10
19	4C25	52 CT	2	1500	115	5	24.63
19	4C17	52 CT	0.2	1500	115	SM1	18.99
19	4C18	90 CT	4.5	1500	115	9	35.90
18	4C19	115	.05	1500	115	SM2	14.10
18	4C21	115	2.8	1500	115	8	29.23
23	4C20	105/115/125	0.4	1500	105/115/125	2	20.30
23	4C50	105/115/125	1	1500	105/115/125	6	25.75
23	4C51	105/115/125	2.4	1500	105/115/125	8	30.20
23	4C52	105/115/125	3.2	1500	105/115/125	9	36.40
23	4C53	105/115/125	4	1500	105/115/125	10	43.70
23	4C22	334	0.3	1500	115	SM1	16.12

FREQUENCY
380-1000 cps.



FOR MINIMUM SIZE & MINIMUM WEIGHT
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MIL-T27B Specifications

MIL Type TF5SX01ZZ

85°C Max. Ambient Operating Temp.

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LIGHT WEIGHT FOR AIRBORNE USE
10,000 HOUR PLUS-LIFE
SERVO APPLICATIONS
ISOLATION
POWER SUPPLIES
AIRBORNE CONTROL CIRCUITS
MISSILE CIRCUITS

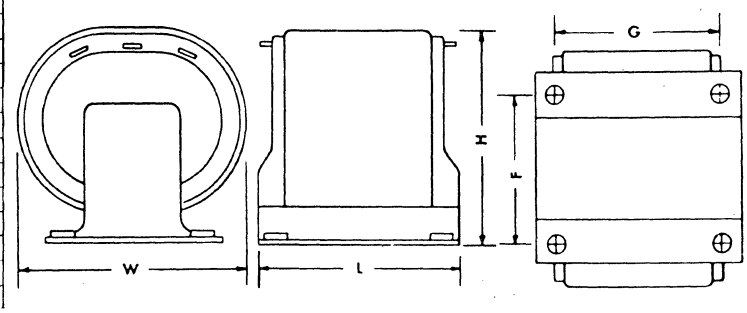
MOLD NO.	OVERALL DIMENSIONS L	W	H	MTG. DIMENSIONS F	G	APP. WT. (LBS.)	MTG. METH.
SM3	1	1-1/4	1-3/16	1	Note 1	0.06	Note 1
SM2	1-1/2	1-1/4	1-11/16	1	Note 1	0.10	Note 1
SM1	1-1/2	1-1/2	1-11/16	1-1/8	Note 1	0.16	Note 1
1	1-13/16	1-7/8	1-13/16	1-1/4	1-7/16	0.25	Note 2
1A	1-11/16	1-17/32	1-13/16	1-5/32	1-1/8	0.25	Note 2
2	2	1-15/16	2-1/8	1-9/32	1-1/4	0.40	Note 2
3	2-5/16	1-13/16	2-1/8	1-9/32	1-7/16	0.45	Note 2
3S	2-1/16	2-3/8	2-3/16	1-17/32	1-11/16	0.70	Note 2
4	2-5/16	2-3/8	2-9/16	1-17/32	1-11/16	0.90	Note 2
5	2-3/4	2-3/8	2-7/8	1-17/32	2-3/16	1.20	Note 2
6	2-3/4	2-5/8	3-1/8	1-17/32	2-3/16	1.50	Note 2
7	3	2-7/8	3-3/8	1-25/32	2-1/2	2.00	Note 2
8	3-3/8	2-7/8	3-3/8	1-25/32	2-1/2	2.50	Note 2
83	3-3/4	3-1/4	3-3/8	2-1/4	3	3.25	Note 3
86	3-3/4	3-3/4	3-3/8	2-3/4	3-1/8	4.25	Note 3
9	4-1/16	3-3/8	3-7/8	2-3/16	3-1/2	5.00	Note 3
10	4-1/2	3-15/16	3-15/16	2-3/4	3-1/8	6.00	Note 3

Note 1—SM series are two hole mounting with holes on center line. #4-40 Pem nuts are fastened to the bracket.

Note 2—#6-32 Pem nuts on bracket are standard.

Note 3—#8-32 Pem nuts on bracket are standard.

- All primaries 380-1000 cps
- Dielectric test voltages:
  PRIMARIES 1500 Volts RMS
  SECONDARIES 1500 Volts RMS
- Epoxy resin used as encapsulant
- Prices subject to change without notice



STERLING TRANSFORMER CORP.

transistor transformers

STERLING TRANSFORMER

UNIVERSAL DC POWER MODULE TRANSFORMERS

High reliability transformers having a tapped primary and single or dual secondary windings which may be connected F.W. bridge or F.W. center tap so as to obtain a wide range of DC voltages and current ratings.

INPUT PRIMARY 115 volts 50-500 cps

TYPE	FIG.		F.W. BRIDGE								F.W. CT			MIL STD'D* HERM SEAL TF 45x02		INDUST. OPEN FRAME	
		AC VOLT	40 5	32.25	28.5	24	20.25	16 5	12	8.25	40.5	24	16.5	Style	Net Pr.	Style	Net Pr.
		DC VOLT	53.0	41.0	34	25	24	18	12	6	24	12	6.6				
7K1	1	DC AMP	.025	.035	.040	.042	.055	.042	.070	.085	.042	.055	.068	H	12.90	F	7.90
		INPUT CAP	(.1)	(.1)	(.1)	(.1)	(.2)	(.2)	(.2)	(.2)	(.2)	(.2)	(.2)				
7K2	1	DC AMP	.085	.12	.13	.14	.18	.14	.23	.23	.14	.17	.21	H	14.20	L	9.20
		INPUT CAP	(.1)	(.1)	(.1)	(.1)	(.2)	(.2)	(.2)	(.2)	(.2)	(.2)	(.2)				
7K3	1	DC AMP	.48	.60	.60	.64	1.0	.8	1.2	1.52	.8	.883	.92	H	15.85	F	8.15
		INPUT CAP	(.5)	(.5)	(.5)	(.5)	(1.0)	(1.0)	(2.0)	(2.0)	(1.0)	(1.0)	(2.0)				
7K4	1	DC AMP	1.2	1.5	1.5	1.6	2.5	2.0	3.0	3.8	2.0	2.2	2.8	H	21.80	L	13.40
		INPUT CAP	(.5)	(.5)	(.5)	(.5)	(1.0)	(1.0)	(2.0)	(2.0)	(1.0)	(1.0)	(2.0)				
7K5	1	DC AMP	3.0	3.5	3.8	4.0	6.0	4.5	7.5	9.0	4.5	5.5	6.7	H	31.70	L	22.65
		INPUT CAP	(1.0)	(1.0)	(1.0)	(1.0)	(2.0)	(2.0)	(4)	(4)	(2.0)	(2.0)	(2.0)				
7K6	1	DC AMP	7.5	8.5	9.5	10	15	11	19	23	11	13.5	17	H	52.80	L	39.80
		INPUT CAP	(4.0)	(4.0)	(4.0)	(4.0)	(4.0)	(6.0)	(12)	(12)	(6)	(6)	(12)				
TYPE	FIG.	AC VOLTS	81	64.5	57.0	48	40.5	33	24	16.5	81	48	33				
		DC VOLT	106	82	68	50	48	36	24	12	48	24	13				
7K7	2	DC AMP	0.6	0.75	0.75	0.8	1.25	1.0	1.5	1.9	1.0	1.1	1.4	H	22.44	L	14.05
		INPUT CAP	(.125)	(.125)	(.125)	(.125)	(.25)	(.25)	(.5)	(0.5)	(.25)	(.25)	(.5)				

TYPE	FIG.	PRI TAP	F.W. BRIDGE SEC. AC Volt	SEC. AC Amp	CHOKE INPUT DC Volt	CHOKE INPUT DC Amp	CAP INPUT DC Volt	CAP INPUT DC Amp	CAP INPUT Cap	F.W. CT CHOKE INPUT DC Volt	CHOKE INPUT DC Amp	CAP INPUT DC Volt	CAP INPUT DC Amp	CAP INPUT Cap	MIL STD * HERM SEAL Style	MIL STD * HERM SEAL Net Pr.	INDUST. OPEN FRAME Style	INDUST. OPEN FRAME Net Pr.
7K8	3	—	20CT	0.3	16.5	0.3	26	0.2	(.2)	8	0.43	12	0.3	(.5)	H	11.25	F	5.70
7K9	3	—	20CT	0.6	16.5	0.6	26	0.4	(.4)	9	0.85	13	0.6	(1.0)	H	14.20	F	8.65
			F.W. BRIDGE															
			SEC. in PARALLEL CONN.							SEC. in SERIES CONN.								
7K10	4	L	17	1.5	14	3.0	18.5	2.0	(1.0)	28	1.5	45	1	(.5)	H	20.50	L	13.40
		H	21.5	1.5	17.5	3.0	25	2.0	(1.0)	35	1.5	36	1	(.5)				
7K11	4	L	17	4	14	8.0	18.5	5.0	(2.0)	28	4.0	45	2.5	(1.0)	H	33.00	L	23.60
		H	21.5	4	17.5	8.0	25	5.0	(2.0)	35	4.0	36	2.5	(1.0)				
7K12	4	L	17	9	14	18.0	18.5	12.0	(6.0)	28	9.0	45	6	(4.0)	H	50.50	L	37.10
		H	21.5	9	17.5	18.0	25	12.0	(6.0)	35	9.0	36	6	(4.0)				
7K13	4	L	34	4.5	28	9.0	43	6.0	(4.0)	56	4.5	85	3 0	(1.0)	H	50.50	L	37.10
		H	43	4.5	35	9.0	56	6.0	(4.0)	70	4.5	110	3.0	(1.0)				
7K14	4	L H	10	20	8.2	20	10	13	(12)	—	—	—	—	—	H	29.70	L	22.95

*FOR MILITARY USE REDUCE DC AMP 20%. Note Input Cap = (K) 1000 MFD. in Rectifier Circuit.

HIGH CURRENT TRANSFORMERS AND CHOKES

115V. 50-500 CPS

TRANSFORMERS

TYPE	FIG.	SEC. IN PARALLEL AC Volt	SEC. IN PARALLEL AC Amp	SEC. IN SERIES AC Volt	SEC. IN SERIES AC Amp	Net Price
7K15	5	3.2/6.4	16	3.2/6.4/9.6/12.8	8	7.55
7K16	5	3.2/6.4	24	3.2/6.4/9.6/12.8	12	8.95
7K17	5	3.2/6.4	50	3.2/6.4/9.6/12.8	25	18.90
7K18	5	3.2/6.4	100	3.2/6.4/9.6/12.8	50	26.20
7K19	5	6/12	16	6/12/18/24	8	12.55
7K20	5	6/12	24	6/12/18/24	12	15.70

TYPE	FIG.	SEC. IN PARALLEL AC Volt	SEC. IN PARALLEL AC Amp	SEC. IN SERIES AC Volt	SEC. IN SERIES AC Amp	Net Price
7K21	5	6/12	50	6/12/18/24	25	25.10
7K22	5	6/12	100	6/12/18/24	50	37.65
7K23	5	9/18	16	9/18/27/36	8	14.55
7K24	5	9/18	24	9/18/27/36	12	15.95
7K25	5	9/18	50	9/18/27/36	25	31.10
7K26	5	9/18	100	9/18/27/36	50	45.00

CHOKES

TYPE	FIG.	INDUCTANCE (Millihenries)	D.C. Amps	DCR (Ω)	Net Price
7K27	9	30	8	0.3	11.35
7K28	9	15	12	0.1	14.65

TYPE	FIG.	INDUCTANCE (Millihenries)	D.C. Amps	DCR (Ω)	Net Price
7K29	9	5	25	0.025	23.00
7K30	9	1.4	50	0.01	31.35

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transistor transformers

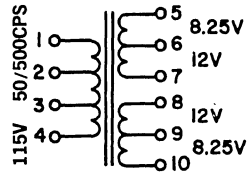

FIG. 1

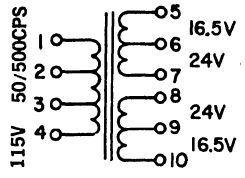

FIG. 2

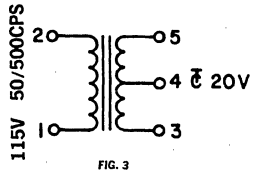

FIG. 3

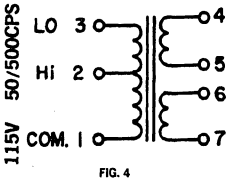

FIG. 4

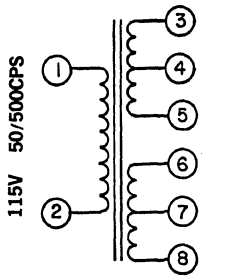

FIG. 5

TYPE	STYLE	FIG.	L	W	H	M1	M2	MTG. HOLES	STUDS
7K1	H	8	1 5/16	1 5/16	1 3/4	1 1/4	—	—	(2) 6-32
	F	6	2 1/8	1 1/4	1 1/4	1 3/4	—	(2) 3/16	—
7K2	H	8	1 5/8	1 5/8	2 3/8	1 3/16	1 3/16	—	(4) 6-32
	L	7	1 3/8	1 5/8	2 1/8	1 1/16	1 3/8	(4) 5/32	—
7K3	H	8	2 5/16	2 1/16	3 1/8	1 11/16	1 7/16	—	(4) 6-32
	F	6	3 3/4	2	2 5/16	3 1/8	—	(2) 3/16	—
7K4	H	8	3 1/16	2 5/8	4 1/4	2 19/64	1 55/64	—	(4) 8-32
	L	7	2 7/8	2 5/8	3 7/16	2 1/4	2 1/8	(4) 13/64	—
7K5	H	8	3 15/16	3 3/8	5 1/4	3	2 7/16	—	(4) 10-32
	L	7	3 7/8	3 1/2	4 5/8	3	2 1/2	(4) 13/64	—
7K6	H	8	5 1/2	4 1/2	6 3/4	3 3/4	3	—	(4) 1/4-20
	L	7	4 7/16	4 1/2	5 3/8	3 1/2	3 3/8	(4) 9/32	—
7K7	H	8	3 1/16	2 5/8	4 1/4	2 19/64	1 55/64	—	(4) 8-32
	L	7	2 7/8	2 5/8	3 7/16	2 1/4	2 1/8	(4) 13/64	—
7K8	H	8	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	—	(4) 6-32
	F	6	2 7/8	1 1/2	1 11/16	2 3/8	—	(2) 3/16	—
7K9	H	8	1 15/16	1 13/16	2 3/4	1 3/8	1 1/4	—	(4) 6-32
	F	6	3 5/16	2 1/4	2	2 13/16	—	(2) 3/16	—
7K10	H	8	3 1/16	2 5/8	4 1/4	2 19/64	1 55/64	—	(4) 8-32
	L	7	2 7/8	2 1/2	3 7/16	2 1/4	2	(4) 13/64	—
7K11	H	8	4 5/16	3 11/16	5 9/16	3 5/16	2 11/16	—	(4) 10-32
	L	7	3 7/8	3 5/8	4 5/8	3 5/16	2 3/4	(4) 13/64	—
7K12	H	8	5 7/8	4 3/4	6 11/16	4 1/8	3 1/2	—	(4) 1/4-20
	L	7	4 1/2	5 1/4	5 3/8	3 1/2	4 1/8	(4) 9/32	—
7K13	H	8	5 7/8	4 3/4	6 11/16	4 1/8	3 1/2	—	(4) 1/4-20
	L	7	4 1/2	5 1/4	5 3/8	3 1/2	4 1/8	(4) 9/32	—
7K14	H	8	3 15/16	3 3/8	5 1/4	3	2 7/16	—	(4) 10-32
	L	7	3 7/8	3 1/2	4 5/8	3	2 1/2	(4) 13/64	—
7K15	L	9	3 13/16	3	3 3/16	3 1/8	2 1/4	(4) 13/64	—
7K16	L	9	4 3/16	3 1/4	3 1/2	3 7/16	2 3/8	(4) 13/64	—
7K17	L	9	5 3/8	4 1/4	4 5/8	4 3/8	2 7/8	(4) 9/32	—
7K18	L	9	5 3/8	5 3/4	4 5/8	4 3/8	4 1/8	(4) 9/32	—
7K19	L	9	4 3/16	3 7/8	3 1/2	3 7/16	3	(4) 13/64	—
7K20	L	9	4 9/16	4 1/2	3 7/8	3 3/4	3 3/8	(4) 13/64	—
7K21	L	9	5 3/8	5 3/4	4 5/8	4 3/8	4 1/8	(4) 9/32	—
7K22	L	9	6 1/2	6 3/8	5 5/8	5 5/16	4 3/8	(4) 9/32	—
7K23	L	9	4 9/16	4 3/8	3 7/8	3 3/4	3 3/8	(4) 13/64	—
7K24	L	9	5 3/8	4 7/8	4 5/8	4 3/8	3 3/8	(4) 9/32	—
K725	L	9	6 1/2	6	5 5/8	5 5/16	3 3/4	(4) 9/32	—
7K26	L	9	6 1/2	7 3/4	5 5/8	5 5/16	5 1/8	(4) 9/32	—
7K27	L	9	4 3/16	3 5/8	3 1/2	3 7/16	3	(4) 13/64	—
7K28	L	9	5 3/8	4 1/4	4 5/8	4 3/8	3 1/8	(4) 9/32	—
7K29	L	9	5 3/8	4 3/4	4 5/8	4 3/8	3 7/8	(4) 9/32	—
7K30	L	9	6 1/2	5 3/4	5 5/8	5 5/16	4 1/8	(4) 9/32	—

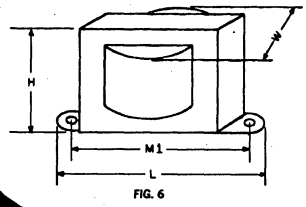

FIG. 6

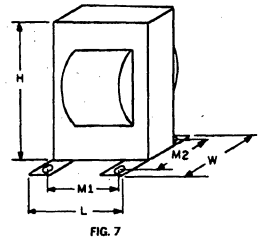

FIG. 7

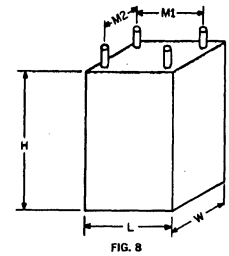

FIG. 8

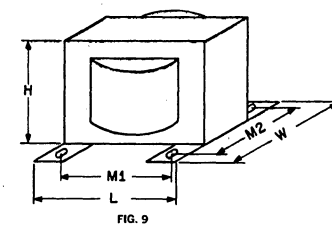

FIG. 9

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STERLING TRANSFORMER

MINISPEC TRANSISTOR TRANSFORMERS — 300 SERIES

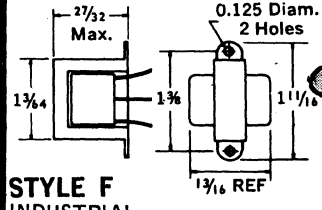
Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response ±2 db.	Net Price 1–9 pcs. F	H
300	Line to Base	600	600	10	23	200–15,000	$4.00	$8.60
301	Coll. to P.P. Base	100	10 C.T./40 C.T.	100	27	200–20,000	4.65	9.60
302	Coll. to Base or line	50,000	600	3	20	300–15,000	4.30	9.25
303	Collector to speaker	50,000	6	3	20	300–15,000	4.30	9.25
304	Coll. to P.P. Base	100,000	1,200 C.T.	1.4	17	200–15,000	4.50	9.45
305	Coll. to P.P. Base	25,000	1,200 C.T.	3	22	200–15,000	4.50	9.45
306	P.P. Coll. to P.P. Base	50,000 C.T.	1,200 C.T.	3	20	300–15,000	4.65	9.60
307	Line to P.P. Base	600 C.T.	1,200 C.T.	4	23	200–15,000	4.65	9.60
308	Collector to Base	25,000	600	3	22	200–15,000	4.30	9.25
309	P.P. Coll. to P.P. Base	4,000 C.T.	600 C.T.	3	32	200–15,000	4.65	9.60
310	Output Coll. to speaker	2,000	3.4	10	32	200–15,000	4.30	9.25
311	P.P. Coll. to speaker	4,000 C.T.	3.4	3	32	200–15,000	4.50	9.45
312	Coll. to Speaker	400	10	50	25	200–20,000	4.00	8.60
313	P.P. Servo Output	500 C.T.	210	30	27	300–20,000	4.30	9.25
314	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	6	22	200–15,000	4.65	9.60
315	P.P. Coll. to P.P. Base	50,000 C.T.	1200/300 Split	3	20	300–15,000	4.95	9.90
316	P.P. Coll. to P.P. Base	4,000 C.T.	600/150 Split	3	32	200–15,000	4.80	9.75
317	Line to P.P. Base	600/150 Split	1,200 C.T.	4	23	200–15,000	4.80	9.75
318	P.P. Coll. to Servo	250 C.T.	1,000	10	30	200–15,000	4.30	9.25
319	Coll. to P.P. Base	2,500	600 C.T.	10	32	200–15,000	4.30	9.25
320	P.P. Coll. to P.P. Base	7,500 C.T.	600 C.T.	8	32	200–15,000	4.65	9.60
321	Line to P.P. Base	600 C.T.	600 C.T.	20	23	200–15,000	4.50	9.45
322	P.P. Coll. to Servo	1,600 C.T.	450	15	30	200–15,000	4.30	9.25
323	P.P. Coll. to Servo	250 C.T.	500	10	30	200–15,000	4.30	9.25

MINISPEC AUDIO TRANSFORMERS — 300 SERIES

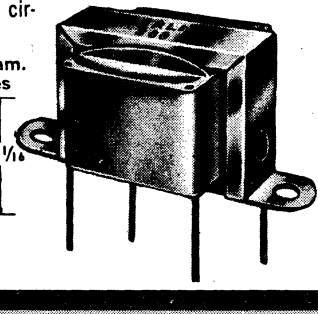
Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response ±2 db.	Net Price 1–9 pcs. F	H
375	Mike or line to 1 grid	50/250/600 C.T.	50,000	0	5	20–20,000	$4.50	$9.90
376	Mike or line to 2 grids	50/250/600 C.T.	50,000 C.T.	0	5	20–20,000	4.65	10.40
377	Dynamic mike to 1 grid	7.5/30	50,000	0	5	20–20,000	4.30	9.90
378	Single plate to 1 grid	15,000	60,000	0	6	20–15,000	3.80	8.45
379	Single plate to 1 grid	15,000	60,000	4	14	200–20,000	3.80	8.45
380	Single plate to 2 grids	15,000	95,000 C.T.	0	5	20–15,000	4.00	9.45
381	Single plate to 2 grids	15,000	95,000 C.T.	4	11	200–20,000	4.15	9.75
382	Single plate to line	15,000	50/250/600 C.T.	0	8	20–20,000	4.15	10.60
383	Single plate to line	15,000	50/250/600 C.T.	4	21	150–20,000	4.15	10.60
384	Push pull plates to line	30,000 C.T.	50/250/600 C.T.	0	8	30–50,000	4.30	10.60
385	Crystal mike to line	50,000	50/250/600 C.T.	0	5	20–20,000	4.15	10.25
386	Mixing and matching	50/250 C.T.	50/250/600 C.T.	0	8	20–20,000	4.15	10.25
387	Reactor	300 hy.0 d.c.	50 hy. @ 3 ma.			DCR 6,000	3.65	8.10
388	50:1 mike to grid	200	½ Megohm	0	9	80–3,000	4.30	9.90
389	10:1 plate to grid	10,000	1 Megohm	0	11	100–2,500	4.00	9.25

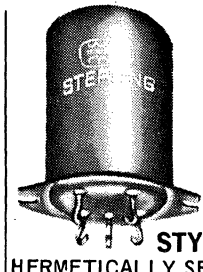
MINISPEC 300 SERIES
Highest efficiency miniature transformer for transistor and audio circuit applications.

MILITARY STYLE ENCAPSULATED VERSIONS ARE AVAILABLE

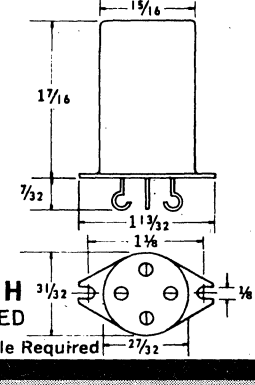


STYLE F
INDUSTRIAL





STYLE H
HERMETICALLY SEALED



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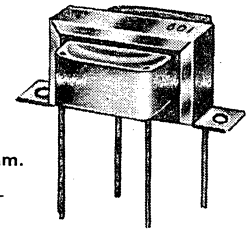
MICROSPEC TRANSISTOR TRANSFORMERS — 600 SERIES

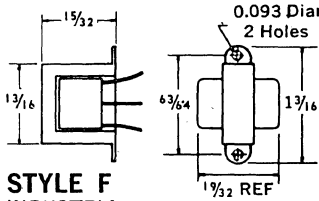
Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response ±2 db.	Net Price 1–9 pcs. F	H
601	Line to Base	600	600	8	22	200–15,000	$4.30	$8.10
602	Coll. to Base or line	50,000	600	0.7	20	200–15,000	4.50	8.25
603	P.P. coll. to P.P. Base	50,000 C.T.	600 C.T.	1.4	20	200–15,000	5.30	9.45
604	Collector to speaker	50,000	6	1	20	200–15,000	4.80	8.75
605	Coll. to P.P. Base	25,000	1,200 C.T.	1	20	200–15,000	4.95	9.25
606	P.P. coll. to P.P. Base	50,000 C.T.	1,200 C.T.	1.4	20	200–15,000	5.15	9.45
607	Line to P.P. Base	600 C.T.	1,200 C.T.	16	22	200–15,000	4.65	8.45
608	Collector to Base	25,000	600	1	20	200–15,000	3.80	7.95
609	P.P. coll. to P.P. Base or line	4,000 C.T.	600 C.T.	5	28	200–15,000	4.80	8.60
610	Coll. to Spkr.	2,000	3.4	5	28	200–15,000	4.30	8.10
611	Output P.P. coll. to spkr.	4,000 C.T.	3.4	5	28	200–15,000	4.50	8.25
612	Coll. to P.P. Base	10,000	1,500 C.T.	1	20	200–15,000	4.95	9.25
613	P.P. Coll. to P.P. Base	10,000 C.T.	200 C.T.	6	20	200–15,000	4.95	8.95
614	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	2	20	200–15,000	5.15	9.45
615	Coll. to P.P. Base	2,500	2,500 C.T.	2	23	200–15,000	4.50	8.25
616	P.P. Coll. to P.P. Base	4,000 C.T.	600/150 split	5	28	200–15,000	5.15	9.45
617	P.P. Coll. to P.P. Base	7,500 C.T.	600 C.T.	4	22	200–15,000	4.80	8.60
618	Line to Base	600 C.T.	600 C.T.	16	22	200–15,000	4.65	8.45
619	P.P. Coll. to P.P. Base	25,000 C.T.	600 C.T.	2	20	200–15,000	4.95	9.25
620	P.P. Coll. to P.P. Base	10,000 C.T.	1,500 C.T.	2	20	200–15,000	5.15	9.45
621	Driver/Isolation	10,000 C.T.	10,000 C.T.	2	20	200–15,000	5.15	9.45
622	P.P. Coll. to P.P. Base	7,500 C.T.	1,200 C.T.	4	22	200–15,000	4.95	9.25
623	P.P. Coll. to P.P. Base	2,000 C.T.	500 C.T.	10	28	200–15,000	4.80	9.10
624	Line to P.P. Base	600 C.T.	1200/300 split	16	22	200–15,000	5.15	9.45

MICROSPEC AUDIO TRANSFORMERS — 600 SERIES

Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbal. Ma.	Oper. Lev. DBM	Freq. Response ±2 db.	Net Price 1–9 pcs. F	H
675	Input	200/50	250,000/62,500	0	4	200–10,000	$4.95	$8.10
676	Interstage 3:1	10,000	90,000	0	4	150–10,000	5.30	8.25
677	Plate to line	10,000	200	3	20	150–10,000	4.65	7.95
678	Output	30,000	50	1	20	150–10,000	4.50	7.80
679	Reactor 50 HY at 1 madc				4700	ohms DCR	4.50	7.60
680	Output	100,000	60	0.5	20	250–10,000	4.65	7.95
681	Output	30,000	1,200	0.5	20	200–10,000	3.65	7.10

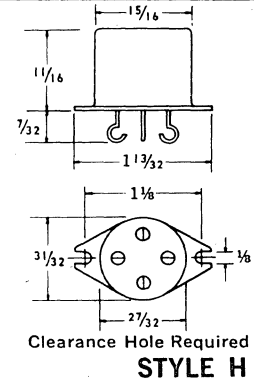
MICROSPEC 600 SERIES
Subminiature transformers for high efficiency circuits.





STYLE F
INDUSTRIAL

MILITARY STYLE ENCAPSULATED VERSIONS ARE AVAILABLE



Clearance Hole Required

STYLE H
HERMETICALLY SEALED

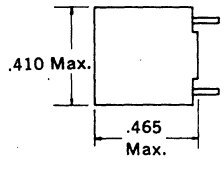
STERLING TRANSFORMER CORP.

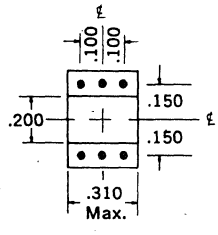
STERLING TRANSFORMER

transistor transformers

NANOSPEC TRANSISTOR TRANSFORMERS — 900 SERIES
Frequency Response ± 2 db 300 Cycles to 90 KC

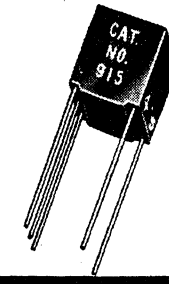
Part No.	Application	Color Application Guide	Primary Impedance	Secondary Impedance	Unbal. Pri. DC Ma.	Power Level MW.	DC Resistance		Net Price
							Primary	Secondary	1-9 Pcs.
903	Interstage	Red	50,000 CT	1,000 CT	0	10	3300	75	8.25
904	Interstage	Red	50,000	1000/250 Split	0	10	3300	75	8.95
905	Interstage	Red	25,000 CT	1,000 CT	0.5	40	1700	115	7.80
906	Interstage	Red	25,000	1000/250 Split	0.25	40	1700	115	8.45
907	Interstage	Red	25,000	1,000	0.25	40	1700	115	7.15
908	Isolation	Green	10,000 CT	10,000 CT	1	50	1200	1300	8.45
909	Driver	Orange	10,000 CT	2,000 CT	1	50	1050	300	7.45
910	Driver	Orange	10,000	2000/500 Split	0.5	50	1050	300	8.10
911	Driver	Orange	10,000 CT	1,200 CT	1	50	1050	280	7.45
912	Driver	Orange	10,000	1200/300 Split	0.5	50	1050	280	7.95
913	Driver	Orange	10,000	1,200	0.5	50	1050	280	6.60
914	Driver	Orange	10,000 CT	500 CT	1	50	1050	80	7.45
915	Isolation	Green	2,500	2,500 CT	1	50	250	325	6.95
916	Output	Yellow	1,500 CT	600	3	50	170	135	6.80
917	Output	Yellow	500	50	3	50	60	8	5.95
918	Output	Yellow	120 CT	3.2	10	50	17	.75	6.30
919	Audio Choke	Blue	6 HY.	DCR 1800 OHMS	2				5.95
920	Audio Choke	Blue	.3 HY.	DCR 45 OHMS	4				5.15
921	Audio Choke	Blue	1.25 H	DCR 180 OHMS	2				5.30
922	Audio Choke	Blue	3.5 H	DCR 1040 OHMS	2				5.30
923	Audio Choke	Blue	.9 H	DCR 110 OHMS	2				5.30
924	Audio Choke	Blue	.1 H	DCR 15 OHMS	5				5.30
925	Interstage	Red	10,000 CT	1,500 CT	1	50	1050	300	7.95
926	Isolation	Green	600 CT	600 CT	3	50	72	92	7.95
927	Output	Yellow	1,000	50	3	50	145	8	6.45
928	Output	Yellow	300 CT	600	7	50	41	98	6.60
929	Output	Yellow	500 CT	600	3	50	67	98	6.60
930	Output	Yellow	900 CT	600	4	50	104	96	6.80
931	Output	Yellow	150 CT	12	10	50	18	3.5	6.45
932	Output	Yellow	300 CT	12	7	50	42	3.4	6.45
933	Output	Yellow	600 CT	12	4.5	50	77	3	6.60
934	Output	Yellow	1,000 CT	12	3.5	50	120	3	6.80
935	Output	Yellow	1,500 CT	12	3	50	179	2.9	6.95
936	Output	Yellow	7,500 CT	12	1	50	796	2.9	7.45
937	Output	Yellow	320 CT	3.2	6	50	44	.77	6.45
938	Output	Yellow	600	3.2	3	50	70	.76	6.15
939	Output	Yellow	600 CT	3.2	4.5	50	70	.85	6.60
940	Output	Yellow	800 CT	3.2	4	50	107	.86	6.80
941	Output	Yellow	1,200	3.2	2	50	131	.76	6.15
942	Output	Yellow	1,200 CT	3.2	3	50	131	.87	6.80
943	Output	Yellow	1,600 CT	3.2	2.5	50	186	.8	6.95
944	Output	Yellow	10,000	3.2	1	50	1160	.81	6.80
945	Output	Yellow	8,000 CT	3.2	1	50	790	.76	7.45





NANOSPEC 900 SERIES

Designed for printed circuit transistor use in high component density applications.
Epoxy resin encapsulated.



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STANDARD INTERSTAGE AND LINE TRANSISTOR AND TUBE APPLICATIONS

filters

Hermetically Sealed — Manufactured to MIL-F-18327B Available in Other Frequencies

LOW PASS

INTERSTAGE

LI units have a loss of approximately 3 db at cutoff frequency, and an attenuation of 35 db at 1.5 cutoff frequency. Input and output 10,000 ohms. LI units are MIL type FR4RX11YY.

Part No.	Frequency	Case Size	Net Price
LI-60	60 cps	A	34.65
LI-100	100 cps	A	34.65
LI-200	200 cps	B	34.65
LI-400	400 cps	B	34.65
LI-500	500 cps	B	34.65
LI-800	800 cps	B	34.65
LI-1,000	1,000 cps	B	34.65
LI-1,500	1,500 cps	B	34.65
LI-2,000	2,000 cps	B	34.65
LI-2,500	2,500 cps	B	34.65
LI-3,000	3,000 cps	B	34.65
LI-4,000	4,000 cps	B	34.65
LI-5,000	5,000 cps	B	34.65
LI-10,000	10,000 cps	B	34.65

LINE

LL units have a loss of approximately 3 db at cutoff frequency, and an attenuation of 35 db at 1.5 cutoff frequency. Input and output 500/600 ohms. LL units are MIL type FR4RX11YY.

Part No.	Frequency	Case Size	Net Price
LL-600	600 cps	A	34.65
LL-1,000	1,000 cps	A	34.65
LL-1,500	1,500 cps	A	34.65
LL-2,000	2,000 cps	A	34.65
LL-2,500	2,500 cps	A	34.65
LL-4,000	4,000 cps	A	34.65
LL-8,000	8,000 cps	A	34.65
LL-10,000	10,000 cps	A	34.65
LL-12,000	12,000 cps	A	34.65

HIGH PASS

INTERSTAGE

HI units have a loss of less than 6 db at cutoff frequency, and an attenuation of 35 db at .67 cutoff frequency. Input and output 10,000 ohms. HI units are MIL type FR4RX33YY.

Part No.	Frequency	Case Size	Net Price
HI-100	100 cps	A	34.65
HI-200	200 cps	A	34.65
HI-300	300 cps	A	34.65
HI-400	400 cps	A	34.65
HI-500	500 cps	A	34.65
HI-800	800 cps	A	34.65
HI-1,000	1,000 cps	A	34.65
HI-2,000	2,000 cps	A	34.65
HI-3,000	3,000 cps	A	34.65

LINE

HL units have a loss of less than 6 db at cutoff frequency, and an attenuation of 35 db at .67 cutoff frequency. Input and output 500/600 ohms. HL units are MIL type FR4RX33YY.

Part No.	Frequency	Case Size	Net Price
HL-200	200 cps	A	42.90
HL-300	300 cps	A	42.90
HL-500	500 cps	A	42.90
HL-1,000	1,000 cps	A	42.90

FOR WIDE BAND PASS FILTERS THE LI & HI OR LL & HL MAY BE CONNECTED IN SERIES.

BAND PASS

INTERSTAGE

BI units have 2:1 voltage gain. They are sharply peaked, having approximately 2 db attenuation at plus or minus 3% from center frequency and attenuation greater than 40 db at 1/2 and twice center frequency. Input 10,000 ohms, output to grid. BI units are MIL type FR4RX22YY.

Part No.	Frequency	Case Size	Net Price
BI-50	50 cps	A	33.00
BI-60	60 cps	A	33.00
BI-100	100 cps	A	33.00
BI-120	120 cps	B	33.00
BI-200	200 cps	B	33.00
BI-240	240 cps	B	33.00
BI-400	400 cps	B	33.00
BI-500	500 cps	B	33.00
BI-750	750 cps	B	33.00
BI-800	800 cps	B	33.00
BI-1,000	1,000 cps	B	33.00
BI-1,500	1,500 cps	B	33.00
BI-2,000	2,000 cps	B	33.00
BI-3,000	3,000 cps	B	33.00
BI-4,000	4,000 cps	B	33.00
BI-5,000	5,000 cps	B	33.00
BI-10,000	10,000 cps	B	33.00

LINE

BL units have 9:1 voltage gain. They are sharply peaked, having approximately 2 db attenuation at plus or minus 3% from center frequency and attenuation greater than 40 db at 1/2 and twice center frequency. Input 500/600 ohms, output to grid. BL units are MIL type FR4RX22YY.

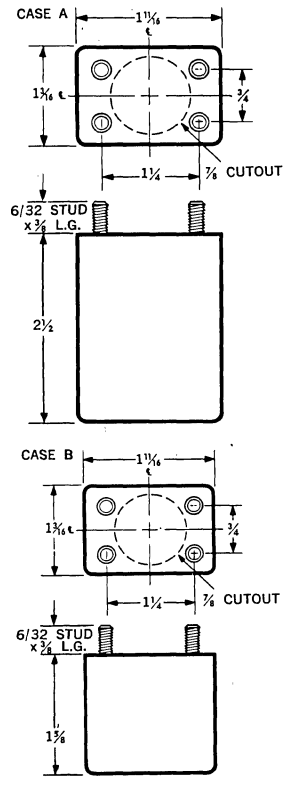
Part No.	Frequency	Case Size	Net Price
BL-400	400 cps	B	33.00
BL-1,000	1,000 cps	B	33.00

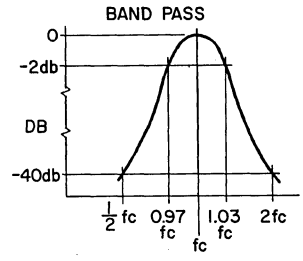
TRANSISTOR INTERSTAGE

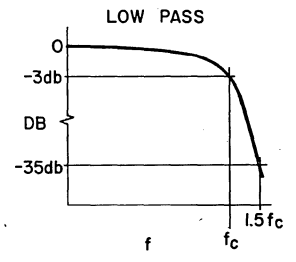
They are sharply peaked, having approximately 2 db attenuation at plus or minus 3% from center frequency and attenuation greater than 40 db at 1/2 and twice center frequency. Input 10,000 ohms, output 10,000 ohms. BIT units are MIL type FR4RX22YY.

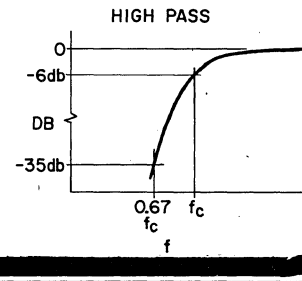
Part No.	Frequency	Case Size	Net Price
BIT-60	60 cps	A	39.60
BIT-100	100 cps	A	39.60
BIT-120	120 cps	B	39.60

CASE DETAIL









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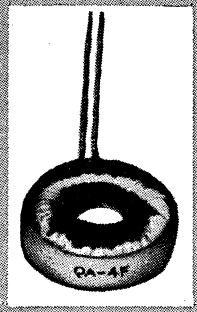
hi-Q toroidal inductors

MANUFACTURED TO MIL-T-27A. ALL HERMETICALLY SEALED UNITS (STYLE H) ARE MIL TYPE TF4RX20YY

- ALL MOLDED UNITS STYLE M ARE MIL TYPE TF5RX20ZZ
- ALSO TOROIDAL INDUCTORS IN OTHER SIZES AND VALUES AVAILABLE ON SPECIAL ORDER.
- MOLYBDENUM PERMALLOY POWDER CORES USED IN ALL UNITS.

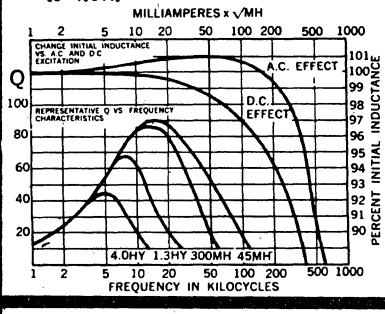


STYLE F
• ALL INDUCTORS SHOWN AVAILABLE IN OPEN STYLE F.

QA SERIES

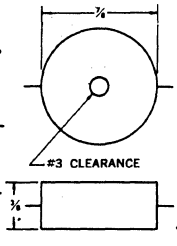
FREQUENCY TO 20KC•ACCURACY ± 2%

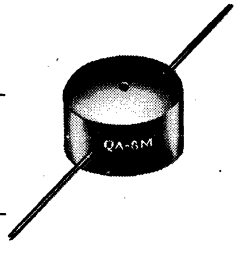
The QA series is designed to optimize small size and high "Q" for miniaturized applications. These units are available on special order with stabilized cores and inductance from 1MH to 4.0H.



AVAILABLE ON SPECIAL ORDER
HERMETICALLY SEALED

Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1–9 pcs. Style F	Style M
QA-1	5MH	2.5	30	4 80	6.30
QA-2	10	5	33	4.80	6.30
QA-3	15	8	34	4.95	6.45
QA-4	20	11.2	36	5.10	6.60
QA-5	30	17	37	5.15	6.80
QA-6	50	28	40	5.30	6.95
QA-7	100	50	42	5.45	7.10
QA-8	150	80	44	5.65	7.30
QA-9	200	120	45	5.75	7.40
QA-10	300	150	46	5.85	7.65
QA-11	500	290	48	5.95	7.95
QA-12	1.00H	530	51	6.80	8.75
QA-13	1.50	825	53	6.95	9.60





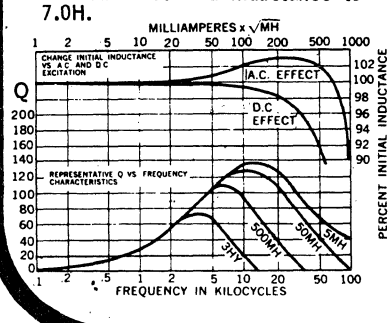
MOLDED STYLE M

Encapsulated in Epoxy Resin. Pigtail leads for printed circuit applications.

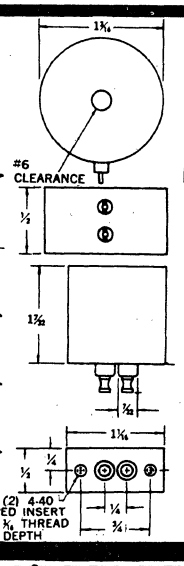
QB SERIES

FREQUENCY TO 20KC•ACCURACY ± 2%

The QB series is designed for airborne applications where stable high "Q" is needed with minimized size and weight. Available on special order with stabilized cores and inductance to 7.0H.

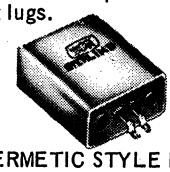


Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1–9 pcs. Style F	Style H	Style M
QB-1	5MH	1.1	38	4.30	7.45	5.80
QB-2	10	2.1	40	4.30	7.45	5.80
QB-3	15	3.3	42	4.30	7.45	5.95
QB-4	20	3.7	43	4.35	7.55	6.05
QB-5	30	5.8	45	4.40	7.70	6.15
QB-6	50	11	47	4.50	7.95	6.25
QB-7	100	22	49	4.65	8.45	6.30
QB-8	150	34	50	4.80	8.60	6.45
QB-9	200	47	52	5.05	9.00	6.70
QB-10	300	60	53	5.15	9.25	6.80
QB-11	500	95	55	5.30	9.45	6.95
QB-12	1.00H	213	57	5.65	9.90	7.45
QB-13	1.50	335	59	6.45	10.40	8.10



MOLDED STYLE M

Encapsulated in Epoxy Resin. Silver plated turret lugs.



HERMETIC STYLE H

Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.

STERLING TRANSFORMER CORP.

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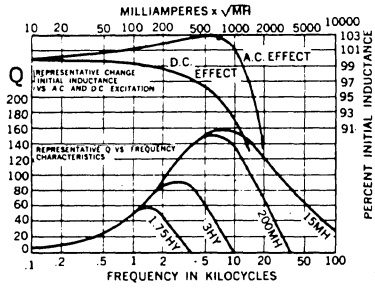
hi-Q toroidal inductors

STERLING TRANSFORMER

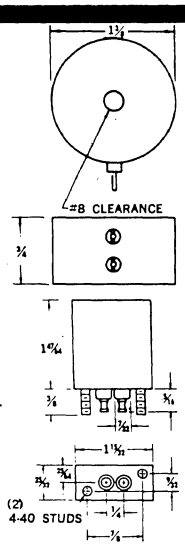
QC SERIES

FREQUENCY TO 10KC
ACCURACY ± 2%

The QC series is designed for high "Q", increased power level & stability. Available on special order with stabilized cores and inductance to 20H.



Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1–9 pcs. Style F	Style H	Style M
QC-1	5MH	0.62	60	4.80	7.80	6.80
QC-2	10	1.1	66	4.95	7.95	6.80
QC-3	15	1.7	68	4.95	8.10	6.80
QC-4	20	1.9	70	5.05	8.25	6.80
QC-5	30	3	72	5.10	8.45	6.80
QC-6	50	6	76	5.15	8.60	6.80
QC-7	100	11	81	5.30	9.25	7.30
QC-8	150	17	83	5.45	9.45	7.30
QC-9	200	24	85	5.50	9.65	7.40
QC-10	300	37	88	5.60	9.80	7.50
QC-11	500	63	91	5.65	10.10	7.60
QC-12	1.00H	110	96	5.80	10.60	7.95
QC-13	1.50	185	98	5.95	10.75	8.10
QC-14	2.00	250	100	6.50	11.20	8.40
QC-15	3.00	380	103	7.05	11.65	8.80
QC-16	5.00	645	106	7.45	12.25	9.25
QC-17	7.50	950	109	8.00	13.00	10.05
QC-18	10.00	1175	112	8.25	13.70	10.60



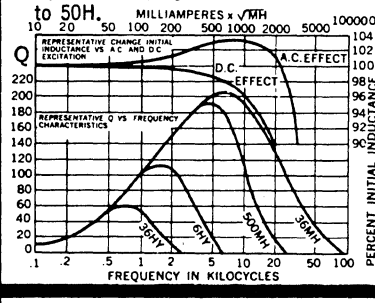
MOLDED STYLE M
Encapsulated in Epoxy Resin. Silver plated turret lugs.

HERMETIC STYLE H
Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.

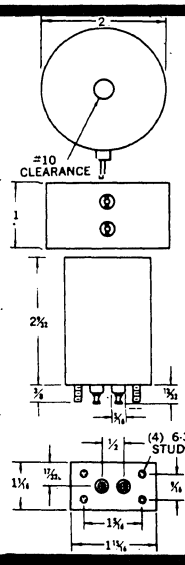
QD SERIES

FREQUENCY TO 10KC•ACCURACY ± 2%

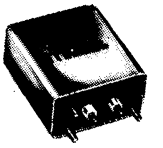
The QD series is designed for very high "Q" in the audio band allowing for application in sharp frequency filters with high power levels and low losses. They are excellent for tuned transformers and oscillators. Available on special order with stabilized cores and inductance to 50H.



Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1–9 pcs. Style F	Style H	Style M
QD-1	20MH	1.0	97	7.80	11.60	9.60
QD-2	30	1.5	100	7.80	11.60	9.60
QD-3	50	2.5	105	7.80	11.60	9.60
QD-4	100	6	110	7.95	11.75	9.75
QD-5	150	7	113	8.10	11.85	10.35
QD-6	200	10	115	8.10	11.85	10.35
QD-7	300	15	117	8.25	12.05	10.60
QD-8	500	25	121	8.25	12.05	10.60
QD-9	1.00H	60	126	8.60	12.55	10.90
QD-10	1.50	90	130	8.95	12.90	11.25
QD-11	2.00	100	131	9.85	13.90	11.70
QD-12	3.00	155	134	10.20	14.30	12.00
QD-13	5.00	275	138	10.40	14.55	12.25
QD-14	7.50	400	140	11.10	15.55	13.20
QD-15	10.00	600	142	12.25	16.50	14.20
QD-16	15.00	900	146	13.20	17.35	15.20
QD-17	20.00	1100	148	14.15	19.10	16.80
QD-18	25.00	1500	150	14.40	19.35	17.00



MOLDED STYLE M
Encapsulated in Epoxy Resin. Silver plated turret lugs.

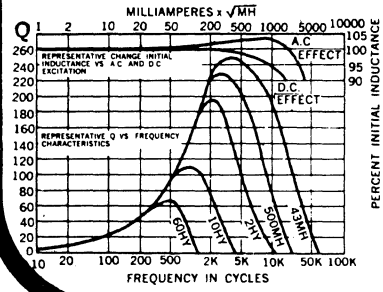


HERMETIC STYLE H
Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.

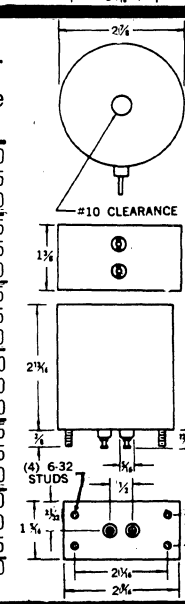
QE SERIES

FREQUENCY TO 15KC
ACCURACY ± 2%

The QE series is most widely used in low audio frequency applications where high "Q" is essential. They are used where inductance stability over a wide voltage range is required. Available on special order with inductance to 75H.



Part No.	Inductance	Approx. DCR Ohms	Approx. Distributed Capacity PF	Net Price 1–9 pcs. Style F	Style H	Style M
QE-1	25MH	0.85	127	11.90	14.85	13.90
QE-2	50	1.6	136	12.05	15.05	14.05
QE-3	100	3	144	15.35	15.35	14.40
QE-4	150	3.9	149	15.70	15.70	15.05
QE-5	200	5.9	153	16.25	16.25	15.25
QE-6	300	8.5	158	16.30	16.30	15.30
QE-7	500	15	164	16.35	16.35	15.35
QE-8	1.00H	30	173	16.70	16.70	15.35
QE-9	1.50	40	177	17.00	17.00	15.70
QE-10	2.00	60	181	17.95	17.95	16.10
QE-11	3.00	85	185	18.05	18.05	16.30
QE-12	5.00	142	192	18.35	18.35	16.50
QE-13	7.50	215	196	18.70	18.70	17.55
QE-14	10.00	300	200	19.00	19.00	17.85
QE-15	15.00	430	205	20.15	20.15	19.00
QE-16	20.00	550	209	21.20	21.20	20.00
QE-17	25.00	800	212	21.45	21.45	20.30
QE-18	30.00	850	214	25.30	25.30	24.15
QE-19	50.00	1500	221	27.75	27.75	26.60



MOLDED STYLE M
Encapsulated in Epoxy Resin. Silver plated turret lugs.

HERMETIC STYLE H
Hermetically sealed in metal case. Teflon terminals assure permanent seal at temperature extremes.

STERLING TRANSFORMER CORP.

POWERSTAT® Variable Transformers now

New epoxy-coated POWERKOTE Coils make the POWERSTAT line the most outstanding value in variable transformers today. *Without increase in price, size or weight,* only POWERSTAT Variable Transformers give an average of 20% higher current ratings, 10:1 greater overload capability, longer life, greater resistance to fungus, salt spray and other contaminating atmospheres. POWERKOTE Coil commutator bars are embedded in place preventing steady-state operating temperature and severe overloads from distorting the commutator.

POWERSTAT Variable Transformers are designed to deliver continuously adjustable voltage from a-c power lines. They introduce no waveform distortion and feature rugged construction, precious metal plated commutators, excellent regulation, high efficiency and conservative ratings. All manually operated types listed in the charts except the 10B-12, EN116B-EN216B and EN117B-EN217B Series are available with motor drives if desired. Motor-driven speeds are 5, 15, 30 or 60 seconds for full range travel on all except types having -4, -5, or -6 suffixes which do not offer the 5-second speed. Single types in the 116B-216B, 117B-217B, 126-226 and 136B-236B Series are also offered with 2- or 3-wire cord-plug sets. 1156D-1256D Series types are available in ratings to 244 kva.

ADJUSTABLE SPEED DRIVES

All motor-driven units in the 116B-216B, 117B-217B, 126-226, 136B-236B and 146-246 Series are available with adjustable speed drives which permit the output voltage of the transformer to be controlled over the full range of zero to maximum output voltage at speeds ranging from 5 seconds to 200 seconds. All control circuitry is solid-state and adaptable for present speed systems. The Adjustable Speed Control Potentiometer BHP65455-G1 can be remotely located from the variable transformer.

RATINGS AND SPECIFICATIONS

INPUT		OUTPUT							
			Const. Current Load		Const. Impedance Load				
Volts	Cycles	Volts	Max. Amp.	Max. KVA	Max. Amp.	Max. KVA	TYPE	Ship. Wt. Lbs.
10B-12 SERIES								
Single Phase								
120	60	0-132	1	0.13	—	—	2PF10	3½
120	50/60	0-120	2.25*	0.27	3‡	0.36	10B	2½
120	60	0-132	2.25*	0.30	—	—		
240	50/60	0-240	0.7*	0.17	0.9‡	0.22	12	2½
240	50/60	0-264	0.5**	0.13	—	—		
240	50/60	0-240	2.25*	0.54	3‡	0.72	10B-2	6
240	60	0-264	2.25*	0.59	—	—		
480	50/60	0-480	0.7*	0.34	0.9‡	0.43	12-2	6
480	50/60	0-528	0.5**	0.26	—	—		
Three Phase								
120	50/60	0-120	2.25*	0.47	3‡	0.62	10B-2	6
120	60	0-132	2.25*	0.51	—	—		
240	50/60	0-240	0.7*	0.29	0.9‡	0.37	12-2	6
240	50/60	0-264	0.5**	0.23	—	—		
240	60	0-240	2.25*	0.94	3‡	1.2	10B-3	8½
480	50/60	0-480	0.7*	0.58	0.9‡	0.75	12-3	8½
480	60	0-528	0.5**	0.46	—	—		
21-22 SERIES								
Single Phase								
120	50/60	0-120	4.5	0.54	6.5	0.78	21	6
120	50/60	0-140	4.5	0.63	—	—		
240	50/60	0-240	2.25	0.54	3.25	0.78	22	6
240	50/60	0-280	2.25	0.63	—	—		
240	50/60	0-240	4.5	1.1	6.5	1.6	21-2	13½
240	50/60	0-280	4.5	1.3	—	—		
480	50/60	0-480	2.25	1.1	3.25	1.6	22-2	13½
480	50/60	0-560	2.25	1.3	—	—		
Three Phase								
120	50/60	0-120	4.5	0.94	6.5	1.4	21-2	13½
120	50/60	0-140	4.5	1.1	—	—		
240	50/60	0-240	2.25	0.94	3.25	1.4	22-2	13½
240	50/60	0-280	2.25	1.1	—	—		
240	50/60	0-240	4.5	1.9	6.5	2.7	21-3	19
240	60	0-280	4.5	2.2	—	—		
480	50/60	0-480	2.25	1.9	3.25	2.7	22-3	19
480	60	0-560	2.25	2.2	—	—		

*Rating when mounted on metal panel. On bracket or nonmetallic panel, derate 10B Series to 1.75 amp., 12 Series to 0.5 amp.
‡Rating when mounted on metal panel. On bracket or nonmetallic panel, derate 10B Series to 2.5 amp., 12 Series to 0.75 amp.
**0.7 amp. maximum in range from 0 to line voltage when mounted on metal panel.

INPUT		OUTPUT						
			Const. Current Load		Const. Impedance Load			
Volts	Cycles	Volts	Max. Amp.	Max. KVA	Max. Amp.	Max. KVA	TYPE	Ship. Wt. Lbs.
116B-216B and 117B-217B SERIES†								
Single Phase								
120	50/60	0-120	10	1.2	13	1.6	116B	12
120	50/60	0-140	10	1.4	—	—		
120	60	0-120	12	1.4	15	1.8	117BT	12
240	50/60	0-240	3.5	0.84	5	1.2	216B	12
240	50/60	0-280	3.5	0.98	—	—		
240	60	0-240	5	1.2	7	1.7	217BT	12
240	50/60	0-240	10	2.4	13	3.1	116BT-2	24
240	50/60	0-280	10	2.8	—	—		
240	60	0-240	12	2.9	15	3.6	117BT-2	24
480	50/60	0-480	3.5	1.7	5	2.4	216BT-2	24
480	50/60	0-560	3.5	2.0	—	—		
480	60	0-480	5	2.4	7	3.4	217BT-2	24
Three Phase								
120	50/60	0-120	10	2.1	13	2.7	116BT-2	24
120	50/60	0-140	10	2.4	—	—		
120	60	0-120	12	2.5	15	3.1	117BT-2	24
240	50/60	0-240	3.5	1.5	5	2.1	216BT-2	24
240	50/60	0-280	3.5	1.7	—	—		
240	60	0-240	5	2.1	7	2.9	217BT-2	24
240	50/60	0-240	10	4.2	13	5.4	116BT-3	36
240	60	0-280	10	4.8	—	—		
240	60	0-240	12	5.0	15	6.2	117BT-3	36
480	50/60	0-480	3.5	2.9	5	4.2	216BT-3	36
480	60	0-560	3.5	3.4	—	—		
480	60	0-480	5	4.2	7	5.8	217BT-3	36
EN116B-EN216B and EN117B-EN217B SERIES								
Single Phase								
120	50/60	0-120	8	0.96	13	1.6	EN116B	15
120	50/60	0-140	8	1.1	—	—		
120	60	0-120	10	1.2	14.5	1.7	EN117B	15
240	50/60	0-240	3	0.72	4.5	1.1	EN216B	15
240	50/60	0-280	3	0.84	—	—		
240	60	0-240	4.4	1.1	5.8	1.4	EN217B	15
240	50/60	0-240	8	1.9	13	3.1	EN116B-2	28
240	50/60	0-280	8	2.2	—	—		
240	60	0-240	10	2.4	14.5	3.5	EN117B-2	28
480	50/60	0-480	3	1.4	4.5	2.2	EN216B-2	28
480	50/60	0-560	3	1.7	—	—		
480	60	0-480	4.4	2.1	5.8	2.8	EN217B-2	28
Three Phase								
120	50/60	0-120	8	1.7	13	2.7	EN116B-2	28
120	50/60	0-140	8	1.9	—	—		
120	60	0-120	10	2.1	14.5	3.0	EN117B-2	28
240	50/60	0-240	3	1.2	4.5	1.9	EN216B-2	28
240	50/60	0-280	3	1.5	—	—		
240	60	0-240	4.4	1.8	5.8	2.4	EN217B-2	28
240	50/60	0-240	8	3.3	13	5.4	EN116B-3	39
240	60	0-280	8	3.9	—	—		
240	60	0-240	10	4.2	14.5	6.0	EN117B-3	39
480	50/60	0-480	3	2.5	4.5	3.7	EN216B-3	39
480	60	0-560	3	2.9	—	—		
480	60	0-480	4.4	3.7	5.8	4.8	EN217B-3	39

†Also available with open construction. Suffix U when ordering.

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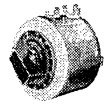

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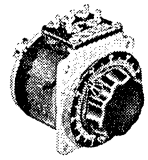

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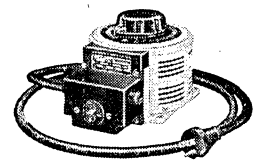

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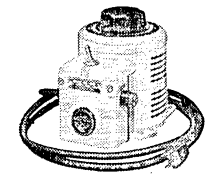

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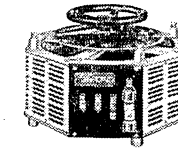
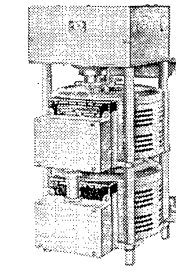
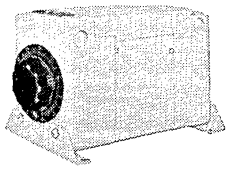


TYPE 1156D

TYPE 15MD136BT-2





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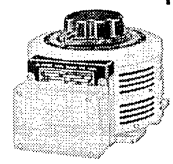

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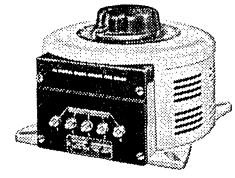

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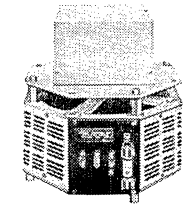


TYPE 5MB1156D

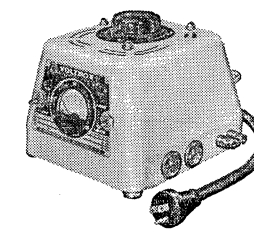
INPUT		OUTPUT						
			Const. Current Load		Const. Impedance Load			Ship.
Volts	Cycles	Volts	Max. Amp.	Max. KVA	Max. Amp.	Max. KVA	TYPE	Wt. Lbs.
126-226 SERIES†								
Single Phase								
120	50/60	0-120	15	1.8	20	2.4	126	17
120	50/60	0-140	15	2.1	—	—		
240	50/60	0-240	7.5	1.8	10	2.4	226	17
240	50/60	0-280	7.5	2.1	—	—		
240	50/60	0-240	15	3.6	20	4.8	126-2	32
240	50/60	0-280	15	4.2	—	—		
480	50/60	0-480	7.5	3.6	10	4.8	226-2	32
480	50/60	0-560	7.5	4.2	—	—		
Three Phase								
120	50/60	0-120	15	3.1	20	4.2	126-2	32
120	50/60	0-140	15	3.6	—	—		
240	50/60	0-240	7.5	3.1	10	4.2	226-2	32
240	50/60	0-280	7.5	3.6	—	—		
240	50/60	0-240	15	6.2	20	8.3	126-3	49
240	60	0-280	15	7.3	—	—		
480	50/60	0-480	7.5	6.2	10	8.3	226-3	49
480	60	0-560	7.5	7.3	—	—		
136B-236B SERIES†								
Single Phase								
120	50/60	0-120	22	2.6	28	3.4	136B	25
120	50/60	0-140	22	3.1	—	—		
120	50/60	0-120	44	5.3	56	6.7	136B-2§	52
120	50/60	0-140	44	6.2	—	—		
240	50/60	0-240	10	2.4	13	3.1	236B	25
240	50/60	0-280	10	2.8	—	—		
240	50/60	0-240	22	5.3	28	6.7	136B-2	52
240	50/60	0-280	22	6.2	—	—		
480	50/60	0-480	20	4.8	26	6.2	236B-2	52
480	50/60	0-560	20	5.6	—	—		
Three Phase								
120	50/60	0-120	22	4.6	28	5.8	136B-2	52
120	50/60	0-140	22	5.3	—	—		
240	50/60	0-240	10	4.2	13	5.4	236B-2	52
240	50/60	0-280	10	4.8	—	—		
240	50/60	0-240	22	9.1	28	11.6	136B-3	76
240	60	0-280	22	10.7	—	—		
480	50/60	0-480	10	8.3	13	10.8	236B-3	76
480	60	0-560	10	9.7	—	—		
146-246 SERIES†								
Single Phase								
120	50/60	0-120	30	3.6	35	4.2	146	38
120	50/60	0-140	30	4.2	—	—		
120	50/60	0-120	60	7.2	70	8.4	146-2§§	83
120	50/60	0-140	60	8.4	—	—		
240	50/60	0-240	15	3.6	19	4.6	246	38
240	50/60	0-280	15	4.2	—	—		
240	50/60	0-240	30	7.2	35	8.4	146-2	83
240	50/60	0-280	30	8.4	—	—		
480	50/60	0-480	15	7.2	19	9.1	246-2	83
480	50/60	0-560	15	8.4	—	—		

†Also available with open construction. Suffix U when ordering.
§Requires also one paralleling choke type T5000.
§§Requires also one paralleling choke type T6053.

INPUT		OUTPUT						
			Const. Current Load		Const. Impedance Load			Ship.
Volts	Cycles	Volts	Max. Amps.	Max. KVA	Max. Amps.	Max. KVA	TYPE	Wt. Lbs.
146-246 SERIES† (contd.)								
Three Phase								
120	50/60	0-120	30	6.2	35	7.3	146-2	83
120	50/60	0-140	30	7.3	—	—		
240	50/60	0-240	15	6.2	19	7.9	246-2	83
240	50/60	0-280	15	7.3	—	—		
240	50/60	0-240	30	12.5	35	14.5	146-3	125
240	60	0-280	30	14.5	—	—		
480	50/60	0-480	15	12.5	19	15.8	246-3	125
480	60	0-560	15	14.5	—	—		
1156D-1256D SERIES†								
Single Phase								
120	50/60	0-120	50	6.0	55	6.6	1156D	82
120	50/60	0-140	50	7.0	—	—		
120	50/60	0-120	100	12.0	110	13.2	1156D-2P	169
120	50/60	0-140	100	14.0	—	—		
120	50/60	0-120	150	18.0	165	19.8	1156D-3P	272
120	50/60	0-140	150	21.0	—	—		
240	50/60	0-240	28	6.7	28	6.7	1256D	82
240	50/60	0-280	28	7.8	—	—		
240	50/60	0-240	50	12.0	55	13.2	1156D-2S	156
240	50/60	0-280	50	14.0	—	—		
240	50/60	0-240	56	13.4	56	13.4	1256D-2P	169
240	50/60	0-280	56	15.7	—	—		
240	50/60	0-240	84	20.2	84	20.2	1256D-3P	272
240	50/60	0-280	84	23.5	—	—		
240	50/60	0-240	100	24.0	110	26.4	1156D-4PS	361
240	50/60	0-280	100	28.0	—	—		
480	50/60	0-480	28	13.4	28	13.4	1256D-2S	156
480	50/60	0-560	28	15.7	—	—		
480	50/60	0-480	56	26.9	56	26.9	1256D-4PS	361
480	50/60	0-560	56	31.4	—	—		
Three Phase								
120	50/60	0-120	50	10.4	55	11.4	1156D-2D	155
120	50/60	0-140	50	12.1	—	—		
240	50/60	0-240	28	11.6	28	11.6	1256D-2D	155
240	50/60	0-280	28	13.6	—	—		
240	50/60	0-240	50	20.8	55	22.9	1156D-3Y	230
240	60	0-280	50	24.2	—	—		
240	50/60	0-240	100	41.6	110	45.7	1156D-6Y	507
240	50/60	0-280	100	48.5	—	—		
480	50/60	0-480	28	23.3	28	23.3	1256D-3Y	235
480	60	0-560	28	27.2	—	—		
480	50/60	0-480	56	46.6	56	46.6	1256D-6Y	507
480	60	0-560	56	54.3	—	—		

VOLTBOX® A-C POWER SUPPLY

Contains POWERSTAT Variable Transformer, voltmeter, three output receptacles, two 5-WAY Binding Posts, "on-off" switch, line-load meter switch, fuse and six-foot cord-plug. Type UC1MB ratings are 120 volt, single phase 50/60 hertz input and 0-140 volt 10 ampere, 1.4 kva output.



IN SECTIONS 2100, 3500 AND 4000

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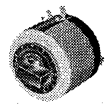
POWERSTAT® Variable Transformers

NOW WITH POWERKOTE* COILS

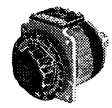
*PATENT PENDING

40-VOLT SERIES

Meet high current, low voltage requirements of low voltage power supplies and a wide range of transistor circuit applications. Manually-operated and motor-driven single, 2- and 3-gang single phase types available.



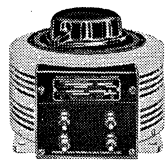
TYPE 10B-40

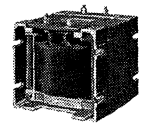


TYPE 21-40

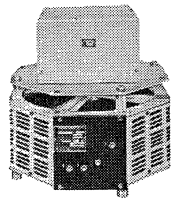
LINE CORRECTORS

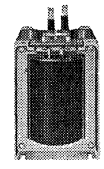
Used to correct line voltage variations to maintain a constant output voltage or to supply a limited range of output voltage from a stable a-c source. Manually operated and motor-driven types available.





TYPE LC2106D

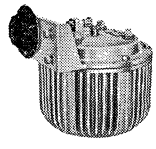




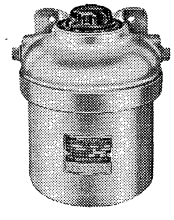
TYPE 5MBLC2115E

OIL-COOLED AND EXPLOSION-PROOF

Oil-cooled units substantially increase ratings above equivalent air-cooled types and provide a measure of safety. Explosion-proof models are Underwriters' Laboratories listed for Class 1, Group D service. Both are manually operated only.



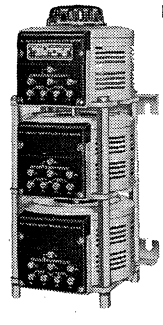
OIL-COOLED
TYPE 0-116B



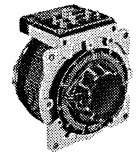
EXPLOSION-PROOF
TYPE X-116

LW136B SERIES

Have three windings. Connections can be made for operation as a source of adjustable low output voltage, a line voltage corrector or a limited range variable transformer. Manually operated and motor-driven, open and enclosed construction types available. Full connections and ratings on request.



TYPE LW136B-3



TYPE LW136BU

40-VOLT SERIES

INPUT		OUTPUT						
			Const. Current Load		Const. Impedance Load			
Volts	Hertz	Volts	Max. Amps.	Max. KVA	Max. Amps.	Max. KVA	TYPE	Ship. Wt. Lbs.
Single Phase								
40	60	0-40	7	0.28	9	0.36	10B-40	3½
			18	0.72	22	0.88	21-40	6
			25	1.0	30	1.2	116BU-40	11

LINE CORRECTOR SERIES

INPUT		OUTPUT				
Volts	Hertz	Volts	Max. Amps.	Max. KVA	TYPE	Ship. Wt. Lbs.
Used as Line Corectors — SINGLE PHASE						
95-135	50/60	115	52	6.0	LC2106D	80
95-135	50/60	115	130	15.0	LC2115E	200
195-255	50/60	230	32.5	7.5	LC2207D	85
205-250	50/60	230	120	27.5	LC2228E	205
400-520	50/60	460	40	18.4	LC2418E	205
Used as Line Correctors — THREE PHASE						
195-255	50/60	230	50	20.0	LC3220YD	241
195-255	50/60	230	113	45.0	LC3245YE	615
195-255	50/60	230	175	70.0	LC3270DE	795
400-520	50/60	460	33	26.3	LC3425YD	230
400-520	50/60	460	100	79.7	LC3475YE	630
420-500	50/60	460	131	104	LC34100YE	630

When units of the LC series are used as limited range adjustable transformers, the input voltage is the output voltage shown in the above chart and the output voltage is the input voltage shown in the above chart.

OIL-COOLED

INPUT		OUTPUT				
Volts	Hertz	Volts	Max. Amps.	Max. KVA	TYPE††	Ship. Wt. Lbs.
120	50/60	0-120	15	1.8	0-116B	32
120	50/60	0-140	15	2.1		
120	50/60	0-140	30	4.2	0-1126	100
240	50/60	0-240	6	1.4	0-216B	32
240	50/60	0-280	6	1.7		
240	50/60	0-280	18	5.0	0-1226	105

†† Other Types available on special order.

EXPLOSION-PROOF

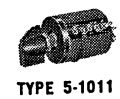
120	50/60	0-120	7.5	0.90	X-116	47
120	50/60	0-140	7.5	1.0		
120	50/60	0-140	12	1.7	X-1126	142
240	50/60	0-240	3	0.72	X-216	47
240	50/60	0-280	3	0.84		
240	50/60	0-280	6	1.7	X-1226	142

LW136B SERIES

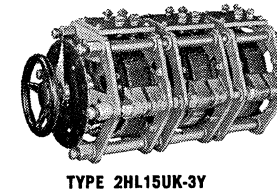
INPUT		OUTPUT‡‡				
Volts	Hertz	Volts	Max. Amps.	Max. KVA	TYPE	Ship. Wt. Lbs.
Single Phase						
120/240	50/60	15-0-15	35	0.52	LW136B	25
120/240/480	50/60	30-0-30	35	1.0	LW136B-2	52
120/240	50/60	45-0-45	35	1.6	LW136B-3	76
120/240	50/60	0-30	25	0.75	LW136B	25
120/240/480	50/60	0-60	25	1.5	LW136B-2	52
120/240	50/60	0-90	25	2.2	LW136B-3	76
Three Phase						
120/240	50/60	0-30	25	1.3	LW136B-2	52
120/240	50/60	0-30	43.3	2.2	LW136B-3	76
120/240	50/60	0-52	25	2.2	LW136B-3	76
240/480	60	0-35	43.3	2.6	LW136B-3	76
240/480	60	0-60	25	2.6	LW136B-3	76

‡‡ LW136B Series ratings are for use as low voltage isolated output transformer.

HIGH FREQUENCY POWERSTAT® VARIABLE TRANSFORMERS



TYPE 5-1011



TYPE 2HL15UK-3Y

Standard manually-operated types designed to meet applicable military specifications are available for 28, 120, 240 and 480 volt, 400/800 hertz single and three phase operation in ratings from 56 va to 7.3 kva; for 115 volt, 400/800 hertz single phase service with outputs of 0-28 volts, 2.5 or 8 amperes and 0-5 volts, 6 or 12 amperes; for 400/1600 hertz service as limited range variable transformers, low voltage output variable transformers or line correctors.

THE SUPERIOR ELECTRIC COMPANY

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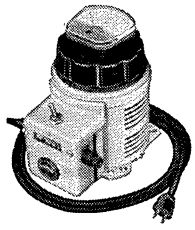
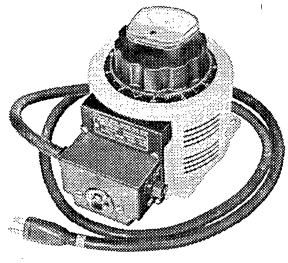
STATIONARY METERED KNOB POWERSTAT® Variable Transformers

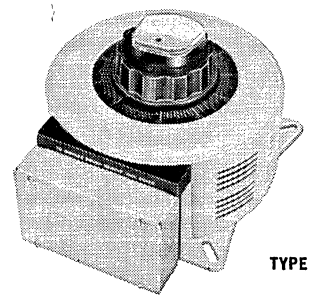
- FOR BACK-OF-PANEL OR GENERAL UTILITY MOUNTING
- ACCURATE VOLTMETER REMAINS STATIONARY INSIDE KNOB RIM. . . DOES NOT TURN WITH THE KNOB
- AVAILABLE IN TYPES TO 4 KVA
- MAXIMUM APPLICATION FLEXIBILITY
- SAVES PANEL SPACE, WIRING AND INSTALLATION COSTS



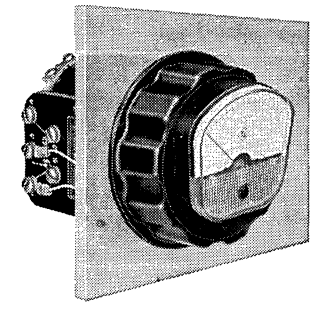
TYPE VS116B



TYPE VS3PN126



TYPE VS146T



GENERAL UTILITY MOUNTING – Single units (those listed in charts without -2 or -3 suffixes) in the 116B-216B, 117B-217B, 126-226, 136B-236B and 146-246 series are also available with knobs incorporating direct-reading voltmeters. Voltmeters remain stationary as the knob rim is turned, have an accuracy of ±3% of full scale and are insensitive to stray magnetic fields. When ordering, add VS prefix to the type number given in the charts.

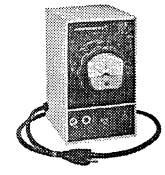
BACK-OF-PANEL MOUNTING – Standard cataloged POWERSTAT Variable Transformers in the 21-22 through the 146-246 series designed or adaptable for back-of-panel mounting can be combined with Metered Knob Assemblies. Models for 120 volt service require Metered Knob Assembly VS150 having a 0-150 volt scale and units for 240 volt use require Metered Knob Assembly VS300 having a 0-300 volt scale. Existing models can be retrofitted also.

ENCLOSED LABORATORY POWERSTAT® Variable Transformers

TYPE N10B

TYPE N21

TYPE N116B



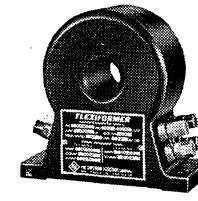
TYPE N116BK

Portable, single phase units having grounded NEMA cord-plug assembly, on-off switch, output receptacle, pilot light and fuse. The handle is integrally designed and the panel controls are recessed. A slot is provided at the rear of each unit to accept wall hanger brackets supplied with the assembly. Types N21, N116B, N116BK, N116BL and N116BLK have POWERKOTE Coils.

METERED KNOB types N116BK and N116BLK have metered knobs to conveniently measure load voltage without the necessity of providing a separate voltmeter. The knob is designed so that the voltmeter remains stationary as the knob is turned to vary the voltage, assuring accurate readings and maximum meter visibility.

INPUT		OUTPUT					
			CONSTANT CURRENT LOAD		CONSTANT IMPEDANCE LOAD		
VOLTS	HERTZ	VOLTS	MAX. AMP.	MAX. KVA	MAX. AMP.	MAX. KVA	TYPE
120	60	0-132	2.25	0.30	—	—	N10B
120	50/60	0-140	4.5	0.63	—	—	N21
120	50/60	0-140	10	1.4	—	—	N116B N116BK
120	50/60	0-120	10	1.2	13	1.6	N116BL N116BLK

FLEXIFORMER®
Packaged Transformer Primaries



TYPE TP150

When used as a source of a-c voltage, the center opening permits hand-threading the correct number of secondary winding turns to obtain the desired output voltage. When used as a current transformer, the unit winding is shuted by an ammeter which indicates the current flow in a conductor hand-threaded through the center opening. For 50/60 hertz duty.

RATINGS AS A SOURCE OF A-C VOLTAGE

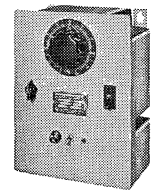
TYPE	NORMAL PRIMARY VOLTS	Hertz	MAXIMUM VA	VOLTS PER SECONDARY TURN	REGULATION AT MAXIMUM OUTPUT
TP150	120	50/60	150	0.3	25%
TP1000	120	50/60	1000	0.75	10%
TP152	240	50/60	150	0.3	25%
TP1020	240	50/60	1000	0.75	10%

RATINGS AS A CURRENT TRANSFORMER

TYPE	INPUT/ OUTPUT RATIO	MAXIMUM PRIMARY AMPERES	MAXIMUM SECONDARY AMPERES	ACCURACY AT 60 Hertz
TP150	400/1	400	1.0	1%
TP1000	160/1	800	5.0	1%
TP152	800/1	400	0.5	1%
TP1020	320/1	800	2.5	1%

POWERSTAT
DC Motor Speed Controllers

Continuously adjustable speed control of d-c shunt-wound motors from a-c power lines. Full rated torque available at any speed. Instantaneous start, stop and reverse, tubeless transient-protected circuitry. Rated for 120 volt, 60 hertz single phase input. Type MSC16 for motors to ⅛ hp, type MSC33 to ⅓ hp and type MSC75 to ¾ hp. NEMA frame 1725 rpm, dc motors in ⅛, ⅓ and ¾ hp also available.



TYPE MSC33

IN SECTIONS 2100, 3500 AND 4000

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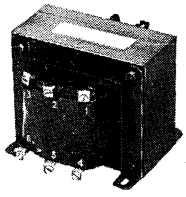
HIGH CURRENT TRANSFORMERS & CHOKES
ELECTRICAL SPECIFICATIONS

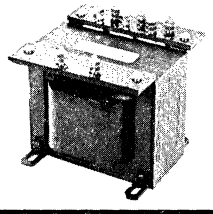
SHIP

B (UNDER 700 VA)



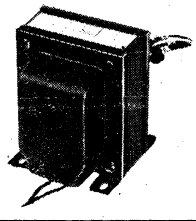
SAME

B* (OVER 700 VA)

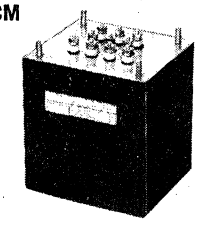


DAY

V



CM



SECONDARY VOLTS (& Taps)	PART NO.	PRIMARY VOLTS 50-500 CY	SECONDARY AMPS (RMS) FOR OPTIONAL WIRING	
			SERIES HOOKUP	PARALLEL HOOKUP
10 VOLTS Series 2.5-5-7.5-10 Parallel 2.5-5	10 02 10 05 10 10 10 20	115 115 115 115	2 5 10 20 AMPS	4 10 20 40 AMPS
12.6 VOLTS Series 3.1-6.3-9.4-12.6 Parallel 3.1-6.3	12 02 12 05 12 10 12 20	115 115 115 115	2 5 10 20 AMPS	4 10 20 40 AMPS
24 VOLTS Series 6-12-18-24 Parallel 6-12	24 01 24 02 24 04 24 06 24 08 24 12 24 20 24 25 24 30 24 50 24 100	115 115 115 115 115 105, 115, 125 105, 115, 125 105, 115, 125 105, 115, 125 105, 115, 125 115, 230	1 2 4 6 8 12 20 25 30 50 100 AMPS	2 4 8 12 16 24 40 50 60 100 200 AMPS
36 VOLTS Series 9-18-27-36 Parallel 9-18	36 00 36 01 36 02 36 04 36 06 36 08 36 12 36 20 36 30 36 50 36 100	115 115 115 115 115 105, 115, 125 105, 115, 125 105, 115, 125 105, 115, 125 115, 230 115, 230	0.5 1 2 4 6 8 12 20 30 50 100 AMPS	1 2 4 8 12 16 24 40 60 100 200 AMPS
56 VOLTS Series 14-28-42-56 Parallel 14-28	56 00 56 01 56 02 56 04 56 06 56 08 56 12 56 25 56 50 56 100	115 115 115 115 115 105, 115, 125 105, 115, 125 105, 115, 125 115, 230 115, 230	0.5 1 2 4 6 8 12 25 50 100 AMPS	1 2 4 8 12 16 24 50 100 200 AMPS
64 VOLTS Series 16-32-48-64 Parallel 16-32	64 00 64 01 64 02 64 04 64 06 64 08 64 12 64 25 64 50	115 115 115 115 115 105, 115, 125 105, 115, 125 105, 115, 125 115, 230	0.5 1 2 4 6 8 12 25 50 AMPS	1 2 4 8 12 16 24 50 100 AMPS
80 VOLTS Series 20-40-60-80 Parallel 20-40	80 00 80 01 80 02 80 05 80 10 80 25 80 50	115 115 115 115 105, 115, 125 115, 230 115, 230	0.5 1 2 5 10 25 50 AMPS	1 2 4 10 20 50 100 AMPS
120 VOLTS Series 30-60-90-120 Parallel 30-60	120 00 120 01 120 02 120 04 120 08 120 12 120 20	115 115 115 115 105, 115, 125 105, 115, 125 105, 115, 125	0.5 1 2 4 8 12 20 AMPS	1 2 4 8 16 24 40 AMPS
180 VOLTS Series 45-90-135-180 Parallel 45-90	180 00 180 01 180 02 180 05 180 10	115 115 115 115 105, 115, 125	0.5 1 2 5 10 AMPS	1 2 4 10 20 AMPS
230 VOLTS Series 57.5-115-172.5-230 Parallel 57.5-115	230 00 230 01 230 02 230 05 230 08	115 115 115 105, 115, 125 115, 230	0.5 1 2 5 8 AMPS	1 2 4 10 16 AMPS
300 VOLTS Series 75-150-225-300 Parallel 75-150	300 00 300 01 300 02 300 05	115 115 115 105, 115, 125	0.5 1 2 5 AMPS	1 2 4 10 AMPS

DC TO RMS CONVERSION CHART

SECONDARY RMS CURRENT = DC CURRENT × FACTOR BELOW			
	Choke Input Filter or Inductive Load	Resistive Load	Capacitor Input Filter or Capacitive Load
FULL WAVE BRIDGE	1.0	1.0	1.8
FULL WAVE C.T.	.7	1.0	1.15

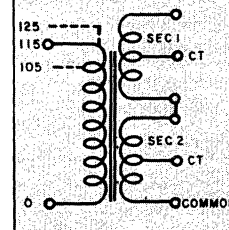
TODD ELECTRIC high current transformers and chokes are most widely used for high power rectifier and high current A.C. applications. They are built to the highest standards of workmanship. All types are designed for a nominal temperature rise of 45°C at full load and will easily withstand unusual overloads. The regulation is extremely low, varying from 10% on the smallest unit to 1% on the largest.

Four constructional types are available for maximum flexibility for use in either the laboratory, test rigs, OEM equipment, or production.

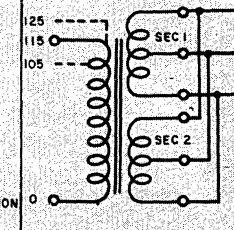
All Prices and Data Subject to Change Without Notice.

CERTIFIED DATA AVAILABLE — CUSTOM VARIATIONS QUOTED PROMPTLY

SERIES HOOKUP



PARALLEL HOOKUP



• ENGINEERING • RELIABILITY • SERVICE

TODD ELECTRIC CO., INC.

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All units have name plates and wiring diagrams for installation ease, future reference and permanent identification.

MECHANICAL SPECIFICATIONS
FOR HIGH CURRENT TRANSFORMERS & CHOKES
SPECIFY STYLE DESIRED WHEN ORDERING

45° TEMPERATURE RISE MINIMUM REGULATION

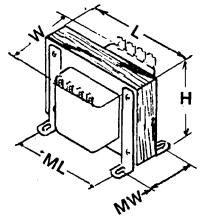
• BRACKET MTD (STYLE B) • ENCAPSULATED (STYLE BE)						STYLE B	STYLE BE
L	W	H	ML	MW	WGT	Price	Price
3	2 5/32	2 1/2	2 1/2	1 1/2	1.5	$ 6.05	$11.98
3	2 13/32	2 1/2	2 1/2	2 1/8	2.5	7.15	13.45
3 3/4	3 3/4	3 1/8	3 1/8	2 5/16	5.0	9.75	17.38
4 1/2	5 3/32	3 3/4	3 3/4	3 1/8	11.2	18.10	34.75
3	2 1/2	2 1/2	2 1/2	1 3/4	1.8	6.40	12.10
3	3	2 1/2	2 1/2	2 5/8	3.4	7.65	13.70
3 3/4	3 1/4	3 1/8	3 1/8	2 5/8	6.0	10.30	18.05
5 1/4	4 1/2	4 3/8	4 3/8	2 1/2	10.0	19.75	27.95
3	2 11/32	2 1/2	2 1/2	2	2.6	6.52	12.10
3	2 3/4	2 1/2	2 1/2	2	2.8	7.30	13.03
3 3/4	3 1/8	3 1/8	3 1/8	2 1/4	5.0	9.15	17.38
4 1/8	3 5/8	3 7/16	3 7/16	2 3/8	6.5	11.09	18.88
4 1/8	4 1/4	3 7/16	3 7/16	3	8.7	15.48	25.94
4 1/2	4 7/8	3 3/4	3 3/4	3 3/8	11.0	17.75	28.94
5 1/4	4 7/8	4 3/8	4 3/8	3 1/2	17.0	24.75	43.63
5 1/4	5 7/8	4 3/8	4 3/8	4 1/2	22.0	30.80	51.88
*6 3/8	5 3/4	5 5/8	5 1/4	3 3/4	29.0	36.25	59.80
* 6 3/8	6 3/8	5 5/8	5 5/16	5 1/4	30.0	47.75	79.25
* 7 1/2	8	6 5/8	6 3/4	5 3/4	38.0	71.50	113.88
3	2 1/4	2 1/2	2 1/2	1 3/4	2.4	6.40	12.15
3	2 1/2	2 1/2	2 1/2	2	2.7	6.60	12.69
3 3/8	3	2 13/16	2 13/16	2 1/4	3.6	7.61	14.10
4 1/8	4 1/8	3 7/16	3 7/16	2 5/8	6.9	11.40	19.06
4 1/2	4 3/8	3 3/4	3 3/4	2 3/4	9.0	15.60	26.44
4 1/2	5	3 3/4	3 3/4	3 1/2	12.0	16.40	27.25
5 1/4	5 3/16	4 3/8	4 3/8	3 3/4	17.2	27.75	39.83
*6 3/8	5 3/4	5 5/8	5 1/4	3 3/4	29.0	36.80	63.38
*6 3/8	6 3/4	5 5/8	5 1/4	4 3/4	36.0	48.78	76.25
* 7 1/16	8	6 1/2	5 13/16	6 1/8	51.0	68.50	110.50
* 7 1/2	9 3/8	6 3/4	6 3/4	7 5/8	70.0	109.00	168.88
3	2 5/8	2 1/2	2 1/2	2	2.5	7.10	13.50
3 3/8	3	2 13/16	2 13/16	2 1/8	3.6	8.06	13.56
3 3/4	3 1/2	3 1/8	3 1/8	2 1/2	5.6	8.98	17.48
4 1/8	4 5/8	3 7/16	3 7/16	3	8.4	15.45	26.56
5 1/4	4 3/4	4 3/8	4 3/8	3 1/8	13.0	20.98	31.13
5 1/4	6	4 3/8	4 3/8	3 3/4	17.3	26.10	42.06
* 6 3/8	5 3/8	5 7/8	5 5/16	3 3/4	24.5	36.85	61.31
* 6 3/8	6 7/8	5 7/8	5 5/16	5 1/4	39.7	57.10	92.38
* 7 1/2	7 5/8	6 5/8	6 3/4	5 3/4	54.0	104.50	144.88
* 9	10 1/4	9	7 5/8	7 1/2	100.0	152.65	228.13
3	2 3/8	2 1/2	2 1/2	2	2.3	6.55	12.50
3	3	2 1/2	2 1/2	2 5/8	3.4	7.55	13.75
3 3/4	3 3/4	3 1/8	3 1/8	2 5/8	6.0	10.20	18.10
4 1/2	4 3/4	3 3/4	3 3/4	3 3/4	10.0	20.10	28.05
5 1/4	4 1/4	4 3/8	4 3/8	3 1/4	14.0	23.45	38.75
5 1/4	6	4 3/8	4 3/8	3 3/4	17.2	25.85	45.70
* 6 3/8	6	5 5/16	5 5/16	3 13/16	28.0	38.10	66.25
* 7 1/16	7 3/4	6 1/8	5 13/16	5 7/8	47.0	64.50	105.50
* 7 1/2	9	6 1/2	6 3/4	7 1/4	65.0	104.50	161.75
3	2 1/2	2 1/2	2 1/2	2 1/8	2.6	6.75	12.85
3 3/8	3 3/4	2 13/16	2 13/16	2 3/8	4.4	8.35	14.40
4 1/8	3 3/4	3 7/16	3 7/16	2 5/8	7.8	12.10	18.40
5 1/4	4 1/4	4 3/8	4 3/8	3 1/4	14.0	23.25	35.45
* 6 3/8	6 1/8	6	5 5/16	4	30.0	41.10	67.50
* 7 1/16	6 3/4	7 3/8	5 13/16	4 3/4	34.0	70.50	112.75
* 7 1/2	9 3/4	7 3/8	6 3/4	9	60.0	124.85	180.31
3 3/8	2 3/4	2 13/16	2 13/16	2 1/4	3.6	8.00	13.69
3 3/4	3 5/8	3 1/8	3 1/8	2 1/2	6.0	10.59	17.83
4 1/2	4 5/8	3 3/4	3 3/4	3 5/16	9.0	14.60	21.50
5 1/4	5 3/8	4 3/8	4 3/8	5	17.0	27.05	44.56
*6 3/8	7	5 5/8	5 1/4	4 1/2	34.0	45.50	72.69
*6 3/8	7 1/2	5 5/8	5 1/4	5 1/2	45.0	57.25	95.50
* 7 1/16	8 1/2	6	5 13/16	6 3/8	75.0	71.50	114.50
3 3/4	2 3/4	3 1/8	3 1/8	2 1/4	3.8	9.15	17.14
4 1/8	4	3 7/16	3 7/16	2 3/8	6.6	13.35	19.31
5 1/4	5	4 3/8	4 3/8	3 3/4	15.0	22.00	38.88
* 6 3/8	6 1/4	5 5/8	5 5/16	4 3/8	35.0	42.75	69.85
* 6 3/8	6 5/8	6	5 5/16	5 5/8	45.0	66.50	104.75
3 3/4	3 3/16	3 1/8	3 1/8	2 1/2	5.0	10.25	17.56
4 1/8	4 1/4	3 7/16	3 7/16	3 1/8	8.5	14.50	21.03
5 1/4	5 5/8	4 3/8	4 3/8	4	17.3	24.85	43.19
* 6 3/8	7 1/2	5 7/8	5 5/16	4 7/8	36.0	50.25	80.50
*7 1/16	8	6 1/2	5 13/16	6 1/8	46.0	68.50	109.25
4 1/8	4 1/4	3 7/16	3 7/16	2 3/4	7.0	10.00	17.91
5 1/4	4 1/4	4 3/8	4 3/8	3 1/4	12.5	19.15	27.81
5 1/4	6	4 3/8	4 3/8	4 1/2	21.0	31.75	52.75
* 6 3/8	6 3/4	5 7/8	5 5/16	4 3/4	40.0	58.50	97.50

• FULLY MTD SHELLS (STYLE V)						STYLE V
L	W	H	ML	MW	WGT	Price
2 5/8	2 3/16	3 1/8	2	1 3/16	2.0	$ 5.87
2 13/32	2 1/16	3 1/8	2	1 7/8	3.0	6.90
3 7/32	3 9/16	3 7/8	2 1/2	2 5/16	5.5	9.36
3 27/32	4 1/16	4 5/16	3	3 5/8	11.5	17.40
2 13/32	2 3/8	3 1/8	2	1 1/2	1.8	6.21
2 13/32	3 1/16	3 1/8	2	2 1/4	4.2	7.50
3 1/4	3 3/4	3 7/8	2 1/2	2 1/2	6.5	9.85
4 1/2	4 1/2	5 5/16	3 1/2	3	11.0	18.80
2 13/32	2 11/16	3 1/8	2	1 7/8	2.6	6.32
2 13/32	2 11/16	3 1/8	2	1 11/16	2.8	7.08
3 7/32	3 7/16	3 27/32	2 1/2	2 3/16	5.0	8.88
3 17/32	3 13/16	4 7/32	2 3/4	2 11/16	6.5	10.65
3 17/32	4 7/16	4 7/32	2 3/4	3 5/16	8.7	14.86
3 27/32	4 13/16	4 5/16	3	3 11/16	11.0	17.04
4 1/2	5 7/16	5 5/16	3 1/2	3 7/8	17.5	24.60
4 1/2	6 5/16	5 5/16	3 1/2	4 7/8	22.0	33.12
5 1/2	4 3/4	6 1/2	4 1/4	3 3/4	30.0	38.00
5 5/8	7 1/4	6 1/2	4 1/4	5 1/4	31.0	42.50
2 5/8	2 1/2	3 1/8	2	1 1/2	2.4	6.30
2 13/32	2 3/4	3 1/8	2	1 7/8	2.7	6.40
2 29/32	3 5/16	3 15/32	2 1/4	2 1/8	3.6	7.38
3 1/32	4 1/8	4 7/32	2 3/4	2 15/16	6.9	11.06
3 27/32	4 3/16	4 5/16	3	3 1/16	9.0	14.98
3 27/32	4 15/16	4 5/16	3	3 13/16	12.0	15.74
4 1/2	5 7/16	5 5/16	3 1/2	4 1/8	17.2	26.64
5 1/2	4 3/4	6 1/2	4 1/4	3 3/4	30.0	37.50
5 1/2	5 3/4	6 1/2	4 1/4	4 3/4	37.0	49.10
2 13/32	2 5/8	3 1/8	2	1 5/8	2.4	6.80
2 29/32	3 3/16	3 15/32	2 1/4	2	3.8	7.82
3 7/32	3 11/16	3 27/32	2 7/16	2 7/16	5.6	8.71
3 17/32	4 7/16	4 7/32	2 3/4	3 5/16	8.7	14.99
4 7/16	4 7/8	5 5/16	3 1/2	3 5/8	14.0	20.35
4 1/2	5 11/16	5 5/16	3 1/2	4 1/8	17.3	25.32
5 1/2	4 3/4	6 1/2	4 1/4	3 5/8	26.0	31.15
5 1/2	6 1/4	6 1/2	4 1/4	5 1/8	41.0	49.20

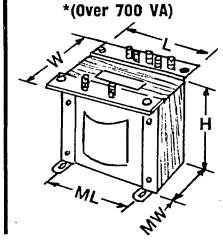
• HERMETIC SEALED MIL-T (STYLE CM)						STYLE CM	
L	W	H	ML	MW	WGT	Price	Part No.
3	3 1/2	3 13/16	2 1/8	2 5/8	3.1	$20.57	10 02
3	3 1/2	3 13/16	2 1/8	2 5/8	4.2	23.85	10 05
3 5/8	4 1/2	4 7/16	2 11/16	3 5/16	6.0	33.15	10 10
4 1/4	5	5 7/16	3 5/16	4 1/16	13.0	62.75	10 20
3	3 1/2	3 13/16	2 1/8	2 5/8	3.1	21.76	12 02
3	3 1/2	3 13/16	2 1/8	2 5/8	3.8	25.85	12 05
3 5/8	4 1/4	4 7/16	2 11/16	3 5/16	6.0	33.80	12 10
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	15.6	68.50	12 20
3	3 1/2	3 13/16	2 1/8	2 5/8	3.1	22.17	24 01
3	3 1/2	3 13/16	2 1/8	2 5/8	4.0	24.82	24 02
3 5/8	4 1/4	4 7/16	2 11/16	3 5/16	5.5	31.11	24 04
3 15/16	4 5/8	4 7/8	3	3 11/16	6.6	37.71	24 06
3 15/16	4 5/8	4 7/8	3	3 11/16	8.8	52.63	24 08
4 1/4	5	5 7/16	3 5/16	4 1/16	14.7	60.35	24 12
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	20.0	85.15	24 20
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	21.0	104.72	24 25
5 13/16	6 7/8	7 1/2	4 1/2	5 5/16	31.0	121.60	24 30
6 7/8	5 13/16	7 1/2	4 1/4	5 5/16	37.0	162.35	24 50
6 3/4	8	8 3/4	5 1/2	6 3/4	60.0	243.10	24 100
3	3 1/2	3 13/16	2 1/8	2 5/8	3.2	20.80	36 00
3	3 1/2	3 13/16	2 1/8	2 5/8	3.4	22.44	36 01
3 5/16	3 7/8	4 1/4	2 7/16	3	4.8	25.87	36 02
3 15/16	4 5/8	4 7/8	3	3 11/16	7.8	38.76	36 04
4 1/4	5	5 7/16	3 5/16	4 1/16	10.7	53.04	36 06
4 1/4	5	5 7/16	3 5/16	4 1/16	13.1	55.76	36 08
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	16.9	94.35	36 12
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	31.0	125.12	36 20
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	38.0	165.85	36 30
6 17/32	7 5/16	8 1/4	4 3/4	5 13/16	43.7	232.90	36 50
6 3/4	8	10 3/8	5 1/2	6 3/4	58.0	370.60	36 100
3	3 1/2	3 13/16	2 1/8	2 5/8	3.0	20.60	56 00
3 3/16	3 7/8	4 1/4	2 7/16	3	3.9	27.40	56 01
3 5/8	4 1/4	4 7/16	2 11/16	3 5/16	6.3	30.53	56 02
3 15/16	4 5/8	4 7/8	3	3 11/16	10.1	52.53	56 04
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	15.6	71.33	56 06
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	18.6	88.74	56 08
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	26.3	125.29	56 12
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	43.0	194.14	56 25
6 3/4	8	8 3/4	5 1/2	6 3/4	65.0	355.30	56 50
							56 100
3	3 1/2	3 13/16	2 1/8	2 5/8	3.2	22.35	64 00
3 5/8	4 1/4	4 7/16	2 11/16	3 5/16	7.0	26.50	64 01
3 15/16	4 5/8	5 13/16	4 7/8	3 11/16	6.0	34.75	64 02
4 1/4	5	5 7/16	3 5/16	4 1/16	12.6	69.15	64 04
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	16.4	81.75	64 06
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	19.1	87.50	64 08
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	29.2	132.50	64 12
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	40.0	226.00	64 25
6 3/4	8	10 3/8	5 1/2	6 3/4	54.0	359.50	64 50
3	3 1/2	3 13/16	2 1/8	2 5/8	4.0	22.95	80 00
3 5/16	3 7/8	4 1/4	2 7/16	3	5.6	28.39	80 01
3 15/16	4 5/8	4 7/8	3	3 11/16	8.7	41.14	80 02
3 5/8	4 1/4	4 7/16	2 11/16	3 5/16	16.4	81.10	80 05
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	29.0	139.50	80 10
6 5/8	7 9/16	8 1/4	4 25/32	5 13/16	46.0	239.70	80 25
							80 50
3 5/16	3 7/8	4 1/4	2 7/16	3	4.2	27.20	120 00
3 5/8	4 1/4	4 7/16	2 11/16	3 5/16	7.0	36.01	120 01
4 1/4	5	5 7/16	3 5/16	4 1/16	10.5	49.64	120 02
4 7/8	5 3/8	6 1/4	3 1/2	4 3/8	19.0	91.97	120 04
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	38.0	154.70	120 08
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	49.0	194.65	120 12
6 17/32	7 5/16	8 1/4	4 25/32	5 13/16	48.0	243.10	120 20
3 5/8	4 1/4	4 7/16	2 11/16	3 5/16	6.0	31.11	180.00
3 15/16	4 5/8	4 7/8	3	3 11/16	7.6	45.39	180 01
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	20.3	74.80	180 02
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	33.0	144.60	180 05
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	58.0	221.15	180 10
3 5/8	4 1/4	4 7/16	2 11/16	3 5/16	6.0	34.85	230 00
3 15/16	4 5/8	4 7/8	3	3 11/16	8.5	49.30	230 01
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	20.0	84.49	230 02
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	44.0	170.75	230 05
6 1/2	7 9/16	8 1/4	4 3/4	5 13/16	49.0	231.50	230 08
3 15/16	4 5/8	4 7/8	3	3 11/16	8.0	34.00	300.00
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	15.0	65.11	300 01
4 7/8	5 3/4	6 1/4	3 1/2	4 3/8	23.0	107.95	300 02
5 13/16	6 7/8	7 1/2	4 1/4	5 5/16	46.0	197.25	300 05

Add 3/16 to LWH for Style BE

(Under 700 VA)

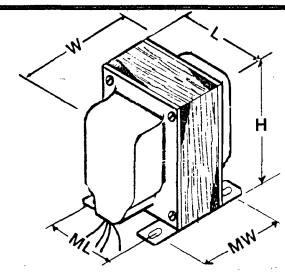


*(Over 700 VA)



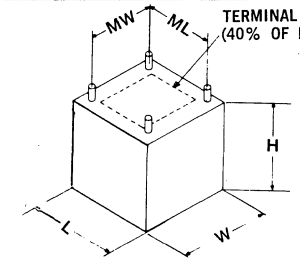
STYLE B: an "open" horizontal bracket mounted unit, double vacuum varnish impregnated for maximum environmental protection.

STYLE BE: identical to Style B plus an epoxy encapsulation per MIL-T-27B, Grade 5, Class S.



STYLE V: vertical mounted fully enclosed shells offer physical protection, improved appearance, and ease of "wiring with leads"... double vacuum varnish impregnated.

TERMINAL AREA (40% OF L & W)



STYLE CM: hermetically sealed to MIL-T-27B, Grade 4, Class S for the most rigorous environmental conditions.

• ENGINEERING • RELIABILITY • SERVICE

TODD ELECTRIC CO., INC.

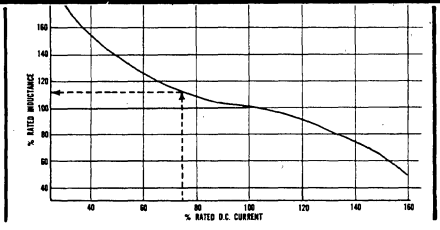
HIGH CURRENT CHOKES | LINE ISOLATION

HIGH CURRENT CHOKES

50/400 CYCLES
(DIMENSIONS REFER TO HIGH CURRENT XFMR STYLES)

Part No.	Induc-ance (MILLIHENRIES)	Cur. (D.C.) (AMPS)	Resist-ance (OHMS)	• BRACKET MTD (STYLE B) • ENCAPSULATED (STYLE BE) L	W	H	ML	MW	WGT	Style B Price	Style BE Price	• FULLY MTD. SHELLS (STYLE V) L	W	H	ML	MW	WGT	Style V Price	• HERMETIC SEALED MIL-T (STYLE CM) L	W	H	ML	MW	WGT	Style CM Price
CH-00	140	.5	3	2⅝	2⅛	2¼	2³⁄₁₆	2	2.0	$6.10	$9.05	2¼	2½	2⅝	1¾	1⅝	1.9	$7.15	2⁹⁄₁₆	3	3⅛	1⅞	2⁵⁄₁₆	2.6	$20.90
CH-01	100	1	1.5	3	2⅜	2½	2½	2	2.6	6.65	9.48	2⁹⁄₁₆	2⅝	3⅛	2	1¹¹⁄₁₆	2.6	7.58	3	3½	3¹³⁄₁₆	2⅛	2⅝	3.0	22.40
CH-02	80	2	.95	3	2⅜	2½	2½	2	2.6	7.89	11.35	2⁹⁄₁₆	2⅝	3⅛	2	1¹¹⁄₁₆	3.2	9.15	3	3½	3¹³⁄₁₆	2⅛	2⅝	3.8	26.80
CH-04	60	4	.60	3¾	3⅛	3⅛	3⅛	2⅝	5.2	9.66	13.90	3⁵⁄₁₆	3⅞	3¹³⁄₁₆	2½	2⅝	5.8	10.85	3⅝	4¼	4⁷⁄₁₆	2¹¹⁄₁₆	3⅝	6.8	33.10
CH-05	50	5	.40	3¾	3⅜	3⅛	3⅛	2¾	5.8	10.70	14.25	3⅝	3⅞	3¹³⁄₁₆	2½	2¾	6.0	11.75	3⅝	4¼	4⁷⁄₁₆	2¹¹⁄₁₆	3⅝	7.1	38.50
CH-06	40	6	.30	3¾	3½	3⅛	3⅛	2⅞	6.4	12.87	18.60	3⅝	3⅞	3¹³⁄₁₆	2½	2⅞	6.2	14.45	3⅝	4¼	4⁷⁄₁₆	2¹¹⁄₁₆	3⅝	7.8	43.50
CH-08	30	8	.20	4⅛	3⅞	3⁷⁄₁₆	3⁷⁄₁₆	3	8.7	15.80	22.45	3½	4⅜	4¾₁₆	2¾	3⅜	8.7	18.10	4	4⅝	4⅞	3	3¹¹⁄₁₆	10.0	54.40
CH-12	20	12	.10	5¼	4¾	4⅜	4⅜	3½	13.0	19.60	28.40	4½	5¼	5⅜	3½	3¾	13.0	21.80	4⅞	5¾	6¼	3½	4⅜	15.0	66.50
CH-16	15	16	.08	5¼	5⅛	4⅜	4⅜	3¾	15.0	20.10	29.00	4½	5⅜	5⅜	3½	3⅞	14.0	22.10	4⅞	5¾	6¼	3½	4⅜	16.2	67.50
CH-20	10	20	.05	5¼	4¾	4⅜	4⅜	3½	13.0	20.40	29.10	4½	5	5⅜	3½	3½	13.0	22.95	4⅞	5¾	6¼	3½	4⅜	17.5	69.10
CH-25	7	25	.035	5¼	5⅜	4⅜	4⅜	4⅜	18.0	29.70	42.60	4½	5⅞	5⅜	3½	4⅜	18.0	34.15	4⅞	5¾	6¼	3½	4⅜	21.0	101.50
CH-40	3.5	40	.02	6⅜	5¼	†5⅞	5⁵⁄₁₆	3½	20.0	36.50	50.20	5⅝	5¼	6⅜	4¼	3¼	24.0	38.75	5¹³⁄₁₆	6⅞	7½	4¼	5⁵⁄₁₆	26.0	128.50
CH-50	2	50	.01	6⅜	5⅜	†5⅞	5⁵⁄₁₆	3⅝	24.0	41.70	59.87	5⅝	5⅜	6⅜	4¼	3½	26.0	43.50	5¹³⁄₁₆	6⅞	7½	4¼	5⁵⁄₁₆	30.0	140.80
CH-100	.7	100	.004	6⅜	5⅝	†5⅞	5⁵⁄₁₆	3⅞	32.0	46.05	66.25	5⅝	5⅝	6⅜	4¼	3⅞	29.0	51.10	5¹³⁄₁₆	6⅞	7½	4¼	5⁵⁄₁₆	37.0	155.50
CH-200	.35	200	.002	7½	6½	†7	6¾	4¾	45.0	69.60	98.15														

† Includes height of terminals.



TODD ELECTRIC HIGH CURRENT CHOKES are the perfect companion to our High Current Transformers when utilizing inductive filtering in designing a power supply.

INDUCTANCE VARIATION

The inductance realized from any stock High Current Choke will vary from the normal rated values as shown by the graph when subjected to a non-rated current. Due to greater heating loss, steady state current should not be exceeded by more than 30% except for intermittent operation.

LINE ISOLATION

50/60 CYCLES—OUTPUT 115 VOLTS
UL COMPONENTS

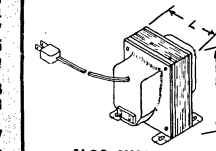
STRAIGHT ISOLATION

ELECTROSTATIC SHIELD CONNECTED TO CORE

CONVENIENT MOUNTING STYLES

Part No.	(VA) Watts	Input Volts	Rms Hipot Test Volts	Dimensions H	L	W*	MW*	ML	Weight	Price: Line Cord & Receptacle	Price Leads Only
LI-25	25	115	2000	3½	2⅞	2⅞	1⅞	2	3.2	$ 8.70	$ 8.40
LI-50	50	115	2000	3½	2⅞	3⅛	1⅞	2¼	3.7	9.24	8.82
LI-100	100	115	2000	4¾	3¾	3	2	3	6.2	12.32	11.67
LI-175	175	115	2000	4¾	3¾	4¼	3⅜	3	8.8	17.71	16.82
LI-250	250	115	2000	4¾	3¾	5⅛	4⅛	3	12.0	21.88	20.80
LI-500	500	115	2000	5⁵⁄₁₆	4½	6⅛	5⅛	3½	20.0	35.75	33.99
LI-750	750	115	2000	5⁵⁄₁₆	4½	7	6	3½	25.2	42.08	40.04
LI-1000	1000	115	2000	5⁵⁄₁₆	4½	7⅞	6⅞	3½	30.0	48.95	46.37
LI-1500	1500	115	2000	7⅜	6¼	7¼	6⅛	4¾	36.2	62.84	59.75
LI-2000	2000	115	2000	7⅜	6¼	8¾	7⅝	4¾	48.0	72.50	69.50
LI-100-1	100	230	2500	4⅜	3¾	3	2	3	6.5	12.60	11.98
LI-250-1	250	230	2500	4⅜	3¾	5⅛	4⅛	3	12.5	22.88	21.78
LI-500-1	500	230	2500	5⁵⁄₁₆	4½	6⅛	5⅛	3½	21.0	36.41	38.01
LI-1000-1	1000	230	2500	5⁵⁄₁₆	4½	8	7	3½	31.0	49.67	47.27
LI-1500-1	1500	230	2500	7⅜	6¼	7¼	6⅛	4¾	37.0	63.40	60.25
LI-2000-1	2000	230	2500	7⅜	6¼	8¾	7⅝	4¾	49.0	73.10	70.25

*"Add 3⁄8" to W & MW for Line Cord and Receptacle Model."



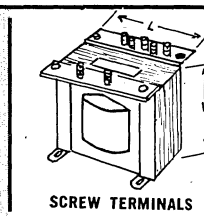
ALSO AVAILABLE W/LEAD TERMINALS

HI-POWER ISOLATION

ELECTROSTATIC SHIELD CONNECTED TO TERMINAL

BRACKET MOUNTED

Part No.	(VA) Watts	Input Volts	Rms Hipot Test Volts	H	L	W	MW	ML	Weight	Price
LI-2500-4	2500	115/230	2500	6¼	7⅛	7⅛	5⅛	5¾	53.0	$ 72.75
LI-3000-4	3000	115/230	2500	6¼	7½	7⅞	6	6¾	59.0	83.50
LI-4000-4	4000	115/230	2500	7⅜	7½	9¾	9	6¾	75.0	99.25
LI-5000-4	5000	115/230	2500	7½	9	9	8½	7⅝	105.0	118.50
LI-6000-4	6000	115/230	2500	7½	9	10	9⅝	7⅝	125.0	154.50
LI-2500-5	2500	230/460	3000	6¼	7⅛	7⅛	5⅛	5¾	53.0	74.50
LI-3000-5	3000	230/460	3000	6¼	7½	7⅞	6	6¾	59.0	85.25
LI-4000-5	4000	230/460	3000	7⅜	7½	9¾	9	6¾	75.0	102.10
LI-5000-5	5000	230/460	3000	7½	9	9	8½	7⅝	105.0	121.25
LI-6000-5	6000	230/460	3000	7½	9	10	9⅝	7⅝	125.0	158.50



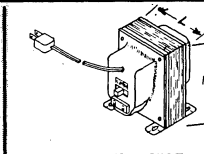
SCREW TERMINALS

ADJUSTABLE ISOLATION

ELECTROSTATIC SHIELD CONNECTED TO CORE

INPUT TAP SWITCH MOUNTED IN SHELL

Part No.	(VA) Watts	Input Volts	Rms Hipot Test Volts	H	L	W	MW	ML	Weight	Price: Line Cord & Receptacle	Price Leads Only
LI-100-2	100	105/115/125	2000	4¾	3¾	3¾	2⅝	3	7.8	$18.12	$17.19
LI-250-2	250	105/115/125	2000	4¾	3¾	5½	4¾	3	14.3	29.26	27.84
LI-500-2	500	105/115/125	2000	5⁵⁄₁₆	4½	6⅝	5⅝	3½	22	41.20	38.94
LI-1000-2	1000	105/115/125	2000	5⁵⁄₁₆	4½	8½	7⅜	3½	33.5	55.88	52.91
LI-100-3	100	210/230/250	2500	4¾	3¾	3¾	2⅝	3	7.5	17.77	16.92
LI-250-3	250	210/230/250	2500	4¾	3¾	5½	4⅜	3	14	28.66	27.40
LI-500-3	500	210/230/250	2500	5⁵⁄₁₆	4½	6½	5½	3½	21	40.26	38.34
LI-1000-3	1000	210/230/250	2500	5⁵⁄₁₆	4½	8⅜	7¼	3½	32	54.78	51.90



ALSO AVAILABLE W/LEAD TERMINALS

• ENGINEERING • RELIABILITY • SERVICE
TODD ELECTRIC CO., INC.

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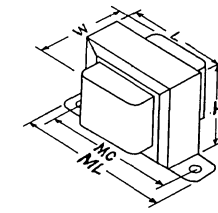
FILAMENT TRANSFORMERS | CONTROL TRANSFORMERS

FILAMENT TRANSFORMERS

50/60 CYCLES
SINGLE SECONDARY — CENTER TAPPED

CHANNEL MOUNTED — PRIMARY 117 VOLTS

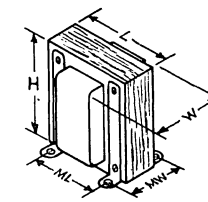
Part No.	Secondary Volts (CT)	Secondary Amps	Rms Hipot Test Volts	Dimensions H	L	W	MC	ML	Weight	Price
F2 15	2.5	1.5	2500	1⅝	2	1⅝	2⅜	2⅞	.75	$2.53
F2 30	2.5	3	1500	1⅝	2	1⅝	2⅜	2 13/16	.7	2.90
F2 50	2.5	5	1500	2	2⅜	1⅞	2 13/16	3¼	1.2	3.30
F5 30	5	3	2500	2	2⅜	2⅛	2 13/16	3¼	1.4	3.53
F5 60	5	6	1500	2 3/32	2¾	2⅛	3⅛	3¾	1.7	4.83
F5 80	5	8	2500	2⅝	3⅛	2¼	3 5/16	4	2.5	5.70
F6 06	6.3	.6	2500	1⅜	1¾	1½	2	2⅜	.4	2.60
F6 12	6.3	1.2	2500	1⅝	2	1⅞	2⅜	2⅞	.8	2.98
F6 13	6.3	1.2	5000	2	2⅜	1⅞	2 13/16	3¼	.8	3.94
F6 30	6.3	3	2500	2	2⅜	2⅛	2 13/16	3¼	1.4	3.92
F6 60	6.3	6	2000	2⅜	2¾	2⅜	3⅛	3¾	2	5.58
F7 30	7.5	3	1500	2 3/32	2¾	2	3⅛	3¾	1.6	4.60
F7 50	7.5	5	1500	2⅝	3⅛	2¼	3 5/16	4	2.4	5.50
F12 20	12.6	2	1500	2	2⅜	2⅛	2 13/16	3¼	1.4	4.42
F12 30	12.6	3	1500	2⅜	2¾	2¼	3⅛	3¾	1.6	5.65
F25 10	25.2	1	1500	2	2⅜	2⅛	2 13/16	3¼	1.4	4.53
F25 20	25.2	2	1500	2⅝	3⅛	2¼	3 5/16	4	2.2	6.70



8″ LEAD TERMINALS

BRACKET MOUNTED — PRIMARY 117 VOLTS — ELECTROSTATIC SHIELD GROUNDED TO FRAME

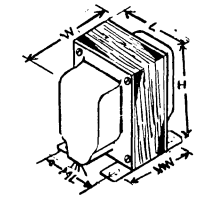
Part No.	Secondary Volts (CT)	Secondary Amps	Rms Hipot Test Volts	Dimensions H	L	W	MW	ML	Weight	Price
F2 100	2.5	10	10000	3 7/16	2 13/16	2⅜	1⅞	2¼	2.5	$8.71
F2 150	2.5	15	1500	3	2½	2⅞	2	2	2.4	6.65
F5 050	5	5	2500	3⅛	2½	2⅛	1⅞	2	2.2	5.85
F5 100	5	10	2500	3⅛	2½	2¾	2⅜	2	3.0	7.87
F5 150	5	15	2000	3⅛	2½	2¾	2¼	2	3.5	9.80
F5 250	5	25	2500	3⅞	2⅞	3⅜	2⅝	2½	4.8	14.08
F6 040	6.3	4	2500	3⅛	2½	2⅜	2⅛	2	2.4	5.95
F6 060	6.3	6	2000	3⅛	2½	2⅜	2	2	2.4	6.87
F6 100	6.3	10	2500	3 7/16	2⅞	2⅝	2⅛	2¼	3.5	8.97
F6 200	6.3	20	2500	4⅝	3¾	3⅜	2⅜	3	6.8	14.27
F7 040	7.5	4	2000	3⅛	2½	2¼	2⅛	2	2.8	6.28
F7 080	7.5	8	2500	3⅞	3⅛	2¾	2⅜	2½	4.8	8.65
F10 040	10	4	2500	3 7/16	2⅞	2½	2	2¼	3.4	7.06
F10 080	10	8	2500	3⅞	3⅛	3	2⅜	2½	5.0	10.29



SOLDER LUG TERMINALS

VERTICAL SHELL MOUNTED — PRIMARY 117/105 VOLTS (Tapped) — ELECTROSTATIC SHIELD GROUNDED TO FRAME

Part No.	Secondary Volts (CT)	Secondary Amps	Rms Hipot Test Volts	Dimensions H	L	W	MW	ML	Weight	Price
F2 061	2.5	6	2500	3⅛	2½	2½	1½	2	2.2	$7.24
F2 101	2.5	10	2500	3⅛	2½	2⅞	1¾	2	2.5	6.31
F5 031	5	3	2500	3⅛	2½	2½	1½	2	2.4	6.71
F5 061	5	6	2000	3⅛	2½	3	2	2	3.1	7.41
F5 301	5	30	2500	4¼	3 7/16	3⅞	2¾	2¾	6.3	18.81
F6 041	6.3	4	2000	3⅛	2½	2¾	1¾	2	2.7	6.69
F6 061	6.3	6	2500	3½	2⅞	3⅛	2	2¼	3.5	8.58
F6 101	6.3	10	2000	3½	2⅞	3⅜	2⅜	2¼	3.8	8.77
F7 051	7.5	5	2500	3½	2⅞	3⅛	2	2¼	3.4	9.25
F7 051	10	5	2500	3⅞	3⅛	3¼	1⅞	2½	4.0	10.07
F10 081	10	8	2000	3⅞	3⅛	3¾	2½	2½	5.2	9.58
F10 101	10	10	2000	3⅞	3⅛	3⅞	2¾	2½	5.8	11.23



LEAD WIRE TERMINALS

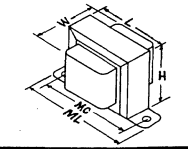
CONTROL TRANSFORMERS

PRIMARY 117 VOLTS 50/60 ~
(Also Available 230 V)

LEAD WIRE TERMINALS

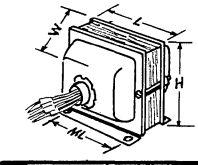
Part No.	Secondary (RMS) Volts	Secondary (RMS) Amps	Equivalent Secondary Current Bridge	½ Wave	Full Wave	H	L	W	MC	ML	Weight	Price
CT12-150	12	.150	.10 DC	.05 DC	—	1¼	1½	1¼	1¾	2⅛	.25	$3.27
CT12-375	12	.375	.24 DC	.12 DC	—	1⅜	1¾	1⅜	2	2⅜	.36	3.39
CT12-750	12	.750	.48 DC	.24 DC	—	1⅝	2	1½	2⅜	2⅞	.60	3.54
CT12-1250	12	1.250	.80 DC	.40 DC	—	2	2⅜	1⅝	2¾	3¼	.85	4.47
CT24-090	24 CT	.090	.07 DC	—	.145 DC	1¼	1½	1¼	1¾	2⅛	.25	3.57
CT24-220	24 CT	.220	.15 DC	—	.30 DC	1⅜	1¾	1⅜	2	2⅜	.36	3.72
CT24-400	24 CT	.400	.27 DC	—	.55 DC	1⅝	2	1½	2⅜	2⅞	.60	3.87
CT24-750	24 CT	.750	.50 DC	—	1.00 DC	2	2⅜	1⅝	2¾	3¼	.85	4.80

MINIATURE STYLE OPEN FRAME



Part No.	Secondary (RMS) Volts	Secondary (RMS) Amps	VA Cap.	H	L	W	MW	ML	Weight	Price
CTR-2425	24	1.05	25	2½	2⅝	2½	1½	2⅛	2.3	$ 7.47
CTR-2450	24	2.1	50	2¾	3	3¼	1¾	2⅜	3.6	8.83
CTR-2475	24	3.1	75	3 5/16	3⅜	3⅝	2¼	3	4.6	9.82
CTR-24100	24	4.1	100	3½	3¾	3⅞	2⅞	3¼	5.2	13.15
CTR-24150	24	6.2	150	4	4½	4⅛	3	3¾	8.5	17.63
CTR-3225	32	.78	25	2½	2⅝	2½	1½	2⅛	2.3	8.10
CTR-3250	32	1.55	50	2¾	3	3¼	1¾	2⅜	3.6	9.34
CTR-3275	32	2.35	75	2 5/16	3⅜	3⅝	2¼	3	4.6	10.56
CTR-32100	32	3.1	100	3½	3¾	3⅞	2⅞	3¼	5.2	14.05
CTR-32150	32	4.7	150	4	4½	4⅛	3	3¾	8.5	16.61

SHELL ENCLOSED W/THREADED PIPE NIPPLE



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STEPDOWN AUTO TRANSFORMERS

50/60 CYCLES—UL COMPONENTS
(MOST UNITS CAN BE REVERSED FOR STEPUP USE)

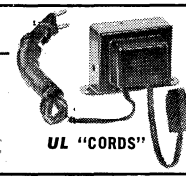
HEAVY DUTY MODEL — 220/240 Input 110/120 Output

Catalog Number	Rating Watts	Weight Lbs.	Dimension Inches H	L	W	Price
SD-15	75	2¼	3 3/16	2¾	3 3/16	$10.72
SD-16	100	2⅓	3 3/16	2¾	3 3/16	10.80
SD-17	150	3⅔	3 3/16	2¾	3 15/16	12.40
SD-12	250	6	4⅝	3⅞	3⅝	15.70
SD-18	350	6⅔	4⅝	3⅞	3¾	17.80
SD-11	500	10⅔	4⅝	3⅞	4⅞	22.60
SD-19	750	12	4⅝	3⅞	5⅛	27.50
SD-13	1000	15⅔	4⅝	3⅞	6⅛	38.50
SD-14	1500	20	4⅝	3⅞	7⅛	44.50
SD-20	2000	24	6	4½	6⅝	89.95

UL LINE CORD & RECEPTACLE

NORMAL DUTY MODEL — 220/240 Input 110/120 Output

Catalog Number	Rating Watts	Weight Lbs.	Dimension Inches H	L	W	Price
SD-24	50	1½	2⅜	3¾	2¼	$7.25
SD-21	65	1⅔	2⅜	3¾	2¼	7.40
SD-25	80	1⅔	2⅜	3¾	2¼	7.60
SD-23	100	1⅔	2⅜	3¾	2⅜	7.80
SD-26	125	2	2 1/16	4	2⅝	9.20
SD-27	150	2¼	2 1/16	4	2⅝	9.60



UL "CORDS"

INDUSTRIAL MODEL — 208/220/240 Input 110/120 Output

Catalog Number	Rating Watts	Weight Lbs.	Dimension Inches H	L	W	Price
SD-28	3000	38	6⅛	7 1/16	6¼	$192.50
SD-29	4000	47	6⅛	7 1/16	6¼	249.75
SD-22	5000	58	6⅛	7 1/16	6¼	284.40
SD-30	6000	70	6⅛	7 1/16	6¼	346.20

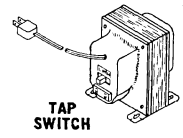
*Available Panel MTD. Add Suffix "P"

SCREW TERMINALS

3 TAP REFRIGERATION — 188/210 210/236 236/260 → 105/115 V

Catalog Number	Rating Watts	Weight Lbs.	Dimension Inches H	L	W	Price
SD-31	350	7.0	4¾	3⅞	4¼	$29.80
SD-32	550	9.4	4¾	3⅞	4⅞	32.10
SD-33	750	12.9	4¾	3⅞	5⅝	37.75
SD-34	1000	16.8	4¾	3⅞	6½	51.60

Also Available Leads Only

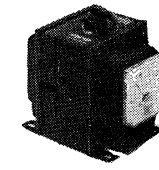


TAP SWITCH

HEAVY DUTY VOLTAGE REGULATOR — WITH METER & SWITCH

TYPE	PRIMARY INPUT TAPS ON SELECTOR SWITCH	OUTPUT VOLTS
11	84 92 100 108 115 122 130 138	115
12	84 92 100 108 115 122 130 138	230
21	170 185 200 215 230 245 260 275	115
22	170 185 200 215 230 245 260 275	230

Catalog Number	Type	Rating W.	WT. Lbs.	Dimension (") H	L	W	Price
TC-17	11 or 22	150	6	5 13/32	3 25/32	5	$ 33.75
TC-18	11 or 22	350	7	5 13/32	3 25/32	5⅜	47.70
TC-11	11 or 22	500	11	5 13/32	3 25/32	5¾	55.00
TC-19	11 or 22	750	15	5 13/32	3 25/32	6⅜	69.00
TC-13	11 or 22	1000	20	5 13/32	3 25/32	7⅛	83.50
TC-14	11 or 22	1500	25	5 13/32	3 25/32	8⅛	109.50
TC-20	11 or 22	2000	30	6 21/32	4 9/32	8¾	204.75
TC-17	12 or 21	150	6	5 13/32	3 25/32	5¼	39.50
TC-18	12 or 21	350	7	5 13/32	3 25/32	5¾	54.50
TC-11	12 or 21	500	11	5 13/32	3 25/32	6	63.00
TC-19	12 or 21	750	15	5 13/32	3 25/32	6¾	81.50
TC-13	12 or 21	1000	20	6 21/32	4 9/32	7¾	101.25
TC-14	12 or 21	1500	25	6 21/32	4 9/32	8¾	124.50
TC-20	12 or 21	2000	30	6 21/32	4 9/32	9¾	233.50



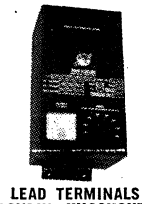
UL LINE CORD & RECEPTACLE

PANEL MOUNTED VOLTAGE REGULATOR — WITH METER & SWITCH (Junction Box)

TYPE	PRIMARY INPUT TAPS ON SELECTOR SWITCH	OUTPUT VOLTS
11	84 92 100 108 115 122 130 138	115
12	84 92 100 108 115 122 130 138	208/230
21	170 185 200 215 230 245 260 275	115
22	170 185 200 215 230 245 260 275	208/230

Catalog Number	Type	Rating W.	WT. Lbs.	Dimension (") H	W	L	Price
TA-20	11 or 22	2000	40	6⅞	7½	17⅜	$239.00
TA-28	11 or 22	3000	50	6⅞	7½	17⅜	273.50
TA-29	11 or 22	4000	60	6⅞	7½	17⅜	334.25
TA-22	11 or 22	5000	70	6⅞	7½	17⅜	386.50
TA-30	11 or 22	6000	85	6⅞	7½	17⅜	458.30
TA-20	12 or 21	2000	40	6⅞	7½	17⅜	259.60
TA-28	12 or 21	3000	50	6⅞	7½	17⅜	291.40
TA-29	12 or 21	4000	60	6⅞	7½	17⅜	357.50
TA-22	12 or 21	5000	70	6⅞	7½	17⅜	414.70
TA-30	12 or 21	6000	85	6⅞	7½	17⅜	491.50

Packed One Per Carton



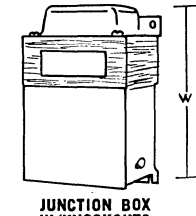
LEAD TERMINALS CONDUIT KNOCKOUTS

BUCK-BOOST TRANSFORMERS

AUTO-TRANSFORMERS TO INCREASE OR DECREASE LINE VOLTAGE — 50/60 ~

200 TO 240 V OUTPUT — 32 OR 16 VOLT LINE ADJUSTMENT (UP OR DOWN)

Part No.	32 Volts KVA	32 Volts Amps	16 Volts KVA	16 Volts Amps	H	L	W	Weight Lbs.	Price
32BB-35•	.35	1.55	.70	3.1	3	3⅜	3¼	3.0	$17.50
32BB-55•	.55	2.35	1.10	4.7	3	3⅜	4½	3.8	21.30
32BB-75•	.75	3.20	1.50	6.4	3⅜	3⅞	3½	5.0	23.50
32BB1-1•	1.10	4.25	2.20	8.5	3⅜	3⅞	4¼	6.5	25.80
32BB1-5•	1.50	6.40	3.00	12.8	3⅜	3⅞	5	7.0	29.60
32BB2-0•	2.00	8.50	4.00	17.0	3⅜	3⅞	5½	7.8	33.75
32BB3-5•	3.50	15.00	7.00	30.0	4⅝	5⅜	6¾	12.0	46.50
32BB5-0	5.00	21.00	10.00	42.0	4⅝	5⅜	8	15.0	57.00
32BB7-5	7.50	32.00	15.00	64.0	5½	6½	7¼	20.0	72.50
32BB10-0	10.00	42.00	20.00	84.0	5½	6½	8½	30.0	87.70



JUNCTION BOX W/KNOCKOUTS

200 TO 240 V OUTPUT — 24 OR 12 VOLT LINE ADJUSTMENT (UP OR DOWN)

Part No.	24 Volts KVA	24 Volts Amps	12 Volts KVA	12 Volts Amps	H	L	W	Weight Lbs.	Price
16BB-50•	.50	2.1	1.00	4.2	3	3⅜	3½	3.5	$18.20
16BB-75•	.75	3.2	1.50	6.4	3	3⅜	4¾	4.2	22.00
16BB1-0•	1.00	4.3	2.00	8.6	3⅜	3⅞	3⅞	5.5	24.10
16BB1-5•	1.50	6.4	3.00	12.8	3⅜	3⅞	4¾	6.9	25.90
16BB2-0•	2.00	8.5	4.00	17.0	3⅜	3⅞	5½	7.5	30.20
16BB2-5•	2.50	10.5	5.00	21.0	3⅜	3⅞	6	8.2	34.50
16BB4-5	4.00	19.0	9.00	38.0	4⅝	5⅜	7¼	13.0	48.60
16BB7-0	7.00	30.0	14.00	60.0	4⅝	5⅜	8¾	16.5	59.40
16BB10-0	10.00	42.0	20.00	84.0	5½	6½	7¾	21.0	74.80
16BB15-0	15.00	64.0	30.00	128.0	5½	6½	9	31.5	92.30

UNITS MARKED * ALSO AVAILABLE LINE CORD & RECEPTACLE

BUCK-BOOST ALSO AVAILABLE FOR 115/120 VOLTS

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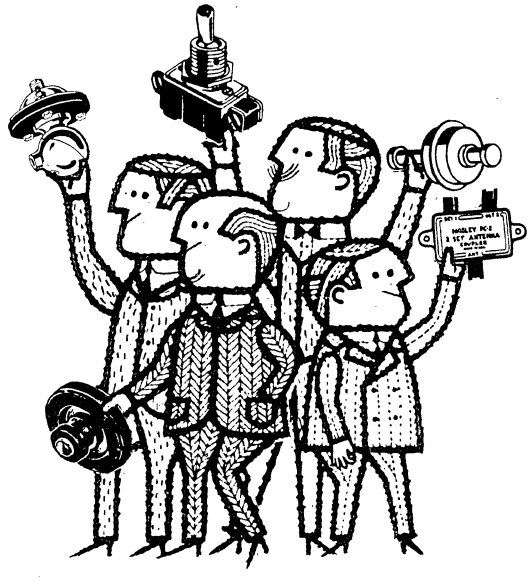

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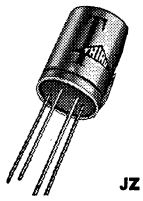
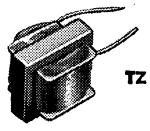
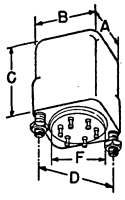


JZ



TZ



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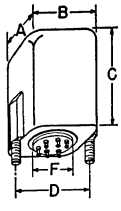

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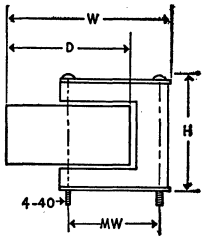

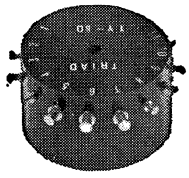

TY-MOLDED

MINIATURES

†† JAF SERIES — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.	** MTG.
JAF-1‡	600/250/50	50000	0	60-15000	AF
JAF-2‡	600/250/50	250000	0	100-15000	AF
JAF-3	600/250/50	60000 CT.	0	60-15000	AF
JAF-5‡	30/12/4	50000	0	50-15000	AF
JAF-11	15000	50000	10	60-15000	AF
JAF-12	15000	60000 CT.	10	60-15000	AF
JAF-13	15000 (3 Ma.)	95000 CT.	10	350-7000	AF
JAF-14‡	200	½ megohm	10	300-3000	AF
JAF-15	15000	1 megohm	10	350-5000	AF
JAF-21	15000	600/250/50	10	60-15000	AF
JAF-22	15000 (3 Ma.)	600/250/50	10	350-7000	AF
JAF-23	20000 CT.	600/250/50	10	60-15000	AF
JAF-24	10000 CT.	2000 CT.	10	50-20000	AF
JAF-25	12000CT.(2 Ma.)	600 CT./150	12	50-15000	AF
JAF-26	50000CT.(.5Ma.)	600 CT./150	10	50-20000	AF
JAF-31‡	600/250/50	600/250/50	10	60-15000	AF
JAF-32	1500 CT. (2Ma.)	600 CT./150	14	50-20000	AF
JAF-33‡	5000 CT.	5000 CT.	10	60-15000	AF
JAF-34	500 CT.	500 CT./125	14	50-20000	AF
JAF-35	600 CT.	2000 CT./500	14	50-20000	AF
JAF-101	50 h.-.75 Ma.				AF
JAF-102	6 HY.—3 MA. or 4 HY.—6 Ma.				AF

SUB-MINIATURE AUDIO — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	DC Res. Ohms (Approx.) Pri.	Sec.	** Case
JZ-1	600/250/50	60000	350	4100	JZ
JZ-5	30/12/4	50000	11.5	3800	JZ
JZ-13	15000 (1. Ma.)	135000 CT.	1150	4400	JZ
JZ-15	20000 (.5 Ma.)	1200/600/100	2700	350	JZ
JZ-25	10000 (1 Ma.)	200	1500	120	JZ
JZ-26	1000 (5 Ma.)	50	355	20	JZ

SUB-MINIATURE AUDIO — Open Frame

Type No.	Primary Impedance	Secondary Impedance	DC Res. Ohms (Approx.) Pri.	Sec.
TZ-1	600/250/50	60000	350	4100
TZ-2XT	200 CT.	200000	35	5000
TZ-5	30/12/4	50000	6	3500
TZ-7	30/12/4	1000	5	480
TZ-13	15000 (1 Ma.)	135000 CT.	985	4400
TZ-15	20000 (.5 Ma.)	1200/600/100	2700	350
TZ-24XT	25000 CT.	500 CT.	2000	60
TZ-29XT	10000 CT.	10,000 CT	1100	1400
TZ-25	10000 1 Ma.)	200	1500	120
TZ-32XT	1500 CT.	600 CT./150	160	65
TZ-26	1000 (5 Ma.)	50	355	20
TZ-103XT	4 Hy. or 1 Hy.	—	400	—
T-41X	1000 (10 Ma.)	200 CT.	430	130
T-42X	9800 (2 Ma.)	16	855	1.7
TY-44X	1000 (10 Ma.)	16/8/4	180	3.8
TY-47X	2000 CT.(10 Ma.)	16/8/4	260	4

TRANSFORMERS FOR TRANSISTOR POWER SUPPLIES

Type No.	D.C. Volts Out of Rect.	D.C. Ma. Max.	Dimensions—Inches H	W	D	MW
TY-68S	250	65	1¾	1¾	1 11/32	1½
TY-69S	300	100	1⅞	2⅜	1⅞	1½
TY-70S	325	150	2	2⅜	2 1/16	1½
TY-71S	375	200	2	2⅜	2 1/16	1½
TY-74S	600	200	2	4⅛	3	3¾

EPOXY MOLDED TOROIDAL TYPE

Type No.	D.C. Source Volts	D.C. Volts Out Of Rectifier	D.C. Ma. Max.	Dimension—Inches Dia.	Ht.	Wt. Lbs.
TY-78	12.6	250/125	100	1¾	1 1/16	.35
TY-79	12.6	300/150	200	1¾	1	.35
TY-80	12.6	325/162.5	150	1¾	1	.35
TY-81	12.6	375/187.5	200	2	1	.50
TY-82	12.6	450/225	150	2	1	.50
TY-83	12.6	500/250	250	2¾	1⅜	.85
TY-84	12.6	600/300	200	2¾	1⅜	1.00
TY-85	12.6	600/300	350	2⅞	2½	2.00
TY-86	12.6	425/212.5	350	2¾	1⅜	1.00
TY-87§	12.6	600/300	200	2¾	1⅜	1.00
TY-88	28	250/125	80	1 5/16	5/16	.25
TY-89	28	300/150	100	1¾	1 1/16	.35
TY-90	28	325/162.5	200	1¾	1	.35
TY-91	28	375/187.5	200	2	1	.50
TY-92	28	450/225	200	2	1	.50
TY-93	28	500/250	250	2¾	1⅜	.85
TY-94	28	600/300	200	2¾	1⅜	1.00
TY-99	6.3	300/150	100	1¾	1	.35
TY-100	6.3	325/162.5	150	2	1	.50
TY-101	6.3	375/187.5	200	2¾	1⅜	1.00
TY-102	6.3	450/225	150	2¾	1⅜	1.00

§ Additional winding 125 V. @ 10 ma. for SSB.

†† MINIATURE AUDIO — "Trijets"

Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.
T-1X‡	600/250/50	50000	0	60-15000
T-2X‡	600/250/50	250000	0	100-15000
T-3X	600/250/50	60000 CT.	0	60-15000
T-5X‡	30/12/4	50000	0	50-15000
T-11X	15000	50000	10	60-15000
T-12X	15000	60000 CT.	10	60-15000
T-13X	15000 (3 Ma.)	950000 CT.	10	350-70000
T-14X‡	200	500000	10	300-3000
T-15X	15000	1 Megohm	10	150-15000
T-20X	15000	600/250/50	10	60-15000
T-21X	3000	50	10	100-15000
T-22X	15000 (3 Ma.)	600/250/50	10	350-7000
T-23X	2000 CT.	600/250/50	10	60-15000
T-24X	10000 CT.	2000 CT.	10	50-20000
T-25X	12000 CT.(2 Ma.)	600 CT. 150	10	50-16000
T-26X	50000 CT.(.5 Ma.)	600 CT./150	10	100-15000
T-31X‡	600/250/50	600/250/50	10	50-15000
T-32X	1500 CT. (2 Ma.)	600 CT./150	13	50-20000
T-33X‡	5000 CT.	5000 CT.	10	60-15000
T-34X	500 CT.	500 CT./125	13	50-20000
T-35X	600 CT.	2000 CT./500	13	50-20000
T-101X	50 henries @ .75 Ma.			
T-102X	6 Hy.-3 Ma. or 4 Hy.-6 Ma.			

††Low frequency loss will result from DC in windings other than where specified.

**See Case Chart on Triad Page 15

MINIATURES

TRANSISTOR TRANSFORMERS

Type No.	Primary Matching Impedance	Primary Current MA	Secondary Matching Impedance	Maximum Level
TY-23X	50000	.5	500 CT.	100 MW
TY-24X	50000	.5	3000 CT.	200 MW
TY-25X	100000	.5	200 CT.	200 MW
TY-26X	100000	.5	3000 CT.	200 MW
TY-27XT	500 CT.	2	500 CT.	10 MW
TY-28XT	500 CT.	2	200 CT.	10 MW
TY-29X	24 CT.	500	8/4	8W
TY-30X	100 CT.	100	8/4	2W
TY-31X	200 CT.	50	8/4	2W
TY-32X	200 CT.	2	2000 CT.	200 MW
TY-33X	400 CT.	5	16/8/4	200 MW
TY-34X	400 CT.	5	2000 CT.	200 MW
TY-35X	500 CT.	2	150 CT.	100 MW
TY-36X	2000	2	1500 CT.	200 MW
TY-37X	2000 CT.	4	8000 CT.	200 MW
TY-38X	3000 CT.	4	1000 CT.	200 MW
TY-39X	4000 CT.		16/8/4	200 MW
TY-40X	5000	1	200 CT.	100 MW
TY-41X	16000	1	4000	100 MW
TY-42X	20000	.5	8/4	100 MW
TY-43X	20000	.5	800 CT.	100 MW
TY-44X	1000	10	16/8/4	200 MW

Continued on TRIAD Page 2

‡Static Shield •New item

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MINIATURES (Continued)

Type No.	Primary Matching Impedance	Primary Current MA	Secondary Matching Impedance	Maximum Level
TY-45X	500 CT.	5	16/8/4	200 MW
TY-46X	100	100	1000 CT.	1 W
TY-47X	2000 CT.	10	16/8/4	200 MW
TY-48X	100 CT.	40	16/8/4	.5 W
TY-49X	500 CT.	12	5000 CT.	1 W
TY-50X	125000	0	2000 CT.	40 MW
TY-51X	2000 CT.	10	200 CT.	100 MW
TY-52X	20000 CT.	1	2000 CT.	200 MW
TY-53X	200 CT.	10	400 CT.	6 W
TY-54X	15000	1.5	200 CT.	200 MW
TY-55X	2000 CT.	2	500 CT.	200 MW
TY-56X	10000	1	2000 CT.	200 MW
TY-57X	250 CT.	10	16/8/4	200 MW
TY-58X	125 CT.	15	8/4	200 MW
TY-59X	5000 CT.	1	50000 CT.	200 MW
TY-60X	200000	0	1000	100 MW
TY-61X	100	100	100 CT.	4 W
TY-62X	10000	2	4	100 MW
TY-63X	48 CT.	275	16/8	8 W
TY-64X	32 CT.	575	16/8/4	10 W
TY-65Z	32 CT.	575	6K/4K/3K	10 W
TY-66A	6 CT.	5A	6K/4K/3K	40 W
TY-67A	6 CT.	5A	16/8/4	40 W

†† JO SERIES — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level DBM	Freq. Resp.	Case
JO-1	600/250/50	50000	0	60-15000	JOA
JO-2	600/250/50	250000	0	100-8000	JOA
JO-3	600/250/50	60000 CT.	0	60-15000	JOA
JO-11	15000	60000	10	50-15000	JOB
JO-12	15000	60000 CT.	10	50-15000	JOB
JO-13	15000-3 Ma.	95000 CT.	10	300-7000	JOB
JO-21	15000	600/250/50	10	50-15000	JOB
JO-22	15000-3 Ma.	600/250/50	10	300-7000	JOB
JO-23	20000 CT.	600/250/50	10	50-15000	JOB
JO-31	600/250/50	600/250/50	10	50-15000	JOB
JO-101	50 h.-2 Ma.				JOB

DC TO AC TRANSISTOR TRANSFORMERS

Type	Primary	Secondary		
TY-75A	12v	115v	60cps	115 watts
TY-76A	12v	115v	60cps	60 watts
TY-468	28v	115v	400cps	60 watts
TY-462	12v	115v	400cps	60 watts

DC TO DC CONVERTER TRANSFORMERS
For use in blocking oscillator type power supplies

No. Type	L.	W.	H.	Mtg. Centers	*Typical Operation Input	Output
TY-200X	1⅝	⅞	13/16	1⅜	3VDC @ 20 Ma.	1050VDC @ 25 μa
TY-201TZ	½	7/16	7/16	—	4VDC @ 15 Ma.	500VDC @ 50 μa
TY202X	1⅝	⅞	13/16	1⅜	4VDC @ 45 Ma.	550VDC @ 80 μa

POWER COMPONENTS
HERMETICALLY SEALED

Combined PLATE and FILAMENT Transformers
Primary 115V — 50/60 cycle

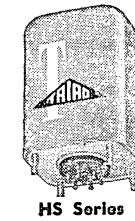
Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Filaments	F Dim. (Min.) Inches	Case
HSM-200	120	100	6.3 CT.-1.6A.	1	FA
HSM-201	500 CT.	20	6.3 CT.-2A.	1 7/16	GA
HSM-202	120	20	6.3 CT.-.6A.	1 5/16	EA
HSM-203	600 CT.	50	6.3 CT.-2.5A. 5 -2A.	1 7/16	JB
HSM-205	700 CT.	70	6.3 CT.-3A. 5 -3A.	1 7/16	JA
HSM-207	700 CT.	120	6.3 CT.-5A. 5 -3A.	1 7/16	KA
HSM-208	626 CT.	200	6.3/5.0-3A. 6.3 CT. 5	1 7/16	KA
HSM-241	700 CT.- 70V. bias.tap.	150	6.3 CT.-6A. 6.3-V. -2A. 5 -3A.	1 7/16	LA
HSM-212	1000/ 800 CT.	150 (ch. in.) 117 (cd. in.)	6.3/5-4A. 6.3 CT.-4A. 6.3 V-4A.	1 7/16	LA
HSM-245	800/ 700 CT. 70 V. bias tap.	200	6.3 CT.-6A. 6.3-V. -4A. 5 -6A.	1 7/16	MA
HSM-216	1000/ 800 CT.	200 (ch. in.) 157 (cd. in.)	6.3/5-4A. 6.3 CT.-5A. 6.3-5A.	1 7/16	MA
HS-247	800/ 700 CT. 70 V. bias tap.	300	6.3 CT.-8A. 6.3-V. -4A. 5 -6A.	1 7/16	GP-15
HSM-218	1000/ 800 CT.	300 (ch. in.) 235 (cd. in.)	6.3/5-6A. 6.3 CT.-6A. 6.3-6A.	1 7/16	GP-15
HSM-219	(115/ 230 pri.) 760/ 1600 CT.	40/230 (ch.input)		Spcl.	GP-15

All types electrostatically shielded
GP-15 dimens. 4¾" x 5⅞" x 6⅝" high. Wt. approx. 22 lbs.
Mtg. centers 3¾" x 4⅞".

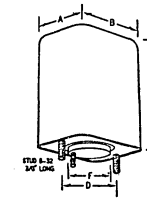
Combined PLATE and FILAMENT Transformers
Primary 115V—400 cycle to operate 380 to 1500 cycles

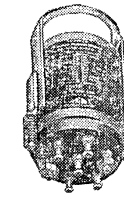
Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Filaments	Insur. Test Volt.	F Dim. (Min.) Inches	Case
HS-401	500 CT.	40	6.3 CT.-1A. 6.3-1A	1500	1	EB
HS-400	125	25	6.3 CT.-8A.	1500	23/32	AH
HS-404	500 CT.	120	6.3 CT.-3A. 6.3/5.0-3A.	1500	1 5/16	FA
HS-405	600 CT.	70	6.3 CT.-2A. 6.3-2A. *6.3-2A.	1500	1 7/16	GA
HS-407	600 CT.	120	6.3 CT.-3.5A. 6.3-3.5A. *6.3/5-3A.	1500	1 7/16	JB
HS-409	700 CT.	150	6.3 CT.-4A. *6.3/5-3A.	1500	1 7/16	HA
HS-413	450 CT.	200	6.3 CT.-6A. 6.3 -6A. *6.3/5-4A.	1500	1 7/16	JA
HS-415	800/ 600 CT.	200	63. CT.-6A. 6.3-6A. *6.3/5-6A.	2500	1 7/16	KB
HS-417	800/ 600 CT.	300	6.3 CT.-6A. 6.3-6A. *6.3/5-6A.	2500	1 7/16	LA

* Tapped for 5 volt rectifier use. All types electrostatically shielded.



HS Series





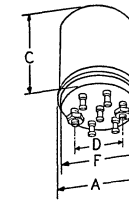
JO Series

SOLID STATE LOW-VOLTAGE TRANSFORMER
Primary 10/115/125 volts — 50/60 cycles

Type No.	Secondary AC Volts	Secondary RMS Amps	Rectifier Circuit CT. Full Wave	Rectifier Circuit Bridge FW	Case
•HSM-248	35 CT.	3	14.5v	29v	KA

AUDIO INTERSTAGE Transformers

Type No.	Primary Imped.	Turn Ratio	Freq. Resp.	Power Output	Shld'g	Case
HS-25	15000	1:2.72 overall	20-20000	75 MW	P-1	GP-4
HS-35	15000	1:2.72 overall	20-20000	26 MW	P-1	GP-2
HS-27	20000/ 5000	1:1.72 overall	20-20000	130 MW	P-1	GP-4
HS-29	20000/ 5000	1:2 overall	20-20000	20 MW	P-5	GP-4
HSM-31	20000/ 5000	1:1 or 2:1	20-20000	3 W		FA
HS-32	15000 (6 Ma.)	1:2 overall	20-15000	200 MW	P-1	GP-5



•New item

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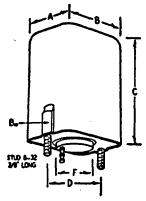
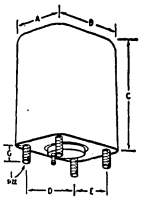
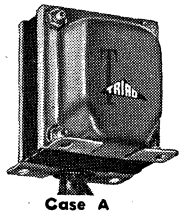


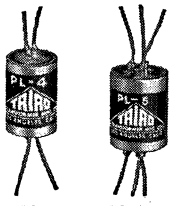
GP 1, 2, 3



MIL-T-27A CASE

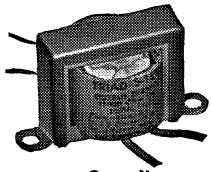


Case A

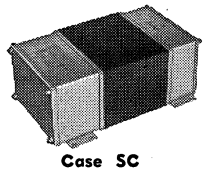


PL-4 PL-5

PL-6



Case X



Case SC

POWER OUTPUT to Line and VC. Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level-Watts	Freq. Resp.	** Case
HS-71	10000 (10 Ma.)	600/150	2	150-15000	AH-2
HS-73	5000 (40 Ma.)	500/250/16/8/4	5	70-15000	AJ-2
HS-75	1000 CT. (50 Ma. bal.)	500/250/16/8/4	10	100-25000	EB
HS-77	9000 CT. (120 Ma. bal.)	500/250/16/8/4	25	70-20000	GA

LOW LEVEL AUDIO

AUDIO INPUT TRANSFORMERS Hermetically Sealed

Type No.	Primary Imped.	Turn Ratio	Freq. Resp.	Power Output MW	Shld'g	** Case
HS-1	600*/250*/150/62.5	1:11.3	20-20000	10	P-5	GP-4
HS-11	Same as above				P-1	GP-2
HS-3	600*/250*/150/62.5	1:14 overall	20-20000	10	P-5	GP-5
HS-4	Same as above				P-3	GP-4
HS-14	Same as above				P-1	GP-3
HS-15	600*/250*/150/62.5 (10 Ma.)	1:8 overall	30-20000	100	P-3	GP-5
HS-5	30	1:65.7	40-12000	1	P-5	GP-4

*Balanced center tap.

OUTPUT, MIXING, MATCHING, BRIDGING

Type No.	Primary Imped.	Secondary Impedance	Freq. Resp.	Power Output MW	Shld'g	** Case
HS-50	15000	600*/250*/150/62.5	20-20000	400	P-3	GP-4
HS-60	15000	600*/350*/150/62.5	20-20000	20	P-1	GP-2
HS-61	15000 (5 Ma.)	600*/250*/150/6.25	40-15000	200	P-1	GP-5
HS-52	20000 CT./5000	600*/250*/150/6.25	20-20000	400	P-1	GP-4
HS-54	20000 CT./5000	600*/250*/150/6.25	20-20000	30	P-5	GP-4
HS-56V	600*/250*/150*62.5	600*/250*/150/6.25	10-30000	100	P-3	GP-4
HS-66	600*/250*/150*62.5	600*/250*/150/6.25	10-30000	100	P-1	GP-3
HS-58	600*/250*/150*62.5	600*/250*/150/6.25	20-20000	50	P-3H	GP-5

* Balanced center tap.

POWER COMPONENTS

Type No.	Primary Volts	Secondary Volts	Secondary Amperes	Insulation Test Voltage	** Case
HSM-223	115	6.3	0.6	1500	AJ-2
HSM-225	105-115-125	6.3 CT.	2	1500	EA
HSM-226	105-115-125	6.3 CT.	3.6	1500	FA
HSM-224	105-115-125	6.3 CT.	5.5	2500	HB
HSM-234	105-115-125	†6.3 CT. 6.3	10 10	2500	KA
HSM-227	105-115-125	†6.3 CT. 6.3	3 3	2500	GA
HSM-229	105-115-125	6.3 CT.	8	2500	JB
HSM-233	105-115-125	12.6 CT.	.8	1500	EA
HSM-237	105-115-125	12.6 CT.	2	2000	FA
HSM-230	105-115-125	24 CT.	0.8	1500	FA
HSM-239	105-115-125	24 CT.	1.5	2500	GA
HSM-240	115/230	†12.6 CT. †12.6	1.5 1.5	2500	GA
HSM-236	105-115-125	†12.6 CT. 12.6	2 2	2500	JB
HSM-228	105-115-125	†6.3 CT. 6.3	6 6	2500	JA
HSM-231	105-115-125	6.3 CT. 5 CT.	5 3	2500	JB
HSM-235	105-115-125	2.5 CT. 10 CT.	10 10	7500 2500	MA
HSM-238	105-115-125	†26 CT. †26	2 2	2500	JA

† Series or parallel connections.

** See case chart Triad Page 15.

FILAMENT Transformers, 380/1500 cycle

Type No.	Primary Volts	Secondary Volts	Secondary Amperes	Insulation Test Voltage	** Case
HS-436	115	6.3 CT.	1	1500	AH
HS-425	105-115-125	6.3 CT.	2	1500	AJ-2
HS-427	105-115-125	6.3 CT.	5	2500	EA
HS-445	105-115-125	24 CT.	3	2500	EA
HS-438	105-115-125	24 CT.	1.5	1500	EA
HS-433	105-115-125	*6.3 CT. *6.3	5 5	2500	FA
HS-435	105-115-125	*6.3 CT. *6.3 †6.3/5	3.5 3.5 3	2000	FA
HS-441	105-115-125	*5 CT. *5 2.5 CT.	10 10 10	2000 7500	HA
HS-443	105-115-125	*12.6 CT. *12.6	0.8 0.8	1500	AJ-2
HS-442△	57.5-99.7-115-120 Single phase.	*12.6 CT. *12.6	2 2	1500	EA
HS-444△	57.5-99.7-115-120	*26 CT. *26 CT.	2 2	2000	FA

△ Two Units can be used, 115 volt 3 phase to 26 volt 2 phase, Scott-connected. * Series or parallel connection. † 5 volt tap for filament type rectifiers.

UNIVERSAL RECTIFIER POWER SUPPLY TRANSFORMERS Primaries 115 Volts, 50/60 Cycles

Type No.	DC Range	MIL Case
HSM-249	6V.-.065A. to 53V.-.02A.	AH
HSM-250	6V.-.22A. to 53V.-.07A.	AJ
HMS-251	6V.-1.2A. to 53V.-.4A.	FA
HSM-252	6V.-3A. to 53V.-1A.	HA
HSM-253	6V.-7.5A. to 53V.-2.5A.	KA
HSM-254	6V.-18A. to 53V.-6A.	OA

HIGH FIDELITY OUTPUT

HIGH LEVEL OUTPUT — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Freq. Resp.	Max. Level Watts	F Di. Min. In.	** Case
HSM-79	20000 CT. (20 Ma.) or 5000 (40 Ma.)	16/8/4	40-20000	5	1 1/16	FA
HSM-80	20000 CT. (20 Ma.) or 5000 (40 Ma.)	600/250 CT. or 150/62.5	40-20000	5	1 1/16	FA
HSM-81	8000 CT. Split primary.	16/8/4	7-50000	15	1 1/16	JB
HSM-82	8000 CT.	600/250/125	7-50000	15	1 1/16	JB
HSM-182	8000/2000 CT. Split primary.	600/250/125	7-50000	15	1 1/16	JB
HSM-84	5000 CT.	16/8/4	15-30000	20	1 1/16	JB
HSM-184	8000	16/8/4	10-50000	25	1 1/16	KB
HSM-189	10000/2500 CT. Split primary.	16/8/4	7-50000	25	1 1/16	KB
HSM-190	10000/2500 CT. Split primary.	500/250/125	7-50000	25	1 1/16	KB
HSM-187	6600 CT. or 1650 CT. Split primary.	500/250/125 250/125	7-50000	25	1 1/16	KB

(Continued on next page.)

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HIGH FIDELITY OUTPUT (cont.)

HSM-94	4500 CT.	16/8/4	7-50000	55	1 7/16	LA

HIGH LEVEL OUTPUT

Type No.	Primary Impedance	Secondary Impedance	Output Watts
S-34X	4000 CT.	32/16/8	7.5
S-31A	8000 CT.	16/8/4	15
S-32A	8000 CT.	500/250/125	15
†S-142A	8000 CT.	16/8/4	15
S-35A	5000 CT.	16/8/4	20
S-36A	5000 CT.	500/250/125	20
†S-146A	6600 CT.	16/8/4	25
S-149A	3300 CT.	16/8/4	50
SR-45Z*	4000/2000/1000/500	16/8/4	10
S-46A	2000/1000/500/250	16/8/4	20
†SX-201	3300 ohms CT.	4-8-16 ohms	10-15
†SX-202	4500 ohms CT.	4-8-16 ohms	10-15
SX-203	5000 ohms	4-8-16 ohms	5-7
SX-204	5000 ohms CT.	4-8-16 ohms	10-15
SX-205	6600 ohms CT.	4-8-16 ohms	10-15
†SX-206	6600 ohms CT.	4-8-16 ohms	10-15
†SX-207	8000 ohms CT.	4-8-16 ohms	10-15
SX-208	8000 ohms CT.	4-8-16 ohms	10-15

† Williamson type circuit. Proper taps on primary for screen operation, leads out both end bells.
* Replaces S-45Z.

LINE POWER

ISOLATION Transformers, 50/60 cycles

(See Triad page 6 for 380/1500 cycle isolation transformers)

Type No.	V. A. Output	Input Volts	Output Volts
• N-48X	15	115	115
• N-49X	35	115	57.5/115*
N-51X	35	115	115
N-68X	50	230/115	115
N-53M	85	115	115
N-54M	150	115	115
N-73A	150	115	115/230
N-74A	150	115	57.5/115
N-67A	150	230/115	115
N-55M	250	115	115
N-66A	250	230/115	115
N-57M	500	115	115
N-59M	1000	115	115
†N-52M	350	95 to 130 (in 5V steps)	115
†N-56M	150	95 to 130 (in 5V. steps)	115
N-469A	50	440/220	115
N-470A	150	440/220	115
N-471A	300	440/220	115

†With switch and meter for primary voltage control. Detachable cord. * Split Winding.

CONSTANT VOLTAGE TRANSFORMERS

Type No.	Rating V. A.	Input Volts	Output Volts
• K-48U	24 24	95-130 95-130	24 CT. 24 CT.
K-100	30	95-130	117
K-101	60	95-130	117
K-102	120	95-130	117
K-103	250	95-130	117
K-104	500	95-130	117
K-105	750	95-130	117
• K-106	1000	95-130	117

• New Item.

PULSE TRANSFORMERS BLOCKING OSCILLATOR TYPE

Type No.	Pulse Voltage per Winding	Pulse Duration—us	Load Impedance —Ohms
PL-4	100-100	.54 to .66	500*
*PL-5	100-100-100	.36 to .54	2000*
PL-6	100-100-100	.36 to .54	2000*

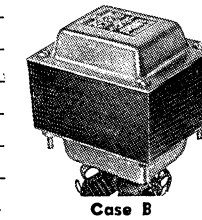
* As blocking oscillator in Triad circuit. Can be used with lower impedances and higher peak power at lower duty cycle.

Note: Last letter of Type No. denotes case style.

FILTER REACTORS

Type No.	Current DC Ma.	Inductance *Henries	Resistance Ohms	Insulation Test Voltage
HSM-301	20	30	1000	1500
HSM-302	20	14	560	1500
HS-331	40	4	375	1500
HS-303	50	12	385	1500
HS-333	70	3	225	1500
HSM-305	70	15	300	2500
HS-335	120	3	150	1500
HSM-307	120	15	185	2500
HSM-309	150	9	115	2500
HS-339	200	3	105	2000
HSM-315	200	10	100	2500
HS-341	300	2	48	2000
HSM-319	300	10	85	2500

Minimum Inductance—20%

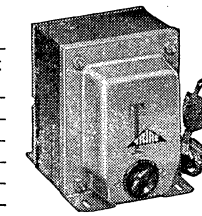


Case B

STEPDOWN Autoformers, 50/60 cycles

Type No.	V. A. Output	Input Volts	Output Volts
N-1X	50	230	115
N-3M	85	230	115
N-4M	150	230	115
N-5M	250	230	115
N-7M	600	230	115
N-9M	1250	230	115
N-11M	2000	230	115
N-34X	150	95/105/115/125/135	115
†N-35M	250	95 to 130 (in 5V. steps)	115
†N-50M	500	95 to 130 (in 5V. steps) With switch and meter.	115

† M case with switch for primary voltage control and detachable cord.

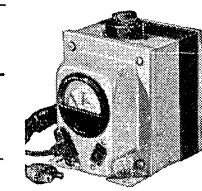


Case M

HIGH SPEED FERRITE TOROIDAL CORE LOW POWER

Type No.	Turns Ratio	Pulse Width μ Sec.	Rise Time μ Sec.	Repetition Rate	Suggested Load Ohms	Volts
PL-80E	1-1	.07	.03	1-2 Mc	200	15
PL-81E PL-81H PL-81P	2-1	.07	.03	1-2 Mc	200	20
PL-82H PL-82P	3-1	.08	.03	1-2 Mc	100	15
PL-83E PL-83H PL-83P	4-1	.08	.03	1-2 Mc	100	15
PL-84E PL-84H	5-1	.08	.03	1-2 Mc	100	15

The letter "H" indicates Hermetically Sealed, the letter "P" indicates Miniature Plug-in and the letter "E" indicates Epoxy Molded.

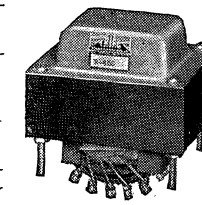


Case M with Meter

LOW SPEED SILICON CORE LOW POWER

Type No.	Pulse Voltage per Winding	Pulse Duration—μ Sec.	Load Impedance —Ohms
PL-124H	300-300-300	.6 to 5	150
PL-140E PL-140H PL-140M	100-400-100	.6 to 5	175
PL-139E PL-139H PL-139M	100-100	.3 to 1.5	250
PL-146E PL-146H PL-146M	300-300	.6 to 5	250

Letter "M" indicates MIL type case. For pulse types only.



Case C

Case AC

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TRIAD DISTRIBUTOR DIVISION

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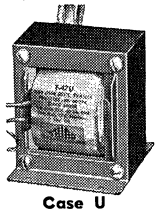
Instrument POWER SUPPLY Transformers

For PREAMPLIFIERS, VTVM, etc.

Primary 115 volts — 60 cycles

Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Filament Windings Volts and Amperes
R-68A	800 CT.	30	5V.-2A, 6.3V-1.2A, 6.3V-1.2A.
R-2C	135	15	6.3V-.9A.
R-23B	250 CT.	22	6.3-.8A. 15.5/12.6V-.6A.
R-3A	500 CT.	20	6.3V CT.-2A.
•R-53Z	500 CT.	25	6.3V-1A.
R-29A	230 CT.	40	6.3V.CT.-1.5A.
R-30X	135	50	6.3V.-1.5A.
R-54X	115	15	6.3V.-.6A.
R-56A	130	20	0/15/22.5/30V-.6A.
R-73B	135	200	6.3V CT.-5.5A.



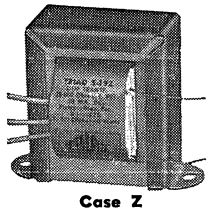
Case U

For CATHODE RAY Tubes

Primary 115 volts — 60 cycles

Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Filament Windings Volts and Amperes	
R-41C	440-0-440-1250.	125/5	*6.3V.-.6A. †2.5V.-1.75A. 5V.-3A.	†2.5V.-1.75A. 5V.-3A.
R-45C	400-0-400-800.	30/5	*6.3V.-.6A. 6.3 CT.-3A. †5V.-2A	6.3V.-1A. 5V.-2A.
R-43C	1600	3	*6.3/5/2.5V.-1A. †6.3/5/2.5V.-3A.	

* Static shielded and insulated for full plate voltage.
† Insulated for full plate voltage.



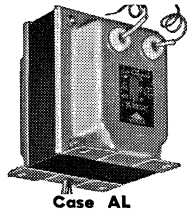
Case Z

SELENIUM RECTIFIER Transformers
Primary 60 cycles

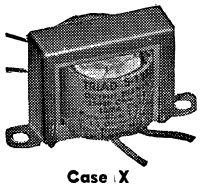
These transformers are for use with Selenium rectifiers. Rectifiers *not* included.

Type No.	Primary Volts	Secondary AC Volts	Secondary Amperes RMS	Half Wave Volts DC	Full Wave Volts DC
F-47U	115	17-18	3	6-7	13-14
F-48U	115	17-18	6	6-7	13-14
F-49U	115	36 36	3 3	13	26
F-60U	115	6.5-13-19.5-26	3 (int.)	9	18
F-61U	115	24-27-30 33-36	3	13	26
F-67U	110-120	24-27-30-33-36	8	13	26
F-63U	115	8-9 8-9	2 2		6-7
F-64U	115	7-8-9	7		6-7
F-62U	105-115-125	9-9-9-9	10 ea. wdg.		6-7 ea. wdg.
F-68U	115	9 CT. 9 9 9	3.5 3.5 3.5 3.5		6-7 ea. wdg.
F-65U	110-120	140-150-160	.75	60	115
F-66U	110-120	140-150-160	2.5	60	115
•F-74U	115	14-28-42-56 14-28		2 series conn. 4 parallel conn.	
•F-75U	115	14-28-42-56 14-28		4 series conn. 8 parallel conn.	
F-79U	115	24-26-28-30	15	11.4	22.8
F-80U	tapped for mult. sec.	12 to 18 or 24 to 36CT	40 20	—	13
F-84AC	230-115	24CT or 12CT	10 20	—	8.5
F-90X	115 tapped	40CT-20CT-10	100ma	15	30
F-91X	115 tapped	40CT-20CT-10	300ma	15	30
F-92A	115 tapped	40CT-20CT-10	1 amp	15	30
R-93A	115	6.3CT (voltage doubler circuit) 150-160-170	6 (500ma)	65	120
F-93X	115 tapped	40CT-20CT-10	750ma	15	30
F-94X	115 tapped	40CT-20CT-10	35ma	15	30

• New item.



Case AL



Case X

For REGULATED POWER SUPPLIES

Primary 115 volts — 60 cycles

Type No.	Plate Supply AC Volts	Plate Supply DC Ma. Choke Input	Filament Windings Volts and Amperes	
R-70A	880 CT.	75	6.3V.-.6A. 6.3V.-.3A.	6.3V.-.9A. 6.3V.-3A.
R-26A	880-720 CT.	200	6.3 CT.-8A. 6.3V.-1A.	6.3V.-3A. 5V.-3A.
R-28A	1250 CT.	300	6.3 CT.-8A. 6.3V.-3A.	6.3V.-3A. 5V.-6A.
R-46A	1250 CT. 130 (Bias winding)	350	5V.-4A.	6.3V.-4A. 6.3V.-1A. 6.3V.-1A.
R-46A will supply 550 V. D.C. using 2 5R4G rectifier tubes, choke input. Will also supply 130 V. for bias using Selenuim rectifier. Sufficient filament windings to regulate screen voltages.				
R-27A	1500 CT.	400	5V.-6A.	6.3V.-3A. 6.3V.-8A.

UNIVERSAL

Isolation, Autoformer, Voltage Control 50/60CPS

Type No.	V.A. (Isolation)	V.A. (Autoformer)
N-64AC	500	1000
N-62AC	1000	2000
N-60SC	2000	4000

SOLID STATE RECTIFIER POWER TRANSFORMERS

Primary 117 volts — 50/60 cycles

Type No.	Secondary No. 1 Volts	Secondary No. 1 MADC	Secondary No. 2 Volts @ A		Secondary No. 3 Volts @ A		Mounting Centers
R-82B	35-0-35	3.5 Amp.	—	—	—	—	3 x3¾
R200A	200-0-200	400	6.3	3	6.3	3	2¾x3 1/16
R201A	150-0-150	600	6.3	2.5	6.3	2.5	2¾x3 1/16
R202A	100-0-100	800	6.3	2	6.3	2	2¾x2 15/16
R-203A	50-0-50	1600	6.3	1.5	6.3	1.5	2¾x2 1/16
R-204A	40-0-40	2000	6.3	1.5	6.3	1.5	2¾x2 3/16
R-205A	30-0-30	2500	6.3	1.5	6.3	1.5	2¾x2 1/16
R-206B	27-0-27	1.9 Amp.	—	—	—	—	2½x3⅛
R-208A	40-0-40	1.2 Amp.	—	—	—	—	2 1/16x3⅝

FILAMENT Transformers, Single Secondary

Primary 115 volts — 50/60 cycles

Type No.	Secondary Volts	Secondary Amperes	Test Volts
F-1X	2.5 CT.	3	1500
*F-72Z	2.5 CT.	5	7500
F-6X	2.5 CT.	6	2500
*F-3X	2.5 CT.	10	3000
F-5U	2.5 CT.	10	7500
*F-71U	2.5 CT.	10	10000
F-7X	5 CT.	3	1500
F-8X	5 CT.	6	1500
F-12X	5 CT.	8	2500
F-9A	5.2 CT.	13	1500
*F-10U	5 CT.	14	10000
F-9U	5.2 CT.	13	1500
*F-15U	5 CT.	15	3000
F-11U	5.2 CT.	24	1500
F-13X	6.3	.6	1500
*F-14X	6.3 CT.	1.2	2500
F-52X	6.3	1.2	5000
*F-51X	6.3/5	2	5000
F-53X	6.3	4	5000
F-16X	6.3 CT.	3	2500
*F-43X	6.3	4	1500
F-18X	6.3 CT.	6	1500
F-18A	6.3 CT.	6	1500
F-19X†	6.3/6 CT.	6	2000
F-21A	6.3 CT.	10	1500
F20U†	6.3/6 CT.	11	3000
*F-17U	6.3 CT.	15	Pri. 1500 Sec. 10000
F-22A	6.3 CT.	20	2000
F-24U†	7.5/6.3 CT.	8	3000
F-28U†	7.5/6.3 CT.	25	3000
F-23U	10 CT.	7	1500
F-29U†	12/11/10 CT.	11	3000
F-25X	12.6 CT.	1.5	1500

* 60 cycles. † Tapped primary to produce lower voltages.

(Continued on next page.)

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*F-44X	12.6 CT.	1	1500
*F-26X	12.6 CT.	2.5	1500
*F-45X	24 CT.	1	1500
•F-46X	24	1	1500
*F-41X	25.2 CT.	2	1500
*F-40X	26.8 CT.	1	1500
•F-55X	26.8	1.7	1500
*F-50X	Filament line transformer Pri. 6.3V/5V Sec. 6.3/5V 2A		5000
F-54X	35 CT.	1.5	1500
F.85U	5 or 7.5 CT.	20	1500
	5 or 7.5 CT.	20	1500

* 60 cycles.

CHOKES

SWINGING FILTER REACTORS

Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS
C-31A	25/5	20/200	150	2500
C-33A	25/5	30/300	105	3000
C-32AL	20/4	35/350	105	5000
C-35A	20/4	40/400	65	3000
C-39A	25/5	50/500	65	3000
C-38AL	25/5	50/500	65	5000

SMOOTHING FILTER REACTORS

Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS
C-30X	50	15	3500	1500
C-2X	2	15	70	1500
C-1X	15	20	1000	1500
C-3X	10	50	500	1500
C-4X	4	50	360	1500
C-6X	5	65	330	1500
C-5X	12	75	390	1500
C-8X	7	75	240	1500
C-7X	10	90	270	1500
C-9X	4	90	100	1500
C-11X	6	110	160	1500
C-10X	9	125	250	1500
C-12X	6	160	165	1500
C-12A	6	160	165	1500
C-13X	3	160	75	1500
C-14X	6	200	150	1500
C-14A	6	200	150	1500
C-16A	10	200	150	2500
C-21X	1.5	225	65	1500
C-15X	4	250	100	1500
C-15A	4	250	100	1500
C-23X	1.2	260	45	1500
C-24X	1	240	50	1500
C-27X	.7	290	25	1500
C-36X	.5	300	30	1500
C-17X	1.5	300	40	1500
C-18A	8	300	90	2500
C-19A	10	300	105	3000
C-25A	2.6	310	60	1500
C-42AL	8	350	105	5000
C-34X	.6	350	35	1500
C-28X	1	350	35	1500
C-29X	1.5	375	50	1500
C-50X	2	400	40	2500
C-20A	6	400	60	3000
C-22A	10	500	65	3000
C-45AL	10	500	65	5000
C-40X	.32	600	10	1500
C-47U	.3-.075	1A-2A	3-.75	1500
C-48U	.08-.02	2.5A-5A	.57-.143	1500
C-49U	.032-.008	5A-10A	.19-.05	1500
C-80U	.024-.006	20A-40A	.1/.025	1500
C-56U	.035	2.0A	.75	1500
C-57U	.025	4.0A	.55	1500
C-58U	.01	8.0A	.15	1500
C-59U	.01	12.5A	.10	1500
C-60U	.005	22.5A	.06	1500

ISOLATION Transformers

Primary 115V—400 cycle to operate 380 to 1500 cycles

Type No.	Secondary Volts	Amp.	V. A.	F Dim. (Min.) Inches	Case
HS-470	115	.35	40	1	EA
HS-471	115	.7	80	1	FA
HS-472	115	1.4	160	1	GA
HS-474	115	2.6	300	1	JA
HS-475	115	4.4	500	1	KA

60 cycle — hermetically sealed

Type No.	secondary volts	amp.	V.A.	F dim. (Min.) inches	Case
HSM-270	105-115-125	.4	50	1	JB
HSM-271	105-115-125	1	125	1	KA
HSM-272	105-115-125	2	250	1 1/16	NB

All isolation transformers electrostatically shielded.

FILAMENT Transformers, Multiple Secondary

Primary 115 volts — 60 cycles

Type No.	Secondary Volts and Amperes		Test Volts RMS
F-27U	10 CT.-10A.	2.5 CT.-10A.	1500 7500
F-30A	5 CT.-3A.	6.3 CT.-8A.	1500
F-32A	6.3 CT.-3A.	6.3 CT.-3A.	1500
F-34A	6.3 CT.-1.75A. 6.3V.-1.75A.	6.3V.-1.75A. 6.3V.-1.75A.	1500
F-36A	6.3 CT.-3.5A. 6.3V.-3.5A.	6.3V.-3.5A. 6.3V.-3.5A.	1500
F-38A	6.3 CT.-5A. 6.3V.-1A. 5V.-4A.	6.3V.-5A. 5 CT.-2A.	1500
F-42A	12.6 CT.-2.5A.	12.6-2.5A.	1500
F-83A	12.6 CT. 12.6 CT.	5 5	1500

AUDIO TRANSFORMERS

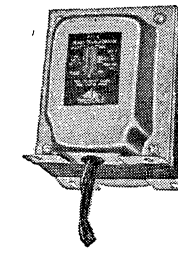
Low Level High Fidelity

Type No.	Application	Frequency Response	Primary Impedance	Turn Ratio
A-9J	line or mike to grid	30-15000	600/250/50	12
A-10J	line to grid	30-15000	600/150 split wdgs.	10.5
A-11J	line or mike to grid 60-80DB shielding	30-15000	600/250/50	10
A-12J	same as A-11J	30-15000	600 CT./150 split windings	10
A-13J	line to transistor or line to line (70 db Shldg)	30-15000	600/300/ 200 CT./110/50 split windings	1
A-40J	par. fed 6J5 or 6SN7 plate to P.P. grids	30-15000	15000	2.76
A-50J	pp plates to voice coil	30-15000	10000 CT.	35.3
A-52J	line or transistor to line or transistor	30-15000	500/CT./125 20 MA. D.C. Split Winding	2
A-55J	par. fed 6J5 or 6SN7 to line	30-15000	15000	5
A-56J	line or transistor to Voice Coil	30-15000	500 CT./125 20 MA. D.C. Split Winding	5.6
A-61J	line to 2 lines or transistors	60-15000	600/150 split wdgs.	1.41:1:1
A-65J	par. fed 6J5 or 6SN7 to line	30-15000	15000 CT.	5
A-66J	same as A-65J— 5 ma DC in primary	40-15000	15000	5
A-67J	line to line	30-15000	600 CT./150 split windings	1
A-68J	pp plate to line 4 ma DC in primary	30-15000	15000 CT.	5
A-69J	pp plates or bridging to line 3 MA. D.C. in Primary	30-15000	25,000 CT./ 6250 Split Winding	7.1
A-70J	line or transistor to line or transistor	30-15000	500 CT./125 15 MA. D.C. Split Winding	2.24
A-77J	Audio choke — dual winding	250 henries - 5 ma DC 62.5 henries - 10 ma DC		
A-57J	line or transistor to line	30-15000	600/250/50	1:1
A-79J	Transistor inter-stage 10ma in primary	20-15000	1000	2.2

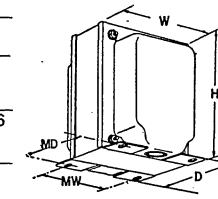
Line or Microphone to Grid

Type No.	Application	Frequency Response	Primary Impedance	Turn Ratio
A-1X	Line or single button mike to grid.	100-15000	100	31.4
A-3X	Line or D.B. mike to grid.	200-10000	400 CT.	22.1
A-4X	Line to grid.	100-20000	500/200/ 67.5 CT.	12
A-5X	Single button mike to p.p. grids—Hi-gain.	100-15000	100	84
A-6X	Speaker V.C. to grid	150-20000	8/3.2	79
A-7J	Voice coil to grid	150-10000	3.2	124

• New item.



Case A



Case A

Triad J Series offers flexibility enabling your amplifiers to exceed broadcast standards. Although economy in construction has cut costs, these transformers approach and closely approximate performance characteristics found in more costly hermetically sealed parts. Single hole mounting provides for rotation for maximum reduction of hum . . . alloy shielding gives you 40-60 db hum reduction (60-80 db in Types A-11J & A-12J) . . . you can obtain wide frequency ranges . . . flexible leads facilitate ease in mounting . . . input units are electrostatically and magnetically shielded . . . light weight and encased in Triad's satin smooth baked gray enamel cases, 1⅜" diameter, 1¾" above chassis . . . legible circuit diagrams are permanently affixed to every case.

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TRIAD DISTRIBUTOR DIVISION

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AUDIO OUTPUT TRANSFORMERS
Line to Voice Coil

Type No.	Primary Impedance	Output Imped.	Output Watts	Freq. Resp.
S-23X	50 (autoformer).	3.2	1	100-8000
S-26X	500/50 (autoformer).	3.2	4	100-8000
S-65X	500	8/4	5	100-10000
S-66X	500 (autoformer).	16/8/4	3	100-10000
S-76Z	250/125/62.5/31	16/8/4	10	40-15000
S-77U	500 CT./125 split wdgs.	32/16/8/ 4/2	30	40-15000

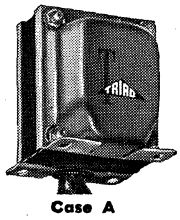
POWER

Combined PLATE and FILAMENT Transformers
Primary 115 volts — 60 cycles

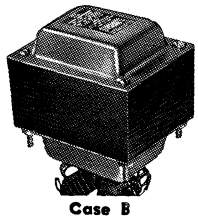
Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Rect. Fil. Volts	Rect. Fil. Amp.	Other Fil. Volts	Other Fil. Amp.
R-22A	380/320 CT.	70	6.3	.6	6.3 CT.	3
R-22B	380/320 CT.	70	6.3	.6	6.3 CT.	3
R-4A	500 CT.	40			6.3 CT.	2
R-4B	500 CT.	40			6.3 CT.	2
R-5A	600 CT.	65			6.3 CT.	2.7
R-5B	600 CT.	65			6.3 CT.	2.7
R-6A	480 CT.	50	5	2	6.3 CT.	2
R-6B	480 CT.	50	5	2	6.3 CT.	2
R-7A	600 CT.	50	5	2	6.3 CT.	2
R-7B	600 CT.	50	5	2	6.3 CT.	2
R-8A	500 CT.	75	5	2	6.3 CT.	2.5
R-8B	500 CT.	75	5	2	6.3 CT.	2.5
R-9A	600 CT.	75	5	2	6.3 CT.	3
R-9B	600 CT.	75	5	2	6.3 CT.	3
R-10A	525 CT.	90	5	2	6.3 CT.	5
R-10B	525 CT.	90	5	2	6.3 CT.	5
R-11A	700 CT.	90	5	2	6.3 CT.	3.5
R-11B	700 CT.	90	5	2	6.3 CT.	3.5
•R-98B	650 CT. 40 Tap.	100	5	3	6.3 CT.	3
R-12A	550 CT.	110	5	2	6.3 CT.	5
R-12B	550 CT.	110	5	2	6.3 CT.	5
R-14A	700 CT.	125	5	3	6.3 CT.	4.5
R-14B	700 CT.	125	5	3	6.3 CT.	4.5
R-16A	700 CT.	160	5	3	6.3 CT.	5
R-16B	700 CT.	160	5	3	6.3 CT.	5
R-17A	750 CT. 80 Tap	160	5	3	6.3 CT. 2.5 CT.	5 5
R-18A	750 CT.	175	5	3	6.3 CT.	8
R-18B	750 CT.	175	5	3	6.3 CT.	8
•R-99B	600 CT. 40 Tap.	200			6.3 CT.	4
R-19A	750 CT. 80 Tap	200	5	3	6.3 CT. 2.5 CT.	6 10
R-20A	700 CT.	200	5	3	6.3 CT.	8
R-20B	700 CT.	200	5	3	6.3 CT.	8
R-72A	800 CT.	140	5	3	6.3 CT.	4
R-21A	800 CT.	200	5	3	6.3 CT.	6
R-21B	800 CT.	200	5	3	6.3 CT.	6
R-24A	800 CT.	300	5	6	6.3 CT.	6
R-24B	800 CT.	300	5	6	6.3 CT.	6
R-25A	800 CT.	500	5	6	6.3 6.3 CT.	3 7
R-58A	875 CT.	185	5	3	6.3 6.3	4 3
•R-59A	1200 CT.	200	5	3	6.3 6.3	3 3
R-71A	900 CT.	250	5 CT.	4	6.3 CT. 6.3	2 4

• New item.

Combined PLATE and FILAMENT Transformers "100" Series



Case A



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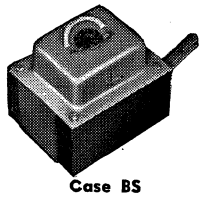

Case BS

Never have the outstanding features of Triad Combined Plate and Filament Power Transformers been available at such realistic costs. No quality or performance requirement has been overlooked... specify Triad and be certain. Shielding, impregnation, chatter freedom ... to Triad's demanding quality control standards.

PRIMARY 115 VOLTS 60 CYCLES

Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Rect. Filaments Volts	Rect. Filaments Amp.	Other Filaments Volts	Other Filaments Amp.	Case Dim. H	Case Dim. W	Case Dim. D	Mtg. Dim. MW	Mtg. Dim. MD	Wt. Lbs.
R-104A	500 C.T.	40			6.3 V.C.T.	2	2¾	2⅜	2¼	1¾	1½	1.55
R-104B	500 C.T.	40			6.3 V.C.T.	2	1⅝	2¾	2¼	2 3/16	1¾	1.55
R-105A	600 C.T.	65			6.3 V.C.T.	2.7	3⅛	2⅝	2½	2	1¾	2
R-105B	600 C.T.	65			6.3 V.C.T.	2.7	1¾	3 1/16	2⅝	2½	2	2
R-106A	480 C.T.	50	5	2	6.3 V.C.T.	2	3⅛	2⅝	2⅜	2	1⅝	2.05
R-106B	480 C.T.	50	5	2	6.3 V.C.T.	2	1⅝	3 1/16	2⅝	2½	2	2.05
R-107A	600 C.T.	50	5	2	6.3 V.C.T.	2	3⅛	2⅝	2½	2	1¾	2.35
R-107B	600 C.T.	50	5	2	6.3 V.C.T.	2	1¾	3 1/16	2⅝	2½	2	2.35
R-108A	500 C.T.	75	5	2	6.3 V.C.T.	2.5	3⅛	2⅝	2⅝	2	1⅞	2.4
R-108B	500 C.T.	75	5	2	6.3 V.C.T.	2.5	1⅞	3 1/16	2⅝	2½	2	2.4
R-109A	600 C.T.	75	5	2	6.3 V.C.T.	3	3½	3	2⅞	2¼	1¾	2.9
R-109B	600 C.T.	75	5	2	6.3 V.C.T.	3	1¾	3 7/16	2⅞	2 13/16	2¼	2.9
R-110A	525 C.T.	90	5	2	6.3 V.C.T.	5	3½	3	3¼	2¼	2	3.25
R-110B	525 C.T.	90	5	2	6.3 V.C.T.	5	2	3 7/16	2⅞	2 13/16	2¼	3.25
R-111A	700 C.T.	90	5	3	6.3 V.C.T.	3.5	3½	3	3¼	2¼	2	3.55
R-111B	700 C.T.	90	5	3	6.3 V.C.T.	3.5	2	3 7/16	2⅞	2 13/16	2¼	3.55
R-112A	550 C.T.	110	5	2	6.3 V.C.T.	5	3½	3	3⅜	2¼	2⅛	3.7
R-112B	550 C.T.	110	5	2	6.3 V.C.T.	5	2⅛	3 7/16	2⅞	2 13/16	2¼	3.7
R-113A	650 C.T.	40	5	2	6.3 V.C.T.	2	3⅛	2⅝	2¾	2	1¾	2.3
R-113B	650 C.T.	40	5	2	6.3 V.C.T.	2	2	3	2½	2½	2	2.3
R-114A	700 C.T.	125	5	3	6.3 V.C.T.	4.5	3⅞	3¼	3¼	2½	2⅜	4.7
R-114B	700 C.T.	125	5	3	6.3 V.C.T.	4.5	2½	3¾	3⅛	3⅛	2½	4.7
R-115A	680 C.T.	70	5	2	6.3 V.C.T.	2.5	3⅝	3	3⅜	2¼	2⅛	3.5
R-115B	680 C.T.	70	5	2	6.3 V.C.T.	2.5	2	3 7/16	2⅞	2 13/16	2¼	3.5
R-116A	700 C.T.	160	5	3	6.3 V.C.T.	5	3⅞	3¼	3⅝	2½	2⅝	5.65
R-116B	700 C.T.	160	5	3	6.3 V.C.T.	5	2⅝	3¾	3⅛	3⅛	2½	5.65
R-118A	750 C.T.	175	5	3	6.3 V.C.T.	8	4¼	3⅝	4	2¾	2⅞	7.45
R-118B	750 C.T.	175	5	3	6.3 V.C.T.	8	2⅞	4⅛	3½	3 7/16	2¾	7.45
R-120A	700 C.T.	200	5	3	6.3 V.C.T.	8	4¼	3⅝	4⅛	2¾	2⅞	8.25
R-120B	700 C.T.	200	5	3	6.3 V.C.T.	8	3	4⅛	3½	3 7/16	2¾	8.25
R-121A	800 C.T.	200	5	3	6.3 V.C.T.	6	4¼	3⅝	4⅜	2¾	3¼	8.25
R-121B	800 C.T.	200	5	3	6.3 V.C.T.	6	3¼	4⅛	3½	3 7/16	2¾	8.25

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TRIAD DISTRIBUTOR DIVISION

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PLATE POWER Transformers
Primary 115 volts — 50/60 cycles

Type No.	Secondary Volts AC	Secondary Volts DC	Sec. D.C. Ma. CCS	Sec. D.C. Ma. ICAS	Rect. Fil.
P-1A	440/220 CT.	180/90	160	190	5V-3A
P-3A	600/300 CT.	250/125	300	360	5V-4A
P-5A°	1100 CT.	400	250	300	5V-4A
P-7A°	1235 CT.	500	250	300	5V-4A
P-9A	1235 CT.	500	500	600	5V-6A
P-11A°	1455 CT.	600	250	300	
P-213AL*†	1780 CT.	750	250	300	
§P-14A	1780 CT.	750/600	250	300	
P-215AL*†	2340 CT.	1000	250	300	
P-216AL*†	2430 CT.	1000	500	600	
P-217AL*†	2880 CT.	1250	250	300	
P218AL*†	2880 CT.	1250	500	600	
P-220AL*†	3300 CT.	1500	350	420	
PR-21AL	3300 CT.	1500	500	600	

† Plate leads out side of case for 866 rectifiers.
§ Tapped Pri. to produce the lower D.C. voltage.
*Pri. is 230/115V.
°60 cycle only.

POWER TRANSFORMERS

Combined Plate and Filament
Electrostatically shielded. Primary 115 volts 60 cycles.

Type No.	Plate Supply AC Volts	Plate Supply DC Ma.	Filaments — Volts	Filaments — and Amperes
R-37BC	735 V.C.T.	275	5V.—6A.	6.3V.—8.5A. 6.3V./5V.—2A.*
R-38A	750 V.C.T.	225	5V.—3A.	6.3V.—10A. 6.3V.—1.2A.* 6.3V.—2.5A.
R-40BC	780/440 V.C.T.	300	5V.—3A. 5V.—3A. 5V.—2A.	6.3V.—8.5A. 6.3V.—3.5A.
R-49BS R-49BC	650 V.C.T.	240	5V.—3A.	6.3V.—9A. 6.3V.—0.9A. 6.3V.—1.2A.*
R-50A R-50BC	790/650 V.C.T.	310	5V.—3A. 5V.—3A. 5V.—2A.	6.3V.—5A. 6.3V.—5A. 6.3V.—2.6A.
R-51BC	505 V.C.T.	320	5V.—6A.	6.3V.—5A. 6.3V.—5A. 6.3V.—1.2A.*
R-60BC	460 V.C.T.	300	5V.—6A.	6.3V.—10A. 6.3V.—1.2A.* 6.3V.—2.5A.
R-61BC	560 V.C.T.	275	5V.—6A.	6.3V.—6A. 6.3V.—6A. 6.3V.—1.2A.*
R-62BC	680 V.C.T.	290	5V.—6A.	6.3V.—10A. 6.3V.—1.5A. 6.3V.—1.2A.*
R-64BC	520 V.C.T.	270	5V.—3A.	6.3V.—10A.
R-65BC	550 V.C.T.	270	5V. —3A.	6.3V. —10A.
R-66BC	580 V.C.T.	270	5V. —3A.	6.3V. —10A.
R-67BC	600 V.C.T.	250	5V. —3A.	6.3V. —9A.
R-69BC	550 V.C.T.	270	5V. —3A.	6.3V. —10A.
R-74BC	680 V.C.T.	190	6.3V.—7.8A.	5V.—3A. 6.3V.—1.2A. (damper wdg)

* Less than 100 m.m.f.d. capacity to ground and insulated for high voltage damper tube.
Height of transformers in BC cases is measured from chassis line to top of case. Copper shading ring on all BC cases to reduce external magnetic field.

Note: Last letter of Type No. denotes case style.

UNIVERSAL RECTIFIER POWERS

Type No.	Secondary No. 1 AC Volts	Secondary DC Amps Full Wave CT	Secondary DC Amps Bridge	Secondary No. 2 AC Volts DC Amps
■F-200A	13 or 18 @ .9 ADC	—	—	13 or 18 @ .9 ADC
■F-202U	11.0 to 29.5	2.0	1.25	—
■F-203U	12.0 to 30.0	4.0	2.0	—
■F-204U	11.5 to 29.0	8.0	4.0	—
■F-205U	12.0 to 29.5	12.0	6.0	—

■ New item.

AUDIO

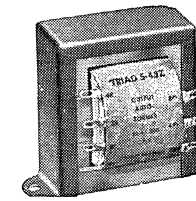
Triad Replacement Output Transformers furnish a wide range of size and mounting characteristics . . . specifically engineered for mounting in precise location in chassis. Climatite treated . . . manufactured to exacting quality standards of more costly types . . . progressively designed for advanced circuitry and audio tubes . . . total complete coverage over impedance and wattage ranges . . . Triad units provide finest response in minimum space . . . and outlive all others.

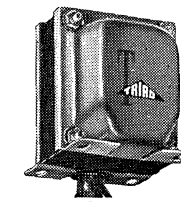
REPLACEMENT OUTPUT TRANSFORMERS
Single Tube To Standard Voice Coil 3-4 Ohms

Type No.	Primary Impedance	D.C. Ma	Audio Watt
S-20X	2000	50	2-3
S-20Z	2000	50	2-3
S-2X	2000	55	3-5
S-12X	2500	50	2-3
S-12Z	2500	50	2-3
S-1X	2500	60	3-5
S-50X	2500	60	4-6
S-16X	3000 5% Tap	50	2-3
S-30X	3000	60	3-5
S-67X	3200	60	4-6
S-4X	3000	70	5-8
S-14Z	4000	50	2-3
S-41X	4000	50	3-5
S-41Z	4000	50	3-5
S-6X	5000	35	2-3
S-6Z	5000	35	2-3
S-3X	5000	40	3-5
S-5X	5000	50	5-8
S-5Z	5000	50	5-8
S-48X	6500	35	2-3
S-48Z	6500	35	2-3
S-49X	6500	35	3-5
S-7X	7500	30	3-5
S-9X	7500	50	5-8
S-9Z	7500	50	5-8
S-8X	8000	30	2-3
S-8Z	8000	30	2-3
S18X	8000	45	4-6
S-18Z	8000	45	4-6
S-11X	10000	30	2-3
S-11Z	10000	30	2-3
S-17X	10000	30	3-5
S-10X	10000	45	4-6
S-40X	14000	5.5	¼
S-38X	16000	15	2-3
S-38Z	16000	15	2-3
S-37X	25000	4.0	¼
S-13X	25000	10	2-3
S-13Z	25000	10	2-3

REPLACEMENT PUSH-PULL OUTPUT TRANSFORMERS
Push-Pull Tubes To Voice Coil 3-4 Ohms

Type No.	Impedance	D.C. MA. Each Side	Audio Watts
S-39X	12000 CT.	30	3-4
S-64X	6000 CT.	40	4-6
S-15X	10000 CT.	35	7-10
S-19Z	10000 CT.	50	10-14
S-68Z	3000/3800 CT.	90	15-18
S-69Z	5000 CT.	60	15-18
S-21A	8000 CT.	55	15-18
S-21Z	8000 CT.	55	15-18


Case Z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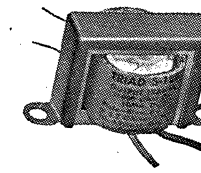
Case X

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TRIAD DISTRIBUTOR DIVISION

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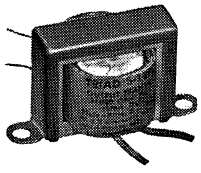
LOW VOLTAGE, LOW CURRENT Transformers
All 117 v., 50/60 cycle pri

Type No.	Secondary Volts	Secondary Amps.	Test Volts
•F-113X	12 volts	150 ma.	1500
•F-114X	12 volts	700 ma.	1500
•F-115X	24 v. CT.	85 ma.	1500
•F-116X	24 v. CT.	200 ma.	1500
•F-117X	24 v. CT.	400 ma.	1500
•F-118X	24 v. CT.	700 ma.	1500
•F-119X	26.8 v. CT.	150 ma.	1500
•F-120X	26.8 v. CT.	500 ma.	1500

• New item.



Case X

AUDIO

LOW LEVEL OUTPUT Transformers

Type No.	Application	Freq. Resp.	Pri. Imped.	Second. Imped.
A-51X	Tube to line.	300-3000	7000	50
A-53X	Single or p.p. tubes to line.	70-7000	18000 CT.	600/250/50
S-58X	Line to line.	300-3000	600/150	600/150 —Split windings—

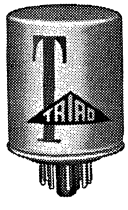
SPLATTER Chokes

Type No.	Inductance Henries	Current Ma.	Res. Ohms	Wt. Lbs.
C-26X	Tapped to 1.5	100	95	1¼
C-43X	Tapped .05 to 1	300	40	2

Case J

UNIVERSAL OUTPUT Transformers
Single Or Push-Pull Tubes To Voice Coil

Type No.	Application	Impedance	DC MA	Audio Watts
S-62X	Single or P.p. plates	2000-10000	30	2
S-52X	Single or p.p. plates	4000-24000	30	4
S-51X	Single or p.p. plates	4000-14000	35	5
S-63X	Single or p.p. plates	1500- 7000	50	6
S-54X	Single	1500- 5000	70	8
S-53X	Single or p.p. plates	4000-14000	40	8
S-55X	P.p. plates	4000-14000	40	10
S-55Z	P.p. plates	4000-14000	40	10
S-56Z	Single	1500- 6000	85	12
S-59Z	P.p. plates	1500- 4000	65	15
S-57Z	P.p. plates	4000-14000	55	15
S-61Z	P.p. plates	4000-10000	60	20



Case P

PLUG-IN INPUT Transformers

Type No.	Application	Pri. Imped.	Second Imped.	Freq. Resp.	Shld'g
A-202P	Same as above.	200/50 CT. △	36,000	20-20000	90 db.
HS-273P	Same as above	200/50 CT. △	80,000	30-30000	70 db.
A-210P	Stereo Isolation	1:1 ratio	30,000	20-20000	45 db.

△ Split Winding

INTERSTAGE Transformers
Plate to Grid

Type No.	Application	Freq. Resp.	Pri. Imped.	Second Imped.	Ratio
A-31X	Plate to single or p.p. grids	300-3000	10000	90000CT	1 : 3
A-33X	Plate to single or p.p. grids	70-7000	10000	90000CT	1 : 3
A-42Z	Multi-ratio single or p.p. plates to single or p.p. grids.	70-7000	15000 CT.	135000C.T. or 33750	1 : 1.5 1 : 3 1 : 6
A-35A	Plate to single or p.p. grids	50-10000	10000	90000CT	1 : 3
A-40J	Parallel-fed 6J5 or 6SN7. Plate to p.p. grid 45 db. shielding.	30-15000	15000	115000CT	1 : 2.76

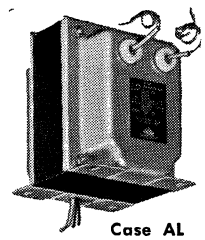
MODULATION Transformers
Tube to RF Load

Type No.	Primary	Freq. Resp.	Secondary Impedance	Secondary Ma.	Aud. Wtts.
TY-65Z	32 CT. (575 Ma.) (Transistor use)	70-15000	3000-4000-6000	100	10
M-4Z	5000 (Auto-former).	300-3000	6750 4	100 (total)	10
M-1X	10000 CT. for 19, 1J6, 6N7, 6A6, etc.	300-3000	5000-8000-10000	50	5
M-3X	10000 CT. for 5N7, 6A6, 6F6's, etc.	300-3000	3000-5000-8000	100	20
TY-66A	6 CT. (5A) (Transistor use)	300-3000	3000-4000-6000	200	40
†M-7AL	4250 CT. for 807's	300-3000	3000-5000-8000	200	60
†M-12AL	Multi-match	300-3000	4000 to 20000	300	125

DRIVER Transformers

Type No.	Driver Tubes	Output Tubes	Frequency Response	Ratio Primary ½ Sec.	Primary D.C. Ma.
A-81X	30, 1H4, etc.	19, 30's, 1J6, etc.	200-20,000	2.66:1	15
A-83X	6F6, 42, 45, etc.	6L6, 6F6, 6V6, 807, etc.	70-7000	1.33:1	40
A-85X	6F6, 42, 45, etc.	6L6, 6F6, 6V6, 807, etc.	50-10000	2.66:1	40
A-89A	P.p. plates to class B or AB grids— Universal 15 watt.	Any class B or AB tubes. 100-500 watts output	50-10000	3.1 or 1.8:1	100 per side
TY-61X	Transistor use		70-10000	1:0.5	100
TY-158X	Transistor use, dual secondaries		20-20,000	1.5:1:1	50
TY-159X	Transistor use, dual secondaries		20-20,000	3:1:1	50
TY-160X	Transistor use, dual secondaries		20-20,000	6:1:1	50

†Plate leads out side



Case AL

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OUTPUT Transformers
Tube to Voice Coil and Line

Type No.	Tubes	Pri. Imped.	Sec. Imped.	DC Pri.	Audio Watts
S-27A	2A3, 6A3, 6B4, 6L6, 6U6, 6Y6, 12A5, 25B6, 35B5, 50A5.	2500	500/16/8/4	80	8
S-28X	2A5, 6AC5, 6B5, 6F6, 6K6, 7B5, 14A5, 25AC5.	7500	500/16/8/4	40	5
S-29X	6AQ5, 6AS5, 6V6, 7C5, 25A6, 25B5, 25L6, 25N6, 35A5, 35L6.	5000	500/16/8/4	45	5
S-22A	P.p. 2A3, 6B4, 6A5, 6L6, etc.	5000 CT.	500/16/8/4	100 (bal.)	15
S-24A	P.p. 6V6, 7C5, 6K6, 6F6, etc.	8000 CT.	500/16/8/4	80 (bal.)	15
S-60A	P.p. 6L6, 5881, 807, etc.	6600 CT.	500/250/16/8/4	120 (bal.)	35

70.7 volt Line to Voice Coil

Type No.	Primary Impedance	Sec. Imped.	Output Watts	Freq. Resp.
S-70Z	Autoformer 16000/8000/4000/2000/1000.	8/4	5	40-15000
S-71Z	Autoformer 4000/2000/1000/500.	16/8/4	10	40-20000
S-25Z	Autoformer 4000/2000/1000/500.	8/4	10	30-20000
SR-45Z	Autoformer 4000/2000/1000/500.	16/8/4	10	20-20000
SR-74K	Weatherproof autoformer 4000/2000/1000/500.	16/8/4	10	20-20000
S-72Z	Autoformer 2000/1000/500/250.	16/8/4	20	40-20000
•S-43Z		16/8/4	30-20 10-5	35-20000
•S-44Z		16/8/4	50-40 25-15	35-20000

• New item.

70.7 volt Line to Voice Coil (Cont.)

Type No.	Primary Impedance	Sec. Imped.	Output Watts	Freq. Resp.
•S-44Z		16/8/4	50-40 25-15	35-20000
S-46A	Autoformer 2000/1000/500/250.	16/8/4	20	20-20000
S-75K	Weatherproof autoformer 2000/1000/500/250.	16/8/4	20	20-20000
S-78Z	Isolation 4000/2000/1000/500.	16/8/4	10	40-20000
S-79Z	Isolation 2000/1000/500/250.	16/8/4	20	40-20000
S-47Z	10K/5K/2.5K/1250/625	16/8/4	8	20-20000
S-73X	Isolation 16K/8K/4K/2K/1K	16/8/4	5	40-15000

25 VOLT LINE TRANSFORMERS

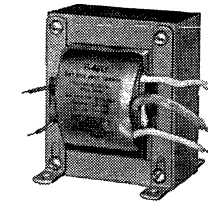
Type No.	Primary Matching Impedance	Secondary Load Impedance	Output Watts
S-131X	1250/625/312	8/4	2
S-132X	1000/500/250/125	16/8/4	5
S-133Z	500/250/125/62.5	16/8/4	10

MATCHING TRANSFORMERS FOR 25 OR 70.7 VOLT LINE

S-129Z	70.7V line to 25V line or, 25V line to 70.7V line	30	20-15000
S-130Z	70.7V line to 25V line or, 25V line to 70.7V line	10	20-15000

Special TRANSCEIVER Transformers
(Voice Frequencies)

Type No.	Application	Primary Impedance	Secondary Impedance
A-21X	S.B. mike or plate to grid (2 primaries)	100 10000	100000
A-23X	Tube to line and hi-impedance phones.	10000	50 and 2000



Case U

INSTRUMENTATION GEOFORMERS

LOW FREQUENCY TRANSISTOR TRANSFORMERS

Type No.	Impedance Ohms Pri.	Impedance Ohms Sec.	Turns Ratio	Min. pri. Ind. @ 100MV—60 cy. With No Unbalanced D.C. Current	D. C. Resistance (Ohms) Pri.	D. C. Resistance (Ohms) Sec	Frequency Response in Cycles Primary Signal of 1 Volt Unbalanced D.C. Secondary Current of 1 Ma. −3DB	1 Ma. −1DB	2 Ma. −3DB	2 Ma. −1DB	3 Ma. −3DB	3 Ma. −1DB	5 Ma. −3DB	5 Ma. −1DB	Shielding	Case Mtg.	Wt.
G-18	1000 or 250	125 or 31	2:83:1	60.	500	44	5 to 20000	8 to 7000	5 to 20000	8 to 7000	6 to 20000	9 to 7000	7 to 20000	10 to 7000	P1-H	GP-1F	3.2 oz.
G-19	1000 or 250	1000 or 250	1:1	65.	540	230	12 to 7000	15 to 3800	12 to 7000	15 to 3800	12 to 7000	15 to 3800	20 to 7000	40 to 3800	P1-H	GP-2L	5¼ oz.
G-30	1000 CT.	2500 CT.	1:1.58	20.	350	1800	20 to 8000	40 to 4200	22 to 8000	45 to 4200	40 to 8000	75 to 4200	70 to 8000	160 to 4200	P1	GP-1F	3.2 oz.

CHOPPER INPUT TRANSFORMERS

Triad Chopper Input Transformers provide exceedingly close balance between the two halves of the primary winding . . . minimum noise in microvolt ranges of input signals is assured with Triad's special core treatment techniques. For demanding transistor and tube applications, Triad's special design capabilities have an outstanding record. For special applications, consult Triad.

Type No.	Turns Ratio	Minimum Primary Inductance @ 1V—60	Maximum Primary Volts @ 60	Primary Matching Impedance In Ohms	Secondary Matching Impedance In Ohms	D.C. Resistance Primary In Ohms	D.C. Resistance Secondary In Ohms	Stray Fields Shield	Case and Mounting	Weight
G-20‡	1:8	120 h.	25	10,000 CT or 2500	640,000 CT	370	21,000	P5-H	GP-4T	11½ oz.
G-21‡	4:1	1200 h.	84	20,000 CT	12,500 CT	4000	1300	P1-H	GP-2L	5¼ oz.
G-21TS‡								P5-H	GP-4T	11½ oz.
G-22‡	1:4	1000 h.	90	50,000 CT	800,000 CT	2200	19,000	P5-H	GP-5W	1 lb.
G-23‡	6.32:1	1000 h.	75	40,000 CT	1000 CT	4400	160	P1-H	GP-2L	5¼ oz.
G-24‡	1:1	400 h. Low capacity coupling less than .02 μμF between windings.	19.5	40,000 CT	40,000 CT	1625	1625	P5	GP-5S	1 lb.
G-25‡	2:1	800 h.	70	40,000 CT or 10,000 CT	10,000 CT	3200	2200	P1-H	GP-2L	5¼ oz.
G-25TS‡								P5-H	GP-4T	11½ oz.

‡Static Shield

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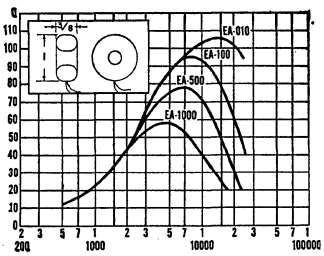
TOROIDS

Triad toroids may be ordered with standard leads in strong plastic coating, or epoxy molded encapsulated per Specification MIL-T-27A; TF5RX20ZZ. To specify molded toroids with gold-plated fixed terminals, an "A" should be added to the full type number; for example, EM-001A.

A

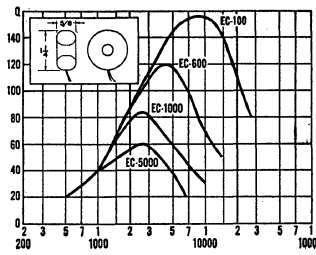
TOROIDS

EA SERIES



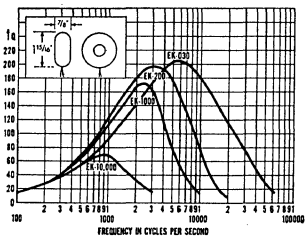
Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EA-001	1 mh	.40	270
EA-002	2 mh	.58	192
EA-003	3 mh	.73	157
EA-004	4 mh	.85	135
EA-005	5 mh	1.10	121
EA-007	7 mh	1.35	102
EA-010	10 mh	2.10	86
EA-015	15 mh	3.10	70
EA-020	20 mh	4.25	60
EA-025	25 mh	4.80	54
EA-030	30 mh	6.70	50
EA-040	40 mh	9.50	43
EA-050	50 mh	11.00	38
EA-070	70 mh	16.00	32
EA-100	100 mh	23.00	27
EA-150	150 mh	37.00	22
EA-200	200 mh	42.00	19
EA-250	250 mh	60.00	17
EA-300	300 mh	70.00	16
EA-400	400 mh	95.00	14
EA-500	500 mh	115.00	12
EA-600	600 mh	150.00	11
EA-700	700 mh	160.00	10
EA-1000	1000 mh	260.00	8.6

EC SERIES



Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EC-001	1 mh	.40	520
EC-002	2 mh	.56	368
EC-003	3 mh	.70	300
EC-004	4 mh	.82	260
EC-005	5 mh	.92	233
EC-007	7 mh	1.05	195
EC-010	10 mh	1.30	165
EC-015	15 mh	1.60	134
EC-020	20 mh	1.85	116
EC-030	30 mh	2.85	95
EC-040	40 mh	4.20	82
EC-050	50 mh	5.50	74
EC-070	70 mh	8.30	74
EC-100	100 mh	13.00	52
EC-200	200 mh	23.00	37
EC-250	250 mh	33.00	33
EC-300	300 mh	35.00	30
EC-400	400 mh	42.00	26
EC-500	500 mh	72.50	23
EC-600	600 mh	80.00	21
EC-700	700 mh	68.00	19.5
EC-1000	1000 mh	134.00	16.5
EC-1500	1500 mh	200.00	13.5
EC-2000	2000 mh	220.00	11.6
EC-3000	3000 mh	370.00	9.5
EC-4000	4000 mh	550.00	6.2
EC-5000	5000 mh	780.00	7.4
EC-7000	7000 mh	700.00	6.2
■EC-10000	10000 mh	1100.00	5.2

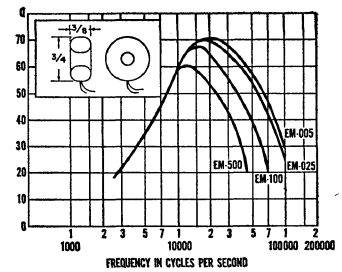
EK SERIES



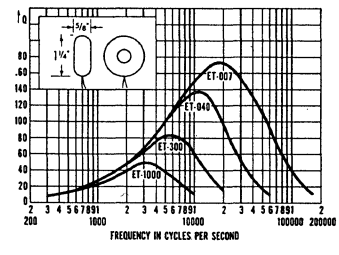
Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EK-010	10 mh	.82	262
EK-020	20 mh	1.10	184
EK-030	30 mh	1.40	150
EK-040	40 mh	1.90	130
EK-050	50 mh	2.40	116
EK-060	60 mh	2.60	106
EK-080	80 mh	3.10	92
EK-100	100 mh	4.40	82
EK-120	120 mh	4.80	75
EK-150	150 mh	6.20	67
EK-200	200 mh	7.50	58
EK-250	250 mh	9.00	52
EK-300	300 mh	12.00	47
EK-400	400 mh	14.00	41
EK-500	500 mh	19.00	37
■EK-700	700 mh	27.00	31
EK-1000	1000 mh	45.00	26
EK-1500	1500 mh	67.00	21
EK-2000	2000 mh	100.00	18.4
EK-2500	2500 mh	108	16.5
EK-3000	3000 mh	116	15
EK-4000	4000 mh	150	13
EK-5000	5000 mh	200	11.6
EK-7000	7000 mh	300	9.8
EK-10000	10000 mh	350	8.2
EK-20000	20000 mh	800	5.8
EK-30000	30000 mh	1250	4.1
EK-40000	40000 mh	2000	4.1

Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EM-001	1 mh	1.25	150
■EM-002	2 mh	1.70	108
EM-003	3 mh	2.25	87
EM-004	4 mh	2.60	76
EM-005	5 mh	3.10	68
EM-007	7 mh	4.5	57
EM-010	10 mh	6.5	48
EM-015	15 mh	10.00	39
EM-020	20 mh	11.5	34
EM-025	25 mh	16.5	30
EM-030	30 mh	18	27.6
EM-040	40 mh	27	24
EM-050	50 mh	30	22
EM-060	60 mh	40	19.5
EM-070	70 mh	43	18
EM-100	100 mh	66	15
EM-150	150 mh	100	12.5
EM-200	200 mh	115	11
EM-250	250 mh	155	9.6
EM-300	300 mh	180	8.8
EM-400	400 mh	265	7.6
EM-500	500 mh	295	7
EM-700	700 mh	400	5.8
EM-1000	1000 mh	650	4.8

EM SERIES



ET SERIES



Type No.	Ind.	Res Ohms Approx.	D.C.-Ma. for 5% Ind. drop
ET-001	1 mh	.20	680
ET-002	2 mh	.50	480
ET-003	3 mh	.68	396
ET-004	4 mh	.81	342
ET-005	5 mh	1.10	306
ET-007	7 mh	1.50	260
ET-010	10 mh	2	217
ET-015	15 mh	2.85	177
ET-020	20 mh	4.0	153
ET-025	25 mh	4.8	137
ET-030	30 mh	6.5	125
ET-040	40 mh	9.2	108
ET-050	50 mh	10.3	97
ET-060	60 mh	14.5	88
ET-070	70 mh	15.0	82
ET-100	100 mh	24.0	68
ET-150	150 mh	35.0	56
ET-200	200 mh	44.5	48
ET-250	250 mh	64	43
ET-300	300 mh	70	40
ET-400	400 mh	94	34
ET-500	500 mh	108	31
ET-700	700 mh	173	26
ET-1000	1000 mh	230	22

■Discontinued item, available until stock depleted.

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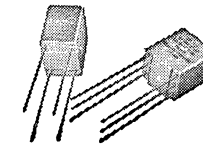
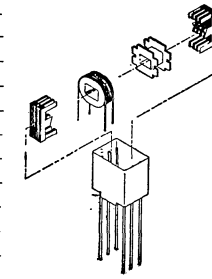
RED SPEC TRANSISTOR TRANSFORMERS

Type No.	Application Type	MIL-T-27A Designation	Primary Impedance	D.C. Res. Pri. Ohms	Max. Unbal. Pri. D.C. Ma.	Secondary Impedance	Max. Power MW
SP-4	Input	TF5RX16ZZ	200000 c.t.	5300	0	1000 c.t.	10
SP-5	Input	TF5RX16ZZ	50000 c.t.	3800	0	1000 c.t.	25
SP-7	Input	TF5RX16ZZ	200000	5300	0	1000	10
SP-11	Interstage	TF5RX13ZZ	25000/20,000	1700	.5	1000/800	40
SP-13	Interstage	TF5RX13ZZ	25000 c.t./20,000 c.t.	1700	.5	1000 c.t./800 c.t.	40
SP-15	Interstage	TF5RX13ZZ	10000 c.t.	1050	1	1500 c.t.	50
SP-20	Driver	TF5RX13ZZ	10000 c.t.	1050	1	1200 c.t.	50
SP-21	Driver	TF5RX13ZZ	10000 c.t.	1050	1	2000 c.t.	50
SP-22	Driver	TF5SX13ZZ	10000	1050	1	2000 c.t./500†	50
SP-29	Driver	TF5RX13ZZ	10000 c.t.	1050	1	500 c.t.	50
*SP-32	Output	TF5RX17ZZ	500	60	3	50	50
SP-33	Output	TF5RX17ZZ	1000	145	3	50	50
SP-34	Output	TF5RX17ZZ	600	70	3	3.2	50
SP-35	Output	TF5RX13ZZ	1200	131	2	3.2	50
SP-42	Output	TF5RX17ZZ	150 c.t.	18	10	12	50
SP-47	Output	TF5RX13ZZ	1500 c.t.	179	3	12	50
SP-48	Output	TF5RX13ZZ	7500 c.t.	796	1	12	50
SP-49	Output	TF5RX17ZZ	300 c.t.	41	7	600	50
SP-50	Output	TF5RX17ZZ	500 c.t.	67	3	600	50
SP-51	Output	TF5RX17ZZ	900 c.t.	104	4	600	50
SP-52	Output	TF5RX13ZZ	1500 c.t.	168	3	600	50
SP-63	Output	TF5RX13ZZ	1200 c.t.	125	3	3.2	50
SP-64	Output	TF5RX13ZZ	1600 c.t.	186	2.5	3.2	50
SP-65	Output	TF5RX13ZZ	8000 c.t.	790	1	3.2	50
SP-66	Output Isolation	TF5RX13ZZ	10000 c.t.	1000	1	10000 c.t.	50
SP-67	Output Isolation	TF5RX17ZZ	600 c.t.	73	3	600 CT.	50
SP-68	Output Isolation	TF5SX13ZZ	10000	1000	1	10000 c.t./2500†	50
SP-69	Output Isolation	TF5SX17ZZ	600	72	3	600 c.t./150†	50
SP-70	Output Isolation	TF5RX17ZZ	600	72	3	600	50
SP-106	Choke	TF5RX20ZZ	6 hy.	1700	2		
SP-107	Choke	TF5RX20ZZ	1.25 hy.	180	2		
SP-108	Choke	TF5RX20ZZ	3.5 hy.	1100	2		
SP-117	Choke	TF5RX20ZZ	.9HY	110	2	—	—
SP-118	Choke	TF5RX20ZZ	.3 hy.	42	4		
SP-128	Choke	TF5RX20ZZ	.1HY	15	5	—	—
SP-310	Magnetic shielding case						

CT For Center Tap. †Split secondary.





Sub-miniature Encapsulated TOROIDAL INDUCTORS

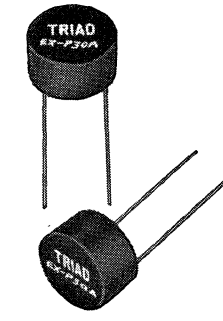
Triad sub-miniature toroidal inductors, designed for quick, easy printed-circuit board mounting, are now stocked for immediate delivery in a range of standard ratings from 50 micro-henries to 500 milli-henries. Many uses, especially in airborne telemetering applications incorporating Triad's sub-miniature filters FL-384 through FL-388. Case size of units is 7/16 inch diameter by 1/4 inch high. Providing an optimum combination of high Q and extremely small-size, this series is ideal for printed board, transistor or vacuum tube application.

Triad sub-miniature inductors are toroidally wound on permalloy powdered cores. Encapsulated in high temperature epoxy resin. Weldable or solderable leads of gold plated nickel alloy. Highly resistant to severe acceleration, shock or vibration. Manufactured to MIL-T-27A, Grade 5 Class S (MIL type TF5SX20ZZ).

NOTE: Ma. DC maximum is for approximately 5% drop in inductance. Those figures marked * will give less than 5% inductance drop but should not be exceeded under operating conditions.

Inductance tolerance of EX-P05A through EX-P50A is ±5%; EX-001A through EX-500A is ±2%.

Cat. No.	Inductance (0 DC)	DCR (ohms) ±25%	Maximum Ma. DC
EX-P05A	50 μh	1.2	75*
EX-P10A	100 μh	1.4	75*
EX-P20A	200 μh	2.0	75*
EX-P30A	300 μh	2.3	75*
EX-P50A	500 μh	3.0	75*
EX-001A	1 mh	4.3	75*
EX-002A	2 mh	8	60*
EX-003A	3 mh	6.5	60
EX-005A	5 mh	11	47
EX-010A	10 mh	15.6	33
EX-020A	20 mh	35	23
EX-030A	30 mh	55	19
EX-050A	50 mh	62	14
EX-100A	100 mh	130	10
EX-200A	200 mh	139	6
EX-300A	3 0 mh	206	5
EX-400A	400 mh	310	4.5



Prices subject to change without notice. Net prices shown for 1-9 quantity. For 1 to 249 pieces, see your stocking Triad Distributor for quantity discount schedule. For 250 or more pieces, contact your Triad Representative or call the factory.

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PRICE INDEX BY TYPE NUMBER

Triad No.	Sugg'd Resale Price
A-1X	2.97
A-3X	3.32
A-4X	4.15
A-5X	4.28
A-6X	3.25
A-7J	4.95
A-9J	10.00
A-10J	9.43
A-11J	9.64
A-12J	9.95
A-13J	9.35
A-21X	3.53
A-23X	2.85
A-31X	3.90
A-33X	4.85
A-35A	6.18
A-39A	8.65
A-40J	9.82
A-41J	9.24
A-42Z	5.13
A-50J	6.55
A-51X	3.33
A-52J	6.80
A-53X	4.08
A-54X	2.73
A-55J	9.47
A-57J	9.12
A-58J	7.73
A-61J	9.52
A-64J	6.30
A-65J	9.69
A-66J	8.65
A-67J	9.77
A-68J	9.07
A-69J	8.34
A-70J	6.45
A-75J	5.85
A-77J	8.39
A-78J	8.42
A-79J	8.32
A-81X	3.23
A-83X	3.75
A-85X	4.12
A-89A	8.55
A-91A	8.45
A-95X	3.08
A-96X	3.67
A-97K	4.28
A-97X	3.05
A-97Y	4.70
■A-97Z	3.38
A-98K	5.10
A-98X	2.68
A-99X	4.65
A-101U	6.00
A-102X	4.07
A-103X	3.93
A-104X	4.73
A-105X	3.93
A-107X	5.68
A-108X	4.52
A-109X	4.82
A-110X	4.08
A-111X	3.98
A-112X	4.43
A-113X	4.27
A-113Z	3.43
A-114X	4.90
A-115X	4.35
A-115Z	3.40
A-116X	3.82
A-117X	4.08
A-118X	4.53
A-119X	5.20
A-120X	3.05
A-120Z	2.83
A-122X	2.72
A-122Z	2.72
A-131X	3.85
A-132X	6.63
A-133X	4.32
A-134X	4.50
A-135X	4.75
A-136X	3.98
A-137X	4.07
A-138X	3.15
A-139X	4.98
A-140X	5.07
A-141X	4.08
A-142X	4.48
A-143X	3.53
A-144X	4.53
A-146X	4.57
A-300X	5.55
A-301X	5.13
A-302X	5.33
A-304X	5.95
A-305X	6.17
A-200P	15.00
A-202P	20.85
A-210P	10.86
C-1X	2.35
C-2X	2.07
C-3X	2.75
C-4X	2.30
C-5X	3.28
C-6X	2.73
C-7X	3.48
C-8X	3.38
C-9X	2.90
C-10X	4.13
C-11X	3.62
C-12A	6.00
C-12X	4.32
C-13X	4.55
C-14A	6.48
C-14X	4.75
C-15A	6.27
C-15X	4.58
C-16A	8.25
C-17X	3.77
C-18A	9.80
C-19A	12.30
C-20A	13.65
C-21X	3.15
C-22A	22.50
C-23X	3.67
C-24X	2.68
C-25A	6.10
C-26X	3.55
C-27X	2.50
C-28X	3.57
C-29X	3.80
C-30X	3.00
C-31A	8.13
C-32AL	13.00
C-33A	12.22
C-34X	2.68
C-35A	13.98
C-36X	2.42
C-38AL	24.73
C-39A	23.34
C-40X	3.15
C-42AL	12.62
C-43X	4.77
C-45AL	30.74
C-47U	7.60
C-48U	9.55
C-49U	14.69
C-50X	6.53
C-56U	3.90
C-57U	6.05
C-58U	8.53
C-59U	9.63
C-60U	17.12
C-80U	36.97
CE-1	9.92
CE-4	11.50
CE-5	10.85
CL-1	.60
D-2	6.90
D-11	10.22
D-14R	7.80
D-19	9.01
DA-20	4.75
D-22	7.80
D-27	7.82
D-28	6.57
■D-33	7.14
DA-36	3.77
DA-37	2.49
D-40	9.95
D-41	6.28
D-42	8.92
D-43	7.82
D-44	6.65
D-45R	6.40
D-46	9.32
D-47R	7.50
D-48	7.12
D-49	9.32
D-50	8.63
D-52	4.98
D-53	8.67
D-54	5.10
D-55R	9.55
D-56	8.07
D-57	9.15
D-58	6.63
D-59	7.35
D-60R	6.43
D-61	5.55
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D-65	9.25
D-66	9.60
D-67	9.98
D-68	10.15
D-69	7.28
D-70	8.40
D-71	7.20
D-72	8.27
D-73R	8.57
D-74	7.14
D-75	8.40
D-76R	9.02
D-77R	9.47
D-78	7.48
D-79	7.57
D-80	7.95
D-81	7.27
D-82	9.32
D-83R	5.95
D-84	9.35
D-85	9.44
D-86	9.77
D-87	8.18
D-88	7.40
D-89R	9.55
D-90	8.45
D-91	6.99
D-92	8.15
D-93R	8.30
D-94R	7.95
D-95	7.20
D-96	9.57
D-97R	10.30
D-98R	10.57
D-99	7.97
D-100	7.47
D-101	7.90
D-102	7.65
D-103	8.80
D-104	6.30
D-105	7.67
D-106	7.33
D-107	8.44
D-108	10.20
D-109	6.90
D-110	8.28
D-111	8.10
D-112	8.62
D-113	8.57
D-114	9.35
D-115R	7.17
D-116	10.94
D-117	7.02
D-118R	8.40
D-119	8.18
D-120	7.30
D-121	7.72
D-122	7.30
D-123	7.88
D-124	6.67
D-125	7.62
D-126	9.87
D-127	7.44
D-128	2.53
D-129	6.82
D-130R	6.47
D-131	9.58
D-132	7.77
D-133	9.12
D-134	7.58
D-135	2.02
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D-137	7.23
D-138	7.68
D-139	7.42
D-141	7.50
D-142	12.89
D-143	8.60
D-151R	7.42
D-152	8.83
D-153 Kit	9.92
D-154	7.87
D-155	7.00
D-156R	9.35
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D-164	7.28
D-165	7.41
D-166	6.45
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D-174	8.75
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D-185	8.70
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D-188R	7.88
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D-190 Kit	7.95
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D-194	7.20
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D-217	7.33
D-218	8.94
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D-220	6.87
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D-222	9.02
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D-224	10.35
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D-304	12.68
D-305	13.00
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D-612	7.80
D-613	7.77
D-614	8.34
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D-623	8.40
D-624	8.80
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D-628	7.68
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D-630	7.68
D-631	7.86
D-632	7.86
D-638	7.72
D-639	7.00
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EA-001A	5.70
EA-002	3.32
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EA-003	3.33
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EA-004	3.35
EA-004A	5.77
EA-005	3.37
EA-005A	5.78
EA-007	3.37
EA-007A	5.78
EA-010	3.38
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EA-030	3.47
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EA-050	3.50
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EA-200	3.80
EA-200A	6.55
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EA-250A	6.58
EA-300	3.88
EA-300A	6.63
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EA-400A	6.72
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EA-6000	4.17
EA-600A	6.92
EA-700	4.25
EA-700A	7.00
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EA-1000A	7.10
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EC-002A	5.68
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EC-004	3.70
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EC-005	3.73
EC-005A	5.73
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EC-007A	6.12
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EC-010A	6.20
EC-015	3.88
EC-015A	6.23
EC-020	3.93
EC-020A	6.27
EC-030	3.98
EC-030A	5.92
EC-040	4.03
EC-040A	6.33
EC-050	4.08
EC-050A	6.38
EC-070	4.13
EC-070A	6.63
EC-100	4.18
EC-100A	6.92
EC-200	4.27
EC-200A	6.72
EC-250	4.33
EC-250A	6.80
EC-300	4.40
EC-300A	6.95
EC-400	4.50
EC-400A	6.93
EC-500	4.60
EC-500A	6.93
EC-600	4.67
EC-600A	7.00
EC-700	4.75
EC-700A	7.08
EC-1000	4.85
EC-1000A	7.25
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EC-1500A	7.57
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EC-2000A	7.65
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EC-3000A	7.97
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EC-4000A	8.00
EC-5000	5.25
EC-5000A	8.32
EC-7000	5.35
EC-7000A	8.18
EC-10000	5.42
EC-10000A	9.60
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EK-010A	8.90
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EK-020A	8.92
EK-030	5.77
EK-030A	8.95
EK-040	5.82
EK-040A	9.00
EK-050	5.87
EK-050A	9.00
EK-060	5.93
EK-060A	9.09
EK-080	5.98
EK-080A	9.24
EK-100	5.92
EK-100A	9.45
EK-120	6.13
EK-120A	9.40
EK-150	6.20
EK-150A	9.55
EK-200	6.27
EK-200A	9.55
EK-250	6.40
EK-250A	9.74
EK-300	6.57
EK-300A	9.85
EK-400	6.70
EK-400A	10.00
EK-500	6.77
EK-500A	10.07
EK-700	6.85
EK-700A	10.17
EK-1000	7.15
EK-1000A	10.24
EK-1500	7.05
EK-1500A	10.37
EK-2000	7.08
EK-2000A	10.44
EK-2500	7.15
EK-2500A	10.54
EK-3000	7.25
EK-3000A	10.57
EK-4000	7.35
EK-4000A	10.67
EK-5000	7.47
EK-5000A	10.87
EK-7000	7.58
EK-7000A	10.97
EK-10000	7.74
EK-10000A	11.10
EK-20000	7.87
EK-20000A	11.24
EK-25000	8.00
EK-25000A	11.37
EK-30000	8.28
EK-30000A	11.60
EK-40000	8.44
EK-40000A	11.74
EM-001	3.92
EM-001A	5.60
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EM-002A	3.93
EM-003	3.95
EM-003A	5.63
EM-004	3.98
EM-004A	5.67
EM-005	4.03
EM-005A	5.73
EM-007	4.08
EM-007A	5.75
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EM-010A	5.80
EM-015	4.23
EM-015A	5.88
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EM-020A	5.95
EM-025	4.38
EM-025A	6.00
EM-030	4.45
EM-030A	6.17
EM-040	4.50
EM-040A	6.20
EM-050	4.53
EM-050A	6.22
EM-060	4.55
EM-060A	6.25
EM-070	4.60
EM-070A	6.27
EM-100	4.65
EM-100A	6.33
EM-150	4.73
EM-150A	6.40
EM-200	4.83
EM-200A	6.47
EM-250	4.88
EM-250A	6.57
EM-300	4.93
EM-300A	6.67
EM-400	4.98
EM-400A	6.72
EM-500	5.03
EM-500A	6.73
EM-700	5.10
EM-700A	6.83
EM-1000	5.15
EM-1000A	6.92
ET-001	4.47
ET-001A	6.83
ET-002	4.50
ET-002A	6.92
ET-003	4.52
ET-003A	6.93
ET-004	4.53
ET-004A	6.97
ET-005	4.57
ET-005A	7.00
ET-007	4.60
ET-007A	7.03
ET-010	4.62
ET-010A	7.08
ET-015	4.63
ET-015A	7.10
ET-020	4.65
ET-020A	7.17
ET-025	4.70
ET-025A	7.20
ET-030	4.73
ET-030A	7.25
ET-040	4.80
ET-040A	7.37
ET-050	4.85
ET-050A	7.43
ET-060	4.90
ET-060A	7.50
ET-070	4.92
ET-070A	7.52
ET-100	4.93
ET-100A	7.55
ET-150	4.97
ET-150A	7.58
ET-200	5.00
ET-200A	7.60
ET-250	5.02
ET-250A	7.62
ET-300	5.05
ET-300A	7.62
ET-400	5.07
ET-400A	7.67
ET-500	5.10
ET-500A	7.70
ET-700	5.10
ET-700A	7.70
ET-1000	5.13
ET-1000A	7.75
EX-P05A	8.10
EX-P10A	8.10
EX-P20A	8.10
EX-P30A	8.10
EX-P50A	8.10
EX-001A	8.10
EX-002A	8.10
EX-003A	8.50
EX-005A	8.50
EX-010A	8.72
EX-020A	8.72
EX-030A	9.27
EX-050A	9.27
EX-100A	9.89
EX-200A	10.55
EX-300A	10.77
EX-400A	10.99
F-1X	3.55
F-3X	4.98
F-5U	6.38
F-6X	4.62
F-7X	4.00
F-8X	5.22
F-9A	9.97
F-9U	9.62
F-10U	10.07
F-11U	10.79
F-12X	6.05
F-13X	2.67
F-14X	3.17
F-14Z	3.55
F-15U	9.32
F-16X	3.98
F-17U	12.94
F-18A	7.05
F-18X	5.88
F-19X	6.15
F-20U	9.82
F-21A	9.00
F-22A	12.50
F-23U	7.77
F-24U	8.44
F-25X	3.75
F-26X	4.15
F-27U	13.82
F-28U	18.07
F-29U	12.51
■F-30A	9.97
F-32A	7.02
F-34A	8.67
F-36A	11.39
F-38A	11.94
F-40X	3.38
F-41X	4.82
F-42A	7.40
F-43X	4.38
F-44X	3.73
F-45X	3.77
†F-46X	3.87
F-47U	8.07
F-48U	9.97
F-49U	16.39
F-50X	5.35
F-51X	5.68
F-52X	4.15
F-53X	5.48
F-54X	4.87
†F-55X	5.15
F-60U	7.10
F-61U	10.17
F-62U	25.24
F-63U	7.05
F-64U	8.79
F-65U	10.17
F-66U	28.94
F-67U	19.52
F-68U	10.55
F-71U	7.72
F-72Z	5.77
†F-74U	10.75
†F-75U	17.85
F-79U	28.19
F-80U	47.08
F-83A	12.27
F-84AC	22.60
F-85U	18.73
F-90X	3.77
F-91X	4.45

†New item ■Discontinued item. Available until supply is exhausted

Prices subject to change without notice. Net prices shown for 1-9 quantity. For 1 to 249 pieces, see your stocking Triad Distributor for quantity discount schedule. For 250 or more pieces, contact your Triad Representative or call the factory.

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TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

PRICE INDEX BY TYPE NUMBER

Triad No.	Sugg'd Resale Price
F-92A	7.73
F-93X	5.48
F-94X	3.72
F-102X	6.33
F-104U	8.65
F-105Z	4.17
F-106Z	5.05
F-107Z	7.50
F-108U	9.97
F-109U	17.89
†F-113X	3.12
†F-114X	4.30
†F-115X	3.85
†F-116X	4.12
†F-117X	4.42
†F-118X	3.87
†F-119X	4.12
†F-120X	3.85
F-200A	7.22
F-202U	7.23
F-203U	8.89
F-204U	13.10
F-205U	16.67
FL-381	43.90
FL-384	62.25
FL-385	61.42
FL-386	61.42
FL-387	61.42
FL-388	63.62
FL-389	41.39
FL-404	39.00
FL-405	39.00
FL-406	39.00
FL-407	39.00
FL-408	39.00
FL-409	39.00
FL-410	39.00
FL-411	39.00
FL-412	39.00
FL-413	39.00
FL-414	39.00
FL-415	42.00
FL-416	42.00
FL-417	42.00
FL-418	42.00
FL-419	42.00
FL-429	42.00
FL-421	42.00
G-2	33.61
G-2H3	23.65
G-4	33.44
G-5	31.77
G-7	31.69
G-8	39.22
G-10	39.99
G-12	27.84
■G-14	19.60
G-17	30.84
G-18	23.49
G-18TS	24.40
G-19	25.11
■G-19TS	24.53
G-20	37.51
G-21	31.69
G-21TS	38.67
G-22	38.12
G-22H	25.85
G-23	31.22
G-24	33.34
G-25	31.11
G-25TS	38.22
G-30	18.00
G-31	25.69
G-32	32.74
G-33	30.79
G-36	19.79
G-40	29.86
G-40TS	37.27
G-48	18.40
G-48TS	26.69
G-51	22.02
G-51A	22.62
G-53	29.02
G-53A	20.80
G-54	28.79
G-57	19.62
G-59	31.39
G-64	17.40
G-65	17.40
■G-72	21.20
G-80	31.32
G-84	21.20
G-85	21.20
G-101	26.22
G-101TS	32.67
G-135	24.02
G-150	19.60
G-183	29.41
■G-201	19.60
G-202	26.21
G-235	24.17
G-250	22.19
G-255	23.10
G-266	26.61
G-274	26.17
■G-283	24.92
G-284	24.57
G-285	20.00
G-286	25.15
G-301	20.82
G-306	21.40
G-309	63.89
G-310	49.87
G-313	21.77
G-315	21.57
G-335	20.00
G-336	19.74
■G-350	18.91
G-355	18.72
G-388	16.34
G-391	18.91
G-394	14.02
G-401	19.60
G-435	23.89
■G-435TS	25.85
G-437	23.52
G-455	23.07
G-500	34.44
G-501	32.84
G-502	35.84
GF-600	36.84
GF-601	47.87
GF-602	33.25
HC-115	29.25
HC-300	38.10
HS-1	25.27
HS-3	31.92
HS-4	28.40
HS-5	22.00
■HS-8	28.58
HS-11	19.05
HS-14	25.59
HS-15	31.92
HS-23	22.87
HS-25	26.22
HS-27	24.72
HS-29	25.92
HSM-31	27.33
HS-32	26.84
HS-35	19.51
HS-50	25.29
HS-52	26.27
HS-54	25.71
HS-56V	30.19
HS-58	36.64
HS-60	19.32
HS-61	20.64
HS-66	25.71
HS-71	14.10
HS-73	16.75
HS-75	24.39
HS-77	21.20
HSM-79	22.89
HSM-80	24.45
HSM-81	33.92
HSM-82	35.64
HSM-84	34.02
HSM-85R	36.52
■HSM-91	39.33
HSM-94	49.87
HSM-95	43.65
■HS-97	82.28
HSM-181	23.60
HSM-182	37.21
HSM-184	30.02
■HSM-186	30.02
HSM-187	44.43
HSM-189	43.14
HSM-190	45.19
■HSM-193	45.04
HSM-200	18.20
HSM-201	23.09
HSM-202	17.79
HSM-203	26.34
HSM-205	33.87
HSM-207	36.24
HSM-208	44.49
HSM-212	47.43
HSM-216	54.64
HSM-218	78.78
HSM-219	72.53
HSM-223	11.62
HSM-224	19.94
HSM-225	22.47
HSM-226	19.00
HSM-227	22.42
HSM-228	26.66
HSM-229	24.25
HSM-230	17.35
HSM-231	25.39
HSM-232	33.14
HSM-233	18.97
HSM-234	37.61
HSM-235	50.43
HSM-236	23.15
HSM-237	16.49
HSM-238	30.19
HSM-239	18.67
HSM-240	21.77
HSM-241	44.83
HSM-245	53.51
HS-247	70.53
HSM-248	29.18
HSM-249	15.25
HSM-250	17.60
HSM-251	24.27
HSM-252	31.16
HSM-253	47.06
HSM-254	67.46
HSM-270	26.04
HSM-271	33.87
HSM-272	48.19
HS-273P	19.65
HSM-301	21.10
HSM-302	12.44
HS-303	14.49
HSM-305	16.95
HSM-307	22.65
HSM-309	21.82
HSM-315	23.59
HSM-319	33.87
HS-331	9.37
HS-333	10.67
HS-335	14.20
HS-339	16.50
HS-341	17.75
HS-400	15.34
HS-401	23.17
HS-402	15.96
HS-404	26.47
HS-405	28.56
HS-407	34.32
HS-409	30.87
HS-413	34.82
HS-415	47.21
HS-417	49.44
HS-425	16.34
HS-427	21.19
HS-433	23.34
HS-435	25.54
HS-436	11.75
HS-438	20.59
HS-441	39.47
HS-442	22.34
HS-443	18.69
HS-444	31.32
HS-445	21.89
HS-470	17.97
HS-471	20.75
HS-472	22.09
HS-474	31.77
HS-475	35.92
JAF-1	16.25
JAF-2	15.33
JAF-3	16.25
JAF-5	16.25
JAF-11	16.25
JAF-12	16.25
JAF-13	16.25
JAF-14	16.25
JAF-15	14.57
JAF-21	16.25
JAF-22	16.25
JAF-23	16.25
JAF-24	16.25
JAF-25	16.25
JAF-26	16.25
JAF-31	16.25
JAF-32	16.25
JAF-33	16.49
JAF-34	16.25
JAF-35	16.25
JAF-101	16.25
JAF-102	16.25
JO-1	12.84
JO-2	12.84
JO-3	12.84
JO-5	12.84
JO-11	12.84
JO-12	12.84
JO-13	12.84
JO-21	12.84
JO-22	12.84
JO-23	12.84
JO-31	12.84
JO-101	12.84
JZ-1	10.83
JZ-5	10.83
JZ-7	10.83
JZ-13	10.83
JZ-15	10.83
JZ-25	10.83
JZ-26	10.83
K-20 Kit	6.98
K-100	25.00
K-101	28.25
K-102	37.70
K-103	55.60
K-104	87.00
K-105	102.95
†K-106	144.65
KA-1	2.50
KA-2	2.50
KA-3	3.25
M-1X	3.48
M-3X	5.77
M-4Z	4.17
M-5Z	4.11
M-6X	4.77
M-7AL	11.22
M-8AL	14.77
M-12AL	22.15
M-15A	9.05
M-16AL	11.34
MB-20	.72
MB-31	.45
MK-1	3.58
MK-2	3.58
MK-3	4.42
MK-4	4.42
N-1X	4.10
N-3M	8.90
N-4M	10.20
N-5M	13.30
N-7M	22.72
N-9M	50.10
N-11M	56.55
N-34X	6.25
N-35M	18.17
N-48X	4.00
†N-49X	5.33
N-50M	41.58
N-51X	4.73
N-52M	57.08
N-53M	12.83
N-54M	14.83
N-55M	22.67
N-56M	39.17
N-57M	52.33
N-59M	56.95
N-60SC	119.17
N-62AC	54.30
N-64AC	30.22
N-66A	17.95
N-67A	11.55
N68X	5.88
N-73A	11.28
N-74A	11.67
N-469A	7.35
N-470A	10.62
N-471A	16.92
NW-1	.60
NW-2	.72
NW-3	.78
NW-4	.78
NW-5	.78
NW-6	.72
NW-7	.60
NW-10	.60
NW-14	.78
NW-18	.60
NW-19	.60
NW-21	.67
NW-22	.82
NW-23	.72
NW-24	.72
NW-25	.67
P-1A	9.10
P-3A	11.02
P-5A	14.47
P-7A	15.40
P-9A	27.87
P-11A	13.98
P-14A	21.22
P-15AL	25.50
P-17AL	25.22
P-18AL	49.48
P-20AL	48.62
PR-21AL	50.67
P-213AL	19.50
P-215AL	21.65
P-216AL	43.32
P-217AL	24.67
P-218AL	48.30
P-220AL	43.33
PL-4	10.05
PL-5	12.13
PL-6	12.13
PL-10	1.78
PL-80E	10.94
PL-80H	12.14
PL-81E	11.47
PL-81H	12.25
PL-81P	11.67
■PL-82E	11.39
PL-82H	12.69
PL-82P	12.02
PL-83E	12.17
PL-83H	12.92
PL-83P	12.27
PL-84E	11.82
PL-84H	13.07
PL-84P	12.42
■PL-124E	11.39
PL-124H	12.77
PL-139E	9.80
PL-139H	10.88
PL-139M	11.75
PL-140E	11.39
PL-140H	12.77
PL-140M	13.85
PL-146E	11.39
PL-146H	12.72
PL-146M	13.84
R-2C	6.35
R-3A	6.83
R-4A	6.65
R-4B	6.53
R-5A	7.77
R-5B	7.73
R-6A	8.03
R-6B	7.95
R-7A	8.22
R-7B	8.13
R-8A	8.65
R-8B	8.57
R-9A	10.15
R-9B	10.05
R-10A	10.09
R-10B	10.00
R11A	10.77
R-11B	10.70
R-12A	9.64
R-12B	9.64
R-14A	12.67
R-14B	12.67
R-16A	13.87
R-16B	13.87
R-17A	15.27
R-18A	16.13
R-18B	15.92
R-19A	16.45
R-20A	15.95
R-20B	15.64
R-21A	17.28
R-21B	17.00
R-22A	7.90
R-22B	7.80
R-23B	6.45
R-24A	19.65
R-24B	19.65
R-25A	34.01
R-26A	22.29
R-27A	41.21
R-28A	30.09
R-29A	5.92
R-30X	5.45
R-35A	19.09
R-37BC	25.57
R-38A	23.59
R-38BC	20.45
■R-39A	18.05
R-39BC	18.90
R-40BC	26.07
R-41C	15.97
F-42BC	14.49
R-43C	12.49
R-45C	14.99
R-46A	28.51
R-49BC	22.90
R-49BS	21.27
R-50A	26.06
R-50BC	24.60
R-51BC	22.19
R-52BC	17.15
†R-53Z	3.55
R-54X	2.72
R-56A	6.55
R-58A	18.39
R-59A	18.87
R-60BC	20.39
R-61BC	22.29
R-62BC	28.42
R-63BC	16.15
R-64BC	18.19
R-64BC	18.19
R-65BC	17.24
R-66BC	18.59
R-67BC	16.15
R-68A	9.77
R-69BC	17.37
R-70A	11.97
R-71A	18.94
R-72A	12.20
R-73B	8.64
R-74BC	17.99
R-75BA	19.29
R-76BC	19.72
R-77BC	20.27
R-77BS	31.72
R-78BC	18.65
R-79BA	13.19
R-80BA	24.72
R-81BC	24.32
R-81BS	32.09
R-82B	13.93
R-83A	18.59
R-84K	6.15
R-85A	15.99
R-86BA	12.48
R-87BC	16.62
R-88A	17.92
R-89BC	17.60
R-90BC	18.10
R-91HA	17.82
R-92A	18.15
■R-93A	16.17
R-94H	26.11
R-104A	6.00
R-104B	6.02
R-105A	6.90
R-105B	6.90
R-106A	7.28
R-106B	7.33
R-107A	7.60
R-107B	7.60
R-108A	7.82
R-1088	7.73
R-109A	7.38
R-109B	7.38
R-110A	8.65
R-110B	8.65
R-111A	8.95
R-111B	8.95
R-112A	9.15
R-112B	9.15
R-113A	7.57
R-113B	7.57
R-114A	9.95
R-114B	9.95
R-115A	8.50
R-115B	8.50
R-116A	11.07
R-116B	11.07
R-118A	13.00
R-118B	13.00
R-120A	12.75
R-120B	12.75
R-121A	14.65
R-121B	14.65
R-122A	17.15
R-123HA	16.47
R-124BC	13.84
R-125BC	16.15
R-126A	15.44
R-127A	16.14
R-128BC	17.34
R-129BC	19.00
R-131A	24.25
R-132BC	15.55
R-133A	17.15
R-134A	16.40
R-135BC	18.14
R-136BC	15.84
R-138A	15.74
R-200A	16.20
R-201A	15.82
R-202A	15.07
R-203A	14.15
R-204A	14.87
R-205A	14.27
R-206B	10.48
R-208A	8.42
R-300A	19.00
R-675A	19.00
S-1X	2.70
S-2X	2.45
S-3X	2.60
S-4X	2.98
S-5X	3.32
S-5Z	3.32
S-6X	2.30
S-6Z	2.45
S-7X	2.60
S-8X	2.33
S-8Z	2.47
S-9Z	3.12
S-9Z	3.27
S-10X	2.87
S-11X	2.45
S-11Z	2.45
S-12X	2.37
S-12Z	2.38
S-13X	2.48
S-13Z	2.58
S-14Z	2.47
S-15X	3.27
S-16X	2.28
S-17X	2.43
S-18X	2.33
S-18Z	2.35
S-19Z	4.22
S-20X	2.40
S-20Z	2.40
S-21A	4.72
S-21Z	4.05
S-22A	7.13
S23X	2.37
S-24A	6.77
S-25Z	3.98
S-26X	2.50
S-27A	6.05
S-28X	4.72
S-29X	4.77
S-30X	2.67
S-31A	8.67
S-32A	8.82
S-34X	4.73
S-35A	10.27
S-36A	9.32
S-37X	4.43
S-38X	2.15
S-38Z	2.15
S-39X	2.40
S-40X	3.48
S-41X	2.30
S-41Z	2.05
S-42A	15.19
†S-43Z	4.20
†S-44Z	5.40
SR-45Z	6.40
S-46A	9.67
S-47Z	4.03
S-48X	2.00
S-48Z	2.00
S-49X	2.12
S-50X	2.27
S-51X	3.57
S-52X	4.38
S-53X	4.10
S-54X	4.52
S-55X	5.45
S-55Z	5.57
S-56Z	5.27
S-57Z	5.93
S-58X	3.18
S-59Z	5.72
S-60A	10.24
S-61Z	5.93
S-62X	4.17
S-63X	3.52
S-64X	2.80
S-65X	2.57
S-66X	2.85
S-67X	2.77
S-68Z	3.78
S-69Z	5.35
S-70Z	3.63
S-71Z	5.10
S-72Z	4.20
S-73X	4.00
SR-74K	6.45
S-76Z	5.23
S-77U	10.22
S-78Z	4.47
S-79Z	4.92
S-129Z	4.95
S-130Z	3.75
S-131X	3.00
S-132X	3.63
S-133Z	5.27
S-142A	10.38

†New item ■Discontinued item. Available until supply is exhausted

Prices subject to change without notice. Net prices shown for 1-9 quantity. For 1 to 249 pieces, see your stocking Triad Distributor for quantity discount schedule. For 250 or more pieces, contact your Triad Representative or call the factory.

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TRIAD DISTRIBUTOR DIVISION

A DIVISION OF LITTON INDUSTRIES

PRICE INDEX BY TYPE NUMBER

Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price	Triad No.	Sugg'd Resale Price
S-144A	15.24	SP-106	7.07	T-42X	3.90	TY-51X	4.50	TY-92	15.50	WLC-10	1.59	Y-22	8.42	Y-70-1	9.49
S-146A	15.78	SP-107	5.98	T-101X	4.02	TY-52X	5.63	TY-93	24.77	WLC-11	2.05	Y-22-1	9.09	Y-72-1	10.09
S-148A	15.35	SP-108	6.22	T-102X	2.77	TY-53X	4.20	TY-94	22.64	WLC-12	1.38	Y-22-3	9.07	Y-81-3	11.62
S-149A	18.35	SP-117	6.28	TY-1XT	3.82	TY-54X	5.22	TY-99	15.10	WLC-17	1.41	Y-24	9.74	Y-83-1	9.92
S-152A	19.77	SP-118	6.02	TY-2Z	4.13	TY-55X	5.22	TY-100	23.95	WLC-21	1.33	Y-24-3	7.00	Y-82-1	9.59
S-154A	21.57	SP-128	5.93	TY-3XT	3.73	TY-56X	3.77	TY-101	19.39	WLC-23	1.33	Y-25	5.83	YC-1	.82
■S-156A	16.50	SP-310	.84	TY-4XT	3.18	TY-57X	4.07	TY-102	19.75	WLC-25	1.52	Y-25-1	6.45	YC-110	1.17
S-158A	25.54	SX-201	7.44	TY-16XT	1.67	TY-58X	3.78	TY-158	4.88	WLC-26	1.62	Y-25-3	6.33	YC-111	1.17
SP-4	10.50	SX-202	7.41	TY-17XT	2.32	TY-59X	6.73	TY-159X	4.93	WLC-29	1.85	Y-26-2	8.67	YC-112	1.17
SP-5	9.95	SX-203	7.26	TY-23X	5.57	TY-60X	6.32	TY-160X	5.47	WLC-30	1.68	Y-28	7.97	YC-300-1	22.50
SP-7	9.52	SX-204	7.44	TY-24X	5.42	TY-61X	3.49	TY-200X	7.57	WLC-31	1.88	Y-28-3	8.37	YC-310-2	18.33
SP-11	8.27	SX-205	7.50	TY-25X	6.17	TY-62X	4.32	TY-201TZ	5.32	Y-12	6.52	Y-30G	8.94	YC-311-2	19.51
SP-13	9.07	SX-206	7.59	TY-26X	9.17	TY-63X	4.83	TY-202X	5.77	Y-12-1	7.68	Y-31G	9.24	YC-312-2	19.28
SP-15	8.99	SX-207	7.62	TY-27XT	4.22	TY-64X	4.95	TY-462	16.64	Y-12-3	7.23	Y-40	8.32	YT-101	8.91
SP-20	8.72	SX-208	7.50	TY-28XT	4.67	TY-65Z	4.52	TY-468	13.35	Y-17	7.77	Y-40-3	8.80	YT-102-2	9.09
SP-21	8.77	T-1X	4.35	TY-29X	4.95	TY-66A	10.22	TZ-1	6.05	Y-17-1	6.05	Y-41	7.63	YT-103-1	10.00
SP-22	9.10	T?2X	5.30	TY-30X	3.32	TY-67A	9.89	TZ-2XT	6.38	Y-17-2	8.65	Y-41-2	9.37	YT-106-2	9.80
SP-29	8.49	T-3X	5.27	TY-31X	3.25	TY-68S	7.52	TZ-5	8.07	Y-17-3	8.54	Y-41-3	8.87	YT-107-2	9.80
SP-32	6.87	T-5X	4.32	TY-32X	3.77	TY-69S	9.49	TZ-7	4.75	Y-19	8.03	Y-42-2	8.73	13125	4.90
SP-33	7.10	T-11X	4.57	TY-33X	3.72	TY-70S	10.10	TZ-13	6.37	Y-19-1	6.82	Y-44	8.75	13500-1	6.60
SP-34	6.55	T-12X	5.32	TY-34X	3.60	TY-71S	10.20	TZ-15	4.62	Y-19-3	8.22	Y-44-1	9.39	13500-2	8.20
SP-35	6.65	T-13X	5.08	TY-35X	3.17	TY-74S	8.94	TZ-17XT	5.07	Y-20	7.78	Y-45	9.15	13510	6.60
SP-42	7.28	T-14X	4.00	TY-36X	3.57	TY-75A	16.54	TZ-24XT	5.80	Y-20-2	8.90	Y-45-2	9.90	13510-2	8.20
SP-47	7.70	T-15X	4.12	TY-37X	4.47	TY-76A	10.67	TZ-25	5.25	Y-20-3	8.20	Y-46	5.95	13511	14.25
SP-48	7.78	T-20X	4.35	TY-38X	4.30	TY-78	14.72	TZ-26	4.65	Y-21	8.50	Y-46-3	7.57	13540	6.60
SP-49	7.48	T-21X	4.17	TY-39X	5.15	TY-79	14.72	TZ-28	4.08	Y-21-1	8.90	Y-47	5.98	13541	6.60
SP-50	7.62	T-22X	4.00	TY-40X	4.18	TY-80	15.94	VR-30Z	4.15	Y-21-3	7.05	Y-48	6.40	†13542	6.60
SP-51	7.67	T-23X	4.68	TY-41X	5.13	TY-81	15.19	V-31	4.47	TZ-29XT	4.72	Y-48-3	7.48	†13543	6.60
SP-52	7.98	T-24X	3.98	TY-42X	4.97	TY-82	14.72	V-31K	6.96	TZ-32XT	4.87	Y-49	7.68	†13544	12.25
SP-63	7.23	T-25X	4.03	TY-43X	4.88	TY-83	21.17	WC-13	1.32	TZ-103XT	3.53	Y-60R	9.29	†13545	6.60
SP-64	7.27	T-26X	3.73	TY-44X	4.08	TY-84	21.57	WLC-3	1.33	V-21	5.23	Y-60-1	9.29	†13546	6.60
SP-65	7.50	T-31X	4.20	TY-45X	4.12	TY-85	22.94	WLC-4	1.32	V-21B	5.93	Y-60-2	11.49	13600	9.20
SP-66	8.48	T-32X	3.35	TY-46X	3.03	TY-86	21.80	WLC-5	1.33	V-21K	9.19	Y-62	8.59	13600-2	11.50
SP-67	7.55	T-33X	4.90	TY-47X	4.55	TY-87	22.50	WLC-6	1.32	V-21Z	5.38	Y-62-1	9.40	13751	3.92
SP-68	8.90	T-34X	3.38	TY-48X	4.02	TY-88	13.02	WLC-7	1.35	V-23	5.50	Y-64	9.15	13750	3.92
SP-69	8.50	T-35X	3.98	TY-49X	3.98	TY-89	12.82	WLC-8	1.80	V-23B	6.65	Y-64-1	9.35	13800	1.40
SP-70	6.95	T-41X	4.62	TY-50X	7.13	TY-90	16.10	WLC-8A	1.80	V-23K	8.34	Y-66-1	9.29	13801	1.40
						TY-91	15.37	WLC-9	1.88	V-23Z	5.67	■Y-70	8.94		

† New item. ■Discontinued item. Available until supply is exhausted

TRIAD CASES

	GB	HA	HB	JA	JB	KA	KB
A	2 3/8	2 5/8	2 5/8	3 1/16	3 1/16	3 3/8	3 3/8
B	2 3/4	3 1/16	3 1/16	3 5/16	3 5/16	3 15/16	3 15/16
C	2 13/16	4 1/4	3 3/16	4 7/8	3 7/8	5 1/4	4 5/16
D	2 1/8	2 19/64	2 19/64	2 5/8	2 5/8	3	3
E	1 3/4	1 55/64	1 55/64	2 1/8	2 1/8	2 1/16	2 1/16
G	3/8	3/8	3/8	3/8	3/8	1/2	1/2
I	6-32	8-32	8-32	8-32	8-32	10-32	10-32
Wt. (avg.) lbs.	1 3/4	2 1/2	2 1/4	4 1/2	4	7 3/4	7

	LA	LB	MA	MB	NA	NB
A	3 11/16	3 11/16	4	4	4 5/16	4 5/16
B	4 5/16	4 5/16	4 11/16	4 11/16	5 1/16	5 1/16
C	5 5/16	4 1/2	6	4 15/16	6 13/16	5 1/2
D	3 5/16	3 5/16	3 11/16	3 11/16	4 1/16	4 1/16
E	2 11/16	2 11/16	3	3	3 5/16	3 5/16
G	1/2	1/2	5/8	5/8	5/8	5/8
I	10-32	10-32	1/4-20	1/4-20	1/4-20	1/4-20
Wt. (avg.) lbs.	9 1/4	8 1/2	13 1/2	12 1/2	18	16

	AH	AJ	EA	EB	FA	FB	GA
A	1 5/16	1 5/8	1 13/16	1 13/16	2 1/16	2 1/16	2 3/8
B	1 5/16	1 5/8	1 15/16	1 15/16	2 5/16	2 5/16	2 3/4
C	1 3/4	2 3/8	2 3/4	2 7/16	3 1/8	2 1/2	3 13/16
D	1 1/4	1 3/16	1 3/8	1 3/8	1 11/16	1 11/16	2 1/8
E		1 3/16	1 1/4	1 1/4	1 7/16	1 7/16	1 3/4
G	3/8	3/8	3/8	3/8	3/8	3/8	3/8
I	6-32	6-32	6-32	6-32	6-32	6-32	6-32
Wt. (avg.) lbs.	4 oz.	9 oz.	1	15 oz.	1 3/4	1 1/2	2

	AF	AG	AH-2	AJ-2	JZ*†
A	3/4	1	1-5/16	1-5/8	9/16 dia.
B	3/4	1	1-5/16	1-5/8	Round
*†Bw	1-3/64	1-3/32	1-11/32		
C	1-1/8	1-3/8	1-3/4	2-3/8	25/32
D	*27/32	*1-1/32	*1-11/32	*1-5/8	
F	5/8	3/4	7/8	7/8	
I	4/40	6/32	6/32	6/32	
Unit	1-1/4	2-1/2	5-1/4	11	.5
Wt.	oz.	oz.	oz.	oz.	oz.

* Not in conformance with MIL-T-27A.
† Not in conformance with MIL-T-27

	GP-1	GP-2	GP-3	GP-4	GP-5
A	7/8	1 1/16	1 1/4	1 7/16	1 5/8
B	1 1/16	1 1/4	1 1/2	1 3/4	2
Bw	1 1/16	1 11/32	1 3/16		
C	1 11/16	2 1/4	2 3/8	2 1/2	2 3/4
D	1 3/32	1 3/16	1 15/32	1 1/2	1 1/2
F	3/4	3/4	15/16	15/16	15/16
Wt.	3 oz.	5 1/2 oz.	8 oz.	12 oz.	17 oz.

	JOA	JOB
A	15/16 dia.	15/16 dia.
B	Round	Round
C	1 13/32	1 25/32
D	9/16	9/16
F	7/8	7/8
Unit Wt.	2 oz.	2 1/2 oz.

SHIELDING

P-1—One nickel alloy high permeability shield — 45db. reduction in pickup.
P-3—Two nickel alloy shields interleaved with one heavy copper shading ring — 70db. reduction in pickup.
P-5—Three nickel alloy shields interleaved with two heavy copper shading rings— 95 db. reduction in pickup.

Prices subject to change without notice. Net prices shown for 1-9 quantity. For 1 to 249 pieces, see your stocking Triad Distributor for quantity discount schedule. For 250 or more pieces, contact your Triad Represeniative or call the factory.

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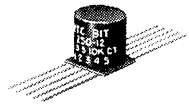
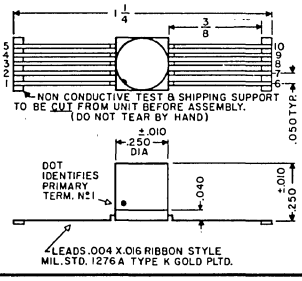
NEW ULTRAMINIATURE TRANSFORMERS & HIGH Q COILS

WEIGHT 1.1 GM.



PATENT APPLIED FOR

BIT-250* A COMPLETELY NEW DEVELOPMENT IN TRANSFORMER TECHNOLOGY



NOTES

- Frequency response: ±2 db, 300 Hz — 250,000 Hz @ 1 MW Ref. level
- Dielectric strength tested @ 200V RMS
- Designed and tested to full MIL-T-27( ) environmental requirements
- MIL Grade 4, metal-encased, ruggedized
- Lead Material: Gold-plated ribbon-style Kovar, solderable and weldable — MIL-STD 1276A Type K

PACKAGING

Size reduction without loss of performance is achieved by major reduction of air gaps in the magnetic circuit. Core permeability closely approaches the theoretical maximum for material and structure.

Materials, dimensions and surface finish are identical with IC Flat Pack standards. Removable support protects terminal alignment prior to final assembly. This insulated support allows testing in conventional jigs.

RELIABILITY

Cylindrical bobbin-winding techniques eliminate corner stress normally found in fine-wire windings of conventional rectangular structures.

Lead arrangements and terminations have been designed to maximum reliability under thermal shock and temperature cycling.

FLEXIBILITY

These units are designed to afford maximum flexibility of application.

Transformers are 7-terminal types, with center-tapped primaries and split secondaries. When connected in parallel, split-winding secondaries provide ¼ the impedance and twice the DC current capability as series connections.

Inductors in the stock line include both single-winding and split-winding types.

Leader may be bent for plug-in PC application.

TRANSFORMERS

BIT-250 Type No.	MIL Type No.	Pri Imp	Sec Imp (Split Wdg) Series/Par	Power Level MW for 5% Max Dist @ 1 KHz	Pri DCR Ω	(Series Conn.) Sec DCR Ω	Turns Ratio Pri/Sec/Sec	Turns Ratio Pri/Overall Sec	Typical Application	Sugg. Net Ea.
BIT-250-14	TF4RX17YY	150 CT	12/3	80	13	1.5	7.1:1:1	3.54:1	Output	$8.40
BIT-250-18	TF4RX17YY	300 CT	600/150	80	30	65	1.4:1:1	1:1.4	Ouput or Matching	8.40
BIT-250-20	TF4RX17YY	400 CT	400/100	80	50	50	2:1:1	1:1	Matching or Interstage	9.00
BIT-250-26	TF4RX17YY	500 CT	50/12.5	80	58	5.5	7.3:1:1	3.65:1	Output	9.00
BIT-250-30	TF4RX17YY	600 CT	600/150	80	65	65	2:1:1	1:1	Isolation or Matching	9.00
BIT-250-36	TF4RX17YY	1000 CT	1000/250	80	110	100	2:1:1	1:1	Output or Matching	9.30
BIT-250-40	TF4RX12YY	1500 CT	600/150	75	150	65	3.16:1:1	1.58:1	Output	9.30
BIT-250-48	TF4RX12YY	2000 CT	8000/2000	75	140	600	1:1:1	1:2	Isolation or Interstage	9.90
BIT-250-56	TF4RX12YY	10K CT	500/125	75	900	60	8.92:1:1	4.46:1	Output or Driver	10.20
BIT-250-60	TF4RX12YY	10K CT	1200/300	75	900	100	5.78:1:1	2.89:1	Driver	10.20
BIT-250-64	TF4RX12YY	10K CT	2000/500	75	900	160	4.48:1:1	2.24:1	Interstage	10.20
BIT-250-70	TF4RX12YY	10K CT	10K/2500	75	900	900	2:1:1	1:1	Isolation or Interstage	10.20
BIT-250-90	TF4RX12YY	25K CT	1000/250	40	2400	80	10:1:1	5:1	Interstage	10.80

INDUCTORS

BIT-250 Type No.	MIL Type No.	Connections	Inductance Hys @ DC Min. @ 1 KHz 5V	DC ma	DC Res Ω	Ratio of Wdgs	Sugg. Net Ea.
BIT-250-03 (2 wdgs)	TF4RX20YY	Series	8.6 2.5	0 2	2260	1:1	$8.40
		Parallel	2.4 .63	0 4	565		
BIT-250-05 (1 wdg)	TF4RX20YY		5.5 1.5	0 2	1000		7.50
BIT-250-06 (1 wdg)	TF4RX20YY		.80 .25	1 6	250		7.50
BIT-250-09 (2 wdgs)	TF4RX20YY	Series	.60 .15	0 5	146	1:1	8.40
		Parallel	.15 .038	0 10	37		

MS* MINIATURE TOROIDAL HIGH Q INDUCTORS

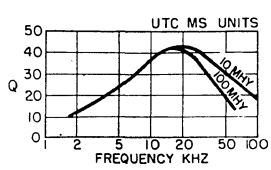
PHYSICAL CHARACTERISTICS

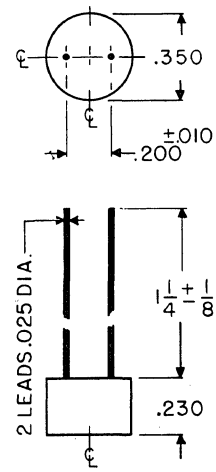
UTC's new MS series of high Q coils are only .23" high x .35" diameter. The low profile makes them ideal for high-density packaging requirements. All coils are molded in black epoxy.

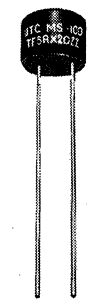
Base diameter (.35") and lead spacing (.2") fall within TO-5 envelope dimensions.

Leads are .025" diameter gold-plated dumet, type D per MIL-STD-1276A, and are both weldable and solderable.

TYPICAL Q CURVE







MS UNIT WEIGHT 1.3 GM

Q CHARACTERISTICS

Excellent Q in the 10 kHz to 50 kHz range, matching and often excelling the performance of much larger units. Designed for application over the wider range of 1 kHz to 100 kHz. See Q Response Curve.

MIL SPECS

All units have been designed, manufactured and successfully tested to complete MIL-T-27B environmental requirements. MIL Type TF5RX20ZZ.

TOLERANCE AND TEMPERATURE STABILITY

MS units have an inductance tolerance of ±2% at 0.1V RMS, 1 kHz, 0 DC, 25°C. All have excellent inductance stability with temperature: less than ±2% from −55°C to +105°C.

Stock Type No.	Ind. Mhy (0 DC)	ma DC Max.*	DCR Ω Max.	Price 1-24
MS-1	1	60	1.4	$7.50
MS-5	5	28	7	7.50
MS-10	10	20	11	7.80
MS-25	25	13	38	8.10
MS-50	50	9	75	8.40
MS-100	100	6	132	8.40

* The maDC shown is for approximately 5% drop in inductance.

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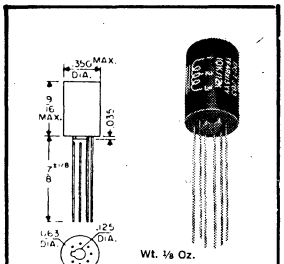
NEW TRANSFORMERS & FILTERS

AUDIO TRANSFORMERS

DO-T200* SERIES, ULTRAMINIATURE PLUG-IN TRANSISTORS TRANSFORMERS

Manufactured and successfully tested to complete environmental requirements of MIL-T-27B. Most Ruggedized MIL Structure, Grade 4, Metal Encased. MIL types TF4RX13YY, TF4RX16YY. Immediate Delivery From Stock. Full Conformance to MIL Mounting Requirements. Solderable and Weldable Leads. Hermetically Sealed. Straight Pin Terminals. Excellent Response. High Efficiency. Low Distortion. Leads are ⅞″ long, .016 Dumet wire, gold plated, and may be either welded or soldered. They are uninsulated and are spaced on a .1″ radius circle. In pulse coupling impedance matching applications (when measured with a 30 microsecond input pulse voltage wave), typical values for these transformers are: 5% or less droop, zero overshoot, and less than 10% backswing. Also see below and pages 3 & 4 for other DO-T family constructions.



U. S. PAT. NO. 2,949,591; others pending.

Type No.	Pri. Imp.	D.C. ma‡ in Pri.	Sec. Imp.	Application	Suggested Net Price
DO-T255	1000 CT 1200 CT	3 3	50 60	Output or matching	$6.90
DO-T275	10,000 CT 12,000 CT	1 1	1500 CT 1800 CT	Interstage	7.80
DO-T277	10,000 CT 12,000 CT	1 1	2000 split 2400 split	Interstage	8.70
DO-T278	10,000 12,500	1 1	2000 CT 2500 CT	Driver	8.70
DO-T283	10,000 CT 12,000 CT	1 1	10,000 CT 12,000 CT	Isolation or Interstage (Ratio 1:1) also pulse appl.	8.70
DO-T288	20,000 CT 30,000 CT	.5 .5	800 CT 1200 CT	Interstage	8.70
DO-T297	200,000 CT	0	1000 CT	Input and Chopper	10.80
DO-T200SH	Drawn Hipermalloy shield provides 15 to 20 db shielding through side of case				.75

‡DCma shown is for single ended usage. For push pull, DCma can be any balanced value taken by .5W transistors. Where windings are listed as split, ¼ of the listed impedance is available by paralleling the winding.

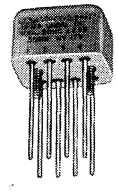
DO-T*, DI-T* TRANSFORMERS

Designed, manufactured and successfully tested to complete MIL-T-27B specifications. See page 4 for size and weight and complete DO-T, DI-T line. Also above and page 3 for other DO-T family constructions. These units can be used for pulse coupling impedance matching applications. All U.S. Pat. No. 2,949,591; others pending.

Type No.	Pri. Imp.	D.C. ma.‡ in Pri.	Sec. Imp.	Typical Application	Suggested Net Price
DO-T53	400 CT 500 CT	8 6	4K CT 5K CT	Input or driver	$7.80
DO-T54	40K CT 50K CT	.25 .25	4K CT 5K CT	Interstage or isol.	8.70
DI-T53	400 CT 500 CT	8 6	4K CT 5K CT	Input or driver	7.80

‡DCma shown is for single ended usage. For push pull, DCma can be any balanced value taken by .5W transistors.

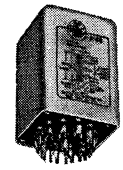
SUBMINIATURE TRANSFORMERS



Designed, manufactured and successfully tested to complete MIL-T-27B specifications. See page 7 for size and weight of FH units, also listings of other FH & H hermetic audio units. These units have straight pin terminals for welding or printed circuit use. Response ±2 db from 300 to 20KC. Level +17 dbm; 50 mw.

Type No.	Application	MIL Type	Pri. Imp. Ohms	Sec. Imp. Ohms	Pri. Unbal. DC ma	Sugg. Net Price
FHA-5	Transistor Input	TF4RX17YY	500/125 split	5K/1250 split	12	$8.10
FHA-10	Transistor Intrstg or Isol	TF4RX13YY	5000/1250 split	5K/1250 split	4	8.10

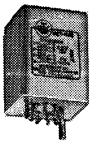
ULTRA-COMPACT* "A"* LINE TRANSFORMERS



Newly added to the line of high quality industrial type transformers. See page 11 for complete listing of Ultra-Compact transformers. Application: "2 wire to 4 wire" hybrid circuit. Two transformers in one case for hybrid circuit use. Frequency response: 40-20KC ±2 db. Level: + 10dbm, 10 mw. Includes electromagnetic shielding. Hybrid circuit will provide 60 db minimum circuit isolation.

Type No.	Pri. Imp. Ohms	Unbal. DC	Sec. Imp. Ohms	Suggested Net Price
A-48	500/600	0	500/600 } 2 wdgs. 500/600 } plus winding for balance loading	$18.00

400 CYCLE POWER TRANSFORMERS



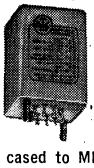
UNIVERSAL TRANSISTOR SUPPLY TRANSFORMERS

Designed, manufactured and successfully tested to complete MIL-T-27B specifications. Units are in drawn MIL metal cases. The MET-495 (MIL type TF4SX02AJ) is in a MIL AJ case: 1⅝ x 1⅝ x 2⅜″ h, wt. ⅔ lbs. The MET-445 (MIL type TF4SX02AH) is in a MIL AH case: 1⅝ x 1⅝ x 1¾″ h, wt. ⅜ lbs. For full line of MET type universal transistor supply transformers see page 5.

MET-495 Pri. 115 Volts, 400 Hz Nom. Sec. V, 16.5 to 81
MET-445 115 Volts, 400 Hz Nom. Sec. V, 8.25 to 40.5

TYPE NO.	MIL DC RANGE	INDUST. DC RANGE	Suggested Net Each
MET-495	12V-.6A to 106V-.2A	12V-.76A to 106V-.24A	$15.00
MET-445	6V-.6A to 53V-.2A	6V-.75A to 53V-.24A	13.50

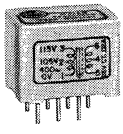
ISOLATION TRANSFORMERS



Units designed, manufactured and successfully tested to complete MIL-T-27B specifications. These units are metal encased to MIL Grade 4, Class S, Life X. ELECTROSTATICALLY SHIELDED. See page 5 for complete line of MET type transformers.

Type No.	MET-400	MET-405
Primary	105/115/125 380-1000 Hz	105/115/125 380-1000 Hz
Secondary	1) 115VCT-.06A 2) 115VCT-.06A	1) 115VCT-.2A 2) 115VCT-.2A
Series Con.	230V-.06A	230VCT-.2A
Parallel Con.	115V-.12A	115VCT-.4A
MIL Type	TF4SX03AH	TF4SX01EA
Base	1⅝ x 1⅝″	1¹³⁄₁₆ x 1¹³⁄₁₆″
Height	1¾″	2¾″
Weight	⅜ lbs.	1 lb.
Suggested Net Price	$13.50	$14.70

MOLDED ISOLATION & SUPPLY TRANSFORMERS



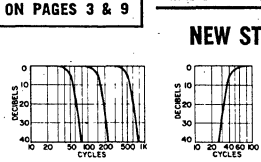
Designed, manufactured and successfully tested to complete MIL-T-27B specifications. These units are vacuum molded to MIL Grade 5. Units are ELECTROSTATICALLY SHIELDED. See page 5 for Metal Cased lines of transistor supply transformers.

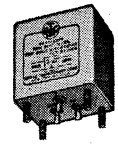
Type No.	H-149	H-148
Application	—	Isolation
Primary	28V 380-1000 Hz	105/115V 400 Hz
Secondary	1) 6.3V-.08A 2) 6.3V-.08A	115VCT-.02A
Series Con.	12.6V-.08A	
Parallel Con.	6.3V-.16A	
MIL Type	TF5SX03ZZ	TF5SX03ZZ
Base	¾ x ⅞″	¾ x 1″
Height	⅝″	²³⁄₃₂″
Weight	.04 lbs.	.05 lbs.
Suggested Net Price	$7.50	$10.80

SEE OTHER FILTERS ON PAGES 3 & 9

ELECTRIC WAVE FILTERS

NEW STANDARD FILTERS



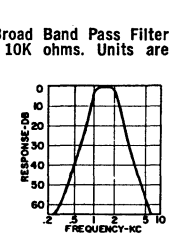


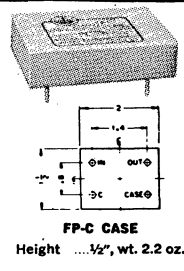
Base .....1¾ x 1¹¹⁄₁₆″
LMI-150 .....1⅝″ h., wt. 6 oz.
LMI-50, LML-500, HML-40 } .....2½″ h., wt. 9 oz.

All UTC filters are designed, manufactured and successfully tested to MIL-F 18327C environmental requirements. The **LMI-50** & **LMI-150** are Low Pass Interstage Filters with source and load impedance of 10,000 ohms. Cutoff frequencies: LMI-50 at 50 Hz; LMI-150 at 150 Hz. The **LML-500** is a Low Pass Filter with a source and load impedance of 500/600 ohms, cutoff frequency is 500 Hz. **HML-40** is a High Pass Filter with a source and load impedance of 500/600 ohms, cutoff frequency is 40 Hz. Suggested net prices are: **LMI-50 — $39.00; LMI-150 — $31.50; LML-500 — $39.00; HML-40 — $42.00. MIL designations:** LMI-50 & LMI-150, FR6RX11YY1; LML-500, FR6RX11YY1; HML-40, FR6RX33YY1.

BROAD BAND FILTER

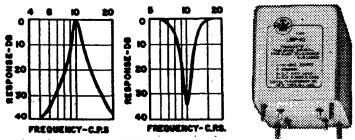
The **FBH-1** — Flat package Broad Band Pass Filter has a source and load of 10K ohms. Units are within 3 db from 1 kHz to 2 kHz, and have an attenuation of at least 36 db at frequencies below 500 cps and above 4 kHz. FP-C Case. MIL type FR6RX22YY1. **Suggested net price: $54.00.**





FP-C CASE
Height ....½″, wt. 2.2 oz.

LOW FREQUENCY FILTER (BAND PASS & BAND REJECT)



The **LBP-10** Low Frequency Band Pass Filter has a 10 Hz center frequency. The filter has 4 terminals so that it can be used as a band pass filter with a 10K ohm load or with a high impedance load, and in addition as a band reject filter. As a Band Pass Filter, the unit is within 3 db at 9.6 and 10.4 Hz. Attenuation at 5 & 20 Hz is at least 30 db with the 10K ohms output load and 35 db with the 3.3 Megohm load. As a Band Reject Filter, the unit attenuates 10 Hz by a minimum of 30 db and varies less than 3 db from DC to 7 Hz, and from 14 Hz to 36 kHz. This filter is MIL type FR6RX22FB1. **Suggested net price: $60.00.**
For size and weight see FB Pase 15.

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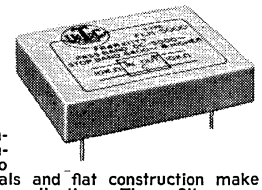
NEW

TRANSFORMERS, FILTERS, MAGAMPS, HIGH Q COILS

NEW UTC "FLATS"* ELECTRIC WAVE FILTERS



For other Filters see pages 2 & 9

Designed, Manufactured and Successfully Tested to Complete MIL-F-18327C Specifications

These filters meet today's need for flat component configurations, have excellent attenuation characteristics and are ruggedized to Grade 4, MIL-F-18372C. Straight pin terminals and flat construction make these units ideally suited for printed circuit applications. These filters are hermetically sealed in flat metal cases shielded to reduce hum pickup. FP-A case: 2 x 2 x ½" h., 2.5 oz. FP-B case: 2 x 1½ x ⅜" h., 2 oz. **Suggested stock price: $42.00 each net.**

FHH-200: Flat package high pass filter, source and load 10K ohms. Units are within 1 db up to 300 Hz 3 db ±1 db at 200 Hz, and have an attenuation of at least 40 db at frequencies below 140 Hz. FP-A case. Mil Type: FR6RX33YY1.

FLH-600: Flat package low pass filter, source and load 10K ohms. Units are within 1 db from DC to 450 Hz, 3 db ±1 db at 600 Hz, and have an attenuation of at least 40 db at frequencies above 800 Hz. FP-A case. Mil Type: FR6RX11YY1.

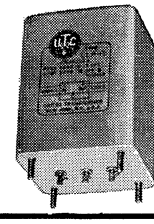
FLH-5000: Flat package low pass filter, source and load 10K ohms. Units are within 1 db from DC to 4.2 kHz, 3 db ±1 db at 5 kHz, and have an attenuation of at least 43 db at frequencies above 6400 Hz. FP-B case. Mil Type: FR6RX11YY1.

FLL-3500: Flat package low pass filter, source and load 600 ohms. Units are within 1 db from DC to 3 kHz, 3 db ±1 db at 3500 Hz, and have an attenuation of at least 40 db at frequencies above 4500 Hz. FP-A case. Mil Type: FR6RX33YY1.

FLL-18000: Flat package low pass filter, source and load 600 ohms. Units are within 1 db from DC to 15 kHz, 3 db ±1 db at 18 kHz, and have an attenuation of at least 43 db at frequencies above 23 kHz. FP-A case. Mil Type: FR6RX11YY1.

FLL-50000: Flat package low pass filter, source and load 600 ohms. Units are within 1 db from DC to 42 kHz, 3 db ±1 db at 50 kHz, and have an attenuation of at least 43 db above 64 kHz. FP-B case. Mil Type: FR6RX11YY1.

NEW, LLP-10 & LLP-15, STANDARD LOW FREQUENCY LOW PASS FILTER



For other Filters see pages 2 & 9.

Designed, Manufactured and Successfully Tested to Complete MIL-F-18327C

The LLP-10 low frequency low pass filter has a loss of less than 3 db at 10 Hz and attenuation of more than 40 db at 20 Hz. The LLP-15 low frequency low pass filter has a loss of less than 3 db at 15 Hz and attenuation of more than 40 db at 30 Hz. Both filters have a source and load impedance of 100K ohms. Both are MIL Type FR6RX11FA1. Dim: 2¼ x 2⁵⁄₁₆ x 3⅛" h., 1½ lbs. **Suggested Net Price: $60.00 net.**

NEW "FE,* FI,* FO"* MINIATURE INDUCTORS

For other High Q Coils see pages 1 & 10.

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.

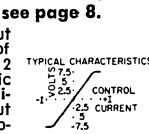
FE, FI, FO miniature inductors are ideal for transistor and printed circuit applications, having both pin terminals and a molded flat construction. These units are symmetrical toroids providing maximum Q in minimum size. The FE and FI inductors are adjusted at 1 V, 1 kHz. The FO units are adjusted at 1 V, 400 Hz. All units are adjusted to a tolerance of ±1%. The ma DC Max shown is for approximately 5% drop in inductance. The temperature stability is unequalled from −55°C to +100°C. For AC level limitations, a general rule of thumb would be to consider the maximum AC current approximately equal to the maximum DC current rating. However, for specific applications, contact UTC with exact level, frequency, and Q requirements to determine suitability of part in application. All FE, FI, FO inductors are equally well suited for vacuum tube application. All units Mil Type: TF5RX20ZZ.

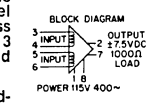
DIMENSIONS:
FE: 1⁵⁄₁₆" sq. x ½" h., wt. 0.7 oz.
FI: 1¾" sq. x ⅝" h., wt. 1.5 oz.
FO: 1²⁷⁄₃₂" sq. x ²⁷⁄₃₂" h., wt. 5 oz.

Type No.	Ind. Hy, (0 DC)	ma DC Max.	DCR Max.	Suggested Price Net
FE-.01	.0100	70	2.5	$ 8.70
FE-.02	.0200	50	5.1	9.00
FE-.05	.0500	30	12	9.60
FE-.1	.100	22	22	10.20
FE-.5	.500	10	122	10.80
FE-1	1.00	7	250	11.40
FE-2	2.00	5	500	12.00
FI-.04	.0400	50	4.3	10.80
FI-.1	.100	30	11	11.10
FI-.25	.250	20	27	11.40
FI-.5	.500	14	60	11.70
FI-1	1.00	10	110	12.00
FI-4	4.00	5	430	12.90
FO-.1	.100	60	4.2	15.00
FO-.5	.500	25	23	15.00
FO-1	1.00	18	43	15.60
FO-2	2.00	12	92	16.20
FO-5	5.00	8	240	16.80
FO-10	10.0	6	440	18.00

NEW LINE OF SOLID STATE "MAS"* PUSH-PULL MAGNETIC AMPLIFIERS

For other Magamps see page 8.





The "MAS" magamps operate on an input of 115 V 400 Hz with an output of ±7.5 V DC, 1000 ohm load and have 2 isolated control inputs. These magnetic amplifiers afford a **power gain of approximately 30,000.** The power input and output are also completely and individually isolated. The "MAS" magamps are manufactured to MIL-T-27B standards. Units are housed in a hermetically sealed steel case with plug-in octal compressed glass terminals. The "MAS" magamps are 3 inches high with a 1½ inch diameter and weighs approximately ½ pound.

The "MAS" magamps have many advantages over other active circuit elements such as tubes, transistors: • Long life and years of maintenance free operation due to magnetic characteristics and solid state elements. • Ruggedness can withstand high shock, vibration, radiation, and moisture. • Reliability — can withstand 10 times overloads and operate into short without damage.

Possible applications include: • Control Amplifier • Photocell • SCR Controls • Strain Gauge Amplifier • Meter Preamps • Thermocouple • Differential Amplifier • Signal mixing, summing, integration • Hydraulic Servo Valve Driver • Servo Motor • Linear Amplifications of Transducer Signals.

Type Number	Winding Number	Input Resistance Ohms	Trans-resistance Ohms	Nominal DC μamps 5V DC Output 1000Ω Load	Suggested Price Net
MAS-400	1	45	2.5 x 10⁴	200	$135.00
	2	45	2.5 x 10⁴	200	
MAS-410	1	500	8.0 x 10⁴	60	135.00
	2	500	8.0 x 10⁴	60	
MAS-420	1	1000	12.5 x 10⁴	40	135.00
	2	100	4.0 x 10⁴	125	

NEW "PIL"* AUDIO TRANSFORMERS

For other PIL'S see page 4.

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.

These units are the smallest audio transformers available. The DO-T type structure incorporated overcomes inherently poor electrical characteristics usually found in miniature audio transformers. These ultraminiature PIL transformers are engineered to provide top electrical performance. All units are subjected to a 500 volt dielectric strength test, instead of the usual 100 volts, for higher safety margins and reliability.

Units are designed to a field-proven, ruggedized construction with a completely rigid cylindrical bobbin eliminating wire movement and stress. The turns are circular, effecting uniform wire lay and eliminating corner stress. The leads are rigidly anchored to the coil wire terminal board fashion, eliminating the use of tape, and brought out through strain relief. The units are terminated in weldable and solderable, insulated Gold plated Dumet leads. **Dim:** ⅝" dia. x ⅜" h., 1/20 oz.

All units are metal encased to Grade 4. Units made to Class S are available on special order. U. S. Patent No. 2,949,591.

Type No.	MIL Type	Pri Imp	Unbal D.C. ma In Pri	Sec Imp	Pri DCR	Max Mw Level	±3 db Fre Range @ 1 Mw	Suggested Net Price
PIL-50	TF4RX17YY	500 CT	3	500 CT	40	100	800 cps-250KC	$7.20
PIL-70	TF4RX13YY	10K CT	1	500 CT	530	100	800 cps-250KC	7.50
PIL-75	TF4RX13YY	10K CT	1	2K CT	530	100	800 cps-250KC	7.50

PRECISION SCOTT-T REFERENCE TRANSFORMER NEW SCR-10*

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications

Used in the precise conversion of three wire synchro information to equivalent resolver information. Two outputs 90° apart are obtained, which can be utilized in analog and digital computer application or coordinate transformation applications. Mil type TF4SX09AJ.

Special custom built units with other electrical values are available to your requirements

Input 90V 60/400 Hz 3 Phase high impedance suitable for synchro output.
Output 1) 3V @ .25 MA
2) 3V @ .25 MA } 2 Phase Output.

a) Magnitudes of output voltage matched within 0.25%.
b) Phase angle of output voltages is 90° ± .225°.

Suggested Net Each: $24.00 **AJ case** **see page 15.**

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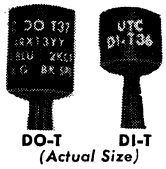
TRANSISTOR TRANSFORMERS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.

DO-T* AND DI-T* TRANSISTOR TRANSFORMERS

ALSO SEE PAGES 1 & 2 FOR NEW DO-T FAMILY UNITS



DO-T DI-T
(Actual Size)

Revolutionary transistor transformers hermetically sealed to MIL-T-27B specs. Plastic insulated solderable leads, firmly anchored to withstand 10 pound pull. Ideal for printed circuits. DO-T: 3/16" dia. x 13/32" long, wt., 1/10 oz. DI-T: 5/16" dia. x 1/4" long, wt., 1/15 oz. these compact units provide frequency response, high efficiency and low distortion. U.S. Pat. No. 2,949,591

(ALSO SEE PAGE 2)

DO-T Type	DI-T Type	Application	Pri. Imped., Ohms	Sec. Imped. Ohms	Suggested Net Each
DO-T1	DI-T1	a	20K/30K, 0.5 ma	800/1200	$6.00
DO-T2	DI-T2	b	500/600, 3 ma	50/60	5.40
DO-T3	DI-T3	b	1K/1.2K, 3 ma	50/60	5.40
DO-T4	.....	b	600, 3 ma	3.2	5.40
DO-T5	DI-T5	b	1.2K, 2 ma	3.2	5.40
DO-T6	.....	b	10K, 1 ma	3.2	6.00
DO-T7	.....	c	200K	1K	9.30
DO-T8	DI-T8	d•	3.5 hys. @ 2 ma	2.5 hys.‡‡	4.80
DO-T9	DI-T9	e	10K/12K, 1 ma	500/600 CT	6.60
DO-T10	DI-T10	f	10K/12.5K, 1 ma	1.2K-1.5K CT	6.60
DO-T11	DI-T11	f	10K/12.5K, 1 ma	2K/2.5K CT	6.60
DO-T12	.....	b	150/200 CT, 10 ma	12/16	5.70
DO-T13	.....	b	300/400 CT, 7 ma	12/16	5.70
DO-T14	.....	b	600/800 CT, 5 ma	12/16	6.00
DO-T15	.....	b	800/1070 CT, 4 ma	12/16	6.00
DO-T16	.....	b	1K/1330 CT, 3.5 ma	12/16	6.00
DO-T17	.....	b	1.5K/2K CT, 3 ma	12/16	6.00
DO-T18	.....	b	7.5K/10K CT, 1 ma	12/16	6.30
DO-T19	DI-T19	b	300 CT, 7 ma	600	6.00
DO-T20	DI-T20	b	500 CT, 5.5 ma	600	6.00
DO-T21	DI-T21	b	900 CT, 4 ma	600	6.00
DO-T22	DI-T22	b	1500 CT, 3 ma	600	6.00
DO-T23	DI-T23	a	20K/30K CT, .5 ma	0.8K/1.2K CT	6.90
DO-T24	.....	c	200K CT	1K CT	9.90
DO-T25	DI-T25	a	10K/12K CT, 1 ma	1.5K/1.8K CT	7.20
DO-T26	DI-T26	d†	6 hys. @ 2 ma	4.5 hys.‡‡	5.70
DO-T27	DI-T27	d‡	1.25 hys. @ 2 ma	0.9 hy.‡‡	4.80
DO-T28	DI-T28	d§	0.3 hy. @ 4 ma	0.1 hy.‡‡	4.80
DO-T29	.....	b	120/150 CT, 10 ma	3.2/4	5.70
DO-T30	.....	b	320/400 CT, 7 ma	3.2/4	5.70
DO-T31	.....	b	640/800 CT, 5 ma	3.2/4	6.00
DO-T32	.....	b	800/1K CT, 4 ma	3.2/4	6.00
DO-T33	.....	b	1060/1330 CT, 3.5 ma	3.2/4	6.00
DO-T34	.....	b	1.6K/2K CT, 3 ma	3.2/4	6.00
DO-T35	.....	b	8K/10K CT, 1 ma	3.2/4	6.30
DO-T36	DI-T36	a	10K/12K CT, 1 ma	10K/12K CT	7.50
DO-T37	DI-T37	a	2K/2.5K CT, 3 ma	8K/10K Split	7.80
DO-T38	DI-T38	a	10K/12K CT, 1 ma	2K/2.4 Split	7.80
DO-T39	.....	a	20K/30K CT, .5 ma	1K/1.5K Split	7.80
DO-T40	.....	a	40K/50K CT, .25 ma	400/500 Split	8.40
DO-T41	DI-T41	a	400/500 CT, 8/6 ma	400/500 Split	7.50
DO-T42	.....	a	400/500 CT, 8/6 ma	120/150 Split	7.50
DO-T43	DI-T43	a	400/500 CT, 8/6 ma	40/50 Split	7.50
DO-T44	DI-T44	a	80/100 CT, 12/10 ma	32/40 Split	7.50
DO-T45	.....	a	1K/1.25K CT, 3.5 ma	16K/20K Split	7.80
DO-T46	.....	c	100K CT	500 CT	9.60
DO-T47	.....	a	9K/10K, 1 ma	9K/10K CT	8.10
DO-T48	.....	a	8K/10K, 1 ma	1.2K/1.5K CT	7.80
DO-T49	.....	d§§	Series—20 hys @ 1 ma, 5100Ω Parallel—5 hys @ 2 ma, 1275Ω		7.80
DO-T50	.....	d§§	Series—.075 hys @ 10 ma, 10.5Ω Parallel—.018 hys @ 20 ma, 2.6Ω		5.70
DO-T51	DI-T51	a	2K/2.5K CT, 3 ma	2K/2.5 K split	7.80
DO-T52	DI-T52	a	4K/5K CT, 2 ma	8K/10K CT	7.80
DO-T400	.....	h	28V, 380-1 kHz	6.3 V, 60 ma	6.60
DO-T410	.....	h	28V, 380-1 kHz	Two 6.3 V, 30 ma	7.80
DO-T420	.....	h	28V, 380-1 kHz	28 V, 10 ma	7.80
DO-TSH	DI-TSH		High mu shield and cover; 25 db		.90

•630 ohms. †2100 ohms. ‡100 ohms. §25 ohms.
‡‡DI-T primary impedance. §§2 Wdgs.
a—Interstage; b—Output; c—Input; d—Inductor; e—Driver or Output; f—Driver; g—matching; h—Power Unit.

NEW DI-T200* SERIES TRANSISTOR TRANSFORMERS

(ALSO SEE PAGE 2 FOR DO-7200)

These revolutionary transistor transformers embody the same rugged reliable construction afforded by the unique winding techniques and physical construction found in the DO-T & DI-T transformers. DI-T200 series differ by having straight pin, 1" long, .017 d. Dumet wire, gold plated leads.
To MIL-T-27B, size 5/16 x 3/8", wt. 1/15 oz. U.S. Pat. No. 2,949,591

Type No.	Application	Pri. Imped., Ohms	Sec. Imped., Ohms	Suggested Net Each
DI-T225	Interstage	80 CT 100 CT	32 Split 40 Split	$8.40
DI-T230	Output or Matching	300 CT	600 Split	7.20
DI-T235	Interstage	400 CT 500 CT	40 Split 50 Split	8.40
DI-T240	Interstage or Output (Ratio 2:1:1)	400 CT 500 CT	400 Split 500 Split	8.40
DI-T245	Output or Matching	500 CT 600 CT	50 CT 60 CT	6.90
DI-T250	Output or Mixing	500 CT	600 CT	7.20
DI-T255	Output or Matching	1,000 CT 1,200 CT	50 CT 60 CT	6.90
DI-T260	Output	1,500 CT	600 CT	7.20
DI-T265	Isolation or Interstage	2,000 CT 2,500 CT	8,000 Split 10,000 Split	8.70
DI-T270	Output or Driver	10,000 CT 12,000 CT	500 CT 600 CT	7.80
DI-T273	Output or Driver	10,000 CT 12,500 CT	1,200 CT 1,500 CT	7.80
DI-T276	Interstage or Driver	10,000 CT 12,000 CT	2,000 CT 2,400 CT	7.80
DI-T278	Interstage or Driver	10,000 CT 12,500 CT	2,000 Split 2,500 Split	8.70
DI-T283	Isolation or Interstage	10,000 CT 12,000 CT	10,000 CT 12,000 CT	8.40
DI-T288	Interstage or Driver	20,000 CT 30,000 CT	800 CT 1,200 CT	8.10
DI-T204	Split Inductor (2 wdgs)	Series: .1 hy @ 4 ma DC, 25Ω Parallel: .025 hy @ 8 ma DC, 6Ω		6.00
DI-T20(	Split Inductor (2 wdgs)	Series: .9 hy @ 2 ma DC, 105Ω Parallel: .2 hy @ 4 ma DC, 26Ω		6.00
DI-T212	Split Inductor (2 wdgs)	Series: 2.5 hy @ 2 ma DC, 630Ω Parallel: .6 hy @ 4 ma DC, 157Ω		6.00
DI-T216	Split Inductor (2 wdgs)	Series: 4.5 hy @ 2 ma DC, 2300Ω Parallel: 1.1 hy @ 4 ma DC, 575Ω		6.90

DI-T200SH Drawn Hipermalloy shield provides 15 to 20 db shielding through side of case — .75

NEW PIL* ULTRAMINIATURE AUDIO INDUCTORS

The new PIL series constitutes the smallest audio inductors available. These units are metal encased, ruggedized manufactured and guaranteed to MIL-T-27B. They are MIL Type TF4RX-20YY. Physical construction is that of the PIP (DO-T, DI-T) units shown on this page.
PIL units shown: Suggested net each: $6.00

For New PIL Transformers See Pg. 3.

Type No.	Connection	Ind.Hys. Min @ IV, 1KC	DC ma	DCR Ohms
PIL-5	Series	.12	0	43
	Parallel	.03	0	10.7
	Series	.10	10	
	Parallel	.025	10	
PIL-8	Series	.32	0	115
	Parallel	.08	0	28
	Series	.16	10	
	Parallel	.06	10	
PIL-12	Series	.8	0	300
	Parallel	.2	0	75
	Series	.4	5	
	Parallel	.15	5	

5/16" Dia. x 3/16" high Wt. 1/20 oz.

PIP* SERIES TRANSISTOR PULSE TRANSFORMERS

UTC's PIP series of subminiature transistor type pulse transformers is designed to give a maximum of component density in equipments, their configuration being especially compatible with transistors. The design is based on the UTC DO-T and DI-T series to impart exceptional reliability. PIP-1 through PIP-9 have a ratio of 4:4:1, PIP-10 through PIP-12 have a ratio of 5:3:1. All units are checked and adjusted in a transistor test circuit to give the required pulse width.

Hermetically sealed, manufactured & guaranteed to MIL-T-20138B by full environmental testing . . . all units, completely METAL CASED, MIL type TP6RX4410CZ. See UTC page 8 for other miniature pulse transformers.

All Units Individually Adjusted to Parameters Shown in Table

U.S. Pat. No. 2,949,591

5/16" Dia. x 3/16" high
Weight 1/20 oz.

Type No.	APPROX. DCR, OHMS 1-Brn 2-Rd	3-Org 4-Yel	5-Grn 6-Blu	BLOCKING OSCILLATOR PULSE Width μSec.	Rise Time	% Over Shoot	Droop %	% Back Swing	COUPLING CIRCUIT CHARACTERISTICS P Width μSec.	Volt Out	Rise Time	% Over Shoot	Droop %	Back Swing	Imp. in, out,	Suggested Net Each
PIP-1	.18	.20	.07	.05	.02	0	0	37	.05	9	.018	0	0	12	50	$6.00
PIP-2	.47	.56	.17	.1	.025	0	0	25	.1	8	.02	0	0	5	50	6.00
PIP-3	1.01	1.25	.37	.2	.030	2	0	15	.2	7	.035	0	0	5	100	6.00
PIP-4	1.5	1.85	.54	.5	.05	0	0	15	.5	7	.06	0	0	0	100	6.00
PIP-5	2.45	3.1	.9	1	.08	0	0	14	1	6.8	.15	0	0	5	100	6.00
PIP-6	3.0	3.7	1.1	2	.10	0	0	15	2	6.6	.18	0	2	10	100	6.00
PIP-7	4.9	6.05	1.8	3	.20	0	0	14	3	6.8	.20	0	2	10	100	6.00
PIP-8	8.0	9.7	2.9	5	.30	0	0	3	5	7.9	.22	0	13	25	200	6.00
PIP-9	13.1	15.9	4.7	10	.35	0	5	12	10	6.5	.4	0	15	20	200	6.00
PIP-10	.55	.41	.15	.1	.01	0	0	20	.1	8	.01	0	0	5	140/50	6.00
PIP-11	2.9	2.2	.82	1	.02	4	4	6	1	6.6	.05	0	6	12	280/100	6.00
PIP-12	9.4	7.1	2.6	5	.05	0	12	12	5	8	.09	2	12	25	560/200	6.00
PIP-100	Transistor pulse transformer kit, consisting of PIP-1 thru PIP-9 in plastic case.															51.00
PIP-SH	Drawn Hipermalloy shield and cover for PIP's provides 20 to 30 db shielding.															.90

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UTC PAGE 4.

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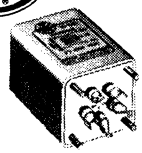
TRANSISTOR TRANSFORMERS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.

TRANSISTOR SUPPLY TRANSFORMERS



Primary 115V. 50/60 Hz (tapped on H-143 thru H-146 for dual secondary voltages). DC ratings are approximate, based on silicon bridge rectifier (except H-141, H-142 also shown F.W.C.T.). Choke input DCV is based on 10% voltage drop in choke. Condenser value, C, is in 1000 mfd. H-141, H-142, H-147 listing under "Secs in parallel" is single winding. All units MIL type TF4RX02.

Type No.	Sec. V Rms	Sec. A Rms	Sec. in Parallel: Choke DCV	Input DCA	Cond. DVC	Input DCA	C	Sec. in Series: Choke DCV	Input DCA	Cond. DVC	Input DCA	C	MIL Case (Pg. 15)	Sugg. Net Each
H-141	20 CT	.3	16.5	.3	26	.2	.2						EB	$10.80
			8	.43	12	.3	.5							
H-142	20 CT	.6	16.5	.6	26	.4	.4						EA	13.50
			9	.85	13	.6	1							
H-143	17/21.5	1.5	14/17.5	3	18.5/25	2	1	28/35	1.5	43/56	1	.5	HA	19.80
	17/21.5	1.5												
H-144	17/21.5	4	14/17.5	8	18.5/25	5	2	28/35	4	43/56	2.5	1	LA	33.00
	17/21.5	4												
H-145	17/21.5	9	14/17.5	18	18.5/25	12	6	28/35	9	43/56	6	4	RC-175	51.00
	17/21.5	9												
H-146	34/43	4.5	28/35	9	43/56	6	4	56/70	4.5	85/110	3	1	UTC Pg. 12	51.00
	34/43	4.5												
H-147	10	20	8.2	20	10	13	12						KA	30.00

ALSO SEE PAGE 2 FOR NEW MOLDED ISOLATION & TRANSISTOR SUPPLY TRANSFORMERS

UNIVERSAL TRANSISTOR SUPPLY TRANSFORMERS

Low Voltage DC Supply
Telephone Supply
Bias Supply
Battery Chargers
Plating Rectifiers

UTC universal transistor supply transformers are high reliability units in drawn MIL cases. Primary tapes can modify nom. AC voltages by −6%, +6%, and +12%. The capacitor following the rectifier affects the DC voltage.

PRIMARY 115 VOLTS, 50/60 Hz
NOMINAL SEC. VOLTS, 8.25 to 40.5

Type No.	MIL DC Range	Indust. DC Range	MIL Case (Pg. 15)	Sugg. Net Each
H-915	6V-.065A to 53V-.02A	6V-.085A to 53V-.025A	AH	$13.50
H-925	6V-.22A to 53V-.07A	6V-.28A to 53V-.085A	AJ	14.10
H-935	6V-1.2A to 53V-4A	6V-1.52A to 53V-.48A	FA	15.60
H-94	6V-3A to 53V-1A	6V-3.8A to 53V-1.2A	HA	22.50
H-95	6V-7.5A to 53V-2.5A	6V-9A to 53V-3A	KA	30.00
H-96	6V-18A to 53V-6A	6V-23A to 53V-7.5A	OA	54.00
	PRIMARY 115 VOLTS, 50/60 Hz NOMINAL SEC. VOLTS, 16.5 TO 81			
H-965	12V-1.5A to 106V-.5A	12V-1.9A to 106V-.6A	HA	$22.50

NEW 400 Hz MET* TYPES

PRIMARY 115 VOLTS, 400 Hz
NOMINAL SEC., 8.25-40.5 VOLTS

ALSO SEE PAGE 2 FOR NEW 400 Hz UNIVERSAL TRANSISTOR SUPPLY TRANSFORMERS

MET 455	6V-1.2A to 53V-.4A	6V-1.52A to 53V-.48A	AJ	$15.00
MET 465	6V-3A to 53V-.4A	6V-3.8A to 53V-1.2A	FA	15.60
MET 475	6V-7.5A to 53V-2.5A	6V-9A to 53V-3A	HA	21.00

Primary 105/115 Volts 380-1000 Hz. Sec: 6.3 VCT 2500V RMS Test

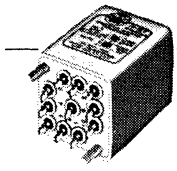
MOLDED 400 Hz TYPE TF55X01ZZ

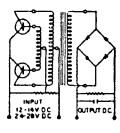
Type No.	Sec. Amp.	L In.	W In.	H In.	Wt. Lbs.	Sugg. Net Each
H-101	3.5	1 25/32	1 31/32	2	.3	$15.60
H-102	5.5	1 3/4	2	2 1/4	.44	16.50
H-103	10	2 3/16	2 1/8	2 1/2	.8	21.00
H-104	25	2 7/8	2 1/2	3 1/32	1.5	24.00
H-118	.3	Subouncers mold see pg. 13				9.90

TRANSISTOR INVERTER TRANSFORMERS

High reliability (layer insulated) types providing high efficiency in small size. Units are in drawn MIL cases. Circuit details supplied with transformer. With 6 V. input instead of 12 V., output voltage is halved, current rating remains the same.

FOR 12/14 OR 24/48 VOLT BATTERY





Type No.	DC output, when used in circut shown	MIL Case (Pg. 15)	Sugg. Net Each
H-97	250V.-60 ma	AH	$16.50
H-98	375V.-100 ma	AJ	17.40
H-99	425V.-175 ma	FA	22.20
H-100	550V.-200 ma	GB	22.20

IMMEDIATE DELIVERY ON ALL ITEMS FROM STOCK

NEW MET* 400-Hz SERIES

Type No.	MIL Type	Sec. Volt	Amps. (MIL)	Amps. (Indust.)	Sec. Test V. RMS	MIL Case (Pg. 15)	Sugg. Net Each
MET-410#	TF4SX01YY 400 cy. pri.	6.3	.6	.75	500	RC-25 (Pg. 17)	$ 7.80
MET-420	TF4SX01AH 3800-1000 cy.‡	6.3CT	2	2.5	1500	AH	12.00
MET-430†	TF4SX01FA 400 cycles§	12.6CT 12.6	2 2	2.5 2.5	1500	FA	19.50
MET-435	TF4SX01FA 380-1000 cy.‡	6.3CT	10	12	2500	FA	15.00
MET-440	TR4SX01GB 380-1000 cy.‡	6.3CT 6.3CT	6 6	7 7	2500	GB	15.00

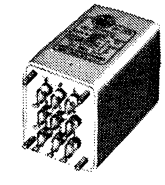
†Two MET-430's, Scott-connected, provide 26v., 2-phase from 115 v., 3-phase 400 Hz input. Replaces former No. H-139.
‡105/115/125 v. primary.
§57.5/99.7/115 v. primary.
#Replaces former No. H-140.

ALSO SEE PAGE 2 FOR NEW 400 Hz ISOLATION TRANSFORMERS

HERMETIC SEALED TRANSISTOR/FILAMENT SUPPLY TRANSFORMER

Primary: 105/115/210/220 volts, 50/60 Hz, except H-130, H-137, H-138, H-104 (115v.) and H-131 (115/220v.) Suited to 400/100 Hz. H-128: 6½ x 5½" x 7¾" h. (wt. 34 lbs.) H-129: 6½" x 5½" x 7¾" h. (wt. 28 lbs.)

METAL CASED TF4 TYPE



MIL T-27B RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE

Type No.	MIL Type	Sec. Volts	Amps. (MIL)	Amps. (Indust.)	Sec. Test V. RMS	MIL Case Pg. 15	Sugg. Net Each
H-119	TF4RX01AH	6.3CT	.3	.38	1500	AH	$ 9.00
H-120	TF4RX01GB	2.5	10	12	4000	GB	15.00
H-121	TF4RX01JB	2.5	10	12	10000	JB	19.50
H-122	TF4RX01KB	2.5	20	26	10000	KB	24.00
H-123	TF4RX01NB	2.5	5	7.5	10000	NB	41.70
		2.5	5	7.5			
		2.5	10	15			
H-124	TF4RX01FB	5	3	3	2000	FB	14.10
H-125	TF4RX01KB	5	10	12	10000	KB	24.00
H-126	TF4RX01LA	5	20	25	10000	LA	31.50
H-127	TF4RX01NA Term. Opp. Mtg.	5	20	30	21000	NA	54.00
H-128	TF4RX01YY Term. Opp. Mtg.	5	60	75	21000		87.00
H-129	TF4RX01YY	5	10	12	21000		99.00
	Term. Opp. Mtg.	5	10	12			
		5	20	24			
H-130	TF4RX01AJ	6.3CT	.6	.75	1500	AJ	9.90
H-131	TF4RX01FB	6.3CT	2	2.5	2500	FB	13.50
H-132	TF4RX01JA	6.3CT	6	7	2500	JA	21.00
		6.3CT	6	7			
H-133	TF4RX01HB	6.3CT	7	8	2500	HB	16.50
H-134	TF4RX01HA	6.3CT	10	12	2500	HA	19.50
H-135	TF4RX01JB	10 CT	10	13	2500	JB	22.50
H-136	TF4RX01LA	14, 12, 11 CT	10	14	2500	LA	31.50
H-137	TF4RX01EB	6.3	.6	.75	1500	EB	13.50
		6.3	.6	.75			
H-138	TF4RX01GA	12.6	2	2.5	1500	GA	21.00
		12.6	2	2.5			

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TRANSISTOR TRANSFORMERS
(Commercial Types)
& M-S Transformers & Inductors

TRANSISTOR TRANSFORMERS *(Commercial Type)*.

NEW CAT★ TRANSISTOR IMPEDANCE TYPES

All units in RC-50 case. (See page 12) Frequency range ± 2 db, 50-15,000 Hz. Power level 1 watt except CAT-15, 5 watts.

UTC Type	Application	Imped. Ohms	Primary Unbal. ma DC	Secondary Imped., Ohms	Sugg. Net Each
CAT-15	Output	48/12 spl.	750•	16 spl./8/4	$8.85
CAT-20	Istg./outp.	500/125 spl.	20	16/4 split	8.10
CAT-25	Isol./outp.	500/125 spl.	20	500/125 spl.	8.70
CAT-30	Input/istg.	500/125 spl.	20	2K/500 split	8.40
CAT-40	Istg./outp.	10K/2.5K spl.	8	2K/500 split	8.40

•Balance. ★Trade mark.

CHANNEL FRAME FILAMENT/TRANSISTOR TRANSFORMERS
Pri. 115 V. 50/60 Hz—Test Volts RMS: 1500

See Fig. E page 14.

Type No.	Secondary	W	D	H	M	Lbs.	Sugg. Net Each
FT-1	2.5 VCT-3A	2 7/8	1 5/8	1 11/16	2 3/8	3/4	$4.50
FT-2	6.3 VCT-1.2A	2 7/8	1 5/8	1 11/16	2 3/8	3/4	4.50
FT-3	2.5 VCT-6A	3 5/16	1 7/8	2	2 13/16	1	5.10
FT-4	6.3 VCT-3A	3 5/16	1 7/8	2	2 13/16	1	5.10
FT-5	2.5 VCT-10A	3 3/4	2 1/8	2 5/16	3 1/8	1 1/2	5.70
FT-6	5 VCT-3A	3 3/4	2 1/8	2 5/16	3 1/8	1 1/2	5.70
FT-7	7.5 VCT-3A	3 3/4	2 1/8	2 5/16	3 1/8	1 1/2	5.70
FT-8	6.3 VCT-8A	4	2 1/2	2 5/8	3 5/16	2 1/2	6.30
FT-10	24 VCT-2A or 12V-4A	4	2 5/8	2 11/16	3 5/16	2 1/2	6.90
FT-11	24 VCT-1A or 12 V-2A	3 3/4	2 1/8	2 5/16	3 1/8	1 1/2	6.00
FT-12	36 VCT-1.3A or 18 V-2.6A	4	2 5/8	2 5/8	3 5/16	2 1/2	6.90
	Taps on pri. of FT-13, FT-14 & FT-15 to modify sec. nominal V, −6% +6%, +12%						
FT-13	26 VCT-.04A	2 1/8	1 3/8	1 1/4	1 3/4	1/4	$5.70
FT-14	26 VCT-.25A	2 7/8	1 5/8	1 11/16	2 3/8	3/4	5.70
FT-15	48VCT-1A	4	2 1/2	2 5/8	3 5/16	2 1/2	7.80
FT-16*	11 VCT-2.5A or 5.5 V.-5A	3 3/4	2 1/8	2 5/16	3 1/8	1 1/2	7.80

* For 120 V input, use 6% tap

TRANSISTOR/FILAMENT TRANSFORMERS
Pri. 115 x 50/60 Hz; Bridge Rectifier
S-77, S-78 & S-79 Tapped For Dual Secondary Voltages

UTC Type	DCV	DCA	Case No. See Page 14	Sugg. Net Ea.
S-75	5.2/14	1.2/.4	G-1	$ 6.60
S-76	10/26	4/1.4	G-4	9.90
S-77	14/56	3/1	G-5	11.40
S-78	28/110	9/3	G-10	33.00
S-79	32/120	3/1	G-7	18.00

CIRCUIT DEVELOPMENT TRANSFORMERS FOR TRANSISTORS

The UTC LABoratory circuit development transformers aid the designer in selecting optimum impedances for best power and distortion results from his transistor circuit.

LAB-5
20 Hz to 20 kHz
Up to 50mw Continuous

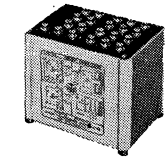
Pri Imp. Ω	Sec. Imp. Ω
125	125
200 split	200 split
500 split	500 split
2000 split	2000 split

Suggested Net Each: $48.00

LAB-5 & LAB-10
units in LS-1 case
3 1/8x2 5/8x3 1/4"; 3 lbs.

LAB-20
units in LS-3 case
5 13/16x5x4 11/16"; 15 lbs.

LAB* UNIT



Terminal board as shown above

LAB-10
20 Hz to 20 kHz
Up to 1W Continuous

Pri. Imp. Ω Range	Pri. to Sec. Ratio	Sec. Imp. Ω Range
1900 Ω to 14,400 Ω	20:1 or 10:1	19 Ω to 36 Ω
925 Ω to 7600 Ω	10:1 or 5:1	37 Ω to 76 Ω

Suggested Net Each: $30.00

LAB-20
20 Hz to 20 kHz
Up to 50W Continuous

Pri. Imp. Ω	Sec. Imp.
6, 12, 24, 40, 54, 70,	4, 8, 16, 64

Suggested Net Each: $60.00

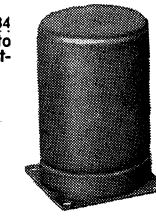
TRANSISTOR/FILAMENT SUPPLY TRANSFORMERS
Primary 115 volts 50/60 cycles

Type No.	Sec. V RMS	Sec. A RMS	In Parallel: Choke in DCV	In Parallel: Choke in DCA	In Parallel: C in DCV	In Parallel: C in DCA	In Series: Choke in DCV	In Series: Choke in DCA	In Series: C in DCV	In Series: C in DCA	Case No. See Pg. 12	Sugg. Net Ea.
CG-30	17/21.5	1.5	14/17.5	3	18.5/25	2	28/35	1.5	43/56	1	RC-112	$18.90
	17/21.5	1.5										
CG-31	34/43	4.5	28/35	9	43/56	6	56/70	4.5	85/110	3	RC-175	42.00
	34/43	4.5										
CG-32	6.3VCT	1.2									RC-62	10.50

FILAMENT/TRANSISTOR SUPPLY TRANSFORMERS

Primary 105, 115, 210, 220, 230 volts, 50/60 Hz, except CG-34 . . . 105, 115, 220, 230. These transformers may be used on 25 to 43 Hz if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half.

Type No.	Sec. Volts C.T.	Sec. Amp.	Working Voltage	Sec. Test Volts RMS	Case No. See Page 12	Sugg. Net Each
CG-33	6.3	4	500	2000	RC-75	$10.50
CG-34	2.5	10	2500	6000	RC-112	12.60
CG-35	6.3	6	500	2000	RC-87	12.00
CG-36	6.3/6.3	5/5	500	2000	RC-100	15.60
CG-120	2.5	10	5000	11000	RC-125	18.00
CG-121	5	25	5000	11000	RC-150	22.50
CG-122	7.5/6.3	10	1500	4000	RC-125	18.00
CG-124	10	10	1500	4000	RC-150	18.00
CG-125	14/12/11	10	1500	4000	RC-150	21.00
CG-126	14/11/10 14/11/10	10	1500	4000	RC-152	30.00



RC CASE
See page 12

MILITARY STANDARD TRANSFORMERS AND INDUCTORS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications

FILAMENT, POWER, PLATE TRANSFORMERS

Primary 105/115/125 v., 54/66 Hz. Current ratings are for high voltage secondary DC, choke input filter. For condenser input, reduce by 70%. All units are MIL grade 4, ruggedized; equally usable where grade 1 is specified. Electrostatically shielded.

UTC Type	MS No.	MIL Type TF4RX-	Secondary Rating	MIL Case (Pg. 15)	Sugg. Net Ea.
N-583A	90016-2	01EB002	2.5 v.-3 a.; 1000 WV	EB	$13.50
N-584A	90017-2	01GB003	2.5 v.-10 a.; 1000 WV	GB	15.00
N-585A	90018-2	01FB004	5 v.-3 a.; 1000 WV	FB	13.50
N-586A	90019-2	01HB005	5 v.-10 a.; 1000 WV	HB	18.00
N-587A	90020-2	01FB006	6.3 v.-2 a.; 1000 WV	FB	13.50
N-588A	90021-2	01GB007	6.3 v.-5 a.; 1000 WV	GB	15.00
N-589A	90022-2	01JB008	6.3 v.-10 a.; 1000 WV	JB	19.50
N-590A	90023-2	01KB009	6.3 v.-20 a.; 1000 WV	KB	24.00
N-591A	90024-2	01JB012	2.5 v.-10 a.; 6300 WV	JB	19.50
N-592A	90025-2	01KB013	5 v.-10 a.; 6300 WV	KB	22.50
N-593A	90026-2	03HA001	200-100-0-100-200, 70 ma; 6.3/5 v.-2 a.; 6.3 v.-3 a.	HA	22.20
N-594A	90027-2	03JB002	325-0-325, 70 ma; 6.3/5 v.-2 a.; 6.3 v.-4 a.	JB	24.00
N-595A	90028-2	03KB006	325-0-325, 150 ma; 5 v.-3 a.; 6.3 v.-5 a.	KB	26.40
N-596A	90029-2	03LB003	400-0-400, 175 ma; 5 v.-3 a.; 6.3 v.-8 a.	LB	33.00
N-597A	90030-2	03MB004	450-0-450, 250 ma; 5 v.-3 a.; 6.3 v.-8 a.	MB	39.00
N-598A	90031-2	02KB001	350-0-350, 250 ma	KB	21.00
N-599A	90032-2	02LB002	550-0-550, 250 ma	LB	28.50
N-600A	90036-2	02NB003	800-0-800, 250 ma	NB	37.50

AUDIO TRANSFORMERS

Frequency response 300-10,000 Hz ± 2 db. Split 600-ohm units provides for 600 ohms CT and 1500 ohms. Electrostatic shielding provided on W-784, W-785 and W-786. No. W-783 has center-tapped secondary for 90K CT or 22.5K CT. All units in AJ case (Pg. 15). Wt., 0.6 lb.

UTC Type	MS No.	MIL Type TF4RX-	#	Pri. Ohms	Pri. DC ma., Unbal.	Sec. Ohms	Sugg. Net Ea.
W-783	90000-A	15AJ001	a	10K CT	10	90K spl.	$16.50
W-784	90001-A	16AJ002	b	600 spl.	.....	4/8/16	15.90
W-785	90002-A	10AJ001	c	600 spl.	.....	135K CT	15.30
W-786	90003-A	16AJ001	d	600 spl.	.....	600 spl.	15.30
W-787	90004-A	13AJ001	e	7.6K/4.8K	40	600 spl.	13.95
W-788	90005-A	13AJ002	f	7.6K/4.8K	40	4/8/16	14.25
W-789	90006-A	13AJ003	g‡	15K CT	10	600 spl.	13.95
W-790	90007-A	13AJ004	g†	24K CT	20†	600 spl.	14.25
W-791	90008-A	13AJ005	g**	60K CT	20+	600 spl.	13.95

Use: a—PP plates to pp grids, 15 dbm level. b—Line to VC, 2 watts. c—Line to pp grids, 15 dbm. d—Line to line, 15 dbm. e—Plate to line, 2 watts. f—Plate to VC, 2 watts. g—PP plates to line. †Balanced. ‡2 watts. +1 watt. **0.5 watt.

INDUCTORS

Two windings for series or parallel connection. Inductance shown for series connection. All but Z-847 are standard MIL case types. Rated 3500 WVDC, unless otherwise noted.

UTC Type	MS No.	MIL Type	Induct. Hy.	ma DC	DCR Ohms	MIL Case Pg. 15	Sugg. Net Each
Z-848*	90009-2	04FA001■	16	80	645	FA	$12.60
Z-849*	90010-2	04GA002■	25	80	670	GA	15.00
Z-850*	90011-2	04HA003■	40	80	1020	HA	22.50
Z-851†	90013-2	04HA005■	16	125	330	HA	18.00
Z-852†	90014-2	04JB006■	25	125	460	JB	25.50
Z-853	90037-2	04KA007■	40	125	535	KA	31.50
Z-854	75000-2	04LA009•	16	200	180	LA	33.00
Z-855	75001-2	04MA010•	25	200	210	MA	37.50
Z-856	75002-2	04NA012•	16	315	105	NA	45.30
Z-857	75003-2	04YY013•	25	315	150	YY	75.00

*1000 WVDC. †2000 WVDC. ■TF1RX-. •TF4RX.

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UTC PAGE 6.

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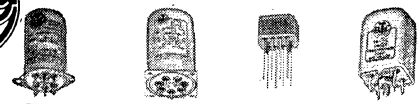
HERMETIC COMPONENTS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.

HERMETIC AUDIO UNITS



RC-25 RC-50 FH SM

These extremely compact units are proved to specifications of MIL-T-27B. **Response & level ratings:** RC-25: Similar to Ouncers for case (1 13/32" x 6 1/64" x 1 1/16" h. 1.5 oz.). RC-50: Similar to ultra compact units for case (1 5/8" x 1 5/8" x 2 5/16" h. 8 oz.). SM: Similar to SSO units for case (1 1/16" x 1 1/2" x 2 9/32" h. 0.8 oz.). FH: 27/32" x 23/32" x 9/16", h. .8 oz.

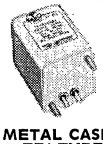
ALSO SEE PAGE 2 FOR NEW HERMETIC AUDIO UNITS

UTC Type	Application	Pri. Imped., Ohms	Sec. Imped., Ohms	#	Sugg. Net Ea.
H-1	Line to grid	50, 200 CT, 500 CT	50K	a	$9.00
H-2	Mike to grid	82, 50 ma	135K	a	9.90
H-3	Pl. to grid	15K	60K	a	7.80
H-4	Pl. to grid	15K, 4 ma	60K	a	7.80
H-5	Pl. to p-p	15K	95K CT	a	8.40
H-6	Pl. to p-p	15K, 4 ma	95K split	a	10.20
H-7	Pl. to line	20K CT, 4 ma	150/600	a	9.60
H-8	Mixing	150/600	600 CT	a	9.00
H-9	Input	150/600	1 meg.	a	9.00
H-10	Pl. to grid	10K	1 meg.	a	8.40
H-11	Reactor: 300 hys, 50 hys @ 3 ma, 600 ohms			a	7.50
H-12	Line to p-p	50, 200 CT, 500 CT	50K CT	a	9.60
H-13	Interstage	10K/2.5K split	2K/.5K split	a	9.00
H-14	Interstage	10K/2.5K split	4K/1K split	a	9.00
H-15	Tr. to line	1.5K CT	500/125 split	a	9.00
H-16	Tr. to V.C.	2K/4K CT	8/16	a	9.00
H-17	Tr. input	600/150 split	2K/500 split	a	8.70
H-18	Tr. interstage	10K CT	500/125 split	a	8.70
H-19A	Input*	250 CT/500 CT	50K/100 CT	b	16.50
H-20	Interstage	15K split	80K split	b	15.90
H-21	Pl. to p-p	15K, 8 ma	80K split	b	18.00
H-219	Tr. interstage	50K CT	500/125 split	a	9.30
H-22	Pl. to line	15K, 8 ma	50/200, 125/500	b	16.50
H-220	Tr. interstage	500/125 split	500/125 split	a	9.00
H-221	Tr. interstage	500/125 split	150/37.5 split	a	9.00
H-222	Split inductor:	Series: 60 Mhy-80 ma, 4 ohms Parallel: 15 Mhy-160 ma, 1 ohm		a	6.60
H-224	Split inductor:	Series: 1 Hy-20 ma, 60 ohms Parallel: .25 Hy-40 ma, 15 ohms		a	6.60
H-225	Tr. interstage	100/25 split	40/10 split	a	9.00
H-23	P-p to line	30K split	50/200, 125/500	b	16.80
H-24	Inductor: 250 hys. @ 5 ma†, 65 hys. @ 10 ma†			b	12.00
H-25	Mixing	500 CT	125/500	b	15.00
H-26	Interstage	10K/2.5K split	2K/500 split	b	15.00
H-27	Tr.to V.C.	500 CT	16/4 split	b	15.00
H-280	Interstage	200 CT	400 split	b	12.60
H-281	Tr. to V.C.§	48 CT	16, 8, 4	b	12.60
H-282	Tr. to V.C.††	20 CT	16, 8, 4	c	13.50
H-283	Mixing/ Matching chop.	50, 125/150 200/250, 333 500/600	50, 125/150, 200/250, 333 500/600	b	18.00
H-284	Split Inductor:	Series: 4 Hys-50 ma, 100 ohms Parallel: 1 Hy-100 ma, 25 ohms		b	8.10
H-286	Split Inductor:	Series: 40 Hys-15 ma, 1000 ohms Parallel: 10 Hys-30 ma, 250 ohms		b	8.40
H-290	Shld. chopper	2500 e. s.	100K	b	21.00
H-291	Max. shld. chop.	2000/500 e. s.	312K	c	30.00*
H-295	Shld. chopper	10K/2.5K e. s.	50K	f	18.00
H-30	Input	50	62,500	d	9.00
H-31	Pl. to grid	10K	90K	d	8.40
H-32	Pl. to line	10K, 3 ma	200	d	8.40
H-33	Output	30K, 1 ma	50	d	9.00
H-35	Inductor: 100 hys., 50 hys. @ 1 ma, 4400 ohms			d	6.90
H-36	Interstage	25K, 0.5 ma	1K	d	7.50
H-37A	Tr. output	500 CT	600 CT	d	7.50
H-38	Interstage	10K CT, 2 ma	1.2K CT	d	7.50
H-39	Interstage	10K CT, 2 ma	2K CT	d	7.50
H-40A	Tr. output	500 CT	600 CT	d	7.50
H-41A	Tr. output	1500 CT	600 CT	d	7.50
H-42A	Isol./Tr. Inter.	10K CT	10K CT	d	8.40
FHA-15	Tr. Interstage	10K CT/2.5K split	200 CT/50 split	e	8.10
FHA-25	Tr. Interstage	20K CT/5K split	800 CT/200 split	e	8.10
FHI-3	Split Inductor:	Series: 60 Mhys-32 ma, 6 ohms Parallel: 15 Mhys-64 ma, 1.5 ohms		e	6.00
FHI-7	Split Inductor:	Series: 1 Hy-8 ma, 100 ohms Parallel: .25 Hy-16 ma, 25 ohms		e	6.00
FHI-11	Split Inductor:	Series: 2.4 Hys-2 ma, 160 ohms Parallel: .6 Hys-4 ma, 40 ohms		e	6.00

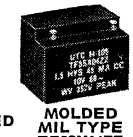
*Has 75 db shielding. †6000 ohms. ‡1500 ohms. §5 watts. ††10 watts.

#Case: a—RC-25. b—RC-50. c—RC-62. d—SM. e—FH. f—RC-37. (See above & pg.12)

HERMETIC SEALED FILTER INDUCTORS TUBE and TRANSISTOR TYPE



METAL CASED TF4 TYPE H-70 thru H-79, H-164 thru H-173



MOLDED MIL TYPE TF5SX04ZZ H-105 thru H-109 & H-300

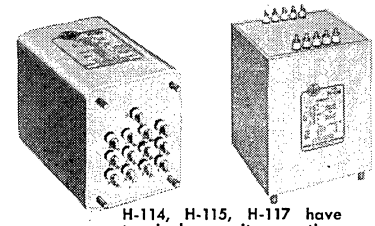
The multiple ratings for the "H" series of filter chokes suit these units for the complete gamut of military and industrial applications. Transistor supply units are swinging type to enhance regulation. H-79 terminals opposite mounting. *Relates to ripple voltage, in input filter circuits only.

Type No.	Ind. Hys.	@ ma DC	Res. Ohms	Max. DCV* Ch. Input	Test V. RMS	MIL Case Pg. 15	Sugg. Net Ea.
H-70	20	20	925	350	1000	AH	$ 8.10
H-71	20	40	350	500	2500	FB	10.50
H-72	13	70	215	500	2500	GB	11.40
H-73	11	100	150	700	2500	HB	12.00
H-74	11	150	135	700	2500	JB	13.60
H-75	11	200	90	700	2500	KB	21.00
H-76	11	200	85	1500	4500	LB	27.00
H-77	10	300	60	2000	5500	MB	31.50
H-78	7	400	48	2500	7000	OA	37.50
H-79	7	800	20	3000	9000	7x7x8	96.00
H-164 †	45‡	35	1.2		500	AG	7.50
(2 wdgs.) *	11.25‡	70	.295				
H-166 †	125‡	50	1.2		500	AH	9.00
(2 wdgs.) *	31‡	100	.3				
H-168 †	68‡	100	.8		750	AJ	9.90
(2 wdgs.) *	17‡	200	.2				
H-170 †	.18	125	.6		1000	GB	11.70
(2 wdgs.) *	.045	250	.15				
H-171 †	9‡	75A	.03		500	JA	18.00
(2 wdgs.) *	2.25‡	1.5A	.0075				
H-172 †	70‡	.25A	.22		1000	HA	16.20
(2 wdgs.) *	17.5‡	.5A	.055				
H-173 †	90‡	.5A	.15		1000	KA	25.50
(2 wdgs.) *	22.5‡	1A	.038				
H-174†	.50‡	.65A	.08		1000	MB	30.00
(2 wdgs.)*	12.5‡	1.3A	.02				

Type No.	Inductance Henries @ DC MA	DCR Ohms	Test Volts	L	W	H	Wgt. Lbs.	Sugg. Net Ea.
H-105	2.5 @ 25 ma	225	1000	1¼	1 3/16	1 5/16	.1	$ 6.30
H-106	2.25 @ 60 ma	110	1000	1⅝	1 3/16	1⅜	.28	6.60
H-107	2 @ 120 ma	55	2500	2⅛	1¾	1 3/16	.9	8.40
H-108	2 @ 220 ma	35	2500	2⅞	2½	2 17/32	1.7	11.40
H-109†	.2 @ 150 ma	.6	750	2⅞	2½	2 17/32	1.7	12.30
(2 wdgs.)*	.06 @ 250 ma	.15						
H-300 †	1 @ 5 ma	40	500	1	¾	23/32	0.5	6.90
(2 wdgs.)*	.25 @ 10 ma	10						

†Split winding in series *Split winding in parallel
‡Rated in millihenries

HERMETIC SEALED POWER and PLATE TRANSFORMERS



H-114, H-115, H-117 have terminals opposite mounting.

Power transformers: primary 115V, 60 Hz suited to 50* - 1000 Hz service. Plate transformers: primary 105/115/210/220 volts, 50/60 Hz. "L" ratings are choke input . . . "C" ratings are condenser input. H-80 thru H-197 MIL type TF4RX03, H-110 thru H-117 MIL type TF4RX02. The tapped high voltage winding provides either of two secondary voltages for greatest versatility. The power transformer listings indicate DC voltages and permissible currents for both choke and condenser input filters, as well as for military and industrial applications.

"W" suffix units designed for full wave center tap and full wave bridge application. Center tap of secondary may be disconnected from ground.

MIL-T-27B Ratings in Regular Type, Industrial Ratings in Bold Type

Type No.	HV Sec. C. T.	DC Volts	Approx. ma	Fil. Wdg.	Approx. DC Volts	DC ma	Fil. Wdg.	MIL Case Pg. 15	Sugg. Net Each
H-80	450	C	240	30 6.3VCT-2A	C 215	38	6.3VCT-2.5A	FA	$15.60
H-81	500	L	170	95	L 160	110			
		C	270	55 6.3VCT-3A	C 245	75	6.3VCT-3A	HA	21.00
	550	L	200	85 5V-2A	L 180	105	5V-2A		
		C	310	50	C 280	65			
H-82	550	L	180	145	L 160	190			
		C	290	90 6.3VCT-4A	C 270	115	6.3VCT-4.5A	JB	24.00
	600	L	215	135 5V-2A	L 190	180	5V-2A		
		C	330	85	C 315	100			
H-83	600	L	215	165	L 200	210			
		C	315	100 6.3V-5A	C 320	120	6.3V-6A	JA	24.60
	670	L	250	150 5V-2A	L 230	200	5V-2A		
		C	400	90	C 380	110			
H-84	700	L	245	225	L 240	255			
		C	390	135 6.3V-5A	C 375	160	6.3V-6A	KA	30.00
	750	L	275	205 6.3V-1A	L 270	230	6.3V-1.5A		
		C	430	125 5V-3A	C 410	150	5V-4A		
H-85	700	L	245	300	L 230	370			
		C	390	190 6.3V-6A	C 355	230	6.3V-6A	LA	34.50
	750	L	270	280 6.3V-1.5A	L 250	350	6.3V-2A		
		C	425	170 5V-3A	C 395	210	5V-4A		
H-86	720	L	270	310	L 250	360			
		C	425	180 6.3V-6A	C 395	225	6.3V-7.5A	MB	36.00
	790	L	295	300 6.3V-2A	L 280	350	6.3V-2A		
		C	475	160 5V-3A	C 440	210	5V-4A		
H-87	730	L	245	420	L 230	515			
		C	390	275 6.3V-6A	C 390	300	6.3V-6A	NB	42.60
	800	L	275	400 6.3V-2A	L 275	480	6.3V-2A		
		C	440	250 5V-4A	C 430	290	5V-6A		
H-89	850	L	305	430	L 275	550			
		C	460	280 6.3V-8A	C 445	340	6.3V-10A	OA	55.50
	1050	L	400	400 6.3V-4A	L 370	500	6.3V-5A		
		C	600	260 5V-6A	C 575	320	5V-6A		
H-91	900	L	340	200 6.3V-5A	L 330	220	6.3V-6A	KA	30.60
	1000	L	390	190 6.3V-1A 5V-3A	L 385	195	6.3V-1.5A 5V-4A		
H-92	900	L	340	265 6.3V-6A	L 330	310	6.3V-8A	MB	39.00
	1050	L	400	240 6.3V-2A 5V-4A	L 395	290	6.3V-2A 5V-4A		
H-93	1000	L	370	300 6.3V-8A	L 340	390	6.3V-10A	OA	55.50
	1200	L	465	265 6.3V-4A 5V-6A	L 455	350	6.3V-5A 5V-6A		
H-194**	200	L	170	140 6.3V-3.5A	L 160	155	6.3V-4A	HA	24.00
		C	275	85	C 260	95			
	235	L	200	125	L 190	135			
		C	325	75	C 310	85			
H-195**	215	L	185	285 6.3V-5A	L 175	300			
		C	300	180	C 285	195	6.3V-6A	JA	25.50
	265	L	230	240	L 220	255			
		C	375	150	C 360	165			
H-196**	230	L	200	445 6.3V-5A	L 190	480			
		C	320	280 6.3V-1.5A	C 300	300	6.3V-6A	KA	30.00
	285	L	250	380	L 240	420	6.3V-2A		
		C	400	235	C 380	260			
H-197**	260	L	230	500 6.3V-6A	L 220	550			
		C	360	320 6.3V-2A	C 340	350	6.3V-7A	MB	42.00
	320	L	280	420	L 270	470	6.3V-2A		
		C	450	260	C 430	290			
H-198 Highly shielded Scope transformer	No CT							HA	27.00
	800		1000	5 1.25 V—.2A connected to one					
	1600		2000	5 end of HV winding.					
	2400		3000	5 6.3 V—.6A 5.2 KV RMS test voltage					
H-110	1050	L	365	300	L	400		MB	30.90
	1200	L	430	275	L	385			
H-110W #		L	730	210	L	280			33.00
		L	860	190	L	265			
H-111	1050	L	415	500	L	600		NA	36.00
	1200	L	480	450	L	550			
H-111W #		L	830	350	L	420			42.60
		L	960	310	L	380			
H-112	1500	L	615	320	L	385		NA	42.60
	1900	L	790	275	L	330			
H-112W #		L	1230	220	L	270			45.00
		L	1580	190	L	230			
H-113	2500	L	1050	310	L	375		†	60.00
	3000	L	1275	275	L	330			
H-114	2500	L	1050	475	L	525		‡	84.00
	3000	L	1265	425	L	475			
H-115	3500	L	1500	275	L	375		‡	81.00
	4400	L	1900	235	L	320			
H-117	5000	L	1125	950	L	1150		††	291.00
	6000	L	2550	850	L	1050			

*For 50 Hz, secondary current ratings reduced by 10%.
**DC ratings for bridge rectifier circuits.
†6x5¼x6¾, ‡6¾x6½x8, ††11x11x14¾
New full wave bridge rectifier types

IMMEDIATE DELIVERY ON ALL UTC STOCK ITEMS

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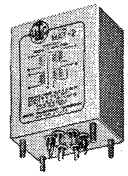
HERMETIC COMPONENTS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.

MAT* MAGNETIC AMPLIFIERS FOR SERVO MOTOR APPLICATIONS

For NEW Magamps see page 3.

VACUUM TUBE TYPE



The MAT 1-4 Magnetic Amplifiers are exceptionally stable units designed for the control of 2 phase, 115V., 400 Hz servo motors. They are compact...hermetically sealed...maanetically shielded...and meet MIL-T-27B and MIL-E-5400 Specifications. The output is sinusoidal, amplitude variable, and phase reversible. Control is provided by a dual triode such as 12AU7 operating with a plate voltage of 115 volts, 400 Hz, or higher. The signal to the triode grids can be polarity reversible DC or phase reversible 400 Hz with or without suppressed carrier modulation. These units eliminate DC power requirements as well as temperature sensitive dry disc rectifiers. The high input impedance provides minimum loading on sensing elements and high power gain. Ringing at low load level has been reduced to a minimum through high internal damping factors. The power output figures are conservative . . . power gain of the *Magnetic Structure* is approximately 40 . . . response time approximately 7.5 milliseconds. The maximum null voltage is 3 volts RMS. For single phase supply voltage the load capacitor should effect 90° phase shift with motor load . . . for 3 phase, 30° phase shift.

Type No.	MAT-1	MAT-2	MAT-3	MAT-4
230 Volt Supply				
Power output	4 W.	8 W.	11 W.	18 W.
RL, ohms	3300	1600	1200	720
CL, mfd., approx.	.2	.3	.5	.7
115 Volt Supply				
Power output	2 W.	4 W.	6 W.	9 W.
RL, ohms	6500	3300	2200	1450
CL, mfd.	.13	.2	.3	.45
Reson. Freq.	40 Hz	35 Hz	35 Hz	20 Hz
Log-Decr.	.18	.23	.03	.65
Cont. Wdg. Res.	6200 ohms	8450 ohms	4750 ohms	5650 ohms
Case, Length, in.	1¼	1½	1¾	2⅛
Width, In.	1 15/16	2⅛	2½	3⅛
Height, In.	2⅜	2¾	2 15/16	3⅜
Mtg. Dim., In.	13/16 x 1½	1 x 1⅝	1⅛ x 1⅞	1½ x 2½
Studs, stainless	4-40	6-32	8-32	8-32
Cutout, in.	1	1	1	1
Unit Weight, lbs.	.67	1.1	1.7	2.75
Sugg. Net Each	**$27.00**	**$30.00**	**$36.00**	**$39.00**

MAT-5 115V.-400 Hz to 460 VCT; provides 230V. 48 ma DC or 460V. 24 ma DC. RC-37 Case (UTC pg. 12). MIL Type TF4SY02YY. **Suggested Net Each $10.80**

MAT-6 Input . . . 10,000 ohms pri. . . . 1:15 C.T. ratio . . . phase shift under 1°. . . . RC-25 case (UTC pg. 7). MIL- type TF4RX10YY. **Suggested Net Each $9.00**

TRANSISTOR TYPE

UTC transistor MAT units are identical to their vacuum tube counterparts, but designed for low impedance control. The input transformer may be chosen by impedance ratio rather than precise rated impedance.

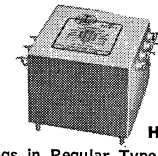
Type No.	MAT-7	MAT-8	MAT-9	MAT-10	MAT-60
Power output	4 W.	8 W.	11 W.	18 W.	50 W.
RL, ohms	3300	1600	1200	720	260
CL, mfd approx.	.2	.3	.5	.7Ω	.7
Cont. Wind. Res.	38Ω	52Ω	30Ω	36Ω	50Ω
Case Length, In.	2 5/16	2½	2¾	2 29/32	MIL MB
Width, In.	1 13/16	2¼	2½	2 29/32	
Height, In.	1 17/32	1 11/16	2	2¼	
Mtg. Dim., In.	1⅜ x 1⅞	1 13/16 x 2	1 15/16 x 2⅜	2⅜ x 2⅜	60 cycle type
Studs, stainless	4-40	6-32	8-32	8-32	
Cutout, In.	1	1	1	1	
Weights, lbs.	.65	1.1	1.7	2.75	
Sugg. Net Each.	**$25.80**	**$28.80**	**$34.50**	**$37.50**	**$54.00**

MAT-11 115V.-400 Hz to two 28 Volt 2A windings for 56 VCT-.2A or 28V.-.4A RC-37 (UTC pg. 12) case. MIL type TF4SY02YY. **Suggested Net Each $10.05**

MAT-65 115V.-60 Hz to 8.5 VCT @ 500 ma & 63 VCT @ 300 ma. FA case (pg. 15). MIL type TF4SX02FA. **Sugg. Net Each $12.60**

ULTRASHIELDED POWER-LINE ISOLATION TRANSFORMERS

Simulates battery operation for critical circuits requiring extreme isolation from power line.



HIT*

Designed to give the ultimate in isolation, for line-powered equipment, which formerly could only be obtained from battery power. The effective capacity coupling between primary and secondary windings is less than 0.1 MMFD. For this purpose shields are individually terminated to allow maximum flexibility. Input and output terminals are brought out on opposite sides of a special housing in order to maintain the excellent isolation between line and load.

MIL-T-27B Ratings in Regular Type
Industrial Ratings in Bold Type
Primary 115 V 50/60 Hz

Type No.	Power Watts	Power Watts	Case Size	Sugg. Net Ea.
HIT-1	50	**60**	4 1/32 x 4 1/32 x 3 1/32"	**$33.00**
HIT-15	120	**150**	5 11/32 x 5 x 3 1/2"	**39.00**
HIT-2	160	**200**	5 17/32 x 5 17/32 x 4 17/32"	**48.00**
HIT-3	400	**480**	8 x 6 17/32 x 5 17/32"	**69.00**
HIT-4	1000	**1200**	9 x 7 1/2 x 7 1/2"	**120.00**
HIT-450†	80	**100**	4 1/32 x 4 1/32 x 3 1/32"	**33.00**

† Primary 115v. 400 Hz. Secondary 115 volts.

PRECISION MINIATURE WIDE APPLICATION PULSE TRANSFORMERS

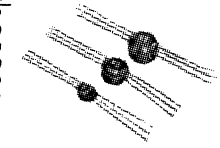
UTC miniature, wound core, pulse transformers are individually precision adjusted in standard test circuits to close tolerances. They are high reliability units, hermetically sealed by vacuum molding and suited for service from −70° C. to +130° C. Wound core structure provides excellent temperature stability (unlike ferrite). Designs are high inductance type to provide minimum of droop and assure true pulse width. H-45 thru H-57 ratio 1:1:1. H-60 thru H-69 ratio 4:4:1. Others ratio 5:3:1.

See PIP pulse units on UTC page 4.

ALL UNITS INDIVIDUALLY ADJUSTED TO PARAMETERS SHOWN IN TABLES

TRANSISTOR PULSE TRANSFORMERS

Type No.	APPROX. DCR, OHMS 1-2	3-4	5-6	BLOCKING OSCILLATOR PULSE Width μ Sec.	Rise Time	% Over Shoot	% Droop	% Back Swing	COUPLING CIRCUIT CHARACTERISTICS P Width μ Sec.	Volts Out	Rise Time	% Over Shoot	% Droop	% Back Swing	Imp. in, out, ohms	Sugg. Net Each
H-60	.124	.14	.05	.05	.016	0	0	30	.05	9.3	.012	0	0	20	50	$ 6.60
H-61	.41	.48	.19	.1	.016	0	0	30	.1	8.2	.021	0	0	15	50	6.60
H-62	.78	.94	.33	.2	.022	0	0	18	.2	7.4	.034	0	5	12	100	6.60
H-63	1.86	2.26	.70	.5	.027	2	10	20	.5	7.5	.045	0	20	25	100	6.60
H-64	3.73	4.4	1.33	1	.033	0	12	25	1	7	.078	0	15	23	100	6.60
H-65	6.2	7.3	2.22	2	.066	0	15	25	2	6.6	.14	0	10	20	100	7.50
H-66	10.2	12	3.6	3	.087	0	18	30	3	6.8	.17	0	10	20	100	7.50
H-67	14.5	17.5	5.14	5	.097	0	23	28	5	7.9	.2	0	18	28	200	7.50
H-68	42.3	52.1	14.8	10	.14	0	15	28	10	6.5	.4	0	15	30	200	7.50
H-611	.426	.32	.132	.1	.018	8	0	12	.1	8.2	.02	0	0	30	140/50	7.20
H-641	5	3.6	1.4	1	.04	0	10	10	1	7	.07	0	20	30	280/100	7.20
H-671	21	16	6	5	.08	0	14	12	5	8	.2	0	25	30	560/200	7.50
H-69	Transistor pulse tranformer kit, consists of H-60 thru H-68 in plastic case.															60.00



Size & weight of these units same as H-45.

VACUUM TUBE PULSE TRANSFORMERS

Type No.	APPROX. DCR, OHMS 1-2	3-4	5-6	BLOCKING OSCILLATOR PULSE Width μ Sec.	Rise Time	% Over Shoot	% Droop	% Back Swing	COUPLING CIRCUIT CHARACTERISTICS P Width μ Sec.	Volts Out	Rise Time	% Over Shoot	% Droop	% Back Swing	DIMENSIONS Imp.in, out, ohms	L In.	W In.	Wt. Grams	Sugg. Net Each
H-45	3	3.5	4	.05	.022	0	20	10	.05	17	.01	20	0	35	250	3/8	3/8	1	$ 7.35
H-46	5.5	6.5	7	.10	.024	0	25	10	.10	19	.01	30	10	50	250	3/8	3/8	1	7.35
H-47	3.7	4.0	4	.20	.026	0	25	8	.20	18	.01	30	15	65	500	9/16	9/16	4	6.60
H-48	5.5	5.8	6	.50	.03	0	20	5	.50	20	.01	30	20	65	500	9/16	9/16	4	6.60
H-49	8	8.5	9	1	.04	0	20	10	1	24	.02	15	15	65	500	9/16	9/16	4	6.60
H-50	20	21	22	2	.05	0	20	10	2	27	.05	10	15	35	500	9/16	9/16	4	6.60
H-51	28	31	33	3	.10	1	20	8	3	26	.07	10	10	35	500	9/16	9/16	4	6.60
H-52	36	41	44	5	.13	1	25	8	5	23	.15	10	10	45	1000	9/16	9/16	4	6.60
H-53	37	44	49	7	.28	0	25	8	7	24	.20	10	10	50	1000	5/8	5/8	6	6.60
H-54	50	58	67	10	.30	0	20	8	10	24	.25	10	10	50	1000	5/8	5/8	6	6.90
H-55	78	96	112	16	.75	0	20	10	16	23	.40	5	15	20	1000	5/8	5/8	6	6.90
H-56	93	116	138	20	1.25	0	25	10	20	23	.6	5	10	10	1000	5/8	5/8	6	6.90
H-57	104	135	165	25	2.0	0	30	10	25	24	1.5	5	10	10	1000	5/8	5/8	6	6.90
H-461	9.6	6.4	2.5	.1	.025	0	0	8	.1	19	.02	3	5	20	700/250	3/8	3/8	1	7.50
H-501	30	20	7	2	.08	0	12	5	2	27	.06	12	15	35	1400/500	9/16	9/16	4	6.60
H-531	66	47	17	7	.32	0	12	3	7	24	.23	12	10	40	2800/1000	5/8	5/8	6	6.60
H-561	180	142	53	20	1.75	0	13	5	20	23	.7	5	10	10	2800/1000	5/8	5/8	6	6.90
H-58	Pulse transformer kit. Consisting of H-45 thru H-57 in a partitioned plastic case.																		88.20

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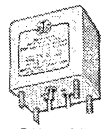
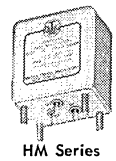
ELECTRIC WAVE FILTERS

Designed, Manufactured and Successfully Tested to Complete MIL-F-18327C Specifications.



BM & LM Series



HM Series

SPECIAL FREQUENCY FILTERS

BMI, BML, BPH, BPM, BTI, HMI, HML, HPM, LMI, LML, LPM	$48.00
MNF, MWF, TMN, TMW	$60.00
TGR	$90.00
TGT	$54.00

BPM

MINIFILTERS*

HPM & LPM

For NEW Filters See Pages 2 & 3.

INTERSTAGE AND LINE FILTERS

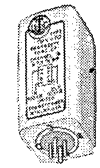
Available in stock frequencies listed below (numerical part of type —number is cutoff frequency in Hz). Compact shielded cases hermetically sealed to MIL-F-18327C specs. BMI, LMI, BML cases: 1 3/16" x 1 11/16" x 1 5/8" h.; wt., 6 oz. HMI, HML, LML cases: 1 3/16" x 1 11/16" x 2 1/2" h.; wt., 9 oz. The BMI filters are band pass interstage units designed to operate between a vacuum tube plate (or 10,000 ohms) and a grid. They provide a gain of 2 at center frequency.
BTI units are same as BMI, but 10,000 ohms output.
BML band pass filters, similarly, work into a grid, but have an input impedance of 500/600 ohms. They provide a gain of 9.
HMI filters are high pass interstage units.
LMI filters are low pass interstage units.
HML filters are high pass with input and output impedance of 500/600 ohms.
LML filters are low pass filters with input and output impedance of 500/600 ohms.
LLP low frequency low pass filter, loss of less than 40 db at 20 Hz. Source & load 100K ohms.

UTC Type	Sugg. Net Ea.	UTC Type	Sugg. Net Ea.	UTC Type	Sugg. Net Ea.
BMI-30	$36.00	BML-1000	$30.00	LMI-800	$31.50
BMI-50	30.00	BTI-60	36.00	LMI-1000	31.50
BMI-60	30.00	BTI-100	36.00	LMI-1500	31.50
BMI-90	30.00	BTI-120	36.00	LMI-2000	31.50
BMI-100	30.00	HMI-50	31.50	LMI-2500	31.50
BMI-120	30.00	HMI-100	31.50	LMI-3000	31.50
BMI-150	30.00	HMI-200	31.50	LMI-4000	31.50
BMI-200	30.00	HMI-300	31.50	LMI-5000	31.50
BMI-240	30.00	HMI-400	31.50	LMI-10000	31.50
BMI-300	30.00	HMI-500	31.50	LML-1000	31.50
BMI-400	30.00	HMI-800	31.50	LML-1500	31.50
BMI-500	30.00	HMI-1000	31.50	LML-2000	31.50
BMI-750	30.00	HMI-2000	31.50	LML-2500	31.50
BMI-800	30.00	HMI-3000	31.50	LML-3000	31.50
BMI-1000	30.00	HML-200	39.00	LML-4000	31.50
BMI-1500	30.00	HML-300	39.00	LML-8000	31.50
BMI-2000	30.00	HML-500	39.00	LML-10000	31.50
BMI-3000	30.00	HML-1000	39.00	LML-12000	31.50
BMI-4000	30.00	LMI-100	31.50		
BMI-5000	30.00	LMI-200	31.50		
BMI-10000	30.00	LMI-400	31.50		
BML-400	30.00	LMI-500	31.50		

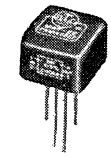
These units provide almost the same characteristics as the standard interstage units listed to the left, although extremely miniaturized. Hermetically sealed to MIL-F-18327C specs. B type case: 3/4" x 3/4" x 1 1/8" h.; wt., 1 oz. H and L cases: 1" x 1" x 1 5/8" h.; wt., 2 1/4 oz. Cutoff frequencies in Hz indicated by type number.
BPM units (BAND PASS) have 2:1 gain. Attenuation is approximately 2 db ±3% from center frequency, and 35 db per octave as shown. Input 10,000 ohms, output to grid, tapped for 10,000 ohms to provide for transistor circuits. For tube circuits continuity is on grid side, for transistor use continuity is on input side.
BPH units (BAND PASS) attenuation less than 3 db ±5% from center frequency, and 40 db per octave. Source and load 500 ohms.
HPM units (HIGH PASS) are down less than 6 db at cutoff frequency, and more than 30 db at .67 cutoff frequency, 40 db at 6 cutoff frequency. Input and output 10,000 ohms.
LPM units (LOW PASS) are down less than 6 db at cutoff frequency, and more than 30 db at 1.5 cutoff frequency, 40 db at 1.65 cutoff frequency. Input and output 10,000 ohms.

UTC Type	Sugg. Ea.	UTC Type	Sugg. Ea.	UTC Type	Sugg.Ea.
BPH-50000	$27.00	BPM-2500	$27.00	HPM-1500	$30.00
BPH-100000	27.00	BPM-3000	27.00	HPM-4000	30.00
BPM-400	27.00	BPM-3200	27.00	LPM-200	30.00
BPM-440	27.00			LPM-300	30.00
BPM-500	27.00	BPM-4000	27.00	LPM-500	30.00
BPM-600	27.00	BPM-4800	27.00	LPM-1000	30.00
BPM-750	27.00	BPM-5000	27.00	LPM-1500	30.00
BPM-800	27.00	BPM-6000	27.00	LPM-2000	30.00
BPM-1000	27.00	BPM-6400	27.00	LPM-3000	30.00
BPM-1200	27.00	BPM-8000	27.00	LPM-5000	30.00
BPM-1500	27.00	BPM-10000	27.00	LPM-6000	30.00
BPM-1600	27.00	BPM-20000	27.00	LPM-8000	30.00
BPM-1800	27.00	HPM-500	30.00	LPM-10000	30.00
BPM-2000	27.00	HPM-1000	30.00	LPM-15000	30.00

TELEMETERING BAND PASS FILTERS



TMN-.4 thru TMN-1.7
1 1/16 x 1 9/32 x 2"
Weight 3.5 oz.
TMN-2.3 thru TMW-70
2 3/32 x 2 3/32 x 1 3/8"
Weight 1.2 oz.

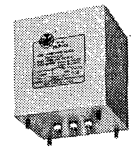


MNF-.4 thru MNF-5.4
1 3/16" Sq. x 1/2" high
Weight 1 oz.
MNF-7.35 thru MWF-70
2 3/32" Sq. x 1/2" high
Weight 1/3 oz.

Both TMN and TMW types are designed for 100 K input and output impedance and have an insertion loss of less than 6 db. Four pin hermetic header matches small Winchester socket.
TMN filters are down less than 3 db at ± 7.5% of center frequency. They are down more than 18 db at ± 25% of center frequency. Attenuation is greater than 40 db beyond 1.75 Fc and .58 Fc.
TMW filters are down less than 3 db at ± 15% of center frequency. They are down more than 20 db at ± 50% of center frequency. Attenuation is greater than 40 db beyond 2.5 Fc and .4 Fc.
MNF and MWF (Minifilter) provide same performance as filters described above but are extremely miniaturized. Slanted toward use with transistors. Pin terminals ideally suited for printed circuits.

UTC Type	Sugg. Net Ea.	Center Frequ'cy kHz	Band Width±	UTC Type	Sugg. Net Ea.
TMN- .4	$39.00	.4	7½%	MNF- .4	$39.00
TMN- .56	39.00	.56	7½%	MNF- .56	39.00
TMN- .73	39.00	.73	7½%	MNF- .73	39.00
TMN- .96	39.00	.96	7½%	MNF- .96	39.00
TMN-1.3	39.00	1.3	7½%	MNF-1.3	39.00
TMN-1.7	39.00	1.7	7½%	MNF-1.7	39.00
TMN-2.3	39.00	2.3	7½%	MNF-2.3	39.00
TMN-3.0	39.00	3.0	7½%	MNF-3.0	39.00
TMN-3.9	39.00	3.9	7½%	MNF-3.9	39.00
TMN-5.4	39.00	5.4	7½%	MNF-5.4	39.00
TMN-7.35	39.00	7.35	7½%	MNF-7.35	39.00
TMN-10.5	42.00	10.5	7½%	MNF-10.5	42.00
TMN-14.5	42.00	14.5	7½%	MNF-14.5	42.00
TMN-22	42.00	22	7½%	MNF-22	42.00
TMN-30	42.00	30	7½%	MNF-30	42.00
TMN-40	42.00	40	7½%	MNF-40	42.00
TMN-52.5	42.00	52.5	7½%	MNF-52.5	42.00
TMN-70	42.00	70	7½%	MNF-70	42.00
TMW-22	42.00	22	15%	MWF-22	42.00
TMW-30	42.00	30	15%	MWF-30	42.00
TMW-40	42.00	40	15%	MWF-40	42.00
TMW-52.5	42.00	52.5	15%	MWF-52.5	42.00
TMW-70	42.00	70	15%	MWF-70	42.00

NEW 400-CYCLE 115 V. LINE FILTERS



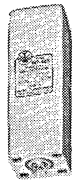
Intended for use on 115 v., 400 cps line to eliminate harmonic distortion.

UTC No. PLF-25 — Gives 150 v. output into 500 ohm load with ±1 db, 375-425 Hz. Will attenuate 800 Hz by 30 db; 1200 Hz and higher by at least 50 db. MIL type, **FR4RX11NB1**. Meets MIL-F-18327C. Size 4 5/16" w x 5 1/4" d. x 5 1/2" h. Weight, 10 lbs. Suggester Net Each.....$66.00

UTC No. PLP-13 — Eliminates harmonic distortion, rejects 60 and 120 Hz, and gives zero phase shift at 400 Hz. Operating into 1000 ohm load, provides 115 v. output at 400 Hz, within ±1 db, 375-425 Hz. Attenuates 800 Hz by 15 db; 1200 Hz by 45 db; above 1200 Hz by at least 35 db; 120 Hz by 20 db; and, 60 Hz by 30 db. MIL type **FR4RX22-LB1**; meets MIL-F-18327C specifications. Size, 3 11/16" w x 4 5/16" d. x 4 1/2" h. Weight, 6½ lbs. Suggested Net Each.....$66.00

TELEGRAPH TONE CHANNEL FILTERS

TGT CASE
1 1/2 x 1 1/2 x 2 1/2
Mtg 1 1/16 x 1 1/16"
Screws 6-32
Weight .....8 oz.



TGR CASE
1 1/2 x 1 1/2 x 4 1/4
Mtg 1 1/16 x 1 1/16"
Screws 6-32
Weight ....15 oz.

UTC band pass filters for mutiplex transmitting and receiving provide maximum stability in miniature sizes. Stock filters cover all standard transmit and receive bands. All units employ 7 terminal header matching subminiature 7 pin socket.
TGR (receiving) & TGT (transmitting) filters are 600 ohms in and out. They are down less than 3 db at ± 42.5 Hz from center frequency. TGR units are down more than 30 db at ± 170 Hz. Attenuation is greater than 15 db at adjacent channel crossover.
TGT units are down more than 16 db at ± 170 Hz. Attenuation is greater than 7.5 db at adjacent channel crossover.
All units are MIL type FR6RX-22YY1

IMMEDIATE DELIVERY ON ALL ITEMS

UTC Type	Sugg. Net Ea.	Center Frequency (Hz)	UTC Type	Sugg. Net Ea.
TGT-425	$42.00	425	TGR-425	$72.00
TGT-595	42.00	595	TGR-595	72.00
TGT-765	42.00	765	TGR-765	72.00
TGT-935	42.00	935	TGR-935	72.00
TGT-1105	36.00	1105	TGR-1105	63.00
TGT-1275	36.00	1275	TGR-1275	63.00
TGT-1445	36.00	1445	TGR-1445	63.00
TGT-1615	36.00	1615	TGR-1615	63.00
TGT-1785	33.00	1785	TGR-1785	60.00
TGT-1955	33.00	1955	TGR-1955	60.00
TGT-2125	33.00	2125	TGR-2125	60.00
TGT-2295	33.00	2295	TGR-2295	60.00
TGT-2465	30.00	2465	TGR-2465	57.00
TGT-2635	30.00	2635	TGR-2635	57.00
TGT-2805	30.00	2805	TGR-2805	57.00
TGT-2975	30.00	2975	TGR-2975	57.00
TGT-3145	30.00	3145	TGR-3145	57.00
TGT-3315	30.00	3315	TGR-3315	57.00

HIGH Q PRECISION INDUCTANCE DECADE

DI CASE
Length .....4½"
Width .....4 3/8"
Height ..... 2 3/8"
Weight .....2 lbs.

Invaluable instruments for design and experimental work with tuned circuits, wave filters, and equalizers. The low hum pickup toroid coils employ a new permalloy dust core which, combined with special winding methods, provides very high Q, excellent voltage and temperature stability, and high self resonance frequency. The inductance values are laboratory adjusted to better than 1% precision, with calibration noted on base.

Type No.	Induct. Henries	Optimum Range	Max. Q	Max. ACma	Ins. Test Volts RMS	Sugg. Net Ea.
DI-1	10 x .01	2-60 KC	200	500	500	$42.00
DI-2	10 x .1	.25-20 KC	200	150	500	54.00
DI-3	10 x 1	.25-10 KC	200	50	500	57.00
DI-4	10 x 10	.2-1.5 KC	100	15	500	72.00

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HIGH Q COILS & INDUCTORS

Designed, Manufactured and Successfully Tested to Complete MIL-T-27B Specifications.

For NEW Inductors See pages 1 & 3.

MINIDUCTORS *

All these ultracompact high Q units are grade 5, hermetically sealed to (MIL-T-27B). All give extra temperature stability rated at 1%, −55° C to +100° C.

MM—Ultraminiature epoxy molded toroidal inductors with pin terminals for printed circuit application. Maximum Q at 30 kHz. 3/16 dia. x 1/4"; wt. .07 oz.
MH—Ultraminiature epoxy molded toroidal inductors similar to MM except maximum Q at 100 kHz. Size & wt. as MM.
ML—Ultraminiature hipermalloy cased inductors with epoxy board and pin terminals for printed circuit application. Maximum Q at 800 Hz to 2 kHz, depnding on inductance. 3/16 x 31/64 x 3/16"; wt. .2 oz.
MO—Miniature epoxy molded inductors with pin terminals for printed circuit application. Maximum Q at 600 Hz to 1500 Hz depending on inductance. 3/4 x 1 1/16 x 13/16"; wt. 1 oz.
MW—Miniature epoxy molded toroidal inductors with pin terminals for printed circuit application. Maximum Q at 5 to 10 kHz: 23/32 dia. x 13/32"; wt. .25 oz.

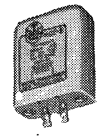
UTC Type	Induct., Hys.	Sugg. Net Ea.	UTC Type	Induct., Hys.	Sugg. Net Ea.	UTC Type	Induct., Hys.	Sugg. Net Ea.
ML-0	.15	$ 8.40	MM-6	.03	$ 8.10	MO-2	2	$9.60
ML-1	.25	8.40	MM-7	.06	8.40	MO-5	5	9.60
ML-2	.40	8.40	MM-8	.12	8.40	MO-7.5	7.5	9.60
ML-3	.70	8.40	MH-1	.0006	8.10	MO-20	20	9.60
ML-4	1.4	8.40	MH-2	.0015	8.10	MO-50	50	9.90
ML-5	2.5	8.40	MH-3	.0025	8.40	MO-100	100	9.90
ML-6	4.0	8.40	MH-4	.006	8.40	MW-.05	.05	7.20
ML-7	6.0	8.40	MH-5	.01	8.70	MW-.10	.10	7.50
ML-8	10	8.40	MH-6	.015	8.70	MW-.25	.25	7.50
ML-9	25	8.70	MH-7	.025	9.00	MW-.5	.5	7.80
ML-10	60	9.90	MH-8	.04	9.00	MW-.75	.75	8.40
MM-1	.003	7.50	MO-.1	.1	9.30	MW-1	1	8.70
MM-2	.005	7.50	MO-.15	.15	9.30	MW-1.2	1.2	9.30
MM-3	.008	7.80	MO-.3	.3	9.30	MW-2	2	10.80
MM-4	.0125	7.80	MO-.5	.5	9.30	MW-3	3	11.70
MM-5	.02	8.10	MO-1	1	9.30	MW-5	5	13.50

HIGH Q TOROID INDUCTORS

Favorites for over fifteen years, UTC HQ Toroids are only excelled by the preferred new "M" series. As typical Q curves show, HQ coils are available for application from 100 Hz to 100 kHz. Adjusted to 1%, the inductance is virtually independent of frequency, temperature, and vibration. Voltage stability is excellent, and shielding case assures 80 db coupling attenuation. Hermetically to MIL-T-27B. All units MIL type TF4RX-20YY.

HQA and HQC CASE
Diamter 1 13/16"
Height 1 3/16"
Mounting 1 1/8"
Screws 6-32
Cutout 9/16 x 1 3/16"
Weight 5 oz.

HQB CASE
Length 2 5/8"
Width 1 5/8"
Height 2 5/8"
Mounting 1 1/4 x 2 1/64"
Screws 6-32
Cutout 9/16 x 1 1/8"
Weight 14 oz.

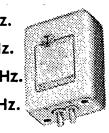


HQE CASE
Length 1 1/16"
Width 1/2"
Height 1 7/32"
Mounting 3/4"
Screws 4-40
Cutout 5/16 x 1/2"
Weight 1.5 oz.

Type No.	Inductance (O DC)		DC ma Max.	Sugg. Net Each	Type No.	Inductance (O DC)		DC ma Max.	Sugg. Net Each
HQA-1	5	mhy.	400	$7.50	HQB-1	10	mhy.	410	$15.00
HQA-2	12.5	mhy.	260	7.80	HQB-2	30	mhy.	240	15.30
HQA-3	20	mhy.	200	8.10	HQB-3	70	mhy.	170	15.90
HQA-4	30	mhy.	160	8.40	HQB-4	120	mhy.	120	16.80
HQA-5	50	mhy.	130	8.70	HQB-5	.5	hy.	60	17.40
HQA-6	80	mhy.	100	9.00	HQB-6	1	hy.	41	18.00
HQA-7	125	mhy.	85	9.00	HQB-7	2	hy.	30	18.90
HQA-8	200	mhy.	65	9.60	HQB-8	3.5	hy.	22	19.80
HQA-9	300	mhy.	50	9.60	HQB-9	7.5	hy.	16	21.00
HQA-10	.5	hy.	40	9.90	HQB-10	12	hy.	11	21.90
HQA-11	.75	hy.	35	9.90	HQB-11	18	hy.	9	22.80
HQA-12	1.25	hy.	26	10.80	HQB-12	25	hy.	8	24.00
HQA-13	2	hy.	20	11.40					
HQA-14	3	hy.	16	12.90	HQC-1	1	mhy.	1350	15.60
HQA-15	5	hy.	13	13.80	HQC-2	2.5	mhy.	850	16.80
HQA-16	7.5	hy.	10	15.00	HQC-3	5	mhy.	600	18.00
HQA-17	10	hy.	9	15.90	HQC-4	10	mhy.	420	19.80
HQA-18	15	hy.	8	16.80	HQC-5	20	mhy.	300	24.00
					HQE-1	5	mhy.	155	7.80
					HQE-2	10	mhy.	110	7.80
					HQE-3	50	mhy.	50	8.10
					HQE-4	100	mhy.	35	8.40
					HQE-5	200	mhy.	25	8.70

HERMETIC "M" TYPE TOROIDS

UTC permalloy dust toroids provide highest Q factor with miniaturized dimensions. Lab adjusted to 1% tolerance and sealed to MIL-T-27B specs. Magnetic case plus toroid provide 80 db shielding.

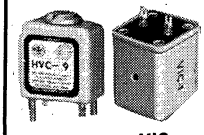


Type
MQA 40 at 500 Hz, 160 at 5 kHz, approx. 40 at 20 kHz. SIZE 1 1/16" x 1 19/32" x 1 23/64" h.; wt. 4 oz.
MQB 40 at 250 Hz, 250 at 3 kHz, approx. 40 at 20 kHz. SIZE 1 3/16" x 2 3/16" x 2 13/64" h.; wt. 14 oz.
MQE 40 at 5 kHz, 185 at 50 kHz, approx. 40 at 300 kHz. SIZE 1 1/16" x 1 19/32" x 1 23/64" h.; wt. 4 oz.
MQD 20 at 600 Hz, 140 at 10 kHz, approx. 40 at 40 kHz. SIZE 1/2" x 1 1/16" x 1 7/32" h.; wt. 1.5 oz.

TQA units are similar to MQA but enter tapped for oscillator application, etc. Net each: TQA-1 thru TQA-15, $1.50 more than MQA's; TQA-16, 14.70; TQA-17, 15.90; TQA-18, 17.40; TQA-19, 21.00; TQA-20, 23.40.

UTC Type	Ind., Hys.	Sugg. Net Ea.	UTC Type	Ind., Hys.	Sugg. Net Ea.	UTC Type	Ind., Hys.	Sugg. Net Ea.
MQA-1	.007	$ 7.50	MQB-1	.010	$12.90	MQD-6	.020	$21.00
MQA-2	.012	7.80	MQB-2	.030	13.20	MQD-7	.030	22.80
MQA-3	.020	8.10	MQB-3	.070	13.50	MQE-0	.004	6.90
MQA-4	.030	8.40	MQB-4	.120	13.80	MQE-1	.007	7.20
MQA-5	.050	8.70	MQB-5	.50	14.10	MQE-2	.012	7.50
MQA-6	.070	9.00	MQB-6	1.0	14.40	MQE-3	.020	7.80
MQA-7	.120	9.30	MQB-7	2.0	14.70	MQE-4	.030	7.80
MQA-8	.20	9.60	MQB-8	3.5	15.00	MQE-5	.050	8.10
MQA-9	.30	9.90	MQB-9	7.5	15.90	MQE-6	.070	8.40
MQA-10	.50	10.20	MQB-10	12	16.80	MQE-7	.100	8.40
MQA-11	.70	10.50	MQB-11	18	18.00	MQE-8	.150	8.70
MQA-12	1.0	10.80	MQB-12	25	19.20	MQE-9	.250	8.70
MQA-13	1.5	11.10	MQB-13	40.0	21.00	MQE-10	.40	9.00
MQA-14	2.5	11.40	MQB-14	60.0	24.00	MQE-11	.60	9.00
MQA-15	4.0	12.00	MQD-0	.001	14.70	MQE-12	.90	9.30
MQA-16	6.0	12.90	MQD-1	.002	15.00	MQE-13	1.5	9.90
MQA-17	10.0	13.80	MQD-2	.003	15.60	MQE-14	2.0	10.80
MQA-18	15.0	15.00	MQD-3	.005	16.20	MQE-15	2.8	12.00
MQA-19	22.0	18.00	MQD-4	.007	16.80	MQE-16	4.0	13.50
MQA-20	35.0	20.70	MQD-5	.012	18.00			

VARIDUCTORS



HVC & HVV **VIC** (*VIC is not a MIL item)

These variable inductors are ideal for use in tuned circuits, equalizers, oscillators, etc. TYPE HVC:—Gives highest Q and stability; adjustable −70% to +200% of mean value. Hermetically sealed to MIL-T-27B.

HVV Types: For precise matching; vernier inductance variation ±10% of nominal value. Offer high Q over a wide frequency range and high temperature stability.

VIC:—Adjustable −45% to +85% of mean value.

Size: HVC, TVC and HVV types, 1 1/8" lg. x 25/32" w. x 1 7/32" h.; weight 2 oz. VIC type, 1 11/32" lg. x 1 1/4" w. x 1 7/16" h.; weight 5 1/2 oz.

TVC type inductors are identical to HVC units, but provide taps at 30% and 50% of total turns — ideal for oscillator circuits, etc.
HVC & TVC: U. S. Pat. No. 2,879,489.
HVV: U. S. Pat. No. 3,267,400.

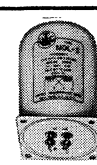
UTC Type	Mean Hys.	DC ma	Sugg. Net Ea.	UTC Type	Mean Hys.	DC ma	Sugg. Net Ea.
HVC-1	.006	100	$ 9.00	TVC-6	.6	15	$11.10
HVC-2	.015	60	9.00	TVC-7	1.5	10	11.70
HVC-3	.040	40	9.00	TVC-8	4	7	11.70
HVC-4	.1	30	9.00	TVC-9	10	5	11.70
HVC-5	.25	20	9.00	TVC-10	25	3.5	12.90
HVC-6	.6	15	9.00	TVC-11	60	2	14.10
HVC-7	1.5	10	9.60	TVC-12	150	1.5	15.30
HVC-8	4	7	9.60				
HVC-9	10	5	9.60				
HVC-10	25	3.5	9.90	VIC-1	.0085	75	6.60
HVC-11	60	2	10.80	VIC-2	.013	60	6.60
HVC-12	150	1.5	12.00	VIC-3	.021	50	6.60
				VIC-4	.034	40	6.60
HVV-.006	.006	200	12.00	VIC-5	.053	35	6.60
HVV-.015	.015	120	12.00	VIC-6	.084	30	6.60
HVV-.04	.04	80	12.00	VIC-7	.13	25	6.60
HVV-.1	.10	50	12.00	VIC-8	.21	21	6.90
HVV-.25	.25	30	12.00	VIC-9	.34	18	6.90
HVV-.6	.6	20	12.00	VIC-10	.54	15	6.90
HVV-1.5	1.5	13	12.90	VIC-11	.85	12	6.90
HVV-4	4	6	12.90	VIC-12	1.3	10	7.20
HVV-10	10	4.5	12.90	VIC-13	2.2	8	7.20
HVV-25	25	3	13.20	VIC-14	3.4	7	7.20
HVV-60	60	2	14.40	VIC-15	5.4	6	7.50
HVV-150	150	1.3	15.90	VIC-16	8.5	5	7.50
				VIC-17	13	4	7.50
TVC-1	.006	100	11.10	VIC-18	21	3.5	7.80
TVC-2	.015	60	11.10	VIC-19	33	3	7.80
TVC-3	.040	40	11.10	VIC-20	52	2	8.40
TVC-4	.1	30	11.10	VIC-21	83	1.5	9.00
TVC-5	.25	20	11.10	VIC-22	130	1	12.00

LOW FREQUENCY HIGH Q COILS

MQL TYPES

All these units of MIL type TF4RX20YY induct value to 2% tolerance at 1v., 60 Hz. Exceptional Q and stability, inductance swing less than 3.5% from −55°C to +85°C. The case, sealed hermetically to MIL-T-27B is 1 13/16" dia. 2 1/2" h. Transformer, parallel, series or center-tapped connections are permitted due to dual windings to 4 terminals. Mounting 1 1/8" sq. with a 6-32 screw. Cutout 1 1/2" dia wt. 1 lb.

Type No.	Hys. (0 DC) Series	Parallel	Sugg. Net Ea.	Type No.	Hys. (0 DC) Series	Parallel	Sugg. Net Ea.
MQL-0	1	.25	$30.00	MQL-3	200	50	$30.00
MQL-1	10	2.5	30.00	MQL-4	400	100	31.50
MQL-2	20	5	30.00	MQL-5	2500	625	33.00



MQM TYPES

Designed for high Q at low frequencies. Structure provides exceptional stability, adjusted to 2% at 1V. 60 Hz. Inductance variation less than 2% from −55°C to +130°C. Made to MIL-T-27B, MIL type TF4SX20YY. Size 1 5/16" d x 1 5/8" h., cutout: 1" d., wt. 5 oz.

Type No.	Series Hy (0 DC)	Parallel Hy (0 DC)	Series DCRΩ ±20%	Sugg. Net Ea.
MQM-2	2	.5	21	$12.60
MQM-16	16	4	143	12.60
MQM-40	40	10	368	12.60
MQM-300	300	75	3700	13.50
MQM-600	600	150	5720	13.50

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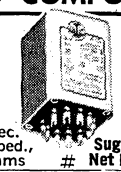
HI-FI & BROADCASTING COMPONENTS

ULTRACOMPACT* HI-FI AUDIOS



Small light weight, wide range units. Level +15 dbm except where otherwise noted. Top and bottom mounting. Die cast case, 1½" x 1½" x 2" h. Weight, ½ lb.

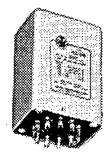
ALSO SEE PAGE 2 FOR NEW A-48 UNIT

UTC Type	Application	Primary Impedance, Ohms	Sec. Imped., Ohms	#	Sugg. Net Ea.
A-10	Input	50, 125/150, 200/250, 333, 500/600	50K split	a	$15.00
A-11	Shield. Input	50, 200, 500	50K CT	a	12.00
A-12	Input	Same as A-10	80K split	a	13.50
A-15	Interstage*	10K/2.5K split**	2K/500 sp.	c	10.80
A-16	Pl. to grid	15K	60K	a	11.40
A-17	Pl. to grid	15K, 8 ma	60K	c	15.00
A-18	Pl. to p-p	15K split	80K split	a	13.20
A-19	Pl. to p-p	15K, 8 ma	80K split	c	12.00
A-20	Mixing	Same as A-10	Same as pri.	d	14.40
A-21	Shield Mixing	50, 200/250, 500/600	Same as pri.	e	12.00
A-22	Tr. to line*	500 CT	500/125 spl.	c	9.90
A-23	Tr. to V.C.*	500 CT	16/4 split	c	9.90
A-24	Pl. to line	15K split	See A-10 pri.	f	14.70
A-25	Pl. to line	15K, 8 ma	See A-10 pri.	c	12.00
A-26	P-p to line	30K CT	See A-10 pri.	f	15.30
A-27	Input	100K split	See A-10 pri.	b	13.50
A-28	Tr. to V.C.	48 CT, 5 w.	16 (split), 8, 4	c	10.20
A-34		25K/6250 split	500/125 split	b	10.20
A-35	Transistor	10K/2.5K split	500/125 split	b	9.90
A-36	Interstage	500/125 split	150/37.5 split	c	9.60
A-37		500/125 split	50/12.5 split	c	9.60
A-38		100/25 split	40/10 split	c	9.30
A-39	line to transist.	600/150 split	2K/500 split	a	11.70
A-30	Inductor: 250 hys. @ 5 ma†; 65 hys @ 10 ma‡				10.20
A-32 (2-wdgs.)	Split Filter Inductor	Series: 60 Hys @ 15 ma, 2000 ohms Parallel: 15 Hys @ 30 ma, 500 ohms			7.50
A-33	Hipermalloy shield fits A units 20 db				3.00
A-40	Power transformer: 115v 60 cycles to two 6.3 CT—.2A Secs.				9.90
A-41 (2-wdgs.)	Split Filter Inductor	Series: 240 Mhy @ .2A, 6 ohms Parallel: 60 Mhy @ .4A, 1.50 ohms			6.60
A-42 (2-wdgs.)	Split Filter Inductor	Series: 4 hys-50 ma, 100 ohms Parallel: 1 hy-100 ma, 25 ohms			6.60
A-43	Matching to 2 simult. lines or Tr.	600/150 split	(2) 600/150 split g		14.70
A-44	l'stge/output	4K/1K split, 12 ma	600/150 spl.	b	12.00
A-45	Spkr. match	4, 8, 16	4 w. max lvl.	c	12.00
A-46	Chopper	10K/2.5K	50K	.....	18.00
A-47	3-wdg. hybrd.	500/600CT	2 x 500/600CT	c	15.00

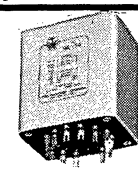
*+30 dbm. †6K ohms. ‡1.5K ohms. §2K ohms. ††500 ohms. **8 ma.
#Frequency response (±2 db), cps: a—20-20,000. b—30-20,000. c—40-20,000. d—10-50,000. e—30-30,000. f—20-40,000. g—20-30,000.

HIPERMALLOY* TRANSFORMERS

Hipermalloy audio and power transformers are specifically designed for portable and compact service. High fidelity though light in weight and dependable. The frequency characteristic of the Hipermalloy audio units is uniform from 30 to 20,000 Hz. They incorporate a Hipermalloy nickel iron core and hum balanced coil structure. The rugged die cast case is of high conductivity alloy finished in grey, arranged for mounting with the terminals either up or down. DC in Primary shown is maximum unbalanced.



TYPE H-2 CASE
Length ..... 3⅜"
Width ..... 2¹³⁄₁₆"
Height ..... 3½"
Mounting 2 x 2¾"
Screws 6-32
Cutout 2¹⁄₁₆" dia.
Unit Wt. ..5 lbs.



TYPE H-1 CASE
Length ..... 2⅜"
Width ..... 1¹⁵⁄₁₆"
Height ..... 3⅛"
Mount 1⅜ x 1¹³⁄₁₆"
Screws 6-32
Cutout 1¹³⁄₁₆" dia.
Unit Wt. ..2 lbs.

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS
Units Housed in Type H-1 Case

UTC Type	Application	Primary Imped. Ohms	Sec. Imped. Ohms	Level dbm	Sugg. Net Ea.
HA-100	Line to grid	50, 125/150, 200, 250, 333, 500/600	60K split	+18	$21.00
HA-100X	As above but multiple alloy shields for low hum pick up			+16	21.00
HA-101	Line to grids	Same as HA-100	120K split	+18	27.00
HA-101X	As above but muliple alloy shields for low hum pickup		80K split	+16	19.50
HA-103A	Mike/mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60	60K split	+18	16.50
HA-108*	Mixing	Same as HA-100	Same as Pri 60K split	+20	24.00
HA-108X*	As above but multiple alloy shields for low hum pick up			+18	24.00
HA-130X	Line to grids.	30, 50, 200, 250	60K Split	+18	27.00

*High electrostatic shielding.

INTERSTAGE AUDIO TRANSFORMERS
Units Housed in Type H-1 Case, except HA-107: in H-2 Case

UTC Type	Application	Primary Imped. Ohms	Sec. Imped. Ohms	Level Mw.	Sugg. Net Ea.
HA-104	Pl. to grids	15K split	95K	100	$17.70
HA-105	Pl. to grid	15K	60K	100	24.00
HA-106	Pl. to grids	15K split	135K	100	24.00
HA-107	Pl's. to grids	30K	80K	600	33.00
HA-137	Pl's. to grids	30K	68K	100	21.00

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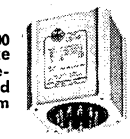
LINEAR STANDARD* TRANSFORMERS



Guaranteed frequency response of ±1 db 20-20,000 Hz, ±1 db 7-50,000 Hz on high level units, make these ideal transformers for uniform frequency response and low distortion. High efficiency and dependability through shielding. Top and bottom mounting.

LOW LEVEL TRANSFORMERS
Type LS-1 case, 2⅝" x 3⅛" x 3¼" h. Suffix X indicates multiple alloy shield. Weight, 3 lbs.

UTC Type	Application	Pri. Imp., Ohms	Sec. mp., Ohms	Level, dbm	Sugg. Net Ea.
LS-10	Input	50, 125/150, 200, 250, 333, 500/600	60K split	+19	$27.00
LS-10X	Input	As above	50K	+17	27.00
LS-12	Input	As above	120K split	+19	30.00
LS-12X	Input	As above	80K split	+17	24.00
LS-30	Mixing	As above	Same as pri.	+23	27.00
LS-30X	Mixing	As above	Same as pri.	+20	30.00
LS-19	Pl. to grids	15K	95K	+20	24.00
LS-21	Pl. to p-p	15K	135K split	+20	27.00
LS-40	Pl. to p-p	15K, 8 ma	135K split	+20	33.00
LS-25	P-P to p-p	30K split	50K split	+23	33.00
LS-27	Pl. to line	15K, 8 ma	See LS-10 pri.	+23	30.00
LS-50	Pl. to line	15K	See LS-10 pri.	+23	27.00
LS-51	P-p to line	30K split	See LS-10 pri.	+24	33.00
LS-14X	Lo-Z to grids	2.5, 5.5, 10, 15, 22, 30, 38, 60	50K	+17	27.00
LS-26	Line to grids	5K	60K	+23	27.00
LS-31	Line to line	30, 50, 200,250	See LS-10 pri.	+23	27.00
LS-32	Lo-Z to line	Same as LS-14X	See LS-10 pri.	+23	33.00
LS-68	Matching to 2 Simult. lines or Tr..	600/150 split	(2) 600/150 split	+15	27.00
LS-150	Line to line	4K	See LS-10 pri.	+23	27.00
LS-151	Line to line	16K	See LS-10 pri.	+26	27.00
LS-140	70 db hybrid	500/600 split	Same as pri.	+18	27.00
LS-141	Hybrid †	500/600 split	Same as pri.	+18	24.00

† Has 3 sets of coils.

HIGH LEVEL TRANSFORMERS

UTC Type	Application	Pri. Imped., Ohms	#	Level Watts	Sugg. Net Ea.
LS-33	Matching	50, 125/150, 200, 250, 333, 500/600	a	20	$24.00
LS-34	Matching	As above	a	40	33.00
LS-47	Driver	5K	i	20	27.00
LS-48	Driver	12K	i	40	66.00
LS-6L1	P-p output	9K	b	30	39.00
LS-6L4	P-p output	4,500/3,800	b	55	66.00
LS-58	P-p output	2.5K/1.5K	b	40	66.00
LS-52	P-p output	8000	b	20	24.00
LS-55	P-p output	5K/3K split	b	20	27.00
LS-61	P-p output	10K/6K split	b	20	24.00
LS-54	P-p output	8000	c	20	21.00
LS-57	P-p output	5K/3K split	c	20	24.00
LS-63	P-p output	10K/6K split	c	20	21.00
LS-56	P-p output	5K/3K split	d	20	30.00
LS-35	EL-34's†	5K CT 43% taps	e	35	36.00
LS-65	6550's†	3.3K CT 40% taps	e	60	45.00
LS-666	P-p transistor	8 split	f	50	36.00
LS-667	P-p transistor	8 split	e	50	33.00
LS-691	Modulation	10,400	g	1,000	690.00
LS-692	Modulation	4,750	h	2,500	990.00

† With feedback. #Secondary Impedance: a—1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125/150, 200/250, 333, 500/600 ohms. b—500, 333, 250/200, 125, 50, 30, 20, 10, 7.5, 5, 2.5, 1.2 ohms. c—30, 20, 15, 10, 7.5, 5, 2.5, 1.2 ohms. d—6K, 5K, 4K, 1.8K, 1.5K, 1K, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 ohms. e—4, 8, 16 ohms. f—500 ohms split. g—4.5K, 4K, 3.5K, 2.75K, 2K. h—2.5K, 2K, 1.75K, 1.5K, 1.25K. i—Pri./½ Sec. 3.2:1. j—Pri./½ Sec. 5.1:1.

Sizes: LS-33, -47, -52, -54, -55, -56, -57, -61, -63, 3½" x 4⅞" x 4⅜" h. (Wt., 7½ lbs.). LS-6L1, -6L4, -34, -35, -48, -58, -65, -666, -667, 5" x 5¹³⁄₁₆" x 4¹¹⁄₁₆" h. (Wt., 15 lbs.). LS-691, 13" x 15¾" x 24" h. (Wt., 370 lbs.). LS-692, 13" x 15¾" x 28" h. (Wt., 520 lbs.).

Continued from bottom of previous column

PLATE TO LINE TRANSFORMERS
Units Housed in Type H-1 Case

UTC Type	Application	Prim. Imped. Ohms	Sec. Imped. Ohms	Level mw	Sugg. Net Ea.
HA-113	to multiple line	15K split	50, 125/150, 200, 250, 333, 500/600	125	$21.90
HA-114	Lo-Z to multi-line	30K		200	25.80
HA-133	to multi-line	15K split		160	27.00

OUTPUT TRANSFORMERS
Units Housed in Type H-2 Case

UTC Type	Application	Prim. Imped. Ohms	Sec. Imped. Ohms	Level Watts	Sugg. Net Ea.
HA-134	P-p to line	5K/9.4K	50, 125/150, 200, 250, 330, 500/600	15	$19.80
HA-135	P-p to V.C.	3K/5K	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	18	19.20
HA-136	5881's screen-taps	6.6K	4, 8, 16	20	21.00

POWER TRANSFORMERS
Units Housed: HP-122 in Type H-1 Case; HP-123 in Type H-2 Case

UTC Type	Application	Psi. Volt 50/60μ	Hi-Volt	Fil. Wind	Sugg. Net Ea.
HP-122	Pre-amp	115	220-0-220 15 Ma	6.3 V.C.T.—.6A 6.3 V.C.T.—1.2A	$12.00
HP-123	Pre-amp or Tuner	115	275-0-275 35 Ma	6.3 V.C.T.—.6A 6.3 V.C.T.—2A	12.00

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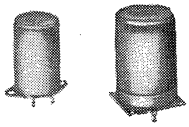
COMMERCIAL GRADE COMPONENTS

DIMENSIONS, COMMERCIAL GRADE "RC" CASE



Performance insured during constant usage due to the ruggedness of this vacuum impregnated component with special sealing compound. Case, finished in light gray enamel, is ready for mounting on chassis. (All audio components linear).

Case No.	Base Dim.(Sq.)	Mounting Dim. (Sq.)	Ht., +1/8, −1/16	Cutout Dia.	Unit Wt. (Lbs.)
RC-37	1 3/8	1 1/8	1 5/8	1 1/4	.35
RC-50	1 5/8	1 5/16	2 1/4	1 1/2	1/2
RC-62	1 13/16	1 1/2	2 1/2	1 1/2	1
RC-75	2 1/16	1 13/16	2 7/8	1 7/8	1 1/2
RC-87	2 5/16	2 3/32	3 1/4	2	2 1/2
RC-100	3	2 3/8	3 3/4	2 5/8	3 1/2
RC-112	3 1/16	2 11/16	4 1/8	2 7/8	5
RC-125	3 3/4	3	4 1/2	3	6 1/2
RC-150	4 1/2	3 9/16	5 1/2	3 3/4	11
RC-152	5 1/8	4 1/8	5 1/2	4	15 1/2
RC-175	5 3/4	4 7/8	7	4	22

SWINGING INPUT AND FILTER INDUCTORS

UTC Type	Induct. Henries	DC ma	DC Res. Ohms	Test Volts	Case No.	Sugg. Net Ea.
CG-40	10	200	110	1750	RC-112	$10.20
CG-44	30	100	400	1750	RC-100	8.10
CG-45	250	15	5000	1750	RC-87	7.50
CG-48C	75	50	2200	1750	RC-87	9.00
CG-100	12	150	110	2500	RC-125	10.50
CG-102	12	250	100	3000	RC-150	15.60
CG-104	10	350	90	5000	RC-152	18.90
CG-108	10	500	52	7000	RC-175	30.00
CG-1S	10	1000	40	9000	11 1/2 x 4 3/4 x 6 7/8 H. Wt., 40 lbs.	75.00
CG-101	25/5	150	110	2500	RC-125	10.50
CG-103	25/5	250	100	3000	RC-150	15.60
CG-105	25/5	350	90	5000	RC-152	18.90
CG-109	25/5	500	52	7000	RC-175	30.00
CG-111§	100/10mh	2.5a.	.6	1500	RC-87	11.40
(2 wdgs)‡	25/2.5mh	.5a.	.15			
CG-112§	40/10mh	6 a.	.24	1500	RC-112	12.60
(2 wdgs)‡	10/2.5mh	12 a.	.06			
CG-113§	7/1.75mh	17.5a.	.036	1500	RC-125	14.70
(2 wdgs)‡	1.8/.45mh	35 a.	.009			
CG-1C	25/5	1000	40	9000	11 1/2 x 4 3/4 x 6 7/8 H. Wt., 40 lbs.	75.00

§Split winding in series. †Wt., 40 lbs. ‡Split winding in parallel.

PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts; 50/60 Hz. For reduced power, secondary can be cut in half, using 220 v. primary on 110 volts; may be used on 25 to 43 Hz in this case. "W" suffix units designed for full wave center tap and full wave bridge application. Center tap may be disconnected from ground.

UTC Type	High Voltage	DC Volts	Case No.	Sugg. Net Ea.
CG-300	625-515-0-515-625	500/400	RC-150	$21.00
CG-300W	625-515-0-515-625	1000/800	RC-150	22.50
CG-301	580-530-300-0-300-530-580	475/425/250	RC-152	33.00
CG-301W	580-530-300-0-300-530-580	950/850/500	RC-152	36.00
CG-302	950-750-0-750-950	760/610	RC-175	39.00
CG-302W	950-750-0-750-950	1520/1220	RC-175	42.00
CG-303	1500-1235-400-0-400-1235-1500	1250/1000 300	RC-175	43.50
CG-303W	1500-1235-400-0-400-1235-1500	2500/2000 600	RC-175	48.00

POWER AND BIAS TRANSFORMERS

Primary 115 volts, 50/60 Hz. DCma is for choke input; reduce 70% for condenser input. Filament 1 is 5 volts, 3 amps., and Filament 2 is 5 volts, 2 amps., except as otherwise noted.

UTC Type	High Voltage	DC ma	Filament 3	Filament 4	Case No.	Sugg. Net Ea.
CG-422	435-365-0-365-435 125-0-125	125 25	6.3 VCT-3A	2.5 VCT-5A	RC-150	$27.00
CG-428	500-0-500 80-0-80	250 100	6.3 VCT-4A	6.3 VCT-3A, tapped 2.5 VCT-3A	RC-152	31.50
CG-429*	600-525-0-525-600	250	7.5 VCT-3A, tapped 6.3 VCT-4A		RC-152	31.50
CG-431†	500-400-0-400-500 80-0-80	500 100	6.3 VCT-5A	6.3 VCT-3A	RC-175	42.60
CG-315	Tapped for any DC voltage from 15 to 100 volts within 6%—250 MA				RC-125	16.50
CG-316	Tapped for any DC voltage from 75 to 400 volts within 6%—250 MA				RC-152	27.00

*Filament 2 is 6.3 VCT-3A. †Filament 1 is 5V-6A.

AUDIO UNITS

UTC Type	Use †	Pri. Imped., Ohms	Level	Case RC-	Sugg. Net Ea.
CG-131	a	15K	+28 dbm	50	$13.50
CG-132	b	15K	+30 dbm	62	13.50
CG-133	c	30K CT	+32 dbm	75	13.50
CG-134	d	50, 200, 500	+30 dbm	50	11.40
CG-135	e	50, 200, 500	+30 dbm	50	12.90
CG-235	f	50, 200, 500	+28 dbm	75	21.00
CG-136	g	15K, 50, 200	+30 dbm	62	18.00
CG-137	h	50, 200, 500	+28 dbm	50	10.80
CG-140	i	15K	+30 dbm	50	9.90
CG-141	j	30K CT	+32 dbm	50	9.60
CG-233	k	30K CT	+35 dbm	87	15.00
CG-333	k	30K CT	+35 dbm	87	15.00
CG-433	k	5K CT	10 w.	100	12.00
CG-15	l	8K CT	20 w.	100	13.50
CG-16	l	3K/5K CT	20 w.	100	14.70
CG-19	l	6K/10K CT	20 w.	100	14.40
CG-710	l	14K/20K CT	20 w.	100	18.00
CG-216	l	9K CT	30 w.	125	16.50
CG-20	m	5K CT, 43% screen taps	25 w.	125	18.00
CG-21	m	3.3K CT, 40% screen taps	50 w.	150	24.00
CVP-1	n	3K/5K/6K/8K/10K/14K CT	12 w.	100	16.80
CVP-2	n	"	30 w.	125	18.90
CVP-3	n	"	60 w.	150	27.00
CVP-4	n	"	125 w.	152	33.00
CVP-5	n	"	300 w.	175	48.00
CVL-1	p	500	15 w.	87	12.00
CVL-2	p	500	40 w.	125	18.00
CVL-3	p	500	75 w.	150	21.00
CVM-0	q	Any Class B	12 w.	100	14.10
CVM-1	q	"	30 w.	125	18.00
CVM-2	q	"	60 w.	150	22.50
CVM-3	q	"	125 w.	152	30.00
CVM-4	q	"	300 w.	175	54.00
CVM-5	q	"	600 w.	†	168.00
CG-51AX	r	15K	5 w.	87	15.00
CG-53AX	r	3K/10K/ CT	20 w.	112	15.00
CG-59AX	r	50, 200, 500	20 w.	112	15.00

† 7" x 12" x 9"; Wt., 60 lbs. †a—Pl. to grid. b—Pl. to 2 grids. c—2 pl. to 2 grids. d—Input, humbucking. e—P-p input, humbucking. f—Input, mag. shielded. g—Dual input, humbucking. h—Mixing. i—Pl. to line. j—P-p to line. k—Driver. l—Output. m—Feedback output. n—Universal output. p—Universal matching. q—Universal modulator. r—Universal driver.

END CASTING UNITS

See note on "W" suffix units under plate transformers.

UCT Type	High Volt	DC Volt	L	W	H	Wt. Lbs.	Sugg. Net Ea.
CG-304	1500-1235-0-1235-1500	1.25K	1K	14 5/8	8 1/2	10 3/8	100	$198.00
CG-304W†	1500-1235-0-1235-1500	2.5K	2K	14 5/8	8 1/2	10 3/8	100	219.00
CG-305	2400-1750-0-1750-2400	2K	1.5K	10 1/2	4 3/4	6 7/8	50	75.00
CG-305W†	2400-1750-0-1750-2400	4K	3K	10 1/2	4 3/4	6 7/8	50	81.00
CG-306	as above	2K	1.5K	13 7/8	8 1/2	10 3/8	100	174.00
CG-306W†	as above	4K	3K	13 7/8	8 1/2	10 3/8	100	186.00
CG-307	3500-3000-2400-0-2400-3000-3500	3K 2K	2.5K	13 5/8	8 1/2	10 3/8	90	183.00
CG-308	as CG-307	3K 2K	2.5K	15 1/8	8 1/2	10 3/8	125	225.00
CG-309	as CG-307	3K 2K	2.5K	21	10	13 1/4	253	450.00
CG-310	4600-4050-3500-0-3500-4050-4600	4K 3K	3.5K	17 1/4	10	13 1/4	150	420.00
CG-311	1500-1235-0-1235-1500	1.25K	1K	10 1/2	4 3/4	6 7/8	50	75.00
CG-311W†	1500-1235-0-1235-1500	2.5K	2K	10 1/2	4 3/4	6 7/8	50	78.60
CG-312	1800-1500-0-1500-1800	1.5K	1.25K	10 1/2	4 3/4	6 7/8	38	81.00

† Full Wave Bridge Rectifier types.

VARIPOWER* AUTOFORMERS

Simultaneous control of filament, plate and line voltage. Filament voltage control within 2 1/2%. Output voltage from 0 to 130 volts. 50/60 Hz. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125, and 130 volts.

UTC Type	Watts Output	Case No.	Sugg. Net Ea.	UTC Type	Watts Output	Case No.	Sugg. Net Ea.
CVA-1	150	RC-112	$13.50	CVA-4	1000	RC-152	$27.00
CVA-2	250	RC-125	18.00	CVA-5	2000	RC-175	42.60
CVA-3	500	RC-150	22.50				

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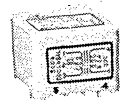
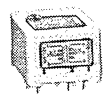
MINIATURE, OUNCER, SUBOUNCER & SUB-SUBOUNCER UNITS

SUBOUNCER*& SUB-SUBOUNCER*AUDIO TRANSFORMERS
TRANSISTOR & TUBE TYPES HERMETICALLY SEALED

Designed, Manufactured and Successfully Tested to complete MIL-T-27B Specifications.

UTC SSO-#P and SO-#P units are ideal miniaturized components having high efficiency and wide frequency response. Special nickel iron core materials and winding methods provide exceptional performance and reliability.

SO-#P UNIT Dim. ¾x1x$^{23}/_{32}$" Pin Length ¼" Wt. .....05 lb.

SSO-#P UNIT Dim. ¾x⅞x$^{9}/_{16}$" Pin Length ¼" Wt. .....04 lb.

SML-70 ⅛x$^{3}/_{64}$x$^{9}/_{16}$" Wt. .2 oz.

These units are vacuum molded to MIL Grade 5. They employ 50 mil deeply anchored pin terminals ideally suited for printed circuit and transistor application. Terminals are strong enough to support these light weight units.

The UTC SML-70 is an ultra miniature transformer providing high shielding, extremely low insertion loss with wide band response, 200 Hz to 20 kHz. These units are provided with pin terminals (.025 dia.) strong enough to support the unit and are ideal for printed circuits.

PRINTED CIRCUIT AUDIO UNIT — HIPERMALLOY SHIELD CASE

Type No.	Application	Pri. Imp. ohms	Sec. Imp. ohms	Sugg. Net Ea.
SML-70	Input or Chopper Service	200K	1K	$8.40

MIL TYPE: TF5RX16ZZ.

PRINTED CIRCUIT MOLDED TYPES TO MIL GRADE 5

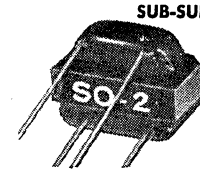
Type No.	Application	Pri. Imp. ohms	Sec. Imp. ohms	Sugg. Net Ea.
SO-2P	Interstage/3:1	10K	90K	$6.90
SO-3P*	Plate to Line	10K	200	6.90
		25K	500	
SO-5P	Inductor: 40 hy at 1 ma, 2675 ohms, series; 4 hy at 4 ma, 670 ohms, parallel;			6.90
SO-7P*	Transistor	20K	800	6.60
	Interstage	30K	1200	
SO-8P	Transistor to PP Sec.	10K	2000 CT	7.50
SO-9P	PP Transistor to V.C.	500 CT	3.2	7.50
SO-14P	Transistor	80 CT	32 Split	7.80
	Interstage	100 CT	40 Split	
SO-15P	Tr. output	600 CT	600 Split	7.80
SO-17P	Inductor: 16 hy at 2 ma, 1.1K ohms, series; 4 hy at 4 ma, 275 ohms, parallel;			6.90
SO-18P	Tr. output	50K CT	600 Split	7.80

MIL TYPES: TF5RX13ZZ: SO-3P, SO-7P, SO-8P, SO-18P; TF5RX15ZZ: SO-2P; TF5RX17ZZ: SO-9P, SO-14P, SO-15P, SO-17P; TF5RX20ZZ: SO-5P.

SSO-3P	Plate to line	10K	200	$7.20
		25K		
SSO-5P	Inductor: 100 hy at 0 ma, 4.4K ohms, series; 25 hy at 0 ma, 1.1K ohms, parallel			6.90
SSO-8P	Transistor to pp sec.	10K	2000 CT	7.20
SSO-14P	Transistor	10K CT	200 CT	7.50
	Interstage	25K CT	500 CT	
SSO-15P	Transistor	20K CT	800 CT	7.50
	Interstage	30K CT	1200 CT	
SSO-19P	Output matching	500 CT	600 CT	7.20
SSO-20P	Output	1.5K CT	600 CT	7.20
SSO-21P	Crystal/Chopper	200K CT	1000 CT	8.10
SSO-22P	Interstage	10K CT	1500 CT	7.20
		12K CT	1800 CT	
SSO-23P	Inductor: 8 hy at 2 ma, 600 ohms, series; 2 hy at 4 ma, 150 ohms, parallel			6.90
SSO-24P	Inductor: 3.5 hy at 2 ma, 160 ohms, series; 0.9 hy at 4 ma, 40 ohms, parallel			6.90
SSO-25P	Transistor	10K CT	10K/	8.10
	Interstage§		2.5K spl.	
SSO-27P	Tr. Output	4K CT 2.5 ma	600 spl.	8.10

MIL TYPES: TF5RX13ZZ: SSO-3P, SSO-8P, SSO-14P, SSO-15P, SSO-20P, SSO-22P, SSO-25P, SSO-27P; TF5RX16ZZ: SSO-21P; TF5RX17ZZ: SSO-19P; TF5RX20ZZ: SSO-5P, SSO-23P, SSO-24P.

SUB-SUBOUNCERS*AND SUBOUNCERS*



Lead mounted (channel available as separate item) miniature nickel iron core units for transistor or vacuum tube circuits. Plastic mounted leads. SSO Sub-Subouncers: Approx. 2 db, 140-10,000 Hz; +20 VU except inputs +7 VU. ($^{7}/_{16}$" x ¾" x $^{43}/_{64}$"; wt., .02 lb.) SO Subouncers: Approx. 2 db., 100-10,000 Hz; +24 VU except inputs +10 VU. ($^{13}/_{32}$" x $^{43}/_{64}$" x ⅞"; wt., .03 lbs.)

UTC SSO-	Sugg. Net Ea.	Application	Pri. Imp., Ohms	Sec. Imp., Ohms	UTC SO-	Sugg. Net Ea.
1	$4.50	Input	50/200	62.5K/250K	1	$3.60
2	4.80	Interstage	10K, .25 ma	90K	2	3.30
3	4.20	Pl. to line	10K/25K, 1.5 ma	200/500	3	3.30
4	3.90	Output	30K, 1 ma	50	4	3.30
5	3.90	Inductor:	50 hys. @ 1 ma	4400 ohms#	5‡	3.00
6	4.20	Output	100K, .5 ma	60	6	3.90
7	3.30	Tr. intrstg.	20K/30K†	80/1200	7	3.00
8	3.90	Tr. intrstg.	10K, 1 ma	2K CT	8	3.60
9	3.00	Tr. to V.C.	10K, 2 ma	16	.....	.....
.....	.....	Tr. to V.C.	500 CT	3.2	9	3.60
10	3.00	Tr. to V.C.	10K, 2 ma	3.2	.....	.....
.....	.....	Tr. to V.C.	2K/4K CT	8/16	10	3.60
11	3.00	Tr. Output	500/600§	50/60	.....	.....
.....	.....	Transist. Int.	400/500 CT	400/500 Split	11	4.20
12	3.00	Tr. Output	1K/1.2K††	50/60	.....	.....
.....	.....	Transist. Int.	400/500 CT	120/150 Split	12	4.20
13	4.50	Input	200K	1K	.....	.....
.....	.....	Transist. Int.	400/500 CT	40/50 Split	13	4.20
14	4.20	Tr. intrstg.	10K/25K CT	200/500 CT	.....	.....
.....	.....	Transist. Int.	80/100 CT	32/40 Split	14	4.20
15	4.20	Tr. intrstg.	20K/30K CT	.8K/1.2K CT	.....	.....
.....	.....	Tr. output	600 CT, 5 ma	600 Split	15	4.20
16	3.00	Tr. output	1.2K/1.5K††	3.2/4	.....	.....
.....	.....	Tr. intrstg.	2.5K CT, 4 ma	2500 Split	16	4.20
17	3.30	Output	10K/12.5K**	500/600 CT	.....	.....
.....	.....	Inductor: 16 hy at 2ma, 1.1K ohms, series; 4 hy at 4 ma, 275 ohms, parallel			17	3.30
18	3.30	Output	10K/12.5K CT	3.2/4	.....	.....
.....	.....	Tr. Output	50K CT	600 Split	18	5.25
19	3.30	Matching	500 CT	600 CT	.....	.....
20	3.30	Output	1.5K CT	600 CT	.....	.....
21	4.80	Chopper	200K CT	1K CT	.....	.....
22	3.90	Tr. intrstg.	10K/12K CT	1.5K/1.8K CT	.....	.....
23	3.00	Inductor: 4 hys @ 5 ma, 650 ohms				
24	3.00	Inductor: 1.5 hys. @ 5 ma, 160 ohms				
25	5.10	Transist. Int.	10K/12K CT	10K/12 CT	.....	.....
26	5.10	Transist. Int.	40K/50K CT	400/500 Split	.....	.....
27	5.10	Tr. output	4K CT, 2.5 ma	600 Split	.....	.....
CH	.30	Mounting channel for any of above			CH	.30

†0.5 ma. ‡Resis., 2675 ohms. §3.5 ma. **2 ma. ††3 ma. #DC resis.

OUNCER*AUDIO UNITS
Standard and Plug-in Types

UTC ouncer components provide wide range ±1 db, 30 to 20,000 Hz (except Nos. 0-14 and 0-15). O unit case: ⅞" Dia x 1$^{3}/_{16}$" H, Wt: 1 oz. (except 0-16; heavy shielding case 1$^{1}/_{16}$" Dia x 1½" H, Wt: 3 oz.) P unit case: 1$^{3}/_{32}$" Dia x 1$^{15}/_{32}$" H, Wt: 2 oz. (except P-16: heavy shielding case 1$^{3}/_{16}$" Dia x 2¾" H, Wt: 4 oz.)

UTC No.	Sugg. Net Ea.	Application	Pri. Imped., Ohms	Sec. Imped., Ohms	UTC No.	Sugg. Net Ea.
O-1	$7.80	Input	50, 200, 500	50K	P-1	$9.00
O-2	7.80	P-p input	50, 200, 500	50K CT	P-2	9.00
O-3	7.50	Input	7.5/30	50K	P-3	8.40
O-4	6.60	Pl. to grid	15K	60K	.....	.....
O-5	6.60	Pl. to grid	15K, 2 ma	60K	.....	.....
O-6	7.50	Pl. to p-p	15K	95K CT	P-6	8.40
O-7	7.50	Pl. to p-p	15K, 2 ma	95K CT	P-7	8.40
O-8	7.80	Pl. to line	15K	50, 200, 500	P-8	9.00
O-9	7.80	Pl. to line	15K, 2 ma	50, 200, 500	P-9	9.00
O-10	8.40	P-p to line	30K CT	50, 200, 500	P-10	9.00
O-11	7.80	Cryst. out.	50K	50, 200, 500	P-11	9.00
O-12	7.80	Mixing	50, 200, 500	50, 200, 500	P-12	9.00
O-13	6.30	Inductor	300 Hys-0 ma; 6000 ohms		.....	.....
O-14	7.50	50:1 input	200	500K	.....	.....
O-15	7.50	10:1 P/G	15K	1 meg.	P-15	9.00
O-16	10.20	Shld. input	250 CT	50K	P-16	11.40
O-17	1.50	Hipermalloy shield, 25 db, for Ouncers			.....	.....
O-18	7.80	Tr. intrstg.	10K split	2K split	.....	.....
O-19	7.80	Tr. intrstg.	10K split	4K split	.....	.....
O-20	6.30	Tr. to line	1.5K CT	500 split	.....	.....
O-21	5.40	Tr. to V.C.	2K/4K CT	8/16	.....	.....
O-22	5.40	Tr. to V.C.	500/400 CT	4/3.2	.....	.....
O-23	5.10	Inductor 7 Hys-3 ma; 230 ohms			.....	.....
O-24	5.10	Inductor 1.6 Hys-3 ma; 25 ohms			.....	.....
O-25	8.10	Transist. Input	600/150 split	2K/500 split	.....	.....
O-26	8.10	Transist. Int.	10K CT 4 ma.	10K CT	.....	.....
O-27	8.40	Transist. Int.	10K CT 4 ma.	500/125 split	.....	.....
O-28	8.40	Transist. Int.	50K CT. 2 ma.	500/125 split	.....	.....
O-29	8.70	Transist. Int. or chopper	100K CT 1 ma.	500/125 split	.....	.....
O-30	8.10	Transist. Int.	500/125 split	500/125 split	.....	.....
O-31	8.10	Transist. Int.	500/125 split	150/37.5 split	.....	.....
O-32	8.10	Transist. Int.	500/125 split	50/12.5 split	.....	.....
O-33	8.10	Transist. Int.	100/25 split	40/10 split	.....	.....
O-34	5.10	Split Inductor	Series: 60 Mhy-80 ma; 4 ohms Parallel: 15 Mhy-160 ma; 1 ohm		.....	.....
O-36	5.10	Split Inductor	Series: 1 Hy-20 ma; 60 ohms Parallel: .25 Hy-40 ma; 15 ohms		.....	.....
O-37	8.10	Tr. to line	4K/1K spl., 4 ma	650/150 split	....	....
O-38	5.10	Spkr. match	0, 4, 8, 16 ODC		....	....
O-BR	.21	Mounting U-bracket for ouncers				....

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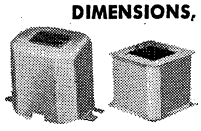
AMATEUR & PUBLIC ADDRESS TRANSFORMERS "S"* SERIES

DIMENSIONS, SPECIAL SERIES TRANSFORMERS



G-1 thru G-4 G-5 thru G-12

UTC Special Series transformers are specifically designed for amateur and popular-priced PA service. These units are finished in a rich, commercial type medium gray enamel. A recessed terminal strip is provided, permitting above chassis or breadboard wiring in addition to standard chassis type.

G-CASE SIZES

Case	Height, In.	Width, In.	Depth, In.	Wt., Lbs.
G-1	1 7/8	2 13/16	1 3/4	1
G-2	2 5/16	3 3/8	1 15/16	1 1/2
G-3	2 1/2	3 3/4	2 5/32	2
G-4	2 15/16	4 1/8	2 5/16	3
G-5	3 3/4	3 1/8	4 1/2	4 1/2
G-7	4 5/8	4 5/8	5 1/2	8
G-8	4 5/8	5 3/8	5 3/8	12
G-9	5 7/8	5 3/8	6 3/4	21
G-10	5 7/8	6 1/8	6 5/8	24
G-11	5 7/8	6 1/2	7 3/8	31
G-12	10 1/4	7 3/8	9 1/4	52

INPUT AND DRIVER TRANSFORMERS

Type UTC	Application	Ratio Pri. to Sec.	Level	Case	Sugg. Net Ea.
S-1	Plate to grid	1:3 1/2	+30 dbm	G-2	$ 5.40
S-2	Plate to p-p grids	1:4†	+30 dbm	G-2	6.60
S-3	Pl. to 1 or 2 grids	1:4†	+25 dbm	G-1	4.80
S-5	Line to grid, humbkg.	1:16	+30 dbm	G-2	5.70
S-6	Line to grid, compact	1:16	+25 dbm	G-1	4.80
S-8	Driver pl. to p-p	2.66:1. 5:1†	5 w.	G-3	7.20
S-9	Driver p-p to p-p	2.66:1, 3.6:1 5:1†	20 w.	G-4	9.60
S-10	Driver p-p to p-p	2.25:1†	5 w.	G-3	7.20

†Center tapped.

MATCHING, OUTPUT AND MODULATION UNITS

UTC Type	Application	Pri. Imped., Ohms	†	Level, Watts	Case	Sugg. Net Ea.
S-11	Pl. to line	15K	a	.25	G-2	$ 5.70
S-12	Line to V.C.	.5K/2K/4K	b	15	G-2	6.00
S-13	Line to V.C.	.5K/2K/4K	b	30	G-4	9.00
S-14	Output	2.5K/4K/7K/10K	c	10	G-2	7.20
S-15	PP output	4K/5K/10K CT	c	12	G-2	7.80
S-16	PP output	3K/6K/9/10K CT	c	30	G-4	9.30
S-17	PP output	3.8K/4.5/5K CT	c	55	G-5	13.20
S-18	Univ. modul.	Any Class B	d	12	G-3	8.40
S-19	Univ. modul.	Any Class B	d	30	G-4	9.90
S-20	Univ. modul.	Any Class B	d	55	G-5	16.50
S-21	Univ. modul.	Any Class B	d	110	G-7	22.50
S-22	Univ. modul.	Any Class B	d	250	G-9	36.00

†Secondary Impedance: a—200/500 ohms. b—2, 4, 8, 15 ohms. c—2, 8, 15, 500 ohms. d—Any Class C.

FILTER, SWINGING AND AUDIO INDUCTORS

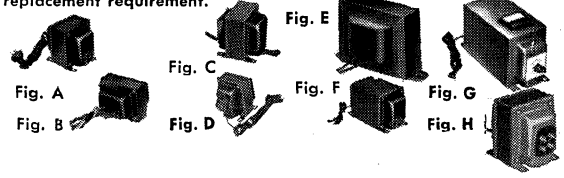
Type	Henries	ma DC	Ohms	Insul.	Case	Sugg. Net Ea.
S-23§	300	5	5000	1500 v.	G-2	$ 4.80
S-24‡	500	3	6000	1500 v.	G-2	5.40
S-25	30	30	800	1500 v.	G-2	4.20
S-26	12	60	250	1500 v.	G-2	4.20
S-27	25	75	350	1500 v.	G-4	5.40
S-28	20	100	350	1500 v.	G-4	6.90
S-29	6	175	90	1500 v.	G-4	5.40
S-30†	4/20	175	90	1500 v.	G-4	5.40
S-31	6	225	100	2700 v.	G-5	7.50
S-32†	4/20	225	100	2700 v.	G-5	7.50
S-33	8	300	100	4000 v.	G-7	9.90
S-34†	4/20	300	100	4000 v.	G-7	10.50
S-35	8	400	60	5000 v.	G-8	12.90
S-36†	4/20	400	60	5000 v.	G-8	12.90
S-37	8	550	60	6000 v.	G-8	16.50
S-38†	4/20	550	60	6000 v.	G-8	16.50
S-80	50/10 Mhy	1.75A	.5	500 v.	G-1	4.50
S-81	100/8 Mhy	2.5A	.6	1500 v.	G-3	6.60
(2Wdgs)	25/2 Mhy	5A	.15			

§Audio. ‡P.P. Audio C. T. †Swinging.

Information on components in this box listed on UTC page 15.

REPLACEMENT TYPE COMPONENTS

The shells and brackets of these vacuum sealed components are finished in shiny black enamel. A minimum number covers any replacement requirement.



FILAMENT TRANSFORMERS

Primary Tapped 105, 115 Volts, 50-60 Hz.

UTC Type	Secondary Volts	Secondary Current	Insulation	Case No.	Sugg. Net Ea.
S-53	2.5 VCT	10 Amp	1500 V	G-3	$ 6.90
S-54	5 VCT	4 Amp	2500 V	G-3	6.30
S-55	6.3 VCT	3 Amp	1500 V	G-3	6.00
S-57	2.5 VCT	10 Amp	10000 V	G-5	9.90
S-58	2.5 VCT	20 Amp	10000 V	G-5	10.50
S-59	5 to 5.25 VCT	13 Amp	5000 V	G-5	9.90
S-60	5 to 5.25 VCT	22 Amp	10000 V	G-7	15.00
S-61	7.5 VCT tapped 6.3 VCT	10 Amp	3000 V	G-5	12.00
S-62	10 VCT	10 Amp	3000 V	G-5	10.20
S-63	14 VCT tapped 12 VCT & 11 VCT	10 Amp	5000 V	G-7	15.00

Type	Filament 1	Filament 2	Filament 3	Case	Sugg. Net Ea.
‡S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	G-5	$12.00
‡S-67	5 VCT-6A	6.3 VCT-5A		G-5	11.40
‡S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	G-5	11.70
‡S-70	6.3 VCT-5A	6.3 VCT-5A	.....	G-5	11.40
§S-71	2.5 VCT 6A	2.5 VCT-6A	2.5 VCT-12A	G-7	16.50
†S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	G-5	13.50

§Insulation 10,000 v. †Insulation 5000 v. ‡Insulation 3000 v.

COMBINED PLATE AND FILAMENT TRANSFORMERS

Primary 115 V., 50-60 Hz

UTC Type	Voltage	DC V.	Rect. Fil.	Filament No. 1	Filament No. 2	Case No.	Sugg. Net Ea.
S-39	490-400-0-400-490 175 ma	400/310	5V-3A	2.5 VCT-6A	6.3 VCT-4A	G-7	$18.00
S-40	525-425-0-425-525 250 ma	400/310	5V-3A	6.3 VCT-3A	6.3 VCT-3A	G-7	19.50
S-41	600-0-600 200 ma	475	5 V-3A	7.5 V tapped 6.3 V-3A	6.3 VCT-2A	G-7	19.50
S-42	600-525-0-525-600 300 ma	480/400	5 V-6A	7.5 V tapped 6.3 V-3A	6.3 VCT-3A	G-7	21.00

PLATE AND BIAS TRANSFORMERS

Primary 115 V. 50/60 Hz.

UTC Type	2.5 VCT-12A High Voltage	DC Voltages†	DC ma	Case	Sugg. Net Ea.
S-44	575-525-0-525-575	470/430	500	G-9	$27.00
S-45	900-750-0-750-900	750/620	200	G-8	22.50
S-46	1000-750-0-750-1000	825/600	300	G-9	25.50
S-47	1500-1250-1000-0-1000-1250-1500	1275/1050/825	300	G-10	36.00
S-48	1500-1250-1000-0-1000-1250-1500	1300/1075/850	500	G-11	42.00
S-49	2100-1800-1500-0-1500-1800-2100	1815/1540/1275	300	G-11	39.00
S-50	3000-2500-0-2500-3000	2625/2175	300	G-12	66.00
S-51	Any bias voltage from 15 to 100 ± 6%		200	G-5	13.20
S-52	Any bias voltage from 75 to 400 ± 6%		200	G-7	18.00

†Based on two section filter for 200 ma. and 300 ma. units. Single section filter for 500 ma. units, both choke input.

IMMEDIATE DELIVERY
ON ALL UTC STOCK ITEMS
AND SPECIAL CUSTOM BUILT UNITS TO YOUR SPECS.

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TRANSFORMERS FOR INDUSTRY WIDE APPLICATIONS

DOUBLE SHELL POWER TRANSFORMERS (FIG. B SEE PG. 14)

Rectifier filaments 5 volts, 3 amps except R-101, 2 amps.

UTC Type	High V.	DC ma	Amplifier Filament	Overall Height	Wt., Lbs.	Sugg. Net Ea.
R-101	275-0-275	50	6.3 v. CT-2.7A	3"	2½	$ 8.70
R-102	350-0-350	70	6.3 v. CT-3A	3 5/8"	3½	10.20
R-103	350-0-350	90	6.3 v. CT-3.5A	3 15/16"	4½	10.35
R-104	350-0-350	120	6.3 v. CT-5A	3 7/8"	5½	11.10
R-105	385-0-385	160	6.3 v. CT-5A	4 5/16"	7	12.00

VERTICAL SHELL POWER TRANSFORMERS (FIG. C SEE PG. 14)

Rectifier filaments 5 volts, 3 amps., except R-110, 2 amps.

R-110	300-0-300	50	6.3 v. CT-2.7A	3¼"	2½	$ 8.70
R-111	350-0-350	70	6.3 v. CT-3A	3¼"	3½	10.20
R-112	350-0-350	120	6.3 v. CT-5A	4"	5½	11.10
R-113	400-0-400	200	6.3 v. CT-6A	4 5/8"	8	14.10

CHANNEL FRAME FILTER INDUCTORS (FIG. E SEE PG. 14)

Inductance Shown is at Rated D.C. ma.—Test Volts RMS: 1500

Type No.	Induct. Hys.	Current	Resist. Ohms	Dimensions, in. W	D	H	M	Wt. Lbs.	Sugg. Net Ea.
R-55	6	40 ma	300	2 3/8	1 3/8	1 3/8	2	½	$ 1.80
R-14	8	40 ma	250	2 7/8	1½	1 11/16	2 3/8	¾	2.25
R-15	12	30 ma	450	2 7/8	1½	1 11/16	2 3/8	¾	2.25
R-16	15	30 ma	630	2 7/8	1½	1 11/16	2 3/8	¾	2.25
R-17	20	40 ma	850	3 5/16	1 5/8	2	2 13/16	1	2.70
R-18	8	80 ma	250	3 5/32	1 5/8	2	2 13/16	1	2.85
R-19	14	100 ma	450	3 3/4	1 7/8	2 5/16	3 1/8	1½	3.45
R-20	5	200 ma	90	4 1/8	2 1/4	2 5/8	3 5/16	2½	3.90
R-21	15/3	200 ma	90	4 1/8	2 1/4	2 5/8	3 5/16	2½	3.90
R-220	100/8 Mhy. 25/2 Mhy.	2.5A 5A	.6 .16	3¾	2	2 5/16	3 1/8	1½	4.20

PHOTOFLASH TRANSFORMERS

STANDARD 982

Can be used for either standard (Amglo type) or trigger (Sylvania type) multiple flash tubes. Circuit details included with transformer.

PF-1 Primary for 115 volts, 50/60 Hz. Secondaries for power supply delivering 2200 volts DC to condenser up to 100 Mfd. Compound sealed in G-3 (Pg. 14) case 2⅛ x 2¾ (3¾ including flanges) x 2½ inches high. Weight 2 lbs. **Suggested net each: $8.40**

PF-3 Trigger Transformer 15 KV peak. ⅞ O.D. x 3 long. Weight 2 oz. **Suggested net each: $6.00**

TRANSISTOR TYPE

PF-6

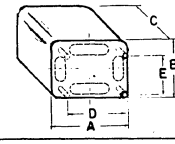
These are miniaturized light weight units for transistor type photoflash supply.

PF-5 Primary for 115 volts, 50/60 Hz or for 4½ V. battery switched by PF-6 inverter transformer. Output delivers 400 V. DC when used in voltage doubler circuit to charge photoflash capacitor (typically 40 watt-Sec.). G-1 case (Pg. 14) **Suggested net each: $8.40**

PF-6 Inverter transformer transforms 4½ V. DC from battery to input for PF-5 stepup transformer. Cuncer case (Pg. 14) **Suggested net each: $5.10**

PF-7 Trigger transtormer. Shorting .25 mfd. capacitor (charged to approx. 225 V. DC) across terminals 1-2 produces 6 KV pulse at terminal 3 for triggering flash tube. ⅞" Dia. x 15/16"; Wt. ½ oz. **Suggested net each: $3.60**

MIL-T-27B CASE SIZES



MIL Case	Size, Inches: A	B	C	Dimension D	E	Mtg. Studs
AF	¾	¾	1⅛	Diag.	5/16	4-40 x 3/8
AG	1	1	1⅜	Diag.	¾	4-40 x 3/8
AH	1 5/16	1 5/16	1¾	Diag.	1¼	6-32 x 3/8
AJ	1⅝	1⅝	2⅜	1 3/16	1 3/16	6-32 x 3/8
EA	1 13/16	1 13/16	2¾	1⅜	1¼	6-32 x 3/8
EB	1 13/16	1 13/16	2 7/16	1⅜	1¼	6-32 x 3/8
FA	2 5/16	2 1/16	3⅛	1 11/16	1 7/16	6-32 x 3/8
FB	2 5/16	2 1/16	2½	1 11/16	1 7/16	6-32 x 3/8
GA	2¾	2⅜	3 13/16	2⅛	1¾	6-32 x 3/8
GB	2¾	2⅜	2 13/16	2⅛	1¾	6-32 x 3/8
HA	3 1/16	2⅝	4¼	2 19/64	1 55/64	8-32 x 3/8
HB	3 1/16	2⅝	3 3/16	2 19/64	1 55/64	8-32 x 3/8
JA	3 5/16	3 1/16	4⅞	2⅝	2⅛	8-32 x 3/8
JB	3 5/16	3 1/16	3⅞	2⅝	2⅛	8-32 x 3/8
KA	3 15/16	3⅜	5¼	3	2 7/16	10-32 x ½
KB	3 15/16	3⅜	4 5/16	3	2 7/16	10-32 x ½
LA	4 5/16	3 11/16	5 5/16	3 5/16	2 11/16	10-32 x ½
LB	4 5/16	3 11/16	4½	3 5/16	2 11/16	10-32 x ½
MA	4 11/16	4	6	3 11/16	3	¼-20 x 5/8
MB	4 11/16	4	4 15/16	3 11/16	3	¼-20 x 5/8
NA	5 1/16	4 5/16	6 13/16	4 1/16	3 5/16	¼-20 x 5/8
NB	5 1/16	4 5/16	5½	4 1/16	3 5/16	¼-20 x 5/8
OA	5½	4½	6¾	3¾	3	¼-20 x 5/8

STEP-DOWN AUTO-TRANSFORMERS (FIG. A SEE PG. 14)

With 6-ft. cord and female receptacle, except R-64; 220/240 to 110/120 v., 50/60 Hz.

UTC Type	Rating	Size, Inches L.	W.	H.	Wt., Lbs.	Sugg. Net Ea.
R-41	85 watt capacity	3 3/16	2 5/8	3 1/8	4	$ 7.20
R-42	125 watt capacity	3½	3	3½	5	8.70
R-43	175 watt capacity	3¾	3¼	3 7/8	5½	9.00
R-44	250 watt capacity	4 3/8	3¼	3 7/8	6½	12.00
R-45	500 watt capacity	4 5/8	3 7/8	4 5/8	12	13.50
R-46	1200 watt capacity	6 7/8	3 7/8	4 5/8	18	24.00
R-64	2500 watts, no cord	10½	4¾	6¾	30	57.00

ISOLATION TRANSFORMERS (FIG. F SEE PG. 14)

Ideal for isolating line noise. AC-DC sets, etc. Excellent electrostatic shielding 1500 volt breakdown test. Six foot cord and female receptacle, except R-77.

Primary 110-120 volts 50/60 Hz—Secondary 110-120 volts
Except R-97 220 volt Primary—120 volt Sec.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.	Sugg. Net Ea.
R-72	40	3 1/8	2 5/8	3 1/8	2x1 7/8	4	$ 7.20
R-73	100	3¾	3¼	3 7/8	2½x2 3/8	6	11.40
R-74	250	4 7/8	3 7/8	4 5/8	3x3½	12	18.00
R-75	600	7 3/8	3 7/8	4 5/8	3x5 7/8	20	24.00
R-76	1200	8½	4½	6⅛	3 5/8x6 5/8	30	57.00
R-77	2500	12	7	9	6x11	70	111.00
R-97	250	4 7/8	3 7/8	4 5/8	3x3½	12	15.00

LINE VOLTAGE ADJUSTERS WITH METER (FIG. G. SEE PG. 14)

The perfect answer to abnormal or fluctuating line voltage. Adjust switch so that meter reads at red line and you know that your equipment is working at correct voltage. These units combine a tapped auto-transformer with a switch and meter in a compact, rugged assembly. The nine-tap switch provides for line voltage of 60 to 140 volts on 115 volt output models and 160 to 240 volts on 230 volt output model. All units are designed for 50/60 Hz service and come complete with 6 foot input cord and plug and outlet receptacle.

Type No.	Primary Voltages	Sec. Volts	Watts Ratings	L	W	H	Wgt. Lbs.	Sugg. Net Ea.
R-78	†	115	150	7	4	4¾	6	$19.50
R-79	†	115	300	7	4	4¾	9	21.00
R-80	†	115	600	10¼	4	4¾	13	24.00
R-81	†	115	1200	10¼	4	4¾	21	33.00
R-86	‡	230	1200	10¼	4	4¾	21	33.00

† 60, 70, 80, 90, 100, 110, 120, 130, 140
‡ 160, 170, 180, 190, 200, 210, 220, 230, 240

EXPORT VOLTAGE ADAPTER (FIG. D SEE PG. 14)

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 Hz. Output voltage 115.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.	Sugg. Net Ea.
R-47	85	4 5/8	3	3½	2¼x2¼	4½	$12.00
R-48	150	4¾	3¼	4	2½x2½	5½	12.60

TV VOLTAGE REGULATOR (FIG. D SEE PG. 14)

Complete with cord, plug, and special locking switch. Permits operation of 115 volt 50/60 Hz TV sets on line voltages of 85, 90, 95, 100, 105, 110, 120, 125 V.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.	Sugg. Net Ea.
R-49	350	5	3¼	4	2½x2¾	5	$12.90

SIGNALLING AND CONTROL TRANSFORMERS (FIG. H SEE PG. 14)

Primary 110-220 volts, 50/60 Hz — Secondary
4/8/12/16/20/24 volts

High power transformers suitable for operating relays, sirens horns, gongs, etc. from 115 V. 50/60 Hz line. These units have four secondary terminals providing 4, 8, 12, 16, 20 and 24 volt output. The volt ampere rating is based on the 24 volt secondary tap with corresponding reduction at the lower voltages. Underwriters' approved primary leads are employed, and screw-type binding posts.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.	Sugg. Net Ea.
SC-3	50	3	3 1/16	3 9/16	1¾x2¼	3	$8.40
SC-4	100	3¼	3 7/16	4	2 1/8x2½	5	9.90
SC-5	250	4	4⅝	4¾	3 5/16x3	10	14.40

INDUSTRIAL DISCOUNTS

Applicable to any UTC products listed in this catalog.

1-24	25-99	100-249	250-499
Net Price	Net —15%	Net —20%	Net —26%

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Amperex Industrial, Communication,

TUBE TYPE
OA2
OB2
OE3
OG3
1A3/DA90
1AB6
1AC6
1AH5
1AJ4
1AN5
1B3GT
1BG2
1CP1
1CP31/DH3-91
1G3GT/1B3GT
1L4/DF92
1M3/DM70
1N3/DM71
1R5/DK91
1S2A/DY87
1S5/DAF91
1T4/DF91
1U4
1U5/DAF92
1X2B
2D21
2D21W
2ER5/XC95
2FY5/XC97
2GK5
2HA5
2J42
2J55
3AMP1/DG7-32
3A4/DL93
3A5/DCC90
3AU6
3BH2
3BU8
3B28
3BKP2/DN7-78
3BKP7/DP7-78
3BKP11/DB7-78
3BKP31/DH7-78
3BYP2/DN7-11
3BYP7/DP7-11
3BYP11/DB7-11
3BYP31/DH7-11
3BZ6
3C4/DL96
3CB6
3EH7/XF183
3EJ7/XF184
3ER5
3GK5
3HA5/LC900
3NP4/MW6-2
3Q4/DL95
3S4/DL92
3V4/DL94
3-400Z
4-65A
4-125A
4-250A
4-400A
4B32
4BL8/XCF80
4C35
4CX250B
4CX250F
4X250FG/8621
4CX250R
4CX350A/
4CX350F
4EH7
4EJ7
4ES8/XCC189
4GK5
4HA5/PC900
4X150A
4X150D
4X150D/7035(JAN)
4X500A
5AQ4
5AR4/GZ34
5BHP2
5BHP7
5BHP31
5C22
5EJP31/D13-26GH
5ELP2/D13-21GP
5ELP7/D13-21GM
5ELP11/D13-21BE
5ELP31/D13-21GH
5GJ7/LCF801

TUBE TYPE
5HG8/LCF86
5R4GY
5R4GYB
5U8
5U9/LCF201
5X9/LCF200
5Z4G/GZ30
6AB8
6AF9
6AJ8/ECH81
6AK5/EF95
6AK5W
6AK8
6AL3/EY88
6AL5/EAA91
6AL5W
6AM5
6AM6
6AQ4
6AQ5/EL90
6AQ5/EL90MP
6AQ5A
6AQ5AMP
6AQ8/ECC85
6AT6/EBC90
6AU4GTA
6AU6/EF94
6AU6A
6AV6/EBC91
6AX4GT
6AX4GTB
6BA6/EF93
6BD7A
6BE6/EK90
6BE7
6BL8/ECF80
6BM8/ECL82
6BN5
6BQ5/EL84
6BQ5/EL84MP
6BR5/EM80
6BT4
6BX6/EF80
6BY7
6BZ6
6C4/EC90
6CA4/EZ81
6CA7/EL34
6CA7/EL34MP
6CB6A
6CD7/EM34
6CG7
6CH6
6CJ5
6CJ6
6CK5
6CK6
6CM4/EC86
6CM5
6CN6
6CQ6
6CS6/EH90
6CT7
6CU7
6CV7
6CW5/EL86
6CW7
6DA5/EM81
6DA6/EF89
6DC8/EBF89
6DE6
6DJ8/ECC88
6DL4/EC88
6DL5/EL95
6DL5MP/EL95MP
6DR8
6DS8
6DT6
6DX8/ECL84
6EA8
6EC4
6ED4
6EH7/EF183
6EJ7/EF184
6ER5/EC95
6ES6
6ES8/ECC189
6ET6
6EU7
6FG6/EM84
6FY5/EC97
6GB5/EL500
6GH8A
6GJ7/ECF801
6GK5
6GK6

TUBE TYPE
6GM8/ECC86
6GV8/ECL85
6GW8/ECL86
6HA5/EC900
6HG8/ECF86
6HU6/EM87
6HU8/ELL80
6J6/ECC91
6J6A
6JW8/ECF802
6JX8/ECH84
6KG6
6LFG
6LN8/LCF80
6LX8/LCF802
6N3
6N8
6Q4/EC80
6R3/EY81
6R4/EC81
6S2
6S2A
6S4A
6SN7GTB
6U3
6U8
6U8A
6U9/ECF201
6V4/EZ80
6V9/ECH200
6W4GT
6X2
6X4/EZ90
6X9/ECF200
6Y9/EFL200
7AN7
7AU7
7C24
7DJ8
7ES8
7HG8/PCF86
8BQ5/XL84
8CW5/XL86
8GJ7/PCK801
8MB6
8MG6
8MY6
8U9/PCF201
8X9/PCF200
9A8/PCF80
9AB4
9AK8
9AQ8/PCC85
9ED4
9GV8/XCL85
9U8/PCF82
9U8A
9V9/PCH200
10CW5/LL86
10DX8/LCL84
10LD6
11AF9
11Y9/LFL200
12AC5
12AJ7
12AT6/HBC90
12AT7/ECC81
12AU6/HF94
12AU7/ECC82
12AU7A
12AV6/HBC91
12AX4GTA
12AX4GTB
12AX7A/ECC83
12BE6
12BL6
12DS7
12DS7A
12S7
12SN7GTA
12X4/HZ90
13GB5/XL500
14GW8
14K7
14L7
15A6
15CW5/PL84
15DQ8/PCL84
16A5
16A8/PCL82
16AQ3/XY88
16GK6
16Y9/PFL200
17C8

TUBE TYPE
17EW8/HCC85
17Z3
18GB5/LL500
18GV8
19AU4
19AU4GTA
19BR5
19D8
19FL8
19X3
19Y3
20AQ3/LY88
21A6
25E5
25L6GT
27GB5/PL500
30A5
30AE3
31A3
35L6GT
38A3
40KG6
42EC4
45A5
45B5/UL84
45B5/UL84MP
50BM8/UCL82
50BM8/UCL82MP
50C5
52AVP
53AVP
53CG
53UVP
54AVP
54UVP
55N3
56AVP
56AVP/03
56AVP/05
56CVP
56P17/2
56P17/3
56TVP
56TUVP
56UVP
57AVP
58AVP
58CG
58CV
58UVP
60AVP
75C1
75N
75NB3
76NB3
80N
85A1/OE3
85A2/OG3
90AG
90AV
90C1
90CG
90CV
90NB3/900V
90NB4/900V
90NS
92AV
100C
100CB
100E1
100HB
100LB
100NB/900V
120C
120BN/900V
150A1
150AVP
150B2/6354
150C1P
150CVP
150N/900V
150NB/900V
150UVP
153AVP
153C
155N
160G
161G
171G
200C
200CB
200HB
200LB
200N

TUBE TYPE
200NB/900V
356
367
300PC
310PC
400PC
404A
417A
500N
501N
501R
502N
504R
505N
506N
507N
575A
632B
651
652
653B
655
673
725A
805
807
810
811A
812A
813
828
829B
832A
833A
833A(JAN)
838
845
849
857B
857B(JAN)
866AX
869B
869B(JAN)
869BL
872AX
880
892
892R
912NB3/900V
912NB4/900V
967
1164
1561
1805
1838
1849
1875
1908
1913
1941A
2050
2050A
3200
3533A
3538
3545
3546PW
3554
4065
4152
4654
4699
5544
5545
5551A
5552A
5553B
5555
5557/FG17
5559
5560/FG95
5586
5604
5632/C3J
5651
5654/6AK5W
5658
5666
5667
5678
5684/C3JA
5685/C6JA
5718
5726/6AL5W

TUBE TYPE
5727/2D21W
5759
5762
5771
5822A
5823
5842
5842(JAN)
5847
5847(JAN)
5861/EC55
5866
5866A
5867
5867A
5868
5869
5870
5894
5894(JAN)
5894A
5895B/8737
5895
5911
5913
5920
5923
5924
5924A
6007
6008
6075
6076
6076/QY5-3000A
6077
6078
6079
6083
6084
6085
6146
6146A
6146B/8298A
6155
6156
6159
6159B
6189/12AU7WA
6201
6211
6211A
6218
6227
6252
6252(JAN)
6267/EF86
6268
6279
6339
6354
6360
6360(JAN)
6360A
6370
6375
6463
6508
6617
6618
6681/12AX7A
6686
6687
6688
6688A
6688(JAN)
6689
6693
6756
6759
6779
6786
6800A
6801
6816
6883
6883B/8032A
6884
6907
6907(JAN)
6922
6922(JAN)
6923
6939

TUBE TYPE
6960
6961
6977
6979
7025
7034
7035
7035(JAN)
7038
7062
7090
7091
7092
7119
7136
7189
7189A
7189MP
7203
7204
7237
7291
7292
7308
7308(JAN)
7316
7320/E84L
7325
7336
7377
7378
7459
7527
7534
7580
7580W/4CX250R
7609
7609(JAN)
7643
7645
7650
7693
7694
7697
7699
7709
7710
7714
7721/D3A
7722/E280F
7735A
7737
7737(JAN)
7753
7788
7788(JAN)
7800
7804
7805
7806
7807
7843
7844
7854
7899
7900
7983
7986/5866A
8008AX
8020AX
8032
8042
8078
8108/EC157
8116
8117A
8118
8119/TBL2/400
8120/TBL2/500
8163
8177
8179
8223/E288CC
8228
8233
8233(JAN)
8254
8255/E88C
8268
8269
8270
8278/EL503
8298A

AMPEREX ELECTRONIC CORPORATION / **Amperex®**

TOMORROW'S THINKING IN TODAY'S PRODUCTS

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SECTION 5700

and Receiving Tubes....

TUBE TYPE

8300
8321/4CX350A
8322/4CX350F
8348
8408
8416
8436/EC158
8453/Z550M
8457
8458
8463
8482
8483
8505A
8507
8509
8541
8556
8560/DX278
8572
8577
8579
8580
8591
8592
8593
8594
8595
8603
8608
8621(JAN)
8621/4CX250FG
8624
8637
8639
8639(JAN)
8643
8647
8654
8666
8667
8668
8669
8670
8679
8680
8683
8731
8732
8733
8735
8736
8737
8744
8752
8753
13201AE
18042
18045
18503
18504
18505
18506
18508
18509
18510
18515
18516
18517
18518
18522
18526
18529
18536
18550
18552
55850AM
55850N
55850S
55851N
55852N
56001

TUBE TYPE

Alpha-Numeral Listing

AB2
ABC1
AF3
AF7
AGR9950
AGR9951
AW17-69
AK2
AL4
AX50
AX105/FG105
AX260
AX5842
AX9900
AX9901
AX9902
AX9903
AX9904
AX9904R
AX9907
AX9907R
AX9908
AX9909
AX9910
AX9911
AX9912
AZ1
AZ4
AZ11
AZ12
AZ31
AZ41
C3J
C3JA
C3M
C6JA
C8
CF3
CF50
CK1
CL4
CY1
CY2
D3A/7721
D10-11BE
D10-11GH
D10-11GM
D10-11GP
D10-12BE
D10-12GH
D10-12GM
D10-12GP
D13-15BE
D13-15GH
D13-15GM
D13-15GP
D13-16BE
D13-16GH
D13-16GP
D13-17BE
D13-17GH
D13-17GP
D13-19BE
D13-19GH
D13-19GM
D13-19GP
D13-20BE
D13-21BE/5ELP11
D13-21GH/5ELP31
D13-21GM/5ELP7
D13-21GP/5ELP2
D13-22GH
D13-23GH
D13-24BE
D13-26GH/5EJP31
DA90
DAF40
DAF41
DAF91
DAF92
DAF96
DB711-/3BYP11
DB7-78/3BKP11
DC70/6375
DCC90
DCG1/250
DCG4/1000G
DCG5/5000EG
DF21
DF22
DF91

TUBE TYPE

DF92
DF96
DF97
DF904
DG7-5
DG7-6
DG7-31
DG7-32/3AMP1
DH3-91/1CP31
DH7-11/3BYP31
DH7-78/3BKP31
DH13-10
DK21
DK40
DK91
DK92
DK96
DL21
DL41
DL92
DL93
DL94
DL95
DL96
DLL21
DM70
DM71
DN7-11/3BYP2
DN7-78/3BKP2
DP7-11/3BYP7
DP7-78/3BKP7
DX206
DX278
DY86
DY87
E1T/6370
E10-10BE
E10-10GH
E10-10GM
E10-10GP
E10-12BE
E10-12GH
E10-12GM
E10-12GP
E55L/8233
E80CC/6085
E80CF/7643
E80F/6084
E80L/6227
E80T/6218
E81CC/6201
E82CC/6189
E81L/6686
E83F/6689
E84L/7320
E86C
E88C/8255
E88CC/6922
E90CC/5920
E90F/7693
E91AA
E91H/6687
E91N/5727
E92CC
E95F/5654
E99F
E130L/7534
E180CC/7062
E180F/6688
E182CC/7119
E182F/5847
E186F/7737
E188CC
E280F/7722
E283CC
E288CC/8233
EA52
EA53
EA76
EAA91
EABC80
EAC91
EAF42
EB34
EB41
EB91
EBC3
EBC33
EBC41
EBC81
EBC90/6AT6
EBC91/6AV6
EBF2
EBF32

TUBE TYPE

EBF35
EBF80
EBF83
EBF89
EBL1
EBL21
EC50
EC55/5861
EC80
EC81
EC86
EC88
EC90
EC91
EC92
EC95
EC97
EC157/8108
EC158/8436
EC900
EC1000/8254
EC8010
ECC32
ECC33
ECC34
ECC35
ECC40
ECC81
ECC82
ECC83
ECC84
ECC85
ECC86
ECC88/6DJ8
ECC91
ECC189
ECC2000
ECF1
ECF80
ECF82
ECF86
ECF200
ECF201
ECF801
ECF802
ECH3
ECH4
ECH21
ECH35
ECH41
ECH42
ECH81
ECH83
ECH84
ECH200
ECL80
ECL82
ECL83
ECL84
ECL85
ECL86
EEP1
EF6(N)
EF9
EF22
EF36
EF37A
EF39
EF40
EF41
EF42
EF43
EF50
EF55
EF80
EF83
EF85
EF86
EF89
EF91
EF92
EF93
EF94
EF9
EF9
EF
EF
EF
EF
EF
E

TUBE TYPE

EL3(N)
EL6
EL11
EL12
EL33
EL34
EL34MP
EL36
EL37
EL37MP
EL38
EL41
EL42
EL50
EL51
EL60
EL81
EL82
EL83
EL84
EL84MP
EL85
EL86
EL90
EL90MP
EL91
EL95
EL95MP
EL360
EL500
EL503
EL821
EL822
ELL80
EM4
EM34
EM80
EM81
EM84
EM87
EQ80
EY51
EY80
EY81
EY82
EY86
EY87
EY88
EZ2
EZ40
EZ41
EZ80
EZ81
EZ90
FG17/5557
FG95
FG105
GZ30
GZ32
GZ33
GZ34
HBC90
HBC91
HCC85

TUBE TYPE

PCC84
PCC85
PCC88
PCC189
PCF80
PCF82
PCF86
PCF200
PCF201
PCF801
PCH200
PCL82
PCL84
PCL85
PCL86
PE05/25
PE06/40E
PE06/40N
PE06/40P
PF86
PFL200
PL21
PL36
PL81
PL82
PL83
PL84
PL150
PL500
PL6574
PL6755
PY80
PY81
PY82
PY88
QE04/10
QY5-3000A
RPY17
RPY18
RPY19
RPY20
RPY27
RPY41
S-32995
S-32996
SD513
SD540
SD560
TBL2/400/8119
TBL2/500/8120
U30
UABC80
UAF42
UB41
UBC41
UBC81
UBF80
UBF89
UBL1
UBL21
UC92
UCC85
UCH4
UCH21
UCH41

TUBE TYPE

VC100/32
VC250/32
XC95
XC97
XCC189
XCF80
XCL85
XF183
XF184
XL84
XL86
XL500
XP1000
XP1001
XP1002
XP1003
XP1004
XP1005
XP1010
XP1011
XP1014
XP1015
XP1020
XP1021
XP1023
XP1030
XP1031
XP1032
XP1033
XP1040
XP1110
XP1111
XP1112
XP1113
XP1114
XP1115
XP1116
XP1117
XP1118
XP1120
XP1121
XP1122
XP1123
XP1130
XP1131
XP1140
XP1141
XP1143
XP1180
XP1210
XY88/16AQ3
Z50T
Z70U/7710
Z70W/7709
Z71U/7711
Z303C
Z502S
Z504S
Z505S
Z550M/8453
Z803U/6779
Z805U/7714
Z900T/5823
ZB3200
ZM1030
ZM1032
771000/8228

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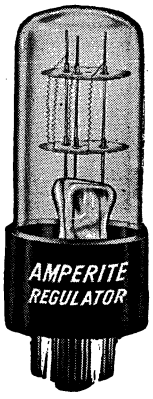
Standard Amperite Ne...

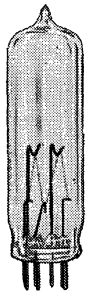
| | | |

AUTOMATIC AMPERITE REGULATOR

BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE



STANDARD



MINIATURE

AUTOMATIC REGULATION

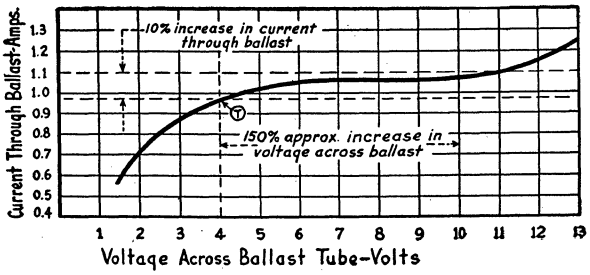
WHAT IT IS

The *AMPERITE Ballast-Regulating Tube* is an automatic *"rheostat"* designed to keep the current in a circuit at a definite value, for example, 0.5 amp.

Should the supply voltage increase, the *Amperite* will automatically increase in resistance enough to take up the increase in supply voltage — keeping the voltage on the load constant. It consists of an iron wire *hermetically sealed* in a bulb containing *hydrogen* or *helium* — the two gases with the *highest heat conductivity*. Its regulating action is based on the high temperature co-efficient of resistance of the iron wire and the rapid cooling of *hydrogen* or *helium* gas.

Being a constant current device, the *AMPERITE Ballast-Regulating Tube* can be used only to regulate a constant load—fixed wattage. Thermostatic relays can sometimes be included in these regulators to reduce initial surge.

We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.



(T) = Threshold Current & Voltage

Characteristic curve of a typical Amperite. Approximate curve any other Amperite can be obtained by multiplying or ...g the current or voltage scale by any number.

Types of Amperite Ballast Tubes ..... Net $1.80
...70V Neon Lamp ..... Net $1.80

...4	3A20	5-11	6-8B	**7HTF2	9A10	12-4
...4	3H-25	5H3	6A10	**7HTF3	10-3	12A10
	3-38A	5H4	6-11	**7HTF4	10-4A	12-11
	...50A	5H10	6-12	7H4	10-4B	13-4
		5H11	6-13	7H4B	10-4C	15-4
		6-3	6A15	7H7	10-4D	16-4
			6-36	7H11	10A10	17-3
			6H4	**8TF2	10A12	20-3
			*6HTF4	8-3B	10-25	20-4
			...6	8-4	11-3	22-4
				8A10	11-4	34-2
				9-4	11A10	41-7E
				...A	11-11	55-1
						55-4

...ON LAMP
... $1.80

GENERAL ADVANTAGES:

• Light, compact • No moving parts • Rugged; will withstand vibration of 10G. minimum • Hermetically sealed; not affected by altitude or humidity changes • Can be changed as easily as a radio tube • Operates equally well on A.C. or D.C. • Inexpensive

CAPACITIES AVAILABLE

Current values of 60 ma. to 5 amps; threshold voltage 0.4 to 40 V. Maximum dissipation 50w per tube (ST19 bulb). Any number of AMPERITES with the same voltage range can be operated in parallel. AMPERITES should not be used in series.

AGEING

AMPERITE Ballast Tubes may change approximately up to 3% in current if aged for 4 to 8 hours, at maximum voltage. They will change very little thereafter.

LIFE EXPECTANCY

Average life if operated as recommended	**2000 Hours**
If operated continuously at maximum voltage	**1000 Hours**
If operated continuously at 80% maximum voltage	**5000 Hours**
If filament is operated below glow point	**5000 Hours up**

In operation, the *Amperite* filament starts to glow at one point; as the voltage is increased, the glow spreads over the entire filament. Like incandescent lamps, turning *Amperite* on and off reduces its life, especially if operating near its maximum voltage.

TIME LAG CHARACTERISTICS

Time lag encountered in an *Amperite Ballast Tube* depends upon the wattage consumed by the ballast and the size of the bulb. Where the wattage is small for the size of the bulb, the action can be made practically instantaneous — less than 1 second. In such cases the bulb will remain at practically ambient temperature. When the wattage is high enough to heat the bulb to a temperature uncomfortable to the hand (160°F) the lag might be as much as several minutes for final readings—but normally reaches within 90% of final readings within a few seconds.

AMPERITE NUMBERING SYSTEM

In general, the AMPERITE number approximately denotes the current—voltage threshold value. For example:

Amperite Number	3-4	3H4	10-7	12-11	12H11
Threshold Current	0.3	0.35	1.0	1.2	1.25
Threshold Voltage	4.0	4.0	7.0	11.0	11.0

We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.

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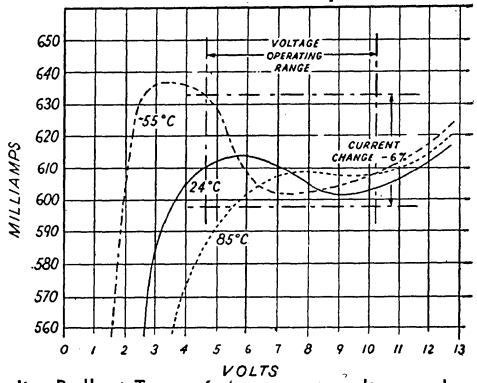
AUTOMATIC AMPERITE REGULATOR

BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE

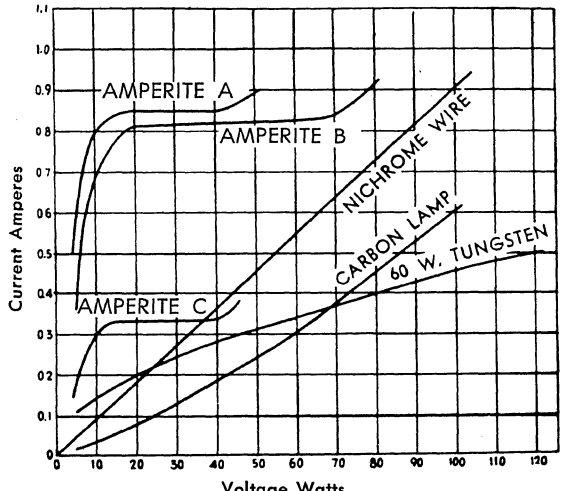
AMBIENT EFFECTS

Ambient temperature variation of −50° to +70° C will change the current value of an *Amperite* approximately 2% on regulating portion of curve as shown directly below. Being hermetically sealed the *Amperite* is not affected by altitude or humidity changes.

We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.



Amperite Ballast-Type 6-4 current voltage characteristic under ambient conditions of −55°, 24°, and 85° C. The percentage change with ambient is approximately the same with all type *Amperite* ballasts.

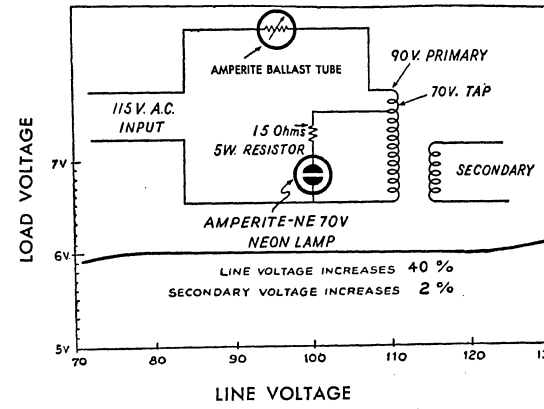


This diagram illustrates far superior regulating characteristics of the *Amperite* Ballast-Regulating Tube.

STANDARD SIZES available for various wattage consumption . . . For good regulation, a bulb should not be required to dissipate more than 50% of maximum wattage.

BATTERY CHARGING AND DISCHARGING

Amperite Ballast Tubes are very successfully used for keeping the current constant in charging and discharging batteries. Any number of *Amperites* of the same voltage range can be placed in parallel to obtain proper current. The current can be kept to ± 1%. Advise voltage variation and currents desired.



A light, compact, and inexpensive method of obtaining close regulation is to use an *Amperite Ballast Tube* with an *Amperite* Neon Lamp — type NE70V. Base octal-base wiring-prongs 2-5. One NE70V is used for all loads up to 100W.

POWER SUPPLIES

We strongly recommend, for any particular application, to fill in and return one of our special problem sheets (ASP 343) and permit us to recommend the most suitable AMPERITE.

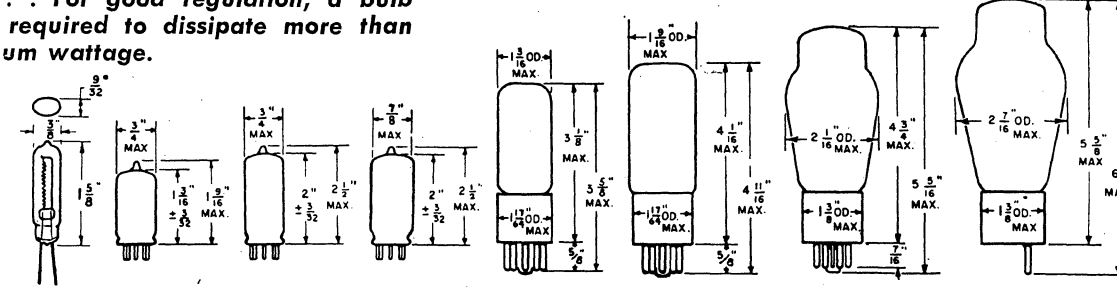
POWER SUPPLY	Dry Cells	6 Volts	12 Volts	26 Volts	115 Volts
Supply Variation	2.2-3.0V	5.5-7.5V	11.4-13.8V	22.0-30.0V	105-125V
Desired on Load	1.8-2.0V	3.9-4.1V	6.1- 6.4V	12.4-12.8V	90- 95V
Required on AMPERITE	0.4-1.0V	1.6-3.4V	5.3- 7.4V	9.6-19.2V	15- 30V
Current Variation	.29-.32a	.29-.32a	.29- .32a	.29- .32a	.29-.32a

The above chart shows the maximum load voltage for the given supply to obtain ± 2% current regulation on load. Better regulation is obtainable by increasing the voltage across the **AMPERITE.** Up to a point, the higher the percentage of the supply voltage taken up by the **AMPERITE,** the better the regulation.

Radio tube filament loads — have low cold resistance which causes a high initial surge. For such loads we recommend a bleeder of 20 to 50% prox. of load and the corresponding **AMPERITE.** e.g.

FILAMENT LOAD	USE AMPERITE	TOTAL CURRENT
0.3a	4HTF4	0.45a
0.6a	8-4	0.8a
0.7a	9H4	0.95a

On Radio tube filament loads the bleeder will also improve the regulation.



SIZE	SUB. MIN. L T5½S	T5½L	T6½L	T9	T-12	ST-16	ST-19
MAX. WATTS	2 W.	3	5	5	12	25	30	50
WT. PER TUBE	2 GMS.	7 GMS.	8 GMS.	8 GMS.	1 OZ.	2¼ OZ.	2½ OZ.	2¾ OZ.

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ENTERTAINMENT RECEIVING TUBES

NEW IDEAS IN ELECTRONICS

Type	Suggested List Price‡
0Z4	$2.80
0Z4A	2.80
1A7GT	5.40
1AD2	3.10
1AY2	2.60
1B3GT — (Use 1G3GT/1B3GT)	
1BC2	2.90
1BG2	2.80
1BH2	3.05
1DN5	4.40
1G3GT/1B3GT	3.05
1H2	3.95
1K3/1J3	3.05
1L4	3.25
1L6	12.55
1LH4	7.60
1N2A	4.40
1R5	3.60
1SA/DY87	2.55
1S5	3.40
1T4	3.40
1U4	3.30
1U5	2.90
1V2	2.15
1X2A/1X2B	3.10
2AF4	4.10
2AF4B/2DZ4	4.10
2AH2	3.40
2AS2	3.00
2AV2	2.55
2BN4A	3.10
2CW4	4.90
2CY5	3.60
2DS4	4.90
2DV4	6.45
2DZ4 — (Use 2AF4B/2DZ4)	
2EN5	3.20
2ER5	3.70
2FH5	3.70
2FQ5A — (Use 2GK5/2FQ5A)	
2FS5	4.85
2GK5/2FQ5A	3.85
2GU5	4.50
2HA5	3.85
2HK5	3.85
2HQ5	3.85
3A2	5.50
3A3A/3AW3/3B2	3.20
3AF4B/3DZ4	4.10
3AL5	2.15
3AT2	3.05
3AU6	2.40
3AV6	2.95
3AW2	3.20
3AW3 — (Use 3A3A/3AW3/3B2)	
3B2 — (Use 3A3A/3AW3/3B2)	
3BC5 — (Use 3CE5/3BC5)	
3BE6	2.70
3BL2	3.55
3BN2	3.45
3BN4	3.40
3BN6	3.80
3BS2	3.25
3BU8 — (Use 3GS8/3BU8)	
3BY6	3.00
3BZ6	2.35
3CA3	3.20
3CB6/3CF6	2.30
3CE5/3BC5	2.70
3CF6 — (Use 3CB6/3CF6)	
3CN3A	3.20
3CS6	2.90
3CX3	3.45
3CY5	3.75
3DG4	4.30
3DK6	2.55
3DT6	2.60
3DZ4 — (Use 3AF4B/3DZ4)	
3EA5	3.55
3EH7	$2.55
3EJ7	2.55
3ER5	3.70
3FS5	4.30
3GK5	3.85
3GS8/3BU8	4.00
3HA5 — (Use 3HM5/3HA5)	
3HM5/3HA5	3.85
3HQ5	4.20
3Q4	3.35
3S4	3.40
3V4	2.95
4AU6	2.95
4AV6	2.25
4BC5 — (Use 4CE5/4BC5)	
4BC8	4.00
4BL8/XCF80	2.40
4BN6	4.05
4BQ7A/4BZ7	4.45
4BS8	4.25
4BU8 — (Use 4GS8/4BU8)	
4BZ6	2.35
4BZ7 — (Use 4BQ7A/4BZ7)	
4CB6	2.40
4CE5/4BC5	3.05
4CS6	3.05
4CY5	2.70
4DE6	2.95
4DK6	2.95
4DT6	2.30
4EH7	3.55
4EJ7	3.55
4ES8	5.50
4EW6	2.90
4GK5	3.85
4GM6	2.15
4GS8/4BU8	4.10
4GZ5	3.55
4HA5	2.30
4HA7/4HC7	3.05
4HM6	3.10
4HQ5	4.20
4HS8	3.35
4HT6	2.55
4JC6	3.85
4JD6	3.85
4LJ8	4.10
5AM8	4.45
5AN8	4.75
5AQ5	2.70
5AR4/GZ34	4.25
5AS4A — (Use 5U4GB/5AS4A)	
5AS8	4.40
5AT8	4.00
5AU4 — (Use 5V3/5AU4)	
5AV8	4.05
5B8	5.50
5BC3	3.40
5BK7A	3.75
5BQ7A	4.30
5BR8/5FV8	4.45
5BT8	3.10
5BW8	3.20
5CG8	3.30
5CL8A	4.05
5CM8	3.55
5CQ8	4.10
5CZ5	4.45
5DH8	5.50
5DJ4	3.55
5EA8	4.15
5ES8	5.50
5EU8	3.65
5EW6	3.40
5FG7	3.15
5FV8 — (Use 5BR8/5FV8)	
5GH8	4.30
5GJ7	2.95
5GM6	3.25
5GX6	2.45
5GX7	3.60
5HA7	$3.05
5HB7	3.40
5HG8	3.70
5HZ6 — (Use 5GX6)	
5J6	3.25
5JK6	3.85
5JL6	3.85
5KD8 — (Use 6U8A/6KD8/5KD8)	
5KE8	5.75
5KZ8	2.55
5LJ8	4.10
5T8	4.20
5U4GB/5AS4A	2.25
5U8	3.45
5U9/LCF201	2.95
5V3/5AU4	3.80
5V4GA	3.85
5V6GT	3.70
5X8	4.15
5Y3GT	1.95
5Z3	4.45
6AB4	2.70
6AC7	5.75
6AC10	4.10
6AD10	6.90
6AF3	3.10
6AF4	4.10
6AF4A/6DZ4	4.10
6AF9	3.50
6AF11	5.20
6AG5	3.10
6AG7	6.50
6AG9	5.65
6AG11	4.10
6AH4GT	3.25
6AH6	4.90
6AK5/EF95	4.50
6AK6	2.55
6AL3	2.60
6AL5	1.90
6AL7GT	6.90
6AL11	4.10
6AM4	5.55
6AM8A	3.45
6AN4	6.15
6AN8A	3.95
6AQ5A/6HG5	2.45
6AQ6	3.25
6AQ7GT	4.30
6AQ8/ECC85	3.00
6AR5	2.45
6AR8	4.85
6AR11	4.50
6AS5	2.95
6AS8	4.20
6AS11	5.10
6AT6	2.05
6AT8A	4.45
6AU4GTA	3.70
6AU5GT	4.90
6AU6A	2.10
6AU8A	4.60
6AV5GA	5.20
6AV6	1.75
6AV11	4.40
6AW8A	3.85
6AX3	2.55
6AX4GTB	2.75
6AX5GT	3.55
6AX8	3.45
6AY3B/6BS3A	3.45
6AY11	4.50
6AZ8	5.55
6B10	3.65
6BA6/EF93	2.10
6BA7	5.90
6BA8A	4.60
6BA11	4.10
6BC4	5.50
6BC5 — (Use 6CE5/6BC5)	
6BC7	3.60
6BC8/6BZ8	3.75
6BD6	2.30
6BD11	5.55
6BE3	2.80
6BE6	2.55
6BF5	$3.35
6BF6	2.25
6BF11	4.90
6BG6GA	6.15
6BH6	2.95
6BH8	4.20
6BH11	4.30
6BJ3	2.80
6BJ6	2.90
6BJ7	2.95
6BJ8	3.60
6BK4B	7.55
6BK5	3.45
6BK7B	3.70
6BL7GTA	4.60
6L8/ECF80	2.70
6BM8/ECL82	2.90
6BN4A	3.70
6BN6/6KS6	3.30
6BN8	3.30
6BN11	4.50
6BQ5/EL84	2.95
6BQ6GA/6CU6	4.10
6BQ6GTB	4.10
6BQ7A/6BZ7	3.85
6BR8A/6FV8A	4.00
6BS3A — (Use 6AY3B/6BS3A)	
6BS8	4.15
6BU8	3.70
6BV8	3.00
6BW4	2.75
6BW8	3.30
6BW11	4.40
6BX7GT	5.60
6BY5GA	4.80
6BY6	3.00
6BY8	2.70
6BZ3	2.95
6BZ6	2.40
6BZ7 — (Use 6BQ7A/6BZ7)	
6BZ8 — (Use 6BC8/6BZ8)	
6C4	1.95
6C5	5.35
6C9	5.50
6C10	3.70
6CA4	2.40
6CA5	3.00
6CA7/EL34	5.35
6CB5A	9.40
6CB6A/6CF6	2.35
6CD3 — (Use 6CG3/6CE3/6CD3)	
6CD6GA	5.50
6CE3 — (Use 6CG3/6CE3/6CD3)	
6CE5/6BC5	2.95
6CF6 — (Use 6CB6A/6CF6)	
6CG3/6CE3/6CD3	3.40
6CG7 — (Use 6FQ7/6CG7)	
6CG8A	3.25
6CH8	5.65
6CJ3/6DW4B/6CL3	3.50
6CK3	2.80
6CK4	3.55
6CL3 — (Use 6CJ3/6DW4B/6DL3)	
6CL6	3.80
6CL8A	3.90
6CM6	3.55
6CM7	2.95
6CM8	4.05
6CN7	4.20
6CQ4 — (Use 6DE4/6CQ4)	
6CQ8	3.45
6CR6	2.95
6CS6	2.70
6CS7	3.05
6CU5	2.95
6CU6 — (Use 6BQ6GA/6CU6)	
6CU8	$4.60
6CW4	4.90
6CW5/EL86	2.75
6CX8	4.45
6CY5	3.60
6CY7	3.05
6CZ5	4.40
6D10	4.25
6DA4A/6DM4A	3.30
6DB5	5.00
6DC6	3.85
6DE4/6CQ4	3.20
6DE6	2.70
6DE7	3.85
6DG6GT	3.85
6DK6	2.35
6DM4A — (Use 6DA4A/6DM4A)	
6DN6	7.00
6DN7	3.65
6DQ5	7.85
6DQ6B/6GW6	4.20
6DR7	4.30
6DS4	4.90
6DS5	3.65
6DT5	3.55
6DT6A	2.25
6DT8	3.75
6DV4	6.45
6DW4B — (Use 6CJ3/6DW4B/6CL3)	
6DX8/ECL84	2.95
6DZ4 — (Use 6AF4A/6DZ4)	
6DZ7	8.70
6E5	5.65
6EA4 — (Use 6EH4A)	
6EA7 — (Use 6EM7/6EA7)	
6EA8	3.30
6EB8 — (Use 6GN8/6EB8)	
6EF4 (Use 6EJ4A)	
6EH4A	8.20
6EH5	3.15
6EH7/EF183	3.85
6EH8	3.50
6EJ4A	8.50
6EJ7/EF184	3.55
6EM5	3.35
6EM7/6EA7	4.90
6EQ7	2.95
6ER5	3.80
6ES5	2.85
6ES8/ECC189	5.45
6EU7	2.95
6EU8	3.70
6EV5	2.80
6EV7	3.25
6EW6	2.55
6EW7	6.00
6EX6	7.50
6EY6	3.60
6EZ5	4.05
6EZ8	3.55
6F5	5.50
6F6	5.80
6F6GT	5.80
6FD6	3.55
6FD7	5.30
6FG5	5.35
6FG6/EM84	3.30
6FG7	3.70
6FH5	3.45
6FH8	4.05
6FJ7	3.75
6FM7	3.25
6FM8	2.80
6FQ5A — (Use 6GK5/6FQ5A)	
6FQ7/6CG7	2.30
6FS5	4.10
6FV6	4.20
6FV8A — (Use 6BR8A/6FV8A)	
6FW5	3.85
6FY5	$2.75
6FY7	3.20
6G11	4.40
6GB5/EL500	3.80
6GC5	4.20
6GE5	3.85
6GF5	3.45
6GF7A	4.85
6GH8A	3.20
6GJ5A	5.60
6GJ7/ECF801	3.10
6GK5/6FQ5A	4.15
6GK6	3.15
6GL7	5.75
6GM5	3.05
6GM6	2.95
6GM8/ECC86	4.35
6GN8/6EB8	4.70
6GQ7	3.75
6GT5	5.40
6GU5	4.10
6GU7	3.40
6GV5	4.10
6GW6 — (Use 6DQ6B/6GW6)	
6GW8/ECL86	3.05
6GX6 (Use 6GY6/6GX6)	
6GX7	3.70
6GY5	4.60
6GY6/6GX6	2.90
6GY8	3.90
6GZ5	2.70
6H6	4.90
6HA5 — (Use 6HM5/6HA5)	
6HA6 — (Use 6HB6/6HA6)	
6HB5	4.60
6HB6/6HA6	4.45
6HB7	3.65
6HE5	3.70
6HF5	7.30
6HF8	4.20
6HG5 — (Use 6AQ5A/6HG5)	
6HG8/ECF86	3.70
6HJ8	3.10
6HK5	3.90
6HL8	3.05
6HM5/6HA5	3.85
6HM6	2.95
6HQ5	4.45
6HR5	2.55
6HS5	7.75
6HS6	3.70
6HS8	3.85
6HZ6	2.90
6HZ8	5.50
6J5	4.10
6J6A	2.90
6J10 (Use 6Z10/6J10)	
6J7	5.20
6J11	4.80
6JB6A	5.85
6JC6	3.95
6JC8	3.30
6JD6	3.55
6JE6B	8.50
6JE8	3.70
6JF6	6.20
6JG6A	6.50
6JH6	2.70
6JH8	4.30
6JK8	4.05
6JM6	4.10
6JN6	3.85
6JN8	3.65
6JS6B	7.30
6JT6A	4.95
6JT8	4.05
6JU8A	3.50
6JV8	4.40
6JW8/ECF802	3.10
6JZ6	4.60
6JZ8	3.55
6K6GT	2.75
6K7	5.00
6K11/6Q11	3.65
6KA8	4.45

‡ Manufacturer's suggested list price; subject to change without notice.

Trade Discount Applies To List Prices Only

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ENTERTAINMENT RECEIVING TUBES

NEW IDEAS IN ELECTRONICS

Type	Suggested List Price‡
6KD6	$7.70
6KD8 — (Use 6U8A/6KD8/5KD8)	
6KE8	5.65
6KM6	8.20
6KM8	3.45
6KR8	4.25
6KS6 — (Use 6BN6/6KS6)	
6KT6	3.30
6KT8	4.70
6KU8	4.80
6KV8	5.85
6KY8A	7.25
6KZ8	3.70
6L6	8.80
6L6GC	4.75
6LB6	8.15
6LB8	4.70
6LC6 (Use 6LH6A)	
6LC8	4.20
6LE8	5.55
6LF8	3.85
6LH6A	7.70
6LJ6	6.75
6LJ8	4.10
6LM8	4.45
6LN8	2.40
6LQ8	5.05
6LT8	2.70
6LU8	4.75
6LX8/LCF802	2.60
6LY8	3.90
6M11	5.00
6MD8	4.85
6ME8	4.20
6N7	5.05
6Q11 (Use 6K11/6Q11)	
6S4A	2.55
6SA7	4.85
6SC7	4.60
6SF5	4.00
6SG7	4.90
6SH7	5.35
6SJ7	4.10
6SK7	4.45
6SL7GT	3.55
6SN7GTB	2.80
6SQ7	4.00
6T8A	3.45
6T9	4.05
6T10	4.25
6U8A/6KD8/5KD8	3.10
6U9	2.90
6U10	3.65
6V3A	4.55
6V4/EZ80	1.50
6V6	6.35
6V6GTA	2.70
6W4GTA	2.55
6W6GT	3.30
6X4	1.80
6X5GT	2.40
6X8A	3.30
6X9/ECF200	2.95
6Y6GT	3.55
6Y9	2.95
6Z10/6J10	5.00
7A4	7.05
7A7	7.15
7AU7	2.70
7B5	8.35
7B6	5.25
7C5	3.30
7C7	3.40
7EY6	3.35
7F7	7.50
7F8	8.25
7GV7	3.90
7HG8/PCF86	2.75
7N7	7.10
7V7	4.65
8A8 — (Use 9A8/8A8/PCF80)	
8AR11	4.35
8AU8	3.85
8AW8A	4.00
8B10	$3.35
8BA11	4.00
8BM11	4.25
8BN11	4.35
8BQ5	2.95
8BQ11	4.30
8BU11	4.55
8CG7 (Use 8FQ7/8CG7)	
8CM7	2.70
8CN7	3.05
8CS7	3.25
8CW5	2.55
8CX8	4.40
8EB8 (Use 8GN8/8EB8)	
8EM5	3.40
8ET7	4.15
8FQ7/8CG7	2.30
8GJ7	2.90
8GN8/8EB8	4.15
8JU8A	3.35
8JV8	4.00
8KA8	4.25
8LC8	4.25
8LT8	2.70
9A8/8A8/PCF80	2.65
9AU7	2.95
9BJ11	4.80
9BR7	3.15
9CL8	2.95
9GV8	3.40
9KC6	4.35
9KZ8	2.95
9U8A	3.10
10AL11	4.55
10BQ5	2.55
10C8	5.15
10CW5	2.55
10DE7	3.95
10DX8/LCL84	2.75
10EG7	4.40
10EM7	4.90
10EW7	4.40
10GF7A	4.35
10GK6	3.05
10GN8	4.00
10HF8	4.65
10JA8 — (Use 10LZ8/10JA8)	
10JT8	4.05
10JY8	3.65
10KR8	4.25
10KU8	4.85
10LE8	5.90
10LW8	4.25
10LZ8/10JA8	3.90
11AR11	4.10
11BQ11	4.10
11BT11	5.90
11CA11	5.65
11CY7	3.60
11FY7	3.70
11HM7	4.30
11JE8	3.85
11KV8	5.90
11LQ8	5.90
11LT8	3.25
11Y9	3.10
12AB5	3.45
12AC6	2.10
12AD6	2.80
12AE6A	3.10
12AE10	4.65
12AF3	3.85
12AF6	3.15
12AL5	2.30
12AL8	6.20
12AL11	4.20
12AQ5	2.70
12AT6	1.95
12AT7/ECC81	2.85
12AU6	2.10
12AU7A/ECC82	2.30
12AV5GA	5.05
12AV6	1.80
12AV7	3.60
12AX3	3.00
12AX4GTB	2.70
12AX7/ECC83	2.50
12AX7A/7025	2.80
12AY3A/12BS3A	$2.65
12AZ7A	2.95
12B4A	3.20
12BA6	1.80
12BA7	5.90
12BD6	2.30
12BE3	3.05
12BE6	2.30
12BF6	2.30
12BF11	4.35
12BH7A	3.15
12BK5	3.75
12BL6	3.40
12BN6	3.65
12BQ6GA/12CU6	4.20
12BQ6GTB	4.20
12BR7	3.05
12BS3A — (Use 12AY3A/12BS3A)	
12BT3	2.85
12BV7 — (Use 12BY7A/12BV7/12DQ7)	
12BW4	3.30
12BY7A/12BV7/12DQ7	3.20
12BZ7	4.15
12C5 — (Use 12CU5/12C5)	
12CA5	3.10
12CN5	3.25
12CR6	2.95
12CT8	4.95
12CU5/12C5	3.05
12CU6 — (Use 12BQ6GA/12CU6)	
12CX6	2.75
12D4	3.05
12DB5	2.60
12DE8	3.10
12DQ6B/12GW6	4.25
12DQ7 — (Use 12BY7A/12BV7/12DQ7)	
12DS7	5.40
12DT5	3.10
12DT8	3.55
12DV7	3.55
12DY8	7.95
12DZ6 — (Use 12EK6/12DZ6/12EA6)	
12EA6 — (Use 12EK6/12DZ6/12EA6)	
12ED5	2.70
12EG6	3.45
12EK6/12DZ6/12EA6	3.60
12EQ7	2.75
12EZ6	3.55
12F8	3.25
12FK6	2.55
12FM6	2.60
12FQ8	5.20
12FX5	2.70
12FX8A	3.85
12GA6	2.70
12GC6	3.95
12GE5	4.10
12GN7A	3.90
12GT5	5.35
12GW6 — (Use 12DQ6B/12GW6)	
12H6	4.45
12HE7	6.80
12HG7	4.15
12HL7	4.45
12J5	4.10
12J8	4.35
12JN6	3.90
12JN8	3.70
12JT6A	4.95
12K5	3.45
12L6GT	3.55
12R5	3.30
12SA7	4.90
12SF5	3.95
12SG7	$4.70
12SJ7	4.30
12SK7	4.45
12SL7GT	4.15
12SN7GTA	3.10
12SQ7	4.45
12T10	4.25
12V6GT	4.45
12W6GT	4.45
12X4	2.25
13CW4	5.05
13DE7	4.00
13DR7	4.45
13EM7/15EA7	5.35
13FD7	5.05
13FM7 — (Use 15FM7/13FM7)	
13GB5	3.80
13GF7A	4.65
13J10 — (Use 13Z10/13J10)	
13V10	4.10
13Z10/13J10	5.05
14BL11	5.60
14BR11	5.25
14GT8	3.50
14JG8	3.10
15AF11	4.75
15BD11	5 30
15CW5/PL84	2.45
15DQ8	3.55
15EA7 — (Use 13EM7/15EA7)	
15FM7/13FM7	3.00
15FY7	3.90
15KY8A	5.05
15LE8	7.65
16A8	3.45
16AK9	5.90
16AQ3/XY88	2.70
16BQ11	4.35
16BX11	5.10
16GK6	3.05
16GY5	4.85
16KA6	4.45
17AB10 — (Use 17X10/17AB10)	
17AX3	2.60
17AX4GTA	3.35
17AY3A/17BS3A	2.70
17BE3	2.90
17BF11	4.55
17BS3A — (Use 17AY3A/17BS3A)	
17BZ3	2.90
17C5/17CU5	2.70
17C9	7.15
17CU5 — (Use 17C5/17CU5)	
17D4/17DM4A	3.40
17DE4	3.65
17DM4A — (Use 17D4/17DM4A)	
17DQ6B/17GW6	4.25
17EW8/HCC85	2.75
17GE5	4.35
17GJ5	5.50
17GT5	4.90
17GV5	4.20
17GW6 — (Use 17DQ6B/17GW6)	
17H3	2.75
17JB6A	5.50
17JM6	4.20
17JN6	3.90
17JZ8	3.55
17X10/17AB10	4.45
18A5	3.90
18AJ10	4.40
18FW6	2.45
18FX6	2.95
18FY6	2.95
19AU4GTA	4.00
19BG6GA	6.65
19CG3	3.60
19CL8A — (Use 19JN8/19CL8A)	
19EA8	4.45
19EZ8	$4.50
19GQ7	3.80
19HV8	3.75
19JN8/19CL8A	3.20
19KG8	3.10
19T8	4.45
20AQ3/LY88	3.30
20EZ7	3.45
21GY5	4.60
21HB5A	4.75
21JV6	4.60
21JZ6	4.85
21KA6	4.45
21LG6	7.65
21LR8	4.75
21LU8	4.75
22BH3A	3.10
22BW3	3.05
22DE4	3.70
22JF6	6.80
22JG6A	5.90
22JU6	5.75
23Z9	4.75
24BF11	5.20
24JZ8	4.50
25AV5GA	5.65
25AX4GT	3.05
25BK5	3.40
25BQ6GA/25CU6	4.35
25BQ6GTB	4.35
25C5	2.95
25CA5	3.60
25CD6GB	5.75
25CG3	3.40
25CU6 — (Use 25BQ6GA/25CU6)	
25DK4	2.20
25DN6	5.95
25EC6	6.15
25EH5	3.25
25FS5A	3.85
25L6GT/25W6GT	3.40
25W4GT	3.70
25W6GT — (Use 25L6GT/25W6GT)	
25Z6GT	3.85
27	5.10
27GB5/PL500	3.70
29GK6	3.60
30AG11	5.05
31AL10	5.00
31JS6A	7.30
32ET5A	2.40
32HQ7	6.20
33GT7	6.95
33GY7A	6.05
33JV6	4.60
34CE3	3.90
34GD5	2.95
35B5	3.20
35C5	2.40
35DZ8	4.00
35EH5	3.40
35GL6	2.90
35L6GT	3.60
35W4	1.40
35Y4	4.50
35Z5GT	2.40
36AM3A	2.55
38HE7	6.65
38HK7	6.55
40KD6	8.05
42KN6	7.20
45B5/UL84	2.80
50B5	2.95
50C5	2.35
50DC4	2.40
50EH5	2.45
50FE5	4.45
50HC6	2.40
50HK6	2.15
50HN5	2.75
50L6GT	3.25
53HK7	8.35
60FX5	2.95
75	6.40
80	4.80
117Z3	4.50
5879	4.45
6267	$2.85
6931	3.40
6973	4.60
7025 — (Use 12AX7A/7025)	
7027A	6.75
7189A	3.10
7199	4.90
7247	3.20
7355	3.65
7408	3.20
7581A/KT66	4.55
7591A	2.80
7695	4.40
7868	4.45
8136	2.55
8417	5.65
8425A/6AU6A	2.55
8426A/12AU6	2.80
DY87 (Use 1S2A/DY87)	
ECC81 — (Use 12AT7/ECC81)	
ECC82 — (Use 12AU7A/ECC82)	
ECC83 — (Use 12AX7/ECC83)	
ECC85 — (Use 6AQ8/ECC85)	
ECC86 — (Use 6GM8/ECC86)	
ECC189 — (Use 6ES8/ECC189)	
ECF80 — (Use 6BL8/ECF80)	
ECF86 — (Use 6HG8/ECF86)	
ECF200 — (Use 6X9/ECF200)	
ECF801 — (Use 6GJ7/ECF801)	
ECF802 — (Use 6JW8/ECF802)	
ECL82 — (Use 6BM8/ECL82)	
ECL84 — (Use 6DX8/ECL84)	
ECL86 — (Use 6GW8/ECL86)	
EF93 (Use 6BA6/EF93)	
EF95 (Use 6AK5/EF95)	
EF183 — (Use 6EH7/EF183)	
EF184 — (Use 6EJ7/EF184)	
EL34 (Use 6CA7/EL34)	
EL84 (Use 6BQ5/EL84)	
EL86 (Use 6CW5/EL86)	
EL500 — (Use 6GB5/EL500)	
EM84 — (Use 6FG6/EM84)	
EZ80 (Use 6V4/EZ80)	
GZ34 (Use 5AR4/GZ34)	
HCC85 — (Use 17EW8/HCC85)	
KT66 — (Use 7581A/KT66)	
LCF201 — (Use 5U9/LCF201)	
LCL84 — (Use 10DX8/LCL84)	
LY88 — (Use 20AQ3/LY88)	
PCF80 — (Use 9A8/8A8/PCF80)	
PCF86 — (Use 7HG8/PCF86)	
PL84 — (Use 15CW5/PL84)	
PL500 — (Use 27GB5/PL500)	
UL84 (Use 45B5/UL84)	
XCF80 — (Use 4BL8/XCF80)	
XY88 — (Use 16AQ3/XY88)	

‡ Manufacturer's suggested list price; subject to change without notice.

GENERAL ELECTRIC

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TV PICTURE TUBES

NEW IDEAS IN ELECTRONICS

COLOR PICTURE TUBES

ULTRACOLOR — OEM Specification Types

Tube Type	Suggested Price (or Tube to Use)	Tube Type	Suggested Price (or Tube to Use)	Tube Type	Suggested Price (or Tube to Use)
AN19EXP22*....	$99.35	21FKP22A.....	AN21FJP22A	AN25UP22*.....	$205.30
AN19EYP22*....	109.35	AN21GFP22*....	$149.30	25VP22.....	AN25AP22A
19FMP22.....	AN19EYP22	AN23EGP22A*..	161.30	25WP22.....	AN25AP22A
19FXP22.....	AN19EYP22	AN23EGP22.....	AN23EGP22A	25ZP22.....	AN25AP22A
AN19GLP22.....	AN19EYP22	AN25AP22A*....	130.00	490EB22.....	AN19EXP22
AN19GVP22.....	AN19EXP22	AN25BP22A*....	122.65	490FB22.....	AN19EXP22
AN19GWP22.....	AN19EYP22	AN25CP22*.....	130.00	490GB22.....	AN19EXP22
19GXP22.....	AN19EXP22	ANA25CP22.....	AN25CP22	490HB22.....	AN19EXP22
19GYP22.....	AN19EXP22	25FP22.....	AN25BP22A	490JB22.....	AN19EXP22
19GZP22.....	AN19EYP22	25FP22A.....	AN25BP22A	490KB22.....	AN19EXP22
AN21FBP22A*..	88.00	25RP22.....	AN25BP22A		
AN21FJP22A*..	97.35	AN255SP22*.....	130.00		

* Rare earth phosphor. § Sulfide phosphor.

DAYLITE III COLOR — Commercial Specification Types

Tube Type	Suggested Price (or Tube to Use)	Tube Type	Suggested Price (or Tube to Use)
11SP22*.....	$71.35	21FJP22A*.	$75.35
19EXP22*...	76.65	21FKP22.....	21FJP22A
19EYP22*...	79.15	23EGP22§...	136.00
19FMP22....	19EYP22	23EGP22A*	146.65
21AXP22A§	73.35	25AP22A*...	82.55
21CYP22A§.	66.65	25BP22A*...	72.40
21FBP22§...	53.45	25CP22*.....	82.55
21FBP22A*.	65.35	A25CP22.....	25CP22
21FJP22§....	62.85		

COLOR TEST TUBE (21" Round Unbonded)

CT21.....	$52.65

MONOCHROME PICTURE TUBES

Tube Type	Suggested Price (or Tube to Use)	Tube Type	Suggested Price (or Tube to Use)	Tube Type	Suggested Price (or Tube to Use)	Tube Type	Suggested Price (or Tube to Use)	Tube Type	Suggested Price (or Tube to Use)
8XP4.....	$27.35	17DKP4.....	$24.00	19DVP4.....	$35.75	21CBP4B..... 21CBP4A		23CQP4.....	23ALP4
8YP4.....	30.00	17DLP4.....	18.60	19DWP4.....	33.75	21CEP4.....	$20.70	23CZP4.....	23AHP4
9QP4A.....	28.35	17DQP4.....	24.00	19DZP4.....	19DVP4	21CEP4A.....	21EMP4	23DBP4.....	$37.30
9VP4.....	21.70	17DRP4.....	29.55	19EAP4.....	19ENP4	21CMP4.....	21CBP4A	23DKP4.....	39.30
11AP4.....	11BP4	17DSP4.....	21.70	19ECP4.....	31.30	21CQP4.....	26.20	23DLP4.....	23DLP4A
11BP4.....	23.55	17DTP4.....	17DKP4	19EDP4.....	33.75	21CUP4.....	21AMP4B	23DLP4A.....	39.30
11GP4.....	27.10	17DXP4.....	24.00	19EFP4.....	33.75	21CVP4.....	21CBP4A	23DNP4.....	38.00
11HP4.....	24.75	17DZP4.....	17DXP4	19EGP4.....	35.10	21CWP4.....	21CBP4A	23DSP4A.....	49.60
11RP4.....	11UP4	17EAP4.....	17HP4C	19EHP4.....	19EDP4	21CXP4.....	21DSP4	23DTP4.....	23DKP4
11UP4.....	25.70	17EBP4.....	17DXP4	19EHP4A.....	19EDP4	21CZP4.....	21DMP4	23DWP4.....	50.45
12BEP4.....	23.50	17EFP4.....	17DXP4	19EKP4.....	35.10	21DAP4.....	21DMP4	23DZP4.....	23EWP4A
12BKP4.....	22.80	17FP4.....	17HP4C	19ELP4.....	19AVP4	21DEP4.....	21DEP4A	23ECP4.....	38.00
12BMP4.....	12CDP4	17FP4A.....	17HP4C	19ENP4.....	33.75	21DEP4A.....	20.70	23EDP4.....	38.00
12BZP4.....	25.00	17HP4.....	17HP4C	19ENP4A.....	19ENP4	21DFP4.....	21EMP4	23EQP4.....	23EWP4A
12CDP4.....	25.00	17HP4A.....	17HP4C	19ERP4.....	19EDP4	21DHP4.....	26.20	23EP4.....	38.00
12CWP4.....	25.00	17HP4B.....	17HP4C	19ESP4.....	19EFP4	21DLP4.....	24.70	23ESP4.....	40.75
13AP4.....	30.15	17HP4C.....	18.55	19EUP4.....	19EDP4	21DMP4.....	22.35	23EWP4.....	23EWP4A
14ATP4.....	21.30	17JP4.....	17BP4B	19EZP4.....	35.10	21DNP4.....	21CBP4A	23EWP4A.....	40.50
14HP4.....	14QP4B	17KP4.....	17HP4C	19FBP4.....	19EGP4	21DPQ4.....	21DLP4	23EYP4.....	43.10
14NP4.....	14WP4	17KP4A.....	17HP4C	19FCP4.....	19DWP4	21DSP4.....	22.35	23FEP4.....	40.60
14NP4A.....	14WP4	17LP4.....	17LP4B	19FJP4.....	33.75	21EAP4.....	21FDP4	23FNP4.....	43.10
14QP4.....	14QP4B	17LP4A.....	17LP4B	19FSP4.....	19ENP4	21EMP4.....	22.35	23FP4.....	23FP4A
14QP4A.....	14QP4B	17LP4B.....	20.15	19GAP4.....	35.10	21EP4.....	21EP4C	23FP4A.....	33.30
14QP4B.....	28.35	17QP4.....	17QP4B	19XP4.....	19AVP4	21EP4A.....	21EP4C	23FRP4.....	41.90
14RP4.....	14WP4	17QP4A.....	17QP4B	19YP4.....	19BTP4	21EP4B.....	21EP4C	23FSP4.....	41.90
14RP4A.....	14WP4	17QP4B.....	20.15	19ZP4.....	19AVP4	21EP4C.....	28.80	23FVP4A.....	40.60
14SP4.....	14WP4	17RP4.....	17HP4C	20CP4.....	20DP4D	21EQP4.....	30.15	23GBP4.....	40.60
14WP4.....	22.60	17RP4C.....	17HP4C	20CP4A.....	20DP4D	21ESP4.....	20.70	23GFP4.....	41.90
14XP4.....	14XP4A	17SP4.....	17LP4B	20CP4B.....	20DP4D	21EVP4.....	29.30	23GTP4.....	40.60
14XP4A.....	25.80	17UP4.....	17QP4B	20CP4C.....	20DP4D	21FAP4.....	22.35	23GWP4.....	40.60
14ZP4.....	14WP4	17VP4.....	17LP4B	20CP4D.....	20DP4D	21FDP4.....	34.50	23GP4.....	23CP4A
16ATP4.....	27.60	17VP4B.....	17LP4B	20DP4.....	20DP4D	21FLP4.....	21CBP4A	23HFP4.....	23FVP4A
16AUP4.....	29.50	17YP4.....	17QP4B	20DP4A.....	20DP4D	21FMP4.....	26.20	23HWP4.....	41.90
16AVP4.....	16BCP4	470ACB4.....	19AYP4	20DP4B.....	20DP4D	21FP4.....	21FP4D	23JP4.....	38.00
16AYP4.....	29.50	19ABP4.....	31.40	20DP4C.....	20DP4D	21FP4A.....	21FP4D	23KP4.....	23KP4A
16AZP4.....	23.95	19ACP4.....	19CHP4	20DP4D.....	31.40	21FP4C.....	21FP4D	23KP4A.....	29.30
16BCP4.....	34.50	19AFP4.....	32.55	20HP4.....	20HP4D	21FP4D.....	28.80	23MP4.....	23FP4A
16BSP4.....	16ATP4	19AGP4.....	19AVP4	20HP4A.....	20HP4D	21FUP4.....	41.20	23MP4A.....	23FP4A
16BUP4.....	27.60	19AHP4.....	27.75	20HP4B.....	20HP4D	21FXP4.....	41.20	23NP4.....	33.30
16BVP4.....	33.20	19AJP4.....	27.75	20HP4C.....	20HP4D	21GBP4.....	39.35	23TP4.....	30.60
16BXP4.....	33.90	19ARP4.....	19AFP4	20HP4D.....	22.00	21WP4.....	21WP4B	23UP4.....	23BQP4
16BYP4.....	29.40	19AUP4.....	19AFP4	20LP4.....	20HP4D	21WP4A.....	21WP4B	23WP4.....	23FP4A
16CFP4.....	16CQP4	19AVP4.....	27.75	20MP4.....	20HP4D	21WP4B.....	29.55	23XP4.....	23BTP4
16CNP4.....	31.95	19AXP4.....	19AYP4	21ACP4.....	21AMP4B	21XP4A.....	26.90	23YP4.....	23BTP4
16CQP4.....	30.60	19AYP4.....	27.75	21ACP4A.....	21AMP4B	21YP4.....	21YP4A	24ADP4.....	24CP4B
16CWP4.....	30.60	19BDP4.....	27.75	21AFP4.....	21YP4A	21YP4A.....	21.30	24AEP4.....	25.30
16KP4A.....	16RP4B	19BHP4.....	24.70	21ALP4.....	21CBP4A	21ZP4.....	21ZP4C	24AHP4.....	37.90
16RP4B.....	18.40	19BLP4.....	19AVP4	21ALP4A.....	21CBP4A	21ZP4A.....	21ZP4C	24ALP4.....	24AHP4
17AP4.....	17BP4B	19BMP4.....	19AFP4	21ALP4B.....	21CBP4A	21ZP4B.....	21ZP4C	24AJP4.....	35.40
17ATP4.....	17BJP4	19BTP4.....	27.75	21AMP4.....	21AMP4B	21ZP4C.....	21.30	24ANP4.....	24AEP4
17ATP4A.....	17BJP4	19BQP4.....	31.95	21AMP4A.....	21AMP4B	23ACP4.....	23BTP4	24ATP4.....	24AJP4
17AVP4.....	17BJP4	19BVP4.....	19AVP4	21AMP4B.....	17.70	23AFP4.....	23BTP4	24AUP4.....	35.40
17AVP4A.....	17BJP4	19BWP4.....	19AYP4	21ANP4.....	21CBP4A	23ANP4.....	23BKP4	24AVP4.....	48.35
17BJP4.....	20.50	19CDP4.....	27.70	21ANP4A.....	21CBP4A	23AHP4.....	33.20	24BEP4.....	48.35
17BP4.....	17BP4B	19CFP4.....	19CHP4	21AQP4.....	21AMP4B	23ALP4.....	33.20	24CP4.....	24CP4B
17BP4A.....	17BP4B	19CHP4.....	27.70	21AQP4A.....	21AMP4B	23ARP4.....	39.40	24CP4A.....	24CP4B
17BP4B.....	18.55	19CJP4.....	19AVP4	21ATP4.....	21CBP4A	23ASP4.....	33.20	24CP4B.....	25.30
17BP4C.....	17BP4B	19CKP4.....	19CHP4	21ATP4A.....	21CBP4A	23ATP4.....	23BKP4	24DP4.....	24AEP4
17BRP4.....	17DSP4	19CLP4.....	19CRP4	21ATP4B.....	21CBP4A	23AUP4.....	23AHP4	24DP4A.....	24AEP4
17BUP4.....	17BJP4	19CQP4.....	19CDP4	21AUP4.....	21AUP4C	23AVP4.....	23CP4A	24QP4.....	24CP4B
17BVP4.....	17BWP4	19CRP4.....	32.00	21AUP4A.....	21AUP4C	23AWP4.....	23BJP4	24TP4.....	24CP4B
17BWP4.....	24.00	19CUP4.....	27.70	21AUP4B.....	21AUP4C	23BDP4.....	23BTP4	24VP4.....	24CP4B
17BZP4.....	17DSP4	19CVP4.....	32.55	21AUP4C.....	26.35	23BGP4.....	38.00	24VP4A.....	24CP4B
17CAP4.....	17DSP4	19CXP4.....	27.70	21AVP4.....	21AUP4C	23BHP4.....	23BGP4	24XP4.....	24CP4B
17CBP4.....	17BJP4	19CYP4.....	19BTP4	21AVP4A.....	21AUP4C	23BJP4.....	33.20	24YP4.....	24AEP4
17CDP4.....	30.80	19CZP4.....	32.55	21AVP4B.....	21AUP4C	23BKP4.....	38.00	24ZP4.....	24AEP4
17CFP4.....	24.00	19DAP4.....	33.75	21AVP4C.....	21AUP4C	23BLP4.....	23BKP4	27ABP4.....	27ADP4
17CKP4.....	17DSP4	19DBP4.....	32.55	21AWP4.....	21AWP4A	23BMP4.....	23BTP4	27ADP4.....	86.15
17CLP4.....	17BJP4	19DCP4.....	19EDP4	21AWP4A.....	22.70	23BNP4.....	23CP4A	27AGP4.....	27ADP4
17CRP4.....	24.00	19DEP4.....	19AVP4	21BAP4.....	21CBP4A	23BQP4.....	38.00	27EP4.....	27RP4
17CSP4.....	17BWP4	19DFP4.....	26.60	21BDP4.....	21AUP4C	23BTP4.....	38.00	27GP4.....	27RP4
17CWP4.....	17DSP4	19DKP4.....	32.55	21BNP4.....	21CBP4A	23BVP4.....	23BTP4	27NP4.....	27RP4
17CXP4.....	17CRP4	19DLP4.....	19CHP4	21BSP4.....	21AMP4B	23BWP4.....	23BTP4	27RP4.....	72.00
17CZP4.....	17BJP4	19DQP4.....	19DWP4	21BTP4.....	21CBP4A	23CBP4.....	23BQP4	27XP4.....	72.00
17DAP4.....	29.55	19DRP4.....	19EDP4	21CBP4.....	21CBP4A	23CP4.....	23CP4A	27ZP4.....	76.35
17DHP4.....	17DXP4	19DUP4.....	31.30	21CBP4A.....	17.70	23CP4A.....	38.00		

Ultracolor — all new parts and materials, and with a rare earth phosphor content for all types.

Daylight III color — either rare earth or sulfide phosphor depending on type, and containing all new parts except for envelope, screen, and aperature mask assembly which, prior to re-use, have been inspected and tested to meet our high-quality standards.

Monochrome — all material and parts are new except for envelope which, prior to re-use, has been tested and inspected to meet our high-quality standards.

GENERAL ELECTRIC

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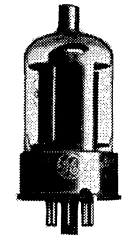
Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

5654

FIVE STAR TUBES
In industrial and communication equipment — critical sockets where there can be no compromise with electronic tube performance — you can depend on the proven reliability of GE Five-Star tubes. Their high reliability is a result of special design features, special manufacturing processes, special tests, and stabilizing periods.

5670



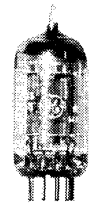
6146A

INDUSTRIAL RECEIVING TUBES
For industrial and military applications involving electronic instrumentation and control, there is a G-E industrial receiving tube specifically designed to meet your particular requirement.

6661

6688A

ENTERTAINMENT TUBES
G. E. offers a full line of entertainment tubes encompassing the fields of radio, TV, and hi-fi. Featured as a portion of this line are 26 types specifically designed for high-fidelity monaural and stereo applications.



5963

5965A

COMPUTER TUBES
Two complete tube lines, Computer and Five-STAR Computer, are designed to meet the specialized needs of the computer industry. Outstanding features include: high perveance, low heater power requirements, controlled cutoff characteristics, and long life.

6005

TYPE	DESCRIPTION	GENERAL: Base Connections	Dimensions In Inches: Length	Diameter	Cathode: Volts	Current Amps.	Type	MAXIMUM RATINGS: Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	TYPICAL OPERATING CONDITIONS: Class and Type of Service	Plate Input Watts	Voltages: Plate	Screen Grid No. 2	Control Grid No. 1	Currents: Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma	GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
0A2σ	Glow-Discharge Diode Voltage Regulator	5BO	2⅝	¾	—	—	—	Regulation (5 to 30 ma)=2 volts Min. anode supply=185 volts DC						DC operating current=5 ma min. DC operating current=30 ma max.								Ionizing voltage=155 volts DC* Operating voltage=150 volts DC*				
0A3	Glow-Discharge Diode Voltage Regulator	4AJ	4⅛	1⁹⁄₁₆	—	—	—	Regulation (5 to 40 ma)=5 volts Min. anode supply=105 volts DC						DC operating current=5 ma min. DC operating current=40 ma max.								Ionizing voltage=100 volts DC* Operating voltage=75 volts DC*				
0A4G	Gas Triode	4V	4⅛	1⁹⁄₁₆	—	—	—							Peak cathode current=100 ma max. DC cathode current=25 ma max.								Starter anode drop=55 volts DC* Anode drop=70 volts DC*				
0B2σ	Glow-Discharge Diode Voltage Regulator	5BO	2⅝	¾	—	—	—	Regulation (5 to 30 ma)=1 volt Min. anode supply=133 volts DC						DC operating current=5 ma min. DC operating current=30 ma max.								Ionizing voltage=115 volts DC* Operating voltage=105 volts DC*				
0B3	Glow-Discharge Diode Voltage Regulator	4AJ	4⅛	1⁹⁄₁₆	—	—	—	Regulation (5 to 40 ma)=8 volts Min. anode supply=125 volts DC						DC operating current=5 ma min. DC operating current=40 ma max.								Ionizing voltage=110 volts DC* Operating voltage=90 volts DC*				
0C3	Glow-Discharge Diode Voltage Regulator	4AJ	4⅛	1⁹⁄₁₆	—	—	—	Regulation (5 to 40 ma)=2 volts Min. anode supply=133 volts DC						DC operating current=5 ma min. DC operating current=40 ma max.								Ionizing voltage=115 volts DC* Operating voltage=105 volts DC*				
0D3	Glow-Discharge Diode Voltage Regulator	4AJ	4⅛	1⁹⁄₁₆	—	—	—	Regulation (5 to 40 ma)=4 volts Min. anode supply=185 volts DC						DC operating current=5 ma min. DC operating current=40 ma max.								Ionizing voltage=160 volts DC* Operating voltage=150 volts DC*				
1AD4α	Sharp-Cutoff RF/AF Pentode	1AD4	1.50	0.385	1.25	0.1	CF	—	45¶	—	45¶	—	Class A Amplifier	—	45	45	Rg1= 2 Meg.	3.0	0.8	—	2,000				
2D21σ	Thyratron	7BN	2⅛	¾	6.3	0.6	CU	Anode voltage drop= 8 volts					Controlled Rectifier	Max. DC cathode current=100 ma■ Max. peak inverse voltage=1,300 volts■						Max. peak cathode current=500 ma■				
2DF4σ	Pentode	9JL	2⁵⁄₁₆	⅞	2.5 1.25	0.345 0.60	CF	—	250■	30■	125■	1.5■	Class A Amplifier	4.4	120	120	−3.6	37	3.5	—	6,850				
2E26	Beam Power Amplifier	7CK	2²¹⁄₃₂	1⁵⁄₁₆	6.3	0.8	CU	125	300■	10■	200■	2.5■	A1(1) CCS	8.8	250	160	−14	35†	7†	—	3,500	—	0	5,500	4
									500■	12.5■	200■	2.5■	AB2(2)ICAS	72ˣ	500	125	−15	22† −42ˣ	32ˣ −10ˣ	—	—	—	0.36	6,200ρ	42
									400■	10■	200■	2.5■	AB2(2) CCS	60ˣ	400	125	−15	20† −150ˣ	32ˣ	—	—	—	0.36	8,000ρ	54
									400■	6.7■	200■	2.5■	C-P CCS	20	400	160	−50	50	7.5	5.2	—	—	0.15	—	12.5*
									500■	9■	200■	2.5■	C-P ICAS	27	500	180	−50	54	9	5.2	—	—	0.15	—	18*
									500■	10■	200■	1.7■	C-T CCS	30	400	190	−30	75	11	3	—	—	0.15	—	20*
													C-T CCS	30	500	185	−40	60	11	3	—	—	0.15	—	20*
									600■	13.5■	200■	2.3■	C-T ICAS	39.6	600	185	−45	66	10	3	—	—	0.17	—	27*
2X2-A	Half-Wave, High-Voltage Rectifier	4AB	4¹³⁄₃₂	1⁹⁄₁₆	2.5	1.75	CU							Max. DC output current=7.5 ma; max. peak inverse voltage=12,500 volts; rms supply voltage=5,500 volts; max. peak current=60 ma											
GL-3B28	Half-Wave Gas Rectifier	4P	6³⁄₃₂	2⁵⁄₁₆	5.2	5.0	CF							Tube voltage drop=10 v.						For 10,000 peak inverse volts, 1 peak amp. max.; 0.25 avg. amp. max. For 5,000 peak inverse volts, 2 peak amp. max.; 0.5 avg. amp. max.						
5R4-GYA	Full-Wave, High-Vacuum Rectifier	5T	4¹⁵⁄₁₆	1⁹⁄₁₆	5.0	2.0	CF							Tube voltage drop per section= 67 volts at 250 ma DC						Max. DC output current=250 ma; max. peak inverse voltage=2,800 volts; rms supply voltage per plate= 750 volts; max. peak current per plate=650 ma						
5Y3WGTBθ(R)	See 6087(R)																								
6AC7WAθ(R)	See 6134(R)																								
	Power Amplifier Pentode	7BK	2⅛	¾	6.3	0.15	CU	—	300¶	2.75¶	250¶	0.75¶	Class A Amplifier	2.70	180	180	−9.0	15†	2.5†	—	2,300	—	—	10,000	1.1
6AN5σ	Beam Power Amplifier	7BD	2⅛	¾	6.3	0.45	CU	—	120¶	4.2¶	120¶	1.4	Class A Amplifier	4.2	120	120	Rk= 120	35†	12†	—	8,000	—	—	2,500	1.3
6AS6σ	Dual-Control RF Pentode	7CM	1¾	¾	6.3	0.175	CU	—	180¶	1.7¶	140¶	0.75	Class A Amplifier	—	120	120	−2.0	5.2	3.5	—	3,200	Eg3=0 volt		—	—
														—	120	120	−2.0	3.6	4.8	—	1,850	Eg3=−3 volt		—	—
6AS7GA	Low-Mu Twin Triode	8BD	4¼	1⁹⁄₁₆	6.3	2.5	CU	—	250¶	13§	—	—	DC Amplifier	—	135	—	Rk= 250	125	—	—	7,000	2.0			
6C4WAθ(R)σ	See 6100θ(R)																								
6D4	Gas Triode	5AY	2⅛	¾	6.3	0.25	CU						Relay Control	Tube voltage drop*=16 volts at 25 ma DC; max. DC cathode current=25 ma; max. voltage between elements=450 volts; max. peak cathode current=100 ma											

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Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL: Base Connections	Dimensions In Inches: Length	Dimensions In Inches: Diameter	Cathode: Volts	Cathode: Current Amps.	Cathode: Type	MAXIMUM RATINGS: Max. Freq. for Full Ratings, mc.	MAXIMUM RATINGS: DC Plate Volts	MAXIMUM RATINGS: Plate Dissipation Watts	MAXIMUM RATINGS: Screen Grid No. 2, Volts	MAXIMUM RATINGS: Screen Dissipation Watts	TYPICAL OPERATING CONDITIONS: Class and Type of Service	Plate Input Watts	Voltages: Plate	Voltages: Screen Grid No. 2	Voltages: Control Grid No. 1	Currents: Plate, ma	Currents: Screen Grid No. 2, ma	Currents: Control Grid No. 1, ma	GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
6DJ8	Twin Triode	9DE	2 3/16	7/8	6.3	0.365	—	—	130	1.8	—	—	Class A Amplifier	—	90	—	−1.3	15	—	—	12,500	33	—	—	—
6J4σ	High-Frequency Triode	7BQ	2 1/8	3/4	6.3	0.4	CU	—	150¶	2.25¶	—	—	Class A Amplifier	2.25	150	—	Rk= 100	15†	—	—	12,000	55	—	—	—
6SK7WAθ(R)	See 6137(R)																								
6X4WAθ(R)σ	See 6202(R)																								
12AT7WB θ(R)σ	See 6201																								
12AY7σ	Twin Triode	9A	2 3/16	7/8	6.3 12.6	0.3 0.15	CU	—	300¶	1.5§¶	—	—	Class A Amplifier (per section)	0.75	250	—	−4.0	3.0	—	—	1,750	44	—	—	—
28D7	Double Beam Power Amplifier	8BS	3 5/32	1 3/16	28.0	0.4	CU	—	100¶	3.0§¶	67.5¶	0.5¶	Class A Amplifier (per section)	0.35	28	28	−3.5	12.5†	1.0†	—	3,400	—	—	4,000	0.100
407Aσ	Medium-Mu Twin Triode	407A	1 3/4	7/8	40 2.0	0.05 0.1	CU	—	330■	1.35§■	—	—	Class A Amplifier	—	150	—	Rk= 240	8.2	—	—	5,500	35	—	—	—
408Aσ	Sharp-Cutoff Pentode	7BD	1 3/4	3/4	2.0	0.05	CU	—	180■	1.7■	180■	0.5■	Class A Amplifier	—	120	120	Rk= 200	7.0	2.2	—	5,000	—	—	—	—
83	Full-Wave Mercury-Vapor Rectifier	4C	5 3/8	2 1/16	5.0	3.0	CF	Tube voltage drop *=15 volts					Max. DC output current=225 ma; max. peak inverse voltage=1,550 volts; max. rms supply voltage per plate=450 volts; max. peak current per plate=1,000 ma													
502A	Thyratron	6BS	2 5/8	1 5/16	6.3	0.6	CU	Anode voltage drop=8 volts					Controlled Rectifier	Max. DC cathode current■=100 ma; max. peak inverse voltage■= 1,300 volts; max. peak cathode current■=1.0 ampere											
807	Beam Power Amplifier	5AW	5 3/4	2 1/16	6.3	0.9	CU	60	400■	25■	400■τ	—	AB1τ CCS	24	400	400τ	−45	60† −140*	—	0	6,000	8	0	3,000	15
									400■	30■	400■τ	—	AB1τ ICAS	24	400	400τ	−45	60† −140*	—	0	6,000	8	0	3,000	15
													AB1(2) CCS	57.2*	400	300	−30	56† −143*	2† −16*	0	—	—	0	6,800ρ	36
									600■	25■	300■	3.5■	AB1(2) CCS	70.5*	500	300	−32	44† −141*	1† −15*	0	—	—	0	8,200ρ	46
													AB1(2) CCS	83.3*	600	300	−34	36† −139*	0.6† −15*	0	—	—	0	10,000ρ	56
									750■	30■	300■	3.5■	AB1(2)ICAS	105*	750	300	−35	30† −139*	0.5† −16*	0	—	—	0	12,000ρ	72
													AB2(2) CCS	96*	400	300	−28	72† −240*	2.0† −20*	0.2	—	—	0.2	3,700ρ	55
									600■	25■	300■	3.5■	AB2(2) CCS	120*	500	300	−30	60† −240*	0.9† −20*	0.2	—	—	0.2	4,600ρ	75
													AB2(2) CCS	120*	600	300	−32	48† −200*	0.7† −18*	0.2	—	—	0.1	6,900ρ	80
									750■	30■	300■	3.5■	AB2(2)ICAS	180*	750	300	−35	30† −240*	0.5† −20*	0.2	—	—	0.2	7,300ρ	120
													B-P CCS	30	400	300	−40	75	5	0	—	—	0.4	—	9*
									600■	25■	300■	2.5■	B-P CCS	35	500	300	−40	70	4	0	—	—	0.3	—	11*
													B-P CCS	37.5	600	300	−40	62.5	4	0	—	—	0.2	—	12.5*
									750■	30■	300■	2.5■	B-P ICAS	45	750	300	−40	60	3	0	—	—	0.2	—	15*
													C-P CCS	26	325	250	−75	80	6	3.5	—	—	0.3	—	17*
									475■	16.5■	300■	2.5■	C-P CCS	32	400	250	−75	80	6	3.5	—	—	0.3	—	22*
													C-P CCS	39.4	475	250	−85	83	8	4	—	—	0.4	—	28*
									600■	25■	300■	2.5■	C-P ICAS	60	600	300	−85	100	8	4	—	—	0.4	—	44*
													C-T CCS	40	400	250	−45	100	8	4	—	—	0.3	—	25*
									600■	25■	300■	3.5■	C-T CCS	50	500	250	−45	100	8	4	—	—	0.3	—	32*
													C-T CCS	60	600	250	−45	100	8	4	—	—	0.3	—	40*
									750■	30■	300■	3.5■	C-T ICAS	75	750	250	−45	100	8	4	—	—	0.3	—	54*
													B(2) CCS	262*	750	—	0	32† −350*	—	—	—	160	9.7	5,100ρ	178
									1,250	45	—	—	B(2) CCS	350*	1,000	—	0	44† −350*	—	—	—	160	7.5	7,400ρ	248
													B(2) CCS	325*	1,250	—	0	50† −260*	—	—	—	160	3.8	12,400ρ	235
									1,500	65	—	—	B(2) ICAS	448*	1,250	—	0	54† −350*	—	—	—	160	6	9,200ρ	310
													B(2) ICAS	470*	1,500	—	−4.5	32† −313*	—	—	—	160	4.4	12,400ρ	340
GL-811-A	High-Perveance High-Mu Zero—Bias Triode	3G	6 13/32	2 7/16	6.3	4.0	TF		1,000	30	—	—	C-P CCS	115	1,000	—	−55	115	—	45*	—	160	6.1*	—	88*
									1,250	45	—	—	C-P ICAS	175	1,250	—	−120	140	—	45*	—	160	10*	—	135*
									1,250	45	—	—	C-T CCS	175	1,250	—	−50	140	—	45*	—	160	5.7*	—	135*
									1,500	65	—	—	C-T ICAS	260	1,500	—	−70	173	—	40*	—	160	7.1*	—	200*
									1,750■‡	45■	—	—	C-Tω CCS	204	1,750‡	—	−70	130	—	46*	—	160	12*	—	175*
									1,125■	45■	—	—	C-Tβ CCS	175	1,125	—	−35	125	—	25*	—	160	3*	—	135*
									1,250■	45■	—	—	B(2) CCS	325*	1,250	—	−40	22† −260*	—	—	—	29	3.5	12,200ρ	235
GL-812-A	High-Perveance Medium-Mu Triode	3G	6 13/32	2 7/16	6.3	4.0	TF	30	1,500■	65■	—	—	B(2) ICAS	465*	1,500	—	−48	28† −310*	—	—	—	29	5	13,200ρ	340
									1,000■	30■	—	—	C-P CCS	115	1,000	—	−110	115	—	33*	—	29	6.6*	—	85*
									1,250■	45■	—	—	C-P ICAS	175	1,250	—	−115	140	—	35*	—	29	7.6*	—	130*
									1,250■	45■	—	—	C-T CCS	175	1,250	—	−90	140	—	30*	—	29	5.4*	—	130*
									1,500■	65■	—	—	C-T ICAS	260	1,500	—	−120	173	—	30*	—	29	6.5*	—	190*
									1,750■‡	45■	—	—	C-Tω CCS	236	1,740‡	—	−100	150	—	29*	—	29	12*	—	200*
GL-816	Half-Wave, Mercury-Vapor Rectifier	4P	4 11/16	1 3/16	2.5	2.0	CF	—	—	—	—	—	max. peak plate current■=0.5 ampere; max. average plate current■=0.125 ampere Tube voltage drop=15 volts; max. peak inverse voltage■=7,500 volts;													
GL-866-A	Half-Wave, Mercury-Vapor Rectifier	866-A	6 5/16	2 7/16	2.5	5.0	CF	—	—	—	—	—	Tube voltage drop= 15 volts	For 10,000 peak inverse volts, max. peak current■=1.0 amp.; max. average current■=0.25 amp. For 5,000 peak inverse volts, max. peak current■= 1.0 amp.; max. average current■=0.25 amp. For 2,500 peak inverse volts, max. peak current■=2.0 amp.; max. average current■=0.5 amp.												
GL-872A/ 872	Half-Wave, Mercury-Vapor Rectifier	872-A	8 1/2	2 5/16	5.0	7.5	CF	—	—	—	—	—	Tube voltage drop= 15 volts	For 10,000 peak inverse volts, max. peak current■=5.0 amp.; max. average current■=1.25 amp. For 5,000 peak inverse volts, max. peak current■= 5.0 amp.; max. average current■=1.25 amp.											

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Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS													
		Base Connections	Dimensions In Inches		Cathode			Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages			Currents			GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
			Length	Diameter	Volts	Current Amps.	Type								Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma					
2050	Thyratron	6BS	4⅛	1⅞₁₆	6.3	0.6	CU	Anode voltage drop=8 volts					Controlled Rectifier	Max. DC cathode current■=100 ma; max. peak inverse voltage■=1,300 volts; max. peak cathode current■=1.0 ampere											
2050A	Thyratron	6BS	3⅛₆	1⅝₃₂	6.3	0.6	CU	Anode voltage drop=8 volts					(Same as 2050)												
5636θα(R)	Dual-Control Pentode	8DC	1.375	0.400	6.3	0.15	CU	—	165	0.65	155	0.7	Gated Amplifier	.53 .4	100 100	100 100	Rk= Rk=	5.3 4.0	3.6 5.8	— —	3,200 1,950	G_3 tied to cathode Eg_3=—1.0 volts			
5642α	Half-Wave, High-Voltage Rectifier	5642	2.380	0.400	1.25	0.2	CF	—	—	—	—	—	TV Flyback Rectifier	Voltage drop=30 volts at 4.0 ma DC; max. DC output current=0.25 ma; max. peak inverse voltage=10,000 volts; max. peak current=5.0 ma												
5651σ	Glow-Discharge Diode Voltage Reference	5BO	2⅝	¾	—	—	—	—	—	—	—	—	Max. anode supply voltage■=150 volts; max. DC operating current■=3.5 ma; max. ionization voltage=115 volts. Min. DC operating current=1.5 ma; max. operating voltage=92 volts. Regulation (1.5 to 3.5 ma)=3.0 volts, max.												
5654θ(R)σ	Sharp-Cutoff RF Pentode	7BD	1¾	¾	6.3	0.175	CU	—	200■	1.65■	155■	0.55■	Class A Amplifier	.9	120	120	Rk= 200	7.5	2.5	—	5,000	—	—	—	—
5663σ	Thyratron	6CE	1½	¾	6.3	0.15	CU	—	—	—	—	—	Controlled Rectifier	Anode voltage drop =11 volts; max. DC cathode current■=20 ma; max. peak inverse voltage■=500 volts; max. peak cathode current■=60 ma												
5670θ(R)σ	High-Frequency Twin Triode	8CJ	1¾	⅞	6.3	0.35	CU	—	330■	1.35■	—	—	Class A Amplifier AB_1(1)	1.2 3.8	150 300	— —	Rk= 240 Rk= 800_e	8.2 9.8† −12.6*	— —	— —	5,500 —	35 —	— —	— 27,000	— 1.0
5686θ(R)σ	Beam Power Amplifier	9G	2¾₁₆	⅞	6.3	0.35	CU	— 160 160	— 275■ —	— 7.5■ —	— 275■ —	— 3.0■ —	Class A Amplifier C-T CCS C-T CCS	6.7 10.0	250 250 250	250 180 250	−12.5 −30 −50	27† 30 40	3† 6.5 10.5	— 2.0* 2.0*	3,100 — —	— — —	— 0.1* 0.15*	9,000 — —	2.7 5* 6.5*
5687θσ	Medium-Mu Twin Triode	9H	2¾₁₆	⅞	12.6 6.3	0.45 0.9	CU	— —	300¶ —	4.2¶§ 7.5¶ω	— —	— —	Class A Amplifier (per section)	4.1 3.0	180 250	— —	−7.0 −12.5	23.0 12.0	— —	— —	8,500 5,400	17 16	— —	— —	— —
5687WAθ(R)σ	See 5687θ																								
5691	High-Mu Twin Triode	8BD	2⅞	1⅝₃₂	6.3	0.6	CU	—	275■	1.0■§	—	—	Class A Amplifier (per section)	.58	250	—	−2.0	2.3	—	—	1,600	70	—	—	—
5692	Medium-Mu Twin Triode	8BD	2⅞	1⅝₃₂	6.3	0.6	CU	—	275■	1.75■§	—	—	Class A Amplifier (per section)	1.6	250	—	−9.0	6.5	—	—	2,200	20	—	—	—
5693	Sharp-Cutoff Pentode	8N	2⅝	1⅝₁₆	6.3	0.3	CU	—	300■	2.0■	125■	0.3■	Class A Amplifier	.75	250	100	−3.0	3.0	0.85	—	1,650	—	—	—	—
5718θα	Medium-Mu Triode	8DK	1.375	0.400	6.3	0.15	CU	— 500	165■	0.9■	—	—	Class A Amplifier UHF Oscillator	.85 3.0	100 150	— —	Rk= 150 —	8.5 20.0	— —	— —	5,800 —	27 —	— —	— —	— 0.9*
5719θα	High-Mu Triode	8DK	1.375	0.400	6.3	0.15	CU	—	165■	0.1■	—	—	Class A Amplifier	.073	100	—	Rk= 1500	0.73	—	—	1,700	70	—	—	—
5725(R)σ	Dual-Control RF Pentode	7CM	1¾	¾	6.3	0.175	CU	—	200■	1.65■	155■	0.55■	Class A Amplifier	.62	120	120	−2.0	5.2	3.5	—	3,200	Eg=0 volts			
5726(R)σ	Twin Diode	6BT	1¾	¾	6.3	0.30	CU	—	—	—	—	—	Half Wave Rectifier	Tube voltage drop per section=10 volts at 60 ma DC; max. DC output current er plate■=10 ma; max. peak inverse voltage■=360 volts; rms supply voltage per plate=117 volts; max. peak current per plate■=60 ma											
5727(R)σ	Thyratron	7BN	2⅛	¾	6.3	0.6	CU	—	—	—	—	—	Controlled Rectifier	Anode voltage drop=8 volts; max. DC cathode current■=100 ma; max. peak inverse voltage■=1,300 volts; max. peak cathode current■=500 ma												
5749(R)σ	Remote-Cutoff RF Pentode	7BK	2⅛	¾	6.3	0.3	CU	—	330■	3.1■	300■	1.1■	Class A Amplifier	2.75 1.08	250 100	100 100	Rk= 68 Rk= 68	11.0 10.8	4.2 4.4	— —	4,400 4,300	— —	— —	— —	— —
5750θ(R)σ	Pentagrod Converter	7CH	2⅛	¾	6.3	0.3	CU	—	330■	1.1■	110■	1.0■	Converter	.65	250	100	−1.5	2.6	7.5	osc. Ig_1=0.5 ma; Rg_1=20,000 ohms					
5751θ(R)σ	High-Mu Twin Triode	9A	2¾₁₆	⅞	12.6 6.3	0.175 0.35	CU	—	330■	0.8■	—	—	Class A Amplifier (per section)	.25 .08	250 100	— —	−3.0 −1.0	1.0 0.8	— —	— —	1,200 1,200	70 70	— —	— —	— —
5763σ	Beam Power Amplifier Pentode	9K	2⅝	⅞	6.0	0.75	CU	30-Amp. 30-Amp. 30-Amp. 30-Amp. 50-Amp. 175-Dbl. 175-Trip.	250■ 300■ 300■ 350■ 300■ 300■	8.0■ 12.0■ 12.0■ 13.5■ 12.0■ 12.0■	250■ 250■ 250■ 250■ 250■ 250■	1.5■ 1.5■ 2.0■ 2.0■ 2.0■ 2.0■	C-P CCS C-P ICAS C-T CCS C-T ICAS C-T CCS Doubler-CCS Tripler-CCS	10 15 15 17 15 12 8.5	250 300 300 350 300 300 300	250 250 250 250 250 250 235	−39 −42.5 −28.5 −28.5 −60 −75 −100	40 50 50 48.5 50 40 35	5.6 6 6.6 6.2 5 4 5	1* 2.4* 1.6* 1.6* 3* 1* 1*	7,000 7,000 — — — — —	— — — — — — —	0.05* 0.15* 0.1* 0.1* 0.35* 0.6* 0.6*	— — — — — — —	6.4* 10* 10.3* 12* 7* 2.1* 1.3*
5814-Aθ(R)σ	Medium-Mu Twin Triode	9A	2¾₁₆	⅞	12.6 6.3	0.175 0.35	CU	—	330■	3.0§	—	—	Class A Amplifier (per section)	2.7 1.2	250 100	— —	−8.5 0.0	10.5 11.8	— —	— —	2,200 3,100	17 19.5	— —	— —	— —
5823	Gas Triode	4CK	1⅞	¾	—	—	—	—	—	—	—	—	Peak cathode current■=100 ma max; d-c cathode current■=25 ma max; starter voltage drop■=61 volts; anode drop■=62 volts												
5824	Beam Power Amplifier	7AC	4⅝	1¹³⁄₁₆	25.0	0.3	CU	—	200¶	12.5¶	135¶	2.0¶	Class A Amplifier	9.4	135	135	−22.0	61† −69*	2.5† −14.5*	—	5,000	—	—	1,700	4.3
5840θα	Sharp-Cutoff RF Pentode	8DL	1.375	0.400	6.3	0.15	CU	—	165■	0.8■	155■	0.35■	Class A Amplifier	.75	100	100	Rk= 150	7.5	2.4	—	5,000	—	—	—	—
5844σ	Medium-Mu Twin Triode	7BF	2⅛	¾	6.3	0.3	CU	—	200■	1.0■§	—	—	Class A Amplifier (per section)	.75	100	—	Rk= 470	4.8	—	—	3,700	28	—	—	—
5879σ	Sharp-Cutoff AF Pentode	9AD	2¾₁₆	⅞	6.3	0.15	CU	— —	300¶ 250¶	1.25¶ 1.5¶	250¶ —	0.25¶ —	Class A Amplifier (pentode con.) Class A Amplifier (Triode con.)	.45 1.4	250 250	100 —	−3.0 −8.0	1.8 5.5	0.4 —	— —	1,000 1,530	— 21	— —	— —	— —

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Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS												
		Base Connections	Dimensions In Inches		Cathode			Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages			Currents			GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
			Length	Diameter	Volts	Current Amps.	Type								Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma					
5881	Beam Power Amplifier	7AC	3 15/32	1 7/16	6.3	0.3	CU	—	360¶	23¶	270¶	3.0¶	Class A Amplifier (single tube)	13.3	350	250	−18	53†	2.5†	—	5,200	—	—	4,200	11.3
														18.8	250	250	−14	−65ᵃ 75†	−8.5ᵃ 4.3†	—	6,100	—	—	2,500	6.7
													Class A (2 tubes, push-pull)	30	250	250	−16.0	−80ᵃ 120†	−7.6ᵃ 10†	—	—	—	—	5,000ρ	14.5
														36.2	270	270	−17.5	−140ᵃ 134†	−16ᵃ 11†	—	—	—	—	5,000ρ	17.5
																		−155ᵃ	−17ᵃ						
								—	360¶	23¶	270¶	3.0¶	Class AB_1 (2 tubes, push-pull)	32	360	270	−22.5	88†	5.0†	—	—	—	—	6.600ρ	26.5
																		−132ᵃ	−15ᵃ						
								—	360¶	23¶	270¶	3.0¶		32	360	270	−22.5	88† −140	5.0† −11ᵃ	—	—	—	—	3,800ρ	18.0
5886	Electrometer Pentode	5886	1½	0.400	1.25	0.01	—	—	45	—	45	—	Elec-trometer	—	12	4.5	-2.0	6.0	3.6	—	14	—	—	—	—
5896θα	High-Frequency Twin Diode	8DJ	1.375	0.400	6.3	0.3	CU	—	—	—	—	—	Full-Wave Rectifier	Tube voltage drop (per section)=4.5 volts at 18 ma DC; max. DC output per plate■=10 ma; max. perk inverse voltage■=460 volts; rms supply voltage per plate=150 volts; max. peak current per plate■=60 ma												
5899θα	Semi-Remote-Cutoff RF Pentode	8DL	1.375	0.400	6.3	0.15	CU	—	165■	0.75■	155■	0.35■	Class A Amplifier	.72	100	100	Rk= 120	7.2	2.0	—	4,500	—	—	—	—
5902θα	Beam Power Amplifier	8DL	1.750	0.400	6.3	0.45	CU	—	165■	3.7■	155■	0.4■	Class A Amplifier	3.3	110	110	Rk= 270	30	2.2	—	4,200	—	—	3,000	1.0
5963σ	Medium-Mu Twin Triode	9A	2 3/16	7/8	12.6	0.15	CU	—	250■	2.5■§	—	—	Class A Amplifier (per section)	.58	67.5	—	0	8.5	—	—	3,200	21	—	—	—
					6.3	0.3		—	—	—	—	—	Freq. Halfer (per section)	—	150♦	—	−15	0	Rg_1=47,000	—	—	—	—	20,000	—
														.75	150♦	—	0	5.1	Rg_1=47,000	—	—	—	—	20,000	—
5964σ	High-Mu Twin Triode	7BF	2⅛	¾	6.3	0.45	CU	—	250■	1.5■§	—	—	Class A Amplifier (per section)	.95	100	—	Rk= 50	9.5	—	—	6,000	39	—	—	—
								—	—	—	—	—	Freq. Halfer (per section)	—	150♦	—	−10	0	Rg_1=47,000	—	—	—	—	20,000	—
														.75	150♦	—	0	5.0	Rg_1=47,000	—	—	—	—	20,000	—
5965σ 5965Aσ	Twin Triode	9A	2 3/16	7/8	12.6 6.3	0.225 0.45	CU	— —	330	2.4■§ 4.4■ω	— —	— —	Class A Amplifier (per section) Freq. Halfer (Per section)	1.28 1.25	150 150♦	— —	Rk= 220 —	8.5 10.5*	— Ic=140 ma	—	6,700	47	—	— 7,200	— —
															150♦	—	−5.5	0.15*	—	—	—	—	—	7,200	—
5998A	Low-Mu Twin Triode	8BD	4¼	1 7/16	6.3	2.4	CU	—	275■	15§■	—	—	Class A Amplifier	11	110♦		Rk= 105	100	—	—	15,500	5.4	—	—	—
6005θ(R)σ	Beam Power Amplifier	7BZ	2⅝	¾	6.3	0.45	CU	—	275	11	275	2.2	Class A Amplifier (single tube)	11	250	250	−12.5	45†	4.5†	—	4,100	—	—	5,000	4.5
														5.4	180	180	−8.5	−47ᵃ 29†	−7.0ᵃ 3.0†	—	3,700	—	—	5,500	2.0
																		−30ᵃ	−4.5ᵃ						
								—	—	—	—	—	AB_1(2) CCS	—	250	250	−15	70† −79ᵃ	5† −13ᵃ	—	—	—	—	10,000ρ	10.0
6012	Thyratron	6CO	3⅞	1⅝	6.3	2.6	CU	—	—	—	—	—	Contro'ed Rectifier	Tube voltage drop■=10 volts; max. peak inverse voltage■=1,300 volts; max. peak current■=5 amp.; max. average current■=0.5 amp.; max peak forward voltage■=650 volts.												
6021θα(R)	Medium-Mu Twin Triode	8DG	1.375	0.400	6.3	0.3	CU	—	165■	0.7■§	—	—	Class A (per seciton)	.65	100	—	Rk= 150	6.5	—	—	5,400	35	—	—	—
6046	Beam Power Amplifier	7AC	3 5/16	1 1/32	25.0	0.3	CU	—	200¶	10¶	125¶	1.5¶	Class A Amplifier	9.2	200	125	Rk= 180	46†	2.2†	—	8,000	—	—	4,000	3.8
														5.5	110	110	−7.5	49†	4.0†	—	8,000	—	—	2,000	2.1
													Relay Energizer	—	115♦	115♦	0	105	12.8					Rg_1=2 megohms	500	—
														—	115♦	115♦	−25	0.1*	—					Rg_2=1000 ohms	500	—
6072Aθ(R)σ	Twin Triode	9A	2 3/16	7/8	12.6 6.3	0.175 0.35	CU	—	330■	1.6■§	—	—	Class A (per section)	.75	250	—	−4.0	3.0	—	—	1,750	44	—	—	—
6080θ	Low-Mu Twin Triode Power Amplifier	8BD	4 1/16	1 23/32	6.3	2.5	CU	—	250■	13■§	—	—	DC Amplifier (per section)	17	135	—	Rk= 250	125	—	—	7,000	2	—	—	—
6087θ(R)	See 6087/5Y3WGTBθ(R)																								
6087θ(R)	Full-Wave, High-Vacuum Rectifier	5L	3 5/16	1 1/32	5.0	2.0	CU	—	—	—	—	—	Full-Wave Rectifier	Tube voltage drop per section=50 volts at 125 ma DC; max. DC output current=125 ma; max. peak inverse voltage=1,400 volts; rms supply voltage per plate=350 volts; max. peak current per plate=375 ma												
6111θα(R)	Medium-Mu Twin Triode	8DG	1.375	0.400	6.3	0.3	CU	—	165■	0.95■§	—	—	Class A Amplifier (per section)	.85	100	—	Rk= 220	8.5	—	—	5,000	20	—	—	—
6112θα(R)	High-Mu Twin Triode	8DG	1.375	0.400	6.3	0.3	CU	—	165■	0.3■§	—	—	Class A Amplifier (per section)	.26	150	—	Rk= 820	1.75	—	—	2,500	70	—	—	—
														.08	100	—	Rk= 1,500	0.8	—	—	1,800	70	—	—	—
6134	Sharp-Cutoff RF Pentode	8N	2⅝	1 5/16	6.3	0.45	CU	—	330	3.3	330	0.45	Class A Amplifier	3.0	300	150	Rk= 160	10	2.5	—	9,000	—	—	—	—
6135θ(R)σ	Medium-Mu Triode	6BG	2⅛	¾	6.3	0.175	CU	—	330	3.8■	—	—	Class A Amplifier	2.6	250	—	−8.5	10.5	—	—	2,200	17	—	—	—
														1.2	100	—	0	11.8	—	—	3,100	19.5	—	—	—
6136σ	Sharp-Cutoff RF Pentode	7BK	2⅛	¾	6.3	0.3	CU	—	330■	3.3■	165■	0.7■	Class A Amplifier	2.6	250	150	Rk= 68	10.6	4.3	—	5,200	—	—	—	—
														.5	100	100	Rk= 150	5.0	2.1	—	3,900	—	—	—	—
6137θ(R)	Remote-Cutoff RF Pentode	8N	2⅝	1 5/16	6.3	0.3	CU	—	330■	3.3■	140■	0.44■	Class A Amplifier	2.3	250	100	−3	9.2	2.6	—	2,000	—	—	—	—
														1.3	100	100	−1	13.0	4.0	—	2,350	—	—	—	—
6146	Beam Power Amplifier	7CK	3 13/16	1 23/32	6.3	1.25	CU		400■	20■	400■τ	—	AB_1(2) CCS	31.3ᵃ	250	250τ	−50	120†	—	0	7,000	4,5	0	5,000ρ	10
																		−125ᵃ							
													AB_1(2) CCS	40ᵃ	400	400τ	−100	40† −100ᵃ	—	0	—	—	0	8,000ρ	22
									400■	25■	400■τ	—	AB_1(2)ICAS	40ᵃ	400	400τ	−100	40† −100ᵃ	—	0	—	—	0	8,000ρ	22
(Continued)													AB_1(2) CCS	91ᵃ	400	190	−40	63† −228ᵃ	2.5† −25ᵃ	0	—	—	0	4,000ρ	55

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Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS											
		Base Connections	Dimensions in Inches: Length	Dimensions in Inches: Diameter	Cathode: Volts	Cathode: Current Amps.	Cathode: Type	Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages: Plate	Voltages: Screen Grid No. 2	Voltages: Control Grid No. 1	Currents: Plate, ma	Currents: Screen Grid No. 2, ma	Currents: Control Grid No. 1, ma	GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
(Continued)									600■	20■	250■	3.0■		108*	500	185	−40	57†	2†	0	—	—	0	5,500ρ	70
																		−215*	−25*						
														120*	600	180	−45	26†	1†	0	—	—	0	7,000ρ	82
																		−200*	−23*						
													AB_1(2)ICAS	137*	600	200	−50	28†	1†	0	—	—	0	6,000ρ	95
									750■	25■	250■	3.0■						−229*	−27*						
														165*	750	195	−50	23†	1†	0	—	—	0	8,000ρ	120
																		−220*	−26*						
													AB_2(2) CCS	93*	400	175	−41	33†	1.1†	1.6*	—	—	0.2	3,700ρ	62
																		−232*	−18*						
								60	600■	20■	250■	3.0■		121*	500	175	−44	27†	0.7†	1.9*	—	—	0.3	4,600ρ	83
																		−242*	−18*						
6146	Beam Power Amplifier	7CK	$3\frac{13}{16}$	$1\frac{23}{32}$	6.3	1.25	CU							124*	600	165	−44	22†	0.6†	1.1*	—	—	0.2	6,800ρ	90
																		−207*	−17*						
													AB_2(1)ICAS	162*	600	190	−48	28†	1.2†	2.0*	—	—	0.3	5,000ρ	113
									750■	25■	250■	3.0■						−270*	−20*						
														180*	750	165	−46	22†	0.3†	2.6*	—	—	0.4	7,400ρ	131
																		−240*	−20*						
											250■	2.0■	C-P CCS	45	400	150	−87	112	7.8	3.4*	—	—	0.4*	—	32*
														45	475	135	−77	94	6.4	2.8*	—	—	0.3*	—	34*
									600■	16.7■	250■	2.0■	C-P ICAS	67.2	600	150	−87	112	7.8	3.4*	—	—	0.4*	—	52*
									600■	20■	250■	3.0■	C-T CCS	67.2	500	170	−66	135	9	2.5*	—	—	0.2*	—	48*
														67.2	600	150	−58	112	9	2.8*	—	—	0.2*	—	52*
									750■	25■	250■	3.0■	C-T ICAS	90	600	180	−71	150	10	2.8*	—	—	0.3*	—	66*
														90	750	160	−62	120	11	3.1*	—	—	0.2*	—	70*
6146A and 6146B								175	—	—	—	—	C-T CCS	44.8	320	180	−51	140	10	2*	—	—	3*	—	25*
													C-T ICAS	60	400	190	−54	150	10.4	2.2*	—	—	3*	—	35*
6197σ	Sharp-Cutoff Power Amplifier Pentode	9BV	$2\frac{5}{8}$	$\frac{7}{8}$	6.3	0.65	CU	—	300■	7.5■	250■	2.5■	Class A Amplifier	7.5	250	150	−3.0	30	7.0	—	11,000	—	—	—	—
6201σ	High-Frequency Twin Triode	9A	$2\frac{1}{16}$	$\frac{7}{8}$	12.6	0.15	CU	—	330	2.5§	—	—	Class A Amplifier	2.5	250	—	Rk= 200	10	—	—	5,500	60	—	—	—
					6.3	0.3							(per section)	.33	100	—	Rk= 270	3.3	—	—	4,000	57	—	—	—
6202σ	Full-Wave, High-Vacuum Rectifier	5BS	$2\frac{5}{8}$	$\frac{3}{4}$	6.3	0.6	CU	—	—	—	—	—	Tube voltage drop per section=22 volts at 50 ma DC; max. DC output current■=55 ma; max. peak inverse voltage■=1,375 volts; rms supply voltage per plate=325 volts; max. peak current per plate■=220 ma												
6203θ(R)σ	Full-Wave, High-Vacuum Rectifier	9CD	$2\frac{5}{8}$	$\frac{7}{8}$	6.3	0.9	CU	—	—	—	—	—	Tube voltage drop per section=22 volts at 70 ma DC; max. DC output current■=77 ma; max. peak inverse voltage■=1,375 volts; rms supply voltage per plate=325 volts; max. peak current per plate■=300 ma												
6205θ(R)σ	Sharp-Cutoff RF Pentode	8DC	1.375	0.400	6.3	0.15	CU	—	165■	0.8■	155■	.35■	Class A Amplifier	.75	100	100	Rk= 150	7.5	2.4	—	5,000	—	—	—	—
6206θ(R)σ	Semi-Remote-Cutoff RF Pentode	8DC	1.375	0.400	6.3	0.15	CU	—	165■	0.75■	155■	.35■	Class A Amplifier	.72	100	100	Rk= 120	7.2	2.2	—	4,500	—	—	—	—
6211σ	Medium-Mu Twin Triode	9A	$2\frac{1}{16}$	$\frac{7}{8}$	12.6	0.15	CU	—	200■	1.5■§	—	—	Class A (per section)	.46	100	—	Rk= 470	4.6	—	—	3,600	27	—	—	—
6211Aσ					6.3	0.3		—			—	—	Freq. Halfer	—	150♦	—	0	4.8 min.	—	Rg_1=47,000	—	—	20,000	—
													(per section)	—	150♦	—	−10 max.	0.1	—	Rg_1=47,000	—	—	20,000	—
6216	Beam Power Amplifier	9CE	$2\frac{5}{8}$	$\frac{7}{8}$	6.3	1.2	—	—	300	10	200	2.0	Class AA Amplifier	—	200	100	−6.0	47*	2.0*	—	8,800	—	3.8	—	—
6222θα	High-Mu Triode	8HF	1.375	0.400	6.3	0.175	CU	—	165■	0.55■	—	—	Class A Amplifier	.07	100	—	Rk= 1500	0.7	—	—	1,700	70	—	—	—
6265θ(R)σ	Sharp-Cutoff RF Pentode	7CM	$2\frac{1}{8}$	$\frac{3}{4}$	6.3	0.175	CU	—	300¶	2.0¶	300¶♦	0.5¶	Class A Amplifier	1.85	250	150	Rk= 100	7.4	2.9	—	4,600	—	—	—	—
6336A	Low-Mu Twin Triode	8BD	4.750	2.070	6.3	5.0	CU	—	400■	30■§	—	—	DC Amplifier (per section)	35	190	—	Rk= 200	185	—	—	13,500	2.7	—	—	—
6350σ	Medium-Mu Twin Triode	9CZ	$2\frac{5}{8}$	$\frac{7}{8}$	12.6	0.3	CU	—	330■	4.0■§	—	—	Class A Amplifier (per section)	1.65	150	—	−5.0	11	—	—	4,600	18	—	—	—
6360σ	Twin Tetrode Power Amplifier	9PW	$3\frac{1}{16}$	$\frac{7}{8}$	12.6	0.41	CU						AB_1(2) CCS (Both sec. in	13.2*	200	200	−21.5	30†	2.4†	0	—	—	0	6,500ρ	7
					6.3	0.82												−66*	−14*						
									300■	7■§	200■	2■ε	push-pull)	17.3*	250	200	−21.5	30†	1.4†	0	—	—	0	8,000ρ	9.3
																		−69*	−12.4*						
														21.6*	300	200	−21.5	30†	1.2†	0	—	—	0	10,000ρ	12
																		−72*	−12.6*						
													AB_2(2) CCS (Both sec. in	16.4*	200	200	−21.5	30†	2.4†	0.44	—	—	0.02*	5,000ρ	8.7*
																		−82.2*	−19*						
									300■	7■§	200■	2■ε	push-pull)	25*	250	200	−21.5	30†	1.4†	1.24	—	—	0.04*	5,000ρ	14*
																		−100*	−13*						
														30*	300	200	−21.5	30†	1.2†	1.12	—	—	0.04*	6,500ρ	17.5*
																		−100*	−11.4*						
													C-T CCS (Both sec. in	14	200	200♦	Rg_1= 15,000	70	2.2	2.7*	Rg_2=22,000	0.14*	—	8.4*
								200	300■	5■§	200■	2■ε	push-pull)	16.8	250	250♦	Rg_1= 18,000	67	1.8	2.2*	Rg_2=47,000	0.12*	—	11*
														22.5	300	175	−40	75	2.3	1.8*	—	—	0.1*	—	14.5*
								200	300■	7■§	200■	2■ε	C-T ICAS (Both sec. in	16.8	200	200♦	Rg_1= 15,000	84	3.1	3*	Rg_2=8,200	0.18*	—	10*
													push-pull	20	250	250♦	Rg_1= 18,000	80	2.4	2.5*	Rg_2=27,000	0.15*	—	13*
														30	300	200	−45	100	3.0	3*	—	—	0.2*	—	18.5*
								200	300■	5■§	200■	2■ε	C-T CCS (Freq. tripler both sec.)	11.4	200	155	−105	57	3	3.2*	—	—	0.35*	—	3.8*
														12.5	250	160	−94	50	1.9	2*	—	—	0.23*	—	5*
(Continued)														14.4	300	150	−100	48	2	2*	—	—	0.23*	—	6.5*

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Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL						MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS												
		Base Connections	Dimensions In Inches		Cathode			Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages			Currents			GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
			Length	Diameter	Volts	Current Amps.	Type								Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma					
(Continued)																									
6360σ	Twin Tetrode Power Amplifier	9PW	3 1/16	7/8	12.6 6.3	0.41 0.82	CU	200 200	300■ 240■	7■§ 3.3■§ 4.6■§	200■ 200■	2■ϵ 1.3■ϵ	C-T ICAS (Freq. tripler, both sec.) C-P CCS C-P ICAS	15.6 18 19.5 19.5 13.4 17.2	200 250 300 300 200 200	175 175 175 150 170 165	−102 −102 −100 −100 −50 −50	78 72 65 65 67 86	5.2 4.1 2.7 3.5 2.6 3.1	4.6* 3.8* 2.4* 3.8* 1.5* 3.3*	—	—	0.52* 0.43* 0.28* 0.45* 0.1* 0.2*	—	4.5* 6.2* 7.2* 7.8* 8.1* 9.8*
6386θ(R)σ	Medium-Mu Remote-Cutoff Twin Triode	8CJ	1¾	7/8	6.3	0.35	CU	—	300¶	1.5¶§	—	—	Class A Amplifier (per section)	.96	100	—	Rk= 200	9.6	—	—	4,000	17	—	—	—
6397a	Power Amplifier Pentode	6CL	1.60	0.400	2.5 1.25	0.0625 0.125	CF	—	135■	1.5■	135■	0.6■ϵ	Class A Amplifier	.9	125	125	−7.5	7.25	1.2	—	1,950	—	—	—	—
6414θ(R)σ	Twin Triode	9A	2 5/8	7/8	12.6 6.3	0.225 0.45	CU	— —	200■ —	2.2■§ 4.0■ϵ	— —	— —	Class A Amplifier (per section)	1.44 — 1.7	180 150 100	— — —	−2.0 −4.8 —	8.0 0.15 17.0	— — Ic=0.2 ma	— — —	5,550 — —	42.5 — —	— — —	— — —	— — —
6463σ	Medium-Mu Twin Triode	9CZ	2 5/8	7/8	12.6 6.3	0.3 0.6	CU	—	300¶	4.0¶§ 7.0¶ϵ	— —	— —	Class A (per section) Freq. Halfer (per section)	3.7 2.9 .2	250 100 200	— — —	Rk= 620 — −11	14.5 29 1.0	— Ic=0.2 ma —	— — —	5,200 — —	20 — —	— — —	— — —	— — —
6485σ	Sharp-Cutoff RF Pentode	7BK	2 1/8	¾	6.3	0.45	CU	—	300¶	3.2¶	150¶	0.6¶	Class A Amplifier	3.0	300	150	Rk= 160	10	2.5	—	9,000	—	—	—	—
6550	Beam Power Amplifier	7AC	4¾	2 1/16	6.3	1.8	—	—	660	42	440	6.0	Class A Amplifier	—	400	225	−16.5	87	4.0	—	—	—	2.0	—	—
6660σ	Remote-Cutoff RF Pentode	7BK	2 1/8	¾	6.3	0.3	CU	—	330	3.3	330♦	0.65	Class A Amplifier	2.75 1.08	250 100	100 100	Rk= 68 Rk= 68	11 10.8	4.2 4.4	— —	4,400 4,300	Ec3=0 volt Ec3=0 volt			
6661σ	Sharp-Cutoff RF Pentode	7CM	2 1/8	¾	6.3	0.15	CU	—	330	3.3	330♦	0.65	Class A Amplifier	1.85	250	150	Rk= 100	7.4	2.6	—	4,600	Ec3=0 volt			
6662σ	Remote-Cutoff RF Pentode	7CM	2 1/8	¾	6.3	0.15	CU	—	330	3.3	330♦	0.55	Class A Amplifier	2.3 .9	250 100	100 100	Rk= 80 Rk= 80	9.2 9.0	3.3 3.5	— —	3,600 3,650	Ec3=0 volt Ec3=0 volt			
6663σ	Twin Diode	6BT	1¾	¾	6.3	0.3	CU	—	—	—	—	—	Rectifier Service	Tube voltage drop per section=10 volts at 60 ma DC; max. peak inverse voltage=250 volts; max. DC output current per plate=9.0 ma; max. peak current per plate=54 ma.											
6664σ	High-Frequency Triode	5CE	2 1/8	¾	6.3	0.15	CU	—	330■	2.8■	—	—	Class A Amplifier	2.5 .37	250 100	— —	Rk= 200 Rk= 270	10 3.7	— —	— —	5,500 4,000	60 60	— —	— —	— —
6669σ	Beam Power Amplifier	7BZ	2 5/8	¾	6.3	0.45	CU	—	250	12	250	2.0	Class A Amplifier (single tube) AB1(2 tubes, push-pull)	11.3 17.5	250 250	250 250	−12.5 −15	45† −47* 70† −79*	4.5† −7.0* 5.0† −13*	— —	4,100 —	— —	— —	5,000 10,000ρ	4.5 10
6676σ	Sharp-Cutoff RF Pentode	7CM	2 1/8	¾	6.3	0.3	CU	—	330■	2.3■	330■♦	0.55■	Class A Amplifier	1.63 .35	125 125	125 125	Rk= 56 −3.0	13 2.8	3.7	—	8,000	—	—	—	—
6677σ	Power Amplifier Pentode	9BV	2 5/8	7/8	6.3	0.65	CU	—	330	8.5	330♦	2.0■	Class A Amplifier	7.5	250	150	−3.0	30† −31*	7.0† −7.2*	—	11,000	g3 tied to k	—	7,500	2.8
6678σ	Triode-Pentode	9AE	2 3/16	7/8	6.3	0.45	CU	— —	330 330■	3.0 3.0■	330♦ —	0.55■ —	Class A Amplifier (Pentode sec.) Class A Amplifier (Triode sec.)	2.5 2.7	250 150	110 —	Rk= 68 Rk= 56	10 18	3.5 —	— —	5,200 8,500	— 40	— —	— —	— —
6679σ	High-Mu Twin Triode	9A	2 3/16	7/8	12.6 6.3	0.15 0.3	CU	—	330	2.8§	—	—	Class A Amplifier (per section)	2.5	250	—	Rk= 200	10	—	—	5,500	60	—	—	—
6680σ	Medium-Mu Twin Triode	9A	2 3/16	7/8	12.6 6.3	0.15 0.3	CU	—	330■	3.0■	—	—	Class A Amplifier§	2.63 1.18	250 100	— —	−8.5 0	10.5 11.8	— —	— —	2,200 3,100	17 20	— —	— —	— —
6681σ	High-Mu Twin Triode	9A	2 3/16	7/8	12.6 6.3	0.15 0.3	CU	—	330	1.1§	—	—	Class A Amplifier (per section)	.3 .05	250 100	— —	−2.0 −1.0	1.2 0.5	— —	— —	1,600 1,250	100 100	— —	— —	— —
6688Aθ(R)σ	RF Pentode	9EQ	1¾	7/8	6.3	0.3	CU	—	210■	3.0■	175■	0.9■	Class A Amplifier	2.5	190	160	Rk= 630 Ecc1= +9v.	13	3.3		16,500	—	—	—	—
6814aθ	Medium-Mu Triode	8DK	1.375	0.400	6.3	0.15	CU	—	165	2.1	—	—	Class A Amplifier	1.0	100	—	Rk= 150	10	—	—	6,000	29	—	—	—
6829θ(R)σ	Twin Triode	9A	2 5/8	7/8	12.6 6.3	0.225 0.45	CU	— —	275	2.2§ 4.0ϵ	— —	— —	Class A Amplifier (per section)	1.28 .0225 1.7	150 150 100	— — —	Rk= 220 −4.8 Ic= 0.2 ma	8.5 0.15 17	— — —	— — —	6,700 — —	47 — —	— — —	— — —	— — —
6883	Beam Power Amplifier	8EC	3 13/16	1 31/32	12.6	0.625	CU	Ratings otherwise same as for Type 6146 Beam Power Amplifier																	
6919σ	Twin Diode	6BT	1¾	¾	6.3	0.2	CU	—	—	—	—	—	Gating and Clamping Service	Tube voltage drop per section=1.2 volts at 6 ma DC; max. peak inverse voltage=360 volts; max. DC output current per plate=10 ma; max. peak current per plate=30 ma.											
6922	Twin Tetrode	9AJ	2 5/8	7/8	6.3	0.3	—	—	220	1.5	+	—	Class A Amplifier	—	90	—	Rk= 120	12	—	—	—	—	—	—	—
7036σ (Continued)	Heptode	7CH	2 5/8	¾	6.3	0.3	CU						Gated	—	150♦	75	−10	0	0	—	Ec3=0 v.; Rg1=Rg3=47,000			20,000	—

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Industrial Receiving and Communication Tubes

GENERAL ELECTRIC

TYPE	DESCRIPTION	GENERAL							MAXIMUM RATINGS					TYPICAL OPERATING CONDITIONS													
		Base Connections	Dimensions In Inches		Cathode				Max. Freq. for Full Ratings, mc.	DC Plate Volts	Plate Dissipation Watts	Screen Grid No. 2, Volts	Screen Dissipation Watts	Class and Type of Service	Plate Input Watts	Voltages			Currents			GM. μmhos	Triode μ Factor	Drive Watts	Load for Rated Output Ohms	RMS Power Output Watts
			Length	Diameter	Volts	Current Amps.	Type									Plate	Screen Grid No. 2	Control Grid No. 1	Plate, ma	Screen Grid No. 2, ma	Control Grid No. 1, ma					
(Continued)								—	250	0.9	250♦	1.35	Amplifier	—	150♦	69*	0	0	.4	—	E_{c_3}=10 v.; $R_{g_1}=R_{g_3}$=47,000			20,000	—
7036σ	Heptode	7CH	2⅝	¾	6.3	0.3	CU						(Computer service)	.8	150♦	71*	0	5.8	9	—	E_{c_3}=0 v.; $R_{g_1}=R_{g_3}$=47,000			20,000	—
7044	Medium-Mu Twin Triode	9H	2⅝	⅞	6.3	0.9	—	—	300	4.15	—	—	Class A Amplifier	—	120	—	2.0	36	—	—	12,000	—	—	—	—
7054σ	RF Pentode	9GT	2⅝	⅞	13.5	0.275	CU	—	330■	5.0■	180■	1.0■	Class A Amplifier	4.8	250	250	R_k= 120	19	3.5	—	11,500	—	—	—	—
7056σ	Sharp-Cutoff Pentode	7CM	2⅛	¾	13.5	0.15	CU	—	330■	2.0■	330■♦	0.5■	Class A Amplifier	1.9	200	150	R_k= 180	9.5	2.8	—	6,200	—	—	—	—
7058σ	High-Mu Twin Triode	9AJ	2 3/16	⅞	13.5	0.155	CU	—	330■	1.0■§	—	—	Class A (per section)	.31	250	—	−2.0	1.25	—	—	1,650	100	—	—	—
7059σ	Triode-Pentode	9AE	2 3/16	⅞	13.5	0.195	CU	—	300■	2.8■	300■♦	0.5■	Class A (Pentode sec.)	2.5	250	110	R_k= 68	10	3.5	—	5,200	—	—	—	—
								—	330■	2.5■	—	—	Class A (Triode sec.)	2.7	150	—	R_k= 56	18	—	—	8,500	40	—	—	—
7061σ	Beam Power Amplifier	9EU	2⅝	⅞	13.5	0.21	CU	—	345■	9.0■	310■	2.0■	Class A Amplifier	7.1†	200	200	−10.0	35.5†	9.0†	—	4,200	—	—	5,000	3.0
7077	Ceramic tube, see page on ceramic tubes.																								
7167	Tetrode	7EW	2⅛	¾	13.5	0.09	—	—	180	2.0	180	0.5	Class A Amplifier	—	125	80	−1.0	10	1.4	—	8,000	—	—	—	—
7233	Low-Mu Triode	9FR	3 1/16	⅞	6.3	1.0	CU	—	330	8.0	—	—	Series Regulator Service	6	50	—	R_k= 22	120	—	—	17,500	4	—	—	—
														—	125	—	−60	—	—	1	—	—	—	—	—
7239θσ	Beam Pentode	9KH	2 13/32	⅞	6.3	0.3	CU	—	2000■	4.0	—	—	High-Voltage Pulse Amplifier	—	1,500	100	−12.0	0.2*	—	—	E_{c_3}=0 (Applied for short [2 sec. max.] intervals only)				
														4.3	100	100	E_{c_3}= 0	43	13.5	.4					
														4.05	300	100	−5.0	10.5	2.6	—	4,200	—	E_{c_3}=	—	—
7266	Ceramic tube, see page on ceramic tubes.																								
7296	Ceramic tube, see page on ceramic tubes.																								
7462	Ceramic tube, see page on ceramic tubes.																								
7486	Ceramic tube, see page on ceramic tubes.																								
7588	Ceramic tube, see page on ceramic tubes.																								
7625	Ceramic tube, see page on ceramic tubes.																								
7701σ	Beam Power Pentode	9MS	2⅝	⅞	13.6	0.16	—		350	9	300	3.5	Class C Amplifier	7.0	250	250	−12.5	28	3.1	—	3,600	—	—	—	—
7716σ	High-Mu Triode and Sharp-Cutoff Pentode	9DX	2⅝	⅞	13.6	0.35	CU	—	330	1.0	—	—	Avg. Ch. Triode	0.19	125	—	−1	1.5	—	—	2,900	102	—	—	—
								—	330	5.0	330♦	1.1	Avg. Ch. Pentode	4.8	200	125	R_k= 68	24	5.2	—	10,000	—	—	—	—
7717σ	Sharp-Cutoff VHF Tetrode	7EW	2⅛	¾	6.3	0.2	CU	—	180	2.0	180♦	0.5	Class A Amplifier	1.25	125	80	−1.0	10	1.4	—	8,000	—	—	—	—
7720	Ceramic tube, see page on ceramic tubes.																								
7724σ	Duplex-Diode, High-Mu Triode (with separate cathodes)	9KR	2 3/16	⅞	14.0	0.15	—	—	330	1.1	—	—	Class A Amplifier FM Detector	.175	250	—	−3.0	0.7	—	—	1,000	72	—	—	—
														Average diode current at 5.0 volts DC=18 ma; diode current for continuous operation (each diode)=5 ma.										
7841	Ceramic tube, see page on ceramic tubes.																								
7861θσ	Medium-Mu Twin Triode	8CJ	1¾	⅞	12.6	0.175	CU	—	330	1.35§	—	—	Class A Amplifier	1.25§	150	—	R_k= 240	8.2	—	—	5,500	35	—	—	—
7984	Beam Power Amplifier	12EU	2⅞	1 1/16	13.5	0.58	CU	175	750■	35■	250■	3.0■	Class A Amplifier	25	200	125	−20	125	4.5	—	7,300	—	—	—	—
													Class C Amplifier	81	450	200	−60	180	12	4.0	—	—	2.0	—	—
8102σ	Triode-Pentode	9PJ	2 3/16	⅞	13.5	0.23	CU	—	330■	2.5■	330♦■	0.55■	Class A Amplifier	—	125	125	−1.0	12	4.0	—	7,500	—	—	—	—
							CU	—	330	2.5	—	—	Class A Amplifier	—	125		−1.0	13.5	—	—	8,500	46	—	—	—
8106σ	Beam Pentode	9PL	2 3/16	⅞	13.5	0.25	CU	—	330□	6.0□	300■	1.25■	Class A Amplifier	—	300	150	−3.5	16	3.2	—	9,000	—	—	—	—
8113θσ	Sharp-Cutoff RF Tetrode	7EW	2⅛	¾	6.3	0.2	CU	—	180■	2.0■	180■	0.5■	Class A Amplifier	—	120	120	−2.0	10	2.3	—	7,000	—	—	—	—
8156	Beam Pentode	12EU	2 3/16	1 1/16	13.5	0.3	CU	175	600■	15■	250■	2.5■	Class A Amplifier	7.0	200	125	−9.0	75	3.5	—	7,600	—	—	—	—
													Class C Amplifier	36	400	170	−60	90	10	—	3.0	—	1.0	—	21

A_1(1) Single Tube Class A Audio Power Amplifier.
A_1(2) Push-Pull Class A Audio Power Amplifier.
AB_1(1) Single Tube Class AB_1 Audio Power Amplifier.
AB_1(2) Push-Pull Class AB_1 Audio Power Amplifier.
■ Absolute Maximum rating.
‡ AC (rms) Plate Voltage.
ç Applied for short interval (2 seconds, maximum) so as not to damage the tube.
* Approximate rating.
AB_2(2) Push-Pull Class AB_2 Audio Power Amplifier.
B(2) Push-Pull Class B Audio Power Amplifier.
B-P Single Tube Class RF Telephony Service.
CCS Continuous Commercial Service.
CF Coated filament (directly heated).
C-P Single Tube Class C Plate-Modulated Telephony Service.
C-T Single Tube Class C Telegraphy or FM Service.
CU Coated, Indirectly Heated Cathode (unipotential).
ICAS Intermittent Commercial and Amateur Service.
(R) Special ruggedized type for sever mechanical environment.
▲ Design-maximum Ratings
TF Thoriated-Tungsten Filament (directly heated).
Metal types are in boldface type.
σ Miniature types.
ρ Plate-to-Plate.
β Class C Amplifier with separate, rectified, unfiltered single phase, full-wave plate supply.
¶ Design-Center Value.
θ Five-Star type.
ε For Both Sections.
* Maximum Signal Value with Sine Wave Signal.
φ Peak Value during 15-microsecond pulse with Duty Factor of 0.0012.
§ Per Section.
ω Self-Rectifying Amplifier — Class C.
α Subminiature type.
♦ Supply Voltage.
τ Triode Connected; Grid No. 2 Tied to Plate.
† Zero Signal rating.

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Industrial Receiving and Communication Tubes

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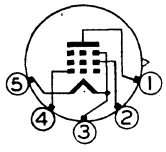

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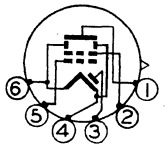

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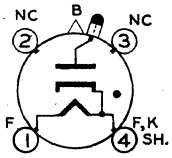

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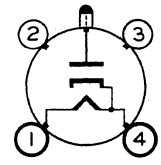

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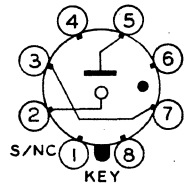

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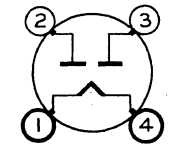

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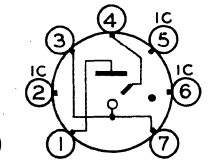

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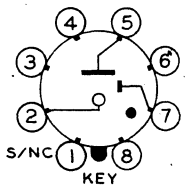

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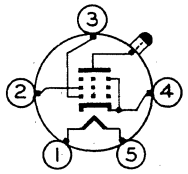

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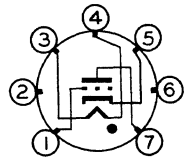

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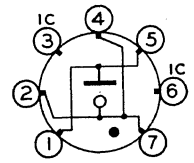

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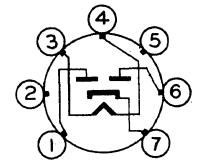

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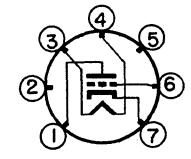

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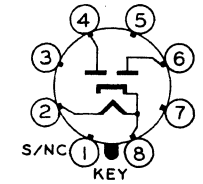

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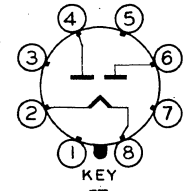

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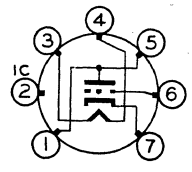

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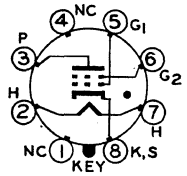

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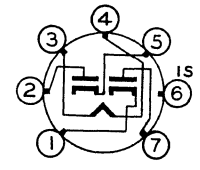

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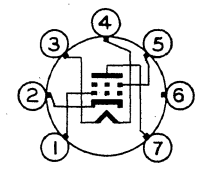

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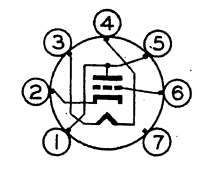

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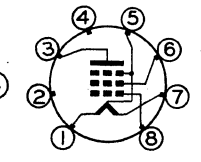

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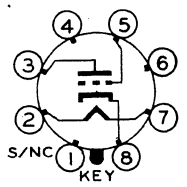

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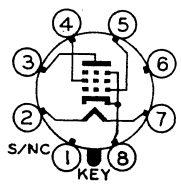

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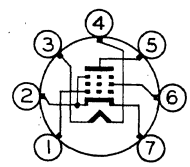

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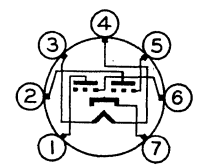

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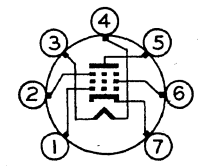

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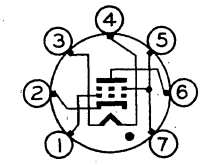

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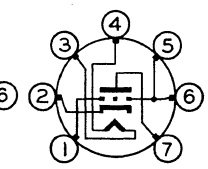

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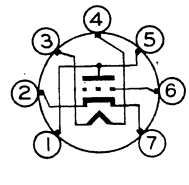

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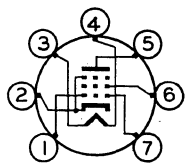

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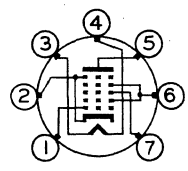

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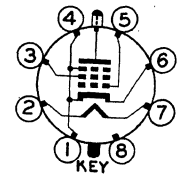

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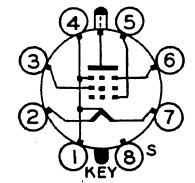

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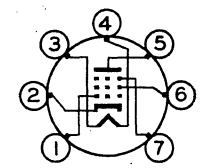

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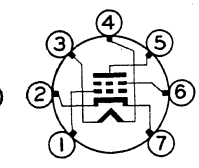

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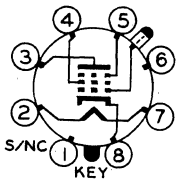

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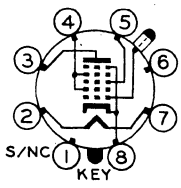

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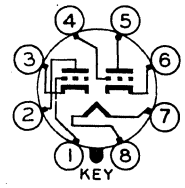

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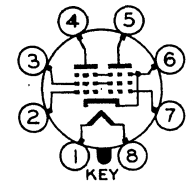

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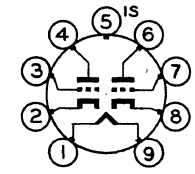

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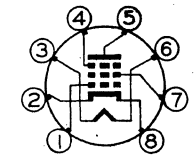

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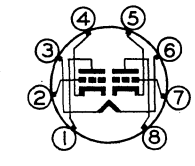

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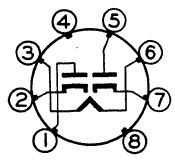

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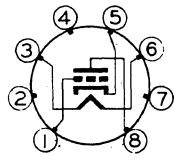

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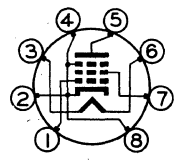

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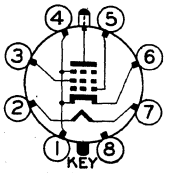

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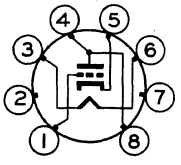

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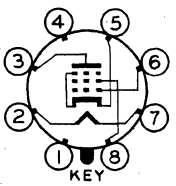

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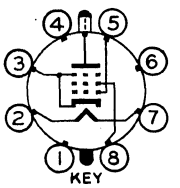

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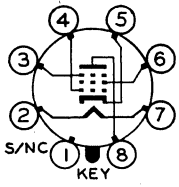

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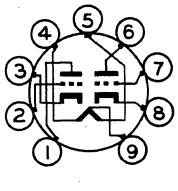

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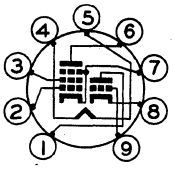

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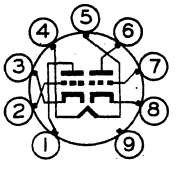

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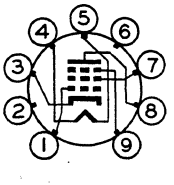

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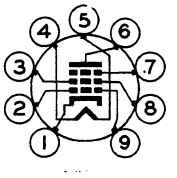

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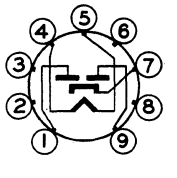

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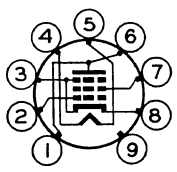
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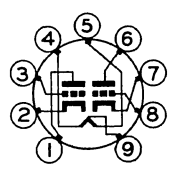
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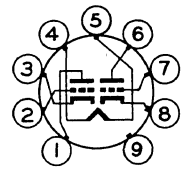
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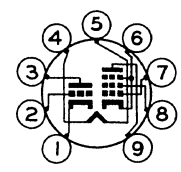
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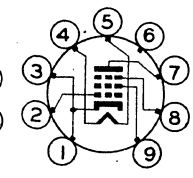
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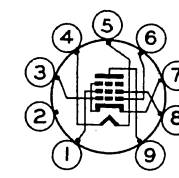
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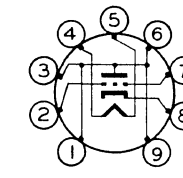
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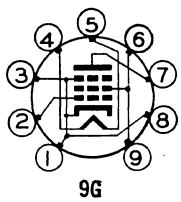
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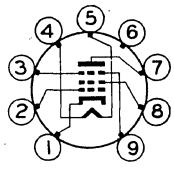
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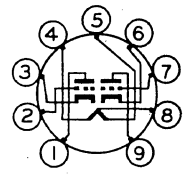
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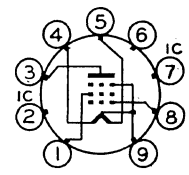
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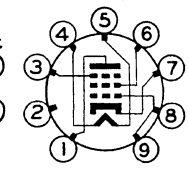
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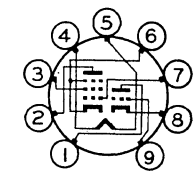
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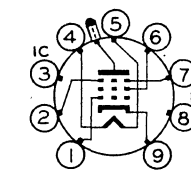
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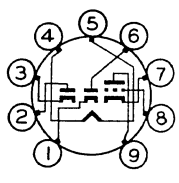
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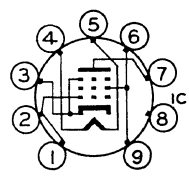
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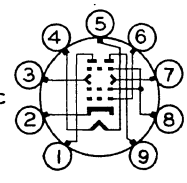
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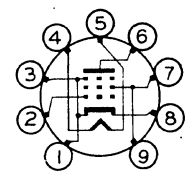
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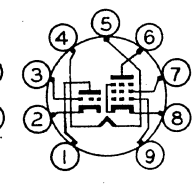
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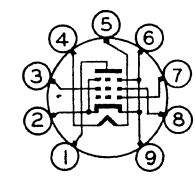
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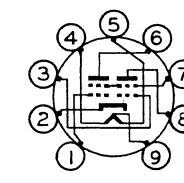
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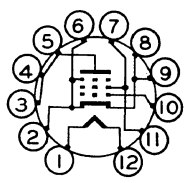
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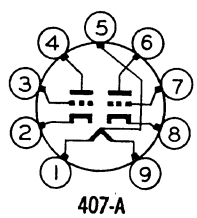
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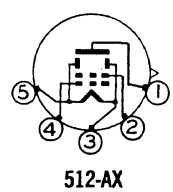
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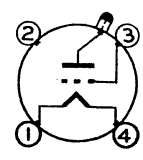
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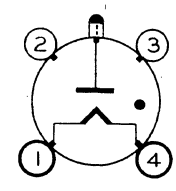
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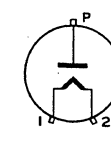

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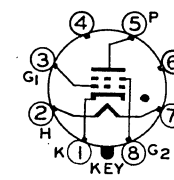

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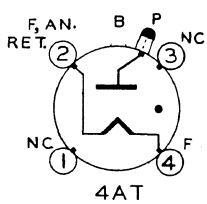

4AT

18 VALUE-ANALYZED benefits of G-E 5-Star Tubes...

- Controlled inside diameter on bulbs reduces vibrational output and microphonics.
- Highly efficient getter performs throughout tube life and guides flash to avoid inter-element leakage.
- A getter flash shield improves initial leakage characteristics.
- Two double mica spacers, with additional anti-leakage slots, brace internal parts, provide superior inter-element insulation and improve vibration characteristics. 12 or 16 contact points give firmer fit between bulb and mount.
- Short, sturdy cages increase rigidity of tube structure.
- Plate ears are embossed for added strength and improved mica fit.
- U-bolt construction through top and bottom micas firmly secures the cage assembly.
- Smooth grid legs prevent a "sawing" action on the mica, reducing grid vibration and microphonic noise.
- Critical grids are plated with gold or silver to minimize grid emission.
- Passive cathode alloys assure reliability and long life in low-duty cycle circuits where interface tends to develop.
- Outside diameter and density of cathode coating are statistically controlled.
- Low thermo-conductivity cathode tab reduces heat loss.
- Cataphoretic coating of all heater bends after forming insures complete heater-cathode insulation.
- Folded heater design proved most reliable under shock, vibration and heater cycling conditions. Heater is temperature-controlled to further improve reliability and lengthen life.
- Rhenium-tungsten heater material increases tensile strength, reduces brittleness, and allows larger-diameter heater wire.
- Lead-glass stems help ward off glass electrolysis.
- Pins are annealed to prevent glass strain at socket insertion.
- Stem design minimizes welds — fewer points of possible failure — less change of short-causing particles from weld splash.

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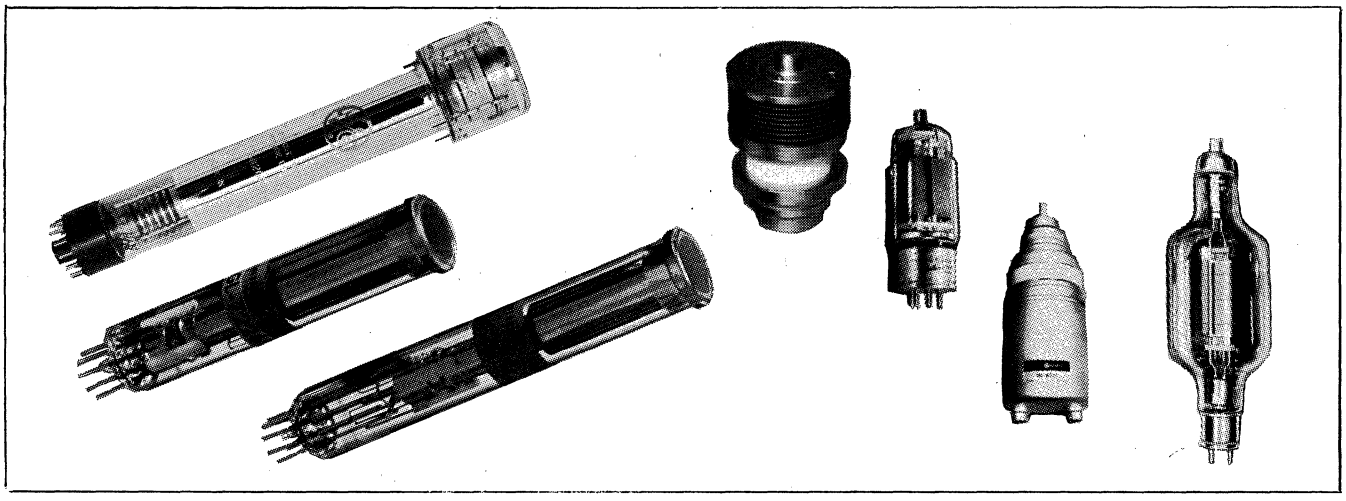
Broadcast, Industrial & Special Purpose Power Tubes

GENERAL ELECTRIC



LONG LIFE IMAGE ORTHICONS

Type	Target	Field Mesh	Signal:Noise (4.5 mc)	Amplitude Response @ 400 TV Lines	Typical Lens Aperture vs. Scene Illumination		Application	
					Color	Monochrome	Primary	Other
Z7899	Electronic Glass	No	65:1	65%	—	f:16 @ 80 - 100 ft-c	Studio, VTR	Color remote
Z7888		Yes	65:1	65%	f:8 @ 200 ft-c	f:16 @ 80 - 100 ft-c	Color remote	Monochrome VTR
Z7866	Semiconductor	Yes	50:1	70%	f:5.6 @ 50 ft-c	f:22 @ 50 - 100 ft-c	Color studio	Monochrome X-ray
7629A	MgO	No	50:1	65%	—	f:16 @ 25 - 50 ft-c	Monochrome Remote	X-ray

STANDARD IMAGE ORTHICONS

4401	Glass	No	50:1	60%	—	f:16 @ 50 ft-c	Studio, remote	X-ray
5820A 5820A/R	Glass (Ruggedized)	No	50:1	60%	—	f:16 @ 100 ft-c	Studio, VTR	Remote
7293A 7293A/R	Glass (Ruggedized)	Yes	50:1	60%	—	f:16 @ 100 ft-c	Monochrome studio	Color studio
8093A 8093A/R	Glass (Ruggedized)	Yes	60:1	60%	—	f:16 @ 120 ft-c	Studio color, VTR	Monochrome

SPECIAL PURPOSE IMAGE ORTHICONS

Type	Target	Field Mesh	Photo Cathode	Resolution Sensitivity*	Applications
Z5395 Z7805	MgO Ruggedized Z5395	No	S-1	500 @ 7.6 x 10^{-5} 200 @ 1.0 x 10^{-5}	**Near IR sensitive,** infrared detection aerial mapping, star tracking, missile tracking
7538 7409	MgO Ruggedized 7538	No	S-10	500 @ 1.5 x 10^{-5} 100 @ 4 x 10^{-7}	**Low light level** surveillance, electro optical telescope systems, airborne and tank fire control
7967 Z7806	MgO Ruggedized 7967	No	S-20	500 @ 5 x 10^{-6} 100 @ 1.5 x 10^{-7}	**Extremely low light level** surveillance, underwater TV systems, astronomical systems
7969 Z7807	MgO Ruggedized 7969	No	UV	500 @ 1.5 x 10^{-5} 100 @ 4 x 10^{-7}	**Near UV sensitive** medical biological studies, missile detection
Z7809	MgO	No	S-10		**Similar to 7538** except fiber optic faceplate. Fibre optic systems. Can be coupled to image intensifier
Z7810 Z7822	MgO Ruggedized Z7810	No	S-20		**Similar to 7967** except fiber optic faceplate. Fiber optic systems, radiation scintillator studies. Can be coupled to image intensifier
Z7814	MgO	Yes	S-20	500 @ 5 x 10^{-6} 100 @ 2.7 x 10^{-7}	**Improved Corner resolution,** electro-optical telescope systems
7198A	Glass	No	S-10		**General Purpose** surveillance, fire control

* Resolution sensitivity is defined as television lines per target inch @ specified photocathode illumination in foot-candles.

BROADCAST AND INDUSTRIAL VIDICONS

Type	Application	Maximum Dimensions		Heater Current @ 6.3 V Amperes	Amplitude Response @ 400 TV Lines Focus Coil Field Strength		Sensitivity	OPERATING PARAMETERS			
		Dia. Inches	Length Inches		@ 40 Gauss	@ 60 Gauss		Faceplate Illumination ft-c	Target Volts	Dark Current Micro-amperes	Signal Output Micro-amperes
7038 7038V	Film Color Film	1.135	6.50	.6	30%	40%	Average Min. Lag	15 100	30 - 50 10 - 30	.02 .004	.4 .3
8134V	Color Film	1.135	6.35	.09	30%	35%	Average Max.	1.0 .1	30 - 50 40 - 60	.03 .1	.27 .1
7735A	Live	1.135	6.50	.6	30%	40%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
7735B	Live	1.135	6.50	.6	35%	45%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2

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Special Purpose Power Tubes
Broadcast, Industrial &

GENERAL ELECTRIC

BROADCAST AND INDUSTRIAL VIDICONS (Continued)

Type	Application	Maximum Dimensions Dia. Inches	Maximum Dimensions Length Inches	Heater Current @ 6.3 V Amperes	Amplitude Response @ 400 TV Lines Focus Coil Field Strength @ 40 Gauss	Amplitude Response @ 400 TV Lines Focus Coil Field Strength @ 60 Gauss	Sensitivity	OPERATING PARAMETERS Faceplate Illumination ft-c	OPERATING PARAMETERS Target Volts	OPERATING PARAMETERS Dark Current Micro-amperes	OPERATING PARAMETERS Signal Output Micro-amperes
7226	Live	1.135	5.25	.15	30%	40%	Average Max.	1.0 .2	30 - 50 40 - 100	.02 .2	.2 .2
8484	Live	1.135	5.50	.6	30%	40%	Average Max.	1.0 .2	30 - 50 40 - 100	.02 .2	.2 .2
7262A	Live	1.135	5.25	.09	30%	40%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
7263A	Ruggedized 7262A	1.135	5.25	.09	30%	40%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
8507 F507A	Live	1.135	6.50	.6	50%	70%	Average Max.	1.0 .1	20 - 40 35 - 70	.02 .2	.2 .2
8541	Live	1.135	6.50	.09	50%	70%	Average Max.	1.0 .0	20 - 40 35 - 70	.02 .2	.2 .2
8572 8572V	Film Color Film	1.135	6.50	.6	50%	70%	Average Min. Lag	15 100	30 - 50 10 - 30	.02 .004	.4 .3
8604	Film	1.135	6.50	.09	50%	70%	Average Min. Lag	15 100	30 - 50 10 - 30	.02 .004	.4 .3

TRANSMITTING TUBES

TYPE	DESCRIPTION	DIMENSIONS IN INCHES Length	DIMENSIONS IN INCHES Diameter	CATHODE Volts	CATHODE Amps.	CATHODE Type	MAXIMUM RATINGS Max. Freq. for Full Input, mc.	MAXIMUM RATINGS Plate Dissipation Watts	MAXIMUM RATINGS Plate Volts	MAXIMUM RATINGS Plate Input Watts	MAXIMUM RATINGS Screen Grid No. 2 Volts	CLASS AND TYPE OF SERVICE	TYPICAL OPERATING CONDITIONS Plate Volts	Plate Current, ma	Screen Grid No. 2 Volts	Screen Grid No. 2 Current, ma	Grid No. 1 Volts	μ Factor	GM μmhos	Approx. Drive Power, Watts	Approx. Output Power, Watts
GL-2H21θ	Phasitron type. For use as phase modulator. Max. frequency 500 KC.	4 5/16	1 5/8	6.3	0.3	CU				DC Plate Volts=300; Deflector volts=100; RF output volts=4.											
GL-4-400A	Forced-air cooled power tetrode.	6 3/8	3 5/16	5.0	14.5	TF	110 110 110	400 270 400	4,000 3,200 4,000	— — —	600 600 600	AB$_2$(2) C-P C-T	3,000 2,500 3,000	700 275 350	500 500 500	40 28 46	—80 —220 —220	— 5.1 —	— 4,000 —	4.5 3.5 6.1	1,375 510 800
GL-4-1000A	Forced-air cooled beam power tetrode.	9 5/8	5 1/4	7.5	21	TF	110 110	1,000	6,000	—	1,000	C-T C-P	6,000 5,000	700 600	500 500	140 130	—200 —200	7.2 —	10,000 —	15 11	3,440 2,440
GL-4D21/ 4-125A	Air-cooled beam power tetrode.	5 11/16	2 7/8	5.0	6.5	TF	120 120	85 125	2,500 3,000	— —	400 400	C-P C-T	2,500 3,000	152 167	350 350	30 30	—210 —150	6.2 —	2,450 —	3.3 2.5	300 375
GL-4X150A	Air-cooled beam power tetrode.	2 15/32	1.635	6.0	2.6	CU	— 500 500	150 100 150	1,250 1,000 1,250	— — —	400 300 300	AB$_2$(2) C-P C-T	1,250 1,000 1,250	475 200 200	300 250 280	65 20 20	—44 —150 —115	— 5.0 —	— 12,000 —	0.15 2 30	425 140 140
GL-7C29θ	Forced-air cooled triode.	5 3/8	2 1/2	10.5	28	TF	110	500	3,000	1,200	—	C-T	2,800	330	—	—	—250	29	—	—	600
GL-7D21θ	Thoriated-tungsten filiment. Forced-air cooled tetrode.	7 1/2	3.015	6.3	30	TF	110	1,200	4,000	3,000	750	C-T	3,750	670	600	100	—102	8.0	—	60	1,575
GL-810	High-perveance triode; jumbo 4-pin base. Medium grid and plate caps.	8 3/4	2 1/4	10	4.5	TF	— 30 30	175 125 175	2,750 2,000 2,500	510 500 750	— — —	B(2)■ C-P■ C-T	2,250 2,000 2,500	450 250 300	— — —	— — —	—60 —350 —180	— 36 —	— — —	13 35 19	725 380 575
GL-813	Beam power amplifier; giant 7-pin bayonet base; medium cap.	7 1/2	2 5/16	10	5.0	TF	— 30 30	125 100 125	2,500 2,000 2,250	450 400 500	— — —	AB$_1$(2)■ C-P■ C-T■	2,500 2,000 2,250	290 200 220	750 350 400	— — —	—95 —175 —155	— — —	— — —	0 4.3 4.0	490 300 375
GL-829-B	Twin beam power amplifier; septar 7-pin base; wire plate terminals.	4 5/16	2 3/8	6.3 12.6	2.25 1.125	CU	— 200 200	30 28 40	750 600 750	100 90 120	— — —	AB$_2$(2)■ C-P■ C-T■	600 600 750	110 150 160	200 200 200	— — —	—18 —60 —50	— 9.0 —	— 8,500 —	0 0.5 0.4	44 70 99
GL-832-A	Twin beam power amplifier; septar 7-pin base; wire plate terminals.	3 5/16	2 3/8	6.3 12.6	1.6 0.8	CU	200 200	15 20	600 750	36 50	— —	C-P■ C-T■	600 750	60 65	200 200	— —	—70 —50	6.5 —	3,500 —	0.21 0.24	26 35
GL-833-A	High perveance triode; forced-air cooled; special post terminals.	8 13/16	4 13/32	10	10	TF	— 20 20	450 350 450	4,000 4,000 4,000	1,800 1,800 2,000	— — —	B(2)■ C-P■ C-T■	4,000 4,000 4,000	900 450 500	— — —	— — —	—100 —325 —225	— 35 —	— — —	38 42 35	2,700 1,500 1,600
GL-838	Air-cooled triode; jumbo 4-pin base.	7 7/8	2 5/16	10	3.25	TF	30	100	1,250	220	—	C-T	1,250	150	—	—	—90	—	—	6.0	130
GL-862-Aθ	Water-cooled triode. Dissipation 50 to 100 KW.	60	3 1/8	33	207	TF	1.6	100,000	20,000	100,000	—	C-P	12,000	5,000	—	—	—800	45	—	2,000	45,000
GL-880θ	Water-cooled triode; for broadcast and RF heating; special terminals.	11 1/2	7	12.6	320	PT	— 25 25	15,000 12,000 20,000	10,500 10,500 10,500	40,000 36,000 60,000	— — —	B(2) C-P C-T	10,000 10,000 10,000	7,000 3,600 6,000	— — —	— — —	—450 —1200 —1000	— 20 —	— — —	540 1,100 1,500	46,000 27,000 40,000
GL-889-Aθ	Water-cooled triode; for broadcast and RF heating; special terminals.	10 11/16	3 5/8	11.0	125	PT	— 50 50	5,000 3,000 5,000	8,500 6,000 8,500	12,000 6,000 16,000	— — —	B(2) C-P C-T	7,500 6,000 7,500	3,200 1,000 2,000	— — —	— — —	—300 —900 —800	— 21 —	— — —	150 140 400	15,000 4,000 10,000
GL-892	Water-cooled triode; two-section filament; special connections.	20 7/8	6 13/16	11.0 per sec.	60	PT	— 1.6 1.6	7,500 6,000 10,000	15,000 10,000 15,000	20,000 10,000 30,000	— — —	B(2) C-P C-T	12,500 10,000 12,000	2,800 780 1,550	— — —	— — —	—170 —1,600 —1,600	— 50 —	— — —	160 460 565	22,000 6,000 14,000
GL-5513θ	Forced-air cooled triode; thoriated-tungsten filament.	7 1/2	3.015	6.3	32.0	TF	220	1,200	3,000	3,300	—	Class B,TV	2,000	680	—	—	—20	—	—	223	1,125

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Broadcast, Industrial & Special Purpose Power Tubes

GENERAL ELECTRIC

TRANSMITTING TUBES (Continued)

TYPE	DESCRIPTION	DIMENSIONS IN INCHES		CATHODE			MAXIMUM RATINGS					CLASS AND TYPE OF SERVICE	TYPICAL OPERATING CONDITIONS								
		Length	Diameter	Volts	Amps.	Type	Max. Freq. for Full Input, mc.	Plate Dissipation Watts	Plate Volts	Plate Input Watts	Screen Grid No.2 Volts		Plate Volts	Plate Current, ma	Screen Grid No.2 Volts	Screen Grid No.2 Current, ma	Grid No.1 Volts	μ Factor	GM μmhos	Approx. Drive Power, Watts	Approx. Output Power, Watts
GL-5518θ	Forced-air cooled triode tungsten filament.	12⅜	5.530	6.3	235	PT	110	4,000	7,000	12,000	—	C-T	6,600	1,300	—	—	−520	21	—	180	6,500
GL-5549	Forced-air cooled triode. Dissipation 4.0 KW.	11	5½	12.6	57	TF	50	4,000	8,500	10,000	—	C-T	8,000	1,250	—	—	−800	23	—	230	7,500
GL-5556	Air-cooled triode; small 4-pin bayonet base.	4½	1⅝	4.5	1.1	TF	6	10	350	14		C-T	350	35	—	—	−80	—	—	0.25	6
GL-5593θ	Phasitron type for use as phase modulator.	4⅞	1⅝	6.3	0.3	CU	Max. frequency for full rating=250 MC.; Anode volts=300; Deflector volts=100; RF output volts=4.														
GL-5675	Medium-mμ "pencil type" triode; for service up to 3,000 MC.	2.252	0.816	6.3	0.135	CU	—	9	300	9	—	C-T oscillator at	120	25	—	—	−8	20	—	—	0.475
GL-5736	Forced-air cooled triode. Special connections.	7⅜	3⅝	6.0	60	TF	— 60 60	2,500 2,500 1,650	3,000 5,000 3,500	4,200 5,000 4,000	— —	B C-T C-P	3,000 5,000 3,500	2,800 1,000 1,140	— — —	— — —	−160 −850 −600	— 22 —	— — —	140 250 270	4,350 4,100 3,200
GL-5762/ 7C24	Forced-air cooled triode; special terminal connections.	7⅛	4 1⁵⁄₁₆	12.6	29	TF	— 30 30	3,000 2,000 3,000	6,200 5,000 6,200	8,700 5,000 8,700	— —	B C-P C-T-F	4,700 4,700 6,000	2,800 960 1,250	— — —	— — —	−200 −400 −550	— 29 —	— — —	195 720 1,225	8,800 4,200 7,000
GL-5894	Air-cooled twin tetrode. Max. ratings up to 250 MC.	4⅝	1 1⁵⁄₁₆	6.3 12.6	1.8 0.9	CU	250	40	750	120	300	B C-T C-P	600 600 600	200 200 150	300 250 250	26 16 20	−25 −80 −80	— 8.2 —	— — —	0.2 3.0 0.8	86 90 71
GL-6039θ	Water-cooled triode; Replaces GL-9C24 with filament change.	8 17⁄₃₂	3.9	5.0	78	TF	220	7,000	6,000	13,500	—	Class B, TV	5,000	2,100	—	—	−300	21	—	1,060	4,900
GL-6161θ	Forced-air cooled triode; special terminal connections.	3 13⁄₃₂	1.76	6.3	3.4	CU	900 900 Doubler to 900 Mc.	250 250	1,600 1,600	560 400	—	B-T C-T-F C-M	1,600[b] 1,650[b] 1,675[b]	350 250 250	— — —	— — —	−100[a] −150[a] −175[a]	— 2 —	— — —	75[c] 80[c] 100[c]	230[d] 180[d] 140[d]
GL-6251θ	Water-cooled metal and ceramic tetrode.	13¼	5 5⁄₃₂	5.5	19.0	TF	220	25,000	7,000	50,000	700	Class B, TV	6,800	7,500	600	50	−20	20	—	2,300	25,000
GL-6907	Twin tetrode for use up to 600 MC. Standard 7-pin base.	3⅜	1.8	12.6	0.65	CU	— 400 600	20 14 20	600 500 600	— 60 36	250 300 250	B C-P C-T	500 400 400	70 80 100	250 300 250	16 6 5	−26 −50 −50	8	2,500	— — —	23.5 13 20
GL-6942θ	Forced-air cooled metal and ceramic tetrode.	8¾	3½	5.7	24	CV	1,000 1,000	1,500 1,500	4,000 4,000	2,500 2,500	— —	Class B, TV C-T	3,500 4,000	520 420	500 500	35 11	−40 −110			100 65	1,000 1,000
GL-7007θ	Forced-air cooled metal and ceramic tetrode. Special connections.	11.63	6.4	5.0	180	CU	220 220	8,000 12,000	5,000 7,500	10,000 20,000	2,000 2,000	C-P C-T	4,800 7,000	1,800 2,600	800 1,000	160 200	−300 −300	10	—	100 80	6,000 12,000
7034/4X150A See 4X150A																					
GL-7085/ 356	Water and forced-air cooled triode for broadcast and industrial heating. Replaces GL-880.	11¼	7	7.5	170	TF	— 25 25 25 2	22,500 22,500 15,000 22,500 22,500	12,500 12,500 10,000 12,500 15,000	45,000 33,000 40,000 60,000 67,500	— — — — —	B(2) B-P C-P C-T C-T	12,500 12,500 10,000 10,000 12,500 15,000	6,400 2,400 3,800 4,500 5,600 4,700 4,400	— — — — — —	— — — — — —	−600 −625 −840 −1,150 −1,300 −1,400 −1,500	 20 	 — — — — —	430 1,070 1,010 960 1,440 850 770	55,000 12,000 29,000 32,000 38,000 42,000 51,000
GL-7289	High transconductance triode, forced-air cooled with integral radiator.	2¾	1 17⁄₆₄	6.3	1.0	Otherwise same as GL-2C39-B															
GL-8000	High-perveance triode; jumbo 4-pin base; skirted medium and cap, medium side cap.	8¾	2¼	10.0	4.5	TF	— 30 30	175 125 175	2,750 2,000 2,500	510 500 750	— — —	B C-P C-T	2,250 2,000 2,500	450 250 300	— —	— —	−130 −370 −240	16.5	—	7.9 20 18	725 380 575
GL-8005	Maximum ratings up to 150 MC.	5	1 1⁵⁄₁₆	16.0	38	PT	150	750	2,500	1,250	—	C-P	—	—	—	—		20	—	—	—
GL-8020	High-perveance triode; jumbo 4-pin base; medium cap.	6 1⁄₁₆	2 7⁄₁₆	10	3.25	TF	— 60 60	85 75 85	1,500 1,250 1,500	250 240 300	— —	B C-P C-T	1,500 1,250 1,500	330 190 200	— —	— —	−67.5 −195 −130	20	—	5.5 9 7.5	330 170 220

See Ceramic Section pgs. 0 - 0 for types 2C39B.
See Ceramic Section pgs. 0 - 0 for GL-6299 - GL-6897.
Outline diagrams for GL-7644 and GL-7784 are on page 12.
Outline diagrams for GL16897 and GL-7289 are on page 4.
Basing diagram for GL-7085/356 is on page 9.
Footnotes are on page 14.

FOOTNOTES FOR TRANSMITTING TUBE LISTINGS

A Cathode to grid volts.
A_1(1) Single tube class A audio power amplifier.
AB_1(2) Push-pull class AB_1 audio power amplifier.
AB_2(2) Push-pull class AB_2 audio power amplifier.
B Referred to grid terminal.
B(2) push-pull class B audio power amplifier.
B-P Single tube class B RF telephone service.
C Driver power output.
C-P Single tube class C plate-modulated telephony service.
C-T Single tube class C telegraphy or FM service.
C-T (Pulsed) Single tube class C RF pulsed oscillator.
CF Coated filament (directly heated).
CV Thoriated tungsten cathode (indirectly heated)
CU Coated indirectly heated cathode (unipotential).
D Useful power output.
C-G-T Single tube class C grid-modulated video service.
PT Pure tungsten filament (directly heated).
TF Thoriated-tungsten filament (directly heated).
θ Broadcast tube type.
■ Intermittent Commercial and Amateur Service rating.
[a] Cathode to grid volts.
[b] Referred to grid terminal.
[c] Driver power output.
[d] Useful power output.

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Broadcast, Industrial & Special Purpose Power Tubes

GENERAL ELECTRIC

BROADCAST, INDUSTRIAL & SPECIAL PURPOSE POWER TUBES—HIGH VACUUM RECTIFIERS

TYPE	DESCRIPTION	DIMENSIONS IN INCHES		CATHODE		MAXIMUM ANODE RATINGS			TYPICAL OPERATION*			
		Length	Diameter	Volts	Amps.	Peak Inverse Volts	Peak Amperes	Average Current Amperes	Peak Inverse Volts	A.C. Anode Volts	D.C. Output Volts	D.C. Output Current Amperes
GL-2B22	UHF lighthouse type diode, 8-pin octal base.	1 5/16	1.312	6.3	0.75	300	0.7	0.02	150	100	50	0.005
GL-2B23	Magnetically-controlled diode. Six-pin octal base.	3 5/16	1 3/16	6.3	0.3			0.03		—	150	0.030
GL-3B24-W	Small size, high peak—Inverse voltage diode, shock and vibration resistant.	4 7/8	1 1/2	2.5 5.0	3.0 3.0	20,000 20,000	0.15 0.3	0.03 0.06	20,000 20,000	—	—	0.03 0.06
GL-836	Heater-cathode type. Small 4-pin bayonet base. Medium cap.	6 9/16	2 7/16	2.5	5	5,000	1	0.25	5,000¶	3,400¶	1,550¶	0.5¶
GL-1616	Coated-filament type. Small 4-pin bayonet base. Medium cap.	6 13/16	2 7/16	2.5	5	6,000	0.8	0.13	5,500¶	3,800¶	1,730¶	0.26¶
GL-5973	Thoriated tungsten filament. Two-pin base. Medium cap.	19 1/2	6 1/8	16.0	19.1	75,000 40,000	5.0 5.0	1.0 1.25	75,000 40,000	— —	— —	1.0 1.25
GL-8020	Tungsten-filament type. Small 4-pin bayonet base.	8	2 5/16	5.0	6.0	40,000	0.75	0.1	40,000	28,000	—	0.1

BROADCAST, INDUSTRIAL & SPECIAL PURPOSE POWER TUBES—GAS-FILLED RECTIFIERS

TYPE	DESCRIPTION	Tube Voltage Drop	MAX. ANODE RATING — FOR 60 CPS SUPPLY					DIMENSIONS IN INCHES		CATHODE		OPERATING CONDITIONS#			
			Temp. Range Condensed Mercury, C.	Peak Inverse Volts	Peak Amperes	Average Amperes	Fault Amperes	Length	Diameter	Volts	Amps.	Peak Inverse Volts	Max. A.C. Plate-to-Plate Supply Volts	Approx. D.C. Output Volts to Filter	D.C. Output Amperes
GL-3B28	Small 4-pin, bayonet base. Medium cap—ceramic-insulated, Xenon-filled.	10	−75 to +90	5,000 10,000	2 1	0.5 0.25	20 20	6	2 1/16	2.5	10.0	5,000 10,000	3,400 7,000	1,550 3,200	1.0 0.5
FG-32	See GL-5558/FG-32														
FG-104	See GL-5561/FG-104														
FG-280	All-metal tube for use in low-voltage applications. Flexible leads.	15	40 to 80	1,000	40	6.4	200	10 3/4	2 1/4	5.0	10.0	2,000	1,400	645	12.8
GL-575-A	Jumbo 4-pin, bayonet base. Medium cap.	10	20 to 50	15,000	10	2.5	100	11 1/8	3 1/8	5.0	10.0	15,000	10,600	4,800	5
GL-673	Same as GL-575-A except for super-jumbo 4-pin, bayonet base.	Same as GL-575-A						11 7/16	3 1/8						
GL-857-B	Special terminal connections. Skirted large cap.	15	30 to 40 25 to 60	22,000 10,000	40 40	10 10	400 400	19 7/8[a]	7 1/8	5.0	30.0	22,000 10,000	15,400 7,000	7,000 3,200	20 20
GL-866-A	Small 4-pin, bayonet base. Medium cap—ceramic-insulated.	15	20 to 60	10,000	1	0.25	20	6 9/16	2 7/16	2.5	5.0	10,000	7,000	3,200	0.5
GL-869-B	4-pin base. Skirted large cap.	15	30 to 40	20,000	10	2.5	100	14 7/16	5 1/8	5.0	19.0	20,000	14,000	6,400	5
GL-870-A	Heavy-duty heater-cathode type. Flexible leads.	16	35 to 40 35 to 50	16,000 7,500	450 450	75 75	4,500 4,500	26[a]	5 1/2	5.0	65.0	16,000 7,500	9,060 4,260	4,150 1,950	150
GL-872-A	Jumpo 4-pin base. Medium cap—ceramic-insulated.	10	20 to 60 20 to 70	10,000 5,000	5 5	1.25 1.25	50 50	8 1/2	2 5/16	5.0	7.5	10,000 5,000	7,000 3,400	3,200 1,550	2.5 2.5
GL-5558/ FG-32	Small 4-pin, bayonet base. Medium cap.	15 —	30 to 60 30 to 80	5,000 2,000	15 15	2.5 2.5	200 200	7 —	3 —	5.0 —	4.5 —	5,000 2,000	3,400 1,400	1,550 645	5 5
GL-5561/ FG-104	Super-jumbo 4-pin, bayonet base. Maximum averaging time 15 sec. for welder-control service.	15 15	40 to 80 25 to 50	3,000 10,000	40 16	6.4 4.0	400 160	11 1/4	3 13/16	5.0	10.0	3,000	2,000	910	12.8
								Welder-control Service				—	—	—	—
GL-8008	Same as GL-872-A except for super-jumbo 4-pin, bayonet base.	Same at GL-872-A						8 3/4	2 5/16						

THYRATRON TUBES

TYPE	DESCRIPTION	Dimensions Inches (Max.)		Cathode		Approx. Tube Drop Volts	MAXIMUM RATINGS					Critical Grid Volts at Anode Volts
		Length	Diam.	Volts	Amps.		Temperature Range of Condensed Mercury, °C.	Peak Forward Anode Volts	Peak Inverse Anode Volts	Peak Cathode Amperes	Average Cathode Amperes	Fault Amperes	
2D21	Negative-control, heater-cathode type. Miniature 7-pin base.	2 1/8	3/4	6.3	0.6	8	−75 to +90*	650	1,300	0.5	0.1	10	4.2 @ 450
3C23	Gas and mercury-filled. Negative-control, filament type. Small 4-pin bayonet base, medium cap.	6 1/8	2 1/16	2.5	7	15	−40 to +80 −40 to +100	1,250 200	1,250 200	6 6	1.5 1.5	120 120	−5.5 @ 1,000 −2.5 @ 100
6D4	Relay tube or relaxation oscillator. Miniature 7-pin base.	2 1/8	3/4	6.3	.25	16	−55 to +90*	350	350	0.11	.025	—	—
FG-81-A	Mercury vapor type for relay control Medium 4-pin bayonet base, medium cap.	6 5/8	2 7/16	2.5	5	16	−55 to +85	500	500	2.0	0.5	40	−7.5 @ 500
FG-97	Mercury vapor, double-grid type. Medium 4-pin bayonet base, medium cap top and side.	6 3/4	2 7/16	2.5	5	16	+40 to +80	1,000	1,000	2.0	0.5	40	−13 @ 1,000
FG-98A	Mercury vapor, double-grid type. Medium 4-pin bayonet base, medium cap top and side.	6 3/4	2 7/16	2.5	5	16	−55 to +85	500	500	2.0	0.5	40	−16 @ 500
FG-105	Negative-control, heater-cathode type. Super-jumbo 4-pin bayonet base, large cap top and side.	11 1/4	2 1/2R	5.0	10	16	−40 to +80	2,500	2,500	40	6.4	400	−9 @ 1,000
FG-154	Negative-control, heater-cathode type. Uses low grid power. Medium 4-pin bayonet base, medium cap.	8	3	5.0	7	16	−20 to +50*	500	500	10	2.5	80	−9 @ 500
FG-172	Negative-control, heater-cathode type. Metal envelope with flexible leads and threaded terminal. †Welder Control Ratings.	10 3/4	2 5/8R	5.0 5.5†	10 11†	16 16	+40 to +80 +30 to +95	2,000 750	2,000 750	40 77	6.4 2.5	400 400	−9 @ 1,000

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Broadcast, Industrial & Special Purpose Power Tubes

GENERAL ELECTRIC

THYRATRON TUBES (Continued)

TYPE	DESCRIPTION	Dimensions Inches (Max.)		Cathode		Approx. Tube Drop Volts	MAXIMUM RATINGS						Critical Grid Volts at Anode Volts
		Length	Diam.	Volts	Amps.		Temperature Range of Condensed Mercury, °C.	Peak Forward Anode Volts	Peak Inverse Anode Volts	Peak Cathode Amperes	Average Cathode Amperes	Fault Amperes	
393-A	Negative-control, filament type, mercury vapor and gas-filled. Octal base, small cap.	6⅝	2 1/16	2.5	7	15	−40 to +80	1,250	1,250	6.0	1.5	—	−5.5 @ 1,000
414	Negative-control, mercury vapor, heater-cathode type. Bracket mounted, flexible leads.	15 3/16	3⅛	5	19	20	+40 to +80	3,000	3,000	100	5.0	1,500	−10 @ 1,000
502-A	Negative-control, heater-cathode type. Metal envelope, octal base.	2⅝	1 5/16	6.3	0.6	11	−55 to +90*	650	1,300	1.0	0.1	10	−3.5 @ 1,000
672-A	Negative-control, heater-cathode type. Ignitor firing applications. Super-jumbo 4-pin bayonet base, medium cap.	8⅛	2 5/16	5	5	12	+40 to +80	2,500	2,500	40	3.2	150	−10 @ 1,000
678	Negative-control, filament type. Relay control application. Jumbo 4-pin bayonet base, medium cap.	10¾	2 5/16	5	7.5	15	+25 to +50	10,000	15,000	6.0	1.6	50	−15 @ 1,000
884	Negative-control, heater-cathode type. Relaxation oscillator and relay control. Small 5-pin base.	4⅛	1 5/16	6.3	0.6	16	−75 to +90*	350	350	0.3	0.075	—	−25 @ 250
2050-A	Negative-control, heater-cathode type. Octal 8-pin base.	4⅛	1 5/16	6.3	0.6	8	−75 to +90*	650	1,300	1.0	0.1	10	−3 @ 650
5544	Negative-control, inert gas, filament type. Quick-heating cathode. Super-jumbo 4-pin base, medium cap.	7½	2⅝	2.5	12	16	−55 to +70*	1,500	1,500	40	3.2	560	−8 @ 1,000
5557	Negative-control, mercury vapor, filament type. Medium 4-pin bayonet base, medium cap.	6⅛	2 1/16	2.5	5	16	+40 to +80	2,500	5,000	2	0.5	40	−7 @ 1,000
5559	Negative-control, heater-cathode type. Small 4-pin bayonet base, medium cap.	7¼	3	5.0	4.5	16	+40 to +80	1,000	1,000	15	2.5	200	−6.5 @ 1,000
5560	Negative-control, heater-cathode type. Ignitor firing applications. Small 4-pin bayonet base, two medium caps.	7 5/16	2¼	5.0	4.5	16	+40 to +80	1,000	1,000	15	2.5	200	−9 @ 1,000
5563-A	Negative-control, filament type. Jumbo 4-pin bayonet base, medium cap.	10 17/32	2⅝	5.0 FOR QUADRATURE OPERATION	10	15	+25 to +50 +25 to +55 +25 to +50 +25 to +55	20,000 15,000 20,000 15,000	20,000 15,000 20,000 15,000	6.4 10 11.5 11.5	1.6 1.8 2.5 2.5	70 70 70 70	−2.5 @ 500
5632/C3J	Negative-control, filament type. Small 4-pin bayonet base, medium cap.	6	1 5/16	2.5	9	10	−55 to +75*	900	1,250	30	2.5	300	−4.5 @ 750
5663	Negative-control, inert-gas-filled. For relay and grid-control rectifier applications. Seven-pin miniature.	1½	¾	6.3	0.15	11	−55 to +90*	500	500	0.06	0.02	1.0	−2.5 @ 500
5665/C16J	Negative-control, xenon, filament type. Base bracket and flexible leads.	10½	2 1/16	2.5	31	11	−55 to +75*	1,000	1,250	160	16	1,000	−2.2 @ 500 −4.0 @ 1,000
5696A	Negative-control, inert-gas-filled cathode type. seven-pin miniature.	1¾	¾	6.3	0.15	10	−55 to +90	500	500	0.125	0.028	2.0	—
5720	Positive-control, heater-cathode type. Medium 4-pin bayonet base, medium cap.	7½	3	5.0	4.5	—	+35 to +80	1,000	1,000	15	2.5	200	+9.5 @ 1,000
5727	Negative-control, inert-gas-filled cathode type. Seven-pin miniature.	1⅞	¾	6.3	0.6	8	−75 to +90*	650	1,300	0.5	0.1	10	−3.5 @ 450
5728	Negative/positive-control, heater-cathode type. Small 4-pin bayonet base, medium cap.	7	3	5.0	4.5	16	+40 to +80	1,000	1,000	15	2.5	200	+4 @ 100 0 @ 1,000
5830	Negative-control, heater-cathode type for high voltage and current applications.	17¾	5 1/16	5.0	20	16	+40 to +65	10,000	10,000	75	12.5	1,500	−6 @ 10,000
5855	Negative-control, filament type. High commutation factor for motor control. Lugs for connections.	11 1/64	3⅝	2.5	34	16	−55 to +70*	1,500	1,500	160	18	2,000	−3 @ 1,000
6011/710	Negative-control, mercury vapor and gas-filled type. Medium 4-pin bayonet base, large cap.	6¼	1⅝	2.5	9	15	−40 to +80	1,000	1,250	30	2.5	250	−5 @ 1,000
6012	Negative-control, heater-cathode type. Octal, 6-pin base.	4¼	1 1/32	6.3	2.5	10	−75 to +90*	650	1,300	5	0.5	20	−10 @ 650
6014/C1K	Negative-control, filament, xenon type. Small 4-pin bayonet base.	4¼	1 5/16	2.5	6.3	8	−55 to +75*	1,000	1,250	8	1	77	−2 @ 500
6807	Negative-control, gas type. Super-jumbo bayonet base.	9	2⅝	2.5	21	16	−55 to +70*	1,500	1,500	80	6.4	1,120	−6 @ 1,000
6808	Same as GL-6807 with flexible leads and bracket mount.	9	2⅝	2.5	21	16	−55 to +70*	1,500	1,500	80	6.4	1,120	−6 @ 1,000
6809	Same as GL-6807 with spade lugs for panel mounting.	9	2⅝	2.5	21	16	−55 to +70*	1,500	1,500	80	6.4	1,120	−6 @ 1,000
6858/760	Negative-control, filament type. Four-pin bayonet base. Medium cap.	9½	2 5/16	2.5	21	12	−40 to +80	1,500	1,500	77	6.4	770	−4 @ 500 −5.5 @ 1,250
6859/760-P	Negative-control, filament type. Bracket-type base for panel mounting. Medium cap.	9½	2 5/16	2.5	21	12	−40 to +80	1,500	1,500	77	6.4	770	−4 @ 500 −5.5 @ 1,250
7518/710-L	Negative-control, gas and mercury type. Spade lugs for panel mounting. Medium cap.	6¼	1⅝	2.5	9	15	−40 to +80	1,000	1,250	30	2.5	250	−5 @ 1,000
7725	Negative-control, gas and mercury type. Quick-heating filament. Four-pin bayonet base. Medium cap.	6¼	1⅝	2.5	9	15	−40 to +80	3,500	3,500	30	2.5	250	−5 @ 1,000 −9 @ 3,500
7726	Same as GL-7725 except spade lugs for panel mounting.	6¼	1⅝	2.5	9	15	−40 to +80	3,400	3,500	30	2.5	250	−5 @ 1,000 −9 @ 3,500

Miniature types are in bold face.

* Temperature rating expressed in ambient temperature range over which the tube will operate.

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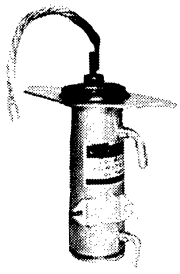
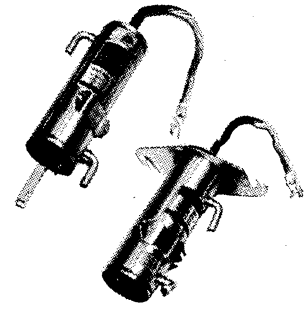
Ignitrons

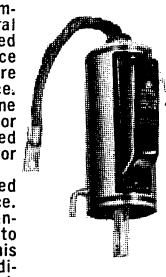
GENERAL ELECTRIC



Ignitrons are gas-discharge tubes employing a mercury pool as the cathode. The mercury pool cathode provides extremely high emission capability. Initiation of conduction in the ignitron is accomplished by means of a starting electrode called the ignitor. The ignitor is a small rod of highly refractory material which dips into the mercury pool. The passage of ignition current through the ignitor causes a cathode spot to form at the junction of the ignitor and mercury pool. Ionization from the cathode spot spreads throughout the volume of the ignitron and when the anode is positive electrons flow to it. By control of the point in the A-C cycle at which the ignitor is fired the duration of current flow through the ignitron is controlled. The ignitron, therefore, is ideally suited for high current rectification and control service. The following charts present summarized rating information for General Electric ignitrons. All ratings are based on 25-60 CPS operation. For convenience to the user the ignitron types are grouped by typical application service. Many types are rated for more than one service and therefore appear in two or more rating charts. More detailed ratings are available upon request for all of the G.E. ignitrons listed.



The ignitron has long been recognized as a long life, highly reliable device. As the industry's leading ignitron manufacturer General Electric is pleased to present the information contained in this booklet and invites your inquiry for additional application assistance if required.



IGNITRONS — RESISTANCE WELDING CONTROL SERVICE

TYPE	SIZE	MECHANICAL DATA: Maximum Dimensions - Inches Rigid Length	Diameter	Mounting	MAXIMUM ELECTRICAL RATINGS*: Supply Volts RMS	Maximum Demand KVA	Corresponding Average Anode Current Amperes	Maximum Average Anode Current Amperes	Corresponding Demand KVA
GL-5550	A	9 1/16	2 3/4	Clamp	250-600	300	12.1	22.4	100
GL-5551A/GL-5551A-PC	B	13	2 3/4	Conventional	250-600	600	30.2	56	200
GL-5552A/GL-5552A-PC	C	14	4 1/4	Conventional	250-600	1200	75.6	140	400
GL-5553B/GL-5553B-PC	D	19 1/2	5 5/8	Conventional	250-600	2400	192	355	800
GL-5554 (2)	—	17	4 1/8	Conventional	2400	1200	75	113	600
GL-5555 (2)	—	17 15/16	5 3/4	Conventional	2400	2400	135	207	1105
GL-5564 (2)	—	27 1/16	9 1/8	Special	2400	4800	270	414	2210
GL-6512 (2)	Integral Thermostat Version of GL-5554. Same Ratings Apply.								
GL-6513 (2)	Integral Thermostat Version of GL-5555. Same Ratings Apply.								
GL-6515 (2)	Integral Thermostat Version of GL-5564. Same Ratings Apply.								
GL-7151	E	23 1/4	9 1/8	Special	250-600	4800 (1)	486	900	1600
GL-7669/GL-7669-PC	B	9 7/8	2 3/4	Coaxial	250-600	600	30.2	56	200
GL-7671/GL-7671-PC	C	11 7/8	4 1/4	Coaxial	250-600	1200	75.6	140	400
GL-7673/GL-7673-PC	D	19 1/2	5 5/8	Coaxial	250-600	2400	192	355	800
GL-7681/GL-7681-PC	Jumbo C	17 1/2	4 1/4	Conventional	250-600	1800	135	220	600
GL-7998/GL-7998-PC	Jumbo C	14 1/4	4	Coaxial	250-600	1800	135	220	600
GL-8205	E	23	9 1/8	Coaxial	250-600	4800 (1)	486	900	1600
GL-37250/GL-37250-PC	B-2000	13	2 3/4	Conventional	250-600	1000	43.2	75	200
GL-37251/GL-37251-PC	B-2000	13	2 3/4	Coaxial	250-600	1000	43.2	75	200
GL-37252/GL-37252-PC	C-4000	14 1/4	4 1/4	Conventional	250-600	2000	108	150	380
GL-37253/GL-37253-PC	C-4000	14 1/4	4 5/8	Coaxial	250-600	2000	108	150	380
GL-37254/GL-37254-PC	D-6000	19 1/2	5 5/8	Conventional	250-600	3000	224	400	1000
GL-37255/GL-37255-PC	D-6000	19 1/2	5 5/8	Coaxial	250-600	3000	224	400	1000

Warranty for all types listed above is H-12 except for those marked (2), see footnote below.
PC Indicates plastic coated version.
* All ratings based on use of liquid cooling.

(1) Maximum demand current below 500 volts should not exceed 9600 amperes RMS.
(2) Have H-24 warranty.

IGNITRONS — FREQUENCY-CHANGER WELDING CONTROL SERVICE

TYPE	SIZE	MECHANICAL DATA: Maximum Dimensions - Inches Rigid Length	Diameter	Mounting	MAXIMUM ELECTRICAL RATINGS*: Peak Inverse Voltage Volts	Maximum Peak Anode Current Amperes	Corresponding Average Anode Current Amperes	Maximum Average Anode Current Amperes	Corresponding Peak Anode Current Amperes
GL-5551A GL-5551A-PC	B	13	2 3/4	Conventional	1200 1500	600 480	5 4	22.5 18	135 108
GL-5553B GL-5553B-PC	D	19 1/2	5 5/8	Conventional	1200 1500	3000 2400	40 32	140 112	840 672
GL-5822A GL-5822A-PC	C	14 1/4	4 1/4	Conventional	1200 1500	1500 1200	20 16	70 56	420 336
GL-7669 GL-7669-PC	B	9 7/8	3 1/4	Coaxial	1200 1500	600 480	5 4	22.5 18	135 108
GL-7672 GL-7672-PC	C	11 7/8	4 5/8	Coaxial	1200 1500	1500 1200	20 16	70 56	420 336
GL-7673 GL-7673-PC	D	19 1/2	5 5/8	Coaxial	1200 1500	3000 2400	40 32	140 112	840 672
GL-7681 GL-7681-PC	Jumbo C	17 1/2	4 1/4	Conventional	1200 1500	2250 1800	30 24	105 84	630 502
GL-7998 GL-7998-PC	Jumbo C	16	4	Coaxial	1200 1500	2250 1800	30 24	105 84	630 502

Warranty for all types listed above is H-12. PC Indicates plastic coated version. * All ratings based on use of liquid cooling.

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IGNITRONS — PULSE WELDING CONTROL SERVICE

TYPE	SIZE	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS*						
		Maximum Dimensions - Inches									
		Rigid Length	Diameter	Mounting	Peak Inverse Voltage Volts	Initial Peak Inverse Voltage Volts	Peak Anode Current Amperes	Average Anode Current Amperes	Averaging Time Seconds	Anode Current Repetition Rate - Pulses Per Second	Anode Current Pulse Width Microseconds
GL-7670	B	9⅞	2¾	Coaxial	2500	1250	2000	10	2	60	1000
GL-7673	C	19½	5⅝	Coaxial	2500	1250	4000	20	2	60	1200
GL-8360	B	9⅞	2¾	Coaxial	2500	1250	2000	10	2	60	1000

Warranty for all types listed above is H-12.

* All ratings based on use of liquid cooling.

IGNITRONS — POWER RECTIFIER SERVICE

TYPE	DESCRIPTION	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS*				Warranty
		Max. Dimensions Inches			Peak Anode Voltage Volts		Anode Current Amperes		
		Rigid Length	Diameter	Mounting	Forward	Inverse	Peak	Average	
GL-5554	For continuous-duty power rectifier service at 100 amperes at 900 volts peak forward and inverse. Has auxiliary anode and two ignitors.	17	4⅛	Conventional	900 2,100	900 2,100	900 600	100 75	H-24, G-12
GL-5555	For continuous-duty power rectifier service at 200 amperes at 900 volts peak forward and inverse. Has auxiliary anode and two ignitors.	17 5/16	5¾	Conventional	900 2,100	900 2,100	1,800 1,200	200 150	H-24, G-12
GL-5564	For continuous-duty power rectifier service at 400 amperes at 900 volts peak forward and inverse. Has auxiliary anode and two ignitors.	27 1/16	9⅛	Special	750	750	3,600	400	H-24, G-12
GL-5630	For high voltage power-rectifier and inverter service. Also used as capacitor discharge or DC short-circuiting switch.	22 3/16	5¾	Conventional	20,000	20,000	200	50	G-12
GL-5779	Small glass air-cooled type for demonstrating the operating principles of ignitors and ignitrons.	8¼	2½	Conventional	350	350	30	10	G-12
GL-5788	Similar to GL-5555. Features reliable operation at higher water temperatures and phase-retard operation; has larger diameter ignitor terminals.	19¼	5¾	Conventional	2,100	2,100	1,200	150	H-24, G-12
GL-6228	For high voltage power-rectifier and inverter service. Also used in capacitor discharge and DC short-circuiting switch service.	42	9	Special	20,000	20,000	900	150	H-36, G-12
GL-6504	Double-grid type with three ignitors for locomotive rectifier service. Twelve tubes will supply DC power for 4000 HP locomotive.	30¼	9	Coaxial	4,000	4,000	2,000	350	G-12
GL-6509	Similar to GL-5555. For auxiliary power in rectifier locomotives. Has three ignitors.	17 5/16	5¾	Conventional	900 2,100	900 2,100	1,800 1,200	200 150	G-12
GL-6512	Integral thermostat version of GL-5554. Same ratings apply.								H-24, G-12
GL-6513	Integral thermostat version of GL-5555. Same ratings apply.								H-24, G-12
GL-6514	Integral thermostat version of GL-5788. Same ratings apply.								H-24, G-12
GL-6515	Integral thermostat version of GL-5564. Same ratings apply.								H-24, G-12
GL-6878	Double-grid type for locomotive rectifier service. Features coaxial cathode connection to reduce magnetic field effects.	30¼	13⅛	Coaxial	100	4,000	2,500	675	G-12
GL-6958	Double-grid type for industrial power rectifier and inverter service. Especially suited for phase retard operation. Features coaxial cathode connection to reduce magnetic field effects.	29⅞	9	Special	4,000	4,000	2,000	275	G-12
GL-7042	Integral thermostat version of GL-6958. Same ratings apply.								G-12
GL-7736	Similar to GL-5564. Features reliable operation at high voltage and with phase-retard operation.	27 7/16	9⅛	Special	900 2,100	900 2,100	3,600 2,400	400 300	G-12
GL-8420	Forced-air-cooled type for locomotive electronic contactor service. Features coaxial cathode connection to reduce magnetic field effects; integral thermostat control.	22 5/16	10 1/16	Coaxial	1,000	1,000	2,500	200	G-12
GL-8465	For motor control service. Has auxiliary anode and two ignitors.	17 5/16	5¾	Conventional	900 2,100	900 2,100	1,800 1,200	200 150	H-24, G-12
GL-8466	Integral thermostat version of GL-8465. Same ratings apply.								H-24, G-12
GL-35438	Double-grid motor control ignitron. Features cathode connection to reduce magnetic field effects.	30¼	13⅛	Special	4,000	4,000	2,500	675	G-12

* All ratings are based on use of liquid cooling except GL-5779 and GL-8420 whose ratings are based on use of forced air cooling.

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IGNITRONS — CAPACITOR DISCHARGE SERVICE

TYPE	MECHANICAL DATA			MAXIMUM ELECTRICAL RATINGS					
	Maximum Dimensions - Inches			Peak Anode Voltage Volts		Peak Anode Current Amperes	Typical Discharge Rate Pulses Per Minute	Ionization Time-Micro-seconds	Cooling
	Rigid Length	Diameter	Mounting	Forward	Inverse				
GL-5630	22 3/16	5 3/4	Conventional	35,000	35,000	20,000	2	0.8	Liquid
GL-6228	42	9	Special	50,000	50,000	30,000	2	0.8	Liquid
GL-7171	8 3/4	2 5/32	Clamp	15,000	15,000	35,000	2	0.5	Air
GL-7703	7 5/8	2 1/4	Clamp	20,000	20,000	100,000	2	0.5	Liquid or Air
GL-37207	20	5 3/4	Conventional	25,000	25,000	300,000	500	0.5	Liquid
GL-37228	7 5/8	2 1/4	Clamp	20,000	20,000	100,000	2	0.5	Liquid or Air
GL-37248	7 5/8	2 1/4	Clamp	50,000	50,000	25,000	2	0.7	Liquid or Air
GL-37267A	10 1/4	6 1/2	Coaxial	20,000	20,000	300,000	500	0.7	Liquid

For above types, warranty is normally K-1000, however warranty information for specific applications will be supplied upon request.

IGNITRON ACCESSORIES

THERMOSTAT KITS

Kit includes thermostat and spring-loaded fastener in a captive assembly for connection to mounting pad located on ignitron water jacket.

Single-pole contacts perform control functions as shown in chart below.

Kit No.	Function	Contacts	Temperature Open (°F)	Temperature Close (°F)	Termination
N15272AA	Water control	NO	86	96	36-inch leads with spade terminals
N15273AA	Over-temperature protection	NC	125	105	36-inch leads with spade terminals
N15286AA	Water control	NO	86	96	Terminal block
N15287AA	Over-temperature protection	NC	125	105	Terminal block

COOLING CLAMP

Suitable for use with GL-5550, GL-7171 and GL-7703 to accomplish cathode connection and liquid cooling: Cat. No. L 6922259-G5

IGNITOR TERMINAL CONNECTING LEADS

Insulated leads for connection to 0.250-inch diameter ignitor terminals

Cat. No. N 22006LC — 7¾ inches long
Cat. No. N 22007LC — 13½ inches long

QUICK-CHANGE WATER CONNECTORS

Ignitron installation time is reduced through the use of slotted anode and cathode terminals . . . provided as a regular feature on all standard G-E welding ignitrons . . . and the use of the quick-change brass water hose connectors shown in table.

Fitting No.	Description	Use with G-E Ignitron Type
B1HK	Socket	GL-5551-A, GL-5552-A, GL-5822-A, GL-7669, GL-7670, GL-7671, GL-7672, GL-7681, GL-7998, GL-8360, GL-37250, GL-37251, GL-37252, GL-37253
B1K11	Plug	
B2HK	Socket	GL-5553-B, GL-5554, GL-5555, GL-6512, GL-6513, GL-7673, GL-37254, GL-37255
B2K16	Plug	

CONDENSED WARRANTY INFORMATION

G-12—
(Rectifier service only.) Warranted for full replacement within one year of service. Expires 18 months from date of sale to ultimate user or two years from date of shipment by G.E.

H-12—
Warranted for one year with prorated adjustment after 15 days of service. Expires 18 months from date of sale to ultimate user, 12 months from date of initial installation, or 2 years from date of shipment by G.E.

H-24—
Warranted for two years with prorated adjustment after 15 days of service. Expires 36 months from date of sale to ultimate user, 24 months from date of initial installation, or 3½ years from date of shipment by G.E.

K-1000—
Warranted for 1000 operations or six months of service with prorated adjustment for the difference between elapsed number of operations and 1000. Expires nine months from date of sale to ultimate user, six months from date of initial installation, or twelve months from date of shipment by G.E.

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PLANAR TUBES — CERAMIC • GLASS LIGHTHOUSE

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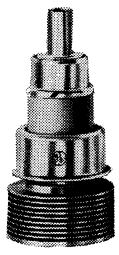

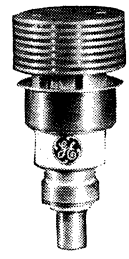
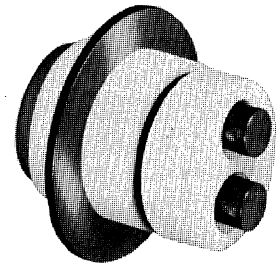
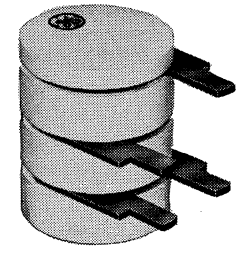
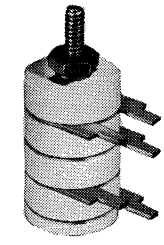

GENERAL, MAXIMUM RATINGS

TYPE	GENERAL DESCRIPTION	Outline Dwg.	Heater Volts	Heater Amps	Max. Plate Volts And Watts	Max. Grid Current ma	Max. Freq. MC (8)
2B22	Metal-glass diode—"lighthouse" type, intended for detector service.	A	6.3	0.75	300 (1)	—	1,500
2C39-A	Metal-ceramic triode—intended for UHF power amplifier, oscillator, or frequency multiplier service.	B	6.3	1.03	1,000 100 (3)	50	2,500
2C39-B	Metal-ceramic triode—intended for UHF power amplifier, oscillator, or frequency multiplier service.	B	6.3 (2)	1.03	1,000 100 (3)	50	2,500
2C39-WA	Military version of 3C39B when subject to considerable vibration and shock. Interchangeable with 2C39B.	Same as 2C39B					
2C40	Metal-glass triode—"lighthouse" type, intended for UHF oscillator or amplifier service.	C	6.3	0.75	500 6.5	8.0	3,370
2C40-A	Metal-glass triode—"lighthouse" type, intended for UHF oscillator service, either CW or pulse.	C	6.3	0.75	500 6.5 1,400 (5) 4.0 (6)	8.0 1,000 (6)	3,370
2C42	Lighthouse triode. For use as plate-pulsed oscillator up to 1300 mc.	D	6.3	0.9	3,000 25		
2C43	Metal-glass triode—"lighthouse" type, intended for UHF CW	D	6.3	0.9	500 12 3,500 (5)	—	1,500 3,370 (6)
2C46	Lighthouse triode. For use in cavity as stable oscillator between 1,000 and 1,200 mc.	D	6.3	0.75	500 12		
3CX100A5	Metal-ceramic triode—intended for UHF oscillator or amplifier service, either CW or pulse.	E	6.0 (2)	1.0	1,000 100 (3)	50	2,500 3,000 (6)
6299	Metal-ceramic triode—intended for low-noise UHF amplifier service.	F	6.3	0.3	200 2.0	0	3,000
6442	Metal-ceramic triode—intended for UHF oscillator or amplifier service, either CW or pulse.	G	6.3 (2)	0.9	350 8.0 (3) 3,000 (5) 7.5 (6)	15 1,250 (6)	2,500 5,000 (6)
6771	Metal-ceramic triode—intended for UHF oscillator or amplifier service, either CW or pulse.	G	6.3 (2)	0.575	300 6.25 (3) 1,750 (5)	8.0 700 (6)	4,000 5,000 (6)
6897	Metal-ceramic triode—intended for UHF CW oscillator or amplifier service.	B	6.3 (2)	1.03	1,000 100 (3)	50	2,500
7077	Metal-ceramic triode—intended for low-noise UHF amplifier service.	H	6.3	0.24	250 1.1	—	3,000
7266	Metal-ceramic diode — intended for instrument-probe service.	I	6.3	0.215	600 (1)	—	3,000
7289	Metal-ceramic triode—intended for UHF oscillator or amplifier service, either CW or pulse.	E	6.0 (2)	1.0	1,000 100 (3) 3,500 (5) 27 (6)	50 1,800 (6)	2,500 3,000 (6)
7296	Metal-ceramic triode—intended for VHF oscillator or amplifier service.	J	6.3	0.4	330 5.5	10	500
7391	Metal-ceramic triode—intended for UHF oscillator service.	F	6.3	0.38	200 2.25	3.0	6,000
7462	Metal-ceramic triode—intended for low-noise VHF amplifier service.	K	6.3	0.24	250 1.1	—	500
7486	Metal-ceramic triode—intended for UHF oscillator or amplifier service.	H	6.3	0.24	250 1.0	2.2	3,000
7588	Metal-ceramic triode—intended for VHF amplifier service.	J	6.3	0.4	300 5.5	—	500

CHARTERISTIC AND TYPICAL OPERATION

TYPE		Plate Volts	Neg. Grid Volts	Plate Milliamperes	Grid Milliamperes	μ	Rp, Ohms	Gm, μMhos	Gain in db	R.F. Power Output	Freq. MC
2B22	Signal detector	Tube voltage drop: 6.0 volts at I_b=20 milliamperes. Maximum DC cathode current=20 milliamperes; maximum peak cathode current=700 milliamperes.									
2C39-A	Avg. char.	600	(7)	70	—	100	—	2,500	—	—	—
	Class C Oscillator	900	−22	90	27	—	—	—	—	27W	500
	Class C Oscillator	800	−20	80	32	—	—	—	—	12W	2,500
2C39-B	Avg. char.	600	(4)	75	—	95	—	24,800	—	—	—
	Class-C oscillator	900	22	90	27	—	—	—	—	17W	2,500
	Class-C oscillator	900	40	90	30	—	—	—	—	40W	500
2C39-WA											
2C40	Avg. char.	250	R_k=200	17	—	36	—	4,850	—	—	—
	Radio-frequency oscillator	250	5.0	20	0.5	—	—	—	—	75MW	3,370
2C40-A	Avg. char.	250	R_k=200	17	—	35	—	5,100	—	—	—
	Radio-frequency oscillator	250	5.0	20	0.5	—	—	—	—	75MW	3,370
	Plate-pulsed oscillator	1,400	—	1,000	—	—	—	—	—	300W	3,000
	D.F.=.001										
2C42	C-T Oscillator		−5	20	—	36	—	4,850	—	—	—
	At 3370 mc.	250									
2C43	Avg. char.	250	R_k=100	21	—	50	—	8,100	—	—	—
	Push-pull radio-frequency oscillator — values for two tubes	470	R_g=1,000 R_g=100	38 2,500	—	—	—	—	—	9.0W 1.75KW	350 3,370
	Plate-pulsed oscillator	3,000									
	D.F.=.001										
2C46	C-T UHF Oscillator	150	—	8	—	60	—	3,500	—	—	—
3CX100A5	Avg. char.	600	(7)	70	—	100	—	25,000	—	—	—
	Class-C amplifier	900	40	90	30	—	—	—	—	40W	500
	Plate-pulsed oscillator	3,500	—	3,000	1,800	—	—	—	—	1.6W	3,000
	D.F.=.0025										
6299	Avg. char.	175	(9)	10	—	110	7,300	15,000	—	—	—
	Class-A radio-frequency amplifier — grounded-grid	(10) 115	0	10	—	115	9600	—	17.5	—	450
		(10)	0	10	—	—	—	—	11	—	3,000
6442	Avg. char.	350	4.25	35	—	50	—	16,500	—	—	—
	Class-C amplifier	250	—	23	6.0	—	—	—	—	2.8W	1,000
	Plate-pulsed oscillator — D.F.=.001	3,000	75	2,500	1,250	—	—	—	—	0.5KW	5,000
6771	Avg. char.	250	1.6	25	—	90	—	23,000	—	—	—
	Radio-frequency oscillator	275	—	25	—	—	—	—	—	300MW	4,000
6897	Avg. char.	600	(4)	75	—	90	—	24,800	—	—	—
	Class-C oscillator	900	22	90	27	—	—	—	—	17W	2,500
		500	40	90	30	—	—	—	—	40W	500
7077	Avg. char.	250 (11)	R_k=82	6.5	—	90	9,000	10,000	—	—	—
		250 (11)	R_k=82	6.5	—	—	—	—	14.5	—	450
	Grounded-grid amplifier										
7266	Instrument detector	Tube voltage drop: 1.0 volts at I_b=1.0 milliamperes. Maximum DC cathode current=2.2 milliamperes; maximum peak cathode current=11 milliamperes									
7289	Avg. char.	600	(7)	70	—	100	—	25,000	—	—	—
	Class-C amplifier	900	40	90	30	—	—	—	—	40W	500
	Plate-pulsed oscillator — D.F.=.0025	3,500	—	3,000	1,800	—	—	—	—	1.6KW	3,000
7296	Avg. char.	200	R_k=68	17	—	90	5,450	16,500	—	—	—
7391	Avg. char.	175	1.5	10	—	62	—	11,000	—	—	—
	Class-C oscillator	150	—	12	3.0	—	—	—	—	65MW	5,400
		150	—	12	3.0	—	—	—	—	500MW	500
7462	Avg. char.	150	(12)	7.2	—	94	10,500		—	—	—
7486	Avg. char.	150	R_k=82	7.5	—	90	—	10,500	—	—	—
	UHF oscillator service	150	R_g=1,000	8.0	2.0	—	—	—	—	300MW	1,200
	Class-C amplifier	150	R_g=3,000	5.0	1.0	—	—	—	—	300MW	450
7588	Avg. char.	200	(13)	24	—	175	3,900	45,000	—	—	—

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PLANAR TUBES — CERAMIC • GLASS LIGHTHOUSE

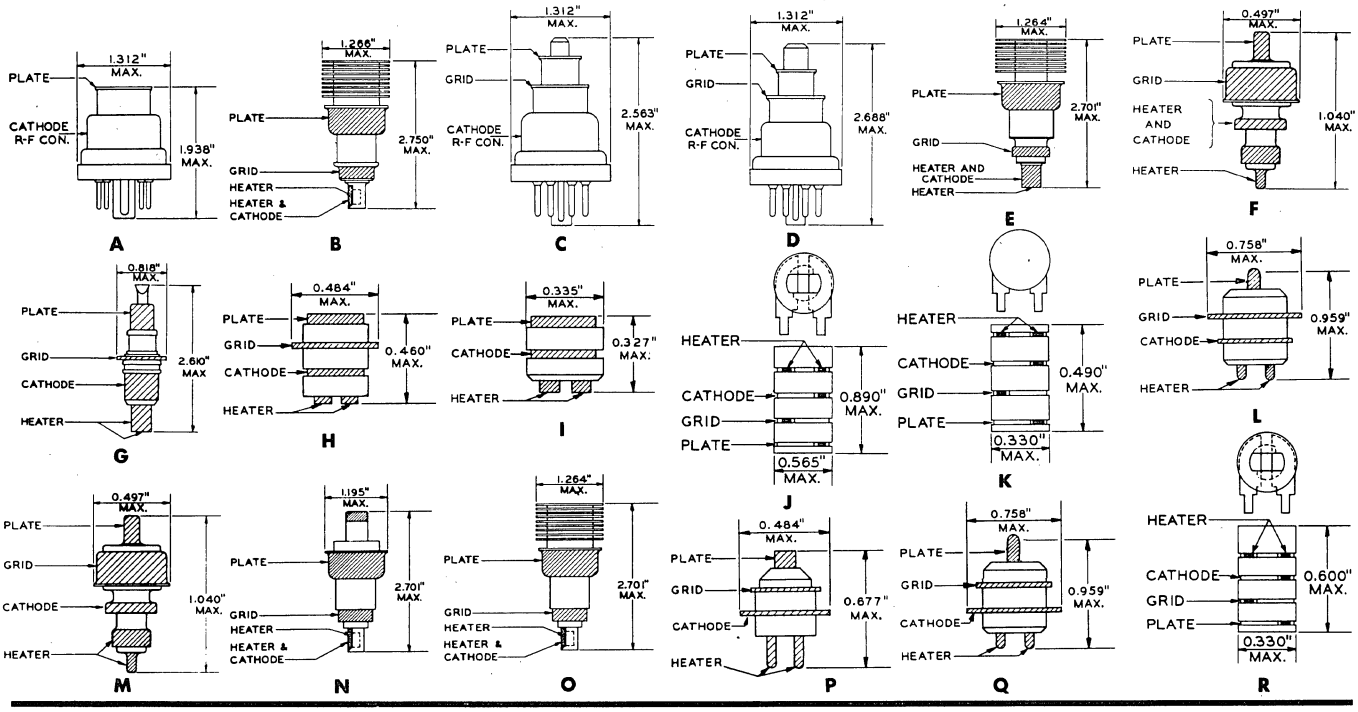
GENERAL ELECTRIC

GENERAL, MAXIMUM RATINGS — CHARTERISTIC AND TYPICAL OPERATION

TYPE	GENERAL DESCRIPTION	Outline Dwg.	Heater Volts	Heater Amps	Max. Plate Volts And Watts	Max. Grid Current ma	Max. Freq. MC (8)		Plate Volts	Neg. Grid Volts	Plate Milliamperes	Grid Milliamperes	μ	Rp, Ohms	Gm, μMhos	Gain in db	R.F. Power Output	Freq. MC
7625	Metal-ceramic triode—intended for low-level audio-frequency amplifier service.	K	6.3	0.215	275 0.85	—	—	Avg. char.	150	Rk=1,000	0.95	—	80	57,000	1,400	—	—	—
7644	Metal-ceramic triode—intended for low-noise UHF amplifier service.	F	6.3	0.3	200 2.0	—	3,000	Avg. char. Class-A radio-frequency amplifier—grounded-grid	175 300 (14) 300 (14)	(9) 0 0	10 10 10	— — —	110 — —	7,300 — —	15,000 — —	— 11 17.5	— — —	— 3,000 450
7720	Metal-ceramic triode—intended for VHF oscillator service.	K	6.3	0.24	250 1.0	2.2	500	Avg. char. Class-C oscillator	150 150	Rk=82 Rg=7,000	7.5 4.0	— 0.5	90 —	— —	10,500 —	— —	— 100MW	— 450
7768	Metal-ceramic triode—intended for UHF amplifier service.	L	6.3	0.4	330 5.5	—	3,000	Avg. char.	200	(13)	24	—	225	4,500	50,000	—	—	—
7784	Metal-ceramic triode—intended for low-noise UHF amplifier service.	M	6.3	0.3	200 2.0	—	3,000	Avg. char. Class-A radio-frequency amplifier—grounded-grid	175 (10) (10)	(9) 0 0	10 10 10	— — —	110 — —	7,300 — —	15,000 — —	— 17.5 11	— — —	— 450 3000
7815	Metal-ceramic triode—intended for UHF pulsed oscillator or amplifier service.	N	6.0 (2)		3,500	5.0	3,000	Plate-pulsed oscillator — D.F.=.003	3,500	—	3,000	3.0	—	—	—	—	2KW	2,500
7815R	Metal-ceramic triode—intended for UHF pulsed oscillator or amplifier service.	O	6.0 (2)	1.0	3,500 (5) 10 (6, 15)	5.0	3,000	Plate-pulsed oscillator — D.F.=.003	3,500	—	3,000	3.0	—	—	—	—	2KW	2,500
7841	Metal-ceramic diode — intended for detector service.	I	6.3	0.215	350 (1)	—	3,000	Signal detector	Tube voltage drop: 2.6 volts at Ib=5.0 milliamperes. Maximum DC current=55 milliamperes; maximum peak current=22 milliamperes									
7910	Metal-ceramic triode—intended for UHF plated-pulsed oscillator or amplifier service.	P	6.3	0.275	1,200 (5) 1.5 (6)	200 (6)	7,500	Avg. char. Plate-pulsed oscillator — D.F.=.001	125 1,000	Rk=82 —	11.5 600	— 200	75 —	— —	16,000 —	— —	— 100W	— 5,900
7911	Metal-ceramic triode—intended for UHF plate-pulsed oscillator or amplifier service.	Q	6.3	0.55	3,000 (5) 6.5 (6)	1,000 (6)	6,000	Avg. char. Plate-pulsed oscillator — D.F.=.001	200 3,000	Rk=100 —	23 2,500	— 300	58 —	2,300 —	25,000 —	— —	— 2.2KW	— 4,100
7913	Metal-ceramic triode—intended for UHF oscillator or amplifier service.	L	6.3	0.4	330 5.5	10	3,000	Avg. char. Class-C oscillator	200 300	Rk=47 Rg=1,500	25 25	— 5.0	100 —	2,500 —	40,000 —	— —	— 4.0W	— 400
8081	Metal-ceramic triode—intended for low-level audio-frequency amplifier service.	R	6.3	0.215	275 0.85	—	—	Avg. char.	150	Rk=1,000	0.95	—	80	57,000	1,400	—	—	—
8082	Metal-ceramic triode—intended for UHF oscillator service.	R	6.3	0.24	250 1.0	2.2	500	Avg. char. UHF oscillator	150 150	Rk=82 Rg=7,000	7.5 4.0	— 0.5	90 —	— —	10,500 —	— —	— 100MW	— 450
8083	Metal-ceramic triode—intended for low-noise VHF amplifier service.	R	6.3	0.24	250 1.1	—	500	Avg. char.	150	(12)	7.2	—	94	9,000	10,500	—	—	—

NOTES

(1) Peak inverse voltage.
(2) This is the bogey value at which average characteristics are determined. For some classes of operation a lower value may be recommended.
(3) These are the highest values listed for any class of CW operation; lower values may be indicated for some classes of CW operation. Refer to complete data sheets for this information.
(4) Adjusted for Ib=75 milliamperes.
(5) Peak voltage rating for pulse service.
(6) Pulse service.
(7) Adjusted for Ib=70 milliamperes.
(8) The frequency listed is one at which significant application data are available or expected, and does not necessarily represent an absolute frequency limit.
(9) Adjusted for Ib=10 milliamperes.
(10) Adjusted for Ib=10 milliamperes; range must be variable from 75 to 200 volts.
(11) Bypassed resistor (18k) in plate-supply lead.
(12) With Rk=910 and Eg=+6.0 volts.
(13) With Rk=270 and Eg=+6.0 volts.
(14) Bypassed resistor (17.5k) in plate-supply lead.
(15) Plate dissipation of 100 watts is permissible with forced-air cooling.



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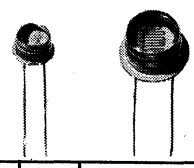
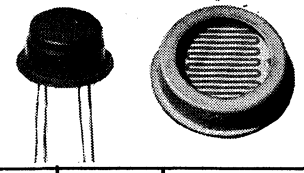
Special Devices — Photo Conductive Cells

GENERAL ELECTRIC



Reliable, hermetically sealed, or plastic encapsulated, cadmium sulfide and cadmium selenide photoconductive cells are available in a wide assortment of package sizes and electrical characteristics.

Photocell-lamp combinations consist of a photoconductive cell and an illumination source enclosed in a light tight, metal package available in an assortment of electrical characteristics.



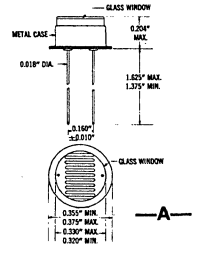
TYPE	Outline Drawing	Enclosures	Sensitive Material	Peak Spectral Response	MAXIMUM RATINGS			Resistance at 2 Footcandles — Ohms	Resistance at 20 Footcandles — Ohms	Dark Current (Maximum)	RESPONSE TIME	
					Ambient Temperature	Power Dissipation	Voltage				Turn-on Time[1] Sec.	Turn-off Time[2] Sec.
A33	A	Metal-Glass	CdS	5500A	−40 to +65C	75 MW[3]	30	6,300	1,070	100μA[4]	0.88	0.21
A33P1	B	Plastic	CdS	5500A	−40 to +65C	50 MW[10]	30	6,300	1,070	100μA[4]	0.88	0.21
A35	A	Metal-Glass	CdS	5500A	−40 to +65C	75 MW[3]	50	12,000	2,900	100μA[4]	1.0	0.28
A36M1	A	Metal-Glass	CdS	5500A	−40 to +65C	75 MW[3]	60	30,000	3,800	60μA[4]	0.089	0.005
B46	C	Metal-Glass	CdS	6100A	−40 to +80C	250 MW[5]	60	1,250	260	80μA[6]	0.75	0.57
B425	C	Metal-Glass	CdS	6100A	−40 to +65C	250 MW[3] 500 MW[7]	250	9,100	1,400	80μA[4]	0.56	0.09
B425P1	D	Plastic	CdS	6100A	−40 to +65C	200 MW[3]	250	9,100	1,400	80μA[4]	0.56	0.09
C425P1	D	Plastic	CdSe	7300A	−40 to +65C	50 MW[10]	250	15,000	1,800	50μA[4]	0.016	0.021
B430	C	Metal-Glass	CdS	6100A	−40 to +65C	250 MW[3] 500 MW[7]	300	15,000	2,500	100μA[4]	0.32	0.08
B1035M1	F	Metal-Glass	CdS	6100A	−40 to +65C	600 MW[3] 1.0 W[8]	350	12,000	1,570	400μA[9]	0.23	0.1
B1035M2	F	Metal-Glass	CdS	6100A	−40 to +65C	600 MW[3] 1.0 W[8]	350	5,500	970	400μA[9]	0.23	0.1
B1035M3	F	Metal-Glass	CdS	6100A	−40 to +65C	600 MW[3] 1.0 W[8]	350	2,750	580	1500μA[9]	0.23	0.1

NOTES

(1) The time required for current through the cell to reach 90% of its steady value upon switching from darkness to a light level of 5 footcandles.
(2) The time required for current through the cell to decrease to 10% of its steady value upon switching from a light level of 5 footcandles to darkness.
(3) This dissipation is allowable at ambient temperatures from −40 to +40C. From +40 to +65C, the allowable dissipation decreases linearly, reaching zero at +65C.
(4) Measures approximately 30 seconds after removal of illumination of two footcandles produces by a tungsten-filament source operated at a color temperature of 2854 Kelvin and at rated cell voltage.
(5) This dissipation is allowable at ambient temperatures from −40 to +40C. From +40 to +80C, the allowable dissipation decreases linearly, reaching 37 milliwatts at +80C, and going to zero above +80C.
(6) Measured approximately 20 seconds after removal of illumination of two footcandles produced by a tungsten-filament source operated at a color temperature of 2854 Kelvin; d-c polarizing voltage 12 volts.
(7) Allowable dissipation may reach 500 milliwatts with external heat-conducting bracket.
(8) For a maximum of 20 minutes at 12-hour intervals.
(9) Measured approximately 30 seconds after removal of illumination of one footcandle produced by a tungsten-filiment source operated at a color temperature of 2854 Kelvin; d-c polarizing voltage 50 volts.
(10) This dissipation is allowable at ambient temperatures from −40 to +30C. From +30 to +65C, the allowable dissipation decreases linearly, reaching zero at +65C.

OUTLINE DRAWINGS

A33 - A35 - A36M1



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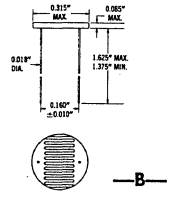
A33P1



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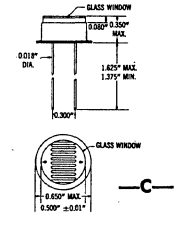
B46 - B425 - B430



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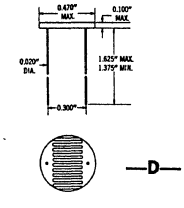
B425P1 - C425P1



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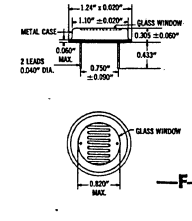
B1035M1 - M2 - M3



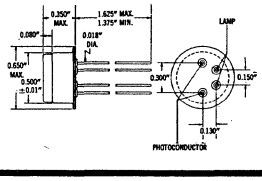
—F—

Photoconductive Cell — Lamp Combinations

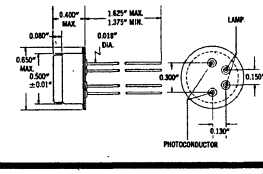
TYPE	Outline Drawing	Sensitive Material	MAXIMUM RATINGS						Cell Resistance At 20% Of Maximum Lamp Voltage — Ohms	Cell Resistance At 90% Of Maximum Lamp Voltage — Ohms	Dark Current (Maximum)
			PHOTOCONDUCTIVE CELL			LAMP					
			Ambient Temperature	Power Dissipation	Voltage	Voltage	Current[1]				
PL5B1	A	CdS	−40 to +65C	100 MW[2]	250	5.0	60 MA		40,000	260	80μA[4]
PL5C1	A	CdSe	−40 to +65C	100 MW[2]	200	5.0	60 MA		20,000	260	15μA[6]
PL5B2	A	CdS	−40 to +65C	100 MW[2]	60	5.0	60 MA		3,400	60	400μA[3]
Y-1248*	A	CdS	−40 to +65C	100 MW[2]	60	28	40 MA		2,000	30	100μA[3]
Y-1260*	A	CdS	−40 to +65C	100 MW[2]	250	28	40 MA		5,000	130	80μA[4]

NOTES

(1) Current of a bogey lamp at rated voltage.
(2) This dissipation is allowable at ambient temperatures from −40 to +30C. From +30 to +65C, the allowable dissipation decreases linearly, reaching zero at +65 C.
(3) Measured approximately 5 minutes after removal of illumination; d-c polarizing voltage 60 volts.
(4) Measured approximately 5 minutes after removal of illumination; d-c polarizing voltage 250 volts.
(6) Measured approximately 5 minutes after removal of illumination; d-c polarizing voltage 200 volts.
* Publication of these data does not obligate the General Electric Company to manufacture a device with these characteristics.



OUTLINE DRAWINGS



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Special Devices — Reed Switches

GENERAL ELECTRIC

In a relatively short period of years, the dry reed switch has begun to play an important role in performing the switching function for a wide variety of electronic/electro-mechanical equipment. Major application, now in general use, range from telephone switchgear, appliances, and data processing units to logic circuitry for industrial controls.

The General Electric reed switch capsule consists of a pair of low reluctance, magnetically actuated, flat metal reeds, hermetically sealed in an atmosphere of dry inert gas. The reeds are of equal length and are supported as cantilevers, overlapping at the center of the glass cylinder where they are separated by a small air gap, thus forming a normally opn Single Pole, Single Throw (SPST) switch.

Type[1]	Former Designation	MAXIMUM CONTACT RATING			SENSITIVITY		Maximum Initial Contact Resistance In Milliohms	Breakdown Voltage Minimum, 60 cps rms	Life Expectancy In Millions of Cycles[2]	MAXIMUM DIMENSIONS IN INCHES			Contacts And Leads
		Resistive Load	Maximum Current	Maximum Voltage	Pull-In Ampere-Turns	Drop-Out Ampere-Turns				Glass Dia. (A)	Glass Length (B)	Overall Length (C)	
MINIATURE — INERT-GAS FILLED													
DR100	IDR04	4VA	0.25A	250	43±11[3]	18±8[3]	150	300	20[4]	0.108	0.84	2.03	[5]
DR121	Y-1292	10VA	0.25A	250	43±11[3]	28±8[3]	150	300	20[4]	0.108	0.84	2.55	[6]
DR123	Y-1513	10VA	0.25A	250	35±11[3]	15±10[3]	150	300	20[4]	0.108	0.84	2.55	[6]
DR125	Y-1454	4VA	0.25A	250	35±13[3]	18±10[3]	150	300	20[4]	0.108	0.84	2.03	[5]
DR145		10VA	0.25A	250	28±10	6 Min.	150	300	20[4]	0.108	0.84	2.55	[6]
2″ — INERT-GAS FILLED													
DR101	2DR15	15VA	1.0A	250	90±15[7]	34±8[7]	50	500	20[8]	0.215	2.10	3.21	[9]
DR104	2DR15-3	15VA	1.0A	125	40±10[7]	23±7[7]	50	350	20[8]	0.215	2.10	3.21	[9]
DR113	2DR50	50VA	3.0A	250	90±15[7]	45±10[7]	50	500	20[15]	0.215	2.10	3.21	[18]
2″ — VACUUM													
DRV120	2VR15	—	3.0A[16]	5000[16]	113±20[17]	52±10[17]	50	7000	—	See Drawing			
FORM C													
DR138		5VA	0.25A	250	90±20	32±15	50	350	20	See Drawing			

NOTES

(1) All switches use single-pole, single-throw, normally open, Form A contact arrangements. With the exception of type DRV120, which is a vacuum switch, all switches are filled with inert gas at an internal pressure ½ atmosphere

(2) Some degradation or improvement in performance may be expected at operating conditions other than those specified.

(3) Sensitivity measured using a 6300 turn coil of #41 wire wound on a 0.8″ long bobbin approximately 0.17″ in diameter.

(4) Full load, 25 volts d-c, 60 operations per second at H.V.A.

(5) Diffused gold contacts with gold-plated leads.

(6) Rhodium-plated contacts with gold-plated leads.

(7) Sensitivity measured using a 10,000 turn coil of #39 wire wound on a 2.0″ long bobbin approximately 0.25″ in diameter.

(8) Full load, 50 volts d-c, 60 operations per second.

(9) Diffused gold contacts with both leads tinned.

(12) Sensitivity measured using a 10,000 turn coil of #36 wire wound on a 1.750″ long bobbin approximately 0.330″ in diameter.

(13) Nominal center-to-center of bent leads.

(14) Diffused gold contacts with both leads tinned and bent on 90° angle.

(15) Full load, 125 volts d-c, 60 operations per second.

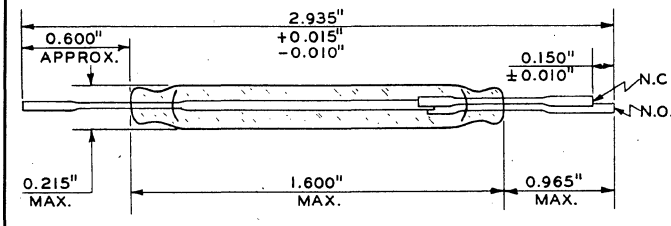
(16) The voltage rating is a "hold-off" value, and the current rating is a measure of the current the contacts will carry but not switch. Maximum permissible switching currents are to be determined.

(17) Sensitivity measured using a 5,700 turn coil of #36 wire wound on a 2.0″ long bobbin having an oval cross-section of approximately 0.5″ x 0.28″.

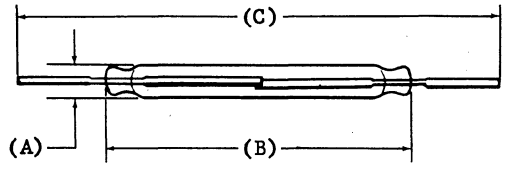
(18) Rhodium-plated contacts with both leads tinned.

OUTLINE DRAWING

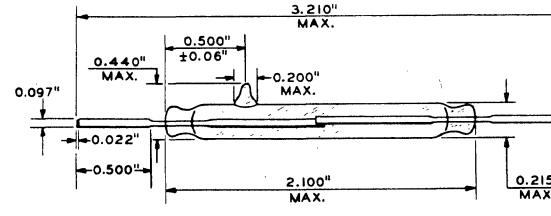
DR138



GAS-FILLED



VACUUM



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Special Devices—Tungar Bulbs

GENERAL ELECTRIC

The Tungar bulb developed by General Electric in 1916—and used for rectification of a-c to d-c is well known wherever battery charging or similar applications require d-c power.

CATALOG NUMBER	12X825 206501†	20X672	16X897	45X674	99X44	189048 (RTMA) Type 4B28	189049 (RTMA) Type 4B26	217283 (RTMA) Type 5B21	76X13	99X45
TYPE	Argon Half-wave	Mercury Argon Half-wave	Mercury Argon Full-wave	Mercury Argon Full-wave	Mercury Argon Half-wave	Argon Half-wave	Argon Half-wave	Argon Half-wave	Mercury Argon Half-wave	Mercury Argon Half-wave
MAXIMUM RATINGS — ABSOLUTE VALUES										
Maximum peak inverse anode voltage	275	90	1000	1000	105	300	375	225	275	110
Maximum anode current:										
Average amperes — in phase operation	2	5	2	6	10	6	6	15	20	20
Peak amperes — in phase operation	12	30	12	36	36	36	36	90	120	120
Maximum d-c output, average volts	75	20	250	250	25	60	90	60	75	25
Maximum temperature measured at tube base	100 C	130 C	90 C	90 C	160 C	100 C	100 C	100 C	160 C	160 C
GENERAL DESIGN										
Number of electrodes	2	2	3	3	2	2	2	2	2	2
Catalog Number of socket	278768	3778926	5556072G1	5556072G1	217967	217967	217967	217967	217967	217967
Cathode, thoriated tungsten filament*:										
Maximum volts	2.1	2.1	2.625	2.625	2.31	2.31	2.31	2.625	2.73	2.73
Minimum volts	1.9	1.9	2.375	2.375	2.09	2.09	2.09	2.375	2.47	2.47
Filament current — Amperes (approx.)	12	12	10	18	17.5	17	17	25	32	32
Pre-heating time — Seconds	0[1]	0[2]	300[3]	300[3]	0[2]	0[1]	0[1]	15[4]	180[3]	15[3]
Anode voltage drop (Arc Drop):										
Maximum volts	9.5	9	20	18	10.5	10	11	9	15	10
Design standard, volts	7.5	6	9	9	6	7	7.5	7.5	6.5	7.5
Critical anode voltage (pick-up):										
Hot	15	6	20	20	6	15	16	16	6	6
Cold	15	11	24	20	11	15	16	16	12	12
Type of cooling	Radiation	Radiation	Radiation	Radiation	Radiation	Radiation	Radiation	Radiation	Radiation	Radiation
Mouting position	Any	Vertical—Base Down	Vertical—Base Down	Vertical—Base Down	Vertical—Base Down	Any	Any	Any	Vertical—Base Down	Vertical—Base Down
DIMENSIONS AND WEIGHTS										
Net weight in ounces	2	3	3	4½	4	4	4	5½	6½	6½
Standard carton quantity	12	12	12	12	12	12	12	12	12	12
Shipping weight in pounds per carton	8	8	8	7½	7½	7½	7½	26	26	26
Maximum length in inches	4¼	4⅝	6	7½	7	7	7	8¾	9½	9½
Maximum diameter in inches	2 3/16	2 3/16	2 3/16	3 3/16	3 3/16	3 3/16	3 3/16	3⅞	3⅝	3⅝

NOTES

* Except for Cat. Nos. 16X897 and 45X674 which have coated filaments.

† Cat. No. 206501 is identical to Cat. No. 12X825 except that it is fitted with an adapter to take a clip anode lead and fits a standard Edison socket.

[1] Under normal ambient temperature conditions, this tube will deliver 90 percent of full output within three seconds after the simultaneous application of anode and filament voltages. Longer tube life can be obtained by applying anode voltage 1 to 3 seconds later than the filament voltage

[2] Under normal ambient temperature conditions, this tube will deliver 80 percent of full output within three seconds after the simultaneous application of anode and filament voltages. Longer tube life can be obtained by applying anode voltage 1 to 3 seconds later than the filament voltage

[3] The preheating time listed must be respected and filament excitation must be continuous if guarantees are to apply. When first installed in a new location, this tube should be operated for 10 minutes with filament voltage only.

[4] Full output can be obtained as soon as power is applied to the anode after preheating time. The recommended tube preheating time must be respected and filament excitation must be continuous if guarantees are to apply.

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Electrons Industrial Components

TYPE	OTHER DESIGNATIONS	DESCRIPTION	MAX. CONTINUOUS AVERAGE DC ANODE CURRENT (AMPS)	OSCILLOGRAPH PEAK ANODE CURRENT CONTINUOUSLY RECURRING (AMPS)	MAX. INSTANTANEOUS PEAK FORWARD VOLTAGE	MAX. INSTANTANEOUS PEAK INVERSE VOLTAGE
RECTIFIERS Xenon-Filled						
EL 1C	3B22	Full Wave. A4-10 Base. Single End.	1.0	4.0		725
EL 3B	6013	Half Wave A4-10 Base. Anode Cap.	2.5	20		920
EL 3C	4B24	Full Wave. A4-81 Base. Single End.	2.5	10		725
EL 3C/L	6982	Full Wave. Lug Type Base. Single End.	2.5	10		725
EL 6B	5892	Half Wave. A4-81 Base. Anode Cap.	6.4	77		920
EL 6B/L	6983	Half Wave. Lug Type Base. Anode Cap.	6.4	77		920
EL 6C		Full Wave. A4-81 Base. Single End.	6.4	25.6		725
EL 6F	6015	Half Wave. Panel Mounted. Flexible Leads	6.4	77		920
EL 16F		Half Wave. Panel Mounted. Flexible Leads	16.0	96		620
THYRATRONS						
EL C1B	3C31	A4-10 Base. Anode Cap. Xenon	1.0	8.0	525	700
EL C1B/A	5664	A4-10 Base. Anode Cap. Xenon	1.0	8.0	750	1250
EL C1K	6014	A4-10 Base. Single End. Xenon	1.0	8.0	1000	1250
EL C1K/B	7319	A4-10 Base. Single End. Xenon	1.0	8.0	2000	2000
EL C3J	5632	A4-10 Base. Anode Cap. Xenon	2.5	30	900	1250
EL C3J/A	5684	A4-10 Base. Anode Cap. Xenon	2.5	30	1000	1250
EL C3J/L	7216	Lug Type Base. Anode Cap. Xenon	2.5	30	900	1250
EL C3J/AL	7556	Lug Type Base. Anode Cap. Xenon	2.5	30	1000	1250
EL C4H-1		A4-81 Base. Anode Cap. Xenon	4.0	50	1700	1700
EL C4H-2		Panel Mounted. Anode Cap. Xenon	4.0	50	1700	1700
EL C4H-3		Lug Type Base. Anode Cap. Xenon	4.0	50	1700	1700
EL C4H-4		Panel Mounted. Flexible Leads. Xenon	4.0	50	1700	1700
EL C4H-5		Lug Type Base. Flexible Lead. Xenon	4.0	50	1700	1700
EL C6C	6987	#4310 Base. Anode Cap. Xenon	6.4	77	2000	4000
EL C6H-1		A4-81 Base. Anode Cap. Xenon	6.4	80	1700	1700
EL C6H-2		Panel Mounted. Anode Cap. Xenon	6.4	80	1700	1700
EL C6H-3		Lug Type Base. Anode Cap. Xenon	6.4	80	1700	1700
EL C6H-4		Panel Mounted. Flexible Leads. Xenon	6.4	80	1700	1700
EL C6H-5		Lug Type Base. Flexible Lead. Xenon	6.4	80	1700	1700
EL C6J	5C21	A4-81 Base. Anode Cap. Xenon	6.4	77	750	1250
EL C6J/A	5685	A4-81 Base. Anode Cap. Xenon	6.4	77	1000	1250
EL C6J/F	6860	Panel Mounted. Anode Cap. Xenon	6.4	77	1000	1250
EL C6J/L	6988	Lug Type Base. Anode Cap. Xenon	6.4	77	750	1250
EL C6J/K	6864	A4-81 Base. Anode Cap. Xenon	6.4	77	1000	1250
EL C6J/KF	6871	Panel Mounted. Flexible Leads. Xenon	6.4	77	1000	1250
EL C6J/KL	6989	Lug Type Base. Anode Cap. Xenon	6.4	77	1000	1250
EL C16J	5665	Panel Mounted. Flexible Leads. Xenon	16.0	160	1000	1250
EL C16H		Panel Mounted. Flexible Leads. Xenon	16.0	160	1700	1700
EL 6011/710	7307A	A4-10 Base. Anode Cap. Mercury Gas	2.5	30	1700	1700
EL 7518/710L	7509A	Lug Type Base. Anode Cap. Mercury Gas	2.5	30	1700	1700

GAS GAP SURGE ARRESTERS (G_2SA)

TYPE		DESCRIPTION	APPLICATION AC LINE VOLTS
EL RP-100		G_2SA w/indicator. Mounts in 30 amp cartridge fuse clip. Max. supply 1 KVA.	120
EL RP-101		G_2SA w/indicator. Mounts in 30 amp cartridge fuse clip. Max. supply 2 KVA.	120
EL RP-600		G_2SA w/indicator. Mounts in 30 amp cartridge fuse clip. Use only in series with varistor.	600
EL P-1000		Complete 3ϕ system protector in conduit connected box. Max. supply 2 KVA.	120
EL P-1001		Complete 3ϕ system protector in conduit connected box w/series varistors 100 KVA.	120
EL 2140		A4-10 Base 3 Electrode	120
EL 2175		A4-10 Base 3 Electrode	480

ELECTRONS COMPANY

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HEINTZ AND KAUFMAN LTD SINCE 1927

Type	Resale Price
0A2	1.30
0A2WA	3.30
0A3	1.54
0B2	1.35
0B2WA	2.30
0B3	2.30
0C3	1.45
0C3W	5.90
0D3	1.39
0D3W	5.90
0G3	2.30
1AD4	2.75
1AH4	2.22
1AJ5	3.50
1B22	42.50
1B23	19.50
1B24A	32.00
1B26	55.00
1B29	14.00
1B32	18.00
1B35	8.50
1B35A	8.80
1B36	40.00
1B37	8.00
1B37A	9.25
1B38	80.00
1B40	16.00
1B41	66.00
1B44	41.00
1B45	52.00
1B46	16.00
1B51	20.20
1B53	25.00
1B58A	79.00
1B59	19.00
1B63A	22.50
1P30	5.25
1P39	2.75
1P40	3.90
1P41	4.75
1Q22	38.00
1Q23	42.00
1Z2	9.88
2AC15	11.00
2AP1A	19.40
2AS15	10.50
2AS15A	10.50
2B22	27.25
2B23	57.20
2B24	5.75
2BP1	29.75
2C26	6.50
2C26A	7.00
2C36	69.00
2C37	69.00
2C39A	19.90
2C39B	27.50
2C39WA	19.95
2C40	27.50
2C40A	33.00
2C42	25.00
2C43	26.50
2C44	18.00
2C46	28.20
2C50	9.66
2C51	3.25
2C52	4.80
2C53	11.80
2D21	1.22
2D21W	2.75
2E22	8.25
2E26	3.95
2E27	2.22
2J25	244.00
2J26	124.00
2J27	124.00
2J28	244.00
2J31	110.00
2J32	110.00
2J33	110.00
2J34	110.00
2J36	110.00
2J36A	140.00
2J37	125.00
2J38	155.00
2J39	155.00
2J40	155.00
2J41	207.00
2J42	119.00
2J48	100.00
2J49	150.00
2J50	160.00
2J51A	425.00
2J55	204.00
2J56	198.00
2K25	41.00
2K26	64.00
2K28	85.00
2K39	350.00
2K41	375.00
2K45	86.00
2K48	97.00
2K50	470.00
2SM15	12.00
2X2A	3.25
3A4	1.25
3A5	2.03
3ACP7A	39.45
3ACP11	38.75
3ADP1	60.00
3AQP1	30.00
3B4	2.94
3B22	9.98
3B24W	9.00
3B24WA	9.85
3B24WB	10.50
3B25	Use 3B28
3B28	6.85
3B29	10.00
3B29W	16.00
3BP1A	30.00
3C22	89.70
3C23	8.25
3C24	16.00
3C27	81.20
3C45	19.75
3C45W	41.00
3CX100A5	26.00
3D21WA	23.20
3D21WB	93.00
3DP1	28.00
3DP1A	32.00
3JP1	26.50
3JP2	30.00
3JP12	32.00
3KP1	28.90
3MP1	27.00
3RP1	18.30
3RP1A	30.20
3RP7A	31.60
3WP1	38.40
4-65A	25.00
4-125A	35.50
4-250A	42.00
4-400A	47.00
4B23	19.00
4B24	11.50
4B26	7.00
4B28	7.00
4B31	21.70
4B32	9.90
4B35	5.50
4C22/HF100	29.80
4C27	22.00
4C28	22.00
4C35	36.00
4C35A	36.70
4CX250B	35.60
4CX250R	44.00
4D21	35.50
4D32	72.00
4E27	42.00
4J52A	385.00
4MP1	69.00
4PR60B	107.00
4X150D	29.00
4X250B	33.70
4X250F	38.00
5A6	6.50
5ADP7	48.00
5BP1	32.00
5BTP1	49.00
5C22	36.00
5C24	52.50
5CP7A	31.00
5CP11A	31.00
5D21	38.00
5DEP1	32.00
5FP7	25.00
5FP14	25.00
5FP15A	35.00
5J26	495.00
5JP1	42.50
5JP1A	60.00
5JP2	42.50
5LP1	38.00
5MP1	38.00
5R4WGA	7.90
5R4WGB	12.70
5R4WGY	6.15
5RP11A	135.00
5UP1	23.80
5WP15	83.00
5Y3WGTA	3.75
5Y3WGTB	5.75
5YP1	54.00
6AC7W	4.44
6AG5WA	Use 6186/6AG5WA
6AH6WA	6.40
6AJ5	3.40
6AK4	2.22
6AK5W	2.25
6AL5W	1.33
6AN5	4.14
6AN5WA	9.20
6AN6	3.40
6AR6	5.25
6AS6	3.33
6AS7G	4.93
6AU6WA	2.65
6AU6WB	2.70
6B4G	9.15
6BA5	5.90
6BA6W	Use 5749/6BA6W
6BE6W	Use 5750/6BE6W
6BF7	2.00
6BF7W	4.12
6BL6	84.00
6BM6	84.00
6BM6A	84.00
6C21	90.00
6D4	2.83
6H6WGT	6.00
6J4	3.75
6J4WA	4.20
6J6WA	4.85
6L6WGA	Use 5932/6L6WGA
6L6WGB	3.75
6Q5G	6.00
6SA7WGT	7.90
6SG7Y	3.15
6SK7WA	2.95
6SL7WGT	3.12
6SN7WGT	2.35
6SN7WGTA	4.75
6SU7GTY	3.75
6SU7WGT	Use 6188
6X4W	1.58
6X4WA	2.85
7AK7	8.00
7BP7	40.00
7C29	208.50
10KP7A	64.45
10SP4	72.00
12AT7WA	Use 6201/12AT7WA
12AU7WA	Use 6189/12AU7WA
12AY7	2.40
12E1	11.25
12SX7GT	2.40
12SY7	2.65
15E	15.00
16ADP7	87.00
25T	26.50
25TG	19.00
26A6	3.65
26A7GT	6.15
26C6	3.05
26D6	3.05
26E6WG	28.10
26Z5W	3.25
28D7	4.75
28D7W	9.90
35T	31.00
35TG	30.00
53	11.40
72	6.50
83	1.89
100R	16.00
100TH	23.25
100TL	23.25
120	32.00
T-160L	22.50
203	15.00
203WA	46.00
206	9.90
211	17.20
211D	26.70
211W	44.00
213A	13.20
217C	24.00
221B	Use 371B
242C	53.00
249B	17.00
249C	12.50
250R	40.00
250TH	39.80
250TL	39.80
254W	Use HK254W
272A	30.00
274A	8.35
274B	9.00
275A	17.00
279A	640.00
300B	23.00
307A	7.80
310A	12.00
311CH	43.00
311CT	46.00
311T	46.00
313C	4.52
313CA	5.67
313CB	6.30
313CC	4.97
316A	10.75
323A	Use 323B
323B	8.40
328A	7.75
329A	7.50
336A	14.00
337A	9.50
339A	48.00
346C	6.23
348A	8.20
349A	13.20
350A	14.75
350B	15.72
353A	6.08
355A	24.00
368AS	9.00
371B	12.71
374A	13.00
376C	13.26
393A	9.75
394A	9.95
404A	9.40
407A	5.80
408A	4.90
409A/6AS6	5.55
412A	11.15
413B	9.94
415A	5.60
416B	72.00
417A	8.00
418A	25.00
420A	16.50
421A	23.00
422A	23.00
423A/6140	11.00
429A	17.00
430B	5.40
437A	58.70
468	35.00
502A	Use 2050A
543	49.00
545	88.00
549	58.80
554	88.00
558	53.00
561	79.00
572B	20.00
575A	18.00
576A	26.00
577	20.75
577W	53.00
578	17.00
582	37.00
583	15.00
589	88.00
593	46.00
596	34.50
631-P1	7.30
673	23.60
701A	23.50
703A	10.00
705A	21.00
705WA	57.00
707B	34.00
713A	8.00
715A	20.00
715B	28.50
715C	43.80
717A	7.90
719A	123.00
721B	44.40
722A	16.90
723A/B	43.50
724A	13.50
724B	14.00
725A	205.00
726A	43.00
726B	49.00
726C	72.00
801A	11.90
803	42.50
805	25.50
807	3.10
808	12.25
809	11.00
810	25.50
811A	6.50
811AW	9.75
812A	6.50
812AW	8.80
812HD	16.50
813	24.25
814	21.40
815	25.00
816	4.00
826	39.00
829B	19.75
830B	15.50
832A	16.50
836	13.80
836A	17.50
837	15.50
838	20.00
838W	47.00
843	4.00
845	27.00
845W	47.00
851	625.00
852	26.20
860	74.00
861	137.50
864	3.75
865	7.75
866A	2.60
866JR	3.75
868	4.50
872A	9.85
873	17.17
874	3.50
876	5.25
878	17.00
917	8.10

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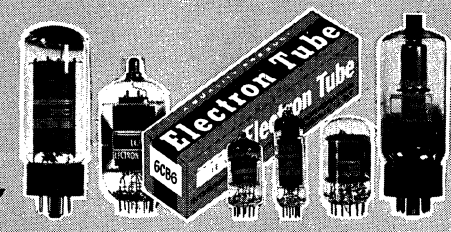
INDUSTRIAL, SPECIAL PURPOSE AND MICROWAVE TUBES

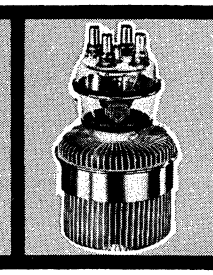
Type	Resale Price
918	4.65
922	3.75
923	3.88
927	4.15
928	11.30
929	2.40
930	3.90
934	5.25
935	12.60
949A	240.00
954	3.90
955	5.90
956	9.90
957	7.90
958A	11.90
959	11.90
966	8.50
967	Use FG 17
972A	15.00
973	21.90
1236C	13.00
1258	39.17
1274	4.50
1603	7.20
1611	2.95
1612	5.77
1613	3.30
1614	4.93
1616	9.85
1619	5.00
1620	7.55
1621	3.85
1622	5.35
1624	7.50
1625	3.60
1626	3.38
1629	1.85
1630	2.90
1631	3.15
1635	3.80
1636	4.50
1641	8.50
1654	5.60
2033	4.95
2050	2.35
2050A	2.05
2050W	6.35
2051	2.27
2399	17.72
4415E	1666.66
4492	1444.44
4536	1888.88
5517	3.25
5557/FG17	9.25
5558/FG32	17.50
5559/FG57	24.50
5581	4.00
5583	5.70
5608A	11.40
5632	15.05
5636	6.00
5639	4.55
5639A	4.85
5641	5.90
5642	3.85
5643	5.25
5646	12.35
5647	7.50
5650	Use 5981-5650
5651	1.78
5651WA	3.50
5653	3.00
5654/6AK5W	2.25
5654/6AK5W/6096	2.30
5656	15.90
5663	2.10
5670	2.11
5670WA	2.30
5672	2.25
5676	3.00
5678	2.25
5679	6.60
5680	190.00
5685/C6JA	31.00
5686	3.30
5687	3.00
5687WA	4.50
5691	8.75
5692	7.80
5693	6.49
5696	1.85
5702	3.88
5702WA	5.95
5702WB	8.10
5703WA	6.08
5703WB	8.20
5704	4.75
5718	3.65
5719	2.50
5719A	2.75
5721	100.00
5722	9.50
5725/6AS6W	3.05
5725/6AS6W/6187	3.15
5726/6AL5W	1.35
5726/6AL5W/6097	1.38
5727/2D21W	2.44
5736	195.00
5744	2.75
5744WA	6.66
5749/6BA6W	2.10
5750/6BE6W	3.45
5751	2.50
5751WA	2.40
5755/420A	8.65
5763	2.33
5767	80.00
5768	80.00
5780	895.00
5783	3.65
5783WA	5.85
5783WB	7.80
5784	4.35
5784WA	8.90
5784WB	13.33
5787	4.80
5787WA	4.86
5789	895.00
5796	19.15
5814	2.00
5814A	2.25
5814WA	2.28
5820A/L	1666.66
5823	1.70
5829	4.15
5829WA	6.66
5836	85.00
5837	85.00
5840	5.05
5840A	5.35
5842/417A	7.25
5845	9.50
5846	67.75
5847/404A	8.75
5851	9.00
5852	6.10
5863	60.00
5864	48.40
5875	2.50
5876	7.50
5876A	6.90
5881	3.50
5886	5.00
5894	24.00
5896	3.05
5899	5.05
5902	4.44
5902A	4.66
5903	6.75
5904	6.50
5905	7.25
5906	7.45
5906A	7.69
5908	9.00
5910	2.50
5915	1.60
5916	9.00
5922	38.38
5927	74.40
5930	4.75
5931	6.60
5932/6L6WGA	7.75
5933/807W	11.45
5933WA	16.25
5939	32.00
5939A	35.35
5948/1754	180.00
5949/1907	110.00
5956	64.00
5957	64.00
5960	31.50
5962	8.20
5963	1.29
5964	1.52
5965	1.88
5977	5.25
5977A	5.38
5979/BS1	40.00
5980/BS2	15.60
5981/5650	218.00
5992	6.10
5993	11.25
5998	11.50
6005/6AQ5W	3.15
6005/6AQW/6095	3.25
6014/C1K	11.80
6021	3.00
6021A	3.45
6028	4.90
6032	140.00
6038	11.25
6044	25.00
6045	5.95
6072	3.50
6073/0A2	3.00
6074/0B2	3.45
6080	4.95
6080WA	9.95
6080WB	20.00
6082	5.25
6084	3.65
6085	5.00
6088	3.05
6094	21.21
6095	3.25
6096	2.30
6097	1.38
6098/6AR6WA	12.20
6099	5.50
6100/6C4WA	2.50
6101/6J6WA	5.35
6106	6.44
6110	7.55
6111	3.50
6111A	3.60
6112	4.00
6112A	4.25
6116	60.00
6117	85.00
6130	19.75
6134/6AC7WA	5.95
6136/6AU6WA	2.60
6140/423A	11.00
6146	4.80
6146B/8298A	5.10
6155	36.00
6156	42.00
6159	4.80
6161	117.00
6163	36.66
6186/6AG5WA	3.75
6187	3.15
6188/6SU7WGT	7.20
6189/12AU7WA	3.45
6197	2.20
6198A	Use 7325
6201/12AT7WA	2.50
6202/6X4WA	2.69
6205	5.25
6211	1.85
6216	4.15
6227	3.50
6229	310.00
6236	115.00
6236A	125.00
6245	7.50
6247	10.22
6247WA	17.77
6252	25.00
6268	39.75
6278	40.90
6279	44.40
6303	78.00
6303A	94.00
6310	140.00
6312	170.00
6314	195.00
6326A	510.00
6327	23.50
6336	16.80
6336A	18.00
6336B	33.33
6339	35.00
6350	1.85
6360	4.75
6390	125.00
6390A	135.00
6414	3.60
6418	3.20
6442	38.00
6478	17.77
6481	O.R.
6503	97.00
6510/4J52A	345.00
6528	21.55
6533	12.00
6543	615.50
6550	4.95
6688	7.85
6689	4.00
6763	4.00
6788	10.85
6814	4.90
6832	18.50
6855	16.75
6856	20.80
6857	22.50
6858	28.10
6859	31.80
6864	33.00
6888	4.00
6895	19.25
6901	14.70
6922	4.70
6939	10.90
6871	34.50
6940	85.00
6977	2.50
7006	1388.00
7008	1010.00
7025	1.30
7034	23.00
7035	29.00
7038	170.00
7077	39.05
7159	87.00
7203	35.60
7226	298.00
7241	59.00
7242	65.00
7289	26.00
7293A/L	1666.66
7293B	1666.66
7295B	1333.33
7295B/L	1666.66
7295C	1777.77
7308	5.20
7310	57.00
7325	185.00
7327	10.65
7336	510.00
7360	3.75
7389C	1777.77
7402	90.00
7410	15.00
7513C	1666.66
7513/L	1666.66
7522	17.80
7580W	Use 4CX150R
7629A	1654.54
7722/E280F	8.00
7735A	165.65
7737	6.90
7788	9.75
8000	31.50
8002	510.00
8002R	425.00
8008	9.50
8008XE	14.00
8012	18.50
8013	12.00
8013A	17.00
8014A	50.00
8020	16.00
8020W	18.95
8025	15.55
8093A/L	1666.66
8165	2700
8252	107.00
8298A	Use 6146B
8370	95.00
8480	O.R.
8484	185.00
8485	255.00
8507	200.00
8673	1666.66
8674	1666.66
8748	1777.77
8749	1777.77
8775	1666.66
9001	5.31
9002	3.52
9003	5.33
9004	2.94
9005	7.80
9006	2.60
CIA	13.50
CIK	11.80
C3P14	27.50
C3R14	28.50
C6J/5C21	28.10
C6M	16.00
CV11	18.88
F124A	1200.00
FP265	60.00
G10/241E	30.00
GC10/4B	13.50
GC10B	12.50
GC10B/L	13.50
GC10B/S	13.70
GC10D	15.65
GC12/4B	15.60
GR10 Series	O.R.
GR12 Series	O.R.
GS10C/S	15.45
GS10D	17.25
GS10H	11.25
GS12D	18.25
HF100	34.00
HF200	37.50
HF300	41.50
HK24	25.00
HK24G/3C24	16.00
HK54	34.80
HK72/RK72	6.00
HK220/72	9.00
HK253	47.00
HK254W	39.80
KU17	59.50
KU23	39.90
KU610	25.00
KY21A	29.50
PL177A	29.00
R1130B/1B59	22.22
RX21A	21.70
SR554	82.00
SG339	82.00
SGR-1	39.50
SS501	26.50
UH50	35.00
UXCV11	22.50
V70D	32.00
VT158	278.60
X13	315.00
X80	78.00

HEINTZ AND KAUFMAN LTD SINCE 1927

HEINTZ AND KAUFMAN LTD SINCE 1927

IEC Electron Tubes For Entertainment and Industry





IEC SERVICE RANGE

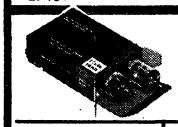
A large selection of the most popular receiving tubes for the U.S. service dealer renewal market.

TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE	TUBE TYPE
1AD2	6AL11	6EM7	6JN6	12CU5/
1B3GT/	6AN8A	6ER5	6JS6A	12C5
1G3GT	6AQ5A/	6EW6	6JT8	12DQ6B/
1K3/1J3	6HG5	6FG7	6JU8A	12GW6
1V2	6AQ8	6FH5	6K6GT	12DT8
1X2B/	6AT6	6FQ7/	6KA8	12FQ7
1X2A	6AT8	6CG7	6KZ8	12GN7A
2AF4B/	6AU4GTA	6GC5	6KD8/	13GF7
2DZ4	6AU6A	6GF7A	6U8A	15BD11
2AV2	6AU8	6GG8A	6KE8	15CW5
3A3/3B2	6AV6	6GL8A	6L6GB	15KY8/
3AL5	6AW8A	6GM7	6L6GC	17LD8
3AT2	6AX4GTB	6GQ8	6LM8	16GY5
3BN6	6AY3B	6GS6	6S4A	17AY3A
3BY6	6B10	6CW5	6SN7GTB	17BE3/
3BZ6	6BA6	6CZ5	6T8A	17BZ3
3CA3	6BG6GA	6CY5	6T10	17BF11
3CB6/	6BH6	6DA6	6U8A/	17BS3
3CF6	6BJ8	6DE6	6KD8	17BZ3/
3CS6	6BK4B	6DJ8	6V6GTA	17BE3
3DT6A	6BK7B	6DK6	6W6GT	17CU5/
3GK5	6BL7GT	6DQ6B/	6X8A	17C5
3GS8/	6BL8	6GW6	7AU7	17DM4A
3BU8	6BM8	6DT6A	7GS7	17DQ6B/
3HQ5	6BN6	6GH8A/	8AW8A	17GW6
4AU6	6BN8	6EA8	8B10	17EW8
4BL8	6BQ5	6GJ7	8BQ5	17JZ8
4BQ7A/	6BQ6GTB/	6GK5/	8CG7/	21GY5
4BZ7	6CU6	6FQ5A	8FQ7	21JZ6
4DT6A	6BQ7A/	6GK6	8JV8	22BH3
4EH7	6BZ7	6GM6	9A9/8A8	23Z9
4EJ7	6BR8A	6GU7	10CW5	25C5
4HA5	6BS8	6GX6	10DE7	25CD6GB
4HQ5	6BZ6	6GY6	12AD6	25EH5
5AM8	6BZ7/	6HB7	12AL5	25L6GT
5AN8	6BQ7A	6HF8	12AT6	33GY7
5AQ5	6C4	6HG8	12AT7	35C5
5BK7A	6CB6A/	6HM5/	12AU7A	35EH5
5GS7	6CF6	6HA5	12AV6	35L6GT
5T8	6CD6GA	6HQ5	12AV7	35W4
5U4GB	6DW4B	6HS8	12AX4GTB	35Z5GT
5U8	6DX8	6HZ6	12AX7A	38EH7
5V3A	6EA8/	6J6A	12AZ7A	50C5
6AF4A/	6GH8A	6JC6	12BA6	50EH5
6DZ4	6EB8	6JD6	12BE6	50L6GT
6AK5	6EH7	6JE6A	12BH7A	7025A
6AL3	6EJ7	6JH6	12BY7A	7189
6AL5	6EM5	6JM6		7247/
				12DW7

IEC MULLARD RECEIVING TUBES

Universally recognized and preferred for • Hi Fidelity • Stereo • Foreign Replacement

TUBE TYPE	CROSS REF.	TUBE TYPE	CROSS REF.	TUBE TYPE	CROSS REF.
DAF96	1AH5	EF80	6BX6	LFL200	11Y9
DK91	1R5	EF85	6BY7	LL86	10CW5
DL98	3B4	EF86	6267	LY88	20AQ3
DM70	1M3	EF89	6DA6	PABC80	9AK8
DY87	1S2A	EF91	6AM6	PC900	4HA5
EABC80	6AK8	EF92	6CQ6	PCC85	9AQ8
EB91	6AL5	EF93	6BA6	PCC88	7DJ8
EBC33		EF94	6AU6	PCF80	9A8
EBC41	6CV7	EF95	6AK5	PCF82	9U8
EBC81	6BD7A	EF183	6EH7	PCF200	8X9
EBC90	6AT6	EF184	6EJ7	PCF201	8U9
EBF80	6N8	EL34	6CA7	PCF801	8GJ7
EBF89	6DC8	EL37		PCH200	9V9
EC88	6DL4	EL84	6BQ5	PCL82	16A8
EC92	6AB4	EL86	6CW5	PCL84	15DQ8
EC97	6FY5	EL90	6AQ5	PCL85	18GV8
EC900	6HA5	EL95	6DL5	PCL86	14GW8
ECC81	12AT7	EL500	6GB5	PL36	25E5
ECC82	12AU7	EM34	6CD7	PL84	15CW5
ECC83	12AX7	EM81	6DA5	PL500	27GB5
ECC85	6AQ8	EM84	6FG6	PY81	17Z3
ECC86	6GM8	EM87	6HU6	PY88	30AE3
ECC88	6DJ8	EY88	6AL3	UCC85	
ECC189	6ES8	EZ80	6V4	UCH81	19D8
ECF80	6BL8	EZ81	6CA4	UCL82	50BM8
ECF82	6U8	EZ90	6X4	UL84	45B5
ECF86	6HG8	GZ34	5AR4	UY85	38A3
ECF200	6X9	HCC85	17EW8	XCF80	4BL8
ECF201	6U9	LC900	3HA5	XCF801	4GJ7
ECF801	6GJ7	LCF80	6LN8	XL84	8BQ5
ECH81	6AJ8	LCF86	5HG8	XL86	8CW5
ECH200	6V9	LCF200	5X9	XL500	13GB5
ECL80	6AB8	LCF201	5U9	XY88	16AQ3
ECL82	6BM8	LCF801	5GJ7	7025A	
ECL85	6GV8	LCF802	6LX8	7189A	
ECL86	6GW8	LF183	4EH7	7247	12DW7
EF40		LF184	4EJ7		



IEC MATCHED PAIRS

For the most complete range for optimum performance.
• Laboratory Balanced

TUBE TYPE	CROSS REF.	TUBE TYPE	CROSS REF.	TUBE TYPE	CROSS REF.
ECL82MP	6BM8MP	EL90MP	6AQ5MP	UL84MP	45B5MP
ECL86MP	6GW8MP	EL95MP	6DL5MP	7189MP	
EL34MP	6CA7MP	KT66MP		**KT SERIES**	
EL37MP		KT77MP		TUBE TYPE	
EL84MP	6BQ5MP	KT88MP		KT66	
EL86MP	6CW5MP	UCL82MP	50BM8MP	KT77	
				KT88	

IEC 10M TUBE SERIES

A selected series of individually laboratory tested tubes ideally suited for today's advanced electronic equipment.

• TUBE-TO-TUBE UNIFORMITY • LONG LIFE
• SECTION-TO-SECTION UNIFORMITY

TUBE TYPE	SUGG. RESALE PRICE	TUBE TYPE	SUGG. RESALE PRICE
6AB8/ECL80	$2.75	12AX7A	$2.20
6AJ8/ECH81	2.65	12DW7/7247	2.55
6AK5/EF95	3.25	15CW5/PL84	2.50
6AK8/EABC80	2.80	6267/EF86	2.50
6AL5/EB91	1.95	7025	2.35
6AQ5/EL90	2.15	7247/12DW7	2.55
6AQ5A	2.15	EABC80/6AK8	2.80
6AQ8/ECC85	2.40	EB91/6AL5	1.95
6AT6/EBC90	2.00	EBC90/6AT6	2.00
6AU6/EF94	2.05	EBC91/6AV6	1.95
6AU6A	2.05	EBF89/6DC8	2.65
6AV6/EBC91	1.95	EC90/6C4	2.85
6BA6/EF93	2.00	EC95/6ER5	2.40
6BE6/EK90	2.10	EC97/6FY5	2.35
6BL8/ECF80	3.05	ECC81/12AT7	2.55
6BQ5/EL84	2.15	ECC82/12AU7	2.20
6BQ5A	2.15	ECC83/12AX7	2.20
6C4/EC90	2.85	ECC85/6AQ8	2.40
6DA6/EF89	2.55	ECC88/6DJ8	3.10
6DC8/EBF89	2.65	ECC91/6J6	2.55
6DJ8/ECC88	3.10	ECC189/6ES8	3.50
6DL5/EL95	2.55	ECF80/6BL8	3.05
6DX8/ECL84	2.85	ECF86/6HG8	3.10
6EH7/EF183	2.60	ECH81/6AJ8	2.65
6EJ7/EF184	2.60	ECL80/6AB8	2.75
6ER5/EC95	2.40	ECL84/6DX8	2.85
6ES8/ECC189	3.50	EF86/6267	2.50
6EU7	2.35	EF89/6DA6	2.55
6FY5/EC97	2.35	EF93/6BA6	2.00
6GK5	2.40	EF94/6AU6	2.05
6HG8/ECF86	3.10	EF95/6AK5	3.25
6J6/ECC91	2.55	EF183/6EH7	2.60
6J6A	2.55	EF184/6EJ7	2.60
6T8A	2.80	EK90/6BE6	2.10
8HG8/PCF86	2.65	EL84/6BQ5	2.15
9A8/PCF80	3.25	EL90/6AQ5	2.15
12AT7/ECC81	2.55	EL95/6DL5	2.55
12AU7/ECC82	2.20	HBC91/12AV6	1.95
12AU7A	2.20	PCF80/9A8	3.25
12AV6/HBC91	1.95	PCF86/8HG8	2.65
12AX7/ECC83	2.20	PL84/15CW5	2.50

IEC SPECIAL PURPOSE TUBES

An extensive range of over 700 dependable Tubes for virtually every industrial application.

TUBE TYPE	CROSS REF.	SUGG. RESALE PRICE	TUBE TYPE	CROSS REF.	SUGG. RESALE PRICE	TUBE TYPE	CROSS REF.	SUGG. RESALE PRICE	TUBE TYPE	CROSS REF.	SUGG. RESALE PRICE	TUBE TYPE	CROSS REF.	SUGG. RESALE PRICE
AW17-20		$135.00	EL360		$ 4.75	M8196/			QQV03-10	6360	$ 4.95	Numerical cross listing begins here and includes additional EIA types not listed previously.		
DH3-91	1CP1/		EN91	2D21	1.29	6AS6W	5725	$ 8.50	QQV06-40A	5894	25.50			
	1CP31	17.70	JP9-2.5	7028	142.00	M8204/			QV05-10	2E26	4.35			
DM160	6977	2.50	KS9-20D		115.00	2D21W	5727	2.50	QV05-25	807	3.25	0A2	150C4	$ 1.26
E55L	8233	13.25	M8079	6058	4.20	M8212/			QV06-20	6146	4.35	0B2	108C1	1.32
E80CC	6085	3.30	M8080/			6AL5W	6097/5726	1.55	QV06-20B	6883	4.45	0B2WA	M8224	6.50
E80CF	7643	4.95	6C4WA	6100	7.25	M8224	0B2WA	6.50	QY5-3000A	6076	305.00	0G3	85A2	2.30
E80F	6084	3.30	M8081/			M8248	6J4WA	11.60	RG1-240A		12.50	58CV		8.50
E80L	6227	3.05	6J6WA	6101	5.35	ME1400		6.70	RG3-250A		15.65	61RV		164.00
E81L	6686	4.10	M8082	6516	5.75	ME1401/			RR3-250	3B28	16.50	75B1		7.00
E83F	6689	3.85	M8083	6064	4.75	4065	5800	15.50	TD03-10/			75C1		2.40
E88CC	6922	4.87	M8096	6062	7.60	ME1402/			EC55	5861	37.50	90AG		5.90
E90CC	5920	3.20	M8100/			4066	5802	29.50	TD03-10E		45.00	90AV		5.90
E90F		3.75	6AK5W	6096/5654	2.45	ME1403/			XG1-2500	5559	23.00	90C1		2.25
E91H	6687	2.75	M8136/			4068/			XH3-045	3C45	50.10	90CG		3.80
E92CC		2.00	12AU7WA	6189	3.70	58A9	5886	21.50	XR1-6400A	6807	71.85	90CV		1.95
E180CC	7062	2.25	M8137	6057	6.50	ME1404/			Z300T	1267	7.95	92AV		19.00
E180F	6688	6.80	M8161	6065	5.85	4069		13.85	Z502S		11.00	95A1		10.50
E182CC	7119	2.95	M8162	12AT7WA	3.25	OCP71		5.50	Z510M/			150B3		5.45
E186F	7737	7.20	M8163		7.95	ORP10	7632	88.00	ZM1020	6844	9.80	150C3		5.20
E188CC	7308	5.20	M8190/			ORP90		2.65	Z803U	6779	5.75	5591/403B		3.55
E810F	7788	9.75	85A3	5783WA	14.00	QQV02-6	6939	12.00	Z900T	5823	3.45	5651	85A2	2.30
EA76	6489	4.70										6211		3.20

IEC Tube Division

INTERNATIONAL ELECTRONICS SALES CORP.

Net

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russell industries/LEWIS AND KAUFMAN, Ltd.

Number	Suggested Resale Price
0A2	$1.30
0A2WA	3.30
0A3	1.54
0B2	1.35
0B2WA	2.35
0B3	2.30
0C3	1.45
0D3	1.40
0D3W	6.20
0G3	2.30
2AC15	11.00
2AP1	19.50
2AP1A	19.50
2AS15	10.50
2AS15A	10.50
2B23	75.00
2BP1	20.60
2C26A	7.50
2C50	9.90
2C51	3.65
2C52	4.80
2C53	9.00
2D21	1.22
2D21W	2.90
2E22	8.40
2SM15	12.00
2X2A	3.25
3ABP1	125.00
3ACP1A	37.00
3ACP2	39.45
3ACP7	39.45
3ACP11	39.45
3AP1	44.15
3BP1	29.80
3B4WA	5.85
3B24W	9.00
3B24WA	9.90
3B28	7.50
3B29	10.30
3C23	11.98
3C24	16.00
3C45	19.00
3DP1A	45.70
3FP7A	35.00
3GP1A	29.50
3JP1	30.75
3JP7	30.75
4-65	25.70
4-125A	35.50
4B24	11.80
4B26	7.00
4B31	32.83
4D21	36.00
4PR60B	107.00
5ADP7	40.20
5BCP1/T55P1	77.60
5BDP7	98.00
5BP1	39.45
5CBP1	63.00
5CP1A	35.90
5CP1B	49.80
5D21	45.00
5FP7A	$32.95
5JP1AM	75.00
5JP2AM	75.00
5LP1A	40.00
5MP1AM	40.00
5NP1	35.00
5R4GY	2.03
5RP1A	169.70
5RP11AM	169.70
5SP7AM	160.00
5UP7	29.05
5Y3WGTA	3.75
5Y3WGTB	5.75
5YP1	55.00
5ZP16	83.00
6AC7W	5.70
6AC7WA	5.70
6AH6WA	7.50
6AJ5	3.75
6AK5W	2.35
6AL5W	1.33
6AS7G	4.93
6AU6WA	2.70
6AU6WB	2.70
6C21	90.00
6J4WA	5.50
6J6WA	4.95
6L6WGB	4.10
6Q5G	6.00
6SN7WGTA	4.90
6X4W	1.60
10QP7	75.00
12AKP7	55.00
12AT7WA	2.53
12DP7A	67.95
12SP7D	46.80
25T	26.50
35T	31.00
35TG	31.00
100R	16.20
100TH	23.50
100TL	23.50
152TH	93.00
249B	18.00
249C	14.60
250R	36.00
250TH	38.50
250TL	38.50
254W	30.00
274A	8.35
274B	9.00
300B	10.80
310A	7.70
407A	5.90
408A	4.95
715A	20.00
715B	28.50
715C	70.00
719A	260.00
807	3.15
811A	6.50
812A	6.50
814	$23.50
816	3.20
826	28.00
836	11.10
838	20.00
866A	2.65
866JR	3.75
872A	9.85
873	19.50
918	4.65
1612	5.77
1613	3.30
1620	7.55
1621	3.85
1622	5.35
1629	1.85
1631	3.25
1635	3.80
5557/FG17	9.50
5558/FG32	17.50
5559/FG57	24.50
5651	1.78
5651WA	3.75
5654	2.35
5654/6AK5W	2.35
5654/6AK5W/6090	5.10
5670	2.11
5670WA	2.30
5685/C6JA	27.00
5687	3.15
5691	8.75
5692	8.25
5693	6.60
5725	3.05
5726	2.10
5726/6AL5W/6097	1.40
5727	2.90
5727/2D21W	2.90
5749	2.20
5749/6BA6W	2.20
5750	3.45
5751	2.55
5751WA	2.85
5763	2.53
5814A	2.30
5814WA	2.30
5823	1.70
5842/417A	7.25
5847/404A	9.40
5881	3.10
5963	1.34
4964	1.55
5965	1.90
6005	3.70
6005/6AQ5W	3.75
6073	3.00
6073/0A2	3.00
6074	3.45
6074/0B2	3.45
6080	5.00
6080WA	9.95
6082	5.60
6099	15.35
6101/6J6WA	$5.35
6136	2.70
6146A	4.30
6146B	5.20
6159	4.80
6186	3.75
6186/6AG5WA	3.75
6189/12AU7A	3.45
6197	2.48
6201/12AT7WA	2.50
6205	5.35
6211	1.95
6293	5.95
6336A	18.00
6414	3.65
6528	21.55
6626/0A2WA	3.30
6660/6BA6	1.01
6661/6BH6	1.34
6662/6BJ6	1.29
6663/6AL5W	.92
6664/6AB4	1.12
6676/6CB6A	1.06
6677/6CL6	1.85
6678/6U8A	1.62
6679/12AT7	1.50
6680/12AU7A	1.22
6681/12AX7	1.26
6887	1.40
6922/E88CC	4.75
7054	1.54
7057	1.95
7059	1.48
7061	1.29
7370	10.26
7730	1.93
7898	1.34
8008	9.90
8013A	17.05
8020	16.00
8020W	19.50
9001	5.40
9002	4.20
9003	5.40
9004	4.60
9005	8.05
9006	2.70
C1K	11.80
C6J/5C21	28.10
FG17/5557	9.50
FG57/5559	24.50
FG154	108.00
HF100	34.00
HF200	58.00
HF300	46.50
KU23	47.00
LK24G/3C24	16.00
LK54	36.00
LK72	6.00
R1130B/1B59	22.90

PRICES AND DELIVERY FOR TUBES NOT LISTED ARE AVAILABLE UPON REQUEST FROM RUSSELL INDUSTRIES

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RCA

PICTURE TUBES
COLOR and BLACK and WHITE

RCA SILVERAMA® BLACK AND WHITE PICTURE TUBES

NOTICE: RCA Silverama Picture Tubes contain all new parts and materials except for the envelopes which, prior to re-use, are carefully inspected to meet the standards of original new envelopes.

TUBE TYPE	
5AXP4	
5TP4	
8DP4	
8XP4	
8YP4	
9WP4	
10BP4C	Use 10FP4A
10BP4D	Use 10FP4A
10CP4	Use 10FP4A
10FP4A	
11AP4	Use 11HP4A
11BP4	Use 11HP4A
11CP4	
11GP4	
11HP4	Use 11HP4A
11HP4A	
12BNP4	Use 12BNP4A
12BNP4A	
12CFP4	Use 12CNP4
12CGP4	Use 12BNP4A
12CNP4	
12DFP4	
14ATP4	
14NP4	Use 14WP4
14NP4A	Use 14WP4
14RP4	Use 14WP4
14RP4A	Use 14WP4
14SP4	Use 14WP4
14WP4	
14ZP4	Use 14WP4
16AP4A	Use 16LP4A (Note 1)
16ASP4	Use 16CMP4A
16ATP4	Use 16CHP4A
16APXP4	Use 16CMP4A (Note 1)
16AYP4	
16BFP4	Use 16CMP4A
16BGP4	
16BKP4	Use 16CHP4A
16BMP4	Use 16BGP4
16BQP4	Use 16CMP4A
16BTP4	Use 16CHP4A
16BVP4	Use 16CMP4A
16BWP4	Use 16BGP4
16CP4	Use 16LP4A
16CAP4	Use 16BGP4
16CEP4	Use 16CMP4A
16CHP4	Use 16CHP4A
16CHP4A	
16CJP4	Use 16CMP4A
16CMP4	Use 16CMP4A
16CMP4A	
16CTP4	Use 16BGP4
16CUP4	Use 16CMP4A
16CVP4	Use 16CHP4A
16KP4	Use 16RP4B
16KP4A	Use 16RP4B
16QP4	Use 16RP4B
16RP4A	Use 16RP4B
16RP4B	
16TP4	
16UP4	Use 16RP4B
16XP4	Use 16RP4B
16ZP4	Use 16LP4A
17AP4	Use 17BP4D
17ATP4	Use 17BJP4

TUBE TYPE	
17ATP4A	Use 17BJP4
17AVP4	Use 17BJP4
17AVP4A	Use 17BJP4
17BP4B	Use 17BP4D
17BP4D	
17BJP4	
17BRP4	Use 17DSP4
17BUP4	Use 17BJP4
17BZP4	Use 17DSP4
17CP4	
17CAP4	Use 17DSP4
17CBP4	Use 17BJP4
17CDP4	
17CKP4	Use 17DSP4
17CLP4	Use 17BJP4
17CWP4	Use 17DSP4
17CYP4	
17DAP4	
17DHP4	Use 17EFP4
17DKP4	
17DLP4	Use 17DSP4
17DQP4	
17DRP4	
17DSP4	
17DTP4	Use 17DKP4
17DXP4	
17DZP4	Use 17DXP4
17EAP4	Use 17HP4C (Note 3)
17EBP4	Use 17EFP4
17EFP4	
17EMP4	
17FP4	Use 17HP4C
17FP4A	Use 17HP4C
17GP4	Use 17TP4 (Note 1)
17HP4B	Use 17HP4C
17HP4C	
17JP4	Use 17BP4D
17KP4	Use 17HP4C (Note 3)
17KP4A	Use 17HP4C (Note 3)
17LP4A	Use 17LP4B
17LP4B	
17QP4A	Use 17QP4B
17QP4B	
17RP4	Use 17HP4C
17RP4C	Use 17HP4C
17SP4	Use 17LP4B (Note 3)
17UP4	Use 17QP4B
17VP4	Use 17LP4B
17VP4B	Use 17LP4B
17YP4	Use 17QP4B
19ABP4	
19ACP4	Use 19CHP4
19ADP4	Use 19AVP4
19AHP4	
19AJP4	
19ANP4	Use 19AYP4
19ARP4	Use 19AUP4
19AUP4	
19AVP4	
19AXP4	Use 19AYP4
19AYP4	
19BDP4	

TUBE TYPE	
19BHP4	Use 19AVP4
19BLP4	Use 19AVP4
19BSP4	Use 19AVP4
19BTP4	
19BVP4	Use 19AVP4
19BWP4	Use 19AVP4
19CAP4	Use 19AVP4
19CDP4	Use 19CXP4
19CFP4	Use 19CHP4
19CHP4	
19CJP4	Use 19AVP4
19CKP4	Use 19CHP4
19CLP4	Use 19BDP4
19CMP4	
19CQP4	Use 19CXP4
19CRP4	Use 19BDP4
19CUP4	Use 19CMP4
19CXP4	
19CYP4	Use 19BTP4
19CZP4	Use 19DQP4
19DAP4	
19DCP4	Use 19DRP4
19DEP4	Use 19AVP4
19DFP4	Use 19CHP4
19DHP4	Use 19DSP4
19DLP4	Use 19CHP4
19DQP4	
19DRP4	
19DSP4	
19DUP4	Use 19ENP4A
19DWP4	Use 19DQP4
19EAP4	Use 19ENP4A
19EBP4	
19EDP4	Use 19DRP4
19EFP4	Use 19DSP4
19EGP4	
19EHP4	Use 19DRP4
19EHP4A	Use 19DRP4
19EJP4	Use 19FEP4B
19ELP4	Use 19AVP4
19ENP4	Use 19ENP4A
19ENP4A	
19ERP4	Use 19DRP4
19ESP4	Use 19DSP4
19EUP4	Use 19DRP4
19EVP4	Use 19DQP4
19EWP4	Use 19DQP4
19FCP4	Use 19DQP4
19FDP4	Use 19DQP4
19FEP4	Use 19FEP4B
19FEP4A	Use 19FEP4B
19FEP4B	
19FJP4	Use 19DQP4
19FJP4A	Use 19DQP4
19FLP4	
19FQP4	Use 19EGP4
19FSP4	Use 19ENP4A
19FTP4	Use 19FLP4
19GEP4A	
19GJP4	Use 19DQP4
19GJP4A	Use 19DQP4
19GTP4	Use 19ENP4A
19XP4	Use 19AVP4
19YP4	Use 19BTP4
19ZP4	Use 19AVP4

TUBE TYPE	
20CP4	Use 20DP4D
20CP4A	Use 20DP4D
20CP4B	Use 20DP4D
20CP4C	Use 20DP4D
20CP4D	Use 20DP4D
20DP4C	Use 20DP4D
20DP4D	
20SP4	
20TP4	
20YP4	Use 20SP4
21AP4	Use 21ZP4C (Note 2)
21ACP4	Use 21AMP4B
21ACP4A	Use 21AMP4B
21AFP4	Use 21YP4B
21ALP4	Use 21CBP4A
21ALP4A	Use 21CBP4A
21ALP4B	Use 21CBP4A
21AMP4A	Use 21AMP4B
21AMP4B	
21ANP4	Use 21CBP4A
21ANP4A	Use 21CBP4A
21AQP4	Use 21AMP4B
21AQP4A	Use 21AMP4B
21ASP4	Use 21XP4B
21ATP4	Use 21CBP4A
21ATP4A	Use 21CBP4A
21ATP4B	Use 21CBP4A
21AUP4	Use 21AVP4C
21AUP4A	Use 21AVP4C
21AUP4B	Use 21AVP4C
21AVP4B	Use 21AVP4C
21AVP4C	
21AWP4	Use 21AWP4A
21AWP4A	
21AYP4	Use 21XP4B
21BAP4	Use 21CBP4A
21BCP4	Use 21YP4B
21BDP4	Use 21AVP4C
21BNP4	Use 21CBP4A
21BSP4	Use 21AMP4B
21BTP4	Use 21CBP4A
21CPB4A	
21CEP4	Use 21EMP4/ 21EQP4
21CEP4A	Use 21EMP/4 21EQP4
21CMP4	Use 21CBP4A
21CQP4	
21CUP4	Use 21AMP4B
21CVP4	Use 21CBP4A
21CWP4	Use 21CBP4A
21CXP4	Use 21DSP4
21CZP4	Use 21DEP4A
21DAP4	Use 21DEP4A
21DEP4A	
21DHP4	
21DLP4	
21DMP4	Use 21FAP4
21DNP4	Use 21CPB4A
21DQP4	Use 21DLP4
21DSP4	
21EAP4	Use 21FDP4
21EDP4	Use 21EMP4/ 21EQP4
21EMP4	Use EMP4/ 21EQP4
21EMP4/21EQP4	

TUBE TYPE	
21EP4B	Use 21EP4C
21EP4C	
21ESP4	Use 21FAP4
21ETP4	Use 21EMP4/ 21EQP4
21EVP4	Use 21FDP4 (Note 1)
21FP4C	Use 21FP4D
21FP4D	
21FAP4	
21FDP4	
21FLP4	Use 21CBP4A
21FVP4	
21FWP4	Use 21FVP4
21FZP4	Use 21FVP4
21GAP4A	
21MP4	Use 21YP4B (Note 1)
21WP4A	Use 21WP4B
21WP4B	
21XP4A	Use 21XP4B
21XP4B	
21YP4A	Use 21YP4B
21YP4B	
21ZP4B	Use 21ZP4C
21ZP4C	
23AFP4	Use 23YP4
23AHP4	
23ALP4	Use 23CQP4
23ANP4	Use 23BLP4
23ARP4	
23ASP4	
23ATP4	Use 23BLP4
23AUP4	Use 23AHP4
23AVP4	Use 23CP4
23AWP4	Use 23BJP4
23BDP4	Use 23YP4
23BGP4	
23BHP4	Use 23BGP4
23BJP4	
23BKP4	
23BLP4	
23BNP4	Use 23CP4
23BQP4	
23BTP4	Use 23YP4
23BVP4	Use 23YP4
23BWP4	Use 23YP4
23CP4	
23CP4A	Use 23CP4
23CBP4	
23CGP4	
23CQP4	
23CZP4	Use 23AHP4
23DAP4	
23DBP4	
23DLP4	Use 23ENP4
23DLP4A	Use 23ENP4
23DNP4	Use 23BLP4
23DYP4	Use 23ETP4
23DZP4	Use 23EQP4
23EP4	
23ECP4	Use 23ENP4 (Note 1)
23EDP4	Use 23EKP4 (Note 1)

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PICTURE TUBES
COLOR and BLACK and WHITE

TUBE TYPE	
23EKP4	
23ENP4	
23EQP4	
23ESP4	Use 23HFP4A
23ETP4	
23EWP4	Use 23EQP4
23EWP4A	Use 23EQP4
23EYP4	
23EZP4	
23FP4A	
23FBP4	
23FCP4	Use 23GJP4A
23FDP4	Use 23GJP4A
23FEP4	Use 23ENP4
23FHP4	Use 23GJP4A
23FJP4	Use 23ETP4
23FLP4	Use 23EKP4

TUBE TYPE	
23FMP4	Use 23HFP4A
23FRP4	
23FSP4	
23FVP4	Use 23HFP4A
23FVP4A	Use 23HFP4A
23GP4	Use 23CP4
23GBP4	Use 23HFP4A
23GEP4	Use 23FBP4
23GJP4	Use 23GJP4A
23GJP4A	
23GSP4	
23GTP4	Use 23ETP4
23GWP4	Use 23GJP4A
23GXP4	Use 23GSP4
23HP4	Use 23CP4
23HFP4	Use 23HFP4A
23HFP4A	

TUBE TYPE	
23HGP4	
23HLP4	Use 23GSP4
23HQP4	Use 23HGP4
23HRP4	Use 23HWP4A
23HUP4A	
23HWP4	Use 23HWP4A
23HWP4A	
23HXP4	Use 23HFP4A
23JEP4	
23JP4	
23KP4	Use 23FP4A
23KP4A	Use 23FP4A
23MP4	Use 23FP4A
23MP4A	Use 23FP4A
23NP4	
23ORB4	
23TP4	Use 23YP4

TUBE TYPE	
23UP4	Use 23BQP4
23WP4	Use 23FP4A
23XP4	Use 23YP4
23YP4	
23ZP4	Use 23BLP4
24ADP4	Use 24CP4B
24AEP4	
24AHP4	
24AJP4	Use 24ATP4
24ALP4	Use 24AHP4
24ANP4	Use 24AEP4
24ATP4	
24AUP4	
24AVP4	Use 24BEP4
24BAP4	
24BEP4	
24CP4A	Use 24CP4B

TUBE TYPE	
24CP4B	
24DP4	Use 24AEP4
24DP4A	Use 24AEP4
24QP4	Use 24CP4B
24TP4	Use 24CP4B
24VP4	Use 24CP4B
24VP4A	Use 24CP4B
24XP4	Use 24CP4B
24YP4	Use 24AEP4
24ZP4	Use 24AEP4
27EP4	Use 27RP4A
27GP4	Use 27RP4A
27LP4	Use 27RP4A
27NP4	Use 27RP4A
27RP4	Use 27RP4A
27RP4A	
310AVB4	Use 12CNP4

NOTES

Where replacement type is indicated consult RCA Interchangeability Guide for Replacement information.

NOTE 1: For replacement purposes of these types electrical and/or mechanical modifications may be required.

NOTE 2: 21AP4 — "RCA receivers with 21AP4 may be converted to 21ZP4C with conversion kit (RCA Part No. 12B202)."

NOTE 3: Pin No. 6 (Focusing Electrode) of the RCA replacement must be connected to Pin No. 11 at the socket. The original tube did not require an external voltage for focus.

RCA HI-LITE "RARE EARTH" COLOR TELEVISION PICTURE TUBES

NOTICE: RCA Hi-Lite "Rare Earth" Color Television Picture Tubes contain all new parts and materials.

H-15LP22 H-15NP22 H-19GVP22 H-19GWP22 H-21GUP22 H-21GVP22 H-22JP22 H-25XP22 H-25YP22

RCA COLORAMA PICTURE TUBES

NOTICE: RCA Colorama Picture Tubes contain used materials which, prior to re-use, are carefully inspected to meet our high quality standards. Sulfide types are marked with *; all others are "Rare Earth" types.

15GP22* C-19EYP22 C-19HNP22 C-21FBP22* C-21GVP22/21FJP22A C-23EGP22A* C-25XP22/25AP22A
C-15LP22 C-19GVP22/19EXP22 C-21AXP22A* C-21FJP22* C-22JP22 C-25AP22A C-25YP22/25BP22A
C-15NP-22 C-19GWP22/19EYP22 C-21CYP22A* C-21GUP22/21FBP22A C-22UP22 C-25BP22A C-25AJP22

COLOR PICTURE TUBE INTERCHANGEABILITY GUIDE

TYPE TO BE REPLACED	REPLACE BY RCA TYPE	NOTES
15GP22	15GP22	Direct
15LP22	H-15LP22	Direct
	C-15LP22	Direct
15NP22	H-15NP22	Direct
	C-15NP22	Direct
19EXP22	H-19GVP22	Note 1
	C-19GVP22/19EXP22	Note 1
19EYP22 19FMP22 19FXP22	C-19EYP22	Direct
	H-19GWP22	Note 1
	C-19GWP22/19EYP22	Note 1
19GVP22	H-19GVP22	Direct
	C-19GVP22/19EXP22	Direct
19GWP22	H-19GWP22	Direct
	C-19EYP22	Direct
	C-19GWP22/19EYP22	Direct
19GXP22 19GYP22	H-19GVP22	Note 1
	C-19GVP22/19EXP22	Note 1
19HBP22	H-19GWP22	Direct
	C-19EYP22	Direct
	C-19GWP22/19EYP22	Direct
19HNP22	C-19HNP22	Direct
21AXP22 21AXP22A 21AXP22A/21AXP22	C-21AXP22A	Direct
	C-21CYP22A	Note 1
	C-21FBP22	Note 1
	H-21GUP22	Note 1
	C-21GUP22/21FBP22A	Note 1

TYPE TO BE REPLACED	REPLACE BY RCA TYPE	NOTES
21CYP22 21CYP22A	C-21CYP22A	Direct
	C-21FBP22	Note 1
	H-21GUP22	Note 1
	C-21GUP22/22FBP22A	Note 1
21FBP22 21FBP22A	C-21FBP22	Direct
	H-21GUP22	Note 1
	C-21GUP22/21FBP22A	Note 1
21FJP22 21FJP22A	C-21FJP22	Direct
	H-21GVP22	Note 1
	C-21GVP22/21FJP22A	Note 1
21FKP22	C-21FJP22	Direct
	H-21GVP22	Note 1
	C-21GVP22/21FJP22A	Note 1
21GFP22 21GRP22 21GWP22	H-22JP22	Note 2
	C-22JP22	Note 2
21GUP22	H-21GUP22	Direct
	C-21FBP22	Direct
	C-21GUP22/21FBP22A	Direct
21GVP22	H-21GVP22	Direct
	C-21FJP22	Direct
	C-21GVP22/21FJP22A	Direct

TYPE TO BE REPLACED	REPLACE BY RCA TYPE	NOTES
22JP22 22LP22	H-22JP22	Direct
	C-22JP22	Direct
22UP22	C-22UP22	Direct
23EGP22 23EGP22A	C-23EGP22A	Direct
	C-25AP22A	Note 2
	H-25XP22	Note 2
	C-25XP22/25AP22A	Note 2
25AP22 25AP22A	C-25AP22A	Direct
	H-25XP22	Note 1
	C-25XP22/25AP22A	Note 1
25ABP22	C-25AP22A	Direct
	H-25XP22	Direct
	C-25XP22/25AP22A	Direct
25AJP22	C-25AJP22	Direct
25BP22 25BP22A	C-25BP22A	Direct
	H-25YP22	Note 1
	C-25YP22/25BP22A	Note 1
25CP22 25CP22A	C-25AP22A	Direct
	H-25XP22	Note 1
	C-25XP22/25AP22A	Note 1
25FP22 25FP22A	C-25BP22A	Direct
	H-25YP22	Note 1
	C-25YP22/25BP22A	Note 1

TYPE TO BE REPLACED	REPLACE BY RCA TYPE	NOTES
25GP22 25GP22A	C-25AP22A	Direct
	H-25XP22	Note 1
	C-25XP22/25AP22A	Note 1
25RP22	C-25BP22A	Direct
	H-25YP22	Note 1
	C-25YP22/25BP22A	Note 1
25SP22	C-25AP22A	Direct
	H-25XP22	Note 1
	C-25XP22/25AP22A	Note 1
25XP22	C-25AP22A	Direct
	H-25XP22	Direct
	C-25XP22/25AP22A	Direct
25YP22	C-25BP22A	Direct
	H-25YP22	Direct
	C-25YP22/25BP22A	Direct
25ZP22	C-25AP22A	Direct
	H-25XP22	Note 1
	C-25XP22/25AP22A	Note 1
490EB22A 490FB22 490GB22 490HB22 490JB22 490LB22 490MB22	H-19GVP22	Note 1
	C-19GVP22/19EXP22	Note 1

Note 1 — Replacement information is packed with the tube.
Note 2 — Mounting hardware may have to be modified to accept substitution. In some small cabinet receivers substitution may not be feasible.

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RCA

ELECTRON TUBES
ENTERTAINMENT RECEIVING TYPES

*Optional List

PRICE SCHEDULE — AUGUST 1968

RCA Type	List Price*
0Z4	$3.25
0Z4A	3.25
1A3	6.65
1A5GT	4.00
1AD2	3.10
1AY2	2.60
1B3GT use 1G3GT/1B3GT	
1BC2	3.25
1BH2	3.05
1G3GT/1B3GT	3.40
1K3/1J3	3.40
1L6	12.55
1N5GT	4.90
1R5	4.00
1S2A/DY87	2.55
1S4	4.10
1S5	3.40
1T4	3.85
1U4	3.85
1U5	3.40
1V2	2.55
1X2A use 1X2B/1X2A	
1X2B/1X2A	3.40
2A3	9.90
2AF4B/2DZ4	4.10
2AH2	3.40
2AS2	3.00
2AV2	2.85
2BJ2	4.20
2BN4A	3.55
2CN3A	3.25
2CW4	4.90
2CY5	4.00
2DS4	4.90
2DV4	6.45
2DZ4 use 2AF4B/2DZ4	
2EG4	4.90
2EN5	3.20
2ER5	3.70
2FH5	3.70
2FQ5A use 2GK5	
2FS5	4.85
2GK5	4.20
2GU5	4.50
2HA5	3.85
2HQ5	3.85
3A2	5.50
3A3A/3B2	3.20
3AF4A/3DZ4	4.10
3AL5	2.70
3AT2	3.05
3AU6	2.95
3AV6	2.95
3AW2	3.20
3AW3 use 3A3A/3B2	
3B2 use 3A3A/3B2	
3BA6	2.35
3BC5/3CES	2.95
3BN4A	3.40
3BN6	4.30
3BU8/3GS8	4.45
3BY6	3.00
3BZ6	2.95
3CA3	3.20
3CB6/3CF6	2.95
3CE5 use 3BC5/3CE5	
3CF6 use 3CB6/3CF6	
3CN3A	3.20
3CS6	3.70
3CU3	3.75
3CY5	3.90
3DG4	4.75
3DK6	2.95
3DT6A	2.95
3DZ4 use 3AF4B/3DZ4	
3EA5	3.55
3EH7/XF183	2.55
3EJ7/XF184	2.55
3ER5	4.45
3FH5	3.25
3FS5	4.30
3GK5	4.20
3GS8 use 3BU8/3GS8	
3HM5/3HA5	3.85
3HQ5	4.75
3JC6A	4.00
3KT6	3.40
3Q4	3.35
3Q5GT	5.85
3S4	3.40
3V4	3.40
4AU6	3.40
4AV6	2.95
4BC8	4.00
4BL8/XCF80	2.40
4BN6	4.05
4BQ7A	4.90
4BS8	4.25
4BU8/4GS8	4.45
4BZ6	2.95
4BZ7	4.90
4CB6	2.85
4CS6	3.40
4DE6	2.95
4DK6	3.40
4DT6A	2.95
4EH7/LF183	3.55
4EJ7/LF184	3.55
4ES8/XCC189	5.50
4EW6	2.90
4GK5	3.90
4GM6	2.20
4GS8 use 4BU8/4GS8	
4GX7	3.60
4HA5/PC900	2.35
4HA7	3.05
4HC7	3.05
4HM6	3.10
4HQ5	4.60
4HS8	3.35
4HT6	2.55
4JC6A	4.30
4JD6	4.30
4JH6	3.40
4KE8	6.05
4LJ8	4.10
5AM8	4.90
5AN8	5.20
5AQ5	2.95
5AR4/GZ34	4.25
5AS4A	3.45
5AS8	4.40
5AT8	4.45
5AU4 use 5V3A/5AU4	
5AV8	4.05
5AZ4	5.30
5B8	5.50
5BC3A	3.40
5BE8	3.10
5BK7A	4.15
5BQ7A	4.30
5BR8	4.90
5BT8	3.10
5BW8	3.20
5CG8	3.70
5CL8A	4.45
5CQ8	4.10
5CZ5	4.45
5DJ4	3.55
5EA8	4.60
5ES8/YCC189	5.50
5EU8	4.00
5EW6	3.40
5FG7	3.55
5FV8	3.25
5GH8A	4.60
5GJ7	2.95
5GM6	3.25
5GX6	2.45
5GX7	3.60
5HA7	3.05
5HB7	3.40
5HG8/LCF86	3.70
5HZ6	3.25
5J6	3.70
5JK6	3.85
5JL6	3.85
5KD8	2.50
5KE8	5.80
5KZ8	2.55
5LJ8	4.10
5T8	4.45
5U4G	2.55
5U4GB	2.55
5U8	3.85
5U9/LCF201	2.95
5V3A	4.15
5V3A/5AU4	3.80
5V4GA	4.30
5V6GT	3.70
5X8	4.15
5Y3GT	2.25
5Y4GA	2.45
5Y4GT	3.40
5Z3	4.45
5Z4 use 5Y3GT	
6A7	8.00
6A8	7.10
6AB4	3.25
6AC7	5.75
6AC10	4.10
6AD10	6.90
6AF3	3.10
6AF4	4.10
6AF4A	4.10
6AF6G	6.30
6AF9	3.55
6AF11	5.20
6AG5	3.40
6AG7	6.50
6AG9	5.65
6AG11	4.15
6AH4GT	3.25
6AH6	5.20
6AH9	4.75
6AK5/EF95	4.75
6AL3/EY88	2.60
6AL5	2.25
6AL7GT	6.95
6AL11	4.60
6AM4	5.55
6AM8A	3.70
6AN4	6.15
6AN8A	4.30
6AQ5A	2.95
6AQ6	3.25
6AQ7GT	4.30
6AQ8/ECC85	3.00
6AR5	2.45
6AR8	4.85
6AR11	4.50
6AS5	3.25
6AS8	4.45
6AS11	5.10
6AT6	2.40
6AT8A	5.20
6AU4GTA	4.00
6AU5GT	5.20
6AU6A	2.40
6AU8A	4.90
6AV5GA	5.20
6AV6	1.95
6AV11	4.40
6AW8A	3.85
6AX3	2.60
6AX4GTB	2.95
6AX5GT	3.85
6AX8	3.50
6AY3B	3.40
6AY11	4.50
6AZ8	5.50
6B8	6.85
6B10	3.65
6BA3	3.05
6BA6/EF93	2.40
6BA7	5.85
6BA8A	4.65
6BA11	4.30
6BC4	5.50
6BC5/6CE5	3.25
6BC7	3.60
6BC8	4.15
6BD6	2.35
6BD11	5.55
6BE3/6BZ3	3.40
6BE6	2.85
6BF5	3.35
6BF6	2.85
6BF11	4.90
6BG6G	6.10
6BH3A	2.80
6BH6	3.25
6BH8	4.60
6BH11	4.30
6BJ3	2.80
6BJ6	3.25
6BJ7	2.95
6BJ8	4.00
6BK4B	7.55
6BK5	3.50
6BK7B	4.00
6BL7GTA	5.05
6BL8/ECF80	2.70
6BM8/ECL82	2.90
6BN4A	4.00
6BN6	3.70
6BN8	3.70
6BN11	4.50
6BQ5/EL84	3.25
6BQ6GTB/6CU6	4.45
6BQ7A	4.15
6BR8A	4.30
6BS3A	3.70
6BS8	4.45
6BU8	4.15
6BV8	3.00
6BV11	4.80
6BW4	2.75
6BW8	3.35
6BW11	4.40
6BX7GT	5.90
6BY5GA	4.80
6BY6	3.40
6BY8	2.70
6BZ6	2.70
6BZ7	4.15
6BZ8	4.20
6C4	2.25
6C5	5.35
6C6	7.85
6C9	5.50
6C10	3.70
6CA4	2.95
6CA5	3.00
6CA7/EL34	5.35
6CB5A	9.35
6CB6A/6CF6	2.85
6CD6GA	5.80
6CE5 use 6BC5/6CE5	
6CF6 use 6CB6A/6CF6	
6CG3/6CD3	3.40
6CG7 use 6FQ7/6CG7	
6CG8A	3.55
6CH8	5.60
6CJ3	3.60
6CK3	3.40
6CK4	3.55
6CL3	3.50
6CL6	4.15
6CL8A	4.15
6CM3	4.90
6CM6	3.85
6CM7	3.25
6CM8	4.05
6CN7	4.45
6CQ4	3.55
6CQ8	3.70
6CR6	2.95
6CS6	2.95
6CS7	3.40
6CU5	3.55
6CU6 use 6BQ6GTB/6CU6	
6CU8	4.60
6CW4	4.90
6CW5/EL86	2.75
6CX8	4.75
6CY5	4.00
6CY7	3.05
6CZ5	4.75
6D10	4.25
6DA4	3.70
6DB5	5.00
6DC6	3.85
6DC8/EBF89	3.05
6DE4	3.55
6DE6	2.95
6DE7	4.15
6DG6GT	3.85
6DK6	2.95
6DL5/EL95	2.95
6DM4A	3.35
6DN6	7.00
6DN7	4.00
6DQ5	7.85
6DQ6B use 6GW6/6DQ6B	
6DR7	4.60
6DS4	4.90
6DS5	3.65
6DT5	3.55
6DT6A	2.70
6DT8	3.75
6DV4	6.45
6DW4B	3.50
6DW5	3.85
6DX8/ECL84	2.90
6DZ4	4.10
6E5	5.65
6EA5 use 6CY5	
6EA7	5.20
6EA8	3.55
6EB8	5.05
6EH4A	8.20
6EH5	3.55
6EH7/EF183	3.85
6EH8	3.50
6EJ4A	8.50
6EJ7/EF184	3.55
6EM5	3.70
6EM7	5.20
6EQ7	2.95
6ER5	3.80
6ES5	2.85
6ES8/ECC189	5.45
6ET7	4.00
6EU7	3.25
6EU8	3.70
6EV5	3.10
6EV7	3.25
6EW6	2.70
6EW7	6.00
6EZ5	4.45
6EZ8	3.55
6F5	5.50
6F6	5.80
6F6GT	5.80
6F8G	8.45
6FA7	2.95
6FD7	5.30
6FE5	3.40
6FG6 use EM84/6FG6	
6FG7	4.15
6FH5	3.85
6FH8	4.05
6FJ7	3.75
6FM7	3.25
6FM8	2.85
6FQ5A	3.85
6FQ7/6CG7	2.35
6FS5	4.10
6FV6	4.45
6FV8A	4.30
6FW5	3.85
6FY5/EC97	2.75
6FY7	3.20
6G11	4.40
6GB5/EL500	3.80
6GC5	4.45
6GE5	3.85
6GF5	3.50
6GF7A	4.85
6GH8A	3.20
6GJ5A	5.60
6GJ7/ECF801	3.10
6GK5	4.15
6GK6	3.40
6GL7	5.80
6GM5	3.05
6GM6	3.25
6GN8	4.60
6GQ7	3.75
6GT5A	5.40
6GU5	4.10
6GU7	3.70
6GV5	4.15
6GV8/ECL85	4.60
6GW6/6DQ6B	4.20
6GW8/ECL86	3.05
6GX6	2.90
6GX7	3.60
6GY5	4.60
6GY6	2.90
6GY8	3.90
6H6	4.90
6HA5 use 6HM5/6HA5	
6HB5	4.60
6HB6	4.45
6HB7	4.00
6HE5	3.70
6HF5	7.30
6HF8	4.60
6HG5	2.95
6HG8/ECF86	3.70
6HJ8	3.10
6HK5	3.90
6HL8	3.05
6HM5/6HA5	3.85
6HM6	2.95
6HQ5	4.50
6HR5	2.55
6HR6	3.70
6HS5	7.75
6HS6	3.70
6HS8	4.30
6HZ6	3.00
6J5	4.10
6J5GT	4.10
6J6A	3.25
6J7	5.20
6J10 use 6Z10/6J10	
6J11	4.80
6JB6A	5.85
6JC6A	3.95
6JC8	3.05
6JD6	3.55
6JE6A	8.50
6JE8	3.70
6JF6	6.20
6JG6A	6.50
6JH6	2.95
6JH8	4.75
6JK6	3.85
6JK8	4.05
6JM6A	4.15
6JN6	3.85
6JN8	3.65
6JQ6	3.15
6JR6	6.00
6JS6B	7.30
6JT6A	4.95
6JT8	4.00
6JU6	6.35
6JU8A	3.85
6JV8	4.40
6JW8/ECF802	3.10
6JZ6	4.65
6JZ8	3.55
6K6GT	2.95
6K7	5.90
6K8	7.70
6K11/6Q11	3.65
6KA8	4.50
6KD6	7.70
6KD8 use 6U8A/6KD8	
6KE8	5.65
6KL8	2.95
6KM6	8.20
6KM8	3.45
6KN6	7.20
6KR8	4.25
6KT6	3.30
6KT8	4.90
6KU8	4.80
6KV8	5.85
6KY8A	7.25
6KZ8	3.70
6L6	8.80
6L6GC	4.75
6L7	6.95
6LB6	8.15
6LB8	4.70
6LC8	4.20
6LE8	6.20
6LF8	4.15
6LH6A	7.70
6LJ6	7.55
6LJ8	4.10
6LM8	4.45
6LN/LCF80	2.40
6LQ6/6JE6C	8.50
6LQ8	5.05
6LT8	2.70
6LU8	4.75
6LX8/LCF802	2.60
6LY8	3.90
6M11	5.00
6MD8	4.85
6ME8	4.60
6MF8	4.75
6MJ8	4.20
6MK8	4.30
6MQ8	3.35
6N7	5.05
6N7GT	5.20
6Q7	5.90
6S4A	2.75
6S8GT	4.15
6SA7	5.90
6SA7GT	4.40
6SB7Y	5.95
6SC7	4.90

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RCA

ELECTRON TUBES
ENTERTAINMENT RECEIVING TYPES

*Optional List

PRICE SCHEDULE — AUGUST 1968

RCA Type	List Price*
6SF5	4.45
6SF7	6.30
6SG7	4.90
6SH7	5.35
6SJ7	4.15
6SK7	4.45
6SK7GT	5.50
6SL7GT	4.00
6SN7GTB	3.10
6SQ7	4.45
6SR7	4.90
6T4	5.15
6T8A	3.70
6T9	4.05
6T10	4.25
6U5	7.40
6U8A/6KD8	3.10
6U9/ECF201	2.90
6U10	3.65
6V3A	4.55
6V6	6.35
6V6GTA	3.25
6W4GT	2.95
6W6GT	3.70
6X4	2.10
6X5GT	2.95
6X8A	3.40
6X9/ECF200	2.90
6Y6GA/6Y6G	4.45
6Y9	2.95
6Z4 use 84/6Z4	
6Z10/6J10	5.00
7A7	7.15
7AU7	2.70
7C5	3.35
7C7	3.40
7EY6	3.35
7F7	7.50
7F8	8.25
7HG8/PCF86	2.75
7N7	7.10
7V7	4.65
8AR11	4.35
8AU8	3.85
8AW8A	4.30
8B10	3.35
8BA8A	3.45
8BA11	4.00
8BH8	3.35
8BM11	4.25
8BN8	3.70
8BQ5	3.25
8BQ11	4.30
8BU11	4.55
8CG7 use 8FQ7/8CG7	
8CM7	2.70
8CN7	3.05
8CS7	3.55
8CW5/XL86	2.55
8CX8	4.40
8EB8	4.10
8EM5	3.70
8ET7	4.15
8FQ7/8CG7	2.35
8GJ7/PCF801	2.90
8GN8	4.15
8GU7	3.20
8JU8A	3.35
8JV8	4.30
8KA8	4.25
8LC8	4.25
8LT8	2.70
9A8/PCF80	2.65
9AU7	2.95
9BJ11	4.80
9BR7	3.15
9EA8	3.05
9GV8/XCL85	3.40
9KC6	4.35
9KX6	4.15
9KZ8	2.95
9U8A	3.10
10AL11	4.55
10BQ5	2.55
10C8	5.15
10CW5/LL86	2.55
10DE7	4.45
10DR7	4.45
10DX8/LCL84	2.75
10EG7	4.35
10EM7	4.90
10EW7	4.90
10GF7A	4.75
10GK6	3.05
10GN8	4.45
10HF8	4.90
10JA8	4.15
10JT8	4.05
10JY8	3.65
10KR8	4.25
10KU8	4.85
10LB8	4.70
10LE8	5.90
10LW8	4.25
10LZ8	2.95
11AR11	4.10
11BQ11	4.10
11BT11	5.90
11CY7	3.60
11FY7	3.40
11HM7	4.75
11JE8	3.85
11KV8	5.90
11LQ8	5.90
11Y9/LFL200	3.70
12AB5	3.85
12AC6	2.10
12AD6	3.10
12AE6A	3.10
12AE10	4.65
12AF3	3.85
12AF6	3.15
12AL5	2.30
12AL8	6.15
12AL11	4.20
12AQ5	3.10
12AT6	2.40
12AT7/ECC81	2.85
12AU6	2.55
12AU7A/ECC82	2.55
12AV5GA	5.05
12AV6	1.95
12AV7	3.60
12AW6	3.55
12AX3	3.00
12AX4GTB	2.70
12AX7A/ECC83	2.70
12AY3A	2.65
12AY7	5.20
12AZ7A	3.25
12B4A	3.20
12BA6	2.10
12BA7	5.90
12BD6	2.35
12BE3	3.05
12BE6	2.55
12BF6	2.35
12BF11	4.35
12BH7A	3.15
12BK5	3.75
12BL6	3.70
12BN6	3.65
12BQ6GTB/12CU6	4.45
12BR7	3.05
12BS3A	3.70
12BT3	2.85
12BV7	3.30
12BV11	4.80
12BW4	3.35
12BY7A	3.20
12BZ6	2.40
12BZ7	4.15
12C5 use 12CU5/12C5	
12CA5	3.40
12CL3	3.50
12CN5	3.25
12CR6	2.95
12CU5/12C5	3.40
12CU6 use 12BQ6GTB/12CU6	
12CX6	2.75
12D4	3.05
12DB5	2.60
12DK6	2.30
12DQ6B use 12GW6/12DQ6B	
12DQ7	3.25
12DS7	5.40
12DT5	3.10
12DT8	4.00
12DW7	3.05
12DY8	7.95
12DZ6	3.60
12ED5	2.70
12EK6	3.55
12EQ7	2.75
12F8	3.25
12FK6	2.55
12FM6	2.60
12FQ8	5.20
12FV7	3.40
12FX5	3.25
12FX8A	3.85
12GC6	3.95
12GE5	4.10
12GJ5A	4.90
12GN7A	4.45
12GT5	5.35
12GW6/12DQ6B	4.25
12H6	4.45
12HE7	6.80
12HG7	4.45
12HL7	4.45
12J5GT	4.80
12J8	4.35
12JB6A	6.20
12JN6	3.90
12JN8	3.70
12JQ6	3.70
12JT6A	4.95
12K5	3.45
12K7GT	6.60
12KL8	2.45
12L6GT	3.55
12MD8	4.85
12R5	3.35
12SA7	5.90
12SC7	5.20
12SF5	3.85
12SF7	6.20
12SG7	4.70
12SH7	5.40
12SJ7	4.30
12SK7	4.45
12SK7GT	4.45
12SL7GT	4.15
12SN7GTA	3.40
12SQ7	4.45
12T10	4.25
12V6GT	4.45
12W6GT	4.45
12X4	2.25
13CW4	5.05
13DE7	4.00
13DR7	4.75
13EM7/15EA7	5.35
13FD7	5.05
13FM7	3.00
13GB5/XL500	3.70
13GF7A	4.70
13J10 use 13Z10/13J10	
13V10	4.10
13Z10/13J10	5.05
14BL11	5.60
14BR11	5.30
14GT8	3.45
14JG8	3.10
15AF11	4.75
15BD11	5.30
15CW5/PL84	2.45
15DQ8	3.40
15FM7	3.40
15FY7	3.90
15KY8A	5.80
15LE8	7.65
16A8	3.40
16AQ3/XY88	2.70
16GK6	3.05
16GY5	4.85
17AX3	2.60
17AX4GTA	3.70
17AY3A	3.25
17BE3/17BZ3	2.90
17BF11	4.55
17BH3	2.85
17BQ6GTB	5.20
17BS3A	3.35
17BZ3 use 17BE3/17BZ3	
17C5 use 17CU5/17C5	
17C9	7.15
17CK3	2.95
17CT3	2.95
17CU5/17C5	2.70
17D4	3.70
17DE4	3.65
17DM4A	3.70
17DQ6B use 17GW6/17DQ6B	
17EW8/HCC85	2.75
17GE5	4.35
17GJ5A	5.50
17GT5A	4.90
17GV5	4.20
17GW6/17DQ6B	4.60
17JB6A	5.50
17JG6A	6.30
17JM6A	4.20
17JN6	3.90
17JT6A	4.95
17JZ8	3.55
17KV6	7.30
17LD8 use 15KY8A	
17X10	4.50
18FW6A	2.45
18FX6A	2.95
18FY6A	2.95
18GD6A	2.95
19AU4GTA	4.00
19BG6GA	6.65
19CL8A	3.70
19EA8	4.45
19EZ8	4.50
19GQ7	3.80
19HR6	2.45
19HS6	2.40
19HV8	3.75
19J6	3.70
19JN8	3.20
19KG8	3.10
19T8	4.90
19X8	4.10
20AQ3/LY88	3.25
20EZ7	3.40
21GY5	4.65
21HB5A	4.75
21JV6	4.65
21JZ6	4.85
21KA6	4.45
21LR8	4.75
21LU8	4.75
22BH3A	3.10
22BW3	3.05
22DE4	3.70
22JF6	6.85
22JG6A	6.20
22JR6	6.20
22JU6	6.35
22KM6	8.20
23Z9	4.70
22BF11	5.20
24JE6A	8.50
24J28	4.50
24LQ6/24JE6C	8.50
25AV5GA	5.65
25AX4GT	3.05
25BK5	3.40
25BQ6GTB/25CU6	4.40
25C5	2.95
25CA5	3.60
25CD6GB	5.75
25CU6 use 25BQ6GTB/25CU6	
25DN6	5.95
25EC6	6.15
25EH5	3.25
25F5A	3.85
25L6GT	3.70
25W4GT	3.70
25Z6GT	3.85
27GB5/PL500	3.70
31JS6A	7.30
32ET5A	2.40
33GT7	6.95
33GY7A	6.05
33JV6	4.65
34GD5A	2.95
35B5	3.20
35C5	2.70
35EH5	3.40
35GL6	2.90
35L6GT	3.85
35W4	1.65
35Y4	4.50
35Z4GT	2.55
35Z5GT	2.70
36AM3B	2.55
38HE7	6.65
38HK7	6.55
40KD6	8.10
42	4.85
42KN6	7.20
43	7.20
50A5	5.85
50B5	2.95
50C5	2.55
50DC4	2.40
50EH5	2.70
50FE5	4.45
50FK5	2.20
50HC6	2.40
50HK6	2.15
50L6GT	3.55
50X6	5.85
50Y6GT	4.35
50Y7GT	4.25
53HK7	8.35
60FX5	2.95
80	4.80
84/6Z4	5.20
117L7/M7GT	9.55
117N7GT	12.85
117Z3	4.50
5879	4.75
6973	4.60
7025	3.10
7027A	6.75
7189	3.40
7199	4.90
7247	3.20
7355	3.65
7408	3.35
7543	3.25
7581A	4.55
7591A	2.80
7695	4.40
7868	4.75
8417	5.65
EM84/6FG6	3.35

INDUSTRIAL TUBES FOR DEALER SERVICE

0A2	$1.85
0A2WA	4.05
0A3	2.20
0A3A	2.20
0A4G	2.65
0B2	1.95
0B2WA	2.85
0C3	2.10
0C3A	2.10
0D3	2.05
0D3A	2.05
1L4	3.10
1P40	5.90
2D21	1.85
2E24	8.20
2E26	4.65
2X2A	4.95
3A5	2.85
3AQP1	40.20
5CP1A	43.40
5R4GYB	2.85
5UP1	29.45
6AK6	2.90
6AS6	4.85
6AS7G	6.95
6DJ8/ECC88	2.65
6J4	5.65
6X4W	2.25
12A6	4.75
12AT7WA	3.55
12AT7WB	3.55
12SW7	2.10
12SX7GT	3.55
12SY7	3.75
83	2.65
807	4.45
811A	9.10
812A	8.45
816	4.80
866A	4.40
868	8.00
884	3.20
918	8.00
920	12.35
922	4.40
925	6.40
927	7.55
929	4.30
930	6.20
991	1.45
1612	8.10
1614	6.95
1619	8.75
1620	10.60
1625	6.80
1629	2.90
1635	5.90
2050	3.35
2050A	2.85
2076/5R4GYB	2.95
5581	6.20
5642	4.95
5651A	2.50
5654	3.40
5654/6AK5W	3.40
5670	3.45
5672	3.20
5686	4.75
5687	4.80
5725	4.45
5725/6AS6W	4.45
5726/6AL5W	2.20
5749/6BA6W	3.10
5750	4.85
5751	3.60
5763	3.45
5783	5.90
5814A	3.30
5823	2.45
5824	4.20
5881	4.35
5915	2.30
5963	1.95
5964	2.20
5965	2.70
6005	4.55
6080	7.50
6136	3.80
6146A	5.05
6146B/8298A	6.05
6159B	5.90
6197	3.25
6201	3.55
6202	3.80
6336A	26.70
6350	2.60
6360A	6.30
6386	10.85
6417	4.70
6550	6.45
6550V1 (Matched Pair)	14.80
6660/6BA6	1.45
6661/6BH6	1.90
6662/6BJ6	1.85
6663/6AL5	1.30
6664/6AB4	1.60
6669/6AQ5A	1.50
6676/6CB6A	1.50
6677/6CL6	2.60
6678/6U8A	2.30
6679/12AT7	2.10
6680/12AU7A	1.75
6681/12AX7A	1.80
6883	5.00
6883B/8032A/8552	6.20
6922/E88CC	6.85
6939	15.95
6977	3.50
7054	2.20
7056	1.30
7057	2.75
7058	1.80
7059	2.10
7061	1.85
7167	2.00
7258	2.60
7308	6.00
7360	5.30
7551	4.75
7558	4.90
7717/6CY5	1.95
7724/14GT8	2.10
7898	1.90
7905	5.40
8077/7054	2.10
8156	5.45
9001	7.55
9002	5.80
9003	7.55

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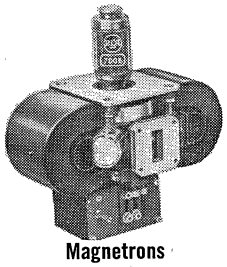
RCA

ELECTRON TUBES
FOR INDUSTRY AND COMMUNICATIONS

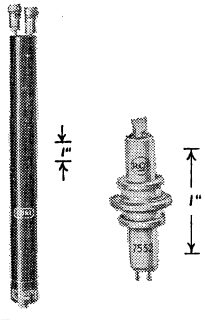
RESALE PRICE SCHEDULE • SEPTEMBER 2, 1968

POWER/MICROWAVE/PHOTOSENSITIVE/CAMERA/DISPLAY/INDUSTRIAL RECEIVING

MICROWAVE DEVICES



Magnetrons



Traveling Wave — Pencil

CAMERA & DISPLAY

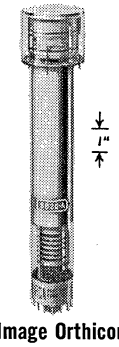
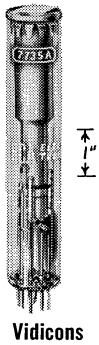


Image Orthicons



Vidicons

RCA Type	Dist. Resale Price Optional
RCA POWER TUBES	
RCA VACUUM POWER TUBES FOR CW APPLICATIONS	
2C39A	$20.75
2C39A/V1	20.75
2C39WA	20.75
2C40	30.80
2C43	26.95
2E24	7.00
2E26	3.95
2K26	68.00
4-125A/4D21	36.00
4-250A/5D22	46.50
4E27A/5-125B	45.00
4X500A	128.50
9C25	2,195.00
807	3.80
810	28.00
811A	7.75
812A	7.20
813	23.75
827R	615.00
828	33.80
829B	19.40
832A	16.30
833A	67.90
837	14.70
845	32.20
891R	430.00
892	325.00
892R	425.00
1624	10.25
1625	5.80
4604	9.00
4624	295.00
4626	605.00
4628	1,225.00
4629	380.00
4630	2,670.00
4631	95.00
4632	1,090.00
4634	460.00
4635	2,500.00
4636	525.00
4637	105.00
4638	700.00
4640	3,165.00
5556	54.25
5671	2,110.00
5713	700.00
5762	230.00
5770	1,780.00
5771	700.00
5786	310.00
6076	305.00
6146A	4.30
6146B/8298A	5.15
6146W	6.60
6155	36.00
6159B	5.05
6159W	9.00
6161	135.00
6166	825.00
6166A/7007	975.00
6181	1,280.00
6448	5,675.00
6524	23.95
6806	6,975.00
6816	51.80
6850	22.40
6883	4.25
6883B/8032A/8552	5.30
6884	39.20
6897	33.60
7034/4X150A	23.15
7094	38.15
7203/4CX250B	35.60
7213	415.00
7214	440.00
7271	35.00
7457	63.90
7650	240.00
7842	63.90
7843	33.60
8000	26.25
8005	19.10
8032	4.90
8072	19.70
8121	30.10
8122	35.00
8165/4-65A	27.00
8166/4-1000A	132.00
8167/4CX-300A	54.00
8168/4CX-1000A	200.00
8170/4CX5000A	495.00
8171/4CX10000D	$575.00
8226	80.05
8239/3X3000F1	215.00
8281/4CX15000A	695.00
8437	2,890.00
8438/4-400A	48.00
8462	45.50
8501	1,150.00
8596	105.00
RCA VACUUM POWER TUBES FOR RF-PULSE APPLICATIONS	
2041	P
2054	P
4612	P
4616	P
4621	125.00
5946	145.00
6949	P
6950	P
6952	P
7651	260.00
7835	P
8184	2,335.00
8587	P
RCA HARD-TUBE MODULATORS	
3E29	21.10
6293	4.90
RCA VACUUM POWER TUBES FOR SPECIAL APPLICATIONS	
4600A	345.00
4614	325.00
RCA RECTIFIERS VACUUM TYPES — Half-Wave Types	
2X2A	4.20
3B28 (Gas Type)	8.10
579B	20.50
836	14.75
1616	16.25
5825	28.50
8013A	19.55
8020	23.50
MERCURY-VAPOR TYPES — Half-Wave Types (except as noted)	
575A	20.60
604/7014 (Full-Wave)	11.80
615/7018	10.05
673	20.60
816	4.10
857B	225.00
866A	3.75
869B	123.50
872A	10.70
5558	17.50
5561	59.00
6894	25.90
6895	25.90
8008	11.50
RCA IGNITRONS	
5550	49.00
5551A	65.00
5552A	99.00
RCA THYRATRONS TRIODES (Mercury-Vapor Types)— For Control Service	
3C23	11.98
627	27.50
676	63.80
677	63.80
710/6011	12.00
714/7021	10.00
760/6858	28.10
5557	9.50
5559	23.00
5563A	53.90
TRIODES (Gas Types)— For Control Service	
6130/3C45	25.75
C1K/6014	11.80
C3J/5632	12.70
C3JA/5684	13.10
C3J/L	14.20
C6J/5C21	28.10
C6JA/5685	29.00
C16J/5665	52.50
TETRODES (Mercury-Vapor Types)— For Control Service	
3D22A	$37.00
105	59.00
632B	33.00
672A	39.85
5560	33.00
RCA MICROWAVE TUBES	
RCA MAGNETRONS For Pulsed-Oscillator Service	
6521	725.00
6521/R	725.00
8684	2,335.00
RCA KLYSTRONS	
8568	P
2K26	68.00
RCA TRAVELING-WAVE TUBES	
4012	P
4013	P
4015	P
4017	P
4019	P
4020	P
4021	P
4041	P
4053	P
4054	P
6861	995.00
7642	1,265.00
8379	1,525.00
RCA PENCIL TUBES	
4028A	32.35
4037A	27.55
4055	32.90
4058	17.60
4062A	32.90
4065	31.50
5675	6.90
5876A	6.90
5893	18.45
6173	15.20
6263A	13.55
6264A	14.35
6562/5794A	P
7533	7.75
7552	46.45
7553	55.80
7554	39.20
8727	35.00
RCA PHOTOSENSITIVE TUBES & DEVICES	
PHOTOCONDUCTIVE CELLS	
SQ2502	1.90
SQ2503	1.32
SQ2508	1.90
SQ2519	1.08
SQ2520	1.49
SQ2521	1.54
SQ2526	1.54
SQ2527	1.54
SQ2529	1.65
SQ2530	1.32
SQ2534	1.65
SQ2535	1.13
SQ2536	1.13
SQ2543	2.06
SQ2544	1.90
SQ2544V1	1.90
SQ2545	1.90
SQ2545V1	1.90
SQ2546	1.90
SQ2554	1.13
SQ2555	1.17
SQ2556	1.44
SQ2557	1.40
SQ2558	1.57
4403	1.21
4404	1.32
4448	1.32
4453	1.28
7163	1.21
RCA PHOTOTUBES SINGLE- AND TWIN-UNIT TYPES — Gas Types	
1P29	8.45
1P37	6.85
1P40	5.05
1P41	6.15
868	6.85
918	6.85
920	$10.55
921	5.15
923	5.00
927	6.45
930	5.30
4409	5.30
5581	5.30
5582	6.75
5583	8.60
6405/1640	9.00
6953	7.70
SINGLE AND TWIN-UNIT TYPES — Vacuum Tubes	
1P39	3.45
1P42	16.20
917	9.55
919	10.15
922	3.75
925	5.45
926	5.15
929	3.65
934	5.65
935	15.35
2022	5.50
5652	8.60
5653	5.35
6570	10.55
7043	6.60
RCA MULTIPLIER PHOTOTUBES	
1P21	55.30
1P22	17.25
1P28	21.80
1P28A	27.30
931A	12.10
931VA	12.75
2020	85.00
2031	16.90
2055	15.90
2060	50.40
2061	60.90
2062	53.20
2063	105.00
2064B	120.00
2065	165.00
2067	170.00
4438	115.00
4439	115.00
4440	115.00
4441	170.00
4441A	350.00
4459	495.00
4460	235.00
4461	280.00
4463	235.00
4464	250.00
4465	290.00
4471	17.95
4472	24.60
4473	93.85
4516	185.00
4517	85.60
4518	105.00
4521	675.00
4522	1,025.00
4523	125.00
4524	135.00
4525	205.00
4526	750 00
5819	78.65
6199	50.40
6217	82.80
6328	14.45
6342A	60.90
6472	16.20
6655A	58.10
6810A	210.00
6903	395.00
7102	115.00
7117	13.10
7200	200.00
7264	265.00
7265	380.00
7326	405.00
7746	205.00
7764	130.00
7767	135.00
7850	240.00
8053	105.00
8054	120.00
8055	170.00
8571	310.00
8575	315.00
8575/V1	320.00
8644	370.00
8645	475.00
8664	1,665.00

P—Price and Delivery on Request

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RCA

ELECTRON TUBES
FOR INDUSTRY AND COMMUNICATIONS

RESALE PRICE SCHEDULE • SEPTEMBER 2, 1968

POWER/MICROWAVE/PHOTOSENSITIVE/CAMERA/DISPLAY/INDUSTRIAL RECEIVING

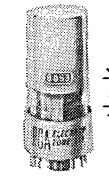
RCA CAMERA & DISPLAY TUBES

RCA Type	Dist. Resale Price Optional
RCA IMAGE ORTHICONS	
4470	$8,775.00
4492	1,650.00
4536	2.165.00
5.20A	995.00
5820A/L	1,800.00
7198A	1,335.00
7295B	1,440.00
7295C	1,975.00
7389B	1,440.00
7389C	1,975.00
7629A	1,700.00
7967	3,500.00
8673	1,800.00
8673/S	1,800.00
8674	1,800.00
8674/S	1,800.00
8685	1,440.00
8748	1,975.00
8749	1,975.00
8775	1,800.00
RCA MONOSCOPES	
2F21	300.00
1699	P
RCA VIDICONS	
2048	720.00
4427	585.00
4478	64.40
4482	705.00
4493	1,055.00
4494	1,055.00
4495	1,055.00
4500	430.00
4503	470.00
4542	375.00
7038	175.00
7262A	215.00
7263A	370.00
7735	120.00
7735A	150.00
7735B	175.00
8051	605.00
8134	275.00
8134/V	370.00
8480	760.00
8480/V1	1,140.00
8507A	215.00
8521	605.00
8567	910.00
8572	215.00
8573	275.00
RCA CATHODE-RAY TUBES OSCILLOGRAPH TYPES	
1EP1	26.25
1EP11	27.45
2AP1A	18.55
2BP1	19.70
3AP1A	26.60
3AQP1	34.35
3BP1A	33.90
3JP1	32.65
3JP7	27.65
3KP1	28.60
3RP1	18.30
3RP1A	27.00
3RP7A	31.60
3WP1	35.90
3WP11	37.80
5ABP1	47.60
5ABP31	47.60
5ADP1	47.60
5ADP31	47.60
5BP1A	38.85
5CP1A	37.10
5FP7A	39.20
5UP1	21.10
5UP7	25.70
5UP31	21.80
7MP7	54.05
7VP1	30.80
7VP31	30.80
902A	21.00
4489	21.00
4490	36.05
4491	40.60
4499	32.85
4510	35.70
VIEW-FINDER KINESCOPES	
5FP4A	36.05
MONITOR KINESCOPES	
7CP4	$71.75
7TP4	73.15
8HP4	52.50
8NP4	36.95
8QP4	50.65
10SP4	99.35
17DWP4	25.65
21EYP4	31.85
PROJECTION KINESCOPES	
5AZP4	135.00
7NP4	1,085.00
7WP4	1,110.00
4486	1,095.00
FLYING-SPOT CATHODE-RAY TUBES	
5AUP24	150.00
5WP15	95.90
5ZP16	89.00
DISPLAY STORAGE TUBES Direct-View Types	
4412	3,415.00
4454	1,030.00
6866	1,280.00
7183A	1,025.00
7268B	P
7315	925.00
7539	1,635.00
RADECHON Single Beam, Barrier-Grid Type	
1858	430.00
6499	360.00
RCA IMAGE-CONVERTER TUBES	
4449A	1,750.00
6381	P
6914	P
6914A	P
6929	P

RECEIVING TYPE TUBES FOR INDUSTRY AND COMMUNICATIONS

RCA Type	Dist. Resale Price Optional
Beam Deflection	
7360	3.77
Beam Power	
3B4WA	5.85
Subminiature:	
5902	4.80
Miniature:	
5686	3.37
5763	2.45
6005	3.23
6417	3.33
6669/6AQ5A	1.06
7061	1.29
7551	3.37
7558	3.49
7905	3.85
Other Air-Cooled Types:	
12A6	3.36
26A7GT	7.70
1614	4.93
1619	6.23
1622	5.35
5824	3.60
5881	3.10
6550	4.59
6550V1 (Match Pair)	9.25
Diodes	
9005	8.05
9006	2.70
Glow-Discharge	
0A4G	1.86
1C21	4.15
5823	1.72
Voltage Regulators	
0A2	1.32
0A2WA	3.35
0A3	1.54
0A3A	1.54
0B2	1.37
0B2WA	2.40
0C2	1.50
0C3	1.50
0C3A	$1.50
0D3	1.44
0D3A	1.44
6AS7G	4.93
991	1.01
5651A	1.78
5651WA	6.60
5783	4.19
6073	3.00
6073/0A2	3.35
6074	3.45
6074/0B2	3.70
6080	5.33
6080WA	10.80
6082	5.60
6336A	19.04
6626/0A2WA	3.35
Pentodes	
6AH6WA	7.60
7258	1.82
8156	3.89
Subminiature:	
5636	6.10
5639	5.25
5672	2.27
5678	2.30
5840	5.35
5899	5.55
Miniature:	
1L4	1.50
3A4	1.25
6AK6	1.40
6AN5	4.20
6AS6	3.43
6AU6WB	2.70
26A6	3.70
408A	4.95
5654	2.41
5725	3.15
5725/6AS6W	3.12
5749	2.20
5847/404A	9.55
6136	2.70
6186	3.85
6186/6AG5WA	3.85
6197	2.30
6660/6BA6	1.01
6661/6BH6	1.34
6662/6BJ6	1.29
6676/6CB6A	1.06
6677/6CL6	1.85
6688A	6.80
6939	11.37
7054	1.54
7056	.92
8077/7054	1.50
9001	5.38
9003	5.38
Acorn:	
959	13.85
Other Air-Cooled Types:	
6AC7W	5.45
6AG7Y	2.80
6SJ7Y	2.15
1613	3.30
1620	7.55
1621	3.85
5693	6.60
Power Rectifiers	
5R4GYB	2.03
6X4W	1.60
83	1.89
2076/5R4GYB	2.11
5642 (Pulsed)	3.53
6202	2.69
Tetrodes	
105	59.00
6360A	4.95
7167	1.41
7717/6CY5	1.39
Thyratrons	
Gas:	
2D21	1.29
884	2.28
2050	2.37
2050A	2.03
5663	2.20
5696	1.95
5727	2.90
6012	7.65
Triodes	
Subminiature:	
5718	$3.65
5719	3.15
Miniature:	
6D4	2.70
6J4	4.02
407A	5.90
5842/417A	7.35
6664/6AB4	1.12
9002	4.14
Nuvistor:	
7586	3.35
7587	5.20
7895	3.35
8056	5.00
8058	14.95
8203	3.80
8393	3.45
8627	14.15
8628	5.00
Acorn:	
6F4	14.40
955	7.05
Twin Diodes	
5726	1.55
5896	3.80
6663/6AL5	.92
6887	1.40
7055	1.00
TWIN TRIODES	
3A5	2.03
6DJ8/ECC88	1.89
6J6WA	5.35
12AT7WA	2.53
12AT7WB	2.53
1635	4.20
5670	2.45
5687	4.05
5691	8.75
5692	8.25
5751	2.55
5814A	2.35
5844	2.40
5963	1.36
5964	1.55
5965	1.92
6021	3.50
6072	3.90
6101	5.35
6111	3.70
6112	4.15
6189	3.70
6201	2.95
6211	2.15
6350	1.85
6386	7.75
6679/12AT7	1.50
6680/12AU7A	1.22
6681/12AX7A	1.26
6922/E88CC	4.87
7044	2.70
7057	1.95
7058	1.26
7308	5.20
7898	1.34
TWIN DIODE TRIODES AND TRIODE PENTODES	
12SW7	1.49
26C6	3.05
6678/6U8A	1.62
7059	1.48
7060	1.75
7724/14GT8	1.48
MISCELLANEOUS TYPES	
2K26	68.00
12SY7	2.67
26D6	3.05
1612	5.77
1629	2.04
1946	16.15
1947	47.00
1949	23.75
5734	22.05
5750	3.45
5915	1.62
6550	4.59
6977	2.48

PHOTOSENSITIVE



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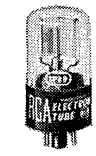
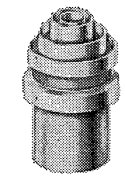


Phototubes

Photocells

POWER TUBES



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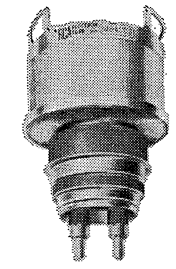
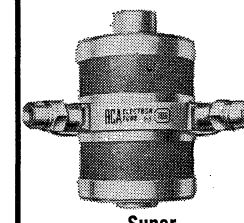


Large



Super

P—Price and Delivery on Request

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SYLVANIA INDUSTRIAL PRODUCTS

RECEIVING TUBES

Type	Sugg. User Price
*OA2	$ 1.32
GB-OA2WA	3.35
OA3	1.54
*OA4G	1.86
OA5	6.96
*OB2	1.37
*OB2WA	2.40
GB-OB2WA	2.40
*OB3	2.35
*OC3	1.50
*OD3	1.44
C1K/6014	11.80
VG1A	32.60
1P39	3.15
1P40	4.80
2-01C	18.00
2C39A	20.75
2C39B	32.15
2C39WA	29.00
2C40	29.30
2C43	26.95
2C51	3.65
2D21W	1.25
2D21W (See 5727/2D21W)	
2E24	6.45
2E26	4.00
*2J42	102.00
2X2A	3.95
3-400Z (See 8163/3-400Z)	
3A5	2.03
3B28	7.00
3C23	11.98
3CPN10A5 (See 7815/3CPN10A5)	
3GX100A5 (See 7289/3CX100A5)	
3CX2500A3	200.00
3CX2500F3	210.00
3CX3000A1	210.00
3CX3000F1	220.00
3E29	21.50
C3J/5632	12.70
C3J/A/5684	13.10
4-65A (See 8165/4-65A)	
4-125A	36.00
4-250A	46.50
4-400A (See 8438/4-400A)	
4-1000A (See 8166/4-1000A)	
4CX250B (See 7203/4CX250B)	
4CX250F (See 7204/4CX250F)	
4CX250K (See 8245/4CX250K)	
4CX300A (See 8167/4CX300A)	
4CX1000A (See 8168/4CX1000A)	
4CX5000A (See 8170/4CX5000A)	
4E27A/5-125B	45.00
4PR60B (See 8252/4PR60B)	
4W20,000A (See 8173/4W20,000A)	
4X150A (See 7034/4X150A)	
4X250B	35.75
4X500A	127.50
5R4GYB	2.03
*5Y3WGTA	4.05
GB-5Y3WGTA	4.05
6AD4	3.40
*6AH6WA	7.60
*6AJ5	3.85
6AK6	1.40
6AN5	$ 4.20
*6AN5WA	10.80
6AS6	3.43
6AS7G	4.93
6AS7GA	4.93
*6AU6WB	2.70
*6BF7W	4.20
GB-6BQ7A	2.20
*6C4W	1.55
*6C4WA	3.15
GB-6CY5	1.85
*6D4	2.85
6DJ8	1.90
GB-6DJ8	2.70
6J4	4.02
*6J4WA	5.60
GB-6J4WA	5.60
C6J/A/5685	29.00
*6J6WA	5.35
*6SJ7WGT	2.70
*6SL7WGT	3.15
GB-6SL7WGT	3.15
*6SN7WGT	2.35
GB-6SN7WGT	2.35
*6SN7WGTA	4.90
*6V6GTY	1.45
*6X4W	1.60
*6X4WA	2.85
GB-6X4WA	2.85
*6X5WGT	1.55
GB-6X5WGT	1.55
*7AK7	8.15
GB-7AK7	8.15
*7F8W	7.05
*12AT7WA	2.55
*12AT7WB	2.55
12AY7	2.45
C16J/5665	52.50
RX21A	25.75
25T	28.50
*28D7	4.95
FG-95 (See 5560/FG95)	
100 (See 5575/100)	
100TH	23.50
102A	174.00
200 (See 5576/200)	
250TH	38.50
304TH	75.00
304TL	75.00
GB-407A	5.90
GB-408A	4.95
450TL	85.00
481B	10.90
575A‡	21.00
579B	20.50
592/3-200A3	46.00
604	11.80
604L	13.00
615	10.05
627	27.50
632B	33.00
635	13.00
635L	13.50
652 (See 5551A/652)	
672A	39.85
673	21.00
678	50.75
710 (See 6011/710)	
760	28.10
760L	29.40
807‡	3.40
810	28.60
811A	7.15
813	24.25
815	35.75
816	3.60
828	34.50
829B	19.85
832A	16.65
833A‡	65.10
866A	3.25
869B‡	$155.00
872A	9.90
889RA (See 5667/889RA)	
921	5.20
922	3.80
923	4.70
927	6.00
929	3.45
930	4.95
931A	12.30
1000T	169.00
1051A	65.00
1052A	99.00
1061	65.00
R1111	12.70
R1111M	26.00
1218A	5.00
GB-1219/5670	3.70
GB-1220/5654	3.05
1229	5.35
GB-1252/6U8A	2.00
1319	125.00
1616	15.10
1624	9.45
2050	2.37
2050A	2.03
5530H	425.00
5531	795.00
5541	670.00
5552A	99.00
5553B	245.00
5557‡	9.50
5558	17.50
5559‡	23.00
5575/100	225.00
5576/200	245.00
5604	570.00
5606	288.00
5632 (See C3J/5632)	
*5636A	6.10
*5639	5.25
*5641	7.55
5642	3.55
*5643	9.05
*5644	9.90
*5647	8.65
5651	1.90
5651WA	3.75
5654	2.45
GB-5654	2.45
5658	595.00
5665 (See C16J/5665)	
5667 (889RA)‡	370.00
5668	350.00
5669	515.00
*5670	2.45
GB-5670	2.45
5684 (See C3J/A/5684)	
5685 (See C6J/A/5685)	
GB-5687	4.00
*5687WA	5.66
*5692	8.25
5693	6.60
5696	1.95
*5718	3.65
*5719	3.15
5722	8.35
5725	3.15
GB-5725	3.15
5726	1.55
GB-5726	1.55
GB-5727	2.90
*5727/2D21W	2.90
5736	164.75
5749	2.20
GB-5749	2.20
5750	3.45
GB-5750	3.45
*5751	2.55
GB-5751	$ 2.55
•5763	2.45
5796	17.25
GB-5814A	2.35
*5823	1.72
*5840	5.35
5845	9.95
5855	85.00
5879	1.95
5881	3.10
5894	25.00
*5896	3.80
*5899	5.55
*5902	4.80
*5903	7.45
*5904	7.90
*5905	8.40
*5906	8.40
*5907	8.40
*5908	9.80
5916	9.80
*5931	6.80
GB-5931	6.80
*5932	11.30
GB-5932	11.30
*5933	12.35
GB-5933	12.35
*5933WA	16.50
5934	22.00
*5963	1.34
5964	1.54
5965	1.95
5966	42.00
*5977	6.55
*5987	11.10
6005	3.23
GB-6005	3.23
6011/710	12.00
6012	7.65
6014 (See C1K/6014)	
*6021	3.50
*6028	4.95
6072	3.90
*6080	5.33
GB-6080	5.33
*6080WA	10.80
GB-6101	5.35
*6110	8.05
*6111	3.70
*6112	4.10
*6135	2.40
GB-6135	2.40
GB-6136	2.70
•6146A	4.35
6146B/8298A	5.20
•6159A	4.80
GB-6186	3.85
*6186/6AG5WA	3.85
6189	3.70
GB-6189	3.70
*6197	2.30
GB-6201	2.55
*6205	5.90
*6206	7.25
6211	1.95
*6216	4.15
6257	330.00
6350	1.85
*6352	9.85
•6360	4.95
6421-F	545.00
6425-F	675.00
6476A	14.95
6483	3.09
6485	2.05
6550	4.95
•6660/6BA6	1.01
•6661/6BH6	1.34
•6662/6BJ6	1.29
•6663/6AL5	.92
6664/6AB4	1.12
•6669/6AQ5A	1.06
*6676/6CB6A	$ 1.06
•6677/6CL6	1.85
•6678/6U8A	1.62
•6679/12AT7	1.50
•6680/12AU7	1.22
•6681/12AX7	1.26
6688	6.80
*6788	10.85
6802	11.43
6807	32.25
*6832	20.65
6879	13.37
•6883A	4.30
6897	32.15
6909	11.43
6910	13.37
6922	4.87
6939	11.37
*6943	11.10
*6944	11.10
*6945	11.10
*6946	10.85
*6947	11.35
*6948	11.35
6973 (Receiving Type)	X
6977	2.50
7025 (Receiving Type)	X
7034/4X150A	25.00
7038	175.00
7044	2.70
•7054	1.54
•7055	1.00
•7056	.92
•7057	1.95
•7058	1.26
•7059	1.48
•7060	1.75
7155	13.37
•7167	1.45
7199 (Receiving Type)	X
7203/4CX250B	35.75
7204/4CX250F	39.00
•7258	2.75
7289/3CX100A5	30.75
7325	185.00
7551	3.40
7735A	170.00
7738	2.80
*7759	7.35
*7760	15.25
*7761	7.40
*7762	7.40
7815/3CPN10A5	30.75
*7887	6.70
*7888	5.25
7962	7.50
7963	7.50
7984	5.35
8008	11.80
8035 (CT-4251)	11.10
*8064	7.50
8070	7.50
8071	7.50
8077/7054	1.50
8161/3X2500A3 (See 3CX2500A3)	
8163/3-400Z	34.00
8165/4-65A	27.00
8166/4-1000A	132.00
8167/4CX300A	54.00
8168/4CX1000A	181.00
8170/4CX5000A	495.00
8173/4W20,000A	2,030.00

Net

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SYLVANIA INDUSTRIAL PRODUCTS

Type	Sugg. User Price
8210	$10.75
8233	13.25
8238/3X3000A1 (See 3CX3000A1)	
8239/3X3000F1 (See 3CX3000F1)	
8245/4CX250K	64.00
8251/3X2500F3 (See 3X2500F3)	
8252/4PR60B	107.00
8298A (See 6146B/8298A)	
8334	5.00
8353	11.10
8438/4-400A	48.00
8484	175.00
8507	215.00
9001	5.40
70780	.65
7460-0008	1.20
INDUSTRIAL and MILITARY CATHODE RAY TUBES	
2AP1A	$33.00
2BP1	33.00
2BP11	33.00
*3ACP1A	45.60
*3ACP2A	45.60
*3ACP7A	45.60
*3ACP11A	45.60
3ACP12A	45.60
3ACP16A	45.60
*3ADP1	66.30
3ADP2	66.30
3ADP7	66.30
3ADP11	66.30
3ASP1	53.10
3ASP2	53.10
3ASP7	53.10
3ASP11	53.10
3BEP1	68.00
*3BGP1	66.10
3BGP2	66.10
3BGP7	66.10
3BGP11	66.10
3BMP1	58.50
3BMP2	58.50
3BMP7	58.50
3BMP11	58.50
3BMP12	58.50
*3BP1A	41.05
*3FP7A	45.90
*3JP1	41.90
*3JP2	41.90
*3JP7	41.90
*3JP12	41.90
*3KP1	35.85
3KP4	35.85
3KP7	35.85
3KP11	35.85
3KP16	35.85
3MP1	29.90
*3RP1	27.05
3RP1A	34.45
*3SP1	51.90
3SP2	51.90
3SP11	51.90
*3WP1	40.85
3WP2	40.85
3WP11	40.85
*4MP1	76.85
5ABP1	51.40
5ABP1A	53.80
5ABP4	51.40
5ABP4A	53.80
5ABP7	51.40
5ABP7A	53.80
5ABP11	51.40
5ABP11A	53.80
5ABP31A	53.80
*5ADP1	51.40
5ADP1A	53.80
*5ADP2	51.40
5ADP2A	53.80
*5ADP7	51.40
5ADP7A	53.80
5ADP11	51.40
5ADP11A	53.80
5ADP31A	53.80
*5AHP4A	$49.50
*5AHP7	★
*5AHP7A	49.50
5AHP14	★
5AHP14A	49.50
5AHP19	★
5AHP19A	49.50
5AMP1	★
*5AMP1A	70.05
5AMP2	★
*5AMP2A	70.05
5AMP7	★
*5AMP7A	70.05
5AMP11	★
*5AMP11A	70.05
5AMP31A	70.05
5AQP1	★
5AQP1A	57.30
5AQP2	★
5AQP2A	57.30
*5AQP7	★
5AQP7A	57.30
5AQP11	★
5AQP11A	57.30
5AUP24	165.20
5BCP1	81.00
5BCP4	81.00
*5BCP7	81.00
5BCP11	81.00
5BNP16	47.85
*5BP1A	36.95
5BRP1	60.50
5BRP4	60.50
5BRP7	60.50
5BRP11	60.50
*5CP1A	44.35
*5CP1B	46.00
*5CP7A	44.35
5CP11A	44.35
*5CP12	44.35
*5CVP1	203.00
*5CVP7	203.00
*5CVP19	203.00
5DEP1	34.45
5DEP2	34.45
5DEP7	34.45
5DEP11	34.45
5DKP4	37.20
5DKP11	37.20
5DKP15	37.20
5DKP16	37.20
5DKP24	37.20
5DLP4	43.85
5FP4A	39.30
*5FP7A	39.30
5FP11A	39.30
*5FP14A	39.30
5QP4A	61.10
*5UP1	31.65
5UP7	31.65
5UP11	31.65
5WP11	137.75
5WP15	137.75
5ZP15	116.60
5ZP16	116.60
5ZP24	116.60
7ABP7	★
*7ABP7A	64.00
7ABP14	★
7ABP14A	64.00
7ABP19	★
7ABP19A	64.00
7AEP1	79.35
7AEP2	79.35
*7AEP7	79.35
7AEP11	79.35
7AQP4	86.40
7AQP7	86.40
7AQP16	86.40
7AQP19	86.40
7AQP25	86.40
7AUP4	86.40
7AUP7	86.40
7BP2A	56.75
7BP7A	56.75
7MP7	71.30
7MP14	71.30
7JP1/7VP1	51.30
7JP7	51.30
7UP7	60.85
7UP25	$60.85
8CP1	65.60
8CP2	65.60
8CP7	65.60
8CP11	65.60
8DP4	42.35
8FP4	60.55
8HP4	50.35
8NP4	50.35
8KP4	50.35
8LP4	54.30
8QP4	62.00
*10AKP7	79.70
10ANP4	132.00
*10ANP7	132.00
10ANP16	132.00
10ANP19	132.00
10ANP25	132.00
10KP7	★
*10KP7A	71.30
10KP7B	76.00
10NP11	162.30
10SP4	78.15
10VP7	97.60
10VP15	97.60
*10WP7	71.10
10WP7A	78.25
10WP14	71.10
10WP14A	78.25
10WP19	71.10
10WP19A	78.25
12ABP7	★
*12ABP7A	71.70
12ABP14	★
12ABP14A	71.70
12ABP19	★
12ABP19A	71.70
12AXP1	180.00
12AXP4	180.00
12AXP7	180.00
*12DP7A	101.00
*12DP7C	108.70
12SP7	X
12SP7B	X
*12SP7D	82.00
17DWP4	29.90
21EYP4	33.30
SC-2854	49.50
KLYSTRONS	
SK-220A	$165.00
SK-220B-F	155.00
SK-221A	170.00
SK-221B-K	160.00
SK-221H	210.00
SK-222B-G	160.00
K-4014	195.00
DIODES	
1N34A	$ .30
1N35	1.58
1N38A (Order 1N38B)	
1N38B	.49
1N48	.30
1N55A	.40
1N58A	.55
1N60	.30
1N64	.30
1N72 (Order 1N82A)	
1N82	.60
1N82A	.82
1N90	.33
1N99	.50
1N100	.32
1N126A	.30
1N191	.35
1N198A	.35
1N251	.72
1N252	.65
*1N270	.32
1N276	.31
1N277	.34
1N279	.29
1N281	.31
1N283	.51
1N294	.34
1N295	.35
1N456A	.42
1N457A	.45
1N458A	.48
1N459A	.51
1N461	$.42
1N461A	.42
1N462A	.44
1N463A	.54
1N464A	.53
1N482A	.69
1N483B	.70
1N484A	.70
1N485A	.90
1N486A	.90
1N487A	1.41
1N488A	1.78
1N541	.26
1N625	.43
1N626	.45
1N627	.60
1N628	.72
1N629	.81
1N662	.92
1N663	1.20
1N695	.30
1N816	.52
1N914	.45
1N916	.75
1N995	.60
1N3064	.67
1N3182	.64
1N4092	.34
1N4093	.68
*1N4148	.35
1N4149	.45
1N4150	2.25
1N4151	.80
1N4152	.72
1N4154	.42
1N4446	.40
1N4447	.50
1N4448	.80
1N4449	.50
*1N4454	.67
1N4531	.45
1N4532	.65
1N4533	.85
1N4534	1.00
1N4536	.45
*1N4938	2.00
1N5282	2.25
RECTIFIERS	
1N645	$1.40
1N646	1.65
1N647	1.70
1N648	1.80
1N649	2.25
1N2069	.65
1N2070	.71
1N2071	.87
1N2482	.65
1N2483	.69
1N2484	.71
1N4001	.45
1N4002	.49
1N4003	.60
1N4004	.67
1N4005	.81
1N4006	1.12
1N4007	1.80
1N4383	.48
1N4384	.58
1N4385	.78
1N4585	1.20
1N4586	2.70
MICROWAVE DIODES	
1N21C	$1.02
1N21D	2.10
1N21E	3.50
1N21F	7.15
1N21WE	4.35
1N21G	11.90
1N23C	1.02
1N23D	2.10
1N23E	3.50
1N23F	7.15
1N23WE	4.35
1N23G	11.90
1N25	3.53
1N25A	8.48
1N25B	11.75
1N26	6.50
1N26A	7.75
1N26B	27.25
1N26C	31.15
1N53	23.20
1N53A	25.70
1N53B	29.65
1N53C	46.80
1N53D	55.00
1N76	2.05
1N76A	2.60
1N78B	7.00
1N78C	14.00
1N78D	22.00
1N78E	31.50
1N78F	56.00
1N415C	1.02
1N415D	2.10
1N415E	3.50
1N415F	7.15
1N415G	11.90
1N416C	1.02
1N416D	2.10
1N416E	3.50
1N416F	7.15
1N416G	11.90
1N830	2.95
1N830A	3.85
1N831	6.85
1N831A	10.90
1N831B	15.00
1N832	6.85
1N832A	10.90
1N832B	15.00
1N832C	22.50
1N1132	15.00
1N1610	32.90
1N1611	4.30
1N1611A	9.15
1N1611B	18.00
1N2102	13.35
1N2510	18.20
1N2926	17.15
1N2926A	23.30
1N3143	5.60
1N3655	4.00
1N3655A	9.00
1N3655B	16.00
1N3745	6.60
1N3746	13.80
1N3747	19.75
1N3778	6.70
1N4379	11.25
1N4600	20.00
1N4601	24.00
1N4602	36.00
1N4603	15.00
1N4604	25.00
1N4605	33.00

Types listed in Bold Face are Sylvania Gold Brand Tubes.

- Tubes are "Communication Quality" types.

* Indicates Military Type Approval.

‡ These tubes may be of foreign manufacture and, in many cases, manufactured by the foreign affiliate of Sylvania Electric Products Inc.

X Price quoted upon request.

★ Order "A" version.

Prices are subject to change without notice.

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"ASSURANCE OF RELIABILITY"

PRICES SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE.

TUBE TYPE	DESCRIPTION		NET PRICE
2C53	Hi Mu Triode	(M)	$ 6.85
3B24WA	Vacuum Rectifier Diode		7.50
3B24WB	Vacuum Rectifier Diode	(M)	7.95
3B28	Rectifier, Gas, Half-Wave	(M)	4.25
3B29W	Clipper Diode H.V. Rectifier	(M)	9.95
3C23	Thyratron, Gas & Mercury		4.95
3C24	High Frequency Triode	(M)	12.00
4B32	Rectifier, Gas, Half-Wave	(M)	7.50
4C22/HF100	Power Triode	(M)	30.00
4PR60	Pulse Tetrode		75.00
5C24	Power Triode		32.50
CV-11	Power Triode		12.50
UXCV-11	Power Triode		12.50
FG17	Thyratron, Mercury		5.25
HV-18/HF-200	Power Triode		35.00
FV20	Power Triode		35.00
KU23/HF300	Power Triode		26.00
35T	Power Triode	(M)	30.00
V70D	Power Triode		20.00
X80/6303	Clipper Diode Rectifier		50.00
UE100	Power Triode		20.00
100TH	Power Triode Hi Mu	(M)	17.50
120	Power Triode	(M)	20.00
203WA	Power Triode	(M)	30.00
211W	Power Triode	(M)	35.00
217C	Vacuum Rectifier		35.00
242C	Power Triode		35.00
250TH	Power Triode Hi Mu	(M)	30.00
250TL	Power Triode Low Mu	(M)	30.00
FP265	Power Triode		40.00
311CH	Power Triode		28.00
311CT	Power Triode		30.00
311T	Power Triode		30.00
323B	Rectifier		4.95
371B	Rectifier	(M)	12.50
2-450A	High Vacuum Diode		95.00
468/HF201A	Power Triode		35.00
543	Vacuum Rectifier		35.00
545	Rectifier, External Anode	(M)	60.00
549	Rectifier		40.00
554	Diode, External Anode		60.00
SR554	Diode, External Anode		60.00
558	Clipper Diode Rectifier		35.00
561	Clipper Diode Rectifier		55.00
572B	Power Triode		9.95
575A	Mercury Rectifier	(M)	13.50
576A	Clipper Diode Rectifier	(M)	$ 16.95
577W	Vacuum Rectifier	(M)	35.00
578	Vacuum Rectifier	(M)	18.95
582	Vacuum Rectifier		25.00
583	Clipper Diode	(M)	7.95
589	Diode, External Anode	(M)	60.00
593	Vacuum Rectifier	(M)	30.00
596	Rectifier, Full-Wave	(M)	25.00
673	Mercury Rectifier		13.50
705WA	Vacuum Rectifier	(M)	35.00
715C	Pulse Amplifier Tetrode		45.00
805	Power Triode	(M)	18.00
809	Power Triode	(M)	6.75
810	Power Triode	(M)	18.00
811A	Power Triode		4.25
812A	Power Triode		4.25
812HD	Power Triode		9.75
830	Power Triode		20.00
830B	Power Triode		13.95
836A	Rectifier, Half-Wave H.V.		8.75
838W	Power Triode		35.00
845W	Power Triode	(M)	35.00
851	Power Triode		495.00
860	Power Tetrode		50.00
861	Power Tetrode		125.00
866A	Rectifier, Mercury H.W.		1.95
872A	Rectifier, Mercury Vapor		6.25
873	Thyratron Triode, Mercury Vapor		9.65
949A	Power Triode		160.00
966	Rectifier, Mercury Vapor		4.50
972A	Rectifier, Mercury Vapor		6.25
973	Thyratron		9.65
1641	Rectifier, Full-Wave H.V.		4.95
6303	Clipper Diode Rectifier	(M)	50.00
6303A	Clipper Diode Rectifier	(M)	60.00
6339	Diode, External Anode	(M)	60.00
S6339	Diode, External Anode		60.00
6901	Thyratron, Gas Mercury		9.95
7159	Diode, External Anode		60.00
7310	Vacuum Rectifier		40.00
7402	Clipper Diode Rectifier	(M)	65.00
7410	Thyratron		9.95
8008	Rectifier, Mercury Vapor		6.75
8008XE	Rectifier, Xenon		8.25
8020	Vacuum Rectifier		12.50
8020W	Vacuum Rectifier	(M)	15.00

(M) THESE ITEMS CAN BE SUPPLIED TO EXISTING CURRENT MILITARY SPECIFICATIONS, WITH A CERTIFICATE OF COMPLIANCE. (NO GOVERNMENT SOURCE INSPECTION) TUBES CAN BE BRANDED JAN.

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DIRECT INTERCHANGEABILITY LIST

This Interchangeability Index has been prepared to assist you in finding exact replacement for electronic tubes in the Industrial, Transmitting and Special Purpose fields.

This listing is believed to be accurate to the date of issue, However, no responsibility is assumed by Westinghouse for its completeness or for its use, nor for any infringement of patents or other rights of third parties which may result from its use.

KEY TO ABBREVIATIONS

CR — Cathode Ray
CS — Camera or Storage
Glow — Glow Tube (Cold Cath.)
GA — Vacuum Gauge
Ig — Ignitron
IR — Industrial Receiving
N — Neutron Detector
Photo — Phototube
Rect — Rectifier
Thyr — Thyratron
Trans. — Transmitting
VR — Voltage Regulator or Reference
HCDD — Hollow Cathode Discharge Device

INDEX OF COMMONLY USED MANUFACTURERS PREFIXES

A Radio Corporation of America
AH Marconi Wireless Telegraph Co.
AX Amperex Electronic Corp.
BL Bomac Laboratories
BR Standard Telephone & Cables Inc.
BT British Thomson-Houston Co.
CE Continental Electric Co.
CK Raytheon Manufacturing Co.
DET Marconi Wireless Telegraph Co.
DR General Electronics Inc.
EE Electronic Enterprises Inc.
EL Electrons Inc.
F International Telephone & Telegraph
FG General Electric Co.
G General Motors Laboratories Inc.
GL General Electric Co.
HD C B S Hytron Co.
HV United Electronics Co.
HV Japanese Manufacture
HY C B S Hytron Co.
KD Ferranti Ltd.
KI Westinghouse Electric Corp.
KU Westinghouse Electric Corp.
KU Kuthe Laboratories Inc.
KX Westinghouse Electric Corp.
M Mullard Electric Products Ltd.
ML Machlett Laboratories Inc.
MT English Electric Valve Co.
NL National Electronics Inc.
NU National Union Electric Corp.
PL Penta Laboratories Inc.
PL N. V. Philips Gloeilampenfabrieken
QK Raytheon Manufacturing Co.
R Radio Corporation of America
RK Raytheon Manufacturing Co.
SN Sylvania Electric Products Inc.
T Taylor Tubes Inc.
TT Taylor Tubes Inc.
UE United Electronics Co.
UX United Electronics Co.
V Varian Associates Inc.
VA Varian Associates Inc.
WE Western Electric Co.
WL Westinghouse Electric Corp.
WT Weltronic Co.
WTT Weltronic Co.
WX Westinghouse Electric Corp.
X Varian Associates Inc.
XG Mullard Electric Products Ltd.
Z General Electric Co.
ZP General Electric Co.

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
SBS	Ig	WL-555IA
SCS	Ig	WL-5552A
SDR	Ig	WL-5555
SDS	Ig	WL-5553B
TGRA	Rect	WL-575A
TGRB	Rect	WL-872A
TGRG	Thyr	WL-5563A
TVTA	Trans	WL-892
TVTB	Trans	WL-833A
TVTC	Trans	WL-889A
TVTG	Trans	WL-5606
TVTP	Trans	WL-5771
WL-OAZ	VR	WL-OA2
OA2	VR	WL-OA2
WL-OA3	VR	WL-OA3
OA3	VR	WL-OA3
OA3/VR75	VR	WL-0A3
WL-OC2	VR	WL-OC2
OC2	VR	WL-OC2
WL-OC3	VR	WL-OC3
OC3	VR	WL-OC3
OC3/VRI05	VR	WL-OC3
WL-OD3	VR	WL-OD3
OD3	VR	WL-OD3
OD3/VRI50	VR	WL-OD3
OG3	VR	WL-5651
AC-IC	Rect	WL-3B22
CT1-2500	Thyr	WL-5559
EL-1C	Rect	WL-3B22
EL-C1B	Thyr	WL5664
EL-C1BA	Thyr	WL-5664
EL-C1J	Thyr	WL-60I4
GL-C1J	Thyr	WL-6014
EL-C1JA	Thyr	WL-6014
EL-C1K	Thyr	WL-6014
GXU1	Rect	WL-3B28
TQ1-2	Thyr	WL-3C23
XG1-2500	Thyr	WL-5559
XR1-3200	Thyr	WL-22994
XR1-6400	Thyr	WL-C6H-1
1G50	Thyr	WL-2050
1P32	Photo	WL-927
WL-1P39	Photo	WL-1P39
1P39	Photo	WL-1P39
GL-1P40	Photo	WL-1P40
WL-1P40	Photo	WL-1P40
1P40	Photo	WL-1P40
1R21	Ig	WL-5550
B2A	Thyr	WL-2050
BTL2-1	Trans	WL-5762
D2M9	IR	WL-6663
DQ2	Rect	WL-866A
DX2	Rect	WL-3B28
H2-I0	Rect	WL-2X2A
M-2K-2.5	Rect	WL-7018
M-2K-215	Rect	WL7018
P2-12	Trans	WL-832A
P2-40	Trans	WL-829B
P2-40B	Trans	WL-829B
QB2/250	Trans	WL-813
QQEO2/5	Trans	WL-6939
QQVO2/6	Trans	WL-6939
QY2-100	Trans	WL-813
TQ2	Thyr	WL-5557
TX2/3	Thyr	WL-2294
TX2/6	Thyr	WL-C6H-1
XGQ2-6400	Thyr	WL-I05

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
2B21	Rect	WL-2X2A
2B29	Trans	WL-829B
2B32	Trans	WL-832A
2B94	Trans	WL-5894
2C4	Thyr	WL-5696
ML-2C39	Trans	WL-2C39A
2C39	Trans	WL-2C39A
WL-2C39A	Trans	WL-2C39A
2C39A	Trans	WL-2C39A
GL-2C39B	Trans	WL-2C39B
ML-2C39B	Trans	WL-2C39B
WL-2C39B	Trans	WL-2C39B
2C39B	Trans	WL-2C39B
GL-2D2I	Thyr	WL-2D2I
PL-2D2I	Thyr	WL-2D21
WL-2D2I	Thyr	WL-2D21
2D21	Thyr	WL-2D21
2D21W	Thyr	WL-5727
GL-2E24	Trans	WL-2E24
WL-2E24	Trans	WL-2E24
2E24	Trans	WL-2E24
GL-2E26	Trans	WL-2E26
WL-2E26	Trans	WL-2E26
2E26	Trans	WL-2E26
2G57	Thyr	WL-5557
2H28	Rect	WL-3B28
2H66	Rect	WL-866A
2V/400A	Rect	WL-866A
2XM600A	Rect	WL-866A
2X2/879	Rect	WL-2X2A
GL-2X2A	Rect	WL-2X2A
WL-2X2A	Rect	WL-2X2A
2X2A	Rect	WL-2X2A
EM-2.5	Rect	WL-7018
EL-C3J	Thyr	WL-5632
C3J	Thyr	WL-5632
C3J/5632	Thyr	WL-5632
EL-C3JA	Thyr	WL-7306A
EL-C3JAL	Thyr	WL-7556A
EL-3C	Rect	WL-4B24
EL-3C/L	Rect	WL-7015
QB3/300	Trans	WL-4D21
QEO3/10	Trans	WL-5763
QQEO3/12	Trans	WL-6360
QQVO3-10	Trans	WL-6360
QVO3-12	Trans	WL-5763
QY3-125	Trans	WL-4D21
RG3-250A	Rect	WL-866A
RR3-250	Rect	WL-3B28
T-3C	Rect	WL-4B24
GL-3C23	Thyr	WL-3C23
WL-3C23	Thyr	WL-3C23
3C23	Thyr	WL-3C23
3C31	Thyr	WL-5664
3E21	Trans	WL-829B
3E29	Trans	WL-829B
3G15	Thyr	WL-5664
3G501A	Thyr	WL-C6H-1
3H150J	Trans	WL-2C39B
3V390A	Thyr	WL-5559
3X100A5	Trans	WL-2C39A
3X100A11	Trans	WL-2C39B
GL-3X2500A3	Trans	WL-8161
WL-3X2500A3	Trans	WL-8161
3X2500A3	Trans	WL-8161
WL-3X2500F3	Trans	WL-825I
3X2500F3	Trans	WL-8251

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
QB-3.5-750	Trans	WL-5D22
AX-4-125A	Trans	WL-4D21
AX-4-125A/6155	Trans	WL-4D21
AX-4-250A	Trans	WL-5D22
AX-4-250A/6156	Trans	WL-5D22
BPMO4	IR	WL-6669
DCG4-1000G	Rect	WL-866A
DCX4-1000	Rect	WL-3B28
DQ4	Rect	WL-872A
EL-C4H-1	Thyr	WL-6856
C4H-1	Thyr	WL-6856
EL-C4H-2	Thyr	WL-6857
C4H-2	Thyr	WL-6857
EL-C4J	Thyr	WL-6856
C4J	Thyr	WL-6856
EL-C4J/F	Thyr	WL-6857
C4J/F	Thyr	WL-6857
GL-KC4	Rect	WL-5575
PM04	I R	WL-6660
QQEO4/20	Trans	WL-832A
QQVO4-20	Trans	WL-815
QVO4-15	Trans	WL-832A
QY4-250	Trans	WL-5D22
TY4-350	Trans	WL-833A
4-125A	Trans	WL-4D21
4-125A/4D21	Trans	WL-4D21
4-250A	Trans	WL-5D22
4-250A/5D22	Trans	WL-5D22
GL-4-400A	Trans	WL-4-400A
WL-4-400A	Trans	WL-4-400A
4-400A	Trans	WL-4-400A
GL-4-1000A	Trans	WL4-4000A
WL-41000A	Trans	WL-4-1000A
4-1000A	Trans	WL-4-1000A
4B13	Trans	WL-813
4CX250B	Trans	WL-4CX250B
4G23	Thyr	WL-3C23
4G63	Thyr	WL-5563A
4G/280K	Thyr	WL-5727
4H72	Rect	WL-872A
4H88	Rect	WL-8008
4T100	Trans	WL-813
4T150A1	Trans	WL-813
4X250B	Trans	WL-4CX250B
4Y25	Trans	WL-807
BT5	Thyr	WL-5559
DCG5/5000GB	Rect	WL-872A
DCG5/5000GS	Rect	WL-8008
G5D	Rect	WL-872A
PM05	I R	WL-5654
QE05/40	Trans	WL-6I46A
QE05/40H	Trans	WL-6159
QV05/25	Trans	WL-807
XG5-500	Thyr	WL-5557
5B/250A	Trans	WL-807
5CEP11	C R	5CEP11
5C21	Thyr	WL-5C21
5C/100A	Trans	WL-813
5DEP1	C R	5DEP1
PL-5D22	Trans	WL-5D22
WL-5D22	Trans	WL-5D22
5D22	Trans	WL-5D22
5FP7	C R	5FP7A
5FP7A	C R	5FP7A
5F22A	Trans	WL-5D22
5H69A	Rect	WL-869B
5R4-GY	Rect	WL-5R4-GYB

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Direct Interchangeability List

continued

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
5R4-GYA	Rect	WL-5R4-GYB
5R4-GYB	Rect	WL-5R4-GYB
5S1	Trans	WL-807
5T33	Trans	WL-833A
5UP1	C R	5UP1
5ZP16	C R	5ZP16
EL-C6J	Thyr	WL-5C21
C6J	Thyr	WL-5C21
C6J/5C21	Thyr	WL-5C21
EL-C6J/A	Thyr	WL-C6H-1
C6J/A	Thyr	WL-C6H-1
C6J/A5685	Thyr	WL-C6H-1
EL-C6J/F	Thyr	WL-C6H-2
C6J/F	Thyr	WL-C6H-2
EL-C6J/K	Thyr	WL-C6H-1
C6J/K	Thyr	WL-C6H-1
EL-C6J/KF	Thyr	WL-C6H-2
C6J/KF	Thyr	WL-C6H-2
EL-C6J/L	Thyr	WL-7321
C6J/L	Thyr	WL-7321
EL-C6H-1	Thyr	WL-C6H-1
WL-C6H-1	Thyr	WL-C6H-1
C6H-1	Thyr	WL-C6H-1
EL-C6H-2	Thyr	WL-C6H-2
WL-C6H-2	Thyr	WL-C6H-2
C6H-2	Thyr	WL-C6H-2
DD6	Thyr	WL-6663
DD6G	I R	WL-6663
DQ6	I R	WL-869B
EL-6C	Rect	WL-670
EL-6C/L	Rect	WL-7017
T-6C	Rect	WL-670
QEO6/50	Rect	WL-807
QQE06/40	Trans	WL-5894
QQVO6/40	Trans	WL-5894
QQVO6/40A	Trans	WL-5894
QVO6/20	Trans	WL-6146A
6AB4	I R	WL-6664
6AK5	I R	WL-5654
6AK5W	I R	WL-5654
6AK5W/5654	I R	WL-5654
6AL5	I R	WL-6663
6AQ5	I R	WL-6669
6AS6	I R	WL-6AS6
6AS7G	I R	WL-6AS7GA
6AS7GA	I R	WL-6AS7GA
6AU6	I R	WL-6136
6AU6W	I R	WL-6136
6AU6WA	I R	WL-6136
6B32	I R	WL-6663
6BA6	I R	WL-6660
6BH6	I R	WL-6661
6BJ6	I R	WL-6662
6CL6	I R	WL-6677
6D2	I R	WL-6663
6F31	I R	WL-6660
6F33	I R	WL-6AS6
6G10	Thyr	WL-105
6G45	Thyr	WL-C6H-1
6L6	I R	WL-5881
6L6G	I R	WL-5881
6L6GA	I R	WL-5881
6L6GB	I R	WL-5881
6L6GC	I R	WL-5881
6L6W	I R	WL-5881
6L6WA	I R	WL-5881
6L6WB	I R	WL-5881
6L41	Trans	WL-5763
6SJ7	I R	WL-5693
6SL7-GT	I R	WL-5691
6SL7-WGT	I R	WL-5691
6SN7-GT	I R	WL-5692
6SN7-GTA	I R	WL-5692
6U8	I R	WL-6678
6U8A	I R	WL-6678
QQVO7-40	Trans	WL-829B
7ABP7	C R	7ABP7A
7ABP7A	C R	7ABP7A
7C24	Trans	WL-5762
7F25A	Trans	WL-4-1000A
7H57	Rect	WL-857B
8F66R	Trans	WL-7007
8NP4	C R	8NP4
8T92	Trans	WL-892
8T92R	Trans	WL-892R
D2M9	I R	WL-6663
TT10	Trans	WL-813
10E/9	Trans	WL-832A
10E/587	Trans	WL-807
10E/11-141	Trans	WL-807
10WP7A	C R	10WP7A
GU12	Rect	WL-866A
12AT7	I R	WL-6679
12AT7W	I R	WL-6201
12AT7WA	I R	WL-6201
12AU7	I R	WL-6680
12AU7W	I R	WL-6189
12AU7WA	I R	WL-6189
12AX7	I R	WL-6681
DG13-32	C R	5UP1
MF13-1	C R	5FP7A
13D2	I R	WL-5692
AR-14	Ig	WL-5551A
P-14	Thyr	WL-5557
AR-14T	Ig	WL-5551A
AR-14TP	Ig	WL-5551APC
AR-14TWS	Ig	WL-5551APC
G15F	Photo	WL-927
EL-C16J	Thyr	WL-5665
GS-16SO	Photo	WL-1P40
QQV16/40A	Trans	WL-5894
TT16	Trans	WK-4D21
TT16D	Trans	WL-4D21
DET17	Trans	WL-810
EE-17	Thyr	WL-5557
FG-17	Thyr	WL-5557
HT-17	Thyr	WL-5557
MT17	Thyr	WL-5557
RL-17	Thyr	WL-5557
TT-17	Thyr	WL-5557
WE-17	Thyr	WL-5557
WL-17	Thyr	WL-5557
17	Thyr	WL-5557
P17A	Trans	WL-807
CE-20	Photo	WL-927
NU-20	Photo	WL-927
20A3	Thyr	WL-5727
KD21	V R	WL-OA3
PL21	Thyr	WL-2D21
RL-21	Thyr	WL-2D21
21A6	Thyr	WL-81A
CE-23	Photo	WL-923
NU-23	Photo	WL-923
BK24	Ig	WL-5552A
KD24	V R	WL-OC3
BK24A	Ig	WL-5552A
BK24B	Ig	WL-5552A
ATS25	Trans	WL-807
G25/3000	Rect	WL-866A
KD25	V R	WL-OD3
NU-25	Photo	WL-927
ATS25A	Trans	WL-807
CE-25C	Photo	WL-927
CV26	Trans	WL-813
BT27	Thyr	WL-105
D27	I R	WL-6663
CE29	Photo	WL-1P39
CE-30	Photo	WL-1P40
NU-30	Photo	WL-930
CE-30C	Photo	WL-930
CE-30Q	Thyr	WL-5557
CV32(Br)	Rect	WL-866A
ECC32	I R	WL-5692
EN32	Thyr	WL-2050
FG-32	Rect	WL-5558
WL-32	Rect	WL-5558
FG-33	Thyr	WL-5720
BK34	Ig	WL-5553B
REL34	Trans	WL-2C40
VT34	Trans	WL-207
BK34A	Ig	WL-5553B
BK34B	Ig	WL-5553B
ECC35	I R	WL-5691
TE-35	I R	WL-5654
EL37	I R	WL-5881
RK-39	Trans	WL-807
VT39A	Rect	WL-869B
FG-41	Thyr	WL-5830
WL-41	Thyr	WL-5830
BK42	Ig	WL-5551A
CE-42	Photo	WL-922
EB42	Rect	WL-857B
VT42	Rect	WL-872A
BK42A	Ig	WL-5551A
VT42A	Rect	WL-872A
BK42B	Ig	WL-5551A
L-FTX44-5	Thyr	WL-5665
TX44-5	Thyr	WL-5665
BK46	Ig	WL-5555
VT46	Rect	WL-866A
VT46A	Rect	WL-866A
GS-47X	Photo	WL-927
HD51	V R	WL-0A2
TS51	I R	WL-5654
51A	Photo	WL-927
R-51A	Photo	WL-927
VT53	Rect	WL-872A
TE-54	I R	WL-5687
FG-57	Thyr	WL-5559
MT-57	Thyr	WL-5559
PL-57	Thyr	WL-5559
RL-57	Thyr	WL-5559
TG-57	Thyr	WL-5559
WL-57	Thyr	WL-5559
VT60(Br)	Trans	WL-807
VT60A(Br)	Trans	WL-807
DP61	I R	WL-5654
HY-61	Trans	WL-807
HY-61/807	Trans	WL-807
R-61A	Photo	WL-930
61A3	Photo	WL-930
B65	I R	WL-5692
BK66	Ig	WL-5550
EL71	I R	WL-5902
RKR-72	Rect	WL-481B
VR-75	V R	WL-OA3
VT75(Br)	I R	WL-5881
VR-75ST	V R	WL-OA3
BT77	Thyr	WL-C6H-1
D77	I R	WL-6663
KT77	I R	WL-5881
QD77	I R	WL-5726
CC81E	I R	WL-6201
ECC81	I R	WL-6679
E81CC	I R	WL-6201
FG-81A	Thyr	WL-81A
WL-81A	Thyr	WL-81A
EBF82	I R	WL-6678
ECC82	I R	WL-6680
ECC83	I R	WL-6681
ECC84	I R	WL-6386
84A3	Photo	WL-923
85A2	V R	WL-5651
E88CC	I R	WL-6922
KT88	I R	WL-6550
VT88(Br)	Trans	WL-832A
E90F	I R	WL-6661
EL90	I R	WL-6669
BT-91	Thyr	WL-22994
E91AA	I R	WL-6663
E91N	Thyr	WL-2D21
EAA91	I R	WL-6663
EB91	I R	WL-6663
EN91	Thyr	WL-2D21
EC92	I R	WL-6664
EN92	Thyr	WL-5696
EF93	I R	WL-6660
EF94	I R	WL-6136
EF95	I R	WL-5654
QV95/25	Trans	WL-807
E99F	I R	WL-6662
ML-100	Rect	WL-5575
TXM100	Thyr	WL-2D21
VT100	Trans	WL-102A
VT100A	Trans	WL-807
ML-102A	Rect	WL-807
WL-I02A		WL-102A
X-103	Trans	WL-4D21
FG-104	Rect	WL-5561
WL-104	Rect	WL-5561
WTT-104	Rect	WL-575A
AX-105	Thyr	WL-105
FG-105	Thyr	WL-105
MT-105	Thyr	WL-105
PL-105	Thyr	WL-105
RL-105	Thyr	WL-105
VR-105	V R	WL-OC3
WL-105	Thyr	WL-105
WTT-105	Trans	WL-892
105	Thyr	WL-105
VR-105MT	V R	WL- OC3
PL-106	Thyr	WL-6858
WTT-106	Thyr	WL-7307A
STV108/30	V R	WL-OB2
WTT-108	Thyr	WL-3C23
108C1	V R	WL-OB2
WTT-111	Thyr	WL-5559
WTT-112	Thyr	WL-632C
VT115A	I R	WL-5881
VT116	I R	WL-5693
WTT-117	Thyr	WL-5557
X-117	Trans	WL-5D22
VT118	Trans	WL-832A
WTT-118	Thyr	WL-105
VT119	Rect	WL-2X2A
WTT-119	Thyr	WL-172
CV124	Trans	WL-807
T-125	Trans	WL-810
E-125A	Trans	WL-4D21
WTT-127	Trans	WL-833A
BR-132	Trans	WL-5762
WTT-134	Thyr	WL-5665
VT139	V R	WL-OD3
B142	Trans	WL-833A
KX142	Rect	WL-2X2A
C143	Trans	WL-813
C144	Trans	WL-829B
VT144	Trans	WL-813
WTT-149	Thyr	WL-172
QS150-40	V R	WL-OD3
SM150-30	V R	WL-OA2
STV150/30	V R	WL-OA2
VR-150	V R	WL-OD3
VR-150-30	V R	WL-OD3
VR-150MT	V R	WL-OA2
VR-150ST	V R	WL-OD3
150C1	V R	WL-OA2
150C2	V R	WL-OA2
150C3	V R	WL-OD3
150C4	V R	WLOA2
B152	I R	WL-6679
D152	I R	WL-6663
Q160-1	Trans Ig	WL-4D21
BK168B	Ig	WL-5822A
FG-172	Thyr	WL-172
WL-172	Thyr	WL-172

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TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
172	Thyr	WL-172
C178	Trans	WL-5894
C180	Trans	WL-832A
G180-2M	V R	WL-OD3
VT187	Rect	WL-575A
ECC189	I R	WL-6922
EF190	I R	WL-6676
BR191	Trans	WL-5762
ML-199	Rect	WL-8094
ML-200	Rect	WL-5576
VT200	V R	WL-OC3
AH201	Rect	WL-866A
VT202	I R	WL-9002
A-206	Rect	WL-579B
GL-207	Trans	WL-207
ML-207	Trans	WL-207
RX-207	Rect	WL-670
UE-207	Trans	WL-207
WL-207	Trans	WL-207
207	Trans	WL-207
WT-210-0001	Thyr	WL-2D21
WT-210-0004	Thyr	WL-205-
WT-210-0008	Rect	WL-866A
WT-210-0011	V R	WL-OC3
WT-210-0015	Thyr	WL-5557
WT-210-0017	Thyr	WL-6856
WT-210-0018	V R	WL-OD3
WT-210-0027	Rect	WL-872A
WT-210-0038	Thyr	WL-172
WT-210-0043	Thyr	WL-5796
WT-210-0044	Rect	WL-575A
WT-210-0045	Trans	WL-892
WT-210-0047	Thyr	WL-3C23
WT-210-0051	V R	WL-OA2
WT-210-0054	Thyr	WL-5830
WT-210-0056	Thyr	WL-5559
WT-210-0057	Thyr	WL-632C
WT-210-0058	Thyr	KU-676
WT-210-0059	Thyr	WL-677
WT-210-0062	Thyr	WL-5557
WT-210-0063	Thyr	WL-5685
WT-210-0066	Thyr	WL-5665
WT-210-0069	Thyr	WL-5557
WT-210-0070	Ig	WL-5550
WT-210-0071	Ig	WL-5551A
WT-210-0072	Ig	WL-5552A
WT-210-0073	Ig	WL-5553B
WT-210-0074	Thyr	WL-105
WT-210-0075	Ig	WL-5822A
WT-210-0077	Thyr	WL-5727
WT-210-0078	Thyr	WL-172
WT-210-0079	Thyr	WL-105
WT-210-0086	Trans	WL-833A
WT-210-0093	Trans	WL-5668
WT-210-0100	Thyr	WL-672A
WT-210-0106	Thyr	WL-7306A
WT-210-0116	Thyr	WL-632C
WT-210-0120	Thyr	KU-610
WT-210-0134	Thyr	WL-678
WT-210-0141	Thyr	WL-5796
WT-210-0147	Ig	WL-5552A
WT-210-0149	Ig	WL-5551A
WT-210-0152	Ig	WL-5553B
WT-210-0156	Ig	WL-5551A
WT-210-0157	Ig	WL-5552A
WT-210-0158	Ig	WL-5551A
WT-210-0159	Ig	WL-5552A
WT-210-0162	Thyr	WL-7509A
WT-210-0165	Ig	WL-5553B
WT-210-0170	Ig	WL-5822A
WT-210-0179	Thyr	WL-C6H-1
Wt-210-0183	Thyr	WL-7556A
WT-210-0188	Thyr	WL-6014
WT-210-0234	Thyr	WL-5665
WT-210-0245	Thyr	WL-C6H-2
WT-210-0246	Ig	WL-7681
WT-210-0249	Ig	WL-5551APC
WT-210-0252	Ig	WL-5552APC
WT-210-0274	Ig	WL-7669
WT-210-0275	Ig	WL-7671
WT-210-0283	Ig	WL-7670
WT-210-0285	Ig	WL-7671PC
WT-210-0290	Ig	WL-7669PC
WT-210-0306	Ig	WL-5553B
AH213	Rect	WL-869B
CE-213	Rect	WL-7018
CE-213A	Rect	WL-7018
CV216	V R	WL-OD3
VT216	Rect	WL-816
VR216A	Rect	WL-866A
AH217	Rect	WL-872A
VT217	Trans	WL-811A
CE-220	Rect	WL-481B
CE-221	Rect	WL-670
CE-222	Rect	WL-3B22
AX-224	Rect	WL-3B28
CE-224	Rect	WL-4B24
Z-225	Rect	WL-866A
VT229	I R	WL-5691
ECC-230	I R	WL-6080
230N	Rect	WL-5558
VT231	I R	WL-5692
CE-232	Rect	WL-5558
FG-235A	Ig	WL-5552A
FG-238B	Ig	WL-5555
CE-245	Rect	WL-7016
VT245	Thyr	WL-2050
WT-246	Thyr	WL-2050
G250/3000	Rect	WL-866A
GRG250/3000	Thyr	WL-5557
RG250/3000	Rect	WL-866A
E-250A	Trans	WL-5D22
K251	Rect	WL-866A
VT252	Photo	WL-923
HF-255	Rect	WL-869B
PL-255	Thyr	WL-414
255A	Rect	WL-869B
255B	Rect	WL-869B
FG-258A	Ig	WL-55535
FG-258B	Ig	WL-5553B
VT259	Trans	WL-829B
FG-259B	Ig	WL-5554
VT260	V R	WL-OA3
WT-262	Rect	WL-866A
WT-269	V R	WL-OC3
FG-271	Ig	WL-5551A
WE-272	Thyr	WL-5557
WT-272	Thyr	WL-5557
WT-272A	Thyr	WL-5557
WE-274B	Rect	WL-5R4-GYB
WT-280	Thyr	WL-C6H-1
VT286	Trans	WL-832A
VT287	Trans	WL-815
WT-294	V R	WL-OD3
CE-303	Thyr	WL-5664
CE-306	Thyr	WL-C6H-1
F-307A	Trans	WL-207
CE-308	Thyr	WL-C6H-1
ML—308	Trans	WL-5668
ML-308R	Trans	WL-5669
B309	I R	WL-6679
CE-309	Thyr	WL-5557
CE-311	Thyr	WL-3C23
F-319A	Rect	WL-872A
WE-319A	Rect	WL-872A
CE-320	Thyr	WL-7307A
320A	Thyr	WL-7307A
B329	I R	WL-6680
B339	I R	WL-6681
F-353A	Rect	WL-872A
F-357A	Rect	WL-857B
F-357B	Rect	WL-8575
F-363A	Trans	WL-892
F-366A	Rect	WL-866A
WE-366A	Rect	WL-866A
F-369B	Rect	WL-869B
WT-373	Rect	WL-7018
F-375A	Rect	WL-575A
WT-382	Rect	WL-872A
Q400-1	Trans	WL-5D22
WE-403A	I R	WL-5654
WE-409A	I R	WL-6AS6
GL-414	Thyr	WL-414
WL-414	Thyr	WL-414
GL-415	Ig	WL-5550
GL426	Rect	WL-7018
WT-439	Thyr	WL-172
440	Rect	WL-7018
444	Rect	WL-3B22
GL452	Trans	WL-892
WL-456	Rect	WL-456
GL-473	Trans	WL-5736
ML-473	Trans	WL-5736
WL-473	Trans	WL-5736
X-474	Trans	WL-2C39A
WL-481	Rect	WL-481B
WL-481A	Rect	WL-481B
WL-481B	Rect	WL-481B
GL-490	Rect	WL-7016
CV491	I R	WL-6189
495	Rect	WL-7016
GL-506	Ig	WL-6228
GL-509	Trans	WL-889A
GL-509R	Trans	WL-5667
GL-510	Rect	WL-857B
GL-512	Rect	WL-575A
GL-512A	Rect	WL-575A
VH-550A	Rect	WL-866A
VX-550A	Rect	WL-3B28
P552/1E	Trans	WL-4D21
QM559	I R	WL-5726
WT-568	Rect	WL-7018
CK-569AX	I R	WL-5678
CK-571AX	I R	WL-5886
GL-572	Trans	WL-2C39A
ZP-572	Trans	WL-2C39A
DR-575A	Rect	WL-575A
EE-575A	Rect	WL-575A
F-575A	Rect	WL-575A
GL-575A	Rect	WL-575A
ML-575A	Rect	WL-575A
WL-575A	Rect	WL-575A
575A	Rect	WL-575A
WL-579	Rect	WL-579B
WL-579A	Rect	WL-579B
WL-579B	Rect	WL-579B
579B	Rect	WL-579B
CV597	Rect	WL-2X2A
NL-600	Rect	WL-3B22
NL-604	Rect	WL-7014
NL-604L	Rect	WL-7015
NL-606	Rect	WL-7016
WT-606	Thyr	WL-2D21
NL-606L	Rect	WL-7017
KU-610	Glow	KU-610
ACC612	Thyr	WL-C6H-1
R-612G	Rect	WL-2X2A
WL-613	Rect	WL-613
613	Rect	WL-613
NL-615	Rect	WL-7018
WL-616	Rect	WL-5575
KU-618	Thyr	KU-618
WL-624	Thyr	WL-624
CV627	Trans	WL-810
GL-627	Thyr	WL-627
KU-627	Thyr	WL-627
WL-627	Thyr	WL-627
627	Thyr	WL-627
CV628	Trans	WL-811A
WL-629	Thyr	WL-629
629	Thyr	WL-629
WL-630	Thyr	WL-2050
WT-630	Thyr	WL-2050
WL-630A	Thyr	WL-2050
WL-631	Thyr	WL-5559
WT-631	Thyr	WL-5559
CV632	Trans	WL-829B
NL-632B	Thyr	WL-632C
WL-632B	Thyr	WL-632C
KU-634	Thyr	WL-677
CV635	Trans	WL-833A
NL-635	Rect	WL-7019
WT-635	Thyr	WL-C6H-1
NL-635L	Rect	WL-7020
NL-635P	Rect	WL-6930
CV642	Rect	WL-872A
KX-642	Glow	KX-642
CV644	Rect	WL-575A
WL-651	Ig	WL-5552A
WL-652	Ig	WL-5551A
WL-653	Ig	WL-5555
WL-653A	Ig	WL-5555
WL-653B	Ig	WL-5555
DF654	I R	WL-5678
WL-655	Ig	WL-5553B
WL-656	Ig	WL-5552A
WL-657	Ig	WL-5551A
WL-658	Ig	WL-5553B
CV664	I R	WL-9002
K1-664	Rect	WL-4B24
WL-670	Rect	WL-670
WL-672	Thyr	WL-672A
GL-672	Thyr	WL-672A
672	Thyr	WL-672A
GL-672A	Thyr	WL-672A
WL-672A	Thyr	WL-672A
672A	Thyr	WL-672A
GL-673	Rect	WL-673
ML-673	Rect	WL-673
WL-673	Rect	WL-673
673	Rect	WL-673
KU-676	Thyr	KU-676
676	Thyr	KU-676
WL-677	Thyr	WL-677
677	Thyr	WL-677
GL-678	Thyr	WL-678
WL-678	Thyr	WL-678
678	Thyr	WL-678
WL-679	Ig	WL-5554
WL-681	Ig	WL-5550
WL-682	Ig	WL-5550
CV685	V R	WL-OD3
CV686	V R	WL-OC3
WL—686	Ig	WL-5550
WL-689	Ig	WL-6228
CV691	Rect	WL-575A
WT-699	Ig	WL-5550
NL-710	Thyr	WL-7307A
NL-710L	Thyr	WL-7509A
NL-715	Thyr	WL-5557
CV717	Rect	WL-5R4GYA
D717	I R	WI-6663
T717	Thyr	WL-5557
CV724	Rect	WL-816
N727	I R	WL-6669
W727	I R	WL-6660
ML-728	Thyr	WL-5557
DC728A	Thyr	WL-627
XC728A	Thyr	WL-627
NL-730	Thyr	WL-22994
731A	I R	WL-5654
EF734	I R	WL-6205
NL-734	Thyr	WL-22994
NL-740	Thyr	WL-6856
NL-740L	Thyr	WL-7022
NL-740P	Thyr	WL-6857

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TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
WL-741	Photo	WL-923
WL-759	Glow	WL-759
NL-760	Thyr	WL-C6H-1
NL-760L	Thyr	WL-7023
NL-760P	Thyr	WL-6859
NL-761	Thyr	WL-C6H-1
NL-762	G A	WL-762
WL-765	G A	WL-765
WL-765A	G A	WL-765A
XB767A	Thyr	WL-2050
CV788	Trans	WL-832A
CV797	Thyr	WL-2D21
ECC801S	S P	WL-6201
DR-807	Trans	WL-807
GL-707	Trans	WL-807
GL-807	Trans	WL-807
807	Trans	WL-807
DR-810	Trans	WL-810
GL-810	Trans	WL-810
ML-810	Trans	WL-810
T-810	Trans	WL-810
UE-810	Trans	WL-810
WL-810	Trans	WL-810
810	Trans	WL-810
DR-811	Trans	WL-811A
GL-811	Trans	WL-811A
NU-811	Trans	WL-811A
WL-811	Trans	WL-811A
811	Trans	WL-811A
GL-811A	Trans	WL-811A
WL-811A	Trans	WL-811A
811A	Trans	WL-811A
DR-812	Trans	WL-812A
GL-812	Trans	WL-812A
NU-812	Trans	WL-812A
WL-812	Trans	WL-812A
812	Trans	WL-812A
GL-812A	Trans	WL-812A
WL-812A	Trans	WL-812A
812A	Trans	WL-812A
DR-813	Trans	WL-813
GL-813	Trans	WL-813
ML-813	Trans	WL-813
RK-813	Trans	WL-813
T-813	Trans	WL-813
UE-813	Trans	WL-813
WL-813	Trans	WL-813
813	Trans	WL-813
GL-815	Trans	WL-815
WL-815	Trans	WL-815
815	Trans	WL-815
DR-816	Rect	WL-816
GL-816	Rect	WL-816
WL-816	Rect	WL-816
816	Rect	WL-816
CV822	Rect	WL-4B24
GL-829	Trans	WL-829B
NU-829	Trans	WL-829B
RK-829	Trans	WL-829B
829	Trans	WL-829B
829A	Trans	WL-829B
GL-829B	Trans	WL-829B
ML-829B	Trans	WL-829B
RK-829B	Trans	WL-829B
WL-829B	Trans	WL-829B
829B	Trans	WL-829B
T830B	Photo	WL-930
GL-832	Trans	WL-832A
NU-832	Trans	WL-832A
832	Trans	WL-832A
DR-832A	Trans	WL-832A
GL832A	Trans	WL-832A
ML-832A	Trans	WL-832A
RK-832A	Trans	WL-832A
WL-832A	Trans	WL-832A
832A	Trans	WL-832A
WL-833	Trans	WL-833A
833	Trans	WL-833A
DR-833A	Trans	WL-833A
GL-833A	Trans	WL-833A
ML-833A	Trans	WL-833A
UE-833A	Trans	WL-833A
WL-833A	Trans	WL-833A
833A	Trans	WL-833A
CV850	I R	WL-5654
S-856	V R	WL-OA2
857	Rect	WL-857B
F-857A	Rect	WL-857B
GL-857A	Rect	WL-857B
857A	Rect	WL-857B
DR-857B	Rect	WL-857B
F-857B	Rect	WL-857B
GL-857B	Rect	WL-857B
ML-857B	Rect	WL-857B
WL-857B	Rect	WL-857B
857B	Rect	WL-857B
S-859	V R	WL-OC2
F-863	Trans	WL-892
RCA863	Trans	WL-892
F-863A	Trans	WL-892
C866	Rect	WL-866A
UX-866	Rect	WL-866A
866	Rect	WL-866A
C866A	Rect	WL-866A
CE-866A	Rect	WL-866A
EE-866A	Rect	WL-866A
GL-866A	Rect	WL-866A
HF-866A	Rect	WL-866A
ML-866A	Rect	WL-866A
NU-866A	Rect	WL-866A
RCA-866A	Rect	WL-866A
RK-866A	Rect	WL-866A
T-866A	Rect	WL-866A
UE-866A	Rect	WL-866A
WL-866A	Rect	WL-866A
866A	Rect	WL-866A
HY-866JR	Rect	WL-816
NU-866JR	Rect	WL-816
866JR	Rect	WL-816
UV-869	Rect	WL-869B
869	Rect	WL-869B
UV-869A	Rect	WL-869B
869A	Rect	WL-869B
CE-869B	Rect	WL-869B
DR-869B	Rect	WL-869B
EE-869B	Rect	WL-869B
F-869B	Rect	WL-869B
GL-869B	Rect	WL-869B
ML-869B	Rect	WL-869B
WL-869B	Rect	WL-869B
869B	Rect	WL-869B
WL869BL	Rect	WL-869BL
869BL	Rect	WL-869BL
872	Rect	WL-872A
DR-872A	Rect	WL-872A
EE-872A	Rect	WL-872A
F-872A	Rect	WL-872A
GL-872A	Rect	WL-872A
ML-872A	Rect	WL-872A
RK-872A	Rect	WL-872A
UE-872A	Rect	WL-872A
WL-872A	Rect	WL-872A
872A	Rect	WL-872A
T-875A	Rect	WL-575A
879	Rect	WL-2X2A
GL-880	Trans	WL-5658
ML-880	Trans	WL-5658
UE-880	Trans	WL-5658
WL-880	Trans	WL-5658
880	Trans	WL-5658
889	Trans	WL-889A
F-889A	Trans	WL-889A
GL-889A	Trans	WL-889A
ML-899A	Trans	WL-889A
UE-889A	Trans	WL-889A
WL-889A	Trans	WL-889A
889A	Trans	WL-889A
889R	Trans	WL-5667
F-889RA	Trans	WL-5667
GL-889RA	Trans	WL-5667
ML-889RA	Trans	WL-5667
UE-889RA	Trans	WL-5667
WL-889RA	Trans	WL-5667
889RA	Trans	WL-5667
F-891	Trans	WL-891
GL-891	Trans	WL-891
ML-891	Trans	WL-891
Ue-891	Trans	WL-891
WL-891	Trans	WL-891
891	Trans	WL-891
F-891R	Trans	WL-891R
GL-891R	Trans	WL-891R
ML-891R	Trans	WL-891R
UE-891R	Trans	WL-891R
WL-891R	Trans	WL-891R
891R	Trans	WL-891R
F-892	Trans	WL-892
GL-892	Trans	WL-892
ML-892	Trans	WL-892
UE-892	Trans	WL-892
WL-892	Trans	WL-892
892	Trans	WL-892
DR-892R	Trans	WL-892R
F-892R	Trans	WL-892R
GL-892R	Trans	WL-892R
ML-892R	Trans	WL-892R
UE-892R	Trans	WL-892R
WL-892R	Trans	WL-892R
892R	Trans	WL-892R
GL-895	Trans	WL-895
ML-895	Trans	WL-895
WL-895	Trans	WL-895
895	Trans	WL-895
GL-895R	Trans	WL-895R
ML-895R	Trans	WL-895R
WL-895R	Trans	WL-895R
895R	Trans	WL-895R
Z900T	Glow	WL-5823
EAA901	I R	WL-6663
S901C	V R	WL-5651
EAA901S	I R	WL-6663
CV904	Trans	WL-892R
EF905	I R	WL-5654
UL-905	Thyr	WL-5559
WL-920	Photo	WL-920
TX-920	Thyr	WL-5559
920	Photo	WL-920
UL-905	Thyr	WL-5559
GL-922	Photo	WL-922
WL-922	Photo	WL-922
922	Photo	WL-922
GL-923	Photo	WL-923
WL-923	Photo	WL-923
923	Photo	WL-923
GL-927	Photo	WL-927
WL-927	Photo	WL-927
927	Photo	WL-927
GL-929	Photo	WL-1P39
WL-929	Photo	WL-1P39
929	Photo	WL-1P39
GL930	Photo	WL-930
WL-930	Photo	WL-930
930	Photo	WL-930
931	Photo	WL-931A
GL-931A	Photo	WL-931A
WL-931A	Photo	WL-931A
931A	Photo	WL-931A
UE-966	Rect	WL-866A
UE-966A	Rect	WL-866A
BM-966B	Rect	WL-866A
HV-966B	Rect	WL-866A
NU-967	Thyr	WL-5557
UE-967	Thyr	WL-5557
UE-972	Rect	WL-872A
UE-972A	Rect	WL-872A
UE-975A	Rect	WL-575A
SN976	I R	WL-5902
SN976D	I R	WL-5902
RG1000/3000	Rect	WL-872A
Stel-1000-2.5-15	Thyr	WL-5559
RS-1007	Trans	WL-4D21
WT-1009	Ig	WL-7681
NL-1009A	Ig	WL-7681
NL-1009AP	Ig	WL-7681PC
NL-1011A	Ig	WL-23011
NL-1011AP	Ig	WL-23011PC
NL-1012A	Ig	WL-23012
NL-1012AP	Ig	WL-23012PC
NL-1013A	Ig	WL-23013
NL-1016	Ig	WL-23016
NL-1022	Ig	WL-5822A
WT-1022	Ig	WL-5822A
NL-1022A	Ig	WL-5822A
D1031A	Trans	WL-8045
NL-1036	Ig	WL-7171
B-1038	C R	10WP7A
NL-1051	Ig	WL-5551A
NL-1051A	Ig	WL-5551A
WT-1051A	Ig	WL-5551A
NL-1051P	Ig	WL-5551APC
WT-1051P	Ig	WL-5551APC
NL-1052	Ig	WL-5552A
NL-1052A	Ig	WL-5552A
WT-1052A	Ig	WL-5552A
NL-1052P	Ig	WL-5552APC
WT-1052P	Ig	WL-5552APC
NL-1053	Ig	WL-5553B
WT-1053A	Ig	WL-5553B
WT-1053P	Ig	WL-5553BPC
CV1060	Trans	WL-807
NL-1061	Ig	WL-7669
NL-I061P	Ig	WL-7669PC
NL-1062	Ig	WL-7671
NL-1066	Ig	WL-7670
NL-1071	Ig	WL-23014
NL-1071P	Ig	WL-23014PC
NL-1072	Ig	WL-23015
NL-1072P	Ig	WL-23015PC
NL-1073	Ig	WL-23017
CV1075	I R	WL-5881
NL-1079	Ig	WL-23018
CV1088	Trans	WL-832A
CK-1090	Glow	WL-5823
C-1108	Trans	WL-4D21
CV1144	Thyr	WL-5557
K-1195P7	C R	7ABP7A
QS-1206	V R	WL-OC3
QS-1207	V R	WL-0A2
1220	I R	WL-5654
1295	Thyr	WL-632C
Stel-1300-01-05	Thyr	WL-2D21
K-1304P7	C R	7ABP7A
CV1364	Trans	WL-807
CV1374	Trans	WL-807
1381HQ	I R	WL-5654
CV1474	Photo	WL-927
Z1494	I R	WL-5654
Z1498	I R	WL-6189
ME-1504	Thyr	WL-5559
CV1572	Trans	WL-807
GL-1614	I R	WL-5881
RK-1614	I R	WL-5881
1614	I R	WL-5881
1657	Thyr	WL-2050
1665	Thyr	WL-2050
1672	Thyr	WL-172

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TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
HF-1701	Thyr	WL-5557
CV1730	I R	WL-5881
CV1832	Rect	WL-OA2
ZV-1798	V R	WL-5973
CV1833	V R	WL-OB2
A-1834	I R	WL-6080
CV1835	Rect	WL-3B28
E-1870	Trans	WL-4D2I
197I	Trans	WL-207
2014	I R	WL-6I97
CV2020	I R	WL-5654
GL-2050	Thyr	WL-2050A
RK-2050	Thyr	WL-2050A
WL-2050	Thyr	WL-2050A
2050	Thyr	WL-2050A
GL-2050A	Thyr	WL-2050A
WL-2050A	Thyr	WL-2050A
2050A	Thyr	WL-2050A
RK-205I	Thyr	WL-2050
205I	Thyr	WL-2050
CV2I29	Trans	WL-5763
CV2I30	Trans	WL-4D2I
CV2I3I	Trans	WL-5D22
CV22I0	Thyr	WL-22994
CV22I5	Thyr	WL-C6H-I
A-225IA	Trans	WL-5667
A225IB	Trans	WL-5667
QA2404	I R	WL-6663
QA2408	I R	WL-5692
Stel-2500-6-40	Thyr	WL-I05
CV2522	I R	WL5725
CV2523	I R	WL-6AS7GA
CV2565	Thyr	WL-2050
CV2573	V R	WL-565I
CV2575	I R	WL-5670
CV2578	I R	WL-5687
CV2650	I R	WL-I2AY7
CV2661	Trans	WL-8I2A
CV2663	Trans	WL-8I5
CV2666	Trans	WL-829B
CV2679	Rect	WL-8I6
CV2685	Trans	WL-5658
CV2686	Trans	WL-889A
CV2688	Trans	WL-89IR
CV2694	Photo	WL-IP40
CV2695	Photo	WL-93IA
CV2696	Photo	WL-93IA
CV2723	Rect	WL-869B
CV2753	Thyr	WL-7306A
CV2754	Thyr	C6H-I
CV2790	Thyr	WL-6OI4
CV2957	Thyr	WL-5557
CV2963	Trans	WL-4D2I
CV2964	Trans	WL-5D22
CV2984	I R	WL-6080
CV-2990	I R	WL-6I36
3069	Rect	WL-866A
3070	Rect	WL-872A
307I	Rect	WL-869B
WX-3072	Rect	WL-670
3072	Rect	WL-857B
WX-3I4I	Thyr	WL-676
WX-3172	Thyr	WL-672A
WX-3I87	Thyr	WL-4I4
WX-3I94	Ig	WL-5550
XRI-3200	Thyr	WL-22994
WX-3230	Thyr	WL-678
CV3508	I R	WL-620I
CV35I2	Thyr	WL-5696
CV3523	Trans	WL-6I46A
3546PW	Photo	WL-927
3572	Trans	WL-829B
CV3599	I R	WL-I2AY7
CV3650	Trans	WL-807
CV3679	I R	WL-5693
CV3699	Thyr	WL-5796
CV3706	Trans	WL-832A
CV37I4	Rect	WL-2X2A
CV3748	C R	5CEPII
WX-375I	Rect	WL-866A
CV3798	V R	WL-OA3
CV38I5	Rect	WL-3B22
3874A	Trans	WL-8I3
CV3880	Trans	WL-4-1000A
3885A	Rect	WL-3B28
CV3900	I R	WL-5963
CV3908	I R	WL-666I
CV3930	I R	WL-57I8
CV3942	I R	WL-5692
CV3974	I R	WL-6AS7GA
WX-3989	C S	WL-7383
CV3990	Trans	WL-2E26
CV4003	I R	WL-6I89
CV40I0	I R	WL-5654
CV40II	I R	WL5725
CV40I6	I R	WL-58I4A
CV40I7	I R	WL-575I
4017	Rect	WL-866A
CV40I8	Thyr	WL-5727
CV4032	I R	WL-58I4A
CV4050	I R	WL-5654
A-405I	Trans	WL-807
A-405IG	Trans	WL-807
A-405IJ	Trans	WL-807
CV4054	I R	WL-5654
4078F	Rect	WL-869B
4078Z	Rect	WL-869B
WX-4II3	G A	WL-226I8
4260	Thyr	WL-5557
426I	Thr	WL-5557
A4273B	I R	WL-5692
WX-4424	G A	WL-226I4
WX-4433	Rect	WL-22800
WX-4433A	Rect	WL-22800
WX-4436	HCDD	WL-22602
WX-445I	G A	WL-22620
A446I	I R	WL-6660
A4475	I R	WL-6AS7GA
WX-4484	HCDD	WL-22603
WX-4492	Rect	WL-2280I
A-4522A	I R	WL-668I
A4524A	I R	WL-668I
A-4535	I R	WL-6080
A-4535A	I R	WL-6080
A-454IH	Trans	WL-5763
WX4580	HCDD	WL-22604
WX-4586	Rect	WL-22802
WX-4620	HCDD	WL-22605
WX-4650	HCDD	WL-22606
WX-465I	HCDD	WL-22607
WX-4659	HCDD	WL-22608
WX-4663	HCDD	WL-22609
WX-4664	HCDD	WL-226I0
WX-4680	HCDD	WL-22804
WX-4688	HCDD	WL-22809
WX-4689	HCDD	WL-226II
WX-47I5A	Trans	WL-22803
WX-4743	HCDD	WL-22663
WX-4748	HCDD	WL-2288II
WX-4836	N	WL-22792
WX-4930	HCDD	WL-22812
WX-4931A	HCDD	WL-22822
WX-4932	HCDD	WL-22813
WX-4933	HCDD	WL-22815
WX-4934	HCDD	WL-22805
WX-4936	HCDD	WL-22816
WX-4937	HCDD	WL-22817
WX-4972	HCDD	WL-22818
ASG50I7	Thyr	WL-5557
PA-502I	Rect	WL-866A
TH502IB	Rect	WL-866A
ASG5023	Thyr	WL-3C23
CV5027	Thyr	WL-5559
TH503IB	Rect	WL-872A
CV5043	Trans	WL-8IIA
WX-5059	N	WL-2279I
WX-5073	HCDD	WL-22819
ASG5I2I	Thyr	WL-2D21
WX-5382	HCDD	WL-22820
WX-5399	HCDD	WL-2282I
WX-5434	HCDD	WL-22838
WX-5463	HCDD	WL-22823
WX-5464	HCDD	WL-22824
WX-547I	HCDD	WL-22825
WX-5472	HCDD	WL-22826
WX-5485	HCDD	WL-22827
WX-5486	HCDD	WL-22828
WX-5487	HCDD	WL-22829
WX-5488	HCDD	WL-22830
WX-5489	HCDD	WL-22831
WX-5490	HCDD	WL-22832
WL-55I3	Trans	WL-55I3
55I3	Trans	WL-55I3
WL5530	Trans	WL-5530
5530	Trans	WL-5530
ASG-5544	Thyr	WL-22994
GL-5544	Thyr	WL-22994
5544	Thyr	WL-22994
ASG-5545	Thyr	WL-C6H-I
GL-5545	Thyr	WL-C6H-I
5545	Thyr	WL-C6H-I
AX-5550	Ig	WL-5550
GL-5550/4I5	Ig	WL-5550
NL-5550	Ig	WL-5550
WL-5550	Ig	WL-5550
WT-5550	Ig	WL-5550
5550	Ig	WL-5550
AJ-555I	Ig	WL-555IA
AX-555I	Ig	WL-555IA
GL-555I	Ig	WL-555IA
NL-555I	Ig	WL-555IA
PL-555I	Ig	WL-555IA
VJ-555I	Ig	WL-555IA
WL-555I	Ig	WL-555IA
WT-555I	Ig	WL-555IA
555I	Ig	WL-555IA
AJ-555IA	Ig	WL-555IA
AX-5551A	Ig	WL-555IA
GL-555IA	Ig	WL-555IA
PL-555IA	Ig	WL-555IA
WL-555IA	Ig	WL-555IA
555IA	Ig	WL-555IA
WL-555IAPC	Ig	WL-555IAPC
AX-5552	Ig	WL-5552A
GL-5552	Ig	WL-5552A
NL-5552	Ig	WL-5552A
PL-5552	Ig	WL-5552A
WL-5552	Ig	WL-5552A
WT-5552	Ig	WL-5552A
5552	Ig	WL-5552A
AJ-5552A	Ig	WL-5552A
GL-5552A	Ig	WL-5552A
NL-5552A	Ig	WL-5552A
PL-5552A	Ig	WL-5552A
VJ-5552A	Ig	WL-5552A
WL-5552A	Ig	WL-5552A
5552A	Ig	WL-5552A
WL-5552APC	Ig	WL-5552APC
AX-5553	Ig	WL-5553B
GL-5553	Ig	WL-5553B
WL-5553	Ig	WL-5553B
5553	Ig	WL-5553B
GL-5553A	Ig	WL-5553B
5553A	Ig	WL-5553B
AJ-5553B	Ig	WL-5553B
AX-5553B	Ig	WL-5553B
GL-5553B	Ig	WL-5553B
VJ-5553B	Ig	WL-5553B
WL-5553B	Ig	WL-5553B
5553B	Ig	WL-5553B
WL-5553BPC	Ig	WL-5553BPC
AX-5554	Ig	WL-5554
GL-5554	Ig	WL-5554
WL-5554	Ig	WL-5554
5554	Ig	WL-5554
AX-5555	Ig	WL-5555
GL-5555	Ig	WL-5555
WL-5555	Ig	WL-5555
5555	Ig	WL-5555
WL-5555A	Ig	WL-5555A
5555A	Ig	WL-5555A
AX-5557	Thyr	WL-5557
GL-5557	Thyr	WL-5557
WL-5557	Thyr	WL-5557
5557	Thyr	WL-5557
GL-5558	Rect	WL-5558
NL-5558	Rect	WL-5558
WL-5558	Rect	WL-5558
5558	Rect	WL-5558
AX-5559	Thyr	WL-5559
GL-5559	Thyr	WL-5559
NL-5559	Thyr	WL-5559
WL-5559	Thyr	WL-5559
5559	Thyr	WL-5559
5560	Thyr	WL-632B
GL-556I	Rect	WL-556I
WL-556I	Rect	WL-556I
556I	Rect	WL-556I
ML-5575	Rect	WL-5575
WL-5575	Rect	WL-5575
ML-5576	Rect	WL-5576
WL-5576	Rect	WL-5576
559I	I R	WL-5654
AX-5604	Trans	WL-5604
ML-5604	Trans	WL-5604
WL-5604	Trans	WL-5604
5604	Trans	WL-5604
ML-5606	Trans	WL-5606
WL-5606	Trans	WL-5606
5606	Trans	WL-5606
ML-5606A	Trans	WL-5606A
WL-5606A	Trans	WL-5606A
5606A	Trans	WL-5606A
ML-56I9	Trans	WL-56I9
WL-56I9	Trans	WL-56I9
56I9	Trans	WL-56I9
GL-5625	Rect	WL-5575
5625	Rect	WL-5575
GL-5632	Thyr	WL-7307A
5632	Thyr	WL-7307A
5640	I R	WL-5902
5648	Trans	WL-2C39B
GL-565I	V R	WL-565I
WL-565I	V R	WL-565I
565I	V R	WL-565I
CK-5654	V R	WL-5654
GL-5654	I R	WL-5654
WL-5654	I R	WL-5654
5654	S P	WL-5654
ML-5658	Trans	WL-5658
WL-5658	Trans	WL-5658
5658	Trans	WL-5658
WL-5684	Thyr	WL-5684
5664	Thyr	WL-5664
GL-5665	Thyr	WL-5665
WL-5665	Thyr	WL-5665
5655	Thyr	WL-5665
F-5667	Trans	WL-5667
ML-5667	Trans	WL-5667
WL-5667	Trans	WL-5667
5667	Trans	WL-5667
F-5668	Trans	WL-5668
ML-5668	Trans	WL-5668
WL-5668	Trans	WL-5668
5668	Trans	WL-5668
F-5669	Trans	WL-5669

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TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
ML-5669	Trans	WL-5669
WL-5669	Trans	WL-5669
5669	Trans	WL-5669
CK-5678	I R	WL-5678
WL-5678	I R	WL-5678
5678	I R	WL-5678
WL-5682	Trans	WL-5682
5682	Trans	WL-5682
5683	Thyr	WL-6014
WL-5684	Thyr	WL-7306A
NL-5684NE	Thyr	WL-5684NE
WL-5684NE	Thyr	WL-5684NE
5684NE	Thyr	WL-5684NE
AX-5685	Thyr	WL-5685
WL-5685	Thyr	WL-5685
5685	Thyr	WL-5685
GL-5687	I R	WL-5687
WL-5687	I R	WL-5687
5687	I R	WL-5687
GL-5691	I R	WL-5691
WL-5691	I R	WL-5691
5691	I R	WL-5691
GL-5692	I R	WL-5692
WL-5692	I R	WL-5692
5692	I R	WL-5692
GL-5693	I R	WL-5693
WL-5693	I R	WL-5693
5693	I R	WL-5693
GL-5696	Thyr	WL-5696
WL-5696	Thyr	WL-5696
5696	Thyr	WL-5696
GL-5720	Thyr	WL-5720
NL-5720	Thyr	WL-5720
WL-5720	Thyr	WL-5720
5720	Thyr	WL-5720
5725	I R	WL-6AS6
5726	I R	WL-6663
GL-5727	Thyr	WL-5727
WL-5727	Thyr	WL-5727
5727	Thyr	WL-5727
GL-5736	Trans	WL-5736
ML-5736	Trans	WL-5736
WL-5736	Trans	WL-5736
5736	Trans	WL-5736
GL-5749	I R	WL-6660
5749	I R	WL-6660
GL-5751	I R	WL-5751
WL-5751	I R	WL-5751
5751	I R	WL-5751
WL-5762	Trans	WL-5762
5762	Trans	WL-5762
GL-5763	Trans	WL-5763
WL-5763	Trans	WL-5763
5763	Trans	WL-5763
GL-5771	Trans	WL-5771
ML-5771	Trans	WL-5771
WL-5771	Trans	WL-5771
5771	Trans	WL-5771
CK5783	V R	WL-5651
WL-5796	Thyr	WL-5796
CK-5814	I R	WL-5814A
5814	I R	WL-5814A
GL-5814A	I R	WL-5814A
WL-5814A	I R	WL-5814A
5814A	I R	WL-5814A
GL-5822	Ig	WL-5822A
NL-5822	Ig	WL-5822A
WL-5822	Ig	WL-5822A
5822	Ig	WL-5822A
GL-5822A	Ig	WL-5822A
NL-5822A	Ig	WL-5822A
WL-5822A	Ig	WL-5822A
5822A	Ig	WL-5822A
WL-5823	Glow	WL-5823
5823	Glow	WL-5823
GL-5830	Thyr	WL-5830
WL-5830	Thyr	WL-5830
5830	Thyr	WL-5830
WL-5859	Rect	WL-5859
WL-5860	Rect	WL-5859
WL-5877	Thyr	WL-22994
WL-5878	Thyr	WL-C6H-I
GL-5879	I R	WL-5879
WL-5879	I R	WL-5879
5879	I R	WL-5879
GL-5881	I R	WL-5881
WL-5881	I R	WL-5881588I
5881	I R	WL-5881
CK-5886	I R	WL-5886
WL-5886	I R	WL-5886
5886	I R	WL-5886
WL-5891	Trans	WL-5891
ML-5894	Trans	WL-5894
WL-5894	Trans	WL-5894
5894	Trans	WL-5894
GL-5902	I R	WL-5902
WL-5902	I R	WL-5902
5902	I R	WL-5902
5902A	I R	WL-5902
F-5918A	Trans	WL-5919A
WL-5918A	Trans	WL-5918A
5918A	Trans	WL-5918A

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
5932	I R	WL-5881
5933	Trans	WL-807
WL-5934	Rect	WL-5934
WL-5936	Trans	WL-5936
GL-5963	I R	WL-5963
WL-5963	I R	WL-5963
5963	I R	WL-5963
GL-5964	I R	WL-5964
WL-5964	I R	WL-5964
5964	I R	WL-5964
GL-5965	I R	WL-5965
WL-5965	I R	WL-5965
5965	I R	WL-5965
WL-5966	G A	WL-5966
GL-5973	Rect	WL-5973
WL-5973	Rect	WL-5973
5973	Rect	WL-5973
WL-5986	Trans	WL-5986A
WL-5986A	Trans	WL-5986A
6005	I R	WL-6669
GL-6011	Thyr	WL-7307A
PL-6011	Thyr	WL-7307A
TH-6011	Thyr	WL-5557
WL-6011	Thyr	WL-7307A
6011	Thyr	WL-7307A
WL-6012	Thyr	WL-6012
6012	Thyr	WL-6012
GL-6014	Thyr	WL-6914
WL-6014	Thyr	WL-6014
6014	Thyr	WL-6014
GL-6021	I R	WL-6021
WL-6021	I R	WL-6021
6021	I R	WL-6021
R6025	C R	10FP4A
TH-6031	Thyr	WL-5559
6057	I R	WL-5751
6058	I R	WL-6663
6060	I R	WL-6679
6062	Trans	WL-5763
6067	I R	WL-5814A
GL-6072	I R	WL-6072
WL-6072	I R	WL-6072
6072	I R	WL-6072
6073	V R	WL-0A2WA
6074	V R	WL-OB2WA
WL-6080	I R	WL-6080
6080	I R	WL-6080
6096	I R	WL-5654
6097	I R	WL-6663
6113	I R	WL-5691
TH-6120	Thyr	WL-105
GL-6136	I R	WL-6136
WL-6136	I R	WL-6136
6136	I R	WL-6136
GL-6146	Trans	WL-6146A
R6146	Rect	WL-8008
WL-6146	Trans	WL-6146A
6146	Trans	WL-6146A
WL-6146A	Trans	WL-6146A
6146A	Trans	WL-6146A
6155	Trans	WL-4D21
6156	Trans	WL-5D22
GL-6159	Trans	WL-6159
WL-6159	Trans	WL-6159
6159	Trans	WL-6159
WL-6166A	Trans	WL-7007
6166A	Trans	WL-7007
R6175B	Rect	WL-5R4-GYB
6180	S P	WL-5692
6187	S P	WL-6AS6
GL-6189	S P	WL-6189
WL-6189	S P	WL-6189
6189	S P	WL-6189
WL-6197	S P	WL-6197
6197	S P	WL-6197
GL-6198	C S	See 6198A
WL-6198	C S	See 6198A
6198	C S	See 6198A
GI-6198A	C S	See 6198A
ML-6198A	C S	See 6198A
WL-6198A	C S	See 6198A
6198A	C S	WL-7038
R6200	Thyr	WL-2021
GL-6201	I R	WL-6201
6201	I R	WL-6201
TH-6220	Thyr	WL-C6H-I
GL-6228	Ig	WL-6228
WL-6228	Ig	WL-6228
6228	Ig	WL-6228
TH-6230	Thyr	WL-3C23
6265	I R	WL-6661
WL-6293	Trans	WL-6293
6293	Trans	WL-6293
WL-6307	N	WL-6307
TS-6336	I R	WL-6336A
6336	I R	WL-6336A
TS-6336A	I R	WL-6336A
WL-6336A	I R	WL-6336A
6336A	I R	WL-6336A
AJ-6346	Ig	WL-5551A
6346	Ig	WL-5551A
AJ-6347	Ig	WL-5552A

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
6347	Ig	WL-5552A
6348	Ig	WL-5553A
WL-6376	N	WL-6376A
WL-6376A	N	WL-6376A
WL-6377	N	WL-6377
WL-6379	Trans	WL-6379
6379	Trans	WL-6379
F-6399	Trans	WL-6399
WL-6399	Trans	WL-6399
6399	Trans	WL-6399
XRI-6400	Thyr	WL-C6H-I
XRI-6400A	Thyr	WL-C6H-I
ML-6420	Trans	WL-6420
WL-6420	Trans	WL-6420
6420	Trans	WL-6420
ML-6421	Trans	WL-6421
WL-6421	Trans	WL-6421
6421	Trans	WL-6421
ML-6421F	Trans	WL-6421F
WL-6421F	Trans	WL-6421F
6421F	Trans	WL-6421F
ML-6422	Trans	WL-6422
WL-6422	Trans	WL-6422
6422	Trans	WL-6422
ML-6423	Trans	WL-6423
WL-6423	Trans	WL-6423
6423	Trans	WL-6423
ML-6423F	Trans	WL-6423F
WL-6423F	Trans	WL-6423F
6423F	Trans	WL-6423F
ML-6424	Trans	WL-6424
WL-6424	Trans	WL-6424
6424	Trans	WL-6424
ML-6425	Trans	WL-6425
WL-6425	Trans	WL-6425
6425	Trans	WL-6425
ML-6425F	Trans	WL-6425F
WL-6425F	Trans	WL-6425F
6425F	Trans	WL-6425F
ML-6426	Trans	WL-6426
WL-6426	Trans	WL-6426
6426	Trans	WL-6426
ML-6427	Trans	WL-6427
WL-6427	Trans	WL-6427
6427	Trans	WL-6427
GL-6511	Rect	WL-575A
6511	Rect	WL-575A
6520	I R	WL-6080
WL-6550	I R	WL-6550
6550	I R	WL-6550
WL-6567	Trans	WL-6567
6567	Trans	WL-6567
6582	I R	WL-5654
WL-6623	Trans	WL-6623
6623	Trans	WL-6623
6626	V R	WL-OA2WA
6627	V R	WL-OB2WA
GL-6660	I R	WL-6660
WL-6660	I R	WL6660
6660	I R	WL-6660
GL-6661	I R	WL-6661
WL-6661	I R	WL-6661
6661	I R	WL-6661
GL-6662	I R	WL-6662
WL-6662	I R	WL-6662
6662	I R	WL-6662
GL-6663	I R	WL-6663
WL-6663	I R	WL-6663
6663	I R	WL-6663
GL-6664	I R	WL-6664
WL-6664	I R	WL-6664
6664	I R	WL-6664
GL-6669	I R	WL-6669
WL-6669	I R	WL-6669
6669	I R	WL-6669
GL-6676	I R	WL-6676
WL-6676	I R	WL-6676
6676	I R	WL-6676
GL-6677	I R	WL-6677
WL-6677	I R	WL-6677
6677	I R	WL-6677
GL-6678	I R	WL-6678
WL-6678	I R	WL-6678
6678	I R	WL-6678
GL-6679	I R	WL-6679
WL-6679	I R	WL-6679
6679	I R	WL-6679
GL-6680	I R	WL-6680
WL-6680	I R	WL-6680
6680	I R	WL-6680
GL-6681	I R	WL-6681
WL-6681	I R	WL-6681
6681	I R	WL-6681
AX-6693	Rect	WL-673
6693	Rect	WL-673
WL-6696	Trans	WL-6696
6696	Trans	WL-6696
WL-6697	Trans	WL-6697
6697	Trans	WL-6697
GL-6807	Thyr	WL-6807
WL-6807	Thyr	WL-6807
6807	Thyr	WL-6807

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Direct Interchangeability List

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TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
GL-6808	Thyr	WL-6808
WL-6808	Thyr	WL-6808
6808	Thyr	WL-6808
GL-6829	I R	WL-5965
6829	I R	WL-5965
GL-6856	Thyr	WL-6856
WL-6856	Thyr	WL-6856
6856	Thyr	WL-6856
GL-6857	Thyr	WL-6857
WL-6857	Thyr	WL-6857
6857	Thyr	WL-6857
GL-6858	Thyr	WL-6858
WL-6858	Thyr	WL-6858
6858	Thyr	WL-6858
GL-6859	Thyr	WL-6859
WL-6859	Thyr	WL-6859
6859	Thyr	WL-6859
GL-6860	Thyr	WL-6860
WL-6860	Thyr	WL-6860
6860	Thyr	WL-6860
6864	Thyr	WL-C6H-1
6871	Thyr	WL-C6H-2
GL-6883	Trans	WL-8032
WL-6883	Trans	WL-8032
WL-6893	Trans	WL-6893
6893	Trans	WL-6893
6900	Trans	WL-5687
WL-6922	I R	WL-6922
6922	I R	WL-6922
6928	I R	WL-6669
WL-6937	I R	WL-6937A
WL-6938	N	WL-6938
WL-6939	N	WL-6939
6939	N	WL-6939
WL-6941	Trans	WL-6941A
WL-6941A	Trans	WL-6941A
6968	N	WL-5654
WL-6971	N	WL-6971A
WL-6971A	I R	WL-6971A
6982	N	WL-7015
6984	N	WL-6856
6985	Rect	WL-6857
6988	Thyr	WL-7321
WL-6998	Thyr	WL-6998
NL-7014	Thyr	WL-7014
WL-7014	N	WL-7014
7014	Rect	WL-7014
NL-7015	Rect	WL-7015
WL-7015	Rect	WL-7015
7015	Rect	WL-7015
NL-7016	Rect	WL-7016
WL-7016	Rect	WL-7016
7016	Rect	WL-7016
NL-7017	Rect	WL-7017
WL-7017	Rect	WL-7017
7017	Rect	WL-7017
NL-7018	Rect	WL-7018
WL-7018	Rect	WL-7018
7018	Rect	WL-7018
NL-7019	Rect	WL-7019
WL-7019	Rect	WL-7019
7019	Rect	WL-7019
NL-7020	Rect	WL-7020
TH-7020	Ig	WL-5551A
WL-7020	Rect	WL-7020
7020	Rect	WL-7020
TH-7021	Ig	WL-5551A
NL-7023	Thyr	WL-7023
WL-7023	Thyr	WL-7023
7023	Thyr	WL-7023
TH-7030	Ig	WL-5552A
TH-7031	Ig	WL-5552A
WL-7038	C S	WL-7038
7038	C S	WL-7038
TH-7040	Ig	WL-5553B
TH7041	Ig	WL-5553B
WL-7087	N	WL-7087
WL-7087A	N	WL-7087A
7136	Rect	WL-575A
GL-7171	Ig	WL-7171
WL-7171	Ig	WL-7171
7171	Ig	WL-7171
WL-7186	N	WL-7186
WL-7187	N	WL-7187
WL-7188	N	WL-7188
WL-7203	Trans	WL-4CX250B
7203	Trans	WL-4CX250B
WL-7215	Trans	WL-7215
7216	Thyr	WL-7556A
WL-7243	N	WL-7243
WL-7255	Trans	WL-7255
WL-7268	C S	WL-7268A
7268	C S	WL-7268A
WL-7269	Thry	8043
WL-7290	C S	WL-7290
WL-7297	Thyr	WL-23052
WL-7299	Thyr	WL-C6H-2
WL-7306	Thyr	WL-7306A
WL-7306A	Thyr	WL-7306A
WL-7307	Thyr	WL-7307A
WL-7307A	Thyr	WL-7307A
7316	I R	WL-6189
WL-7317	N	WL-7317

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
WL-7321	Thyr	WL-7321
F-7328	Trans	WL-7328A
WL-7328	Trans	WL-7328A
7328	Trans	WL-7328A
WL-7328A	Trans	WL-7328A
WL-7353	N	WL-7353
WL-7363	Thyr	WL-7363
WL-7383	C S	WL-7383
7386	Thyr	WL-C6H-1
VH7400	Rect	WL-872A
WL-7413	Trans	WL-7413
WL-7463	Trans	WL-7463
WL-7464	Trans	WL-7464
C7473D	C R	5FP7A
ML-7482	Trans	WL-7482
WL-7482	Trans	WL-7482
7482	Trans	WL-7482
WL-7509	Thyr	WL-7509A
WL-7509A	Thyr	WL-7509A
GL-7518	Thry	WL-7509A
WL-7540	Trans	WL-7540
7543	I R	WL-6136
WL-7556	Thyr	WL-7556A
WL-7556A	Thyr	WL-7556A
ML-7560	Trans	WL-7560
WL-7560	Trans	WL-7560
7560	Trans	WL-7560
WL-7560V	Trans	WL-7560V
WL-7565	Trans	WL-7565
GL-7581	I R	WL-5881
7581	I R	WL-5881
AX-7585	Ig	WL-5552A
7585	Ig	WL-5552A
WL-7604	Trans	WL-7604
WL-7606	N	WL-7606
WL-7657	N	WL-7657
WL-7658	Rect	WL-7658
WL-7659	Rect	WL-7659
WL-7676	G A	WL-7676
WL-7685	Trans	WL-7685
WL-7691	Trans	WL-7691
WL-7703	Ig	WL-7703
7703	Ig	WL-7703
7725	Thyr	WL-7307A
7726	Thyr	WL-7509A
7735	C S	WL-7735A
WL-7735A	C S	WL-7735A
7735A	C S	WL-7735A
WL7740	Ig	WL7740
WL-7741	N	WL-7741
WL-7748	Trans	WL-7748
WL-7750	Trans	WL-7750
7752	I R	WL-6AS6
WL-7903	G A	WL-7903
WL-7904	G A	WL-7904
WL-7982	Trans	WL-7982
DR-8008	Rect	WL-8008
EE-8008	Rect	WL-8008
GL-8008	Rect	WL-8008
ML-8008	Rect	WL-8008
UE-8008	Rect	WL-8008
WL-8008	Rect	WL-8008
8008	Rect	WL-8008
8018	Trans	WL-807
8024	Trans	WL-832A
WL-8032	Trans	WL-8032
WL-8043	Thyr	WL-8043
WL-8044	Trans	WL-8044
WL-8057	G A	WL-8057
WL-8073	N	WL-8073
WL-8074	N	WL-0874
WL-8075	N	WL-8075
M8079	I R	WL-6663
WL-8094	Rect	WL-8094
M8100	I R	WL-5654
M8101	I R	WL-6660
WL-8105	N	WL-8105
M8136	I R	WL-6189
M8137	I R	WL-5751
WL-8137	N	WL-8137
8161	Trans	WL-8161
M8162	I R	WL-6201
8166	Trans	WL-4-1000A
8170	Trans	WL-4CX5000A
M8178	Thyr	WL-5727
M8196	I R	WL-6AS6
M8204	Thyr	WL-5727
M8212	I R	WL-6663
M8214	I R	WL-6681
WL-8214	N	WL-8214
M8223	V R	WL-OA2
M8245	I R	WL-6669
8251	Trans	WL-8251
8298	Trans	WL-8298
WL-8298A	Trans	WL-8298A
8298A	Trans	WL-8298A
WL-8306	Ig	WL-8306
8348	Trans	WL-4-400A
WL-8461	Trans	WL-8461
GL-9002	I R	WL-9002
WL-9002	I R	WL-9002
9002	I R	WL-9002

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
AX-9903	Trans	WL-5894
WL-22602	HCDD	WL-22602
WL-22603	HCDD	WL-22603
WL-22604	HCDD	WL-22604
WL-22605	HCDD	WL-22605
WL-22606	HCDD	WL-22606
WL-22607	HCDD	WL-22607
WL-22608	HCDD	WL-22608
WL-22609	HCDD	WL-22609
WL-22610	HCDD	WL-22610
WL-22611	HCDD	WL-22611
WL-22612	G A	WL-22612
WL-22613	G A	WL-22613
WL-22614	G A	WL-22614
WL-22618	G A	WL-22618
WL-22619	G A	WL-22619
WL-22620	G A	WL22620
WL-22627	G A	WL-22627
WL-22637	G A	WL-22637
WL-22640	G A	WL-22640
WL-22643	G A	WL-22643
WL-22663	HCDD	WL-22663
WL-22754	G A	WL-22754
WL-22759	Trans	WL-22759
WL-22789	Trans	WL-22759
WL-22791	N	WL-22791
WL-22792	N	WL-22792
WL-22793	N	WL-22793
WL-22800	Rect	WL-22800
WL-22801	Rect	WL-22801
WL-22802	Rect	WL-22802
WL-22803	Trans	WL-22803
WL-22804	HCDD	WL-22804
WL-22805	HCDD	WL-22805
WL-22806	HCDD	WL-22806
WL-22809	HCDD	WL-22809
WL-22810	HCDD	WL-22810
WL-22811	HCDD	WL-22811
WL-22812	HCDD	WL-22812
WL-22813	HCDD	WL-22813
WL-22814	HCDD	WL-22814
WL-22815	HCDD	WL-22815
WL-22816	HCDD	WL-22816
WL-22817	HCDD	WL-22817
WL-22818	HCDD	WL-22818
WL-22819	HCDD	WL-22819
WL-22820	HCDD	WL-22820
WL-22821	HCDD	WL-22821
WL-22822	HCDD	WL-22822
WL-22823	HCDD	WL-22823
WL-22824	HCDD	WL-22824
WL-22825	HCDD	WL-22825
WL-22826	HCDD	WL-22826
WL-22827	HCDD	WL-22827
WL-22828	HCDD	WL-22828
WL-22829	HCDD	WL-22829
WL-22830	HCDD	WL-22830
WL-22831	HCDD	WL-22831
WL-22832	HCDD	WL-22832
WL-22833	HCDD	WL-22833
WL-22834	HCDD	WL-288834
WL-21835	HCDD	WL-22835
WL-22836	HCDD	WL-22836
WL-22837	HCDD	WL-22837
WL-22838	HCDD	WL-22838
WL-22839	HCDD	WL-22839
WL-22840	HCDD	WL-22840
WL-22841	HCDD	WL-22841
WL-22842	HCDD	WL-22842
WL-22843	HCDD	WL-22843
WL-22844	HCDD	WL-22844
WL-22845	HCDD	WL-22845
WL-22846	HCDD	WL-22846
WL-22847	HCDD	WL-22847
WL-22848	HCDD	WL-22848
WL-22849	HCDD	WL-22849
WL-22850	HCDD	WL-22850
WL-22851	HCDD	WL-22851
WL-22856	HCDD	WL-22856
WL-22857	HCDD	WL-22857
WL-22858	HCDD	WL-22858
WL-22859	HCDD	WL-22859
WL-22860	HCDD	WL-22860
WL-22862	Trans	WL-23185
WL-22863	HCDD	WL-22863
WL-22864	HCDD	WL-22864
WL-22867	HCDD	WL-22867
WL-22868	G A	WL-22868
WL-22869	G A	WL-22869
WL-22870	HCDD	WL-22870
WL-22871	HCDD	WL-22871
WL-22872	HCDD	WL-22872
WL-22873	HCDD	WL-22873
WL-22874	HCDD	WL-22874
WL-22875	HCDD	WL-22875
WL-22876	HCDD	WL-22876
WL-22877	HCDD	WL-22877
WL-22878	HCDD	WL-22878
WL-22879	HCDD	WL-22879
WL-22880	HCDD	WL-22880
WL-22881	HCDD	WL-22881
WL-22882	HCDD	WL-22882

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Direct Interchangeability List

continued

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
WL-22883	HCDD	WL-22883
WL-22884	HCDD	WL-22884
WL-22885	HCDD	WL-22885
WL-22886	HCDD	WL-22886
WL-22887	HCDD	WL-22887
WL-22888	HCDD	WL-22888
WL-22889	HCDD	WL-22889
WL-22890	HCDD	WL-22890
WL-22891	HCDD	WL-22891
WL-22892	HCDD	WL-22892
WL-22893	HCDD	WL-22893
WL-22894	HCDD	WL-22894
WL-22895	HCDD	WL-22895
WL-22896	HCDD	WL-22896
WL-22897	HCDD	WL-22897
WL-22898	HCDD	WL-22898
WL-22899	HCDD	WL-22899
WL-22900	HCDD	WL-22900
WL-22901	HCDD	WL-22901
WL-22902	HCDD	WL-22902
WL-22903	HCDD	WL-22903
WL-22904	HCDD	WL-22904
WL-22905	HCDD	WL-22905
WL-22906	HCDD	WL-22906
WL-22907	HCDD	WL-22907
WL-22908	HCDD	WL-22908
WL-22909	HCDD	WL-22909
WL-22910	HCDD	WL-22910
WL-22911	HCDD	WL-22911
WL-22912	HCDD	WL-22912
WL-22913	HCDD	WL-22913
WL-22914	HCDD	WL-22914
WL-22915	HCDD	WL-22915
WL-22916	HCDD	WL-22916
WL-22917	HCDD	WL-22917
WL-22923	G A	WL-22923
WL-22925	HCDD	WL-22925
WL-22926	HCDD	WL-22926
WL-22927	HCDD	WL-22927
WL-22928	HCDD	WL-22928
WL-22929	HCDD	WL-22929
WL-22930	HCDD	WL-22930
WL-22931	HCDD	WL-22931
WL-22932	HCDD	WL-22932
WL-22933	HCDD	WL-22933
WL-22934	HCDD	WL-22934
WL-22935	HCDD	WL-22935
WL-22936	HCDD	WL-22936
WL-22937	HCDD	WL-22937
WL-22938	HCDD	WL-22938
WL-22939	HCDD	WL-22939
WL-22940	HCDD	WL-22940
WL-22941	HCDD	WL-22941
WL-22942	HCDD	WL-22942
WL-22951	HCDD	WL-22951

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
WL-22952	HCDD	WL-22952
WL-22953	HCDD	WL-22953
WL-22954	HCDD	WL-22954
WL-22955	HCDD	WL-22955
WL-22956	HCDD	WL-22956
WL-22957	HCDD	WL-22957
WL-22958	HCDD	WL-22958
WL-22959	HCDD	WL-22959
WL-22960	HCDD	WL-22960
WL-22961	HCDD	WL-22961
WL-22962	HCDD	WL-22962
WL-22963	HCDD	WL-22963
WL-22964	HCDD	WL-22964
WL-22965	HCDD	WL-22965
WL-22966	HCDD	WL-22966
WL-22967	HCDD	WL-22967
WL-22968	HCDD	WL-22968
WL-22969	HCDD	WL-22969
WL-22970	HCDD	WL-22970
WL-22971	HCDD	WL-22971
WL-22972	HCDD	WL-22972
WL-22973	HCDD	WL-22973
WL-22974	HCDD	WL-22974
WL-22975	HCDD	WL-22975
WL-22976	HCDD	WL-22976
WL-22977	HCDD	WL-22977
WL-22978	HCDD	WL-22978
WL-22979	HCDD	WL-22979
WL-22980	HCDD	WL-22980
WL-22981	HCDD	WL-22981
WL-22982	HCDD	WL-22982
WL-22983	HCDD	WL-22983
WL-22984	HCDD	WL-22984
WL-22985	HCDD	WL-22985
WL-22986	HCDD	WL-22986
WL-22987	HCDD	WL-22987
WL-22988	HCDD	WL-22988
WL-22989	HCDD	WL-22989
WL-22990	HCDD	WL-22990
WL-22991	HCDD	WL-22991
WL-22992	HCDD	WL-22992
WL-22997	HCDD	WL-22997
WL-22998	HCDD	WL-22998
WL-23007	HCDD	WL-23007
WL-23008	HCDD	WL-23008
WL-23009	HCDD	WL-23009
WL-23010	HCDD	WL-23010
WL-23011	HCDD	WL-23011
WL-23011PC	lg	WL-23011PC
WL-23012	lg	WL-23012
WL-23012PC	lg	WL-23012PC
WL-23013	lg	WL-23013
WL-23013PC	lg	WL-23013PC
WL-23014	lg	WL-23014
WL-23014PC	lg	WL-23014PC

TUBE TYPE MARKED	CLASS OF TUBE	EQUIVALENT WESTINGHOUSE TYPE
WL-23015	lg	WL-23015
WL-23015PC	lg	WL-23015PC
WL-23016	lg	WL-23016
WL-23017	lg	WL-23017
WL-23018	lg	WL-23018
WL-23027	HCDD	WL-23027
WL-23028	HCDD	WL-23028
WL-23029	Rect	WL-23029
WL-23034	HCDD	WL-23034
WL-23035	HCDD	WL-23035
WL-23036	HCDD	WL-23036
WL-23041	HCDD	WL-23041
WL-23042	HCDD	WL-23042
WL-23046	HCDD	WL-23046
WL-23049	HCDD	WL-23049
WL-23059	HCDD	WL-23059
WL-23060	HCDD	WL-23060
WL-23063	Trans	WL-23063
WL-23095	Rect	WL-23095
WL-23102	Rect	WL-23102
WX-30008	HCDD	WL-22806
WX-30009	HCDD	WL-22833
WX-30010	HCDD	WL-22834
WX-30011	HCDD	WL-22835
WX-30024	HCDD	WL-22837
WX-30040	HCDD	WL-22843
WX-30041	HCDD	WL-22842
WX-30042	HCDD	WL-22836
WX-30043	HCDD	WL-22841
WX-30044	HCDD	WL-22840
WX-30052	HCDD	WL-22814
WX-30053	HCDD	WL-22844
WX-30054	HCDD	WL-22839
WX-30103	HCDD	WL-22845
WX-30104	HCDD	WL-22846
WX-30105	HCDD	WL-22867
WX-30106	HCDD	WL-22847
WX-30108	HCDD	WL-22848
WX-30143	HCDD	WL-22849
WX-30144	HCDD	WL-22850
WX-30145	HCDD	WL-22851
WX-30146	HCDD	WL-22857
WX-30147	HCDD	WL-22860
WX-30148	HCDD	WL-22859
WX-30213	lg	WL-23014
82170	C R	10WP7A
175771	I R	WL-5814A
823623	I R	WL-6189
845712	I R	WL-6681
845722	I R	WL-6AS7GA
845723	I R	WL-5881
845724	I R	WL-5654
845926	Trans	WL-5763

Inclusion of a tube type in this book does not necessarily imply availability of that type from Westinghouse. Although every effort has been made to ensure accuracy of these data, no liability is assumed for their use.

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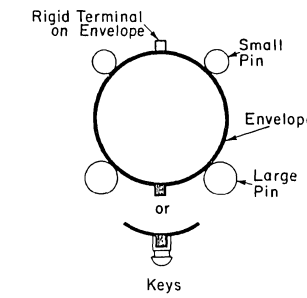
WESTINGHOUSE INDUSTRIAL AND POWER TUBES

KEY TO ABREVIATIONS

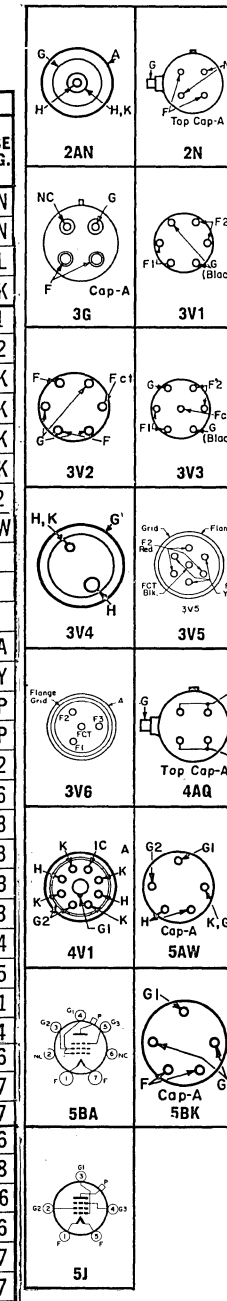
A	Anode
Å	Angstrom Units
AMP	Ampere (s)
AVG	Average
CO	Cut-off
COLL	Collector
COOL	Type of Cooling
DIAM	Diameter
DISS	Dissipation
DWG	Drawing
FREQ	Frequency
G	Grid
G1	Grid One
G2	Grid Two
G3	Grid Three
GC	Gigacycle (s)
H	Heater
IC	Internal Connection (Do NOT Use)
ITV	Industrial & Closed Circuit TV
K	Cathode
KV	Kilovolt (s)
KVA	Kilovolt-Ampere (s)
KW	Kilowatt (s)
LUM	Luminous
Ma	Milliampere (s)
MAX	Maximum
Mc	Megacycle (s)
MIN	Minute
Min	Miniature
Min	Minimum
mmHG	Millimeters of Mercury
NC	No Connection
nv	Neutrons/cm²/Second
OAL	Overall Length
PC	Photocathode
PK	Peak
PN	Pentode
RAD	Radius
REFL	Reflector
RES	Resonator
RP	Plate Resistance
SEC	Second (s)
SENS	Sensitivity
T	Triode
Trig	Trigger Electrode
TV	Television Broadcasting
TYP	Typical
V	Volt (s)
μA	Microampere (s)
μMHOS	Micromhos
μSEC	Microsecond (s)
°C	Degrees Centigrade

GUIDE TO BASE DRAWINGS



HIGH VACUUM AMPLIFIERS

TUBE TYPE	COOL	CATHODE		RATINGS (1)			PERFORMANCE							MECHANICAL		
		VOLTS	AMPS.	ANODE KV	INPUT KW	DISS. KW	FREQ. MHz(3)	ANODE KV	GRID VOLTS	ANODE AMPS.	DRIVE WATTS	OUT KW	(4) gm or μ	MAX. OAL (2) INCH	MAX. DIAM. (2) INCH	BASE DWG.
WL-2C39A	F	6.3	1	1	125W	100W	2500	800V	—20(6)	80mA	6	27(5)	100	2¾	1¼	2AN
WL-2C39B	F	6.3	1	1	125W	100W	2500	800V	—20(6)	80mA	6	27(5)	100	2¾	1¼	2AN
WL-2E24	A	6.3	0.65	600V	40W	13.5W	125	600V	—50	66mA	0.21	27W	3200	3 31/32	1 5/16	7CL
WL-2E26	A	6.3	0.8	600V	40W	13.5W	125	600V	—45	66mA	0.17	27W	3500	3 31/32	1 5/16	7CK
WL-4CX250B	F	6	2.6	2	0.5	0.25	500	2	—90	0.25	1	0.4	12000	2½	1⅝	4V1
WL-4CX5000A	F	7.5	75	7.5	22.5	5	30	7.5	—350	2.8	150	16	—	9⅛	4 15/16	VC2
WL-4D21	A	5	6.5	3	0.5	125W	120	3	—150	0.167	2.5	0.375	2450	5 11/16	2¾	5BK
WL-4-400A	A	5	14.5	4	1.4	0.4	110	4	—220	0.35	12	1.1	4000	6⅜	3 3/16	5BK
WL-4-1000A	F	7.5	21	6	4.2	1	110	6	—200	0.7	200	3.4	10000	9⅝	5¼	5BK
WL-5D22	F	5	14.5	4	1.4	0.25	110	4	—225	0.312	10	1	4000	6⅜	3 3/16	5BK
WL-207	W	22	52	15	30	10	1.6	12	—1660	1.67	235	15	20	20¼	4⅛	VF2
WL-807	A	6.3	0.9	600V	60W	25W	60	600V	—45	100mA	0.2	40W	6000	5¾	2 1/16	5AW
WL-810	A	10	4.5	2	0.5	125W	30	2	—160	0.25	12	0.375	36	8¾	2 9/16	2N
WL-811A	A	6.3	4	1.5	260W	65W	30	1.5	—70	0.173	7.1	0.2	160	6 31/32	2 7/16	3G
WL-812A	A	6.3	4	1.5	260W	65W	30	1.5	—120	0.173	6.5	0.19	29	6 15/32	2 7/16	3G
WL-813	A	10	5	2	0.36	100W	30	2	—120	0.18	1.9	0.275	3750	7½	2 9/16	5BA
WL-815	A	12.6(8)	0.8	500V	75W	25W	150	500V	—45	0.15	0.18	56W	4000	4 7/16	2⅜	8BY
WL-829B(7)	A	12.6(8)	1.125	750V	45W	15W	200	750V	—50	0.12	0.45	65W	8500	4 5/16	2⅜	7BP
WL-832A(7)	A	12.6(8)	0.80	750V	18W	7.5W	200	750V	—65	48mA	0.19	26W	3500	3 5/16	2⅜	7BP
WL-833A	F	10	10	4	1.8	0.4	20	4	—200	0.45	26	1.44	35	8 13/16	4 19/32	VP2
WL889A	W	11	120	8.5	16	5	50	7.5	—800	2	400	10	21	10 11/16	3⅝	VP6
WL-891	W	22(9)	60	12	18	6	1.6	10	—2000	1.4	310	10	8.5	20⅞	4¼	VP3
WL-891R	F	22(9)	60	10	15	4	1.6	10	—2000	1.4	310	10	8.5	22	12	VP3
WL-892	W	22(9)	60	15	30	10	1.6	12	—1600	1.64	500	14	50	20⅞	4¼	VP3
WL-892R	F	22(9)	60	12.5	18	4	1.6	10	—1300	1.4	495	10	50	22	12	VP3
WL-895	W	19(10)	139	17	140	40	6	17	—1000	7.5	1700	100	37	23⅞	6¾	VP4
WL-895R	F	19(10)	139	17	110	20	6	17	—1800	6	2200	84	37	24½	17	VP5
WL-5513	F	6.3	30	4	3.6	1.2	220	3750	—150	0.94	64	2370	49	6⅞	3	VC1
WL-5530	F	5	55	5	8.75	3	110	4	—300	1.25	130	3.2	26	7 27/32	5 5/32	3V4
WL-5604	F	11	176	12.5	32.5	10	25	12	—1170	2.5	470	22.5	20	13¾	8⅛	VP6
WL-5606	W	22	60	14	25	10	1.6	12	—1100	1.8	—	15.5	50	16	4 5/16	VP7
WL-5606A	W	22	60	15	30	10	1.6	12	—1600	1.52	570	14.6	36	16	4 5/16	VP7
WL-5619	W	11	176	12.5	32.5	20	25	12	—1170	2.5	470	22.5	20	13	5¼	VP6
WL-5658	W	12	290	12.5	60	20	15	12	—870	4.5	800	40	20	11½	7	VP8
WL-5666	W	11	120	10	20	12.5	22.5	9	—750	2	340	12.2	21	10¾	3⅝	VP6
WL-5667	F	11	120	10	20	7.5	22.5	9	—750	2	340	12.2	21	11¾	11	VP6
WL-5668	W	22	60	14	28	20	5	12	—700	2	—	17	50	16	4 5/16	VP7
WL-5669	F	22	60	14	26	10	5	12	—700	2	—	17	50	17⅛	8⅛	VP7
WL-5682	W	16.5	325	16	300	120	30	15	—1400	18.4	7200	215	30	23¼	8 1/32	VC3



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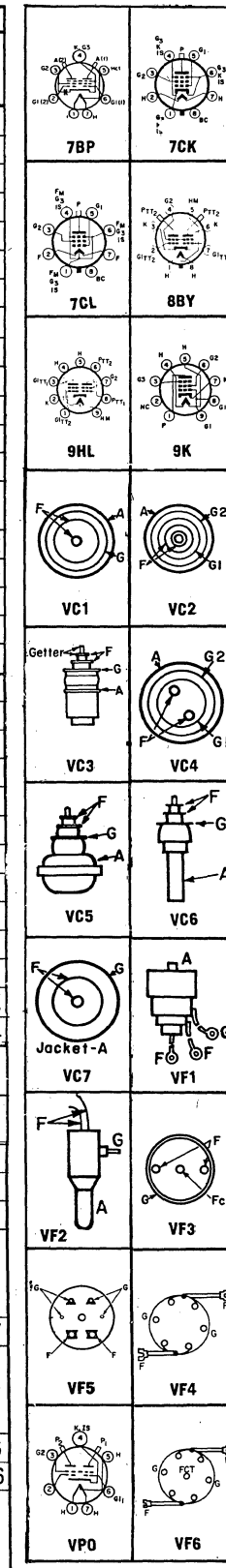
High Vacuum Amplifiers *continued*

TUBE TYPE	COOL	CATHODE		RATINGS (1)			PERFORMANCE							MECHANICAL		
		VOLTS	AMPS.	ANODE KV	INPUT KW	DISS. KW	FREQ. MHz(3)	ANODE KV	GRID VOLTS	ANODE AMPS.	DRIVE WATTS	OUT KW	(4) gm or μ	MAX. OAL (2) INCH	MAX. DIAM. (2) INCH	BASE DWG.
WL-5736	F	6	60	3.5	3.5	2.5	110	3.5	—300	1	85	2.55	22	7 1/4	3 3/16	VP9
WL-5762	F	12.6	29	6.2	8.7	3	30	6	—550	1.25	225	6	29	7 1/8	4 11/16	VF3
WL-5763	A	6	0.75	300V	15W	12W	50	300V	—60	50mA	0.35	7W	7000	2 5/8	7/8	9K
WL-5771	W	7.5	170	15	67.5	22.5	1.6	15	—990	4.5	1160	53	20	11 5/16	7	VP8
WL-5891	F	11	95	15	100	25	10	15	—1500	6.1	1785	73.5	36	24 1/2	11 11/16	VP5
WL-5894(7)	A	12.6	0.9	750V	60W	20W	250	600V	—80	200mA	3	90W	—	4 5/16	1 15/16	VP0
WL-5918A	W	11	285	17.5	300	70	22	17.5	—1000	13.8	3600	180	37	23 7/8	7 1/8	3V1
WL-5936	W	20	143	18	180	70	15	17	—1400	10	4500	136	37	23 7/8	8 1/8	VP5
WL-5986A	W	11	285	17.5	300	70	22	17.5	—1000	13.8	3600	180	37	24	8 3/32	VF4
WL-6146A	A	6.3	1.25	600V	67.5W	20W	60	600V	—58	112mA	0.2	52W	7000	3 13/16	1 23/32	7CK
WL-6146B	A	6.3	1.25	600V	90W	27W	60	600V	—70	0.15	0.3	63W	7000	3 13/16	1 23/32	7CK
WL-6159	A	26.5	0.30	600V	67.5W	20W	60	600V	—58	112mA	0.2	52W	7000	3 13/16	1 23/32	7CK
WL-6360	A	12.6(8)	0.41	300V	22.5W	10W	200	300V	—40	75mA	0.1	14.5W	3300	3 1/16	7/8	9HL
WL-6379(11)	W	11	285	17.5	150	70	Note 11	14.7	—3100	1.2 Min. 20 Max.	0	150	5	23 7/8	6 3/4	3V1
WL-6399	W	11	29	6.2	9	6	30	6	—800	1.4	210	6	25	8 1/2	2 15/16	3V2
WL-6420	W	7.0	85	10	20	12.5	30	9	—750	2	240	13.2	20	13 3/4	4 1/16	VC5
WL-6421	F	7	85	10	20	10	30	9	—750	2	240	13.2	20	17 7/8	4 17/32	VC6
WL-6421F	F	7	85	10	20	7.5	30	9	—750	2	240	13.2	20	14 1/2	8 1/8	VC5
WL-6422	W	7	85	12.5	30	20	30	12	—400	2.1	200	18.2	90	15 1/2	4 3/16	VC6
WL-6423	F	7	85	12.5	30	12.5	30	12	—400	2.1	200	18.2	90	15 3/4	5	VC6
WL-6423F	F	7	85	12.5	30	10	30	12	—400	2.1	200	18.2	90	16	8 1/8	VC5
WL-6424	W	7	120	12.5	40	20	30	12	—1000	3.3	430	30.6	20	15 1/2	4 3/16	VC6
WL-6425	F	7	120	12.5	40	12.5	30	12	—1000	3.3	430	30.6	20	15 3/4	5	VC6
WL-6425F	F	7	120	12.5	40	11	30	12	—1000	3.3	430	30.6	20	16	8 1/8	VC5
WL-6426	W	8	200	12.5	80	40	30	7.5	—850	5.3	7500	33	20	15 5/8	4 3/4	VC6
WL-6427	F	8	200	12.5	80	20	30	7.5	—850	5.3	7500	33	20	16 1/4	5 1/4	VC6
WL-6567	W	6	70	12	24	15	50	12	—800	1.94	445	19.3	33	11 3/4	3 15/16	VC7
WL-6623	F	6	60	5	5	2.5	30	5	—850	1	250	4.1	22	6 11/16	4 11/16	VF5
WL-6696	W	13	205	16	120	60	30	15	—1600	7	600	80	20	19 3/8	6 1/8	VC6
WL-6697	F	13	205	16	120	35	30	15	—1600	7	600	80	20	19 7/8	6 1/8	VC6
WL-6893	A	12.6	0.4	600V	40W	13.5W	125	600V	—45	66mA	0.17	27W	3500	3 21/32	1 5/16	7CK
WL-6939	A	6.3	0.6	250	12W	6W	500	180V	—20	55mA	1.2	5W	10500	2 5/8	7/8	9HL
WL-7120(11)	W	7	85	10	20	12.5	Note 11	10	—2350	0.6 4.2	0	21	4.4	13 3/4	4 3/16	VC6
WL-7121(11)	F	7	85	10	20	10	Note 11	10	—2350	0.6 4.2	0	21	4.4	13 7/8	4 1/2	VC6
WL-7203	F	6	2.3	2	—	250W	500	2	—90	0.25	1	0.4	—	2 15/32	1 5/8	4V1
WL-7215	W	6	60	9.2	18	9	30	9	—1400	2	337	13.6	22	8 1/2	3 5/8	VP9
WL-7255	W	6	60	9.2	18	9	30	9	—1400	2	337	13.6	22	9 1/2	3 5/8	VF5
WL-7328A(11)	F	7	245	10	50	20	Note 11	10	—2200	0.5 Min. 8.5 Max.	0	49.5	6	14 1/2	10 1/16	3V3
WL-7463	F	6	70	12	24	12	60	12	—800	1.94	445	19.3	33	9 13/16	11	VC7
WL-7464(11)	W	6	60	8	18	8	Note 11	7.5	—1200	0.3 Min. 2.68 Max.	0	10.8	6	9 1/2	3 5/8	VP9
WL-7482	V	14.5	450	20	600	200	30	20	—1000	29	6000	440	45	26	11 3/8	VC6
WL-7482V	V	14.5	450	20	600	200	30	20	—1000	29	6000	440	45	27 1/2	11 3/8	VC6
WL-7540(11)	W	5	250	15	70	35	Note 11	12.5	—2800	1 Min. 8 Max.	0	59	5	16	7 1/4	VF6
WL-7560	W	14.5	450	20	600	175	30	20	—1000	29	6000	440	45	29 1/2	10	VC6
WL-7560V	W	14.5	450	20	600	175	30	20	—1000	29	6000	440	45	36 1/2	10	VC6



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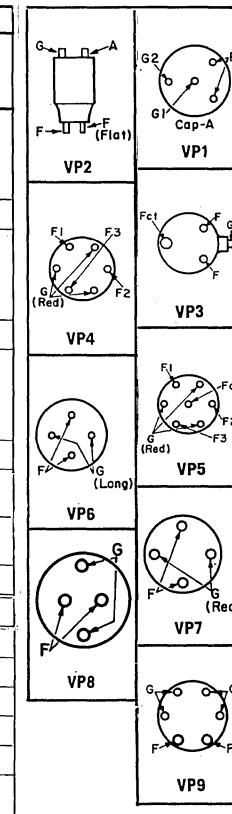
High Vacuum Amplifiers

continued

TUBE TYPE	COOL	CATHODE		RATINGS (1)			PERFORMANCE							MECHANICAL		
		VOLTS	AMPS.	ANODE KV	INPUT KW	DISS. KW	FREQ. MHz(3)	ANODE KV	GRID VOLTS	ANODE AMPS.	DRIVE WATTS	OUT KW	(4) gm or μ	MAX. OAL (2) INCH	MAX. DIAM. (2) INCH	BASE DWG.
WL-7565(11)	F	6	60	5	5	2.5	Note 11	7	—1140	0.5 Min. 2.2 Max.	0	7.7	6	6 1/16	4 1/16	VF5
WL-7604(12)	F	5	8	4	1.5	0.6	60	3.5	—210	0.285	65	755	20	5 5/16	2 5/16	3V4
WL-7685(12)	F	5	8	4	1.5	0.6	60	4	—550	0.12 Min. 0.64 Max.	0	1550	6.5	5 5/16	2 5/16	3V4
WL-7748	W	8	150	12.5	80	35	30	12.5	—1300	4.25	970	46.5	20	15	7 1/4	3V3
WL-7982(11)	W	7	265	10	75	35	Note 11	10	—2200	0.5 Min. 9.3 Max.	61	65	5.5	15	6 7/8	3V3
WL-8032	A	13.5	0.585	600V	67.5W	20W	60	600V	—58	112mA	0.2	52W	7000	3 13/16	1 23/32	7CK
WL-8161/ 3CX2500A3	F	7.5	51.5	6	12	2.5	75	6	—500	2	136	10	22.5	9	4 1/8	VC1
WL-8251/ 3CX2500F3	F	7.5	51.5	6	12	2.5	30	6	—500	2	136	10	22.5	9	4 1/8	VF1
WL-8298	A	6.75	1.165	600V	67.5W	20W	60	600V	—58	112mA	0.2	52W	7000	3 13/16	1 23/32	7CK
WL-8298A	A	6.75	1.165	600V	90W	27W	60	600V	—70	0.15	0.3	63W	7000	3 13/16	1 23/32	7CK
WL-22759	W	6	60	9.2	18	9	30	9	—1400	2	337	13.6	22	9 1/2	3 5/8	VF5
WL-22789	W	6	60	9.3	21	9	30	9	—1400	2	337	13.6	22	9 1/2	3 5/8	VF5
WL-22803	W	13.5	550	22	600	200	15	20	—1400	30	8800	485	35	33 1/8	9 1/2	3V5
WL-22862	W	12.6	285	18	270	90	2	16	—1800	13.2	3250	150	22	24	8 3/32	VF4
WL-22924	V	12.6	285	18	270	100	2	16	—1800	13.2	3250	150	22	25	10	VF4
WL-23063	W	13.5(10)	375	25	1000	375	15	16 20	—1900 —2200	46 52.5	17KW 18KW	550 770	22	40	15	3V6
WL-23165	W	11(10)	95	15	150	90	10	15	—1500	6.1	1785	73.5	36	23 7/8	8 1/4	VP5



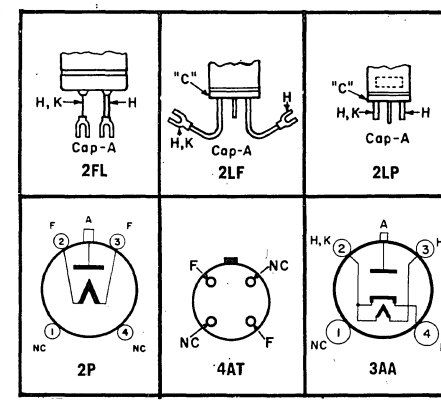
Notes

1. Ratings and Performance are based on CCS Class C Telegraphy service unless otherwise shown.
2. Excluding flying leads and protruding side terminals, pipes or handles.
3. Highest frequency for full input.
4. For triodes, amplification factor (μ) is shown; for tetrodes, beam tubes and pentodes, transconductance (gm) in micromhos is listed.
5. Watts output at 500 megahertz.
6. Milliwatts output at 3000 megahertz.
7. Twin unit tube, Ratings are each unit, Performance for both units.
8. Parallel heater connection requires half heater voltage and twice heater current.
9. For d-c and single phase a-c. For 2 phase a-c voltage per phase will be half listed value and current per phase will be listed current value.
10. Listed values of filament voltage and current are per phase for 3 phase operation.
11. Designed for audio and ultra-sonic service, Ratings are single tube Class AB and Performance is for 2 tubes Class AB.
12. Ratings and Performance are for Class AB r-f amplifier service.

COOLING CODE = A — RADIATION W — WATER
F — FORCED AIR V — VAPOR

GAS AND MERCURY VAPOR RECTIFIERS

TUBE TYPE	CATHODE		RATINGS				MECHANICAL			
	VOLTS	AMPS.	INVERSE VOLTS	PEAK AMP.	AVG. AMP.	DROP VOLTS (2)	COOL	MAX. (1) OAL	MAX. DIAM.	BASE DWG.
WL-3B22	2.5	6	725	4.0	1.0	8	air	6"	1 1/32"	4C
WL-3B28	2.5	5	10000	1.0	0.25	10	air	6 5/32"	2 1/16"	4P
WL-4B24	2.5	11.5	725	10.0	2.5	8	air	7 1/2"	2 3/16"	4BS
WL-575A	5.0	10	15000	6.0	1.5	10	air	11 1/16"	3 13/16"	4PS
WL-670	2.5	17	725	25.6	6.3	8	air	8"	2"	4BS
WL-673	5.0	10	15000	10.0	2.5	10	air	11 7/16"	3 1/8"	2P
WL-816	2.5	2	7500	0.5	0.125	15	air	4 1/16"	1 9/16"	4P
WL-857B(3)	5.0	30	22000	40.0	10.0	15	air	19 7/8"	7 1/8"	2FL
WL-866A	2.5	5	10000	1.0	0.25	15	air	6 9/16"	2 7/16"	4P
WL-869B	5.0	19	20000	10.0	2.5	15	air	14 7/8"	5 1/8"	2LP
WL-869BL(3)	5.0	19	20000	10.0	2.5	15	air	14 7/8"	5 1/8"	2LF
WL-872A	5.0	7.5	10000	5.0	1.25	15	air	8 1/2"	2 5/16"	4AT



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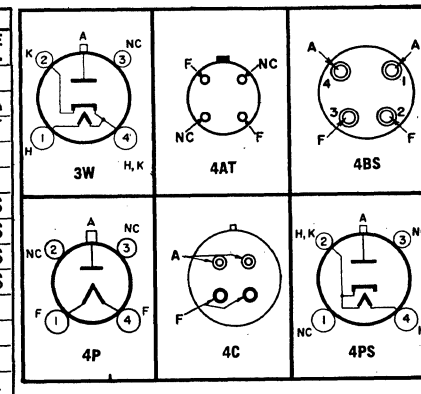
GAS AND MERCURY VAPOR RECTIFIERS

TUBE TYPE	CATHODE VOLTS	CATHODE AMPS.	RATINGS INVERSE VOLTS	RATINGS PEAK AMP.	RATINGS AVG. AMP.	RATINGS DROP VOLTS (2)	MECHANICAL COOL	MECHANICAL MAX. (1) OAL	MECHANICAL MAX. DIAM.	MECHANICAL BASE DWG.
WL-5558	5.0	4.5	5000	15.0	2.5	15	air	7"	3"	3W
WL-5561	5.0	10	3000	40.0	6.4	15	air	11¼"	3 13/16"	3AA
WL-6894	5.0	10	20000	11.5	2.5	25(4)	air	10 17/32"	2⅝"	4AT
WL-6895	5.0	10	20000	11.5	2.5	25(4)	air	10 13/32"	2⅝"	2P
WL-6930(3)	2.5	18	1000	77	6.4	9	air	8⅝"	2 1/16" (5)	2P
WL-7014(6)	2.5	11.5	900	10.0	2.5	10	air	7½"	2 1/16"	4BS
WL-7015(7)	2.5	11.5	900	10.0	2.5	10	air	7½"	2 1/16"	4BS
WL-7016(6)	2.5	17	900	25.6	6.4	10	air	8"	2 9/16"	4BS
WL-7017(7)	2.5	17	900	25.6	6.4	10	air	8⅝"	2 9/16"	4BS
WL-7018	2.5	7	2000	10.0	2.5	12	air	6⅜"	2 1/16"	4P
WL-7019	2.5	18	1000	77.0	6.4	9	air	9½"	2 1/16"	2P
WL-7020(8)	2.5	18	1000	77.0	6.4	9	air	9½"	2 3/16"	2P
WL-7659(3)	5.0	16.25	22000	40.0	10.0	15	air	17⅝"	7½"	2FL
WL-8008	5.0	7.5	10000	5.0	1.25	15	air	8¾"	2 5/16"	2P
WL-23029(3)	5.0	30	22000	40.0	10.0	15	air	19⅞"	7⅛"	2FL

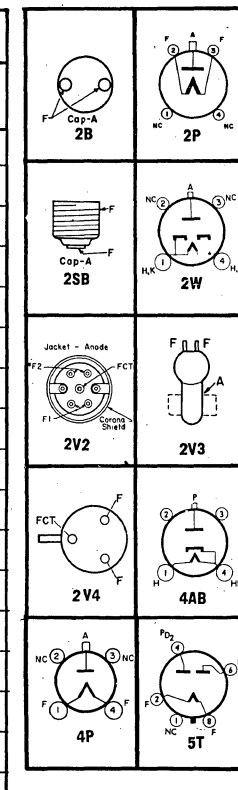


Notes

1. Excluding flying leads.
2. Average value at rated current.
3. Flying leads.
4. Max. value at rated peak current.
5. Excluding mounting bracket.
6. Twin units, ratings are per unit.
7. Lug-based, twin units, ratings are per unit.
8. Lug-based.

HIGH VACUUM RECTIFIERS

TUBE TYPE	NOTE	CATHODE VOLTS	CATHODE AMPS	RATINGS INVERSE KV	RATINGS PEAK MA	RATINGS AVG. MA	RATINGS DROP (3) VOLTS	MECHANICAL MAX. OAL	MECHANICAL MAX. DIAM.	MECHANICAL BASE DWG.
WL-2X2A	(1)	2.5	1.75	12.5	60	7.5	240	4 17/32"	1 1/16"	4AB
WL-5R4-GYB	(1)	5	2	3100	715	150	123	4¼"	1 1/16"	5T
WL-102A	(1)	20.0	19	75	750	120	—	16 9/16"	5⅛"	2B
WL-399	(2)	10.0	11.5	140	—	50	—	9 3/32"	3 9/16"	2B
WL-456	(1)	11.0	20	140	500	60	1760	19"	5⅛"	2B
WL-481B	(1)	2.5	5	25	150	30	80 (5)	4⅞"	1 1/16"	4P
WL-579B	(1)	2.5	6	20	270	25	510	7 1/16"	2 1/16"	2P
WL-613	(1)	11.0	10	140	200	20	1040	19"	5⅛"	2SB
WL-836	(1)	2.5	5	5	1000	250	1800	6 9/16"	2 7/16"	2W
WL-5575	(1)	20.0	24	150	1000	160	525	25¼"	6⅛"	2B
WL-5576	(1)	20.0	32	150	2500	400	1000	25¼"	6⅛"	2B
WL-5859/5860	(2)	10.0	11.5	140	—	100	—	7⅞"	2 9/16"	2B
WL-5934	(1)	2.5	6	20	270	25	520	6⅞"	2 1/16"	4P
WL-5973	(1)	16.0	19.1	75	5000	1000	950	19½"	6⅛"	2B
WL-7658	(6)	4.0	6.8	125	750	150	900	8"	2 9/16"	2B
WL-8094	(1)	12.0	23	110	10000	650	2500	25¼"	6⅛"	2B
WL-22800	(7)	7	250	50	60A	20A	850	14½"	10 1/16"	2V2
WL-22801	(7)	5	125	30	30A	10A	950	11"	6 3/32"	2V3
WL-22802	(8)	7	250	50	60A	20A	850	15"	8⅛"	2V2
WL-23095(9)	(8)	9	132	30	—	3.5A	Note 9	12 15/16	4⅝"	2V3
WL-23102/102A	(1)	20	19	75	750	120	1800	16⅞"	5⅛"	2B
WL-23178(9)	(8)	16	32	15	—	2A	Note 9	9½"	4½"	2V4



Notes

1. Air cooled.
2. Oil cooled for X-ray applications.
3. At bogey filament conditions and peak current.
4. Excluding leads.
5. Measured at 30 ma.
6. Oil cooled.
7. Forced air cooled.
8. Water cooled.
9. Control diode.

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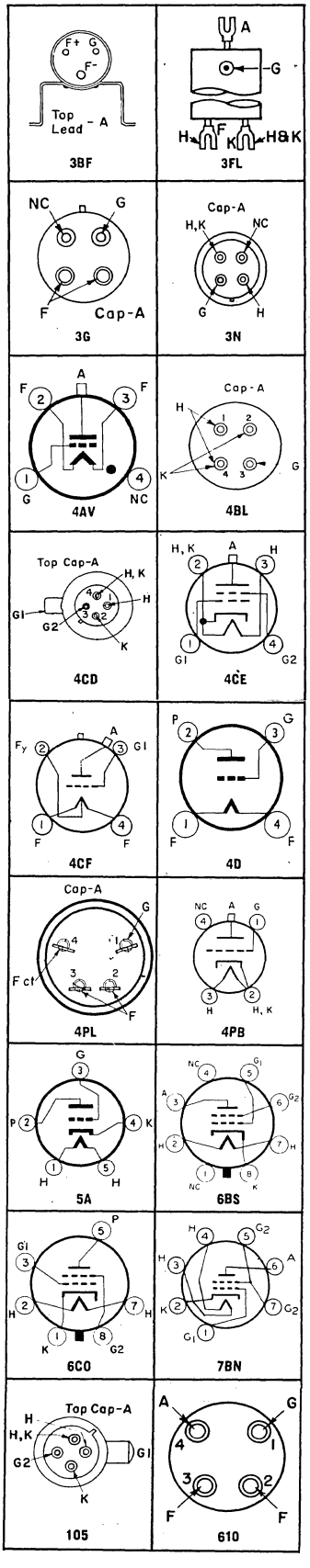
THYRATRONS

TUBE TYPE	CATHODE		FILL	RATINGS			MECHANICAL		
	VOLTS	AMPS		ANODE VOLTS	PEAK AMPS	AVG. AMPS	MAX. OAL	MAX. DIAM.	BASE DWG.
WL-2D21	6.3	0.6	gas	1300	0.5	0.1	2⅛"	¾"	7BN
WL-3C23	2.5	7.0	Hg.	1250	6.0	1.0	6⅛"	2 1/16"	3G
WL-5C21	2.5	21	gas	1250	77	6.4	9½"	2 1/32"	4AV
WL-C6H-1	2.5	21	gas	1700	80	6.4	8¾"	2 1/32"	4AV
WL-C6H-2	2.5	21	gas	1700	80	6.4	8"	2 1/32"	4AV(F)
WL-81A	2.5	5.0	gas	500	2.0	0.5	6⅝"	2 1/16"	3G
WL-105	5.0	10	Hg.	2500	40	6.4	11¼"	2 13/16"	105
WL-172	5.0	10	Hg.	2000	40	6.4	18⅞"	2¼"	3FL
WL-414	5.0	20	Hg.	2000	100	12.5	15 3/16"	3⅛"	3FL
KU-610	2.5	6.5	gas	500	0.4	0.1	6½"	2 1/16"	610
WL-624	5.0	10	Hg.	2500	80	6.4	11⅛"	3 5/16"	4CE
WL-627	2.5	5	Hg.	5000	2.5	0.64	6⅝"	2 1/16"	4AV
WL-629	2.5	2.6	gas	350	0.2	0.04	4¼"	1 1/16"	5A
WL-632C	5.0	5	Hg.	1500	30	2.5	8¾"	1¾"R	4CD
WL-672A	5.0	5	Hg.	2500	40	3.2	8⅜"	2 5/16"	4CE
WL-676	5.0	10	Hg.	2500	40	6.4	11¾"	3 13/16"	4PB
WL-677	5.0	10	Hg.	10000	15	4.0	11 7/16"	3 13/16"	4PB
WL-678	5.0	7.5	Hg.	15000	6.0	1.6	11 3/16"	2 1/16"	3N
WL-2050	6.3	0.6	gas	1300	1.0	0.1	4⅛"	1 1/16"	6BS
WL-2050A	6.3	0.6	gas	1300	1.0	0.1	3 1/16"	1 1/32"	6BS
WL-5557	2.5	5	Hg.	5000	2.0	0.5	6⅛"	2 1/16"	3G
WL-5559	5.0	4.5	Hg.	1000	15	2.5	7¼"	3"	4BL
WL-5563A	5	10	Hg.	15000	10	1.8	10½"	2⅝"	3N
WL-5632	2.5	9	gas	1250	30	2.5	6"	1⅝"	4CF
WL-5664	2.5	6.3	gas	1250	8.0	1.0	4¾"	1 1/16"	3G
WL-5665	2.5	31	gas	1250	160	16.0	11¼"	2 1/16"	3BF(F)
WL-5684NE*	2.5	9	gas	1250	30	2.5	5 11/16"	1 1/16"	4CF
WL-5685	2.5	21	gas	1250	77	6.4	9½"	2⅛"	4AV
WL-5696	6.3	0.15	gas	500	0.1	0.025	1¾"	¾"	7BN
WL-5720	5.0	4.5	Hg.	1000	15	2.5	7½"	3"	4BL
WL-5727	6.3	0.60	gas	1300	0.5	0.1	2⅛"	¾"	7BN
WL-5796	2.5	8.5	gas	1500	20	1.6	5¼"	1 1/16"	4CF
WL-5830	5.0	20	Hg.	10000	75	12.5	17 11/16"	5 1/16"	4BL
WL-6012	6.3	2.6	gas	1300	5.0	0.5	3⅞"	1 23/32"	6CO
WL-6014	2.5	6.3	gas	1250	8.0	1.0	4¼"	1 1/16"	4D
WL-6807	2.5	21	gas	1500	80	6.4	9"	2⅝"	4AV
WL-6808	2.5	21	gas	1500	80	6.4	8 5/16"	2⅝"	4AV(F)
WL-6856	2.5	16	gas & Hg.	1500	50	2.5	9½"	2 1/16"	4PB
WL-6857	2.5	16	gas & Hg.	1500	30	4.0	8⅝"	2 1/16"	4PB(F)
WL-6858	2.5	21	gas & Hg.	1500	77	6.4	9½"	2 1/16"	4AV
WL-6859	2.5	21	gas & Hg.	1500	77	6.4	8¾"	2 1/16"	4AV(F)
WL-6860	2.5	21	gas	1250	77	6.4	8¾"	2 1/32"	4AV(F)
WL-7022	2.5	16	gas & Hg.	1500	50	2.5	9½"	2 1/16"	4PB(L)
WL-7023	2.5	21	gas & Hg.	1500	77	6.4	10"	2 1/16"	4PB(L)
WL-7297	2.5	10.8	gas	1500	40	3.2	6⅜"	2 1/16"	4PL(L)
WL-7306A	2.5	9	gas	1250	30	2.5	5 11/16"	1 1/16"	4CF
WL-7307A	2.5	9	gas & Hg.	1500	30	2.5	6¼"	1 1/16"	4CF
WL-7321	2.5	21	gas	1250	77	6.4	10"	2 1/16"	4AV(L)
WL-7363	2.5	8.5	gas	1500	20	1.6	5"	1 1/16"	4CF
WL-7509A	2.5	9	gas & Hg.	1500	30	2.5	7"	2 1/16"	4PL(L)
WL-7556A	2.5	9	gas	1250	30	2.5	7"	2 1/16"	4PL(L)
WL-8043	5	6	Hg.	21000	50	2.5	11 3/16"	2 1/16"	3N
WL-22994/ 5877	2.5	10.8	gas	1500	40	3.2	7⅛"	2 1/32"	4AV
WL-23052/ 7297	2.5	10.8	gas	1500	40	3.2	7⅜"	2 5/32"	4PL(L)

*Life Indicating Tube.



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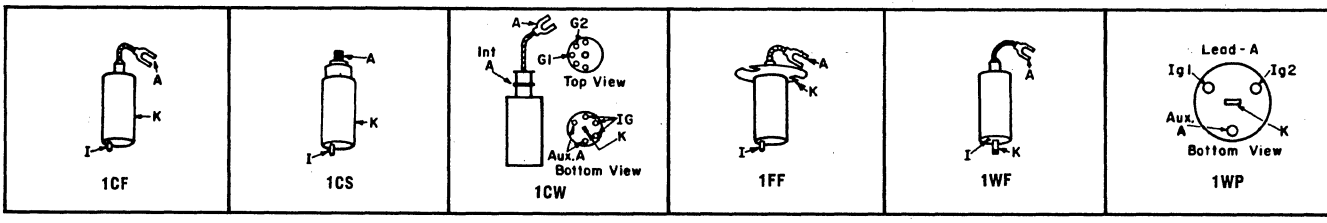
IGNITRONS

Ignitrons are gas-discharge, pool-type cathode tubes in which current conduction is initiated for each conducting cycle by means of an electrode called an ignitor. The ignitor is a small conical refractory element projecting into the mercury. When a relatively small current is conducted through the ignitor to the mercury, ionization of some mercury molecules in this area takes place. Ignitrons are of the half-wave type and current is conducted only when the anode is positive with respect to the cathode and the ignitor is fired.

Control of the average conducted current is accomplished by phase control of the point in the input cycle at which the ignitor is fired. During the non-conducting cycle, ionization in these single-anode tubes is very low; the resulting reduction of shielding necessary to prevent arc-backs lowers the arc voltage and permits operation at lower supply voltages. Ignitrons therefore have some of the control characteristics of thyratrons and, having a mercury-pool cathode, are capable of conducting very large currents. Water cooling of metal envelopes is used on most types to further increase current carrying capacity in a compact tube. Provision is made on some of the tube shells to connect thermostats for tube protection and water saving. Ignitrons are used in resistance welders, frequency-changer resistance welders, power rectifiers, high current switches in controlled fusion equipment, heat control devices for air-frame testing, and any circuit requiring precise control of large amounts of alternating or direct current.



1CF 1CS 1CW 1FF 1WF 1WP

A.C. WELDER CONTROL IGNITRONS

TUBE TYPE (NOTE 2)	SIZE	MAXIMUM RATINGS: RMS LINE VOLTS	DEMAND KVA	CORRES. CURRENT DC AMP.	DEMAND RMS AMP. 500 V. 1-30 CPS	CURRENT DC AMP.	CORRES. DEMAND KVA	MAX. AVG. TIME IN SEC. @ 250 V	@ 500 V	MAX. DIMENSIONS (NOTE 1) LENGTH	DIAM.	COOLING	BASE DWG.
WL-5550	A	250-600	300	12.1	600	22.4	100	22	11	9⅞"	2¾"	Clamp	1 CF
WL-5551A WL-5551A (PC)	B	250-600	600	30.2	1200	56	200	18	9	13"	2¾"	Water	1 WF
WL-5552A WL-5552A (PC)	C	250-600	1200	75.6	2400	140	400	14	7.1	14"	4¼"	Water	1 WF
WL-5553B WL-553B (PC)	D	250-600	2400	192	4800	355	800	11.2	5.6	19½"	5⅝"	Water	1 WF
WL-5554/679	C	2400	1200	75	500 (Note 3)	113	600	1.5 (Note 3)	—	17"	4⅛"	Water	1 WP
WL-5555/653B WL-5555A	D	2400	2400	135	1000 (Note 3)	207	1105	1.7 (Note 3)	—	20"	5¾"	Water	1 WP
WL-7669 WL-7669 (PC)	B Coax	250-600	600	30.2	1200	56	200	18	9	13"	3¼"	Water	1 FF
WL-7671 WL-7671 (PC)	C Coax	250-600	1200	75.6	2400	140	400	14	7.1	14¼"	4⅝"	Water	1 FF
WL-7681	C ½	250-600	1800	113.5	3600	210	600	9.5	7.1	17½"	4¼"	Water	1 WF

FREQUENCY CHANGER WELDING CONTROL IGNITRONS

TUBE TYPE (NOTE 2)	SIZE	PEAK INVERSE VOLTS	RATED CURRENTS: MAX. PEAK AMP.	CORRES. AVG. AMP.	MAX. AVG. AMP.	CORRES. PEAK AMP.	MAX. AVG. TIME SECONDS	MAX. DIMENSIONS (NOTE 1) LENGTH	DIAMETER	COOLING	BASE DWG.
WL-5551A WL-5551A (PC)	B	1200 1500	600 480	5 4	22.5 18	135 108	10 10	13"	2¾"	Water	1 WF
WL-5553B WL-5553B (PC)	D	1200 1500	3000 2400	40 32	140 112	840 672	6.25 6.25	19½"	5⅝"	Water	1 WF
WL-5822A	C	1200 1500	1500 1200	20 16	70 56	420 336	6.25 6.25	14"	4¼"	Water	1 WF
WL-7669 WL-7669 (PC)	B Coax	1200 1500	600 480	5 4	22.5 18	135 108	10 10	13"	3¼"	Water	1 FF
WL-7670	—	2500	2000	10	—	—	2	12"	2¾"	Water	1 FF
WL-7681	C ½	1200 1500	2250 1800	30 24	105 84	630 502	6.25 6.25	17½"	4¼"	Water	1 WF

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Ignitrons *continued*

POWER RECTIFIER IGNITRONS

TUBE TYPE	SIZE	PEAK INVERSE VOLTS	MAXIMUM CURRENT RATINGS		MAXIMUM DIMENSIONS (NOTE 1)		COOLING	BASE DWG.
			PEAK AMP.	CONT. AVG. AMP.	LENGTH	DIAMETER		
WL-5554/679	C	900 2100	900 600	100 75	17″	4⅛″	Water	1 WP
WL-5555A WL-5555/653B	D	900 2100	1800 1200	200 150	20″	5¾″	Water	1 WP
WL-6228	—	20000	900	150	42″	9″	Water	1 CW

CONTINUOUS DUTY A.C. CONTROL IGNITRONS (NOTE 4)

TUBE TYPE (NOTE 2)	SIZE	MAXIMUM RATINGS								MAX. DIMENSIONS (NOTE 1)		COOLING	BASE DWG.
		RMS LINE VOLTS	DEMAND KVA	CORRES. CURRENT DC AMP.	CONTINUOUS RMS AMP. 2 TUBES	CURRENT DC AMP.	CORRES. DEMAND KVA	MAX. AVG. TIME IN SEC. @ 250 V	@ 500 V	LENGTH	DIAM.		
WL-23011 WL-23011 (PC)	B	250-600	600	30.2	124	56	200	18	9	13″	2¾″	Water	1 WF
WL-23012 WL-23012 (PC)	C	250-600	1200	75.6	311	140	400	14	7.1	14″	4¼″	Water	1 WF
WL-23013 WL-23013 (PC)	D	250-600	2400	192	788	355	800	11.2	5.6	19½″	5⅝″	Water	1 WF
WL-23014 WL-23014 (PC)	B Coax	250-600	600	30.2	124	56	200	18	9	13″	3¼″	Water	1 FF
WL-23015 WL-23015 (PC)	C Coax	250-600	1200	75.6	311	140	400	14	7.1	14¼″	4⅝″	Water	1 FF
WL-23016	C ½	250-600	1800	113.5	466	210	600	9.5	7.1	17½″	4¼″	Water	1 WF
WL-23017	D Coax	250-600	2400	192	788	355	800	11.2	5.6	17½″	5⅝″	Water	1 FF
WL-23018	C ½ Coax	250-600	1800	113.5	466	210	600	9.5	7.1	15″	5⅝″	Water	1 FF

CAPACITOR DISCHARGE & CROWBAR IGNITRONS

TUBE TYPE	MAXIMUM RATINGS					MAX. DIMENSIONS (NOTE 1)		COOLING	BASE DWG.
	HOLD-OFF KV	PEAK AMP.	DISCHARGE COULOMBS	REP. RATE PULSES/MIN.	AVERAGE CURRENT AMP.	LENGTH	DIAMETER		
WL-6228	60	30,000	—	—	—	42″	9″	Water	1 CW
WL-7171	10	35,000	18.6	2	0.6	8 7/16″	2 5/32″	Clamp	1 CS
WL-7703	20	100,000	—	2	—	7″	2 7/32″	Clamp	1 CS
WL-7740	20	35,000	18.6	2	0.6	8⅞″	2 5/32″	Clamp	1 CS
WL-8306	15	35,000	18.6	2	0.6	8⅞″	2 5/32″	Clamp	1 CS

PULSE MODULATOR IGNITRONS (NOTE (5)

TUBE TYPE	MAXIMUM RATINGS				PULSE		BASE DWG.
	FORWARD KV	INVERSE KV	PEAK AMP.	AVG. AMP.	LENGTH μ SEC.	REP. RATE PPS	
WL-6228	40	0.5	3300	3.8	3.2	360	1 CW

NOTES

1. Excluding flying leads, water pipes, and on coaxial tubes the mounting flange.
2. Suffix PC indicates plastic-coated tube.
3. At 2400 volts.
4. These tubes use heavy duty ignitors designed for continuous duty.
5. Consult Industrial and Transmitting Tube Development Department for pulse modulator applications. The parameters listed represent a specific application only and substantial increases can be made in some areas.

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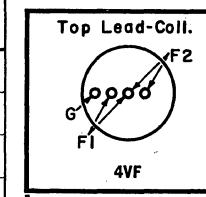
VACUUM MEASURING TUBES

Vacuum measuring tubes are designed to become part of an evacuated system. With suitable circuitry, the pressure in that system may be accurately determined. The Bayard-Alpert ionization gauge is used for measurement of very low pressures. The Schulz-Phelps ionization gauge measures pressures up to one half torr. The Pirani and thermocouple gauges are less accurate and measure only the higher pressures, but, their associated circuitry is much simpler.

These tubes are used in electron tube and semiconductor device processing control, vacuum deposition, research and rocket altimeter applications.

Ionization Gauges

TUBE TYPE	TUBE CLASS	RANGE TORR	ELECTRICAL				MECHANICAL				
			FILAMENT		COLL VOLTS	GRID VOLTS	TUBULATION		MAX. OAL (1)	MAX. DIAM.	BASE DWG.
			VOLTS	AMPS.			SIZE	MAT'L.			
WL-5966	Bayard-Alpert (2)	10^{-3} to 10^{-10}	7	2.5	—30	150	½"	Nonex	11½"	3⅛"	4VF
WL-6794	Bayard-Alpert (2)	10^{-3} to 10^{-10}	6	2.5	—30	.50	½"	Pyrex	8⅜"	2½"	7VP
WL-7676	Schulz-Phelps	$5x10^{-1}$ to 10^{-5}	2	2.25	—60	60	½"	Nonex	7¼"	1 13/16"	8VP
WL-7903	Schulz-Phelps	$5x10^{-1}$ to 10^{-5}	1.3	2.4	—60	60	½"	Pyrex	7¼"	1 13/16"	9VP
WL-7904	Bayard-Alpert (2)	10^{-3} to 10^{-9}	4	1.5	—30	150	½"	Pyrex	7¼"	1 3/16"	9PV
WL-8057	Bayard-Alpert (3)	10^{-3} to 10^{-9}	7	2.5	—30	150	¾"	Nonex	5¼"	4 9/16"	5VP
WL-22612	Bayard-Alpert (2)	10^{-3} to 10^{-9}	7	2.5	—30	150	½"	Pyrex	11½"	3⅛"	4VF
WL-22613	Bayard-Alpert (2)	10^{-3} to 10^{-9}	7	2.5	—30	150	¾"	Pyrex	11½"	3¼"	4VF
WL-22614	Bayard-Alpert (2)	10^{-3} to 10^{-9}	7	2.5	—30	150	1"	Pyrex	11½"	3⅜"	4VF
WL-22618	Bayard-Alpert (2)	10^{-3} to 10^{-9}	7	2.5	—30	150	½"	Pyrex	5⅜"	5 5/16"	4VF
WL-22619	Bayard-Alpert (2)	10^{-3} to 10^{-9}	7	2.5	—30	150	¾"	Pyrex	5⅜"	5 5/16"	4VF
WL-22620	Bayard-Alpert (2)	10^{-3} to 10^{-9}	7	2.5	—30	150	1"	Pyrex	5⅜"	5 5/16"	4VF
WL-22627	Bayard-Alpert (2)	10^{-3} to 10^{-10}	7	2.5	—30	150	¾"	Pyrex	8"	2⅛"	7VP
WL-22637	Bayard-Alpert (3)	10^{-3} to 10^{-9}	7	2.5	—30	150	¾"	Pyrex	6⅜"	5 5/16"	5VP
WL-22640	Bayard-Alpert (3)	10^{-3} to 10^{-9}	7	2.5	—30	150	¾"	Kovar	6⅜"	5 5/16"	5VP
WL-22643	Bayard-Alpert (3)	10^{-3} to 10^{-9}	7	2.5	—30	150	¾"	Pyrex	8"	2⅛"	7VP
WL-22754	Bayard-Alpert (4)	10^{-3} to 10^{-9}	2.5	2.5	—30	150	¾"	Nonex	5¼"	4 9/16"	5VP
WL-22868	Bayard-Alpert (4)	10^{-3} to 10^{-9}	2.5	2.5	—30	150	¾"	Pyrex	5¼"	4 9/16"	5VP
WL-22869	Bayard-Alpert (4)	10^{-3} to 10^{-9}	2.5	2.5	—30	150	¾"	Kovar	5¼"	4 9/16"	5VP
WL-22923	Schulz-Phelps	$5x10^{-1}$ to 10^{-5}	2	2.25	—60	60	½"	Kovar	7¼"	1 13/16"	9VP
WL-22947	Bayard-Alpert (4)	10^{-3} to 10^{-9}	2.5	2.5	—30	150	¾"	Nonex	5¼"	4 9/16"	4VP
WL-22948	Bayard-Alpert (4)	10^{-3} to 10^{-9}	2.5	2.5	—30	150	¾"	Pyrex	5¼"	4 9/16"	4VP
WL-22949	Bayard-Alpert (4)	10^{-3} to 10^{-9}	2.5	2.5	—30	150	¾"	Kovar	5¼"	4 9/16"	4VP



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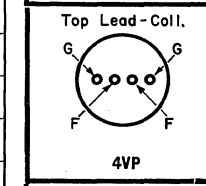

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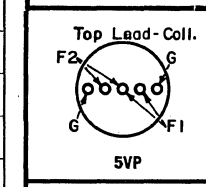

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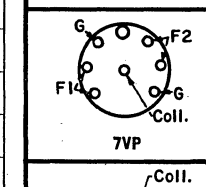

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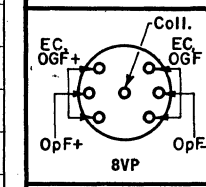

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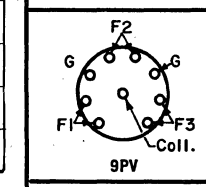

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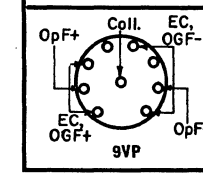


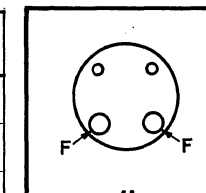
9VP

Notes

1. Excluding flexible leads. Length and diameter describe space to contain tube.
2. Grid outgassed by electron bombardment.
3. Grid outgassed by a-c current conduction.
4. Non-burn-out filament and grid outgassed by a-c current conduction.

Pirani Tubes

TUBE TYPE	FILAMENT		TUBULATION		RANGE TORR	MAX. OAL	MAX. DIAM.	BASE DWG.
	MAT'L.	AMPS.	SIZE	GLASS				
WL-762	Platinum	0 to 0.3	⅜"	Nonex	1 to $5x10^{-4}$	7 15/16"	1 3/16"	4A
WL-765	Platinum	0 to 0.3	⅝"	Nonex	1 to $5x10^{-4}$	6¾"	1 3/16"	4A
WL-765A	Platinum	0 to 0.3	None	None	1 to $5x10^{-4}$	5¼"	1 3/16"	4A



4A

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Hollow Cathode Discharge Devices For Atomic Absorption Spectroscopy

WINDOW — GAS FILL — SIZE CODE

Gas Fill	Window: Quartz 1"	Window: Pyrex 1½"
Argon	Q-A-B	P-A-A
Neon	Q-N-B	P-N-A

Single-Element Hollow-Cathode Devices (See Note)

Tube Type	Window, Gas Fill & Size	Element	Analytical Lines Å	Å	Å	Max. mA	Tube Type	Window, Gas Fill & Size	Element	Analytical Lines Å	Å	Å	Max. mA
WL-22603	P-N-A	Copper	3247	3274	—	20	WL-22932	Q-N-B	Bismuth	2231	3068	—	12
WL-22610	P-N-A	Calcium	4227	—	—	20	WL-22933	Q-N-B	Cadmium	2288	3261	—	12
WL-22806	Q-A-B	Silver	3281	3383	—	20	WL-22934	Q-N-B	Chromium	3579	4254	—	25
WL-22809	P-N-A	Aluminum	3092	3962	—	20	WL-22935	Q-N-B	Gold	2428	2676	—	15
WL-22810	Q-N-B	Iron	2483	3720	—	20	WL-22936	Q-N-B	Manganese	2795	2801	—	25
WL-22811	Q-N-B	Zinc	2139	3076	—	18	WL-22937	Q-N-B	Molybdenum	3133	3170	—	30
WL-22818	Q-N-B	Samarium	3951	4760	—	20	WL-22938	Q-N-B	Selenium	1960	2040	—	15
WL-22819	Q-N-B	Nickel	2320	3415	—	20	WL-22939	Q-N-B	Silicon	2516	—	—	20
WL-22823	P-N-A	Cesium	4556	8521	—	25	WL-22940	Q-N-B	Tellurium	2143	2386	—	15
WL-22824	P-N-A	Rubidium	7800	—	—	30	WL-22941	Q-N-B	Tin	2863	—	—	15
WL-22826	Q-N-B	Uranium	5027	5915	—	25	WL-22942	Q-N-B	Rhenium	3460	3465	—	25
WL-22827	Q-N-B	Dysprosium	4046	4187	—	15	WL-22968	Q-N-B	Magnesium	2025	2852	—	20
WL-22828	Q-N-B	Erbium	4008	—	—	15	WL-22969	Q-N-B	Palladium	2448	2476	3404	25
WL-22829	Q-N-B	Holmium	4054	5983	—	15	WL-22973	Q-N-B	Vanadium	3184	3855	—	30
WL-22830	P-N-A	Lithium-6	6708	—	—	30	WL-22977	Q-N-B	Cerium	—	—	—	20
WL-22831	P-N-A	Lithium-7	6708	—	—	30	WL-22979	Q-N-B	Neodymium	4925	—	—	20
WL-22833	Q-N-B	Gallium	2874	4172	—	15	WL-22981	Q-N-B	Praseodymium	4951	5133	—	20
WL-22834	P-N-A	Barium	5536	—	—	25	WL-22983	Q-A-B	Ytterbium	3988	—	—	20
WL-22835	P-N-A	Strontium	4607	—	—	25	WL-22985	Q-N-B	Gadolinium	3684	—	—	20
WL-22836	Q-N-B	Arsenic	1937	1972	—	20	WL-22987	Q-N-B	Yttrium	4077	4102	—	15
WL-22837	Q-N-B	Iron (High Purity)	2843	3720	—	20	WL-22989	Q-N-B	Phosphorus	—	—	—	20
							WL-22991	Q-N-B	Titanium	3643	3998	—	25
WL-22844	Q-N-B	Tungsten	4009	4294	—	30	WL-22996	Q-N-B	Indium	3040	—	—	20
WL-22845	Q-N-B	Europium	4594	4627	—	20	WL-22997	Q-N-B	Rhodium	3435	3692	—	25
WL-22847	Q-A-B	Mercury	2537	—	—	15	WL-23007	Q-N-B	Thulium	4094	4105	—	20
WL-22848	Q-N-B	Terbium	4319	4338	—	25	WL-23009	Q-N-B	Lutetium	3081	3282	—	20
WL-22851	Q-A-B	Platinum	2659	—	—	25	WL-23027	Q-N-B	Thorium	—	—	—	20
WL-22858	Q-N-B	Niobium	4059	4080	—	25	WL-23049	Q-N-B	Lanthanum	3574	3928	4015	15
WL-22859	Q-A-B	Tantalum	3311	—	—	30	WL-23060	P-N-A	Lithium-Nat.	6708	—	—	30
WL-22860	Q-A-B	Zirconium	3519	3601	—	25	WL-23138	Q-A-B	Ruthenium	3499	3728	—	25
WL-22863	P-N-A	Potassium	4044	7665	—	25	WL-23143	Q-N-B	Sulphur	—	—	—	20
WL-22864	P-A-A	Sodium	3302	5890	—	25	WL-23144	Q-A-B	Osmium	—	—	—	20
WL-22916	Q-A-B	Boron	2497	—	—	20	WL-23145	Q-N-B	Iridium	2850	—	—	25
WL-22927	Q-N-B	Lead	2170	2833	—	15	WL-23160	Q-A-B	Germanium	2651	—	—	20
WL-22928	Q-N-B	Cobalt	2407	3454	3527	25	WL-23180	Q-N-B	Hafnium	2866	3072	—	18
WL-22931	Q-N-B	Antimony	2176	2311	—	25	WL-23181	Q-N-B	Scandium	3907	3912	—	20

Multi-Element Hollow-Cathode Devices (See Note)

Tube Type	Window, Gas Fill & Size	Elements	Max. mA	Tube Type	Window, Gas Fill & Size	Elements	Max. mA
WL-22930	Q-N-B	Ca Mg Al	20	WL-23135	Q-N-B	Cu Zn Mo	15
WL-23034	P-N-A	Ba Ca Sr	25	WL-23141	Q-N-B	Cu Zn Mo Co	15
WL-23035	Q-N-B	Ca Mg Al Li	18	WL-23146	Q-N-B	Cu Zn Pb Cd	12
WL-23106	Q-N-B	Fe Cu Mn	20	WL-23147	Q-N-B	As Sb Bi	15
WL-23108	Q-N-B	Cr Fe Mn Ni	30	WL-23148	Q-N-B	As Se Te	15
WL-23109	Q-N-B	Cu Zn Pb Sn	12	WL-23171	Q-N-B	Pb Zn Ag	12
WL-23116	Q-N-B	As Ni	20	WL-23173	P-N-A	Na K	25
WL-23117	Q-N-B	Au Ni	15	WL-23174	Q-N-B	Cr Co Ni	25
WL-23118	Q-N-B	In P	20	WL-23176	Q-N-B	Cr Co Cu Fe Mn Ni	30
WL-23119	Q-N-B	Cu Ga	15	WL-23177	Q-N-B	Mo Cu Fe	25
WL-23130	Q-N-B	Se Ni	15	WL-23179	Q-N-B	Fe Cu Ni Pb Zn	15
WL-23131	Q-N-B	Cu Mn	20	WL-23190	Q-N-B	Cu Co	20
WL-23132	Q-N-B	Cu Pb Zn Ag	15	WL-23207	Q-N-B	Ca Zn	15
WL-23133	Q-N-B	Ba Ca Sr Mg	25	WL-23208	Q-N-B	Cr Cu	20
WL-23134	Q-N-B	Cu Zn Fe Mn	15	WL-23211	Q-N-B	Au Cu Fe Ni	20
				WL-23216	Q-N-B	Ag Zn Pb Cd	12

NOTE: This is not a complete listing. Only preferred types are listed. Preferred types have window and fill combinations, for each element, suitable for most applications and are stocked for immediate shipment. For a complete listing refer to data sheets ET-1532 and ET-1553.

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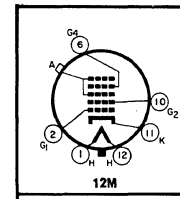
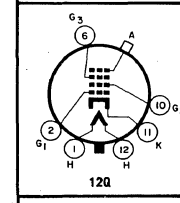
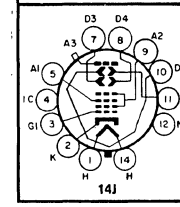
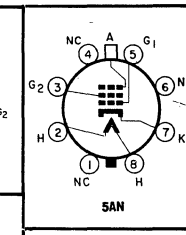
Industrial & Military Cathode Ray Tubes

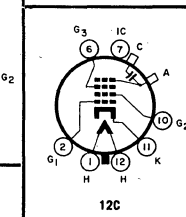
Tube Type	Bulb				Electrical					Max. OAL
	Note	Face Rad.	Base Dwg.	Defl. Angle	Anode KV	Focus Volts	Grid 2 Volts	Grid 1 Volts (1)	Line Width	
3JP1	3	8″	14J	ES	4	400 to 690	2000	−45 to −75	—	10.188″
WL-5038	3	Flat	12E	ES	2	340 to 640	—	−75	0.023″	15.12″
5CEP11	2	Flat	12Q	42°	10	2070 to 2370	300	−40 to −65	0.0015″	13.5″
5DEP1	3	20″	12E	ES	2	340 to 640	—	−90 max.	0.023″	15.125″
5DKP16	2	24″	5AN	53°	8	Mag.	250	−30 to −75	0.006″	11.5″
5FP7A	3	24″	5AN	53°	5	Mag.	250	−25 to −70	0.010″	11.5″
5UP1	3	20″	12E	ES	2	340 to 640	—	−90 max.	0.023″	15.125″
5ZP16	2	Flat	12C	40°	27	5544 to 7056	200	−42 to −98	0.0045″	14.75″
WL-5078	3	Flat	12E	ES	1.5	150 to 450	—	−90	0.020″	9.44″
7ABP7A	2	24″	12M	50°	7	0 to 250	300	−33 to −77	0.012″	13.5″
8NP4	5	27″	12M	90°	16	0 to 400	300	−33 to −77	0.012″	9.94″
10WP7A	2	42″	12M	50°	10	0 to 600	300	−35 to −75	0.015″	17.312″

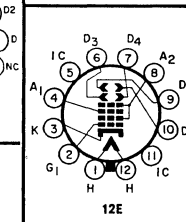


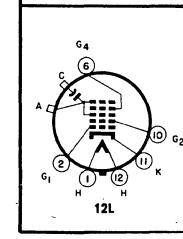












Notes: 1. For cutoff.
2. Aluminized screen, round faceplate.
3. Round faceplate.
4. Aluminized screen, round faceplate, 0.9″ diameter neck, 6.3 volt — 300 mA heater.
5. Aluminized screen, rectangular faceplate.

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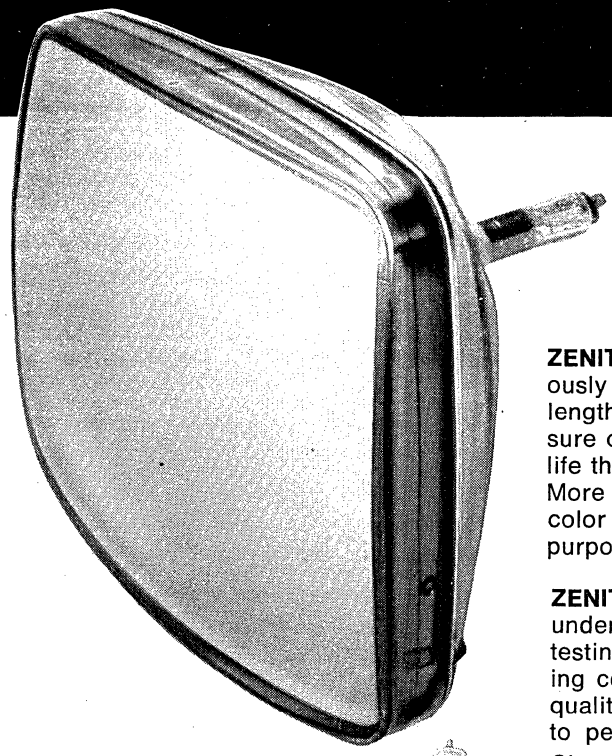
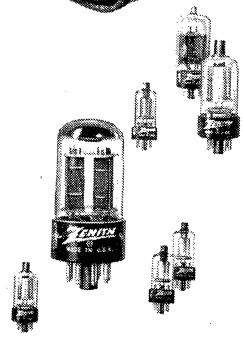
Zenith Tubes...
life-tested for greater dependability!



ZENITH TV PICTURE TUBES are rigorously tested at elevated line voltages for lengthy periods. Just one reason you can be sure of Zenith's great reliability and long life that better satisfies your customers. More than 200 Zenith quality tubes—for color TV, black-and-white TV, or special purposes—are in the complete line.

ZENITH "ROYAL CREST" CIRCUIT TUBES undergo over 1½ million hours of life-testing every month. Under actual operating conditions, they must meet the same quality standards as Zenith original parts—to perform with unrivaled dependability. Choose from a full line of more than 900 top-quality Zenith tubes.

Order all genuine Zenith replacement parts and accessories from your Zenith distributor



Exciting Surprises for You— and Your Family! Fun for all! Get the details at your Zenith Distributor's Parts Department.

Zenith B&W replacement picture tubes are made only from new parts and materials except for the glass envelope in some tubes which, prior to reuse, is inspected and tested to the same high standard as a new envelope. Some color picture tubes contain used material which, prior to reuse, is carefully inspected to meet Zenith's high quality standards.

BEST YEAR YET TO SELL THE BEST

FIFTIETH ANNIVERSARY 1918 50 1968 50 YEARS OF LEADERSHIP THROUGH QUALITY

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The quality goes in before the name goes on

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CABLE PRODUCTS©

AMPHENOL

RG COAXIAL CABLE

Military Number RG/U	AMPHENOL Number	Armour O.D.	Jacket O.D.	Type	Shields Outer	Shields Inner	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd. /Ft.	Max. Oper. Volts Rms.	Imp. Nom. Ohms	1000 Lbs./ Ft.	Connector Series
8	21-005	—	.405	I	—	C	.288P	7/21C	65.9	29.5	5000	52	105	N, C, HN, UHF
8A	21-290	—	.405	IIa	—	C	.288P	7/21C	65.9	29.5	5000	52	105	N, C, HN, UHF
9B	21-332	—	.420	IIa	S	S	.280P	7/21S	65.9	30	5000	50	127	N, C, HN, UHF
11	21-007	—	.405	I	—	C	.285P	7/26TC	65.9	20.5	5000	75	92	N, C, HN, UHF
55B	21-802	—	.206	IIIa	TC	TC	.116P	20S	65.9	28.5	1900	53.5	34	TNC, BNC, BN, C, UHF
58	21-024	—	.195	I	—	—	.116P	20C	65.9	28.5	1900	53.5	27	TNC, BNC, BN, C, UHF, N, PLUG-IN
58A	21-199	—	.195	I	—	TC	.116P	10/.0071 TC	65.9	30	1900	50	27	
58C	21-316	—	.195	IIa	—	TC	.116P	10/.0071 TC	65.9	30	1900	50	27	
59	21-025	—	.242	I	—	C	.146P	.023CW	65.9	21.5	2300	73	37	TNC, BNC, BN, C, UHF, N, PLUG-IN
59B	21-794	—	.242	IIa	—	C	.146P	22CW	65.9	21	2300	75	35	
62	21-026	—	.242	I	—	C	.146SSP	22CW	84	13.5	750	93	36	TNC, BNC, BN, C, UHF, N, PLUG-IN
62B	21-771	—	.242	IIa	—	C	.146SSP	7/32CW	84	13.5	750	93	30	
71B	21-804	—	.250 Max.	IIIa	—	C	.146SSP	22CW	85	13.5	750	93	43	TNC, BNC, BN, C, UHF, N, PLUG-IN
108A	21-327	—	.235	IIa	—	TC	.079 (each P)	Two 7/28TC	68	23.5	1000	78	29	TWIN
142B	421-176	—	.195	IX	S	S	.1167	.039SCW	69.5	28.5	1900	50	42	C. N

RG SUBMINIATURE CABLE

AMPHENOL line of subminiature coaxial cables were created for use in any miniaturized electronic application. Teflon dielectric subminiature cable is able to withstand continuous operating temperatures up to 250°C. Teflon jacket is weatherproof, chemically inert, insoluble in liquids and gases.

The polyethylene dielectric miniature coaxial cable is intended for use where extremely high temperature is not a consideration.

Military Number RG/U	AMPHENOL Number	Armour O.D.	Jacket O.D.	Jacket Type	Shields Outer	Shields Inner	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd. /Ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 Ft.	Connector Series
174	21-598	—	.100	I	—	TC	.060P	7/34CW	65.9	30.0	1500	50	7.5	Subminax
178B	421-094	—	.075 Max.	IX	—	S	.034T	7/38SCW	69.5	28.5	1000	50	6	Subminax
179B	421-096	—	.105 Max.	IX	—	S	.063T	7/38SCW	69.5	19.5	1200	75	11	BNC, Subminax
180B	421-098	—	.145 Max.	IX	—	S	.102	7/38SCW	69.5	15.0	1500	95	20	BNC, Subminax, TNC
187A	421-079	—	.110 Max.	VII	—	S	.060	7/38SCW	69.5	19.5	1200	75	11.3	BNC, Subminax
188A	421-077	—	.110 Max.	VII	—	S	.060T	7/.0067 SCW	69.5	29.0	1200	50	11.1	BNC, Subminax
195A	421-075	—	.155 Max.	VII	—	S	.102T	7/38SCW	69.5	15.0	1500	95	21.1	BNC, Subminax, TNC
196A	421-073	—	.080 Max.	VII	—	S	.034T	7/38SCW	69.5	28.5	1000	50	5.9	Subminax

Cable Jacket Types: (I) Black Polyvinyl Chloride, (V) Fiberglas Braid, (VII) Teflon (Polytetrafluoroethylene), (IX) Teflon (Fluorinated Ethylene Propylene).

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CABLE PRODUCTS

AMPHENOL

RG COAXIAL CABLE

Military Number RG/U	AMPHENOL Number	Armour O.D.	Jacket O.D.	Type	Shields Outer	Shields Inner	O.D. & Type Dielectric	Conductor Center	V.P. %	Cap. Mmfd. /Ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms	Lbs./ 1000 Ft.	Connector Series
213	21-779	—	.405	IIa	—	C	.285P	7/.0296C	65.9	29.5	5000	50	103	N, C, HN, UHF
223	21-788	—	.216	IIa	S	S	.185P	.0556N	65.9	29.0	2700	50	84	N, C
225	421-135	—	.430	V	S	S	.285T	7/.0312S	69.5	29.5	5000	50	174	N.C, HN, UHF

CATV CABLE

AMPHENOL Polyfoam® Communications and TV Cables are designed to satisfy the need for a low attenuation, low capacitance RF cable for the communications field.

All cables illustrated are available in 1000 foot continuous lengths.

Note: * Add the following suffixes to the Amphenol Number for sweep testing:
—101 (sweep tested from 50 MC to 90 MC and 170 MC to 220 MC).
—202 (sweep tested from 10 MC to 250 MC).

Type RG/U	Number AMPHENOL	O.D. Jacket	Type Jacket	Shield	Dielectric O.D. & Type	Center Conductor	V.P. %	Nom. Cap. Mmfd/ft	Max. Oper. Volts RMS	Nom. Imp. Ohms	Lbs./ 1000 ft.	Connector Series
8	621-111*	.405	I	C	.285 FP	7/19C	80	17.3	1000	75	32	BNC, TNC, UHF
59	621-186*	.242	P	C	.146 FP	20CW	80	24.5	1500	50	104	UHF

TRIAXIAL CABLES

AMPHENOL Triaxial Cables satisfy the need for a high degree of shielding in a flexible transmission line. This is achieved by adding a high coverage braid over the cable jacket and then applying a second or outer jacket. This cable can be used to carry two separate signals.

58A	21-204*	.285 I	TC .195 I	TC	.116 P TC	19/.0071	65.9	29.5	1900	50	60	Triax

LOW NOISE CABLES

AMPHENOL Low Noise Cable fulfills the need for cable which will remain electrically neutral under conditions of shock and vibration. The reduction of inherent noise is achieved on these cables by the application of a semi-conductive coating over the dielectric.

59	21-541	.242	I	C	.146CCP	7/32TC	65.9	21.5	2300	73	35	BNC, BN, C, UHF

HIGH VOLTAGE CABLE AND WIRE

AMPHENOL High Voltage Cable and Wire satisfies a multitude of high voltage applications — wherever flexibility and temperature extremes may be a factor. High voltage wire operates up to 50,000 volts D.C. — coaxial cables up to 35,000 volts D.C.

AMPHENOL Number	Jacket O.D.	Jacket Type	Shield	Dielectric O.D. & Type	Center Conductor	V.P. %	Cap. Mmfd/ ft.	Max. Oper. Volts RMS	Nom. Imp. Ohms	Dielectric Strength	Lbs./1000 ft.	Connector Series
14-047-02	.120	Red Vinyl	—	.080 P	1/30TC	—	—	—	—	10,000V AC 50,000V DC	7.75	—
14-047-10	.120	Black Vinyl	—	.080 P	7/30TC	—	—	—	—	10,000V AC 50,000V DC	7.75	—

TWIN-LEAD TRANSMISSION LINES

AMPHENOL Marine Core® Twin-Lead has the lowest signal loss of any twin-lead wet or dry. It has a tough, brown virgin polyethylene jacket protecting double self-sealing cores of Polyfoam.

Amphenol Number	Imp.	Conductors	Description
214-056	300	7/28C	Flat Type, standard for TV and FM antenna lead-in.
214-100	300	7/28C	Flat Type, heavy duty.
214-318	300	7/28C	Flat Type, clear polyethylene for indoor applications.

Amphenol Number	Imp.	Conductors	Description
214-271	300	7/28C	AIR CORE Tubular Twin-Lead, same above except this is capable of handling 500 watts of RF power.
214-103	300	7/28C	MARINE CORE Twin-Lead, outstanding for applications under adverse conditions such as moisture, salt spray and industrial contamination
214-298	—	7/28C	4-Conductor-Rotor Cable, 28 volt rating, one conductor tinned fon identification.

BC/U* 100 PER CENT SHIELDED CABLE

AMPHENOL BC/U bonded cable is a high reliability, how loss, 100% shielding, especially designed lightweight cable for applications wherever efficiency and performance is a factor, i.e., CCTV, MATV, CATV communications. Meets or exceeds all requirements of MIL-C-17.

Amphenol Number	Designation	Center Conductor	Dielectric	Shield	Jacket	Weight Lbs/ 1000	Impedance Nom.	Cap. Nom.	V.P. Nom.	Max. Oper. Voltage	Dielec. Strength	Frequency (mc)	6	13
21-1050	BC 59/U	22 AWG Copperweld Wire	.146" Polyethylene	.181" Bonded Aluminum	.242 Polyethylene	22.75	75 ohms	20.5 mmf/ft	67%	2,300 VRMS	7,000 VRMS	Attenuation (db/100 ft.) nom.	2.35	4.8
621-010	BC 6/U	18 AWG Bare Copper	.185" Polyfoam®	.215" Bonded Aluminum	.275 Polyethylene	32.00	75 ohms	17.2 mmf/ft	79%	1,500 VRMS	2,000 VRMS	Attenuation (db/100 ft.) nom.	1.75	3.8

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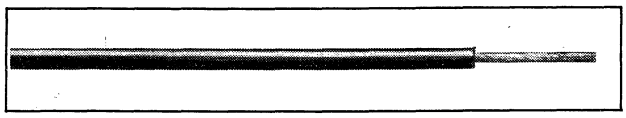
ALPHA WIRE MFG.



MIL-W-76B-PLASTIC WIRE

TYPE MW—UNCOVERED PLASTIC

DESCRIPTION: Solid or extra flexible stranded tinned copper, color coded **medium wall** polyvinylchloride insulation. The stranded conductor has an extra tight lay to prevent springing open when stripped.

CHARACTERISTICS: Temperature rating —40°C to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

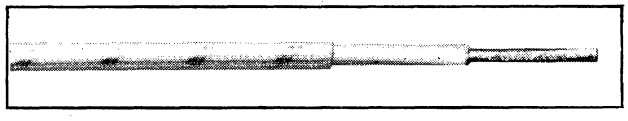
STRANDED

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL O.D.	*STOCK COLORS
1550	MW-C 24(7)U	24	7/32	.016"	.059"	1-30 AS LISTED BELOW
1551	MW-C 22(7)U	22	7/30	.016"	.064"	
1553	MW-C 20(10)U	20	10/30	.016"	.073"	
1555	MW-C 18(16)U	18	16/30	.016"	.084"	
1557	MW-C 16(26)U	16	26/30	.016"	.095"	
1559	MW-C 14(41)U	14	41/30	.016"	.110"	
1560	MW-C 12(65)U	12	65/30	.016"	.125"	

SOLID

1561/24	MW-C 24(1)U	24	1	.016"	.055"	1-30 AS LISTED BELOW
1561	MW-C 22(1)U	22	1	.016"	.060"	
1563	MW-C 20(1)U	20	1	.016"	.066"	
1565	MW-C 18(1)U	18	1	.016"	.074"	
1567	MW-C 16(1)U	16	1	.016"	.083"	

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED



MIL-W-76B-PLASTIC WIRE

TYPE MW—GLASS BRAID

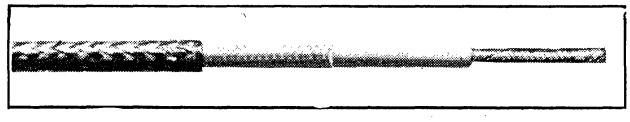
DESCRIPTION: Extra flexible stranded tinned copper, white **medium wall** polyvinylchloride insulation, color coded flame retardant lacquered glass braid overall. The stranded conductor has an extra tight lay to prevent springing open when stripped.

CHARACTERISTICS: Temperature rating —40°C to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL O.D.	*STOCK COLORS
1590	MW-C 22(7)B	22	7/30	.016"	.080"	1-19 as listed below
1591	MW-C 20(10)B	20	10/30	.016"	.090"	1-19 as listed below
1592	MW-C 18(16)B	18	16/30	.016"	.100"	1-19 as listed below
1593	MW-C 16(26)B	16	26/30	.016"	.115"	1-19 as listed below
1594	MW-C 14(41)B	14	41/30	.016"	.125"	1 & 11-19 as listed below
1595	MW-C 12(65)B	12	65/30	.016"	.140"	1 & 11-19 as listed below

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED

*Other solid colors and striped combinations available to order.



MIL-W-76B-PLASTIC WIRE

TYPE MW—GLASS BRAID—SHIELDED

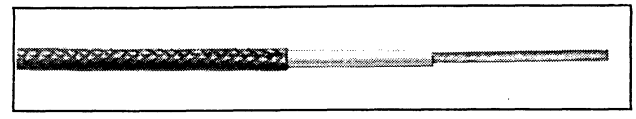
DESCRIPTION: Extra flexible stranded tinned copper, white medium wall polyvinylchloride insulation, white flame retardant lacquered glass braided with tinned copper shield overall, 80% coverage. The stranded conductor has an extra tight lay to prevent springing open when stripped.

CHARACTERISTICS: Temperature rating —40°C to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL O.D.	*STOCK COLOR
1194/24	MW-C 24(7)BS	24	7/32	.016"	.090"	White
1194/22†	MW-C 22(7)BS	22	7/30	.016"	.095"	White
1194†	MW-C 20(10)BS	20	10/30	.016"	.108"	White
1196†	MW-C 18(16)BS	18	16/30	.016"	.124"	White
1197†	MW-C 16(26)BS	16	26/30	.016"	.133"	White
1198†	MW-C 14(41)BS	14	41/30	.016"	.144"	White
1199†	MW-C 12(65)BS	12	65/30	.016"	.168"	White

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED

*Other solid colors and striped combinations available to order.
†1194/22 to 1199 formerly 1361 to 1365



MIL-W-76B-PLASTIC WIRE

TYPE MW—SHIELDED

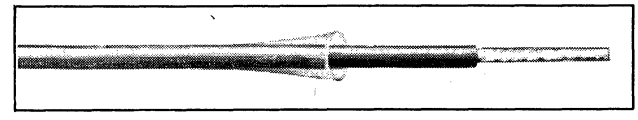
DESCRIPTION: Extra flexible stranded tinned copper, color coded **medium wall** polyvinylchloride insulation, braided tinned copper shield overall, 80% coverage. Stranded conductor has an extra tight lay to prevent springing open when stripped.

CHARACTERISTICS: Temperature rating —40°C to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1350	MW-C 24(7)S	24	7/32	.016"	.075"	White
1351	MW-C 22(7)S	22	7/30	.016"	.085"	White
1352	MW-C 20(10)S	20	10/30	.016"	.095"	White
1353	MW-C 18(16)S	18	16 30	.016"	.105"	White
1354	MW-C 16(26)S	16	26/30	.016"	.115"	White
1355	MW-C 14(41)S	14	41/30	.016"	.130"	White
1356	MW-C 12(65)S	12	65/30	.016"	.145"	White

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED

* Other solid colors and striped combinations available to order.



MIL-W-76B-PLASTIC WIRE

TYPE MW—NYLON JACKET

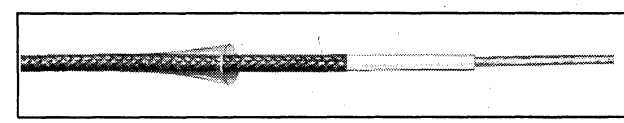
DESCRIPTION: Extra flexible stranded tinned copper, color coded **medium wall** polyvinylchloride insulation, clear nylon (polyamide) jacket overall. Stranded conductor has an extra tight lay to prevent springing open when stripped.

CHARACTERISTICS: Temperature rating —40°C to +90°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICK.	NOM. O.D.	* STOCK COLORS
1503	MW-C 24(7)J	24	7/32	.016"	.002"	.065"	1-19 as listed below
1504	MW-C 22(7)J	22	7/30	.016"	.003"	.072"	1-19 as listed below
1505	MW-C 20(10)J	20	10/30	.016"	.003"	.079"	1-19 as listed below
1506	MW-C 18(16)J	18	16/30	.016"	.003"	.090"	1-19 as listed below
1507	MW-C 16(26)J	16	26/30	.016"	.004"	.103"	1-19 as listed below
1508	MW-C 14(41)J	14	41/30	.016"	.004"	.118"	1-6 as listed below
1509	MW-C 12(65)J	12	65/30	.016"	.005"	.135"	1-3 as listed below

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED

*Other solid colors and striped combinations available to order.



MIL-W-76B-PLASTIC WIRE

TYPE MW—SHIELDED—NYLON JACKET

DESCRIPTION: Stranded tinned copper, white **medium** wall polyvinylchloride insulation, braided tinned copper shield, 80% minimum coverage, clear nylon (polyamide) jacket overall.

CHARACTERISTICS: Temperature rating —40° to +90°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL JACKET	NOMINAL O.D.
1370	MW-C 24(7)SJ	24	7/32	.016"	.005"	.091"
1371	MW-C 22(7)SJ	22	7/30	.016"	.005"	.100"
1372	MW-C 20(7)SJ	20	7/28	.016"	.005"	.105"
1373	MW-C 18(19)SJ	18	19/30	.016"	.005"	.115"
1374	MW-C 16(19)SJ	16	19/29	.016"	.005"	.125"
1375	MW-C 14(19)SJ	14	19/27	.016"	.005"	.138"
1376	MW-C 12(19)SJ	12	19 25	.016"	.005"	.156"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED

*** STOCK COLORS**

1—White	7—Brown	13—White/Green	19—White/Violet	25—White/Black Orange
2—Black	8—Orange	14—White/Yellow	20—White Black/Red	26—White/Black/Gray
3—Red	9—Gray (slate)	15—White Blue	21—White Black/Green	27—White/Black/Violet
4—Green	10—Violet (purple)	16—White Brown	22—White Black/Yellow	28—Tan
5—Yellow	11—White Black	17—White Orange	23—White Black Blue	29—Pink
6—Light Blue	12—White Red	18—White Gray	24—White/Black Brown	30—Dark Blue

* Other striped color combinations available to order.

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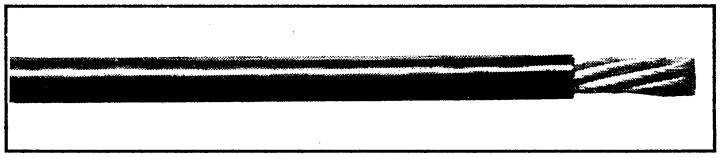
Mil-W-76B Plastic Wire



TYPE HW — UNCOVERED PLASTIC

DESCRIPTION: Stranded tinned copper, color coded **heavy wall** polyvinylchloride insulation.

CHARACTERISTICS: Temperature rating —40°C to +80°C. Resistant to acids, alkalis, oil, flame, moisture and fungus.

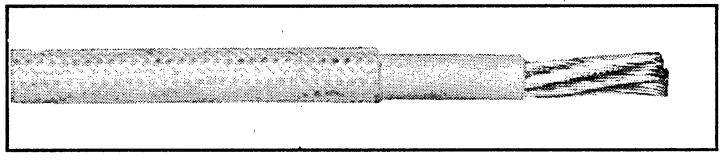
ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	VOLT RATING	NOM. O.D.	*STOCK COLORS
1571	HW-C 22(7)U	22	7/30	.032″	2500	.092″	1-10 as listed below
1573	HW-C 20(10)U	20	10/30	.032″	2500	.100″	1-10 as listed below
1575	HW-C 18(16)U	18	16/30	.032″	2500	.112″	1-10 as listed below
1577	HW-C 16(26)U	16	26/30	.032″	2500	.126″	White, Black, Red
1579	HW-C 14(41)U	14	41/30	.045″	600	.170″	White, Black, Red
1651	HW-C 12(65)U	12	65/30	.045″	600	.186″	White, Black, Red
1653	HW-C 10(105)U	10	105/30	.045″	600	.210″	White, Black, Red
1655	HW-C 8(133)U	8	133/29	.045″	600	.260″	White, Black, Red
1657	HW-C 6(133)U	6	133/27	.045″	600	.305″	White, Black, Red

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED

*** STOCK COLORS**

1—White 2—Black 3—Red 4—Green 5—Yellow 6—Light Blue 7—Brown 8—Orange 9—Gray (Slate) 10—Violet (Purple)

*Other solid and striped combinations available to order.



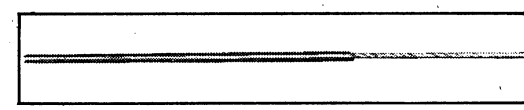
TYPE HW — GLASS BRAID

DESCRIPTION: Stranded tinned copper, white **heavy wall** polyvinylchloride insulation, color coded flame retardant lacquered glass braid overall.

CHARACTERISTICS: Temperature rating —40°C to +80°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.	STOCK COLORS
1598	HW-C 10(105)B	10	105/30	.045″	.230″	White, White/Black, White/Red
1599	HW-C 8(133)B	8	133/29	.045″	.280″	White, White/Black, White/Red
1599/6	HW-C 6(133)B	6	133/27	.045″	.325″	White, White/Black, White/Red

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED AND TINNED



TYPE LW — UNCOVERED PLASTIC

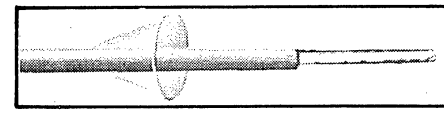
Regular Tinned Conductor

DESCRIPTION:
Stranded tinned copper, color coded **light wall** polyvinylchloride insulation. **(Nom. wall thickness .010″.)**

CHARACTERISTICS:
Temperature rating —40°C to +80°C. Voltage rating 300 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. O.D.
1685	LW-C 30(7)U	30	7/38	.033″
1686	LW-C 28(7)U	28	7/36	.035″
1687	LW-C 26(7)U	26	7/34	.038″
1688	LW-C 24(7)U	24	7/32	.043″
1689	LW-C 22(7)U	22	7/30	.049″
1690	LW-C 20(7)U	20	7/28	.060″

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED



TYPE LW — NYLON JACKET

DESCRIPTION:
Stranded tinned copper, color coded **light wall** polyvinylchloride insulation, clear nylon (polyamide) jacket overall. Nominal Jacket Thickness, .002″ **(Nom. wall thickness .010″.)**

CHARACTERISTICS:
Temperature rating —40°C to +90°C. Voltage rating 300 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. O.D.
1675	LW-C 30(7)J	30	7/38	.036″
1676	LW-C 28(7)J	28	7/36	.039″
1677	LW-C 26(7)J	26	7/34	.042″
1678	LW-C 24(7)J	24	7/32	.047″
1679	LW-C 22(7)J	22	7/30	.053″
1680	LW-C 20(7)J	20	7/28	.065″

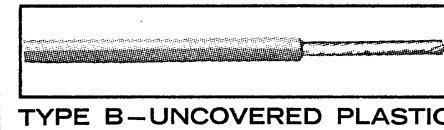
STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED

STOCK COLORS

(Other striped combinations available to order.)

1—White
2—Black
3—Red
4—Green
5—Yellow
6—Light Blue
7—Brown
8—Orange
9—Gray (slate)
10—Violet (purple)
11—White/Black
12—White/Red
13—White/Green
14—White/Yellow
15—White/Blue
16—White/Brown
17—White/Orange
18—White/Gray
19—White/Violet

Mil-W-16878D



TYPE B—UNCOVERED PLASTIC

Pre-Bonded Tinned Copper Conductor

DESCRIPTION:
Each strand of the conductor is double tinned and then heated, which bonds the individual strands together for easy stripping. Color coded .010″ polyvinylchloride insulation. The insulation meets requirements of MIL-W-16878D.

CHARACTERISTICS:
Temperature rating —55°C to +105°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.

APPLICATION:
A pre-bonded conductor is the ideal construction when leads are to be cut and stripped for point to point wiring. The pre-bonded conductor maintains much of the flexibility of an ordinary stranded wire but reduces processing and handling costs on soldering, retwisting of strands after stripping and hand tinning operations. Since the individual strands are bonded, expensive induction heating equipment is unnecessary.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.
3154	B-24	24	7/32	.010″	.044″
3155	B-22	22	7/30	.010″	.051″
3156	B-20	20	7/28	.010″	.059″
3157	B-18	18	7/26	.010″	.070″

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED.

PRICES

alpha

Alpha No.	Sugg. Resale per 1000′											
1571	16.83	1651	86.79	1599	379.50	1688	7.17	1677	11.22	3155	14.58
1573	20.46	1653	145.20	1599/6	511.50	1689	8.52	1678	11.55	3156	18.91
1575	26.07	1655	345.50	1685	8.41	1690	10.30	1679	12.37	3157	26.65
1577	35.64	1657	429.00	1686	8.41	1675	11.98	1680	15.09		
1579	56.92	1598	231.00	1687	9.13	1676	11.79	3154	11.56		

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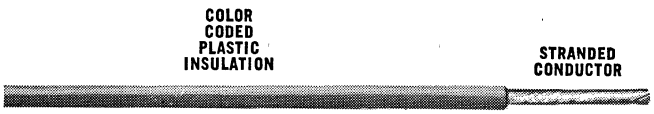


Mil-W-16878D Plastic Wire

TYPE B — UNCOVERED PLASTIC

Regular Tinned Copper Conductor

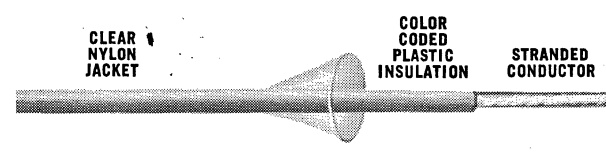
DESCRIPTION: Stranded tinned copper, color coded. .010" polyvinylchloride insulation.
CHARACTERISTICS: Temperature rating −55°C to +105°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.
1850	B-32	32	7/40	.010"	.028"
1851	B-30	30	7/38	.010"	.032"
1852	B-28	28	7/36	.010"	.034"
1853	B-26	26	7/34	.010"	.038"
1854	B-24	24	7/32	.010"	.043"
1854/19	B-24	24	19/36	.010"	.043"
1855	B-22	22	7/30	.010"	.050"
1855/19	B-22	22	19/34	.010"	.050"
1856	B-20	20	7/28	.010"	.058"
1856/19	B-20	20	19/32	.010"	.058"
1857	B-18	18	7/26	.010"	.068"
1857/19	B-18	18	19/30	.010"	.068"
1858/19	B-16	16	19/29	.010"	.077"
1859/19	B-14	14	19/27	.010"	.091"

*** STOCK COLORS**

1—White
2—Black
3—Red
4—Green
5—Yellow
6—Light Blue
7—Brown
8—Orange
9—Gray (slate)
10—Violet (purple)
11—White/Black
12—White/Red
13—White/Green
14—White/Yellow
15—White/Blue
16—White/Brown
17—White/Orange
18—White/Gray
19—White/Violet

*Other striped color combinations to order.



TYPE B — NYLON JACKET

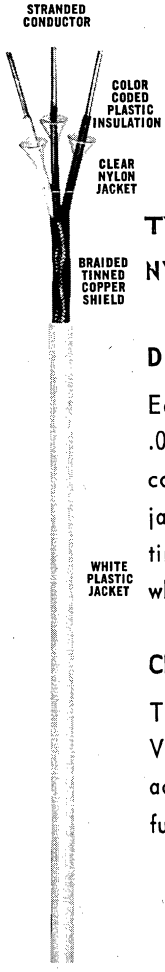
Regular Tinned Copper Conductor

DESCRIPTION: Stranded tinned copper, color coded. .010" polyvinylchloride insulation, clear nylon (polyamide) jacket overall.
CHARACTERISTICS: Temperature rating −55°C to +115°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1860	B-32	32	7/40	.010"	.003"	.035"
1861	B-30	30	7/38	.010"	.003"	.039"
1862	B-28	28	7/36	.010"	.003"	.041"
1863	B-26	26	7/34	.010"	.003"	.044"
1864	B-24	24	7/32	.010"	.003"	.049"
1864/19	B-24	24	19/36	.010"	.003"	.049"
1865	B-22	22	7/30	.010"	.003"	.056"
1865/19	B-22	22	19/34	.010"	.003"	.056"
1866	B-20	20	7/28	.010"	.003"	.064"
1866/19	B-20	20	19/32	.010"	.003"	.064"
1867	B-18	18	7/26	.010"	.003"	.074"
1867/19	B-18	18	19/30	.010"	.003"	.074"
1868/19	B-16	16	19/29	.010"	.003"	.085"
1869/19	B-14	14	19/27	.010"	.004"	.099"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED.

Mil-W-16878D Multi-Conductor Cable



TYPE B — NYLON SHIELDED-PLASTIC JACKET

DESCRIPTION:

Each conductor stranded tinned copper, .010" polyvinylchloride insulation, color coded, clear nylon (polyamide) jacket, conductors cabled, braided tinned copper shield 90% coverage, white polyvinylchloride jacket overall.

CHARACTERISTICS:

Temperature rating −55°C to +105°C Voltage rating 600 volts, resistant to acids, alkalis, oil, flame, moisture, fungus, solvents.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. NYLON THICKNESS	NOM. OVERALL JACKET	NOM. O.D.
3200	1	26	7/34	.010"	.003"	.010"	.087"
3201	2	26	7/34	.010"	.003"	.014"	.138"
3202	3	26	7/34	.010"	.003"	.014"	.142"
3203	4	26	7/34	.010"	.003"	.016"	.162"
3210	1	24	19/36	.010"	.003"	.010"	.092"
3211	2	24	19/36	.010"	.003"	.016"	.152"
3212	3	24	19/36	.010"	.003"	.016"	.161"
3213	4	24	19/36	.010"	.003"	.017"	.162"
3220	1	22	19/34	.010"	.003"	.010"	.100"
3221	2	22	19/34	.010"	.003"	.016"	.168"
3222	3	22	19/34	.010"	.003"	.017"	.178"
3223	4	22	19/34	.010"	.003"	.019"	.174"
3230	1	20	19/32	.010"	.003"	.010"	.106"
3231	2	20	19/32	.010"	.003"	.019"	.186"
3232	3	20	19/32	.010"	.003"	.019"	.196"
3233	4	20	19/32	.010"	.003"	.021"	.193"
3240	1	18	19/30	.010"	.003"	.012"	.120"
3241	2	18	19/30	.010"	.003"	.021"	.210"
3242	3	18	19/30	.010"	.003"	.022"	.227"
3243	4	18	19/30	.010"	.003"	.023"	.218"
3245	1	16	19/29	.010"	.003"	.016"	.137"
3246	2	16	19/29	.010"	.003"	.023"	.236"
3247	3	16	19/29	.010"	.003"	.023"	.240"
3248	4	16	19/29	.010"	.003"	.025"	.274"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS
1—White, 2—Black, 3—Red, 4—Green

ALPHA WIRE MFG.

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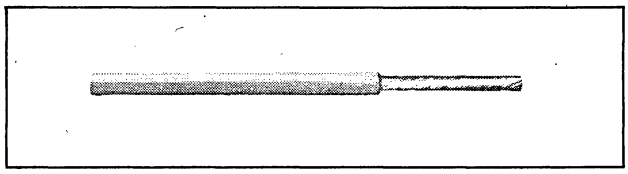
Mil-W-16878D Plastic Wire



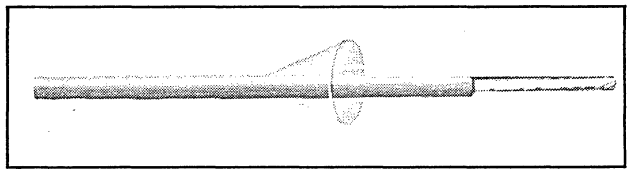
TYPE C — UNCOVERED PLASTIC

DESCRIPTION: Stranded tinned copper, color coded .016" polyvinylchloride insulation.

CHARACTERISTICS: Temperature rating —55°C to +105°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1830	C-24	24	7/32	.016"	.058"	1-19 as listed below
1831	C-22	22	7/30	.016"	.064"	1-19 as listed below
1832	C-20	20	7/28	.016"	.072"	1-19 as listed below
1833	C-18	18	7/26	.016"	.082"	1-19 as listed below
1834	C-16	16	19/29	.016"	.091"	1 & 11-19 as listed below
1835	C-14	14	19/27	.016"	.105"	1 & 11-19 as listed below
1836	C-12	12	19/25	.016"	.124"	1 & 11-19 as listed below

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED



TYPE C — NYLON JACKET

DESCRIPTION: Stranded tinned copper, color coded .016" polyvinylchloride insulation, clear nylon (polyamide) jacket overall.

CHARACTERISTICS: Temperature rating —55°C to +115°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

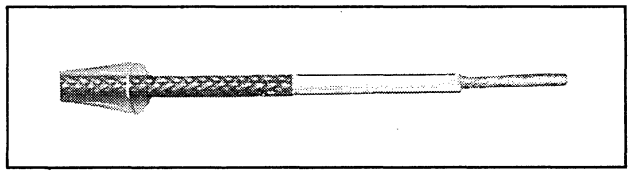
ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICK.	NOMINAL O.D.	* STOCK COLORS
1840	C-24	24	7/32	.016"	.002"	.065"	1-19 as listed below
1841	C-22	22	7/30	.016"	.003"	.072"	1-19 as listed below
1842	C-20	20	7/28	.016"	.003"	.079"	1-19 as listed below
1843	C-18	18	7/26	.016"	.003"	.090"	1-19 as listed below
1844	C-16	16	19/29	.016"	.004"	.099"	1 & 11-19 as listed below
1845	C-14	14	19/27	.016"	.004"	.114"	1 & 11-19 as listed below
1846	C-12	12	19/25	.016"	.005"	.135"	1 & 11-19 as listed below

***STOCK COLORS**

1—White	6—Light Blue	11—White/Black	16—White/Brown
2—Black	7—Brown	12—White/Red	17—White/Orange
3—Red	8—Orange	13—White/Green	18—White/Gray
4—Green	9—Gray (slate)	14—White/Yellow	19—White/Violet
5—Yellow	10—Violet (purple)	15—White/Blue	

* Other solid colors and striped combinations available to order.

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, MARKED AND STRIPPED



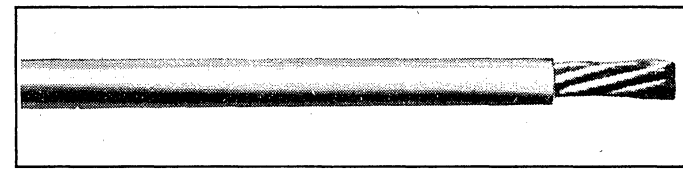
TYPE C — SHIELDED — NYLON JACKET

DESCRIPTION: Stranded tinned copper, white .016" polyvinylchloride insulation, braided tinned copper shield, 90% coverage, clear nylon (polyamide) jacket overall (which can be striped to order for color identification).

CHARACTERISTICS: Temperature rating —55°C. to +115°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL JKT. THICKNESS	NOMINAL O.D.
1470	C-24	24	7/32	.016"	.005"	.091"
1471	C-22	22	7/30	.016"	.005"	.098"
1472	C-20	20	7/28	.016"	.005"	.105"
1473	C-18	18	19/30	.016"	.005"	.115"
1474	C-16	16	19/29	.016"	.005"	.125"
1475	C-14	14	19/27	.016"	.005"	.142"
1476	C-12	12	19/25	.016"	.005"	.156"

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED



TYPE D — UNCOVERED PLASTIC

DESCRIPTION: Stranded tinned copper, color coded polyvinylchloride insulation.

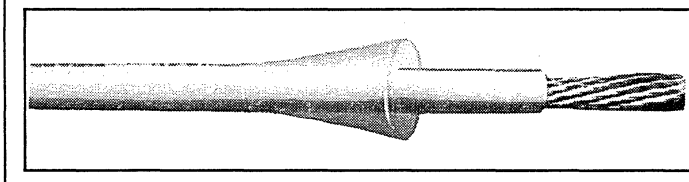
CHARACTERISTICS: Temperature rating —55°C to +105°C. Voltage rating 3000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.	*STOCK COLORS
1870	D-24	24	7/32	.029"	.082"	Wh., Blk., Red
1871	D-22	22	7/30	.029"	.088"	Wh., Blk., Red
1872	D-20	20	7/28	.029"	.096"	Wh., Blk., Red
1873	D-18	18	7/26	.029"	.106"	Wh., Blk., Red
1874	D-16	16	19/29	.029"	.115"	Wh., Blk., Red
1875	D-14	14	19/27	.029"	.129"	Wh., Blk., Red
1876	D-12	12	19/25	.034"	.158"	Wh., Blk., Red
1877	D-10	10	37/26	.037"	.185"	White
1878	D- 8	8	133/29	.040"	.247"	White
1879	D- 6	6	133/27	.040"	.290"	White
■1879/4	D- 4	4	133/25	.045"	.355"	White
■1879/2	D- 2	2	665/30	.045"	.425"	White
■1879/1	D- 1	1	817/30	.050"	.480"	White
■1879/0	D- 0	0	1045/30	.052"	.530"	White

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED

* Other solid colors and striped combinations available to order.

■ NEW



TYPE D — NYLON JACKET

DESCRIPTION: Stranded tinned copper, color coded polyvinylchloride insulation. Sizes 24-6, clear nylon (polyamide) jacket overall, sizes 4-0, white nylon braid overall.

CHARACTERISTICS: Temperature rating —55°C to +115°C. Voltage rating 3000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

CLEAR NYLON JACKET

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOMINAL O.D.	*STOCK COLORS
1880	D-24	24	7/32	.029"	.004"	.090"	Wh., Blk., Red
1881	D-22	22	7/30	.029"	.004"	.096"	Wh., Blk., Red
1882	D-20	20	7/28	.029"	.004"	.104"	Wh., Blk., Red
1883	D-18	18	7/26	.029"	.004"	.114"	Wh., Blk., Red
1884	D-16	16	19/29	.029"	.005"	.125"	Wh., Blk., Red
1885	D-14	14	19/27	.029"	.005"	.139"	Wh., Blk., Red
1886	D-12	12	19/25	.034"	.005"	.168"	Wh., Blk., Red
1887	D-10	10	37/26	.037"	.006"	.197"	White
1888	D- 8	8	133/29	.040"	.009"	.265"	White
1889	D- 6	6	133/27	.040"	.010"	.310"	White

WHITE NYLON BRAID

■1889/4	D- 4	4	133/25	.045"	.010"	.375"	White
■1889/2	D- 2	2	665/30	.045"	.011"	.447"	White
■1889/1	D- 1	1	817/30	.050"	.011"	.502"	White
■1889/0	D- 0	0	1045/30	.052"	.011"	.552"	White

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
ALSO AVAILABLE TO ORDER CUT, STRIPPED, MARKED AND TINNED

* Other solid colors and striped combinations available to order

■ NEW

PRICES

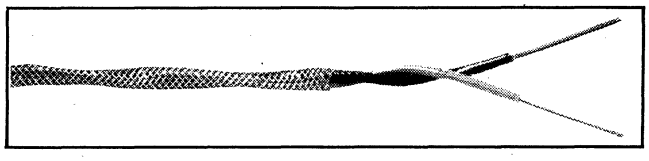
Alpha No.	Sugg. Resale per 1000'				
1830	11.29	1472	76.56	1879/2	973.50
1831	12.37	1473	90.42	1879/1	1,221.00
1832	14.85	1474	111.21	1879/0	1,518.00
1833	18.15	1475	148.17	1880	33.16
1834	23.92	1476	224.40	1881	35.47
1835	35.47	1870	21.61	1882	38.61
1836	61.38	1871	22.77	1883	44.55
1840	15.97	1872	25.90	1884	65.01
1841	16.50	1873	32.01	1885	80.19
1842	19.80	1874	47.85	1886	126.23
1843	23.10	1875	57.09	1887	196.35
1844	29.70	1876	89.26	1888	429.00
1845	41.25	1877	135.30	1889	577.50
1846	71.88	1878	353.92	1889/4	709.50
1470	63.52	1879	462.00	1889/2	1,122.00
1471	68.97	1879/4	627.00	1889/1	1,353.00
				1889/0	1,633.50

alpha **ALPHA WIRE MFG.**

Sold Nationally to Electronic Parts Distributors by; Loral Distributor Products, a Division of Loral Corporation

Mil-W-16878D Shielded Teflon† Cables

alpha



NO OUTER COVERING OVER SHIELD

DESCRIPTION: Each conductor stranded silver plated copper, Type E extruded TFE .010" insulation, braided silver plated copper shield over conductor(s), 90% coverage.

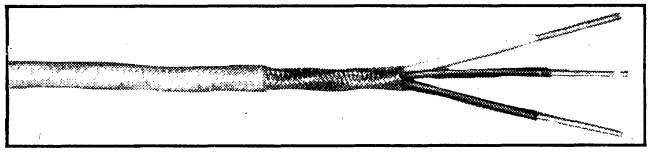
CHARACTERISTICS: Temperature rating −65°C to +200°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. O.D.	NOM. CAP. IN MMF SHIELD TO COND.	NOM. CAP. IN MMF COND. TO COND.
2809	1	24	19/36	.069"	45	—
2809/2	2	24	19/36	.112"	35	25
2809/3	3	24	19/36	.120"	35	20
2809/4	4	24	19/36	.132"	35	20
2812	1	22	19/34	.075"	55	—
2812/2	2	22	19/34	.124"	45	25
2812/3	3	22	19/34	.132"	35	25
2812/4	4	22	19/34	.146"	35	25
2815	1	20	19/32	.083"	55	—
2815/2	2	20	19/32	.142"	95	25
2815/3	3	20	19/32	.151"	85	25
2815/4	4	20	19/32	.168"	140	30
2818	1	18	19/30	.093"	70	—
2818/2	2	18	19/30	.162"	60	35
2818/3	3	18	19/30	.172"	60	35
2818/4	4	18	19/30	.192"	55	35
■2807	1	16	19/29	.103"	107	—
■2807/2	2	16	19/29	.184"	67	35

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS
1—White 2—Black 3—Red 4—Green

■ NEW



TEFLON IMPREGNATED BRAID OVER SHIELD

DESCRIPTION: Each conductor stranded silver plated copper, Type E extruded .010" TFE Teflon insulation, color coded, cabled, braided silver plated copper shield, 90% coverage, braided white fused Teflon impregnated, fiberglass braid overall.

CHARACTERISTICS: Temperature rating −65°C to +200°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. O.D.	NOM. CAP. IN MMF SHIELD TO COND.	NOM. CAP. IN MMF COND. TO COND.
2811	1	24	19/36	.081"	45	—
2811/2	2	24	19/36	.126"	35	25
2811/3	3	24	19/36	.133"	35	20
2811/4	4	24	19/36	.144"	35	20
2814	1	22	19/34	.088"	55	—
2814/2	2	22	19/34	.137"	45	25
2814/3	3	22	19/34	.144"	35	25
2814/4	4	22	19/34	.158"	35	25
2817	1	20	19/32	.097"	55	—
2817/2	2	20	19/32	.154"	95	25
2817/3	3	20	19/32	.163"	85	25
2817/4	4	20	19/32	.180"	140	30
2819	1	18	19/30	.106"	70	—
2819/2	2	18	19/30	.174"	60	35
2819/3	3	18	19/30	.185"	60	35
2819/4	4	18	19/30	.205"	55	35
■2820	1	16	19/29	.117"	107	—
■2820/2	2	16	19/29	.196"	67	35

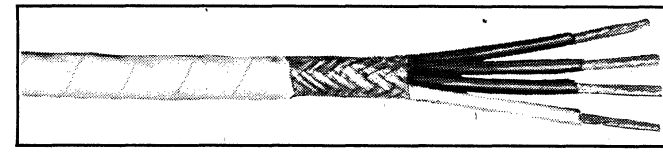
STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS
1—White 2—Black 3—Red 4—Green

†T.M. DuPont ■ NEW

PRICES

Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'
2809	146.25	2815	185.62	2807/2	558.75	2817/2	247.96
2809/2	299.25	2815/2	427.50	2811	133.87	2817/3	380.98
2809/3	438.75	2815/3	573.75	2811/2	197.71	2817/4	475.69
2809/4	517.50	2815/4	720.00	2811/3	301.53	2819	217.56
2812	157.50	2818	222.75	2811/4	385.48	2819/2	345.33
2812/2	335.25	2818/2	517.50	2814	140.29	2819/3	462.69
2812/3	468.75	2818/3	652.50	2814/2	218.32	2819/4	676.81
2812/4	585.00	2818/4	832.50	2814/4	428.43	2820	238.12
2814/3	337.81	2807	270.00	2817	152.88	2820/4	433.13



TEFLON TAPE WRAP JACKET OVER SHIELD

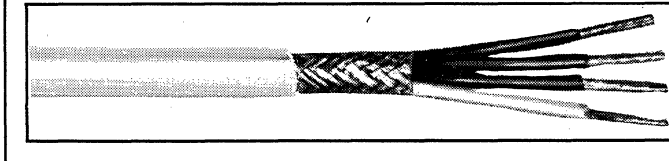
DESCRIPTION: Each conductor stranded silver plated copper, Type E extruded .010" TFE Teflon insulation, color coded, cabled, braided silver plated copper shield 90% coverage, sintered wrapped white Teflon tape jacketed overall.

CHARACTERISTICS: Temperature rating −65°C to +200°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. JKT. THICKNESS	NOM. O.D. AT HIGH POINT	NOM. CAP. IN MMF SHIELD TO COND.	NOM. CAP. IN MMF COND. TO COND.
2821	1	24	19/36	.010"	.095"	45	—
2821/2	2	24	19/36	.010"	.140"	35	25
2821/3	3	24	19/36	.010"	.147"	35	20
2821/4	4	24	19/36	.014"	.159"	35	20
2824	1	22	19/34	.010"	.102"	55	—
2824/2	2	22	19/34	.014"	.154"	45	25
2824/3	3	22	19/34	.014"	.162"	35	25
2824/4	4	22	19/34	.014"	.176"	35	25
2827	1	20	19/32	.010"	.110"	55	—
2827/2	2	20	19/32	.014"	.170"	95	25
2827/3	3	20	19/32	.014"	.175"	85	25
2827/4	4	20	19/32	.018"	.213"	140	30
2829	1	18	19/30	.010"	.120"	70	—
2829/2	2	18	19/30	.014"	.190"	60	35
2829/3	3	18	19/30	.018"	.219"	60	35
2829/4	4	18	19/30	.018"	.237"	55	35
■ 2826	1	16	19/29	.010"	.130"	107	—
■ 2826/2	2	16	19/29	.018"	.230"	67	25

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS
1—White, 2—Black, 3—Red, 4—Green



TEFLON FEP EXTRUDED JACKET OVER SHIELD

DESCRIPTION: Each conductor stranded silver plated copper, Type E extruded TFE insulation color coded, cabled, braided silver plated copper shield 90% coverage, extruded FEP white Teflon jacket overall.

CHARACTERISTICS: Temperature rating −65°C to +200°C. Voltage rating 600 volts. Resistant to acids, alkalais, oil, flame, moisture, solvents and fungus. Extruded FEP Teflon jacket is tough and abrasion resistant.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.	NOM. CAP. IN MMF SHIELD TO COND.	NOM. CAP. IN MMF COND. TO COND.
2831	1	24	19/36	.010"	.010"	.085"	45	—
2831/2	2	24	19/36	.010"	.010"	.130"	35	25
2831/3	3	24	19/36	.010"	.010"	.135"	35	20
2834	1	22	19/34	.010"	.010"	.091"	55	—
2834/2	2	22	19/34	.010"	.014"	.150"	45	25
2834/3	3	22	19/34	.010"	.014"	.158"	35	25
2837	1	20	19/32	.010"	.010"	.100"	55	—
2837/2	2	20	19/32	.010"	.014"	.168"	95	25
2837/3	3	20	19/32	.010"	.014"	.178"	85	25
2839	1	18	19/30	.010"	.010"	.110"	70	—
2839/2	2	18	19/30	.010"	.014"	.188"	60	35
2839/3	3	18	19/30	.010"	.018"	.207"	60	35
■ 2836	1	16	19/29	.010"	.010"	.123"	107	—
■ 2836/2	2	16	19/29	.010"	.018"	.220"	67	35

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS
1—White, 2—Black, 3—Red

■ NEW

PRICES

Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'	Alpha No.	Sugg. Resale per 500'
2821	315.00	2827	414.00	2826	697.50	2837	371.25
2821/2	527.25	2827/2	772.50	2826/2	1,237.50	2837/2	668.25
2821/3	776.25	2827/3	1,014.75	2831	283.50	2837/3	918.00
2812/4	585.00	2827/4	1,293.75	2831/2	477.00	2839	447.75
2824	348.75	2829	495.00	2831/3	704.25	2839/2	897.75
2824/2	648.00	2829/2	933.75	2834	320.62	2839/3	1,118.25
2824/3	855.00	2829/3	1,192.50	2834/2	585.00	2836	652.50
2824/4	1,113.75	2829/4	1,400.62	2834/3	771.75	2826/2	1,102.50

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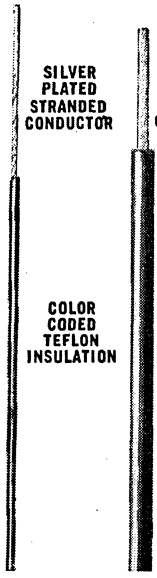
Mil-W-16878D Teflon† Wire



TYPE E — EXTRUDED (600 VOLTS)

DESCRIPTION: Single conductor stranded silver plated copper, TFE extruded Teflon insulation.

CHARACTERISTICS: Temperature rating: −65°C to +200°C. Voltage rating: 600 volts. Resistant to acid, alkalis, oil, flame, moisture, solvents and fungus.

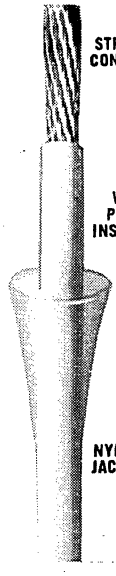
ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.	*STOCK COLORS
2850	E-32	32	7/40	.010″	.029″	1-19 as listed
2851	E-30	30	7/38	.010″	.032″	1-19 as ilsted
2852	E-28	28	7/36	.010″	.036″	1-19 as listed
2853	E-26	26	7/34	.010″	.040″	1-19 as listed
2854	E-24	24	19/36	.010″	.045″	1-19 as listed
■ 2854/7	E-24	24	7/32	.010″	.044″	1-19 as listed
2855	E-22	22	19/34	.010″	.051″	1-19 as listed
■ 2855/7	E-22	22	7/30	.010″	.050″	1-19 as listed
2856	E-20	20	19/32	.010″	.059″	1-19 as listed
■ 2856/7	E-20	20	7/28	.010″	.058″	1-19 as listed
2857	E-18	18	19/30	.010″	.070″	1-19 as listed
2858	E-16	16	19/29	.010″	.077″	1-19 as listed
2859	E-14	14	19/27	.012″	.094″	1-6 6 11-19
2859/12	E-12	12	19/25	.012″	.113″	1 & 11-19
2859/10	E-10	10	37/26	.012″	.134″	1 & 11-19

TYPE EE — EXTRUDED (1000 VOLTS)

DESCRIPTION: Single conductor stranded silver plated copper, extruded TFE Teflon insulation.

CHARACTERISTICS: Temperature rating: −65°C to +200°C. Voltage rating: 1000 volts. Resistant to acid, alkalis, oil, flame, moisture, solvents and fungus.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.	*STOCK COLORS
2874	EE-24	24	19/36	.014″	.055″	1-19
2875	EE-22	22	19/34	.014″	.062″	1-19
2876	EE-20	20	19/32	.014″	.070″	1-19
2877	EE-18	18	19/30	.014″	.080″	1-19
2878	EE-16	16	19/29	.014″	.089″	1 & 11-19
2879	EE-14	14	19/27	.017″	.106″	1 & 11-19
2879/12	EE-12	12	19/25	.017″	.124″	1 & 11-19
2879/10	EE-10	10	37/26	.017″	.145″	1 & 11-19
2879/8	EE-8	8	133/29	.020″	.210″	White only



*** STOCK COLORS**

1—White	5—Yellow	9—Gray (slate	13—White/Green	17—White/Orange
2—Black	6—Light Blue	10—Violet (purple)	14—White/Yellow	18—White/Gray
3—Red	7—Brown	11—White/Black	15—White/Blue	19—White/Violet
4—Green	8—Orange	12—White/Red	16—White/Brown	

*Other solid colors and striped combinations available to order. † T.M. DuPont

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT. ALSO AVAILABLE TO ORDER CUT, MARKED AND STRIPPED. ■ NEW

Mil-W-5086A

UNSHIELDED AIRCRAFT WIRE FOR ELECTRICAL SYSTEMS

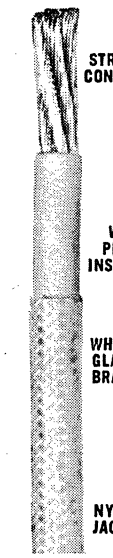
DESCRITPTION

MIL-W-5086A — Type I — AN-22 thru AN-12 — Single conductor stranded tinned copper, white polyvinylchloride insulation, clear nylon, (polyamide) jacket overall.

MIL-W-5086A — Type II — AN-22 thru AN-12 — Single conductor stranded tinned copper, white polyvinylchloride insulation, white glass braid, clear nylon (polyamide) jacket overall.

MIL-W-5086A — Type II — AN-10 thru AN-0000 — Single conductor stranded tinned copper, white polyvinylchloride insulation, white glass braid, flame retardant nylon lacquered nylon braid overall.

CHARACTERISTICS: Temperature rating: −55°C. to +105°C. Voltage rating: 600 volts. Resists effects of water, oil, aircraft fuels, hydraulic fluid, skydral, ethyleneglycol, alcohol, dilute acids, alkalis, fungus and abrasion.



UNSHIELDED (MIL-W-5086A) TYPE I

ALPHA NO.	MIL TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	NOMINAL O.D.	NOM. WGT LBS. PER M/FT.
1381	AN-22	22	19/34	.068″	4.0
1382	AN-20	20	19/32	.078″	5.7
1383	AN-18	18	19/30	.088″	8.3
1384	AN-16	16	19/29	.098″	18.4
1385	AN-14	14	19/27	.117″	15.9
1386	AN-12	12	19/25	.137″	23.7

UNSHIELDED (MIL-W-5086A) TYPE II

1341	AN-22	22	19/34	.075″	4.6
1342	AN-20	20	19/32	.085″	6.3
1343	AN-18	18	19/30	.095″	8.9
1344	AN-16	16	19/29	.105″	10.9
1345	AN-14	14	19/27	.125″	16.3
1346	AN-12	12	19/25	.143″	24.2
1387	AN-10	10	49/27	.189″	39.2
1388	AN-8	8	133/29	.240″	66.2
1389	AN-6	6	133/27	.293″	102.8
1389/4	AN-4	4	133/25	.355″	158.2
1389/2	AN-2	2	665/30	.425″	244.1
■ 1389/1	AN-1	1	817/30	.470″	300.0
1389/0	AN-0	0	1045/30	.525″	381.0
1389/00	AN-00	00	1330/30	.590″	485.0
■ 1389/000	AN-000	000	1661/30	.645″	609.0
■ 1389/0000	AN-0000	0000	2104/30	.715″	755.0

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT. ALSO AVAILABLE TO ORDER CUT, MARKED AND STRIPPED. ■ NEW

PRICES

Alpha No.	Sugg. Resale per 1000′	Alpha No.	Sugg. Resale per 1000′	Alpha No.	Sugg. Resale per 1000′	Alpha No.	Sugg. Resale per 1000′
2850	78.00	2855	108.15	2859	282.00	2877	180.00
2851	75.90	2855/7	99.00	2859/12	420.00	2878	243.00
2852	81.00	2856	138.75	2859/10	705.00	2879	330.00
2853	84.60	2856/7	123.00	2874	103.35	2879/12	495.00
2854	96.74	2857	158.10	2875	120.75	2879/10	840.00
2854/7	84.15	2858	210.90	2876	153.60	2879/8	1725.00

Alpha No.	Sugg. Resale per 1000′	Alpha No.	Sugg. Resale per 1000′	Alpha No.	Sugg. Resale per 1000′	Alpha No.	Sugg. Resale per 1000′
1381	25.90	1341	34.15	1387	156.75	1389/0	1,468.50
1382	30.19	1342	40.26	1388	297.00	1389/00	1,848.00
1383	37.29	1343	48.67	1389	429.00	1389/000	2,524.50
1384	40.92	1344	55.77	1389/4	618.75	1389/0000	3,217.50
1385	56.92	1345	77.38	1389/2	924.00		
1386	83.32	1346	106.42	1389/1	1,122.00		

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Alpha RG Cable Types

POLYETHYLENE DIELECTRIC

All Illustrations — Actual Size

ALPHA PART NO.	RG CABLE TYPE	INNER CONDUCTOR			DIELECTRIC		SHIELDS			JACKET		ARMOR (.0126 ALUM. WIRE)	OPR VOLTS RMS	LBS. PER M/FT.	NOM. IMPED. OHMS	NOM. CAP MMF/ FT.
		MAT.	STRAND	NOM. O.D.	MAT.	O.D.	Inner	Outer	O.D.	MAT	O.D.					
9006A	6A/U	CW	1	.0285	PE	.189	SC	C	.264	NCV	.336		2700	74	75	20
9008	8/U	C	7/.0285	.086	PE	.295	C	–	.340	V	.415		5000	105	52	29.5
9008A	8A/U	C	7/.0285	.086	PE	.295	C	–	.340	NCV	.415		5000	99	52	29.5
9009B	9B/U	SC	7/.0285	.086	PE	.285	SC	SC	.355	NCV	.430		5000	126	50	30
9010A	10A/U	C	7/.0285	.086	PE	.295	C	–	.340	NCV	.415	.475	5000	125	52	29.5
9011	11/U	TC	7/.0159	.048	PE	.295	C	–	.340	V	.415		5000	94	75	20.5
9011A	11A/U	TC	7/.0159	.048	PE	.292	C	–	.340	NCV	.412		5000	89	75	20.5
9012A	12A/U	TC	7/.0159	.048	PE	.292	C	–	.340	NCV	.412	.475	5000	113	75	20.5
9014A	14A/U	C	1	.102	PE	.383	C	C	.463	NCV	.558		7000	201	52	29.5
9017A	17A/U	C	1	.188	PE	.695	C	–	.760	NCV	.885		11000	462	52	29.5
9019A	19A/U	C	1	.250	PE	.925	C	–	.990	NCV	1.135		14000	720	52	29.5
9022B	22B/U	C	Two7/.0152	.047	PE	.291	TC	TC	.355	NCV	.430		1000	124	95	16
9055	55/U	C	1	.032	PE	.121	TC	TC	.176	NP	.206		1900	31	53.5	28.5
9055B	55B/U	SC	1	.032	PE	.121	TC	TC	.176	BP	.206		1900	32	53.5	28.5
9058	58/U	C	1	.032	PE	.121	TC	–	.150	V	.200		1900	24	53.5	28.5
9058A	58A/U	TC	19/.0071	.0375	PE	.120	TC	–	.150	V	.199		1900	25	50	29.5
9058C	58C/U	TC	19/.0071	.0375	PE	.120	TC	–	.150	NCV	.199		1900	25	50	29.5
9059	59/U	CW	1	.0253	PE	.150	C	–	.191	V	.250		2300	36	73	21
9059B	59B/U	CW	1	.023	PE	.150	C	–	.191	NCV	.246		2300	36	75	20.5
9062	62/U	CW	1	.025	SSP	.151	C	–	.191	V	.250		750	34	93	13.5
9062A	62A/U	CW	1	.025	SSP	.151	C	–	.191	NCV	.249		750	34	93	13.5
9063B	63B/U	CW	1	.0253	SSP	.295	C	–	.340	NCV	.415		1000	78	125	10
9071B	71B/U	CW	1	.025	SSP	.151	C	TC	.208	BP	.250		750	42	93	13.5
9174	174/U	CW	7/.0063	.019	PE	.060	TC	–	.088	V	.105		1500	7	50	30
9212	212/U	SC	1	.056	PE	.189	SC	SC	.265	NCV	.336		3000	85	50	29.5
9213	213/U	C	7/.0296	.090	PE	.292	C	–	.340	NCV	.412		5000	100	50	30.5
9214	214/U	SC	7/.0296	.090	PE	.292	SC	SC	.360	NCV	.432		5000	129	50	30.5
9215	215/U	C	7/.0296	.090	PE	.292	C	–	.340	NCV	.412	.475	5000	122	50	30.5
9217	217/U	C	1	.106	PE	.380	C	C	.463	NCV	.555		7000	202	50	30
9218	218/U	C	1	.195	PE	.690	C	–	.760	NCV	.880		11000	457	50	30
9219	219/U	C	1	.195	PE	.690	C	–	.760	NCV	.880	.945	11000	507	50	30
9223	223/U	SC	1	.036	PE	.120	SC	SC	.176	NCV	.216		1900	36	50	30

ALL TYPES LISTED CONFORM TO LATEST REVISION MIL-C-17.

ALL DIMENSIONS ARE MAXIMUM EXCEPT WHERE INDICATED

C—Bare Copper
TC—Tinned Copper
SC—Silver Covered Copper
CW—Copper Covered Steel
PE—Solid Polyethylene
SSP—Semi Solid Polyethylene
BP—Black Polyethylene—Type IIIA
NP—Natural Polyethylene—Type III
V—Polyvinylchloride—Type I
NCV—Non-Contaminating Polyvinylchloride—Type IIA

alpha **ALPHA WIRE MFG.**

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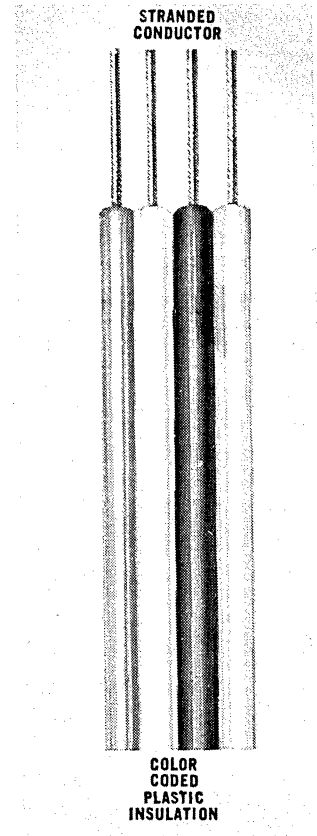
Flat Ribbon Cable

MULTI-CONDUCTOR — PLASTIC INSULATION
CONDUCTORS PER MIL-W-16878D, Type C



DESCRIPTION: Each conductor stranded tinned copper, color coded .016" polyvinylchloride insulation, conductors bonded together to form flat ribbon cable.

CHARACTERISTICS: Temperature rating −55°C to +105°C. Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.

APPLICATIONS: Saves time, weight, and space on circuit connections, interconnecting assemblies and systems, wiring harnesses for racks, sliding drawer and drop panels. Conductors fully color coded and easily separated for neat terminations.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL O.D.
3504	4	22	7/30	.016"	.065" x .260"
3508	8	22	7/30	.016"	.065" x .520"
3512	12	22	7/30	.016"	.065" x .780"
3516	16	22	7/30	.016"	.065" x 1.040"
3520	20	22	7/30	.016"	.065" x 1.300"

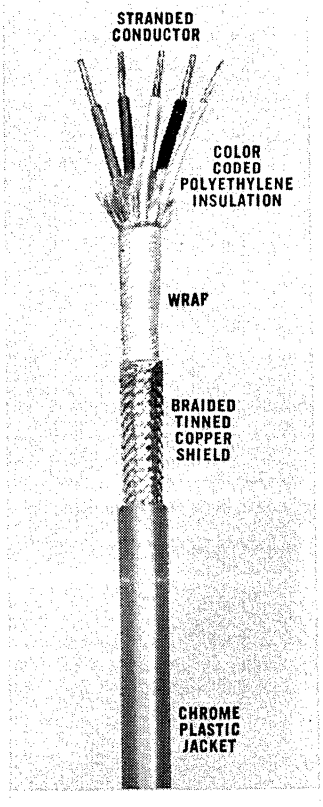
STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS

1—White	11—White/Black
2—Black	12—White/Red
3—Red	13—White/Green
4—Green	14—White/Yellow
5—Yellow	15—White/Blue
6—Light Blue	16—White/Brown
7—Brown	17—White/Orange
8—Orange	18—White/Gray
9—Gray (slate)	19—White/Violet
10—Violet (purple)	20—White/Black/Red

Shielded Control Cable

GENERAL PURPOSE MULTI-CONDUCTOR
PLASTIC JACKETED CABLE



DESCRIPTION: Each conductor, stranded tinned copper, color coded, polyethylene insulation, cabled with fillers where necessary, rayon wrap, braided tinned copper shield, chrome gray polyvinylchloride jacket overall.

CHARACTERISTICS: Suggested Operating Temperature: −20°C to +60°C. Suggested Operating Voltage: 600 Volts.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1712	2	20	26/34	.014"	.030"	.230"
1713	3	20	26/34	.014"	.035"	.250"
1715	4	20	26/34	.014"	.035"	.260"
1716	5	20	26/34	.014"	.035"	.275"
1717	6	20	26/34	.014"	.035"	.300"
1719	8	20	26/34	.014"	.035"	.330"
1721	10	20	26/34	.014"	.035"	.375"
1723	12	20	26/34	.014"	.035"	.380"
1726	15	20	26/34	.014"	.035"	.410"
1728	20	20	26/34	.014"	.035"	.455"

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS

1—Black	5—Yellow	9—Slate	13—White/Green	17—White/Purple
2—White	6—Blue	10—Purple	14—White/Yellow	18—White/Slate
3—Red	7—Brown	11—White/Black	15—White/Blue	19—Black/Red
4—Green	8—Orange	12—White/Red	16—White/Brown	20—Black/Yellow

alpha

PRICES

Alpha No.	Sugg. Resale 1000'	Alpha No.	Sugg. Resale 1000'	Alpha No.	Sugg. Resale 1000'	Alpha No.	Sugg. Resale 1000'
3504	143.95	3520	675.21	1716	150.88	1723	771.75
3508	240.34	1712	111.51	1717	307.12	1726	1,197.00
3512	396.58	1713	111.99	1719	396.90	1728	1,559.25
3516	544.95	1715	130.57	1721	488.25		

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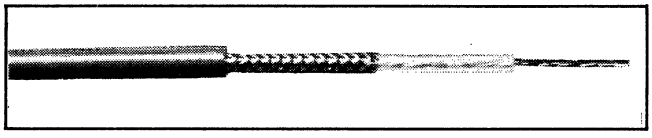
Shielded Microphone Cable



PLASTIC JACKET

DESCRIPTION: 1702-1706: Single conductor, stranded tinned copper, white polyethylene insulation, braided or spiral wrapped tinned copper shield, gray polyvinylchloride jacket overall.

1709-1712: Each conductor stranded tinned copper, color coded polyethylene insulation, cabled with fillers, textile wrap, braided or spiral wrapped tinned copper shield, gray polyvinylchloride jacket overall.

APPLICATIONS: 1702-1706: All high impedance microphones, lapel, ribbon, velocity, crystal contact, hi-fi interconnecting cables.

1709-1712: All low impedance microphones—carbon, condenser, dynamic.

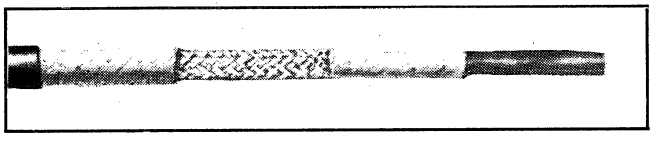
CHARACTERISTICS: Suggested operating temperature: −20°C to +60°C.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	*CAPACITY NOM./FT.	SUG. WORK. VOLTAGE	TYPE OF SHIELD	NOM. JKT THICKNESS	NOM. O.D.
1702	1	26	3/34† 4/34†	.016″	38 mmf.	1000	Spiral Wrapped	.020″	.110″
1703	1	24	10/34	.020″	35 mmf.	3500	Braided	.030″	.145″
1704	1	24	10/34	.040″	23 mmf.	5000	Braided	.030″	.190″
1705	1	24	10/34	.016″	45 mmf.	1000	Spiral Wrapped	.020″	.110″
1706	1	20	26/34	.030″	36 mmf.	4000	Braided	.030″	.175″
1709	2	24	10/34	.016″	38 mmf.	1000	Spiral Wrapped	.030″	.190″
1710	2	22	16/34	.025″	31 mmf.	1000	Braided	.025″	.230″
1712	2	20	26/34	.014″	45 mmf.	600	Braided	.030″	.245″

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

* Between one conductor and remaining conductors connected to shield.
† Three strands of tinned copper and four strands of tinned copperweld.

COLOR CODE OF CONDUCTORS
1—White 2—Black



RUBBER AND NEOPRENE JACKETS

DESCRIPTION: Each conductor stranded tinned copper, color coded rubber insulation, cotton wrap, braided tinned copper shield, cotton wrap, tough black rubber or neoprene jacket overall.

APPLICATIONS: 1248-1449: All high impedance microphone, broadcast and heavy duty studio use, communication and audio systems.

1250-1450/16: All low impedance microphone, broadcast and heavy duty studio use. Can also be used for control circuits, video and audio interconnection cable, and as electronic power cables.

CHARACTERISTICS: Suggested operating temperature: −20°C to +60°C.

Rubber jacketed cable suited for standard duty indoor use.

Neoprene jacketed cable suited for heavy duty outdoor use and direct burial. Will resist oil, acid, sunlight, ageing and abrasion.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	TYPE OF JKT.	*NOM. CAP. MMF/FT.	NOM. O.D.
1248†	1	20	26/34	.025″	.030″	Rubber	97	.190″
1249	1	20	26/34	.040″	.035″	Rubber	60	.230″
1249/18	1	18	41/34	.040″	.035″	Rubber	69	.240″
1449	1	18	41/34	.040″	.035″	Neoprene	69	.240″
1250	2	20	26/34	.020″	.035″	Rubber	68	.270″
1250/18	2	18	41/34	.020″	.035″	Rubber	78	.295″
1450	2	18	41/34	.020″	.035″	Neoprene	78	.295″
1450/16	2	16	65/34	.025″	.035″	Neoprene	82	.335″

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

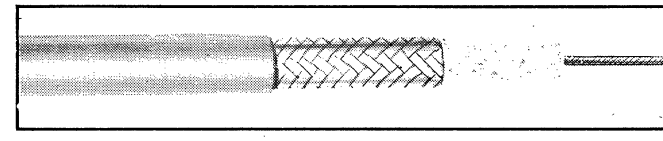
* Between one conductor and remaining conductors (if any) connected to shield.
† Mylar wrap under tinned copper shield.

COLOR CODE OF CONDUCTORS
1—Black 2—White

PRICES

Alpha No.	Sugg. Resale per 500′	Alpha No.	per 500′	Alpha No.	per 500′	Alpha No.	per 500′
1702	43.15	1706	81.90	1248	122.22	1250	129.31
1703	44.89	1709	99.85	1249	124.59	1250/18	214.20
1704	62.22	1710	85.68	1249/18	176.40	1450	254.10
1705	48.82	1712	111.51	1449	191.40	1450/16	455.40

Low Capacitance Shielded Microphone Cable



CELLULAR FOAM POLYETHYLENE INSULATION — PLASTIC JACKET

DESCRIPTION: Single conductor, stranded tinned copper, white foam polyethylene insulation, braided tinned copper shield, chrome gray polyvinylchloride jacket.

Two conductors, stranded tinned copper, color coded foam polyethylene insulation, 1 white and 1 black, cabled with fillers, textile wrap, braided tinned copper shield, chrome gray polyvinylchloride jacket.

CHARACTERISTICS: Suggested operating temperature: −20°C to +60°C. Low loss foam polyethylene provides lower capacitance and attenuation than standard solid polyethylene microphone cables, thereby increasing the effective length of usable cable without loss of signal.

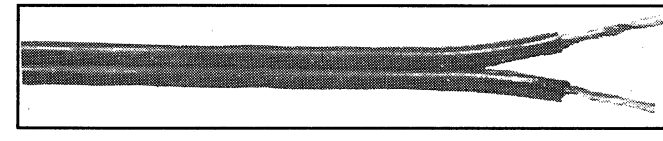
ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	*CAPACITY NOM./FT.	NOM. JKT. THICKNESS	NOM. O.D.
2310	1	26	3/34† 4/34†	.016″	30 mmf	.020″	.115″
2311	1	24	10/34	.035″	20 mmf	.030″	.180″
2312	1	24	10/34	.055″	15 mmf	.030″	.225″
2323	2	22	16/34	.035″	11 mmf	.030″	.300″

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

* Between one conductor and remaining conductors connected to shield.
† Three strands of tinned copper and four strands of tinned copperweld.

COLOR CODE OF CONDUCTORS
1— White 2— Black

E-Z-Strip Lamp Cord



U.L. APPROVED

DESCRIPTION: Conductors parallel, stranded extra flexible bare copper, rubber or polyvinylchloride jacket overall. Slit in jacket to permit "E-Z" separation.

APPLICATIONS: For line cord on radios, lamps, electric clocks, food mixers and other small instruments and appliances.

CHARACTERISTICS: Suggested operating temperature: −20°C to +60°C. Suggested operating voltage: 300 volts.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	INSUL. TYPE	NOM. WALL THICKNESS	U/L TYPE	NOMINAL O.D.	STOCK COLORS
1967	2	18	41/34	Rubber	.032″	SP-1(POSJ)	.220″ x .120″	Brown, Black, White
1977	2	18	41/34	Plastic	.032″	SPT-1(POT)	.215″ x .115″	Brn., Blk., Wh., Gray, Tan
1978	2	18	41/34	Plastic	.045″	SPT-2(POT)	.285″ x .150″	Brown
1979	2	18	41/34	Plastic	.032″	SPT-1(POT)	.215″ x .115″	Clear
1982	2	16	65/34	Plastic	.045″	SPT-2(POT)	.300″ x .160″	Brown

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

PRICES

Alpha No.	Sugg. Resale per 500′	Alpha No.	per 500′	Alpha No.	per 250′	Alpha No.	per 250′
2310	63.31	2312	103.00	1967	54.34	1978	70.87
2311	77.80	2323	170.10	1977	46.47	1979	52.77
						1982	83.47

alpha

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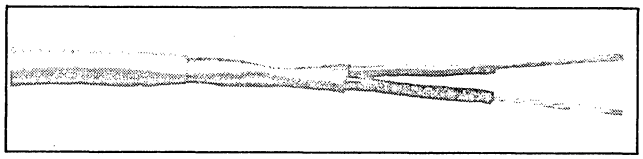
Shielded Plastic Jacketed Cable

alpha



SPIRAL WRAPPED COPPER SHIELD

DESCRIPTION: Each conductor stranded or solid tinned copper, color coded polyvinylchloride insulation, conductors twisted, spiral wrapped copper shield, gray polyvinylchloride jacket overall. **Nominal jacket thickness .020".**

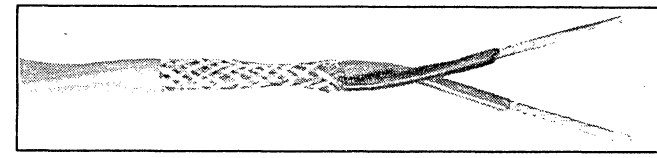
CHARACTERISTICS: Use of spiral shield makes pigtailing off extremely simple and fast. Excellent for production line work. Provides close to 100% shielded coverage for audio and RF frequencies. Suggested operating temperature: 20°C to +60°C.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.	SUGG. WORKING VOLTAGE
2255	2	22	Solid	.016"	.170"	350V
2254/1	1	22	7/30	.016"	.115"	350V
2254	2	22	7/30	.016"	.175"	350V
2254/3	3	22	7/30	.016"	.190"	350V
2254/4	4	22	7/30	.016"	.200"	350V
2254/6	6	22	7/30	.016"	.235"	350V
2256/1	1	20	10/30	.016"	.130"	350V
2256	2	20	10/30	.016"	.195"	350V
2256/3	3	20	10/30	.016"	.210"	350V
2256/4	4	20	10/30	.016"	.225"	350V
2256/6	6	20	10/30	.016"	.265"	350V
2258/1	1	18	16/30	.016"	.135"	350V
2258	2	18	16/30	.016"	.230"	350V
2258/3	3	18	16/30	.016"	.235"	350V
2258/4	4	18	16/30	.016"	.245"	350V
2260	2	16	26/30	.016"	.240"	350V
2260/3	3	16	26/30	.016"	.245"	350V
2265	2	14	41/30	.020"	.285"	450V
2265/3	3	14	41/30	.020"	.290"	450V
2268	2	12	65/30	.020"	.325"	450V
2268/3	3	12	65/30	.020"	.330"	450V

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.
COLOR CODE OF CONDUCTORS
1—Black 2—Red 3—White 4—Green 5—Yellow 6—Blue

PRICES

Alpha No.	Sugg. Resale per 500'							
2255	46.47	2256/1	46.30	2258/1	53.71	2260/3	181.12
2254/1	41.11	2256	56.86	2258	68.67	2265	179.55
2254	54.18	2256/3	77.34	2258/3	92.61	2265/3	316.57
2254/3	73.87	2256/4	155.14	2258/4	179.55	2268	330.75
2254/4	115.77	2256/6	211.05	2260	98.44	2268/3	504.00
2254/6	173.25						



BRAIDED COPPER SHIELD

DESCRIPTION: Each conductor tinned copper, color coded polyvinylchloride insulation, conductors twisted, braided copper shield, gray polyvinylchloride jacket overall. Suitable for outdoor installations.

CHARACTERISTICS: A conventional type of braided shield providing approximately 75% coverage is particularly desirable where flexibility is required. The copper shield allows ease of pigtail soldering. Shield construction provides additional cable strength. Operating temperature: −20°C to +60°C. **Nominal jacket thickness .020".**

APPLICATIONS: For public address and sound systems, ideal for recording studios, amateur radio transmitters, shielded power or electronic circuits, wherever an economical shielded cable is required.

STRANDED

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.	SUGG. WORKING VOLTAGE
1735	1	22	7/30	.016"	.125"	350V
1736	2	22	7/30	.016"	.185"	350V
1737	3	22	7/30	.016"	.200"	350V
1738	4	22	7/30	.016"	.210"	350V
1740	1	20	10/30	.016"	.135"	350V
1741	2	20	10/30	.016"	.200"	350V
1742	3	20	10/30	.016"	.220"	350V
1743	4	20	10/30	.016"	.230"	350V
1745	1	18	16/30	.016"	.145"	350V
1746	2	18	16/30	.016"	.235"	350V
1747	3	18	16/30	.016"	.245"	350V
1747/4	4	18	16/30	.016"	.255"	350V
1748	2	16	26/30	.016"	.250"	350V
1749	3	16	26/30	.016"	.255"	350V
1750	2	14	41/30	.020"	.290"	450V
1751	3	14	41/30	.020"	.295"	450V
1760	2	12	65/30	.020"	.335"	450V
1761	3	12	65/30	.020"	.340"	450V

SOLID

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.	SUGG. WORKING VOLTAGE
1775*	2	22	1	.016"	.175"	350V
1779	2	20	1	.016"	.210"	350V
1783	2	18	1	.016"	.220"	350V

*With 22 AWG solid tinned copper ground wire under braided copper shield.

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.
COLOR CODE OF CONDUCTORS 1—Black 2—Red 3—White 4—Green

PRICES

Alpha No.	Sugg. Resale per 500'							
1735	61.59	1742	111.82	1747/4	223.65	1760	337.84
1736	67.41	1743	166.95	1748	164.59	1761	456.75
1737	91.83	1745	83.64	1749	228.37	1775	56.86
1738	120.01	1746	113.08	1750	223.65	1779	93.55
1740	68.04	1747	164.74	1751	311.85	1783	113.36
1741	87.25						

alpha **ALPHA WIRE MFG.**

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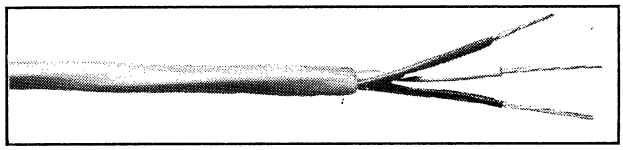
Unshielded Audio Cable



MULTI-CONDUCTOR — PLASTIC JACKET

DESCRIPTION: Each conductor stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted, gray polyvinylchloride jacket overall. Suitable for outdoor installations.

APPLICATIONS: Unbalanced intercom systems. Low voltage relay control cable. P.A. systems. Electronic computer cable. Interconnecting cables. Remote control circuits. Telephones. Telemetering connecting cable. "Baby Sitter" intercom.

CHARACTERISTICS: Suggested Operating Temperature: −20°C to +60°C.

200 VOLTS **STRANDED CONDUCTORS**

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1172	2	22	7/30	.010″	.020″	.140″
1173	3	22	7/30	.010″	.020″	.145″
1174	4	22	7/30	.010″	.020″	.170″
1175	5	22	7/30	.010″	.020″	.175″
1176	6	22	7/30	.010″	.020″	.185″
1177	7	22	7/30	.010″	.020″	.190″
1178	8	22	7/30	.010″	.020″	.200″
1179	9	22	7/30	.010″	.020″	.225″
1180	10	22	7/30	.010″	.020″	.235″
1181	12	22	7/30	.010″	.020″	.255″
1181/15	15	22	7/30	.010″	.020″	.280″
1181/20	20	22	7/30	.010″	.020″	.310″
1181/25	25	22	7/30	.010″	.020″	.340″
1181/30	30	22	7/30	.010″	.020″	.365″
1181/40	40	22	7/30	.010″	.025″	.425″
1181/50	50	22	7/30	.010″	.035″	.500″
1181/60	60	22	7/30	.010″	.035″	.530″

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

300 VOLTS **STRANDED CONDUCTORS**

ALPHA NO.	NO.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1897	2	18	16/30	.016″	.020″	.200″
1898	3	18	16/30	.016″	.020″	.210″
1898/4	4	18	16/30	.016″	.020″	.240″
1898/6	6	18	16/30	.016″	.020″	.290″
1898/8	8	18	16/30	.016″	.025″	.315″
1898/10	10	18	16/30	.016″	.025″	.370″
1898/12	12	18	16/30	.016″	.025″	.385″

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

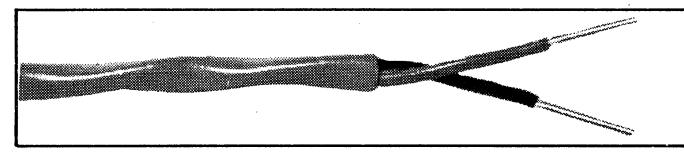
300 VOLTS **SOLID CONDUCTORS**

ALPHA NO.	CONDUCTOR NO.	CONDUCTOR SIZE	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1797	2	18	.016″	.020″	.190″
1798	3	18	.016″	.020″	.200″
1798/4	4	18	.016″	.020″	.220″
1798/5	5	18	.016″	.020″	.235″
1798/6	6	18	.016″	.020″	.265″

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS

1—Black
2—Red
3—White
4—Green
5—Orange
6—Blue
7—Brown
8—Yellow
9—Purple
10—Slate
11—Pink
12—Tan
13—Red/Green
14—Red/Yellow
15—Red/Black
16—White/Black
17—White/Red
18—White/Green
19—White/Yellow
20—White/Blue
21—White/Brown
22—White/Orange
23—White/Gray
24—White/Violet
25—White/Black/Red
26—White/Black/Green
27—White/Black/Yellow
28—White/Black/Blue
29—White/Black/Brown
30—White/Black/Orange
31—White/Black/Slate
32—White/Black/Purple
33—White/Black/Black
34—White/Red/Black
35—White/Red/Red
36—White/Red/Green
37—White/Red/Blue
38—White/Red/Brown
39—White/Red/Purple
40—White/Green/Black
41—White/Green/Red
42—White/Green/Green
43—White/Green/Blue
44—White/Green/Brown
45—White/Green/Purple
46—White/Blue/Black
47—White/Blue/Red
48—White/Blue/Green
49—White/Blue/Blue
50—White/Blue/Brown
51—White/Blue/Purple
52—White/Brown/Black
53—White/Brown/Red
54—White/Brown/Green
55—White/Brown/Blue
56—White/Brown/Brown
57—White/Brown/Purple
58—White/Purple/Red
59—White/Purple/Green
60—White/Purple/Blue



MULTI-CONDUCTOR — PLASTIC JACKET

DESCRIPTION: Each conductor tinned copper, color coded polyvinylchloride insulation, conductors twisted, gray polyvinylchloride jacket overall. Suitable for outdoor installations.

APPLICATIONS: Intercoms. Interconnecting cables. Remote control circuits. Telephones. Telemetering connecting cable. "Baby Sitter" intercom.

CHARACTERISTICS: Suggested Operating Temperature: −20°C to +60°C

SOLID

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL JACKET	NOMINAL O.D.	SUGG. OPER. VOLTAGE
1793	2	22	1	.010″	.020″	.130″	200 V
1794	3	22	1	.010″	.020″	.140″	200 V
1794/4	4	22	1	.010″	.020″	.160″	200 V
1795	2	20	1	.016″	.020″	.170″	350 V
1796	3	20	1	.016″	.020″	.180″	350 V
1796/4	4	20	1	.016″	.020″	.200″	350 V
1797	2	18	1	.016″	.020″	.190″	350 V
1798	3	18	1	.016″	.020″	.200″	350 V
1798/4	4	18	1	.016″	.020″	.220″	350 V
1799	2	16	1	.016″	.020″	.215″	350 V
1799/3	3	16	1	.016″	.020″	.230″	350 V
1799/4	4	16	1	.016″	.020″	.250″	350 V

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS: 1—Black 2—Red 3—White 4—Green

STRANDED

1893	2	22	7/30	.010″	.020″	.135″	200 V
1894	3	22	7/30	.010″	.020″	.145″	200 V
1894/4	4	22	7/30	.010″	.020″	.170″	200 V
1895	2	20	10/30	.016″	.020″	.180″	350 V
1896	3	20	10/30	.016″	.020″	.190″	350 V
1896/4	4	20	10/30	.016″	.020″	.215″	350 V
1897	2	18	16/30	.016″	.020″	.200″	350 V
1898	3	18	16/30	.016″	.020″	.210″	350 V
1898/4	4	18	16/30	.016″	.020″	.240″	350 V
1899	2	16	26/30	.016″	.020″	.225″	350 V
1899/3	3	16	26/30	.016″	.020″	.245″	350 V
1899/4	4	16	26/30	.016″	.020″	.270″	350 V
1891	2	14	41/30	.016″	.020″	.260″	350 V
1891/3	3	14	41/30	.016″	.020″	.280″	350 V
1892	2	12	65/30	.016″	.020″	.300″	350 V
1892/3	3	12	65/30	.016″	.020″	.320″	350 V

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS: 1—Black 2—Red 3—White 4—Green

PRICES

Alpha No.	Sugg. Resale per 500′							
1172	27.09	1181/50	1,291.50	1793	26.46	1899	88.20
1173	34.65	1181/60	11,559.25	1794	39.54	1899/3	152.46
1174	45.67	1897	60.48	1794/4	59.53	1899/4	211.05
1175	57.49	1898	100.80	1795	49.45	1891	154.35
1176	79.06	1898/4	139.23	1796	70.87	1891/3	208.84
1177	93.24	1898/6	211.05	1796/4	86.31	1892	19.80
1178	101.59	1898/8	283.50	1797	55.44	1892/3	330.75
1179	114.03	1898/10	359.10	1798	79.69	1894/4	66.78
1180	124.42	1898/12	422.10	1798/4	102.22	1895	42.37
1181	135.45	1797	55.44	1799	103.63	1896	77.97
1181/15	307.12	1798	79.69	1799/3	125.05	1896/4	94.18
1181/20	417.37	1798/4	102.22	1799/4	173.25	1897	60.48
1181/25	543.37	1798/5	137.97	1893	26.46	1898	100.80
1181/30	661.50	1798/6	163.80	1894	47.41	1898/4	139.23
1181/40	1,039.50						

ALPHA WIRE MFG.

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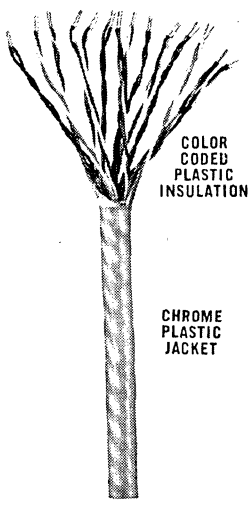
Unshielded Intercom Cable

PAIRED CONDUCTORS — PLASTIC JACKET



DESCRIPTION: Each conductor tinned copper, color coded polyvinylchloride insulation, conductors twisted into pairs, gray polyvinylchloride jacket overall. Suitable for outdoor installations.

APPLICATIONS: Balanced intercom systems. Annunciators. Telephones. Nurses call systems. Control circuit cable. Electronic computer cable. Multiple speaker cable. Signal systems. Alarm systems.

CHARACTERISTICS: Suggested operating temperature: −20°C to +60°C. Suggested operating voltage: 200 volts.

SOLID CONDUCTORS

ALPHA NO.	NO. OF PAIRS	NO. OF COND.	COND. SIZE	COND. STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
1300	1	2	22 Solid	1	.010″	.020″	.130″
1302	2	4	22 Solid	1	.010″	.020″	.195″
1304	3	6	22 Solid	1	.010″	.020″	.220″
1307	6	12	22 Solid	1	.010″	.020″	.275″
1307/7	7	14	22 Solid	1	.010″	.020″	.285″
1307/9	9	18	22 Solid	1	.010″	.020″	.310″
1308/11	11	22	22 Solid	1	.010″	.020″	.340″
1309	13	26	22 Solid	1	.010″	.025″	.380″
1309/15	15	30	22 Solid	1	.010″	.025″	.400″
1310	16	32	22 Solid	1	.010″	.025″	.420″
1313	27	54	22 Solid	1	.010″	.035″	.510″
1313/31	31	62	22 Solid	1	.010″	.035″	.555″
1313/41	41	82	22 Solid	1	.010″	.035″	.630″
1314	51	102	22 Solid	1	.010″	.045″	.735″

STRANDED CONDUCTORS

1316	1	2	22	7/30	.010″	.020″	.145″
1317	2	4	22	7/30	.010″	.020″	.210″
1318	3	6	22	7/30	.010″	.020″	.225″
1319	4	8	22	7/30	.010″	.020″	.240″
1320	5	10	22	7/30	.010″	.020″	.265″
1322	6	12	22	7/30	.010″	.020″	.290″
1323	9	18	22	7/30	.010″	.020″	.355″
1324	11	22	22	7/30	.010″	.020″	.365″
1327	15	30	22	7/30	.010″	.025″	.450″
1327/19	19	38	22	7/30	.010″	.025″	.480″
1328	23	46	22	7/30	.010″	.030″	.530″
1329	27	54	22	7/30	.010″	.035″	.570″
1329/31	31	62	22	7/30	.010″	.040″	.635″
1329/41	41	82	22	7/30	.010″	.040″	.710″
1330	51	102	22	7/30	.010″	.045″	.800″

STANDARD SPOOL PUT-UP: 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

PAIR NO.	COLOR COMBINATION
1	Black paired with Red
2	Black paired with White
3	Black paired with Green
4	Black paired with Blue
5	Black paired with Brown
6	Black paired with Yellow
7	Black paired with Orange
8	Red paired with Green
9	Red paired with White
10	Red paired with Blue
11	Red paired with Yellow
12	Red paired with Brown
13	Red paired with Orange
14	Green paired with Blue
15	Green paired with White
16	Green paired with Brown
17	Green paired with Orange
18	Green paired with Yellow
19	White paired with Blue
20	White paired with Brown
21	White paired with Orange
22	White paired with Yellow
23	Blue paired with Brown
24	Blue paired with Orange
25	Blue paired with Yellow
26	Brown paired with Orange
27	Brown paired with Yellow
28	Purple paired with Red
29	Purple paired with White
30	Purple paired with Green
31	Purple paired with Blue
32	Purple paired with Brown
33	Purple paired with Yellow
34	Purple paired with Orange
35	Purple paired with Slate
36	Purple paired with Black
37	Slate paired with Red
38	Slate paired with White
39	Slate paired with Green
40	Slate paired with Blue
41	Slate paired with Brown
42	Slate paired with Yellow
43	Slate paired with Orange
44	Slate paired with Black
45	White/Black paired w. Red
46	White/Black paired w. Green
47	White/Black paired w. Blue
48	White/Black paired w. Brown
49	White/Black paired w. Yellow
50	White/Black paired w. Orange
51	White/Black paired w. Purple

PRICES

Alpha No.	Sugg. Resale 1000′
1300	21.27
1302	39.37
1304	54.34
1307	96.07
1307/7	123.48
1307/9	141.75
1308/11	173.25
1309	198.45
1309/15	237.82
1310	308.70
1313	417.37
1313/31	894.60
1313/41	275.75
1314	622.25
1316	38.11
1317	76.86
1318	100.80
1319	113.40
1320	120-49
1322	127.57
1323	195.30
1324	283.50
1327	307.12
1327/19	496.12
1328	544.95
1329	1,275.75
1329/31	1,779.75
1329/41	2,063.25
1330	

alpha

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Unshielded Audio Cable

MULTI-CONDUCTOR — OUTER COTTON BRAID

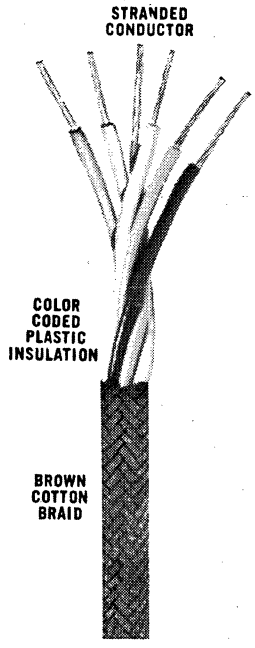
DESCRIPTION: Each conductor stranded tinned copper, color coded polyvinylchloride insulation, conductors twisted, brown cotton braid overall.

CHARACTERISTICS: Suggested operating temperature: −40°C to +80°C. Suggested operating voltage: 600 volts.

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOMINAL O.D.
1182	2	20	10/30	.016″	.170″
1183	3	20	10/30	.016″	.180″
1184	4	20	10/30	.016″	.200″
1185	5	20	10/30	.016″	.220″
1186	6	20	10/30	.016″	.240″
1187	7	20	10/30	.016″	.240″
1188	8	20	10/30	.016″	.265″
1189	9	20	10/30	.016″	.285″
1190	10	20	10/30	.016″	.310″
1192	12	20	10/30	.016″	.322″
1192/15	15	20	10/30	.016″	.360″
1192/20	20	20	10/30	.016″	.405″
1192/25	25	20	10/30	.016″	.450″
1192/30	30	20	10/30	.016″	.485″

STANDARD SPOOL PUT-UP:
1182-1192/20; 100 FT., 500 FT., 1000 FT.
1192/25-1192/30; 100 FT., 250 FT., 500 FT.

COLOR CODE OF CONDUCTORS
1—Black
2—Red
3—White
4—Green
5—Orange
6—Blue
7—Brown
8—Yellow
9—Purple
10—Slate
11—Pink
12—Tan
13—White/Black
14—White/Red
15—White/Green
16—White/Orange
17—White/Blue
18—White/Brown
19—White/Yellow
20—White/Purple
21—White/Gray
22—White/Black/Red
23—White/Black/Green
24—White/Black/Yellow
25—White/Black/Blue
26—White/Black/Brown
27—White/Black/Orange
28—White/Black/Gray
29—White/Black/Violet
30—Dark Blue



MULTI-CONDUCTOR — NO OUTER JACKET

DESCRIPTION: Each conductor tinned copper, color coded polyvinylchloride insulation, conductors twisted.

APPLICATIONS: Intercoms. Interconnecting cables. Remote control circuits. Telephones. Telemetering connecting cable. "Baby Sitter" intercom.

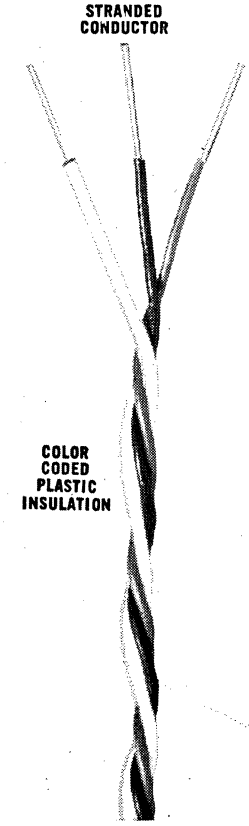
CHARACTERISTICS: Suggested Operating Temperature: −20°C to +60°C. Suggested Operating Voltage: 350 Volts.

SOLID

ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.
1900	2	22	1	.016″	.100″
1901	3	22	1	.016″	.115″
1903	2	20	1	.016″	.120″
1904	3	20	1	.016″	.135″
1906	2	18	1	.016″	.145″
1907	3	18	1	.016″	.155″
1909	2	16	1	.016″	.175″
1910	3	16	1	.016″	.190″
1912	2	19*	1	.016″	.130″
1913	3	19*	1	.016″	.135″

STRANDED

1915	2	22	7/30	.016″	.125″
1916	3	22	7/30	.016″	.140″
1918	2	20	10/30	.016″	.145″
1919	3	20	10/30	.016″	.160″
1921	2	18	16/30	.016″	.165″
1922	3	18	16/30	.016″	.180″
1924	2	16	26/30	.016″	.190″
1925	3	16	26/30	.016″	.210″
1927	2	14	41/30	.016″	.220″
1928	3	14	41/30	.016″	.240″



STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

*Bare Untinned Copper Conductor.

COLOR CODE OF CONDUCTORS: 1—Brown 2—Tan 3—Gray

alpha

PRICES

Alpha No.	Sugg. Resale 1000′
1182	61.42
1183	86.47
1184	108.04
1185	139.23
1186	174.82
1187	193.72
1188	227.59
1189	277.20
1190	311.85
1192	381.15
1192/15	488.25
1192/20	677.25
1192/25	385.87
1192/30	441.00
1900	19.84
1901	28.66
1903	27.40
1904	41.58
1906	40.63
1907	60.48
1909	73.24
1910	107.58
1912	22.36
1913	36.22
1915	28.66
1916	41.74
1918	38.74
1919	57.49
1921	46.93
1922	69.30
1924	57.33
1925	85.36
1927	99.22
1928	157.50

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Shielded Audio & Data Cable

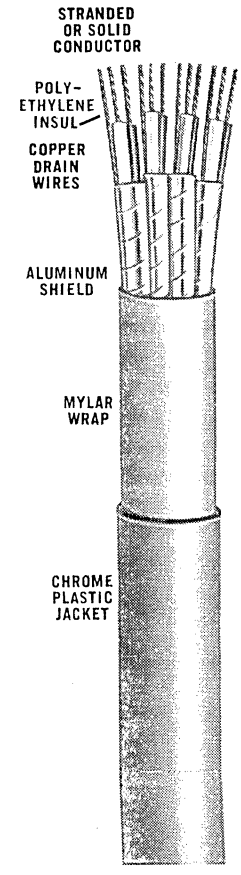
INDIVIDUALLY SHIELDED MULTIPLE PAIRS — PLASTIC JACKET

NEW

DESCRIPTION: Each conductor, tinned copper, color coded, high density polyethylene, conductors twisted into pairs. 22 gauge tinned copper drain wire. Mylar-supported aluminum foil shield, aluminum facing inward. Chrome Grey PVC jacket overall.

CHARACTERISTICS: Mutual conductance between conductors of a pair, 25 pf/ft. Capacitance of a single conductor to shield, 45 pf/ft.

APPLICATIONS: For audio, R.F. and pulse applications requiring superior circuit isolation.



#22 — SOLID

ALPHA NO.	NO. OF PAIRS	NO. OF COND.	COND. STRAND	NOM. WALL THICK. (Inches)	NOM. JKT. THICK. (Inches)	NOM. O.D. (Inches)
6000	3	6	1	.010	.025	.235
6002	6	12	1	.010	.030	.318
6004	9	18	1	.010	.030	.371
6006	11	22	1	.010	.035	.414
6008	15	30	1	.010	.040	.485

#22 — STRANDED

ALPHA NO.	NO. OF PAIRS	NO. OF COND.	COND. STRAND	NOM. WALL THICK. (Inches)	NOM. JKT. THICK. (Inches)	NOM. O.D. (Inches)
6010	3	6	7/30	.010	.025	.252
6012	6	12	7/30	.010	.030	.342
6014	9	18	7/30	.010	.035	.410
6016	11	22	7/30	.010	.040	.457
6018	15	30	7/30	.010	.040	.523
6020	19	38	7/30	.010	.050	.570
6022	27	54	7/30	.010	.055	.687

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

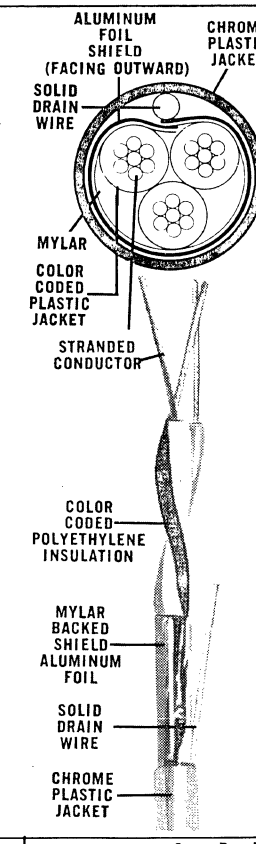
PAIR NO.	COLOR COMBINATION OF PAIRS		
1	Black paired with Red	10—Red paired with Blue	19—White paired with Blue
2	Black paired with White	11—Red paired with Yellow	20—White paired with Brown
3	Black paired with Green	12—Red paired with Brown	21—White paired with Orange
4	Black paired with Blue	13—Red paired with Orange	22—White paired with Yellow
5	Black paired with Brown	14—Green paired with Blue	23—Blue paired with Brown
6	Black paired with Yellow	15—Green paired with White	24—Blue paired with Orange
7	Black paired with Orange	16—Green paired with Brown	25—Blue paired with Yellow
8	Red paired with Green	17—Green paired with Orange	26—Brown paired with Orange
9	Red paired with White	18—Green paired with Yellow	27—Brown paired with Yellow

Shielded Plastic Jacketed Cable

MYLAR SUPPORTED ALUMINUM FOIL SHIELD

DESCRIPTION: Each conductor stranded tinned copper, color coded polyethylene insulation, conductors cabled, wrapped mylar supported aluminum foil shield, 100% coverage with drain wire laid parallel, aluminum foil facing outward to provide maximum ground, gray pvc jacket overall.

CHARACTERISTICS: Operating temperature: −20°C to +60°C. Operating voltage: 400 volts. Light weight, reduces cable diameter, and provides 100% shield coverage.



ALPHA NO.	NO. OF COND.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. JKT. THICKNESS	NOM. O.D.
2402	2	22	7/30	.016″	.020″	.195″
2403	3	22	7/30	.016″	.020″	.210″
2404	4	22	7/30	.016″	.020″	.225″
2412	2	20	10/30	.016″	.020″	.210″
2413	3	20	10/30	.016″	.020″	.225″
2414	4	20	10/30	.016″	.020″	.240″
2422	2	18	16/30	.016″	.020″	.230″
2423	3	18	16/30	.016″	.020″	.245″
2424	4	18	16/30	.016″	.020″	.265″
2432	2	16	26/30	.016″	.020″	.255″
2433	3	16	26/30	.016″	.020″	.275″
2442	2	14	41/30	.016″	.020″	.290″
2443	3	14	41/30	.016″	.020″	.310″

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

COLOR CODE OF CONDUCTORS: 1—Black 2—Red 3—White 4—Green

alpha

PRICES

Alpha No.	Sugg. Resale 1000′	Alpha No.	Sugg. Resale 1000′	Alpha No.	Sugg. Resale 1000′
6000	126.00	6014	378.00	2403	51.03
6002	224.44	6016	441.00	2404	89.62
6004	318.15	6018	585.90	2412	50.08
6006	378.00	6020	809.55	2413	63.79
6010	135.45	6022	1,081.21	2414	109.30
6012	255.15	2402	40.63	2422	59.07

Alpha No.	Sugg. Resale 1000′
2423	80.49
2424	126.31
2432	117.34
2433	155.46
2442	163.80
2443	223.81

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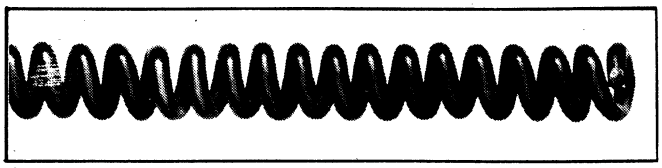

RETRACTILE COIL CORDS

POWER CORDS—NEOPRENE JACKET U.L. APPROVED

RETRACTED LENGTHS 2 & 4 FEET—EXTENDED LENGTHS 12 & 25 FEET

DESCRIPTION: Long-lasting service is assured with this quality multi-conductor power cord. Each conductor is stranded copper, with rubber installation, and a rugged weather and oil resistant neoprene jacket overall.

APPLICATION: Used on electric tools, portable drills, soldering wires, electrical appliances, household appliances, etc., to eliminate loose hanging wires and to prevent wires from tangling and twisting.

CHARACTERISTICS: Suggested operating temperature: 20 C to 60 C.

ALPHA NO. 2 FT. LGTHS.	4 FT. LGTHS.	†1 FT. LGTHS.	NO. OF CONDS.	CONDUCTOR SIZE	STRAND	U.L. TYPE	AMP RATING	VOLT RATING	NOM. COIL O.D.	NOM. O.D CORD
660 2	660 4	660 1	2	18	41 34	SVO	7	300	7 8"	.260"
760 2	760 4		3	18	41 34	SVO	7	300	1"	.275"
661 2	661 4	661 1	2	18	41 34	SJO	7	300	1-3 16"	.320"
662 2	662 4	662 1	3	18	41 34	SJO	7	300	1-3 8"	.350"
663 2	663 4		4*	18	41 34	SJO	5.6	300	1-7 16"	.385"
762 2	762 4		3	18	41 34	SO	7	600	1-5 8"	.405"
763 2	763 4		4*	18	41 34	SO	5.6	600	1-5 8"	.435"
664 2	664 4	664 1	2	16	65 34	SJO	10	300	1-3 8"	.360"
665 2	665 4	665 1	3	16	65 34	SJO	10	300	1-7 16"	.390"
666 2	668 4		4*	16	65 34	SJO	8	300	1-1 2"	.425"
670 2	670 4		3	16	41 34	SO	10	600	1-13 16"	.470"
671 2	671 4		4*	16	65 34	SO	8	600	1-7 8"	.500"
672 2	672 4		2	14	41 30	SO	15	600	2-1 8"	.540"
673 2	673 4		3	14	41 30	SO	15	600	2-1 8"	.560"
674 2	674 4		4*	14	41 30	SO	12	600	2-1 4"	.605"
675 2	675 4		2	12	65 30	SO	20	600	2-1 4"	.605"
676 2	676 4		3	12	65 30	SO	20	600	2-3 8"	.635"
677 2	677 4		4*	12	65 30	SO	16	600	2-3 8"	.678"

COLOR CODE OF CONDUCTORS
1—Black 2—White
3—Green 4—Red

*If all four conductors normally carry current, amp rating is as shown. If one lead is used as a ground, amp rating is the same as 2 and 3 conductor cords.

†A 12" retracted length with a 12" straight lead on each end for easy stripping and termination. Cord extends to approximately 6 feet.

RETRACTILE TEST LEAD WIRE

RETRACTED LENGTH 12"—EXTENDED LENGTH 6 FEET

DESCRIPTION: A high grade quality rubber insulation for maximum flex life extruded over a single conductor of extra flexible tinned copper which gives long life to this retractile test lead wire. Available in a 12" retracted length with a 6" straight lead on each end, the cord extends to approximately 6 feet.

ALPHA NO.	CONDUCTOR SIZE	STRAND	AMP. RATED	VOLT RATING	NOM. COIL O.D.	NOM. O.D. CORD	COLOR CODE
650	20	41 36	4	5,000	¾"	.165"	Black-Red

COLOR CODE
SPECIFY BLACK OR RED.

RETRACTILE POWER CORD SETS U.L. APPROVED

RETRACTED LENGTH 18"—EXTENDED LENGTH 7½ FEET

DESCRIPTION: Coiled power cord with a sturdy molded male plug on one end. On the other end we have removed a portion of the neoprene jacket, exposed the conductors and stripped them for easy termination. Operating voltage, 300 volts.

APPLICATION: Same as power cords, but with a plug on one end.

ALPHA NO.	NO. OF CONDS.	CONDUCTOR SIZE	STRAND	U.L. TYPE	NOM. COIL O.D.	NOM. O.D. CORD
654	2	18	41 34	SVO	7 8"	.260"
655	2	18	41 34	SJO	1-3 16"	.320"
656	3	18	41 34	SJO	1-3 8"	.350"
657	2	16	65 34	SJO	1-3 8"	.360"
658	3	16	65 34	SJO	1-7 16"	.390"

COLOR CODE OF CONDUCTORS
1—Black 2—White 3—Green

RETRACTILE COIL CORDS

RETRACTILE COMMUNICATION COIL CORDS

RETRACTED LENGTHS 2 & 4 FEET—EXTENDED LENGTHS 12 & 25 FEET

DESCRIPTION: Multi-conductor communication cord manufactured with extra flexible #23 AWG-21 36 tinned soft cadmium copper for maximum flex life. Insulated with rubber for communication circuits of maximum 120 working volts. The overall jacket is a specially compounded cured neoprene jacket giving long life to the retractile cord.

APPLICATION: Used in communication equipment, such as telephone car carriers, mobile radio equipment, ham operations, head sets, citizen band units and radio transmitter to receiver head sets, communication cords eliminate hazards and inconveniences caused by tangled straight cords.

ALPHA NO. 2 FT. LGTHS.	4 FT. LGTHS.	NO. OF CONDS.	CONDUCTOR SIZE	STRAND	AMP RATING	VOLTAGE RATING	NOM. COIL O.D.	CORD O.D.	COLOR CODE OF CONDUCTORS
680 2	680 4	2	23	21 36	1	120	3 4"	.215"	1—Black
681 2	681 4	3	23	21 36	1	120	13 16"	.220"	2—White
682 2	682 4	4	23	21 36	1	120	15 16"	.250"	3—Red
683 2	683 4	5	23	21 36	1	120	1-1 16"	.285"	4—Green
684 2	684 4	6	23	21 36	1	120	1-1 8"	.305"	5—Blue
685 2	685 4	7	23	21 36	1	120	1-1 4"	.320"	6—Yellow
									7—Brown

RETRACTILE COMMUNICATION CORDS (SHIELDED)

RETRACTED LENGTHS 2 & 4 FEET—EXTENDED LENGTHS 12 & 25 FEET

DESCRIPTION: Same as above, except that shielded conductors are individually shielded with a cadmium copper shield to eliminate external electrical interference. Shield can be pigtailed for direct soldering connections.

APPLICATION: When shielded communication cords are needed.

ALPHA NO. 2 FT. LGTHS.	4 FT. LGTHS.	NO. OF CONDS.	CONDUCTOR SIZE	STRAND	VOLTAGE RATING	SHIELDING	NOM. O.D.	NOM. COIL O.D. CORD	NOM. COLOR CODE OF CONDUCTORS
690 2	690 4	1	24	41 40	75	Shielded	5/32"	.160"	White
692 2	692 4	2	1-23	21 36	120	Unshielded	7/32"	.240"	Black
			1-24	41 40	75	Shielded			White
694 2	694 4	3	2-23	21 36	120	Unshielded	7/32"	.240"	Black & Red
			1-24	41 40	75	Shielded			White
696 2	696 4	4	2-23	21 36	120	Unshielded	1"	.270"	Red & Black
			2-24	41 40	75	Individually Shielded			White & Green

RETRACTILE COMMUNICATION CORDS

PREPARED FOR EASY INSTALLATION AND REPLACEMENT

RETRACTED LENGTH 12"—EXTENDED LENGTH 6 FEET

DESCRIPTION: Same as communication cords except each end is prepared as indicated.

ALPHA NO.	NO. OF CONDS.	AWG	NOM. COIL O.D.	NOM. CORD O.D.	PREPARATION
686	3	23-21 36	13 16"	.220"	**1 end:** total length 1½". Conductors stripped and tinned. **Other end:** total length 1½" jacket removed.
687	4	23-21/36	15 16"	.250"	**1 end:** total length 1". Conductors stripped and tinned. **Other end:** total length 1½" jacket removed.
688	5	23-21/36	1-1 16"	.285"	**1 end:** total length 4⅛". Conductors stripped and tinned. **Other end:** total length 4⅛" conductors stripped and tinned.

MINIATURE RETRACTILE COMMUNICATIONS CORDS

RETRACTED LENGTH 2 FEET—EXTENDED LENGTH 10 FEET

DESCRIPTION: A small diameter plastic cord with stranded tinned copper conductors for maximum flexibility, insulated and jacketed with polyvinylchloride. Each cord is available in a 2 ft. retracted length with a 6" straight lead on each end and extends to approximately 10 feet.

APPLICATION: For low voltage power and communication equipment where miniaturization is required due to space and weight limitations.

ALPHA NO.	NO. OF CONDS.	CONDUCTOR SIZE	STRAND	AMP RATING	VOLT RATING	NOM. COIL O.D.	NOM. CORD O.D.
651*	2	28	19/40	0.5	100	1/2"	.135"
652	4	28	19/40	0.5	100	1/2"	.150"

COLOR CODE OF CONDUCTORS
1—Black 2—White
3—Green 4—Red

For 3 conductor, use 4 conductor with one lead unused

PRICES

Alpha No.	Sugg. Resale 1000'
660/2	4.89
660/4	8.82
660/1	2.71
760/2	7.48
760/4	13.39
661/2	5.35
661/4	9.76
661/1	2.80
662/2	6.85
662/4	12.76
662/1	3.78
663/2	8.04
663/4	15.12
762/2	12.45
762/4	22.99
763/2	13.71
763/4	25.83
664/2	6.69
664/4	12.45
664/1	3.78
665/2	8.67
665/4	16.38
665/1	4.41
666/2	10.71
666/4	19.84
670/2	11.97
670/4	22.36
671/2	13.23
671/4	24.88
672/2	13.15
672/4	24.73
673/2	14.80
673/4	28.03
674/2	17.71
674/4	32.29
675/2	20.79
675/4	38.43
676/2	25.59
676/4	48.04
677/2	28.35
677/4	53.55
654	4.41
655	5.35
656	8.35
657	5.98
658	8.82
650	1.26
680/2	4.33
680/4	7.72
681/2	5.35
681/4	9.13
682/2	6.06
682/4	10.56
683/2	8.25
683/4	14.17
684/2	9.76
684/4	17.95
685/2	10.87
685/4	20.16
690/2	6.69
690/4	11.82
692/2	9.06
692/4	16.54
694/2	12.84
694/4	24.10
696/2	14.49
696/4	27.40
686	3.63
687	5.98
688	6.78
651	4.29
652	5.04

alpha

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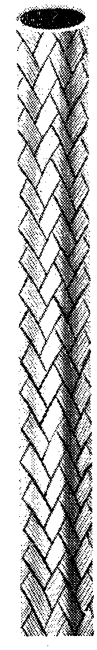
Flat Braid

DESCRIPTION: A woven braid, composed of tinned copper strands, which is rolled flat at time of manufacture to a specific width depending upon construction.

ALPHA NO.	NOM. FLAT WIDTH	NOM. THICKNESS	BRAID CONSTRUCTION AWG OF INDIV. ENDS	CAR-RIERS	TOTAL NO. OF INDIV. ENDS	APPROX. AWG EQUIV.	NOM. CIRCULAR MILLS	*CURRENT CARRYING CAP. (Amps)	PUT-UP CODE
1221	.025	.015"	36	8	8	27	200	4.0	1 thru 5
1222	1/32"	.020"	36	16	16	24	400	6.0	1 thru 5
1223	3/64"	.020"	36	24	24	22	600	7.0	1 thru 5
1224	3/32"	.020"	36	16	48	19	1200	11.0	1 thru 5
1229	1/8"	.020"	36	24	72	18	1800	16.0	1 thru 5
1230	3/16"	.020"	36	24	120	15	3000	25.0	1 thru 5
1231	1/4"	.030"	36	24	168	14	4200	32.0	1 thru 5
1232	3/8"	.030"	36	48	288	12	7200	46.0	1 thru 5
1233/2	1/2"	.030"	36	48	384	10	9600	53.0	1 thru 5
1233	5/8"	.030"	36	48	384	10	9600	53.0	1 thru 5
1234	3/4"	.040"	36	48	832	7	20800	85.0	1 thru 5
1235	1"	.045"	36	48	832	7	20800	85.0	1 thru 5
1239	1 3/8"	.050"	30	48	336	5	33700	100.0	1 thru 5
1240	1 1/2"	.060"	30	48	528	3	53064	150.0	1 thru 3
1241	1 3/4"	.080"	30	48	1248	00	125424	280.0	1 thru 3
1242	2"	.120"	30	48	1536	000	154368	310.0	1 thru 3
1242/1	2 1/4"	.150"	30	48	1680	000	168840	320.0	1 & 2
1242/2	2 1/2"	.170"	30	48	1920	000	192000	340.0	1 & 2
1242/3	2 3/4"	.180"	30	48	2160	0000	216000	370.0	1 & 2
1242/4	3"	.200"	30	48	2256	0000	225000	390.0	1 & 2

PUT-UP CODE 1—50Ft. 2—100 Ft. 3—250 Ft. 4—500 Ft. 5—1000 Ft.

Oval Commercial Braid



DESCRIPTION: A woven tinned copper braid which is left in the tubular configuration as it leaves the braiding equipment. It is manufactured to a specific inside diameter but because of its extreme flexibility cannot maintain its completely round shape and becomes oval.

ALPHA NO.	NOM. I.D. WHEN ROUNDED	BRAID CONSTRUCTION AWG OF INDIV. ENDS	CARRIERS	TOTAL NO. OF INDIV. ENDS	APPROX. AWG. EQUIV.	NOM. CIRCULAR MILLS	*CURRENT CARRYING CAPACITY (Amps)	PUT-UP CODE
2130	1/32"	34	24	24	20	954	9.0	1 thru 5
2132	1/16"	34	16	32	19	1192	11.0	1 thru 5
2134	7/64"	34	16	64	16	2544	20.0	1 thru 5
2136	1/8"	34	24	72	15	2862	25.0	1 thru 5
2138	11/64"	34	24	120	14	4770	32.0	1 thru 5
2140	3/16"	34	24	144	13	5724	38.0	1 thru 4
2142	1/4"	34	24	168	12	6678	41.0	1 thru 4
2144	3/8"	34	24	192	11	7632	46.0	1 thru 4
2146	1/2"	34	48	336	9	13356	62.0	1 thru 3
2148	5/8"	34	48	384	8	14264	64.0	1 thru 3
2150	11/16"	34	48	480	7	19080	81.0	1 thru 3
2152	25/32"	34	48	528	7	20988	85.0	1 thru 3

PUT-UP CODE 1—50Ft. 2—100 Ft. 3—250 Ft. 4—500 Ft. 5—1000 Ft.

* Values shown are for bare cable in free air at 30°C (86°F) and intended as a reference guide only. Actual values will depend on permissible temperature rise, permissible voltage drop and other conditions of service.

PRICES

Alpha No.	Sugg. Resale per 1000'
1221	39.76
1222	42.57
1223	45.37
1224	53.29
1229	59.56
1230	66.33
1231	92.56
1232	152.62
1233/2	196.84
1233	207.90

Alpha No.	Sugg. Resale 1000'
1234	478.50
1235	513.15
1239	584.10

Alpha No.	Sugg. Resale per 500'
2140	61.87
2142	74.25
2144	84.97

Alpha No.	Sugg. Resale per 100'
2146	33.82
2148	36.79
2150	45.37
2152	49.66

Alpha No.	Sugg. Resale per 100'
1240	84.15
1241	168.30
1242	211.20

Alpha No.	Sugg. Resale per 100'
1242/1	227.70
1242/2	298.65
1242/3	326.70
1242/4	407.55

Alpha No.	Sugg. Resale per 1000'
2130	32.17
2132	43.89
2134	66.82
2136	83.49

alpha

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Tinned Copper Tubular Braid To MIL Spec QQ-B-575

DESCRIPTION: A woven tinned copper braid which is manufactured completely round as outlined in Mil Spec QQ-B-575. Each strand of the braid is soft drawn tinned copper wire. The braid is self-supporting and maintains its round configuration. The percentage of shielding coverage is 95% or more when placed over a mandrel of an equivalent diameter to the inside braid diameter.

ALPHA NO.	NOM. I.D. WHEN ROUNDED	BRAID CONSTRUCTION AWG OF INDIV. ENDS	CARRIERS	TOTAL NO. OF INDIV. ENDS	APPROX. AWG. EQUIV.	NOM. CIRCULAR MILLS	*CURRENT CARRYING CAPACITY (Amps)	PUT-UP CODE
2160	1/32"	36	24	24	22	600	7.0	1-3
2162	1/16"	36	24	48	19	1200	11.0	1-3
2163	3/64"	36	24	72	18	1800	16.0	1-3
2164	7/64"	36	24	96	16	2400	19.0	1-3
2166	1/8"	36	24	120	15	3000	25.0	1-3
2167	5/32"	36	24	240	12	6000	40.0	1-3
2168	11/64"	36	24	168	14	4200	32.0	1-3
2170	13/64"	34	24	192	11	7630	46.0	1-2
2171	1/4"	36	24	384	10	9600	53.0	1-2
2171/1	9/32"	30	24	120	9	12060	60.0	1-2
2172	3/8"	36	48	384	10	9600	53.0	1-2
2173	7/16"	30	24	240	6	24120	90.0	1-2
2174	1/2"	36	48	528	9	13200	62.0	1-2
2175	9/16"	30	48	480	3	48240	145.0	1-2
2175/1	21/32"	30	48	768	1	77180	190.0	1-2
2176	25/32"	36	48	864	7	21600	88.0	1-2

PUT-UP CODE: 1—50 Ft. 2—100 Ft. 3—250 Ft.

EXTRA LARGE TINNED COPPER TUBULAR BRAID

DESCRIPTION: These tubular braids manufactured to standards of QQ-B-575 although these sizes are not listed in the specification.

ALPHA NO.	NOM. I.D. WHEN ROUNDED	BRAID CONSTRUCTION AWG OF INDIV. ENDS	CARRIERS	TOTAL NO. OF INDIV. ENDS	APPROX. AWG. EQUIV.	NOM. CIRCULAR MILLS	*CURRENT CARRYING CAPACITY (Amps)	PUT-UP CODE
2177	7/8"	30	48	336	5	33700	100.0	1 & 2
2178	1"	30	48	384	4	38600	120.0	1 & 2
2179	1 1/8"	30	48	432	4	43330	130.0	1 & 2
2180	1 1/4"	30	48	480	3	48150	145.0	1 & 2
2181	1 3/8"	30	48	528	3	53000	150.0	1 & 2
2182	1 1/2"	30	48	576	2	57775	165.0	1 & 2

PUT-UP CODE: 1—50 Ft. 2—100 Ft.

SILVER PLATED TUBULAR BRAID CONSTRUCTION TO MIL SPEC QQ-B-575

DESCRIPTION: A woven silver plated copper braid which is manufactured completely round as outlined in Mil Spec QQ-B-575. Each strand of the braid is soft drawn silver plated copper wire. The braid is self-supporting and maintains its round configuration. The percentage of shielding coverage is 95% or more when placed over a mandrel of an equivalent diameter to the inside braid diameter.

ALPHA NO.	NOM. I.D. WHEN ROUNDED	BRAID CONSTRUCTION AWG OF INDIV. ENDS	CARRIERS	TOTAL NO. OF INDIV. ENDS	APPROX. AWG. EQUIV.	NOM. CIRCULAR MILLS	*CURRENT CARRYING CAPACITY (Amps)	PUT-UP CODE
2190	1/32"	36	24	24	22	600	7.0	1-3
2191	1/16"	36	24	48	19	1200	11.0	1-3
2192	5/64"	36	24	72	18	1800	16.0	1-3
2193	7/64"	36	24	96	16	2400	19.0	1-3
2194	1/8"	36	24	120	15	3000	25.0	1-3
2195	5/32"	36	24	240	12	6000	40.0	1-3
2196	11/64"	36	24	168	14	4200	32.0	1-3
2197	13/64"	34	24	192	11	7640	46.0	1 & 2
2198	1/4"	36	24	384	10	9600	53.0	1 & 2

PUT-UP CODE: 1—50 Ft. 2—100 Ft. 3—250 Ft.

* Values shown are for bare cable in free air at 30°C (86°F) and intended as a reference guide only. Actual values will depend on permissible temperature rise, permissible voltage drop and other conditions of service.

PRICES

Alpha No.	Sugg. Resale per 250'
2160	8.25
2162	16.09
2163	18.57
2164	25.99
2166	27.06
2167	49.50
2168	35.07

Alpha No.	Sugg. Resale per 100'
2170	22.70
2171	29.86
2171/1	31.18
2172	30.36
2173	50.32
2174	43.56
2175	75.90
2175/1	119.46
2176	59.40
2177	79.53
2178	89.76
2179	94.05
2180	105.60
2181	122.59
2182	131.83

Alpha No.	Sugg. Resale per 100'
2190	7.26
2191	12.87
2192	16.92
2193	23.10
2194	24.75
2195	47.02
2196	35.14
2197	66.00
2198	88.32

alpha

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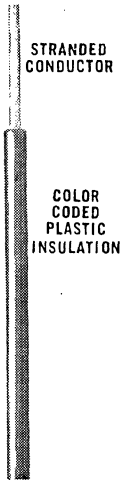
U.L. Approved Hook-Up Wire



DESCRIPTION: Stranded tinned copper, color coded polyvinylchloride insulation.

CHARACTERISTICS: Temperature rating (−10°C to +80°C, 300 V) (−10°C to +105°C, 600 V). Resistant to acids, alkalis, oil, flame, moisture and fungus.

300 VOLT 80°C – STYLE No. 1007

ALPHA NO.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. O.D.
3050	24	7/32	.057″
3051	22	7/30	.065″
3053	20	10/30	.071″
3055	18	16/30	.080″
3057	16	26/30	.095″

* STOCK COLORS: 1-19

1—White
2—Black
3—Red
4—Green
5—Yellow
6—Light Blue
7—Brown
8—Orange
9—Gray (slate)
10—Violet (purple)
11—White Black
12—White Red
13—White Green
14—White Yellow
15—White Blue
16—White Brown
17—White Orange
18—White Gray
19—White Violet

*Other striped color — combinations to order

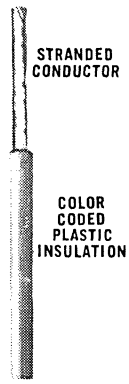
600 VOLT* 105°C - STYLE No. 1015

ALPHA NO.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. O.D.
3071	22	7/30	.095″
3073	20	10/30	.102″
3075	18	16/30	.112″
3077	16	26/30	.125″
3079	14	41/30	.142″

* STOCK COLORS: 1-10

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

U.L. Semi-Rigid Business Machine Wire



DESCRIPTION: Stranded tinned copper, color coded semi-rigid polyvinylchloride insulation.

CHARACTERISTICS: Temperature rating −10°C to +80°C, 300 volts in business machine or electronic computers only.

APPLICATIONS: Internal wiring of computers, electric bookkeeping, accounting machines, and other office and control equipment.

300 VOLT 80°C — STYLE No. 1061

ALPHA NO.	CONDUCTOR SIZE	CONDUCTOR STRAND	NOM. WALL THICKNESS	NOM. O.D.
3250	24	7/32	.009″	.042″
3251	22	7/30	.009″	.048″
3252	20	7/28	.009″	.056″

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT. 5000 FT.

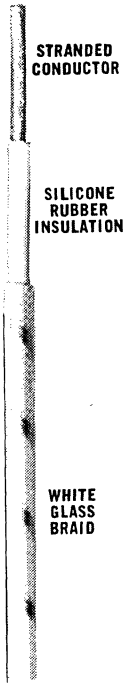
STOCK COLORS

1—White
2—Black
3—Red
4—Green
5—Yellow
6—Blue
7—Brown
8—Orange
9—Gray
10—Violet

*Other striped color combinations available to order.

U.L. Silicone Rubber Appliance and Fixture Wire

NEW



300 VOLT 80°C — STYLE No. 1061

DESCRIPTION: Stranded tinned copper conductor, silicone rubber insulation, impregnated white fiberglass braid overall.

CHARACTERISTICS: Resistant to abrasion, oil, moisture, and fungus.

APPLICATIONS: For wiring all types of lighting fixtures and other high wattage devices.

MAXIMUM OPERATING TEMPERATURE +200°C (392°F)

ALPHA NO.	N.E.C. TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	INSULATION WALL (64ths)	VOLTAGE RATING (Volts)	NOM. O.D. (Inches)	NET WT. LBS. PER M/FT.
6124	SF-2	18	7/26	2	600	.13	12
6125	SF-2	16	7/24	2	600	.14	16
6126	SF-2	14	7/22	2	600	.16	22
6127	—	12	19/25	2	600	.18	32
6128	—	10	41/26	3	600	.24	52

MAXIMUM OPERATING TEMPERATURE +150°C (302°F)

6129	—	22*	7/30	1	300	.08	5
6130	—	22*	7/30	2	600	.11	8
6131	—	20*	10/30	1	300	.09	7
6132	—	20*	10/30	2	600	.12	9
6133	SFF-1	18	16/30	1	300	.10	9
6134	SFF-2	18	16/30	2	600	.13	12
6135	SFF-2	16	26/30	2	600	.14	16
6136	SFF-2	14	41/30	2	600	.16	22
6137	—	12	41/28	2	600	.18	32

* Listed by U/L for radio hookup wire. **STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.**

PRICES

Alpha No.	Sugg. Resale per 1000′
3050	8.46
3051	10.56
3053	11.13
3055	15.21
3057	23.82
3071	12.78
3073	14.89
3075	20.04
3077	26.56
3079	37.45
3250	12.37
3251	13.62
3252	16.26
6124	247.50
6125	316.80
6126	396.00
6127	485.10
6128	990.00
6134	257.40
6135	321.75
6136	396.00
6137	470.25

alpha

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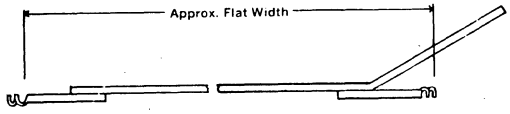
ALPHLEX® ZIPPER TUBING

DESCRIPTION Alphlex Zipper Tubing is the all purpose modern way to harness, cover and protect cables. Just zip to close — and zip to reopen. If you wish, it may be permanently sealed with PB-200 Special Compound Liquid Sealer. Alphlex Zipper Tubing is strong, flexible, durable, and offers new freedom in design, production and repair.

APPLICATIONS To shield, to harness wire, to custom-cable to any length, to enclose, to encase, to identify (such as cable markers), to protect, to replace worn jackets.

TYPES OF ZIPPER TUBING

TYPE	MATERIAL	WALL THICKNESS (Inches)	OPER. TEMP.	APPLICATIONS	STOCK COLORS	STANDARD PUT-UPS
ZIP-31	Polyvinyl-chloride made from MIL-I-631 D, GRADE C Materials	.020	−20° C to 105 C	All Purpose Type	Clear Black Yellow	25' 50' 100' 25' 50' 100' 25' 50' 100'
ZIP-31M	Polyvinyl-chloride made from MIL-I-631 D, GRADE C Materials	.040	−20° C to 105° C	Heavy Duty Constructions	Clear Black	100' 100'
ZIP-44	Polyvinyl-chloride made from MIL-I-7444 B Materials	.020	−67° C to 70° C	Extreme Flexibility, Low Temperature & Aircraft industry	Clear Black	100' 100'
ZIP-50	Polyvinyl-chloride "sandwich" of aluminum foil laminated between two sheets of polyvinyl	.040	−20° C to 105° C	100% RF shielding	Silver-Grey	100'



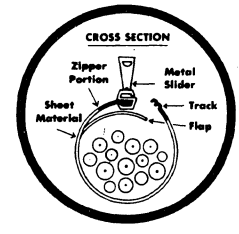
ZIPPER SPECIFICATIONS FOR ALL TYPES OF ALPHLEX ZIPPER TUBING

Material	Polyvinylchloride	Cold Brittleness	−86° C
Track Thickness (when closed)	.095"	Fungus-proof	will not support fungus
Dielectric Strength, V/mil	759	Flammability	self-extinguishing
Tensile Strength-P.S.I.	3810	Lateral Pull Strength (unsealed)	42.7 pounds/inch
Ultimate Elongation	255%	Lateral Pull Strength (permanently sealed)	59.8 pounds/inch
Operating Temperature, Upper Limit	106° C	Standard Colors	Black, Clear, Yellow

Contrasting color combinations of zipper and body are available to order. The zipper portion can be supplied in any of the following colors: Black, Yellow, Clear, Blue, White, Brown, Purple, Red, Orange, Green, Slate.

STANDARD SIZES FOR ALL ZIPPER TUBING

Zipper Tubing Inside Diameter	Approx. Flat Width (From track to track — excluding flap)
*1/16"	1 5/16"
*3/16"	1 3/8"
1/8"	2"
5/16"	2 1/8"
3/4"	2 3/4"
7/16"	3 1/8"
1"	3 5/16"
1 1/8"	3 15/16"
1 1/4"	4 1/8"
1 1/2"	4 7/8"
1 3/4"	5 5/8"
2"	6 3/8"



Because of small Inside Diameter, these sizes cannot be closed by using the slider. The tracks must be closed by manual pressure.

HOW TO ORDER
Select the type of Zipper Tubing desired from the chart and the required Inside Diameter. When ordering, request as follows: For example, ZIP-31 Tubing in 1/8" Inside Diameter order — ZIP-31 — 1/8.

PRICES

Alpha No.	Sugg. Resale per 100'
ZIP-31—1/4"	36.00
ZIP-31—3/8"	37.00
ZIP-31—1/2"	37.50
ZIP-31—5/8"	38.00
ZIP-31—3/4"	38.50
ZIP-31—7/8"	39.50
ZIP-31—1"	40.00
ZIP-31—1 1/8"	41.50
ZIP-31—1 1/4"	42.00
ZIP-31—1 1/2"	43.50
ZIP-31—1 3/4"	45.00
ZIP-31—2"	46.00

Alpha No.		Sugg. Resale
LC-113—White	1/2 lb.	4.73
LC-113—Black	1/2 lb.	5.51
LC-114—White	1/2 lb.	4.73
LC-114—Black	1/2 lb.	5.51
LC-115—White	1/2 lb.	4.73

Alpha No.		Sugg. Resale
LC-115—Black	1/2 lb.	5.51
LC-132—White	500 yd.	8.45
LC-132—Black	500 yd.	9.14
LC-134—White	500 yd.	5.41
LC-134—Black	500 yd.	6.09

Alpha No.		Sugg. Resale
LC-136—White	500 yd.	8.45
LC-136—Black	500 yd.	9.14
LC-140—White	500 yd.	8.45
LC-140—Black	500 yd.	9.14
LC-143—White	500 yd.	8.45

Alpha No.		Sugg. Resale
LC-143—Black	500 yd.	9.14
LC-158—White	500 yd.	8.45
LC-158—Black	500 yd.	9.14
LC-162—White	500 yd.	8.45
LC-162—Black	500 yd.	9.14

Alpha No.	Sugg. Resale per 1000'
PVC-105/24	13.00
PVC-105/22	13.10
PVC-105/20	13.50
PVC-105/18	13.80
PVC-105/17	14.00
PVC-105/16	14.60
PVC-105/15	14.90

Alpha No.	Sugg. Resale per 500'
PVC-105/14	9.95
PVC-105/13	10.20
PVC-105/12	10.70
PVC-105/11	11.05
PVC-105/10	11.55
PVC-105/9	15.70
PVC-105/8	16.95
PVC-105/7	18.10
PVC-105/6	19.55
PVC-105/5	21.15
PVC-105/4	13.75
PVC-105/3	14.70

Alpha No.	Sugg. Resale per 100'
PVC-105/2	6.91
PVC-105/1	7.42
PVC-105/0	7.98
PVC-105/3/16	9.42
PVC-105/3/8	10.81
PVC-105/7/16	11.58
PVC-105/1/2	12.77
PVC-105/9/16	17.00
PVC-105/5/8	18.38

Alpha No.	Sugg. Resale per 50'
PVC-105/3/4	12.67
PVC-105/7/8	14.25
PVC-105/1	15.92
PVC-105/1 1/8	20.88
PVC-105/1 1/4	22.07
PVC-105/1 3/8	23.59
PVC-105/1 1/2	28.60
PVC-105/1 3/4	35.66
PVC-105/2	49.00
PVC-105/2 1/4	58.26
PVC-105/2 1/2	69.07

ALPHLEX® ELECTRONIC LACING CORDS AND TAPES

MIL-T-713A NYLON TWISTED CORD

ALPHA NO.	CLASS	TYPE	BREAKING STRENGTH	FINISH	NOMINAL DIAMETER	STOCK COLORS	YARDS PER POUND	STANDARD PUT-UP
LC-113	I	P Twine	70 lbs.	MW	.050"	Wh., Blk.	560	8 oz. spls.
LC-114	II	P Twine	48 lbs.	MW	.035"	Wh., Blk.	750	8 oz. spls.
LC-115	III	P Twine	32 lbs.	MW	.030"	Wh., Blk.	1180	8 oz. spls.

MIL-T-713A NYLON FLAT BRAIDED TAPE

ALPHA NO.	CLASS	TYPE	BREAKING STRENGTH	NOMINAL WIDTH	NOMINAL THICKNESS	FINISH	STOCK COLORS	STANDARD PUT-UP
LC-136	II	P Tape	50 lbs.	.090" (3/32")	.014"	MW	Wh., Blk.	500 yd. spls.

NYLON FLAT BRAIDED TAPE

ALPHA NO.	WIDTH	THICKNESS	TENSILE STRENGTH	FINISH	STOCK COLORS	STANDARD PUT-UP
LC-132	3/32"	.014"	50 lbs.	GE	Wh., Blk.	500 yd. tubes
LC-134	1/16"	.010"	30 lbs.	MW	Wh., Blk.	500 yd. spls.
LC-136	3/32"	.014"	50 lbs.	MW	Wh., Blk.	500 yd. spls.
LC-140	3/32"	.014"	50 lbs.	SR	Wh., Blk.	500 yd. spls.
LC-143	3/32"	.014"	50 lbs.	AM	Wh., Blk.	500 yd. spls.

DACRON FLAT BRAIDED TAPE

ALPHA NO.	WIDTH	THICKNESS	TENSILE STRENGTH	FINISH	STOCK COLORS	STANDARD PUT-UP
LC-158	3/32"	.014"	50 lbs.	GE	Wh., Blk.	500 yd. tubes
LC-162	3/32"	.014"	50 lbs.	MW	Wh., Blk.	500 yd. spls.

Other materials, finishes and sizes available to order.

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Alphlex® Polyvinylchloride Plastic Tubing (PVC-105)

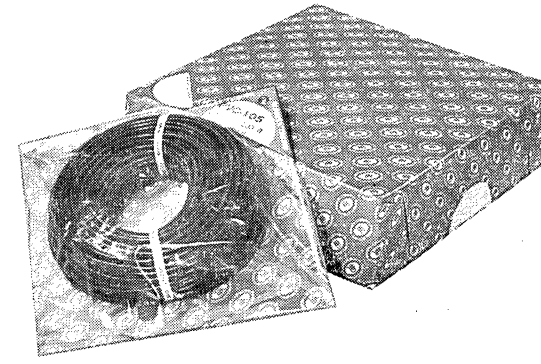
CONFORMS TO MIL-I-631D †

DESCRIPTION: The superior mechanical, thermal, and electrical properties of Alphlex PVC-105, coupled with its economical cost have led to an ever increasing use of this all-purpose insulating material. Another major advantage of Alphlex PVC-105 is its high degree of flexibility, which is maintained even under severe environmental conditions.

Rated for temperatures as high as 105°C, PVC-105 has a high dielectric strength that remains unaffected by increasing temperature throughout its range. PVC-105 maintains a high resistance to the agents of heat, oil, chemical corrosion and fungi with no loss in tensile strength, or flexibility. Other features include an exceptional resistance to abrasion and indefinite shelf life.

Alphlex PVC-105 is compounded with first quality, non-migratory resinous type plasticizers. Carefully selected stabilizers and modifiers added in the manufacturing process, counteract chemical and environmental degradation. Under adverse conditions Alphlex PVC-105 retains its flexibility which permits it to cling to and protect irregular shapes. An unusually simple to handle insulating material, PVC-105 "snakes" well under all environmental conditions.

APPLICATIONS: Designed and manufactured for general electronic, aircraft and electrical applications involving temperatures as high as 105°C. Especially useful to protect wires and cables subject to abrasion or where a flexible tubing with a high degree of resistivity to oil, chemicals or solvents is necessary.



DIMENSIONS CHART

ALPHLEX NUMBER	SIZE	NOM. INSIDE DIA. (Inch.)	NOM. WALL THICK-NESS (Inch.)	*STOCK COLORS	STANDARD PUT-UPS
PVC-105/24	24	.022	.013	1 - 6	100′, 500′, 1000′ Spools
PVC-105/22	22	.027	.012	1 - 6	100′, 500′, 1000′ Spools
PVC-105/20	20	.034	.016	1 - 6	100′, 500′, 1000′ Spools
PVC-105/19	19	.038	.016	1 - 6	100′, 500′, 1000′ Spools
PVC-105/18	18	.042	.016	1 - 6	100′, 500′, 1000′ Spools
PVC-105/17	17	.047	.016	1 - 6	100′, 500′, 1000′ Spools
PVC-105/16	16	.053	.016	1 - 6	100′, 500′, 1000′ Spools
PVC-105/15	15	.059	.016	1 - 6	100′, 500′, 1000′ Spools
PVC-105/14	14	.066	.016	1 - 6	100′, 500′, — Spools
PVC-105/13	13	.076	.016	1 - 6	100′, 500′, — Spools
PVC-105/12	12	.085	.016	1 - 6	100′, 500′, — Spools
PVC-105/11	11	.095	.016	1 - 6	100′, 500′, — Spools
PVC-105/10	10	.106	.016	1 - 6	100′, 500′, — Spools
PVC-105/9	9	.118	.020	1 - 6	100′, 500′, — Spools
PVC-105/8	8	.133	.020	1 - 6	100′, 500′, — Spools
PVC-105/7	7	.148	.020	1 - 6	100′, 500′, — Spools
PVC-105/6	6	.166	.020	1 - 6	100′, 500′, — Spools
PVC-105/5	5	.186	.020	1 - 6	100′, 500′, — Spools
PVC-105/4	4	.208	.020	1 - 6	100′, 250′, — Coils
PVC-105/3	3	.234	.020	1 - 6	100′, 250′, — Coils

ALPHLEX NUMBER	SIZE	NOM. INSIDE DIA. (Inch.)	NOM. WALL THICK-NESS (Inch.)	*STOCK COLORS	STANDARD PUT-UPS
PVC-105/2	2	.263	.020	1 - 6	100′, 250′ Coils
PVC-105/1	1	.294	.020	1,2,3	100′, 250′ Coils
PVC-105/0	0	.330	.020	1,2,3	100′, 250′ Coils
PVC-105/5/16″	5/16″	.312	.025	1,2,3	100′, 250′ Coils
PVC-105/3/8″	3/8″	.375	.025	1,2,3	100′, 250′ Coils
PVC-105/7/16″	7/16″	.438	.025	1,2,3	25′, 100′, — Coils
PVC-105/1/2″	1/2″	.500	.025	1,2,3	25′, 100′, — Coils
PVC-105/9/16″	9/16″	.562	.030	1,2,3	25′, 100′, — Coils
PVC-105/5/8″	5/8″	.625	.030	1,2,3	25′, 100′, — Coils
PVC-105/3/4″	3/4″	.750	.035	1,2,3	25′, 50′, — Coils
PVC-105/7/8″	7/8″	.875	.035	1,2,3	25′, 50′, — Coils
PVC-105/1″	1″	1.000	.035	1,2,3	25′, 50′, — Coils
PVC-105/1 1/8″	1 1/8″	1.125	.035	1,2	25′, 50′, — Coils
PVC-105/1 1/4″	1 1/4″	1.250	.040	1,2	25′, 50′, — Coils
PVC-105/1 3/8″	1 3/8″	1.375	.040	1,2	25′, 50′, — Coils
PVC-105/1 1/2″	1 1/2″	1.500	.045	1,2	25′, 50′, — Coils
PVC-105/1 3/4″	1 3/4″	1.750	.055	1,2	25′, 50′, — Coils
PVC-105/2″	2″	2.000	.060	1,2	25′, 50′, — Coils
PVC-105/2 1/4″	2 1/4″	2.250	.065	1,2	25′, 50′, — Coils
PVC-105/2 1/2″	2 1/2″	2.500	.070	1,2	25′, 50′, — Coils

*** STOCK COLORS** 1—Clear 2—Black 3—White 4—Yellow 5—Red 6—Green

† **MIL-I-631D, Type F, Form U, Grade C, Class I, Category 1**

ALPHA WIRE

Sold Nationally to Electronic Parts Distributors by; Loral Distributor Products, a Division of Loral Corporation

Alphlex® Teflon Extruded Tubing

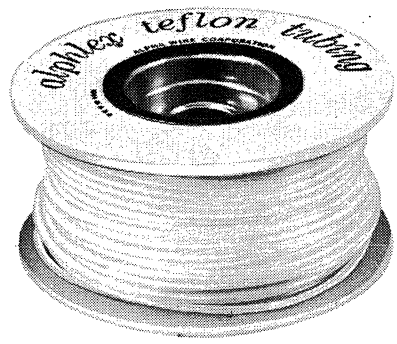
CONFORMS TO MIL-I-22129B

DESCRIPTION: Alphlex Teflon Tubing is unmatched by any other type of tubing for use in electrical applications at high frequencies and temperatures. Teflon is rated for continuous operation at 250°C, and retains an exceptional toughness and its flexibility throughout its temperature range.

Alphlex Teflon Tubing has the further advantage of a high degree of resistance to flexural fatigue and repetitive stresses; coefficient of friction lower than that of any other known solid; and a dielectric constant and power factor lower than that of any other known solid. This tubing will not crack or become brittle during aging.

Because of its resistance to soldering iron temperature, Alphlex Teflon Tubing will not shrink back during the soldering process. Alphlex Teflon Tubing will not melt and flow as do conventional thermoplastic materials. At high frequencies, its dielectric strength is many times that of other insulating materials.

Alphlex Teflon Tubing is chemically inert, has zero moisture absorption and its insulation resistance properties are unaffected by heat aging or temperature use up to 250°c.



APPLICATIONS: A thin flexible insulation, Alphlex Teflon Tubing permits a miniaturization and compactness of design never before possible. Invaluable in any application where a high heat resistant, flexible, non-flammable, chemical solvent and corrosion-resistant material is required.

ALPHLEX® THIN WALL TEFLON TUBING (TFT-200)

ALPHLEX NUMBER	SIZE	NOM. INSIDE DIA. (Inch.)	NOM. WALL THICK-NESS (Inch.)	STOCK COLORS	STANDARD PUT-UPS
TFT-200/30	30	.012	.009	Nat., Yel., Blk., Red	100′ Spools
TFT-200/28	28	.015	.009	Nat., Yel., Blk., Red	100′ Spools
TFT-200/26	26	.018	.010	Nat., Yel., Blk., Red	100′ Spools
TFT-200/24	24	.022	.010	Nat., Yel., Blk., Red	100′ Spools
TFT-200/22	22	.027	.010	Nat., Yel., Blk., Red	100′ Spools
TFT-200/20	20	.034	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/19	19	.038	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/18	18	.042	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/17	17	.047	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/16	16	.053	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/15	15	.059	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/14	14	.066	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/13	13	.076	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/12	12	.085	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/11	11	.095	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/10	10	.106	.012	Nat., Yel., Blk., Red	100′ Spools
TFT-200/9	9	.118	.015	Nat., Yel., Blk., Red	100′ Coils*
TFT-200/8	8	.133	.015	Nat., Yel., Blk., Red	100′ Coils*
TFT-200/7	7	.148	.015	Natural Only	100′ Coils*
TFT-200/6	6	.166	.015	Natural Only	100′ Coils*
TFT-200/5	5	.186	.015	Natural Only	100′ Coils*
TFT-200/4	4	.208	.015	Natural Only	100′ Coils*
TFT-200/3	3	.234	.015	Natural Only	100′ Coils*
TFT-200/2	2	.263	.015	Natural Only	100′ Coils*
TFT-200/1	1	.294	.015	Natural Only	100′ Coils*
TFT-200/0	0	.330	.015	Natural Only	100′ Coils*

*** RANDOM LENGTHS PACKED IN 100′ COILS**

ALPHLEX® STANDARD WALL TEFLON TUBING (TFT-250)

Similar in characteristics to TFT-200 (Thin Wall Tubing), but for use in application where additional dielectric values and mechanical strength are necessary.

ALPHLEX NUMBER	SIZE	NOM. INSIDE DIA. (Inch.)	NOM. WALL THICK-NESS (Inch.)	STOCK COLORS	STANDARD PUT-UPS
TFT-250/24	24	.022	.012	Natural Only	100′ Spools
TFT-250/22	22	.027	.012	Natural Only	100′ Spools
TFT-250/20	20	.034	.016	Natural Only	100′ Spools
TFT-250/19	19	.038	.016	Natural Only	100′ Spools
TFT-250/18	18	.042	.016	Natural Only	100′ Spools
TFT-250/17	17	.047	.016	Natural Only	100′ Spools
TFT-250/16	16	.053	.016	Natural Only	100′ Spools
TFT-250/15	15	.059	.016	Natural Only	100′ Spools
TFT-250/14	14	.066	.016	Natural Only	100′ Spools
TFT-250/13	13	.076	.016	Natural Only	100′ Spools
TFT-250/12	12	.085	.016	Natural Only	100′ Spools
TFT-250/11	11	.095	.016	Natural Only	100′ Spools
TFT-250/10	10	.106	.016	Natural Only	100′ Spools
TFT-250/9	9	.118	.020	Natural Only	100′ Coils*
TFT-250/8	8	.133	.020	Natural Only	100′ Coils*
TFT-250/7	7	.148	.020	Natural Only	100′ Coils*
TFT-250/6	6	.166	.020	Natural Only	100′ Coils*
TFT-250/5	5	.186	.020	Natural Only	100′ Coils*
TFT-250/4	4	.208	.020	Natural Only	100′ Coils*
TFT-250/3	3	.234	.020	Natural Only	100′ Coils*
TFT-250/2	2	.263	.020	Natural Only	100′ Coils*
TFT-250/1	1	.294	.020	Natural Only	100′ Coils*
TFT-250/0	0	.330	.020	Natural Only	100′ Coils*

*** RANDOM LENGTHS PACKED IN 100′ COILS**

PRICES

Alpha No.	Sugg. Resale per 100′
TFT-200/30	9.00
TFT-200/28	8.00
TFT-200/26	7.70
TFT-200/24	7.70
TFT-200/22	9.50
TFT-200/20	12.00
TFT-200/19	12.50
TFT-200/18	12.98
TFT-200/17	14.18
TFT-200/16	14.53
TFT-200/15	14.58
TFT-200/14	16.04
TFT-200/13	17.17
TFT-200/12	18.48
TFT-200/11	20.45
TFT-200/10	22.04
TFT-200/9	24.95
TFT-200/8	27.52
TFT-200/7	29.45
TFT-200/6	31.82
TFT-200/5	34.85
TFT-200/4	38.10
TFT-200/3	41.74
TFT-200/2	48.13
TFT-200/1	52.71
TFT-200/0	59.14
TFT-250/24	10.01
TFT-250/22	11.23
TFT-250/20	15.19
TFT-250/19	16.31
TFT-250/18	18.70
TFT-250/17	20.39
TFT-250/16	21.78
TFT-250/15	22.26
TFT-250/14	24.03
TFT-250/13	25.33
TFT-250/12	27.41
TFT-250/11	30.43
TFT-250/10	33.02
TFT-250/9	45.86
TFT-250/8	45.43
TFT-250/7	49.56
TFT-250/6	53.55
TFT-250/5	58.99
TFT-250/4	64.09
TFT-250/3	70.89
TFT-250/2	73.14
TFT-250/1	81.26
TFT-250/0	91.38

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Irradiated Polyolefin Tubing

NEW ALL-PURPOSE SHRINKABLE TUBING — FIT-221

- **SHRINKS 50% (2:1 RATIO) WITH ONLY 5% LONGITUDINAL SHRINKAGE**
- **FEWER SIZES COVERING MORE APPLICATIONS**
- **AVAILABLE TO MEET U.L. SPECIFICATIONS**
- **MEETS MIL-1-23053A (WEP)**
- **AMS SPECIFICATIONS 3636A (COLOR), 3637 (CLEAR)**

DESCRIPTION: Alphlex FIT-221 Shrinkable Tubing, when heated, forms a tight-mechanical bond, even over irregularly shaped materials. FIT-221 is available in a range of colors and in clear.

FIT-221 is an all-purpose polyolefin extruded tubing that is simple to use and provides a tight mechanical bond. FIT-221 is an irradiated, thermally stable, modified polyolefin base product. FIT-221 Clear may be used so that jacketed, printed components or cable data is clearly visible and inspection of insulated components, cables or terminations is simplified.

The tubing is supplied in an expanded form and easily slips over the object to be covered. When a temperature of approximately 275°F (135°C) is applied, it immediately returns to its predetermined size (approximately one-half smaller) and forms a permanent tight-fitting mechanical bond. FIT-221 Tubing will not cold-flow or melt but retains form stability throughout its temperature range. No radioactivity exists in or on the material and it will not emit radiation. Longitudinal shrinkage is 5% maximum when completely recovered.

Controlled shrinkage to the correct predetermined size takes place within seven seconds at 225°F to 255°F. Shrinkage will begin at 235°F, but at a somewhat slower rate. When using an oven, temperature may range from 235°F to 300°F. Prolonged exposure to these temperatures will not affect the physical or electrical properties of FIT-221 Shrinkable Tubing. FIT-221 Clear Tubing remains transparent over its entire operating range of −55°C to 135°C.

FLAMMABILITY: Although FIT-221 Clear is a high temperature material, it is flammable and will burn. However, when the tubing is shrunk over non-flammable or flame-resistant components, such as connectors, terminals and wire, the entire assembly will not support combustion.

All Types of FIT Tubing are available from stock and may be cut and/or marked to your specifications.

DIMENSIONS CHART

ALPHLEX NO. FIT-221	EQUIVALENT TO FIT-275/270	SIZE	MIN. I.D. BEFORE SHRINKAGE (Inches)	RECOVERED I.D. AFTER SHRINKAGE (Inches)	RECOVERED NOM. WALL THICKNESS (Inches)	STANDARD PACKAGE* 4′ LENGTHS TOT. FTG.	STANDARD PACKAGE* 4′ LENGTHS NO. OF LGTHS.	STANDARD PACKAGE* 6′ LENGTHS TOT. FTG.	STANDARD PACKAGE* 6′ LENGTHS NO. OF LGTHS.
FIT-221-3/64″	FIT-275-24	3/64	.046	.023	.016	100′	25	20′	40
FIT-221-1/16″	FIT-275-22, 20	1/16	.063	.031	.017	100′	25	18′	36
FIT-221-3/32″	FIT-275-18, 16	3/32	.093	.046	.020	100′	25	16′	32
FIT-221-1/8″	FIT-275-14	1/8	.125	.062	.020	100′	25	14′	28
FIT-221-3/16″	FIT-275-12, 10	3/16	.187	.093	.020	100′	25	12′	24
FIT-221-1/4″	FIT-275-8	1/4	.250	.125	.025	100′	25	10′	20
FIT-221-3/8″	FIT-275-6, 4	3/8	.375	.187	.025	100′	25	8′	16
FIT-221-1/2″	FIT-275-2, 5/16″	1/2	.500	.250	.025	20′	5	7′	14
FIT-221-3/4″	FIT-275-3/8″, 7/16″	3/4	.750	.375	.030	20′	5	6′	12
FIT-221-1″	FIT-275-1/2″, 5/8″	1	1.000	.500	.035	20′	5	4′	8
FIT-221-1 1/2″	FIT-275-3/4″, 7/8″	1 1/2	1.500	.750	.040	20′	5	2.5′	5
FIT-221-2″	FIT-275-1″, 1 1/4″	2	2.000	1.000	.045	20′	5	1.5′	3
FIT-221-3″	FIT-275-1 1/2″, 1 3/4″	3	3.000	1.500	.050	8′	2	1′	2
FIT-221-4″	FIT-275-2″	4	4.000	2.000	.055	8′	2	.5′	1

STOCK COLORS — Black White, Red, Yellow, Blue, and Clear

*STANDARD PACKAGE FIT-221 Tubing is available ONLY in the specified packages. When ordering, indicate package desired (6 inches or 4 foot).

For Details On Alpha's Complete Line Of Shrinkable Tubing – Write For Alpha Catalog.

ALPHA WIRE MFG.

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Irradiated Polyvinylchloride Tubing FIT-105

All Types of FIT Tubing are available from stock and may be cut and/or marked to your specifications.

HIGHLY FLEXIBLE — IDEAL FOR CABLE JACKETING

Conforms to MIL-1-631D, Type F, Form U, Grade C, Class 1, Cat. 1

SHRINKAGE RATIO 2:1 (50% Shrinkage)

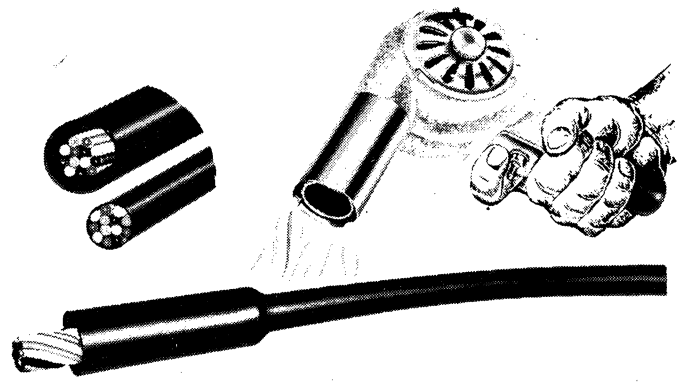
DESCRIPTION: Alphlex FIT-105 is an easy-to-use modified polyvinylchloride that provides a snug, extremely flexible insulation.

Because of its flexibility, strength and its ability to shrink 50% on application of heat, FIT-105 is ideally suited for insulating components and cables with a wide variation in shape and diameter.

Because of the 50% expanded diameter of FIT-105 Tubing, it is an extremely useful cable jacketing material. Cable cores may be pulled through FIT-105 Tubing with comparative ease and shrunk down to form a jacket with all the qualities of the finest extruded plastic jackets.

The tubing is supplied in expanded form and in continuous lengths. When a temperature of approximately 347°F (175°C) is applied, Alphlex FIT-105 Tubing immediately returns to its predetermined size (approximately 50% smaller), and forms a permanent, tight-fitting mechanical bond. FIT-105 Tubing will not cold-flow or melt but retains form stability within its temperature range. No radioactivity exists in or on the material and it will not emit radiation. Longitudinal shrinkage is less than 10%.

Controlled shrinkage to the correct predetermined size takes place within seven seconds at 325°F, or above. When using an oven, temperature may range from 325°F to 350°F.



DIMENSIONS CHART

ALPHLEX NO. (BLACK ONLY)	SIZE (Inches)	MINIMUM I.D. BEFORE SHRINKING (Inches)	RECOVERED I.D. AFTER SHRINKING (Inches)	NOMINAL WALL THICKNESS (Inches)	STANDARD PUT-UP (Feet)
FIT-105-3/64	3/64	.046	.023	.020	25, 100, 500
FIT-105-1/16	1/16	.062	.031	.020	25, 100, 500
FIT-105-3/32	3/32	.093	.046	.020	25, 100, 200
FIT-105-1/8	1/8	.125	.062	.025	25, 100, 200
FIT-105-3/16	3/16	.187	.093	.025	25, 100, 200
FIT-105-1/4	1/4	.250	.125	.025	25, 100, 200
FIT-105-3/8	3/8	.375	.187	.030	25, 100, 200
FIT-105-1/2	1/2	.500	.250	.030	25, 100
FIT-105-3/4	3/4	.775	.375	.035	25, 100
FIT-105-1	1	1.000	.500	.040	25, 100
FIT-105-1 1/2	1 1/2	1.500	.750	.045	25, 100
FIT-105-2	2	2.000	1.000	.050	10, 25, 50

STOCK COLOR — BLACK

LONG LENGTHS — MAXIMUM THREE LENGTHS PER PUT-UP.

PRICES

Alpha No.	Footage	Sugg. Resale
FIT-105—3/64	500	31.75
FIT-105—3/64	100	9.15
FIT-105—3/64	25	2.95
FIT-105—1/16	500	33.25
FIT-105—1/16	100	9.50
FIT-105—1/16	25	3.06
FIT-105—3/32	200	20.30
FIT-105—3/32	100	10.90
FIT-105—3/32	25	3.48
FIT-105—1/8	200	21.50
FIT-105—1/8	100	11.50
FIT-105—1/8	25	3.65
FIT-105—3/16	200	26.30
FIT-105—3/16	100	13.90
FIT-105—3/16	25	4.35
FIT-105—1/4	200	33.00
FIT-105—1/4	100	17.25
FIT-105—1/4	25	5.33
FIT-105—3/8	200	36.50
FIT-105—3/8	100	19.00
FIT-105—3/8	25	5.84
FIT-105—1/2	100	20.75
FIT-105—1/2	25	6.58
FIT-105—3/4	100	27.75
FIT-105—3/4	25	8.61
FIT-105—1	100	40.00
FIT-105—1	25	12.20
FIT-105—1 1/2	100	65.75
FIT-105—1 1/2	25	19.73
FIT-105—2	50	56.60
FIT-105—2	25	28.80
FIT-105—2	10	11.57

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Reference
Bulletin E67P-1T
July 17, 1967

Trade Number Length in ft.	Suggested Trade Price Each
8000-50	1.32
8000-75	1.91
8000-100	2.40
8000-1000	21.90
8002-50	.96
8002-100	1.65
8008-100	4.50
8008-150	6.40
8008-500	19.80
8009-100	2.85
8009-150	3.90
8009-500	11.55
8011-100	3.85
8012-100	2.55
8012-1000	21.45
8013-100	1.73
8013-1000	14.50
8014-25	.62
8014-500	3.60
8018-50	1.20
8018-500	9.75
8019-100	1.20
8019-1000	9.00
8020-100	.93
8020-1000	6.40
8021-100	.78
8021-1000	4.65
8022-100	.77
8022-1000	3.96
8023-100	.75
8023-1000	3.55
8024-100	.72
8024-1000	3.30
8025-100	.72
8025-1000	3.00
8040	.95
8041	1.01
8042	1.10
8043	1.16
8044	1.31
8045	1.67
8046	2.25
8047	1.26
8048	1.26
8049	1.29
8050	1.29
8051	1.29
8052	1.32
8053	1.38
8054	1.47
8055	1.64
8056	1.83
8057	1.95
8058	2.28
8059	1.29
8060	1.29
8061	1.32
8062	1.35
8063	1.37
8064	1.41
8065	1.49
8066	1.61
8067	1.79
8068	1.94
8069	2.19
8070	2.63
8071	3.11
8072	3.83
8073	2.16
8074	2.25
8075	2.37
8076	2.37
8077	2.37
8078	2.45
8079	2.61
8080	2.87
8081	3.23
8082	3.56
8083	4.14
8084	5.13
8085	6.18
8086	8.04
8150-98	.98
8151-98	.98
8152-98	.98
8153-98	.98
8154-98	.98
8155-98	.98
8156-98	.98
8157-98	.98
8158-98	.98
8159-98	.98
8160-98	.98
8161-98	.98
8162-98	.98
8163-98	.98
8164-98	.98
8165-98	.98
8166-98	.98
8167-98	.98
8168-98	.98
8169-98	.98
8170-98	.98
8171-98	.98
8172-98	.98
8173-98	.98
8174-98	.98
8175	1.50 per pkg.
8176	.39 per pkg.
8177	1.29 per pkg.
8178	1.32 per pkg.
8179	1.35 per pkg.
8180	1.26 per pkg.
8181	2.40 per pkg.
8190	.98
8191	.98
8196	2.95
8197	11.25
8198	30.40
8199	67.60
8201-100	4.50
8201-500	18.60
8201-1000	37.20
8205-100	3.10
8205-500	11.40
8205-1000	22.80
8208-100	7.90
8208-500	34.80
8208-1000	69.60
8210-100	7.80
8210-250	18.15
8211-500	23.65
8211-1000	47.30
8211-2000	94.60
8212-500	23.65
8212-1000	47.30
8212-2000	94.60
8213-500	62.25
8213-1000	124.50
8213-2000	249.00
8214-50	8.25
8214-100	15.30
8214-250	30.75
8214-500	61.50
8214-1000	123.00

Trade Number Length in ft.		Suggested Trade Price Each
8215-100		12.25
8215-500		53.10
8215-1000		106.20
8216-100	(RG-174/U)	3.75
8216-500	(RG-174/U)	13.80
8216-1000	(RG-174/U)	27.60
8217-100	TBO (Use	5.70
8217-500	8221)	22.05
8217-1000		44.10
8218-100		5.25
8218-500		19.35
8218-1000		38.70
8219-100		6.00
8219-500		23.25
8219-1000		46.50
8221-100		6.30
8221-500		21.30
8221-1000		42.60
8222-100		1.80
8222-500		8.10
8225-25		.78
8225-50		1.20
8225-75		1.56
8225-100		1.97
8225-250		4.85
8225-500		9.15
8225-1000		17.70
8225-T1000		17.70
8226-25		.78
8226-50		1.20
8226-75		1.56
8226-100		1.97
8227-500		53.25
*8228-100		6.30
*8228-500		20.70
*8228-1000		41.40
8230-25		.89
8230-50		1.34
8230-75		1.77
8230-100		2.22
8230-250		5.50
8230-500		10.65
8230-1000		20.35
8230-T1000		20.35
8232-500		45.75
8232-1000		91.50
8232-2000		183.00
8233-500		88.95
8233-1000		177.90
8233-2000		355.80
8235-100		5.35
8235-500		24.30
8237-50	(RG-8/U)	7.35
8237-100	(RG-8/U)	13.75
8237-250	(RG-8/U)	29.10
8237-500	(RG-8/U)	55.20
8237-1000	(RG-8/U)	110.40
8238-100	(RG-11/U)	11.85
8238-250	(RG-11/U)	27.60
8238-500	(RG-11/U)	47.55
8238-1000	(RG-11/U)	95.10
8239-500	(RG-54A/U)	39.40
8239-1000	(RG-54A/U)	78.80
8240-25	(RG-58/U)	1.82
8240-50	(RG-58/U)	2.85
8240-100	(RG-58/U)	4.95
8240-250	(RG-58/U)	10.70
8240-500	(RG-58/U)	18.30
8240-1000	(RG-58/U)	36.60
8241-25	(RG-59/U)	2.04
8241-50	(RG-59/U)	3.25
8241-100	(RG-59/U)	5.75
8241-250	(RG-59/U)	12.90
8241-500	(RG-59/U)	19.95
8241-1000	(RG-59/U)	39.90
8242-100	(RG-9/U)	35.85
8242-1000	(RG-9/U)	330.75
8243-500	(RG-9B/U)	211.50
8243-1000	(RG-9B/U)	423.00
8245-500	(RG-55/U)	38.20

Trade Number Length in ft.		Suggested Trade Price Each
8245-1000	(RG-55/U)	76.40
8254-100	(RG-62/U)	6.45
8254-500	(RG-62/U)	24.00
8254-1000	(RG-62/U)	48.00
8255-500	(RG-62B/U)	27.60
8255-1000	(RG-62B/U)	55.20
8257-500	(RG-71/U)	39.75
8257-1000	(RG-71/U)	79.50
8258-500	(RG-71B/U)	38.20
8258-1000	(RG-71B/U)	76.40
8259-25	(RG-58A/U)	2.06
8259-50	(RG-58A/U)	3.15
8259-100	(RG-58A/U)	5.85
8259-500	(RG-58A/U)	21.30
8259-1000	(RG-58A/U)	42.60
8261-100	(RG-11A/U)	13.00
8261-500	(RG-11A/U)	55.15
8261-1000	(RG-11A/U)	110.30
8262-500	(RG-58C/U)	23.25
8262-1000	(RG-58C/U)	46.50
8263-500	(RG-59B/U)	25.65
8263-1000	(RG-59B/U)	51.30
8264-500	(RG-5A/U)	135.45
8264-1000	(RG-5A/U)	270.90
8265-100•	(RG-178B/U)	13.90
8265-500•	(RG-178B/U)	136.50M'
8266-100•	(RG-180B/U)	38.25
8266-500•	(RG-180B/U)	342.00M'
8267-500	(RG-213/U)	60.75
8267-1000	(RG-213/U)	121.50
8268-500	(RG-214/U)	211.50
8268-1000	(RG-214/U)	423.00
8269-100•	(RG-188A/U)	28.35
8269-500•	(RG-188A/U)	257.25M'
8270-100•	(RG-196A/U)	19.20
8270-500•	(RG-196A/U)	160.50M'
8275-50		2.70
8275-75		3.80
8275-100		4.65
8275-250		11.05
8275-500		22.00
8275-1000		43.20
8279-100		9.45
8279-250		22.05
8279-500		40.95
8280§	(Cut to customer's specified length Maximum 1500')	799.50M'
8281-500		82.90
8281-1000		165.75
8282§	(Cut to customer's specified length Maximum 2000')	354.75M'
8283§	(Cut to customer's specified length Maximum 1000')	2895.00M'
8284§	(Cut to customer's specified length Maximum 1000')	981.00M'
8285-50		2.85
8285-75		3.85
8285-100		4.90
8285-250		11.65
8285-500		22.50
8285-1000		45.00
8286§	(Cut to customer's specified length Maximum 1000')	825.00M'
8290-50		5.95
8290-75		8.05
8290-100		10.15
8290-250		23.95
8290-500		47.90
8299-25		3.75 (25 per box)

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BELDEN • PRICE LIST

Trade Number Length in ft.		Suggested Trade Price Each
8300-25	† Solid Color	2.20
8300-100	†•Solid Color	5.55
8300-500	†•Solid Color	48.75M'
8300-1000	†•Solid Color	48.00M'
8300-1000	†•Striped▲	57.00M'
8301-25	† Solid Color	2.20
8301-100	†•Solid Color	5.70
8301-500	†•Solid Color	51.75M'
8301-1000	†•Solid Color	51.00M'
8301-1000	†•Striped▲	60.00M'
8302-25	† Solid Color	2.20
8302-100	†•Solid Color	5.85
8302-500	†•Solid Color	53.65M'
8302-1000	†•Solid Color	52.90M'
8302-1000	†•Striped▲	61.90M'
8303-25	† Solid Color	2.55
8303-100	†•Solid Color	7.20
8303-500	†•Solid Color	62.25M'
8304-25	† Solid Color	2.50
8304-100	†•Solid Color	6.45
8304-500	†•Solid Color	58.50M'
8304-1000	†•Solid Color	57.75M'
8304-1000	†•Striped▲	66.75M'
8305-25	† Solid Color	2.70
8305-100	†•Solid Color	7.80
8305-500	†•Solid Color	67.50M'
8305-1000	†•Solid Color	66.75M'
8305-1000	†•Striped▲	75.75M'
8306-25	† Solid Color	2.85
8306-100	†•Solid Color	8.10
8306-500	†•Solid Color	75.00M'
8306-1000	†•Solid Color	74.25M'
8306-1000	†•Striped▲	83.25M'
8307-25	† Solid Color	3.15
8307-100	†•Solid Color	9.60
8307-500	†•Solid Color	90.00M'
8307-1000	†•Solid Color	89.25M'
8307-1000	†•Striped▲	98.25M'
8308-25	† Solid Color	3.15
8308-100	†•Solid Color	9.45
8308-500	†•Solid Color	87.00M'
8309-25	† Solid Color	3.75
8309-100	†•Solid Color	11.55
8309-500	†•Solid Color	109.50M'
8309-1000	†•Solid Color	108.75M'
8309-1000	†•Striped▲	117.75M'
8310-25	† Solid Color	4.95
8310-100	†•Solid Color	14.10
8310-500	†•Solid Color	135.00M'
8310-1000	†•Solid Color	134.25M'
8310-1000	†•Striped▲	143.25M'
8323-25	† Solid Color	3.00
8323-100	†•Solid Color	8.85
8323-500	†•Solid Color	79.50M'
8325-25	† Solid Color	3.10
8325-100	†•Solid Color	9.00
8325-500	†•Solid Color	81.00M'
8326-25	† Solid Color	3.25
8326-100	†•Solid Color	9.75
8326-500	†•Solid Color	90.75M'
8326-1000	†•Solid Color	90.00M'
8326-1000	†•Striped ▲	99.00M'
8327-25	† Solid Color	3.75
8327-100	†•Solid Color	10.95
8327-500	†•Solid Color	102.00M'
8327-1000	†•Solid Color	101.25M'
8327-1000	†•Striped ▲	110.25M'
8328-25	† Solid Color	3.75
8328-100	†•Solid Color	10.80
8328-500	†•Solid Color	100.50M'
8329-25	† Solid Color	4.35
8329-100	†•Solid Color	13.80
8329-500	†•Solid Color	129.00M'
8329-1000	†•Solid Color	128.25M'
8329-1000	†•Striped ▲	137.25M'
8330-25	† Solid Color	5.25
8330-100	†•Solid Color	15.75
8330-500	†•Solid Color	150.00M'
8330-1000	†•Solid Color	148.50M'
8330-1000	†•Striped ▲	157.50M
8390-25		10.50
8390-100	•	39.60
8390-500	•	396.00M'
8391-25		13.05
8391-100	•	48.60
8391-500	•	486.00M'
8392-25		15.75
8392-100	•	58.20
8392-500	•	582.00M'
8393-25		10.50
8393-100	•	42.00
8393-500	•	420.00M'
8401-15		1.26
8401-25		1.65
8401-50		2.91
8401-100		5.35
8401-250		11.35
8401-500		22.65
8401-1000		45.30
8402-100		12.15
8402-250		28.35
8402-500		56.70
8403-15		2.10
8403-50		5.60
8403-100		10.35
8403-250		23.25
8403-500		46.50
8403-1000		93.00
8404-15		2.43
8404-100		11.40
8404-250		26.25
8404-500		52.50
8404-1000		105.00
8405-250		31.00
8405-500		62.00
8405-1000		124.00
8406-100		13.05
8406-250		30.55
8406-500		61.10
8407-100		25.50
8407-250		61.50
8408-100		20.85
8408-250		48.75
8408-500		97.50
8409		1.14
8410-25		3.00
8410-50		5.25
8410-100		9.75
8410-250		22.65
8410-500		45.30
8411-15		1.02
8411-25		1.41
8411-50		2.25
8411-100		4.20
8411-250		8.95
8411-500		17.90
8411-1000		35.80
8412-25		3.10
8412-50		5.80
8412-100		10.75
8412-250		24.70
8412-500		49.45
8412-1000		98.85
8413-15		2.01
8413-25		2.95
8413-50		5.50
8413-100		10.15
8413-250		23.50
8413-500		46.95
8415-1		1.50
8415-50		1.37
8416-15		1.46
8416-25		1.86
8416-50		3.40
8416-100		5.95
8416-250		13.65
8417-15		1.05
8417-25		1.41
8417-50		2.27
8417-100		4.30
8417-250		9.30
8418-100		25.50
8418-250		61.80
8419-10		.98
8419-25		1.71
8419-250		12.25
8420-15		1.80
8420-25		2.67
8420-50		4.00
8420-100		7.45
8420-250		17.50
8420-500		34.95
8421-15		1.29
8421-25		1.71
8421-50		3.10
8421-100		5.05
8421-250		11.20
8422-15		1.62
8422-25		2.43
8422-50		4.50
8422-100		7.85
8422-250		17.40
8422-500		34.80
8422-1000		69.60
8423-15		2.52
8423-50		6.65
8423-100		12.55
8423-250		29.20
8423-500		58.35
8423-1000		116.70
8424-15		2.85
8424-50		7.50
8424-100		14.10
8424-250		33.25
8424-500		66.45
8424-1000		132.90
8425-100		16.95
8425-250		41.25
8426-100		20.65
8426-250		51.00
8427-100		22.20
8427-250		54.45
8428-100		14.65
8428-500		68.25
8428-1000		136.50
8429-10		.92
8429-25		1.47
8429-250		10.05
8430-10		.62
8430-25		.87
8430-250		5.20
8431-10		.81
8431-15		1.05
8431-25		1.38
8431-100		4.38
8431-500		19.80
8434-100		6.10
8434-500		27.60
8434-1000		55.20
8437-500		22.65
8437-1000		45.30
8441-100		5.85
8441-500		25.90
8441-1000		51.75
8442-500		10.05
8442-1000		20.10
8443-25		1.20
8443-100		3.10
8443-250		6.10
8443-500		12.15
8443-1000		24.30
8444-25		1.41
8444-100		4.15
8444-250		8.50
8444-500		16.95
8444-1000		33.90
8445-25		1.60
8445-100		4.80
8445-250		10.15
8445-500		20.25
8445-1000		40.50
8446-15		1.60
8446-100		7.15
8446-250		15.55
8446-500		31.05
8446-1000		62.10
8447-100		7.95
8447-250		17.55
8447-500		35.10
8447-1000		70.20
8448-15		1.74
8448-100		8.55
8448-250		19.20
8448-500		38.40
8448-1000		76.80
8449-15		1.91
8449-100		9.25
8449-250		21.00
8449-500		42.00
8449-1000		84.00
8450-100		3.85
8450-250		7.20
8450-500		14.20
8450-1000		28.35
8451-100		4.38
8451-250		8.95
8451-500		17.85
8451-1000		35.70
8452-25		2.10
8452-50		3.57
8452-100		6.25
8452-250		14.20
8452-500		28.35
8452-1000		56.70
8453-50		4.40
8453-100		8.25
8453-500		40.50
8454-50		5.05
8454-100		9.55
8454-500		43.80
8454-1000		87.60
8455-100		9.70
8455-250		24.15
8456-100		9.40
8456-500		42.90
8456-1000		85.80
8457-100		10.05
8457-500		46.50
8457-1000		93.00
8458-100		17.40
8458-500		78.00
8458-1000		156.00
8459-100		26.40
8459-500		122.25
8459-1000		244.50
8460-100		3.45
8460-500		13.35
8460-1000		26.70
8461-100		4.40
8461-500		17.85
8461-1000		35.70
8462-25	†	1.38
8462-100	†	4.15
8462-250	†	9.55
8463-50		2.51

See Pages 1654 thru 1706 for complete BELDEN Catalog Pages.

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Trade Number Length in ft.	Suggested Trade Price Each
8463-75	3.48
8463-100	4.65
8463-500	21.40
8464-50	2.15
8464-75	2.91
8464-100	3.72
8464-500	16.35
8464-1000	32.70
8465-100	8.80
8465-250	20.05
8465-500	40.05
8465-1000	80.10
8466-100	21.90
8466-250	53.65
8466-500	107.25
8466-1000	214.50
8467-100	11.70
8467-250	26.80
8467-500	53.65
8467-1000	107.25
8468-100	29.70
8468-500	140.25
8468-1000	280.50
8469-100	15.70
8469-250	36.75
8469-500	73.50
8469-1000	147.00
8470-500	17.85
8470-1000	35.70
8471-500	22.30
8471-1000	44.55
8472-25	2.85
8472-100	9.90
8472-250	23.55
8473-500	36.75
8473-1000	73.50
8474-100	11.55
8474-250	27.75
8475-100	6.45
8475-500	29.10
8476-100	9.60
8476-500	42.00
8477-500	49.50
8477-1000	99.00
8478-100	7.15
8478-250	17.05
8478-1000	68.10
8479-100	13.20
8479-250	32.10
8481-100	1.95
8481-500	6.25
8481-1000	12.45
8482-100	2.45
8482-500	8.80
8482-1000	17.55
8483-100	3.15
8483-500	12.45
8483-1000	24.90
8484-100	4.05
8484-500	17.10
8484-1000	34.20
8485-100	4.85
8485-500	21.10
8485-1000	42.15
8486-500	11.35
8486-1000	22.65
8487-500	15.40
8487-1000	30.75
8488-100	5.70
8488-500	25.50
8488-1000	51.00
8489-100	7.15
8489-250	15.75
8489-500	31.50
8489-1000	63.00
8490	1.62
8491	1.86
8492-1000	21.00
8494	1.80
8495	1.41
8497-1	1.56
8497-50	1.43
8499	1.05
8500-100 † Solid Color	2.27
8500-500 † Solid Color	9.40
8500-1000† Solid Color	17.55
8500-100 † Striped ¶	2.39
8500-1000† Striped ¶	18.70
8501-100 † Solid Color	1.86
8501-500 † Solid Color	7.30
8501-1000† Solid Color	13.95
8501-100 † Striped ¶	1.98
8501-1000† Striped ¶	15.10
8502-100 † Solid Color	1.71
8502-500 † Solid Color	6.00
8502-1000† Solid Color	11.10
8502-100 † Striped ¶	1.83
8502-1000† Striped ¶	12.25
8503-100 † Solid Color	1.52
8503-500 † Solid Color	5.55
8503-1000† Solid Color	9.90
8503-100 † Striped ¶	1.64
8503-500 † Striped ¶	6.15
8503-1000† Striped ¶	11.05
8504-100 † Solid Color	1.40
8504-500 † Solid Color	4.80
8504-1000† Solid Color	9.10
8504-100 † Striped ¶	1.52
8504-500 † Striped ¶	5.40
8504-1000† Striped ¶	10.25
8505-100 † Solid Color	1.40
8505-500 † Solid Color	5.25
8505-1000† Solid Color	9.75
8505-100 † Striped ¶	1.52
8505-1000† Striped ¶	10.90
8507-100 † Solid Color	1.92
8507-1000† Solid Color	13.80
8507-100 † Striped ¶	2.04
8507-1000† Striped ¶	14.95
8508-100 † Solid Color	1.79
8508-1000† Solid Color	11.35
8508-100 † Striped ¶	1.91
8508-1000† Striped ¶	12.50
8509-100 † Solid Color	1.73
8509-1000† Solid Color	10.80
8509-100 † Striped ¶	1.85
8509-1000† Striped ¶	11.95
8510-100 † Solid Color	2.82
8510-1000† Solid Color	23.25
8510-100 † Striped ¶	2.94
8510-1000† Striped ¶	24.40
8511-100 † Solid Color	2.40
8511-1000† Solid Color	18.30
8511-100 † Striped ¶	2.52
8511-1000† Striped ¶	19.45
8512-100 † Solid Color	1.95
8512-1000† Solid Color	14.70
8512-100 † Striped ¶	2.07
8512-1000† Striped ¶	15.85
8513-100 † Solid Color	1.85
8513-1000† Solid Color	13.30
8513-100 † Striped ¶	1.97
8513-1000† Striped ¶	14.45
8514-100 † Solid Color	1.74
8514-1000† Solid Color	12.10
8514-100 † Striped ¶	1.86
8514-1000† Striped ¶	13.25
8515-100 † Solid Color	1.86
8515-1000† Solid Color	13.30
8516-100 † Solid Color	2.67
8516-1000† Solid Color	20.95
8516-100 † Striped ¶	2.79
8516-1000† Striped ¶	21.10
8517-100 † Solid Color	2.24
8517-1000† Solid Color	17.20
8517-100 † Striped ¶	2.36
8517-1000† Striped ¶	18.35
8518-100 † Solid Color	2.18
8518-1000† Solid Color	16.50
8519-100 † Solid Color	1.92
8519-1000† Solid Color	14.40
8520-100 † Solid Color	4.00
8520-500 † Solid Color	18.00
8520-1000† Solid Color	33.75
8520-100 † Striped ¶	4.12
8520-500 † Striped ¶	18.60
8520-1000† Striped ¶	34.90
8521-100 † Solid Color	2.81
8521-500 † Solid Color	11.20
8521-1000† Solid Color	21.90
8521-100 † Striped ¶	2.93
8521-500 † Striped ¶	11.80
8521-1000† Striped ¶	23.05
8522-25 † Solid Color	.84
8522-100 † Solid Color	2.10
8522-500 † Solid Color	8.10
8522-1000† Solid Color	15.60
8522-100 † Striped ¶	2.22
8522-500 † Striped ¶	8.70
8522-1000† Striped ¶	16.75
8523-25 † Solid Color	.72
8523-100 † Solid Color	1.67
8523-500 † Solid Color	6.10
8523-1000† Solid Color	11.35
8523-100 † Striped ¶	1.79
8523-500 † Striped ¶	6.70
8523-1000† Striped ¶	12.50
8524-25 † Solid Color	.66
8524-100 † Solid Color	1.47
8524-500 † Solid Color	5.40
8524-1000† Solid Color	10.05
8524-100 † Striped ¶	1.59
8524-500 † Striped ¶	6.00
8524-1000† Striped ¶	11.20
8525-100 † Solid Color	1.34
8525-500 † Solid Color	4.60
8525-1000† Solid Color	8.55
8525-100 † Striped ¶	1.46
8525-500 † Striped ¶	5.20
8525-1000† Striped ¶	9.70
8527-100 † Solid Color	5.70
8527-500 † Solid Color	24.75
8527-1000† Solid Color	47.25
8528-100 † Solid Color	1.86
8528-500 † Solid Color	7.00
8528-1000† Solid Color	13.30
8529-25 † Solid Color	.66
8529-100 † Solid Color	1.47
8529-500 † Solid Color	5.20
8529-1000† Solid Color	9.75
8529-100 † Striped ¶	1.59
8529-500 † Striped ¶	5.80
8529-1000† Striped ¶	10.90
8530-25 † Solid Color	.62
8530-100 † Solid Color	1.23
8530-500 † Solid Color	4.05
8530-1000† Solid Color	7.80
8530-100 † Striped ¶	1.35
8530-500 † Striped ¶	4.65
8530-1000† Striped ¶	8.95
8531-100 † Solid Color	2.33
8531-500 † Solid Color	9.60
8531-1000† Solid Color	18.60
8535-100 † Solid Color	3.20
8535-1000† Solid Color	22.75
8536-100 † Solid Color	2.28
8536-1000† Solid Color	17.35
8537-100 † Solid Color	2.16
8537-1000† Solid Color	14.95
8537-100 † Striped ¶	2.28
8537-1000† Striped ¶	16.10
8538-100 † Solid Color	1.28
8538-500 † Solid Color	3.85
8538-1000† Solid Color	6.90
8538-100 † Striped ¶	1.40
8538-500 † Striped ¶	4.45
8538-1000† Striped ¶	8.05
8541-100	2.64
8541-1000	19.00
8542-100	2.81
8542-1000	20.65
8543-100	3.30
8543-1000	25.05
8544-100	3.85
8544-1000	30.45
8545-100	4.95
8545-500	22.30
8545-1000	42.90
8546-100	6.60
8546-500	28.90
8546-1000	57.75
8547-100	114.00
8548-100	96.60
8549-100	66.75
8550-100	45.45
8550-500	217.50
8551-100	34.50
8551-500	166.50
8552-100	26.40
8552-500	125.40
8553-100	13.20
8553-500	59.40
8553-1000	118.50
8554-100	7.65
8554-500	33.00
8554-1000	66.00
8555-100	6.00
8555-500	25.50
8555-1000	51.00
8556-100	4.95
8556-1000	39.60
8557-100	4.30
8557-1000	34.50
8558-100	3.85
8558-1000	28.90
8559-100	3.50
8559-1000	24.75
8561-100 †	8.10
8561-1000†	68.10
8562-100 †	4.85
8562-1000†	41.25
8563-100 †	4.40
8563-1000†	36.00
8564-100 †	3.50
8564-1000†	29.55
8565-100 †	2.93
8565-1000†	24.00
8566-100 †	2.36
8566-1000†	19.90
8567-100 †	1.50
8567-1000†	9.90
8568-100 †	1.22
8568-1000†	7.65
8569-100 †	1.19
8569-1000†	7.05
8570-100 †	1.11
8570-1000†	6.60
8571-100 †	1.11
8571-1000†	6.55
8574-1000†	14.85
8575-1000†	12.15
8576-1000†	11.35
8577-1000†	11.05

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Trade Number Length in ft.	Suggested Trade Price Each
8578-1000†	10.50
8580-100 †	34.50
8580-500 †	150.00
8581-100 †	27.15
8581-500 †	125.40
8582-100 †	11.55
8582-1000†	105.60
8583-100 †	7.60
8583-1000†	69.30
8584-100 †	5.70
8584-1000†	44.55
8585-100 †	3.30
8585-1000†	25.50
8586-100 †	2.81
8586-1000†	19.80
8589-100	36.30
8589-500	171.60
8590-100	23.95
8590-500	112.20
8591-100 †	11.55
8591-1000†	103.95
8597-100 †	1.35
8597-1000†	8.50
8598-100 †	1.37
8598-1000†	9.30
8599-100 †	1.62
8599-1000†	11.70
8601	1.14
8602	1.73
8603	1.76
8604	2.70
8605	1.47
8618-500	43.90
8618-1000	87.75
8619-500	157.50
8619-1000	315.00
8620-100	11.55
8620-500	53.65
8620-1000	107.25
8621-100	19.65
8621-500	87.75
8621-1000	175.50
8622-100	33.00
8622-500	153.00
8622-1000	306.00
8623-100	46.50
8623-500	222.75
8623-1000	445.50
8624-100	56.10
8624-500	264.00
8624-1000	528.00
8627-100	19.80
8627-500	90.75
8627-1000	181.50
8628-100	34.65
8628-500	160.90
8628-1000	321.75
8629-100	56.10
8629-500	272.25
8629-1000	544.50
8640-250	7.00
8640-500	13.15
8641-100	3.75
8641-500	15.00
8641-1000	30.00
8642-250	19.65
8642-500	36.45
8643-25	2.15
8643-50	3.55
8643-100	6.30
8643-250	14.85
8649-100	2.43
8649-500	8.75
8649-1000	17.55
8652-10	.77
8652-50	1.98
8652-250	8.25
8653-10	.80
8653-50	2.15
8653-250	9.10
8654-10	.83
8654-50	2.31
8654-250	9.90
8655-10	2.97
8655-50	13.20
8655-250	62.70
8656-10	4.65
8656-50	20.65
8656-250	99.00
8657-10	6.30
8657-50	28.05
8658-10	8.25
8658-50	37.95
8659-10	12.40
8659-50	57.75
8660-10	.75
8660-50	2.25
8660-250	10.20
8661-10	1.05
8661-50	3.65
8661-250•	16.80
8662-10	2.45
8662-50	10.75
8662-250•	52.00
8663-10	1.13
8663-50	3.80
8663-250	17.85
8864-10	.90
8864-50	2.64
8864-250	11.55
8668-10	1.07
8668-50	3.06
8668-250	13.35
8669-10	1.80
8669-50	7.60
8669-250•	36.30
8670-10	3.65
8670-50	16.50
8670-250•	79.20
8671-10	2.73
8671-50	12.40
8671-250•	61.05
8672-10	1.98
8672-50	8.80
8672-250•	39.60
8673-100	9.60
8673-500	46.80
8674-10	.68
8674-50	1.64
8674-250	7.45
8675-100	7.45
8675-500	34.80
8676-10	.62
8676-50	1.13
8676-250	5.25
8677-100	5.65
8677-500	26.55
8678-100	14.55
8678-500	69.30
8679-100	24.00
8680-100	21.45
8681-100	13.80
8682-100	6.75
8683-100	4.80
8684-100	3.40
8685-100	2.60
8688-100	12.00
8689-100	6.15
8690-100	11.10
8690-500	50.25
8690-1000	100.50
8691-100	21.75
8691-500	99.00
8691-1000	198.00
8692-100	31.50
8692-500	150.00
8692-1000	300.00
8700-25	1.80
8700-50	2.95
8700-100	5.25
8700-250	12.15
8701-100	2.45
8701-500	8.55
8701-1000	17.10
8718-500	69.00
8718-1000	138.00
8719-500	33.60
8719-1000	67.20
8720-500	52.50
8720-1000	105.00
8722-500	30.75
8722-1000	61.50
8723-100	5.85
8723-500	25.90
8723-1000	51.75
8724-250	13.00
8724-500	25.95
8724-1000	51.90
8725-500	117.75
8725-1000	235.50
8726-100	18.15
8726-500	83.25
8726-1000	166.50
8727-100	37.20
8727-500	186.00
8727-1000	372.00
8728-500	38.25
8728-1000	76.50
8729-500	42.75
8729-1000	85.50
8730-500	32.65
8730-1000	65.25
8731-500	18.70
8731-1000	37.35
8732-100	6.55
8732-500	27.60
8732-1000	55.20
8733-100	6.55
8733-500	27.60
8733-1000	55.20
8734-100	5.05
8734-500	21.00
8734-1000	42.00
8735-15	1.28
8735-50	3.25
8735-100	5.70
8735-500	24.30
8735-1000	48.60
8737-100	4.05
8737-250	8.95
8737-500	17.85
8737-1000	35.70
8738-1000	32.40
8739-100	3.85
8739-500	16.20
8739-1000	32.40
8740-100	2.40
8740-250	4.80
8740-500	8.55
8740-1000	17.10
8741-100	4.05
8741-250	8.85
8741-500	16.20
8741-1000	32.40
8742-100	5.35
8742-250	12.00
8742-500	22.75
8742-1000	45.45
8743-100	8.40
8743-250	19.45
8743-500	38.85
8743-1000	77.70
8744-100	12.00
8744-250	28.15
8744-500	56.25
8744-1000	112.50
8745-100	20.65
8745-250	47.65
8745-500	95.25
8745-1000	190.50
8746§ (Cut to customer's specified length maximum 1500')	349.50M'
8747-100	10.45
8747-250	24.00
8747-500	48.00
8747-1000	96.00
8748-100	14.70
8748-250	35.25
8748-500	70.50
8748-1000	141.00
8749-100	25.50
8749-250	60.75
8749-500	121.50
8749-1000	243.00
8750§ (Cut to customer's specified length maximum 1500')	462.00M'
8751§ (Cut to customer's specified length maximum 1500')	943.50M'
8752§ (Cut to customer's specified length maximum 1500')	907.50M'
8753-100	14.85
8753-250	35.65
8753-500	71.25
8753-1000	142.50
8754-100	16.80
8754-250	40.50
8754-500	81.00
8754-1000	162.00
8755-500	123.75
8755-1000	247.50
8756-500	145.50
8756-1000	291.00
8757-500	28.90
8757-1000	57.75
8758-100	4.70
8758-500	19.05
8758-1000	38.10
8759-100	5.05
8759-500	21.00
8759-1000	42.00
8760-250	12.60
8760-500	24.00
8760-1000	48.00
8761-500	15.60
8761-1000	31.20
8762-100	4.80
8762-250	10.00
8762-500	19.90
8762-1000	39.75
8763-500	24.30
8763-1000	48.60
8764-100	27.25
8764-250	66.40
8764-500	132.75
8764-1000	265.50
8765-100	32.25
8765-250	78.40

See Pages 1654 thru 1706 for complete BELDEN Catalog Pages.

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Trade Number Length in ft.	Suggested Trade Price Each
8765-500	156.75
8765-1000	313.50
8766-100	43.50
8766-250	105.00
8766-500	210.00
8766-1000	420.00
8767-100	9.90
8767-250	22.65
8767-500	45.30
8767-1000	90.60
8768-100	19.50
8768-250	46.15
8768-500	92.25
8768-1000	184.50
8769-100	69.30
8769-250	165.00
8769-500	330.00
8769-1000	660.00
8770-500	30.40
8770-1000	60.75
8771-250	9.85
8771-500	19.65
8771-1000	39.30
8772-500	24.75
8772-1000	49.50
8773§ (Cut to customer's specified length maximum 1000')	999.00M'
8774-100	33.00
8774-250	78.40
8774-500	156.75
8774-1000	313.50
8775-100	38.70
8775-250	93.40
8775-500	186.75
8775-1000	373.50
8776-100	51.45
8776-250	124.50
8776-500	249.00
8776-1000	498.00
8777-100	11.40
8777-250	27.00
8777-500	54.00
8777-1000	108.00
8778-100	22.50
8778-250	55.30
8778-500	110.55
8778-1000	221.10
8779-500	36.00
8779-1000	72.00
8780-100	7.65
8780-500	34.45
8780-1000	68.85
8781-100	1.79
8781-500	5.25
8781-1000	10.50
8782-25	.74
8782-50	1.11
8782-100	1.65
8782-500	5.50
8782-1000	10.95
8783-100	6.45
8783-500	28.90
8784-500	57.75
8786-100	7.65
8786-500	34.50
8787-500	69.00
8788-500	39.90
8789-500	27.90
8789-1000	55.80
8790-100	6.25
8790-250	13.35
8790-500	26.70
8790-1000	53.40
8791-100	7.65
8791-500	34.05
8791-1000	68.10
8794-500	12.15
8794-1000	24.30
8795-500	10.05
8795-1000	20.10
8800	.83
8816	6.72
8817	.71
8822	6.60
8823	7.35
8824	5.76
8825	10.10
8826	9.40
8827	10.90
8850-100	9.90
8851-100	8.10
8852-100	6.60
8852-500	28.90
8853-100	5.80
8853-1000	50.25
8854-100	5.10
8854-1000	44.55
8855-100	4.95
8855-1000	41.25
8858-100	10.35
8858-1000	95.55
8859-100	8.40
8859-1000	75.30
8860-100	7.00
8860-1000	62.40
8861-100	5.85
8861-1000	50.25
8862-100	5.20
8862-1000	46.95
8863-100	4.65
8863-1000	41.25
8866-25	1.95
8866-100	5.55
8866-500	23.40
8868-25	1.19
8868-100	2.93
8868-500	11.35
8869-25	1.02
8869-100	2.43
8869-500	9.10
8870-100	34.80
8871-25	40.50
8871-100	162.00
8873-1	.48
8873-100	.31
8874	.68
8875	.45
8878	3.45 pr
8879	1.49 pr
8880-100 †	8.40
8880-1000†	76.50
8881-100 †	6.55
8881-1000†	58.50
8882-100 †	4.05
8882-1000†	36.45
8883-100 †	3.41
8883-1000†	28.20
8884-100 †	5.55
8884-1000†	48.00
8885-15	1.13
8885-25	1.50
8885-100	4.50
8885-500	21.00
8886-100 †	3.90
8886-1000†	34.05
8887-100 †	3.25
8887-1000†	27.60
8888-25 †	1.29
8888-100 †	3.41
8888-250 †	7.30
8889-1	.45
8889-100	.31
8890-25 †	.98
8890-100 †	2.45
8890-500 †	10.20
8892-100	5.55
8892-500	22.65
8892-1000	45.30
8893-100	4.90
8893-500	19.90
8893-1000	39.75
8894-100	7.00
8894-1000	61.50
8895-1	.45
8895-100	.23
8896-100	4.90
8896-500	21.90
8896-1000	43.80
8897-500	15.75
8897-1000	31.50
8898-10 †	1.14
8898-25 †	2.10
8898-100 †	5.40
8898-500 †	22.65
8899-10 †	.81
8899-14	.89
8899-25 †	1.23
8899-100 †	3.90
8899-500 †	14.05
8899-1000†	28.10
8916-100 †	4.05
8916-500 †	16.65
8917-100 †	3.10
8917-500 †	12.30
8918-100 †	2.28
8918-1000†	17.20
8919-100 †	1.86
8919-1000†	13.80
8920-100 †	1.62
8920-1000†	10.95
8933-100 †	5.20
8933-500 †	22.20
8934-100 †	3.41
8934-500 †	14.25
8935-100 †	2.76
8935-1000†	21.25
8936-100 †	2.16
8936-1000†	16.65
8937-100 †	1.95
8937-1000†	14.05
8950-100	4.30
8950-1000	34.80
8951-100	2.85
8951-1000	23.55
8952-100 †	2.28
8952-1000†	17.85
8953-100 †	1.95
8953-1000†	14.65
8954-100 †	1.71
8954-1000†	12.15
8955-100	1.58
8955-1000	11.10
8956-100	4.45
8956-1000	40.50
8957-100	3.25
8957-1000	29.25
8958-100 †	2.76
8958-1000†	22.65
8959-100 †	2.43
8959-1000†	19.50
8960-100 †	2.28
8960-1000†	16.20
8963-100	30.75
8963-500	147.75
8964-100	24.45
8964-500	117.75
8965-100	9.25
8965-1000	92.25
8966-100	7.00
8966-1000	69.75
8967-100	4.30
8967-1000	42.75
8968-100	4.20
8968-1000	39.75
8969-100 †	3.00
8969-1000†	26.70
8970-100 †	2.67
8970-1000†	21.90
8971-100 †	2.28
8971-1000†	18.25

* New Item † Specify Color

ALL SPOOLS ARE ONE PIECE EXACT LENGTH. (EXCEPT SPOOLS WITH (•) FOOTNOTE)

• Spools may contain more than one piece, minimum length of any one piece is 25 ft. When priced per M ft. length may vary ±10% from length shown; all other lengths are exact.

§ Cut to Customer's Specified Length subject to available stock lengths—minimum length 25'; 25' to 199', plus 25', minus 0; 200' or over, plus 50', minus 0.

▲ (Teflon Hook-up Wire) Prices apply to any striped color combination in quantities of 1000' or more. Minimum order 1000' per stripe color combination on 500' and 1000' spools only. Striping adders do not apply to braided tracers—Write for prices on non-stock tracer colors.

¶ (Vinyl Hook-up Wire) Prices apply to standard stock colors as listed in our current catalog and to non-stock striped colors over stock solid colors in quantities of 10,000' or more. Non-stock striped colors over stock solid colors in quantities of 1000' to 9999', add pro-rata set-up charge of $4.50 per color combination. Minimum order 1000' per special stripe combination. Special stripe colors in any quantity will be subject to 2 piece put-up and plus or minus 10% per spool.

Prices Subject to Change Without Notice

COMPLETE CORDS

Reference Bulletin C68P-IT February 12, 1968

Trade Number	Single Lot Price Each
1706B	2.02
1706S	2.18
1709B	1.63
1709S	1.79
1714B	2.62
1714S	2.78
1715B	3.10
1715S	3.26
1724B	2.10
1724S	2.26
1725B	2.42
1725S	2.58
1734B	1.81
1734S	1.97
1735B	2.10
1735S	2.26
1775B	3.55
1775S	3.71
1780B	1.57
1780S	1.73

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BELDEN • PRICE LIST

Trade Number		Single Lot Price Each
1782B		2.43
1782S		2.59
1785B		2.72
1785S		2.88
17106B	†	.26
17106S	†	.35
17109B	†	.30
17109S	†	.45
17112S	†	.51
17116B		.27
17116S		.43
17126B		.30
17126S		.43
17129S		.53
17139B		.34
17139S		.48
17140S		1.25
17141S		1.25
17156S	†	.46
17159S	†	.53
17162S	†	.66
17165S	†	.74
17177S		.85
17186B		.34
17186S		.48
17194S		2.61
17195S		4.43
17205B	†	.42
17205S	■	.56
17206B		.50
17206S		.66
17220B	‡	1.25
17220C	†	1.20
17221C	†	1.49
17222C	†	1.01
17223C	†	1.10
*17230C	†	1.35
*17231C	†	1.47
17236B		.62
17236S		.76
17237B		.54
17237S		.69
17238B		.74
17238S		.88
17239B		.64
17239S		.78
17249S		1.23
17258S		1.06
17259S		.90
17260S		.82
17270C		1.39
17271C		1.58
17272C		1.14
17273C		1.28
17274C		1.65
*17275C	†	1.84
17288C		1.28
17290C		1.38
17291C		1.14
17308B		.58
17308S		.72
17310B		.66
17310S		.82
17328B		.69
17328S		.85
17330B		.82
17330S		.96
17359B		.91
17361S		1.07
17370S		1.26
17375S		2.91
17405B		.62
17405S		.77
17406B		.66
17406S		.82
17407B		.72
17407S		.86
17408B		.78
17408S		.94
17409B		.86
*17410B		1.04
17412B		1.14
17412S		1.30
17419B		1.07
17419S		1.25
*17420B		1.11
17422B		1.38
17422S		1.57
17425S		1.89
*17430B		1.59
17447S		1.62
17448S		1.92
17449S		2.61
17460S		1.30
17461S		1.49
17462S		1.60
17475S		3.90
17476S		6.64
17477S		12.00
17491S		2.32
17492S		4.26
17493S		7.76
17494S		2.72
17495S		5.36
17497S		9.60
17555S		3.12
17556S		5.52
17565S		6.40
17566S		11.68
17629B		2.02
17629S		2.30
17635S		3.40
17656S		2.26
17659S		2.78
17662S		3.39
*17664S		8.00
*17665S		14.08
17675S		8.08
17676S		14.32
17694S		5.70
17695S		10.02
17697S		18.32
17706B		.62
17706S		.72
17707B		.67
17723C		1.01
17724C		1.01
17725B		.77
17726C		1.10
17727B	†	.74
17727S	□	.88
17728B	†	.74
17728S	□	.88
17729B		.93
17730B		1.01
17730S		1.17
17756S		.93
17806B		.37
17806S		.46
17826B		.45
17826S		.56
17836S		1.04
17852S		.46
17856B		.48
17856S		.61
17857S		.66
17866B		.51
17866S		.62
17870B		.64
17870S		.77
17876S		.77
17886S		1.17
17887S		1.22
17888S		1.38
17922		.32
17923S		.58
17925S		2.88
17931S		.72
17932S		2.48
17933S		3.60
17940S		16.75
17943S		27.84
17945S		28.80
17950S		4.56
17995S		6.08
17996S		8.64
17998S		8.16
17999S		11.04

* New Item † Specify Color ■ Black Only ‡ Gray Only □ Black/White Only

PORTABLE CORDAGE

Reference Bulletin P68P-IT March 11, 1968

Trade Number & Standard Pkg. In Ft. 2S-250=2-250 Spls. 4S-250=4-250 Spls. C=Coil			Suggested Trade Net Per M Feet 250 to 999
18100	C-250		382.40
18101	C-250		276.16
18102	C-250		193.60
18103	2S-250		123.52
18104	2S-250		105.76
18105	C-250		478.40
18106	C-250		363.20
18107	C-250	†	270.08
18108	C-250		170.80
18109	C-250		146.08
18110	2S-250		108.80
18111	2S-250		79.52
18115	4S-250	†	37.28
18120	2S-250	†	60.56
18121	2S-250	†	46.08
18122	4S-250	†	31.84
18123	2S-250	†	41.12
18124	2S-250		167.44
18125	2S-250		119.20
18126	2S-250	†	52.00
18127	2S-250		63.20
18128	2S-250		87.68
18129	2S-250		87.68
18130	2S-250		124.96
18140	2S-250		61.28
18141	2S-250	†	80.48
18142	2S-250	†	108.00
18200	C-250		472.80
18201	C-250		366.96
18202	C-250		254.40
18203	2S-250		159.68
18204	2S-250		138.96
18205	C-250		609.60
18206	C-250		445.60
18207	C-250		350.40
18208	C-250		217.20
18209	C-250		190.80
*18210	C-50		859.20
*18210	C-200		859.20
*18211	C-50		1211.20
*18211	C-200		1211.20
*18213	C-25		1657.60
*18213	C-100		1657.60
*18214	C-25		1165.60
*18214	C-100		1165.60
*18215	C-50		699.20
*18215	C-200		699.20
*18216	C-50		503.60
*18216	C-200		503.60
*18217	C-50		384.00
*18217	C-200		384.00
18227	2S-250		88.76
18228	2S-250		102.72
18229	2S-250		108.48
18230	2S-250		152.16
18314	2S-250		140.16
18316	2S-250		98.88
18318	2S-250		87.68
18326	2S-250		74.32
18328	2S-250		59.04
18336	2S-250		87.84
18338	2S-250		73.28

* New Item † Specify Color

Shipped only in standard packages as listed. Production quantities of special wires quoted on request.

Prices Subject to Change Without Notice

HEAT SHRINKABLE TUBING

Reference Bulletin HST-67P-IT REV. July 17, 1967

Trade No.	Suggested Trade Price 4' Per Piece	Per 100'
68002	.56	14.03
68012	.59	14.66
68022	.68	17.00
68032	.72	18.06
68042	.88	22.10
68052	1.11	27.84
68062	1.23	30.81
68072	1.40	35.06
68082	1.87	46.75
68092	2.62	65.45
68102	3.93	98.18
68112	5.42	135.58
68122	8.60	215.05
68132	12.53	313.23
	6" Per Piece	
68001	2.50	20.00
68011	2.80	22.40
68021	3.10	24.80
68031	3.55	28.40

Trade No.	Suggested Trade Price 6" Per Piece	Per 100'
68041	4.15	33.20
68051	5.00	40.00
68061	6.25	50.00
68071	7.15	57.20
68081	8.30	66.40
68091	5.00	100.00
68101	8.00	160.00
68111	6.65	266.00
68121	10.00	400.00
68131	20.00	800.00
	4' Per Piece	
68202	.43	10.63
68212	.46	11.48
68232	.49	12.33
68242	.56	14.03
68252	.65	16.15
68262	.77	19.13
68272	.90	22.53
68282	1.11	27.63
68292	1.56	39.10

Trade No.	Suggested Trade Price 6" Per Pkg.	Per 100'
68231	2.60	20.80
68241	2.90	23.20
68251	3.40	27.20
68261	4.50	36.00
68271	5.00	40.00
68281	5.70	45.60
	Per Spool	
68205	36.55	7.31
68215	38.25	7.65
68235	19.04	9.52
68245	23.12	11.56
68255	28.90	14.45
68265	32.13	16.07
68513	3.27	13.09
68514	10.75	10.75
68515	22.82	9.13
68523	3.74	14.96
68524	12.84	12.84
68525	28.26	11.31
68533	4.46	17.85

Trade No.	Suggested Trade Price Per Spool	Per 100'
68534	16.41	16.41
68535	35.40	14.16
68543	4.80	19.21
68544	17.85	17.85
68545	39.10	15.64
68553	5.53	22.10
68554	18.70	18.70
68555	43.35	17.34
68563	6.38	25.50
68564	22.53	22.53
68573	6.93	27.71
68574	24.65	24.65
68583	8.76	35.02
68584	32.94	32.94
68593	9.35	37.40
68594	35.70	35.70
68603	15.30	61.20
68604	58.65	58.65
68613	22.10	88.40
68614	86.70	86.70

See Pages 1654 thru 1706 for complete BELDEN Catalog Pages.

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BELDEN · PRICE LIST—TEFLON* WIRES

Trade Number and Length in Ft.	Old Trade Number	Suggested Trade Price Ea.
83000-25†	8300	$1.43
83000-100†●	8300	3.60
83000-500†●▲	8300	25.05M′
83000-1000†●▲	8300	23.55M′
83001-25†	8301	1.50
83001-100†●	8301	3.75
83001-500†●▲	8301	26.40M′
83001-1000†●▲	8301	24.90M′
83002-25†	8302	1.65
83002-100†●	8302	4.15
83002-500†●▲	8302	29.85M′
83002-1000†●▲	8302	28.35M′
83003-25†	8303	1.88
83003-100†●	8303	5.20
83003-500†●▲	8303	38.25M′
83004-25†	8304	1.73
83004-100†●	8304	4.35
83004-500†●▲	8304	31.50M′
83004-1000†●▲	8304	30.00M′
83005-25†	8305	1.88
83005-100†●	8305	5.20
83005-500†●▲	8305	38.25M′
83005-1000†●▲	8305	36.75M′
83006-25†	8306	2.03
83006-100†●	8306	5.70
83006-500†●▲	8306	43.00M′
83006-1000†●▲	8306	41.50M′
83007-25†	8307	2.35
83007-100†●	8307	6.90
83007-500†●▲	8307	51.00M′
83007-1000†●▲	8307	49.50M′
83008-25†	8308	2.18
83008-100†●	8308	6.30
83008-500†●▲	8308	47.70M′
83009-25†	8309	2.95
83009-100†●	8309	9.30
83009-500†●▲	8309	72.75M′
83009-1000†●▲	8309	71.25M′
83010-25†	8310	3.45
83010-100†●	8310	11.55
83010-500†●▲	8310	91.05M′
83010-1000†●▲	8310	89.55M′
83023-25†	8323	2.35
83023-100†●	8323	6.90
83023-500†●▲	8323	52.80M′
83025-25†	8325	2.40
83025-100●†	8325	7.20
83025-500†●▲	8325	55.05M′
83026-25†	8326	2.55
83026-100†●	8326	7.90
83026-500†●▲	8326	60.90M′
83026-1000†●▲	8326	59.40M′
83027-25†	8327	2.95
83027-100†●	8327	9.30
83027-500†●▲	8327	72.40M′
83027-1000†●▲	8327	70.90M′
83028-25†	8328	2.80
83028-100†●	8328	8.70
83028-500†●▲	8328	67.50M′
83029-25†	8329	3.75
83029-100†●	8329	12.60
83029-500†●▲	8329	99.75M′
83029-1000†●▲	8329	98.25M′
83030-25†	8330	4.05
83030-100†●	8330	14.05
83030-500†●▲	8330	112.00M′
83030-1000†●▲	8330	111.50M′
*83041-100†●	—	3.45
*83041-1000†●▲	—	23.25M′
*83043-100†●	—	3.55
*83043-1000†●▲	—	23.40M′
*83045-100†●	—	3.70
*83045-1000†●▲	—	24.60M′
*83046-100†●	—	4.00
*83046-1000†●▲	—	26.70M′
*83047-100†●	—	4.15
*83047-1000†●▲	—	28.35M′
*83048-100†●	—	4.75
*83048-1000†●▲	—	33.00M′
*83049-100†●	—	4.65
*83049-1000†●▲	—	32.40M′
*83050-100†●	—	4.80
*83050-1000†●▲	—	34.90M′
*83240-100● (RG-140/U)	—	66.00
*83240-500● (RG-140/U)	—	619.50M′
*83240-1000● (RG-140/U)	—	612.75M′
*83241-100● (RG-141A/U)	—	48.75
*83241-500● (RG-141A/U)	—	456.00M′
*83241-1000● (RG-141A/U)	—	450.00M′
*83242-100● (RG-142B/U)	—	60.00
*83242-500● (RG-142B/U)	—	570.00M′
*83242-1000● (RG-142B/U)	—	564.00M′
*83243-100● (RG-143A/U)	—	177.00
*83243-500● (RG-143A/U)	—	1717.50M′
*83243-1000● (RG-143A/U)	—	1705.50M′
*83264-100● (RG-179B/U)	—	24.00
*83264-500● (RG-179B/U)	—	208.50M′
*83264-1000● (RG-179B/U)	—	204.00M′
83265-100● (RG-178B/U)	8265	13.90
83265-500● (RG-178B/U)	8265	120.00M′
83266-100● (RG-180B/U)	8266	31.50
83266-500● (RG-180B/U)	8266	291.00M′
*83267-100● (RG-187A/U)	—	22.50
*83267-500● (RG-187A/U)	—	204.00M′
*83267-1000● (RG-187A/U)	—	195.00M′
83269-100● (RG-188A/U)	8269	22.50
83269-500● (RG-188A/U)	8269	204.00M′
83270-100● (RG-196A/U)	8270	16.80
83370-500● (RG-196A/U)	8270	142.50M′
*83281-100● (RG-302/U)	—	54.00
*83281-500● (RG-302/U)	—	510.00M′
*83281-1000● (RG-302/U)	—	504.00M′
*83282-100● (RG-303/U)	—	43.50
*83282-500● (RG-303/U)	—	417.00M′
*83282-1000● (RG-303/U)	—	411.75M′
*83283-100● (RG-304/U)	—	172.50
*83283-500● (RG-304/U)	—	1522.50M′
*83283-1000● (RG-304/U)	—	1512.00M′
*83284-100● (RG-316/U)	—	22.50
*83284-500● (RG-316/U)	—	199.50M′
*83284-1000●	—	195.00M′
*83301-100●	—	27.60
*83301-500●	—	223.50M′
*83301-1000●	—	223.50M′
*83302-100●	—	28.65
*83302-500●	—	232.50M′
*83302-1000●	—	232.50M′
*83303-100●	—	33.30
*83303-500●	—	271.50M′
*83303-1000●	—	271.50M′
*83304-100●	—	37.20
*83304-500●	—	300.00M′
*83304-1000●	—	300.00M′
*83305-100●	—	40.50
*83305-500●	—	330.00M′
*83305-1000●	—	330.00M′
*83306-100●	—	45.45
*83306-500●	—	372.00M′
*83306-1000●	—	372.00M′
*83307-100●	—	53.85
*83307-500●	—	442.50M′
*83307-1000●	—	442.50M′
*83308-100●	—	73.20
*83308-500●	—	600.00M′
*83308-1000●	—	600.00M′
*83315-100●	—	51.90
*83315-500●	—	426.00M′
*83315-1000●	—	426.00M′
*83316-100●	—	54.75
*83316-500●	—	450.00M′
*83316-1000●	—	450.00M′
*83317-100●	—	59.25
*83317-500●	—	487.50M′
*83317-1000●	—	487.50M′
*83318-100●	—	63.00
*83318-500●	—	517.50M′
*83318-1000●	—	517.50M′
*83319-100●	—	75.45
*83319-500●	—	622.50M′
*83319-1000●	—	622.50M′
*83320-100●	—	85.50
*83320-500●	—	705.00M′
*83320-1000●	—	705.00M′
*83321-100●	—	101.55
*83321-500●	—	840.00M′
*83321-1000●	—	840.00M′
*83322-100●	—	135.00
*83322-500●	—	1110.00M′
*83322-1000●	—	1110.00M′
*83330-100●	—	65.50
*83330-500●	—	540.00M′
*83330-1000●	—	540.00M′
*83331-100●	—	70.50
*83331-500●	—	577.50M′
*83331-1000●	—	577.50M′
*83332-100●	—	75.00
*83332-500●	—	615.00M′
*83332-1000●	—	615.00M′
*83333-100●	—	84.75
*83333-500●	—	697.50M′
*83333-1000●	—	697.50M′
*83334-100●	—	93.00
*83334-500●	—	765.00M′
*83334-1000●	—	765.00M′
*83335-100●	—	108.75
*83335-500●	—	900.00M′
*83335-1000●	—	900.00M′
*83336-100●	—	126.75
*83336-500●	—	1050.00M′
*83336-1000●	—	1050.00M′
*83337-100●	—	163.50
*83337-500●	—	1350.00M′
*83337-1000●	—	1350.00M′
*83345-100●	—	77.55
*83345-500●	—	639.00M′
*83345-1000●	—	639.00M′
*83346-100●	—	82.50
*83346-500●	—	682.50M′
*83346-1000●	—	682.50M′
*83347-100●	—	91.50
*83347-500●	—	757.50M′
*83347-1000●	—	757.50M′
*83348-100●	—	99.75
*83348-500●	—	825.00M′
*83348-1000●	—	825.00M′
*83349-100●	—	117.75
*83349-500●	—	975.00M′
*83349-1000●	—	975.00M′
*83350-100●	—	138.75
*83350-500●	—	1147.50M′
*83350-1000●	—	1147.50M′
*83351-100●	—	149.25
*83351-500●	—	1237.50M′
*83351-1000●	—	1237.50M′
*83352-100●	—	204.00
*83352-500●	—	1695.00M′
*83352-1000●	—	1695.00M′
83390-25	8390	8.85
83390-100●	8390	33.00
83390-500●	8390	322.50M′
83391-25	8391	11.05
83391-100●	8391	42.00
83391-500●	8391	411.00M′
83392-25	8392	13.20
83392-100●	8392	51.00
83392-500●	8392	498.00M′
83393-25	8393	10.50
83393-100●	8393	43.50
83393-500●	8393	420.00M′

* New Item † Specify Color ■ Trademark of Du Pont

● Spools may contain more than one piece, minimum length of any one piece is 25 feet. When priced per M feet, length may vary ±10% from length shown; all other lengths are exact.

▲ STRIPING ADDERS FOR TYPES E, EE, and ET: 1, 2 or 3 stripes. Minimum order 1,000 feet per stripe combination.
1,000′ to 4,999′ add $10.50/M′ 5,000′ to 24,999′ add $7.50/M′ 25,000′ to 49,999′ add $6.00/M′ 50,000′ and Over add $4.50/M′
AGGREGATION: Sizes, types and colors may be aggregated per order for striping adder quantity price. Prices Subject To Change Without Notice.

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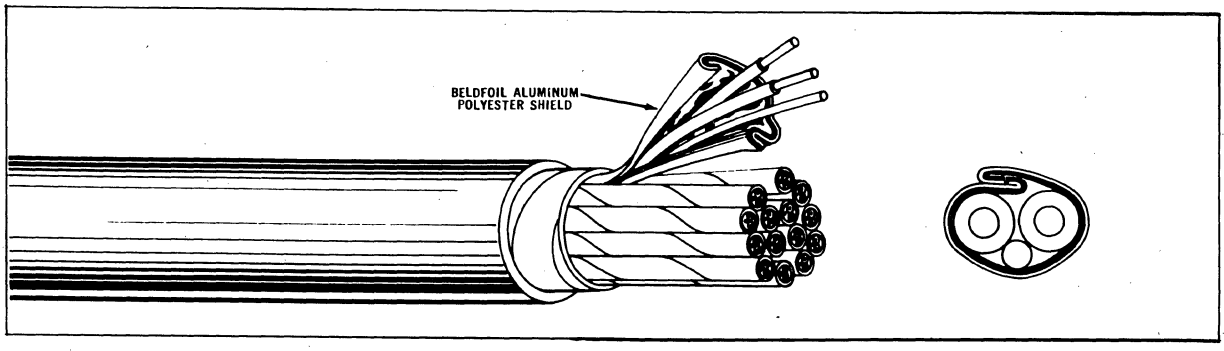

The Beldfoil ISO-Shield Story

Much of today's miniaturized, high-gain electronic equipment calls for small diameter cables that are lightweight, flexible and has total electrostatic shielding.

Wire braid and serve type shields have a practical range up to 97 percent maximum coverage. While they provide sufficient electrostatic shielding for many applications, they do not furnish the full-coverage shielding required by many high-gain electronic systems.

Beldfoil ISO-Shield provides 100 percent coverage and adds greater effectiveness to all major shielding functions: excluding external signals, confining the transmitted signal and minimizing crosstalk.

Beldfoil ISO-Shield uses a thin layer of aluminum bonded to a polyester film. The aluminum provides the necessary electrostatic shielding while the polyester film adds a bonus insulation and increased mechanical strength. The 100% shielding is accomplished by an exclusive method of folding back both edges of the tape in such a way as to provide metal-to-metal contact between adjacent wraps, thus providing the same shielding effect as a continuous aluminum tube. As a direct result of using this thin layer of aluminum-polyester shielding, Beldfoil ISO-Shield is lightweight, flexible and small in diameter. Depending on the cable type the polyester film may be used to increase the dielectric strength between the conductors and the shield, or to provide insulation between adjacent shields.

Applications for Beldfoil ISO-Shield range from a single conductor audio and sound cable to complex multiconductor multi-shield cables. They include cables for data processing systems, telemetering equipment, strain gauge applications, hi-fi systems, instrumentation, TV cameras and receivers, microphones and communications equipment plus many special constructions for both military and commercial use.

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BELDEN PAGE 2

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shielded sound and broadcast audio cables | **Belden**

COMMUNICATIONS CABLE

Belden offers a complete line of Communications Cables to provide customers with the best all-around cable for every application requirement. Cables are available in a wide range of sizes, dimensions, shielding constructions and types of insulation. All Communications Cables are designed to protect the desired signal by eliminating or minimizing the interference of hum, noise and crosstalk.

SHIELDING: Because it affords such excellent protection, Beldfoil ISO-Shield is now being specified for many critical applications such as instrumentation systems, tracking station equipment, computer and data processing systems, audio, sound, strain gauge and control cables.

No other type of shield on the market surpasses Beldfoil Shield for full coverage and protection against radiation and penetration at audio and radio frequencies. Beldfoil's unique polyester-aluminum shielding provides 100% coverage.

Braided Copper Shields have high tensile strength and are very effective at audio and radio frequencies in flexing applications. Served Copper Shields usually provide more coverage than Braided Copper Shields; they're also easier to terminate. Both Braided and Served Copper Shields are recommended at audio frequencies.

INSULATIONS: Belden's Communications Cables are available in a variety of insulation materials, each having its own advantages depending upon the size requirements, environmental and electrical conditions dictated by the application.

Vinyl insulation resists flame, most solvents, oil, ozone and sunlight. It has a higher dielectric constant and capacitance than polyethylene. Therefore it is recommended for audio frequency applications. It is easy to strip.

Polyethylene insulation is lightweight and resists ozone. It has a low dielectric constant for low capacitance and provides low electrical loss and is recommended for audio and radio frequency applications. Like vinyl, polyethylene is easy to strip.

Polypropylene insulation provides excellent heat and abrasion resistance. It has a low dielectric constant with equally low capacitance. It is less flexible than polyethylene. Because it has excellent dielectric strength and mechanical ruggedness, polypropylene insulations are widely used for miniaturization applications. Even with low overall diameters, they permit very low loss. Recommended for audio and radio frequencies.

TWO CONDUCTOR SHIELDED CABLES

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf/ft)	Nom. **Cap. (mmf/ft)	Suggested Working Voltage	Standard Spool Lengths in ft
With JACKET **BELDFOIL®**	**8640**	26 (Solid)	.002	.020	.089	Red, Clear	100	80	140	100	250, 500
		Solid Copper, BELDSOL® (solderable—no stripping required) insulated BELDFOIL aluminum-polyester shield, 30 AWG solid tinned Copperweld▲ ground drain wire, WHITE vinyl jacket. Maximum operating temperature 105° C. **Ideal for Instrumentation and Audio Console Work where Subminiaturization is Required.**									
BELDFOIL® Miniature Broadcast Audio Cable	**8450***	22 (Solid)	.006	.018	.118	Blk, Red	100	40	76	200	100, 250, 500, 1000
	8451*	22 (7x30)	.008	.020	.135	Blk, Red	100	34	67	200	100, 250, 500, 1000
		Tinned copper, polypropylene insulated, conductors cabled, stranded tinned copper ground drain wire, BELDFOIL aluminum-polyester shield, paper wrap, BLACK or GRAY vinyl jacket. **Belden's Miniature Type Broadcast Audio Cable occupies ½ to ⅔ less space than required by Standard Broadcast Audio Cables. The Beldfoil Shield combines high cable reliability with ease of termination.**									
Broadcast Audio Cable	**8437**	22 (Solid)	.015	.025	.200	Blk, Red	88	48	85	200	500, 1000
	8441	22 (16x34)	.015	.025	.210	Blk, Red	88	49	86	200	100, 500, 1000
		Tinned copper, vinyl insulated, conductors cabled, 8437 solid tinned copper drain wire, 8441 stranded tinned copper drain wire, tinned copper braid shield, black vinyl jacket.									
BELDFOIL®	**8641***	24 (7x32)	.014	.025	.160	Blk, Clear	100	22	42	350	100, 500, 1000
	8761*	22 (7x30)	.014	.025	.167	Blk, Clear	100	24	47	350	500, 1000
	8762*	20 (7x28)	.014	.028	.196	Blk, Clear	100	27	49	350	100, 250, 500, 1000
	8760*	18 (16x30)	.018	.028	.222	Blk, Clear	100	24	44	450	250, 500, 1000
	8719	16 (19x29)	.025	.030	.274	Blk, Clear	100	24	47	600	500, 1000
BELDFOIL®	**8720**	14 (19x27)	.032	.035	.340	Blk, Clear	100	24	47	750	500, 1000
	★8718	12 (19x25)	.037	.040	.400	Blk, Clear	100	25	49	1000	500, 1000
		Tinned copper polyethylene insulated, BELDFOIL aluminum-polyester shield, stranded tinned copper ground drain wire, (24 AWG for 8641, 22 AWG for 8761, and 20 AWG for 8760 and 8762, 18 AWG for 8719, 16 AWG for 8720, 14 AWG for 8718), chrome vinyl jacket.									
	8739	22 (Solid)	.015	.025	.160	Blk, Red	94.0	38	66	350	100, 500, 1000
	8737	22 (7x30)	.015	.025	.170	Blk, Red	89.3	40	70	350	100, 250, 500, 1000
	8759	20 (7x28)	.015	.025	.195	Blk, Red	81.0	47	79	350	100, 500, 1000
	8790	18 (7x26)	.020	.028	.231	Red, Wht	76.5	53	92	450	100, 250, 500, 1000
	8780	16 (19x29)	.023	.030	.266	Blk, Wht	84.1	57	98	450	100, 500, 1000
		Tinned copper, vinyl insulated, tinned copper spiral wrapped shield, chrome vinyl jacket.									
	8208	18 (16x30)	.020	.025	.255	Red, Wht	69	46	77	200	100, 500, 1000
		Tinned copper, rubber insulated, braided tinned copper shield, chrome vinyl jacket.									

***New Item**

**Capacitance between conductors.* ***Capacitance between 1 conductor and other conductor connected to shield.* *▲Trademark of Copperweld Steel Co.*

•Belden U.S. Patent 3,032,604.

For underground burial recommendations of all types of vinyl, polyethylene, Hypalon and neoprene jacketed cables, please write for Bulletin #6 Electronic Wire Section.

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Belden | shielded instrumentation, strain gauge and communication cables

TWO CONDUCTOR SHIELDED CABLES (Cont'd)

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf/ft)	Nom. **Cap. (mmf/ft)	Suggested Working Voltage	Standard Spool Lengths in ft
High Temperature	**8390 TEFLON**	22 (19x34)	.015	.015	.180	Blk, Wht	90	23	40	1000	25, 100, 500
		Stranded tinned copper, FEP teflon■ insulated, cabled tinned copper braid shield, white FEP teflon jacket. **+200° C maximum, −70° C minimum operating temperature. Ideal where chemical resistance is needed and/ or extremely high or low temperatures are required.**									
	★8393	20 (7x28)	.020	.030	.245	Blk, Red	100	22	42	1000	25, 100, 500
		Tinned copper FEP Teflon insulated, noise reducing tape, 20AWG (10x30) nickel coated copper drain wire, special Beldfoil shield, Silicone rubber jacket. +150°C maximum, —70°C minimum operating temperature. Jacket working voltage, 1000V DC, shield to ground.									
Without JACKET	**8738**	22 (Solid)	.015	—	.130	Blk, Red	72.8	35	61	350	1000
	8758	20 (7x28)	.015	—	.165	Blk, Red	63.8	42	72	350	100, 500, 1000
	8789	18 (7x26)	.020	—	.204	Blk, Wht	74	50	89	450	500, 1000
	8779	16 (19x29)	.023	—	.225	Blk, Wht	83	63	112	600	500, 1000
		Tinned copper, vinyl insulated, braided tinned copper shield.									

INSTRUMENTATION CABLES

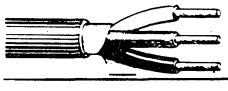
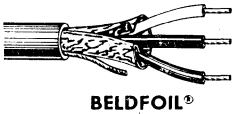
Instrumentation cable provides the vital communications link between sensing devices and read-out equipment. Because of the many and diverse conditions of environment and stress under which instrumentation cables must transmit information — in usable form, without distortion or change — cable characteristics should always be carefully matched with the specific requirements of the particular application.

The scientific, medical and industrial uses of instrumentation cable are vast and ever growing. Some of the common uses for instrumentation cable are such things as measuring pressure, speed, resistance and temperature.

Belden manufactures a wide variety of precision instrumentation wire using several types of insulating materials for conductors and shields to meet a wide variety of electrical, physical and thermal requirements.

Many Belden Instrumentation Cables are unique in the field and have been engineered for specific application problems.

THREE CONDUCTOR SHIELDED

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf/ft)	Nom. **Cap. (mmf/ft)	Suggested Working Voltage	Standard Spool Lengths in ft
	**8731**	22 (Solid)	.015	.025	.178	Blk, Red, Wht	76.2	36	63	350	500, 1000
	8791	18 (7x26)	.020	.028	.236	Blk, Red, Wht	78.2	47	84	450	100, 500, 1000
		Tinned copper, vinyl insulated, conductors cabled, tinned copper spiral wrapped shield, chrome vinyl jacket.									
	**★8618•**	16 (19x29)	.025	.030	.300	Blk, Red, Wht	100	26	50	600	500, 1000
	8771•	22 (7x30)	.014	.025	.175	Blk, Red, Clear	100	23	41	350	250, 500, 1000
	8772•	20 (7x28)	.014	.028	.200	Blk, Red, Clear	100	27	51	350	500, 1000
	8770•	18 (16x30)	.018	.028	.236	Blk, Red, Clear	100	24	48	450	500, 1000
BELDFOIL®		*Tinned copper, polyethylene insulated, conductors cabled, BELDFOIL® aluminum-polyester shield, stranded tinned copper ground drain wire (22 AWG for 8771, 20 AWG for 8770 and 8772, and 18 AWG for 8618), chrome vinyl jacket.*									
	8735	22 (7x30)	.015	.025	.199	Blk, Red, Wht	70	34	60	350	15, 50, 100, 500, 1000
		Tinned copper, vinyl insulated, conductors cabled, tinned copper braid shield, chrome vinyl jacket.									
High Temperature	**8391 TEFLON**	22 (19x34)	.015	.015	.190	Blk, Red, Wht	90	20	35	1000	25, 100, 500
		Stranded tinned copper, FEP teflon■ insulated, cabled tinned copper braid shield, white FEP teflon jacket. **+200° C maximum, −70° C minimum operating temperature. Ideal where chemical resistance is needed and/or extremely high or low temperatures are required.**									
	★8643	30 (7x38)	.005	.010	.086	Blk, Red, Wht	95	25	43	200	25, 50, 100, 250
		Tinned copper, polypropylene insulated conductors cabled around textile strength member, tinned copper braid shield, chrome vinyl jacket. 105° C max. operating temperature.									

***New Item**

**Capacitance between conductors.*

***Capacitance between 1 conductor and other conductor connected to shield.*

■Trademark of DuPont.

•Belden U.S. Patent 3,032,604.

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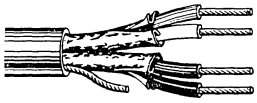
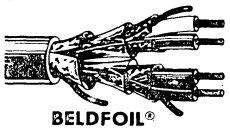
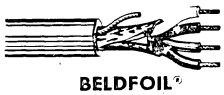
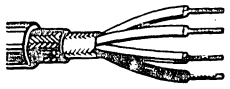
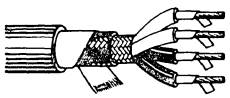
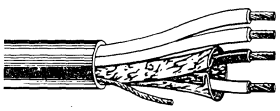
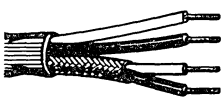
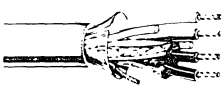
STRAIN GAUGE QUAD CABLES

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf/ft)	Nom. **Cap. (mmf/ft)	Suggested Working Voltage	Standard Spool Lengths in ft
BELDFOIL®	8434•	4	25 (7x33) 3 copper 4 copper-weld	.013	.020	.179	Red, Blk, Grn, Clear	100	25	40	400	100, 500, 1000
		Tinned copper, polyethylene insulated, black and red conductors under BELDFOIL aluminum-polyester shield, stranded ground wire, green and clear conductors under over-all BELDFOIL aluminum-polyester shield, chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. ⊖										
 BELDFOIL®	8723•	4	22 (7x30) copper	.008	.019	.165	Red, Blk, Grn, Wht	100	35	62	400	100, 500, 1000
		Tinned copper, polypropylene insulated, black and red under a BELDFOIL aluminum-polyester shield, Green and white under a BELDFOIL aluminum-polyester shield, stranded tinned copper drain wire, chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. ⊖										
 BELDFOIL®	★8728•	4	22 (7x30)	.008	.021	.188	Red, Blk, Grn, Wht	100	35	62	400	500, 1000
		Tinned copper, polypropylene insulated, cabled in pairs each pair BELDFOIL aluminum-polyester shielded with stranded copper drain wire, polyester film over each shield, overall BELDFOIL aluminum-polyester shield and stranded tinned copper drain wire, chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. ⊖										
 BELDFOIL®	8729•	4	22 (19x34)	.015	.050	.265	Clear, Blk, Red, Grn	100	22	42	600	500, 1000
		Tinned copper, polyethylene insulated, cabled BELDFOIL aluminum-polyester shield. 18 AWG stranded tinned copperweld ground drain wire, white vinyl jacket.										
	8404	4	20 (26x34)	.015	.033	.255	Red, Blk, Grn, Clear	87	25	45	600	15, 100, 250, 500, 1000
		Tinned copper, polyethylene insulated, cabled, rayon braid, tinned copper braid shield, chrome vinyl jacket.										
	8407	4	16 (65x34)	.032	.043	.422	Red, Blk, Grn, Wht	84	37	65	600	100, 250
		Tinned copper, separator, rubber insulated, cabled, rayon braid, tinned copper braid shield, cotton wrap, black neoprene jacket.										
	8424	4	20 (26x34)	.020	.040	.295	Red, Blk, Grn, Wht	83.5	55	95	600	15, 50, 100, 250, 500, 1000
		Tinned copper, cotton wrap, rubber insulated, rayon braid, tinned copper braid shield, cotton wrap, black rubber jacket.										
	8392 TEFLON	4	22 (19x34)	.015	.015	.205	Red, Blk, Grn, Wht	90	20	35	1000	25, 100, 500
		Stranded tinned copper, FEP teflon■ insulated, cabled tinned copper braid shield, white FEP teflon jacket. **HIGH TEMPERATURE +200° C maximum, −70° C minimum operating temperature. Ideal where chemical resistance is needed and/or extremely high or low temperatures are required.**										
 BELDFOIL®	8724•	2 shielded 2 unshielded	22 (7x30) 22 (7x30)	.008 .008	.019	.165	Red, Blk, Grn, Wht	100	34	67	200	250, 500, 1000
	8722•	2 shielded 2 unshielded	20 (7x28) 20 (7x28)	.015 .015	.028	.260	Red, Blk, Grn, Wht	100	60	99	350	500, 1000
		Tinned copper, 8722 vinyl insulated, 8724 polypropylene insulated, BELDFOIL aluminum-polyester shield over 2 conductors, stranded tinned copper ground drain wire (22 AWG for 8722 and 24 AWG for 8724), chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. ⊖										
	8732	2 shielded 2 unshielded	22 (7x30) 22 (7x30)	.015 .015	.030	.188x .296	Blk, Clear Blk, Clear	62	21	37	350	100, 500, 1000
		Tinned copper, polyethylene insulated, tinned copper braid shield over 1 pair, chrome vinyl jacket.										
 BELDFOIL®	★8730•	2 shielded 2 unshielded	22 (7x30) 22 (7x30)	.008 .008	.030	.250	Red, Blk, Grn, Wht	100	34	67	200	500, 1000
		Tinned copper, polypropylene insulated, BELDFOIL aluminum-polyester shield over 1 pair with stranded tinned copper drain wire, chrome vinyl jacket. Pairs cabled on separate axes for reduced magnetic coupling.										

★New Item
*Capacitance between conductors.
**Capacitance between 1 conductor and other conductor connected to shield.
⊖Request information before planning high and low level circuits in same cable.

•Belden U.S. Patent 3,032,604.
■Trademark of DuPont

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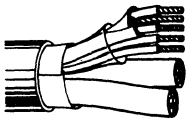
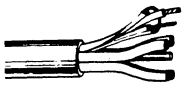
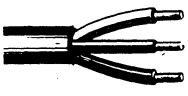
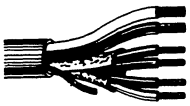
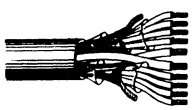
Belden | multi-purpose and special communication cables

MULTIPLE QUADS AUDIO AND COMMUNICATION CABLES

Description	Trade Number	No. of Cond.	AWG & (Stranding).	Cond. Color Coding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Percent Shield Coverage	Suggested Working Voltage	Nom. *Cap. (mmf ft)	Nom. **Cap. (mmf ft)	Standard Spool Lengths in ft.
 BELDFOIL®	**8726***	12 3 (QUADS)	22 (7x30)	Red, Blk, Grn, Wht	.008	.035	.330	100	200	34	67	100, 500, 1000
		Cabled around common axis-request information before planning high and low level circuits in same cable										
	8727*	28 (7 QUADS)	22 (7x30)	Red, Blk, Grn, Wht	.008	.040	.450	100	200	34	67	100, 500, 1000
		Cabled around common axis-request information before planning high and low level circuits in same cable										
		22 AWG tinned copper, polypropylene insulation, cabled in quads, BELDFOIL shield over black and red conductors, 24 AWG stranded tinned copper drain wire. Each quad is 8724 (on page 9) except for tape shield folding and a clear polyester tape instead of a vinyl jacket. Shields color coded, overall chrome vinyl jacket.										

SPECIAL AUDIO AND COMMUNICATION CABLES

	8734	3 Conductors 1 shielded 2 unshielded	 22 (7x30) 22 (7x30)	 Wht Blk, Red	 .015 .015	.025	.194	82	350	—	79	100, 500, 1000
		Tinned copper, vinyl insulated, tinned copper braid shield over 1 conductor, 3 conductors cabled, chrome vinyl jacket.										
BELDFOIL®	**8763***	3 Conductors 2 shielded 1 unshielded	 20 (7x28) 20 (7x28)	 Blk, Red Clear	 .014 .014	.028	.210	100	350	26	48	500, 1000
		Tinned copper, polyethylene insulated, BELDFOIL aluminum-polyester shield over 2 conductors, #20 stranded tinned copper ground drain wire, chrome vinyl jacket.										
BELDFOIL®	**8733***	3 Conductors shielded	22 (7x30)	Blk, Red, Clear	.014	.030	.205	100	350	—	51	100, 500, 1000
		Tinned copper, polyethylene insulated, each conductor separately BELDFOIL aluminum-polyester shielded. Ground wire for each conductor is tinned cadmium bronze ribbon under BELDFOIL chrome vinyl jacket.										
 BELDFOIL®	**8788***	5 Conductors 3 shielded 2 unshielded	22 (7x30)	Blk, Red, Grn, Yel, Blue	.015	.028	.236	100	350	—	125	500
		Tinned copper, vinyl insulated 3 conductors each separately BELDFOIL shielded, ground drain wire for each conductor is tinned cadmium bronze ribbon under BELDFOIL 2 conductors unshielded, cabled around a vinyl filler, chrome vinyl jacket.										
	**8783**	3 Conductors 3 unshielded	1-20 (10x30) 2-16 (26x30)	Blue, Grn, Org	.020 .020	.025	.250	—	450	—	—	100, 500
		Tinned copper, vinyl insulated, conductors cabled, chrome vinyl jacket.										
 BELDFOIL®	**8786***	6 Conductors 2 unshielded 4 shielded	 22 (7x30) 24 (7x32)	 Blu, Wht Blk, Grn, Red, Yel	 .015 .015	.028	.256	100	350	—	—	100, 500
		Tinned copper, vinyl insulated, 4 conductors twisted under BELDFOIL aluminum-polyester shield, 2 conductors unshielded, 22 AWG drain wire, chrome vinyl jacket.										
 BELDFOIL®	**8787***	10 Conductors 4 shielded 4 shielded 2 unshielded	 24 (7x32) 24 (7x32) 22 (7x30)	 Gry, Wht, Blu, Grn Red, Brn, Yel, Org Wht, Blu	 .012 .012 .015	.030	.290	100	350	—	—	500
		Tinned copper, 22 AWG conductors vinyl insulated, 24 AWG conductors polyethylene insulated, cabled in 2 quads, each with transparent polyester tape wrap, 24 AWG tinned copper ground wire. Red BELDFOIL shield over one quad, green BELDFOIL shield over the other quad; plus 2 unshielded conductors, chrome vinyl jacket.										

*Capacitance between conductors. **Capacitance between 1 conductor and other conductor connected to shield.

•Belden U.S. Patent 3,032,604.

BELDEN PAGE 6

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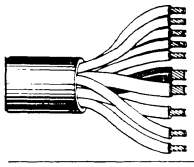
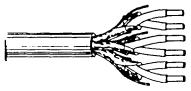
SPECIAL AUDIO AND COMMUNICATION CABLES

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Cond. Color Coding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Percent Shield Coverage	Suggested Working Voltage	Nom. *Cap. (mmf/ft)	Nom. **Cap. (mmf/ft)	Standard Spool Lengths in ft
	**8784**	10 un-shielded	2-16 (26x30) 1-20 (10x30) 7-22 (7x30)	Blk, Wht Gray Red, Grn, Org, Yel, Blu, Purple Brown	.016 .018 .013	.040	.295	—	300	—	—	500
	Tinned copper, vinyl insulated, conductors cabled, chrome vinyl jacket.											
	**8640**	2	26 (Solid) 1 Pair	Red, Clear	.002	.020	.089	100	100	80	140	250, 500
BELDFOIL®	**8642**	6	26 (Solid) 3 Pair	Red, Clear	.002	.025	.140	100	100	80	140	250, 500

Solid copper, BELDSOL® (solderable—no stripping required), BELDFOIL aluminum-polyester shield on each pair, red, brown, orange textile marker and isolating polyester tape for each pair on 8642, Copperweld ground drain wire, WHITE vinyl jacket.

Ideal for Instrumentation and audio console work where subminiaturization is required.
105° C maximum operating temperature.

*Capacitance between conductors.
**Capacitance between 1 conductor and other conductor connected to shield.

AUDIO CABLE SELECTION GUIDE

The length of cable run for a given wire size can be doubled if twice the power loss can be tolerated in the cable.

The next smaller size can be used when twice the power loss can be tolerated in the cable and the length of cable run remains the same.

To use this chart for constant voltage systems, determine the load impedance using Step 1 below. If this impedance does not appear on the chart, use Step 2 to determine the maximum length of cable run for each wire size.

The choice of appropriate audio cables for runs of varying distances depends on many factors such as amplifier voltage output and power level as well as load impedances and the percent of power loss which can be tolerated. For this reason it is not practical to provide a general chart showing the recommended wire size for all conditions. The chart shows the maximum recommended cable runs for various wire sizes selected for commonly encountered load impedances.

Wire Size (AWG)	Maximum Length of Cable Run (Ft.)					
	Low Impedance — 10% Power Loss			High Impedance — 5% Power Loss		
	4 OHM	8 OHM	16 OHM	100 OHM	250 OHM	500 OHM
14	88	176	352	1045	2610	5220
16	55	110	220	630	1574	3150
18	35	70	140	410	1020	2050
20	22	44	88	262	655	1310
22	13	26	52	164	410	820
24	8	16	32	105	262	525

STEP ONE

$$Z\ (\text{Load Impedance}) = \frac{E^2\ (\text{Voltage} \times \text{Voltage})}{P\ (\text{Watts})}$$

STEP TWO

$$\text{Ft. (Max.)} = \frac{\text{Ft. (chart)} \times Z\ (\text{Load Impedance})}{Z\ (\text{chart})}$$

FOR EXAMPLE

Find maximum length of run for #20 AWG pair in a 70 volt, 25 watt system.

1. $Z = \frac{70 \times 70}{25} = 196$ Ohms

2. Ft. (max.) $= \frac{262 \times 196}{100} = 513$ feet

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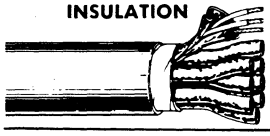
Belden | miniature coaxial and shielded paired instrumentation and sound cables

COLOR CODING FOR PAIRED CABLES

Pair Number	Color Combination	Pair Number	Color Combination	Pair Number	Color Combination
1	Black paired with Red	10	Red paired with Blue	19	White paired with Blue
2	Black paired with White	11	Red paired with Yellow	20	White paired with Yellow
3	Black paired with Green	12	Red paired with Brown	21	White paired with Brown
4	Black paired with Blue	13	Red paired with Orange	22	White paired with Orange
5	Black paired with Yellow	14	Green paired with White	23	Blue paired with Yellow
6	Black paired with Brown	15	Green paired with Blue	24	Blue paired with Brown
7	Black paired with Orange	16	Green paired with Yellow	25	Blue paired with Orange
8	Red paired with White	17	Green paired with Brown	26	Brown paired with Yellow
9	Red paired with Green	18	Green paired with Orange	27	Brown paired with Orange

MULTIPLE PAIR INDIVIDUALLY SHIELDED AUDIO AND SOUND CABLES

Description	Trade Number	No. of Pairs	Stranding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Nom. *Cap. (mmf ft)	Nom. **Cap. (mmf ft)	Standard Spool Lengths in ft
22 GAUGE VINYL INSULATION	8767•	3	Solid	.013	.030	.270	40	77	100, 250, 500, 1000
	8768•	6	Solid	.013	.037	.394	40	77	100, 250, 500, 1000
	8764•	9	Solid	.013	.040	.440	40	77	100, 250, 500, 1000
	8765•	11	Solid	.013	.040	.485	40	77	100, 250, 500, 1000
	8766•	15	Solid	.013	.045	.540	40	77	100, 250, 500, 1000



BELDFOIL

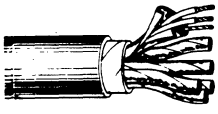
#22 tinned copper, vinyl insulated, cabled in pairs, each pair and its ground wire under BELDFOIL® aluminum-polyester shield, over-all chrome vinyl jacket. 300 Volts suggested working voltage.

Insulation resistance between shields.....100 megohms/M'
Capacitance between adjacent shields.....115 mmf/ft
Voltage breakdown between adjacent shields.....1500 volts
Working voltage between adjacent shields.....50 volts

Vinyl insulation is used for ease of stripping and soldering. Recommended for audio frequency applications requiring excellent circuit isolation. Maximum operating temperature 80°C.

MULTIPLE PAIR INDIVIDUALLY SHIELDED AUDIO AND DATA CABLES

Description	Trade Number	No. of Pairs	Stranding	Insulation Thickness (Inch)	Jacket Thickness (inch)	Nom. O.D. (Inch)	Nom. *Cap. (mmf ft)	Nom. **Cap. (mmf ft)	Standard Spool Lengths in ft
22 GAUGE POLYPROPYLENE INSULATION	8777•	3	(7x30)	.010	.030	.270	30	55	100, 250, 500, 1000
	8778•	6	(7x30)	.010	.037	.394	30	55	100, 250, 500, 1000
	8774•	9	(7x30)	.010	.040	.440	30	55	100, 250, 500, 1000
	8775•	11	(7x30)	.010	.040	.485	30	55	100, 250, 500, 1000
	8776•	15	(7x30)	.010	.045	.540	30	55	100, 250, 500, 1000
	8769•	19	(7x30)	.010	.055	.620	30	55	100, 250, 500, 1000
	8773•	27	(7x30)	.010	.070	.760	30	55	§Cut to customer's specified length. Maximum length 1000



BELDFOIL

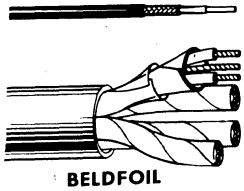
#22 gauge tinned copper, polypropylene insulated, cabled in pairs, each pair and its ground wire under BELDFOIL® aluminum-polyester shield, over-all chrome vinyl jacket. 300 volts suggested working voltage.

Insulation resistance between shields.....100 megohms/M'
Capacitance between adjacent shields.....115 mmf/ft
Voltage breakdown between adjacent shields.....1500 volts
Working voltage between adjacent shields.....50 volts

Recommended for audio, pulse, and radio frequency applications requiring superior circuit isolation. Polypropylene insulation is used for excellent high frequency properties and mechanical toughness. Maximum operating temperature 105°C.

SPECIAL INSTRUMENTATION CABLES

Description	Trade Number	AWG & (Standing)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf ft)	Nom. **Cap. (mmf ft)	Suggested Working Voltage	Standard Spool Lengths in ft
	8700	28 (Solid) Coaxial	.005	.008	.054	Black	80	48	—	100	25,50,100,250
		Solid tinned copper, polypropylene insulation, copper braid, black vinyl jacket. **May be steam sterilized for medical research.**									
	8725†○	4 pairs 20 (7x28)	.015	.030	.360	Red, Blk Grn, Wht Wht/Red Wht/Blk Wht/Grn Wht/Yel	100	27	49	400	500 1000



BELDFOIL

Tinned copper conductors, polypropylene insulated, four groups of two conductors with #22 AWG drain wire. Each group individually BELDFOIL® shielded with polyester tape wrap, chrome vinyl jacket. 105° C Maximum operating temperature.

**Capacitance between conductors.*
***Capacitance between 1 conductor and other conductor connected to shield.*
•Belden U.S. Patent 3,032,604.

§Minimum length 25'
25' to 199', plus 25', minus 0.
200' or over, plus 50', minus 0.

†Cabled around common axis—request information before planning high and low level circuits in same cable.
○Color code is Western Regional Strain Gauge Committee.

BELDEN PAGE 8

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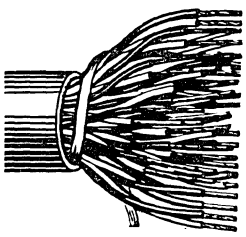
MULTIPLE PAIR UNSHIELDED SOUND CABLES

TYPICAL APPLICATIONS: Balanced line sound systems.

Made with 80°C vinyl plastic compounds for high dielectric strength and the best physical properties, such as free stripping, small diameter, and tear resistance. It also resists the effects of water, sun, oil, grease, and ozone. The conductors are paired with a short-lay twist for conductor balance, providing a quiet circuit, free from cross talk.

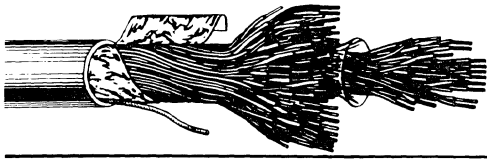
ALL CONSTRUCTIONS:
Tinned copper, vinyl insulated cabled in pairs, chrome vinyl jacket.



1 to 27 Pairs	Trade Number	No. of Pairs	AWG & Stranding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Suggested Working Voltage	Standard Spool Lengths in ft
	8740	1	22 Solid	.015	.025	.150	200	100, 250, 500, 1000
	8741	2	22 Solid	.015	.028	.201	200	100, 250, 500, 1000
	8742	3	22 Solid	.015	.030	.240	200	100, 250, 500, 1000
	8690	3	18 (16x30)	.018	.037	.362	400	100, 500, 1000
	8757	4	22 Solid	.015	.030	.255	200	500, 1000
	8743	6	22 Solid	.010	.035	.305	200	100, 250, 500, 1000
	8747	6	22 (7x30)	.010	.035	.340	200	100, 250, 500, 1000
	8691	6	18 (16x30)	.018	.045	.550	400	100, 500, 1000
	8744	9	22 Solid	.010	.037	.354	200	100, 250, 500, 1000
	8748	9	22 (7x30)	.010	.037	.389	200	100, 250, 500, 1000
	8692	9	18 (16x30)	.018	.055	.638	400	100, 500, 1000
	8753	11	22 Solid	.010	.037	.384	200	100, 250, 500, 1000
	8754	13	22 Solid	.010	.037	.409	200	100, 250, 500, 1000
	8745	15	22 Solid	.010	.040	.420	200	100, 250, 500, 1000
	8749	15	22 (7x30)	.010	.040	.425	200	100, 250, 500, 1000
	8755	19	22 Solid	.010	.040	.480	200	500, 1000
	8756	23	22 Solid	.010	.040	.510	200	500, 1000
	8746	27	22 Solid	.010	.045	.550	200	§Cut to customer's specified length. Maximum length 1500′
	8750	27	22 (7x30)	.010	.045	.595	200	§Cut to customer's specified length. Maximum length 1500′

For color coding please refer to page 12

38 AND 51 PAIR CABLE



Description	Trade Number	No. of Pairs	Conductors	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Standard Spool Lengths in ft
	8752	38	Solid Tinned Copper	.008	.045	.600	§Cut to customer's specified length. Maximum length 1500′
	8751	51	Solid Tinned Copper	.010	.050	.725	

#22 tinned copper, 8751 vinyl insulated, 8752 polypropylene insulated, cabled in pairs, BELDFOIL® aluminum-polyester shield over cabled pairs, #22 (7x30) stranded drain wire, chrome vinyl jacket. 200 Volts suggested working voltage. Color coding available on request.

§*Minimum length 25′. 25′ to 199′, plus 25′, minus 0. 200′ or over, plus 50′, minus 0.*

For color coding information on 8751 and 8752 write for Technical Data

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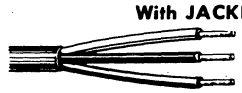
Belden | two and three conductor unshielded cables

TWO CONDUCTOR UNSHIELDED CABLES

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Conductor Color Coding	Available Jacket Colors	Nominal O.D. (Inch)	Suggested Working Voltage	Standard Spool Lengths in ft
	8781	22 (Solid)	.016	—	1 condr. tinned	Chrome	.060x .120	100	100, 500, 1000
	8782	24 (7x32)	.017	—	1 condr. tinned	Chrome, Sand, White, Clear	.058x .115	300	25, 50, 100, 500, 1000
Copper, vinyl insulated, PARALLEL	**8649**	20 (7x28)	.020	—	1 condr. tinned	Chrome, Clear	.073x .146	300	100, 500, 1000
Without JACKET	**8481**	22 (Solid) bare	.015	—	Brn, Tan	—	.112	350	100, 500, 1000
	8482	19 (Solid) bare	.015	—	Brn, Tan	—	.130	350	100, 500, 1000
	8492	19 (Solid)	.025	—	Brown or White 1 condr. tinned	—	.170	600	1000
Copper, vinyl insulated, TWISTED.	**8460**	18 (7x26) tinned	.020	—	Blk, Wht	—	.175	450	100, 500, 1000
	8470	16 (19x29) tinned	.023	—	Blk, Wht	—	.195	600	500, 1000
With JACKET	**8740**	22 (Solid) tinned	.015	.025	Blk, Red	Chrome	.150	200	100, 250, 500, 1000
	8442	22 (7x30) tinned	.015	.025	Blk, Red	Chrome	.165	350	500, 1000
SOLID	**8205**	20 (10x30) tinned	.018	.025	Blk, Red	Chrome	.190	350	100, 500, 1000
	8486	19 (Solid) bare	.015	.025	Brn, Tan	Chrome	.162	350	500, 1000
	8461	18 (7x26) tinned	.020	.028	Blk, Wht	Chrome	.226	450	100, 500, 1000
STRANDED	**8471**	16 (19x29) tinned	.023	.030	Blk, Wht	Chrome	.256	600	500, 1000
Copper, vinyl insulated, CABLED, vinyl jacket	**8473**	14 (19x27) tinned	.031	.035	Blk, Wht	Chrome	.332	600	500, 1000
	***8477**	12 (19x25) tinned	.031	.040	Blk, Wht	Chrome	.384	600	500, 1000

For additional 2 conductor cables see PORTABLE CORDAGE on pages 22, 52, 53 and 54. DUPLEX PRIMARY WIRE on page 40.

THREE CONDUCTOR UNSHIELDED CABLES

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Conductor Color Coding	Nominal O.D. (Inch)	Suggested Working Voltage	Standard Spool Lengths in ft
	8701	22 (Solid)	.016	—	Chrome 1 condr. tinned	.060x .190	100	100, 500, 1000
	8475	16 (19x29) bare	.023	—	Wht, Brn, Red	.102x .295	300	100, 500
Copper, vinyl insulated, PARALLEL								
Without JACKET	**8483**	19 (Solid)	.015	—	Brn, Gray, Tan	.132	350	100, 500, 1000
Bare copper, vinyl insulated, CABLED								
With JACKET	**8443**	22 (7x30) tinned	.010	.025	Blk, Grn, Red	.150	200	25, 100, 250, 500, 1000
	**8487**	19 (Solid) bare	.015	.025	Brn, Gray, Tan	.180	350	500, 1000
Copper, vinyl insulated, CABLED, chrome vinyl jacket.								

*New Item.

For additional 3 conductor cables see PORTABLE CORDAGE on pages 22, 52, and 53.

BELDEN PAGE 10

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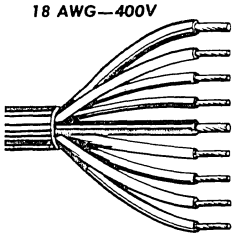
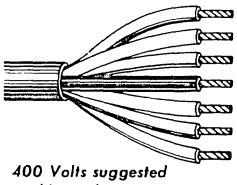
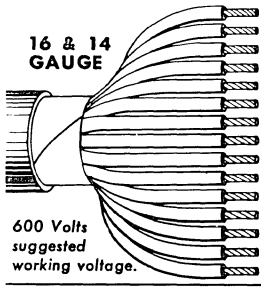
multiple unshielded cables
and telephone cables

Belden

MULTIPLE CONDUCTOR CONTROL AND AUDIO CABLES (NOT PAIRED)

Description and Gauge	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Color Code or Chart No.	Standard Spool Lengths in ft.
Telephone Cable *Bare copper, polyethylene insulated, cabled, rose gray vinyl jacket.*	**8795**	2	22 (Solid)	.016	.022	.160	Red, Grn	500, 1000
	8794	3	22 (Solid)	.016	.022	.168	Red, Grn, Yel	500, 1000
All Constructions: *Tinned copper, vinyl plastic insulated, cabled, chrome vinyl jacket.* **22 GAUGE**	**8443**	3	22 (7x30)	.010	.025	.150	1	25, 100, 250, 500, 1000
	8444	4	22 (7x30)	.010	.025	.168	1	25, 100, 250, 500, 1000
	8445	5	22 (7x30)	.010	.025	.180	1	25, 100, 250, 500, 1000
	8456	10	22 (7x30)	.010	.030	.260	1	100, 500, 1000
COMBINATION GAUGES **Suggested working voltage** *22 AWG—200V* *18 AWG—400V*	**8457**	12	22 (7x30)	.010	.030	.260	1	100, 500, 1000
	8458	15	22 (7x30)	.010	.040	.320	2	100, 500, 1000
	8459	25	22 (7x30)	.010	.040	.370	2	100, 500, 1000
	**8446**	6	4-22 (7x30) 2-18 (16x30)	.010 .018	.025	.222	1	15, 100, 250, 500, 1000
	8447	7	5-22 (7x30) 2-18 (16x30)	.010 .018	.028	.246	1	100, 250, 500, 1000
	8448	8	6-22 (7x30) 2-18 (16x30)	.010 .018	.028	.250	1	15, 100, 250, 500, 1000
	8449	9	7-22 (7x30) 2-18 (16x30)	.010 .018	.028	.261	1	15, 100, 250, 500, 1000
18 GAUGE  *400 Volts suggested working voltage.*	★**8489**	4	18 (16x30)	.018	.030	.250	1	100, 250, 500, 1000
	8465	5	18 (16x30)	.018	.037	.286	1	100, 250, 500, 1000
	8467	7	18 (16x30)	.018	.037	.324	1	100, 250, 500, 1000
	8469	9	18 (16x30)	.018	.037	.379	1	100, 250, 500, 1000
	8466	12	18 (16x30)	.018	.040	.412	2	100, 250, 500, 1000
	8468	15	18 (16x30)	.018	.045	.490	2	100, 500, 1000
	★**8619**	19	18 (16x30)	.018	.045	.505	2	500, 1000
16 & 14 GAUGE  *600 Volts suggested working voltage.*	**8620**	4	16 (19x29)	.030	.045	.375	2	100, 500, 1000
	8621	7	16 (19x29)	.030	.045	.455	2	100, 500, 1000
	8622	12	16 (19x29)	.030	.060	.600	2	100, 500, 1000
	8623	15	16 (19x29)	.030	.060	.650	2	100, 500, 1000
	8624	19	16 (19x29)	.030	.065	.715	2	100, 500, 1000
	8627	4	14 (19x27)	.045	.045	.495	2	100, 500, 1000
	8628	7	14 (19x27)	.045	.060	.630	2	100, 500, 1000
	8629	12	14 (19x27)	.045	.065	.770	2	100, 500, 1000

★New Item.

COLOR CODE
Chart No. 1

Conductor	Color
1st	Black
2nd	Red
3rd	Green
4th	White
5th	Brown
6th	Blue
7th	Orange
8th	Yellow
9th	Purple
10th	Gray
11th	Pink
12th	Tan

18 Gauge conductors in cables 8446 through 8449 are Black and Red.

IPCEA COLOR CODE
(Insulated Power Cable Engineers Association)
Chart No. 2

Conductor	Color	Conductor	Color	Conductor	Color
1st	Black	9th	Green/Black	17th	White/Red
2nd	White	10th	Orange/Black	18th	Orange/Red
3rd	Red	11th	Blue/Black	19th	Blue/Red
4th	Green	12th	Black/White	20th	Red/Green
5th	Orange	13th	Red/White	21st	Orange/Green
6th	Blue	14th	Green/White	22nd	Blk/Wht/Red
7th	White/Black	15th	Blue/White	23rd	Wht/Blk/Red
8th	Red/Black	16th	Black/Red	24th	Red/Blk/Wht
				25th	Grn/Blk/Wht

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Belden | microphone and shielded power supply cables

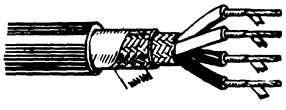
MICROPHONE CABLES

Belden Microphone Cables are designed for flexible service at audio frequencies. They are used not only for microphones, but also for home entertainment equipment, instruments, tape recorders and shielded power supplies.

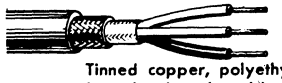
Shielded single conductor cables are used in high impedance systems, while multiple conductor cables are used in low impedance applications.

All cables are precision-engineered and manufactured to transmit clear signals and to cancel out hum pick-up and crosstalk interference. They are designed to withstand the flexing and normal abuse of studio, laboratory and home usage.

RUBBER, HYPALON AND NEOPRENE MICROPHONE AND SHIELDED POWER SUPPLY CABLES

Description	Trade Number	No. of Cond.	AWG (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Percent Shield Coverage	Suggested Working Voltage	Impedance (Ohms)	Nom. *Cap. (mmf/ft)	Nom. **Cap. (mmf/ft)	Standard Spool Lengths in ft
SINGLE CONDUCTOR	**8410**	1	25 (7x33)	.063	.025	.245	80	3000 DC	52	—	33	25, 50, 100, 250, 500
	3 strands copper, 4 strands Copperweld tinned, cellulose yarn braid, rubber insulated, rayon braid, tinned copper braid shield, cellulose yarn wrap, black rubber jacket.											
MINIATURE	**8413**	2	24 (45x40)	.019	.025	.190	100	300	—	38	71	15, 25, 50, 100, 250, 500
	8406	3	24 (45x40)	.019	.025	.223	100	300	—	43	76	100, 250, 500
	Tinned cadmium bronze, cotton serve, rubber insulated, cabled with fillers, conductive textile serve, tinned copper braid shield, cotton serve, black rubber jacket.											
MULTIPLE CONDUCTOR 	**8412**	2	20 (26x34)	.020	.043	.268	84	600	—	42	68	25, 50, 100, 250, 500, 1000
	★8402	2	20 (26x34)	.020	.040	.268	84	600	—	42	68	100, 250, 500
	Brown Hypalon jacket.—Heavy Duty.											
	8428	2	18 (41x34)	.022	.038	.295	91	600	—	47	80	100, 500, 1000
	Black neoprene jacket—Heavy Duty											
	★8408	2	16 (65x34)	.032	.040	.385	84	600	—	32	56	100, 250, 500
	Brown Hypalon jacket.—Heavy Duty											
	8423	3	20 (26x34)	.020	.040	.277	84	600	—	50	85	15, 50, 100, 250, 500, 1000
	8424	4	20 (26x34)	.020	.040	.295	83.5	600	—	55	95	15, 50, 100, 250, 500, 1000
Tinned copper, cotton wrap, rubber insulated, rayon braid, tinned copper braid shield, cotton wrap, black rubber jacket.	**8407**	4	16 (65x34)	.032	.043	.422	84	600	—	37	65	100, 250
	Black neoprene jacket—Heavy Duty											
	8425	5	20 (26x34)	.020	.040	.323	76	600	—	44	80	100, 250
	8426	6	20 (26x34)	.020	.040	.349	90	600	—	40	78	100, 250
	8427	7	20 (26x34)	.020	.043	.360	90	600	—	40	75	100, 250
	8418	8	20 (26x34)	.020	.043	.386	92	600	—	42	75	100, 250

VINYL MICROPHONE AND SHIELDED POWER SUPPLY CABLES

SINGLE CONDUCTOR	**8411**	1	25 (7x33)	.020	.020	.144	72	3500	52	—	37	15, 25, 50, 100, 250, 500, 1000
	8401▲	1	25 (7x33)	.043	.025	.200	74	5000	57	—	25	15, 25, 50, 100, 250, 500, 1000
	3 strands copper, 4 strands Copperweld, tinned, cellulose yarn braid, polyethylene insulated, tinned copper braid shield, chrome vinyl jacket. *See 8421 page 22 for spiral wrapped shield version of these cables. Recommended for Hi-Fi use.*											
MINIATURE	**8420**	2	24 (45x40)	.015	.020	.185	77	500	—	22	40	15, 25, 50, 100, 250, 500
	Tinned cadmium bronze, cotton wrap, polyethylene insulated, cabled with fillers, rayon braid, tinned copper braid shield, chrome vinyl jacket.											
MULTIPLE CONDUCTOR 	**8422**	2	22 (16x34)	.023	.023	.231	87	1000	—	18	32	15, 25, 50, 100, 250, 500, 1000
	8403	3	20 (26x34)	.015	.033	.244	89	600	—	25	45	15, 50, 100, 250, 500, 1000
Tinned copper, polyethylene insulated, cabled, rayon braid, tinned copper braid shield, chrome vinyl jacket.	**8404**	4	20 (26x34)	.015	.033	.255	87	600	—	25	45	15, 100, 250, 500, 1000
	8405	5	20 (26x34)	.015	.035	.275	83	600	—	25	45	250, 500 ,1000

RUBBER—HYPALON—NEOPRENE—PLASTIC

See page 17 for conductor color coding

▲See 8421 Page 22 for spiral wrapped shield version of 8401—Recommended for Hi-Fi use.

**Capacitance between conductors.* ***Capacitance between 1 conductor and remaining conductors (if any) connected to shield.*

PLASTIC CABLES RECOMMENDED FOR: Lower capacitance, lower loss, greater ozone and oil resistance, lighter weight, smaller diameter.
RUBBER CABLES RECOMMENDED FOR: Greater abrasion and impact resistance, and extra limpness so cable will lie flat on stage or studio floor.
NEOPRENE AND HYPALON CABLES RECOMMENDED FOR: Outside use, cold weather applications. Resistant to effects of sun, oil, and ozone.

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retractile (coiled) cables and cords

Belden

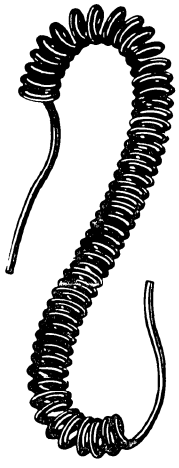
COILED CORDS

Retractile cords keep telephone and microphone cables from tangling and cluttering desk tops, communications consoles and the front seats of motor vehicles. Belden manufactures a full line of high quality retractile coiled cord products for a wide number of applications.

Belden retractile cables and cords are used for telephone equipment; ham and citizen band radios; hand and desktop microphones; language lab equipment; musical instruments; mobile controls and mobile communications equipment and for a variety of assorted industrial applications.

The specially designed conductors and shields of Belden retractile cords are constructed to withstand rugged use and to minimize replacement frequency.

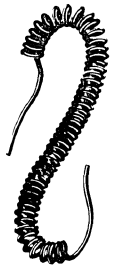
RETRACTILE (COILED) MICROPHONE CABLES



Description	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Nom. Coil O.D. (Inch)	Percent Shield Coverage	Nom. ***Cap. (mmf/cord)	Retracted Length (Inch)	Practical Extended Length (Feet)	Standard Put-Up
	8409	4 unshielded	28 (7x36)	.005	.050	.165	9/16	No shield	—	12	6	1
		Tinned copper, nylon insulated, neoprene jacket.										
	8415	4 unshielded	23 (21x36)	.020	.055	.250	7/8	No shield	—	11½	6	1, 50
		5 strands TCW, 16 strands TC rubber insulated, paper tape, neoprene jacket.										
	8499	1 shielded	24 (45x40)	.019	.043	.160	11/16	80	285	7½	4	1
		Tinned cadmium bronze, rubber insulated, spiral TC shield, cotton wrap, neoprene jacket.										
	***8605**	1 shielded	24 (19x36)	.021	.042	.160	11/16	87	550	21½	12	1
		Tinned copper, polypropylene insulated, spiraled TC shield, Gray PVC jacket.										
	8497	3 1 shielded 2 unshielded	23 (21x36)	.020	.046	.250	7/8	100	480	11½	6	1, 50
		5 strands TCW, 16 strands TC, rubber insulated double BELDFOIL® aluminum polyester shield with drain wire same as conductors, paper tape, neoprene jacket.										
	8491	4 2 individually shielded 2 unshielded	23 (21x36)	.020	.050	.300	1 1/16	100	480	12	6	1
		5 strands, TCW, 16 strands TC, rubber insulated, double BELDFOIL® aluminum polyester shield with drain wire same as conductors, paper tape, neoprene jacket.										
	8490	5 unshielded	23 (21x36)	.020	.045	.265	7/8	No shield	—	11½	6	1
		5 strands TCW, 16 strands TC, rubber insulated, paper tape, neoprene jacket.										

NEOPRENE RETRACTILE (COILED) POWER CONTROL CABLES

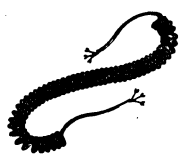
Longer lengths are available on request.



Trade Number	No. of Cond.	UL Type	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Nom. Coil O.D. (Inch)	Retracted Length (Inch)	Practical Extended Length (Feet)	Standard Put-Up
8601	2	SVO	18 (41x34)	.016	.045	.270	1	12	6	1
8602	3	SJO	18 (41x34)	.031	.045	.360	1⅜	12	6	1
8603	3	SJO	16 (65x34)	.031	.045	.370	1½	12	6	1
8604	3	SJO	16 (65x34)	.031	.045	.370	1½	22	12	1

Bare copper, paper wrap, rubber insulation, cabled with fillers, paper tape wrap, black neoprene jacket. 6" straight portion each end. Jacket removed 1½" each end.

VINYL RETRACTILE (COILED) TELEPHONE CORDS



Description	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Nom. Coil O.D. (Inch)	Retracted Length (Inch)	Practical Extended Length (Feet)	Standard Put-Up
	8495	3	23 (21x36)	.020	.041	.220	7/8	10	4½	1
	8494	4	23 (21x36)	.020	.043	.245	7/8	10	4½	1

Bare cadmium bronze, vinyl insulated, cabled, paper wrapped, black vinyl jacket. 8494 one end stripped 7¾" spade terminals attached and hook strain relief clamped over jacket. Other end stripped 6¼" and spade terminals attached. 8495 one end stripped 2¾", spade terminals attached and hook strain relief clamped over jacket. Other end stripped 3 7/16" and spade terminals attached.

CONDUCTOR COLOR CODING

Color coding of individual conductors for cables on this page and microphone cables on page 16.

(1) White, (2) Black, (3) Red, (4) Green, (5) Blue, (6) Brown, (7) Yellow, (8) Orange.

*New item ***Capacitance of shielded conductor.*

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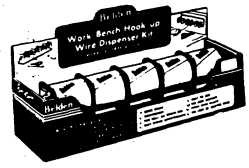
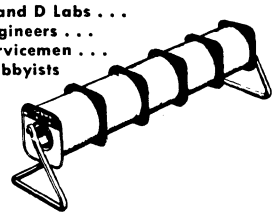
Belden

hook-up wire kits, antenna wire, magnet wire and litz wire

KITS—HOOK-UP WIRE ON RACKS



R and D Labs . . .
Engineers . . .
Servicemen . . .
Hobbyists



Specify Trade Number 8800 for Rack only

Trade Number	No. of Spools	Spool Lengths	Type of Wire	Colors in Kit
*8816	8	25'	18 Stranded vinyl (8522-25)	1, 2, 3, 4, 5, 6, 9, 10
8822	10	25'	20 solid, vinyl (8529-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
8823	5	100'	20 solid, vinyl (8529-100)	2, 5, 6, 9, 10
8824	8	25'	20 stranded, vinyl (8523-25)	1, 2, 3, 4, 5, 6, 9, 10
8825	5	100'	20 stranded, vinyl (8507-100)	9, 14, 15, 16, 17
8826	5	100'	22 stranded, vinyl (8508-100)	9, 14, 15, 16, 17
8827	5	100'	22 stranded, vinyl-nylon (8518-100)	2, 5, 6, 9, 10

See column below for color coding.

STOCK COLORS

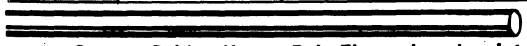
First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

1 Brown	6 Light Blue	10 Black	14 White/Black
2 Red	7 Violet (purple)	11 Tan	15 White/Red
3 Orange	8 Gray (slate)	12 Pink	16 White/Green
4 Yellow	9 White	13 Dark Blue	17 White/Yellow
5 Green			

ANTENNA WIRE

Stranded bare copperweld

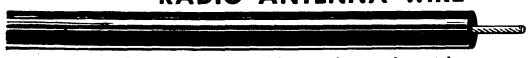
Trade Number	AWG & (Stranding)	Nom. O.D. (Inch)	Standard Spool Lengths in ft.
8002	16(7x24)	.060	50, 100
8000	14(7x22)	.076	50, 75, 100, 1000



Copper, Belden Heavy Poly-Thermaleze insulated.

8009	14(Solid)	.067	100, 150, 500
8008	12(Solid)	.084	100, 150, 500

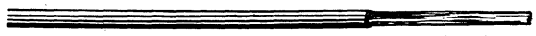
RADIO ANTENNA WIRE



Tinned copperweld, weather-resistant brown polyethylene insulation.

Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Standard Spool Lengths in ft
8201	20(7x28)	.121	.278	100, 500, 1000

INDOOR ANTENNA WIRE



Tinned copper, chrome vinyl insulated.

Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Standard Spool Lengths in ft
8014	25(13x36)	.010	.044	25, 500

*New Item

Licensed under U. S. Pat. 3,022,200 and patent pending

SINGLE BELDSOL®

Solderable

BELDSOL Magnet Wire is a dual film insulated Magnet Wire that combines the excellent dielectric characteristics of Polyurethane and the known toughness and solvent resistance offered by an overcoat of nylon. This wire is rated by IEEE tests for 130°C usage and will solder without insulation removal at 750°F. Complies with Mil-W-583 specification.

Size	¼ Pound Spool		½ Pound Spool		Turns per Linear Inch	Turns per Square Inch
	Trade Number	Approx. Length (Feet)	Trade Number	Approx. Length (Feet)		
14			8047	40	15.2	231
16			8048	63	19.1	365
18			8049	100	23.9	571
20			8050	160	29.9	894
22			8051	254	37.5	1410
24			8052	404	46.9	2200
26			8053	645	59.0	3480
28	8040	510	8054	1020	73.8	5450
30	8041	807	8055	1615	91.7	8410
32	8042	1257	8056	2515	114.0	13000
34	8043	2030	8057	4060	144.0	20700
36	8044	3200	8058	6400	180.0	32400
38	8045	5070			225.0	50600
40	8046	8050			290.0	84100

BELDEN HEAVY POLY-THERMALEZE□

High Temperature

BELDEN POLY-THERMALEZE is a dual polyester film insulated Magnet Wire rated for 155°C usage and has exceptional ability to resist solvents and abuse in difficult windings. Complies with Mil-W-583 specification.

Size	½ Pound Spool		1 Pound Spool		Turns per Linear Inch	Turns per Square Inch
	Trade Number	Approx. Length (Feet)	Trade Number	Approx. Length (Feet)		
14	8059	40	8073	80	14.9	222
16	8060	63	8074	126	18.6	346
18	8061	100	8075	199	23.2	538
20	8062	157	8076	315	28.9	835
22	8063	250	8077	501	36.0	1296
24	8064	396	8078	793	44.7	1998
26	8065	630	8079	1260	55.7	3102
28	8066	995	8080	1990	69.4	4816
30	8067	1570	8081	3140	86.2	7430
32	8068	2440	8082	4880	106.0	11236
34	8069	3930	8083	7860	133.0	17689
36	8070	6200	8084	12400	167.0	27889
38	8071	9700	8085	19400	225.0	50600
40	8072	16050	8086	32100	290.0	84100

38 AWG & 40 AWG Single Polyester, Blue Color

LITZ WIRE

Copper, Celenamel® insulated, nylon wrap.

Trade Number	Stranding	Nom. O.D. (Inch)	Standard Spool Lengths in ft
8817	5x44	.008	100

BELDEN PAGE 14

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Presenting Belden's

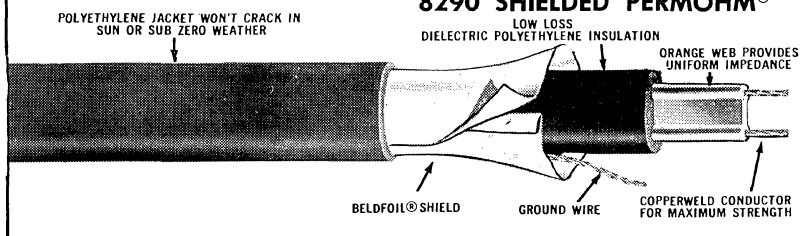
COLOR TWINS

Now, there's a Belden quality TV antenna wire just right for color and UHF TV reception in both congested and uncongested areas.

With today's strong emphasis on quality UHF and color TV programming and equipment, the importance of the transmission line connecting the outdoor antenna and TV receiver is critical. Until recently, there's been a big quality gap — a missing link — between the best engineered color TV sets and the finest TV antennas.

Belden's Color Twins were specially engineered to provide color and black/white, UHF and VHF TV reception in congested close-in areas and uncongested fringe areas.

8290* SHIELDED PERMOHM®



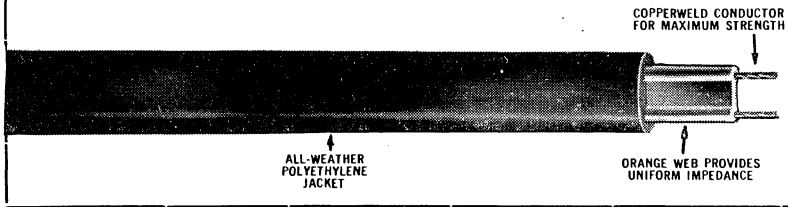
Designed to provide superior VHF, UHF, B/W and color TV reception in congested areas where reception is critical. Beldfoil shielding assures a clean, strong signal by eliminating transmission line pick-up of ghost signals and electrical noise (including automotive ignition noise). Belden's 8290 can be installed underground, in gutters, and conduit. 8290 can simply be taped to mast.

AWG & Stranding	Color	Nominal O.D. (Inch)	Nominal Velocity of Propagation	Nominal Capacitance (mmf/ft)	Nominal Attenuation per 100' mc	db	Std. Pkg. Length in ft.
22 (7x30)	Brown	.305X .515	69.8%	7.8	57	1.7	50, 75, 100 coils have terminals attached
					85	2.1	
					177	3.2	
					213	3.5	available in counter dispenser
					473	5.4	
					671	6.6	
					887	7.7	250, 500 spool

Copperweld, 2 conductors, orange polyethylene insulation and web between conductors, cellular polyethylene oval insulation, Beldfoil® shield, stranded tinned drain wire, polyethylene jacket.

• Patent No. 2,782,251 and Patent Pending

8285* PERMOHM®



Provides superior VHF, UHF, B/W and color TV reception in uncongested or fringe areas. Especially designed to deliver more signal to the receiver than any other unshielded twin lead. The special polyethylene jacket protects the major portion of the energy field. Provides highest efficiency of any available unshielded transmission line, even when exposed to smog, moisture, weathering and industrial atmospheres. Does not require expensive matching transformers and connectors.

AWG & (Stranding)	Color	Nom. O.D. (Inch)	Nom. Velocity of Propagation	Nom. Capacitance (mmf ft)	Nom. Attenuation per 100 mc	db	Standard Package Lengths in ft.
22 (7x30)	Brown	.255 x .468	73.3%	5.3	100	1.4	50, 75, 100 coils have terminals attached
					300	2.8	
					500	3.8	available in counter dispenser
					700	4.8	
					900	5.6	250, 500 coils 1000 spool

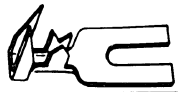
Copperweld, 2 conductors parallel, orange polyethylene insulation and web between conductors, cellular polyethylene oval jacket.

• Patent No. 2,782,251

TERMINALS

FOR 8290 SHIELDED PERMOHM AND 8285 PERMOHM

These terminals now offer an easy termination method for 8290 Shielded Permohm and 8285 Permohm for the antenna and TV set termination with any simple crimping tool. They are the same terminals used on the 50, 75 and 100 ft. coils of 8290 and 8285.

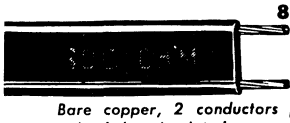
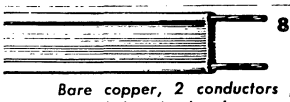
Description	Trade Number	Screw Size	Length (Inch)	Width of Face (Inch)	Thickness of Stock (Inch)
	8190-98	Size 10	1	27/64	.030
	8191-98	Size 6	49/64	9/32	.030

Now available for the TV Serviceman and Dealer in individual "98 packets"

© United Technical Publications

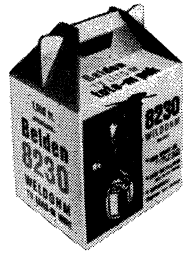
Belden | transmission line cables

TWIN LEAD WIRES (Cont'd)

Description & Trade Number	AWG & (Stranding)	Color	Nom. O.D. (Inch)	Nom. Velocity of Propagation	Nom. Capacitance (mmf/ft.)	Nom. Attenuation per 100' mc	Nom. Attenuation per 100' db	Standard Package Lengths in ft.
Celluline® 8275• *Bare copperweld; 2 conductors parallel, polyethylene jacket with inert gas filled unicellular polyethylene core.*	20 (7x28)	Brown	.300 x .400	80%	4.6	100 200 300 400 500 700 900	1.05 1.64 2.12 2.5 2.98 3.62 4.3	50, 75, 100 coils in counter dispenser 250, 500 1000 spools
	CELLULINE maintains uniform electrical characteristics by eliminating all possible moisture between conductors. Installation is easier because no end-sealing is necessary. Losses are lower because of its lower dielectric constant (1.5). *The thick outer wall of brown polyethylene protects the cable from abrasion and sun damage; the round shape offers less wind resistance. The result is a longer lasting, more efficient line. Recommended for black and white VHF and local UHF reception.*							
8235 *Bare copper, 2 conductors parallel, polyethylene insulated.*	18 (7x26)	Brown	.185 x .520	77%	5.0	100 200 300 400 500 700 900	.85 1.35 1.80 2.20 2.60 3.25 3.85	100 coil 500 spool
	Amateur transmitting and receiving twin lead—1KW(RF) rated.							
Weldohm® 8230 *Bare copperweld; 2 conductors parallel, polyethylene insulated.*	20 (7x28)	Brown	.072 x .400	80%	4.4	100 200 300 400 500 700 900	1.1 1.7 2.2 2.7 3.1 3.7 4.5	25, 50, 75, 100 pancake coils in a sleeve 250, 500 1000 spools T-1000 (tote-m pak)
	WELDOHM is 1½ times STRONGER and has 2½ times more FLEX LIFE than equivalent twin lead with all copper conductors, without changing the RF electrical characteristics. Tests prove its superior resistance to the pulling, whipping, and twisting that is so important to a long lasting installation.							
8225  *Bare copper, 2 conductors parallel, polyethylene insulated.*	20 (7x28)	Brown	.058 x .400	80%	4.4	100 200 300 400 500 700 900	1.1 1.7 2.2 2.7 3.1 3.7 4.5	25, 50, 75, 100 pancake coils in a sleeve 250, 500 1000 spools T-1000 (tote-m pak)
	Brown polyethylene for the best weathering.							
8226  *Bare copper, 2 conductors parallel, polyethylene insulated.*	20 (7x28)	Ivory, Clear	.058 x .400	80%	4.4	Same as 8225		25, 50, 75, 100 pancake coils in a sleeve
	For indoor use only							

•Belden U.S. Patent No. 2,814,666

BELDEN MERCHANDISERS

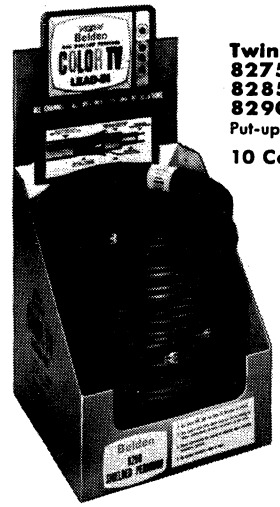


NEW! TOTE-M PAK*

A great new on the job convenience item for TV servicemen and installation crews! Disposable tote-m pak shipping carton has a built-in carrying handle for easy, on-the-job handling. Contains 1,000 ft. spool which feeds wire out through special opening (spool never has to be removed or handled).tote-m pak features convenient reminder footage chart.

8230 (Weldohm) and **8225** available in 1,000' spools only.

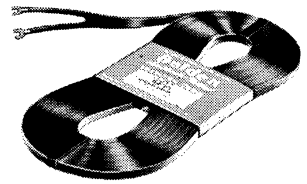
* Belden Trademark



Twin Lead Coils
8275 (Celluline)
8285 (Permohm)
8290 (Shielded Permohm)
Put-ups 50', 75', 100'

10 Coils per box

WITH TERMINALS



Twin Lead—10 Pancake Coils Per Box
8225
8226
8230 (Weldohm)
Put-ups 25', 50', 75', 100'

Antenna Rotor Cables
8464 (4 conductor, flat)
Put-ups 50', 75', 100'
8463 (5 conductor, flat)
Put-ups 50', 75', 100'

© United Technical Publications

transmission line cables and antenna rotor cables

Belden

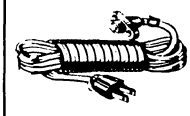
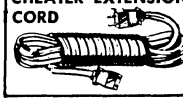
ALUMINUM GROUND WIRE

Packaged in counter dispensers of 10-50' connected coils, or spools of 500 ft. Wire on spools is marked every 100' for easy measuring.

Description	Trade Number	Nom. O.D. (Inch)	Standard Package Lengths in ft
	8018	.128	500' in 10'-50' connected coils 500' spools

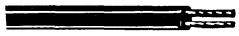
8 AWG solid, soft annealed aluminum

TV AND CHEATER CORDS

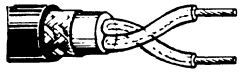
Description	Trade Number	Length in ft.	Standard Package
CHEATER CORDS 	8874	6	1 in polyethylene bag with description. *SP-1 brown rubber parallel cord with male plug and TV connector.*
	8895	6	1 in polyethylene bag with description. 100 bulk hanked.
	8889	9	*SPT-1 brown plastic parallel cord with male plug and TV connector.*
Polarized	8873	6	1 in polyethylene bag with description. 100 bulk hanked. *SPT-1 brown plastic parallel cord with Polarized male plug and TV connector.*
CHEATER EXTENSION CORD 	8875	6	1 in polyethylene bag with description. *SPT-1 red plastic parallel cord with male and female TV connectors.*

Additional Cords Listed on Pages 42-51

72 OHM TRANSMISSION LINE CABLES

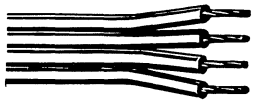
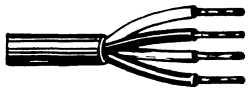
Description	Trade Number	AWG & (Stranding)	Nom. O.D. (Inch)	Nom. Velocity of Propagation	Nom. Capacitance (mmf ft)	Nom. Attenuation per 100' mc	Nom. Attenuation per 100' db	Standard Spool Lengths in ft
72 OHM LINE 	8222	20 (7x28)	.075 x .128	70%	20.3	100 200 300 400	7.7 11.0 13.6 15.9	100, 500
		Bare copper, 2 conductors parallel, brown polyethylene insulated.						
72 OHM 1 KW (RF) RATED	8210	13 (7x21)	.166 x .278	67%	21.0	100 200 300 400 500 700 900	3.8 6.0 7.8 9.3 11.0 13.7 16.0	100, 250
		Bare copper, 2 conductors parallel, brown polyethylene insulated.						

SHIELDED 100 OHM TRANSMISSION LINE

Description	Trade Number	AWG & (Stranding)	Nom. O.D. (Inch)	Nom. Velocity of Propagation	Percent Shield Coverage	Nom. Capacitance (mmf ft)	Nom. Attenuation per 100' mc	Nom. Attenuation per 100' db	Standard Spool Lengths in ft
	8227	20 (7x28)	.325	62%	83	15.5	100 200 300 400	4.1 6.4 8.4 10.2	500

One conductor tinned, one bare copper, polyethylene insulated, cabled, polyethylene jacket, tinned copper braid shield, black vinyl jacket. This shielded transmission line offers low-loss signal transmission which remains unaffected by outside signals or noise fields. Recommended for RF applications requiring a cross-talk free, balanced operation.

ANTENNA ROTOR CABLE

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Cond. Coding	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Suggested Working Voltage	Standard Package Lengths in ft
	8464	4	20 (7x28)	1 cond. tinned and insulation ribbed	—	—	.070 x .390	200	50, 75, 100 pancake coils 500, 1000 spools
		Bare copper, parallel, chrome vinyl insulated.							
	8463	5	20 (7x28)	1 cond. tinned	—	—	.070 x .375	200	50, 75, 100 pancake coils 500 spools
		Bare copper, parallel, brown polyethylene insulated.							
	8484	4	20 (7x28) bare copper	Blk, Grn, Red, Wht	.010	.020	.180	200	100, 500, 1000 spools
	★8489	4	18 (16x30) tinned copper	Blk, Wht, Red, Grn	.018	.030	.250	400	100, 250, 500 1000, spools
	8485	5	20 (7x28) bare copper	Blk, Grn, Red, Wht, Yel	.010	.020	.190	200	100, 500, 1000 spools
Vinyl insulated, cabled, chrome vinyl jacket.	8488	8	22 (7x30) bare copper	Blk, Blu, Brn, Grn, Org, Red, Wht, Yel	.010	.020	.205	200	100, 500, 1000 spools

★ **New Item**

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Belden

phonograph, hi-fi and stereo cables, language lab cable, portable cordage and test prod wire

HI-FI AND STEREO CABLES

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Nom. Cap. between condrs. (mmf/ft)	Nom. Cap. condr. to other condr. & shield (mmf/ft)	Standard Spool Lengths in ft
Phono Pick-Up Arm Cables	**8430**	2	32 (7x40)	.009	—	.050	Blk, Red	21	—	10, 25, 250
	→	4	Tinned copper, vinyl insulated, twisted pair. **Use two 8430s for maximum channel isolation, one for each channel.**							
Tinned copper, vinyl insulated, twisted, tinned copper braid shield.	**8429**	2	32 (7x40)	.009	—	.057	Blk, Red	22	38	10, 25, 250
	8419	3	32 (7x40)	.009	—	.067	Blk, Red, Wht	30	50	10, 25, 250
	→	4	**Use two 8429s for maximum channel isolation, one for each channel.**							
	8431	1	24 (16x36)	.015	—	.095	—	96	—	10, 15, 25 100, 500
			Tinned copper, rubber insulated, tinned copper braid shield, brown cotton braid.							
Hi-Fi Connecting Cable	**8421**	1	25 (7x33)	.050	.025	.180	—	18	—	15, 25, 50, 100, 250
			3 strands tinned copper and 4 tinned Copperweld, cellular polyethylene insulated, tinned copper spiral wrapped shield, chrome vinyl jacket.							
BELDFOIL® **Miniature Audio Connecting Cable totally shielded**	**8417•**	1	25 (7x33)	.020	.026	.140	—	25	—	15, 25, 50, 100, 250
			3 strands tinned copper and 4 tinned Copperweld, cellular polyethylene insulated, double BELDFOIL aluminum-polyester shield, inner shield folded 26 AWG stranded tinned copper, ground drain wire, chrome vinyl jacket.							

LANGUAGE LAB CABLE

Description	Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Nom. Cap. between condrs. (mmf/ft)	Nom. Cap. condr. to other condr. & shield (mmf/ft)	Standard Spool Lengths in ft
Dual Channel Audio Cable for head set, stereo and language labs	**8416**	2	25 (7x33)	.018	.020	.106 x .213	1 Clear 1 Red	35 each channel	—	15, 25, 50, 100, 250
			3 strands tinned copper and 4 tinned Copperweld, polyethylene insulated, individual tinned copper spiral wrapped shield, chrome vinyl jacket, polarity rib on red conductor.							

RUBBER-VINYL MULTI-CONDUCTOR PORTABLE CORDAGE

Description	Trade Number	U.L. Type	Insulation	No. of Conductors	AWG & (Stranding)	Insulation Thickness (Inch)	Conductor Coding	Jacket Thickness (Inch)	Nominal O.D. (Inch)	Color	Standard Spool Lengths in ft
	8462	SP-1	Rubber	2	18 (41x34) Tinned	.031	Polarity Ribbed	—	.123 x .223	Brown or Ivory	25, 100, 250
	8888	SPT-1	Vinyl	2	18 (41x34)	.031	Polarity Ribbed	—	.110 x .207	Brn, Ivory, or Gray	25, 100, 250
			Two conductors, stranded copper, parallel, insulated with one conductor polarity ribbed.								
	8452	SV	Rubber	2	18 (41x34)	.016	Blk, Wht	.031	.245	Black	25, 50, 100, 250, 500, 1000
	8478	SJ	Rubber	2	18 (41x34)	.031	Blk, Wht	.031	.298	Black	100, 250, 1000
	8472	SJ	Rubber	2	16 (65x34)	.031	Blk, Wht	.031	.325	Black	25, 100, 250
	8474	—	Rubber	2	14 (41x30)	.031	Blk, Wht	.035	.360	Black	100, 250
	8453	SV	Rubber	3	18 (41x34) Tinned	.016	Blk, Wht, Green	.031	.265	Black	50, 100, 500
Stranded copper, rubber insulated, cabled with fillers, rubber jacket.	**★8479**	—	Rubber	3	14 (41x30)	.031	Blk, Wht, Green	.035	.380	Black	100, 250
	8454	—	Rubber	4	18 (41x34) Tinned	.016	Blk, Wht, Brn, Red	.031	.265	Black	50, 100, 500, 1000
	8455	—	Rubber	5	3—20 (26x34) 2—18 (41x34) Tinned	.015 .015	Brn, Grn, White Blk, Red	.031	.280	Black	100, 250

TEST PROD WIRE

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Breakdown Voltage	Suggested Working Voltage‡	Standard Package	Standard Spool Lengths in ft.
	8899	18 (65x36)	.045	.144	20,000	5,000	—	10, 14*, 25**, 100**, 500**, 1000
		*7' of red and 7' of black. **Also available in blue, white, gray, green or yellow.						
Tinned copper, separator, rubber insulated, red or black.	**8897**	18 (65x36)	.045	.144	20,000	5,000	—	500, 1000
		Manufactured per MIL-W-13169						
	8898	18 (65x36)	.088	.230	29,000	10,000	—	10, 25, 100, 500
Miniature	**8890**	24 (45x40)	.019	.066	10,000	1,000	—	25, 100, 500
	8878 With Prods	20 (42x36)	.063	.173	20,000	5,000	1 pair Red and Black	—
		Stranded tinned copper rubber insulated with 4" long solderless threaded plastic "phone tip" test prod 3/8" diameter on one end and 1" long solderless threaded plastic "phone tip" test prod 3/8" diameter on the other end. 5 ft. in length retracts to 8 inches. Is recommended for use with multimeters.						
	8879 Without Prods	20 (42x36)	.063	.173	20,000	5,000	1 pair Red and Black	—
		Tinned copper, rubber insulated, 5 ft. in length retracts to 8 inches.						

★New Item ‡For intermittent duty only ⊖U.L. Type rating only: 300V-60°C •Belden U.S. Patent 3,032,604.

All breakdown voltages and suggested working voltages are AC RMS values.

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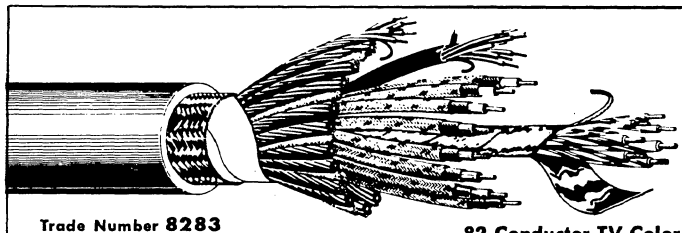
TV CAMERA CABLES

Belden TV Broadcast and Closed Circuit TV Camera Cables assure reliable circuit isolation thereby reducing a-c hum and minimizing crosstalk between circuits. They are made to withstand rugged service and to maintain high conductor insulation resistance regardless of ambient temperature changes.

Major uses for these cables are for controlling, powering and transmitting sound and picture information for monochrome and color TV cameras as well as for remote control, monitor and cue line systems.

Belden TV Camera Cables are engineered to be lightweight, flexible and easy to terminate. They are manufactured and tested in accordance with Belden's own rigid and time-proven quality control standards in order to assure outstanding reliability, performance and service life.

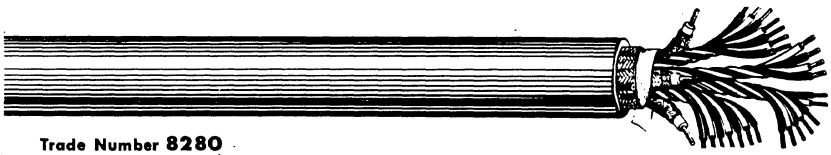


Designed to meet the critical electrical and physical requirements necessary for color television broadcast applications.

Trade Number 8283

82 Conductor TV Color Camera Cable

4-14 AWG (19x27) tinned copper, vinyl plastic insulated, color coded.
3-16 AWG (26x30) tinned copper, vinyl plastic insulated, color coded.
BELDFOIL® aluminum-polyester wrapped shield around the above 7 conductors cabled with stranded tinned copper drain wire.
8 coaxial cables. Nom. impedance 53.5 ohms, color coded.
67-22 AWG (7x30) tinned copper, vinyl plastic insulated, color coded, 7 under conductive textile shield with stranded ground wire.
Tinned copper braid shield.
Chrome vinyl plastic jacket. 1.22" Nom. O.D.
§Cut to customer's specified length.
Maximum length 1000'.

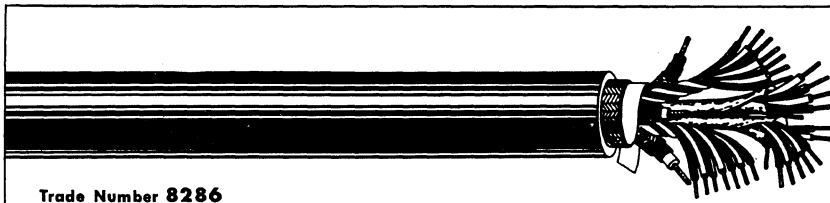


A smaller, lighter weight cable designed to make long runs easier. For black and white (Monochrome) systems.

Trade Number 8280

28 Conductor TV Camera Cable

4-18 AWG (16x30) tinned copper, vinyl insulated, color coded.
21-22 AWG (7x30) tinned copper, vinyl insulated, cabled in 3 groups of 7, color coded.
3 coaxial cables. Nom. impedance 51 ohms, color coded.
Tinned copper braid shield.
Chrome vinyl jacket. .750" Nom. O.D.
§Cut to customer's specified length.
Maximum length 1500'.



A 75 ohm cable designed to remain flexible in cold weather. Recommended for transistorized TV cameras.

Trade Number 8286

28 Conductor Hypalon ♦ TV Camera Cable

4-18 AWG (16x30) tinned copper, vinyl insulated, color coded.
BELDFOIL aluminum-polyester wrapped shield around 4 conductors with stranded drain wire, polyester tape over this shielded group.
21-22 AWG (7x30) tinned copper, vinyl insulated, cabled in 3 groups of 7, color coded, one group of 7 has a BELDFOIL aluminum-polyester wrapped shield overall with a stranded drain wire, polyester tape over this shielded group.
3 coaxial cables. Nom. impedance 75 ohms.
Tinned copper braid shield.
Black Hypalon jacket. .730" O.D.
§Cut to customer's specified length.
Maximum length 1000'.

§Minimum length 25'. 25' to 199', plus 25' minus 0. 200' or over, plus 50', minus 0.
♦DuPont trademark.

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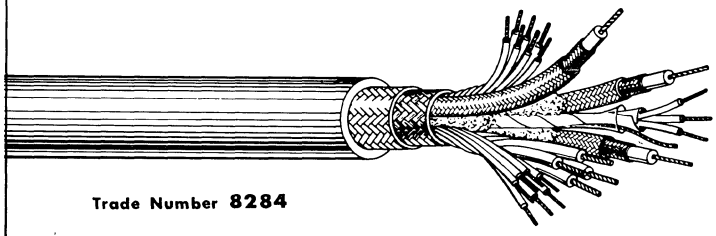
Belden | tv camera cable and 75 ohm video cables

TV CAMERA CABLES

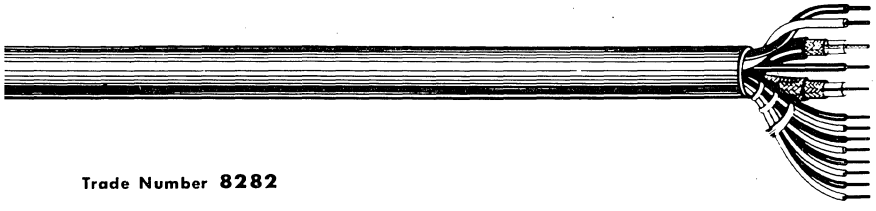


Trade Number **8284**

Designed specifically for color TV transmission. This cable incorporates circuit isolation assuring the reduction in AC hum level and cross talk essential for color TV broadcasting.

24 Conductor TV Camera Cable

17-22 AWG (7x30) tinned copper, vinyl insulated, color coded.
3 under BELDFOIL shield with stranded drain wire.
4-16 AWG (26x30) tinned copper, vinyl insulated, color coded.
3 coaxial cables. Nom. impedance 53.5 ohms, color coded.
Tinned copper braid shield. Heavy cotton braid.
Chrome vinyl plastic jacket. .800" Nom. O.D.
§Cut to customer's specified length. Maximum length 1000'.



Trade Number **8282**

Especially engineered for TV Eye Cameras. Recommended for remote control, monitor and cue line applications.

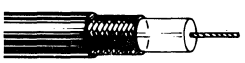
13 Conductor TV Eye Cable

8-22 AWG (7x30) tinned copper vinyl insulated, color coded.
1-22 AWG (7x30) polyethylene insulated conductor.
2-18 AWG (16x30) tinned copper conductor vinyl insulated.
Black and Red.
1-RG-58A/U cable 50-ohm coax.
1-72-ohm coax, stranded conductor, polyester tape wrapped.
Chrome vinyl jacket. .470" Nom. O.D.
§Cut to customer's specified length. Maximum length 2000'.

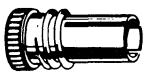
§Minimum length 25'. 25' to 199', plus 25' minus 0. 200' or over, plus 50', minus 0.

75 OHM PRECISION VIDEO CABLE

TYPICAL APPLICATIONS: Video signal transmission in Color and Monochrome TV studios. Provides high quality carrier of video signal with superior picture definition and eliminates problems of periodicity. Cable is manufactured with rigid control of concentricity and all dimensional tolerances. The black polyethylene jacket is inherently a non-contaminating, non-migratory compound. 100% SWEEP TESTED.

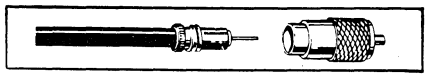
Description	Trade Number	AWG & (Stranding) Material	Nom. O.D. (Inch)	Percent Shield Coverage	Nom. Impedance (Ohms)	Nom. Velocity of Propagation	Nom. Cap. (mmf/ft)	Nom. Attenuation per 100' kc or mc	db	Standard Spool Lengths in ft.
	8281	20 (Solid) bare copper	.304	96.4	75	66%	21.	10 KC 100 KC 1 MC 10 MC 100 MC	.06 .08 .25 .78 2.70	500, 1000
		Conductor, polyethylene insulated, tinned copper double braid shield, black polyethylene jacket.								
 Miniature	**8279**	23 (7x31)	.220	96	75	66%	21.	10 KC 100 KC 1 MC 10 MC 100 MC	.14 .15 .35 1.30 4.90	100, 250 500
		Tinned compacted conductor, polyethylene insulated, tinned copper braid shield, black polyethylene jacket. Fit RG59/U connectors.								

Compacted conductor combines impedance uniformity of solid conductor and "nick-resistance" of stranded conductor.



For Use on 8281 Only

8299 Adapter for use with PL-259 connector. 25 in a box.



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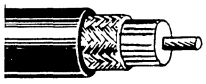
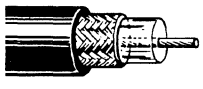
RG/U transmission line cables | Belden

COAXIAL CABLES***

Description	Trade Number	RG No.	AWG & (Stranding) Material	Insulation	No. of Shields & Material	Jacket	Nom. O.D. (Inch)	Nom. Imp. (Ohms)	Nom. Vel. of Prop.	Nom. Cap. (mmf/ft.)	Nom. Attenuation per 100' mc	Nom. Attenuation per 100' db	Standard Spool Lengths in ft.
	8264	5A/U **JAN-C-17A**	16 (Solid) silver coated copper	Polyethylene	2 silver-coated copper	Gray non-contaminating vinyl	.328	50	66%	30.8	100 200 400	2.40 3.50 5.25	500 1000
	8215	6A/U Type	21 (Solid) bare Copperweld 100% SWEEP TESTED	Polyethylene	2 bare copper	Black polyethylene	.332	75	66%	20.5	50 100 200 300 400	2.0 2.9 4.3 5.4 6.5	100, 500, 1000
	8237	8/U **JAN-C-17A**	13 (7x21) bare copper	Polyethylene	1 bare copper	Black vinyl	.405	52	66%	29.5	100 200 400	2.10 3.30 4.50	50, 100, 250, 500 1000
	**8214**	8/U Type	11 (7x19) bare copper	Cellular Polyethylene	1 bare copper	Black vinyl	.403	50	78%	26	50 100 200 300 400	1.20 1.80 2.60 3.30 3.80	50, 100 250 500 1000
	8242	9/U **JAN-C-17A**	13 (7x21) silver coated copper	Polyethylene	2 inner-silver-coated outer-bare copper	Gray non-contaminating vinyl	.420	51	66%	30.0	100 200 400	2.10 3.30 4.50	100 1000
	8243‡	9B/U **MIL-C-17D**	13 (7x21) silver coated copper	Polyethylene	2 silver coated copper	Black non-contaminating vinyl	.420	50	66%	30.8	100 200 400	2.10 3.30 4.50	500 1000
	**8238**	11/U **JAN-C-17A**	18 (7x26) tinned copper	Polyethylene	1 bare copper	Black vinyl	.405	75	66%	20.5	100 200 400	1.90 2.85 4.35	100 250, 500 1000
	8213	11/U Type	14 (Solid) bare copper 100% SWEEP TESTED	Cellular Polyethylene	1 bare copper	Black polyethylene	.405	75	78%	17.3	50 100 200 300 400	1.0 1.5 2.3 2.9 3.4	500, 1000, 2000
	8261‡	11A/U **MIL-C-17D**	18 (7x26) tinned copper	Polyethylene	1 bare copper	Black non-contaminating vinyl	.405	75	66%	20.5	100 200 400	1.90 2.85 4.35	100 500 1000
	8239	54A/U **JAN-C-17A**	18 (7x.0152) bare copper	Polyethylene	1 tinned copper	Clear polyethylene	.245	58	66%	26.5	100 200 400	3.10 4.40 6.70	500 1000
	8245	55/U **JAN-C-17A**	20 (Solid) bare copper	Polyethylene	2 tinned copper	Clear polyethylene	.201	53.5	66%	28.5	100 200 400	4.10 6.20 9.50	500 1000
	8240	58/U **JAN-C-17A**	20 (Solid) bare copper	Polyethylene	1 tinned copper	Black vinyl	.195	53.5	66%	28.5	100 200 400	4.10 6.20 9.50	25, 50, 100 250, 500 1000
	8219	58/AU Type	20 (19x32) tinned copper	Cellular Polyethylene	1 tinned copper	Black vinyl	.195	50	78%	26	50 100 200 300 400	3.6 4.8 7.6 8.5 10.1	100 500 1000

‡ Manufactured to current Government specifications and subsequent revisions.

***RG/U cables combine low capacitance and low attenuation. The virgin polyethylene insulation assures constant electrical characteristics regardless of changes in frequency or temperature. Note: Max. rating of polyethylene is 80°C (176°F).

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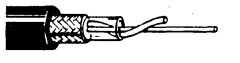
Belden | RG/U transmission line cables

COAXIAL CABLES (Cont'd)

Description	Trade Number	RG No.	AWG & (Stranding) Material	Insulation	No. of Shields & Material	Jacket	Nom. O.D. (Inch)	Nom. Imp. (Ohms)	Nom. Vel. of Prop.	Nom. Cap. (mmf/ft.)	Nom. Attenuation per 100' mc	Nom. Attenuation per 100' db	Standard Spool Lengths in ft.
	8259	58A/U **JAN-C-17A**	20 (19x.0071) tinned copper	Polyethylene	1 tinned copper	Black vinyl	.195	50	66%	30.8	100 200 400	5.30 8.20 12.60	25,50 100, 500 1000
	8262‡	58C/U **MIL-C-17D**	20 (19x.0071) tinned copper	Polyethylene	1 tinned copper	Black non-contaminating vinyl	.195	50	66%	30.8	100 200 400	5.30 8.20 12.60	500 1000
	8241	59/U **JAN-C-17A**	22 (Solid) bare Copperweld	Polyethylene	1 bare copper	Black vinyl	.242	73	66%	21.0	100 200 400	3.75 5.60 8.30	25, 50, 100, 250, 500,1000
	8211	59/U Type *100% SWEEP TESTED*	22 (Solid) bare Copperweld	Cellular Polyethylene	1 bare copper	Black Polyethylene	.242	75	78%	16.3	50 100 200 300 400	2.4 3.4 4.8 5.8 6.7	500,1000, 2000
	8212	59/U Type *100% SWEEP TESTED*	20 (Solid) bare Copperweld	Cellular Polyethylene	1 bare copper	Black Polyethylene	.242	75	78%	17.3	50 100 200 300 400	2.3 3.2 4.5 5.5 6.3	500,1000, 2000
	★8221	59/U Type *100% SWEEP TESTED*	22 (Solid) bare Copperweld	Cellular Polyethylene	1 bare copper	Gray, White, Black vinyl	.242	75	78%	16.3	50 100 200 300 400	2.4 3.4 4.8 5.8 6.7	100, 500, 1000
	8263‡	59B/U **MIL-C-17D**	.023 (Solid) bare Copperweld	Polyethylene	1 bare copper	Black non-contaminating vinyl	.242	75	66%	20.5	100 200 400	3.75 5.60 8.30	500 1000
	**8254**	62/U **JAN-C-17A**	22 (Solid) bare Copperweld	Semi-solid Polyethylene	1 bare copper	Black vinyl	.242	93	84%	13.5	100 200 400	3.10 4.40 6.30	100 500 1000
	8255	62B/U **MIL-C-17D**	24 (7x32) bare Copperweld	Semi-solid Polyethylene	1 bare copper	Black non-contaminating vinyl	.242	93	84%	13.5	100 200 400	3.10 4.40 6.30	500 1000
	8257	71/U **JAN-C-17A**	22 (Solid) bare Copperweld	Semi-solid Polyethylene	2 tinned copper	Clear Polyethylene	.245	93	84%	13.5	100 200 400	3.10 4.40 6.30	500 1000
	8258‡	71B/U **MIL-C-17D**	22 (Solid) bare Copperweld	Semi-solid Polyethylene	2 tinned copper	Black polyethylene	.245	93	84%	13.5	100 200 400	3.10 4.40 6.30	500 1000
	8216	174/U **MIL-C-17D**	26 (7x34) bare Copperweld	Polyethylene	1 tinned copper	Black vinyl	.100	50	66%	30.8	100 200 400	8.8 13.0 20.0	100 500 1000
	8265‡	178B/U **MIL-C-17D**	30 (7x38) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	Brown FEP TEFLON■	.072	50	69.5%	29	400	29.0 Max.	100 500
	8266‡	180B/U **MIL-C-17D**	30 (7x38) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	Brown FEP TEFLON	.142	95	69.5%	15	400	17.0 Max.	100 500
	8269‡	188A/U **MIL-C-17D**	26 (7x.0067) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	White TFE TEFLON	.106	50	69.5%	29	400	20.0 Max.	100 500

★New Item

■*Trademark of DuPont*

‡Manufactured to current Government specifications and subsequent revisions.

REQUEST QUOTATIONS ON PRODUCTION QUANTITIES OF RG/U CABLES NOT LISTED.

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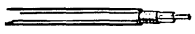
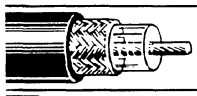
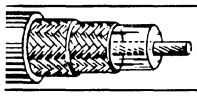
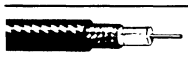
RG/U transmission line and High Voltage cables

Belden

COAXIAL CABLES (Cont'd)

Description	Trade Number	RG No.	AWG & (Stranding) Material	Insulation	No. of Shields & Material	Jacket	Nom. O.D. (Inch)	Nom. Imp. (Ohms)	Nom. Vel. of Prop.	Nom. Cap. (mmf ft.)	Nom. Attenuation per 100' mc	Nom. Attenuation per 100' db	Standard Spool Lengths in ft.
	**8270‡**	196A/U MIL-C-17D	30 (7x38) Silver coated Copperweld	TFE TEFLON■	1 Silver coated copper	White TFE TEFLON■	.076	50	69.5%	29	400	29.0 Max.	100 500
	**8267‡**	213/U MIL-C-17D	13 (7x21) bare copper	Polyethylene	1 bare copper	Black non-contaminating vinyl	.405	50	66%	30.8	100 200 400	2.10 3.30 4.50	500 1000
	**8268**	214/U MIL-C-17D	13 (7x.0296) Silver coated copper	Polyethylene	2 Silver coated copper	Black non-contaminating vinyl	.425	50	66%	30.8	100 200 400	2.10 3.30 4.50	500 1000
	**8218**	—	27 (7x35) bare Copperweld	Polyethylene	1 tinned copper	Black vinyl	.150	75	66%	20.5	100 200 400	5.7 8.4 12.5	100 500 1000
Triaxial *Conductor, cellular polyethylene insulated, bare copper braid shield, polyethylene insulated, bare copper braid shield, black polyethylene jacket.*	**8232**	59/U Type Double Shield *100% SWEEP TESTED*	20 (Solid) bare Copperweld	Cellular Polyethylene	2 bare copper	Black Polyethylene	.315	75	78%	17.3	50 100 200 300 400	2.3 3.2 4.5 5.5 6.3	500,1000, 2000
	8233	11/U Type Double Shield *100% SWEEP TESTED*	14(Solid) bare copper	Cellular Polyethylene	2 bare copper	Black Polyethylene	.475	75	78%	17.3	50 100 200 300 400	1.0 1.5 2.3 2.9 3.4	500,1000, 2000
	8700•	—	28 (Solid) tinned copper	Polypropylene	1 bare copper	Black vinyl	.054	32	66%	48	400	5.5	25, 50, 100, 250

■*Trademark of DuPont* •*80 Percent shield coverage suggested working voltage 100*

‡Manufactured to current Government specifications and subsequent revisions.

REQUEST QUOTATIONS ON PRODUCTION QUANTITIES OF RG/U CABLES NOT LISTED.

HIGH VOLTAGE CABLES

Belden High Voltage Cables are designed for use by public utilities and laboratories in testing high voltage equipment and apparatus. Through their use, potentially dangerous conditions can be detected both before installation and at intervals during service.

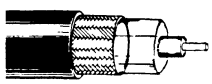
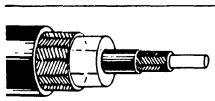
Belden High Voltage Test Cables are engineered to achieve the best possible performance at continual rated voltages. Their special design incorporates the use of conductive polyethylene over the center conductor, bonded to the polyethylene dielectric material. This provides uniform voltage stress distribution around the center conductor and results in an increased elimination of degradation due to internal corona.

For special cables up to 600 KVDC ratings, please ask for individual quotation.

HIGH VOLTAGE CATHODE-RAY TUBE LEAD

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Jacket Color	Breakdown Voltage	Suggested Working Voltage	Standard Spool Lengths in ft.
	★8866	18 (41x34)	.057	.015	.208	Red	110,000	40,000	25, 100, 500
	8868	22 (7x30)	.045	.015	.150	Red	50,000	25,000	25, 100, 500
Tinned copper, conductive polyethylene, polyethylene insulated, vinyl jacket.	**8869**	22 (7x30)	.030	.015	.120	Black	35,000	17,000	25, 100, 500

HIGH VOLTAGE CABLE

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Jacket Color	Breakdown Voltage	Suggested Working Voltage	Standard Spool Lengths in ft.
	**8870**	22 (Solid) Copperweld	.142	.020	.440	Black	160,000 D.C.	80,000 D.C.	100
		Solid Copperweld, conductive polyethylene, polyethylene insulation, tinned copper braid equipotential sheath, black polyethylene jacket.							
	**★8871**	16 (Braided)	.270	.025	.830	Black	400,000 D.C.	200,000 D.C.	25, 100
		Tinned copper braid (CMA equivalent to 16 AWG) over solid polyethylene rod, black conductive polyethylene, clear polyethylene insulation, tinned copper braid, black polyethylene jacket.							

★**New Item**

Conductive polyethylene over inner conductor combined with a copper wire braid over the dielectric provides uniform distribution of voltage stress. Very high-voltage DC cable applied from 200 KVDC to 600 KVDC is available from Belden on special order. Consult Belden Engineering Department for AC or pulse applications.

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Belden | mil-w-16878 vinyl plastic

MILITARY SPECIFICATIONS PERTAINING TO BELDEN HOOK-UP WIRE

Belden's outstanding line of Hook-Up Wire represents a broad selection of quality products that meets the Military Specifications indicated on this and on the following pages.

Basically, from the customer's point of view, Military Specifications can be a helpful guide in determining specific information about cable construction, electrical limits and test data as an aid in comparing and selecting wiring products to meet the needs of specific applications.

The following Military Specifications cover the Belden Hook-Up Wire Products to be found in this catalog:

MIL-W-16878—Wire, Electrical, Insulated, High Temperature. Covers insulated wire for the internal wiring of meters, panels, and electrical and electronic equipment at temperatures ranging from 105°C to 200°C. The many types available in different voltages and thermal ratings are listed on the following pages to meet your individual requirements.

MIL-W-76—Wire and Cable, Hook-Up, Electrical, Insulated. Covers single conductor, plastic-insulated Hook-Up wire for the internal wiring of electrical and electronic equipment. The many types available in different voltages and outer covering are listed on the following pages to meet your individual requirements.

TYPE B—MIL-W-16878—VINYL—600V-105°C

Tinned copper, vinyl insulated.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
8599	B-32	32 (7x40)	.010	.029	1 thru 10	—	1 thru 10
8598	B-30	30 (7x38)	.010	.032	1 thru 10	—	1 thru 10
8597	B-28	28 (7x36)	.010	.035	1 thru 10	—	1 thru 10
8505	B-26	26 (7x34)	.010	.039	1 thru 10 14 thru 22	1 thru 10 —	1 thru 10 14 thru 22
8509	B-24	24 (19x36)	.010	.045	9, 14 thru 22	—	9, 14 thru 22
8504	B-24	24 (7x32)	.010	.044	1 thru 10 14 thru 22	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8508	B-22	22 (19x34)	.010	.051	9, 14 thru 22	—	9, 14 thru 22
8503	B-22	22 (7x30)	.010	.050	1 thru 10 14 thru 22	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8507	B-20	20 (19x32)	.010	.059	9, 14 thru 22	—	9, 14 thru 22
8502	B-20	20 (7x28)	.010	.058	1 thru 10 14 thru 22	1 thru 10 —	1 thru 10 14 thru 22
8501	B-18	18 (7x26)	.010	.068	1 thru 10 14 thru 22	1 thru 10 —	1 thru 10 14 thru 22
8500	B-16	16 (19x29)	.010	.077	1 thru 10 14 thru 22	1 thru 10 —	1 thru 10 14 thru 22

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

TYPE B—MIL-W-16878—VINYL-NYLON JACKET—600V-115°C

Tinned copper, vinyl insulated, nylon jacket overall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools	
					100'	1000'
8515	B-26	26 (7x34)	.010	.045	1 thru 10	1 thru 10
8519	B-24	24 (19x36)	.010	.051	1 thru 10	1 thru 10
8514	B-24	24 (7x32)	.010	.050	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8518	B-22	22 (19x34)	.010	.057	1 thru 10	1 thru 10
8513	B-22	22 (7x30)	.010	.056	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8517	B-20	20 (19x32)	.010	.065	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8512	B-20	20 (7x28)	.010	.064	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8516	B-18	18 (19x30)	.010	.075	9, 14 thru 22	9, 14 thru 22
8511	B-18	18 (7x26)	.010	.074	1 thru 10 14 thru 22	1 thru 10 14 thru 22
8510	B-16	16 (19x29)	.010	.083	1 thru 10 14 thru 22	1 thru 10 14 thru 22

Manufactured to current Government specifications and subsequent revisions.

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

STOCK COLORS

1 Brown	6 Light Blue	11 Tan	16 White/Green	21 White/Gray	26 White/Black/Blue
2 Red	7 Violet (purple)	12 Pink	17 White/Yellow	22 White/Violet	27 White/Black/Brown
3 Orange	8 Gray (slate)	13 Dark Blue	18 White/Blue	23 White/Black/Red	28 White/Black/Orange
4 Yellow	9 White	14 White/Black	19 White/Brown	24 White/Black/Green	29 White/Black/Gray
5 Green	10 Black	15 White/Red	20 White/Orange	25 White/Black/Yellow	30 White/Black/Violet

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TYPE C—MIL-W-16878—VINYL—1000V-105°C

Tinned copper, vinyl insulated.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Temperature Rating	Stock Colors on Standard Spools	
						100′	1000′
8955	C-24	24 (7x32)	.018	.058	105C	9	9
8954	C-22	22 (7x30)	.018	.064	105C	1 thru 10	1 thru 10
8953	C-20	20 (7x28)	.018	.072	105C	1 thru 10	1 thru 10
8952	C-18	18 (7x26)	.018	.082	105C	1 thru 10	1 thru 10
8951	C-16	16 (19x29)	.018	.091	105C	9	9
8950	C-14	14 (19x27)	.018	.105	105C	9	9

TYPE C—MIL-W-16878—VINYL-NYLON—1000V-115°C

Tinned copper, vinyl insulated, nylon jacket overall.

8960	C-22	22 (7x30)	.018	.070	115C	1 thru 10	1 thru 10
8959	C-20	20 (7x28)	.018	.078	115C	1 thru 10	1 thru 10
8958	C-18	18 (7x26)	.018	.089	115C	1 thru 10	1 thru 10
8957	C-16	16 (19x29)	.018	.098	115C	9	9
8956	C-14	14 (19x27)	.018	.114	115C	9	9

TYPE D—MIL-W-16878—VINYL—3000V-105°C

Tinned copper, vinyl insulated.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100′	500′	1000′
8971	D-22	22 (7x30)	.030	.090	1 thru 10	—	1 thru 10
8970	D-20	20 (7x28)	.030	.098	1 thru 10	—	1 thru 10
8969	D-18	18 (7x26)	.030	.108	1 thru 10	—	1 thru 10
8968	D-16	16 (19x29)	.030	.117	9	—	9
8967	D-14	14 (19x27)	.030	.131	9	—	9
8966	D-12	12 (19x25)	.035	.160	9	—	9
8965	D-10	10 (37x26)	.035	.178	9	—	9
8964	D-8	8 (133x29)	.040	.245	9	9	—
8963	D-6	6 (133x27)	.040	.290	9	9	—

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

STOCK COLORS

1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Light Blue
7 Violet (purple)
8 Gray (slate)
9 White
10 Black
11 Tan
12 Pink
13 Dark Blue
14 White/Black
15 White/Red
16 White/Green
17 White/Yellow
18 White/Blue
19 White/Brown
20 White/Orange
21 White/Gray
22 White/Violet
23 White/Black/Red
24 White/Black/Green
25 White/Black/Yellow
26 White/Black/Blue
27 White/Black/Brown
28 White/Black/Orange
29 White/Black/Gray
30 White/Black/Violet

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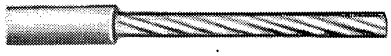
TYPE E—MIL-W-16878 TEFLON 600V-200°C

Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors	Standard Spool Lengths in ft.
8300	E-30	30 (7x38)	.010	.033	1 thru 10	25, 100, 500, 1000
8301	E-28	28 (7x36)	.010	.036	1 thru 10	25, 100, 500, 1000
8302	E-26	26 (7x34)	.010	.041	1 thru 10	25, 100, 500, 1000
8303	E-24	24 (19x36)	.010	.046	1 thru 10	25, 100, 500
8304	E-24	24 (7x32)	.010	.045	1 thru 10	25, 100, 500, 1000
8305	E-22	22 (7x30)	.010	.051	1 thru 10	25, 100, 500, 1000
8306	E-22	22 (19x34)	.010	.052	1 thru 10	25, 100, 500, 1000
8307	E-20	20 (19x32)	.010	.060	1 thru 10	25, 100, 500, 1000
8308	E-20	20 (7x28)	.010	.059	1 thru 10	25, 100, 500
8309	E-18	18 (19x30)	.010	.071	1 thru 10	25, 100, 500, 1000
8310	E-16	16 (19x29)	.010	.080	1 thru 10	25, 100, 500, 1000

Color striping available on 1000′ minimum per item each color on 500′ and 1000′ spools.

TYPE EE—MIL-W-16878 TEFLON 1000V-200°C



Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated.

8323	EE-24	24 (19x36)	.014	.053	1 thru 10	25, 100, 500
8325	EE-22	22 (7x30)	.014	.058	1 thru 10	25, 100, 500
8326	EE-22	22 (19x34)	.014	.060	1 thru 10	25, 100, 500, 1000
8327	EE-20	20 (19x32)	.014	.068	1 thru 10	25, 100, 500, 1000
8328	EE-20	20 (7x28)	.014	.066	1 thru 10	25, 100, 500
8329	EE-18	18 (19x30)	.014	.079	1 thru 10	25, 100, 500, 1000
8330	EE-16	16 (19x29)	.014	.086	1 thru 10	25, 100, 500, 1000

Color striping available on 1000′ minimum per item each color on 500′ and 1000′ spools.

MIL-W-76

Covers single conductor, plastic-insulated Hook-Up wire for the internal wiring of electrical and electronic equipment. The many types available in different voltages and outer covering are listed on the following pages to meet your individual requirements.

TYPE MW—MIL-W-76—VINYL—1000V-80°C

Tinned copper, vinyl insulated, medium wall. The extruded vinyl insulation is flame and ozone-resistant and is inert to most chemicals, oils, and solvents.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools			
					25′	100′	500′	1000′
8525	MW-C 24 (7) U	24 (7x32)	.017	.058	—	1 thru 22	1 thru 22	1 thru 22
8538	MW-C 24 (1) U	24 (Solid)	.017	.054	—	1 thru 22	1 thru 22	1 thru 22
8524	MW-C 22 (7) U	22 (7x30)	.017	.064	1 thru 13	1 thru 30	1 thru 30	1 thru 30
8530	MW-C 22 (1) U	22 (Solid)	.017	.059	1 thru 13	1 thru 30	1 thru 30	1 thru 30
8523	MW-C 20 (10) U	20 (10x30)	.017	.070	1 thru 13	1 thru 30	1 thru 30	1 thru 30
8529	MW-C 20 (1) U	20 (Solid)	.017	.066	1 thru 13	1 thru 22	1 thru 22	1 thru 22
8522	MW-C 18 (16) U	18 (16x30)	.017	.080	1 thru 13	1 thru 30	1 thru 30	1 thru 30
8528	MW-C 18 (1) U	18 (Solid)	.017	.074	—	1 thru 13	1 thru 13	1 thru 13
8521	MW-C 16 (26) U	16 (26x30)	.019	.098	—	1 thru 22	1 thru 22	1 thru 22
8531	MW-C 16 (1) U	16 (Solid)	.017	.085	—	1 thru 10	1 thru 10	1 thru 10
8520	MW-C 14 (41) U	14 (41x30)	.020	.111	—	1 thru 22	1 thru 22	1 thru 22
8527	MW-C 12 (65) U	12 (65x30)	.020	.130	—	1 thru 10	1 thru 10	1 thru 10

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

Manufactured to current Government specifications and subsequent revisions.

STOCK COLORS

1 Brown	6 Light Blue	11 Tan	16 White/Green	21 White/Gray	26 White/Black/Blue
2 Red	7 Violet (purple)	12 Pink	17 White/Yellow	22 White/Violet	27 White/Black/Brown
3 Orange	8 Gray (slate)	13 Dark Blue	18 White/Blue	23 White/Black/Red	28 White/Black/Orange
4 Yellow	9 White	14 White/Black	19 White/Brown	24 White/Black/Green	29 White/Black/Gray
5 Green	10 Black	15 White/Red	20 White/Orange	25 White/Black/Yellow	30 White/Black/Violet

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TYPE MW—MIL-W-76—VINYL-NYLON—1000V-90°C

Tinned copper, vinyl insulated. Medium wall, clear nylon jacket overall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools			
					25'	100'	500'	1000'
8537	MW-C 22 (7) J	22 (7x30)	.017	.069	—	1 thru 10 14 thru 22	—	1 thru 10 14 thru 22
8536	MW-C 20 (10) J	20 (10x30)	.017	.076	—	1 thru 10	—	1 thru 10
8535	MW-C 18 (16) J	18 (16x30)	.017	.086	—	1 thru 10	—	1 thru 10

TYPE MW—MIL-W-76—SHIELDED WITH NYLON JACKET—1000V-80°C

Tinned copper, vinyl insulated. Medium wall, tinned copper shield, nylon jacket.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100'	500'	1000'
8893	MW-C22(7)SJ	22 (7x30)	.017	.096	9	9	9
8896	MW-C20(10)SJ	20 (10x30)	.017	.105	9	9	9
8892	MW-C18(16)SJ	18 (16x30)	.017	.114	9	9	9
8894	MW-C16(26)SJ	16 (26x30)	.019	.132	9	—	9

TYPE MW—MIL-W-76—SHIELDED WITHOUT NYLON JACKET—1000V-80°C

Tinned copper, vinyl insulated. Medium wall, tinned copper shield overall.

8887	MW-C24(7)S	24 (7x32)	.017	.082	1 thru 10	—	1 thru 10
8883	MW-C22(7)S	22 (7x30)	.017	.088	1 thru 10		1 thru 10
8886	MW-C20(10)S	20 (10x30)	.017	.096	1 thru 10	—	1 thru 10
8882	MW-C18(16)S	18 (16x30)	.017	.105	1 thru 10	—	1 thru 10
8884	MW-C16(26)S	16 (26x30)	.019	.122	1 thru 10	—	1 thru 10
8881	MW-C14(41)S	14 (41x30)	.020	.135	9, 10	—	9, 10
8880	MW-C12(65)S	12 (65x30)	.020	.154	9, 10	—	9, 10

TYPE MW—MIL-W-76—GLASS BRAID-SHIELDED—1000V-80°C

Tinned copper, vinyl insulated. Medium wall, lacquered glass braid, tinned copper shield overall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools	
					100'	1000'
8863	MW-C22(7)BS	22 (7x30)	.017	.102	9	9
8862	MW-C20(10)BS	20 (10x30)	.017	.110	9	9
8861	MW-C18(16)BS	18 (16x30)	.017	.119	9	9
8860	MW-C16(26)BS	16 (26x30)	.019	.136	9	9
8859	MW-C14(41)BS	14 (41x30)	.020	.149	9	9
8858	MW-C12(65)BS	12 (65x30)	.020	.168	9	9

For miniature shielded hook-up wire see 8700 on page 27

Manufactured to current Government specifications and subsequent revisions.

STOCK COLORS

1 Brown	6 Light Blue	11 Tan	16 White/Green	21 White/Gray	26 White/Black/Blue
2 Red	7 Violet (purple)	12 Pink	17 White/Yellow	22 White/Violet	27 White/Black/Brown
3 Orange	8 Gray (slate)	13 Dark Blue	18 White/Blue	23 White/Black/Red	28 White/Black/Orange
4 Yellow	9 White	14 White/Black	19 White/Brown	24 White/Black/Green	29 White/Black/Gray
5 Green	10 Black	15 White/Red	20 White/Orange	25 White/Black/Yellow	30 White/Black/Violet

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Belden | mil-w-76 vinyl plastic

TYPE MW—MIL-W-76—VINYL-GLASS BRAID (OVERALL)—1000V—80°C

Tinned copper, vinyl insulated. Medium wall, lacquered glass braid overall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Voltage Rating	Stock Colors on Standard Spools		
						100	500	1000
8566	MW-C 22(7) B	22 (7x30)	.017	.078	1000V	1 thru 10	—	1 thru 10
8565	MW-C 20(10) B	20 (10x30)	.017	.086	1000V	1 thru 10	—	1 thru 10
8564	MW-C 18(16) B	18 (16x30)	.017	.095	1000V	1 thru 10 124 thru 132	— —	1 thru 10 124 thru 132
8563	MW-C 16(26) B	16 (26x30)	.019	.112	1000V	1 thru 10 124 thru 132	— —	1 thru 10 124 thru 132
8562	MW-C 14(41) B	14 (41x30)	.020	.125	1000V	9, 124 thru 132	— —	9, 124 thru 132
8561	MW-C 12(65) B	12 (65x30)	.020	.144	1000V	9, 125, 132	—	9, 125, 132

TYPE HW—MIL-W-76—VINYL-GLASS BRAID (OVERALL)—600V-80°C

Tinned copper, vinyl insulated. Heavy wall, lacquered glass braid, overall.

8591	HW-C 10(105) B	10 (105x30)	.048	.238	600V	9, 125, 132	—	9, 125, 132
8590	HW-C 8(133) B	8 (133x29)	.048	.279	600V	9	9	—
8589	HW-C 6(133) B	6 (133x27)	.048	.328	600V	9	9	—

TYPE LW—MIL-W-76—VINYL—300V-80°C

Tinned copper, vinyl insulated. Light wall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Type	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Temperature Rating	Stock Colors on Standard Spools	
							100	1000
8571	LW-C 28(7) U	28 (7x36)	Vinyl	.011	.037	80C	1 thru 10	1 thru 10
8570	LW-C 26(7) U	26 (7x34)	Vinyl	.011	.041	80C	1 thru 10	1 thru 10
8569	LW-C 24(7) U	24 (7x32)	Vinyl	.011	.046	80C	1 thru 10	1 thru 10
8568	LW-C 22(7) U	22 (7x30)	Vinyl	.012	.054	80C	1 thru 10	1 thru 10
8567	LW-C 20(10) U	20 (10x30)	Vinyl	.012	.060	80C	1 thru 10	1 thru 10

TYPE LW—MIL-W-76—VINYL-NYLON—300V-90°C

Tinned copper, vinyl insulated. Light wall, clear nylon jacket overall

8578	LW-C 28(7) J	28 (7x36)	Vinyl-Nylon	.011	.042	90C	—	1 thru 10
8577	LW-C 26(7) J	26 (7x34)	Vinyl-Nylon	.011	.046	90C	—	1 thru 10
8576	LW-C 24(7) J	24 (7x32)	Vinyl-Nylon	.011	.051	90C	—	1 thru 10
8575	LW-C 22(7) J	22 (7x30)	Vinyl-Nylon	.012	.059	90C	—	1 thru 10
8574	LW-C 20(10) J	20 (10x30)	Vinyl-Nylon	.012	.065	90C	—	1 thru 10

Manufactured to current Government specifications and subsequent revisions.

First color in stripe combination is body color and second or third colors are stripes. (EXAMPLE: White/Black/Red.)

STOCK COLORS

1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Light Blue
7 Violet (purple)
8 Gray (slate)
9 White
10 Black
124 White/Brown
125 White/Red
126 White/Orange
127 White/Yellow
128 White/Green
129 White/Blue
130 White/Violet
131 White/Gray
132 White/Black

BELDEN PAGE 28

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mil-w-76 vinyl plastic
mil-w-5086 & mil-w-7078 aircraft wire

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TYPE HW—MIL-W-76—VINYL—Gauges 16-22, 2500V—80°C, Gauges 6-14 600V—80°C

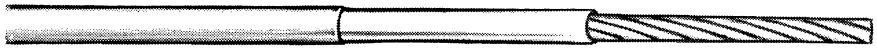
Tinned copper, vinyl insulated. Heavy wall.

Trade Number	Type Designation	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
8586	HW-C 18(16) U	18(16x30)	.034	.115	1 thru 10	—	1 thru 10
8585	HW-C 16(19) U	16(26x30)	.034	.128	2, 9, 10	—	2, 9, 10
8584	HW-C 14(19) U	14(41x30)	.048	.171	2, 9, 10	—	2, 9, 10
8583	HW-C 12(19) U	12(65x30)	.048	.191	2, 9, 10	—	2, 9, 10
8582	HW-C 10(37) U	10(105x30)	.048	.220	2, 9, 10	—	2, 9, 10
8581	HW-C 8(127) U	8(133x29)	.048	.261	2, 9, 10	2, 9, 10	—
8580	HW-C 6(127) U	6(133x27)	.048	.310	2, 9, 10	2, 9, 10	—

Stock Colors

1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Light Blue
7 Violet (purple)
8 Gray (slate)
9 White
10 Black

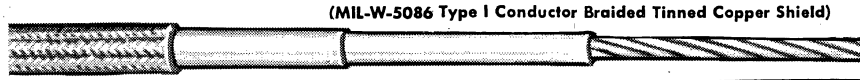
MIL-W-5086—TYPES 1 & 2—600V—105°C



Trade Number	MIL Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Spec. Type	Stock Colors on Standard Spools 100′	500′	1000′	Stock Color
8541	AN-22	22(19x34)	.068	No. 1	9	—	9	White only (9)
8542	AN-20	20(19x32)	.078	No. 1	9	—	9	**Additional Description**
8543	AN-18	18(19x30)	.088	No. 1	9	—	9	**MIL-W-5086A-Type I AN-22 thru AN-12.** Stranded tinned copper, white vinyl, clear nylon jacket.
8544	AN-16	16(19x29)	.098	No. 1	9	—	9	
8545	AN-14	14(19x27)	.117	No. 1	9	9	9	
8546	AN-12	12(19x25)	.137	No. 1	9	9	9	
8559	AN-22	22(19x34)	.075	No. 2	9	—	9	**MIL-W-5086A-Type II AN-22 thru AN-12** Stranded tinned copper, white vinyl insulation, saturated glass braid, clear nylon jacket.
8558	AN-20	20(19x32)	.085	No. 2	9	—	9	
8557	AN-18	18(19x30)	.095	No. 2	9	—	9	
8556	AN-16	16(19x29)	.105	No. 2	9	—	9	
8555	AN-14	14(19x27)	.125	No. 2	9	9	9	
8554	AN-12	12(19x25)	.143	No. 2	9	9	9	
8553	AN-10	10(49x27)	.190	No. 2	9	9	9	**MIL-W-5086A- Type II AN-12 thru AN-00** Stranded tinned copper, white vinyl insulation, saturated glass braid, nylon braid, nylon lacquer.
8552	AN-8	8(133x29)	.240	No. 2	9	9	—	
8551	AN-6	6(133x27)	.293	No. 2	9	9	—	
8550	AN-4	4(133x25)	.355	No. 2	9	9	—	
8549	AN-2	2(665x30)	.425	No. 2	9	—	—	
8548	AN-0	0(1045x30)	.525	No. 2	9	—	—	
8547	AN-00	00(1330x30)	.590	No. 2	9	—	—	

MIL-C-7078—TYPE 1—600V—105°C

(MIL-W-5086 Type I Conductor Braided Tinned Copper Shield)



Trade Number	MIL Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Spec. Type	Stock Colors on Standard Spools 100	500	1000	Stock Color
8855	AN-22	22(19x34)	.092	No. 1	9	—	9	White only (9)
8854	AN-20	20(19x32)	.102	No. 1	9	—	9	**Additional Description**
8853	AN-18	18(19x30)	.112	No. 1	9	—	9	Stranded tinned copper, white vinyl insulation, nylon jacket, braided tinned copper shield.
8852	AN-16	16(19x29)	.122	No. 1	9	9	—	
8851	AN-14	14(19x27)	.141	No. 1	9	—	—	
8850	AN-12	12(19x25)	.156	No. 1	9	—	—	

Manufactured to current Government specifications and subsequent revisions.

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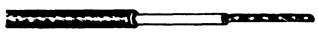
hook-up and lead wires—grid wire, shielding and bonding cable—bus bar wire

UL TYPE HOOK-UP AND LEAD WIRES

UL-600V-90°C (CSA-TYPE TRB)



Tinned copper, vinyl insulated, cotton braid, lacquered

Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors	Standard Spool Lengths in ft
8937	22 (7x30)	.016	.091	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8936	20 (10x30)	.017	.098	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8935	18 (16x30)	.017	.113	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8934	16 (26x30)	.017	.126	1, 2, 3, 4, 5, 9, 10, 13	100, 500
8933	14 (41x30)	.031	.177	1, 2, 3, 4, 5, 9, 10, 13	100, 500

UL rated 600V for electronic circuits only—300V for other applications.

For color coding see Page 30.

UL-600V-105°C (CSA-600V-TYPE TEW)

Tinned copper, vinyl insulated.

Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors	Standard Spool Lengths in ft.
8920	22 (7x30)	.031	.095	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8919	20 (10x30)	.031	.102	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8918	18 (16x30)	.031	.112	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8917	16 (26x30)	.031	.126	1, 2, 3, 4, 5, 9, 10, 13	100, 500
8916	14 (41x30)	.031	.141	1, 2, 3, 4, 5, 9, 10, 13	100, 500

UL rated 2500 volts peak for electronic circuits.

For color coding see Page 30.

GRID WIRE

Description	Trade Number	AWG & Stranding	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Suggested Working (Voltage)	Breakdown Voltage	Nom. Cap. (mmf ft)	Standard Spool Lengths in ft
	8885	20 (10x30)	.015	.117	300	4000	80	15, 25, 100, 500
	Tinned copper, rubber insulated, cellulose acetate braid, lacquered, tinned copper braid shield.							

SHIELDING AND BONDING CABLES

Cables conforming to QQB575 can be manufactured on a special order basis.
Braided tinned copper. Standard Spool: 10, 50, 250 feet.○

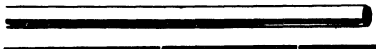
Trade Number	Stranding	Approx. CMA	Recommended Current (Amps.)	Oval Max. I.D. (Inch)	Flat Width (Inch)
8676	16x36	400	5.5	1/32	3/64
8674	24x36	600	7.5	3/64	1/16
★**8652**	96x40	920	10.0	1/16	3/32
★**8653**	48x36	1200	12.0	3/32	7/64
★**8654**	72x36	1800	16.0	7/64	1/8
★**8664**	96x36	2400	20.0	1/8	5/32
8660	96x34	3800	27.0	5/32	7/32
8668	120x34	4700	30.0	3/16	5/16
8663	168x34	6700	38.0	5/16	7/16
8661	192x34	7600	42.0	1/2	9/16

Trade Number	Stranding	Approx. CMA	Recommended Current (Amps.)	Oval Max. I.D. (Inch)	Flat Width (Inch)
8669	336x34	13300	61.5	5/8	11/16
8672	528x36	13200	61.0	—	9/16
8671	864x36	21600	84.0	—	11/16
8662	576x34	22900	88.0	—	13/32
★**8655**	360x30	36000	120.0	—	5/8
8670	480x30	48000	145.0	—	3/4
★**8656**	576x30	57600	165.0	—	7/8
★**8657**	768x30	76800	195.0	—	1 1/16
★**8658**	1056x30	105600	235.0	—	1 3/8
★**8659**	1680x30	168000	320.0	—	1 1/2

○**8657, 8658, 8659 Available only in 10′ & 50′ put-ups.**

For additional sizes, see current BRAIDED AND STRANDED COPPER CABLE CATALOG.

BUS BAR WIRE



Made in accordance with Federal Spec QQ-W-343.
Solid tinned copper. Standard Spool: 100, 1000 feet.⊖

Trade Number	AWG	Nom. O.D. (Inch)	Circular Mil. Area
8025	30	.010	100.0
8024	28	.012	159.0
8023	26	.016	253.0
8022	24	.020	404.0
8021	22	.025	640.0

Trade Number	AWG	Nom. O.D. (Inch)	Circular Mil. Area
8020	20	.032	1020.0
8019	18	.040	1620.0
8013	16	.050	2580.0
8012	14	.064	4110.0
8011	12	.080	6530.0

★**New item**

⊖ **8011 Available in 100′ spool only.**

BELDEN PAGE 30

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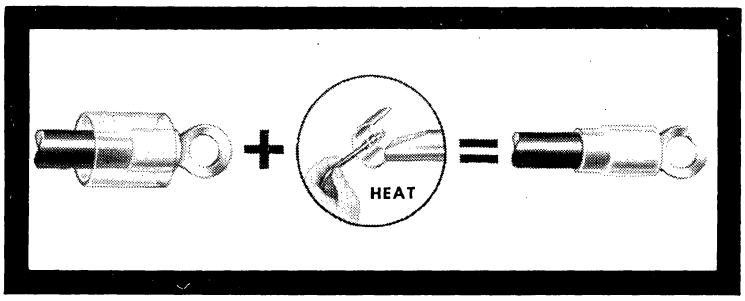
heat shrinkable tubing | Belden



Belden provides a complete line of heat shrinkable tubing in order to meet the many, diverse application requirements of the electronics industry. Belden Heat Shrinkable Tubing is available from stock in a full range of colors, sizes and lengths in three basic types—all conveniently packaged for easy handling and use. All Belden HST products are manufactured to exact specifications in order to assure dependable production-line uniformity of diameters, shrink-down and electrical properties.

HST 1: BELDEN IRRADIATED POLYOLEFIN HEAT SHRINKABLE TUBING

Belden HST-1 meets all industry standards and size specifications. It is thermally stabilized and homogeneous in nature. HST-1 is essentially free from flaws, defects, pin holes, bubbles, seams, cracks or inclusions. When heated to 275°F, it shrinks to 50% of its original diameter, and when fully shrunk, its longitudinal change is less than 3% of its original length. It is solvent and fungus resistant and has a maximum water absorption of only 0.1%. Belden HST-1 meets or exceeds MIL-I-23053(WEPS)Revision A.

(Size inches)	Trade No.	Put-up Length	Stock Colors	Minimum Expanded I.D. (inch)	Maximum Recovered I.D. (inch)	Nom. Wall Recovered (inch)	No. of Lengths in Std. Pkg.	Total Ft. per Std. Pkg.
3/64	68001	6″	10, 368	.046	.023	.016	25	12½
	68002	4′	10, 368				10	40
1/16	68011	6″	10, 368	.063	.031	.017	25	12½
	68012	4′	10, 368				10	40
3/32	68021	6″	10, 368	.093	.046	.020	25	12½
	68022	4′	2, 4, 6, 9, 10, 368				25	100
1/8	68031	6″	10, 368	.125	.062	.020	25	12½
	68032	4′	2, 4, 6, 9, 10, 368				25	100
3/16	68041	6″	10, 368	.187	.093	.020	25	12½
	68042	4′	2, 4, 6, 9, 10, 368				25	100
1/4	68051	6″	10, 368	.250	.125	.025	25	12½
	68052	4′	2, 4, 6, 9, 10, 368				25	100
3/8	68061	6″	10, 368	.375	.187	.025	25	12½
	68062	4′	2, 4, 6, 9, 10, 368				25	100
1/2	68071	6″	10, 368	.500	.250	.025	25	12½
	68072	4′	2, 4, 6, 9, 10, 368				25	100
3/4	68081	6″	10, 368	.750	.375	.030	25	12½
	68082	4′	2, 4, 6, 9, 10, 368				25	100
1	68091	6″	10, 368	1.000	.500	.035	10	5
	68092	4′	10, 368				10	40
1½	68101	6″	10, 368	1.500	.750	.040	10	5
	68102	4′	10, 368				10	40
2	68111	6″	10, 368	2.000	1.000	.045	5	2½
	68112	4′	10, 368				5	20
3	68121	6″	10, 368	3.000	1.500	.050	5	2½
	68122	4′	10, 368				5	20
4	68131	6″	10, 368	4.000	2.000	.055	5	2½
	68132	4′	10, 368				5	20

HST 2: BELDEN IRRADIATED POLYOLEFIN HEAT SHRINKABLE TUBING

Belden HST-2 combines flexibility with abrasion resistance. It is flame retardant and offers excellent dielectric and mechanical strength. It is essentially free from flaws, defects, pin holes, bubbles, seams, cracks or inclusions. When heated, it shrinks to 50% of its original diameter and, when fully shrunk, its longitudinal change is less than 10% of its original length. It is impervious to solvents and resists water absorption. It is recommended for most commercial uses that do not require the more costly inspection of military specifications.

Size (inches)	Trade No.	Put-up Length	Stock Colors	Minimum Expanded I.D. (inch)	Maximum Recovered I.D. (inch)	Nom. Wall Recovered (inch)	No. of Lengths in Std. Pkg.	Total Ft. per Std. Pkg.
3/64	68202	4′	10	.046	.023	.020	10	40
	68205	500′	10				1	500
1/16	68212	4′	10	.062	.031	.020	10	40
	68215	500′	10				1	500

*All colors are flame-retardant except clear (368).

Continued on next page

COLOR CODE IDENTIFICATION

2. Red 4. Yellow 6. Light Blue 9. White 10. Black 368. Clear

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Belden | heat shrinkable tubing

HST 2: BELDEN IRRADIATED POLYOLEFIN HEAT SHRINKABLE TUBING (Cont'd.)

Size (inches)	Trade No.	Put-up Length	Stock Colors	Minimum Expanded I.D. (inch)	Maximum Recovered I.D. (inch)	Nom. Wall Recovered (inch)	No. of Lengths in Std. Pkg.	Total Ft. per Std. Pkg.
	68231	6"	10				25	12½
⅛	68232	4'	10	.125	.062	.025	25	100
	68235	200'	10				1	200
	68241	6"	10				25	12½
3⁄16	68242	4'	10	.187	.093	.025	25	100
	68245	200'	10				1	200
	68251	6"	10				25	12½
¼	68252	4'	10	.250	.125	.025	25	100
	68255	200'	10				1	200
	68261	6"	10				25	12½
⅜	68262	4'	10	.375	.187	.030	25	100
	68265	200'	10				1	200
½	68271	6"	10	.500	.250	.030	25	12½
	68272	4'	10				25	100
¾	68281	6"	10	.750	.375	.035	25	12½
	68282	4'	10				25	100
1	68292	4'	10	1.000	.500	.040	10	40

HST 3: BELDEN VINYL HEAT SHRINKABLE TUBING

Belden HST-3 Polyvinylchloride Heat Shrinkable Tubing has an extra thin wall for excellent conformability. It is flame retardant and offers outstanding physical and electrical properties. When heated, it shrinks to 50% of its original diameter and when fully shrunk, its longitudinal change is less than 15% of its original length. All colors (except black) are translucent which permits the enclosed object to remain visible. HST-3 is especially recommended for use in areas where space is critical or where flexibility is a requirement.

Size (inches)	Trade No.	Put-up Length	Stock Colors	Minimum Expanded I.D. (inch)	Maximum Recovered I.D. (inch)	Nom. Wall Recovered (inch)	No. of Spools Std. Pkg.	Total Ft. per Std. Pkg.
	68513	25'					2	50
⅛	68514	100'	2, 6, 10, 368	.135	.075	.014	2	200
	68515	250'					2	500
	68523	25'					2	50
3⁄16	68524	100'	2, 6, 10, 368	.200	.110	.014	2	200
	68525	250'					2	500
	68533	25'					2	50
¼	68534	100'	2, 6, 10, 368	.270	.150	.020	2	200
	68535	250'					1	250
	68543	25'					5	125
⅜	68544	100'	2, 6, 10, 368	.395	.225	.020	2	200
	68545	250'					2	500
	68553	25'					5	125
½	68554	100'	2, 6, 10, 368	.520	.300	.020	2	200
	68555	250'					2	500
⅝	68563	25'	2, 6, 10, 368	.645	.375	.020	4	100
	68564	100'					2	200
¾	68573	25'	2, 6, 10, 368	.770	.450	.020	2	50
	68574	100'					2	200
⅞	68583	25'	2, 6, 10, 368	.895	.525	.020	2	50
	68584	100'					2	200
1	68593	25'	2, 6, 10, 368	1.02	.600	.020	2	50
	68594	100'					2	200
1½	68603	25'	2, 6, 10, 368	1.52	.90	.030	2	50
	68604	100'					2	200
2	68613	25'	2, 6, 10, 368	2.02	1.20	.030	2	50
	68614	100'					1	100

COLOR CODE IDENTIFICATION

2. Red 6. Light Blue 10. Black 368. Clear

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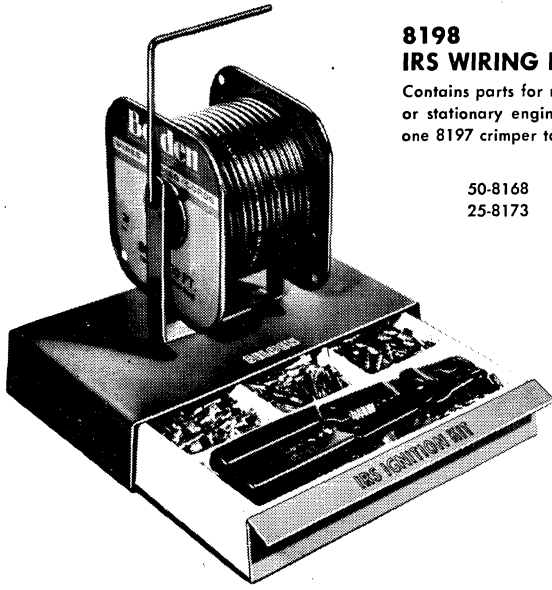
merchandisers and crimping tool | **Belden**

BELDEN MERCHANDISERS

Belden offers a full line of mobile communications terminals in a wide range of sizes and configurations to suit every wiring need and to meet the requirements of many specialized applications. Belden terminals are manufactured in accordance with the highest quality control standards and packaged for extra handling convenience.

Primary wire terminals are made from electrolytic copper, electro-tinned for corrosion resistance. Insulated terminals have tough vinyl sleeves which can be crimped without cutting or breaking.

The Belden 98 Packet self-service, counter-top Merchandiser displays a complete selection of the most popular terminals and assures fast turnover with minimal handling and restocking costs. Belden's fine selection of complementary terminal accessories, kits and application tools complete the line to assure full product coverage and customer satisfaction.

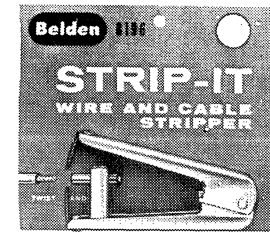


8198
IRS WIRING KIT (Ignition Radiation Suppression)

Contains parts for making up ignition leads or sets for cars, trucks, boats or stationary engines. Includes 100' 8688 IRS cable, 400 terminals and one 8197 crimper tool. IRS application information on page 38.

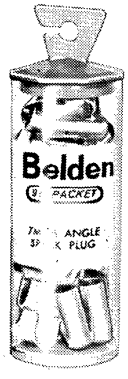
Contents:

50-8168	25-8174	50-8171	100' 8688
25-8173	50-8170	200-8172	1-8197



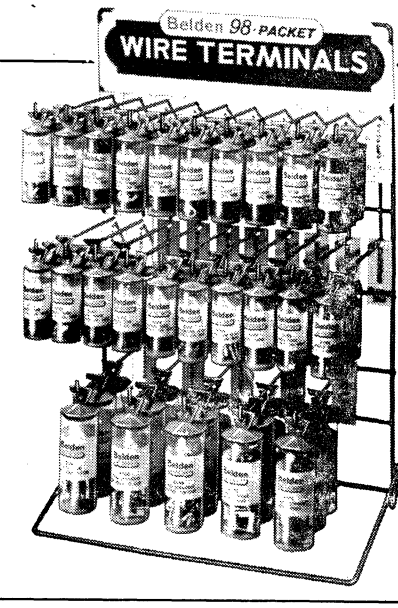
8196
STRIP-IT TOOL

Fast, efficient way to strip wire and cable. Easy to use in tight spots. Rugged tool steel blades cut as well as strip. Adjusts for all wire sizes. Blister packaged for easy display and quick sales.



8199
THE 98 PACKET®

No. 8199 Assortment holds 75 individual plastic packets containing 25 different types of the most popular primary and ignition terminals to cover your mobile communications requirements. Rack stands on counter or hangs on wall. Weighs just 7 lbs. complete. Dimensions: 18" high, 12" wide, 8" deep.



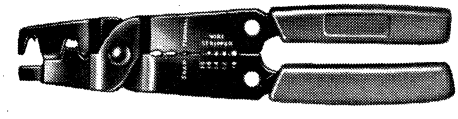
BELDEN TERMINALS

Packaged in sturdy plastic tubes for fast turnover, easy handling, stocking and reordering. To cover your mobile communications requirements.

8197
ALL PURPOSE TERMINAL CRIMPING AND CABLE STRIPPING TOOL

Precision machined to permanently swage all types of Primary, Spark Plug, and Snap Terminals shown.

Rugged construction made from heat-treated alloy steel with blue plastic handle grips.



BELDEN PAGE 33

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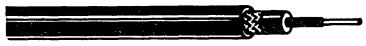
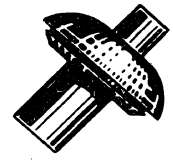
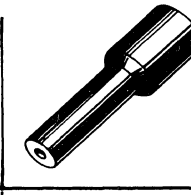
Belden | IRS (Ignition Radiation Suppression) wire, spark plug protectors and terminals

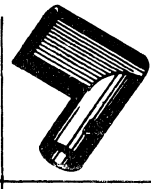
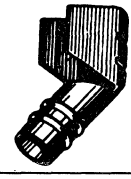
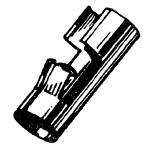
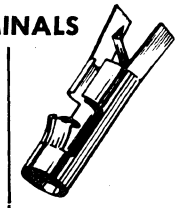
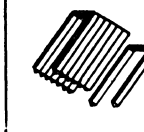
IRS SPARK PLUG WIRE

Illustrations and colors	Trade Number	Standard Package	Description	Application
 Ignition Radiation Suppression	8688	100' Spool	**IRS IGNITION CABLE** 7 MM ● Duoprene G elastomer conductor ● Conductor extruded over a glass cord for strength ● Maximum dielectric rubber ● Glass Fiber Braid ● Over-all Sheath of Black Hypalon	*Belden's resistance cable for original equipment replacement on all model passenger cars and trucks where Ignition Radiation Suppression is required.* *8198 IRS Wiring Kit. shown on page 37.*

SPARK PLUG PROTECTORS

						
Hypalon one third size **★8175** Universal Spark Plug Protector **Std. Pkg. 10**	**Neoprene** one half size **★8177** 7 MM Angle Distributor Nipple **Std. Pkg. 10**	one half size **★8176** 7 MM Red Plastic Distributor Nipple **Std. Pkg. 10**	**Neoprene** one half size **★8178** Buick Spark Plug Protector **Std. Pkg. 8**	**Hypalon** one half size **★8179** Corvair Spark Plug Protector **Std. Pkg. 6**	**Hypalon** one half size **★8180** Plymouth, Valiant Spark Plug Protector **Std. Pkg. 6**	**Silicone Rubber** one half size **★8181** High Heat Spark Plug Protector **Std. Pkg. 8**

SPARK PLUG WIRE TERMINALS

						
actual size **8171-98** 7 MM Snap Solderless Use on all condrs. **	actual size **8170-98** 7 MM Angle Solderless Use on all condrs.**	actual size **8174-98** 7 MM 115° Solderless Use on all condrs.**	actual size **8168-98** 7 MM Straight Distributor Clip Use on all condrs.**	actual size **8173-98** 7 MM Angle Distributor Clip Use on all condrs.**	actual size **8169-98** 7 MM Brass Distributor Clip Use on copper condr. only	actual size **8172-98** Staple Use only on IRS condr.

** *Requires 8172 staple when used with IRS (Ignition Radiation Suppression) conductor*

STUD CHART WITH HOLE SIZES

For quick selection of Terminal screw size, match screw shank to corresponding circle in chart below.

STANDARD STUD SIZE	#6	#8	#10	#12	1/4"	5/16"	3/8"	1/2"
Screw Dia. (")	.138	.164	.190	.216	.250	.312	.375	.500

*New Item

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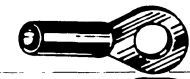
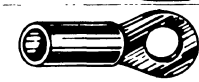
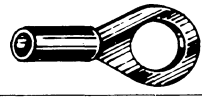
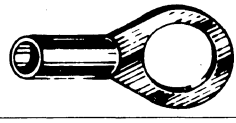
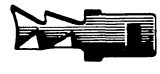
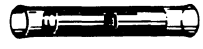
TERMINALS

Type (Actual Size)	Trade Number and Description	AWG	Size	Length	Width of Face	Thickness of Stock
	**8155-98** Solderless, insulated	14-16-18	Screw Size 10	27/32"	23/64"	.032"
	8151-98 Solderless, Insulated	14-16-18	Screw Size 10	27/32"	23/64"	.032"
	**8154-98** Heavy-Duty Solderless, Insulated	10-12	Screw Size 10	29/32"	3/8"	.040"
	8162-98 Solderless, Insulated	14-16-18	Screw Size 10	27/32"	23/64"	.032"
	8157-98 Solderless, Insulated	14-16-18	Screw Size 8	23/32"	1/4"	.032"
	8156-98 Solderless, Insulated	14-16-18	Screw Size 6	43/64"	1/4"	.032"
	**8153-98** Solderless, Insulated	14-16-18	Screw Size 1/4"	31/32"	15/32"	.032"
	**8152-98** Heavy-Duty Solderless, Insulated	10-12	Screw Size 3/8"	1 7/64"	19/32"	.040"
	8160-98 Male Slide Terminal, Insulated, mates with 8161	14-18	1/4" Blade Terminal	24/32"	.250 "	.032"
	8161-98 Female Slide Terminal, Insulated, mates with 8160	14-18	1/4" Blade Receptacle	24/32"	.255"	.020"
	**8163-98** Male Slide Terminal, Uninsulated, mates with 8164	14-18	1/4" Blade Terminal	25/32"	.250"	.032"
	8164-98 Female Slide Terminal, Uninsulated, mates with 8163	14-18	1/4" Blade Receptacle	25/32"	.255"	.020"
	8190-98 Spade Terminal. Removable insulation clamp for large twin-lead.	20-22	Screw Size 10	1"	.422"	.030"
	8191-98 Flanged Spade Terminal. Removable insulation clamp for large twin-lead.	20-22	Screw Size 6	49/64"	.281"	.030"
	8165-98 Snap Terminal (15 Amp), Uninsulated Use with one 14 AWG or two 16 AWG	—	—	35/64"	.188 dia.	—
	8166-98 Snap Terminal, Uninsulated Use with one 12 AWG or two 16 AWG	—	—	35/64"	.188 dia.	—
	8158-98 Parallel Connector, Insulated	14-18	—	3/4"	—	.035"
	8159-98 Butt Connector, Insulated	10-12	—	1 1/8"	—	.035"
	**8150-98** Butt Connector, Insulated (Nylon)	14-16	—	1 3/64"	—	.032"
 CIRCUIT CONNECTORS one half size	**8167-98** Two Wire Connector Use with 8165 or 8166	—	—	—	—	—

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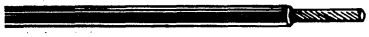
Belden | primary, antenna and ignition wire

PRIMARY WIRE—MARINE AND AUTO

S.A.E. TYPE G.P.T.



Bare copper, vinyl insulated.

Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Color	Standard Spool
8685	16 (19x29)	.023	.102	Black	100
8684	14 (19x27)	.023	.117	Green	100
8683	12 (19x25)	.026	.142	Red	100
8682	10 (19x23)	.031	.175	White	100
8681	8 (19x21)	.037	.219	Chrome	100
8680	6 (37x21)	.043	.290	Chrome	100
8679	4 (61x22)	.061	.350	Chrome	100

MARINE RADIO ANTENNA WIRE

WEATHER-RESISTANT

Tinned Copperweld polyethylene insulated.

Trade No.	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Standard Spool
8201	20 (7x28)	.121	.278	100, 500, 1000

3 & 4 CONDUCTOR PARALLEL BONDED PRIMARY WIRE

Bare copper, vinyl insulated.

Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Color Coding	Standard Spool
8475	16-3 19x29	.023	.102x .295	Wht/Brn/ Red	10, 500
8476	16-4 19x29	.023	.102x .400	Wht/Brn/ Yel/Grn	100, 500

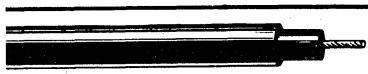
Conforms to SAE and Outboard Industries Association Color Coding for boat trailers.

DUPLEX PRIMARY WIRE

Tinned copper, vinyl insulated, conductors parallel, chrome vinyl jacket.

Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Color Coding	Standard Spool
8677	16 (19x29)	.032	.022	.164x .276	Brn, Red	100, 500
8675	14 (19x27)	.037	.022	.189x .326	Brn, Red	100, 500
8673	12 (19x25)	.040	.022	.213x .384	Brn, Red	100, 500
8678	10 (19x23)	.040	.025	.243x .436	Brn, Red	100, 500

7 MM IGNITION WIRE



Tinned copper clad steel wire conductor, rubber insulated, Hypalon Jacket

Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Color	Standard Spool
8689	20 (7x28)	.120	.278	Blk.	100

BELDEN PAGE 36

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teflon wire | Belden

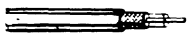
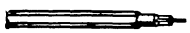
Teflon is a fluorinated thermoplastic with outstanding thermal physical and electrical properties. However, because the basic resin and processing costs are relatively high, Teflon is generally restricted to applications requiring its special characteristics.

Belden Teflon wire products are highly recommended for miniature cable applications, because of their superior thermal and electrical properties. Teflon is especially suitable for internal wiring soldering applications where insulation melt back is a specific problem. Belden Teflon wiring products are outstanding in their resistance to oil, oxidation, heat, sunlight, flame and their ability to remain flexible at low temperatures. They all have excellent resistance to ozone, water, alcohol, gasoline, acids, alkalis, aromatic carbon and solvents.

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf ft)	Nom. **Cap. (mmf ft)	Suggested Working Voltage	Standard Spool Lengths in ft
High Temperature	**8390** (2 condr.)	22 (19x34)	.015	.015	.180	Blk, Wht	90	23	40	1000	25, 100, 500
	8391 (3 condr.)	22 (19x34)	.015	.015	.190	Blk, Red Wht	90	20	35	1000	25, 100, 500
	8392 (4 condr.)	22 (19x34)	.015	.015	.205	Red, Blk, Grn, Wht	90	20	35	1000	25, 100, 500
		Stranded tinned copper, FEP teflon■ insulated, cabled, tinned copper braid shield, white FEP teflon jacket. **HIGH TEMPERATURE +200° C maximum, −70° C minimum operating temperature. Ideal where chemical resistance is needed and/or extremely high or low temperatures are required.**									
	★**8393** (2 condr.)	20 (7x28)	.020	.030	.245	Blk, Red	100	22	42	1000	25, 100, 500
		Tinned copper, FEP Teflon insulated, noise reducing tape, 20 AWG (10x30) nickel coated copper drain wire, special Beldfoil shield, Silicone rubber jacket. **+150° C maximum −70° C minimum operating temperature.** *Jacket working voltage 1000V DC, shield to ground.*									

*Capacitance between conductors. **Capacitance between one conductor and other conductor connected to shield.

RG/U CABLES

Description	Trade Number	RG No.	AWG & (Stranding) Material	Insulation	No. of Shields & Material	Jacket	Nom. O.D. (Inch)	Nom. Imp. (Ohms)	Nom. Vel. of Prop.	Nom. Cap. (mmf ft)	Nom. Attenuation per 100 mc	db	Standard Spool Lengths in ft.
	8265	178B/U MIL-C-17D	30 (7x38) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	Brown FEP TEFLON	.072	50	69.5	29	400	29.0 Max.	100 500
	8266	180B/U MIL-C-17D	30 (7x38) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	Brown FEP TEFLON	.142	95	69.5	15	400	17.0 Max.	100 500
	**8269**	188A/U MIL-C-17D	26 (7x.0067) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	White TFE TEFLON	.106	50	69.5	29	400	20.0 Max.	100 500
	**8270**	196A/U MIL-C-17D	30 (7x38) Silver coated Copperweld	TFE TEFLON	1 Silver coated copper	White TFE TEFLON	.076	50	69.5	29	400	29.0 Max.	100 500

Manufactured to current Government specifications and subsequent revisions.

TYPE E—MIL-W-16878 TEFLON—600V—200°C

Stock Colors 1 thru 10

Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated

Trade Number	Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Insulation Thickness (Inch)	Standard Spool Lengths in ft.
8300	E-30	30 (7x38)	.033	.010	25, 100, 500, 1000
8301	E-28	28 (7x36)	.036	.010	25, 100, 500, 1000
8302	E-26	26 (7x34)	.041	.010	25, 100, 500, 1000
8303	E-24	24 (19x36)	.046	.010	25, 100, 500
8304	E-24	24 (7x32)	.045	.010	25, 100, 500, 1000
8305	E-22	22 (7x30)	.051	.010	25, 100, 500, 1000
8306	E-22	22 (19x34)	.052	.010	25, 100, 500, 1000
8307	E-20	20 (19x32)	.060	.010	25, 100, 500, 1000
8308	E-20	20 (7x28)	.059	.010	25, 100, 500
8309	E-18	18 (19x30)	.071	.010	25, 100, 500, 1000
8310	E-16	16 (19x29)	.080	.010	25, 100, 500, 1000

*New Item

■Trade mark of DuPont

TYPE EE—MIL-W-16878 TEFLON—1000V—200°C

Stock Colors 1 thru 10

Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated

Trade Number	Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Insulation Thickness (Inch)	Standard Spool Lengths in ft.
8323	EE-24	24 (19x36)	.053	.014	25, 100, 500
8325	EE-22	22 (7x30)	.058	.014	25, 100, 500
8326	EE-22	22 (19x34)	.060	.014	25, 100, 500, 1000
8327	EE-20	20 (19x32)	.068	.014	25, 100, 500, 1000
8328	EE-20	20 (7x28)	.066	.014	25, 100, 500
8329	EE-18	18 (19x30)	.079	.014	25, 100, 500, 1000
8330	EE-16	16 (19x29)	.086	.014	25, 100, 500, 1000

Stock Colors

1. Brown 2. Red 3. Orange 4. Yellow 5. Green 6. Light Blue 7. Violet (purple) 8. Gray (slate) 9. White 10. Black

Color striping available on 1,000 ft. minimum per item each color on 500' and 1000' spools.

Manufactured to current Government specifications and subsequent revisions. 41

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HPD HEATER CORDS WITHOUT APPLIANCE PLUG

Information and Application

HPD Cordage (Asbestos cotton braid) is recommended for irons and other appliances where flexibility of the cord is extremely important.

Glazed cotton HPD should be used for maximum resistance to abrasion.

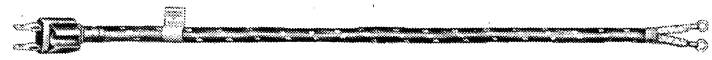
All Belden Iron Cords use a fiber glass tie on the stripped conductors for ruggedness and to insure the smallest diameter for easy installation.

17729 has a special terminal finish. The braid is stripped 2¼" with a fiber glass tie, and the eyelets are for a #6 screw.

All cords have UL Green Flag Label.

These cords are offered in a wide variety of:

1. Lengths
2. Gauges
3. Colors
4. Cotton Types
5. End Finishes—
   - Stripped
   - Terminals
   - Eyelets



MOLDED VINYL CORD HOLDER PLUG — BRAID STRIPPED 1⅛" WITH FIBER GLASS TIE, RING TERMINALS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17706	6	18 (41 x 34)	.265	10A-125V	Glazed	Black, Spiral White Tracer
17727	7	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer or Brown, crossed White Tracer

THE INDUSTRY'S MOST POPULAR IRON CORD

MOLDED VINYL CORD-HOLDER PLUG — BRAID STRIPPED 1⅛" WITH FIBER GLASS TIE, EYELETS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17707	7	18 (41 x 34)	.265	10A-125V	Soft	Black, Spiral White Tracer
17725	7	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer
17729	8	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer
17730	10	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer

MOLDED VINYL CORD-HOLDER PLUG — BRAID STRIPPED 1½", TIED WITH FIBER GLASS TIE, CONDUCTORS STRIPPED AND TWISTED ⅛"

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17728	7	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer or Brown, crossed White Tracer

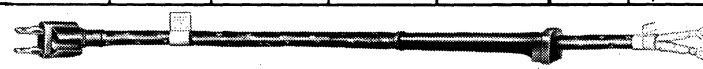
HPD HEATER CORDS WITH PROTECTOR SLEEVE AND STRAIN RELIEF

Fits G.E. Irons with model numbers F-33, F-34, F-44 and F-50. UL Green Flag Label.

MOLDED VINYL CORD-HOLDER PLUG — NEOPRENE PROTECTOR SLEEVE WITH METAL STRAIN RELIEF — BRAID STRIPPED 1⅛" WITH FIBER GLASS TIE, SPADE TERMINALS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17723	7	18 (41 x 34)	.265	10A-125V	Glazed	Black, White Spiral Tracer

Fits G.E. Irons with model numbers F-60, F-61, F-70 and F-71. UL Green Flag Label.



MOLDED VINYL CORD-HOLDER PLUG — NEOPRENE PROTECTOR SLEEVE WITH METAL STRAIN RELIEF — BRAID STRIPPED 1⅛" WITH FIBER GLASS TIE, SPADE TERMINALS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17724	7	18 (41 x 34)	.265	10A-125V	Glazed	Black, White Spiral Tracer

Fits G.E. Irons with model numbers F-23, F-26, F-30, F-35 and F-40. UL Green Flag Label.

MOLDED VINYL CORD-HOLDER PLUG — NEOPRENE PROTECTOR SLEEVE WITH METAL STRAIN RELIEF — BRAID STRIPPED 1⅛" WITH FIBER GLASS TIE, RING TERMINALS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	Rating	Type of Cotton	Colors
17726	7	16 (65 x 34)	.285	15A-125V	Glazed	Black, Spiral White Tracer

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COFFEEMAKER AND FRY PAN CORD SETS

Information and Application

Fits all standard coffeemakers. The miniature appliance plug is slotted so that it also fits many fry pans. The 2 ft. length cord is particularly convenient for the kitchen counter space. Both cords made to original equipment specifications with 3-leaf bronze contacts and 17 AWG conductor. UL Blue Flag Label.

17856 is recommended where just a coffeemaker cord is required. Miniature appliance plug is not slotted. UL Blue Flag Label.

CONVENIENCE AND SAFETY. Dangling cords can be messy, troublesome and unsafe. Retractile cords stay neat, allow free movement of the appliance and prevent accidents. Neoprene jackets meet UL requirements and retain full memory through thousands of stretching cycles.

UL-TYPE HPN

MOLDED VINYL PLUG — MINIATURE APPLIANCE PLUG WITH SLOT

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17852	2	17 (52 x 34)	.160 x .308	HPN	Black
17866	6	17 (52 x 34)	.160 x .308	HPN	Black
17856	6	18 (41 x 34)	.154 x .286	HPN	Black

MOLDED VINYL PLUG — MINIATURE APPLIANCE PLUG WITH SLOT

Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17886	9	4	18 (41 x 34)	.165 x .335	HPN	Black

STANDARD APPLIANCE PLUG CORD SETS

For all kitchen appliances such as waffle irons, grills, bottle warmers, etc. using $^{11}/_{16}$" spacing between contacts. UL Blue Flag Label.

UL-TYPE HPN

MOLDED VINYL PLUG — STANDARD APPLIANCE PLUG 10A 125V

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17857	6	18 (41 x 34)	.154 x .286	HPN	Black
17756	6	18 (41 x 34)	.265	HPD	Black, Spiral White Tracer

MOLDED VINYL PLUG — STANDARD APPLIANCE PLUG 10A 125V

Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17887	9	4	18 (41 x 34)	.165 x .335	HPN	Black

ROASTER CORD SETS

Fits all standard roasters, broilers and big fry pans with $1^{1}/_{16}$" spacing between contacts. 16 AWG cord is used to carry the heavy load and 3-leaf bronze contacts insure a trouble free connection. UL Blue Flag Label.

UL-TYPE HPN

MOLDED VINYL PLUG — ROASTER APPLIANCE PLUG 15A-125V

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17876	6	16 (65 x 34)	.166 x .318	HPN	Black

MOLDED RUBBER PLUG — ROASTER APPLIANCE PLUG 15A 125V

Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17888	9	4	16 (65 x 34)	.180 x .365	HPN	Black

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HPN HEATER CORDS WITHOUT APPLIANCE PLUG

Information and Application

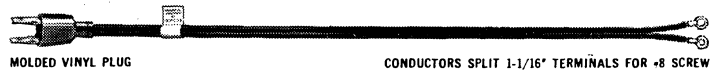
For soldering irons and appliances where cord is attached directly to the appliance. Ring type terminals for easy attachment. UL Green Flag Label.

UL-TYPE HPN

MOLDED VINYL PLUG — CONDUCTORS SPLIT 1" TERMINALS FOR #8 SCREW

Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Rating	Color
17836	9	4	18 (41 x 34)	.165 x .335	HPN Neoprene	10A-125 V	Black

For appliances such as toasters, waffle irons, bottle warmers and kitchen stove timers where the cord is permanently attached to appliance.
UL Green Flag Label.



MOLDED VINYL PLUG — CONDUCTORS SPLIT 1-1/16" TERMINALS FOR #8 SCREW

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Rating	Color
17826	6	16 (65 x 34)	.152 x .300	HPN Neoprene	15A-125V	Black

MOLDED VINYL PLUG — CONDUCTORS SPLIT 1", STRIPPED AND TWISTED ½"

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Rating	Color
17806	6	18 (41 x 34)	.140 x .276	HPN Neoprene	10A-125V	Black

HPN HEATER EXTENSION CORD

Eight foot 16 AWG Neoprene Extension Cord. For all appliahces such as irons, toasters, mixers, etc., where additional cordage is needed. UL Blue Flag Label.

MOLDED VINYL PLUG — MOLDED VINYL CONNECTOR FOR BLADE PRONGS

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Rating	Color
17870	8	16 (65 x 34)	.152 x .300	HPN Neoprene	10A-125V	Black

MIXER CORDS—FAN CORD

Fits latest hand held food mixer models such as Dormeyer, G.E., Hamilton Beach, Sunbeam and Westinghouse. UL Blue Flag Label.

UL-TYPE SPT-2 VINYL

MOLDED VINYL PLUG — MOLDED VINYL PLUG ROUND PIN CONNECTOR

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17186	6	18 (41 x 34)	.144 x .277	SPT-2 Vinyl	White

Fit older models of many nationally advertised hand held food mixers. Also BVI, Cory, Dormeyer, G.E., Hamilton Beach, Oster and Westinghouse can openers. Also fit knife sharpeners, electric juicers, home hair dryers, desk or window or suitcase fans, portable humidifiers, toy transformers and small business machines. UL Green Flag Label.

MOLDED VINYL PLUG — CONDUCTORS SPLIT 1½", STRIPPED AND TWISTED ½"

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17116	6	18 (41 x 34)	.144 x .277	SPT-2 Vinyl	White
17139	9	18 (41 x 34)	.144 x .277	SPT-2 Vinyl	Brown

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TWO CONDUCTOR POWER SUPPLY CORDS

PARALLEL LAMP CORDS

Information and Application

For Lamps, Radios, Desk Fans and Small Appliances. Long life plastic resists cracking and aging. Popular lengths and colors. UL Green Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17106	6	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Gray or Ivory
17109	9	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Gray
17112	12	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Gray
17126	6	18 (41 x 34)	.110 x .213	SP-1 Rubber	Brown
17129	9	18 (41 x 34)	.110 x .213	SP-1 Rubber	Brown

UL-TYPE SVT VINYL AND SV RUBBER

For Food Mixers, Blenders and Small Appliances. UL Green Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17205	6	18 (41 x 34)	.243	SVT Vinyl	Black, Gray
17206	6	18 (41 x 34)	.245	SV Rubber	Gray

UL-TYPE SJ RUBBER

For Mixers, Blenders, Washing Machines and Appliances using fractional horse power motors that do not require a three conductor grounding cord. UL Green Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17308	8	18 (16 x 30)	.298	SJ Rubber	Black
17310	10	18 (16 x 30)	.298	SJ Rubber	Black
17328	8	16 (26 x 30)	.323	SJ Rubber	Black
17330	10	16 (26 x 30)	.323	SJ Rubber	Black

UL-TYPE SVO NEOPRENE (RETRACTILE)

Retractile (coiled)

CONVENIENCE AND SAFETY. Dangling cords can be messy, troublesome and unsafe. Retractile cords stay neat, allow free movement of the appliance or tool, and prevent accidents. Rubber insulation and neoprene jackets meet UL requirements and retain full retracting memory through thousands of stretching cycles. UL Green Flag Label.

Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17249	12	6	18 (41 x 34)	.270	SVO Neoprene	Black

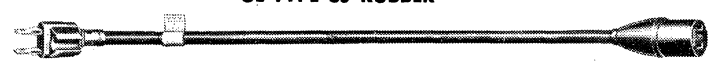
BUSINESS MACHINE CORDS

UL-TYPE SJT AND SVT VINYL

17359 fits Burroughs, Monroe and Victor 10 key Adding machines as well as late Friden models and the Burroughs Sensimatic Bookkeeping Machine and Pentron Tape Recorder (Triumph model). 17260 fits Revere Projectors and many business machines. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17359	10	18 (16 x 30)	.298	SJT Vinyl	Gray
17260	8	18 (41 x 34)	.243	SVT Vinyl	Gray

UL-TYPE SJ RUBBER



Fits R. C. Allen Adding Machine and Mimeograph models 100 and 92. Fits following 16MM Motion Picture Projectors: All RCA senior models, all Victor Kalart models, Bell and Howell models 185 through 399. Can also be used as an extension cord where a round connector is required. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17370	10	16 (26 x 30)	.323	SJ Rubber	Black

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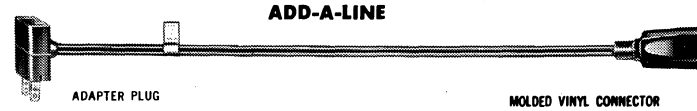
TWO CONDUCTOR EXTENSION CORDS

ADD-A-LINE

Information and Application

This new idea in convenience adds an 8' extension cord and you still have an outlet to plug in another cord. UL Blue Flag Label.



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17177	6	18 (41 x 34)	.144 x .277	SPT-2	Brown

CUBE TAP EXTENSION CORD SETS

Manufactured in Brown, Black and Ivory in all popular lengths. The molded three way connector is particularly sturdy and will last long in steady service. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17156	6	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Ivory
17159	9	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Ivory
17162	12	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Ivory
17165	15	18 (41 x 34)	.110 x .207	SPT-1 Vinyl	Brown, Ivory

UL-TYPE SV AND SJ RUBBER

The molded plugs and connectors give long service life. The CORD-HOLDER plug provides easier storage. It can also be used as cord shortener. For longer extension cords of this type, see Lawnmower and Vacuum Cleaner cords. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17259	9	18 (41 x 34)	.245	SV Rubber	Gray
17361	10	16 (26 x 30)	.323	SJ Rubber	Black

UL-TYPE SJ AND S RUBBER

For use where a round connector is required. Also used as a power supply cord for some appliances. For longer extensions where a heavier duty type cord is needed for added insulation and abrasion protection use 17555 or 17556. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17370	10	16 (26 x 30)	.323	SJ Rubber	Black
17555	25	16 (65 x 34)	.401	S Rubber	Black
17556	50	16 (65 x 34)	.401	S Rubber	Black

EXTENSION CORDS WITH DUPLEX CONNECTORS

UL-TYPE SJO AND SG NEOPRENE

These extension cords with the duplex connector are designed to withstand the punishment of shop, garage and factory use.

These cords are ideal for sound and broadcast studios.

The entire cord is oil, grease and ozone resistant. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17375	25	16 (26 x 30)	.323	SJO Neoprene	Black
17565	25	14 (41 x 30)	.528	SO Neoprene	Black
17566	50	14 (41 x 30)	.528	SO Neoprene	Black

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THREE CONDUCTOR POWER SUPPLY CORDS

UL-TYPE SJ RUBBER, SJT VINYL AND SJO NEOPRENE

Information and Application

MOLDED VINYL GROUNDING PLUG

OUTER JACKET STRIPPED 7"
CONDUCTORS STRIPPED AND TWISTED ⅛"

For all tools such as sanders, saws, grinders and polishers requiring grounding. Three conductor Cord now listed by UL as mandatory for drills ⅛" and larger. UL Green Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17406	6	18 (16 x 30)	.328	SJ Rubber	Black
17405	6	18 (16 x 30)	.328	SJT Vinyl	Gray
17408	8	18 (16 x 30)	.328	SJ Rubber	Black
17407	8	18 (16 x 30)	.328	SJT Vinyl	Gray
17409	8	18 (16 x 30)	.328	SJO Neoprene	Black
17412	12	18 (41 x 34)	.328	SJ Rubber	Black
17419	9	16 (65 x 34)	.353	SJ Rubber	Black
17422	12	16 (65 x 34)	.353	SJ Rubber	Black
17425	15	16 (65 x 34)	.353	SJ Rubber	Black

UL-TYPE SV RUBBER AND SVT VINYL

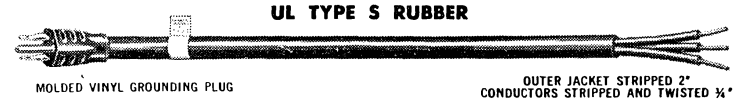
MOLDED VINYL GROUNDING PLUG

OUTER JACKET STRIPPED 1½"
CONDUCTORS STRIPPED AND TWISTED ⅜"

Three conductor SV and SVT cords now recognized as a UL Standard for some small tools, business machines and instruments which previously required a three conductor SJ Cord. UL Green Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Colors
17236	6	18 (41 x 34)	.265	SV Rubber	Black
17238	8	18 (41 x 34)	.265	SV Rubber	Black
17237	6	18 (41 x 34)	.253	SVT Vinyl	Gray
17239	8	18 (41 x 34)	.253	SVT Vinyl	Gray

UL TYPE S RUBBER



MOLDED VINYL GROUNDING PLUG

OUTER JACKET STRIPPED 2"
CONDUCTORS STRIPPED AND TWISTED ¼"

For heavy duty power tools and equipment. UL Green Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17629	9	14 (41 x 30)	.558	S Rubber	Black
17635	15	14 (41 x 30)	.558	S Rubber	Black

UL-TYPE SJO NEOPRENE (RETRACTILE)

Retractile (coiled)

MOLDED VINYL GROUNDING PLUG

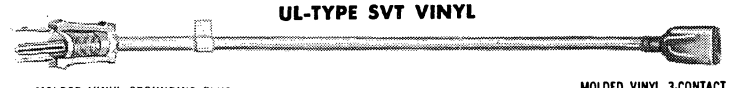
OUTER JACKET STRIPPED 1½", CONDUCTORS STRIPPED ½" AND TINNED

CONVENIENCE AND SAFETY. Dangling cords can be messy, troublesome and unsafe. Retractile cords stay neat, allow free movement of the appliance or tool, and prevent accidents. Rubber insulation and neoprene jackets meet UL requirements and retain full retracting memory through thousands of stretching cycles. UL Green Flag Label.

Trade Number	Retracted Length (in.)	Practical Extended Length (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17447	12	6	18 (41 x 34)	.360	SJO Neoprene	Black
17448	12	6	16 (65 x 34)	.370	SJO Neoprene	Black
17449	24	12	16 (65 x 34)	.370	SJO Neoprene	Black

THREE CONDUCTOR PROJECTOR AND BUSINESS MACHINE CORD

UL-TYPE SVT VINYL



MOLDED VINYL GROUNDING PLUG

MOLDED VINYL 3-CONTACT CONNECTOR

Can be used for Revere and Eastman Kodak projectors, Friden, Victor, Hewlett-Packard, Marchant business machines, and DuKane audio equipment. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (Inches)	UL Type of Cordage	Color
17258	8	18 (41 x 34)	.253	SVT Vinyl	Gray

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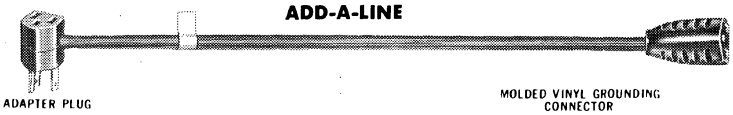
THREE CONDUCTOR EXTENSION CORDS

Information and Application

This new idea in convenience adds an 8' extension cord and you still have an outlet to plug in another cord. UL Blue Flag Label.

ADD-A-LINE



Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
17462	8	18 (16 x 30)	.328	SJT Vinyl	Black

UL-TYPE SJT AND ST VINYL

YELLOW CORDAGE stands out against green or brown backgrounds and thus reduces hazard of accidental cutting.

These extension cord sets are for lawnmowers and hedge clippers using three conductor power supply cordage. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
17491	25	18 (16 x 30)	.328	SJT Vinyl	Yellow
17492	50	18 (16 x 30)	.328	SJT Vinyl	Yellow
17493	100	18 (16 x 30)	.328	SJT Vinyl	Yellow
17494	25	16 (26 x 30)	.353	SJT Vinyl	Yellow
17495	50	16 (26 x 30)	.353	SJT Vinyl	Yellow
17497	100	16 (26 x 30)	.353	SJT Vinyl	Yellow
17694	25	14 (41 x 30)	.558	ST Vinyl	Yellow
17695	50	14 (41 x 30)	.558	ST Vinyl	Yellow
17697	100	14 (41 x 30)	.558	ST Vinyl	Yellow

UL-TYPE SPT-2 VINYL

FLAT YELLOW 3 conductor extension cords for most light duty purposes. Particularly popular with the marine trade. UL Blue Flag Label.

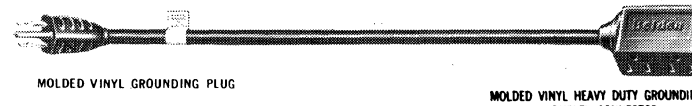
Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
17194	25	16 (65 x 34)	.152 x .460	SPT-2	Yellow
17195	50	16 (65 x 34)	.152 x .460	SPT-2	Yellow

UL-TYPE SJ RUBBER

Power Supply Cord for business, mailing machines and electrical equipment that have a built in receptacle with blades and grounding pin for cord attachment. These can also be used as extension cords for equipment requiring grounding. UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
17460	10	18 (16 x 30)	.328	SJ Rubber	Black
17461	10	16 (26 x 30)	.353	SJ Rubber	Black

UL-TYPE SJO AND SO NEOPRENE



These three conductor extension cords are for use with power tools and other appliances requiring grounding.

These extension cords with the rugged Belden duplex connectors will give years of safe, reliable service.

UL Blue Flag Label.

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
17475	25	16 (26 x 30)	.353	SJO Neoprene	Black
17476	50	16 (26 x 30)	.353	SJO Neoprene	Black
17477	100	16 (26 x 30)	.353	SJO Neoprene	Black
17675	25	14 (41 x 30)	.558	SO Neoprene	Black
17676	50	14 (41 x 30)	.558	SO Neoprene	Black

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VACUUM CLEANER AND FLOOR POLISHER CORDS

Information and Application

For all Standard Home Vacuum Cleaners and Floor Polishers not requiring a Plug-in type connector. UL Green Flag Label.
The CORD-HOLDER plug is a proven convenience for storing cleaner and cord.

Color Shades Match Exactly Original Equipment Manufacturer's Specifications.

WITHOUT CONNECTOR

MOLDED VINYL CORD- HOLDER PLUG

JACKET STRIPPED 1½", CONDUCTORS STRIPPED AND TWISTED ¼"

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
17220	20	18 (41 x 34)	.245	SV Rubber	Black, Brown, Gray
17222	20	18 (41 x 34)	.243	SVT Vinyl	Black, Brown, Gray, Red, Green

WITH CONNECTORS

Fits Kirby Cleaners requiring connector as illustrated. Note: Strain relief for hooking cord to the hook of Kirby Sweeper handle. UL Blue Flag Label.

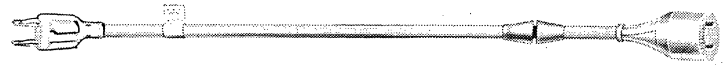
MOLDED VINYL CORD- HOLDER PLUG

MOLDED STRAIN RELIEF FOR ATTACHMENT

MOLDED VINYL CONNECTOR FOR BLADE PRONGS

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
17270	20	18 (41 x 34)	.245	SV Rubber	Gray
17272	20	18 (41 x 34)	.243	SVT Vinyl	Gray
17274	32	18 (41 x 34)	.243	SVT Vinyl	Gray

Fits Kirby Cleaners requiring connector as illustrated but may be used on other cleaners. UL Blue Flag Label.



MOLDED VINYL CORD- HOLDER PLUG

MOLDED STRAIN RELIEF FOR ATTACHMENT

MOLDED VINYL CONNECTOR FOR BLADE PRONGS

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
17271	20	18 (41 x 34)	.245	SV Rubber	Gray
17273	20	18 (41 x 34)	.243	SVT Vinyl	Gray

For Vacuum Cleaners with round pin connectors such as Apex and Electrolux models without the reeling device. UL Blue Flag Label.

MOLDED VINYL CORD-HOLDER PLUG

MOLDED VINYL CONNECTOR FOR ROUND PINS

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
17288	18	18 (41 x 34)	.245	SV Rubber	Gray
17290	20	18 (41 x 34)	.245	SV Rubber	Gray
17291	20	18 (41 x 34)	.243	SVT Vinyl	Gray

WITH STRAIN RELIEF

For several Hoover and Sunbeam Models requiring a molded strain relief as illustrated. UL Green Flag Label.

Color Shades Match Exactly Original Equipment Manufacturer's Specifications.

MOLDED VINYL CORD- HOLDER PLUG

MOLDED STRAIN RELIEF WITH JACKET STRIPPED 1½", CONDUCTORS STRIPPED AND TWISTED ⅝"

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. O.D. (inches)	UL Type of Cordage	Color
17221	20	18 (41 x 34)	.245	SV Rubber	Blue, Brown, White
17223	20	18 (41 x 34)	.243	SVT Vinyl	Blue, Brown, White, Red, Green

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Belden

range dryer, air conditioner cords and cordlites

RANGE—DRYER AND AIR CONDITIONER CORDS

FLAT UL-TYPE SRDT VINYL RANGE CORDS

3-PRONG MOLDED VINYL, RIGHT-ANGLE PLUG | 3 CONDUCTOR FLAT SRDT CORDAGE -BLACK | UL GREEN FLAG LABEL | CONDUCTORS SPLIT 2¼" TERMINALS FOR ¼" STUD. STRAIN RELIEF CLAMP

Trade Number	Length of Cord (ft.)	Rating	AWG
1706	3	50A-250V	2-#6 & 1-#8
1714	4	50A-250V	2-#6 & 1-#8
1715	5	50A-250V	2-#6 & 1-#8
1775	6	50A-250V	2-#6 & 1-#8
1709	3	35A-250V	2-#8 & 1-#10
1724	4	35A-250V	2-#8 & 1-#10
1725	5	35A-250V	2-#8 & 1-#10
1785	6	35A-250V	2-#8 & 1-#10

FLAT UL-TYPE SRDT VINYL DRYER CORDS

3-PRONG MOLDED VINYL, RIGHT-ANGLE PLUG | 3 CONDUCTOR FLAT SRDT CORDAGE BLACK | UL GREEN FLAG LABEL | CONDUCTORS SPLIT 2¼ TERMINALS FOR ¼" STUD. STRAIN RELIEF CLAMP

Trade Number	Length of Cord (ft.)	Rating	AWG
1780	3	30A-250V	10
1734	4	30A-250V	10
1735	5	30A-250V	10
1782	6	30A-250V	10

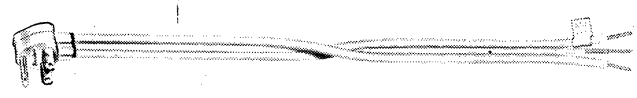
UL-TYPE S AIR CONDITIONER EXTENSION CORD SETS

MOLDED VINYL 3 PRONG GROUNDING PLUG | MOLDED RUBBER GROUNDING CONNECTOR

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. OD (inches)	UL Type of Cordage	Rating at 125V (amps.)	Color
17656	6	14 (41 x 30)	.558	S Rubber	15	Gray
17659	9	14 (41 x 30)	.558	S Rubber	15	Gray
17662	12	14 (41 x 30)	.558	S Rubber	15	Gray

Three popular lengths of extension cords for all makes of air conditioners. UL rated 15A - 125V. Note that UL recognizes round jacketed cordage ONLY for this application. UL Blue Flag Label.

FLAT UL-TYPE SPT-3 VINYL AIR CONDITIONER CORDS

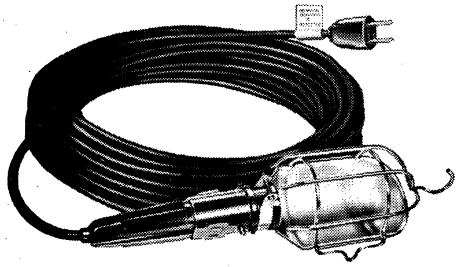


MOLDED VINYL 3 PRONG GROUNDING PLUG | CONDUCTORS SPLIT 1½", STRIPPED ¼" | MIDDLE CONDUCTOR STRIPPED ½" TO SHOW GREEN INSULATION

Trade Number	Length of Cord (ft.)	AWG (Stranding)	Nom. OD (inches)	UL Type of Cordage	Rating	Color
17140	6	14 (41 x 30)	.229 x .637	SPT-3 Vinyl	15A-125V	Gray
17141	6	14 (41 x 30)	.229 x .637	SPT-3 Vinyl	15A-250V	Gray

17140 is rated 15A—125V. 17141 is rated 15A—250V. For room air conditioners and domestic automatic washers. UL Green Flag Label.

CORDLITES®

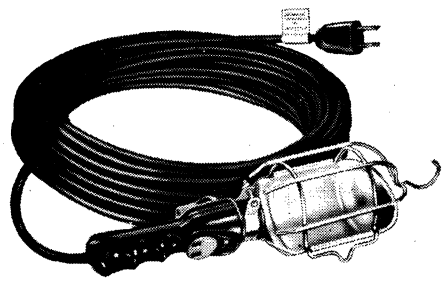


Vinyl Cordlites UL Blue Flag Label

TWO CONDUCTOR UL-TYPE SJT VINYL CORDLITES

Trade Number	Length of Cord (ft.)	AWG & No. of Conductors	Nom. OD (inches)	UL Type of Cordage	Color
17925	25	18-2	.298	SJT Vinyl	Black
17950	50	18-2	.298	SJT Vinyl	Black

These Cordlites are oil and ozone resistant. The handle has a feed through switch and two tool taps. 17923 lamp guard included.



Neoprene Cordlites UL Blue Flag Label

TWO AND THREE CONDUCTOR UL-TYPE SJO NEOPRENE CORDLITES

Trade Number	Length of Cord (ft.)	AWG & No. of Conductors	Nom. OD (inches)	UL Type of Cordage	Color
17995	25	18-2	.298	SJO Neoprene	Black
17996	50	18-2	.298	SJO Neoprene	Black
17998	25	18-3	.328	SJO Neoprene	Black
17999	50	18-3	.328	SJO Neoprene	Black

These Cordlites are oil and ozone resistant. The tool taps on the 3 conductor cords are of the 3-contact 15A - 125V grounding type. 17923 lamp guard included.

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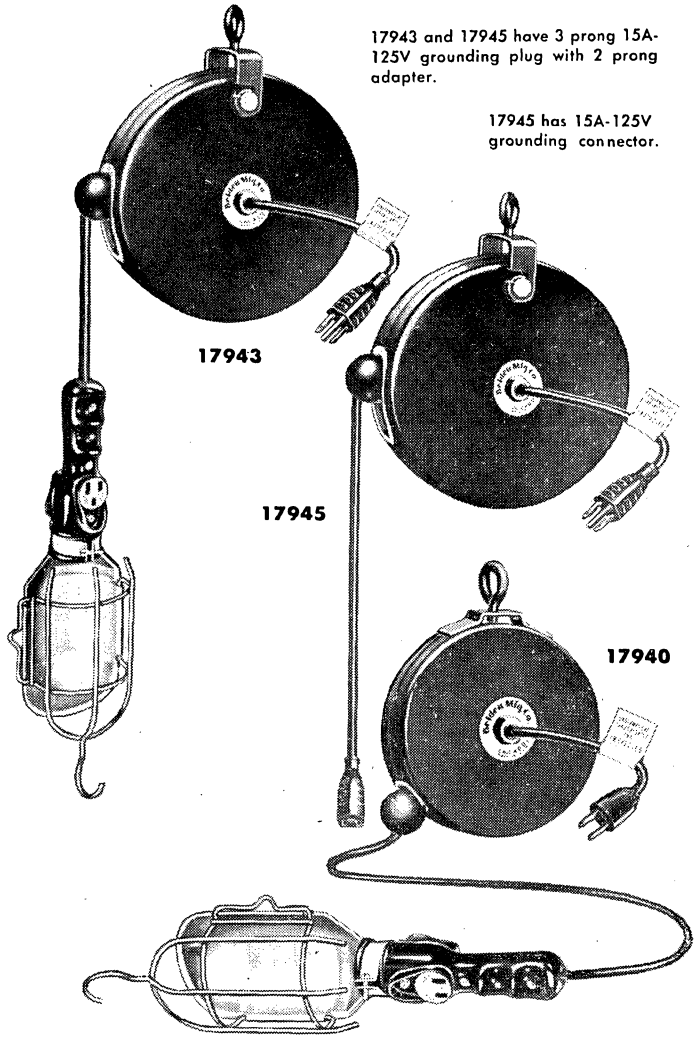
CORD-REELS



17943 and 17945 have 3 prong 15A-125V grounding plug with 2 prong adapter.

17945 has 15A-125V grounding connector.

HEAVY DUTY CORDLITE REEL

8¾" Diameter by 2½" wide, individually packaged with 17923 Lamp Guard in a Display Carton. Phenolic handle with grounding tool tap.

Trade Number	Length of Cord (ft.)	AWG & No. of Conductors	Nom. OD (Inches)	UL Type of Cordage
17943	30	18–3	.328	SJO Neoprene

HEAVY DUTY EXTENSION REEL

8¾" Diameter by 2½" wide, individually packaged. For use where additional length of three way cordage is needed with a reeling device feature.

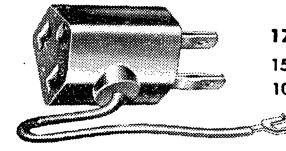
Trade Number	Length of Cord (ft.)	AWG & No. of Conductors	Nom. OD (Inches)	UL Type of Cordage
17945	25	16–3	.353	SJO Neoprene

COMPACT CORDLITE REEL

6½" Diameter by 1¾" wide, individually packaged with 17923 Lamp Guard in a Display Carton. Phenolic handle with tool tap.

Trade Number	Length of Cord (ft.)	AWG & No. of Conductors	Nom. OD (Inches)	UL Type of Cordage
17940	20	18–2	.245	SVO Neoprene

TWO PRONG 3-WIRE ADAPTER



17922
15A-125V ground plug
10 to a package. U.L. Listed.

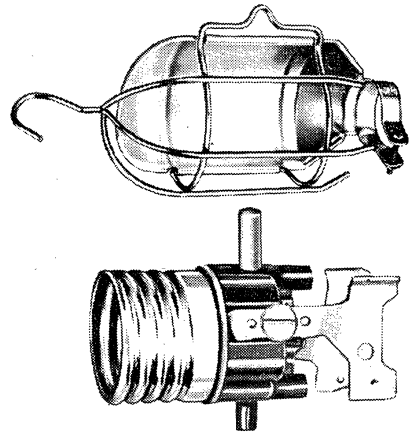
ACCESSORIES

CORDLITE® LAMP GUARD

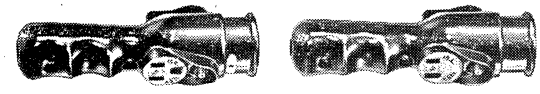
Swing open type for easy replacement of bulb.
10 to a package **17923**

CORDLITE SWITCH SOCKET

Push thru switch with contacts for double tool tap. Will fit most Cordlite handles.
5 to a package **17931**



CORDLITE HANDLES



Hi-impact fiber reinforced phenolic handles with protective barrier around the switch buttons. One tool tap. Switch and socket are included.

17932 is for 2 conductor cordage

17933 is for 3 conductor cordage

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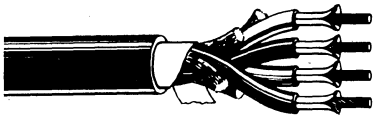
Belden | portable cordage

LISTED BY UNDERWRITERS' LABORATORIES, INC.

Description	Trade Number & Standard Pkg. In Ft. 2S 250 2 250 Spls. 4S 250 4 250 Spls. C Coil		Size AWG & Stranding	Nom. O.D. (inches)	Weight Std. Pkg. in (lbs.)	Colors
S-2 CONDUCTOR—RUBBER JACKET 600V-60°C						
	18104	2S-250	18 (41 x 34)	.386	43	Black
	18103	2S-250	16 (65 x 34)	.401	48	Black
	18102	C-250	14 (41 x 30)	.528	36	Black
	18101	C-250	12 (65 x 30)	.599	46	Black
	18100	C-250	10 (105 x 30)	.643	56	Black
S-3 CONDUCTOR—RUBBER JACKET 600V-60°C						
	18109	C-250	18 (41 x 34)	.401	22	Black
	18108	C-250	16 (65 x 34)	.426	27	Black
	18107	C-250	14 (41 x 30)	.558	45	Black, Nickel Gray
18107—Lateral separator wrap under jacket	**18106**	C-250	12 (65 x 30)	.634	57	Black
	18105	C-250	10 (105 x 30)	.689	74	Black
SO-2 CONDUCTOR—NEOPRENE JACKET 600V-60°C						
	18204	2S-250	18 (41 x 34)	.386	46	Black
	18203	2S-250	16 (65 x 34)	.401	51	Black
	18202	C-250	14 (41 x 30)	.528	39	Black
	18201	C-250	12 (65 x 30)	.599	50	Black
	18200	C-250	10 (105 x 30)	.643	60	Black
SO-3 CONDUCTOR—NEOPRENE JACKET 600V-60°C						
	18209	C-250	18 (41 x 34)	.401	23	Black
	18208	C-250	16 (65 x 34)	.426	28	Black
	18207	C-250	14 (41 x 30)	.558	48	Black
	18206	C-250	12 (65 x 30)	.634	60	Black
	18205	C-250	10 (105 x 30)	.689	77	Black
18207—Lateral separator wrap under jacket	★**18210**	C-50	8 (132 x 29)	.872	30	Black
	★**18210**	C-200	8 (132 x 29)	.872	89	Black
	★**18211**	C-50	6 (133 x 27)	.961	38	Black
	★**18211**	C-200	6 (133 x 27)	.961	120	Black
SO-4 CONDUCTOR—NEOPRENE JACKET 600V-60°C						
	★**18217**	C-50	14 (41 x 30)	.603	16	Black
	★**18217**	C-200	14 (41 x 30)	.603	50	Black
	★**18216**	C-50	12 (65 x 30)	.690	22	Black
	★**18216**	C-200	12 (65 x 30)	.690	66	Black
	★**18215**	C-50	10 (105 x 30)	.770	27	Black
	★**18215**	C-200	10 (105 x 30)	.770	85	Black
	★**18214**	C-25	8 (132 x 29)	.970	22	Black
	★**18214**	C-100	8 (132 x 29)	.970	67	Black
	★**18213**	C-25	6 (133 x 27)	1.090	27	Black
	★**18213**	C-100	6 (133 x 27)	1.090	88	Black
SJ-2 CONDUCTOR—RUBBER JACKET 300V-60°C						
	18127	2S-250	18 (16 x 30) Flex	.298	26	Black
	18111	2S-250	18 (41 x 34) X flex.	.298	26	Black
	18128	2S-250	16 (26 x 30) Flex	.323	32	Black
	18110	2S-250	16 (65 x 34) X flex.	.323	33	Black

*New Item

Continuous lengths will be supplied on at least 85% of each shipment.
When 2 lengths are supplied, 50 ft. will be minimum.

Shipped only in standard packages as listed above

See current carrying capacity tables on page 54

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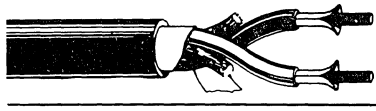
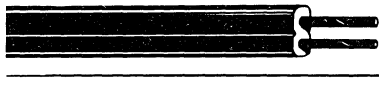
portable cordage | **Belden**

LISTED BY UNDERWRITERS' LABORATORIES, INC.

Description	Trade Number & Standard Pkg. In Ft. 2S 250 2 250 Spls. 4S 250 4 250 Spls. C Coil		Size AWG & Stranding	Nom. O.D. (inches)	Weight Std. Pkg. in (lbs.)	Colors
SJ-3 CONDUCTOR—RUBBER JACKET 300V-60°C						
	18129	2S-250	18 (16 x 30) Flex	.328	35	Black
	18125	2S-250	18 (41 x 34) X flex.	.328	35	Black
	18130	2S-250	16 (26 x 30) Flex	.353	42	Black
	18124	2S-250	16 (65 x 34) X flex.	.353	43	Black
SJO-2 CONDUCTOR—NEOPRENE JACKET 300V-60°C						
	18227	2S-250	18 (16 x 30) Flex	.298	27	Black
	18228	2S-250	16 (26 x 30) Flex	.323	35	Black
SJO-3 CONDUCTOR—NEOPRENE JACKET 300V-60°C						
	18229	2S-250	18 (16 x 30) Flex	.328	36	Black
	18230	2S-250	16 (26 x 30) Flex	.353	42	Black
SJT-2 CONDUCTOR—PLASTIC JACKET 300V-60°C						
	18141	2S-250	18 (41 x 34) X flex.	.298	26	Black, Red
	18142	2S-250	16 (65 x 34) X flex.	.323	32	
SV-2 CONDUCTOR—RUBBER JACKET 300V-60°C						
	**18120**	2S-250	18 (41 x 34)	.245	20	Black, Nickel Gray
SVT-2 CONDUCTOR—PLASTIC JACKET 300V-60°C						
	18140	2S-250	18 (41 x 34)	.243	19	Black
SPT-1, SPT-2 PLASTIC PARALLEL LAMP CORD 300V-60°C						
	18122	4S-250	18 SPT-1 (41 x 34)	.110 x .207	24	Black, Brown, Silver Gray, White
	18123	2S-250	18 SPT-2 (41 x 34)	.144 x .277	17	
	18126	2S-250	16 SPT-2 (65 x 34)	.155 x .299	21	Black, Brown, Silver Gray
SP-1, SP-2 RUBBER PARALLEL LAMP CORD 300V-60°C						
	**18115**	4S-250	18 SP-1 (41 x 34)	.110 x .213	25	Black, Brown
	18121	2S-250	18 SP-2 (41 x 34)	.140 x .276	17	Black, Brown

Continuous lengths will be supplied on at least 85% of each shipment.
When 2 lengths are supplied, 50 ft. will be minimum.

Shipped only in standard packages as listed above

See current carrying capacity tables on page 54

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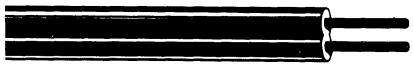
Belden | portable cordage

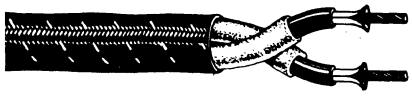
LISTED BY UNDERWRITERS' LABORATORIES, INC.

HPN-2 CONDUCTOR—NEOPRENE HEATER CORD 300V-90°C



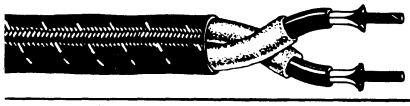
Description	Trade Number & Standard Pkg. In Ft. 2S 250 2 250 Spls. 4S 250 4 250 Spls. C Coil		Size AWG & Stranding	Nom. O.D. (inches)	Weight Std. Pkg. in (lbs.)	Colors
	18328	2S-250	18 (41 x 34)	.140 x .276	18	Black
	18326	2S-250	16 (65 x 34)	.152 x .300	23	Black

HPD-2 CONDUCTOR—GLAZED COTTON HEATER CORD 300V-90°C



	18318	2S-250	18 (41 x 34)	.265	18	Black, 1 White Tracer
	18316	2S-250	16 (65 x 34)	.285	22	
	18314	2S-250	14 (104 x 34)	.320	35	

HPD-2 CONDUCTOR—SOFT COTTON HEATER CORD 300V-90°C



	18338	2S-250	18 (41 x 34)	.265	18	Black, 2 White Tracers
	18336	2S-250	16 (65 x 34)	.285	22	

Continuous lengths will be supplied on at least 85% of each shipment.
When 2 lengths are supplied, 50 ft. will be minimum. Shipped only in standard packages as listed above

SUGGESTED AWG SIZE FOR LONG POWER SUPPLY CORDS*

Cord Length**	Current (amperes)**																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
25	18	18	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	10	10	10	10	10
50	18	18	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	10	10	10	10	10
75	18	18	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	10	10	10	10	10
100	18	18	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	10	10	10	10	10
125	18	18	18	18	18	18	16	16	16	16	14	14	14	14	14	12	12	12	12	12	10	10	10	10	10
150	18	18	18	18	18	16	16	16	14	14	14	14	14	12	12	12	12	12	12	12	10	10	10	10	10

Rubber and plastic cords, but not including heater cords. Based on a line voltage of 115 and maximum voltage drop (loss) of 10 volts when cord carries rated current.
***To determine correct AWG, refer to cord length in table, and current nearest the current rating on the name plate of the appliance.*

CURRENT CARRYING CAPACITY OF FLEXIBLE CORDAGE (amperes)*

AWG	Tinsel Cords	Rubber and Plastic Cords	Heater Cords
27	0.5	—	—
18	—	7	10
17	—	—	12
16	—	10	15
15	—	—	17
14	—	15	20
12	—	20	30
10	—	25	—
8	—	35	—
6	—	45	—
4	—	60	—

**Underwriters' Laboratories Inc. and National Electrical Code Standard for 2 and 3 conductor cords. For cords with 4 to 6 conductors, the current rating is 80% of the values shown.*

BELDEN PAGE 50

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cable finder | **Belden**

●INDICATES SOLID CONDUCTORS, ALL OTHERS STRANDED CONDUCTORS

No. of Conductors	2 Condr.		3 Condr.		4 Condr.		5 Condr.		6 Condr.		7 Condr.		8 Condr.	
CONDUCTOR SIZE	Belden No.	Page No.	Belden No.	Page No.	Belden No.	Page No.	Belden No.	Page No.	Belden No.	Page No.	Belden No.	Page No.	Belden No.	Page No.
25 AWG or Smaller	8430	22												
Shielded	8429	22	8419	22										
	8416	22	8643	4 & 8										
	●8640	7 & 11			8434	9			●8642	11				
24 AWG	8782	14												
Shielded	8413	16	8406	16										
	8420	16												
	8641	7												
22 AWG	●8481	14	8443	14 & 15	●8741	13	8445	15	●8742	13	8447*	15	●8757	13
	●8740	13 & 14	●8794	15	8444	15			8446*	15			8488	21
	8442	14	●8701	14	8494	17							8448*	15
	●8781	14												
	●8795	15												
Shielded	8390	8 & 41	8391	8 & 41	8392	9 & 41								
	8422	16	8735	8	8732§	9								
	●8437	7	8734	10										
	8441	7												
	●8738	8												
	●8739	7	●8731	8										
	8737	7												
	●8450	7	8771	8	8723	9	8788§	10	●8767	12				
	8451	7	8733	10	8729	9			8777	12				
	8761	7			8724§	9			8786§	10				
					8728	5 & 9								
					8730§	5 & 9								
20 AWG	8649	14	8783	10										
	8205	14			8464	20 & 21	8455*	22						
					8484	21	8485	21						
							8463	20 & 21						
Shielded	8412	16	8423	16	8424	9 & 16	8425	16	8426	16	8427	16	8418	16
	8758	8	8403	16	8404	9 & 16	8405	16						
	8402	6 & 16												
	8759	7												
	8762	7	8772	8	8722§	9							8725	12
	8393	5, 8 & 41	8763§	10										
18 AWG	8462	22	8453	22	8454	22	8465	15	8690	13	8467	15		
	8888	22			8489	4, 15, 21								
	8452	22	●8483†	14										
	8478	22	●8487†	14										
	8460	14												
	8461	14												
	●8482†	14												
	●8492†	14												
	●8486†	14												
Shielded	8428	16												
	8208	7												
	8789	8												
	8790	7	8791	8										
	8760	7	8770	8										
16 AWG	8470	14	8475	14 & 40	8476	40					8621	15		
	8471	14			8620	15								
	8472	22												
	8677	40												
Shielded	8779	8			8407	9 & 16								
	8408	6 & 16												
	8780	7												
	8719	7	8618	5 & 8										
14 AWG	8473	14	8479	4 & 22	8627	15								
	8474	22									8628	15		
	8675	40												
Shielded	8720	7												
12 AWG	8477	3 & 14												
	8718	5 & 7												

*2 Conductors are 18 AWG †19 AWG §Not all pairs are shielded, or conductors are more than one size.

HOW TO USE THE CABLE FINDER CHART

Match the desired "Number of Conductors" column with the required "Conductor Size" to find the applicable Belden Trade Number and its catalog page.

For cables with more than 8 conductors, see Multiple pair and unpaired unshielded cables on page 13 & 15, Multiple pair individually shielded on pages 9, 10 & 12. For cables combining shielded and unshielded conductors, see Special Audio and Communication cables on pages 10 & 11.

Unshielded | Spiral Shield | Braid Shield | Beldfoil Shield

BELDEN PAGE 51

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teflon wire

Teflon■ is a fluorinated thermoplastic with outstanding thermal physical and electrical properties. However, because the basic resin and processing costs are relatively high, Teflon is generally restricted to applications requiring its special characteristics.

Belden Teflon wire products are highly recommended for miniature cable applications, because of their superior thermal and electrical properties. Teflon is especially suitable for internal wiring soldering applications where insulation melt back is a specific problem. Belden Teflon wiring products are outstanding in their resistance to oil, oxidation, heat, sunlight, flame and their ability to remain flexible at low temperatures. They all have excellent resistance to ozone, water, alcohol, gasoline, acids, alkalis, aromatic carbon and solvents.

teflon hook-up wire

TYPE E — MIL-W-16878 TEFLON — 600V — 200°C

Stock Colors 1 thru 10

Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated

Trade Number	Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Insulation Thickness (Inch)	Standard Spool Lengths in ft.
83000	E-30	30 (7x38)	.033	.010	25, 100, 500, 1000
83001	E-28	28 (7x36)	.036	.010	25, 100, 500, 1000
83002	E-26	26 (7x34)	.041	.010	25, 100, 500, 1000
83003	E-24	24 (19x36)	.046	.010	25, 100, 500
83004	E-24	24 (7x32)	.045	.010	25, 100, 500, 1000
83005	E-22	22 (7x30)	.051	.010	25, 100, 500, 1000
83006	E-22	22 (19x34)	.052	.010	25, 100, 500, 1000
83007	E-20	20 (19x32)	.060	.010	25, 100, 500, 1000
83008	E-20	20 (7x28)	.059	.010	25, 100, 500
83009	E-18	18 (19x30)	.071	.010	25, 100, 500, 1000
83010	E-16	16 (19x29)	.080	.010	25, 100, 500, 1000

TYPE EE — MIL-W-16878 TEFLON — 1000V — 200°C

Stock Colors 1 thru 10

Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated

Trade Number	Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Insulation Thickness (Inch)	Standard Spool Lengths in ft.
83023	EE-24	24 (19x36)	.053	.014	25, 100, 500
83025	EE-22	22 (7x30)	.058	.014	25, 100, 500
83026	EE-22	22 (19x34)	.060	.014	25, 100, 500, 1000
83027	EE-20	20 (19x32)	.068	.014	25, 100, 500, 1000
83028	EE-20	20 (7x28)	.066	.014	25, 100, 500
83029	EE-18	18 (19x30)	.079	.014	25, 100, 500, 1000
83030	EE-16	16 (19x29)	.086	.014	25, 100, 500, 1000

Stock Colors

1. Brown
2. Red
3. Orange
4. Yellow
5. Green
6. Light Blue
7. Violet (purple)
8. Gray (slate)
9. White
10. Black

Color striping available on 1,000 ft. minimum per item each color on 500′ and 1000′ spools.
Manufactured to current Government specifications and subsequent revisions.

NEW miniature teflon hook-up wire

TYPE ET — MIL-W-16878 TEFLON — 250V — 200°C

Stock Colors 1 thru 10

Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated

Trade Number	Type Designation	AWG (Stranding)	Nom. O.D. (Inch)	Insulation Thickness (Inch)	Standard Spool Lengths in Ft.
★83041	ET-32	32 (7x40)	.021	.006	100, 1000
★83043	ET-30	30 (7x38)	.024	.006	100, 1000
★83045	ET-28	28 (7x36)	.027	.006	100, 1000
★83046	ET-26	26 (7x34)	.031	.006	100, 1000
★83047	ET-24	24 (7x32)	.036	.006	100, 1000
★83048	ET-24	24 (19x36)	.037	.006	100, 1000
★83049	ET-22	22 (7x30)	.042	.006	100, 1000
★83050	ET-22	22 (19x34)	.044	.006	100, 1000

★*New Item.* ■ *Trade mark of DuPont*

Color striping available on 1000 foot minimum per item each color on 1000 foot spools
Manufactured to current Government specifications and subsequent revisions.

Stock Colors

1. Brown
2. Red
3. Orange
4. Yellow
5. Green
6. Light Blue
7. Violet (purple)
8. Gray (slate)
9. White
10. Black

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RG/U transmission line cables

Belden

RG/U CABLES

Trade Number	RG No.	AWG (Stranding) Material	Insulation	No. of Shields & Material	Jacket	Nom. O.D. (Inch)	Nom. Imp. (Ohms)	Nom. Vel. of Prop.	Nom. Cap. (mmf ft.)	Nom. Attenuation Per 100' mc	Nom. Attenuation Per 100' db	Standard Spool Lengths in Ft.
★83240	140/U MIL-C-17D	22 (Solid) Silver Coated Copperweld▲	TFE Teflon	1 Silver Coated Copper	Brown Fiberglass	.233	75	69.5	19.5	400	8.0 Max.	100, 500, 1000
★83241	141A/U MIL-C-17D	18 (Solid) Silver Coated Copperweld	TFE Teflon	1 Silver Coated Copper	Brown Fiberglass	.190	50	69.5	29.0	400	9.0 Max.	100, 500, 1000
★83242	142B/U MIL-C-17D	18 (Solid) Silver Coated Copperweld	TFE Teflon	2 Silver Coated Copper	Tinted Brown FEP	.195	50	69.5	29.0	400	9.0 Max.	100, 500, 1000
★83243	143A/U MIL-C-17D	.059 (Solid) Silver Coated Copperweld	TFE Teflon	2 Silver Coated Copper	Brown Fiberglass	.325	50	69.5	29.0	400	6.0 Max.	100, 500, 1000
83265	178B/U MIL-C-17D	30 (7x38) Silver Coated Copperweld	TFE Teflon	1 Silver Coated Copper	Tinted Brown FEP	.070	50	69.5	29.0	400	29.0 Max.	100, 500
★83264	179B/U MIL-C-17D	30 (7x38) Silver Coated Copperweld	TFE Teflon	1 Silver Coated Copper	Tinted Brown FEP	.100	75	69.5	19.5	400	21.0 Max.	100, 500, 1000
83266	180B/U MIL-C-17D	30 (7x38) Silver Coated Copperweld	TFE Teflon	1 Silver Coated Copper	Tinted Brown FEP	.140	95	69.5	15.0	400	17.0 Max.	100, 500
★83267	187A/U MIL-C-17D	30 (7x38) Silver Coated Copperweld	TFE Teflon	1 Silver Coated Copper	White Teflon Tape	.105	75	69.5	19.5	400	21.0 Max.	100, 500, 1000
83269	188A/U MIL-C-17D	26 (7x.0067) Silver Coated Copperweld	TFE Teflon	1 Silver Coated Copper	White Teflon Tape	.102	50	69.5	29.0	400	20.0 Max.	100, 500
83270	196A/U MIL-C-17D	30 (7x38) Silver Coated Copperweld	TFE Teflon	1 Silver Coated Copper	White Teflon Tape	.076	50	69.5	29.0	400	29.0 Max.	100, 500
★83281	302/U MIL-C-17D	22 (Solid) Silver Coated Copperweld	TFE Teflon	1 Silver Coated Copper	Tinted Brown FEP	.202	75	69.5	19.5	400	8.0 Max.	100, 500, 1000
★83282	303/U MIL-C-17D	18 (Solid) Silver Coated Copperweld	TFE Teflon	1 Silver Coated Copper	Tinted Brown FEP	.170	50	69.5	29.0	400	9.0 Max.	100, 500, 1000
★83283	304/U MIL-C-17D	.059 (Solid) Silver Coated Copperweld	TFE Teflon	2 Silver Coated Copper	Tinted Brown FEP	.280	50	69.5	29.0	400	6.0 Max.	100, 500, 1000
★83284	316/U MIL-C-17D	26 (7x.0067) Silver Coated Copperweld	TFE Teflon	1 Silver Coated Copper	Tinted Brown FEP	.098	50	69.5	29.0	400	20.0 Max.	100, 500, 1000

SPECIAL FEP TEFLON INSULATED INSTRUMENTATION CABLES

Description	Trade Number	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf/ft)	Nom. **Cap. (mmf/ft)	Suggested Working Voltage	Standard Spool Lengths in ft
High Temperature	83390 (2 condr.)	22 (19x34)	.015	.015	.180	Blk, Wht	90	23	40	1000	25, 100, 500
	83391 (3 condr.)	22 (19x34)	.015	.015	.190	Blk, Red Wht	90	20	35	1000	25, 100, 500
	83392 (4 condr.)	22 (19x34)	.015	.015	.205	Red, Blk, Grn, Wht	90	20	35	1000	25, 100, 500
		Stranded tinned copper, FEP teflon■ insulated, cabled, tinned copper braid shield, white FEP teflon jacket. **HIGH TEMPERATURE +200° C maximum, −70° C minimum operating temperature. Ideal where chemical resistance is needed and/or extremely high or low temperatures are required.**									
	83393 (2 condr.)	20 (7x28)	.020	.030	.245	Blk, Red	100	22	42	1000	25, 100, 500
		Tinned copper, FEP Teflon insulated, noise reducing tape, 20 AWG (10x30) nickel coated copper drain wire, special Beldfoil shield, Silicone rubber jacket. +150° C maximum −70° C minimum operating temperature. Jacket working voltage 1000V DC, shield to ground.									

*Capacitance between conductors. **Capacitance between one conductor and other conductor connected to shield.

▲ *Trademark of Copperweld Steel Co.* ★*New Item.*

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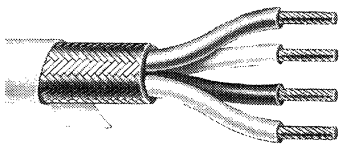

mil-w-16878-Type E shielded teflon cables

Belden

DESCRIPTION: Stranded silver coated copper conductors, type E extruded TFE Teflon insulation, color coded, cabled, braided silver plated copper shield, white TFE Teflon tape wrapped jacket.

MIL-SPEC: MIL-W-16878 Type E
TEMPERATURE RATING: —65°C to 200°C
VOLTAGE: 600Volts (RMS)

TYPE E—TEFLON, SHIELDED, TEFLON JACKETED CABLES

Trade Number	No. of Cond.	AWG & (Stranding)	Insulation Thickness (Inch)	Jacket Thickness (Inch)	Nom. O.D. Inch	Conductor Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf ft.)	Nom. **Cap. (mmf ft.)	Suggested Working Voltage	Standard Spool Lengths in Feet
SINGLE CONDUCTOR											
★83301	1	30 (7x38)	.010	.010	.074	White	90	30	—	600	100, 500, 1000
★83302	1	28 (7x36)	.010	.010	.078	White	90	35	—	600	100, 500, 1000
★83303	1	26 (7x34)	.010	.010	.082	White	90	40	—	600	100, 500, 1000
★83304	1	24 (19x36)	.010	.010	.088	White	90	51	—	600	100, 500, 1000
★83305	1	22 (19x34)	.010	.010	.094	White	90	60	—	600	100, 500, 1000
★83306	1	20 (19x32)	.010	.010	.103	White	90	67	—	600	100, 500, 1000
★83307	1	18 (19x30)	.010	.010	.113	White	90	75	—	600	100, 500, 1000
★83308	1	16 (19x29)	.011	.012	.123	White	90	89	—	600	100, 500, 1000
TWO CONDUCTOR											
★83315	2	30 (7x38)	.010	.010	.106	White, Black	90	15	27	600	100, 500, 1000
★83316	2	28 (7x36)	.010	.010	.112	White, Black	90	18	32	600	100, 500, 1000
★83317	2	26 (7x34)	.010	.010	.120	White, Black	90	20	36	600	100, 500, 1000
★83318	2	24 (19x36)	.010	.010	.132	White, Black	90	22	40	600	100, 500, 1000
★83319	2	22 (19x34)	.010	.010	.144	White, Black	90	26	46	600	100, 500, 1000
★83320	2	20 (19x32)	.010	.012	.162	White, Black	90	28	52	600	100, 500, 1000
★83321	2	18 (19x30)	.010	.012	.188	White, Black	90	30	55	600	100, 500, 1000
★83322	2	16 (19x29)	.011	.012	.200	White, Black	90	33	59	600	100, 500, 1000
THREE CONDUCTOR											
★83330	3	30 (7x38)	.010	.010	.111	White, Black, Red	90	14	25	600	100, 500, 1000
★83331	3	28 (7x36)	.010	.010	.117	White, Black, Red	90	17	30	600	100, 500, 1000
★83332	3	26 (7x34)	.010	.010	.126	White, Black, Red	90	19	33	600	100, 500, 1000
★83333	3	24 (19x36)	.010	.010	.136	White, Black, Red	90	22	38	600	100, 500, 1000
★83334	3	22 (19x34)	.010	.012	.156	White, Black, Red	90	24	41	600	100, 500, 1000
★83335	3	20 (19x32)	.010	.012	.175	White, Black, Red	90	27	45	600	100, 500, 1000
★83336	3	18 (19x30)	.010	.012	.196	White, Black, Red	90	28	52	600	100, 500, 1000
★83337	3	16 (19x29)	.011	.012	.218	White, Black, Red	90	30	56	600	100, 500, 1000
FOUR CONDUCTOR											
★83345	4	30 (7x38)	.010	.010	.119	White, Black, Red, Green	90	13	24	600	100, 500, 1000
★83346	4	28 (7x36)	.010	.010	.126	White, Black, Red, Green	90	16	28	600	100, 500, 1000
★83347	4	26 (7x34)	.010	.010	.135	White, Black, Red, Green	90	18	32	600	100, 500, 1000
★83348	4	24 (19x36)	.010	.012	.151	White, Black, Red, Green	90	20	36	600	100, 500, 1000
★83349	4	22 (19x34)	.010	.012	.166	White, Black, Red, Green	90	23	40	600	100, 500, 1000
★83350	4	20 (19x32)	.010	.012	.185	White, Black, Red, Green	90	25	44	600	100, 500, 1000
★83351	4	18 (19x30)	.010	.012	.214	White, Black, Red, Green	90	27	50	600	100, 500, 1000
★83352	4	16 (19x29)	.011	.014	.235	White, Black, Red, Green	90	29	54	600	100, 500, 1000

*Capacitance Between Conductors. **Capacitance Between One Conductor and Other Conductor Connected to Shield. ★New Item.
Manufactured to Current Government Specifications and Subsequent Revisions.

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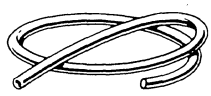
B-105 EXTRUDED PLASTIC TUBING



APPROVED FOR 105°C.-OPERATION — MEETS MIL-1-631D SPECS — A quality plastic Vinyl tubing designed for electronic and electrical insulation work. Has high dielectric strength, extreme flexibility, non-flammabiltiy, abrasion resistance, impervious to oil, water, alkalies, alcohol, solvents, etc., high heat stability and resistance to aging. Meets all A.S.T.M. specifications, Mil. Spec. (Type F, Form U, Grades A and C, Class 2, Category 1).

B&S Gauge Size No.	Birnbach No.	Old Part No.	Nom. I.D.	Nom. Wall
24	B105-24	308	.022	.012
22	B105-22	311	.027	.012
20	B105-20	313	.034	.016
19	B105-19	—	.038	.016
18	B105-18	314	.042	.016
17	B105-17	—	.047	.016
16	B105-16	315	.053	.016
15	B105-15	—	.059	.016
14	B105-14	316	.066	.016
13	B105-13	—	.076	.016
12	B105-12	317	.085	.016
11	B105-11	—	.095	.016
10	B105-10	325	.106	.016
9	B105-9	—	.118	.020
8	B105-8	318	.133	.020
7	B105-7	—	.148	.020
6	B105-6	326	.166	.020
5	B105-5	—	.186	.020
4	B105-4	319	.208	.020
3	B105-3	—	.234	.020
2	B105-2	320	.263	.020
1	B105-1	—	.294	.020
0	B105-0	—	.330	.020
5/16"	B105-5/16"	321	.312	.025
3/8"	B105-3/8"	322	.375	.025
7/16"	B105-7/16"	—	.438	.025
1/2"	B105-1/2"	323	.500	.025
9/16"	B105-9/16"	—	.562	.030
5/8"	B105-5/8"	324	.625	.030
3/4"	B105-3/4"	327	.750	.035
7/8"	B105-7/8"	360	.875	.035
1"	B105-1"	361	1.000	.035
1 1/8"	B105-1 1/8"	—	1.125	.040
1 1/4"	B105-1 1/4"	362	1.250	.040
1 3/8"	B105-1 3/8"	—	1.375	.040
1 1/2"	B105-1 1/2"	363	1.500	.045
1 3/4"	B105-1 3/4"	328	1.750	.055
2"	B105-2"	329	2.000	.060
2 1/4"	B105-2 1/4"	364	2.250	.065
2 1/2"	B105-2 1/2"	365	2.500	.070

STANDARD COLORS

EVEN NUMBERS — #24, 22, 20, 18, 16 — Clear Black, Yellow, Red, Green, Brown, Orange, Blue, White, Violet and Gray; #14, 12, 10, 8, 6, 4, 2, 3/16", 1/4", 1/2", 5/8" — Clear, Black, Yellow, Red, Green, Brown, Orange, Blue and White.

ODD NUMBERS — #19, 17, 15, 13, 11, 9, 7, 5, 3, 1, 0 — Clear, Black White; #3/4" thru 2 1/2" — Clear, Black, White.

STANDARD PUT-UPS

#24 thru #15	1,000' - 500' - 100' - 50' - 25' spools
#14 thru #8	500' - 100' - 50' - 25' spools
#4 thru 1/2"	250' - 100' - 50' - 25' coils
5/16" thru 7/8"	100' - 50' - 25' coils
1" & larger	50 coils

SIZES #24 THRU #15 AVAILABLE IN 36" LENGTHS

TABLE OF PHYSICAL & ELECTRICAL PROPERTIES—B-105 TUBING

Tensile Strength—2500 Psi. (Minimum Average)
Flammability—Non-Flammable
Ultimate Elongation—340%
Recommended for Temperatures to—105° C
Cold Bend— —40° C
Dielectric Strength .020" Wall—800 V/Mil
Varnish Baking—Good
Water Absorption
Weight Increase (1 Week)—0.1%—Fungi Resistance—Yes
Oil Resistance—Indefinitely flexible when immersed in oil.
Insulation Resistance—over 1,000,000 megohms.

IN STOCK

The Birnbach Line of insulated sleeving and tubing is the basic quality line designed for the rigid performance requirements of the Aircraft, Electrical and Electronic Industries.

Meets or exceeds the required MIL Specifications and ASTM and NEMA standards. We invite your inquiries on special problems and requirements.

B-65 — EXTRUDED PLASTIC TUBING LOW TEMPERATURE — Per MIL-I-7444B to —94° F.

No. B-65 meets Air Force spec. Mil-I-7444 specifically designed for operation at sub-zero temperatures. It is fungus resistant and has excellent dielectric strength.

B&S Gauge Size No.	Birnbach No.	Nom. I.D.	Nom. Wall
24	B65-24	.022	.012
22	B65-22	.027	.012
20	B65-20	.034	.016
19	B65-19	.038	.016
18	B65-18	.042	.016
17	B65-17	.047	.016
16	B65-16	.053	.016
15	B65-15	.059	.016
14	B65-14	.066	.016
13	B65-13	.076	.016
12	B65-12	.085	.016
11	B65-11	.095	.016
10	B65-10	.106	.016
9	B65-9	.118	.020
8	B65-8	.133	.020
7	B65-7	.148	.020
6	B65-6	.166	.020
5	B65-5	.186	.020
4	B65-4	.208	.020
3	B65-3	.234	.020
2	B65-2	.263	.020
1	B65-1	.294	.020
0	B65-0	.330	.020
5/16"	B65-5/16"	.312	.025
3/8"	B65-3/8"	.375	.025
7/16"	B65-7/16"	.438	.025
1/2"	B65-1/2"	.500	.025
9/16"	B65-9/16"	.562	.030
5/8"	B65-5/8"	.625	.030
3/4"	B65-3/4"	.750	.035
7/8"	B65-7/8"	.875	.035
1"	B65-1	1.000	.035
1 1/4"	B65-1 1/4"	1.250	.040
1 3/8"	B65-1 3/8"	1.375	.040
1 1/2"	B65-1 1/2"	1.500	.045
1 3/4"	B65-1 3/4"	1.750	.055
2"	B65-2"	2.000	.060
2 1/4"	B65-2 1/4"	2.250	.065
2 1/2"	B65-2 1/2"	2.500	.070

STANDARD COLOR—Clear (Amber)
STANDARD PUT-UPS SAME AS BIRACO 105 EXCEPT OMIT 36" LENGTHS

Applicable Specifications	Dielectric Strength	Temp. Rating	LowTemp. Flexibility	Flame Resistance	Elongation	Tensile Strength
Air Force Spec. MIL-1-7444	750 v/mil	60°C	—65°C	Good	360%	2200 PSI

ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS

BIRNBACH COMPANY INC. FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

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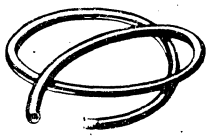
B-130 — VINYL COATED/FIBERGLASS SLEEVING

Per MIL-I-3190B and NEMA Standards to 130° C.



(ASTM, NEMA Grade B-B-1) MEETS MIL-I-3190 SPECS. — Quality Electronic and Electrical Tubing. It is Class B Insulation that combines the best features of the inorganic fiberglass base sleeving with heat resistant, flexible plastic insulation. The plastic compound provides the highest electrical properties, heat stability (130° C.), flexibility and toughness. Meets performance requirements of specs. MIL-I-3190 A, NEMA VSI, ASTM D 372.

Birnbach No.	B&S Ga. Size No.	Old No.	Nom. I.D.
B130-24	24	289	.022
B130-22	22	290	.027
B130-20	20	291	.037
B130-19	19	—	.038
B130-18	18	293	.042
B130-17	17	—	.047
B130-16	16	294	.053
B130-15	15	—	.059
B130-14	14	295	.066
B130-13	13	—	.076
B130-12	12	300	.085
B130-11	11	—	.095
B130-10	10	307	.106
B130-9	9	—	.118
B130-8	8	301	.133
B130-7	7	—	.148
B130-6	6	302	.166
B130-5	5	—	.186
B130-4	4	305	.208
B130-3	3	—	.234
B130-2	2	306	.263
B130-1	1	—	.294
B130-0	0	303	.330
B130-3/8	3/4"	304	.387
B130-7/16	7/16"	—	.450
B130-1/2	1/2"	299	.512
B130-5/8	5/8"	296	.640
B130-3/4	3/4"	—	.768
B130-7/8	7/8"	—	.893
B130-1	1"	—	1.018

SIZES	STANDARD COLORS
#24, 22, 20, 18, 14, 12, 10, 8, 6, 4, 2	Black, Red, White, Yellow, Brown, Orange, Green, Blue, Gray, Purple
5/16", 3/8", 1/2", 5/8"	Black, Red, White, Yellow, Orange, Green, Blue
#19, 17, 15, 13, 11, 9, 7, 5, 3	Black, Red, Yellow, Green
#1, 0, 3/4"	Black, Yellow
3/4", 7/8", 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2"	Black

OTHER COLORS AVAILABLE TO ORDER

DIMENSIONAL TOLERANCES OF VINYL COATED FIBERGLASS

Size	Apx. I.D.	N.E.M.A. Tolerances Inches
24	.022	.020-.027
22	.027	.025-.032
20	.034	.032-.039
18	.042	.040-.049
16	.053	.051-.061
14	.066	.064-.072
12	.085	.081-.089
10	.106	.102-.112
8	.133	.129-.141
6	.166	.162-.178
4	.208	.204-.224
1/4, 2	.263	.258-.278
5/16, 0	.3125	.312-.328
3/8	.375	.375-.399
1/2	.500	.500-.524
5/8	.625	.625-.655

PHYSICAL & ELECTRICAL PROPERTIES

B130 VINYL COATED FIBERGLASS

Class B
Grade B-1
Dielectric Strength ..... 4000 V.
Temperature Rating ..... 130° C.
Low Temp. Flexibility ..... —30° C.
Non-Flammable
Ins. Resistance Over 1,000,000 MEGS.
Corrosion Resistance ..... Excellent
Oil Resistance ..... Good

COLORS:
Black, Red, White, Yellow, Brown, Orange, Green, Blue, Gray, Purple

STANDARD PUT-UPS

#24 thru #15	1000' - 500' - 250' - 100' - 50' - 25' - 30"
#14 thru #6	500' - 250' - 100' - 50' - 25' - 30"
#5 thru #2	250' - 100' - 50' - 25' - 30"
#1 thru 1/2"	250' - 100' - 50' - 25' - 36"
5/16" to 7/8"	100' - 50' - 25' - 36"
1" thru 2 1/2"	50' - 25'

ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS

B-1200 — FLEXIBLE FIBERGLASS SLEEVING for Hi-Temperature — applications for 1200° F.

HIGH TEMPERATURE FIBERGLASS SLEEVING — Sleeving of tightly braided 100% fiberglass intended for temperatures as high as 1200° F. It provides maximum mechanical strength consistent with the ultimate in flexibility. It is treated to remove all organic matter as well as keeping the glass braid fray resistant. We can provide special construction to 1/16" double wall construction. It can be colored for coding purposes.

Birnbach No.	B & S Gauge Size	I.D. Nom.
B1200-24	24	.022
B1200-22	22	.027
B1200-20	20	.034
B1200-19	19	.038
B1200-18	18	.042
B1200-17	17	.047
B1200-16	16	.053
B1200-15	15	.059
B1200-14	14	.066
B1200-13	13	.076
B1200-12	12	.085
B1200-11	11	.095
B1200-10	10	.106
B1200-9	9	.118
B1200-8	8	.133
B1200-7	7	.148
B1200-6	6	.166
B1200-5	5	.186
B1200-4	4	.208
B1200-3	3	.234
B1200-2	2	.263
B1200-1	1	.294
B1200-0	0	.330
B1200-3/8	3/8	.387
B1200-7/16	7/16	.450
B1200-1/2	1/2	.512
B1200-5/8	5/8	.640
B1200-3/4	3/4	.768
B1200-7/8	7/8	.893
B1200-1"	1"	1.018

STANDARD COLOR: NATURAL
OTHER COLORS AVAILABLE TO ORDER

STANDARD PUT-UPS

SIZES #24 thru #15	1000' - 100'
SIZES #14 thru #2	500' - 100'
SIZES #1 thru 1/2"	250' - 100'
SIZES 5/8" thru 1"	100'

Applicable Specifications	Class	Grade	Dielectric Strength	Temp. Rating	Low Temp. Flexibility	Flame Resistance
Nema VSI	H	—	Determined by Space Factor	1200°F.	—	Non-Flam.

BIRNBACH COMPANY INC. **FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.**

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Birflon — TEFLON* SPAGHETTI TUBING

TFE EXTRUDED TUBING

T-500 T-500 Tubing is extruded from DuPont Tetrafluoroethylene Resin. Used in electronic and electrical equipment for connection of components. Its flexibility, ease of handling has established it as the best and most popular insulation sheathing. This high temperature Class C insulation does not melt and flow as the conventional thermoplastic materials. Birflon T-500 Teflon has unique electrical, chemical and mechanical properties unmatched by any other type tubing for use in applications requiring high frequencies and high temperatures.

Because of Teflon's continuous service temperature of 250° C., which is more than 100° C. above other materials, the soldering technique is simplified since "Teflon" is not harmed by the hot barrel of the soldering iron — therefore, the assembly of aircraft, missile and electronic communication equipment is greatly speeded up. Thin Wall flexible Teflon Tubing can be processed easily into flexible and rigid printed circuits. As a thin, flexible insulation, it permits miniaturization and compactness of design never before possible.

TABLE OF PROPERTIES

Test	ASTM Method	Result
Tensile Strength, 73°F.	D638-52T	1500-3000 Lb/Sq. In.
Elongation, 73°F.	D638-52T	100-200%
Deformation Under Load—122°F.		
1200 Lb/Sq. In., 24 Hrs.	D621-51	4-8%
2000 Lb/Sq. In., 24 Hrs.	D621-51	25%
Hardness Durometer	D676-49T	D50-D65
Heat Distortion Temp. 66 Lb/Sq. In.	D648B-45T	250°F.
Dielectric Strength, .180"	D149-44	400-500 V/MIL
Surface Arc-Resistance	D495-48T	Sec.
Volume Resistivity	D257-52T	10^{15} Ohm-CM
Surface Resistivity, 100% R.H.	D257-52T	3.6×10^{6} Megohms
Dielectric Constant, 60 to 10^{8} Cycles	D150-54T	2.00
Power Factor, 60 to 10^{8} Cycles	D150-54T	0.0003
Specific Gravity	D792-50	2.1-2.2

SMALL PIECE CUTTING AVAILABLE TO ORDER

STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

Nos. T-500-3/8 thru T-500-1 1/4 available in Natural. Additional Colors. Sizes Made to Order.

Teflon Tubing can be ordered cut to your specifications.

Tracer Colors Available—We Invite Your Inquiries For Your Special Requirements

ADDITIONAL ADVANTAGES OF BIRFLON T-500 TEFLON*

- **ELECTRICAL:** Low power factor, low dielectric constant, high volume and surface resistivity, good dielectric strength (500 to 1000 volts/MIL) constant over wide ranges of temperatures and frequencies. Dielectric constant of 2.0 and dissipation factor of 0.0002 are lowest of any solid dielectric.
- **THERMAL:** No change of electrical properties with temperature (25°C. to 250°C.) or frequency (60 CPS to 100 MC). Class C insulation — capable of continuous service at temperatures to 250°C. Has color stability.
- **TOUGHNESS AND FLEXIBILITY:** Has high impact strength. Is tough and flexible over the broad temperature range of —90°C. to 250°C. Service range —320°F. to 500°F.
- **CHEMICAL INERTNESS:** Completely inert to all chemicals and solvents except molten alkali metals and fluorine at elevated temperatures and pressures. Non-corrosive to all metals.
- **MOISTURE ABSORPTION:** Zero moisture absorption. Completely sun and weather resistant.
- **NON-FLAMMABLE** • **LOWEST COEFFICIENT OF FRICTION**
- **FUNGI RESISTANCE:** Inert to all fungi growths.
- **SIZES:** Birflon T-500 Teflon Tubing available in sizes to fit B & S gauge wires. Thin wall available from stock, in sizes No. 32 thru 1 1/4" I.D. Additional sizes and wall thicknesses made to order.
  Birflon T-500 is made from high molecular weight virgin "Teflon" and meets AMS 3651B, 3653B, 3654, 3655, MIL-C-17B and MIL-I-22129C.

NOTE: When cutting Teflon Tubing, use single edge razor blade for clean unpinched cut.

"Teflon"* DuPont Trade Name for Tetrafluoroethylene Resin

T-500 - Thin Wall

Birnbach No.	B&S Gauge Size No.	Old No.	Nom. I.D.	Nom. Wall
T500-32	32	8013	.011	.0085
T500-30	30	8014	.012	.009
T500-28	28	8015	.015	.009
T500-26	26	8016	.018	.010
T500-24	24	8000	.022	.010
T500-22	22	8001	.027	.010
T500-20	20	8002	.034	.012
T500-19	19	—	.038	.012
T500-18	18	8003	.042	.012
T500-17	17	—	.047	.012
T500-16	16	8004	.053	.012
T500-15	15	—	.059	.012
T500-14	14	8005	.066	.012
T500-13	13	—	.076	.012
T500-12	12	8006	.085	.012
T500-11	11	—	.095	.012
T500-10	10	8007	.106	.012
T500-9	9	—	.118	.015
T500-1/8	1/8	—	.125	.015
T500-8	8	8008	.133	.015
T500-7	7	—	.148	.015
T500-6*	6	8009	.166	.015
T500-5*	5	—	.186	.015
T500-4*	4	8010	.208	.015
T500-3*	3	—	.234	.015
T500-1/4*	1/4	—	.250	.015
T500-2*	2	8011	.263	.015
T500-1*	1	—	.294	.015
T500-5/16*	5/16	—	.312	.015
T500-0*	0	8012	.330	.015
T500-3/8*	3/8	8020	.390	.020
T500-7/16*	7/16	8021	.453	.020
T500-1/2*	1/2	8022	.515	.025
T500-9/16*	9/16	8023	.583	.025
T500-5/8*	5/8	8024	.640	.030
T500-3/4*	3/4	8025	.765	.030
T500-7/8*	7/8	8026	.895	.030
T500-1*	1	8027	1.025	.030
T500-1 1/8*	1 1/8	8028	1.150	.030
T500-1 1/4*	1 1/4	8029	1.275	.030

* In random lengths.

STANDARD PUT-UPS

SIZES #32 thru 26 ..... 1000' - 500' - 250' - 100'

SIZES #24 thru 1 1/4" ..... 1000' - 500' - 250' - 100' - 50' - 25'

Tolerance — Nos. 32 thru 0 — ±.003" on Wall

Tolerance — Nos. 3/8" thru 1 1/4" — .020" on I.D., .006" on Wall

T-550 - Standard Wall

Birnbach No.	B&S Gauge Size No.	Nom. I.D.	Nom. Wall
T550-24	24	.022	.012
T550-22	22	.027	.012
T550-20	20	.034	.016
T550-19	19	.038	.016
T550-18	18	.042	.016
T550-17	17	.047	.016
T550-16	16	.053	.016
T550-15	15	.059	.016
T550-14	14	.066	.016
T550-13	13	.076	.016
T550-12	12	.085	.016
T550-11	11	.095	.016
T550-10	10	.106	.016
T550-9	9	.118	.020
T550-1/8	1/8	.125	.020
T550-8	8	.133	.020
T550-7	7	.148	.020
T550-6	6	.166	.020
T550-5	5	.186	.020
T550-4	4	.208	.020
T550-3	3	.234	.020
T550-1/4	1/4	.250	.020
T550-2	2	.263	.020
T550-1	1	.294	.020
T550-5/16	5/16	.312	.020
T550-0	0	.330	.020

STANDARD PUT-UPS

1000' - 500' - 250' - 100' - 50' - 25'

SMALL PIECE CUTTING AVAILABLE TO ORDER

STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

OTHER COLORS AVAILABLE TO ORDER

BIRNBACH COMPANY INC.

FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

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HEAT SHRINKABLE TUBING

HEAT SHRINK **PVC** AND **POLYOLEFIN** TUBING

MAXIMUM CONTINUOUS OPERATING TEMPERATURE	BIRNBACH NUMBER	SIZE	MIN. EXPANDED I.D.	MAX. RECOVERED I.D.	NOM. WALL RECOVERED
	SK-265				
VINYL	SK265-1/32"	1/32"	.062	.031	.020
	SK265-3/64"	3/64"	.094	.047	.025
	SK265-1/16"	1/16"	.125	.063	.025
	SK265-3/32"	3/32"	.184	.094	.025
105°C	SK265-1/8"	1/8"	.250	.125	.025
	SK265-3/16"	3/16"	.375	.188	.025
	SK265-1/4"	1/4"	.500	.250	.025
MIL-I-23053 A-Grade 5	SK265-3/8"	3/8"	.750	.375	.025
	SK265-1/2"	1/2"	1.00	.500	.030
MIL-I-631 Grade C	SK265-3/4"	3/4"	1.50	.750	.035
	SK-265-1"	1"	2.00	1.00	.040
	SK-275				
IRRADIATED POLYOLEFIN	SK275-1/32"	1/32"	.062	.031	.020
	SK275-3/64"	3/64"	.094	.047	.025
	SK275-1/16"	1/16"	.125	.063	.025
	SK275-3/32"	3/32"	.184	.094	.025
135°C	SK275-1/8"	1/8"	.250	.125	.025
	SK275-3/16"	3/16"	.375	.188	.025
	SK275-1/4"	1/4"	.500	.250	.025
	SK275-3/8"	3/8"	.750	.375	.025
MIL-I-23053 (wep) Class I	SK275-1/2"	1/2"	1.00	.500	.030
	SK275-3/4"	3/4"	1.50	.750	.035
	SK275-1"	1"	2.00	1.00	.040

SK-265 & SK-275 TUBING PROPERTIES CHART

	RATING	TEST
TENSILE STRENGTH	2960 PSI	ASTM D-876-59-T
ULTIMATE ELONGATION	200%	ASTM D-876-59-T
BRITTLENESS TEMPERATURE	—34° C.	ASTM D-746-57-T
SPECIFIC GRAVITY	1.34	MIL-I-631 D, 4. 6. 12
WATER ABSORPTION	0.06% 24 Hours	ASTM D-570-57-T Proc. A
DIELECTRIC STRENGTH	1050 Volts/Mil	ASTM D-149-55-T
VOLUME RESISTIVITY	5.2 x 10^{14} Ohm-cm	ASTM D-257-58 MIL-I-631 D 4. 6. 13
FUNGUS RESISTIVITY	0-1	MIL-I-631 D 3. 5. 7 and 4. 6. 16
FLAMMABILITY	Self-Extinguishing	ASTM D-876-60-T MIL-I-631 D, 4. 6. 13
FLEXIBILITY AFTER HEAT AGING 200 Hrs. a 100° C. BEND OVER 1/8" MANDREL	GOOD	
CORROSION ON COPPER, BRASS AND ALUMINUM AFTER 14 DAYS a 100° C.	EXCELLENT	MIL-I-7444 B

CHEMICAL RESISTANCE CHART

FUEL JP-4 MIL-J-5624	EXCELLENT
AVIATION GASOLINE 100/130	EXCELLENT
HYDRAULIC OIL MIL-O-5606	EXCELLENT
HYDROCHLORIC ACID 35%	EXCELLENT
WATER	EXCELLENT
SODIUM CHLORIDE 5%	EXCELLENT
ALKALIS	EXCELLENT

*NOTE: SK265 PVC tubing is unsuitable in contact with organic solvents.
SK265 PVC tubing has a higher resistance to oils than low density Polythylene.

All SK-275 available in 4 foot lengths.

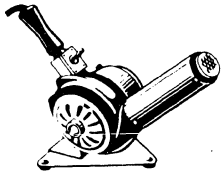
STOCK COLORS: BLACK, WHITE, CLEAR

1/32" Thru 1/8" 500' — 250' — 100' — 50' — 25'
5/32" Thru 1/4" 250' — 100' — 50' — 25'
3/8" Thru 1" 100' — 50' — 25'

HEAT SHRINKABLE TEFLON* TUBING
Birflon Shrink Series, TE Tubing

TEFLON*	Birnbach No.	SK-621 Nominal Tubing Size	Minimum Expanded ID	Recovered Dimensions Maximum ID (1)	Wall Thickness (2)
	SK-621-22	22*	.055"	.032"	.010"
	SK-621-20	20*	.060"	.039"	.012"
	SK-621-19	19	.065"	.043"	.012"
	SK-621-18	18*	.076"	.049"	.012"
	SK-621-17	17	.085"	.054"	.012"
	SK-621-16	16*	.093"	.061"	.012"
	SK-621-15	15	.110"	.067"	.012"
	SK-621-14	14*	.120"	.072"	.012"
250°C	SK-621-13	13	.140"	.080"	.012"
	SK-621-12	12*	.150"	.089"	.012"
	SK-621-11	11	.170"	.101"	.012"
	SK-621-10	10*	.191"	.112"	.012"
	SK-621-9	9	.205"	.124"	.015"
	SK-621-8	8*	.240"	.141"	.015"
	SK-621-7	7	.270"	.158"	.015"
	SK-621-6	6*	.302"	.178"	.015"
	SK-621-5	5	.320"	.198"	.015"
MIL-I-23053 (wep) Class II	SK-621-4	4*	.348"	.224"	.015"
	SK-621-3	3	.360"	.249"	.015"
	SK-621-2	2*	.375"	.278"	.015"
	SK-621-1	1	.385"	.311"	.015"
	SK-621-0	0*	.400"	.347"	.015"
	SK-621-3/8	3/8"*	.560"	.399"	.020"
	SK-621-7/16	7/16"*	.655"	.462"	.020"
	SK-621-1/2	1/2"*	.750"	.524"	.020"

Standard Put-up—36" Straight Lengths;



HAG-12 500/750°F Hot Air Gun For PVC Series
HAG-13 750/1000°F Hot Air Gun For TE Series

The quickest and most versatile method for applying heat is the hot air gun noted herein. Also, use of an oven, radiant heat, dipping in hot liquids, or using a soldering iron or the flame of a match.

BIRFLON SHRINK SERIES TE TUBING

HEAT SHRINKABLE TEFLON* TUBING

Is a Class C material modified from polytetrafluorethylene. The tubing will shrink when heated to 621 F. (It should be heated until it turns semi-transparent, then the heating process immediately stopped. Overheating can cause splitting, therefore trial and error testing is recommended to establish the proper time and temperature for each application.) Correct procedure will result in a snug-fitting insulating wrap possessing hi-heat resistance, superior chemical resistance, and excellent electrical characteristics. The tubing is available in a full range of colors. Stock colors: black, white, natural.

* Dupont Polytetrafluoroethelene

SK621 TEFLON*TUBING PROPERTIES CHART

	TE SERIES Shrinkable "Teflon"*
DIELECTRIC STRENGTH (20 Mil Wall)	850 Volts/Mil
DIELECTRIC CONSTANT	2.2
POWER FACTOR	.00
VOLUME RESISTIVITY	10^{17} Ohms/CM
FUNGUS RESISTANCE	Inert
FLAMMABILITY	Will Not Support Combustion
FUEL and OIL RESISTANCE	Superior
HYDRAULIC FLUID RESISTANCE	Superior
SOLVENT RESISTANCE	Superior
ACID and ALKALI RESISTANCE	Superior
CORROSION RESISTANCE	Excellent
TENSILE STRENGTH	5000-7500 PSI
ULTIMATE ELONGATION	300-500%
WATER ABSORPTION	Nil
LOW TEMPERATURE BRITTLE POINT	—66°F
HARDNESS	98 Shore A
SPECIFIC GRAVITY	2.2

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BUSS BAR, TINNED AND UNTINNED MAGNET WIRE PER MIL-W-583B

SOLID TINNED (SOFT DRAWN) SYMBOL TC

Specification MIL-W-3861 Type S, QQ-W-343 Type S, ASTM-B-33

Cat. No.	¼ lb. SPOOL Size B&S	¼ lb. SPOOL Ft.	½ lb. SPOOL Size B&S	½ lb. SPOOL Ft.	1 lb. SPOOL Size B&S	1 lb. SPOOL Ft.	Nom. O.D.
BST-10	10	8	10	16	10	32	.103"
BST-12	12	12	12	25	12	50	.082"
BST-14	14	20	14	40	14	80	.065"
BST-16	16	32	16	63	16	126	.051"
BST-18	18	50	18	100	18	201	.040"
BST-20	20	80	20	160	20	320	.033"
BST-22	22	127	22	254	22	508	.025"
BST-24	24	201	24	403	24	806	.020"
BST-26	26	320	26	640	26	1280	.016"
BST-28	28	507	28	1015	28	2030	.013"
BST-30	30	805	30	1610	30	3220	.010"
BST-32	32	1282	32	2564	32	5128	.008"
BST-34	34	2037	34	4075	34	8150	.006"
BST-36	36	3221	36	6443	36	12887	.005"
BST-38	38	5132	38	10246	38	20492	.004"
BST-40	40	8143	40	16286	40	32573	.003"

ALL SOLID TINNED COPPER AVAILABLE IN 1000 FT. SPOOLS
BARE COPPER — SOFT DRAWN AVAILABLE FROM STOCK

TINNED COPPER WIRE — SOLID SOFT BRAND

Pure Electrolytic, Copper, annealed, tinned for quick soldering MIL-W-3861 Type S, ASTM-B-33 specifications, QQ-W-343 Type S

Cat. No.	Size AWG	Area Circular Mills	O.D.
1433/4	4	41,704	.204"
1433/6	6	26,250	.162"
1433	8	16,510	.129"
1402	10	10,380	.103"
1406	12	6,530	.082"
1410	14	4,107	.065"
1414	16	2,583	.051"
1418	18	1,624	.040"
1422	20	1,022	.033"
1434	22	624.4	.025"
1424	24	404.0	.020"
1426	26	254.1	.016"
1428	28	159.8	.013"
1430	30	100.5	.010"
1430/32	32	63.21	.008"
1430/34	34	39.75	.006"
1430/36	36	25.00	.005"
1430/38	38	15.72	.004"

HEAVY FORMVAR (HF) TYPE T2

Single conductor round bare copper, baked film insulation from a varnish based on a vinyl acetal resin. 105°C.

Has new tough abrasion resisting film. Replaces enamel and fabric insulations for certain applications requiring exceptional abrasion resistance. Stable under heat. High dielectric strength. Infinite resistance to water and moisture. Does not fail after two hours at 105°C. Takes up less winding space.

ALL MAGNET WIRE AVAILABLE IN LARGER PUT-UPS

Cat. No.	¼ lb. SPOOL Size B&S	¼ lb. SPOOL Ft.	½ lb. SPOOL Size B&S	½ lb. SPOOL Ft.	1 lb. SPOOL Size B&S	1 lb. SPOOL Ft.	Nom. O.D.
BHF-10	10	8	10	16	10	32	.1056"
BHF-12	12	12	12	25	12	50	.0842"
BHF-14	14	20	14	39	14	78	.0673"
BHF-16	16	31	16	62	16	124	.0539"
BHF-18	18	49	18	99	18	198	.0432"
BHF-20	20	78	20	156	20	313	.0346"
BHF-22	22	125	22	250	22	501	.0277"
BHF-24	24	200	24	399	24	798	.0224"
BHF-26	26	300	26	600	26	1200	.0180"
BHF-28	28	500	28	1000	28	1999	.0144"
BHF-30	30	800	30	1600	30	3200	.0116"
BHF-32	32	1225	32	2450	32	4900	.0095"
BHF-34	34	1988	34	3975	34	7950	.0075"
BHF-36	36	3200	36	6400	36	12800	.0060"
BHF-38	38	5050	38	10100	38	20200	.0049"
BHF-40	40	7975	40	15850	40	31700	.0038"
BHF-42	42	12375	42	24750	42	49500	.0032"
BHF-44	44	14500	44	29000	44	58000	.0026"

UNINSULATED COPPER WIRE

SILICON BRONZE AERIAL WIRE

Especially designed for ships, airports, short wave and transmitting antennas where high tensile strength and resistance to the elements are important.

Cat. No.	Size AWG	Strand	Breaking Strength/Lbs.	Nom. O.D.
529	4	7/12	3670	.240"
528	6	7/14	2140	.190"
527	8	7/16	1600	.150"
499	10	7/18	1000	.122"
524	12	7/20	650	.100"
526	14	7/22	420	.075"

#528 & #499 meets MIL-W-13074; #524 meets MIL-W-13276
STANDARD PUT-UPS: 100' — 500' — 1000'

BUS BAR WIRE (Hard Drawn)

QQ-W-343 type S—MIL-W-3861 type S, ASTM-B-33, ASTM-B-246-51 specifications

For hooking up all types of transmitters, especially ultra short wave equipment. All bus wire is made of hard drawn copper, tinned, straightened, and cut in 2 ft. lengths.

STANDARD PACKAGE: 100 pieces

Cat. No.			
2010	10	Round	Tinned
2013	12	Round	Tinned
2015	14	Round	Tinned
2016	16	Round	Tinned
2018	18	Round	Tinned
2020	20	Round	Tinned
2022	22	Round	Tinned

STRANDED TINNED COPPER WIRE

Cat. No.	Size AWG	Strand	Nom. O.D.
495	12	7/20	.102"
1671	14	7/22	.076"
1674	15	7/23	.069"
1628	16	7/24	.062"

#1671 meets H4.4—1940 type W—1
Also available in stranded bare.

JUMPER CABLE
PURE ELECTROLYTIC COPPER, annealed, tinned for quick soldering MIL-W-3861 Type B, ASTM-B-33 Specifications

Cat. No.	Class Descr.	Size AWG	Strand	Nom. O.D.
1622	K	22	7/30	.030"
1620	K	20	10/30	.037"
1618	K	18	16/30	.045"
1616	K	16	26/30	.059"
1614	K	14	41/30	.073"
1612	K	12	65/30	.091"

STANDARD PUT-UPS:
100' — 500' — 1000'

STRANDED BARE COPPER WIRE

Cat. No.	Size AWG	Strand	Nom. O.D.
493	12	7/20	.100"
1670	14	7/22	.075"
1673	15	7/23	.068"
1680	16	7/24	.060"
681	18	7/26	.050"
700	19	7/27	.041"

STANDARD PUT-UPS:
100' — 500' — 1000'

SOLID ENAMEL COPPER WIRE

Cat. No.	Size AWG	Nom. O.D.
497	10	.103"
492	12	.083"
490	14	.066"

STANDARD PUT-UPS:
100' — 250' — 500' — 1000'

BARE COPPER WIRE (Soft Drawn)

QQ—W—341A specifications
SOLID

Cat. No.	Size AWG	Area Circular Mills	Nom. O.D.
1560	8	16,510	.1285"
1562	10	10,380	.102"
1566	12	6,530	.081"
1570	14	4,107	.064"
1574	16	2,583	.051"

STANDARD PUT-UPS: 100' — 500' — 1000'

PLAIN ENAMEL (PE) TYPE T

Single conductor round bare copper covered with a continuous insulating film of enamel. 105°C.

Cat. No.	¼ lb. SPOOL Size B&S	¼ lb. SPOOL Ft.	½ lb. SPOOL Size B&S	½ lb. SPOOL Ft.	1 lb. SPOOL Size B&S	1 lb. SPOOL Ft.	Nom. O.D.
BPE-10	10	8	10	16	10	32	.1037"
BPE-12	12	12	12	25	12	50	.0825"
BPE-14	14	20	14	40	14	80	.0657"
BPE-16	16	32	16	63	16	126	.0522"
BPE-18	18	50	18	100	18	201	.0416"
BPE-20	20	80	20	160	20	320	.0332"
BPE-22	22	127	22	254	22	508	.0266"
BPE-24	24	201	24	403	24	806	.0212"
BPE-26	26	320	26	640	26	1280	.0169"
BPE-28	28	507	28	1015	28	2030	.0135"
BPE-30	30	805	30	1610	30	3220	.0108"
BPE-32	32	1282	32	2564	32	5128	.0087"
BPE-34	34	2037	34	4075	34	8150	.0069"
BPE-36	36	3221	36	6443	36	12887	.0055"
BPE-38	38	5132	38	10246	38	20492	.0044"
BPE-40	40	8143	40	16286	40	32573	.0034"
BPE-42	42	12803	42	25605	42	51211	.0028"
BPE-44	44	20455	44	40910	44	81819	.0023"

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MIL-W-76B PLASTIC WIRE

*** STOCK COLORS**

1—White	16—White/Brown
2—Black	17—White/Orange
3—Red	18—White/Gray
4—Green	19—White/Violet
5—Yellow	20—White/Black/Red
6—Light Blue	21—White/Black/Green
7—Brown	22—White/Black/Yellow
8—Orange	23—White/Black/Blue
9—Gray (state)	24—White/Black/Brown
10—Violet (purple)	25—White/Black/Orange
11—White/Black	26—White/Black/Gray
12—White/Red	27—White/Black/Violet
13—White/Green	28—Tan
14—White/Yellow	29—Pink
15—White/Blue	30—Dark Blue

*Other striped color combinations available to order.

MW	C	22	(7)	j
Type OF WIRE	CONDUCTOR MATERIAL	CONDUCTOR SIZE (AWG)	STRANDING	CONSTRUCTION
LW .... 300 Volt Light Wall	TINNED COPPER	30 thru 20	SOLID	Symbol — Covering Over Insulated Wire
			7 STRAND	
			16 STRAND	U — None
MW ....1,000 Volt Medium Wall	TINNED COPPER	24 thru 12	26 STRAND	J — Jacket
			41 STRAND	B — Braid
			65 STRAND	S — Shield
HW ....2500 Volt Heavy Wall	TINNED COPPER	22 thru 12	105 STRAND	JS — Jacket and Shield
			133 STRAND	BS — Braid and Shield
				SJ — Shield & Outer Jacket
HW .... 600 Volt Heavy Wall	TINNED COPPER	10 thru 6		JSJ — Jacket, Shield and Outer Jacket
				BSJ — Braid, Shield and Outer Jacket

TYPE MW—UNCOVERED PLASTIC 1,000 V

DESCRIPTION: Solid or extra flexible tinned copper, color coded **medium wall** polyvinylchloride insulation.

CHARACTERISTICS: Temperature rating —40° to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

STRANDED

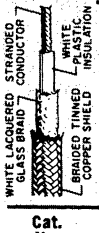
Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7024	24	MW-C 24(7)U	7/32	015"	1000	059"
7001	22	MW-C 22(7)U	7/30	017"	1000	066"
7003	20	MW-C 20(10)U	10/30	017"	1000	074"
7005	18	MW-C 18(16)U	16/30	017"	1000	085"
7007	16	MW-C 16(26)U	26/30	017"	1000	098"
7009	14	MW-C 14(41)U	41/30	017"	1000	114"
7011	12	MW-C 12(65)U	65/30	017"	1000	132"

SOLID

7025	24	MW-C 24(1)U	1	017"	1000	056"
7000	22	MW-C 22(1)U	1	017"	1000	061"
7002	20	MW-C 20(1)U	1	017"	1000	068"
7004	18	MW-C 18(1)U	1	017"	1000	075"
7026	16	MW-C 16(1)U	1	017"	1000	084"

STANDARD PUT-UPS: 100' - 500' - 1000'
STOCK COLORS — 1 thru 30

MIL-W-76B-PLASTIC WIRE
Type MW — Glass Braid — Shielded



TINNED COPPER SHIELD OVER LACQUERED BRAID

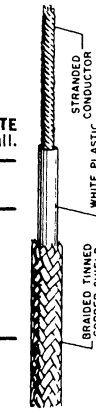
DESCRIPTION: Extra flexible stranded tinned copper, white medium wall polyvinylchloride insulation, white flame retardant lacquered glass braided with tinned copper shield overall, 80% coverage.

CHARACTERISTICS: Temperature rating —40°C to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

Cat. No.	Size AWG	Type Designation	Strand	Wall Thickness	Nom. O.D.
831	22	MW-C 22(7)BS	7/30	.016"	.095"
832	20	MW-C 20(10)BS	10/30	.016"	.105"
833	18	MW-C 18(16)BS	16/30	.016"	.125"
834	16	MW-C 16(26)BS	26/30	.016"	.135"
835	14	MW-C 14(41)BS	41/30	.016"	.155"
835/12	12	MW-C 12(65)BS	65/30	.016"	.175"
835/10	10	MW-C 10(105)BS	105/30	.025"	.200"

STOCK COLOR: White
STANDARD PUT-UPS: 100' - 500' - 1000'

SHIELDED PLASTIC HOOK-UP WIRE



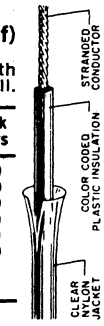
SPECIFICATIONS MIL-W-76B
TEMPERATURE RATING: —40°C TO +80°C
TYPE MW (Medium Wall) — SHIELDED

DESCRIPTION: One conductor stranded tinned copper with **WHITE** thermoplastic insulation and tinned copper shielded braid overall.

Cat. No.	Size AWG	Mil-W-76B Type Designation	Minimum Strand	Nom. Wall	Volt Rating	Nom. O.D.
7074	24	MW-C 24(7)S	7/32	.015"	1000	.074"
7072	22	MW-C 22(7)S	7/30	.017"	1000	.084"
7070	20	MW-C 20(10)S	10/30	.017"	1000	.094"
7068	18	MW-C 18(16)S	16/30	.017"	1000	.106"
7067	16	MW-C 16(26)S	26/30	.017"	1000	.121"
*7066	14	MW-C 14(41)S	41/30	.017"	1000	.137"
*7065	12	MW-C 12(65)S	65/30	.017"	1000	.155"

STANDARD PUT-UPS: 100' - 500' - 1000'

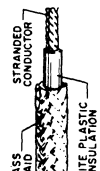
SPECIFICATION MIL-W-76B TYPE MW
(Med. Wall)—NYLON JACKET 1000 V (Fungus Proof)



DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and extruded nylon jacket overall.

Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.	Stock Colors
7224	24	MW-C 24(7)J	7/32	.015"	1000	.068"	1-10
7222	22	MW-C 22(7)J	7/30	.017"	1000	.075"	1-10
7220	20	MW-C 20(10)J	10/30	.017"	1000	.087"	1-10
7218	18	MW-C 18(16)J	16/30	.017"	1000	.100"	1-10
7216	16	MW-C 16(26)J	26/30	.017"	1000	.112"	1-10
7214	14	MW-C 14(41)J	41/30	.017"	1000	.122"	1-10
7212	12	MW-C 12(65)J	65/30	.017"	1000	.140"	1-3
7210	10	MW-C 10(105)J	105/30	.017"	1000	.150"	1-3

STANDARD PUT-UPS: 100' - 500' - 1000'



SPECIFICATION MIL-W-76B
TYPE MW (Medium Wall)
GLASS BRAID 1000 VOLTS

DESCRIPTION: Extra flexible stranded tinned copper, white medium wall polyvinylchloride insulation, color coded flame retardant lacquered glass braid overall.

CHARACTERISTICS: Temperature rating —40° to +80°C, Voltage rating 1000 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.	Stock Colors As Listed
7022	22	MW-C 22(7)B	7/30	.017"	1000	.079"	1-12
7020	20	MW-C 20(10)B	10/30	.017"	1000	.084"	1-12
7018	18	MW-C 18(16)B	16/30	.017"	1000	.100"	1-12
7016	16	MW-C 16(26)B	26/30	.017"	1000	.116"	1-12
*7014	14	MW-C 14(41)B	41/30	.017"	1000	.129"	1, 11, 12
*7012	12	MW-C 12(65)B	65/30	.017"	1000	.149"	1, 11, 12

STANDARD PUT-UPS: 100' - 500' - 1000'

ALL ITEMS AVAILABLE CUT, STRIPPED AND TINNED

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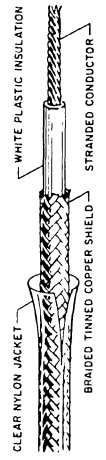
MIL-W-76B PLASTIC WIRE

MIL-W-76B — TYPE MW — SHIELDED — NYLON JACKET



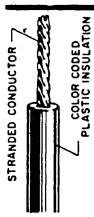
DESCRIPTION: One conductor stranded tinned copper, **WHITE** medium wall polyvinyl chloride insulation, shielded tinned copper braid, minimum 80% coverage, clear nylon (polymide) jacket overall. Temperature rating —40° to +90°C. Resistant to acids, alkalis, oil, flame, moisture, fungus.

Cat. No.	Size AWG	MIL-W-76B Type Designation	Strand	Nom. Wall	Volt Rating	Nom. O.D.
7074J	24	MW-C 24(7)SJ	7/32	.016″	1000	.087″
7072J	22	MW-C 22(7)SJ	7/30	.017″	1000	.094″
7070J	20	MW-C 20(10)SJ	10/30	.017″	1000	.100″
7068J	18	MW-C 18(16)SJ	16/30	.017″	1000	.110″
7067J	16	MW-C 16(26)SJ	26/30	.017″	1000	.125″
7066J	14	MW-C 14(41)SJ	41/30	.017″	1000	.138″
7065J	12	MW-C 12(65)SJ	65/30	.017″	1000	.160″

Additional colors available to order.

STANDARD PUT-UPS: 100′ - 500′ - 1000′

MIL-W-76B TYPE HW (Heavy Wall) 2500 VOLTS (Fungus Proof)



DESCRIPTION: Similar to type MW. One conductor stranded tinned copper with larger wall of primary thermoplastic insulation.

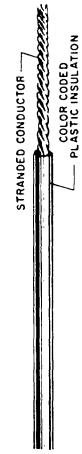
CHARACTERISTICS: Temperature rating —40°C to +80°C. Resistant to acids, alkalis, oil, flame, moisture and fungus.

Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.	Stock Colors As Listed
7322	22	HW-C 22(7)U	7/30	.033″	2500	.094″	1-10
7320	20	HW-C 20(10)U	10/30	.033″	2500	.102″	1-10
7318	18	HW-C 18(16)U	16/30	.033″	2500	.114″	1-10
7316	16	HW-C 16(26)U	26/30	.033″	2500	.128″	1-10
7314	14	HW-C 14(41)U	41/30	.045″	600	.175″	1-10
7312	12	HW-C 12(65)U	65/30	.045″	600	.188″	1-10
*7013	10	HW-C 10(105)U	105/30	.045″	600	.217″	1-3
*7015	8	HW-C 8(133)U	133/29	.045″	600	.268″	1-3
*7017	6	HW-C 6(133)U	133/27	.045″	600	.315″	1-3

STANDARD PUT-UPS: 100′ - 500′ - 1000′

MIL-W-76B — TYPE LW (Light Wall) TYPE LW — LW — VINYL — 300 VOLTS

TEMP. RATING —40°C TO 80+°C



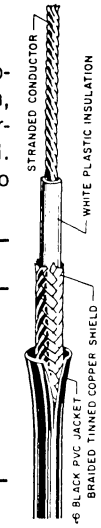
DESCRIPTION: One conductor stranded tinned copper with light wall of primary thermoplastic insulation. Nom. Wall ,010".

CHARACTERISTICS: Temperature rating —40°C to +80°C. Voltage rating 300 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

Cat. No.	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.	Standard Colors
7330	30	LW-C 30(7)U	7/38	.033″	1-10
7328	28	LW-C 28(7)U	7/36	.035″	1-10
7326	26	LW-C 26(7)U	7/34	.040″	1-10
7324	24	LW-C 24(7)U	7/32	.044″	1-19
7324/22	22	LW-C 22(7)U	7/30	.050″	1-19
7324/20	20	LW-C 20(7)U	7/28	.060″	1-19

STANDARD PUT-UPS: 100′ - 500′ - 1000′

MIL-W-76B — TYPE MW — SHIELDED — VINYL JACKET



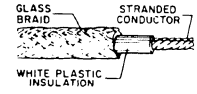
DESCRIPTION: One conductor stranded tinned copper, **WHITE** medium wall polyvinyl chloride insulation, shielded tinned copper braid, minimum 80% coverage, black PVC (polyvinylchloride) jacket overall. Temperature rating —40° to +90°C. Resistant to acids, alkalis, oil, flame, moisture, fungus.

Cat. No.	Size AWG	Mil-W-76B Type Designation	Strand	Nom. Wall	Volt Rating	Nom. O.D.
7074VJ	24	MW-C 24(7)SJ	7/32	.015″	1000	.095″
7072VJ	22	MW-C 22(7)SJ	7/30	.017″	1000	.105″
7070VJ	20	MW-C 20(10)SJ	10/30	.017″	1000	.112″
7068VJ	18	MW-C 18(16)SJ	16/30	.017″	1000	.120″
7067VJ	16	MW-C 16(26)SJ	26/30	.017″	1000	.133″
7066VJ	14	MW-C 14(41)SJ	41/30	.017″	1000	.148″
7065VJ	12	MW-C 12(65)SJ	65/30	.017″	1000	.170″

Additional colors available to order.

STANDARD PUT-UPS: 100′ - 500′ - 1000′

MIL-W-76B — PLASTIC WIRE TYPE HW (Glass Braid)

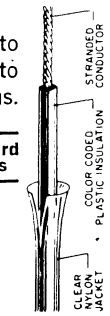


Cat. No.	Size AWG	Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7010	10	HW-C 10(105)B	105/30	.045″	600	.237″
7008	8	HW-C 8(133)B	133/29	.045″	600	.293″
7006	6	HW-C 6(133)B	133/27	.045″	600	.340″

STOCK COLOR: White. **STANDARD PUT-UPS:** 100′ - 500 - 1000′

MIL-W-76B — TYPE LW (Light Wall) NYLON — 300 VOLTS

DESCRIPTION: Stranded tinned copper, color coded light wall polyvinylchloride insulation, clear nylon (polyamide) jacket overall. Nominal Jacket Thickness, .002".



CHARACTERISTICS: Temperature rating —40°C to +90°C. Voltage rating 300 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus.

Cat. No.	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.	Standard Colors
7330N	30	LW-C 30(7)J	7/38	.036″	1-10
7328N	28	LW-C 28(7)J	7/36	.039″	1-10
7326N	26	LW-C 26(7)J	7/34	.042″	1-10
7324N	24	LW-C 24(7)J	7/32	.047″	1-19
7324/22N	22	LW-C 22(7)J	7/30	.053″	1-19
7324/20N	20	LW-C 20(7)J	7/28	.065″	1-19

STANDARD PUT-UPS: 100′ - 500′ - 1000′

STOCK COLORS

1—White	4—Green	7—Brown	10—Violet (purple)	13—White/Green	16—White/Brown	19—White/Violet
2—Black	5—Yellow	8—Orange	11—White/Black	14—White/Yellow	17—White/Orange	
3—Red	6—Light Blue	9—Gray (slate)	12—White/Red	15—White/Blue	18—White/Gray	

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MIL-W-16878D TEFLON* — HOOK-UP WIRE

MIL-W-16878D — TEFLON† WIRE

Type E—Extruded (600 Volts) — High Temperature Rating — 90° To + 260°C

Chemically inert, non-flammable, excellent flexibility, easy stripping, high dielectric strength, unaffected by fungus. Exceeds Class H insulation requirements. Unaffected by high or low temperature. Outstanding for its dependability and long life under all operating conditions indoors or outdoors. Teflon permits miniaturization and compactness in electronic designs of sub-miniature components, computers, UHF equip., slip ring assemblies, leads to hermetically sealed and potted components, telemetering equip. and guided missiles. Nom. wall .010". TFE extruded.
DESCRIPTION: Single conductor silver plated copper wire concentrically stranded and insulated with extruded or Teflon insulation.

Cat. No.	Size AWG	Mil Type Designation	Strand	Diam. Over Insulation Max.
8532	32	E-32	7/40	.033"
8530	30	E-30	7/38	.036"
8528	28	E-28	7/36	.039"
8526	26	E-26	7/34	.043"
8524	24	E-24	19/36	.048"
8522	22	E-22	19/34	.054"
8520	20	E-20	19/32	.062"
8518	18	E-18	19/30	.074"
8516	16	E-16	19/29	.087"
8514	14	E-14	19/27	.097"
8512	12	E-12	19/25	.120"
8510	10	E-10	37/26	.139"

***STOCK COLORS:** 1 thru 19, as listed.
STANDARD PUT-UPS: 25' - 50' - 100' - 250' - 500' - 1000'

MIL-W-16878D — TEFLON* WIRE

Type EE—Extruded (1000 Volts) MIL-W-16878D

DESCRIPTION: Single conductor silver plated copper wire concentrically stranded and insulated with .016" TFE extruded TEFLON* insulation. Temperature rating —90°C to +260°C 1000 volts.

Cat. No.	Mil Type Designation	Size AWG	Strand	Nom. O.D.
9524	EE-24	24	19/36	.055"
9522	EE-22	22	19/34	.062"
9520	EE-20	20	19/32	.070"
9518	EE-18	18	19/30	.080"
9516	EE-16	16	19/29	.089"
9514	EE-14	14	19/27	.106"
9512	EE-12	12	19/25	.124"
9510	EE-10	10	37/26	.145"
9508	EE- 8	8	133/29	.210"

***STOCK COLORS:** 1 thru 19, as listed.
STANDARD PUTUPS: 100' - 250' - 500' - 1000'

SHIELDED AND UNSHIELDED TEFLON* CABLES TO MIL-W-16878D

DESCRIPTION: One or more conductors, each conductor silver plated concentrically stranded copper wire, Type E Extruded TFE .010" insulation. When shielded, braided silver plated copper shield over conductor(s), 90% shield coverage. When covered, either a TEFLON* impregnated fiberglass braid or a .010" TEFLON* fused, double reversed tape jacket overall. Temperature —65°C to +260°C. Voltage rating 600V. Fungus, solvent, moisture, flame, acid, alkali and oil resistant.

TEFLON* IMPREGNATED FIBERGLASS BRAID OVER SHIELD

Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.
8706	1	24	19/36	.081"
8706/2	2	24	19/36	.126"
8706/3	3	24	19/36	.133"
8706/4	4	24	19/36	.144"
8706/5	5	24	19/36	.156"
8709	1	22	19/34	.088"
8709/2	2	22	19/34	.137"
8709/3	3	22	19/34	.144"
8709/4	4	22	19/34	.158"
8709/5	5	22	19/34	.172"
8712	1	20	19/32	.093"
8712/2	2	20	19/32	.154"
8712/3	3	20	19/32	.163"
8712/4	4	20	19/32	.180"
8712/5	5	20	19/32	.195"
8715	1	18	19/32	.097"
8715/2	2	18	19/30	.162"
8715/3	3	18	19/30	.172"
8715/4	4	18	19/30	.192"
8715/5	5	18	19/30	.207"

STANDARD PUT-UPS: 250' - 500' - 1000'
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow. Special colors and constructions available.

TEFLON* TAPE WRAP JACKET OVER SHIELD

Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.
8521	1	24	19/36	.084"
8521/2	2	24	19/36	.128"
8521/3	3	24	19/36	.135"
8521/4	4	24	19/36	.148"
8521/5	5	24	19/36	.162"
8523	1	22	19/34	.090"
8523/2	2	22	19/34	.140"
8523/3	3	22	19/34	.148"
8523/4	4	22	19/34	.162"
8523/5	5	22	19/34	.183"
8525	1	20	19/32	.099"
8525/2	2	20	19/32	.158"
8525/3	3	20	19/32	.167"
8525/4	4	20	19/32	.184"
8525/5	5	20	19/32	.204"
8527	1	18	19/30	.109"
8527/2	2	18	19/30	.178"
8527/3	3	18	19/30	.189"
8527/4	4	18	19/30	.208"
8527/5	5	18	19/30	.230"

STANDARD PUT-UPS: 250' - 500' - 1000'
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow. Special colors and constructions available.

TEFLON* INNERS, NO JACKET SHIELDED BRAID OVERALL

Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.
8704	1	24	19/36	.068"
8704/2	2	24	19/36	.112"
8704/3	3	24	19/36	.120"
8704/4	4	24	19/36	.132"
8704/5	5	24	19/36	.140"
8707	1	22	19/34	.075"
8707/2	2	22	19/34	.124"
8707/3	3	22	19/34	.132"
8707/4	4	22	19/34	.146"
8707/5	5	22	19/34	.154"
8710	1	20	19/32	.082"
8710/2	2	20	19/32	.142"
8710/3	3	20	19/32	.151"
8710/4	4	20	19/32	.168"
8710/5	5	20	19/32	.180"
8713	1	18	19/30	.093"
8713/2	2	18	19/30	.162"
8713/3	3	18	19/30	.172"
8713/4	4	18	19/30	.191"
8713/5	5	18	19/30	.210"

STANDARD PUT-UPS: 250' - 500' - 1000'
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow. Special colors and constructions available.

NO SHIELD — TEFLON* IMPREGNATED FIBERGLASS

Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.
8705	1	24	19/36	.044"
8705/2	2	24	19/36	.088"
8705/3	3	24	19/36	.096"
8705/4	4	24	19/36	.108"
8705/5	5	24	19/36	.116"
8708	1	22	19/34	.051"
8708/2	2	22	19/34	.100"
8708/3	3	22	19/34	.108"
8708/4	4	22	19/34	.122"
8708/5	5	22	19/34	.131"
8711	1	20	19/32	.058"
8711/2	2	20	19/32	.118"
8711/3	3	20	19/32	.127"
8711/4	4	20	19/32	.144"
8711/5	5	20	19/32	.156"
8714	1	18	19/30	.069"
8714/2	2	18	19/30	.138"
8714/3	3	18	19/30	.148"
8714/4	4	18	19/30	.167"
8714/5	5	18	19/30	.186"

STANDARD PUT-UPS: 250' - 500' - 1000'
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green 5—Yellow. Special colors and constructions available.

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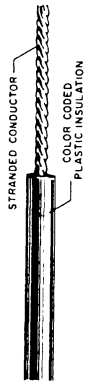
PLASTIC HOOK-UP WIRE — MIL-W-16878D

PLASTIC HOOK-UP WIRE — MIL-W-16878D — Type B — High Temperature Vinyl — 600 Volt



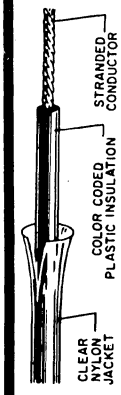
Suitable for general purpose wiring for miniature high temperature hook-ups in aircraft, electronic instruments, devices, etc., where excellent resistance to moisture and solvents may be required.

DESCRIPTION: One conductor stranded tinned copper with rated —55°C to +105°C high temperature thermoplastic light wall insulation. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus. Nominal wall: 0.010.

Cat. No.	MIL-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
7190	B-32	32	7/40	.028″
7191	B-30	30	7/38	.030″
7192	B-28	28	7/36	.033″
7193	B-26	26	7/34	.037″
7194	B-24	24	7/32	.043″
7194/19	B-24	24	19/36	.043″
7195	B-22	22	7/30	.048″
7195/19	B-22	22	19/34	.048″
7196	B-20	20	7/28	.057″
7196/19	B-20	20	19/32	.057″
7197	B-18	18	7/26	.067″
7197/19	B-18	18	19/30	.067″
7198	B-16	16	19/29	.077″
7199	B-14	14	19/27	.091″

***STOCK COLORS:** 1 thru 19, as listed.
STANDARD PUT-UPS: 100′ - 500′ - 1000′

PLASTIC HOOK-UP WIRE — MIL-W-16878D — Type B — Nylon Jacket — 600 Volt



Suitable for general purpose wiring for miniature high temperature hook-ups in aircraft, electronic instruments, devices, etc., where excellent resistance to moisture and solvents may be required.

DESCRIPTION: Stranded tinned copper, color coded. .010″ polyvinylchloride insulation, clear nylon (polyamide) jacket overall.

CHARACTERISTICS: Temperature rating —55°C to +115°C. Voltage rating 600 volts. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.

Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
7190N	B-32	32	7/40	.034″
7191N	B-30	30	7/38	.038″
7192N	B-28	28	7/36	.040″
7193N	B-26	26	7/34	.043″
7194N	B-24	24	7/32	.048″
7194N/19	B-24	24	19/36	.048″
7195N	B-22	22	7/30	.055″
7195N/19	B-22	22	19/34	.055″
7196N	B-20	20	7/28	.065″
7196N/19	B-20	20	19/32	.065″
7197N	B-18	18	7/26	.075″
7197N/19	B-18	18	19/30	.075″
7198N	B-16	16	19/29	.085″
7199N	B-14	14	19/27	.099″

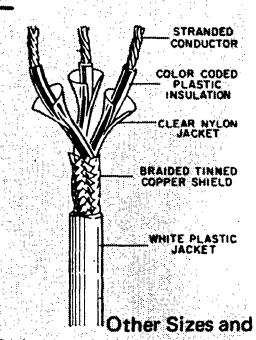
STANDARD PUT-UPS: 100′ - 500′ - 1000′
***STOCK COLORS:** 1 thru 19, as listed.

MIL-W-16878D — MULTI-CONDUCTOR CABLE — Type B — Nylon Shielded-Plastic Jacket

DESCRIPTION: Each conductor stranded tinned copper, .010″ polyvinylchloride insulation, color coded, clear nylon .003 (polyamide) jacket, conductors cabled, braided tinned copper shield 90% coverage, with polyvinylchloride jacket overall.

CHARACTERISTICS: Temperature rating —55°C to +105°C. Voltage rating 600 volts, resistant to acids, alkalis, oil, flame, moisture, fungus, solvents.

Birnbach No.	No. of Cond.	Conductor Size	Conductor Strand	Nom. Overall Jacket	Nom. O.D.
7366-1	1	24	19/36	.010″	.092″
7366-2	2	24	19/36	.016″	.152″
7366-3	3	24	19/36	.016″	.161″
7366-4	4	24	19/36	.017″	.166″
7367-1	1	22	19/34	.010″	.100″
7367-2	2	22	19/34	.016″	.168″
7367-3	3	22	19/34	.017″	.178″
7367-4	4	22	19/34	.019″	.174″
7368-1	1	20	19/32	.010″	.106″
7368-2	2	20	19/32	.019″	.186″
7368-3	3	20	19/32	.019″	.196″
7368-4	4	20	19/32	.021″	.193″
7369-1	1	18	19/30	.012″	.120″
7369-2	2	18	19/30	.021″	.210″
7369-3	3	18	19/30	.022″	.227″
7369-4	4	18	19/30	.023″	.231″
7370-1	1	16	19/29	.016″	.137″
7370-2	2	16	19/29	.023″	.236″
7370-3	3	16	19/29	.024″	.240″
7370-4	4	16	19/29	.025″	.274″



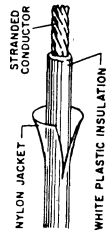
Other Sizes and Colors Available

STANDARD PUT-UP: 100′ - 500′ - 1000′ **COLOR CODE OF CONDUCTORS:** 1—White 2—Black 3—Red 4—Green

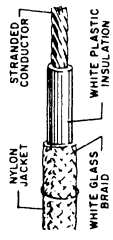
SPECIAL CONSTRUCTION AVAILABLE AT ANY TIME.

AIRCRAFT PLASTIC HOOK-UP WIRE — MIL-W-5086A and MIL-C-7078A (105°C Rating)

No. 7351



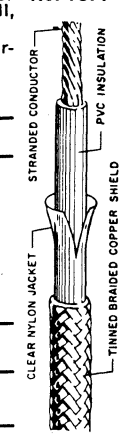
No. 7363



DESCRIPTION: MIL-W-5086A—**Type I**—AN-22 thru AN-12—Single conductor stranded tinned copper, white polyvinylchloride insulation, clear nylon (polyamide) jacket overall. MIL-W-5086A—**Type II**—AN-22 thru AN-12—Single conductor stranded tinned copper, white polyvinylchloride insulation, white glass braid, clear nylon (polyamide) jacket overall. MIL-W-5086A—**Type II**—AN-10 thru AN-00—Single conductor stranded tinned copper, white polyvinylchloride insulation, white glass braid, flame retardant nylon lacquered nylon braid overall. MIL-C-7078A—**Type I**—Single conductor stranded tinned copper, white polyvinylchloride insulation, clear nylon jacket, braided tinned copper shield overall, 85% coverage.

CHARACTERISTICS: Temperature rating: —55°C. to +105°C. Voltage Rating: 600 volts. Resists effects of water, oil, aircraft fuels, hydraulic fluid, skydral, ethyleneglycol, alcohol, dilute acids, alkalis, fungus and abrasion.

NYLON JACKET No. 7371



MIL-W-5086A — UNSHIELDED — 600 Volt Rating

Cat. No.	Size AWG	Mil. Type	Type	Cond. Strand	Nom. O.D.	Cat. No.	Size AWG	Mil. Type	Type Cond.	Conds. Strand	Nom. O.D.
7351	22	AN-22	No. 1	19/34	.100″	7365/2	2	AN-2	No. 2	665/30	.412″
7353	20	AN-20	No. 1	19/32	.080″	7365/0	0	AN-0	No. 2	1045/30	.518″
7355	18	AN-18	No. 1	19/30	.090″	7365/00	00	AN-00	No. 2	1330/30	.588″
7357	16	AN-16	No. 1	19/29	.100″	7351 NB	22	AN-22	No. 2	19/34	.068″
7359	14	AN-14	No. 1	19/27	.125″	7353 NB	20	AN-20	No. 2	19/32	.078″
7361	12	AN-12	No. 1	19/25	.140″	7355 NB	18	AN-18	No. 2	19/30	.088″
7363	8	AN-8	No. 2	133/29	.240″	7357 NB	16	AN-16	No. 2	19/29	.098″
7364	6	AN-6	No. 2	133/27	.297″	7359 NB	14	AN-14	No. 2	19/27	.117″
7365	4	AN-4	No. 2	133/25	.355″	7361 NB	12	AN-12	No. 2	19/25	.137″
						7362 NB	10	AN-10	No. 2	49/27	.189″

MIL-C-7078A — SHIELDED

7371	22	AN-22	No. 1	19/34	.100″	7374	16	AN-16	No. 1	19/29	.139″
7372	20	AN-20	No. 1	19/32	.110″	7375	14	AN-14	No. 1	19/27	.158″
7373	18	AN-18	No. 1	19/30	.124″	7376	12	AN-12	No. 1	19/25	.177″

STANDARD PUT-UPS: 100′ - 500′ - 1000′

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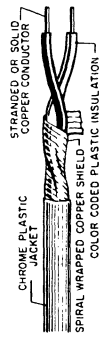
MULTI-CONDUCTOR, INTERCOM & AUDIO CABLES

SPIRAL WRAPPED SHIELDED AUDIO and MULTI-CONDUCTOR CABLE

Plastic Jacketed — with Spiral wrapped copper shield
Designed for P.A. and sound systems, installations in schools, hospitals, and institutions, recording studios, transmitters, paging and call systems.
DESCRIPTION: Each conductor copper tinned, ¼ plastic insulation, color coded, twisted, spiral wrapped tinned copper shield, gray plastic jacket overall.

Cat. No.	Cond.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
941	2	22	7/30	.017"	.020"	.171"
941/1	1	22	7/30	.017"	.020"	.120"
941/3	3	22	7/30	.017"	.020"	.190"
941/4	4	22	7/30	.017"	.020"	.205"
941/6	6	22	7/30	.017"	.020"	.240"
950	2	22	1	.017"	.020"	.169"
942	2	20	10/30	.017"	.020"	.190"
942/1	1	20	10/30	.017"	.020"	.129"
943	3	20	10/30	.017"	.020"	.208"
944	4	20	10/30	.017"	.020"	.222"
945	6	20	10/30	.017"	.020"	.260"
946	1	18	16/30	.017"	.020"	.139"
947	2	18	16/30	.017"	.020"	.230"
947/3	3	18	16/30	.017"	.020"	.228"
947/4	4	18	16/30	.017"	.020"	.243"
948	2	16	26/30	.017"	.020"	.250"
949	3	16	26/30	.017"	.020"	.249"

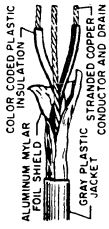


CONDUCTOR COLOR CODE: 1-Black, 2-Red, 3-White, 4-Green
STANDARD PUT-UP: 100' - 250' - 500' - 1000'

SHIELDED PLASTIC JACKETED CABLE with ALUMINUM MYLAR* FOIL SHIELD

This cable is extremely light in weight and provides 100% shield coverage at audio and radio frequencies.
DESCRIPTION: Each conductor tinned copper, color coded polyethylene insulation, twisted with #22 7/30 stranded tinned copper drain wire, aluminum Mylar* foil shield, gray polyvinylchloride jacket overall.

Cat. No.	Cond.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
1890	2	22	7/30	.015"	.020"	.165"
1890/3	3	22	7/30	.015"	.020"	.175"
1890/4	4	22	7/30	.015"	.020"	.190"
1891	2	20	10/30	.015"	.020"	.180"
1891/3	3	20	10/30	.015"	.020"	.190"
1891/4	4	20	10/30	.015"	.020"	.200"
1892	2	18	16/30	.017"	.020"	.220"
1892/3	3	18	16/30	.017"	.020"	.230"
1892/4	4	18	16/30	.017"	.020"	.240"



CONDUCTOR COLOR CODE: 1-Black, 2-Red, 3-White, 4-Green
STANDARD PUT-UP: 100' - 500' - 1000'

TWISTED PAIRS — STRANDED CONDUCTORS

DESCRIPTION: Each Conductor #22 7/30 Stranded Tinned Copper, .010" Vinyl plastic insulation, twisted pairs cabled, conductors color coded, tubed gray Vinyl plastic jacket overall.

Cat. No.	Pairs	Cond.	Size AWG	Strand	Nom. O.D.
4731	1	2	22	7/30	.145"
4732	2	4	22	7/30	.210"
4733	3	6	22	7/30	.225"
4734	4	8	22	7/30	.235"
4735	5	10	22	7/30	.245"
4736	6	12	22	7/30	.270"
4739	9	18	22	7/30	.325"
4740	11	22	22	7/30	.365"
4745	15	30	22	7/30	.455"
4745/19	19	38	22	7/30	.480"
4746	23	46	22	7/30	.530"
4747	27	54	22	7/30	.570"
4748	31	62	22	7/30	.635"
4749	41	82	22	7/30	.710"
4750	51	102	22	7/30	.800"

STANDARD PUT-UPS: 50' - 100' - 250' - 1000'

SPECIAL CABLE CONSTRUCTIONS AVAILABLE AT ANY TIME.

SHIELDED BROADCAST AUDIO CABLE

Designed to provide maximum performance on all equipment. Conductors twisted correctly assures quiet, clear operation which eliminates interference and cross talk. Used by Broadcast studios, for P.A. and sound systems, rack wiring, etc.

DESCRIPTION: #938—#22 Solid Tinned Copper Conductor, enameled, heavy cellulose acetate yarn wrap, cotton braid waxed; cabled with #22 AWG solid tinned copper wire laid parallel to twisted pair under tinned copper braid shield; tubed-on Vinyl plastic jacket overall.

#939—#22-7/30 Stranded Tinned Copper, plastic insulation, color coded, twisted, copper braid shield, tubed-on Vinyl plastic jacket overall.

#940—2 Conductors #22 solid plastic insulation, color coded, twisted with #22 AWG solid tinned copper ground wire under tinned copper shield with vinyl plastic jacket overall.

#940/1 same construction as #940 however with tinned copper spiral wrapped shield.

#822 and #824 have solid enameled copper wire, cotton wrap, cotton braid waxed twisted pair, bare copper braid overall.

Cat. No.	Cond.	Size AWG	Strand	Nom. O.D.
938	2	22	Solid	.210"
939	2	22	7/30	.170"
940	2	22	Solid	.160"
940/1	2	22	Solid	.160"
822	2	22	Solid	.125"
824	2	19	Solid	.145"
927	2	20	Solid	.210"
928	2	18	Solid	.220"

STANDARD PUT-UP: 100' - 250' - 500' - 1000'
CONDUCTOR COLOR CODE: Black and Red

MULTIPLE PAIR INDIVIDUALLY SHIELDED INTERCOM CABLE

Useful where several mikes are operated from a single cable. This series is helpful in reducing the bulk of required cables.

DESCRIPTION: Multi-pairs #22 solid tinned copper, vinyl insulated .013" cabled in pairs. Each pair and ground wire is under aluminum foil mylar shield, overall grey vinyl jacket; Nom. Cap. between Conds. 40 Mmft/ft.; Nom. Cap. between 1 Cond. and others connected to shield — 77Mmf/ft.

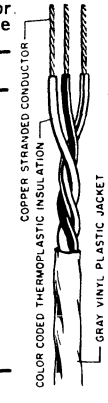
Cat. No.	Pairs	Cond.	Nom. Jkt.	Nom O.D.
4800/3	3	6	.030	.298
4800/6	6	12	.037	.394
4800/9	9	18	.040	.425
4800/11	11	22	.040	.485
4800/15	15	30	.045	.510
4800/19	19	38	.055	.678
4800/27	27	54	.070	.860

4800/19 and 4800/27 is #22 strand 7/30 with .015 wall
STANDARD PUT-UPS: 100' — 250' — 500' — 1000'

MULTI-CONDUCTOR FLEXIBLE CABLE

DESCRIPTION: Each conductor #22 7/30 tinned copper stranded .010" thermoplastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Used for signal, P.A. systems. Electronic computer cable, suitable for outdoor use.

Cat. No.	Cond.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
156	2	22	7/30	.010"	.020"	.140"
157	3	22	7/30	.010"	.020"	.145"
158	4	22	7/30	.010"	.020"	.170"
159	5	22	7/30	.010"	.020"	.175"
160	6	22	7/30	.010"	.020"	.185"
161	7	22	7/30	.010"	.020"	.190"
162	8	22	7/30	.010"	.020"	.200"
163	9	22	7/30	.010"	.020"	.225"
164	10	22	7/30	.010"	.020"	.235"
165	12	22	7/30	.010"	.020"	.255"
165/15	15	22	7/30	.010"	.020"	.280"
165/20	20	22	7/30	.010"	.020"	.310"
165/25	25	22	7/30	.010"	.020"	.340"
165/30	30	22	7/30	.010"	.020"	.365"
165/40	40	22	7/30	.010"	.020"	.425"
165/50	50	22	7/30	.010"	.020"	.500"
165/60	60	22	7/30	.010"	.020"	.530"



STANDARD PUT-UPS: 100' - 250' - 500' - 1000'

BIRNBACH COMPANY INC. **FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.**

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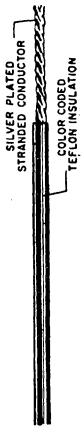
HOOK-UP AND TEST LEAD WIRES

SUBMINIATURE TEFLON* HOOK-UP WIRE

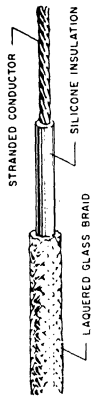
Per MIL-W-16878D Type ET 250 Volts, 250°C Thin Wall .006"



This new exceptionally thin miniature hook-up wire is suitable in miniature slip ring assemblies, as interconnecting wire between wafers in microminiature electronic circuitry, instrument wire, medical wire, subminiature thermo-couple lead wire, strain gauge wire, etc. Provides lighter weight, greater flexibility and hi temperature resistance. Size Nos. 32 thru 20 conform to MIL-W-16878D type ET 250 volts, 250 °C.

Cat. No.	Mil Type Designation	Size AWG	Strand	Nom. O.D.
8550/36	——	36	7/44	.018"
8550/34	——	34	7/42	.020"
8550/32	ET-32	32	7/40	.021"
8550/30	ET-30	30	7/38	.024"
8550/28	ET-28	28	7/36	.027"
8550/26	ET-26	26	7/34	.031"
8550/24	ET-24	24	7/32	.036"
8550/22	ET-22	22	7/30	.042"
8550/20	ET-20	20	7/28	.049"

200° C — Birsil Silicone Rubber Hook-Up Lead Wire — 600 Volt



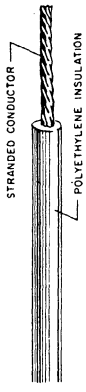
This Birsil Silicone Rubber Hook up lead wire withstands extreme temperature range and flexibility from —104°C. to +400°F. with retention of physical properties and is highly resistant to flex cracking at temperature extremes; fungus resistant; corona resistant; engineered for high-heat and hi-frequency applications; low power factor; acid-alkali-oil resistant; low dielectric constant; insulation approaching mica. Approved by U.L. but consumer must apply for Underwriter's Laboratories approval for individual product.

DESCRIPTION—One conductor, tinned copper strands, silicone rubber insulation, glass braid, lacquered. Color: White.

Cat. No.	Size AWG	Strand	Nom. Ins. Wall	Volt Rating	Breakdown Voltage AC	Nom. O.D.
7622	22	7/30	1/32"	600	11,500	.105"
7620	20	10/30	1/32"	600	18,000	.121"
7618	18	16/30	1/32"	600	21,000	.128"
7616	16	26/30	1/32"	600	20,000	.144"
7614	14	41/30	1/32"	600	15,500	.165"
7612	12	65/30	1/32"	600	14,500	.185"
7610	10	65/28	3/64"	600	20,000	.240"
7608	8	84/27	1/16"	2300	20,000	.320"

Additional sizes and colors available to order.
Types F and FF per MIL-W-16878C available to order.
STANDARD PUT-UPS: 100' - 500' - 1000'

Hi-Voltage and Cathode Ray Cable



Used for 10,000, 20,000, 40,000, 60,000 volt applications as for cathode ray tubes in TV receivers, oscilloscopes and other electronic devices. Has dielectric constant of 2.7 and power factor of .002. Shielded Hi-Voltage type used to shield RF radiation in X-Ray, diathermy, medical equipment, and in transmitters.

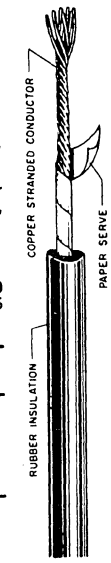
DESCRIPTION—One conductor stranded copper tinned rulan (flame retarding type) polyethylene insulation. Available white/red tracer. Temp. Rating: 105°C

Shielded—Same as above with tinned copper braided shield overall.

Cat. No.	Size AWG	Strand	Nom. Ins. Wall	Suggested Working Vol.	Nom. O.D.
UNSHIELDED					
7402	20	10/30	.047"	10,000	.125"
7412	20	10/30	.068"	20,000	.169"
7418	18	16/30	.047"	10,000	.135"
7428	18	16/30	.069"	20,000	.179"
7448	18	16/30	.095"	40,000	.231"
7449	18	16/30	.123"	60,000	.285"
SHIELDED					
7458	18	16/30	.095"	40,000	.256"

STANDARD PUT-UPS: 100' - 500' - 1000'

KINKLESS TEST LEAD WIRE



Used with portable test equipment; as tested, leads in analyzers, oscillators, instruments; wherever extreme flexibility and limpness is required. Has excellent dielectric properties.

DESCRIPTION:

No. 61—#20—41/36 extra flexible annealed tinned copper, stranded.

No. 66—#18—65/36 extra flexible annealed tinned copper stranded; paper serve; 3/64" special low capacity rubber, wax finish.

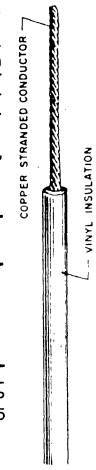
Colors: Red, Black.

Types WS-16/U Black, WS-17/U Red; No. 70 per MIL-W-13169 Specification available same construction as Birnbach #66 except compound per specification.

Cat. No.	Size AWG	Strand	Ins.	Puncture Voltage	Nom. O.D.
61	20	41/36	3/64"	20,000 V	.137"
66	18	65/36	3/64"	22,000 V	.145"
70*	18	65/36	3/64"	22,000 V	.145"

*** MILITARY TYPE SPECIFICATION MIL-W-13169B**
WS-16/U Black WS-17/U Red
STANDARD PUT-UPS: 100' - 250' - 500' - 1000'

NEW PLASTIC KINKLESS TEST LEAD WIRE



New formulation vinyl compound insulation allows maximum flexibility; rough treatment; extreme variation in climatic conditions; excellent abrasion resistance; greater temperature stability from —80°C to +115°C; fungus resistant; self extinguishing-flame proof; smooth surface. Resists exposure to gasoline and oil. 5000 volts

DESCRIPTION: One conductor tinned copper stranded, special formulation vinyl insulation.

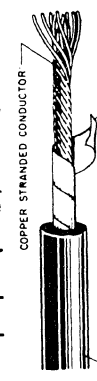
Colors: Black, Red, Yellow, Green, White, Blue.

Cat. No.	Size AWG	Strand	Ins.	Nom. O.D.
1922	22	26/36	.032"	.100"
1920	20	26/34	.032"	.104"
1918	18	65/36	.032"	.112"
1916	16	65/34	.032"	.129"

For portable test equipment; as test leads for instrumentation exceeds the requirements for MIL-I-3930A type JP (PVC). It is superior to synthetic rubber spec MIL-R-6855 Class II Grade 60.

STANDARD PUT-UPS: 100' - 250' - 500' - 1000'

HEAVY DUTY HI-VOLTAGE TYPE



DESCRIPTION:

No. 68—#18—65/36 extra flexible annealed tinned copper; stranded; paper serve; 3/64" special low capacity rubber, wax finish.

Colors: Red, Black.

Used for oscillators, analyzers, TV, therapeutic instruments, etc.; wherever an extremely flexible high voltage lead is indicated.

Cat. No.	Size AWG	Strand	Ins.	Puncture Voltage	Nom. O.D.
68	18	65/36	5/64"	29,000 V	.210"

STANDARD PUT-UPS: 100' - 250' - 500' - 1000'

BIRNBACH COMPANY INC. FOR MORE INFORMATION ON COMPLETE LINES, WRITE FOR NEW CATALOG.

RETRACTILE HEAVY DUTY AND POWER CORD SETS

RETRACTILE Super Heavy Duty POWER CORDS

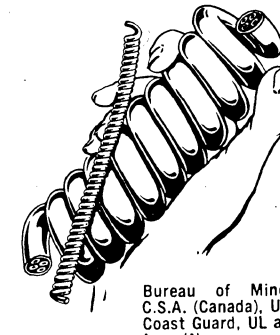
GUARANTEED TO RETRACT FOR 4 YEARS MILITARY INDUSTRIAL. AWG SIZES — 12, 14, 16, 3 and 4 COND.

Especially desirable in the maintenance of **industrial automation** equipment, refrigerated trucks and trailers, mass assembly and production equipment, plane maintenance, control cable for cherry pickers, magnetic cranes, standby power distribution, heavy duty machinery.

Useful whenever and wherever a tougher, more rugged heavy duty power cable is indicated as in foundries, aboard ships, reelins on overhead cranes and hoists, tanks, plug-in power for refrigeration and immersion heaters, etc. Usable around salt water, chemicals and many other areas which makes the use of reels undesirable . . . 48" retracted — 25' extended.

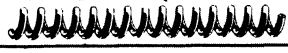
THIS IS A NEW CORD and should not be confused with cords of lesser quality.

BB Cat. No.	Conds.	Size AWG	Strand.	Nom. JKT. Thkns.	Nom. O.D.
1300	3	16	65/34	7/64"	.505"
1300/4	4	16	65/34	7/64"	.535"
1301	3	14	41/30	7/64"	.620"
1301/4	4	14	41/30	7/64"	.660"
1302	3	12	65/30	8/64"	.715"
1302/4	4	12	65/30	8/64"	.770"



Bureau of Mines, C.S.A. (Canada), U.S. Coast Guard, UL and Army/Navy approved

RETRACTILE (KINKLESS) POWER CORDS RUBBER, NEOPRENE AND PLASTIC — UL AND CSA APPROVED



DESCRIPTION: Multi-conductor power cords, each conductor stranded copper, tough rubber, neoprene or geon plastic jacket overall UL and CSA approved. Available from stock in indicated lengths, can be cut to desired length.

Cat. No.	Retracted Length	Approx. Length Ext.	No. Cond.	Size AWG	Strand	UL Type	Amp. Rating	Volt Rating	Coil Nom. O.D.	Cord. Nom. O.D.
886-2	24"	12'	2	18	41/34	SVO	7	300	7/8"	.250
886	36"	18'	2	18	41/34	SVO	7	300	7/8"	.250
886-4	48"	25'	2	18	41/34	SVO	7	300	7/8"	.250
886/3-2	24"	12'	3	18	41/34	SVO	7	300	1"	.275
886/3-3	36"	18'	3	18	41/34	SVO	7	300	1"	.275
886/3	48"	25'	3	18	41/34	SVO	7	300	1"	.275
887-2	24"	12'	2	18	41/34	SVT	7	300	7/8"	.250
887	36"	18'	2	18	41/34	SVT	7	300	7/8"	.250
887-4	48"	25'	2	18	41/34	SVT	7	300	7/8"	.250
889-2	24"	12'	2	18	41/34	SJO	7	300	1 3/16"	.310
889	36"	18'	2	18	41/34	SJO	7	300	1 3/16"	.310
889-4	48"	25'	2	18	41/34	SJO	7	300	1 3/16"	.310
890-2	24"	12'	2	18	41/34	SJT	7	300	1 3/16"	.310
890	36"	18'	2	18	41/34	SJT	7	300	1 3/16"	.310
890-4	48"	25'	2	18	41/34	SJT	7	300	1 3/16"	.310
889/3-2	24"	12'	3	18	41/34	SJO	7	300	1 1/8"	.330
889/3	36"	18'	3	18	41/34	SJO	7	300	1 1/8"	.330
889/3-4	48"	25'	3	18	41/34	SJO	7	300	1 1/8"	.330
889/4-2	24"	12'	4	18	41/34	SJO	5.6	300	1 1/16"	.360
889/4	36"	18'	4	18	41/34	SJO	5.6	300	1 1/16"	.360
889/4-4	48"	25'	4	18	41/34	SJO	5.6	300	1 1/16"	.360
889/5-2	24"	12'	5	18	41/34	—	5.6	300	1 1/4"	.440
889/5	48"	25'	5	18	41/34	—	5.6	300	1 1/4"	.440
889/7-2	24"	12'	7	18	41/34	—	5.6	300	1 7/8"	.500
889/7	48"	25'	7	18	41/34	—	5.6	300	1 7/8"	.500
891-2	24"	12'	2	16	65/34	SJO	10	300	1 1/8"	.330
891	36"	18'	2	16	65/34	SJO	10	300	1 1/8"	.330
891-4	48"	25'	2	16	65/34	SJO	10	300	1 1/8"	.330
891/3-2	24"	12'	3	16	65/34	SJO	10	300	1 1/16"	.365
891/3	36"	18'	3	16	65/34	SJO	10	300	1 1/16"	.365
891/3-4	48"	25'	3	16	65/34	SJO	10	300	1 1/16"	.365
891/4-2	24"	12'	4	16	65/34	SJO	8	300	1 5/8"	.395
891/4	36"	18'	4	16	65/34	SJO	8	300	1 5/8"	.395
891/4-4	48"	25'	4	16	65/34	SJO	8	300	1 5/8"	.395
891/5-2	24"	12'	5	16	65/34	—	8	600	2"	.540
891/5	48"	25'	5	16	65/34	—	8	600	2"	.540
891/6-2	24"	12'	6	16	65/34	—	8	600	2 1/8"	.550
891/6	48"	25'	6	16	65/34	—	8	600	2 1/8"	.550
891/7-2	24"	12'	7	6/16	#16-65/34	—	#16-8	600	2 1/4"	.600
				1/14	#14-41/30	—	#14-12			
891/7	48"	25'	7	6/16	#16-65/34	—	#16-8	600	2 1/4"	.600
				1/14	#14-41/30	—	#14-12			
893-2	24"	12'	2	14	41/30	SO	15	600	2"	.535
893	36"	18'	2	14	41/30	SO	15	600	2"	.535
893-4	48"	25'	2	14	41/30	SO	15	600	2"	.535
893/3-2	24"	12'	3	14	41/30	SO	15	600	2 1/8"	.560
893/3	36"	18'	3	14	41/30	SO	15	600	2 1/8"	.560
893/3-4	48"	25'	3	14	41/30	SO	15	600	2 1/8"	.560
893/4-2	24"	12'	4	14	41/30	SO	12	600	2 1/4"	.605
893/4	36"	18'	4	14	41/30	SO	12	600	2 1/4"	.605
893/4-4	48"	25'	4	14	41/30	SO	12	600	2 1/4"	.605
894-2	24"	12'	2	12	65/30	SO	20	600	2 1/4"	.605
894	36"	18'	2	12	65/30	SO	20	600	2 1/4"	.605
894-4	48"	25'	2	12	65/30	SO	20	600	2 1/4"	.605
894/3-2	24"	12'	3	12	65/30	SO	20	600	2 3/8"	.635
894/3	36"	18'	3	12	65/30	SO	20	600	2 3/8"	.635
894/3-4	48"	25'	3	12	65/30	SO	20	600	2 3/8"	.635
894/4-2	24"	12'	4	12	65/30	SO	16	600	2 1/2"	.665
894/4	36"	18'	4	12	65/30	SO	16	600	2 1/2"	.665
894/4-4	48"	25'	4	12	65/30	SO	16	600	2 1/2"	.665
894/6-2	24"	12'	6	2-12	#12-65/30	—	#12-17	600	2 1/4"	.605
				4-18	#18-41/34	—	#18-6			
894/6	48"	25'	6	2-12	#12-65/30	—	#12-17	600	2 1/4"	.605
				4-18	#18-41/34	—	#18-6			
894/7-2	24"	12'	7	12	65/30	—	16	600	2 3/8"	.775
894/7	48"	25'	7	12	65/30	—	16	600	2 3/8"	.775

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Green, 4-Red, 5-Blue, 6-Brown, 7-Yellow

BIRNBACH COMPANY INC.

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RETRACTILE CORDS

This series of Birnbach Coiled Kinkless Retractile Cords are permanently coiled into a spring-like shape without the use of metal springs or elastic bands. They have inherent "Recovery" properties. These Retractile cords extend approximately six times its retracted length, returning to its original shape and length when released. Always as long as you need them and no longer, they will not kink, tangle, trail, knot or dangle on the floor or bench and cause accidents. Useful wherever cords or cables must change length or position.

RETRACTILE TEST LEAD WIRE

Stretch coiled kinkless test lead wire description. 12" coil—stretches to approx. 6 feet. One conductor #20 stranded copper rubber insulation .165 O.D. Coil O.D. ¾". 6" straight lead on each end.

Cat. No.		Pkge. Std.
64	12" Retracted - Approx. 6' Extended	6
65	24" Retracted - Approx. 12' Extended	6

BIRNBACH MINIATURE RETRACTILE CORD

This small size is suitable where compact equipment is required. 2 ft. retracted, approximately 10 ft. extended Black plastic jacket overall.

Nom. Cond. resistance:
.07 OHMS per linear foot (approx. .6 OHMS per retracted ft.)
Maximum working voltage: 100; current capacity ½ amp.

Cat. No.	Cond.	Size AWG	Strand	Coil O.D.	Cond. O.D.	Std. Pkg.
875/28	2	28	19/40TC	½"	.135	10
877/28	4	28	19/40TC	½"	.150	10

CONDUCTOR COLOR CODE: 1-Black, 2-White, 3-Red, 4-Green. For 3 conductors, use 4 cond. and cut one dead.

RETRACTILE COILED COMMUNICATION CORD

Multi-conductors stranded communication cord No. 23 AWG. Tinned copper wire neoprene or Geon plastic jacketed. Long lengths can be cut to exact requirement. Adds product reliability. Useful wherever cords must change length or position. Nom. cond. resistance .022 ohms per linear foot, .185 ohms per retracted foot. Maximum working voltage 120 volts. Current carrying capacity 1 ampere.

Cat. No.	Retracted Length	Approx. Length Extended	Cond.	Size AWG	Strand	Coil O.D.	Nom. O.D.
875-2	24"	12 Ft.	2	23	21/36	¾"	.200"
875	36"	18 Ft.	2	23	21/36	¾"	.200"
875-4	48"	25 Ft.	2	23	21/36	¾"	.200"
876-2	24"	12 Ft.	3	23	21/36	¾"	.210"
876	36"	18 Ft.	3	23	21/36	¾"	.210"
876-4	48"	25 Ft.	3	23	21/36	¾"	.210"
877-2	24"	12 Ft.	4	23	21/36	13/16"	.240"
877	36"	18 Ft.	4	23	21/36	13/16"	.240"
877-4	48"	25 Ft.	4	23	21/36	13/16"	.240"
878-2	24"	12 Ft.	5	23	21/36	1"	.285"
878	36"	18 Ft.	5	23	21/36	1"	.285"
878-4	48"	25 Ft.	5	23	21/36	1"	.285"
878/6-2	24"	12 Ft.	6	23	21/36	1⅛"	.305"
878/6	36"	18 Ft.	6	23	21/36	1⅛"	.305"
878/6-4	48"	25 Ft.	6	23	21/36	1⅛"	.305"
878/7-2	24"	12 Ft.	7	23	21/36	1¼"	.320"
878/7	36"	18 Ft.	7	23	21/36	1¼"	.320"
878/7-4	48"	25 Ft.	7	23	21/36	1¼"	.320"
878/8	48"	25 Ft.	8	23	21/36	1⅜"	.360"
878/10	48"	25 Ft.	10	23	21/36	1⅝"	.380"
878/12	48"	25 Ft.	12	23	21/36	1⅞"	.410"
878/15	48"	25 Ft.	15	23	21/36	1⅞"	.470"
878/37	48"	25 Ft.	37	23	21/36	2½"	.680"

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Red, 4-Green, 5-Blue, 6-Yellow, 7-Brown, 8-Orange, 9-White/Black Tracer, 10-White/Red Tracer, 11-White/Green Tracer, 12-White/Blue Tracer, 13-White/Yellow Tracer, 14-White/Brown Tracer, 15-White/Orange Tracer. Also available in retracted lengths of 12", 24" and 48".

RETRACTILE (KINKLESS) COILED SHIELDED COMMUNICATION CORDS

DESCRIPTION: Single and multi-conductor shielded microphone cable neoprene or geon plastic jacketed. This cable remains neat and compact with no danger of tripping or of the wire becoming entangled in equipment. Also suitable for stereo and additional speaker extensions. Shield can be pigtailed for soldering. No. 24 AWG Str. is 41/40 tinned soft cad. copper: No. 23 has 21/36 tinned soft cad. copper. Spiral wrapped tinned soft copper shielding.

Cat. No.	Retr. Length	Approx. Length Extended	Cond.	Size AWG	Coil O.D.	Nom. O.D.	Maximum Working Voltage	Capacitance MMF Lin. Ft.	Capacitance MMF Retr. Ft.	Std. Pkg.
895	48"	25 Ft.	1	No. 24 Shielded	5/8"	.160"	75	56	440	10
895A	12"	6 Ft.	1	No. 24 Shielded	5/8"	.160"	75	56	440	10
895B	6"	3 Ft.	1	No. 24 Shielded	5/8"	.160"	75	56	440	10
896	48"	25 Ft.	2	1-No. 23 1-No. 24 Shielded	⅞"	.200"	#23-120 #24- 75	56	450	10
896A	12"	6 Ft.	2	1-No. 23 1-No. 24 Shielded	⅞"	.200"	#23-120 #24- 75	56	450	10
897	48"	25 Ft.	3	2-No. 23 1-No. 24 Shielded	⅞"	.240"	#23-120 #24- 75	56	450	10
897A	12"	6 Ft.	3	2-No. 23 1-No. 24 Shielded	⅞"	.240"	#23-120 #24- 75	56	450	10
899	48"	25 Ft.	2	2-No. 24 Shielded	⅞"	.210"	75	56	450	10
899A	12"	6 Ft.	2	2-No. 24 Shielded	⅞"	.210"	75	56	450	10
898	48"	25 Ft.	4	2-No. 23 2-No. 24 Shielded	1"	.270"	#23-120 #24- 75	56	460	10
898A	12"	6 Ft.	4	2-No. 23 2-No. 24 Shielded	1"	.270"	#23-120 #24- 75	56	460	10

Additional conductors and sizes available. CONDUCTORS ARE COLOR CODED.

RETRACTILE COMMUNICATION CORDS

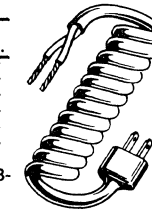
PREPARED FOR EASY INSTALLATION AND REPLACEMENT

RETRACTED LENGTH 12" — EXTENDED LENGTH 6 FEET

DESCRIPTION: Same as communication cords except each end is prepared as indicated.

Cat. No.	Cond.	Size AWG	Nom. Coil O.D.	Nom. Cord O.D.	Preparation
883	3	23-21/36	13/16"	.220"	**1 end:** total length 1½". Conductors stripped and tinned. **Other end:** total length 1½" jacket removed.
884	4	23-21/36	13/16"	.250"	**1 end:** total length 1". Conductors stripped and tinned. **Other end:** total length 1½" jacket removed.
885	5	23-21/36	1 1/16"	.285"	**1 end:** total length 4⅛". Conductors stripped and tinned. **Other end:** total length 4⅛" conductors stripped and tinned.

RETRACTILE POWER CORD SETS



Excellent for portable use. All mobile equipment and office equipment wherever the device application is synonymous with repetitive movement. The "Answer" to most tough hazard problems. 2 and 3 conductors SVO and SJO Retractile Kinkless Neoprene Service Cord Sets with Molded Male Plug one end, other end stripped for application. Adds reliability, compactness and portability.

Cat. No.	Retracted Length	Ext.	Cond.	Size AWG	UL Type	Strand	Coil O.D.
880	18"	9 Ft.	2	18	SVO	41/34	1"
880/3	18"	9 Ft.	3	18	SVO	41/34	1 1/16"
881	18"	9 Ft.	2	18	SJO	41/34	1¼"
881/3	18"	9 Ft.	3	18	SJO	41/34	1½"
882	18"	9 Ft.	2	16	SJO	65/34	1½"
882/3	18"	9 Ft.	3	16	SJO	65/34	1½"

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Green.

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Shielding Braid, Insulated Copper Wire, Braiding

UNINSULATED COPPER WIRE

TINNED COPPER SHIELDING

Used for shielding and bonding on aircraft, marine and auto radio wires and cables. Shields speaker leads, lead-ins, amplifier wires. Extremely flexible, slides over wires and cables.

DESCRIPTION:

No. 853 thru 856/7—Composed of extremely flexible fine soft annealed copper tinned wires closely woven, braided and **Rolled Flat.**

No. 860—Composed of extremely flexible fine soft annealed copper wires closely woven, braided and **Rolled Flat.**

TINNED

Cat. No.	Size & No. of Wires	Inside Diam. Flat.	Approx. O.D. Flat.	Approx. AWG Equiv.	Nom. Circ. Mills	Current Carrying Cap./Amps.
853	12x 2/36	1/32"	3/64"	24	400	6.0
854	12x 2/36	3/64"	1/16"	22	600	7.0
855	16x 3/36	1/16"	5/64"	20	1200	11.00
858	24x 5/36	1/8"	3/32"	18	1800	16.00
859	24x 5/36	5/16"	7/32"	15	3000	25.00
863	24x 7/36	1/4"	9/32"	14	4200	32.00
864	48x 4/36	3/8"	13/32"	12	7200	46.00
868	48x 7/36	1/2"	19/32"	10	9600	53.00
865	48x 8/36	5/8"	23/32"	10	9600	53.00
865/1	48x11/36	3/4"	13/16"	7	20,800	85.00
857	48x19/36	25/32"	27/32"	7	20,800	85.00
856	48x19/36	1"	1 1/16"	7	20,800	85.00
856/1	48x19/36	1 3/4"	1 7/16"	7	53,064	85.00
856/2	48x19/36	1 1/4"	1 3/8"	3	125,425	150.00
856/3	48x27/30	1 3/4"	1 7/8"	001	154,368	280.00
856/4	48x32/30	2"	2 1/4"	000	192,000	310.00
856/6	48x45/30	2 1/2"	2 3/4"	000	216,000	340.00
856/7	48x64/30	3"	3 1/4"	0000	225,000	390.00

BARE

860	24x10/36	1/4"	9/32"	14	4200	32.00

STANDARD PUT-UPS:
#853 thru #856/1 — 50' — 100' — 250' — 500' — 1000'
#856/2 thru #856/7 — 50' — 100' — 250'
#860 — 50' — 100' — 250' — 500' — 1000'

TUBULAR BRAID PER MIL SPEC. QQ-B-575

Manufactured completely round as noted in MIL Spec. QQ-B-575, this tinned copper shielded braid has self-supporting characteristics which enables it to maintain its round shape. The shielding coverage percentage is 95% or more. This tubular braid is used in military applications where maximum shielding against electrostatic interference is indicated. In addition, it is used as a protective covering against mechanical abrasion and stresses for the wires, cables and other components.

Cat. No.	Nom. Inside Diam. When Rounded	Construction: Total No. of Wires	Construction: Carriers	AWG of Indiv. Wires	Approx. AWG Equiv.	Nom. Circular Circular Mills	*Current Carrying Capacity Amps
2250-1/32	1/32"	24	24	36	22	640	7.0
2250-1/16	1/16"	48	24	36	19	1,290	11.0
2250-5/64	5/64"	72	24	36	17	1,900	18.0
2250-7/64	7/64"	96	24	36	16	2,500	22.0
2250-1/8	1/8"	120	24	36	15	3,260	28.0
2250-5/32	5/32"	240	24	36	12	6,200	39.0
2250-11/64	11/64"	168	24	36	14	4,500	32.0
2250-3/16	3/16"	192	24	36	13	5,100	35.0
2250-13/64	13/64"	312	24	36	11	8,200	46.0
2250-1/4	1/4"	384	24	36	10	10,400	53.0
2250-3/8	3/8"	384	48	36	10	10,400	53.0
2250-1/2	1/2"	528	48	36	9	13,200	70.0
2250-9/16	9/16"	528	48	36	9	13,200	70.0
2250-11/16	11/16"	720	48	36	7	19,000	82.0
2250-25/32	25/32"	864	48	36	7	21,750	85.0
2250-13/16	13/16"	864	48	36	7	21,750	85.0
2250-1"	1"	864	48	36	4	38,600	120.0

STANDARD SPOOL PUT-UPS: 50' — 100' — 250', 500' — 1000'

*Values based on copper in free air at 65°F.
Additional constructions and variations made to order. Also available in silver plated copper, bare copper and stainless steel.

SILVER PLATED TUBULAR BRAID AVAILABLE

ELECTRONIC LACING CORD/TAPE

To Meet MIL-T-43435 — COMP-P - Type S — MIL-T-713A - Type P*

FLAT BRAIDED LACING TAPE — NYLON

Flat braided Hi-Tenacity Nylon Fiber impregnated with (MW) microcrystalline fungicidal wax. Engineered to stay flat. Distributes stress evenly over a wide area. Resistant to fungus, flame, abrasion, acids. Will not cut or damage insulation. Has strength, toughness and stability.

PUT UP ON 500 YARDS PER TUBE

Cat No.		Class	Width	Thick.	Test lbs.	Yd./Lb.
1035	Natural White	—	.200"	.014"	150	250
1035B	Black	—	.200"	.014"	150	250
1036	Natural White	1	.120"	.014"	80	550
1036B	Black	1	.120"	.014"	80	550
1037	Natural White	2*	.090"	.014"	50	750
1037B	Black	2*	.090"	.014"	50	750
1038	Natural White	3	.062"	.010"	30	1500
1038B	Black	3	.062"	.010"	30	1500
1039	Natural White	4	.046"	.010"	15	2400
1039B	Black	4	.046"	.010"	15	2400

ROUND NYLON LACING CORDS

This nylon lacing cord manufactured to meet Spec. MIL-T-713A Type P, Composition P, Classes 3, 2, 1. Wax finished — compounded with a fungicide to resist mildew.

PUT UP ON 1 LB. TUBES

	Cat. No. Natural	Cat. No. Black	Yds.	Diam.	Breaking Strength Lbs.
Class 1	**1070**	**1070B**	600	.039"	70
Class 2	**1071**	**1071B**	800	.029"	48
Class 3	**1072**	**1072B**	1140	.025"	32
Class 4	**1072/1**	**1072/1B**	2400	.020"	20

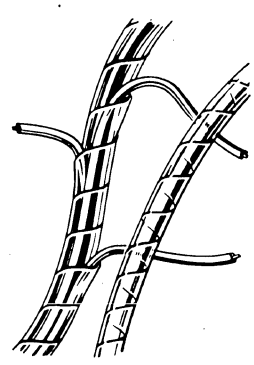
TEFLON, DACRON AND G.E. FINISH LACING CORDS AVAILABLE.

HarnessRAP

This new spiral wrapping provides a readily flexible and strong protection for groups of conductors. Because of the facility with which it is applied it is particularly useful for temporary or experimental wiring as well as permanent installations. Leads can be brought out at any point to make a "tailor-made" harness, strong, secure, tight-fitting.

Harnessrap retains its elasticity and can be removed as easily as it is applied, then reused again and again.

Because of its flexibility it is especially useful for harnesses that carry wiring around sharp corners or that are subject to repeated flexing or bending.



Part No.	Outside Diameter	Wall Thickness
POLYETHYLENE		
BHR-1/8	1/8"	.031
BHR-1/4	1/4"	.032
BHR-3/8	3/8"	.058
BHR-1/2	1/2"	.058
FLAME RETARDANT (RULAN)		
BHRF-1/4	1/4"	.058
BHRF-3/8	3/8"	.058

PHYSICAL CHARACTERISTICS

	Standard Polyethylene	Flame Retarded Polyethylene
Temp. Range	—140°F+200°F	—90°F+180°F
Flammability	0.94	Self. Ext.
Tensile Strgth.	1700	1500
Water Absorp.		.02
24 hours	.03	2.7
Dielectric Con.	2.3	15
Wgt. thous. ft.	10	

MADE IN FOUR SIZES

1/8" O.D. 1/16" to 1/2" wire groups
1/4" O.D. 3/16" to 1 1/2" wire groups
3/8" O.D. 5/16" to 2" wire groups
1/2" O.D. 3/4" to 4" wire groups

COLORS: Natural (White). Additional colors and sizes available on request.

AVAILABLE IN 25' - 100' - 500' - 2000' Lgths.

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Now, the next time you need just a spool-full or so of Brand Rex you can just run around the corner to your nearest Birnbach Brand Rex* distributor

*Brand Rex wire marketed by Birnbach

(he's got a warehouse full.)

If you hadn't heard of a B/BR distributor before, that's because there wasn't one before. Now there is. Nearby. And it means you can buy the full range of Brand-Rex electronic products, in a full range of quantities.

If you don't know just where to find your local B/BR man, drop us a line. We'll corner him for you.

BIRNBACH COMPANY INC.

BIRNBACH BRAND REX

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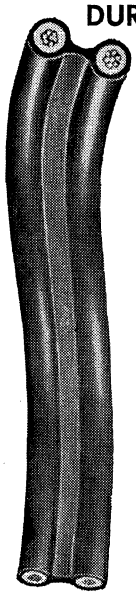
COLUMBIA

DURAFOAM UHF/VHF TELEVISION TRANSMISSION LINE*



MOST WIDELY USED — LARGEST SELLING

Durafoam quality is so high that we can offer an unconditional 15 year guarantee. Its high reliability construction features two tubes of cellular polyethylene, to assure low signal loss, and a heavy black polyethylene Permaline insulation, to offer the maximum protection against deterioration caused by moisture, chemicals, salts and sunlight.

Durafoam is also extremely easy to install, cutting down the amount of time required for each job.

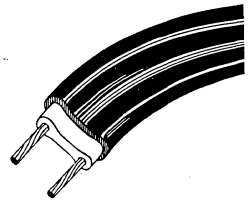
Cat. No.	
5790L	50 ft.
5790S	65 ft.
5790C	100 ft.
5790D	500 ft.
5790M	1000 ft.

* U. S. Pat. #3,219,752

NEW LOW COST UHF-VHF COLOR TV

FOAM TRANSMISSION LINE

FM-MULTIPLEX 300 OHM



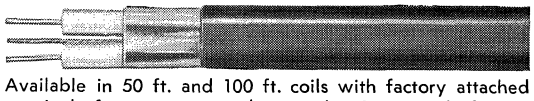
THRIFT-FOAM features a cellular foam polyethylene inner-dielectric which separates two stranded copper conductors. Due to this cellular construction, THRIFT-FOAM has a lower capacitance resulting in lower attenuation losses. An overall jacket of weather-resistant black polyethylene provides durable line protection.

Cat. No. 5740L .....50 ft. Coil Cat. No. 5740C .....100 ft. Coil
Cat. No. 5740S .....75 ft. Coil Cat. No. 5740D .....500 ft. Spool
Cat. No. 5740M .....1000 ft. Spool

COLUMBIA SHIELDED PERMAFOAM TELEVISION TRANSMISSION LINE

- Aluminum Mylar Shield for 100% Effective Coverage. Tinned Copper Ground Wire Attaches to Set.
- High Molecular Weight PERMALINE Jacket for Superior Weathering.
- No Standoff Insulators or Matching Transformers Necessary.
- High Strength Copperweld Conductors for Maximum Conductivity.

A New All Channel Transmission Line Designed to prevent line pickup interference.
CABLE SIZE .275 x .455
Nominal velocity of propagation 76.5%
Nominal capacitance 6.8 MMF Ft.
Attenuation DB per 100'



Available in 50 ft. and 100 ft. coils with factory attached terminals for antenna attachment plus 2 terminals for set attachment. Also available in continuous 500 ft. spools and 1,000 ft. reels.

CORD SETS

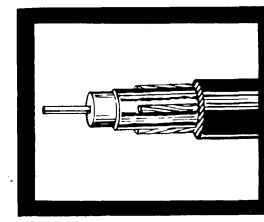
Complete selection from stock or custom made to your specifications:

- **plastic**
- **rubber**
- **neoprene**
- **cheater cords**
- **heavy duty power cords**
- **extension cords**

"DURA-COLOR"

UHF-VHF 82 CHANNEL
RG-59 TYPE COAXIAL

- **Lowest loss RG-59 type cable for color TV**
- **100% Shielding and 100% Swept**
- **Black or White Jacket**
- **Uses "F" Fittings**



Shield is laminated aluminum high tensile strength Mylar foil totally covering and overlapping a virgin polyethylene dielectric core. Four equally spaced tinned copper drain wires are positioned around the shield; provides extra strength and electrical conductivity.

Cat. No. 5750M .....1000 ft. Spool Cat. No. 5750D .....500 ft. Spool

UHF or VHF KITS — ATTRACTIVELY BOXED

Cat. No. 5751L .....50 ft. Kit Cat. No. 5751S .....75 ft. Kit
Cat. No. 5751C .....100 ft. Kit
Contains BALUN, matching transformer, grounding clamp and 5750 wire.
Cat. No. 5752L .....50 ft. Cat. No. 5752S .....75 ft.
Cat. No. 5752C .....100 ft.
Contains BALUN, 5750 wire, grounding clamp, SPECIAL BAND SEPARATOR WITH 75 OHM INPUT and TWO 300 OHM OUTPUTS ONE UHF, ONE VHF

PERMAFOAM LOW LOSS COAXIAL CABLES

A foam polyethylene dielectric replaces the conventional solid polyethylene thus providing far lower capacity and attenuation. Overall jacket is our PERMALINE high molecular weight polyethylene. This non-contaminating jacket is unaffected by salt air, chemical fumes, damp rot, fungus, acids, alkalis, etc., is immune to the deteriorating effects of sunlight and other ultra violet.

PERMAFOAM 72-75 OHM COAXIAL CABLE

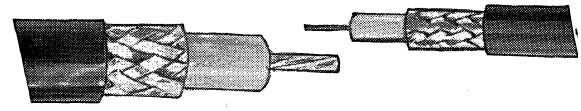
R.G. No.	Nom. Imp.	Attenuation 100 Ft.	100 MC	Wire Size	O.D.	Spool Size	Cat. No.
RG 59 U	73	2.95	DB.	22 Cpwld.	.240	500 Ft.	5035D
						1000 Ft.	5035M
RG 11 U	75	1.50	DB.	14 Solid	.405	500 Ft.	5025D
						1000 Ft.	5025M

PERMAFOAM 52-53 OHM COAXIAL CABLE

R.G. No.	Nom. Imp.	Attenuation 100 Ft.	100 MC	Wire Size	O.D.	Spool Size	Cat. No.
RG 58 U	53	3.10	DB.	20 Solid	.195	100 Ft.	5045C
						500 Ft.	5045D
						1000 Ft.	5045M
RG 8 U	52	1.50	DB.	7/21	.405	100 Ft.	5015C
						500 Ft.	5015D
						1000 Ft.	5015M
RG 17 U	52	.712	DB.	5 Solid	.870	100 Ft	5090C
						500 Ft.	5090D
						1000 Ft.	5090M

COLUMBIA STANDARD COAXIAL CABLES

Premium quality standard coaxial cable. Meets all specifications. Black vinyl jacket.



RG No.	Nom. Imp.	Nom. Mmfd. Ft.	Wire Size	Overall Jacket	Spool Size	Cat. No.
RG 59 U	73.0	21.0	22 C Weld	Black Vinyl .240 O.D.	100 Ft.	1104C
					500 Ft.	1104D
					1000 Ft.	1104M
RG 59 U	73.0	21.0	22 C Weld	Commercial Grade (Foam Dielectric)	100 Ft.	1112C
					500 Ft.	1112D
					1000 Ft.	1112M
RG 59 U	73.0	21.0	22 C Weld	Commercial Grade (Solid Poly-Dielectric)	100 Ft.	1112C
					500 Ft.	1112D
					1000 Ft.	1112M
RG 8 U	52.0	29.5	7/21	Black Vinyl .405 O.D.	100 Ft.	1154C
					500 Ft.	1154D
					1000 Ft.	1154M
RG 11 U	75.0	20.5	7/26	Black Vinyl .405 O.D.	100 Ft.	1160C
					500 Ft.	1160D
					1000 Ft.	1160M
RG 58 U	53.5	28.5	20 Ga.	Black Vinyl .195 O.D.	100 Ft.	1166C
					500 Ft.	1166D
					1000 Ft.	1166M
RG 58 A/U	50.0	29.0	19/.0068	Black Vinyl .159 O.D.	100 Ft.	1178C
					500 Ft.	1178D
					1000 Ft.	1178M

Long Lengths of Any Co-ax Available Upon Request

WRITE TO YOUR LOCAL PARTS DISTRIBUTOR FOR COMPLETELY ILLUSTRATED COLUMBIA WIRE PRODUCTS CO. CATALOG

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COLUMBIA

FLEXFOAM ULTRA LOW CAPACITANCE MICROPHONE CABLES — EXCLUSIVE WITH COLUMBIA

Another Columbia first is a complete line of microphone cables with capacity as much as 35% lower than the best regular microphone cables available today. This drastic lowering of capacity has been made possible by the use of foamed polyethylene as the inner dielectric instead of solid polyethylene as normally used. This low capacitance means that lengths of microphone cable can be increased as much as 50%. These cables are also ideal for Hi-Fi and high quality sound work because of the extremely low attenuation, particularly at the higher audio-frequencies. The use of a special flexible vinyl as an outer jacket provides flexibility practically as good as rubber yet has much greater abrasion resistance. Color—Grey.

Also available in high gloss gleaming white jackets.

FLEXFOAM MIKE CABLE WITH BRAIDED SHIELD

		Per Ft.	250 Ft. Spool	Net	500 Ft. Spool
Crystal Size	(.190" O.D.)	16 MMF	No. 1399T	11.90	1399D
Lapel Size	(.140" O.D.)	19 MMF	No. 1379T	9.02	1379D

FLEXFOAM MIKE CABLE WITH SPIRAL SHIELD

Crystal Size	(.190" O.D.)	16 MMF	No. 1389T	11.07	1389D
Lapel Size	(.140" O.D.)	19 MMF	No. 1369T	8.29	1369D
Miniature	(.085" O.D.)	35 MMF	No. 1359T	6.11	1359D

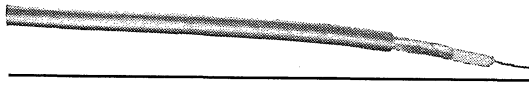
TWO CONDUCTOR PLASTIC MICROPHONE CABLE — .230 O.D. T/C BRAID SHIELD

250 Ft. Spool	22 Ga.	16/34 Stranding	1322T
500 Ft. Spool	22 Ga.	16/34 Stranding	1322D

Nominal Capacitance 30 MMF Per Ft. Between 1 Cond. and Remaining Cond. Connected to Shield

ECONOMY SPIRAL SHIELDED MICROPHONE CABLES

Plastic insulated with wrapped concentric spiral shield for more effective shielding. Cables are more flexible and of smaller size.



CRYSTAL MICROPHONE CABLE .160 O.D.

25 Ga. 7 x 33 Str.

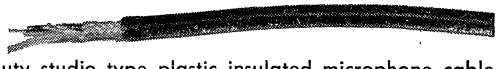
CAT. NO.		
1314T	250 Ft. Spool	Nominal Cap. 25 MMF Per Ft.
1314D	500 Ft. Spool	Nominal Cap. 25 MMF Per Ft.

LAPEL MICROPHONE CABLE .125 O.D.

25 Ga. 7 x 33 Str.

1366T	250 Ft. Spool	Nominal Cap. 33 MMF Per Ft.
1366M	250 Ft. Spool	Nominal Cap. 33 MMF Per Ft.

HEAVY DUTY MICROPHONE CABLE



Heavy duty studio type plastic insulated microphone cable that will withstand abrasion and rough usage.

18 Ga. Str. 41 x 34 Tinned Copper Conductors.
Jute Fillers T/C Shield
.295 O.D.

		CAT. NO.
100 Ft. Spool	Color—Black	3302C
500 Ft. Spool	Color—Black	3302D

Nominal Capacitance 75 MMF. Per Ft.

Also available with bright red jackets for easy identification.

COMPLETE LINE OF SHIELDED RUBBER AND NEOPRENE JACKETED MICROPHONE CABLE

COLUMBIA *SUPER-FLEX*

ULTRA FLEXIBLE FOAM COAXIAL CABLES

We believe Super-Flex Coaxial Cables are the finest available today — not only because of their appearance and flexibility, but because they actually out-perform any similar type of coaxial cable in use today. Cables feature High Gloss Non Contaminating Jackets and have a primary insulation of foam Polyethylene to reduce attenuation as much as 25% over regular types of coaxial cables. In addition to the above features Super-Flex Coaxial Cables will not become rigid in severe cold. Can be used with standard connectors. Ideal for citizens band and amateur use. Perfect for master television systems due to the wide range of colors available. Standard stock colors are: Black-White-Silver or Beige. Other colors to special order with a minimum of 5000 ft. of a color.

SUPER-FLEX RG 8/U 52 OHM IMPEDANCE

19/.020 Conductor. Insulation Foam Poly Dielectric

Cat. No.				
1198C	100 Ft.	RG 8/U	Super-Flex	.405 O.D.
1198D	500 Ft.	RG 8/U	Super-Flex	.405 O.D.
1198M	1000 Ft.	RG 8/U	Super-Flex	.405 O.D.

Cap. 22.1 MMFD Per Ft.

Attenuation 1.50 DB Per 100 Ft. at 100 MC.

SUPER-FLEX RG 58 A/U 50 OHM IMPEDANCE

19/.0068 Conductor. Insulation Foam Poly Dielectric

1188C	100 Ft.	RG 58 A/U	Super-Flex	.195 O.D.
1188D	500 Ft.	RG 58 A/U	Super-Flex	.195 O.D.
1188M	1000 Ft.	RG 58 A/U	Super-Flex	.195 O.D.

Cap. 22.9 MMFD Per Ft.

Attenuation 4.25 DB Per 100 Ft. at 100 MC.

SUPER-FLEX RG 59/U 73 OHM IMPEDANCE

22 Solid Copperweld Conductor. Insulation Foam Poly Dielectric

1135C	100 Ft.	RG 59/U	Super-Flex	.242 O.D.
1135D	500 Ft.	RG 59/U	Super-Flex	.242 O.D.
1135M	1000 Ft.	RG 59/U	Super-Flex	.242 O.D.

Cap. 16.6 MMFD Ft.

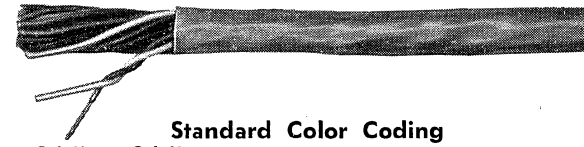
Attenuation 2.95 DB Per 100 Ft. at 100 MC

Super-Flex RG 59/U is also available with a 7/31 stranded conductor to provide still more flexibility. Center conductor can be used only with Pin Type Fittings such as used to plug into wall plates for Master Television Systems.

MULTI PAIRED INTERCOM CABLES

For use in intercom systems as station to station wiring, the cables listed below will handle most installations. 22 ga. conductors, solid or stranded with an .010 wall of durable color coded plastic. Each pair is individually twisted. Overall jacket is .025 grey vinyl.

Other types of paired cables for indoor or outdoor use can be made to your specifications.



Standard Color Coding

Cat. No. 100' Spools	Cat. No. 500' Spools	No. of Pairs	Type	O.D.
4010C	4010D	2 Pair	22 Ga. Solid	.200
6010C	6010D	2 Pair	22 Ga. Stranded	.205
4014C	4014D	3 Pair	22 Ga. Solid	.225
6014C	6014D	3 Pair	22 Ga. Stranded	.245
4016C	4016D	5 Pair	22 Ga. Solid	.260
6016C	6016D	5 Pair	22 Ga. Stranded	.285
4018C	4018D	7 Pair	22 Ga. Solid	.310
6018C	6018D	7 Pair	22 Ga. Stranded	.345
4022C	4022D	11 Pair	22 Ga. Solid	.365
6022C	6022D	11 Pair	22 Ga. Stranded	.410
4026C	4026D	15 Pair	22 Ga. Solid	.395
6026C	6026D	15 Pair	22 Ga. Stranded	.465
4030C	4030D	27 Pair	22 Ga. Solid	.500
6030C	6030D	27 Pair	22 Ga. Stranded	.570
4038C	4038D	51 Pair	22 Ga. Solid	.750

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CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS

See Following Pages for Specifications

PRICE LIST

No.	Unit Pkg. or Length	Net Price Each
801	25′	.30
801	100′	.90
801	500′	4.15
801	1000′	7.85
811	25′	.35
811	100′	1.05
811	500′	4.85
811	1000′	9.00
821	25′	.35
821	100′	1.05
821	500′	4.85
821	1000′	9.00
831	25′	.43
831	100′	1.20
831	500′	6.00
831	1000′	11.75
841	25′	.46
841	100′	1.65
841	500′	7.50
841	1000′	14.00
846	25′	.51
846	100′	1.70
846	500′	7.85
846	1000′	15.00
851	25′	.42
851	100′	1.50
851	500′	6.60
851	1000′	12.35
856	25′	.50
856	100′	1.85
856	500′	7.65
856	1000′	14.50
861	25′	.60
861	100′	2.15
861	500′	9.90
861	1000′	19.00
866	25′	.55
866	100′	1.90
866	500′	7.65
866	1000′	14.50
871	25′	.61
871	100′	2.20
871	500′	8.70
871	1000′	16.85
876	25′	.70
876	100′	2.55
876	500′	10.55
876	1000′	20.50
881	100′	3.20
881	500′	15.00
881	1000′	29.75
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901	500′	5.65
901	1000′	10.55
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1001	500′	8.50
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1502	100′	22.13
1502	250′	211.50
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2000 Series
See Consolidated Page 5

3815	100′	1.05
3815	1000′	9.00
3816	100′	.75
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3848	100′	.33
3848	1000′	2.18
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4214	25′	3.75
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4227	25′	2.45
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4234	50′	9.00
4234	100′	16.95
4234	250′	165.00M′
4237	25′	3.00
4237	50′	5.40
4237	100′	10.30
4237	250′	98.55M′
4242	25′	3.97
4242	50′	7.50
4242	100′	14.00
4242	250′	135.95M′
4244	25′	5.75
4244	50′	10.80
4244	100′	20.70
4244	250′	202.50M′
4247	25′	3.90
4247	50′	7.45
4247	100′	13.95
4247	250′	135.00M′
4252	25′	5.85
4252	50′	11.30
4252	100′	21.60
4252	250′	211.90M′
4254	25′	7.15
4254	50′	15.75
4254	100′	30.45
4254	250′	300.00M′
4257	25′	6.20
4257	50′	12.00
4257	100′	22.50
4257	250′	225.00M′
4262	25′	7.50
4262	50′	14.25
4262	100′	27.20
4262	250′	267.75M′
4264	25′	9.95
4264	50′	19.05
4264	100′	37.20
4264	250′	367.50M′
4267	25′	7.50
4267	50′	14.25
4267	100′	27.75
4267	250′	267.25M′
4272	25′	9.35
4272	50′	17.50
4272	100′	32.55
4272	250′	321.15

For Single Spiral Stripe No. 637-876 Incl., add $1.50 per 1,000 ft.—Minimum quantity 1,000′ per Color.

Net

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CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS

See Following Pages for Specifications

No.	Unit Pkg. or Length	Net Price Each
4274	25′	12.00
4274	50′	22.75
4274	100′	44.25
4274	250′	435.00M′
4307	25′	1.72
4307	50′	3.15
4307	100′	6.00
4307	250′	54.00M′
4312	25′	2.10
4312	50′	3.90
4312	100′	7.50
4312	250′	71.75M′
4314	25′	3.67
4314	50′	7.05
4314	100′	13.70
4314	250′	134.60M′
4317	25′	2.02
4317	50′	3.67
4317	100′	7.05
4317	250′	64.50M′
4322	25′	2.78
4322	50′	5.25
4322	100′	10.20
4322	250′	97.50M′
4324	25′	4.27
4324	50′	8.15
4324	100′	16.12
4324	250′	157.50M′
4327	25′	2.70
4327	50′	5.10
4327	100′	9.80
4327	250′	95.25M′
4332	25′	3.30
4332	50′	6.20
4332	100′	12.20
4332	250′	119.25M′
4334	25′	5.10
4334	50′	9.60
4334	100′	18.65
4334	250′	184.10M′
4337	25′	3.00
4337	50′	5.70
4337	100′	11.10
4337	250′	108.00M′
4342	25′	4.05
4342	50′	7.65
4342	100′	15.00
4342	250′	145.85M′
4344	25′	5.85
4344	50′	11.40
4344	100′	22.50
4344	250′	222.00M′
4347	25′	3.85
4347	50′	7.49
4347	100′	19.65
4347	250′	163.85M′
4352	25′	6.20
4352	50′	12.00
4352	100′	23.75
4352	250′	234.35M′
4354	25′	8.77
4354	50′	17.17
4354	100′	33.98
4354	250′	336.75M′
4357	25′	7.05
4357	50′	12.90
4357	100′	23.75
4357	250′	234.00M′
4362	25′	8.49
4362	50′	15.83
4362	100′	30.38
4362	250′	241.75M′
4364	25′	11.85
4364	50′	22.50
4364	100′	43.88
4364	250′	276.25M′
4367	25′	9.07
4367	50′	16.87
4367	100′	32.62
4367	250′	314.25M′
4372	25′	12.15
4372	50′	23.02
4372	100′	45.00
4372	250′	435.00M′
4374	25′	14.40
4374	50′	27.60
4374	100′	54.93
4374	250′	527.50M′
4401	100′	53.25M′
4401	500′	51.75M′
4401	1000′	48.75M′
4402	100′	57.75M′
4402	500′	54.00M′
4402	1000′	51.75M′
4405	100′	45.00M′
4405	500′	43.50M′
4405	1000′	41.25M′
4415	100′	117.75M′
4415	500′	116.25M′
4415	1000′	114.00M′
4419	100′	114.00M′
4419	500′	111.00M′
4419	1000′	108.00M′
4431	100′	120.00M′
4431	500′	117.75M′
4431	1000′	112.50M′
4432	100′	262.50M′
4432	500′	255.00M′
4432	1000′	247.50M′
4433	100′	183.00M′
4433	500′	179.25M′
4433	1000′	171.75M′
4434	100′	112.50M′
4434	500′	109.87M′
4434	1000′	105.00M′
4435	100′	135.00M′
4435	500′	133.50M′
4435	1000′	130.50M′
4436	100′	279.75M′
4436	500′	276.75M′
4436	1000′	264.75M′
4437	100′	342.00M′
4437	500′	336.00M′
4437	1000′	322.50M′
4438	100′	361.50M′
4438	500′	358.50M′
4438	1000′	342.00M′
4439	100′	234.00M′
4439	500′	229.50M′
4439	1000′	217.50M′
4440	100′	129.00M′
4440	500′	127.50M′
4440	1000′	124.50M′
4441	100′	225.00M′
4441	500′	222.00M′
4441	1000′	212.25M′
4442	100′	177.25M′
4442	500′	175.05M′
4442	1000′	168.00M′
4443	100′	195.00M′
4443	500′	192.00M′
4443	1000′	183.75M′
4444	100′	255.00M′
4444	500′	252.00M′
4444	1000′	241.50M′
4445	100′	300.00M′
4445	500′	297.00M′
4445	1000′	283.50M′
4446	100′	54.25M′
4446	500′	53.25M′
4446	1000′	51.00M′
4447	100′	87.75M′
4447	500′	86.25M′
4447	1000′	83.25M′
4448	100′	120.00M′
4448	500′	118.50M′
4448	1000′	115.50M′
4449	100′	51.00M′
4449	500′	49.50M′
4449	1000′	47.62M′
4450	100′	56.25M′
4450	500′	54.37M′
4450	1000′	53.62M′
4451	100′	62.25M′
4451	500′	60.75M′
4451	1000′	59.25M′
4452	100′	57.00M′
4452	500′	55.50M′
4452	1000′	52.50M′
4453	100′	63.75M′
4453	500′	63.00M′
4453	1000′	61.50M′
4454	100′	117.75M′
4454	500′	116.25M′
4454	1000′	113.25M′
4455	100′	150.00M′
4455	500′	147.25M′
4455	1000′	138.75M′
4456	100′	94.50M′
4456	500′	93.00M′
4456	1000′	90.00M′
4457	100′	52.50M′
4457	500′	51.00M′
4457	1000′	48.75M′
4459	100′	45.75M′
4459	500′	44.62M′
4459	1000′	42.37M′
4460	100′	103.50M′
4460	500′	102.00M′
4460	1000′	100.50M′
4461	100′	172.50M′
4461	500′	171.00M′
4461	1000′	168.00M′
4462	100′	243.00M′
4462	500′	240.00M′
4462	1000′	238.5M′
4463	100′	126.62M′
4463	500′	123.27M′
4463	1000′	118.87M′
4464	100′	72.75M′
4464	500′	71.25M′
4464	1000′	68.25M′
4465	100′	78.75M′
4465	500′	77.25M′
4465	1000′	74.62M′
4466	100′	101.75M′
4466	500′	99.75M′
4466	1000′	96.75M′
4467	100′	300.00M′
4467	1000′	262.50M′
4468	100′	300.00M′
4468	1000′	262.50M′
4469	100′	102.00M′
4469	500′	100.50M′
4469	1000′	90.00M′
4470	100′	62.25M′
4470	500′	60.75M′
4470	1000′	59.25M′
4471	100′	142.50M′
4471	500′	138.75M′
4471	1000′	135.00M′
4472	100′	64.50M′
4472	500′	63.75M′
4472	1000′	62.25M′
4473	100′	892.50M′
4473	500′	825.38M′
4473	1000′	825.00M′
4474	100′	56.25M′
4474	500′	52.50M′
4474	1000′	51.00M′
4475	100′	275.63M′
4475	500′	262.50M′
4475	1000′	256.50M′
4482	500′	577.50M′
4482	1000′	534.00M′
4483	500′	792.00M′
4483	1000′	729.00M′
4484	500′	91.13M′
4484	1000′	84.75M′
4485	500′	96.00M′
4485	1000′	90.00M′
4486	500′	496.50M′
4486	1000′	472.50M′
4487	500′	277.50M′
4487	1000′	264.00M′
4488	500′	243.75M′
4488	1000′	236.25M′
4489	500′	127.50M′
4489	1000′	126.00M′
4490	500′	337.50M′
4490	1000′	330.00M′
4491	500′	180.00M′
4491	1000′	177.00M′
4492	500′	292.50M′
4492	1000′	277.50M′
4493	500′	587.25M′
4493	1000′	548.25M′
4494	500′	795.00M′
4494	1000′	766.50M′
4495	500′	281.25M′
4495	1000′	273.75M′
4496	500′	134.00M′
4496	1000′	128.25M′
4497	500′	240.00M′
4497	1000′	232.50M′
4500	100′	1.28
4500	500′	9.98M′
4500	1000′	9.98M′
4503	100′	1.65
4503	500′	14.70M′
4503	1000′	14.70M′
4504	100′	1.73
4504	500′	14.15M′
4504	1000′	14.15M′
4506	100′	1.87
4506	500′	15.25M′
4506	1000′	15.25M′
4507	100′	3.00
4507	500′	28.85M′
4507	1000′	28.85M′
4508	100′	1.85
4508	500′	14.85M′
4508	1000′	14.85M′
4509	100′	2.70
4509	500′	24.30M′
4509	1000′	24.30M′
4510	100′	2.60
4510	500′	20.50M′
4510	1000′	20.50M′
4515	100′	2.62
4515	500′	23.50M′
4515	1000′	23.50M′
4521	100′	4.20
4521	500′	40.50M′
4521	1000′	39.75M′
4523	100′	5.62
4523	500′′	52.50M′
4523	1000′	52.50M′
4527	100′	2.25
4527	500′	19.00M′
4527	1000′	19.00M′
5103	1000′	32.62M′
5123	500′	41.25M′
5123	1000′	40.50M′
5124	500′	54.00M′
5124	1000′	53.25M′
5135	500′	50.25M′
5135	1000′	50.25M′
5201	100′	1.65
5201	500′	6.60
5201	1000′	13.20M′
5205	100′	2.78
5205	500′	12.38
5205	1000′	24.75M′
5211	100′	3.82
5211	500′	17.25
5211	1000′	33.75M′
5221	100′	5.47
5221	500′	25.13
5221	1000′	50.25M′
5226	100′	5.55
5226	500′	26.25
5226	1000′	52.50M′
5231	100′	9.37
5231	500′	45.00
5231	1000′	90.00M′
5236	100′	9.75
5236	500′	47.25
5236	1000′	94.50M′
5241	100′	7.95
5241	500′	37.50
5241	1000′	75.00M′
5251	100′	10.95
5251	500′	54.75
5251	1000′	109.50M′
5271	100′	13.88
5271	500′	67.50
5271	1000′	135.00M′
5286	100′	25.50
5286	500′′	127.50
5286	1000′	255.00M′
5400	10′	.30
5400	25′	.65
5400	100′	2.15
5400	500′	9.00
5400	1000′	18.00M′
5401	10′	.35
5401	25′	.75
5401	100′	2.33
5401	500′	9.75
5401	1000′	19.50M′
5406	25′	.90
5406	100′	2.85
5406	500′	12.75
5406	1000′	25.00
5411	25′	1.05
5411	100′	3.45
5411	500′	15.75
5411	1000′	31.50
5416	15′	.90
5416	100′	4.88
5416	500′	22.85
5416	1000′	45.75M′
5421	15′	.98
5421	100′	5.25
5421	500′	24.75
5421	1000′	49.50
5426	15′	1.05
5426	100′	5.62
5426	500′	26.25
5426	1000′	52.50M′
5431	15′	1.13
5431	100′	6.23
5431	500′	29.25
5431	1000′	58.50M′
5434	100′	8.25
5434	500′	37.50
5434	1000′	75.00M′
5501	100′	3.00
5501	500′	13.50
5501	1000′	25.62M′
5506	100′	4.50
5506	500′	20.25
5506	1000′	40.50M′
5511	100′	2.93
5511	500′	12.20
5511	1000′	24.45
5516	100′	4.50
5516	500′	21.45
5516	1000′	42.75
5521	100′	4.35
5521	500′	19.50
5521	1000′	39.00M′
5526	100′	3.38
5526	500′	16.50
5526	1000′	32.25
5531	100′	6.53
5531	500′	30.00
5531	1000′	60.00M′
5536	100′	4.50
5536	500′	21.00
5536	1000′	42.00M′
5538	100′	4.65
5538	500′	22.50
5538	1000′	45.00M′
5541	50′	3.08
5541	100′	5.63
5541	500′	27.00
5541	1000′	52.50M′
5543	100′	3.90
5543	500′	16.50
5543	1000′	33.00M′
5547	25′	.35
5547	50′	.68
5547	100′	1.28
5547	250′	3.20
5547	500′	8.55M′
5547	1000′	8.25M′
5551	10′	.45
5551	25′	.90
5551	50′	1.50
5551	100′	2.85
5551	500′	12.75
5551	1000′	25.50M′
5556	100′	1.50
5556	500′	6.53
5556	1000′	12.53M′
5561	100′	1.95
5561	500′	9.38
5561	1000′	18.00M′
5566	500′	15.60
5566	1000′	30.75M′
5568	100′	3.30
5568	250′	8.25
5568	500′	15.00
5568	1000′	30.00M′
5569	50′	2.25
5569	100′	4.25
5569	500′	19.10
5569	1000′	38.00M′
5601	100′	6.68
5601	250′	62.25M′
5606	100′	13.13
5606	250′	126.38M′
6006		204.25M′
6012		295.20M′
6018		382.50M′
6025		478.50M′
6050		897.75M′
6075		1264.50M′
6100		1608.38M′
6150		2310.00M′
6200		2988.75M′
6300		4992.38M′
6400		6277.13M′

CONSOLIDATED WIRE PAGE 2

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CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS

SEND FOR COMPLETE CATALOG

RG TYPE COAXIAL CABLES

Non-Contaminating Low Temp. Black Jacket		Vinyl & Poly. Jackets					Shields							
Number RG-/U	Cat. Number	No. RG/U	Cat. No.	Armor O.D.	Jacket O.D.	Vinyl Jacket	Outer	Inner	Dielectric O.D.	Center Conductor	V.P. %	Cap. Mmfd. /Ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms
		5	4431		.332	Black	C	C	185	16	65.9	28.5	3000	52.5
5B	4432				.332	Black	S	S	.185	.053S	65.9	29.5	3000	50
6A	4433				.332	Black	C	S	.185	21CW	65.9	20.	2700	75
		7	4434		.370	Black	—	C	.250**	19	84	12.5	1000	97
		8	4415		.405	Black	—	C	.285	7/21	65.9	29.5	4000	52
8A	4435				.405	Black	—	C	.285	7/.0296	65.9	30.5	4000	52
		9	4436		.420	Grey	C	S	.280	7/21S	65.9	30	4000	51
9A	4437				.420	Grey	S	S	.280	7/21S	65.9	30	4000	51
9B	4438				.425	Black	S	S	.285	7/.0296S	65.9	30.5	4000	50
10A	4439			.475	.405	Black	—	C	.285	7/.0296	65.9	30.5	4000	50
		11	4419		.405	Black	—	C	.285	7/26T	65.9	20.5	4000	75
11A	4440				.405	Black	—	C	.285	7/26T	65.9	20.5	4000	75
12A	4441			.475	.405	Black	—	C	.285	7/26T	65.9	20.5	4000	75
		13	4442		.425	Black	C	C	.285	7/26T	65.9	20.5	4000	75
13A	4443				.425	Black	C	C	.285	7/26T	65.9	20.5	4000	75
14A	4467				.545	Grey	C	C	.370	10	65.9	29.5	5500	52
14A	4468				.545	Black	C	C	.370	.106	65.9	30	5500	52
17A	4482				.870	Black	—	C	.680	.188C	65.9	29.5	11000	52
18A	4483			.945	.870	Black	—	C	.680	.188C	65.9	29.5	11000	52
		21	4444		.322	Grey	S	S	.185	16N	65.9	29	2700	53
21A	4445				.332	Black	S	S	.185	.053N	65.9	30	2700	50
		22	4471		.405	Black	—	T	.285	Two 7/.0152	65.9	16	1000	95
22B	4475				.420	Black	T	T	.285	Two 7/.0152	65.9	16	1000	95
		29	4446		.184	Poly	—	T	.116	20	65.9	28.5	1900	53.5
		54A	4469		.250	Poly	—	T	.178	7/.0152	65.9	26.5	3000	58
		55	4447		.206	Poly	T	T	.116	20	65.9	28.5	1900	53.5
55A	4448				.216	Black	S	S	.116	.035S	65.9	29.5	1900	50
55B	4484				.206	Black	T	T	.116	20S	65.9	28.5	1900	53.5
		58	4405		.195	Black	—	T	.116	20	65.9	28.5	1900	53.5
58A	4449				.195	Black	—	T	.116	19/.0071T	65.9	29.5	1900	50
58B	4474				.195	Black	—	T	.116	20	65.9	28.5	1900	53.5
58C	4450				.195	Black		T	.116	19/.0071T	65.9	29.5	1900	50
		59	4401		.242	Black	—	C	.146	22CW	65.9	21	2300	73
		59	4402		.242	Grey	—	C	.146	22CW	65.9	21	2300	73
59A	4451				.242	Black	—	C	.146	.023CW	65.9	20.5	2300	75
59B	4470				.242	Black	—	C	.146	.023CW	65.9	20.5	2300	75
		62	4452		.242	Black	—	C	.146**	22CW	84	13.5	750	93
62A	4453				.242	Black	—	C	.146**	22CW	84	13.5	750	93
62B	4472				.242	Black	—	C	.146	22CW	84	13.5	750	93
		63	4454		.405	Black	—	C	.285**	22CW	84	10	1000	125
63B	4455				.405	Black	—	C	.285**	22CW	84	10	1000	125
65A	4473				.405	Black	—	C	.340	32F	65	44	3000	950
		71	4456		.250	Poly	T	T or C	.146**	22CW	84	13.5	750	93
71A	4466				.245	Black	T	T or C	.146**	22CW	84	13.5	750	93
71B	4485				.250	Black	T	C	.146	22CW	84	13.5	750	93
74A	4486			.615	.545	Black	C	C	.370	10C	65.9	29.5	7000	52
79B	4487			.475	.405	Black	—	C	.285	22CW	84	10	1000	125
		108	4464		.235	Black	—	T	.079 ea.	Two 7/28T	68	23.5	1000	78
108A	4465				.235	Black	—	T	.079 ea.	Two .7/28T	65.9	23.5	1000	78
122	4457				.160	Black	—	T	.096	27/36T	65.9	29.5	1900	50
212	4488				.332	Black	S	S	.185	.0556S	65.9	29.5	3000	50
213	4489				.405	Black	—	C	.285	7X.0296C	65.9	29.5	5000	50
214	4490				.425	Black	S	S	.285	7X.0296C	65.9	29.5	5000	50
215	4497				.475	Black	—	C	.285	7/.029C	65.9	29.5	4000	50
216	4491				.425	Black	C	C	.285	7X26TC	65.9	20.5	5000	75
217	4492				.545	Black	C	C	.370	.106C	65.9	29.5	7000	50
218	4493				.870	Black	—	C	.680	.195C	65.9	29.5	11000	50
219	4494			.945	.870	Black	—	C	.680	.195C	65.9	29.5	11000	50
222	4495				.332	Black	S	S	.185	.0556N	65.9	29.0	2700	50
223	4496				.216	Black	S	S	.116	.035S	65.9	29.5	1900	50

**Semi-Solid Dielectric N—Nichrome C—Cooper S—Silvered Copper CW—Copperweld T—Tinned Cooper F—Formvar

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RG TYPE COAXIAL CABLES

MINIATURE COAXIAL CABLE

Non-Contaminating Low Temp. Black Jacket		Vinyl & Poly. Jackets					Shields							
Number RG/U	Cat. Number	Cat. No.	No. RG/U	Armor O.D.	Jacket O.D.	Vinyl Jacket	Outer	Inner	Dielectric O.D.	Center Conductor	V.P. %	Cap. Mmfd. /Ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms
		4459	174		.105	Black	—		.060**	7/.0063CW		30		50

**Semi-Solid Dielectric N—Nichrome C—Copper S—Silvered Copper CW—Copperweld T—Tinned Copper F—Formvar

FOAM POLYETHYLENE COAXIAL CABLE

		8	**4477**		.405	Black	—	C	.285	7/19C	80	24.5	1500	50
11	**4476**				.405	Black	—	C	.285	14C	80	16.5	3000	75
		58	**4498**		.195	Black	—	T	.116	20C	80	28.5	1900	53.5
		59	**4478**		.195	Black	—	C	.107	22CW	80	17	500	72
62	**4479**				.242	Black	—	C	.146	.023CW	80	14.5	700	93
11	**4480**				.406	Black	C	C	.285	14C	80	16.5	3000	75
59	**4481**				.242	Black	C	C	.107	.107	80	17	500	72

**Semi-Solid Dielectric N—Nichrome C—Copper S—Silvered Copper CW—Copperweld T—Tinned Copper F—Formvar

TRIAXIAL CABLE DOUBLE SHIELD DOUBLE JACKET

RG/U Type	Cat. No.	Impedance in Ohms	Jacket Diameter	Vinyl Jacket	Shields		O. D. Dielectric	Inner Conductor	V. P. %	Cap. MMFD/Ft.	Max. Oper. Volts-RMS
					1st	2nd					
Triaxial 58A	**4463**	50	.285	Black	T	T	.116	19 .0071T	65.9	28.5	1,900
Triaxial 59	**4460**	73	.242	Black	C	C	.146	22CW	65.9	21.0	2,300
Triaxial 11	**4461**	75	.460	Black	C	C	.285	7 26T	65.9	20.5	4,000
Triaxial 8	**4462**	52	.490	Black	C	C	.285	7 21C	65.9	29.5	4,000

**Semi-Solid Dielectric N—Nichrome C—Copper S—Silvered Copper CW—Copperweld T—Tinned Copper F—Formvar

TEFLON COAXIAL CABLE

Number RG/U	Cat. Number	Inner Conductor	Dielectric Material	Nominal Diameter of Dielectric (inch)	Type of Shielding Braids	Protective Covering	Nominal Over-all Diameter (inch)	Nominal Capacitance (mmfd/ft.)	Maximum Operating Voltage (Volts rms)	Nominal Impedance (Ohms)
87A	**4701**	7/.032 Silver Covered Copper	F-1	.280	Silver Coated Copper Double Braid	V	.425	29.5	5000	50
94	**4702**	19/.0225 Silver Covered Copper	F-2	.292	Copper Double Braid	V	.445	29.0	7000	50
94A	**4703**	19/.0254 Silver Plated Copper	F-2	.370	Copper Double Braid	V	.500	27.0	7000	50
115	**4704**	7/.028 Silver Covered Copper	F-2	.250	Silver Coated Copper Double Braid	V	.375	29.5	5000	50
115A	**4705**	7/.028 Silver Covered Copper	F-2	.255	Silver Coated Copper Double Braid	V	.415	29.5	4000	50
116	**4706**	7/.032 Silver Covered Copper	F-1	.280	Silver Coated Copper Double Braid	V with armor	.490	29.5	5000	50
117	**4707**	.188 Copper	F-1	.620	Copper Single Braid	V	.730	29.0	7000	50
117A	**4708**	.188 Copper	F-1	.620	Copper Single Braid	V	.730	—	7000	50
118	**4709**	.188 Copper	F-1	.620	Copper Single Braid	V with armor	.795	29.0	7000	50
118A	**4710**	.188 Copper	F-1	.620	Copper Single Braid	V with armor	.780	—	7000	50
119	**4711**	.102 Copper	F-1	.332	Copper Double Braid	V	.465	29.0	6000	50
120	**4712**	.102 Copper	F-1	.332	Copper Double Braid	V with armor	.525	29.0	6000	50
126	**4713**	7/.0203 Karma or Equal	F-1	.185	Karma or Equal Single Braid	V	.280	29.0	3000	50
140	**4714**	.025 Silver Coated Copper Steel	F-1	.146	Silver Coated Copper Single Braid	V	.233	21.0	2300	75
141	**4715**	.0359 Silver Plated Copper Weld	F-1	.116	Silver Coated Copper Single Braid	V	.190	28.5	1900	50
141A	**4716**	.039 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Single Braid	V	.190	28.5	1900	50
142	**4717**	.0359 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Double Braid	V	.206	28.5	1900	50
142A	**4718**	.039 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Double Braid	V	.206	28.5	1900	50

Continued on following page

F-1—Solid Teflon F-2—Taped Teflon F-3—Air Spaced Teflon

V—High Temperature Lacquer Impregnated Fiberglass Braid with Teflon Tape Between Shield and Jacket

VI—Polyester Fiber Impregnated with High Temperature Lacquer over Wrapped or Extruded Silicone Impregnated Fiberglass

IIA—Low Temperature Black Polyvinylchloride Non-Contaminating

FEP—Flourinated Ethylene Propylene Copolymar, 200° Teflon

TFE—Tetraflouride Ethylene Propylene Copolymar, 250°C Teflon

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TEFLON COAXIAL CABLE

Number RG/U	Cat. Number	Inner Conductor	Dielectric Material	Nominal Diameter of Dielectric (inch)	Type of Shielding Braids	Protective Covering	Nominal Over-all Diameter (inch)	Nominal Capacitance (mmfd/ft.)	Maximum Operating Voltage (Volts rms)	Nominal Impedance (Ohms)
142B	**4719**	.039 Silver Covered Copper Steel	F-1	.116	Silver Coated Copper Double Braid	FEP	.195	28.5	1900	50
143	**4720**	.057 Silver Plated Copper Weld	F-1	.185	Silver Coated Copper Double Braid	V	.325	28.5	3000	50
143A	**4721**	.059 Silver Covered Copper Steel	F-1	.185	Silver Coated Copper Double Braid	V	.325	28.5	3000	50
144	**4722**	7/.0179 Silver Covered Copper Steel	F-1	.285	Silver Coated Copper Single Braid	V	.410	20.5	5000	75
146	**4723**	.007 Copper Covered Steel	F-3	.285	Copper Single Braid	V	.375	6.0	1000	190
161	**4724**	7/38 Silver Plated Cadmium Bronze	F-1	.057	Single Silver Copper	Extruded Black Nylon	.090	20.0	1000	70
165	**4725**	7/.032 Silver Covered Copper	F-1	.285	Silver Covered Copper Single Braid	V	.410	—	5000	50
166	**4726**	7/.032 Silver Covered Copper	F-1	.285	Silver Covered Copper Single Braid	V with armor	.460	—	5000	50
178	**4727**	7/.0039 Silver Plated Copper Weld	F-1	.036	Silver Plated Copper Single Braid	KEL-F	.079	27.9	1000	50
178A	**4728**	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Plated Copper Single Braid	KEL-F	.075	27.9	1000	50
178B	**4729**	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Covered Copper Single Braid	FEP	.075	—	1000	50
179A	**4730**	7/.004 Silver Covered Copper Steel	F-1	.063	Silver Plated Copper Single Braid	KEL-F	.105	20.0	1200	75
179B	**4731**	7/.004 Silver Covered Copper Steel	F-1	.063	Silver Covered Copper Single Braid	FEP	.105	—	1200	75
180	**4732**	7/.0039 Silver Plated Copper Weld	F-1	.103	Silver Plated Copper Single Braid	KEL-F	.141	15.3	1500	93
180A	**4733**	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Plated Copper Single Braid	KEL-F	.145	14.5	1500	95
180B	**4734**	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Covered Copper Single Braid	FEP	.145	—	1500	95
187	**4735**	7/.004 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	Teflon	.110	—	1200	75
187A	**4736**	7/.004 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	TFE	.110	—	1200	75
188	**4737**	7/.0067 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	Teflon	.110	—	1200	50
188A	**4738**	7/.0067 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	TFE	.110	—	1200	50
195	**4739**	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Covered Copper Single Braid	Teflon	.155	—	1500	95
195A	**4740**	7/.004 Silver Covered Copper Steel	F-1	.102	Silver Covered Copper Single Braid	TFE	.155	—	1500	95
196	**4741**	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Covered Copper Single Braid	Teflon	.080	—	1000	50
196A	**4742**	7/.004 Silver Covered Copper Steel	F-1	.034	Silver Covered Copper Single Braid	TFE	.080	—	1000	50
209	**4743**	19/.037 Silver Covered Copper	F-3	.500	Silver Covered Copper Double Braid	VI	.750	—	3200	50
210	**4744**	.0253 Silver Covered Copper Steel	F-3	.146	Silver Covered Copper Single Braid	V	.242	14.5	750	93
211	**4745**	.190 Copper	F-1	.620	Copper Single Braid	V	.730	—	7000	50
211A	**4746**	.190 Copper	F-1	.620	Copper Single Braid	V	.730	—	7000	50
225	**4747**	7/.0312 Silver Covered Copper	F-1	.285	Silver Covered Copper Double Braid	V	.430	—	5000	50
226	**4748**	19/.0254 Silver Covered Copper	F-2	.370	Copper Double Braid	V	.500	—	7000	50
227	**4749**	7/.0312 Silver Covered Copper	F-1	.285	Silver Covered Copper Double Braid	V with armor	.490	—	5000	50
228	**4750**	.190 Copper	F-1	.620	Copper Single Braid	V with armor	.795	—	7000	50
228A	**4751**	.190 Copper	F-1	.620	Copper Single Braid	V with armor	.795	—	7000	50
235	**4752**	7/.028 Copper	F-2	.255	Silver Covered Copper Double Braid	VI	.490	—	5000	50
280	**4753**	.1144 Copper	F-2	.327	Silver Covered Copper Double Braid	IIA	.480	27.5	4000	50
281	**4754**	19/.0378 Silver Covered Copper	F-2	.500	Silver Covered Copper Double Braid	VI	.750	29.5	4000	50
301	**4755**	7/.0203 Karma	F-1	.185	Karma Single Braid	FEP	.245	29.0	3000	50
302	**4756**	.025 Silver Covered Copper Steel	F-1	.146	Silver Covered Copper Single Braid	FEP	.206	21.0	2300	75
303	**4757**	.039 Silver Covered Copper Steel	F-1	.116	Silver Covered Copper Single Braid	FEP	.170	28.5	1900	50
304	**4758**	.059 Silver Covered Copper Steel	F-1	.185	Silver Covered Copper Double Braid	FEP	.280	28.5	3000	50
316	**4759**	7/.0067 Silver Covered Copper Steel	F-1	.060	Silver Covered Copper Single Braid	FEP	.102	—	1200	50

F-1—Solid Teflon F-2—Taped Teflon F-3—Air Spaced Teflon

V—High Temperature Lacquer Impregnated Fiberglass Braid with Teflon Tape Between Shield and Jacket

VI—Polyester Fiber Impregnated with High Temperature Lacquer over Wrapped or Extruded Silicone Impregnated Fiberglass

IIA—Low Temperature Black Polyvinylchloride Non-Contaminating

FEP—Flourinated Ethylene Propylene Copolymar, 200° Teflon

TFE—Tetraflouride Ethylene Propylene Copolymar, 250°C Teflon

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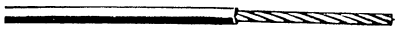
TYPE MW-VINYL — 1000V — 80C



Tinned copper, vinyl insulated, medium wall. The polyvinylchloride insulation is flame and ozone resistant and is inert to most chemicals, oils, and solvents.

STRANDED CONDUCTOR

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9001	MW-C-24-(7)-U	24(7x32)	.017	.058	As Listed	As Listed	As Listed
9002	MW-C-22-(7)-U	22(7x30)	.017	.064	As Listed	As Listed	As Listed
9003	MW-C-20-(10)-U	20(10x30)	.017	.070	As Listed	As Listed	As Listed
9004	MW-C-18-(16)-U	18(16x30)	.017	.080	As Listed	As Listed	As Listed
9005	MW-C-16-(26)-U	16(26x30)	.019	.098	As Listed	As Listed	As Listed
9006	MW-C-14-(41)-U	14(41x30)	.020	.111	As Listed	As Listed	As Listed
9007	MW-C-12-(65)-U	12(65x30)	.020	.130	As Listed	As Listed	As Listed

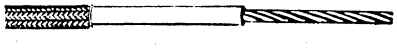
SOLID CONDUCTOR

9010	MW-C-22-(1)-U	22 (Solid)	.017	.059	As Listed	As Listed	As Listed
9011	MW-C-20-(1)-U	20 (Solid)	.017	.066	As Listed	As Listed	As Listed
9012	MW-C-18-(1)-U	18 (Solid)	.017	.074	As Listed	As Listed	As Listed
9013	MW-C-16-(1)-U	16 (Solid)	.017	.085	As Listed	As Listed	As Listed

Stock Colors*

0	Black	92	White/Red
1	Brown	93	White/Orange
2	Red	94	White/Yellow
3	Orange	95	White/Green
4	Yellow	96	White/Blue
5	Green	97	White/Violet
6	Dark Blue	98	White/Gray
7	Violet (Purple)	901	White/Black/Brown
8	Gray (Slate)	902	White/Black/Red
9	White	908	White/Black/Orange
11	Tan	904	White/Black/Yellow
12	Pink	905	White/Black/Green
13	Light Blue	906	White/Black/Blue
90	White/Black	907	White/Black/Violet
91	White/Brown	908	White/Black/Gray

TYPE MW-SHIELDED — 1000V — 80C



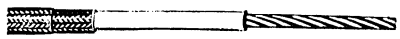
Tinned copper, polyvinylchloride insulation. Medium wall, tinned copper shield overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9014	MW-C-24-(7)-S	24(7x32)	.017	.082	As Listed	As Listed	As Listed
9015	MW-C-22-(7)-S	22(7x30)	.017	.088	As Listed	As Listed	As Listed
9016	MW-C-20-(10)-S	20(10x30)	.017	.094	As Listed	As Listed	As Listed
9017	MW-C-18-(16)-S	18(16x30)	.017	.104	As Listed	As Listed	As Listed
9018	MW-C-16-(26)-S	16(26x30)	.019	.122	As Listed	As Listed	As Listed
9019	MW-C-14-(41)-S	14(41x30)	.020	.135	0, 2, 9	0, 2, 9	0, 2, 9
9020	MW-C-12-(65)-S	12(65x30)	.020	.154	0, 2, 9	0, 2, 9	0, 2, 9

Stock Colors*

0	Black	5	Green
1	Brown	6	Dark Blue
2	Red	7	Violet (Purple)
3	Orange	8	Gray (Slate)
4	Yellow	9	White

TYPE MW-SHIELDED — NYLON JACKET — 1000V — 80C



Tinned copper, polyvinylchloride insulation. Medium wall, tinned copper shield, nylon jacket.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9021	MW-C-22-(7)-SJ	22(7x30)	.017	.095	9	9	9
9022	MW-C-20-(7)-SJ	20(10x30)	.017	.101	9	9	9
9023	MW-C-18-(16)-SJ	18(16x30)	.017	.112	9	9	9
9024	MW-C-16-(19)-SJ	16(26x30)	.019	.131	9	9	9

Stock Color*

9 Vinyl insulation. **White** only.

*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

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TYPE MW-GLASS BRAID — 1000V — 80C

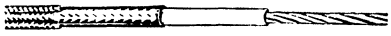
Tinned copper, polyvinylchloride insulated. Medium wall, lacquered glass braid overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9025	MW-C-22(7)-B	22(7x30)	.017	.076	As Listed	As Listed	As Listed
9026	MW-C-20(10)-B	20(10x30)	.017	.084	As Listed	As Listed	As Listed
9027	MW-C-18(16)-B	18(16x30)	.017	.094	As Listed	As Listed	As Listed
9028	MW-C-16(26)-B	16(26x30)	.019	.112	As Listed	As Listed	As Listed
9029	MW-C-14(41)-B	14(41x30)	.020	.125	9,90thru98	9,90thru98	9,90thru98
9030	MW-C-12(65)-B	12(65x30)	.020	.144	9, 90, 92	9, 90, 92	9, 90, 92

Stock Colors*

0 Black	90 White/Black
1 Brown	91 White/Brown
2 Red	92 White/Red
3 Orange	93 White/Orange
4 Yellow	94 White/Yellow
5 Green	95 White/Green
6 Dark Blue	96 White/Blue
7 Violet (Purple)	97 White/Violet
8 Gray (Slate)	98 White/Gray
9 White	

TYPE MW-GLASS BRAID-SHIELDED — 1000V — 80C



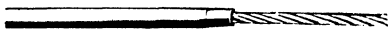
Tinned copper, polyvinylchloride insulated. Medium wall, lacquered glass braid, tinned copper shield overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9031	MW-C-22(7)-BS	22(7x30)	.017	.102	9	9	9
9032	MW-C-20(7)-BS	20(10x30)	.017	.108	9	9	9
9033	MW-C-18(16)-BS	18(16x30)	.017	.118	9	9	9
9034	MW-C-16(19)-BS	16(26x30)	.019	.136	9	9	9
9035	MW-C-14(19)-BS	14(41x30)	.020	.149	9	9	9
9036	MW-C-12(19)-BS	12(65x30)	.020	.168	9	9	9

Stock Color*

9 Vinyl insulation. **White** only.

TYPE MW — NYLON JACKET — 1000V — 90C



Tinned copper, polyvinylchloride insulated. Medium wall, clear nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9037	MW-C-22(7)-J	22(7x30)	.017	.069	As Listed	As Listed	As Listed
9038	MW-C-20(10)-J	20(10x30)	.017	.075	As Listed	As Listed	As Listed
9039	MW-C-18(16)-J	18(16x30)	.017	.086	As Listed	As Listed	As Listed
9040	MW-C-16(26)-J	16(26x30)	.019	.106	As Listed	As Listed	As Listed
9041	MW-C-14(41)-J	14(41x30)	.020	.118	0, 1, 3, 4 5, 9	0, 1, 3, 4 5, 9	0, 1, 3, 4 5, 9
9042	MW-C-12(65)-J	12(65x30)	.020	.139	0, 1, 3, 4, 5, 9	0, 1, 3, 4 5, 9	0, 1, 3, 4 5, 9

Stock Colors*

0 Black	90 White/Black
1 Brown	91 White/Brown
2 Red	92 White/Red
3 Orange	93 White/Orange
4 Yellow	94 White/Yellow
5 Green	95 White/Green
6 Dark Blue	96 White/Blue
7 Violet (Purple)	97 White/Violet
8 Gray (Slate)	98 White/Gray
9 White	

*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

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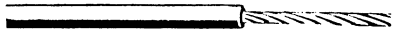
MIL-W-76

TYPE HW — VINYL — Gauges 16-22 2500V, Gauges 6-14 600—80C



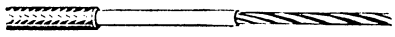
Tinned copper, polyvinylchloride insulated. Heavy wall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100′	500′	1000′
9100	HW-C-22(7)-U	22(7x30)	.034	.098	As Listed	As Listed	As Listed
9101	HW-C-20(10)-U	20(10x30)	.034	.104	As Listed	As Listed	As Listed
9102	HW-C-18(16)-U	18(16x30)	.034	.114	As Listed	As Listed	As Listed
9103	HW-C-16(26)-U	16(26x30)	.034	.128	0, 2, 9	0, 2, 9	0, 2, 9
9104	HW-C-14(41)-U	14(41x30)	.048	.171	0, 2, 9	0, 2, 9	0, 2, 9
9105	HW-C-12(65)-U	12(65x30)	.048	.191	0, 2, 9	0, 2, 9	0, 2, 9
9106	HW-C-10(105)-U	10(105x30)	.048	.214	0, 2, 9	0, 2, 9	0, 2, 9
9107	HW-C-8(133)-U	8(133x29)	.048	.261	0, 2, 9	0, 2, 9	0, 2, 9
9108	HW-C-6(133)-U	6(133x27)	.048	.296	0, 2, 9	0, 2, 9	0, 2, 9

Stock Colors*

0 Black
1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Dark Blue
7 Violet (Purple)
8 Gray (Slate)
9 White

TYPE HW — GLASS BRAID — 600V — 80C



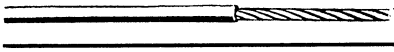
Tinned copper, polyvinylchloride insulated. Heavy wall, lacquered glass braid.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100′	500′	1000′
9110	HW-C-10(105)-B	10(105x30)	.048	.232	As Listed	As Listed	As Listed
9111	HW-C-8(133)-B	8(133x29)	.048	.279	As Listed	As Listed	As Listed
9112	HW-C-6(133)-B	6(133x27)	.048	.314	As Listed	As Listed	As Listed

Stock Colors*

9 White
90 White/Black
92 White/Red

TYPE LW — VINYL — 300V — 80C



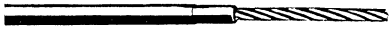
Tinned copper, polyvinylchloride insulated. Light wall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100′	500′	1000′
9200	LW-C-30(7)-U	30(7x38)	.011	.034	0 thru 9	0 thru 9	0 thru 9
9201	LW-C-28(7)-U	26(7x36)	.011	.037	As Listed	As Listed	As Listed
9202	LW-C-26(7)-U	26(7x34)	.011	.041	As Listed	As Listed	As Listed
9203	LW-C-24(7)-U	24(7x32)	.011	.046	As Listed	As Listed	As Listed
9204	LW-C-22(7)-U	22(7x30)	.012	.054	As Listed	As Listed	As Listed
9205	LW-C-20(10)-U	20(10x30)	.012	.060	As Listed	As Listed	As Listed

Stock Colors*

0 Black
1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Dark Blue
7 Violet (Purple)
8 Gray (Slate)
9 White
90 White/Black
91 White/Brown
92 White/Red
93 White/Orange
94 White/Yellow
95 White/Green
96 White/Blue
97 White/Violet
98 White/Gray

TYPE LW — NYLON JACKET — 300V — 90C



Tinned copper, polyvinylchloride insulated. Light wall, clear nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
					100′	500′	1000′
9210	LW-C-30(7)-J	30(7x38)	.011	.039	0 thru 9	0 thru 9	0 thru 9
9211	LW-C-28(7)-J	28(7x36)	.011	.042	As Listed	As Listed	As Listed
9212	LW-C-26(7)-J	26(7x34)	.011	.046	As Listed	As Listed	As Listed
9213	LW-C-24(7)-J	24(7x32)	.011	.051	As Listed	As Listed	As Listed
9214	LW-C-22(7)-J	22(7x30)	.012	.059	As Listed	As Listed	As Listed
9215	LW-C-20(10)-J	20(10x30)	.012	.065	As Listed	As Listed	As Listed

Stock Colors*

0 Black
1 Brown
2 Red
3 Orange
4 Yellow
5 Green
6 Dark Blue
7 Violet (Purple)
8 Gray (Slate)
9 White
90 White/Black
91 White/Brown
92 White/Red
93 White/Orange
94 White/Yellow
95 White/Green
96 White/Blue
97 White/Violet
98 White/Gray

*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

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TYPE B — VINYL — 600V — 105C

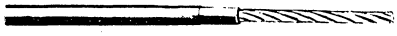
Tinned copper, polyvinylchloride insulated.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9300	B-32	32(7x40)	.010	.029	0 thru 9	0 thru 9	0 thru 9
9301	B-30	30(7x38)	.010	.032	0 thru 9	0 thru 9	0 thru 9
9302	B-28	28(7x36)	.010	.035	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98
9303	B-26	26(7x34)	.010	.039	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98
9304	B-24	24(19x36)	.010	.045	9,90thru98	9,90thru98	9,90thru98
9305	B-24	24(7x32)	.010	.044	As Listed	As Listed	As Listed
9306	B-22	22(19x34)	.010	.051	9,90thru98	9,90thru98	9,90thru98
9307	B-22	22(7x30)	.010	.050	As Listed	As Listed	As Listed
9308	B-20	20(19x32)	.010	.059	9,90thru98	9,90thru98	9,90thru98
9309	B-20	20(7x28)	.010	.058	As Listed	As Listed	As Listed
9310	B-18	18(19x30)	.010	.069	9,90thru98	9,90thru98	9,90thru98
9311	B-18	18(7x26)	.010	.068	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98
9312	B-16	16(19x29)	.010	.077	0 thru 9 90 thru 98	0 thru 9 90 thru 98	0 thru 9 90 thru 98

Stock Colors*

0 Black	**90** White/Black
1 Brown	**91** White/Brown
2 Red	**92** White/Red
3 Orange	**93** White/Orange
4 Yellow	**94** White/Yellow
5 Green	**95** White/Green
6 Dark Blue	**96** White/Blue
7 Violet (Purple)	**97** White/Violet
8 Gray (Slate)	**98** White/Gray
9 White	
11 Tan	
12 Pink	
13 Light Blue	

TYPE B — VINYL-NYLON JACKET — 600V — 115C



Tinned copper, polyvinylchloride insulated, nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9313	B-32	32(7x40)	.010	.035	0 thru 9	0 thru 9	0 thru 9
9314	B-30	30(7x38)	.010	.038	0 thru 9	0 thru 9	0 thru 9
9315	B-28	28(7x36)	.010	.041	As Listed	As Listed	As Listed
9316	B-26	26(7x34)	.010	.045	As Listed	As Listed	As Listed
9317	B-24	24(19x36)	.010	.051	As Listed	As Listed	As Listed
9318	B-24	24(7x32)	.010	.050	As Listed	As Listed	As Listed
9319	B-22	22(19x34)	.010	.057	As Listed	As Listed	As Listed
9320	B-22	22(7x30)	.010	.056	As Listed	As Listed	As Listed
9321	B-20	20(19x32)	.010	.065	As Listed	As Listed	As Listed
9322	B-20	20(7x28)	.010	.064	As Listed	As Listed	As Listed
9323	B-18	18(19x30)	.010	.075	9,90thru98	9,90thru98	9,90thru98
9324	B-18	18(7x26)	.010	.074	As Listed	As Listed	As Listed
9325	B-16	16(19x29)	.010	.083	As Listed	As Listed	As Listed

Stock Colors*

0 Black	**90** White/Black
1 Brown	**91** White/Brown
2 Red	**92** White/Red
3 Orange	**93** White/Orange
4 Yellow	**94** White/Yellow
5 Green	**95** White/Green
6 Dark Blue	**96** White/Blue
7 Violet (Purple)	**97** White/Violet
8 Gray (Slate)	**98** White/Gray
9 White	

*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

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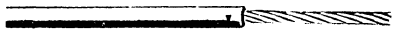
TYPE C VINYL — 1000V — 105C



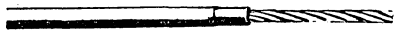
Tinned copper, polyvinylchloride insulated.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9400	C-24	24(7x32)	.018	.060	9,90thru98	9,90thru98	9,90thru98
9401	C-22	22(7x30)	.018	.066	As Listed	As Listed	As Listed
9402	C-20	20(7x28)	.018	.074	As Listed	As Listed	As Listed
9403	C-18	18(7x26)	.018	.084	As Listed	As Listed	As Listed
9404	C-16	16(19x29)	.018	.093	9,90thru98	9,90thru98	9,90thru98
9405	C-14	14(19x27)	.018	.107	9,90thru98	9,90thru98	9,90thru98

Stock Colors*

0 Black	90 White/Black
1 Brown	91 White/Brown
2 Red	92 White/Red
3 Orange	93 White/Orange
4 Yellow	94 White/Yellow
5 Green	95 White/Green
6 Dark Blue	96 White/Blue
7 Violet (Purple)	97 White/Violet
8 Gray (Slate)	98 White/Gray
9 White	

TYPE C — VINYL-NYLON JACKET — 1000V — 115C



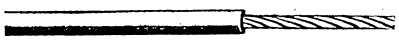
Tinned copper, polyvinylchloride insulated, nylon jacket overall.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9410	C-24	24(7x32)	.018	.066	9,90thru98	9,90thru98	9,90thru98
9411	C-22	22(7x30)	.018	.072	As Listed	As Listed	As Listed
9412	C-20	20(7x28)	.018	.080	As Listed	As Listed	As Listed
9413	C-18	18(7x26)	.018	.091	As Listed	As Listed	As Listed
9414	C-16	16(19x29)	.018	.100	9,90thru98	9,90thru98	9,90thru98
9415	C-14	14(19x27)	.018	.114	9,90thru98	9,90thru98	9,90thru98

Stock Colors*

0 Black	90 White/Black
1 Brown	91 White/Brown
2 Red	92 White/Red
3 Orange	93 White/Orange
4 Yellow	94 White/Yellow
5 Green	95 White/Green
6 Dark Blue	96 White/Blue
7 Violet (Purple)	97 White/Violet
8 Gray (Slate)	98 White/Gray
9 White	

TYPE D — VINYL — 3000V — 105C



Tinned copper, polyvinylchloride insulated.

Catalog Number	Type Designation	Size & (Stranding)	Insulation Thickness (Inch)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9500	D-24	24(7x32)	.030	.084	9,90thru98	9,90thru98	9,90thru98
9501	D-22	22(7x30)	.030	.090	As Listed	As Listed	As Listed
9502	D-20	20(7x28)	.030	.098	As Listed	As Listed	As Listed
9503	D-18	18(7x26)	.030	.108	As Listed	As Listed	As Listed
9504	D-16	16(19x29)	.030	.117	9,90thru98	9,90thru98	9,90thru98
9505	D-14	14(19x27)	.030	.131	9,90thru98	9,90thru98	9,90thru98
9506	D-12	12(19x25)	.035	.160	9,90thru98	9,90thru98	9,90thru98
9507	D-10	10(37x26)	.035	.181	9,90thru98	9,90thru98	9,90thru98
9508	D- 8	8(133x29)	.040	.245	9,90thru98	9,90thru98	9,90thru98
9509	D- 6	6(133x27)	.040	.290	9,90thru98	9,90thru98	9,90thru98

Stock Colors*

0 Black	90 White/Black
1 Brown	91 White/Brown
2 Red	92 White/Red
3 Orange	93 White/Orange
4 Yellow	94 White/Yellow
5 Green	95 White/Green
6 Dark Blue	96 White/Blue
7 Violet (Purple)	98 White/Gray
8 Gray (Slate)	
9 White	

*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

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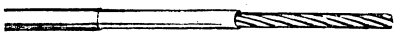
AIRCRAFT WIRE & CABLE

TYPES 1 & 2 — 600V



UNSHIELDED

Catalog Number	MIL Type Designation	Size & (Stranding)	Nom. O.D.	Spec. Type	Stock Colors on Standard Spools 100′	500′	1000′
9700	AN-22	22(19x34)	.068	No. 1	9	9	9
9701	AN-20	20(19x32)	.078	No. 1	9	9	9
9702	AN-18	18(19x30)	.088	No. 1	9	9	9
9703	AN-16	16(19x29)	.098	No. 1	9	9	9
9704	AN-14	14(19x27)	.117	No. 1	9	9	9
9705	AN-12	12(19x25)	.137	No. 1	9	9	9
9706	AN-22	22(19x34)	.075	No. 2	9	9	9
9707	AN-20	20(19x32)	.085	No. 2	9	9	9
9708	AN-18	18(19x30)	.095	No. 2	9	9	9
9709	AN-16	16(19x29)	.105	No. 2	9	9	9
9710	AN-14	14(19x27)	.125	No. 2	9	9	9
9711	AN-12	12(19x25)	.143	No. 2	9	9	9
9713	AN-10	10(49x27)	.189	No. 2	9	9	9
9714	AN-8	8(133x29)	.240	No. 2	9	9	9
9715	AN-6	6(133x27)	.293	No. 2	9	9	9
9716	AN-4	4(133x25)	.355	No. 2	9	9	9
9717	AN-2	2(665x30)	.425	No. 2	9	9	9
9718	AN-0	0(1045x30)	.525	No. 2	9	9	9
9719	AN-00	00(1330x30)	.590	No. 2	9	9	9

Stock Color*

White only (9)

Additional Description

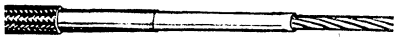
MIL-W-5086A-Type I
AN-22 thru AN-12.
Stranded tinned copper, white polyvinylchloride clear nylon jacket insulation.

MIL-W-5086A-Type II
AN-22 thru AN-12
Stranded tinned copper, white polyvinylchloride insulation, saturated glass braid, clear nylon jacket.

MIL-W-5086A-Type II
AN-10 thru AN-00
Stranded tinned copper, white polyvinylchloride insulation, saturated glass braid, nylon braid, nylon lacquer.

MIL-C-7078A — TYPE 1 — 600 VOLT

(MIL-W-5086A Type I Conductor Braided Tinned Copper Shield)



SHIELDED

Catalog Number	MIL Type Designation	Size & (Stranding)	Nom. O.D.	Spec. Type	Stock Colors on Standard Spools 100′	500′	1000′
9720	AN-22	22(10x34)	.092	No. 1	9	9	9
9721	AN-20	20(19x32)	.102	No. 1	9	9	9
9722	AN-18	18(19x30)	.112	No. 1	9	9	9
9723	AN-16	16(19x29)	.122	No. 1	9	9	9
9724	AN-14	14(19x27)	.141	No. 1	9	9	9
9725	AN-12	12(19x25)	.161	No. 1	9	9	9

Stock Color*

White only (9)

Additional Description
Stranded tinned copper, white polyvinylchloride insulation, nylon jacket, braided tinned copper shield.

*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

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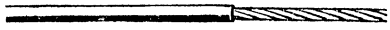
MIL-W-16878-D

TYPE E — TFE TEFLON — 600V — 200C



Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated.

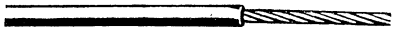
Catalog Number	Type Designation	Size & (Stranding)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9600	E-32	32(7x40)	.032	As Listed	As Listed	As Listed
9601	E-30	30(7x38)	.032	As Listed	As Listed	As Listed
9602	E-28	28(7x36)	.035	As Listed	As Listed	As Listed
9603	E-26	26(19x38)	.039	As Listed	As Listed	As Listed
9604	E-26	26(7x34)	.039	As Listed	As Listed	As Listed
9605	E-24	24(19x36)	.044	As Listed	As Listed	As Listed
9606	E-24	24(7x32)	.044	As Listed	As Listed	As Listed
9607	E-22	22(19x34)	.050	As Listed	As Listed	As Listed
9608	E-22	22(7x30)	.050	As Listed	As Listed	As Listed
9609	E-20	20(19x32)	.058	As Listed	As Listed	As Listed
9610	E-20	20(7x28)	.058	As Listed	As Listed	As Listed
9611	E-18	18(19x30)	.069	As Listed	As Listed	As Listed
9612	E-18	18(7x26)	.069	As Listed	As Listed	As Listed
9613	E-16	16(19x29)	.080	As Listed	As Listed	As Listed
9614	E-14	14(19x27)	.095	As Listed	As Listed	As Listed
9615	E-12	12(19x25)	.115	As Listed	As Listed	As Listed
9616	E-10	10(37x26)	.131	As Listed	As Listed	As Listed

Stock Colors*

0 Black	5 Green
1 Brown	6 Dark Blue
2 Red	7 Violet (Purple)
3 Orange	8 Gray (Slate)
4 Yellow	9 White

NOTE: Tracer colors available upon customer request. Minimum quantity 500 feet.

TYPE EE — TFE TEFLON — 1000V — 200C



Concentrically stranded silver coated copper conductor, extruded TFE Teflon insulated.

Catalog Number	Type Designation	Size & (Stranding)	Nom. O.D. (Inch)	Stock Colors on Standard Spools 100′	500′	1000′
9620	EE-32	32(7x40)	.042	As Listed	As Listed	As Listed
9621	EE-30	30(7x38)	.042	As Listed	As Listed	As Listed
9622	EE-28	28(7x36)	.045	As Listed	As Listed	As Listed
9623	EE-26	26(19x38)	.049	As Listed	As Listed	As Listed
9624	EE-26	26(7x34)	.049	As Listed	As Listed	As Listed
9625	EE-24	24(19x36)	.054	As Listed	As Listed	As Listed
9626	EE-24	24(7x32)	.054	As Listed	As Listed	As Listed
9627	EE-22	22(19x34)	.060	As Listed	As Listed	As Listed
9628	EE-22	22(7x30)	.060	As Listed	As Listed	As Listed
9629	EE-20	20(19x32)	.068	As Listed	As Listed	As Listed
9630	EE-20	20(7x28)	.068	As Listed	As Listed	As Listed
9631	EE-18	18(19x30)	.079	As Listed	As Listed	As Listed
9632	EE-18	18(7x26)	.079	As Listed	As Listed	As Listed
9633	EE-16	16(19x29)	.089	As Listed	As Listed	As Listed
9634	EE-14	14(19x27)	.110	As Listed	As Listed	As Listed
9635	EE-12	12(19x25)	.129	As Listed	As Listed	As Listed
9636	EE-10	10(37x26)	.149	As Listed	As Listed	As Listed

Stock Colors*

0 Black	5 Green
1 Brown	6 Dark Blue
2 Red	7 Violet (Purple)
3 Orange	8 Gray (Slate)
4 Yellow	9 White

NOTE: Tracer colors available upon customer request. Minimum quantity 500 feet.

ROME SYNTHINOL

UL TYPE HOOK-UP AND LEAD WIRES

UL-300V-80C

Catalog Number	Size Awg.	Stranding	Nom. Ins. Thckns.	Volts	Max. Dia. Inches
801	22	Solid	1/64	300	.065
811	20	Solid	1/64	300	.071
841	18	Solid	1/64	300	.080
821	22	7 x No. 30	1/64	300	.069
831	20	10 x No. 30	1/64	300	.078
846	18	16 x No. 30	1/64	300	.085
881	20—2 condr. Black & Red	10 x No. 30	.025	300	.170

UL-600V-105C (CSA 600V-90C)

Catalog Number	Size Awg.	Stranding	Nom. Ins. Thckns.	Volts	Max. Dia. Inches
851	22	Solid	1/32	600	.097
856	20	Solid	1/32	600	.104
861	18	Solid	1/32	600	.112
866	22	7 x No. 30	1/32	600	.102
871	20	10 x No. 30	1/32	600	.110
876	18	16 x No. 30	1/32	600	.119

Colors: Black, Blue, Brown, Green, Orange, Pink, Purple, Red, Slate, White, Yellow

STANDARD SPOOL PUT-UP: 25 FT., 100 FT., 500 FT., 1000 FT.

*Stock Color Numbers in Accordance to Military Type Designation and EIA Color Coding.

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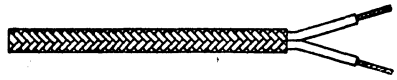
SHIELDED TEFLON CABLES
MIL-W-16878

Each conductor stranded silver plated copper Type E extruded Teflon .010" insulation—90% braided silver copper shield, also supplied with either a Teflon impregnated Fiberglass braid or Teflon fused tape overall jacket.

Temperature rating —65°C to +260°C. Voltage rating 600 volts.



NO OUTER COVERING OVER SHIELD

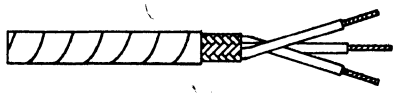
Catalog Number	No. of Cond.	Size & Stranding	Nom. O.D. (Inch)
9800	1	24(19x36)	.069
9801	2	24(19x36)	.112
9802	3	24(19x36)	.120
9803	4	24(19x36)	.132
9804	1	22(19x34)	.075
9805	2	22(19x34)	.124
9806	3	22(19x34)	.132
9807	4	22(19x34)	.146
9808	1	20(19x32)	.083
9809	2	20(19x32)	.142
9810	3	20(19x32)	.151
9811	4	20(19x32)	.168
9812	1	18(19x30)	.093
9813	2	18(19x30)	.162
9814	3	18(19x30)	.172
9815	4	18(19x30)	.192

STOCK COLORS

Catalog Numbers 9800 thru 9855

Specify color coding when ordering.

Standard spool put up Catalog Numbers 9800 thru 9855: 100 ft., 500 ft., 1000 ft.



TEFLON TAPE WRAP JACKET OVER SHIELD

Catalog Number	No. of Cond.	Size & Stranding	Nom. O.D. (Inch)
9820	1	24(19x36)	.084
9821	2	24(19x36)	.128
9822	3	24(19x36)	.135
9823	4	24(19x36)	.148
9824	1	22(19x34)	.090
9825	2	22(19x34)	.140
9826	3	22(19x34)	.148
9827	4	22(19x34)	.162
9828	1	20(19x32)	.099
9829	2	20(19x32)	.158
9830	3	20(19x32)	.167
9831	4	20(19x32)	.184
9832	1	18(19x30)	.109
9833	2	18(19x30)	.178
9834	3	18(19x30)	.189
9835	4	18(19x30)	.208

TEFLON IMPREGNATED BRAID OVER SHIELD

Catalog Number	No. of Cond.	Size & Stranding	Nom. O.D. (Inch)
9840	1	24(19x36)	.081
9841	2	24(19x36)	.126
9842	3	24(19x36)	.133
9843	4	24(19x36)	.144
9844	1	22(19x34)	.088
9845	2	22(19x34)	.137
9846	3	22(19x34)	.144
9847	4	22(19x34)	.158
9848	1	20(19x32)	.097
9849	2	20(19x32)	.154
9850	3	20(19x32)	.163
9851	4	20(19x32)	.180
9852	1	18(19x30)	.106
9853	2	18(19x30)	.174
9854	3	18(19x30)	.185
9855	4	18(19x30)	.205

Stock Color Numbers in accordance to Military Type Designation and E.I.A. Color Coding.

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CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS

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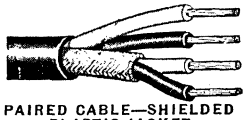
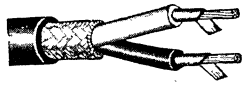
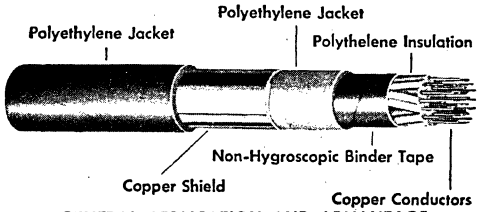
INTERCOMMUNICATING AND SOUND SYSTEM CABLES

STANDARD SPOOL PUT-UP: 10 FT., 25 FT., 50 FT., 100 FT., 500 FT., 1000 FT.

	NO.	TYPE	Size & Stranding	INSULATION THICKNESS (INCHES)	SPECIFICATION AND GENERAL APPLICATION	NOMINAL DIAMETER (INCHES)
STATION-TO-STATION EXTENSION WIRING SHIELDED	5501	2 Condr.	22 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together condr. red 1 condr. black—closely woven braided tinned copper shield.	.110
	5506	3 Condr.	22 Solid	.015	Same as 550+condr. red—1 condr. black—1 condr. blue.	.145
	5521	2 Condr.	20 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—closely woven braided tinned copper shield.	.155
EXTENSION WIRING SHIELDED—PLASTIC JACKET	5511	2 Condr.	22 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—and a spiral tinned copper shield with .020" tubed gray vinyl plastic jacket.	.170
 PAIRED CABLE—SHIELDED PLASTIC JACKET	5516	2 Pair 4 Condr	22 7x30	.015	Stranded tinned copper vinyl plastic insulation. 2 pair cabled (4 conductors—1 pair black & white with braided tinned copper shield—1 pair black & brown unshielded—both pair bunched and .020" gray vinyl plastic jacket overall.	.168x.276
EXTENSION-SPEAKERS SHIELDED FOR LONG RUNS	5526	2 Condr.	20 10x30	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—closely woven tinned copper shield.	.215
	5531	3 Condr.	20 10x30	.015	Same as 5526—1 condr. red—1 condr. black—1 condr. blue.	.230
	5536	2 Condr.	18 16x30	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together. 1 condr. red—1 condr. white, closely woven braided tinned copper shield.	.235
 EXPANSION-SPEAKERS SHIELDED—PLASTIC JACKET	5568	2 Condr.	22 7x30	.015	Tinned copper vinyl plastic insulation. 2 condrs.—cabled black and red—tinned copper spiral wrapped shield .023" chrome vinyl plastic jacket.	.166
	5569	3 Condr.	22 7x30	.015	Tinned copper vinyl plastic insulation, 3 condrs.—cabled black, red, whiet—tinned copper spiral shield —chrome vinyl plastic jacket.	.193
	5538	2 Condr.	18 16x30	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together. 1 condr. red. 1 condr. white. Spiral tinned copper shield and .020" gray vinyl plastic jacket overall.	.225
	5543	2 Condr.	20 10x30	.015	Same as 5538 1 condr. Red. 1 condr. Black.	.185
	5541	2 Condr.	18 16x30	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together. 1 condr. red—1 condr. white, closely woven braided tinned copper shield and .020" gray vinyl plastic jacket overall.	.260
JUKE BOX SPEAKER CABLE	5547	2 Condr.	24 7x32	.015	Stranded 1 condr. bare copper—1 condr. tinned copper —2 condrs. parallel gray vinyl plastic insulation. Colors—brown, clear, gray, white.	.058x.115
HIGH IMPEDANCE LAPEL MICROPHONES	5551	1 Condr.	24 16x34	.020	Stranded tinned copper polyethylene insulation closely woven braided tinned copper shield with .020" gray vinyl jacket.	.125
INTER COMMUNICATING SOUND SYSTEM	5556	2 Condr.	19 Solid	.015	Bare copper vinyl plastic insulation, wires twisted together—1 condr. brown—1 condr. tan.	.115
	5561	3 Condr.	19 Solid	.015	Same as 5556—1 condr. brown—1 condr. tan—1 condr. gray.	.132
INTER COMMUNICATING WEATHER-PROOF	5566	2 Condr.	22 Solid	.015	Bare copper .015 rubber insulation with a black cotton braid weatherproof finish. Conductors coded for easy identification. Ideal for exterior or interior communication installations.	.131x.203

TELEPHONE AND COMMUNICATION CABLE DIRECT BURIAL TYPE FULLY COLOR CODED



GENERAL APPLICATION AND ADVANTAGE

APPLICATION: Communication and Telephone Cable for use in direct burial installations provides a high quality product similar to that used for aerial and duct systems, but with the addition of protective armoring. This minimizes the possibility of damage to the cable from rodents and insects and, correctly installed, reduces the dangers to the cable from sharp stones and other hazards of underground burial installations.

ADVANTAGE: The lightweight, but rugged construction of direct burial Communication and Telephone Cable permits fast and economical underground installation of communication systems with the assurance of dependable and enduring service. This is made possible through utilization of the same high quality polyethylene compounds that are used in its counterpart for aerial and duct type installations, with the added protection of copper armoring tapes and a durable, high-molecular weight, polyethylene jacket.

SPECIFICATIONS

Solid bare annealed copper 22 Awg. gauge conductors; thin wall, color coded, polyethylene insulation; conductors twisted to form pairs with symmetrically varying lays to minimize cross-talk; cabled (for 6 thru 50 pairs) by stranding pairs in concentric layers, or (for 75 thru 400 pairs) by stranding pairs into concentrically formed units, which are in turn cabled to form the complete assembly; non-hygroscopic binder tape furnishing high dielectric strength between shield and individual conductors; continuous copper shielding tape; high-molecular weight, polyethlene jacket.

NO.	NO. OF PAIRS	NO. OF COND.	COND. SIZE	NOMINAL JACKET THICKNESS, MILS		NOMINAL O. D. (Inches)
				INNER	OUTER	
6006	6	12	22 Solid	40	40	.430
6012	12	24	22 Solid	40	40	.500
6018	18	36	22 Solid	40	40	.560
6025	25	50	22 Solid	40	40	.630
6050	50	100	22 Solid	40	40	.820
6075	75	150	22 Solid	50	50	.990
6100	100	200	22 Solid	50	50	1.20
6150	150	300	22 Solid	50	50	1.30
6200	200	400	22 Solid	50	50	1.50
6300	300	600	22 Solid	50	60	1.80
6400	400	800	22 Solid	50	60	2.00

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PAIRED PLASTIC CONDUCTORS

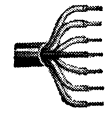
SPECIFICATIONS AND GENERAL APPLICATIONS Tinned copper conductor .010" vinyl plastic insulation. Cabled .202" gray vinyl plastic Jacket overall

NO.	TYPE	SIZE AND STRANDING	NOMINAL DIAMETER (Inches)
5201	1 Pr. 2 Condr.	22 Solid	.145
5205	2 Pr. 4 Condr.	22 Solid	.190
5211	3 Pr. 6 Condr.	22 Solid	.230
5221	5 Pr. 10 Condr.	22 Solid	.250
5226	6 Pr. 12 Condr.	22 Solid	.265
5231	7 Pr. 14 Condr.	22 Solid	.280
5236	8 Pr. 16 Condr.	22 Solid	.300
5241	9 Pr. 18 Condr.	22 Solid	.320
5251	11 Pr. 22 Condr.	22 Solid	.360
5271	15 Pr. 30 Condr.	22 Solid	.390
5286	27 Pr. 54 Condr.	22 Solid	.510

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

MULTIPLE CONDUCTORS FULLY COLOR CODED

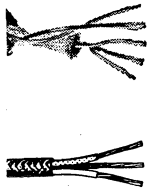
SIZE & STRANDING 22 - 7x30 SPECIFICATION AND GENERAL APPLICATION Tinned copper conductor .010" vinyl plastic insulation. Cabled .020" gray vinyl plastic Jacket overall



NO.	TYPE		NOMINAL DIAMETER (Inches)
5400	2 Condr.	22 / 7x30	.130
5401	3 Condr.	22 / 7x30	.140
5406	4 Condr.	22 / 7x30	.158
5411	5 Condr.	22 / 7x30	.170
5416	6 Condr.	22 / 7x30	.212
5421	7 Condr.	22 / 7x30	.230
5426	8 Condr.	22 / 7x30	.235
5431	9 Condr.	22	.245
5434	12 Condr.	22 / 7x30	.250

STANDARD SPOOL PUT-UP: 10 FT., 15 FT., 25 FT., 100 FT., 500 FT., 1000 FT.

PHONOGRAPH MULTIPLE CABLE STANDARD SPOOL PUT-UP: 500 FT., 1000 FT.



TYPE No.	SIZE	SPECIAL USE	SPECIFICATIONS	STRANDING	FINISHED O.D. (Inches)
5103	3-22	Same as 5030	3 condrs. No. 22 with 1/64" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with a treated cotton braid overall lacquered.	7 x 30	.125
5123	2-16 1-18	Same as 5030	2 condrs. No. 16 1/64" thermoplatic insulation. 1 condr. No. 18 1/32" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with gray vinyl plastic jacket.	2-26 x 30 1-16 x 30	.215
5135	22 5 condr.	Same as 5030	5 condr. No. 22 with 1/64" thermoplastic insulation; 3 condr. twisted together with a braided tinned copper shield; 2 condr. twisted; all condr. grouped into cable form with a brown cotton braid overall.	5-7 x 30	.225
5124	4-18	Same as 5030	No. 18 solid 4 condr. color coded gray plastic jacket overall.	Solid	.225

MICROPHONE CABLE

CONDUCTOR COLOR CHART: 1—Black; 2—White; 3—Red; 4—Green; 5—Yellow; 6—Blue; 7—Brown.

STANDARD SPOOL PUT-UP: 9 FT., 10 FT., 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

SHIELDED; Weatherproof rubber jacket for all microphone or weatherproof extension work. (Longer continuous lengths if desired.)

No	TYPE	SIZE	SPECIAL USE	SPECIFICATIONS	STRANDING	FINISHED O.D. (Inches)	NOMINAL CAPACITY per ft. (mmf)
1461	1 conductor	22	Lapel microphone	Tinned copper polyethylene insulation with a closely woven tinned copper shield. Grey vinyl plastic jacket.	16 x 34	.125	34.
1457	1 conductor	22	Crystal, Ribbon and other high Impedance microphones	Same as 1461 except heavier polyethylene insulation on conductor.	16 x 34	.200	25.
					26 x 34	.175	40.
1458	2 conductor	22	Low impedance microphones	Tinned copper conductors polyethylene insulation conductors; black and white. Cabled with fillers closely woven tinned copper shield. Gray vinyl plastic jacket.	16 x 34	.231	32.
1459	1 conductor	20	Lapel microphone	Tinned Copper Wire, with polyethylene to .087" O.D. with a closely woven tinned copper shielded braid, and a heavy black plastic jacket overall.	26 x 34	.240	33.
1460	1 conductor	20	Crystal microphone	Tinned copper, yarn serve; wall of live rubber; tinned copper braid shield; rubber jacket overall.	26 x 34	.240	68.
1462	2 conductor	20	Carbon microphones	Same as 1460; color coded	00 x 00	.268	
1456	2 conductor	18	Heavy duty studio cable	Same as 1460; color coded	41 x 34	.295	80.
1463	3 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.277	85.
1464	4 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.295	95.
1465	5 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.323	
1466	6 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.350	
1467	7 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.360	
1455	8 conductor	20	Same as 1465	Same as 2460; color coded	26 x 34	.386	

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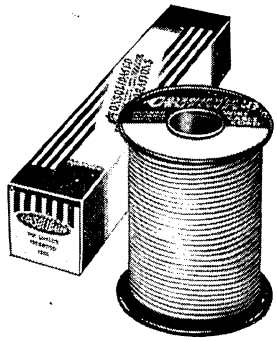

CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS

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CONSOLIDATED

MAGNET WIRE

Popular, profitable specialty wire packaged for easy selling in radio-electrical, department, specialty and hardware stores. Wide variety of sizes and insulations. Keeps stock in perfect order, always saleable. Supplied on Spool as shown and in Heavier Weights for whatever weight desired. Here is a handy and convenient way to stock small quantities of wire. It prevents wire from matting or tangling.

No. 2000 VARIOUS OTHER INSULATIONS

Film	Technical Classification
ENAMEL	—oleoresinous
FORMVAR	—poly vinyl acetal
SODEREZE	—polyurethane
THERMALEZE	—epoxide polyester
NYFORM	—formvar, nylon sheath
NYLON	
BONDEZE	
GRIPEZE	
LECTRON	—acrylic
ISONSEL	—terephthalic polyester
ALKANVAR	—terephthalic polyester
SYLKYD ENAMELED	
COTTON AND COMBINATIONS	
SILK AND COMBINATIONS	
CELANESE AND COMBINATIONS	
GLASS AND COMBINATIONS	
PAPER AND COMBINATIONS	

Larger Quantities At Same Per Pound List

SPECIAL MAGNET WIRES

In addition to the standard listing shown here, we maintain an extensive stock of all other sizes in round, rectangular and square magnet wire.

PLAIN ENAMEL MAGNET WIRE

Size	¼ lb.	½ lb.	1 lb.
14	$0.45	$0.75	$1.39
15	.45	.80	1.40
16	.50	.84	1.42
17	.50	.87	1.44
18	.50	.89	1.45
19	.55	.92	1.49
20	.55	.94	1.50
21	.55	.95	1.59
22	.55	.97	1.70
23	.58	.99	1.75
24	.60	1.00	1.87
25	.65	1.10	1.95
26	.65	1.10	2.03
27	.70	1.15	2.14
28	.73	1.20	2.25
29	.75	1.25	2.30
30	.80	1.30	2.35
31	.89	1.35	2.45
32	.90	1.40	2.50
33	.95	1.50	2.65
34	1.00	1.70	2.75
35	1.09	1.84	3.14
36	1.29	2.00	3.50
37	1.45	2.25	4.00
38	1.70	2.50	4.50
39	1.87	3.00	5.00
40	2.50	3.75	6.00
41	3.00	5.63	8.48
42	3.48	6.60	12.89
43	4.35	8.25	15.75
44	4.88	9.38	18.45

SINGLE FORMVAR MAGNET WIRE

Size	¼ lb.	½ lb.	1 lb.
14	$0.66	$1.12	$2.07
15	.66	1.20	2.10
16	.75	1.25	2.14
17	.75	1.30	2.15
18	.75	1.34	2.17
19	.83	1.39	2.23
20	.83	1.40	2.25
21	.83	1.42	2.37
22	.83	1.45	2.56
23	.89	1.49	2.62
24	.90	1.50	2.80
25	.97	1.65	2.92
26	.99	1.65	3.05
27	1.05	1.74	3.26
28	1.10	1.80	3.37
29	1.14	1.87	3.46
30	1.20	1.95	3.52
31	1.34	2.02	3.67
32	1.35	2.10	3.75
33	1.42	2.25	3.95
34	1.50	2.55	4.12
35	1.64	2.81	4.70
36	1.92	3.00	5.26
37	2.17	3.37	6.00
38	2.55	3.75	6.76
39	2.80	4.50	7.50
40	3.75	5.64	9.00
41	3.75	6.75	12.60
42	4.28	7.40	13.43
43	5.18	7.88	14.25
44	6.60	11.70	22.58

HEAVY FORMVAR MAGNET WIRE

Size	¼ lb.	½ lb.	1 lb.
14	$0.73	$1.24	$2.27
15	.73	1.34	2.33
16	.84	1.39	2.35
17	.84	1.44	2.37
18	.84	1.47	2.39
19	.92	1.52	2.45
20	.92	1.54	2.51
21	.92	1.55	2.61
22	.92	1.60	2.80
23	.97	1.64	2.87
24	1.00	1.65	3.07
25	1.15	1.97	3.50
26	1.19	1.98	3.64
27	1.25	2.07	3.84
28	1.34	2.15	4.04
29	1.37	2.24	4.14
30	1.44	2.34	4.22
31	1.67	2.52	4.58
32	1.69	2.63	4.67
33	1.77	2.81	4.94
34	1.87	3.19	5.16
35	2.04	3.46	5.88
36	2.39	3.75	6.58
37	2.72	4.20	7.50
38	3.17	4.69	8.45
39	3.50	5.64	9.38
40	4.69	7.04	11.27
41	5.18	7.59	13.65
42	5.78	8.15	14.72
43	6.00	8.63	15.08
44	7.43	11.40	23.33

DOUBLE COTTON COVERED MAGNET WIRE

Size	¼ lb.	½ lb.	1 lb.
14	$0.55	$0.95	$1.87
15	.58	.98	1.90
16	.60	1.00	1.95
17	.60	1.05	2.00
18	.60	1.10	2.05
19	.65	1.15	2.28
20	.65	1.25	2.34
21	.77	1.34	2.50
22	.82	1.39	2.64
23	.88	1.50	2.75
24	.94	1.60	3.00
25	.95	1.65	3.14
26	1.00	1.75	3.39
27	1.15	1.89	3.64
28	1.20	2.14	4.00
29	1.30	2.39	4.50
30	1.32	2.50	4.75
31	1.50	2.75	5.00
32	1.75	3.00	5.64
33	1.89	3.37	6.25
34	2.14	3.89	7.00
35	2.39	4.25	7.50
36	2.75	4.89	8.65
37	2.25	6.25	11.40
38	4.75	8.65	16.50
39	6.00	11.50	20.00
40	8.00	15.00	28.15

BARE COPPER WIRE

Size	¼ lb.	½ lb.	1 lb.
14	$0.53	$0.97	$1.54
15	.57	1.00	1.60
16	.60	1.10	1.83
17	.52	1.12	1.87
18	.63	1.14	1.90
19	.65	1.17	1.95
20	.67	1.20	2.00
21	.68	1.20	2.07
22	.70	1.24	2.14
23	.70	1.27	2.17
24	.70	1.30	2.20
25	.72	1.30	2.20
26	.73	1.34	2.27
27	.75	1.37	2.30
28	.77	1.40	2.40
29	.77	1.42	2.47
30	.77	1.42	2.47
31	.77	1.44	2.53
32	.77	1.44	2.60
33	.78	1.47	2.68
34	.80	1.50	2.77
35	.82	1.55	2.90
36	.84	1.60	3.04
37	.92	1.75	3.22
38	1.00	1.90	3.40
39	1.02	1.97	3.45
40	1.04	2.04	3.50

TINNED COPPER WIRE

Size	¼ lb.	½ lb.	1 lb.
14	$0.67	$1.13	$1.75
15	.73	1.27	1.92
16	.80	1.40	2.00
17	.84	1.44	2.03
18	.87	1.47	2.08
19	.90	1.50	2.12
20	.94	1.53	2.17
21	.95	1.53	2.24
22	.97	1.57	2.30
23	.98	1.58	2.34
24	1.00	1.60	2.37
25	1.00	1.60	2.37
26	1.00	1.60	2.37
27	1.05	1.67	2.64
28	1.10	1.75	2.90
29	1.13	1.84	2.94
30	1.17	1.92	2.97
31	1.20	2.00	3.04
32	1.24	2.09	3.10
33	1.27	2.17	3.19
34	1.30	2.25	3.27
35	1.32	2.30	3.40
36	1.34	2.34	3.54
37	1.36	2.42	3.72
38	1.38	2.50	3.90
39	1.39	2.50	3.95
40	1.40	2.67	4.00

BARE NICKEL CHROMIUM WIRE

No. 2000

Recommended for electrical heating appliances and other devices where the highest quality in performance is required, whose operating temperatures do not exceed 1850° F. Particularly suited for heavy duty rheostats and controls which require compact resistance.

ON PROTECTA-METAL SPOOLS

Size	1 Oz.	¼ Lb.	1 Lb.
14	....	$1.52	$5.56
15	....	1.56	5.65
16	....	1.58	5.73
17	....	1.63	5.80
18	....	1.67	5.87
19	....	1.71	6.02
20	$0.67	1.76	6.17
21	.71	1.85	6.49
22	.72	1.93	6.79
23	.74	2.08	7.44
24	.76	2.22	8.09
25	.82	2.37	8.74
26	.87	2.53	9.39
27	.89	2.57	9.96

Size	1 Oz.	¼ Lb.	1 Lb.
28	$0.92	$2.84	$10.53
29	1.00	2.98	11.18
30	1.09	3.11	11.83
31	1.14	3.28	12.28
32	1.18	3.43	12.73
33	1.31	3.79	14.73
34	1.44	4.16	16.73
35	1.58	4.55	17.71
36	1.71	4.94	18.69
37	2.22	6.50	23.86
38	2.74	8.05	29.03
39	2.86	8.39	31.62
40	2.98	8.95	34.20

CONSOLIDATED WIRE PAGE 16

CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS

SEND FOR COMPLETE CATALOG

MULTIPLE CONDUCTOR COTTON BRAIDED CABLE

FOR SPEAKERS, TESTERS, BATTERY HOOK-UP, ETC.

SPECIFICATIONS: Tinned flexible copper; colored plastic insulation; bunched individual conductors; heavy brown cotton braid overall; color coded. Size 20; Stranding 10x30; Insulation Thickness 1/64"

TYPE NO.	TYPE	FINISHED O.D. (Inches)	TYPE NO.	TYPE	FINISHED O.D. (Inches)
1481	1 condr.	.150	1487	7 condr.	.275
1482	2 condr.	.175	1488	8 condr.	.300
1483	3 condr.	.200	1489	9 condr.	.310
1484	4 condr.	.275	1490	10 condr.	.325
1485	5 condr.	.250	1494	11 condr.	.335
1486	6 condr.	.260	1495	12 condr.	.350

MULTIPLE CONDUCTOR TINNED COPPER SHIELD CABLE

SPECIFICATIONS: Tinned flexible copper, 912E20, Stranding 10x30—1/64" plastic Insulation, color coded, Braided tinned copper shield.

TYPE NO.	TYPE	FINISHED O.D. (Inches)
1471	1 conductor	.110
1472	2 conductors	.190
1473	3 conductors	.200
1474	4 conductors	.220
1475	5 conductors	.235
1476	6 conductors	.250
1477	7 conductors	.265

ANALYZER CABLE

SPECIFICATIONS: Extra flexible tinned copper; plastic insulation; color coded; Brown cotton braid overall.

	TYPE	SIZE	STRAND-ING	INSULATION THICKNESS (Inches)	FINISHED O.D. (Inches)
1501	8 condr.	2-14	41 x 30	1/64	.300
		6-18	16 x 30		
1502	9 condr.	2-14	41 x 30	1/64	.320
		7-18	16 x 30		

TEST PROD WIRE

A Specially Constructed High Grade Wire For Use On Laboratory Test Equipment, Bench Analyzers, Etc.

SPECIFICATIONS: Extra flexible tinned copper; cotton wrap; red or black; live rubber insulation.

1001	5,000 volts	20	41 x 36	.043	.140
1006	10,000 volts	18	65 x 36	.088	.230

SHIELDING AND BONDING CABLE

DESIGNED FOR SHIELDING INSULATED WIRES AND CABLES . . . BONDING AND MANY OTHER USES

STANDARD SPOOL PUT-UP: 50 FT., 100 FT., 250 FT., 1000 FT.

NO.	APPROX. I. D.	SIZE & NUMBER OF WIRES	APPROX. AWG.	CARRYING CAPACITY IN AMPERES
1386	1/32"	24 x 36	24	7
1387	3/64"	24 x 36	23	7
1388	3/32"	48 x 36	19	12
1389	7/64"	72 x 36	18	14
1390	1/8"	96 x 36	18	15
1391	3/16"	120 x 36	15	23
1392	1/4"	168 x 36	14	30
1393	3/8"	288 x 36	11	50
1394	1/2"	386 x 36	10	55
1395	5/8"	396 x 36	10	61
1396	3/4"	832 x 36	7	80
1397	25/32"	832 x 36	7	80
1398	1"	832 x 36	7	84
1399	1 3/8"	912 x 36	7	105

TINNED COPPER BUS BAR WIRE

SOLID SOFT DRAWN COPPER AND BRIGHTLY TINNED FOR ALL TYPES OF SOLDERING CONNECTIONS AND OTHER APPLICATIONS

STANDARD SPOOL PUT-UP: 100 FT., 1000 FT.

NO.	NOMINAL DIAMETER	SIZE SOLID	CIRCULAR MIL. AREA
3845	.129"	8	16510
3841	.102"	10	10380
3831	.082"	12	6530
3821	.064"	14	4110
3815	.051"	16	2583
3816	.040"	18	1624
3817	.032"	20	1022
3818	.025"	22	642
3819	.020"	24	404
3846	.016"	26	254.1
3847	.013"	28	159.8
3848	.010"	30	100.5

LEAD COVERED CABLE

FOR FREEDOM FROM INTERFERENCE, CORROSION AND DAMPNESS.

SPECIFICATIONS: Tinned copper wire; heavy rubber insulation and cotton braid; heavy lead shield.

1453	2 cond.	18	Solid	1/32	240 x .200
1454	3 cond.	18	Solid	1/32	.420

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CONSOLIDATED WIRE AND ASSOCIATED CORPORATIONS

SEND FOR COMPLETE CATALOG

ELECTRICAL CORDAGES
UNDERWRITERS APPROVED

SUPPLIED ON ATTRACTIVE TRI-COLOR LITHOGRAPHED METAL SPOOLS

RUBBER HANDYCORD CENTERSTRIP

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000FF.

NO.	NO. OF COND.	SIZE AWG.	U. L. TYPE	STRAND-ING	NOM. INS. THICKNESS	NOM. O. D.
4072	2	18	SP(P.O.S.J.)	41 x 34	1/64″	.235 x .130
4074	2	16	SP(P.O.S.J.)	65 x 34	1/32″	.300 x .160

Colors: Black, Brown, White, Gray.

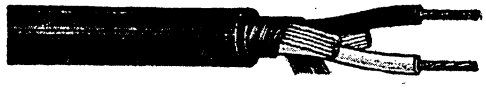
PLASTIC HANDYCORD CENTERSTRIP

STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

4077	2	18	SPT(P.O.T.)	41 x 34	1/64″	.235 x .130
4079	2	16	SPT(P.O.T.)	65 x 34	1/32″	.300 x .160

Colors: Black, Brown, White, Gray.

RUBBER SHEATHED SERVICE CORD
UNDERWRITERS APPROVED



SPECIFICATIONS AND APPLICATION

Extra flexible bare copper cotton served. 1/32″ rubber insulation color coded conductors cabled with fillers, cotton wrap and black, tough rubber jacket.

For all electronic equipment, household appliances, garden and power tools.

STANDARD PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT.

NO.	NO. OF COND.	SIZE AWG.	U. L. TYPE	CURRENT CARRYING CAPACITY	VOLTAGE RATING	NOM. O. D.
4202	2	18	SV	5 Amps.	300	.250″
4207	2	18	SJ	5 Amps.	300	.310″
4212	3	18	SJ	5 Amps.	300	.345″
4214	4	18	SJ	5 Amps.	300	.360″
4217	2	16	SJ	7 Amps.	300	.340″
4222	3	16	SJ	7 Amps.	300	.375″
4224	4	16	SJ	7 Amps.	600	.395″
4227	2	18	S	5 Amps.	600	.390″
4232	3	18	S	5 Amps.	600	.405″
4234	4	18	S	5 Amps.	600	.435″
4237	2	16	S	7 Amps.	600	.410″
4242	3	16	S	7 Amps.	600	.430″
4244	4	16	S	7 Amps.	600	.485″
4247	2	14	S	15 Amps.	600	.540″
4252	3	14	S	15 Amps.	600	.560″
4254	4	14	S	15 Amps.	600	.605″
4257	2	12	S			
4262	3	12	S	20 Amps.	600	.635″
4264	4	12	S	20 Amps.	600	.665″
4267	2	10	S	25 Amps.	600	.640″
4272	3	10	S	25 Amps.	600	.690″
4274	4	10		25 Amps.	600	.745″

NEOPRENE SHEATHED SERVICE CORD
UNDERWRITERS APPROVED

SPECIFICATIONS AND APPLICATION

Same specifications as 4200 Series except black Neoprene jacket.

For all types of equipment exposed to oils, acid and excessive moisture.

STANDARD PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT.

4307	2	18	SJO	5 Amps.	300	.310″
4312	3	18	SJO	5 Amps.	300	.345″
4314	4	18	SJO	5 Amps.	300	.360″
4317	2	16	SJO	7 Amps.	300	.340″
4322	3	16	SJO	7 Amps.	300	.375″
4324	4	16	SO	7 Amps.	600	.395″
4327	2	18	SO	5 Amps.	600	.390″
4332	3	18	SO	5 Amps.	600	.405″
4334	4	18	SO	5 Amps.	600	.435″
4337	2	16	SO	7 Amps.	600	.410″
4342	3	16	SO	7 Amps.	600	.430″
4344	4	16	SO	7 Amps.	600	.485″
4347	2	14	SO	15 Amps.	600	.540″
4352	3	14	SO	15 Amps.	600	.560″
4354	4	14	SO	15 Amps.	600	.605″
4357	2	12	SO	20 Amps.	600	.605″
4362	3	12	SO	20 Amps.	600	.635″
4364	4	12	SO	20 Amps.	600	.665″
4367	2	10	SO	25 Amps.	600	.640″
4372	3	10	SO	25 Amps.	600	.690″
4374	4	10	SO	25 Amps.	600	.745″

HEATER CORD

Colors: Black and White Marker.

STANDARD SPOOL PUT-UP: 100 FT., 250 FT.

NO.	NO. OF COND.	SIZE AWG.	U. L. TYPE	STRAND-ING	NOM. INS. THICKNESS	NOM. O. D.
4087	2	16	HPD	65 x 34	1/32″	.275
4092	2	18	HPD	41 x 34	1/32″	.250

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DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

DAFLEX 105 PLASTIC TUBING

105°C POLYVINYLCHLORIDE (PVC) MEETS MIL-I-631D SPECS

Specifically compounded vinyl resins for superior all around performance. UL approved for 105°C, conforms to Spec MIL-I-631D Type F, Form U, Grades A and C. Class 1 and 2, Category 1. Resistant to heat, oil, water, chemical corrosion, fungi and aging. Very hi abrasion resistance. Will retain its flexibility. Suitable for covering and protecting wires and cables. Designed for electrical, electronic and aircraft applications. Non-flammable. Meets ASTM—D876, ASTM—D922.

D105 compounded with non-migratory resin type plasticizors. Retains its flexibility, permitting it to cling and protect irregular shapes. D105 snakes well under practically all conditions.

DIMENSIONAL TOLERANCES OF DAFLEX 105

DAFLEX No.	Size	Old Daburn No.	Nom. I.D.	Nom. Wall	Specify Std. Put-Up Spool or Coil	ASTM Tolerance, Inches		Wall Thickness Inches
D105-24	24	808	.022"	.012"	25', 100', 1000'	.020	.027	.012 ± .002
D105-22	22	811	.027"	.012"	25', 100', 1000'	.025	.032	.012 ± .002
D105-20	20	813	.034"	.016"	25', 100', 1000'	.032	.039	.016 ± .003
D105-19	19	—	.038"	.016"	100', 1000'	.044	.036	.016 ± .003
D105-18	18	814	.042"	.016"	25', 100', 1000'	.040	.049	.016 ± .003
D105-17	17	—	.047"	.016"	100', 1000'	.054	.045	.016 ± .003
D105-16	16	815	.053"	.016"	25', 100', 1000'	.051	.061	.016 ± .003
D105-15	15	—	.059"	.016"	100', 500'	.067	.057	.016 ± .003
D105-14	14	816	.066"	.016"	25', 100', 500'	.064	.072	.016 ± .003
D105-13	13	—	.076"	.016"	100', 500'	.080	.072	.016 ± .003
D105-12	12	817	.085"	.016"	25', 100', 500'	.081	.089	.016 ± .003
D105-11	11	—	.095"	.016"	100', 500'	.101	.091	.016 ± .003
D105-10	10	825	.106"	.016"	25', 100', 500'	.102	.112	.016 ± .003
D105-9	9	—	.118"	.020"	100', 500'	.124	.114	.020 ± .003
D105-8	8	818	.135"	.020"	25', 100', 500'	.129	.141	.020 ± .003
D105-7	7	—	.148"	.020"	100', 500'	.158	.144	.020 ± .003
D105-6	6	826	.166"	.020"	25', 100', 250'	.162	.178	.020 ± .003
D105-5	5	—	.186"	.020"	100', 250'	.198	.182	.020 ± .003
D105-4	4	819	.208"	.020"	25', 100', 250'	.204	.224	.020 ± .003
D105-3	3	—	.234"	.020"	100', 250'	.249	.229	.020 ± .003
D105-2	2	820	.263"	.020"	100', 250'	.258	.278	.020 ± .003
D105-1	1	—	.330"	.020"	100', 250'	.311	.289	.020 ± .003
D105-0	0	—	.330"	.020"	100', 250'	.347	.325	.020 ± .003
D105-5/16"	5/16"	821	.312"	.025"	100', 250'	.3125	.334	.025 ± .003
D105-3/8"	3/8"	822	.375"	.025"	100', 250'	.375	.399	.025 ± .003
D105-7/16"	7/16"	—	.438"	.025"	100', 250'	.462	.438	.025 ± .003
D105-1/2"	1/2"	823	.500"	.025"	100', 250'	.500	.524	.025 ± .003
D105-9/16"	9/16"	—	.562"	.030"	50', 100'	.592	.562	.030 ± .003
D105-5/8"	5/8"	824	.625"	.030"	50', 100'	.625	.655	.030 ± .005
D105-3/4"	3/4"	827	.750"	.035"	50', 100'	.750	.786	.035 ± .005
D105-7/8"	7/8"	860	.875"	.035"	50', 100'	.875	.911	.035 ± .005
D105-1"	1"	861	1.000"	.035"	50'	1.000	1.036	.035 ± .005
D105-1 1/8"	1 1/8"	—	1.125"	.040"	50'	1.125	1.161	.035 ± .005
D105-1 1/4"	1 1/4"	862	1.250"	.040"	50'	1.250	1.286	.040 ± .005
D105-1 3/8"	1 3/8"	—	1.375"	.040"	50'	1.375	1.411	.040 ± .005
D105-1 1/2"	1 1/2"	863	1.500"	.045"	50'	1.500	1.536	.045 ± .005
D105-1 3/4"	1 3/4"	863	1.750"	.055"	50'	1.812	1.750	.055 ± .008
D105-2"	2"	829	2.000"	.060"	50'	2.000	2.070	.060 ± .010
D105-2 1/4"	2 1/4"	864	2.250"	.065"	50'	2.250	2.330	.065 ± .010
D105-2 1/2"	2 1/2"	865	2.500"	.070"	50'	2.500	2.590	.070 ± .010

IN STOCK

PROPERTIES OF DAFLEX-105 TUBING

Recommended for Temperatures to
105°C (220°F)

•

Low Temperature Flexibility to
−30°C

•

Dielectric Strength — .020" Wall
800 V/MIL

•

Dielectric Constant
6.0

•

Tensile Strength — Min. (PSI)
2700

•

Ultimate Elongation
300%

•

Oil Resistance
Excellent

•

Fungus Resistance
Excellent

•

Flammability
Self-Extinguishing

•

Corrosion and Abrasion Resistance
Excellent

COLORS AVAILABLE FROM STOCK

Sizes 24 thru 2: Clear, Black, White, Yellow, Red, Green, Brown, Blue, Orange.

Sizes 5/16" thru 3/4": Clear, Black, Yellow, Red, Green, White
Sizes 7/8" thru 2 1/2": Clear, Black, White.
Additional Colors to Order.

ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS

DAFLEX AND DAFLON TUBING

PLASTIC - FIBERGLASS - TEFLON TUBING COMPARATIVE PROPERTIES CHART

DAFLEX AND DAFLON TUBING	D105	D74	D130	D1200	DTT500 DTT550
Maximum Operating Temperature	105°C	80°C	130°C	1200°F	Continuous Service 250°C
Maximum Low Temperature Flexibility	−20°C	−94°C	−20°C	—	−90°C
Dielectric Strength Dry-V/MIL	1000 @ .015 Wall 900 @ .030 Wall	650 @ .015 Wall 300 @ .030 Wall	4000	Determined by Space Factor	1400 @ .010 Wall 850 @ .020 Wall
Dielectric Constant	6.0	4.5	7.0	—	2.2
Flammability	Self-Extinguishing	Self Extinguishing	Self Extinguishing	Will not burn	Non-flammable
Tensile Strength (PSI)	2700-3300	2200	1500-2000 (coating material only)	—	5000 - 7500
Ultimate Elongation	300 - 400%	375 - 450%	300 - 400%	—	300 - 500%
Minimum Volume Resistance Ohm-CM	10^{13}	10^{9}	10^{7}	—	10^{17}
Fungus Resistance	Excellent	Excellent	Good	Excellent	Completely Inert
Oil Resistance[1]	Excellent	Excellent	Excellent	Excellent	Superior
Abrasion Resistance	Excellent	Fair	Excellent	—	Fair
Chemical Corrosion Resistance	Excellent	Good	Excellent	Excellent	Completely Inert
Applicable Specs	MIL-I-631D ULE-20344 Grade A & C Type F, Form U Class 1 & 2 Category 1 ASTM-D876 ASTM-D922 MIL-T-5438	MIL-I-7444B MIL-I-22076	MIL-I-3190B Class B, Grade B ASTM-D372 NEMA-VS-1 MIL-I-21557 MIL-T-5438 UL E-20344	NEMA VSI	MIL-T-22129C MIL-P-14078A AMS-3651B AMS-3653 AMS-3654 AMS-3655 MIL-C-17D UL E-20344
Gamma Radiation Dosage to 25% Degradation Ergs/Gram	10^{10}	10^{9}	10^{9}	—	10^{7}
Corona Resistance	Excellent	Good	Excellent	—	Good

Net

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DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

DAFLON TEFLON® SPAGHETTI TUBING

Daflon 500 and 550 tubing is extruded from Dupont Tetrafluoroethylene resin and is unmatched by any other tubing for use in applications for hi frequencies and hi temperatures. Rated for continuous operation of 250°C it retains its toughness and flexibility thruout. Has high resistance to fatigue and stresses. Will not shrink back during soldering operation. Non-flammable, flexible, it permits miniaturization of design and compactness. Lowest coefficient of friction. Inert to all fungus growth. Conforms to **MIL-I-22129C Spec.** AMS 3651B, 3653B, 3654, 3655.

TABLE OF PROPERTIES

Test	ASTM Method	Result
Tensile Strength, 73°F.	D638-52T	1500-300 Lb/Sq. In.
Elongation, 73°F.	D638-52T	100-200%
Deformation Under Load—122°F.		
1200 Lb/Sq. In., 24 Hrs.	D621-51	4-8%
2000 Lb/Sq. In., 24 Hrs.	D621-51	25%
Hardness Durometer	D676-49T	D50-D65
Heat Distortion Temp., 6 Lb/Sq. In.	D648B-45T	250°C
Dielectric Strength, .080"	D149-44	400-500 V/MIL
Surface Arc-Resistance	D495-48T	Sec.
Volume Resistivity	D257-52T	10^{15} Ohm-CM
Surface Resistivity, 100% R.H.	D257-52T	$3.6x10^{4}$ Megohms
Dielectric Constant, 60 to 10^{8} Cycles	D150-54T	2.00
Power Factor, 60 to 10^{8} Cycles	D150-54T	0.0003
Specific Gravity	D792-50	2.1-2.2

DAFLON THIN WALL TEFLON® TUBING (DTT-500)
MIL-I-22129C

DAFLON No.	Size	Nom. I.D.	Nom. Wall Thickness	Specify Std. Put-Up Spool or Coil
DTT500-32	32	.011"	.0085"	100', 500', 1000'
DTT500-30	30	.012"	.009"	100', 500', 1000'
DTT500-28	28	.015"	.009"	100', 500', 1000'
DTT500-26	26	.018"	.010"	100', 500', 1000'
DTT500-24	24	.022"	.010"	25', 50', 100', 500', 1000'
DTT500-22	22	.027"	.010"	25', 50', 100', 500', 1000'
DTT500-20	20	.034"	.012"	25', 50', 100', 500', 1000'
DTT500-19	19	.038"	.012"	100', 500', 1000'
DTT500-18	18	.042"	.012"	25', 50', 100', 500', 1000'
DTT500-17	17	.047"	.012"	100', 500', 1000'
DTT500-16	16	.053"	.012"	25', 50', 100', 500', 1000'
DTT500-15	15	.059"	.012"	100', 500', 1000'
DTT500-14	14	.066"	.012"	25', 50', 100', 500', 1000'
DTT500-13	13	.076"	.012"	100', 500', 1000'
DTT500-12	12	.085"	.012"	25', 50', 100', 500', 1000'
DTT500-11	11	.095"	.012"	100', 500', 1000'
DTT500-10	10	.106"	.012"	25', 50', 100', 500', 1000'
DTT500-9	9	.118"	.015"	100', 500', 1000'*
DTT500-⅛	⅛	.125"	.015"	25', 50', 100', 500', 1000'
DTT500-8	8	.133"	.015"	25', 50', 100', 500', 1000'*
DTT500-7	7	.148"	.015"	100', 500', 1000'*
DTT500-6	6	.166"	.015"	25', 50', 100', 500', 1000'*
DTT500-5	5	.186"	.015"	100', 500', 1000'*
DTT500-4	4	.208"	.015"	25', 50', 100', 500', 1000'*
DTT500-3	3	.234"	.015"	100', 500', 1000'*
DTT500-¼	¼	.250"	.015"	25', 50', 100', 500', 1000'
DTT500-2	2	.263"	.015"	25', 50', 100', 500', 1000'*
DTT500-1	1	.294"	.015"	100', 500', 1000'*
DTT500-5/16	5/16	.312"	.015"	25', 50', 100', 500', 1000'
DTT500-0	0	.330"	.015"	25', 50', 100', 500', 1000'*
DTT500-⅜	⅜	.390"	.020"	50', 100'*
DTT500-7/16	7/16	.453"	.020"	50', 100'*
DTT500-½	½	.515"	.025"	25', 50', 100'*
DTT500-9/16	9/16	.583"	.025"	25', 50', 100'*
DTT500-⅝	⅝	.640"	.030"	25', 50', 100'*
DTT500-¾	¾	.765"	.030"	25', 50', 100'*
DTT500-⅞	⅞	.895"	.030"	25', 50', 100'*
DTT500-1"	1"	1.025"	.030"	25', 50', 100'*
DTT500-1⅛"	1⅛"	1.150"	.030"	25', 50', 100'*
DTT500-1¼"	1¼"	1.275"	.030"	25', 50', 100'*

*Random Lengths in Coils.

STOCK COLORS AVAILABLE:
Natural, Red, Black, Yellow, Blue, Brown, Green, Orange, Gray, Violet, White.
If No Color Is Specified, Natural Will Be Supplied

SMALL PIECE CUTTING AVAILABLE TO ORDER

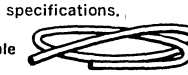
STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

Nos. **DTT500-⅜ thru 1¼"** available in Natural. Additional Colors, Sizes Made to Order.

Teflon Tubing can be ordered cut to your specifications.

•

Tracer Colors Available



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We Invite Your Inquiries For Your Special Requirements

•

WIRE — CABLE — TUBING DIVISION

PROPERTIES OF DAFLON 500 & 550 TEFLON TUBING

Continuous Service to	250°C
Low Temperature Flexibility	—90°C
Color Stability	
Dielectric Constant	2.0
Dielectric Strength	500 to 1000 V/MIL
Fungus, Oil, Chemical Corrosion	Completely Inert

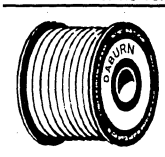
DAFLON STANDARD WALL TEFLON® TUBING (DTT-550) MIL-I-22129C Spec.

FOR USE WHERE GREATER MECHANICAL STRENGTH IS INDICATED

DAFLON No.	Nom. Size	Nom. I.D.	Nom. Wall Thickness	Spool or Coil Std. Put-Up
DTT550-24	24	.022"	.012"	100'
DTT550-22	22	.027"	.012"	100'
DTT550-20	20	.034"	.016"	100'
DTT550-19	19	.038"	.016"	100'
DTT550-18	18	.042"	.016"	100'
DTT550-17	17	.047"	.016"	100'
DTT550-16	16	.053"	.016"	100'
DTT550-15	15	.059"	.016"	100'
DTT550-14	14	.066"	.016"	100'
DTT550-13	13	.076"	.016"	100'
DTT550-12	12	.085"	.016"	100'
DTT550-11	11	.095"	.016"	100'
DTT550-10	10	.106"	.016"	100'
DTT550-9	9	.118"	.020"	100'*
DTT550-⅛	⅛	.125"	.020"	100'
DTT550-8	8	.133"	.020"	100'*
DTT550-7	7	.148"	.020"	100'*
DTT550-6	6	.166"	.020"	100'*
DTT550-5	5	.186"	.020"	100'*
DTT550-4	4	.208"	.020"	100'*
DTT550-3	3	.234"	.020"	100'*
DTT550¼	¼	.250"	.020"	100'
DTT550-2	2	.263"	.020"	100'*
DTT550-1	1	.294"	.020"	100'*
DTT550-5/16	5/16	.312"	.020"	100'
DTT550-0	0	.330"	.020"	100'*

STOCK COLORS: Natural
Available All Other Colors.

*Random Lengths in Coils.
Made from Hi Molecular Weight Virgin "TEFLON." TFE-Dupont.



DAFLEX VINYL COATED FIBERGLASS TUBING 130°C
MEETS MIL-I-3190B SPECS (ASTM, NEMA GRADE B-B-1)

DAFLEX 130, Class B, Grade B-1 is recommended for continuous temperatures up to 130°C. Constructed to provide a tough, flexible, heat resistant tubing. Made from an inorganic fiberglass base sleeving with heat resistant coating, extremely flexible tough plastic insulation. Will not support combustion. Meets MIL-I-3190B, NEMA VSI ASTM D372. MIL-I-21557.

DAFLEX No.	Size	Old Daburn No.	Nom. I.D.	Specify Std. Put-Up Spool or Coil
D130-24	24	889	.022"	100', 1000'
D130-22	22	890	.027"	100', 1000'
D130-20	20	891	.034"	25', 100', 1000'
D130-19	19	—	.038"	100', 1000'
D130-18	18	893	.042"	25', 100', 1000'
D130-17	17	—	.047"	100', 1000'
D130-16	16	894	.053"	25', 100', 1000'
D130-15	15	—	.059"	100', 1000'
D130-14	14	895	.066"	25', 100', 500'
D130-13	13	—	.076"	100', 500'
D130-12	12	800	.085"	25', 100', 500'
D130-11	11	—	.095"	100', 500'
D130-10	10	807	.106"	25', 100', 500'
D130-9	9	—	.118"	100', 500'
D130-8	8	801	.133"	25', 100', 500'

DAFLEX No.	Size	Old Daburn No.	Nom. I.D.	Specify Std. Put-Up Spool or Coil
D130-7	7	—	.148"	100', 250'
D130-6	6	802	.166"	100', 250'
D130-5	5	—	.186"	100', 250'
D130-4	4	805	.208"	100', 250'
D130-3	3	—	.234"	100', 250'
D130-2	2	806	.263"	100', 250'
D130-1	1	—	.294"	100'
D130-0	0	803	.330"	100'
D130-3/8"	3/8"	804	.375"	100'
D130-7/16"	7/16"	—	.438"	100'
D130-½"	½"	899	.500"	100'
D130-5/8"	5/8"	896	.625"	100'
D130-¾"	¾"	—	.750"	100'
D130-⅞"	⅞"	—	.875"	100'
D130-1"	1"	—	1.018"	100'

All the Above Tubing Can Be Ordered Cut to Your Specifications

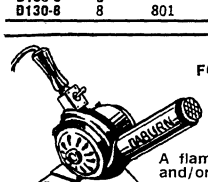
Small Pieces Cut to Order

Your Inquiries Invited

COLORS AVAILABLE FROM STOCK
#24 thru #2: Black, Red, Green, Yellow, Brown, Blue
5/16" thru 1": Black
Additional Colors to Order.

DIMENSIONAL TOLERANCES OF VINYL COATED FIBERGLASS

24	.022	.020-.027
22	.027	.025-.032
20	.034	.032-.039
19	.038	.044-.036
18	.042	.040-.049
17	.047	.054-.045
16	.053	.051-.061
15	.059	.067-.057
14	.066	.064-.072
13	.076	.080-.072
12	.085	.081-.089
11	.095	.101-.091
10	.106	.102-.112
9	.118	.124-.114
8	.133	.129-.141
7	.148	.158-.144
6	.166	.162-.178
5	.186	.198-.182
4	.208	.204-.224
3	.234	.249-.229
2	.263	.258-.278
1	.294	.311-.289
0	.330	.347-.325
3/8	.375	.399-.375
7/16	.4375	.462-.438
½	.500	.500-.524
5/8	.625	.625-.655
¾	.750	.786-.750
⅞	.875	.911-.078
1"	1.000	1.036-1.000



Hot Air Gun
FOR DAFLEX SHRINKABLE TUBING
DABURN No.

HG1—For SH265, SH275, SH290 & SH160 Series
HG2—For SH400 & SH621 Series

A flameless heat source; light in weight; portable and/or permanent mounting.

An oven, hot liquids, radiant heat, open flame or soldering iron may also be used for all types of shrinkable tubing with excellent results.

PROPERTIES OF DAFLEX 130 VINYL COATED FIBERGLASS
Recommended for Temperatures to 130°C
•
Ins. Resistance
Max. Low Temperature Flexibility —20°C
•
Over 1,000,000 Megs.
Dielectric Strength 4000 V/MIL
•
Dielectric Constant 7.0
•
Oil Resistance — Excellent
Tensile Strength — Min. (PSI) 1500
•
Ultimate Elongation 350%
•
Non-Flammable
Will not support Combustion, Abrasion, Oil, Chemical Corrosion Resistance Excellent
•
Fungus Resistance Good
•
Gamma Radiation Dosage to 25% 10^{9}
•
Degradation ERGS/GRAM
Color Stability even on Prolonged Baking at Elevated Temperatures

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DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

LOW TEMPERATURE TUBING

DAFLEX 74 EXTRUDED PLASTIC TUBING
LOW TEMPERATURE PER MIL-SPEC MIL-I-7444B MIL-I-22076 TO −94°C

Low temperature applications at sub-zero. Meets Mil spec. Fungus resistant. 750 V/Mil dielectric strength. Tensile strength 2200 ps. Elongation — 360%

DAFLEX No.	Size	Nom. I.D.	Nom. Wall
D74-24	24	.022″	.012″
D74-22	22	.027″	.012″
D74-20	20	.034″	.016″
D74-19	19	.038″	.016″
D74-18	18	.042″	.016″
D74-17	17	.047″	.016″
D74-16	16	.053″	.016″
D74-15	15	.059″	.016″
D74-14	14	.066″	.016″
D74-13	13	.076″	.016″
D74-12	12	.085″	.016″
D74-11	11	.095″	.016″
D74-10	10	.106″	.016″
D74-9	9	.118″	.020″
D74-8	8	.133″	.020″
D74-7	7	.148″	.020″
D74-6	6	.166″	.020″
D74-5	5	.186″	.020″
D74-4	4	.208″	.020″
D74-3	3	.234″	.020″
D74-2	2	.263″	.020″
D74-1	1	.294″	.020″
D74-0	0	.330″	.020″
D74-5/16	5/16	.312″	.025″
D74-3/8	3/8	.375″	.025″
D74-7/16	7/16	.438″	.025″
D74-1/2	1/2	.500″	.025″
D74-9/16	9/16	.562″	.030″
D74-5/8	5/8	.625″	.030″
D74-3/4	3/4	.750″	.035″
D74-7/8	7/8	.875″	.035″
D74-1″	1″	1.000″	.035″
D74-1 1/4″	1 1/4″	1.250″	.040″
D74-1 3/8″	1 3/8″	1.375″	.040″
D74-1 1/2″	1 1/2″	1.500″	.045″
D74-1 3/4″	1 3/4″	1.750″	.055″
D74-2″	2″	2.000″	.060″
D74-2 1/4″	2 1/4″	2.250″	.065″
D74-2 1/2″	2 1/2″	2.500″	.070″

STNDARD COLOR: CLEAR (NATURAL) ADDITIONAL COLORS AVAILABLE TO ORDER.
STD. PUT-UP: 100 FT., 500 FT., 1000 FT.

FIBERGLASS SLEEVING

DAFLEX 1200–FOR HIGH TEMPERATURE APPLICATIONS TO 1200°F
FLEXIBLE FIBERGLASS SLEEVING

Extremely flexible class H, it is non-flammable and treated for removal of all organic matter. Glass braid is fray resistant. Will provide maximum mechanical strength. Tightly braided. Applicable specs—Nema VSI. Dielectric strength determined by space factor.

DAFLEX No.	Size	Nom. I.D.
D1200-24	24	.022″
D1200-22	22	.027″
D1200-20	20	.034″
D1200-19	19	.038″
D1200-18	18	.042″
D1200-17	17	.047″
D1200-16	16	.053″
D1200-15	15	.059″
D1200-14	14	.066″
D1200-13	13	.076″
D1200-12	12	.085″
D1200-11	11	.095″
D1200-10	10	.106″
D1200-9	9	.118″
D1200-8	8	.133″
D1200-7	7	.148″
D1200-6	6	.166″
D1200-5	5	.186″
D1200-4	4	.208″
D1200-3	3	.234″
D1200-2	2	.263″
D1200-1	1	.294″
D1200-0	0	.330″
D1200-3/8″	3/8″	.387″
D1200-7/16″	7/16″	.450″
D1200-1/2″	1/2″	.512″
D1200-5/8″	5/8″	.640″
D1200-3/4″	3/4″	.768″
D1200-7/8″	7/8″	.893″
D1200-1″	1″	1.018″

STANDARD COLOR: NATURAL. ADDITIONAL COLORS AVAILABLE TO ORDER.
STD. PUT-UP: 100 FT., 500 FT., 1000 FT.

ALL THE ABOVE CAN BE CUT AND MARKED TO YOUR SPECIFICATIONS.

DAFLEX AND DAFLON COMPARATIVE PROPERTIES CHART SHRINKABLE TUBING

DAFLEX AND DAFLON HEAT SHRINKABLE TUBING	Shrinkable Irradiated Polyolefin SH-275	Shrinkable Semi-Rigid Polyolefin SH-290	Shrinkable Vinyl (PVC) In Colors SH-265	Shrinkable Teflon* FEP SH-400	Shrinkable Teflon* TFE SH-621	Shrinkable Neoprene* SH-160
Continuous Operating Temperature	135°C 275°F	135°C 275°C	105°C 220°F	200°C 400°F	250°C 480°F	212°F
Shrinkage Temperature	120°C 250°F	120°C 250°F	95°C 200°F	300°F	327°C 621°F	160°F
Shrinkage Ratio Minimum	2:1 (50%)	2:1 (50%)	2:1 (50%)	1¼:1	1½:1	3:1 (66⅔%)
Longitudinal Change	5%	5%	10%	10 - 20%	10 - 20%	50%
Tensile Strength, PSI Minimum	2400	2600	2000	3000	3000	1500
Ultimate Elongation %	400	400	200	20	200	400
Low Temperature Flexibility	−55°C −67°F	−55°C −67°F	−10°C +14°F	−67°C −85°F	−67°C −85°F	−55°C −67°F
Specific Gravity (ASTM D792)	1.30 Color Tubing 1.0 Clear Tubing	1.26 Color 1.0 Clear	1.40	2.16	2.20	1.40
V/MIL. Minimum Dielectric Strength (ASTM D149)	500	500	700	500	500	400
Water Absorption Maximum (MIL-I-23053)	.1%	.1%	1%	.01%	.01%	1.0%
Fungus Resistance (MIL-I-7444)	Excellent	Excellent	Excellent	Excellent	Excellent	Good
Corrosion (MIL-I-23053)	Non-corrosive	Non-corrosive	2.0% Max. Per MIL-I-631	Non-corrosive	Non-corrosive	Good
Flammability (MIL-I-23053)	Self-Ext.†	Self-Ext.†	Self-Ext.	Non-flammable	Non-flammable	Self-Ext.
Resistance to Soldering Iron	Good	Good	Poor	Excellent	Excellent	Poor
Applicable Specs	MIL-I-23053A MIL-I-7444B ASTM-D-792 ASTM-D-149 ASTM-D-638 ASTM-D-150 ASTM-14-53T ASTM-150-54T MIL. STD. 104 L-P 406 UL E-20344	MIL-I-2353A MIL-I-7444B ASTM-D-792 ASTM-D-149 ASTM-D-638 ASTM-D-150 MIL. STD. 104 UL E-20344	MIL-I-20353A MIL-I-631 ASTM-D-792 ASTM-D-149 ASTM-D-638 ASTM-D-150 MIL. STD. 104 UL E-20344	SH-400	MIL-I-20353A MIL-I-22129C MIL-I-7444B ASTM-D-638 ASTM-D-149 ASTM-D-792 ASTM-D-150 MIL. Std. 104 L-P 406	MIL-I-23053B
Temperature Limits	−67 to +275°F	−67 to +275°F	−25 to +221°F	−275 to +400°F	−275 to +500°F	−67 to 212°F

* Dupont. † Clear tubing is not flame retardant.

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DABURN

DABURN ELECTRONICS & CABLE CORP.

96 PRINCE ST., N. Y., N. Y. 10012 • 212 226-4079 — 5833

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

HEAT SHRINKABLE TUBING

SHRINKABLE IRRADIATED POLYOLEFIN TUBING

This series is designed for maximum mechanical strength at stress or points of connection. It is strong and abrasion resistant and is supplied in expanded sizes. It insulates, jackets, splices, encapsulates, weatherproofs components, connectors, cables and irregular shaped objects. When exposed to heat (235°F) the tubing shrinks 50% in diameter, 5% longitudinal contraction. Controlled shrinkage to exact requirement takes place. Meets or exceeds MIL-I-23053A Class 1 and 2. Available with UL approval. AMS 3636, 3637.

CAT. NOS. INDICATE EXPANDED SIZE
Shrinkage Ratio: 2:1 (50%)

DAFLEX SH-275 All Purpose	DAFLEX SH-290 Semi-Rigid	Equiv. I.D. AWG	Before Shrinkage As Supplied Expand. I.D.	Recovered I.D.	Recovered Nom. Wall†	Standard Package
SH-275-1/16"	SH-290-1/16"	22-20	.063"	.031"	.016"	100', 250'
SH-275-3/32"	SH-290-3/32"	18-16	.093"	.046"	.020"	100', 250'
SH-275-1/8"	SH-290-1/8"	14	.125"	.062"	.020"	100', 250'
SH-275-3/16"	SH-290-3/16"	12-10	.187"	.093"	.020"	100', 250'
SH-275-1/4"	SH-290-1/4"	8	.250"	.125"	.025"	100', 250'
SH-275-5/16"	SH-290-5/16"	6	.312"	.156"	.025"	100', 250'
SH-275-3/8"	SH-290-3/8"	4	.375"	.187"	.025"	100', 250'
SH-275-1/2"	SH-290-1/2"	2	.500"	.250"	.025"	100'
SH-275-3/4"	SH-290-3/4"	3/8	.750"	.375"	.030"	100'
SH-275-1"	SH-290-1"	1/2	1.000"	.500"	.035"	100'

STOCK COLOR: Black, White, Red, Clear.
Although processed by hi-energy radiation the **Daflex SH-275** and **SH-290** shrinkable tubings **do not** at any time become radioactive or possess any residual radioactivity. † Wall thickness will be less if recovery is restricted.

SPECIFICATIONS
All Tests Made on Tubing in Recovered Dimension

Continuous Operating Temperature	135°C
Longitudinal Change	5% Max.
Tensile Strength	1500 PSI Min.
Ultimate Elongation	200% Min.
Special Gravity	1.29 Max.
Low Temperature Flexibility (−54°C)	No Cracking
Shrinkage Ratio	2:1 (50%)
Dielectric Strength	500 V/MIL Min.
Dielectric Constant	2.87 Max.
Corrosive Resistance	Non-Corrosive
Resistance to Soldering Iron	Excellent
Fuel, Oil, Solvent, Acid, Alkali, Hydraulic Fluid Resistance	Excellent

DABURN SHRINKABLE POLYVINYLCHLORIDE ALL PURPOSE
Shrinkage Ratio: 2:1 (50%)

Flexible, shrinks 50% on heat application, less than 10% longitudinal contraction. Suitable for insulating components and cables in varying shapes and diameters. Has a higher resistance to oils than low density polyethylene. Conforms to MIL-I-631D, Type F, Form V, Grade A and C, Class 1 and 2, Cat. 1. Controlled shrinkage on application of heat to predetermined size takes place at temperatures below 200°F (one minute or less). Meets or exceeds MIL-I-23053A, Grade 5.
OPERATING TEMPERATURE: −20° to +105°C.

CAT. NOS. INDICATE EXPANDED SIZE

DAFLEX SH-265	Equiv. I.D. AWG	Before Shrinking As Supplied Expanded I.D.	Max. Recovered I.D.	Recovered Nom. Wall†	Standard Package
SH-265-1/16"	22-20	.063"	.031"	.020"	100', 250'
SH-265-3/32"	18-16	.093"	.046"	.025"	100', 250'
SH-265-1/8"	14	.125"	.062"	.025"	100', 250'
SH-265-3/16"	12-10	.187"	.093"	.025"	100', 250'
SH-265-1/4"	8	.250"	.125"	.025"	100', 250'
SH-265-5/16"	6	.312"	.156"	.025"	100', 250'
SH-265-3/8"	4	.375"	.187"	.025"	100', 250'
SH-265-1/2"	2	.500"	.250"	.025"	25', 100'
SH-265-3/4"		.750"	.375"	.025"	25', 100'
SH-265-1"		1.000"	.500"	.030"	25', 100'
SH-265-1 1/2"		1.500"	.750"	.035"	25', 100'
SH-265-2"		2.000"	1.000"	.040"	25', 100'

COLORS: Black, White, Clear, Red.

PACK ASSORTMENTS

DAFLEX Cat. No.	Lengths Per Pack	Tubing Size
SH-275-PA1	30	1/16" thru 3/16"
SH-275-PA2	16	1/4" thru 3/4"
SH-275-PA3	10	1"

COLORS: Black, White, Clear, Red. Each pack contains an assortment of 6" lengths in mixed sizes and colors (specify).

HEAT SHRINKABLE TEFLON‡ TUBING

DAFLON SH-400 (FEP)

Made with Modified TEFLON* FEP will shrink over inserted objects upon exposure to moderate heat. Heretofore, many joints, parts, components, devices could not be protected because of hi temperature required for shrinkage. FEP TEFLON*, which has a continuous service temperature of 400°F., will shrink at 300°F. Supplied in natural color. Complete shrinkage at 350°F. Now, many heat sensitive products can use the permanent protection of TEFLON.* Will not burn or support flame, long lengths available. Extruded.

DABURN No.	Size	I.D.	Min. Exp. I.D.	Max. I.D.	Recovered Wall Thickness
SH-400-24	24	.023"	.031"	.027"	.008"
SH-400-22	22	.028"	.036"	.032"	.008"
SH-400-20	20	.034"	.045"	.039"	.008"
SH-400-18	18	.042"	.060"	.049"	.008"
SH-400-16	16	.053"	.075"	.061"	.009"
SH-400-14	14	.066"	.092"	.072"	.009"
SH-400-12	12	.085"	.115"	.089"	.009"
SH-400-10	10	.108"	.141"	.114"	.010"
SH-400-9	9	.118"	.158"	.124"	.010"
SH-400-8	8	.136"	.180"	.143"	.010"
SH-400-7	7	.148"	.197"	.158"	.011"
SH-400-6	6	.170"	.225"	.180"	.011"
SH-400-5	5	.186"	.248"	.198"	.011"
SH-400-4	4	.214"	.290"	.226"	.011"
SH-400-3	3	.234"	.310"	.249"	.011"
SH-400-2	2	.268"	.365"	.280"	.012"
SH-400-1	1	.294"	.400"	.311"	.012"
SH-400-0	0	.366"	.440"	.349"	.012"
SH-400-3/8	3/8"	.375"	.500"	.383"	.015"
SH-400-7/16	7/16"	.437"	.580"	.448"	.020"
SH-400-1/2	1/2"	.500"	.666"	.510"	.020"
SH-400-5/8	5/8"	.625"	.830"	.637"	.025"
SH-400-3/4	3/4"	.750"	1.000"	.764"	.030"
SH-400-7/8	7/8"	.875"	1.170"	.891"	.035"
SH-400-1	1"	1.000"	1.330"	1.020"	.035"

STANDARD PACKAGE: 100 Ft. ‡ DUPONT

DAFLON SHRINK SERIES SH-621

TFE TUBING MIL-I-23053A CLASS 6

Made of modified TEFLON‡ polytetrafluorethylene will shrink when heated to 621°F. Suitable where hi temp protection is required. Extruded. Will not support combustion, dielectric strength (20 Mil Wall) 850 V/M, low temp. brittle point −66°F, superior chemical resistance.

DAFLON No.	Nominal Tubing Size	Minimum Expanded ID	Recovered Dimensions Maximum ID (1)	Recovered Dimensions Wall Thickness (2)
SH-621-26	26	.046"	.022"	.009"
SH-621-24	24*	.050"	.027"	.010"
SH-621-22	22*	.055"	.032"	.010"
SH-621-20	20*	.060"	.039"	.012"
SH-621-19	19	.065"	.043"	.012"
SH-621-18	18*	.076"	.049"	.012"
SH-621-17	17	.085"	.054"	.012"
SH-621-16	16*	.093"	.061"	.012"
SH-621-15	15	.110"	.067"	.012"
SH-621-14	14*	.120"	.072"	.012"
SH-621-13	13	.140"	.080"	.012"
SH-621-12	12*	.150"	.089"	.012"
SH-621-11	11	.170"	.101"	.012"
SH-621-10	10*	.191"	.112"	.012"
SH-621-9	9	.205"	.124"	.015"
SH-621-8	8*	.240"	.141"	.015"
SH-621-7	7	.270"	.158"	.015"
SH-621-6	6*	.302"	.178"	.015"
SH-621-5	5	.320"	.198"	.015"
SH-621-4	4*	.348"	.224"	.015"
SH-621-3	3	.360"	.249"	.015"
SH-621-2	2*	.375"	.278"	.015"
SH-621-1	1	.385"	.311"	.015"
SH-621-0	0*	.400"	.347"	.015"
SH-621-3/8	3/8"*	.560"	.399"	.020"
SH-621-7/16	7/16"*	.655"	.462"	.020"
SH-621-1/2	1/2"*	.750"	.524"	.020"

STANDARD PACKAGE: 100 Feet.
STANDARD PUT-UP: 36" Straight Lengths — One Foot Minimums.
WALL TOLERANCES: 26 thru 22 ± .002; 20 thru 10 ± .003; 9 thru 0 ± .004.
(*) Stock Sizes.

Daburn No. HG1 — Heat Gun for **SH-265, SH-275, SH-290, SH-160** Series.

Daburn No. HG2 — Heat Gun for **SH-400** and **SH-621** Series

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DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

TUBULAR BRAID PER MIL SPEC QQ-B-575

Tinned copper shielded braid mf'd completely round per Mil Spec QQ-B-575. Maintains its round configuration. Shielding coverage is 95% or more. Used in military applications where maximum shielding is required against electrostatic interference. Useful against mechanical abrasion and stresses for cables — as grounding cable.

DABURN No.	Nom. Inside Diam. When Rounded	Construction Total No. of Wires	Carriers	AWG of Indiv. Wires	Approx. AWG Equiv.	Nom. Circular Mils	*Current Carrying Cap.
2350-1/32	1/32"	24	24	#36	#22	640	7.0 amps.
2350-1/16	1/16"	48	24	#36	#19	1,290	11.0 amps.
2350-5/64	5/64"	72	24	#36	#17	1,900	18.0 amps.
2350-7/64	7/64"	96	24	#36	#16	2,500	22.0 amps.
2350-1/8	1/8"	120	24	#36	#15	3,260	28.0 amps.
2350-5/32	5/32"	240	24	#36	#12	6,200	39.0 amps.
2350-11/64	11/64"	168	24	#36	#14	4,500	32.0 amps.
2350-3/16	3/16"	192	24	#36	#13	5,100	35.0 amps.
2350-13/64	13/64"	312	24	#36	#11	8,200	46.0 amps.
2350-1/4	1/4"	384	24	#36	#10	10,400	53.0 amps.
2350-9/32	9/32"	120	24	#30	# 9	12,060	60.0 amps.
2350-3/8	3/8"	384	48	#36	#10	10,400	53.0 amps.
2350-7/16	7/16"	240	24	#30	# 6	24,120	90.0 amps.
2350-1/2	1/2"	528	48	#36	# 9	13,200	70.0 amps.
2350-9/16	9/16"	528	48	#36	# 9	13,200	70.0 amps.
2351-9/16	9/16"	480	48	#30	# 3	48,240	145.0 amps.
2350-11/16	11/16"	720	48	#36	# 7	19,000	82.0 amps.
2350-25/32	25/32"	864	48	#36	# 7	21,750	85.0 amps.
2350-13/16	13/16"	864	48	#36	# 7	21,750	85.0 amps.
2350-7/8	7/8"	336	48	#30	# 5	33,700	100.0 amps.
2350-1	1"	384	48	#30	# 4	38,600	120.0 amps.
2350-1 1/8	1 1/8"	432	48	#30	# 4	43,330	130.0 amps.
2350-1 1/4	1 1/4"	480	48	#30	# 3	48,150	145.0 amps.
2350-1 3/8	1 3/8"	528	48	#30	# 3	53,000	150.0 amps.
2350-1 1/2	1 1/2"	576	48	#30	# 2	57,775	165.0 amps.

STANDARD SPOOL PUT-UP: 50 Ft., 100 Ft., 250 Ft.
Larger Spools Available — Advise.

*Values based on copper in free air at 65°F.
Additional constructions and variations made to order. Also available in silver plated copper, bare copper and stainless steel.

TINNED COPPER SHIELDING — FLAT BRAID

Soft annealed tinned copper woven braid, rolled flat at time of manufacture. It is extremely flexible. Used as battery grounding, bonding strap for aircraft, vehicles, marine equipment. Eliminates ignition interference and moving parts. Slides over wire and cables.

DABURN No.	Size and No. of Wires	I.D. Flat	O.D. Flat	Approx. AWG Equiv.	Nom. Circular Mils	*Current Carrying Cap.
2355-1/32	12 x 2 x 36	1/32"	3/64"	24	400	6.0
2355-3/64	12 x 2 x 36	3/64"	1/16"	22	600	7.0
2355-1/16	16 x 3 x 36	1/16"	5/64"	20	1,200	11.0
2355-1/8	24 x 5 x 36	1/8"	5/32"	18	1,800	16.0
2355-3/16	24 x 5 x 36	3/16"	7/32"	15	3,000	25.0
2355-1/4	24 x 7 x 36	1/4"	9/32"	14	4,200	32.0
2355-3/8	48 x 4 x 36	3/8"	15/32"	12	7,200	46.0
2355-1/2	48 x 7 x 36	1/2"	19/32"	10	9,600	53.0
2355-5/8	48 x 8 x 36	5/8"	23/32"	10	9,600	53.0
2355-3/4	48 x 11 x 36	3/4"	13/16"	7	20,800	85.0
2355-25/32	48 x 19 x 36	25/32"	27/32"	7	20,800	85.0
2355-1	48 x 19 x 36	1"	1 1/16"	7	20,800	85.0
2355-1 3/8	48 x 19 x 36	1 3/8"	1 7/16"	7	33,700	85.0
2355-1 1/2	48 x 19 x 36	1 1/2"	1 5/8"	3	53,064	150.0
2355-1 3/4	48 x 27 x 30	1 3/4"	1 7/8"	00	125,425	280.0
2355-2	48 x 32 x 30	2"	2 1/4"	000	154,368	310.0
2355-2 1/4	48 x 35 x 30	2 1/4"	2 1/2"	000	168,840	320.0
2355-2 1/2	48 x 45 x 30	2 1/2"	2 3/4"	000	192,000	340.0
2355-3	48 x 64 x 30	3"	3 1/4"	0000	225,000	390.0

STANDARD SPOOL PUT-UP: 50 Ft., 100 Ft., 500 Ft., 1000 Ft.

ADDITIONAL CONSTRUCTION AND VARIATIONS MADE TO ORDER.

HEAT SHRINKABLE NEOPRENE* TUBING

This unique tubing meets or exceeds MIL-T-23053B specs. Shrinks down to under 33% of its supplied inside diameter. Upon exposure to heat of 160°F — will remain elastomeric — with no cracks (longitudinal shrinkage 50%). Will protect components, solder joints, terminals, fittings, harnessing and jacketing of wires, medical equipment, etc. Resistant to abrasion, flame, chemicals. Suitable electrical and mechanical properties. Has continuous range of −67° to +212°F. Tubing is self extinguishing when flame is removed. Variety of intermediate recovered sizes. Available expanded sizes: 1/2", 1", 1 1/2", 2".

COLOR: Black. Tubing must be stored below 100°F.

PROPERTIES:

ELECTRICAL
Dielectric Strength: V/M, 400 Min.
Volume Resistivity: OHM/CM, 1 x 10^{14} Min.

CHEMICAL
Solvent Resistance: Excellent
Corrosion: Good.
Water Absorption: 1.0 Max.
Flammability: Self-Extinguishing in 15 Seconds

PHYSICAL
Elongation: 400% Min.
Temperature Range: −67° to +212°F
Tensile Strength: 1500 PSI Min.
Dielectric Strength: 360 V/M Min.
Heat Resistance: 212°F for 96 Hours — No cracking.
Specific Gravity: 1.40 Max.

HARDNESS
Shore A Durometer: 85 ±5.

HEAT SHOCK
302°F for 4 Hours — No cracking, flowing or dripping.

SH160 HEAT SHRINKABLE NEOPRENE* TUBING — COLOR: BLACK

DABURN No.	Size	Before Shrinking As Supplied Expanded I.D.	RECOVERED DIMENSIONS (After Heating) I.D. Maximum	Wall Thickness
SH160-1/2"	1/2"	.500"	.165"	.035" ±.010"
SH160-1"	1"	1.00"	.330"	.048" ±.010"
SH160-1 1/2"	1 1/2"	1.500"	.495"	.057" ±.010"
SH160-2"	2"	2.00"	.660"	.070" ±.010"

STD. PKGE.: 100 ft. (random lengths — 10 ft. minimum). * Neoprene—Dupont.

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DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

TINNED COPPER WIRE

Pure Electrolytic, Copper, annealed, tinned for quick soldering—Solid Soft Drawn MIL—W—3861 Type S, ASTM—B—33 Specifications, QQ—W—343 Type S

DABURN No.	Size AWG	Area Circ. Mils	O.D.	DABURN No.	Size AWG	Area Circ. Mils	O.D.
2360/4	4	41,704	.204″	2360/18	18	1,624	.040″
2360/6	6	26,250	.162″	2360/20	20	1,022	.033″
2360/8	8	16,510	.129″	2360/22	22	624.4	.025″
2360/10	10	10,380	.103″	2360/24	24	404.0	.020″
2360/12	12	6,530	.082″	2360/26	26	254.1	.016″
2360/14	14	4,107	.065″	2360/28	28	159.8	.013″
2360/16	16	2,583	.051″	2360/30	30	100.5	.010″

STANDARD PUT-UP: 100 Ft., 1000 Ft. See Magnet Wire Section For Additional Sizes

BARE COPPER WIRE (Soft Drawn)

QQ—W—341A SPECIFICATIONS
SOLID

DABURN No.	Size AWG	Area Circular Mils	O.D.
2375/8	8	16,510	.1285″
2375/10	10	10,380	.102″
2375/12	12	6,530	.081″
2375/14	14	4,107	.064″
2375/16	16	2,583	.051″

STANDARD PUT-UP: 100 Ft., 1000 Ft.

SOLID FORMVAR COPPER WIRE

DABURN No.	Size AWG	O.D.
2380/10	10	.103″
2380/12	12	.083″
2380/14	14	.066″

STANDARD PUT-UP: 100 Ft., 150 Ft., 200 Ft., 1000 Ft.

DABURN COPPERWELD WIRE

Bare Copper Welded to Core. 40% Conductivity. Hard Drawn; will not stretch. Used for hi tensile strength.

DABURN No.	Size AWG	Nom. O.D.	DABURN No.	Size AWG	Nom. O.D.
2386/20	20	.033″	2386/12	12	.080″
2386/18	18	.040″	2386/10	10	.102″
2386/16	16	.050″	2386/8	8	.129″
2386/14	14	.064″	2386/6	6	.162″

STANDARD PUT-UP: 500 Ft., 1000 Ft.

BUS BAR WIRE (Hard Drawn)

QQ—W—343 Type S

For hooking up all types of transmitters, especially ultra short wave equipment. All bus wire is made of hard drawn copper, tinned, straightened, and cut in 2 ft. lengths.

MIL—W—3861 Types S, ASTM—B—33, ASTM—B—246—51 Specifications

DABURN No.	Nom. Circ. Mil Area	Size	Nom. O.D.
2362/10	10,380	10	.103″
2362/12	6,530	12	.082″
2362/14	4,107	14	.065″
2362/16	2,583	16	.051″
2362/18	1,642	18	.040″
2362/20	1,022	20	.033″
2362/22	624	22	.025″

STANDARD PUT-UP: 100 Per Package in two foot lengths.

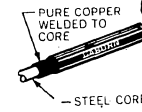
SILICON BRONZE AERIAL WIRE

Especially designed for ships, airports, short wave and transmitting antennas where high tensile strength and resistance to the elements are important.

DABURN No.	Size AWG	Strand	Breaking Strength	O.D.
2364/4	4	7/12	3670 lbs.	.240″
2364/6	6	7/14	2140 lbs.	.190″
2364/8	8	7/16	1600 lbs.	.150″
2364/10	10	7/18	1000 lbs.	.122″
2364/12	12	7/20	650 lbs.	.100″.
2364/14	14	7/22	420 lbs.	.075″

STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.
2364/10 and **2364/6** meets MIL-W-13074, **2364/12** meets MIL-W-13276 Specs.

COPPERWELD ANTENNA WIRE



Used where high tensile strength is required as for short wave and transmitting aerials. Has low R.F. resistance and is ideal for transmitting doublet and directional antennas. Will maintain frequency characteristics because of its stretchless qualities. 40% conductivity.

DABURN No.	Size AWG	Tensile Strength	O.D.
2382/10	10	1130 lbs.	.103″
2382/12	12	720 lbs.	.082″
2382/14	14	400 lbs.	.065″

STANDARD PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft., 2500 Ft.

STRANDED BARE COPPER WIRE

DABURN No.	Size AWG	Strand	O.D.
2366/12	12	7/20	.100″
2366/14	14	7/22	.075″
2366/16	16	7/24	.060″
2366/18	18	7/26	.050″
2366/19	19	7/27	.041″

PUT-UP: 100 Ft., 1000 Ft. Spool.

DABURN MAGNET WIRE — Per MIL-W-583B Spec.

DESCRIPTION: Plain Enamel — Single conductor round bare copper covered with a continuous insulating film of enamel. 105°C, Type T per MIL-W-583B.

DESCRIPTION: Heavy Formvar: — Single conductor round baked copper, baked film insulation from varnish base on a vinyl acetal resin. 105C°C, Type T2 per MIL-W-583B.

DESCRIPTION: Single conductor soft drawn annealed copper tinned per Spec MIL-W-3861 Type S, QQ-W-343 Type S, ASTM-B-33.

PLAIN ENAMEL (PE)

DABURN No.	Size	Nom. O.D.
DPE-10	10	.1037″
DPE-12	12	.0825″
DPE-14	14	.0657″
DPE-16	16	.0522″
DPE-18	18	.0416″
DPE-20	20	.0332″
DPE-22	22	.0266″
DPE-24	24	.0212″
DPE-26	26	.0169″
DPE-28	28	.0135″
DPE-30	30	.0108″
DPE-32	32	.0087″
DPE-34	34	.0069″
DPE-36	36	.0055″
DPE-38	38	.0044″
DPE-40	40	.0034″
DPE-42	42	.0028″
DPE-44	44	.0023″

HEAVY FORMVAR (HF)

DABURN No.	Size	Nom. O.D.
DHF-10	10	.1056″
DHF-12	12	.0842″
DHF-14	14	.0673″
DHF-16	16	.0539″
DHF-18	18	.0432″
DHF-20	20	.0346″
DHF-22	22	.0277″
DHF-24	24	.0224″
DHF-26	26	.0180″
DHF-28	28	.0144″
DHF-30	30	.0116″
DHF-32	32	.0095″
DHF-34	34	.0075″
DHF-36	36	.0060″
DHF-38	38	.0049″
DHF-40	40	.0038″
DHF-42	42	.0032″
DHF-44	44	.0026″

TINNED COPPER (TC)

DABURN No.	Size	Nom. O.D.
DTC-10	10	.103″
DTC-12	12	.082″
DTC-14	14	.065″
DTC-16	16	.051″
DTC-18	18	.040″
DTC-20	20	.033″
DTC-22	22	.025″
DTC-24	24	.020″
DTC-26	26	.016″
DTC-28	28	.013″
DTC-30	30	.010″
DTC-32	32	.008″
DTC-34	34	.006″
DTC-36	36	.005″
DTC-38	38	.004″
DTC-40	40	.003″

STANDARD PUT-UP: ¼ lb., ½ lb., 1 lb., 5 lbs., 10 lbs. **SIZES:** 34, 36. Largest Put-up 5 lbs

SIZES: 38, 40, 42, 44. Largest Put-up 1 lb.

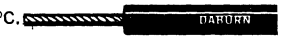
DABURN ELECTRONICS & CABLE CORP.
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

PER MIL-W-76B PLASTIC HOOK-UP WIRE

300 VOLTS — TYPE LW (Light Wall)
SPEC. MIL-W-76B

CONDUCTOR COLOR CODE PER MIL-W-76B SPEC.								
0-Black	1-Brown	2-Red	3-Orange	4-Yellow	5-Green	6-Blue	7-Violet	8-Gray	9-White

DESCRIPTION: One conductor stranded tinned copper with light wall of primary thermoplastic insulation. Nom. Wall .010".
TEMPERATURE RATING: —40°C to +80°C.



LW — UNCOVERED

DABURN Cat. No.	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2585/30	30	LW-C 30(7)U	7/38	.033"
2585/28	28	LW-C 28(7)U	7/36	.035"
2585/26	26	LW-C 26(7)U	7/34	.040"
2585/24	24	LW-C 24(7)U	7/32	.044"
2585/22	22	LW-C 22(7)U	7/30	.050"
2585/20	20	LW-C 20(7)U	7/28	.060"

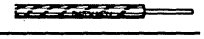
1000 VOLTS (Medium Wall)
SPEC. MIL-W-76B TYPE MW
(FUNGUS PROOF)

1000 VOLT TEMP. RATING: —40°C to +80°C.

STRANDED

DABURN Cat. No.	Spool	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. Wall	Nom. O.D.
2555/24	1000'	24	MW-C 24(7)U	7/32	.015"	.059"
*2555/22	1000'	22	MW-C 22(7)U	7/30	.017"	.065"
*2555/20	1000'	20	MW-C 20(10)U	10/30	.017"	.074"
*2555/18	1000'	18	MW-C 18(16)U	16/30	.017"	.085"
2555/16	1000'	16	MW-C 16(26)U	26/30	.017"	.096"
2555/14	1000'	14	MW-C 14(41)U	41/30	.017"	.110"
2555/12	1000'	12	MW-C 12(65)U	65/30	.017"	.130"

SOLID



2560/24	1000'	24	MW-C 24(1)U	1	.015"	.056"
2560/22	1000'	22	MW-C 22(1)U	1	.017"	.060"
2560/20	1000'	20	MW-C 20(1)U	1	.017"	.066"
2560/18	1000'	18	MW-C 18(1)U	1	.017"	.074"

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.
STOCK COLORS: White, Yellow, Lt. Blue, Black, Violet (purple), Blue, Brown, Lt. Green, Pink, Red, Green, Tan, Orange, Gray (slate).

TRACER COLORS AVAILABLE: White/Black, White/Brown, White/Red, White/Orange, White/Yellow, White/Green, White/Blue, White/Purple, White/Gray.

Additional spiral tracer combination available, to order, for all numbers.

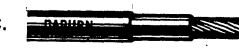
GLASS BRAID — TYPE HW (Heavy Wall)

TEMPERATURE RATING: —40°C to +80°. **NOM WALL:** .045"

DABURN Cat. No.	Spool	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2575/10	100'-1000'	10	HW-C 10(105)B	105/30	.237"
2575/8	100'-1000'	8	HW-C 8(133)B	133/29	.293"
2575/6	100'-1000'	6	HW-C 6(133)B	133/27	.340"

STOCK COLORS: White, Black. ALSO multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.

TEMPERATURE RATING: —40°C to +90°C. Nominal Nylon Jacket Thickness, .002".



LW — NYLON JACKET

DABURN Cat. No.	AWG Size	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2590/30	30	LW-C 30(7)J	7/38	.036"
2590/28	28	LW-C 28(7)J	7/36	.039"
2590/26	26	LW-C 26(7)J	7/34	.042"
2590/24	24	LW-C 24(7)J	7/32	.047"
2590/22	22	LW-C 22(7)J	7/30	.053"
2590/20	20	LW-C 20(7)J	7/28	.065"

1000 VOLT — NYLON JACKET (Medium Wall)
SPEC. MIL-W-76B TYPE MW
(Fungus Proof)

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and extruded nylon jacket overall.

TEMPERATURE RATING: —40°C to +90°C.

DABURN Cat. No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. Wall	Nom. O.D.
2565/24	24	MW-C 24(16)J	16/36	.015"	.068"
2565/22	22	MW-C 22(7)J	7/30	.017"	.075"
2565/20	20	MW-C 20(10)J	10/30	.017"	.087"
2565/18	18	MW-C 18(16)J	16/30	.017"	.100"
2565/16	16	MW-C 16(26)J	26/30	.017"	.122"
2565/14	14	MW-C 14(41)J	41/30	.017"	.122"
2565/12	12	MW-C 12(65)J	65/30	.017"	.140"
2565/10	10	MW-C 10(105)J	105/30	.045"	.240"

STD. PUT-UP: 100 Ft.-1000 Ft.
NYLON JACKET THICKNESS: #24 .002; 22, 20, 18 .003; 16, 14 .004; 12 .005; 10 .007.
STOCK COLORS: White, Orange, Purple, Black, Yellow, Gray, Brown, Green, Red, Blue. White/Black, White/Brown, White/Red, White/Orange, White/Yellow, White/Green, White/Blue, White/Purple, White/Gray,

Nos. 2565/12 and /10 available solid colors only.

1000 VOLTS GLASS BRAID (Medium Wall) TYPE MW
SPEC. MIL-W-76B

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and lacquered glass braid overall.
TEMPERATURE RATING: —40°C to +80°C. **NOM. WALL:** .017"

DABURN Cat. No.	Spool	Size AWG	MIL-W-76B Type Designation	Conductor Strand	Nom. O.D.
2570/22	100'-1000'	22	MW-C 22(7)B	7/30	.079"
2570/20	100'-1000'	20	MW-C 20(10)B	10/30	.084"
2570/18	100'-1000'	18	MW-C 18(16)B	16/30	.100"
2570/16	100'-1000'	16	MW-C 16(26)B	26/30	.116"
*2570/14	100'-1000'	14	MW-C 14(41)B	41/30	.129"
*2570/12	100'-1000'	12	MW-C 12(65)B	65/30	.149"

STOCK COLORS: White, Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White/Brown, White/Black, White/Orange, White/Yellow, White/Green, White/Blue, White/Red, White/Gray, White/Purple, White/Black/Red, White/Black/Yellow, White/Black/Blue, White/Black/Green, White/Black/Orange, White/Black/Brown, White/Black/Gray.
*Nos. 2570/14 and /12, available stock in solid colors.

2500 VOLTS (Fungus Proof) — TYPE HW (Heavy Wall)
SPEC MIL-W-76B

600 VOLTS: Sizes 14 through 6 — (Supersedes Jan-C-76 Type SRHV).
TEMP. RATING: —40°C to 80°C. NOM. WALL SIZE: 22 through 16 .033: Size 14 through 6 .045
DESCRIPTION: Similar to type MW. One conductor stranded tinned copper with larger walls of primary thermoplastic insulation to take 2500 V RMS.

DABURN No.	Size AWG	Mil-W-76B Type Designation	Conductor Strand	Nom. O.D.
2580/22	22	HW-C 22(7)U	7/30	.092"
2580/20	20	HW-C 20(10)U	10/30	.100"
2580/18	18	HW-C 18(16)U	16/30	.112"
2580/16	16	HW-C 16(26)U	26/30	.126"
2580/14	14	HW-C 14(41)U	41/30	.170"

No. DABURN	AWG Size	Type Designation Mil-W-76B	Strand Conductor	O.D. Nom.
2580/12	12	HW-C 12(65)U	65/30	.186"
2580/10	10	HW-C 10(105)U	105/30	.210"
2580/8	8	HW-C 8(133)U	133/29	.260"
2580/6	6	HW-C 6(133)U	133/27	.305"

STD. PUT-UP: 100-1000 Ft.

STOCK COLORS: White, Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, Additional sizes, colors available to order.

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DABURN

DABURN ELECTRONICS & CABLE CORP.
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

SHIELDED PLASTIC HOOK-UP WIRE

1000 VOLT — TYPE MW (Medium Wall) SHIELDED — SPEC. MIL-W-76B
TEMPERATURE RATING −40°C TO +80°C

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and tinned copper shielded braid overall.

DABURN Cat. No.	Size AWG	MIL-W-76B Type Designation	Strand	Nom. Wall	Nom. O.D.
2592/24	24	MW-C24(7)S	7/32	.015″	.074″
2593	24	MW-C24(16)S	16/36	.015″	.075″
2592/22	22	MW-C22(7)S	7/30	.017″	.084″
2592/20	20	MW-C20(10)S	10/30	.017″	.094″
2592/18	18	MW-C18(16)S	16/30	.017″	.106″
2592/16	16	MW-C16(26)S	26/30	.017″	.121″
2592/14	14	MW-C14(41)S	41/30	.017″	.137″
2592/12	12	MW-C12(65)S	65/30	.017″	.155″

STOCK COLORS: (Underneath Shield) Black, White, Red, Yellow, Brown, Green, Blue, Gray. Nos. 2592/14 and /12, available from stock in Black, White or Red.
STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

Also multiconductors can be formed to order twisted shielded, with or without plastic Jacket overall.

SHIELDED PLASTIC HOOK-UP WIRE

TYPE MW — SHIELDED — VINYL JACKET — 1000 V SPEC. MIL-W-76B

DESCRIPTION: One conductor stranded tinned copper, white medium wall polyvinyl chloride insulation, shielded tinned copper braid, minimum 80% coverage, PVC (polyvinylchloride) jacket overall. Resistant to acids, alkalis, oil, flame, moisture, fungus.
TEMPERATURE RATING: −40°C to +90°C.

DABURN Cat. No.	Size AWG	MIL-W-76A Type Designation	Min. Strand	Nom. Wall	Nom. O.D.
2597/24	24	MW-C24(7)SJ	7/32	.015″	.095″
2597/22	22	MW-C22(7)SJ	7/30	.017″	.105″
2597/20	20	MW-C20(7)SJ	7/28	.017″	.112″
2597/18	18	MW-C18(19)SJ	19/30	.017″	.120″
2597/16	16	MW-C16(19)SJ	19/29	.017″	.133″
2597/14	14	MW-C14(19)SJ	19/27	.017″	.148″
2597/12	12	MW-C12(19)SJ	19/25	.017″	.170″

Additional colors available to order.
STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

TYPE MW — SHIELDED — NYLON JACKET — 1000 V SPEC. MIL-W-76B

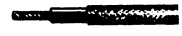
DESCRIPTION: One conductor stranded tinned copper, white medium wall polyvinyl chloride insulation, shielded tinned copper braid, minimum 80% coverage, clear nylon (polymide) jacket overall. Resistant to acids, alkalis, oil, flame, moisture, fungus.
TEMPERATURE RATING: −40°C to +90°C.

DABURN Cat. No.	Size AWG	MIL-W-76A Type Designation	Min. Strand	Nom. Wall	Nom. O.D.
2595/24	24	MW-C24(7)SJ	7/32	.015″	.091″
2595/22	22	MW-C22(7)SJ	7/30	.017″	.100″
2595/20	20	MW-C20(7)SJ	7/28	.017″	.105″
2595/18	18	MW-C18(19)SJ	19/30	.017″	.115″
2595/16	16	MW-C16(19)SJ	19/29	.017″	.125″
2595/14	14	MW-C14(19)SJ	19/29	.017″	.138″
2595/12	12	MW-C12(19)SJ	19/25	.017″	.160″

Additional colors available to order.
STANDARD PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

MIL-W-16878D — SHIELDED PLASTIC HOOK-UP WIRE

1000 VOLTS — TYPE C — SHIELDED SPEC. MIL-W-16878D

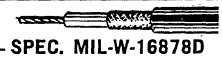


DESCRIPTION: Stranded tinned copper, .016″ wall white polyvinylchloride insulation, braided tinned copper shield overall temp. rating −55°C to +105°C 1000 volts.

DABURN Cat. No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
2530/24	24	7/32	.016″	.075″
2530/22	22	7/30	.016″	.085″
2530/20	20	7/28	.016″	.095″
2530/18	18	7/26	.016″	.105″
2530/16	16	19/26	.016″	.115″
2530/14	14	19/27	.016″	.140″
2530/12	12	19/25	.016″	.152″

STD. PUT-UP: 1000 Ft.

1000 VOLTS — TYPE C SHIELDED WITH VINYL JACKET — SPEC. MIL-W-16878D



DESCRIPTION: Stranded tinned copper, .016″ wall white with polyvinylchloride insulation braided tinned copper shield with polyvinylchloride jacket overall. Resistant to acids, oils, alkalies, flame, fungus, solvents, moisture.
TEMPERATURE RATING: −55°C to +105°C.

DABURN No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
2535/24	24	7/32	.016″	.094″
2535/22	22	7/30	.016″	.104″
2535/20	20	7/28	.016″	.112″
2535/18	18	7/26	.016″	.120″
2535/16	16	19/29	.016″	.133″
2535/14	14	19/27	.016″	.150″
2535/12	12	19/25	.016″	.165″

STD. PUT-UP: 1000 Ft.

1000 VOLTS — TYPE C SHIELDED NYLON JACKET SPEC. MIL-W-16878D

DESCRIPTION Stranded tinned copper .016″ wall polyvinylchloride insulation, braided tinned copper shield, 90% coverage, clear nylon (polyamide) jacket overall. Nylon nominal jacket thickness .005″.
TEMPERATURE RATING: −55°C to +115°C.

DABURN No.	Size AWG	Min. Strand	Nom. Wall	Nom. O.D.
2533/24	24	7/32	.016″	.090″
2533/22	22	7/30	.016″	.096″
2533/20	20	7/28	.016″	.105″
2533/18	18	7/26	.016″	.115″
2533/16	16	19/29	.016″	.125″
2533/14	14	19/27	.016″	.145″
2533/12	12	19/25	.016″	.157″

STD. PUT-UP: 1000 Ft.

MULTI-CONDUCTOR CABLE TYPE B NYLON SHIELDED-PLASTIC JACKET PER MIL-W-16878D — 600 V

DESCRIPTION: One or more conductors stranded tinned copper, PVC insulation, color coded, clear nylon (polyamide) jacket, cabled conductors, 90% coverage braided tinned copper, white polyvinylchloride jacket overall.

TEMPERATURE RATING: −55°C to +105°C. Voltage rating 600 volts. Resistant to acids, alkalis, flame, fungus, oil, moisture, solvents.

DABURN Cat. No.	No. of Cond.	Size	Strand	Nom. Wall	Nom. Nylon Wall	Nom. Overall Jacket	Nom. O.D.
2540	1	26	7/34	.010″	.003″	.010″	.087″
2540/2	2	26	7/34	.010″	.003″	.014″	.138″
2540/3	3	26	7/34	.010″	.003″	.014″	.142″
2540/4	4	26	7/34	.010″	.003″	.016″	.162″
2541	1	24	19/36	.010″	.003″	.010″	.092″
2541/2	2	24	19/36	.010″	.003″	.016″	.152″
2541/3	3	24	19/36	.010″	.003″	.016″	.161″
2541/4	4	24	19/36	.010″	.003″	.017″	.162″
2542	1	22	19/34	.010″	.003″	.010″	.100″
2542/2	2	22	19/34	.010″	.003″	.016″	.168″
2542/3	3	22	19/34	.010″	.003″	.017″	.178″
2542/4	4	22	19/34	.010″	.003″	.019″	.174″
2543	1	20	19/32	.010″	.003″	.010″	.106″
2543/2	2	20	19/32	.010″	.003″	0.19″	.186″
2543/3	3	20	19/32	.010″	.003″	.019″	.196″
2543/4	4	20	19/32	.010″	.003″	.021″	.193″
2544	1	18	19/30	.010″	.003″	.012″	.120″
2544/2	2	18	19/30	.010″	.003″	.021″	.210″
2544/3	3	18	19/30	.010″	.003″	.022″	.227″
2544/4	4	18	19/30	.010″	.003″	.023″	.218″
2545	1	16	19/29	.010″	.003″	.016″	.137″
2545/2	2	16	19/29	.010″	.003″	.023″	.236″
2545/3	3	16	19/29	.010″	.003″	.023″	.240″
2545/4	4	16	19/29	.010″	.003″	.025″	.275″

STD. PUT-UP: 500 Ft., 1000 Ft. **CONDUCTOR COLOR CODE:** 1-White, 2-Black, 3-Red, 4-Green. Additional sizes, conductors - variations - available to order.

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DABURN ELECTRONICS & CABLE CORP.
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PLASTIC HOOK-UP WIRE

SPECIFICATION MIL-W-16878D

TYPE B — HIGH TEMPERATURE VINYL SPECIFICATION MIL-W-16878D

600 VOLT

DESCRIPTION: One conductor stranded tinned copper with rated −55°C to +105°C high temperature thermoplastic light wall insulation.

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2500/32	B-32	32	7/40	.028″
2500/30	B-30	30	7/38	.030″
2500/28	B-28	28	7/36	.033″
2500/26	B-26	26	7/34	.037″
2500/24	B-24	24	7/32	.043″
2501/24	B-24	24	19/36	.043″
2500/22	B-22	22	7/30	.048″
2501/22	B-22	22	19/34	.048″
2500/20	B-20	20	7/28	.057″
2501/20	B-20	20	19/32	.057″
2500/18	B-18	18	7/26	.067″
2501/18	B-18	18	19/30	.067″
2500/16	B-16	16	19/29	.077″
2500/14	B-14	14	19/27	.091″

STD. PUT-UP: 100 Ft.-1000 Ft. **STOCK COLORS:** Same as for Type B Nylon.

TYPE C — HIGH TEMPERATURE — VINYL JACKET SPECIFICATION MIL-W-16878D

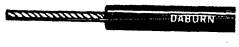
1000 VOLT

DESCRIPTION: One conductor similar to Type B—heavier wall hi-temp thermoplastic insulation Nom. wall .016″.

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Minimum Strand	Nom. O.D.
2515/24	C-24	24	7/32	.058″
2515/22	C-22	22	7/30	.064″
2515/20	C-20	20	7/28	.079″
2515/18	C-18	18	7/26	.090″
2515/16	C-16	16	19/29	.099″
2515/14	C-14	14	19/27	.114″
2515/12	C-12	12	19/25	.135″

STD. PUT-UP: 100 Ft., 1000 Ft.

TYPE D — HIGH TEMPERATURE — VINYL — 3000 VOLTS SPECIFICATION MIL-W-16878D



DESCRIPTION: One conductor stranded similar to Type C—heavier wall hi-temp thermoplastic insulation. Nom. wall 24 thru 14 .032, 12 thru 6 .040.

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2525/24	D-24	24	7/32	.084″
2525/22	D-22	22	7/32	.089″
2525/20	D-20	20	10/30	.097″
2525/18	D-18	18	16/30	.107″
2525/16	D-16	16	26/30	.116″
2525/14	D-14	14	41/30	.130″
2525/12	D-12	12	65/30	.163″
2525/10	D-10	10	105/30	.182″
2525/8	D- 8	8	133/29	.247″
2525/6	D- 6	6	133/27	.291″
2525/4	D- 4	4	133/25	.355″
2525/2	D- 2	2	665/30	.425″

STD. PUT-UP:
100 Ft.-1000 Ft.

TYPE B — NYLON JACKET

NYLON JACKET THICKNESS: 32-20 .002, 18-16 .003

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2510/32	B-32	32	7/40	.032″
2510/30	B-30	30	7/38	.036″
2510/28	B-28	28	7/36	.039″
2510/26	B-26	26	7/34	.042″
2510/24	B-24	24	7/32	.047″
2511/24	B-24	24	19/36	.047″
2510/22	B-22	22	7/30	.053″
2511/22	B-22	22	19/34	.053″
2510/20	B-20	20	7/28	.065″
2511/20	B-20	20	19/32	.065″
2510/18	B-18	18	7/26	.075″
2511/18	B-18	18	19/30	.075″
2510/16	B-16	16	19/29	.085″
2510/14	B-14	14	19/27	.099″

STD. PUT-UP: 1000 Ft.

STOCK COLORS: Black, Red, Brown, Blue, Orange, White, Yellow, Green Gray, Purple.

White/Black, White/Red, White/Green, White/Yellow, White/Blue, White/Brown, White/Orange, White/Gray, White/Violet

TYPE C — NYLON JACKET

NYLON JACKET THICKNESS: 24 .002, 22-18 .003, 16-14 .004

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2520/24	C-24	24	7/32	.065″
2520/22	C-22	22	7/30	.064″
2520/20	C-20	20	7/28	.079″
2520/18	C-18	18	7/26	.090″
2520/16	C-16	16	19/29	.099″
2520/14	C-14	14	19/27	.114″
2520/12	C-12	12	19/25	.135″

STOCK COLORS: Black, Red, Brown, Blue, Orange, White, Yellow, Green, Gray, Purple. Also available in tracer colors. Additional types available to order.
STD. PUT-UP: 100 Ft-1000 Ft.

TYPE D — HIGH TEMPERATURE — VINYL — 3000 VOLTS SPECIFICATION MIL-W-16878D — NYLON JACKET

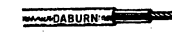
DESCRIPTION: One conductor stranded tinned copper, color coded polyvinyl-chloride insulation, clear polymide (nylon) jacket overall.

DABURN Cat. No.	Mil-W-16878D Type Designation	Size AWG	Conductor Strand	Nom. O.D.
2525N/24	D-24	24	7/32	.090″
2525N/22	D-22	22	7/30	.096″
2525N/20	D-20	20	10/30	.104″
2525N/18	D-18	18	16/30	.114″
2525N/16	D-16	16	26/30	.125″
2525N/14	D-14	14	41/30	.139″
2525N/12	D-12	12	65/30	.168″
2525N/10	D-10	10	105/30	.197″
2525N/8	D- 8	8	133/29	.265″
2525N/6	D- 6	6	133/27	.310″

STD. PUT-UP: 100 Ft., 1000 Ft.

AIRCRAFT PLASTIC HOOK-UP WIRE

SPECIFICATIONS MIL-W-5086A and MIL-C-7078A (105°C Rating



DESCRIPTION: Type 1 MIL-W-5086A — one conductor stranded tinned copper with plastic insulation nylon jacket overall. **Type 2 Mil-W-5086A** — one conductor stranded tinned copper, plastic insulation, nylon lacquered glass braid. Color: White. Additional colors available to order.

MIL-W-5086A UNSHIELDED (Supersedes AN-J-C-48A) — 600 V RATING

DABURN Cat. No.	Mil. Type	Type	Conductor Strand.	Nom. O.D.
2601/22	AN-22	No. 1	19/34	.070″
2601/20	AN-20	No. 1	19/32	.080″
2601/18	AN-18	No. 1	19/30	.090″
2601/16	AN-16	No. 1	19/29	.125″
2601/14	AN-14	No. 1	19/27	.125″
2601/12	AN-12	No. 1	19/25	.140″
2602/22	AN-22	No. 2	19/34	.068″
2602/20	AN-20	No. 2	19/32	.078″
2602/18	AN-18	No. 2	19/30	.088″
2602/16	AN-16	No. 2	19/29	.098″
2602/14	AN-14	No. 2	19/27	.117″
2602/12	AN-12	No. 2	19/25	.137″
2602/10	AN-10	No. 2	49/27	.189″
2602/8	AN-8	No. 2	133/29	.240″
2602/6	AN-6	No. 2	133/27	.297″
2602/4	AN-4	No. 2	133/25	.355″
2602/2	AN-2	No. 2	665/30	.412″
2602/0	AN-0	No. 2	1045/30	.518″
2602/00	AN-00	No. 2	1330/30	.588″

STANDARD PUT-UP: 100 Ft., 1000 Ft.

MIL-C-7078A SHIELDED (Supersedes AN-C-168) 600 V RATING

DESCRIPTION: One conductor stranded tinned copper with plastic insulation, nylon jacket with tinned copper shielded braid overall. Color: White under shield. Additional types to order.

DABURN Cat. No.	Size AWG	Mil. Type	Type	Conductor Strand.	Nom. O.D.
2605/22	22	AN-22	No. 1	19/34	.100″
2605/20	20	AN-20	No. 1	19/32	.110″
2605/18	18	AN-18	No. 1	19/30	.124″
2605/16	16	AN-16	No. 1	19/29	.139″
2605/14	14	AN-14	No. 1	19/27	.158″
2605/12	12	AN-12	No. 1	19/25	.177″

STANDARD PUT-UP: 100 Ft., 1000 Ft.

ALL WIRE ON THIS PAGE CAN BE CUT AND STRIPPED TO YOUR SPECIFICATION.

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DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

TEFLON* WIRE
TYPE E — 600 VOLTS
SPEC. MIL-W-16878D
High Temperature Rating −90°C to +250°C

Single conductor, stranded silver plated copper, .010″ TFE Teflon® insulation. Acid, alkalis, oil, flame, moisture, fungus, solvent resistant.

DABURN Extruded Cat. No.	DABURN Wrapped Cat. No.	Size MIL Type Designation	Strand	Max. Dia. Over Insul.
2401	—	E-32	7/40	.033″
2402	—	E-30	7/38	.036″
2403	2415/28	E-28	7/36	.039″
2404	2415/26	E-26	7/34	.043″
2405	2415/24	E-24	19/36	.048″
2405-7	—	E-24	7/32	.048″
2406	2415/22	E-22	19/34	.054″
2406-7	—	E-22	7/30	.054″
2407	2415/20	E-20	19/32	.062″
2407-7	—	E-20	7/28	.062″
2408	2415/18	E-18	19/30	.074″
2409	2415/16	E-16	19/29	.079″
2409/14	—	E-14	19/27	.097″
2409/12	—	E-12	19/25	.120″
2409/10	—	E-10	37/26	.139″

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft. **Solid conductors available.**

COLORS: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White, White/Black, White/Red, White/Green, White/Yellow, White/Blue, White/Brown, White/Orange, White/Gray, White/Violet.

Additional special custom construction available to order.

TEFLON* WIRE
MIL-W-16878D — TYPE EE
Extruded (1000 Volts) MIL-W-16878D

DESCRIPTION: Single conductor silver plated copper wire concentrically stranded and insulated with .016 TFE extruded TEFLON* insulation.

TEMPERATURE RATING: −90°C to +260°C, 1000 volts.

DABURN Cat. No.	Mil Type Designation	Size AWG	Strand	Nom. O.D.
2428/24	EE-24	24	19/36	.055″
2428/22	EE-22	22	19/34	.062″
2428/20	EE-20	20	19/32	.070″
2428/18	EE-18	18	19/30	.080″
2428/16	EE-16	16	19/29	.089″
2428/14	EE-14	14	19/27	.106″
2428/12	EE-12	12	19/25	.124″
2428/10	EE-10	10	37/26	.145″
2428/8 (wrapped)	EE-8	8	133/29	.210″

STANDARD SPOOL PUT-UP: 250 Ft., 500 Ft., 1000 Ft. Solid conductors available.

STOCK COLORS: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow, 6—Blue, 7—Brown, 8—Orange, 9—Gray (Slate), 10—Violet (Purple).

SUBMINIATURE TEFLON* HOOK-UP WIRE
PER MIL-W-16878D — TYPE ET — 250 VOLTS, 200°C

Thin miniature hook-up wire is suitable in miniature slip ring assemblies, as interconnecting wire between wafers in microminiature electronic circuitry, instrument wire, medical wire, subminiature thermo-couple lead wire, strain gauge wire, etc. Provides lighter weight, greater flexibility and hi temperature resistance. Size Nos. 32 thru 20 conform to MIL-W-16878D type ET 250 volts, 200°C. Silver plated copper conductor.

DABURN Cat. No.	Mil Type	AWG Size	Min. Strand	Nom. O.D.
2427/36	—	36	7/44	.018″
2427/34	—	34	7/42	.020″
2427/32	ET-32	32	7/40	.021″
2427/30	ET-30	30	7/38	.024″
2427/28	ET-28	28	7/36	.027″
2427/26	ET-26	26	7/34	.031″
2427/24	ET-24	24	7/32	.036″
2427/22	ET-22	22	7/30	.042″
2427/20	ET-20	20	7/28	.049″

STANDARD SPOOL PUT-UPS: 500 Ft., 1000 Ft.

TEFLON* TFE AIRFRAME LEAD WIRE MIL-W-7139B

CLASS 1: 600V Silver Coated Copper Conductor for −65 to +200°C Operation.
CLASS 2: 600V Nickel Coated Copper Conductor for +260°C Operation.

DABURN Cat. No. Class 1	DABURN Cat. No. Class 2	Size AWG	Strand	Nom. O.D.
2426-22	2425-22	22	19/34	.085″
2426-20	2425-20	20	19/32	.095″
2426-18	2425-18	18	19/30	.110″
2426-16	2425-16	16	19/29	.130″
2426-14	2425-14	14	19/27	.143″
2426-12	2425-12	12	19/25	.163″

STANDARD SPOOL PUT-UPS: 500 Ft., 1000 Ft.

STANDARD COLOR: Class: 1 — White/Blue Tracer; Class 2 — White/Orange Tracer. ADDITIONAL SIZES AVAILABLE.

*TEFLON—Dupont

INSTRUMENTATION CABLES
TEFLON* CABLES — Shielded and Unshielded
TO MIL-W-16878D

DESCRIPTION: One or more conductors, each conductor silver plated concentrically stranded copper wire, Type E Extruded TFE .010″ insulation. When shielded, braided silver plated copper shield over conductor(s), 90% shield coverage. When covered, either a TEFLON* impregnated fiberglass braid or a .010″ TEFLON* fused, double reversed tape jacket overall. Fungus, solvent, moisture, flame, acid, alkali and oil resistant Multiconductors are twisted.

TEMPERATURE RATING: −65°C to +260°C. **VOLTAGE RATING:** 600 Volts

TEFLON* IMPREGNATED BRAID OVER SHIELD

Daburn No.	Conds.	AWG Size	Strand	Nom. O.D.	Daburn No.	Conds.	AWG Size	Strand	Nom. O.D.
2444	1	26	7/34	.075″	2447	1	20	19/32	.093″
2444/2	2	26	7/34	.119″	2447/2	2	20	19/32	.154″
2445	1	24	19/36	.081″	2447/3	3	20	19/32	.163″
2445/2	2	24	19/36	.126″	2447/4	4	20	19/32	.180″
2445/3	3	24	19/36	.133″	2447/5	5	20	19/32	.195″
2445/4	4	24	19/36	.144″	2448	1	18	19/30	.097″
2445/5	5	24	19/36	.156″	2448/2	2	18	19/30	.162″
2446	1	22	19/34	.088″	2448/3	3	18	19/30	.172″
2446/2	2	22	19/34	.137″	2448/4	4	18	19/30	.192″
2446/3	3	22	19/34	.144″	2448/5	5	18	19/30	.207″
2446/4	4	22	19/34	.158″	2449	1	16	19/29	.117″
2446/5	5	22	19/34	.172″	2449/2	2	16	19/29	.196″

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.

TEFLON* TAPE WRAP JACKET OVER SHIELD

Daburn No.	Conds.	AWG Size	Strand	Nom. O.D.	Daburn No.	Conds.	AWG Size	Strand	Nom. O.D.
2454	1	26	7/34	.078″	2457	1	20	19/32	.099″
2454/2	2	26	7/34	.125″	2457/2	2	20	19/32	.158″
2455	1	24	19/36	.084″	2457/3	3	20	19/32	.167″
2455/2	2	24	19/36	.128″	2457/4	4	20	19/32	.184″
2455/3	3	24	19/36	.135″	2457/5	5	20	19/32	.204″
2455/4	4	24	19/36	.148″	2458	1	18	19/30	.109″
2455/5	5	24	19/36	.162″	2458/2	2	18	19/30	.178″
2456	1	22	19/34	.090″	2458/3	3	18	19/30	.189″
2456/2	2	22	19/34	.140″	2458/4	4	18	19/30	.208″
2456/3	3	22	19/34	.148″	2458/5	5	18	19/30	.230″
2456/4	4	22	19/34	.162″	2459	1	16	19/29	.130″
2456/5	5	22	19/34	.183″	2459/2	2	16	19/29	.230″

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.

SHIELDED BRAID OVERALL

Daburn Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.	Daburn Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.
2434	1	26	7/34	.066″	2437	1	20	19/32	.082″
2434/2	2	26	7/34	.104″	2437/2	2	20	19/32	.142″
2435	1	24	19/36	.068″	2437/3	3	20	19/32	.151″
2435/2	2	24	19/36	.112″	2437/4	4	20	19/32	.168″
2435/3	3	24	19/36	.120″	2437/5	5	20	19/32	.180″
2435/4	4	24	19/36	.132″	2438	1	18	19/30	.093″
2435/5	5	24	19/36	.140″	2438/2	2	18	19/30	.162″
2436	1	22	19/34	.075″	2438/3	3	18	19/30	.172″
2436/2	2	22	19/34	.124″	2438/4	4	18	19/30	.191″
2436/3	3	22	19/34	.132″	2438/5	5	18	19/30	.210″
2436/4	4	22	19/34	.146″	2439	1	16	19/29	.103″
2436/5	5	22	19/34	.154″	2439/2	2	16	19/29	.184″

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow.

NO SHIELD—TEFLON* IMPREGNATED FIBERGLASS OVERALL

Daburn Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.	Daburn Cat. No.	Conds.	AWG Size	Strand	Nom. O.D.
2464	1	26	7/34	.040″	2467	1	20	19/32	.058″
2464/2	2	26	7/34	.080″	2467/2	2	20	19/32	.118″
2465	1	24	19/36	.044″	2467/3	3	20	19/32	.127″
2465/2	2	24	19/36	.088″	2467/4	4	20	19/32	.144″
2465/3	3	24	19/36	.096″	2467/5	5	20	19/32	.156″
2465/4	4	24	19/36	.108″	2468	1	18	19/30	.069″
2465/5	5	24	19/36	.116″	2468/2	2	18	19/30	.138″
2466	1	22	19/34	.051″	2468/3	3	18	19/30	.148″
2466/2	2	22	19/34	.100″	2468/4	4	18	19/30	.167″
2466/3	3	22	19/34	.108″	2468/5	5	18	19/30	.186″
2466/4	4	22	19/34	.122″	2469	1	16	19/29	.086″
2466/5	5	22	19/34	.131″	2469/2	2	16	19/29	.172″

STANDARD SPOOL PUT-UPS: 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—White. 2—Black. 3—Red, 4—Green, 5—Yellow.
Special cable constructions and colors available.

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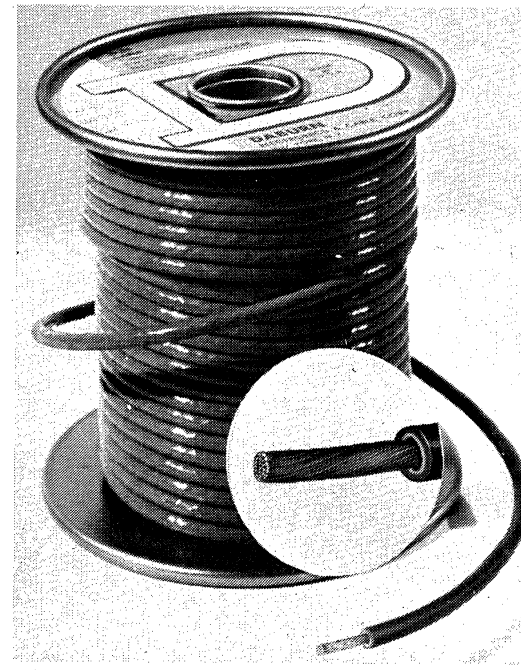
DABURN

DABURN ELECTRONICS & CABLE CORP.
96 PRINCE ST., N. Y., N. Y. 10012 • 212 226-4079 — 5833
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

NEW CRT HI-VOLT CORONA RESISTANT TEFLON* CABLE©

Voltage Rating at Sea Level • Voltage Rating at 80,000 feet, approximately 1/3 lower
• Minimum life expectancy: 10,000 hours.



SMALL SIZE:
You do not need bulky, thick, insulation jacketing as used wtih silicone rubber and polyethylene insulations to get your hi-voltage requirements. Wire used is MIL-SPEC QQ-W-343 and MIL-W-16878D. insulation used conforms and surpasses MIL-SPEC-W-16878D

AVOID CORONA PROBLEMS:
Corona resistant Teflon construction is specifically designed to retard and prevent corona penetration.
Temperature variations from −60° to +300°C have no life effect on the corona resistant Teflon. In addition, there is no stress or crack failure under severe, adverse conditions including mechanical strain, moisture, corona or chemical conditions.

DESCRIPTION:
Single Conductor, Stranded Silver Plated Copper, Corona Resistant Teflon* Insulation.

TEMPERATURE RATING:
−90°C to +250°C.

VOLTAGE RATING:
Based on insulation thickness.

AVAILABLE COLORS:
White, Black, Red, Green, Yellow, Lt. Blue, Brown, Orange, Gray, Violet. (Also available in tracer colors)

PUT-UP: 250′, 500′, 1000′

*DUPONT

ADDITIONAL SIZES AND VOLTAGES AVAILABLE

DABURN No.	AWG Size	Strand	Voltage Rating AC	Voltage Rating DC	Nom. O.D.
CRT-12-2	12	19/25	2500	10,000	.142″
CRT-12-2.5	12	19/25	3750	12,500	.152″
CRT-12-3	12	19/25	4500	15,000	.162″
CRT-12-3.5	12	19/25	5300	17,500	.172″
CRT-12-4	12	19/25	6000	20,000	.182″
CRT-12-5	12	19/25	7500	25,000	.202″
CRT-12-6.5	12	19/25	10,000	32,500	.232″
CRT-12-8	12	19/25	12,000	40,000	.262″
CRT-12-10	12	19/25	15,000	50,000	.302″
CRT-14-2	14	19/27	2500	10,000	.124″
CRT-14-2.5	14	19/27	3750	12,500	.134″
CRT-14-3	14	19/27	4500	15,000	.144″
CRT-14-3.5	14	19/27	5300	17,500	.154″
CRT-14-4	14	19/27	6000	20,000	.164″
CRT-14-5	14	19/27	7500	25,000	.184″
CRT-14-6.5	14	19/27	10,000	32,500	.214″
CRT-14-8	14	19/27	12,000	40,000	.244″
CRT-14-10	14	19/27	15,000	50,000	.284″
CRT-16-2	16	19/29	2500	10,000	.109″
CRT-16-2.5	16	19/29	3750	12,500	.119″
CRT-16-3	16	19/29	4500	15,000	.129″
CRT-16-3.5	16	19/29	5300	17,500	.139″
CRT-16-4	16	19/29	6000	20,000	.149″
CRT-16-5	16	19/29	7500	25,000	.169″
CRT-16-6.5	16	19/29	10,000	32,500	.199″
CRT-16-8	16	19/29	12,000	40,000	.229″
CRT-16-10	16	19/29	15,000	50,000	.269″
CRT-18-2	18	19/30	2500	10,000	.102″
CRT-18-2.5	18	19/30	3750	12,500	.112″
CRT-18-3	18	19/30	4500	15,000	.122″
CRT-18-3.5	18	19/30	5300	17,500	.132″
CRT-18-4	18	19/30	6000	20,000	.142″
CRT-18-5	18	19/30	7500	25,000	.162″
CRT-18-6.5	18	19/30	10,000	32,500	.192″
CRT-18-8	18	19/30	12,000	40,000	.222″
CRT-18-10	18	19/30	15,000	50,000	.272″
CRT-20-2	20	19/32	2500	10,000	.092″
CRT-20-2.5	20	19/32	3750	12,500	.102″
CRT-20-3	20	19/32	4500	15,000	.112″
CRT-20-3.5	20	19/32	5300	17,500	.122″
CRT-20-4	20	19/32	6000	20,000	.132″
CRT-20-5	20	19/32	7500	25,000	.152″
CRT-20-6.5	20	19/32	10,000	32,500	.192″
CRT-20-8	20	19/32	12,000	40,000	.212″
CRT-20-10	20	19/32	15,000	50,000	.252″
CRT-22-2	22	19/34	2500	10,000	.084″
CRT-22-2.5	22	19/34	3750	12,500	.094″
CRT-22-3	22	19/34	4500	15,000	.104″
CRT-22-3.5	22	19/34	5300	17,500	.114″
CRT-22-4	22	19/34	6000	20,000	.124″
CRT-22-5	22	19/34	7500	25,000	.144″
CRT-22-6.5	22	19/34	10,000	32,500	.174″
CRT-22-8	22	19/34	12,000	40,000	.204″
CRT-22-10	22	19/34	15,000	50,000	.244″
CRT-24-2	24	19/36	2500	10,000	.077″
CRT-24-2.5	24	19/36	2750	12,500	.087″
CRT-24-3	24	19/36	4500	15,000	.097″
CRT-24-3.5	24	19/36	5300	17,500	.107″
CRT-24-4	24	19/36	6000	20,000	.117″
CRT-24-5	24	19/36	7500	25,000	.137″
CRT-24-6.5	24	19/36	10,000	32,500	.167″
CRT-24-8	24	19/36	12,000	40,000	.197″
CRT-24-10	24	19/36	15,000	50,000	.237″
CRT-26-2	26	7/34	2500	10,000	.071″
CRT-26-2.5	26	7/34	3750	12,500	.081″
CRT-26-3	26	7/34	4500	15,000	.091″
CRT-26-3.5	26	7/34	5300	17,500	.101″
CRT-26-4	26	7/34	6000	20,000	.111″
CRT-26-5	26	7/34	7500	25,000	.131″
CRT-26-6.5	26	7/34	10,000	32,500	.161″
CRT-26-8	26	7/34	12,000	40,000	.191″
CRT-26-10	26	7/34	15,000	50,000	.231″
CRT-28-2	28	7/36	2500	10,000	.067″
CRT-28-2.5	28	7/36	3750	12,500	.077″
CRT-28-3	28	7/36	4500	15,000	.087″
CRT-28-3.5	28	7/36	5300	17,500	.097″
CRT-28-4	28	7/36	6000	20,000	.117″
CRT-28-5	28	7/36	7500	25,000	.127″
CRT-28-6.5	28	7/36	10,000	32,500	.157″
CRT-28-8	28	7/36	12,000	40,000	.187″
CRT-28-10	28	7/36	15,000	50,000	.227″

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DABURN

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WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

FEP TEFLON* CABLE

FEP EXTRUDED JACKET OVER SHIELD

DESCRIPTION: Each conductor silver plated stranded copper wire, Type E extruded TFE .010″ insulation. Color coded, cabled, braided silver plated copper shield — 90% coverage, FEP white teflon jacket overall.

TEMPERATURE RATING: −65°C to +200°C. **VOLTAGE RATING:** 600 V.

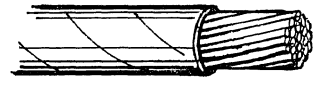
DABURN No.	Conds.	AWG Size	Strand	Nom. O.D.
2480	1	24	19/36	.085″
2480/2	2	24	19/36	.130″
2480/3	3	24	19/36	.135″
2480/4	4	24	19/36	.148″
2481	1	22	19/34	.091″
2481/2	2	22	19/34	.150″
2481/3	3	22	19/34	.158″
2481/4	4	22	19/34	.172″
2482	1	20	19/32	.100″
2482/2	2	20	19/32	.168″
2482/3	3	20	19/32	.178″
2482/4	4	20	19/32	.193″
2483	1	18	19/30	.110″
2483/2	2	18	19/30	.188″
2483/3	3	18	19/30	.207″
2483/4	4	18	19/30	.222″
2484	1	16	19/29	.123″
2484/2	2	16	19/29	.220″

STD. PUT-UP: 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green *Dupont

H FILM KAPTON* WIRE

DALITE™

HIGH TEMPERATURE HOOK-UP AND AIRFRAME WIRE 200°C CONTINUOUS TEMPERATURE RATING (a)



INSULATED WITH DUPONT KAPTON* POLYMIDE FILM WITH TEFLON* — FEP HEAT SEALED COATING CONFORMS TO MIL-W-81381.
CHARACTERISTICS: Dalite™ insulated wire provides high temperature stability, low temperature flexibility, high radiation resistance, resistance to cold flow, impervious to most chemicals, high dielectric strength, low dielectric constant, smaller diameters and lighter weight than any other comparable wire used for continuous operation up to 200°C. This hook-up wire meets the test requirements of MIL-W-16878 for 300 V, 600 V and 1000 V with **smaller wall thicknesses, weight and dimensions.**
(a) Temperature based on lowest temperature rating of materials in the insulation — FEP 200°C. Will pass 96 hour heat age tests at 290°C per MIL-W-16878.
DESCRIPTION: Single conductor, silver plated annealed copper conductors, Type H* Polymide film with Teflon* FEP coating tape wrapped overall.

DABURN No.	Type Designation	Size AWG	Strand	Voltage Rating (rms)	Nom. Wall	Nom. O.D.	Weight Per 1000′ (lbs.)
2490/30	HF 30	30	7/38	600	.0045″	.021″	0.52
2495/30	HHF 30	30	7/38	1000	.006″	.024″	0.57
2490/28	HF 28	28	7/36	600	.0045″	.024″	0.75
2495/28	HHF 28	28	7/36	1000	.006″	.027″	0.83
2490/26	HF 26	26	7/34	600	.0045″	.028″	1.11
2495/26	HHF 26	26	7/34	1000	.006″	.031″	1.21
2490/24	HF 24	24	19/36	600	.0045″	.034″	1.78
2495/24	HHF 24	24	19/36	1000	.006″	.037″	1.90
2490/22	HF 22	22	19/34	600	.0045″	.041″	2.71
2495/22	HHF 22	22	19/34	1000	.006″	.044″	2.86
2490/20	HF 20	20	19/32	600	.0045″	.049″	4.18
2495/20	HHF 20	20	19/32	1000	.006″	.052″	4.35
2490/18	HF 18	18	19/30	600	.0045″	.059″	6.46
2495/18	HHF 18	18	19/30	1000	.006″	.062″	6.67
2490/16	HF 16	16	19/29	600	.0045″	.066″	8.16
2495/16	HHF 16	16	19/29	1000	.006″	.069″	8.39

STD. PUT-UP: 1000 Ft. Striping and solid colors available. Variations of
STD. COLOR: Natural Gold. conductor material—to special order. *DUPONT

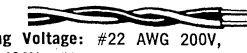
* KAPTON - DUPONT

UNSHIELDED AUDIO CABLE

SOLID AND STRANDED CONDUCTORS (2 & 3)

FOR INDOOR USE — NO OUTER JACKET

Tinned copper, vinyl plastic insulation, color coded, conductors twisted.



Operating Temp.: −20°C to +60°C. **Operating Voltage:** #22 AWG 200V, #20 AWG 350V, #18 AWG 400V, #16, #14 AWG 600V.

DABURN No.	Cond.	Size	Strand	Insul. Wall	Nom. O.D.
3004	2	22 Solid	1	.016″	.100″
3004/3	3	22 Solid	1	.016″	.115″
3005	2	20 Solid	1	.016″	.120″
3005/3	3	20 Solid	1	.016″	.140″
3006	2	18 Solid	1	.016″	.145″
3006/3	3	18 Solid	1	.016″	.155″
3007	2	16 Solid	1	.016″	.175″
3007/3	3	16 Solid	1	.016″	.190″
3011	2	22 Stranded	7/30	.016″	.125″
3011/3	3	22 Stranded	7/30	.016″	.140″
3012	2	20 Stranded	10/30	.016″	.145″
3012/3	3	20 Stranded	10/30	.016″	.160″
3013	2	18 Stranded	16/30	.016″	.165″
3013/3	3	18 Stranded	16/30	.016″	.180″
3014	2	16 Stranded	26/30	.016″	.190″
3014/3	3	16 Stranded	26/30	.016″	.210″
3015	2	14 Stranded	41/30	.016″	.220″
3015/3	3	14 Stranded	41/30	.016″	.240″
3016	2	12 Stranded	65/30	.020″	.250″
3016/3	3	12 Stranded	65/30	.020″	.275″

CONDUCTOR COLOR CODE: 1—Brown, 2—Tan, 3—Gray.
STD. PUT-UP: 1000 Ft.

PLASTIC JACKET OVERALL

FOR OUTDOOR USE

Tinned copper, vinyl plastic insulation, color coded, twisted, plastic jacket overall.

Operating Temp.: −20°C to +60°C.
Operating Voltage: #22 AWG 200V, #20 AWG 350V, #18 AWG 400V, #16, #14 AWG 600V.

DABURN No.	Cond.	Size	Strand	Nom. Wall	Jacket	Nom. O.D.
3020	2	22	1	.010″	.020″	.125″
3020/3	3	22	1	.010″	.020″	.130″
3020/4	4	22	1	.010″	.020″	.150″
3021	2	20	1	.016″	.020″	.170″
3021/3	3	20	1	.016″	.020″	.180″
3021/4	4	20	1	.016″	.020″	.200″
3022	2	18	1	.016″	.020″	.185″
3022/3	3	18	1	.016″	.020″	.190″
3022/4	4	18	1	.016″	.020″	.220″
3022/5	5	18	1	.016″	.020″	.235″
3022/6	6	18	1	.016″	.020″	.265″
3027	2	22	7/30	.010″	.020″	.130″
3027/3	3	22	7/30	.010″	.020″	.140″
3027/4	4	22	7/30	.010″	.020″	.165″
3028	2	20	10/30	.016″	.020″	.175″
3028/3	3	20	10/30	.016″	.020″	.185″
3028/4	4	20	10/30	.016″	.020″	.195″
3029	2	18	16/30	.016″	.020″	.195″
3029/3	3	18	16/30	.016″	.020″	.205″
3029/4	4	18	16/30	.016″	.020″	.235″
3029/6	6	18	16/30	.016″	.020″	.290″
3030	2	16	26/30	.016″	.020″	.220″
3030/3	3	16	26/30	.016″	.020″	.245″
3030/4	4	16	26/30	.016″	.020″	.270″
3031	2	14	41/30	.016″	.020″	.260″
3031/3	3	14	41/30	.016″	.020″	.280″

STD. PUT-UP: 1000 Ft.
CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green, 5—Orange, 6—Blue. **SPECIAL CONSTRUCTIONS AVAILABLE**

PLASTIC INTER-COM CABLE

Station to station wiring to eliminate cross-talk. Each conductor tinned copper stranded, color coded PVC, T.C. braid, shield where indicated, paired, grey polyvinylchloride jacket overall.

2935 — Suitable for unbalanced systems.
2935/4 — Suitable for balanced systems.
2935/5 — Suitable for coin operated phonographs.

OPERATING VOLTAGE: 350 Volts.
OPERATING TEMPERATURE: −20°C to +60°C.

DABURN Cat. No.	Cond.	Size	Strand	No. Cond. Shield	Nom. Wall	Nom. Jacket	O.D.
2935	3	22	7/30	1	.016″	.020″	.200″
2935/4	4	22	7/30	2	.016″	.020″	.180″x.285″
2935/5	5	22	7/30	3	.016″	.020″	.200″x.300″

CONDUCTOR COLOR CODE: **STD. PUT-UP:** 500 Ft., 1000 Ft.
2935 — White — shielded; Black, Red — unshielded.
2935/4 — Black, White — Shielded; Black, Red — unshielded.
2935/5 — Black, White, Red — shielded; Black, Red — unshielded.

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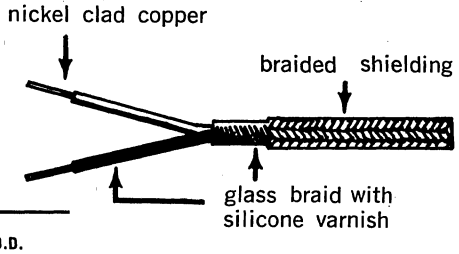
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

NEW DABURN HIGH TEMPERATURE LEAD WIRE

Small Diameters and High Temperature performance make an outstanding combination for these unique constructions. Basic wire conforms to MIL-W-3861 spec. shielding per MIL-N-46026A. 600V RMS.

800°F TEMPERATURE RATING

High temperature aircraft and missile lead wire for operation between 500°F and 800°F. Nickel clad copper conductors with glass braided fiber insulation impregnated with silicone varnish. Multiconductor and shielded construction will be manufactured to customer's specifications.

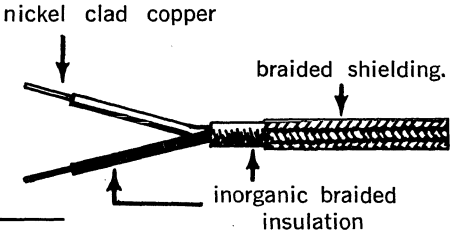


DABURN Cat. No.	Size	Strand	CMA	Nom. O.D.
2497/18	18	19/.010″	755	.085″
2497/20	20	19/.008″	1216	.075″
2497/22	22	19/.0063″	1900	.070″

STD. PUT-UP: 500 Ft., 1000 Ft.

1500°F TEMPERATURE RATING

High temperature radiation resistant aircraft and missile lead wire for operation between 800°F and 1500°F. Nickel clad copper conductors with inorganic braided insulation. Useful up to 1500°F providing moisture resistance is not required. Multiconductor and shielded construction can be made to customer's specifications.

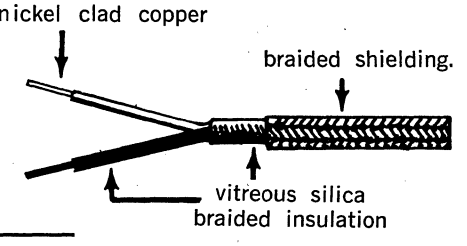


DABURN Cat. No.	Size	Strand	CMA	Nom. O.D.
2498/18	18	19/.010″	755	.085″
2498/20	20	19/.008″	1216	.075″
2498/22	22	19/.0063″	1900	.070″

STD. PUT-UP: 500 Ft., 1000 Ft.

2000°F TEMPERATURE RATING

High temperature radiation resistant aircraft and missile lead wire for operation between 1500°F and 2000°F. Nickel clad copper conductors with vitreous silica braided insulation and a braided shielding. Useful up to 200°F providing no initial moisture resistance or abrasion resistance is required. Multiconductor construction can be made to customer's specifications.



DABURN Cat. No.	Size	Strand	CMA	Nom. Insulation Thickness	Braid Ni. Shield	Nom. O.D.
2499/18	18	19/.010″	755	.025″	16-5-36	.122″
2499/20	20	19/.008″	1216	.025″	24-3-36	.112″
2499/22	22	19/.0063″	1900	.027″	24-3-36	.108″

STD. PUT-UP: 500 Ft., 1000 Ft.

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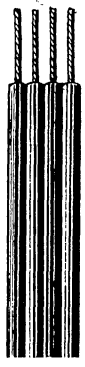
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

FLAT RIBBON CABLE, TYPES F & FF PER MIL-W-16878D PLASTIC, SILICONE RUBBER HOOK-UP WIRE — HIGH VOLTAGE CABLE

FLAT RIBBON CABLE



MULTI-CONDUCTOR — POLYVINYLCHLORIDE INSULATION CONDUCTORS
Per MIL-W-16878D — TYPE B — 600 V

DESCRIPTION: Each conductor stranded tinned copper .010″ polyvinylchloride insulation bonded to form flat ribbon cable.

Rated: −55°C to +105°C. Voltage Rating: 600 volts. Resists acid, alkalis, flame, moisture, oil, solvents, fungus. Conductors are color coded and separate easily for clean terminations. Saves space, time on circuit and interconnecting assemblies, wiring harnesses, sliding drawers and drop assemblies.

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
1804/4	4	24	7/32	.010″	.043″ x .172″
1804/8	8	24	7/32	.010″	.043″ x .344″
1804/12	12	24	7/32	.010″	.043″ x .516″
1804/16	16	24	7/32	.010″	.043″ x .688″
1804/20	20	24	7/32	.010″	.043″ x .860″

STD. PUT-UP: 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE: Same as noted below for C-22 Series. Additional sizes and types available to order.

FLAT RIBBON CABLE
MULTI-CONDUCTOR — POLYVINYLCHLORIDE INSULATION CONDUCTORS
Per MIL-W-16878D TYPE C

VOLTAGE RATING: 1000 VOLTS

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
1822/4	4	22	7/30	.016″	.065″ x .260″
1822/8	8	22	7/30	.016″	.065″ x .520″
1822/12	12	22	7/30	.016″	.065″ x .780″
1822/16	16	22	7/30	.016″	.065″ x 1.040″
1822/20	20	22	7/30	.016″	.065″ x 1.300″

STD. PUT-UP: 250 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE:

1—White	6—Lt. Blue	11—Wh/Black	16—Wh/Brown
2—Black	7—Brown	12—Wh/Red	17—Wh/Orange
3—Red	8—Orange	13—Wh/Green	18—Wh/Gray
4—Green	9—Gray	14—Wh/Yellow	19—Wh/Violet
5—Yellow	10—Violet	15—Wh/Blue	20—Wh/Blk/Red

SEMI-RIGID BUSINESS MACHINE WIRE — U.L.
300 VOLT 80°C — STYLE 1061

Stranded tinned copper, color coded semi-rigid polyvinlchloride insulation. Has Temperature Rating of −10°C to +80°C, 300 volts in electronic computers or business machines only.

DESCRIPTION: One Conductor stranded tinned copper, semi-rigid PVC.

DABURN No.	Size	Strand	Nom. Ins. Wall	Nom. O.D.
2660/26	26	7/34	.009″	.039″
2660/24	24	7/32	.009″	.041″
2660/22	22	7/30	.009″	.048″
2660/20	20	7/28	.009″	.056″
2660/18	18	7/26	.009″	.072″

STD. PUT-UP: 500 Ft., 1000 Ft.

MIL-W-16878D — TYPES F & FF

TYPE F — 600V • TYPE FF — 1000V
Single conductor, stranded tinned copper. Extruded silicone rubber overall. Temp. to 200°C.

DABURN No.	MIL Type Designation	Size AWG	Strand	Nom. O.D.
2620/28	F-28	28	7/36	.046″
2622/28	FF-28	28	7/36	.078″
2620/26	F-26	26	7/34	.050″
2622/26	FF-26	26	7/34	.082″
2620/24	F-24	24	19/36	.055″
2622/24	FF-24	24	19/36	.087″
2620/22	F-22	22	19/34	.062″
2622/22	FF 22	22	19/34	.094″
2620/20	F-20	20	19/32	.070″
2622/20	FF-20	20	19/32	.102″
2620/18	F-18	18	19/30	.080″
2622/18	FF-18	18	19/30	.112″
2620/16	F-16	16	19/29	.088″
2622/16	FF-16	16	19/29	.120″
2620/14	F-14	14	19/27	.118″
2622/14	FF-14	14	19/27	.165″
2620/12	F-12	12	19/25	.137″
2622/12	FF-12	12	19/25	.184″
2622/10	FF-10	10	37/26	.205″
2622/8	FF-8	8	133/29	.290″
2622/6	FF-6	6	133/27	.333″
2622/4	FF-4	4	133/25	.390″

COLOR: White. Additional colors, sizes and types to order, thru size 4/0
STD. PUT-UP: 500 Ft., 1000 Ft.

SILICONE RUBBER LEAD WIRE
600 VOLT — 200°C

FLEXIBILITY FROM −104°C TO +400°F

Suitable for high-heat and hi-frequency applications. Resistant to acids, alkali, oil. Retains physical properties under extremes. Low power factor, low dielectric constant. Tinned copper, stranded, silicone rubber insulation, glass braid, lacquered. Color: White.

DESCRIPTION: One conductor, tinned copper strands, silicone rubber insulation, glass braid, lacquered.

COLOR: White

DABURN No.	Size	Strand	Nom. Ins. Wall	Nom. O.D.
2625/22	22	7/30	1/32″	.105″
2625/20	20	10/30	1/32″	.121″
2625/18	18	16/30	1/32″	.128″
2625/16	16	26/30	1/32″	.144″
2625/14	14	41/30	1/32″	.165″
2625/12	12	65/30	1/32″	.185″
2625/10	10	65/28	3/64″	.240″
2625/8	8	84/27	1/16″	.320″

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

HI-VOLTAGE CABLE

One conductor, stranded copper tinned, rulan — flame retardant — polyethylene insulation, braided tinned copper overall when shielded. Used as hi-voltage leads in electronic equipment to minimize RF radiation in equipment.

DESCRIPTION: One conductor; stranded copper tinned, rulan (flame retarding type) polyethylene insulation. Available white/red tracer. Temp. Rating: 105°C.

Shielded: Same as above with tinned copper braided shield overall. Special construction available to order.

Daburn No.	Size AWG	Strand	Nom. Ins.Wall	Voltage Breakdown AC	DC	Nom. O.D.
UNSHIELDED						
2641	22	7/30	.047″	5,000	10,000	.124″
2642	20	10/30	.047″	5,000	10,000	.125″
2643	20	10/30	.068″	10,000	20,000	.168″
2644	18	16/30	.047″	5,000	10,000	.134″
2645	18	16/30	.068″	10,000	20,000	.178″
2648	18	16/30	.095″	16,000	40,000	.235″
2649	18	16/30	.124″	26,000	60,000	.280″
SHIELDED						
2652	20	10/30	.095″	16,000	40,000	.252″
2655	18	16/30	.095″	16,000	40,000	.255″
2656	16	26/30	.095″	16,000	40,000	.276″

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

PLASTIC HOOK-UP WIRE

600 VOLT UL APPROVED — 105°C (CSA 600V — 90°C)
STYLE 1015, CSA TR-32

Resistant to acids, alkalis, oil, flame, fungus and moisture. Temperature Rating: −10°C to +105°C.

DESCRIPTION: One conductor stranded annealed copper tinned, plastic insulation.

DABURN No.	Size	Strand	Nom. Ins. Wall	Nom. O.D.
STRANDED				
2630	22	7/30	.032″	.095″
2631	20	10/30	.032″	.102″
2632	18	16/30	.032″	.112″
2633	16	26/30	.032″	.126″
2633/14	14	41/30	.032″	.142″
SOLID				
2635/22	22	1	.032″	.095″
2635/20	20	1	.032″	.102″

COLORS: Black, Red, Green, Yellow, Blue, White, Orange, Gray, Purple.
STD. PUT-UP: 100 Ft.. 500 Ft.. 1000 Ft.

300 VOLT UL APPROVED — 80°C
STYLE 1007, CSA TR-64

DABURN No.	Size	Strand	Nom. Ins. Wall	Nom. O.D.
2628/24	24	7/32	.016″	.057″
2628/22	22	7/30	.016″	.065″
2628/20	20	10/30	.016″	.070″
2628/18	18	16/30	.016″	.080″
2628/16	16	26/30	.016″	.095″

COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange, Gray, Purple.
STD. PUT-UP: 100 Ft.. 500 Ft.. 1000 Ft.

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PORTABLE CORD, CONTROL CABLES — MIL-C-3432B SERVICE CORD

RUBBER, NEOPRENE & PLASTIC PORTABLE CORD
UL APPROVED — 300 AND 600 VOLT

For power line requirement where rough usage is indicated as for amplifiers, sound systems, speakers, vacuum cleaners, washing machines, trouble lights, refrigerators, etc. Color coded. Underwriters approved. Neoprene and plastic construction recommended for equipment exposed to oil, acids, outdoor use, direct burial, etc.

SUGGESTED OPERATING TEMPERATURE: −20°C to +60°C.
Each conductor, copper conductor, paper separtor, color coded, rubber insulation, filler, (where necessary) separator, tough rubber or neoprene jacket, black.

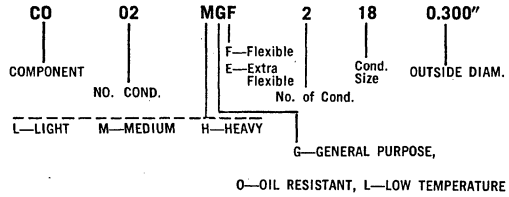
UL TYPE	VOLT RATING
SV, SVO, SVTO	300V
SJ, SJO, SJTO	300V
S, SO, STO	600V

RUBBER Daburn No.	UL Type	NEOPRENE Daburn No.	UL Type	PLASTIC Daburn No.	UL Type	Conds. No.	Size	Amp. Rating	Nom. O.D.
2860	SV	2890	SVO	2870	SVTO	2	18	7	.250″
2860/3	SV	2890/3	SVO	2870/3	SVTO	3	18	7	.265″
2861	SJ	2891	SJO	2871	SJTO	2	18	7	.300″
2861/3	SJ	2891/3	SJO	2871/3	SJTO	3	18	7	.330″
2861/4	SJ	2891/4	SJO	2871/4	SJTO	4	18	6	.360″
2862	SJ	2892	SJO	2872	SJTO	2	16	10	.325″
2862/3	SJ	2892/3	SJO	2872/3	SJTO	3	16	10	.365″
2862/4	SJ	2892/4	SJO	2872/4	SJTO	4	16	8	.395″
2863	S	2893	SO	2873	STO	2	18	7	.390″
2863/3	S	2893/3	SO	2873/3	STO	3	18	7	.405″
2863/4	S	2893/4	SO	2873/4	STO	4	18	6	.435″
2864	S	2894	SO	2874	STO	2	16	10	.410″
2864/3	S	2894/3	SO	2874/3	STO	3	16	10	.430″
2864/4	S	2894/4	SO	2874/4	STO	4	16	8	.485″
2865	S	2865	SO	2875	STO	2	14	15	.540″
2865/3	S	2895/3	SO	2875/3	STO	3	14	15	.560″
2865/4	S	2895/4	SO	2875/4	STO	4	14	12	.605″
2866	S	2896	SO	2876	STO	2	12	20	.600″
2866/3	S	2896/3	SO	2876/3	STO	3	12	20	.635″
2866/4	S	2896/4	SO	2876/4	STO	4	12	16	.665″
2867	S	2807	SO	2877	STO	2	10	25	.640″
2867/3	S	2897/3	SO	2877/3	STO	3	10	25	.690″
2867/4	S	2897/4	SO	2877/4	STO	4	10	20	.745″
2868	—	2898	—	—	—	2	8†	35	.700″
2868/3	—	2898/3	—	—	—	3	8†	35	.750″
2868/4	—	2898/4	—	—	—	4	8†	28	.820″
2869	—	2899	—	—	—	2	6†	45	.820″
2869/3	—	2899/3	—	—	—	3	6†	45	.885″
2869/4	—	2899/4	—	—	—	4	6†	36	.975″

Additional conductors and sizes available † Not listed by UL.
CONDUCTOR COLOR CODE: 1-White, 2-Black, 3-Green, 4-Red.
STD. PUT-UP: 250 Ft.

COMPONENT CABLE TYPE SPECIFICATIONS

TYPICAL EXAMPLE:



SPEC MIL-C-3432C SERVICE CORD

DABURN Cat. No.	MIL Type	Spec. Design.	Conds.	Size	Spec. No.	Nom. O.D.
2812	CO-02	MGF	2	18	MIL-C-3432C	.300″
2813	CO-02	HGF	2	18	MIL-C-3432C	.380″
2814	CO-02	LGF	2	18	MIL-C-3432C	.250″
2815	CO-02	HGF	2	16	MIL-C-3432C	.405″
2816	CO-02	MGF	2	16	MIL-C-3432C	.338″
2817	CO-02	MGF	2	14	MIL-C-3432C	.400″
2818	CO-02	HGF	2	14	MIL-C-3432C	.535″
2819	CO-02	MGF	3	18	MIL-C-3432C	.340″
2820	CO-03	MGF	3	16	MIL-C-3432C	375″
2821	CO-03	HOE	3	12	MIL-C-3432C	.635″

Additional Numbers Available From Stock — Your Inquiries Invited

CONTROL CABLE
HEAVY DUTY MULTI-CONDUCTOR
PORTABLE TYPE SO
NEOPRENE JACKETED — 600 VOLT

DESCRIPTION: Stranded bare copper each conductor, rubber insulation color coded, filler where necessary, wrap over conductors, flexible heavy duty black Neoprene jacket overall.

Recommended for outside installation, this heavy duty control cable resists oil, ozone, sunlight, moisture, impact and abrasion. Suitable for remote control automatic equipment, telemetering, signal transmission.

No. 18 AWG-SO CONTROL CABLE

DABURN Cat. No.	Cond.	Size AWG	Strand	Nom. O.D.
3300/5	5	18	16/30	.495″
3300/6	6	18	16/30	.525″
3300/7	7	18	16/30	.525″
3300/8	8	18	16/30	.565″
3300/10	10	18	16/30	.635″
3300/12	12	18	16/30	.665″
3300/14	14	18	16/30	.715″
3300/16	16	18	16/30	.745″
3300/18	18	18	16/30	.775″
3300/20	20	18	16/30	.815″
3300/22	22	18	16/30	.875″
3300/24	24	18	16/30	.895″
3300/26	26	18	16/30	.915″
3300/30	30	18	16/30	.945″
3300/36	36	18	16/30	1.060″
3300/40	40	18	16/30	1.085″

No. 16 AWG-SO CONTROL CABLE

3305/5	5	16	26/30	.525″
3305/6	6	16	26/30	.560″
3305/7	7	16	26/30	.560″
3305/8	8	16	26/30	.605″
3305/10	10	16	26/30	.710″
3305/12	12	16	26/30	.745″
3305/14	14	16	26/30	.760″
3305/16	16	16	26/30	.800″
3305/18	18	16	26/30	.840″
3305/20	20	16	26/30	.890″
3305/22	22	16	26/30	.930″
3305/24	24	16	26/30	1.02″
3305/26	26	16	26/30	1.03″
3305/30	30	16	26/30	1.05″
3305/36	36	16	26/30	1.12″
3305/40	40	16	26/30	1.18″

No. 14 AWG-SO CONTROL CABLE

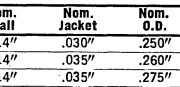
3310/5	5	14	41/30	.685″
3310/6	6	14	41/30	.745″
3310/7	7	14	41/30	.800″
3310/8	8	14	41/30	.860″
3310/10	10	14	41/30	.875″
3310/12	12	14	41/30	.945″
3310/14	14	14	41/30	1.000″
3310/16	16	14	41/30	1.075″
3310/18	18	14	41/30	1.115″
3310/20	20	14	41/30	1.155″

No. 12 AWG-SO CONTROL CABLE

3315/5	5	12	65/30	.760″
3315/6	6	12	65/30	.810″
3315/7	7	12	65/30	.860″
3315/8	8	12	65/30	.945″
3315/10	10	12	65/30	1.000″
3315/12	12	12	65/30	1.100″
3315/14	14	12	65/30	1.120″
3315/16	16	12	65/30	1.150″
3315/18	18	12	65/30	1.30″
3315/20	20	12	65/30	1.33″

STD. PUT-UP: Cut to Specific Lengths — Min. 100 Ft.
The Color Code for Neoprene Jacket Control Cables Conforms to IPCEA Standards.

MULTI-CONDUCTOR MICROPHONE AND CONTROL CABLE — PLASTIC



Each conductor tinned copper, polyethylene insulation — color coded.
Multi-conductors cabled with fillers, textile wrapped, tinned copper braided shield, gray polyvinyl jacket overall.
OPERATING TEMPERATURE: −20°C to +60°C, 600 Volts.

2782	2	22	16/34	31 MMF	1000 V	.231″
2782/20	2	20	26/34	45 MMF	600 V	.240″
2782/24	2	24	10/34	38 MMF	1000 V	.190″

DABURN Cat. No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
2783	3	20	26/34	.014″	.030″	.250″
2784	4	20	26/34	.014″	.035″	.260″
2785	5	20	26/34	.014″	.035″	.275″
2786/8	8	20	26/34	.014″	.035″	.330″
2786/10	10	20	26/34	.014″	.035″	.375″
2786/12	12	20	26/34	.014″	.035″	.380″
2786/15	15	20	26/34	.014″	.035″	.410″
2786/20	20	20	26/34	.014″	.035″	.455″

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1-White, 2-Black, 3-Red, 4-Green, 5-Yellow, 6-Blue 7-Brown, 8-Orange, 9-Purple, 10-Slate, 11-White/Black, 12-White/Red, 13 White/Green, 14-White/Yellow, 15-White/Blue, 16-White/Brown, 17-White/Purple, 18-White/Slate, 19-Black/Red, 20-Black/Yellow.

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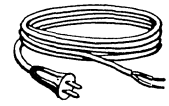
DABURN ELECTRONICS & CABLE CORP.
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

POWER CORDS • COAXIAL CABLE • ROTOR • SPEAKER CABLE

SERVICE CORD — HEAVY DUTY

UL and CSA approved

Suitable for replacement on machinery, tools, refrigerators, electronic devices



DESCRIPTION: Two and three conductors, stranded bare copper, serve, rubber insulation, filler, wrap, tough black rubber jacket overall. Molded plug one end, free end stripped and tinned — Hanked.

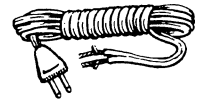
VOLTAGE RATING: 300V

DABURN No.	Cord L'gth.Ft.	Cond.	Size	Strand	Type	Amp Rating	Cord O.D.
1980	8	2	16	65/34	SJ	10	.325″
1980/3	8	3	16	65/34	SJ	10	.355″
1982/3	8	3	18	41/34	SJ	7	.330″
1984	9	2	18	41/34	SV	7	.245″
1984/3	9	3	18	41/34	SV	7	.265″

Std Pkg. 25

UL APPROVED — SERVICE LINE CORD

Use as an all purpose power supply cord for small appliances, lamps, radios, etc.



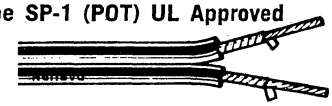
DESCRIPTION: Two conductors parallel SP-1 (POSJ) with molded-on male plug, double brass blades, conductor end stripped and tinned — Hanked. Available in black and brown. 300V rating.

DABURN No.	Length	Cond.	Size	Strand	Nom. O.D.	Std. Pkg.
1987	6	2	18	41/34	130″ x .235″	50
1988	7½	2	18	41/34	130″ x .235″	50

LAMP CORD

Types SP-1 (POSJ-64) — Type SP-1 (POT) UL Approved

An all purpose approved cord both SP-1 (rubber) and SP-1 (Plastic) for lamps, radios and small instruments and appliances. 300V rating.



DABURN No.	Cond.	Size	Strand	Insul.	Type	UL Type	Nom. O.D.
1990	2	18	41/34	Rubber	SP-1	POSJ	.130″x.235″
1991	2	18	41/34	Plastic	SPT-1	POT	.130″x.225″
1993	2	18	41/34	Pl. Clear	SPT-1	POT	.115″x.215″
1994	2	16	65/34	Pl. Brown	SPT-2	POT	.160″x.300″

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.
COLORS: (Rubber) Brown, Black, White; (Plastic) Brown, Black, Ivory.

DABURN COAXIAL CABLES WITH HIGH TEMPERATURE TEFLON* CORE DIELECTRIC

Meets MIL-C-17C

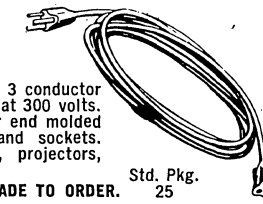
These Teflon* Core Dielectric Co-Axial Cables combine both miniaturization and hi-temperature qualities. The Teflon Jackets are weatherproof, resistant to fuels and are extremely flexible. Shield: Silver Covered Copper.

DABURN No.	Military Number RG/U Type	Ohms	Cap. MMFT/ Ft.	Inner Conductor	O.D. Inches	Max. Oper. Volts RMS	Nom. Atten. DB/100′ 400 Mc	RG/U Type
D187A/U	187A/U	75	19.5	7/28 Silvered Copperweld	.110	1200	16.0	187A/U
D188/U	188/U	50	29.0	7/.0067 Silvered Copperweld	.110	1200	16.7	188/U
D188A/U	188A/U	50	29.0	7/.0067 Silvered Copperweld	.110	1200	16.7	188A/U
D195/U	195/U	95	15.0	7/38 Silvered Copperweld	.155	1500	11.0	195/U
D195A/U	195A/U	95	15.0	7/38 Silvered Copperweld	.155	1500	11.0	195A/U
D196/U	196/U	50	28.5	7/38 Silvered Copperweld	.080	1000	28.0	196/U
D196A/U	196A/U	50	28.5	7/38 Silvered Copperweld	.080	1000	28.0	196A/U

STD. PUT-UP: 500 Ft., 1000 Ft. *TEFLON—DUPONT
JKT MTL.: D187A/U Teflon. All others TFE Teflon.

POWER CORD SETS

UL and CSA approved

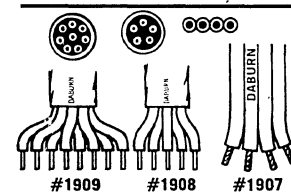


Manufactured for lasting service these 2 and 3 conductor quality black rubber cords are flexible. Rated at 300 volts. One end has molded plastic male plug, other end molded female plug. Will fit conventional plugs and sockets.
Useful for business and data machines, projectors, vacuum cleaners, appliances, etc.

Std. Pkg. 25

CUSTOM CONSTRUCTION OF POWER CORDS MADE TO ORDER.

Cat. No.	Size & Conds.	Cord Length Ft.	UL Type	Strand	Amp Rating	Nom. O.D.
9-201	2/18	6	SV	41/34	7	.245″
9-202	2/18	9	SV	41/34	7	.245″
9-203	2/18	10	SJ	16/30	7	.300″
9-204	2/18	25	SJ	16/30	7	.300″
9-206	2/16	10	SJ	26/30	10	.325″
9-207	2/16	25	SJ	26/30	10	.325″
9-208	2/16	50	SJ	26/30	10	.325″
9-211	3/18	10	SJ	16/30	7	.330″
9-212	3/18	25	SJ	16/30	7	.330″
9-213	3/18	50	SJ	16/30	7	.330″
9-215	3/16	15	SJ	26/30	10	.365″
9-216	3/16	25	SJ	26/30	10	.365″
9-217	3/16	50	SJ	26/30	10	.365″



#1909 #1908 #1907

ANTENNA CONTROL ROTOR CABLE

#1907 — 4 cond. flat parallel polyethylene plastic insulation — one outer conductor tinned, balance bare copper.
#1908 — 5 cond. twisted, color coded, vinyl plastic jacket overall.
#1909 — 8 cond. twisted, color coded vinyl plastic jacket overall.

DABURN No.	Cond.	Size	Strand	Nom. O.D.
1907	4	20	7/28	.072″ x .390″
1908	5	20	7/28	.180″
1909	8	22	7/30	.205″

CONDUCTOR COLOR CHART FOR #1908, 1909
1-Black, 2-White, 3-Red, 4-Green, 5-Yellow, 6-Blue, 7-Brown, 8-Orange.
STD. PUT-UP: 500 Ft., 1000 Ft.

RG/U COAXIAL CABLE

DESCRIPTION: One conductor, polyethylene insulation, copper braid shield, plastic jacket overall.

DABURN No.	Spool	Type	Nom. Imp.	Size	Nom. MMFD/ Ft.	Strand	O.D.
1925	500′	RG-8/U	52	13	29.5	7/21 Bare	.405″
1926	500′	RG-9/U	51	13	30.0	7/21 S	.420″
1927	500′	RG-11/U	75	18	20.5	7/26 Tinned	.405″
1928	1000′	RG-58A/U	50	20	29.0	19/.0068 Tinned	.195″
1929	1000′	RG-58/U	53.5	20	28.5	Solid	.195″
1930	1000′	RG-59/U	73	22	21.0	Solid C.W.	.242″
1931	1000′	RG-62/U	93	22	13.5	Solid	.242″

Additional RG numbers available conforming to MIL-C-17B Specs.

PLASTIC SPEAKER CABLE

CLEAR AND COLORED INSULATION

DESCRIPTION: Conductors are parallel, stranded bare copper, color coded and clear polyvinylchloride insulation. Conductors separate quickly when split apart. Suitable for hi-fi speaker cable, miniature juke-box speaker connection, rear auto speaker extension cable. Clear insulation blends with any interior.
TEMPERATURE RATING: −20°C to +60°C. **OPER. VOLTAGE:** 300V

Daburn No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.	Stock Colors
2754	2*	24	7/32	.016″	.057″x.120″	Brn., Blk., Wh., Gray, Tan
2755	2*	24	7/32	.016″	.057″x.120″	Clear
2756	2	20	10/30	.016″	.085″x.175″	Brn., Blk., Wh., Gray, Tan
2757	2	20	10/30	.016″	.085″x.175″	Clear
2758	2	18	41/34	.032″	.115″x.215″	Brn., Blk., Wh., Gray, Tan
2759	2	18	41/34	.032″	.115″x.215″	Clear

* 1 conductor tinned, 1 bare.
STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.

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Long Lasting Service — useful wherever cords must change length or position. Extend to approximately six times its retracted length. Returns to its original shape or length when released. Eliminates tangling, twisting or knots. Cords are UL and CSA approved.

RETRACTILE COILED CORDS

POWER CORDS — RETRACTED LENGTHS: 1, 2, 3 & 4 FT. • EXTENDED LENGTHS: 6, 12, 18 & 25 FT.

UL APPROVED — NEOPRENE JACKETED CORD
Operating Temperature: −20°C to +60°C

DABURN CAT. NOS. RETRACTED LENGTHS 4 Ft.† Length	3 Ft. Length	2 Ft. Length	1 Ft. Length	No. Conds.	Size	Strand	UL* and CSA Type	Amps	Volt Rating	Coil Nom. O.D.	Cord Nom. O.D.
986-4	986-3	986-2	986-1	2	18	41/34	SVO	7	300	⅞″	.250″
986/3-4	986/3-3	986/3-2	986/3-1	3	18	41/34	SVO	7	300	1″	.275″
987-4	—	—	—	2	18	41/34	SVT	7	300	⅞″	.250″
989-4	989-3	989-2	989-1	2	18	41/34	SJO	7	300	1 3/16″	.310″
989/3-4	989/3-3	989/3-2	989/3-1	3	18	41/34	SJO	7	300	1⅜″	.330″
989/4-4	989/4-3	989/4-2	989/4-1	4	18	41/34	SJO	5.6	300	1 7/16″	.360″
989/5-4	—	989/5-2	—	5	18	41/34	—	5.6	300	1¾″	.440″
989/7-4	—	989/7-2	—	7	18	41/34	—	5.6	300	1⅞″	.500″
990-4	—	—	—	2	18	41/34	SJT	7	300	1 3/16″	.310″
991-4	991-3	991-2	991-1	2	16	65/34	SJO	10	300	1⅜″	.330″
991/3-4	991/3-3	991/3-2	991/3-1	3	16	65/34	SJO	10	300	1 7/16″	.365″
991/4-4	991/4-3	991/4-2	—	4	16	65/34	SJO	8	300	1⅝″	.395″
991/5-4	—	991/5-2	—	5	16	65/34	—	8	600	2″	.540″
991/6-4	—	991/6-2	—	6	16	65/34	—	8	600	2⅛″	.550″
991/7-4	—	991/7-2		7	6/16 1/14	#16-65/34 #14-41/30	— —	#16-8 #14-12	600	2¼″	.600″
993-4	993-3	993-2	—	2	14	41/30	SO	15	600	2″	.535″
993/3-4	993/3-3	993/3-2	—	3	14	41/30	SO	15	600	2⅛″	.560″
993/4-4	993/4-3	993/4-2	—	4	14	41/30	SO	12	600	2¼″	.605″
994-4	994-3	994-2	—	2	12	65/30	SO	20	600	2¼″	.605″
994/3-4	994/3-3	994/3-2	—	3	12	65/30	SO	20	600	2⅜″	.635″
994/4-4	994/4-3	994/4-2	—	4	12	65/30	SO	16	600	2½″	.665″
994/6-4	—	994/6-2		6	2/12 4/18	#12-65/30 #18-41/34	— —	#12-17 #18-6	600	2¼″	.605″
994/7-4	—	994/7-2	—	7	12	65/30	—	16	600	2⅝″	.775″

* Wherever UL type is shown, approved by CSA Testing Laboratories.
† Preferred Put-up.

Std. Pkg. 5

CONDUCTOR COLOR CODE: 1-Black, 2-White, 3-Green, 4-Red, 5-Blue, 6-Brown, 7-Yellow.

DABURN MINIATURE RETRACTILE COMMUNICATION CORDS

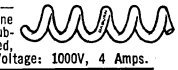
2 Feet Retracted — 10 Ft. Extended

Miniature size. Suitable for compact equipment. Black plastic jacket overall.
Operating Temperature: −20°C to +60°C — Std. Pkg. 10

DABURN No.	Conds.	Size	Strand	Coil O.D.	Cond. O.D.
975/28	2	28	19/40 T.C.	½″	.135″
977/28	4	28	19/40 T.C.	½″	.150″

RETRACTILE TEST LEAD WIRE

Stretch coiled kinkless test lead wire description. 12″ coil — stretches to approx. 6 feet. One conductor #20 stranded copper rubber insulation .165 O.D. Colors: Red, Black. Coil O.D. ¾″. Working Voltage: 1000V, 4 Amps.



DABURN No.	Lgth.	Size	Strand	Coil O.D.	Cord O.D.
984A	12″	20	41/36	¾″	.165″
984	24″	20	41/36	¾″	.165″

12″ Extends Approx. 6 Ft.
24″ Extends Approx. 12 Ft.

Specify Color, Red or Black
Std. Pkg. 6

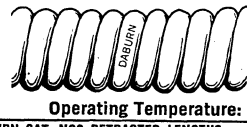
UL APPROVED RETRACTILE POWER CORD SETS

18″ Retracted — Approx. 9 Ft. Extended — 300V — UL Approved

For portable use. Mobile and office equipment. Neoprene jacketed cord sets with molded male plug on one end.
OPERATING VOLTAGE 300 VOLTS

DABURN Cat. No.	Conds.	AWG Size	Strand	Type UL	Coil O.D.	Cord O.D.
980	2	18	41/34	SVO	⅞″	.250″
980/3	3	18	41/34	SVO	1″	.275″
981	2	18	41/34	SJO	1 3/16″	.310″
981/3	3	18	41/34	SJO	1⅜″	.330″
982	2	16	65/34	SJO	1⅜″	.330″
982/3	3	16	65/34	SJO	1 7/16″	.365″

CONDUCTOR COLOR CODE: 1-Black, 2-White, 3-Green. — Std. Pkg. 10



RETRACTILE COMMUNICATION COIL CORDS

RETRACTED LENGTHS 2, 3 & 4 FT. — EXTENDED LENGTHS 12, 18 & 25 FT.

Multi-conductors stranded extra flexible #23 AWG 21/36 tinned soft copper for long flex life, Neoprene or "Danyon" plastic jacketed cable for long life. 120 volt working, current carrying capacity 1 ampere. Nom. Cond. resist. .022 ohms per linear foot., .185 ohms per retracted foot.
For communication equip. such as ham operations, telephone car carriers, radio equip., head sets, etc.

Operating Temperature: −20°C to +60°C

DABURN CAT. NOS. RETRACTED LENGTHS 4 Ft.*	3 Ft.	2 Ft.	No. Conds.	Size	Strand	Nom. Coil O.D.	Nom. Cord O.D.
975-4	975-3	975-2	2	23	21/36	¾″	.200″
976-4	976-3	976-2	3	23	21/36	13/16″	.210″
977-4	977-3	977-2	4	23	21/36	⅞″	.240″
978-4	978-3	978-2	5	23	21/36	1″	.285″
978/6-4	978/6-3	978/6-2	6	23	21/36	1⅛″	.305″
978/7-4	978/7-3	978/7-2	7	23	21/36	1¼″	.320″

SPECIAL CONSTRUCTION AVAILABLE TO ORDER

DABURN CAT. NOS. RETRACTED LENGTHS 4 Ft.*	3 Ft.	2 Ft.	No. Conds.	Size	Strand	Nom. Coil O.D.	Nom. Cord O.D.
978/8-4	—	978/8-2	8	23	21/36	1 3/32″	.360″
978/10-4	—	978/10-2	10	23	21/36	1 3/32″	.380″
978/12-4	—	978/12-2	12	23	21/36	1 3/32″	.410″
978/15-4	—	978/15-2	15	23	21/36	1 3/32″	.470″
978/37-4	—	978/37-2	37	23	21/36	2½″	.680″

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Red, 4-Green, 5-Blue, 6-Yellow, 7-Brown, 8-Orange, 9-White / Black Tracer, 10-White / Red Tracer, 11-White / Green Tracer, 12-White/Blue Tracer, 13-White/Yellow Tracer, 14-White/Brown Tracer, 15-White / Orange Tracer. *Preferred Put-Up. — Std. Pkg. 5.

SHIELDED RETRACTILE COMMUNICATION CORDS

RETRACTED LENGTHS 1, 2 & 4 FT. — EXTENDED LENGTHS 6, 12 & 25 FT.

Single and multi-cond. Shielded mike cables Neoprene or "Danyon" plastic jacketed shielded conductors are individually shielded. Shield can be pigtailed for soldering. Safe — Reliable.
OPERATING TEMPERATURE: −20°C TO +60°C

DABURN CAT. NOS. RETRACTED LENGTHS 4 Ft. L'gth.	2 Ft. L'gth.	1 Ft. L'gth.	No. Conds.	Size	Strand	Nom. Coil O.D.	Nom. Cord O.D.	Volt Rating	CAPACITANCE MMF Lin. Ft.	CAPACITANCE MMF Retr. Ft.
995-4†	995-2	995-1	1	24 Shielded	41/40	5/16″	.160″	75	56	440
996-4	996-2	996-1	2	1-23 1-24 Shielded	21/36 41/40	⅞″	.210″	#23-120 #24-75	56	450
997-4	997-2	997-1	3	2-23 1-24 Shielded	21/36 41/40	⅞″	.240″	#23-120 #24-75	56	450
999-4	999-2	999-1	2	2-24 Shielded	41/40	⅞″	.210″	75	56	450
998-4	998-2	998-1	4	2-23 2-24 Shielded	21/36 41/40	1″	.270″	#23-120 #24-75	56	460

† Preferred Put-Up — **Conductors are Color Coded.** — **Std. Pkg. 10**

SPECIAL CONSTRUCTIONS AVAILABLE TO ORDER

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DABURN

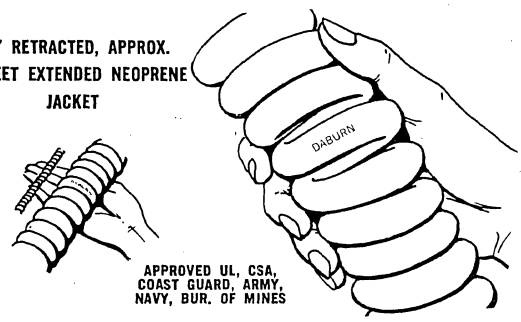
DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

RETRACTILE

SUPA HEAVY DUTY POWER CORDS

48″ RETRACTED, APPROX.
25 FEET EXTENDED NEOPRENE JACKET



APPROVED UL, CSA, COAST GUARD, ARMY, NAVY, BUR. OF MINES

SUGGESTED OPERATING TEMPERATURE: −20°C to +60°C.

Suitable for maintenance of industrial automation equip., refrigerated trucks, mass production, cherry pickers, magnetic cranes, standby power distribution. Wherever a tougher requirement is indicated. Std. Pkg. 6

Retracted length 48″ — extends to 25 ft.

DABURN Cat. No.	No. Cond.	Size	Stranding	Nom. Jacket Thickness	Nom. Cord O.D.
960	3	16	65/34	7/64″	.505″
960/4	4	16	65/34	7/64″	.535″
961	3	14	41/30	7/64″	.620″
961/4	4	14	41/30	7/64″	.660″
962	3	12	65/30	8/64″	.715″
962/4	4	12	65/30	8/64″	.770″

RETRACTILE COMMUNICATION CORD

PREPARED

Retracted length 12″ — extended length 6 feet.

Same as our regular communication cord but each end is prepared, stripped and tinned

Daburn No.	No. Cond.	Size & Strand	Coil O.D.	Cord O.D.	PREPARED
966	3	#23-21/36	13/16″	.220″	1 END: L'gth 1½″. Conductor stripped and tinned. Other end: Total L'gth 1½″ jacket removed.
967	4	#23-21/36	15/16″	.250″	1 END: Total length 1″. Conductors stripped and tinned. Other end: Total lgth 1½″ jacket removed.
968	5	#23-21/36	1-1/16″	.285″	1 END: Total l'gth 4⅛″. Conductors stripped and tinned. Other end: Total l'gth 4⅛″ conds. stripped and tinned.

Std. Pkg. 10

AUDIO CABLE — SHIELDED

2 CONDUCTOR SHIELDED

NO OUTER JACKET

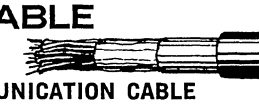
Each conductor copper tinned, plastic insulation, color coded, twisted, tinned copper shield. Suitable for sound systems, industrial paging systems, broadcast-audio cable, rack panel wiring, etc.
OPERATING TEMPERATURE: −20°C to +60°C.

DABURN Cat. No.	Conds.	Size AWG.	Strand	Nom. Wall	Nom. O.D.	Nom. Operating Voltage
2902/30	2	30	7/38	.010″	.085″	200V
2902/28	2	28	7/36	.010″	.090″	200V
2902/26	2	26	7/34	.010″	.095″	200V
2902/24	2	24	16/36	.017″	.120″	350V
2902/22	2	22	7/30	.017″	.140″	350V
2902/20	2	20	10/30	.017″	.155″	350V
2902/18	2	18	16/30	.017″	.170″	350V
2902/16	2	16	26/30	.020″	.210″	450V
2902/14	2	14	41/30	.020″	.225″	450V
2902/12	2	12	65/30	.025″	.295″	600V
2902/10	2	10	105/30	.025″	.375″	600V

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—Black, 2—Red.

TELEPHONE CABLE

(Meets REA-PE-22)



EXCHANGE AREA — COMMUNICATION CABLE AERIAL, DUCT AND CONDUIT INSTALLATION

DESCRIPTION: Color coded polyethylene insulation over each bare copper conductor. Conductors are paired. Pairs are cabled with non-hygroscopic tape wrap, corrugated aluminum shield, .008″ thick and black polyethylene jacket overall.

Minimal cross talk .083 microfarads/mile — average mutual capacitance, 1 KC. This is a tough, long lasting cable — withstands weathering, ultra-violet and weathering.

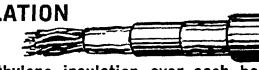
DABURN Cat No.	No. of Pairs	Nom. Jkt. T'kness	Nom. O.D.	Ship. Wt. Lbs. M/Ft.
#22 AWG — SOLID CONDUCTORS				
3510/3	3	.060″	.320″	60
3510/6	6	.060″	.390″	100
3510/12	12	.060″	.475″	145
3510/18	18	.060″	.540″	180
3510/25	25	.060″	.605″	226
3510/50	50	.060″	.775″	412
3510/75	75	.060″	.920″	576
3510/100	100	.070″	1.050″	706
3510/150	150	.070″	1.270″	1095
3510/200	200	.070″	1.455″	1382
3510/300	300	.080″	1.750″	1978
3510/400	400	.090″	1.970″	2600
3510/600	600	.100″	2.365″	3900
#19 AWG — SOLID CONDUCTORS				
3515/6	6	.060″	.490″	145
3515/12	12	.060″	.660″	231
3515/18	18	.060″	.710″	310
3515/25	25	.060″	.790″	391
3515/50	50	.070″	1.060″	716
3515/75	75	.070″	1.290″	1105
3515/100	100	.080″	1.490″	1380
3515/150	150	.080″	1.750″	2045
3515/200	200	.090″	1.990″	2630
3515/300	300	.100″	2.370″	3900

STD. PUT-UP: 100 Ft. and over. **CONDUCTOR COLOR CODE:** Per IPCEA. Cut to specification.

TELEPHONE CABLE

DIRECT BURIAL INSTALLATION

(Meets REA-PE-23)



DESCRIPTION: Color coded polyethylene insulation over each bare copper conductor. Conductors are paired. Pairs are cabled with non-hygroscopic tape-wrap, inner jacket of polyethylene, corrugated .005″ copper shield, overall black polyethylene jacket.

Minimal cross talk .083 microfarads/mile — average mutual capacitance 1 KC. Suitable for direct burial. Tough, impervious to moisture and abrasion resistant.

DABURN Cat No.	No. of Pairs	Nom. Jkt. T'kness	Nom. O.D.	Ship. Wt. Lbs. M/Ft.
#22 AWG — SOLID CONDUCTORS				
3525/3	3	.040″	.380″	95
3525/6	6	.040″	.455″	145
3525/12	12	.040″	.535″	195
3525/18	18	.040″	.610″	251
3525/25	25	.040″	.675″	305
3525/50	50	.040″	.860″	507
3525/75	75	.040″	.985″	681
3525/100	100	.040″	1.115″	847
3525/150	150	.050″	1.350″	1240
3525/200	200	.050″	1.505″	1557
3525/300	300	.060″	1.810″	2173
3525/400	400	.060″	2.025″	2853
#19 AWG — SOLID CONDUCTORS				
3530/3	3	.040″	.455″	119
3530/6	6	.040″	.500″	206
3530/12	12	.040″	.550″	305
3530/18	18	.040″	.675″	406
3530/25	25	.040″	.770″	519
3530/50	50	.050″	.860″	867
3530/75	75	.050″	1.115″	1250
3530/100	100	.050″	1.350″	1575
3530/150	150	.060″	1.505″	2265
3530/200	200	.060″	1.810″	2900
3530/300	300	.060″	2.025″	4042

STD. PUT-UP: 100 Ft. and over. **CONDUCTOR COLOR CODE:** Per IPCEA. Cut to specification.

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DABURN ELECTRONICS & CABLE CORP.
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

AUDIO, DATA SHIELDED, MICROPHONE & CONTROL CABLES

AUDIO & DATA SHIELDED CABLE
INDIVIDUALLY ALUMINUM MYLAR FOIL SHIELDED PAIRS

DESCRIPTION: Each conductor **stranded,** copper tinned, **hi** density polyethylene insulation, color coded, conductors — twisted pairs. #22 **stranded** tinned copper wire. Aluminum foil mylar shield over each pair and copper tinned drain wire. Overall chrome grey PVC jacket. Nom. cap. between conds. of a pair, 25 PF/FT. Capacitance of a single conductor to shield, 45 PF/FT. **Sugg. Working Voltage:** 300V.

DABURN Cat. No.	No. of Pairs	No. of Conds.	Cond. Strand	Nom. Wall	Nom. Jkt.	Nom. O.D.
2932/3	3	6	7/30	.010″	.025″	.235″
2932/6	6	12	7/30	.010″	.030″	.320″
2932/9	9	18	7/30	.010″	.035″	.370″
2932/11	11	22	7/30	.010″	.040″	.415″
2932/15	15	30	7/30	.010″	.040″	.485″
2932/19	19	38	7/30	.010″	.050″	.530″
2932/27	27	54	7/30	.010″	.055″	.645″

STD. PUT-UP: 500 Ft., 1000 Ft. **Construction variations to order.**

AUDIO & DATA SHIELDED CABLE
ALUMINUM MYLAR FOIL SHIELD
INDIVIDUALLY SHIELDED MULTIPLE PAIR

This construction reduces the bulk in required cables. Multipaired #22 **solid** tinned copper, vinyl insulated .013″, cabled in pairs. Aluminum foil mylar shield over each pair and drain wire, overall grey vinyl jacket. Nom. Cap. between Conds. 40 MMF/Ft. Nom. Cap. between 1 Cond. and others connected to shield — 77 MMF/Ft.

DABURN Cat. No.	Pairs	Conds.	Nom. Jacket	Nom. O.D.
2930/3	3	6	.030″	.252″
2930/6	6	12	.037″	.345″
2930/9	9	18	.040″	.410″
2930/11	11	22	.040″	.458″
2930/15	15	30	.045″	.510″
2930/19	19	38	.055″	.570″
2930/27	27	54	.070″	.687″

STD. PUT-UP: 500 Ft., 1000 Ft. **Construction Variations Available to Order.**

ALUMINUM MYLAR FOIL SHIELD PLASTIC JACKETED CABLE

Extremely light in weight, provides 100% shield coverage — small diameters. Each cond. tinned copper, stranded color coded polyethylene insulation, twisted, drain wire, aluminum mylar foil shield, gray polyvinylchloride jacket overall. Drain wire provides quick and easy grounding.

OPERATING TEMPERATURE: −20°C to +60°C. **OPERATING VOLTAGE:** 400 Volts.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
2960	2	22	7/30	.015″	.020″	.160″
2960/3	3	22	7/30	.015″	.020″	.185″
2960/4	4	22	7/30	.015″	.020″	.205″
2961	2	20	10/30	.015″	.020″	.185″
2961/3	3	20	10/30	.015″	.020″	.205″
2961/4	4	20	10/30	.015″	.020″	.225″
2962	2	18	16/30	.017″	.020″	.220″
2962/3	3	18	16/30	.017″	.020″	.235″
2962/4	4	18	16/30	.017″	.020″	.255″
2963	2	16	26/30	.017″	.020″	.255″
2963/3	3	16	26/30	.017″	.020″	.275″
2964	2	14	41/30	.017″	.020″	.295″
2964/3	3	14	41/30	.017″	.020″	.305″

STD. PUT-UP: 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green.

SHIELDED CABLE
PLASTIC JACKETED BRAIDED COPPER SHIELD

Suitable for P.A. and sound systems, installation in schools, hospitals and institutions, transmitters, electronic circuits, etc. Construction allows ease of pigtailing. Shield provides additional strength for cable. Each conductor tinned copper, PVC insulation, color coded, twisted, braided T-C shield, gray PVC jacket overall. Suitable for outdoor installations.

OPERATING TEMPERATURE: −20°C to +60°C.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Operating Voltage	Nom. O.D.
2970	2	22	7/30	.017″	.020″	350V	.175″
2970/3	3	22	7/30	.017″	.020″	350V	.195″
2971	2	20	10/30	.017″	.020″	350V	.195″
2971/3	3	20	10/30	.017″	.020″	350V	.215″
2972	2	18	16/30	.017″	.020″	350V	.235″
2972/3	3	18	16/30	.017″	.020″	350V	.245″
2974	2	16	26/30	.017″	.020″	350V	.255″
2974/3	3	16	26/30	.017″	.020″	350V	.260″
2975	2	14	41/30	.020″	.020″	450V	.290″
2975/3	3	14	41/30	.020″	.020″	450V	.295″
2976	2	12	65/30	.020″	.020″	450V	.235″
2976/3	3	12	65/30	.020″	.020″	450V	.340″

CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White.
STD. PUT-UP: 500 Ft., 1000 Ft.
CONSTRUCTION VARIATION TO ORDER

SHIELDED PLASTIC MICROPHONE CABLE

Will withstand abuse and is resistant to oil, moisture, aging. Have low capacitance, Hi insulation resistance and low attenuation. Will not strain or mark.

2772 — For hi impedance microphone
2773 — For crystal, ribbon, etc. Mikes all are suitable for hi-fi interconnecting
2774 — For hi impedance lapel mikes.
OPERATING TEMPERATURE: −20°C to +60°C.

SHIELDED MICROPHONE CABLE ONE CONDUCTOR

Uses tinned copper spiral shield — for ease in soldering — extremely flexible-plastic.

DABURN Cat. No.	Cond.	Size	Strand	Shield	Nom. Cap./Ft. MMF	Sugg. Work Voltage	Nom. O.D.
2770	1	25	7/33	Spiral	23	3000	.159″
2771	1	25	7/33	Spiral	33	1000	.120″
2772	1	20	26/34	Braid	36	4000	.175″
2773	1	25	7/33*	Braid	34	3500	.144″
2774	1	25	7/33*	Braid	23	5000	.190″

* 3 strand tinned copper, 4 strand tinned copperweld.

MULTICONDUCTOR MICROPHONE CABLE

Each conductor tinned copper, polyethylene insulation — color coded, twisted with fillers, textile wrap, tinned copper braid shield, gray vinyl jacket overall.
OPERATING TEMPERATURE: −20° to +60°C, 600 Volts.

2782	2	22	16/34	31 MMF	1000	.231″
2782/20	2	20	26/34	45 MMF	600	.240″
2782/24	2	24	10/34	38 MMF	1000	.190″

SHIELDED ULTRA LOW CAPACITY MICROPHONE CABLE
Plastic Jacket — Cellular Foam Polyethylene Insulation BRAIDED SHIELD

DESCRIPTION: Constructed with white foam polyethylene insulation, braided tinned copper shield, chrome gray vinyl jacket. The low loss foam polyethylene construction has lower capacitance and attenuation than standard polyethylene mike cables as much as 50%. This increases the effective length of cable as much as 50% without signal loss.

OPERATING TEMPERATURE −20°C to +60°C.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Cap./Ft.	Nom. Jacket	Nom. O.D.
2690	1	26	7/34*	30MMF	.020″	.114″
2691	1	24	10/34	20MMF	.030″	.180″
2692	1	24	10/34	15MMF	.030″	.220″
2693	2	22	16/34	11MMF	.030″	.295″

STD. PUT-UP: 100 Ft., 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—White, 2—Black.
* 3 strands tinned copper, 4 strands tinned copperweld.

PLASTIC JACKETED AUDIO AND MULTICONDUCTOR CABLE
SPIRAL WRAPPED COPPER SHIELD

Suitable for P.A. and sound systems, schools, hospitals, institutions, recording studios, paging and call systems. Each conductor copper tinned, plastic insulation, color coded, twisted, spiral wrapped tinned, copper shield, gray plastic jacket. Temp.: −20 to +60°C. Simplifies pigtailing. Provides almost 100% shielding coverage.

DABURN Cat. No.	Cond.	Size	Strand	Nom. Insul.	Nom. Jacket	Sugg. Working Voltage	Nom. O.D.
2950	2	22	7/30	.017″	.020″	350V	.170″
2950/1	1	22	7/30	.017″	.020″	350V	.115″
2950/3	3	22	7/30	.017″	.020″	350V	.190″
2950/4	4	22	7/30	.017″	.020″	350V	.200″
2950/6	6	22	7/30	.017″	.020″	350V	.235″
2949	2	22	1	.017″	.020″	350V	.170″
2952	2	20	10/30	.017″	.020″	350V	.190″
2952/1	1	20	10/30	.017″	.020″	350V	.129″
2952/3	3	20	10/30	.017″	.020″	350V	.205″
2952/4	4	20	10/30	.017″	.020″	350V	.222″
2952/6	6	20	10/30	.017″	.020″	350V	.260″
2953	2	18	16/30	.017″	.020″	350V	.230″
2953/1	1	18	16/30	.017″	.020″	350V	.133″
2953/3	3	18	16/30	.017″	.020″	350V	.230″
2953/4	4	18	16/30	.017″	.020″	350V	.245″
2954	2	16	26/30	.017″	.020″	350V	.235″
2954/4	4	16	26/30	.017″	.020″	350V	.255″
2954/3	3	16	26/30	.017″	.020″	350V	.245″
2955	2	14	41/30	.020″	.025″	450V	.285″
2955/3	3	14	41/30	.020″	.025″	450V	.292″
2955/4	4	14	41/30	.020″	.025″	450V	.310″
2956	2	12	65/30	.020″	.025″	450V	.325″
2956/3	3	12	65/30	.020″	.025″	450V	.335″

STD. PUT-UP: 250 Ft., 500 Ft., 1000 Ft.
CONDUCTOR COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green.
CONSTRUCTION VARIATION TO ORDER

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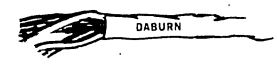
DABURN ELECTRONICS & CABLE CORP.
WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

HEAVY DUTY TWISTED PAIRS INTERCOM CABLES — (Stranded)

Where larger conductors are indicated, we suggest these No. 18 gauge cables. Rugged yet flexible — abrasion resistant. Gray vinyl jacket overall. Standard intercom color coding for paired cables applies.



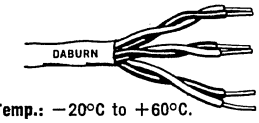
DABURN No.	Pairs	Cond.	Size	Nom. O.D.
3003/3	3	6	18-16/30	.365″
3003/6	6	12	18-16/30	.560″
3003/9	9	18	18-16/30	.650″
3003/15	15	30	18-16/30	.875″

STD. PUT-UP: 500 Ft., 1000 Ft.

PLASTIC INTERCOMMUNICATION CABLES

TWISTED PAIRS — SOLID

Each Cond. #22 **Solid** Tinned Copper, .010″ wall (Operating Temp. −20°C to +60°C). Vinyl plastic insulation, conductors color coded, twisted pairs, cabled, gray vinyl jacket overall. Suitable for outdoor installations.



Operating Voltage: 200 Volts. **Operating Temp.:** −20°C to +60°C.

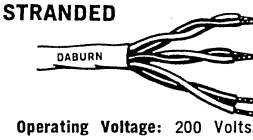
DABURN No.	Pairs	Cond.	Size	Nom. Jacket	Nom. O.D.
3000	1	2	22 Solid	.020″	.130″
3000/2	2	4	22 Solid	.020″	.205″
3000/3	3	6	22 Solid	.020″	.215″
3000/6	6	12	22 Solid	.020″	.275″
3000/9	9	18	22 Solid	.020″	.310″
3000/11	11	22	22 Solid	.020″	.340″
3000/13	13	26	22 Solid	.025″	.385″
3000/15	15	30	22 Solid	.025″	.390″
3000/16	16	32	22 Solid	.025″	.415″
3000/27	27	54	22 Solid	.035″	.505″
3000/31	31	62	22 Solid	.035″	.555″
3000/41	41	82	22 Solid	.035″	.630″
3000/51	51	102	22 Solid	.045″	.735″
3000/76	76	152	22 Solid	.070″	.970″
3000/101	101	202	22 Solid	.080″	1.140″

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft. Other pairs available to order.

PLASTIC INTERCOMMUNICATION CABLES

TWISTED PAIRS — STRANDED

Each Cond. #22 7/30 Tinned Copper, .010″ wall vinyl plastic insulation, conductors color coded, twisted pairs, cabled, gray vinyl jacket overall. Suitable outdoor installations.



Operating Temperature: −20°C to +60°C. **Operating Voltage:** 200 Volts.

DABURN No.	Pairs	Cond.	Size	Strand	Nom. O.D.
3002	1	2	22	7/30	.145″
3002/2	2	4	22	7/30	.210″
3002/3	3	6	22	7/30	.225″
3002/4	4	8	22	7/30	.235″
3002/5	5	10	22	7/30	.245″
3002/6	6	12	22	7/30	.290″
3002/9	9	18	22	7/30	.350″
3002/11	11	22	22	7/30	.365″
3002/15	15	30	22	7/30	.455″
3002/19	19	38	22	7/30	.480″
3002/23	23	46	22	7/30	.530″
3002/27	27	54	22	7/30	.570″
3002/31	31	62	22	7/30	.635″
3002/41	41	82	22	7/30	.710″
3002/51	51	102	22	7/30	.800″

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

CONDUCTOR COLOR CODE CHART FOR PAIRED INTERCOM CABLES

PAIR NO.	COLOR COMBINATION
1	Black paired with Red
2	Black paired with White
3	Black paired with Green
4	Black paired with Blue
5	Black paired with Brown
6	Black paired with Yellow
7	Black paired with Orange
8	Red paired with Green
9	Red paired with White
10	Red paired with Blue
11	Red paired with Yellow
12	Red paired with Brown
13	Red paired with Orange
14	Green paired with Blue
15	Green paired with White
16	Green paired with Brown
17	Green paired with Orange
18	Green paired with Yellow
19	White paired with Blue
20	White paired with Brown
21	White paired with Orange
22	White paired with Yellow
23	Blue paired with Brown
24	Blue paired with Orange
25	Blue paired with Yellow
26	Brown paired with Orange
27	Brown paired with Yellow
28	Purple paired with Red
29	Purple paired with White
30	Purple paired with Green
31	Purple paired with Blue
32	Purple paired with Brown
33	Purple paired with Yellow
34	Purple paired with Orange
35	Purple paired with Slate
36	Purple paired with Black
37	Slate paired with Red
38	Slate paired with White
39	Slate paired with Green
40	Slate paired with Blue
41	Slate paired with Brown
42	Slate paired with Yellow
43	Slate paired with Orange
44	Slate paired with Black
45	White/Black paired w. Red
46	White/Black paired w. Green
47	White/Black paired w. Blue
48	White/Black paired w. Brown
49	White/Black paired w. Yellow
50	White/Black paired w. Orange
51	White/Black paired w. Purple

MULTI-CONDUCTOR — PLASTIC JACKET

UNSHIELDED AUDIO — FLEXIBLE

Each Cond. #22 7/30 Tinned Copper, stranded, .010″ wall plastic insulation, color coded, twisted, gray vinyl jacket overall. Suitable for signal, P.A. systems, computer cable—for outdoor use.

STD. PUT-UP: 500 Ft.

Operating Voltage: 200 Volts. **Operating Temperatures:** −20°C to +60°C.

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. Jacket	Nom. O.D.
3054/2	2	22	7/30	.010″	.020″	.140″
3054/3	3	22	7/30	.010″	.020″	.145″
3054/4	4	22	7/30	.010″	.020″	.170″
3054/5	5	22	7/30	.010″	.020″	.175″
3054/6	6	22	7/30	.010″	.020″	.185″
3054/7	7	22	7/30	.010″	.020″	.190″
3054/8	8	22	7/30	.010″	.020″	.200″
3054/9	9	22	7/30	.010″	.020″	.225″
3054/10	10	22	7/30	.010″	.020″	.235″
3054/12	12	22	7/30	.010″	.020″	.255″
3054/15	15	22	7/30	.010″	.020″	.280″
3054/20	20	22	7/30	.010″	.020″	.310″
3054/25	25	22	7/30	.010″	.020″	.340″
3054/30	30	22	7/30	.010″	.020″	.365″
3054/40	40	22	7/30	.010″	.025″	.425″
3054/50	50	22	7/30	.010″	.035″	.500″
3054/60	60	22	7/30	.010″	.035″	.530″

STD. PUT-UP: From 2 thru 7 cond. 500 ft.; from 8 thru 30 cond. 250 ft.

MULTI-CONDUCTOR COLOR CODE CHART

CONDUCTOR COLOR CODE:

1 — Black	21 — White/Brown	41 — White/Green/Red
2 — Red	22 — White/Orange	42 — White/Green/Green
3 — White	23 — White/Gray	43 — White/Green/Blue
4 — Green	24 — White/Violet	44 — White/Green/Brown
5 — Orange	25 — White/Black/Red	45 — White/Green/Purple
6 — Blue	26 — White/Black/Green	46 — White/Blue/Black
7 — Brown	27 — White/Black/Yellow	47 — White/Blue/Red
8 — Yellow	28 — White/Black/Blue	48 — White/Blue/Green
9 — Violet	29 — White/Black/Brown	49 — White Blue/Blue
10 — Slate	30 — White/Black/Orange	50 — White/Blue/Brown
11 — Pink	31 — White/Black/Slate	51 — White/Blue/Purple
12 — Tan	32 — White/Black/Purple	52 — White/Brown/Black
13 — Red/Green	33 — White/Black/Black	53 — White/Brown/Red
14 — Red/Yellow	34 — White/Red/Black	54 — White/Brown/Green
15 — Red/Black	35 — White/Red/Red	55 — White/Brown/Blue
16 — White/Black	36 — White/Red/Green	56 — White/Brown/Brown
17 — White/Red	37 — White/Red/Blue	57 — White/Brown/Purple
18 — White/Green	38 — White/Red/Brown	58 — White/Purple/Red
19 — White/Yellow	39 — White/Red/Purple	59 — White/Purple/Green
20 — White/Blue	40 — White/Green/Black	60 — White/Purple/Blue

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DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

TEST LEAD WIRE • MINIATURIZATION WIRE & CABLE PHONO & STEREO WIRE & CABLE—HI TENSION CABLE

RUBBER KINKLESS TEST LEAD WIRE

Suitable as Test Lead Wire in analyzers, instruments, oscillators, meters, etc. Wherever extra flexibility and limpness is necessary. Single conductor, extra flexible stranded soft tinned copper, separator, wall color coded rubber, smooth wax finish.

OPERATING TEMPERATURE: −20°C to +60°C. Colors: Red, black

DABURN No.	Size	Strand	Nom. Insul. Wall	Sugg. Voltage	O.D. Nom. ▪
2715	20	41/36	3/64"	3,000V	.137"
2716	18	65/36	3/64"	5,000V	.145"
*2718	18	65/36	3/64"	5,000V	.145"
2717	18	65/36	5/64"	10,000V	.210"

* Types WS-16/U Black, WS17/U Red Per MIL-W-13169.

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

PLASTIC KINKLESS TEST LEAD WIRE

Soft formulation vinyl maximum flexibility. Temperature stability from −80°C to +115°C. Exceed requirements for MIL-I-3930A Type JP (PVC). Suitable for test leads, etc. Resistant to gasoline and oil. Excellent abrasion Resistance.

DESCRIPTION: One conductor tinned copper stranded, special formulation vinyl insulation — smooth surface.

OPERATING TEMPERATURE: −80°C to +115°C. 5000V rating.

COLORS: Black, Red, Yellow, Green, White, Blue.

DABURN No.	Size	Strand	Ins.	Nom. O.D.
2722/22	22	26/36	.032"	.100"
2722/20	20	26/34	.032"	.104"
2722/18	18	65/36	.032"	.112"
2722/16	16	65/34	.032"	.129"

STD. PUT-UP: 100 Ft., 500 Ft., 1000 Ft.

MINIATURIZATION HOOK-UP WIRE AND CABLE Conforms to MIL-W-16878D Spec.

UNSHIELDED — ONE CONDUCTOR 105°C — 600V RATING

Used as lead computers, transistor circuits, instruments — where fine sizes are required with high temperature conditions. One conductor stranded tinned copper, 105°C vinyl resin overall.

DABURN No.	Conductor	Size	Strand	Nom. Wall	Nom. O.D.
2670/32	1	32	7/40	.010"	.029"
2670/30	1	30	7/38	.010"	.030"
2670/28	1	28	7/36	.010"	.035"
2670/26	1	26	10/36	.010"	.038"
2670/24	1	24	16/36	.015"	.055"

STOCK COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange and Purple.

STD. PUT-UP: 500 Ft., 1000 Ft.

DESCRIPTION
One conductor stranded tinned copper with 105°C. high temperature thermoplastic insulation overall.

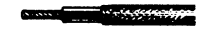
SHIELDED HOOK-UP WIRE
SUB-MINIATURE • SUPER FLEXIBLE • 600V RATING

One conductor stranded tinned copper, 105°C vinyl resin overall.

DABURN No.	Conductor	Size	Strand	Nom. Wall	Nom. O.D.
2682	1	30	7/38	.010"	.052"
2684	1	28	7/36	.010"	.057"
2686	1	26	10/36	.010"	.060"
2688	1	24	16/36	.010"	.073"

STOCK COLOR: White (Under Shield).

STD. PUT-UP: 500 Ft., 1000 Ft.



DESCRIPTION
One conductor stranded tinned copper with 105°C. high temperature thermoplastic insulation and tinned copper shielded braid overall.

MULTI CONDUCTOR CABLE
SUB-MINIATURE • NOT SHIELDED • FLEXIBLE
Tinned Copper Conductors — Conforms to MIL-W-16878D Spec

Suggested Operating Temperature: −55°S to +105°C

TWISTED — NO OUTER JACKET — 600V RATING

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2672	2	30	7/38	.010"	.058"
2672/3	3	30	7/38	.010"	.064"
2672/4	4	30	7/38	.010"	.072"

COND. COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green.
STD. PUT-UP: 500 Ft., 1000 Ft.

TWISTED — CLEAR VINYL JACKET OVERALL — 600V RATING

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2674	2	28	7/36	.010"	.079"
2674/3	3	28	7/36	.010"	.086"
2674/4	4	28	7/36	.010"	.095"

COND. COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green.
STD. PUT-UP: 500 Ft., 1000 Ft.

SHIELDED SUB-MINIATURE MULTI-CONDUCTOR CABLE
Tinned Copper Conductors — Conforms to MIL-W-16878D Spec

Suggested Operating Temperature: −55°S to +105°C

TWISTED — SHIELDED — NO OUTER JACKET

1,000V Rating

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2676	2	24	16/36	.015"	.114"
2676/3	3	24	16/36	.015"	.123"
2676/4	4	24	16/36	.015"	.144"

COND. COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green.
STD. PUT-UP: 500 Ft., 1000 Ft.

TWISTED — SHIELDED — CLEAR VINYL JACKET OVERALL

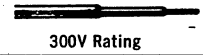
600V Rating

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2678	2	28	7/36	.010"	.105"
2678/3	3	28	7/36	.010"	.115"
2678/4	4	28	7/36	.010"	.120"

COND. COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green.
STD. PUT-UP: 500 Ft., 1000 Ft.

NOTE: Multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.

TINNED COPPER SHIELDED PHONO WIRE



Suitable where small diameter, limpness and extremely flexibility is necessary as for phono pickups, stereo, etc.

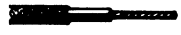
OPERATING TEMPERATURE: −20°C to +60°C.

300V Rating

DABURN No.	Size	Strand	Overall Insul Wall	Nom. O.D.
2737	24	16/36	.010"	.075"
2738	22	7/30	.010"	.080"
COTTON BRAID OVER-SHIELD				
2739	24	16/36	.010"	.095"

STD. PUT-UP: 100 Ft., 500 Ft.

SHIELDED HOOK-UP WIRE



One conductor, tinned copper stranded, polyvinyl-chloride insulation, lacquered blass braid, overall tinned copper shileded braid.

OPERATING TEMPERATURE: −20°C to +60°C.

600V Rating

DABURN No.	Size	Strand	Nom. Wall	Nom. O.D.
2727/22	22	7/30	.016"	.095"
2727/20	20	10/30	.016"	.105"
2727/18	18	16/30	.016"	.125"
2727/16	16	26/30	.016"	.135"
2727/14	14	41/30	.016"	.155"
2727/12	12	65/30	.016"	.175"
2727/10	10	105/30	.025"	.200"

STD. PUT-UP: 1000 Ft.

7MM HIGH TENSION CABLE

#2730 — unshielded one conductor, in sulation, cotton braid highly lacquered.
#2731 — same construction as above plus a closely woven tinned copper shielded braid overall.

DABURN No.	Size	Strand	Insul.	O.D.
2730	16	19/29	3/32"	.275"
*2731 (Shielded)	16	19/29	3/32"	.295"

STD. PUT-UP: 100 Ft., 500 Ft. *10 amps at 25KV
Suitable for auto and aircraft ignition systems where grounding is indicated.

HI-FI STEREO
Interconnecting Cable — Phono Wire

Extremely flexible. Designed for low hum and noise pickup. Special PVC formulation −40°C to +80°C operation.

TWISTED — UNSHIELDED — 200V Rating

DABURN No.	Cond.	Size	Strand	Nom. Wall	Nom. O.D.
2741	1	32	7/40	.010"	.028"
2742	2	32	7/40	.010"	.047"
2743	3	32	7/40	.010"	.053"
2744	4	32	7/40	.010"	.061"
TWISTED — SHIELDED					
2745	1	32	7/40	.010"	.040"
2746	2	32	7/40	.010"	.067"
2747	3	32	7/40	.010"	.072"
2748	4	32	7/40	.010"	.080"
2751#	2	32	7/40	.010"	.080"

STD. PUT-UP: 500 Ft., 1000 Ft. **#2751** Individually Shielded.
CONDUCTOR COLOR CODE: 1—White, 2—Red, 3—Black, 4—Green.

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DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

ELECTRONIC LACING CORDS AND TAPES, CABLE CLAMPS & CLIPS

LACING CORD-TAPE TO MEET MIL-T-713C TYPE P* AND MIL-T-43435 COMP. P-TYPE S

NYLON FLAT BRAIDED LACING TAPE

Nylon fiber flat braided impregnated with MW microcrystalline fungicidal wax. Stays flat. Designed to create a wider contact to distribute the stress. Flexible. Won't slip when knotted. Resistant to fungus, flame, abrasion, acids.

DABURN No.	Color	Class	Nom. Width	Nom. Thickness	Tensile Strength	Standard Put-Up Tubes
2035	Natural White	—	.200″	.014″	150 lbs.	500 yd.
2035B	Black	—	.200″	.014″	150 lbs.	500 yd.
2036	Natural White	1	.120″	.014″	80 lbs.	500 yd.
2036B	Black	1	.120″	.014″	80 lbs.	500 yd.
2037	Natural White	2*	.090″	.014″	50 lbs.	500 yd.
2037B	Black	2*	.090″	.014″	50 lbs.	500 yd.
2038	Natural White	3	.065″	.010″	30 lbs.	500 yd.
2038B	Black	3	.065″	.010″	30 lbs.	500 yd.
2039	Natural White	4	.046″	.010″	15 lbs.	500 yd.
2039B	Black	4	.046″	.010″	15 lbs.	500 yd.

DACRON FLAT BRAIDED LACING TAPE

Dacron fiber flat braided impregnated with non-slip fungicidal finish. Will not cut or damage insulation. Stays flat. Has all characteristics of nylon with elongation, better resistance to acids.

DABURN No.	Color	Nom. Width	Thickness Nom.	Strength Tensile	Standard Put-Up Tubes
2041	Natural White	.120″	.014″	80	500 yd.
2041B	Black	.120″	.014″	80	500 yd.
2042	Natural White	.090″	.014″	48	500 yd.
2042B	Black	.090″	.014″	48	500 yd.
2043	Natural White	.060″	.010″	35	500 yd.
2043B	Black	.060″	.010″	35	500 yd.
2044	Natural White	.046″	.010″	25	500 yd.
2044B	Black	.046″	.010″	25	500 yd.

TEFLON* FIBERGLASS FLAT BRAIDED LACING TAPE

Teflon coated fiberglass flat braided lacing tape bonded for high temp. operations (550°F). Stays flat — for strength, stability. Teflon finish increases strength and abrasion resistant surface. Will not cut or damage insulation.

DABURN No.	Color	Nom. Width	Thickness Nom.	lbs. Test	Standard Put-Up Tubes
2045	White	.170″	.025″	150	500 yd.
2046	White	.120″	.020″	90	500 yd.
2047	White	.080″	.020″	70	500 yd.

TEFLON* FLAT BRAIDED LACING TAPE
for high temperature operations (550°F)

DABURN No.	Color	Nom. Width	Nom. Thickness	Test lbs.	Standard Put-Up Tubes
2048	Brown	.100″	.016″	35	500 yd.
2049	Brown	.075″	.010″	15	500 yd.

ROUND TWISTED NYLON LACING CORD

Manufactured to meet MIL-T-713A Type P specification, Composition P, Classes 3, 2, 1. Wax finish — compounded with fungicide to resist mildew. Easy to tie.

PUT-UP ON 1 LB. TUBES

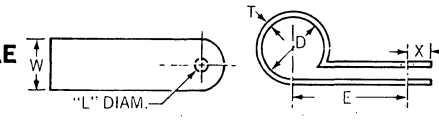
DABURN No.	Color	Class	Tensile Strength	Nom. Diam.	Yds. Per Tube
2070	Natural	1	70 lbs.	.039″	600
2070B	Black	1	70 lbs.	.039″	600
2071	Natural	2	48 lbs.	.029″	800
2071B	Black	2	48 lbs.	.029″	800
2072	Natural	3	32 lbs.	.025″	1140
2072B	Black	3	32 lbs.	.025″	1140
2072/1	Natural	4	20 lbs.	.020″	2400
2072/1B	Black	4	20 lbs.	.020″	2400

ROUND TWISTED LINEN LACING CORD

Manufactured from pure flax treated with microcrystalline wax compounded with fungicide to resist mildew. Classes 1, 2, 3 meet MIL-T-713A Type N specifications.

4 OZ. TUBE DABURN No.	Yds.	8 OZ. TUBE DABURN No.	Yds.	1 LB. TUBES DABURN No. Nat.	DABURN No. Blk.	Yds.	Class	Ply	Diam.	Lb. Test
2073	210	2074	425	2075	2075B	850	—	4	.036″	22
2076	150	2077	300	2078	2078B	600	3	6	.044″	33
2082	115	2083	235	2084	2084B	470	2	8	.051″	50
2079	100	2080	200	2081	2081B	400	—	9	.054″	56
2085	75	2086	150	2087	2087B	300	1	12	.063″	72

NYLON CABLE CLAMPS



MADE OF DU PONT "ZYTEL" 101 NYLON RESIN
Meets MIL-P-26093A and MIL-P-17091A Amend. 2

Light and tough these nylon cable clamps are used as a clamp, strain relief, clip hanger, fastener or strap. Smooth non-abrasive surfaces, rounded edges will not cause shorts or grounds in cable. Insoluble in solvents, gasoline, oils, hydraulic fluids, alcohol, acids, alkalies. Temperature range −60°F to +300°F. Does not support combustion. Inside matte finish. Prevents slippage and is self aligning. Snaps on cable. Meets MIL-P-20693A specs. fungus resistant.

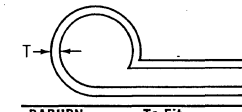
DABURN No.	To Fit Size	D	E	W	L	H	X
625	1/8″	.125	.316	3/8	.050	.177	.227
626	3/16″	.187	.378	3/8	.050	.177	.277
627	1/4″	.250	.409	3/8	.050	.177	.227
628	5/16″	.312	.441	3/8	.050	.177	.277
629	3/8″	.375	.471	3/8	.050	.177	.277
630	7/16″	.437	.519	3/8	.050	.177	.277
631	1/2″	.500	.550	3/8	.050	.177	.277
631A	9/16″	.563	.625	1/2	.060	.177	.227
632	5/8″	.625	.634	1/2	.060	.177	.227
632A	11/16″	.687	.752	1/2	.060	.177	.227
633	3/4″	.750	.718	1/2	.060	.177	.227
634	7/8″	.875	.760	1/2	.060	.177	.227
635	1″	1.000	.802	1/2	.060	.177	.227
636	1 1/8″	1.125	.968	1/2	.062	.204	.250
637	1 1/4″	1.250	1.156	1/2	.062	.204	.250
638	1 1/2″	1.500	1.188	5/8	.070	.204	.250

Std. Pkg. 100, 500, 1000

ETHYL CELLULOSE CABLE CLAMPS

Ethocel recommended for general use. Combines light weight and chemical resistance with excellent shock resisting properties in temp. range from −40°F to +185°F. Approved 7-21-44 Army-Navy Aeronautical AN-742. Also made to meet MIL STD. 242A (Ships). Suitable indoor-outdoor. Std. Pkg. 100, 1000.

DABURN No.	To Fit Size	D	E	W	L	H	X
615	1/8″	.125	.325	1/2	.060	.204	7/32
615A	3/16″	.188	.390	1/2	.060	.204	7/32
615B	1/4″	.250	.421	1/2	.060	.204	7/32
615C	5/16″	.313	.457	1/2	.060	.204	7/32
615D	3/8″	.375	.483	1/2	.060	.204	7/32
615E	7/16″	.438	.531	1/2	.060	.204	7/32
616	1/2″	.500	.562	1/2	.060	.204	7/32
616A	9/16″	.563	.625	1/2	.060	.204	7/32
616B	5/8″	.625	.610	1/2	.060	.204	7/32
616C	11/16″	.688	.666	1/2	.060	.204	7/32
616D	3/4″	.750	.766	1/2	.060	.204	7/32
616E	7/8″	.875	.813	1/2	.060	.204	7/32
617	1″	1.000	.906	1/2	.060	.204	7/32
617A	1 1/8″	1.125	.969	1/2	.060	.204	7/32
617B	1 1/4″	1.250	1.156	1/2	.060	.204	7/32
617C	1 1/2″	1.5	1.0625	5/8	.070	.204	7/32
617D	2″	2.0	1.313	5/8	.070	.204	7/32
617E	2 1/2″	2.5	1.563	5/8	.070	.204	7/32



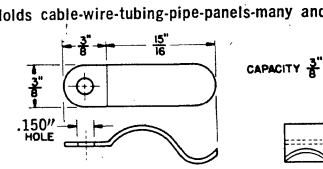
DABURN ALUMINUM CABLE CLAMPS

Made of hard drawn aluminum, light weight. Useful when mounting resonant lines, elements for beams, etc. Strong, durable, rust-proof.

DABURN No.	To Fit Size	Width	Length	Thickness	Clearance Hole For	Std. Pkg.
651A	1/8″	1/2″	13/16″	.050″	10	100
651	1/4″	1/2″	7/8″	.050″	10	100
652	5/16″	1/2″	15/16″	.050″	10	100
653	3/8″	1/2″	1″	.050″	10	100
654	1/2″	1/2″	1 1/8″	.050″	10	100
654A	5/8″	1/2″	1 1/4″	.050″	10	50
655	3/4″	3/4″	1 5/16″	.090″	1/4-20	50
657	7/8″	3/4″	1 5/8″	.090″	1/4-20	50
656	1″	3/4″	1 3/4″	.090″	1/4-20	50
656A	1 1/8″	3/4″	1 7/8″	.090″	1/4-20	50
656B	1 1/4″	3/4″	2″	.090″	1/4-20	50

NYLON TENSION CLIPS

Holds cable-wire-tubing-pipe-panels-many and varied uses. Made of nylon, they are insulating, non-corrosive and weather resistant. Easily fastened, easily removed. Strong and elastic.



DABURN Cat. No.	STD. PKG.
641	100, 1000

Natural Color

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DABURN

DABURN ELECTRONICS & CABLE CORP.

WIRE • CABLE • TUBING • MIL/COMM • SWITCHES • ELECTRONIC HARDWARE

SPIRAL WRAP FOR HARNESSES • PUSH BUTTON TIES WIRE TIES • TEST LEADS • COMPONENT CLIPS

SPIRAL WRAP — PLASTIC TUBING FOR HARNESSES

Available in four formulations: Polyethylene, Rulan (flame retardant) Polyethylene, Nylon and Teflon. Easily applied. Twists on easily. Can be flexed repeatedly without cracking or breaking. Reusable, bends around sharp corners. Expandable.
Per MIL-P-22692, MIL-I-631C, MIL-P-3803

TEMP. RANGE: −105°F to +200°F

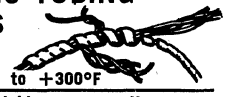
POLYETHYLENE (Clear)

DABURN Cat No.	Covers Wire Groups	Outside Diam.	Nom. Wall	Standard Package
605-1/8"	1/16" to 1 1/2"	1/8"	.031"	100', 500', 1000'
605-1/4"	3/16" to 1 1/2"	1/4"	.045"	100', 500', 1000'
605-3/8"	5/16" to 2"	3/8"	.058"	100', 500', 1000'
605-1/2"	3/4" to 4"	1/2"	.058"	100', 500', 1000'

(Carbon Impregnated Polyethylene) RULAN (White) TEMP. RANGE: −10°F to +200°F

606-1/4"	3/16" to 1 1/2"	1/4"	.058"	100', 500', 1000'
606-3/8"	5/16" to 2"	3/8"	.058"	100', 500', 1000'

SPIRAL WRAP — PLASTIC TUBING FOR HARNESSES



NYLON

Per MIL-P-17091B & MIL-P-20693 −150°F to +300°F

DABURN Cat. No.	Covers Wire Range	Outside Diam.	Nom. Wall
607-1/8"	1/16" to 1 1/2"	1/8"	.031"
607-1/4"	3/16" to 1 1/2"	1/4"	.058"
607-1/2"	3/4" to 4"	1/2"	.058"

COLOR: Natural (White). **STD. PUT-UP:** 100 Ft., 500 Ft.

TEFLON

Per MIL-I-22129 −450°F to +500°F

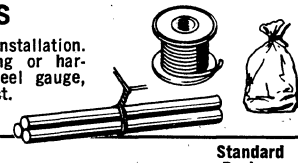
608-1/8"	1/16" to 1 1/2"	1/8"	.031"
608-1/4"	3/16" to 1 1/2"	1/4"	.058"
608-1/2"	3/4" to 4"	1/2"	.058"

COLOR: Natural (White). **STD. PUT-UP:** 100 Ft., 500 Ft.

PLASTIC WIRE TIES

Useful for temporary or permanent installation. Can be adapted for immediate bundling or harnessing. Vinyl insulated. Has .016" steel gauge, wire reinforcement, 3/32" wide, 30 lb. test.

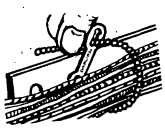
TEMPERATURE: −20°F to +90°C.



DABURN Cat. No.		Standard Package
603	Plastic Wire Ties	100', 500', 1000'

COLORS: White, Blue, Red, Green, Yellow.

DABURN PUSH BUTTON WIRE TIES



Push button wire ties for harnessing wire. 4 1/2" in length, each tie is adjustable to 30 different diameters. Made of strong polyethylene, it is inert chemically and heat resistant. Breaking strength 45 to 95 lbs. After the tie is placed in hole for anchoring, wires can be replaced or added by loosening tie and pulling tight again. Designed to fit .250" to .265" hole in a .031" to .140" thick panel. Material conforms to Spec. LP590.
Temp. to +200°F

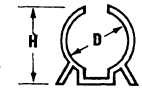
DABURN Cat. No.	(Specify Color)	Standard Package
601-4	Red, Blue, Yellow	100, 1000

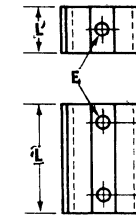
DABURN NYLON PUSH BUTTON WIRE TIES

Same description as No. 601-4. **Temp. to 300°F.**
5 1/2" long. Made of tough Nylon. Higher temperature range than Polyethylene.

DABURN Cat. No.	Color	Standard Package
601-5	Clear	100, 1000

DABURN COMPONENT CLIPS





Hold and insulate, electrical and electronic components, accessories — spare parts. Holds firmly and still permits fast and easy insertion. Convenient for fastening clips and retainers for transistors, batteries, fuses, capacitors, resistors, lamps, etc. These Daburn clips are made of black vinyl (polyvinylchloride). Has high dielectric strength. Can be mounted with screws, rivets or other fastening means.

MATERIAL: Rigid Vinyl.

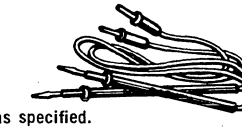
TEMPERATURE RANGE: −20° to +165°F.

STANDARD PACKAGE: 100, 1000.

DABURN Stock No.	D Diam.	H Height	L Length	E Diam. of Hole	F Dist. Bet. Holes
600-1/4"	1/4"	13/32"	1/2"	3/32"	—
600-5/16"	5/16"	15/32"	1/2"	3/32"	—
600-3/8"	3/8"	1/2"	1/2"	3/32"	—
600-7/16"	7/16"	1/2"	1/2"	3/32"	—
600-1/2"	1/2"	5/8"	1/2"	3/32"	—
600-5/16"	5/16"	5/8"	1/2"	3/32"	—
600-5/8"	5/8"	5/8"	1/2"	3/32"	—
600-11/16"	11/16"	3/4"	1/2"	5/32"	—
600-3/4"	3/4"	7/8"	1/2"	5/32"	—
600-7/8"	7/8"	1"	1/2"	5/32"	3/4"
600-1"	1"	1 1/4"	1 1/8"	5/32"	3/4"
600-1 3/8"	1 3/8"	1 15/32"	1 1/8"	5/32"	3/4"

TEST LEADS

NEEDLEPOINT AND SOLDERLESS OVERALL LENGTH 50"

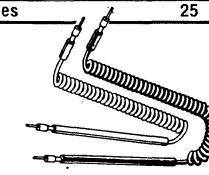


Black and red kinkless test lead wire, handles as specified.

DABURN No.	Description	Standard Package
17-308	Pencil Type Bakelite, 6" Handles	10
17-360	Deluxe Solderless Prod, 5" Handles	25
17-361	Deluxe Needlepoint Prod, 5" Handles	25
17-320	Needlepoint Prods, 4" Handles	25
17-322	Solderless Prods, 4" Handles	25

TEST LEADS

RETRACTILE KINKLESS WIRE RETRACTED LENGTH OF WIRE 9". EXTENDS TO 6 FT. NON-TANGLING.



Black and red wire.

DABURN No.	Description	Standard Package
17-364	Solderless Phone Tip, Retractile Wire, Solderless Prod	10

TEST LEADS

ALLIGATOR CLIP TEST LEADS

Black and red kinkless test lead wire with steel cadmium plated clips at each end.

DABURN No.	Wire Length	Standard Package
17-275	12"	12
17-276	24"	12
17-277	36"	12
17-278	48"	12

TEST LEADS

INSULATED ALLIGATOR CLIPS

Black and red kinkless test lead wire with steel, cadmium plated clips; vinyl plastic boot.

DABURN No.	Wire Length	Standard Package
17-280	12"	12
17-281	24"	12
17-282	36"	12
17-283	48"	12

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Manufactured by BRAND REX

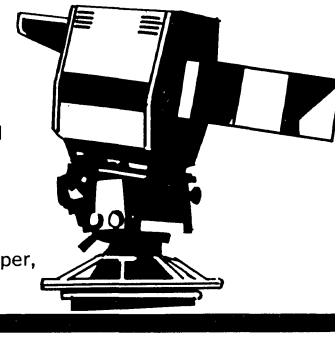
DEARBORN
TELEVISION CAMERA CABLES

Made better by military-level quality controls.

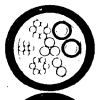
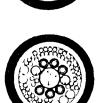
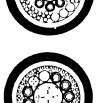
A prime-time show can no more afford a cable fault than an Agena launching—and Brand-Rex builds all its cables so that both can go off without a hitch. The same exacting techniques, quality assurance procedures, and production and test equipment developed for the aerospace and missile markets are used in manufacturing television broadcast industry products.

What Brand-Rex cables offer

☐ Distortion-free signal transmission . . . for sharper, more detailed color and monochrome pictures.



☐ Stable operation – over wide temperature range.
☐ Outstanding flexibility – even at extremely low temperatures – for unimpeded camera movement.
☐ Abrasion resistant, sound absorbing jackets.
☐ Long trouble-free service life.
☐ Individual wires specially positioned and completely color-coded for easy termination.
☐ Weather and moisture resistant.
☐ Stable electrical characteristics, even when bent, compressed, and twisted.

	Brand-Rex Type	Application	Coaxials[1] No.	Coaxials[1] Imped.	Grouped Wires No. of Groups	Grouped Wires Wire per Group No.	Grouped Wires Wire per Group AWG.	Grouped Wires Wire per Group Insul.[2]	Grouped Wires Wire per Group Nom. O.D.	Grouped Wires Group Shield	Single Wires No.	Single Wires AWG.	Single Wires Insul.[2]	Single Wires Nom. O.D.	Overall Shield	Jacket Material	Jacket Max. O.D.	Jacket Approx. Wt. (lbs./ft.)
	BR-23/M	Monochrome & Color	2	50Ω	1	3	1-22(7/30)	PE	.095"	No	—	—	—	—	90%	PVC	.680"	.33
							2-18(19/30)	PVC	.082"									
					2	6	22(7/30)	PVC	.065"	No								
					1	4	22(7/30)	PVC	.065"	No								
					1	2	18(19/30)	PVC	.082"	No								
	BR-25/M	Monochrome & Color	3	50Ω	1	4	14(19/27)	PVC	.105"	No	4	22(7/30)	PVC	.065"	90%	Neoprene	.865"	.41
					2	7	22(7/30)	PVC	.065"	No								
	BR-33/M	Monochrome & Color	1	75Ω	1	4	16(26/30)	PVC	.124"	Yes	3	22(7/30)	PVC	.051"	90%	Neoprene	.800"	.41
					2	2	22(7/30)	PVC	.051"	Yes	4	16(26/30)	PVC	.124"				
					1	2	22(7/30)	PVC	.051"	No								
					3	5	22(7/30)	PVC	.051"	No								
	BR-79/C	Color	6	50Ω	1	7	4-14(41/30)	PVC	.141"	Yes	1	14(41/30)	PVC	.141"	90%	Neoprene	1.075"	.83
							3-22(7/30)	PVC	.051"		2	10(105/30)	PVC	.185"				
					2	4	22(7/30)	PVC	.051"	Yes	6	22(7/30)	PE	.065"				
											49	22(7/30)	PVC	.051"				
	BR-81/C	Color	6	50Ω	1	7	4-=14(41/30)	PVC	.113"	Yes								
							3-=22(7/30)	PVC	.051"									
					2	4	22(7/30)	PVC	.051"	Yes	4	12(65/30)	PVC	.126"	90%	Neoprene	1.100"	.86
					2	3	22(7/30)	PE	.065"	No	1	14(41/30)	PVC	.113"				
					11	4	22(7/30)	PVC	.051"	No								
					1	5	22(7/30)	PVC	.051"	No								
	BR-82/C	Color	8	50Ω	1	7	22(7/30)	PVC	.065"	Yes								
					1	7	3-16(19/29)	PVC	.092"	Yes	—	—	—	—	90%	Neoprene	1.280"	.92
							4-14(19/27)	PVC	.105"									
					12	5	22(7/30)	PVC	.065"	No								

[1]See table of Coaxial Cable Characteristics [2]Insulation: PE - polyethylene; PVC - polyvinyl chloride

COAXIAL CABLE CHARACTERISTICS

Construction	50 OHM	75 OHM
Inner Conductor	19/.0071 Tin. Cop.	7/34 Tin. Cop.
Dielectric Material	Polyethylene	Cellular Polyethylene
Shield	=36 AWG. Tin. Cop.	=38 AWG. Tin. Cop.
Drain Wire	—	=26 AWG. Tin. Cop.

Electrical Properties*

Characteristic Impedance	50 ohms	75 ohms
Capacitance	29.5 mmf/ft.	17 pf/ft.
Attenuation @ 400 mc	13.5 db/100 ft.	55 db/100 ft.
Test Voltage	3,000 volts, rms	2,000 volts, rms
Max. Operating Voltage	1,500 volts, rms	600 volts, rms
Velocity of Propagation	69%	78%

*All values nominal.

CROSS REFERENCE CHART

Brand-Rex =	BIW =	RCA =	GE =	Equipment	Model =
BR-79/C	—	MI-13356	—	RCA	TK-42
BR-79/C	—	MI-13356	—	RCA	TK-44
BR-79/C	—	MI-13358	—	Norelco	PC-70
BR-81/C	TV-81N	—	7176133	GE	4PE-250
BR-82/C	TV-82N	MI-13394N	—	RCA	TK-41

PRICE PER FOOT

PART No.	50 to 249'	250' Up
BR-23M	2.10	1.05
BR-25M	2.98	1.48
BR-33M	3.00	1.50
BR-79/C	5.50	2.75
BR-81/C	5.50	2.75
BR-82/C	5.60	2.80

MINIMUM ORDER 50 FT.
CUT TO SPECIFICATION

ATTENUATION

.9db	@	10MHz
1.9db	@	Channel 2
2.0db	@	Channel 3
2.1db	@	Channel 4
2.3db	@	Channel 5
2.4db	@	Channel 6
2.5db	@	FM Band
3.5db	@	Channel 7
3.6db	@	Channel 8
3.7db	@	Channel 9
3.7db	@	Channel 10
3.8db	@	Channel 11
3.9db	@	Channel 12
3.9db	@	Channel 13

PHYSICAL CHARACTERISTICS

A. CONDUCTOR: No. 20 AWG. Solid Tinned Copper
B. INSULATION: Polyethylene to Diameter of .200" to ±.003"
C. INNER SHIELD: No. 34 AWG. Tinned Copper—96% Coverage
D. OUTER SHIELD: No. 34 AWG. Tinned Copper—96% Coverage
E. JACKET: Black PVC to Diameter of .305" ±.005"

P/N	PRICE PER 100'	1000'
T-378	16.78	165.78

75 OHM PRECISION VIDEO CABLE T-378

ELECTRICAL PROPERTIES

Capacitance	20 pf/ft
Velocity Of Propagation	66%
Impedance	75Ω
Dielectric Constant	2.26
Structural Return Loss	29 db minimum from 10 MHz to 220MHz

TYPICAL APPLICATIONS:

Used in TV studios for transmission of video signals in color and monochrome. Cable is manufactured with rigid controls of all dimensional tolerances. Eliminates problems of periodicity while providing high quality carrier of video signal with superior picture definition. 100% SWEEP TESTED.

DEARBORN WIRE AND CABLE CO.

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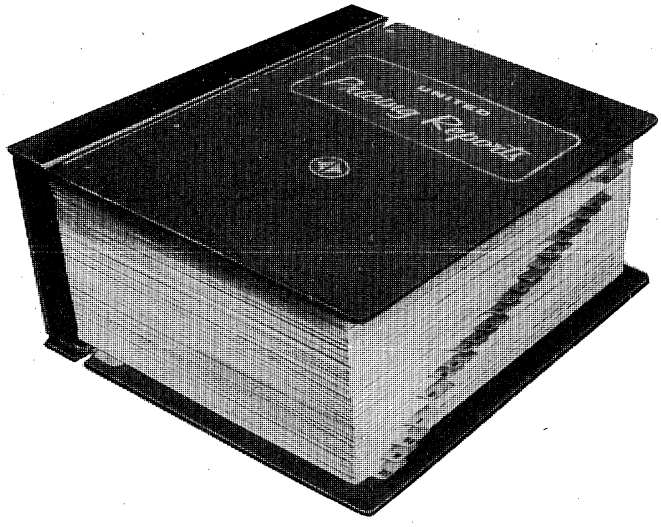

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ELECTROVERT INC COMPONENTS DIVISION

SEND FOR COMPLETE CATALOG AND PRICES

EL Cable Ties

The Electrovert El Cable Tie is an improved tying system designed to increase the harness tensile strength, provide optional application either by hand or tool, and, when used with a tool, be universally applicable with all such tools currently on the market.

ADVANTAGES

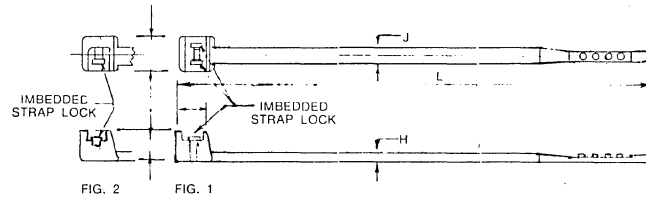
- Self-locking, non-twisting, for permanent, neat tying.
- Hand or tool assembly... will fit all tools.
- Molded of tough, smooth, flexible nylon.
- Infinitely adjustable within their range.
- Four (4) sizes meet all bundle diameters from 1/16" to 4 3/16".
- Lightweight, chemical and abrasion resistant, high tensile strength, excellent dielectric properties, rust and rot resistant.

SPECIFICATIONS:

Material: Strap—nylon per MIL-M-20693, Type I. Strap Lock—metal per QQS-766.

Color: Natural. Also available in all colors.

Design: To meet requirements of military standard MS-17821, MS-18034 and specification MIL-S-23190.



U.S. Patent No. 3397430. World-wide Patent Pending.

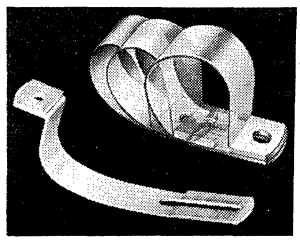
Type No.	Military Dash No.	Bundle Dia. (Inch) Min.	Max.	Tensile Strength (lbs.) Min.	H max (in)	J max (in)	L min (in)	Installation Tool
EL-A	—4	1/16	1	18	.043	.090	4 1/8	MS-17823-2 or equivalent
EL-B	—1	1/16	1 15/16	50	.055	.175	7 1/2	MS-17823-2 or equivalent
EL-C	—2	1/16	4 3/16	50	.055	.175	14 5/8	MS-17823-2 or equivalent
EL-D	—3	3/16	4	120	.083	.290	14 1/4	MS-17824-2 or equivalent

Head design type Fig. 2: EL-A; Fig. 1: EL-B, C and D.

Packaging: Packaged in heavy gauge, heat sealed poly bags and carton, 100 per poly bag and cartons of 100 and 500. Bulk packaging available.

Adjustable P-Clips

Nine (9) Sizes Fit Any Loop Diameter From 1/8" Through 2".



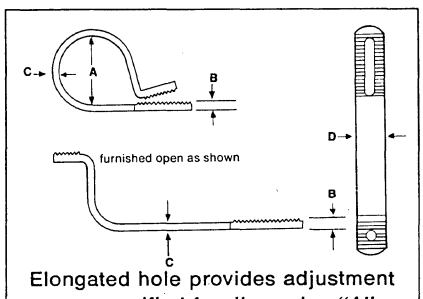
THE SAME SIZE P-CLIP ADJUSTED TO FIT DIFFERENT BUNDLE DIAMETERS.

- Molded of finest natural, virgin nylon.
- Lightweight, chemical and abrasion resistant, high tensile strength, excellent dielectric properties, rust and rot resistant.
- Typical applications include: cables, bundles of wires, components, pipes and tubing wherever a clamp, strain relief or strap is required.

Reduces Inventory — only nine sizes accommodate all bundle and cable diameters from 1/8" through 2" ... simplifies OEM and spare parts inventories.

Controls Tension — you control the tension to fit the loop to the bundle diameter.

Simplifies Changes in Bundle Make-up — add or remove wires, the same clip can be adjusted to the new bundle diameter.



Elongated hole provides adjustment range specified for dimension "A"

Size No.	Bundle Range "A" Dimension Min.	Max.	B	C	D	Screw Clearance	Quantity per package
0	1/8	3/16	.060	.025	.250	No. 4	500 and 100
1	3/16	1/4	.046	.025	.250	No. 4	500 and 100
2	1/4	3/8	.051	.030	.312	No. 6	500 and 100
3	3/8	5/16	.056	.035	.375	No. 6	500 and 100
4	5/16	7/8	.062	.040	.500	No. 6	200 and 100
5	7/8	1 3/16	.083	.055	.550	No. 10	200 and 100
6	1 3/16	1 1/2	.083	.060	.560	No. 10	100
7	1 1/2	1 3/4	.088	.065	.560	No. 10	100
8	1 3/4	2	.093	.070	.560	No. 10	100

Packaging: Packaged in heavy gauge, heat sealed poly bags and box.
Colors: Standard is natural; colors available on special order.

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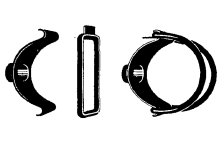
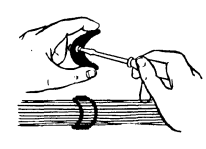
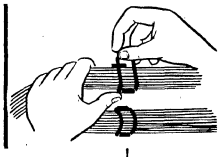
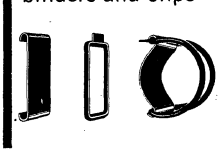
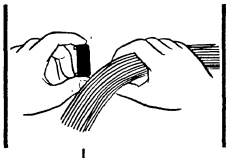
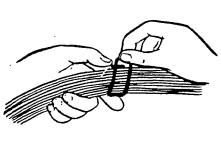
Cradleclip (Insuloid)

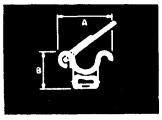
FOR SUPPORTED WIRING
cradles and clips

FOR UNSUPPORTED WIRING
binders and clips

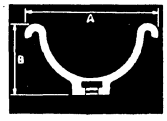




CRADLES



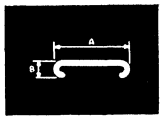
CO-NO Miniature with captive clip

C1, C2, C3

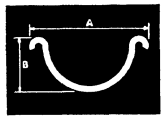


C1-M, C2-M, C3-M molded in nut to take 6/32 thread bolts

BINDERS

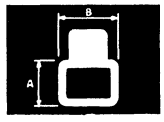


B1

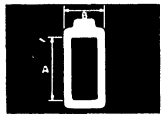


B2, B12

CLIPS



NO miniature (for replacement)



N1, N3, N5, N7

DIMENSIONS

Type & Size	Dimensions (inches) A	B	Type & Size	Dimensions (inches) A	B
Cradles			**Binders**		
CO*	.500	.330	B0	.500	.250
C1	.937	.562	B1	.875	.187
C1-M	.937	.562	B12	.937	.400
C2	1.375	.750	B2	1.875	.812
C2-M	1.375	.750	**Clips**		
C3	1.875	1.000	NO*	.340	.500
C3-M	1.875	1.000	N1	.500	.937
			N3	1.000	1.000
			N5	1.750	1.000
			N7	2.562	1.000

* Comes assembled as CO-NO

MATERIALS

Cradles and Binders are molded from special nylon. Extensible Clips are molded of Neoprene. Butyl, Viton and Silicone rubber clips also available.
Temperature range −76°F to +250°F.

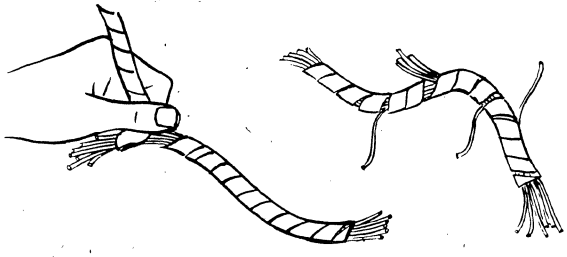
RECOMMENDED COMBINATIONS

DIAMETER OF CABLE FORM	SUPPORTED* WIRING Cradle Clip		UNSUPPORTED* WIRING Binder Clip	
1/8" - 5/16"	C0	N0	CO	N0
1/4" - 5/8"	C1	N1	B1	N1
1/2" - 11/16"	C1	N3	B1	N5
11/16" - 15/16"	C2	N3	B12	N3
15/16" - 1 1/16"	C2	N5	B12	N5
1" - 1 1/4"	C3	N3	B2	N3
1 1/4" - 1 1/2"	C3	N5	B2	N5
1 1/2" - 2"	C3	N7	B2	N7

Standard pack: 100 & 500.

Spiroband

Reduces inventory costs • Five standard materials — natural polyethylene, ultraviolet resistant polyethylene, fire resistant polyethylene (Rulan), Nylon, Teflon. Three diameters, each for application to a wide range of bundle sizes.



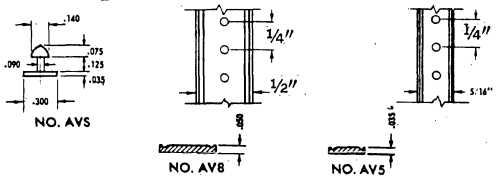
1. **Clear Polyethylene (Natural):** General applications where there are no special or unusual environmental conditions.
2. **Ultraviolet and Weather-Resistant Polyethylene (Black):** Contains special additives to resist UV and weathering in general. Additives color the material black.
3. **Fire-Resistant, Self-Extinguishing Polyethylene (Rulan):** Special fire-resistant additive, colors material bone white.
4. **Nylon:** For moderate temperature applications up to 250°F constant exposure.
5. **Teflon:**† For very high temperature applications up to 500°F constant exposure.

† Dupont TFE fluorocarbon resin

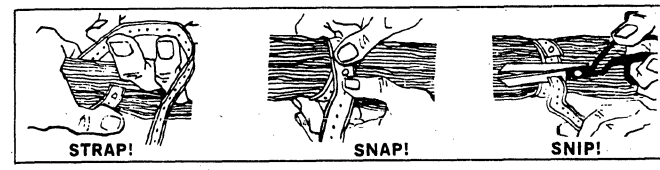
Size	O.D. (in)	Bundle Range (in)	Polyethylene Wall Thickness (in)	Polyethylene Length* Std. Coil (ft)	Nylon Wall Thickness (in)	Nylon Length* Std. Coil (in)	Teflon Wall Thickness (in)	Teflon Length Std. Coil (ft)
1/8	.125	1/16 - 1/2	.032	100	.030	100	.030	25
1/4	.250	3/16 - 2	.045	100	.030	100	.030	25
1/2	.500	3/8 - 4	.062	25	.030	25	.030	25

* Also available on spools of 250′ for 1/2″ and 500′ for 1/4″ and 1/8″

Strapping (Insuloid)



Material: Strapping is plasticized PVC (polyvinylchloride), with unusual strength and elastic properties; requires no tools; temperature range −26°F to +180°F.
Stud molded of nylon.
Colors: Standard black; also available in wide variety of colors.
Packing: Strap, 100 ft. boxed feed-out coil; 500 or 1,000 ft. coils on reels. Studs, 1,000 per box.



Installation: Stud is inserted in end of strap extending from dispenser carton; strap is then passed under and around wire bringing it back, under tension, over stud again. Strap is then cut at next hole. This operation should be repeated approximately every 6 inches or as required.

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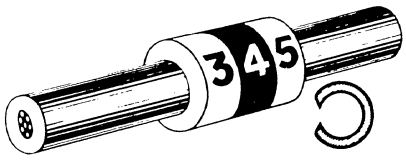
"C" markers



Clip-on type. Quick, easy to fit after connection is made of terminal tag fitted. May be removed for re-coding. Same marker used for right or left hand entry.

Materials: Durable rigid PVC.

Colors: White with black markings (standard). Also available in black, blue, red, green and yellow.

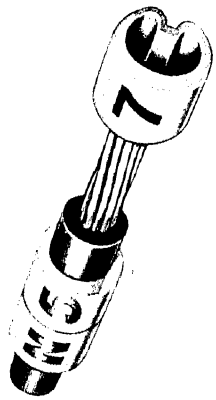
Markings: Single; numerals 0-9, letters A to Z and symbols.

Packing: 50 markers of same size and marking; 500 same size and marking for color.

Size No.	Recommended for Wires/Cable of O.D.	Size No.	Recommended for Wires/Cable of O.D.
2	.080" - .100"	9	.250" - .280"
3	.100" - .118"	10	.280" - .315"
4	.118" - .138"	11	.315" - .350"
5	.138" - .156"	12	.350" - .400"
6	.156" - .187"	13	.400" - .460"
7	.187" - .218"	14	.460" - .510"
8	.218" - .250"	15	.510" - .570"

"Z" markers

Slip-on type marker for applications where marking is attached before terminal attached or connection made.



Size No.	Recommended for Wires/Cables of O.D.	Length	Thickness
22	.045"-.065"	.140"	.055"
20	.066"-.085"	.140"	.050"
18	.086"-.115"	.140"	.040"
16	.110"-.135"	.140"	.030"
14	.130"-.160"	.160"	.040"
12	.150"-.175"	.160"	.045"
10	.170"-.195"	.160"	.045"
9	.190"-.215"	.160"	.050"
8	.210"-.250"	.190"	.055"
7	.245"-.295"	.190"	.055"
6	.290"-.360"	.224"	.060"
4-1	.355"-.460"	.224"	.060"

Colors: White with black markings (Standard color). Black with white markings, Blue, Green, Yellow, Red with black markings.

Material: PVC MIL-1-631C, Type F, Form U, Grade a & b, Class I, Category 1, finish: glossy. Specific gravity: 1.21. Hardness (shore A): 73 av. Tensile Strength: 2600 psi. av. Ultimate Elongation: 350% av. Dielectric Strength (20 mil specimen): 750 volts/mil. Cold Brittle Temp. (50% non-failure): —65° F.

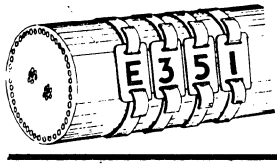
Markings: Single: numerals 0-9, letters A to Z, symbols +, −, ∼. Multiple any 2, 3, 4 or 5 unit combinations of above.

Packing: Coil of 50 single markers, one size, color and character per package. Coil of 500, as above, on self-servicing reels.

Min. Quantity: per size and character: 50 single white, 500 multiple, 500 colored.

"S" markers

for wire bundles or cables with O.D. of more than .500"



Strap-on-marker: Size: 3/8" x 5/16" x .040", material P.V.C., colors and material same as ELECTROVERT "Z". Markings: 0-9, A-Z, +, −, ∼.

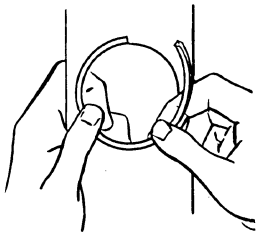
Applications Strip: P.V.C. — covered aluminum, .157" wide x .024" thick.

Min. Quantity: Per size and character: 50 markers; color 500; 165' strip coil.

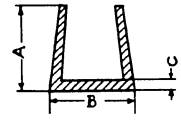
Min. Order: 500 Markers, 165' coil of strip.

Packing: Markers, 50 per indicator card pouch; strips in 165' coils.

Grommet Strip with the "Snip-n-Fit" feature



U-shaped, strip-type grommeting material can be cut to size, provides smooth surface around edge of any hole and features quick, simple application. No adhesive or special tools required.



...offers the advantage of one strip only for applications to: round holes; square holes; rectangular holes; oval holes.

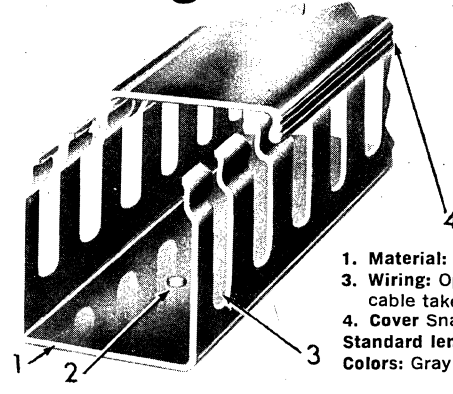
SIZES	A INCH	B INCH	C INCH	SHEET THICKNESS MAX/MIN INCH	PACKAGING
GS2	.150	.160	.042	0.0400 to 0.0624	100' coils
GS2A	.150	.160	.042	0.0400 to 0.0624	100' coils
GS3	.170	.170	.042	0.0625 to 0.0999	100' coils
GS4	.175	.240	.045	0.1000 to 0.1449	100' coils
GS5	.215	.290	.045	0.1450 to 0.1870	100' coils
GS6	.275	.370	.055	3/16 to 1/4	50' coils

Specifications

Standard material is natural low density polyethylene. Also available, on request, both in ultraviolet- and weather-resistant, and flame-resistant polyethylene formulations.

The standard, clear Grommet Strip meets the following specifications and standards: ASTM D 1248-63T, Type I, Class A, Grade 4; Federal Spec L-P-390, Type I, Class L, Grades 1, 2 and 3; Federal Spec L-P-390, Type II, Class L, Grade 4; MIL-P-3803; MIL-I-631C; and MIL-E-16400, Classes 1, 2, 3 and 4.

P.V.C. Wiring Duct



1. **Material:** Rigid, high impact PVC.
3. **Wiring:** Open slot to provide fast cable take off.
4. **Cover** Snaps on or off.

Standard length: 6 ft.

Colors: Gray and white.

APPROVED BY CSA

Sizes, Dimensions, Ordering Data

Size	Nominal W x H (inches)	Approximate Shpg. Wt. Per 100 (Channel & Cover)
1010	1 x 1	25
1020	1 x 2	30
1030	1 x 3	40
2020	2 x 2	35
2030	2 x 3	48
3010	3 x 1	37
3030	3 x 3	60

Channels and cover furnished together.
Available on inquiry with adhesive backing.

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ICORE
ELECTRO-PLASTICS, INC.
a subsidiary of ICORE INDUSTRIES

SPIRAL WRAP®

This expandable spiral-cut plastic wrap harnesses, insulates and protects wire assemblies up to 8" diameter.

HARNESSING:

Spiral Wrap applies a strong grip developed both from its torsional cut and the memory of plastic materials used. It retains its strength under repeated flexing and bending, follows wire paths easily, and makes neat, free-running cables. It is extremely useful on long continuous runs where many leads are required; wires can enter or break out at any point. Spiral Wrap can be removed easily for trouble shooting and then re-applied.

PROTECTION:

Spiral Wrap is available in materials which accommodate a heat range from —265°C/—450°F to 260°C/500°F for insulation purposes. It is also available in materials with high abrasion resistance and in materials for use outdoors where resistance to ultra-violet rays is required.

MATERIAL DESCRIPTION

Polyethylene	Versatile, low cost material
Polyethylene, black	In addition to above, this material is designed for outdoor use. It resists ultra-violet rays. Oper. Temp. —75°C/—105°F to 100°C/215°F.
Rulan (carbon impregnated polyethylene)	Used primarily in applications where a low cost self-extinguishing material is required. Oper. Temp. —25°C/—10°F to 95°C/200°F.
Nylon, natural	This material offers best mechanical protection; also has a higher temperature rating than polyethylene. Oper. Temp. —100°C/—150°F to 150°C/300°C.
Nylon, black	In addition to the above, this material is designed for outdoor use; it resists ultra-violet rays. Oper Temp. —100°C/—150°F to 110°C/230°F.
Teflon	Primarily used in high temperature applications; also has an extremely low operating temperature, excellent dielectric properties and is not affected by organic solvents or acids. Oper. Temp. —265°C/—450°F to 260°C/500°F.

Cat. # Size	Price 100'
SWN-1/8	$ 7.50
1/4	14.00
3/8	36.40
1/2	44.00
3/4	128.70
1"	179.30
SWP-1/8	3.60
3/16	5.30
1/4XXT	5.60
1/4XT	5.80
1/4	6.00
3/8	9.50
1/2	14.50
3/4	21.75
1XT	28.55
1"	29.25
SWR-1/8	4.65
1/4	12.05
3/8	16.65
1/2	27.40
SWT-1/8	117.00
3/16	128.00
1/4	139.00
3/8	261.00
1/2	380.00
3/4	570.00
1"	760.00

CATALOG #SWP — POLYETHYLENE

Conforms to: Grade C Fed. Spec. L.P. 390 MIL-I-631D MIL-P-26692

Cat. #	Nominal Outside Dia., (Inches)	Nominal Wall (Inches)	Nominal Pitch (Inches)	Max. Bundle, Size (In.)*	Standard Colors**	Standard Package (Ft./Spool)
SWP-1/8	.125	.031	1/4	1/2	Nat., Blk.	100, 500
3/16	.187	.031	1/4	1-1/2	Nat., Blk.	100, 500
1/4XXT	.250	.031	3/8	2	Nat., Blk.	100, 500
1/4XT	.250	.040	3/8	2	Nat., Blk.	100, 500
1/4	.250	.058	5/16	2	Nat.,Blk.,Bl.,Rd.	100, 500
3/8	.375	.058	7/16	3	Nat.,Blk.,Bl.,Rd.	100, 500
1/2	.500	.058	9/16	4	Nat., Blk.	100, 250
3/4	.750	.065	7/8	6	Nat., Blk.	50, 100 (Box)
1XT	1.000	.065	1	8	Nat., Blk.	50, 100 (Box)
1	1.000	.100	7/8	8	Nat., Blk.	50, 100 (Box)

CATALOG # SWN — NYLON

Conforms to: MIL-M-22096

Cat. #	Nominal Outside Dia., (Inches)	Nominal Wall (Inches)	Nominal Pitch (Inches)	Max. Bundle, Size (In.)*	Colors**	Standard Package (Ft./Spool)
SWN- 1/8	.125	.016	1/4	1/2	Nat., Blk.	100, 500
1/4	.250	.030	5/16	2	Nat., Blk.	100, 500
3/8	.375	.030	7/16	3	Nat., Blk.	100, 500
1/2	.500	.030	9/16	4	Nat., Blk.	100, 250
3/4	.750	.040	7/8	6	Natural	50, 100 (Box)
1	1.000	.040	1	8	Natural	50, 100 (Box)

CATALOG #SWR — RULAN

Cat. #	Nominal Outside Dia., (Inches)	Nominal Wall (Inches)	Nominal Pitch (Inches)	Max. Bundle Size (In.)*	Colors**	Standard Package (Ft./Spool)
SWR-1/8	.125	.030	1/4	1/2	Wh., Gray	100, 500
1/4	.250	.058	5/16	2	Wh., Gray	100, 500
3/8	.375	.058	7/16	3	Wh., Gray	100, 500
1/2	.500	.058	9/16	4	Wh., Gray	100, 250

CATALOG #SWT — TEFLON

Conforms to: MIL-I-22129B AMS 3651B, 3653

Cat. #	Nominal Outside Dia., (Inches)	Nominal Wall (Inches)	Nominal Pitch (Inches)	Max. Bundle Size (In.)*	Colors**	Standard Package (Ft./Spool)
SWT-1/8	.125	.030	1/4	1/2	Natural	25, 50, 100, 500
3/16	.187	.030	1/4	1	Natural	25, 50, 100, 500
1/4	.250	.030	3/8	2	Natural	25, 50, 100, 500
3/8	.375	.030	7/16	2-1/2	Natural	25, 50, 100, 500
1/2	.500	.030	9/16	3	Natural	25, 50, 100, 250
3/4	.750	.040	7/8	4	Natural	25 (Box)
1	1.000	.040	1	6	Natural	25 (Box)

* Size will vary on a specific bundle depending on desired flexibility and protection
** ADDITIONAL COLORS AVAILABLE ON REQUEST

Prices subject to change without notice.

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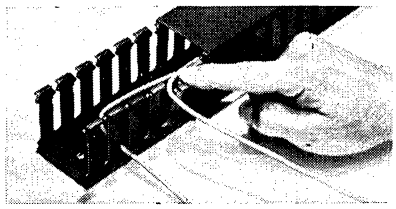
PANDUIT® wiring components



Type E — Open Slot

PART NUMBER SYSTEM

Channel Only

Example: E 1.5 x 2 DG 6

Type — 1.5" Wide — 2" High — Dark Gray — 6' Long

Cover Only

Example: C 1.5 DG 6

Cover — 1.5" Wide — Dark Gray — 6' Long

PANDUCT® CHANNEL ONLY

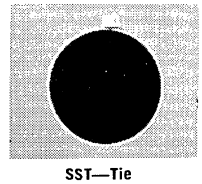
Types Avail.	Nominal Width x Height (Inches)	Approx. Shpg. Wt. Per 100'	Price/Foot Under 200 ft.	200 ft. 1999 ft.	2000 to 4999 ft.
E	.5x.5	11 lbs.	$0.39	$0.31	$0.28
E	.5x.62	12 lbs.	.41	.33	.31
E	.5x1	16 lbs.	.45	.36	.34
E	.5x1.25	16 lbs.	.51	.40	.37
E	.5x1.75	16 lbs.	.53	.43	.40
E	.75x.75	14 lbs.	.44	.35	.33
E	.75x1	16 lbs.	.45	.36	.34
E	.75x1.5	19 lbs.	.53	.42	.39
E	.75x2	23 lbs.	.65	.52	.48
E	1x1	16 lbs.	.45	.37	.34
E	1x1.5	18 lbs.	.60	.49	.45
E	1x2	21 lbs.	.64	.52	.48
E	1x3	31 lbs.	.81	.65	.60
E	1.5x1.5	20 lbs.	.63	.51	.46
E	1.5x2	20 lbs.	.69	.55	.50
E	1.5x3	30 lbs.	.87	.70	.64
E	1.5x4	40 lbs.	1.11	.89	.82
E	2x1	18 lbs.	.62	.50	.45
E	2x2	23 lbs.	.75	.60	.55
E	2x3	36 lbs.	.90	.72	.66
E	2x4	48 lbs.	1.16	.93	.85
E	2.5x3	41 lbs.	.95	.76	.71
E	3x1	20 lbs.	.75	.60	.56
E	3x2	33 lbs.	.82	.65	.60
E	3x3	43 lbs.	.98	.78	.72
E	3x4	53 lbs.	1.21	.97	.89
E	4x1.5	33 lbs.	.86	.69	.64
E	4x2	38 lbs.	.88	.71	.65
E	4x3	48 lbs.	1.05	.84	.77
E	4x4	58 lbs.	1.23	.98	.90

CORRESPONDING COVER ONLY

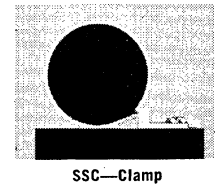
Nominal Width (Inches)	Approx. Shpg. Wt./100'	Price/Foot Under 200 ft.	200 to 1999 ft.	2000 to 4999 ft.
.5	4 lbs.	$0.09	$0.07	$0.06
.75	6 lbs.	.10	.08	.07
1	9 lbs.	.12	.09	.08
1.5	10 lbs.	.15	.12	.11
2	12 lbs.	.18	.14	.13
2.5	14 lbs.	.22	.18	.16
3	17 lbs.	.25	.20	.18
4	22 lbs.	.33	.26	.24

Order by Total No. of Ft. Req'd. (must be multiple of length per part.)
Standard Mounting Holes: No Charge — Supplied Only if Specified — See Duct Catalog For Dimensions.
NOTE: Standard Length: 6 ft. Other lengths available. Standard Color: Dark Gray. White and Light Gray available.
NOTE: Total length of all sizes of duct and cover, ordered for shipment at one time to one location, determines price columns.

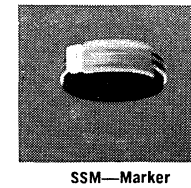
STA-STRAP® CABLE TIES AND CLAMPS



SST—Tie



SSC—Clamp



SSM—Marker

STANDARD PKG. OF 100(C)

Part Number	Maximum Bundle Diameter	Approx. Shpg. Wt. lbs./1000	Price Per 100 Base Price 100-400	500
SST1C	¾"	1	$ 3.60	$ 2.85
SST1.5C	1¼"	1.5	3.75	3.00
SST2C	1¾"	2.6	4.30	3.40
SST4C	4"	4.5	9.80	7.80
SST4HC	4"	12	14.50	11.50
SST8HC	8"	24	22.50	18.00
SSC2C	1¾"	3.2	4.90	3.90
SSC4C	4"	5.5	10.80	8.60
SSC4HC	4"	14	17.00	13.60
SSM2C	1¾"	3.3	8.60	6.80
SSM4C	4"	6	14.10	11.20

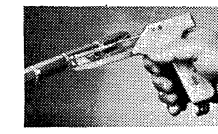
Order by Number of Pieces Required.
Colors: Standard Color — Natural Nylon White.
Other Colors — 10% additional price.

BULK PACKAGING*

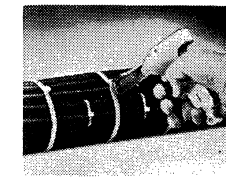
Part Number	Approx. Shpg. Wt. lbs./1000	Price Per M (1000) 1M-24.5M	25M-49.5M	50M
SST1M	1	$ 23.00	$ 21.85	$ 20.70
SST1.5M	1.5	24.00	22.80	21.60
SST2M	2.6	27.00	25.65	24.30
SST4M	4.5	60.00	57.00	54.00
SST4HD	12	93.00	88.35	83.70
SST8HD	24	140.00	136.00	126.00
SSC2M	3.2	30.00	28.50	27.00
SSC4M	5.5	66.00	62.70	59.40
SSC4HD	14	111.80	106.20	100.75
SSM2D	3.3	55.00	52.25	49.50
SSM4D	6	87.50	83.15	78.25

*Bulk packaging quantities indicated by letter suffix in part no. D=500; M=1000.
Order by Number of Pieces Required

STA-STRAP® Installation Tools



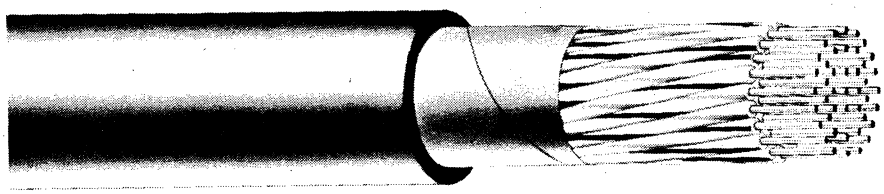
GS2B—Manual $19.00 ea. net. Installs all STA-STRAP Ties except Heavy Duty.



GS4H—Manual $40.00 ea. net. **NEW** Heavy Duty—installs all STA-STRAP Ties except SST1 & SST1.5.

Delivery: F.O.B. Factory. Minimum Billing: $25.00 net each customer-designated shipment. Terms: Cash Discount 2%, 10th prox. FREIGHT ALLOWED via Panduit routing on domestic shipments of $300.00 or more net billing. All prices subject to change without notice.

PANDUIT CORP.



In Stock MIL-SPEC

Multiple Conductor Control Cables

National Wire & Cable Corporation manufactures a complete line of multiple conductor control cables. Conductors are of tinned copper strand with 1/64" vinyl primary insulation for use up to 105°C per MIL-W-16878D Type C†. Insulated for **1000** volts working voltage. Conductors are color coded using 10 standard basic colors, plus spiral tracers on white per MIL-STD. 122.

All conductors are planetary cabled and contra-helically laid with a Mylar tape serve over the cable bundle. The overall jacket is a 105°C black polyvinyl-chloride thermoplastic, meeting specification MIL-I-631 Class F, or may be Neoprene to MIL-R-6855 Class 2 Grade 60 specification. (Neoprene jackets at added cost.)*

National Multiple Conductor SHIELDED CABLES are to the same specifications as above with addition of tinned copper braided shield over cable complex with 85-90% coverage to MIL-C-7078A. STANDARD PUT-UPS: 500 ft. and 1000 ft. No-deposit reels.

*(Standard put-up for Neoprene jacketed cable is 250 ft.)

†Insulated Conductors are also UL approved under UL type 1007 AWM, and are CSA approved as type TR 64.

TECHNICAL DATA (all cables)

Insulation Breakdown Voltage:	Greater than 8000 volts AC RMS, 60 cps.
Capacitance:	Nominal capacitance from a wire to all else in the cable ranges from 40 to 65 mmfd per ft., @ 1000 cps; dependent on gauge and position.
Insulation Leakage Res.:	200. megohms/1000 ft. min. at 500 VDC from any conductor to all else in cable.
Sheath Leakage Res.:	10. megohms/1000 ft. min. at 500 VDC from overall shield through sheath to outside world.
Usable Temp. Range:	Suitable for continuous use from +105°C to −55°C.
Cold Bending Capability:	All cables are suitable for flexing to a circle diam. of approx. 6 cable diameters from +105°C to −20°C; Recommended flex diameter should be greater than 20 cable diam. for flexing at −40°C., or for continuous flexing service to −55°C, specify our neoprene sheath, in lieu of plastic sheath.

MULTI-CONDUCTOR STOCK CABLES

Conductor sizes 22, 20, 18, 16, 14 & 12 gauge. 22 AWG is 7 strand. All others 19 strand.

UNSHIELDED

PART NO.	NO. COND.	COND. AWG	JKT. THICK	CABLE O.D.	WEIGHT PER M'
NW-722 J	7	22	.040	.295	40 Lbs.
NW-1222J	12	22	.050	.390	70 Lbs.
NW-1922J	19	22	.060	.460	110 Lbs.
NW-2722J	27	22	.060	.530	160 Lbs.
NW-3722J	37	22	.060	.600	200 Lbs.
NW-4822J	48	22	.060	.670	245 Lbs.
NW-6022J	60	22	.060	.730	300 Lbs.
NW-7222J	72	22	.060	.775	360 Lbs.
NW-8822J	88	22	.060	.835	425 Lbs.
NW-10222J	102	22	.060	.880	485 Lbs.
NW-720 J	7	20	.040	.300	50 Lbs.
NW-1220J	12	20	.050	.400	105 Lbs.
NW-1920J	19	20	.060	.470	160 Lbs.
NW-2720J	27	20	.060	.560	210 Lbs.
NW-3720J	37	20	.060	.610	280 Lbs.
NW-4820J	48	20	.060	.700	360 Lbs.
NW-6020J	60	20	.060	.750	435 Lbs.
NW-7220J	72	20	.060	.840	485 Lbs.
NW-8820J	88	20	.060	.900	580 Lbs.
NW-10220J	102	20	.060	.975	670 Lbs.
NW-718 J	7	18	.040	.350	75 Lbs.
NW-1218J	12	18	.050	.460	135 Lbs.
NW-1918J	19	18	.060	.560	225 Lbs.
NW-2718J	27	18	.060	.650	300 Lbs.
NW-3718J	37	18	.060	.730	390 Lbs.
NW-4818J	48	18	.060	.820	510 Lbs.
NW-6018J	60	18	.060	.900	600 Lbs.
NW-7218J	72	18	.060	1.100	720 Lbs.
NW-716 J	7	16	.040	.370	95 Lbs.
NW-1216J	12	16	.050	.500	155 Lbs.
NW-1916J	19	16	.060	.600	230 Lbs.
NW-2716J	27	16	.060	.700	320 Lbs.
NW-3716J	37	16	.060	.785	430 Lbs.
NW-4816J	48	16	.060	.900	625 Lbs.
NW-6016J	60	16	.060	.980	750 Lbs.
NW-714 J	7	14	.050	.450	150 Lbs.
NW-1214J	12	14	.050	.560	240 Lbs.
NW-1914J	19	14	.060	.675	370 Lbs.
NW-2714J	27	14	.060	.800	515 Lbs.
NW-512 J	5	12	.050	.480	175 Lbs.
NW-712 J	7	12	.050	.525	225 Lbs.
NW-1212J	12	12	.060	.700	375 Lbs.
NW-1912J	19	12	.060	.820	560 Lbs.

OVERALL SHIELDED

PART NO.	NO. COND	COND AWG	T.C. SHIELD	JKT. THICK	CABLE O.D.	WEIGHT PER M'
NW-722 SJ	7	22	No. 36	.040	.320	55 Lbs.
NW-1222SJ	12	22	No. 34	.050	.420	90 Lbs.
NW-1922SJ	19	22	No. 34	.060	.490	145 Lbs.
NW-2722SJ	27	22	No. 34	.060	.560	200 Lbs.
NW-3722SJ	37	22	No. 34	.060	.630	245 Lbs.
NW-4822SJ	48	22	No. 34	.060	.700	300 Lbs.
NW-6022SJ	60	22	No. 34	.060	.760	355 Lbs.
NW-7222SJ	72	22	No. 34	.060	.810	425 Lbs.
NW-8822SJ	88	22	No. 34	.060	.870	500 Lbs.
NW-10222SJ	102	22	No. 34	.060	.915	560 Lbs.
NW-720 SJ	7	20	No. 34	.040	.335	68 Lbs.
NW-1220SJ	12	20	No. 34	.050	.435	125 Lbs.
NW-1920SJ	19	20	No. 34	.060	.500	195 Lbs.
NW-2720SJ	27	20	No. 34	.060	.595	250 Lbs.
NW-3720SJ	37	20	No. 34	.060	.650	325 Lbs.
NW-4820SJ	48	20	No. 34	.060	.735	415 Lbs.
NW-6020SJ	60	20	No. 34	.060	.785	500 Lbs.
NW-7220SJ	72	20	No. 34	.060	.875	555 Lbs.
NW-8820SJ	88	20	No. 34	.060	.935	660 Lbs.
NW-10220SJ	102	20	No. 34	.060	1.010	750 Lbs.
NW-718 SJ	7	18	No. 34	.040	.380	95 Lbs.
NW-1218SJ	12	18	No. 34	.050	.490	170 Lbs.
NW-1918SJ	19	18	No. 34	.060	.590	265 Lbs.
NW-2718SJ	27	18	No. 34	.060	.680	350 Lbs.
NW-3718SJ	37	18	No. 34	.060	.760	445 Lbs.
NW-4818SJ	48	18	No. 34	.060	.850	575 Lbs.
NW-6018SJ	60	18	No. 34	.060	.935	680 Lbs.
NW-7218SJ	72	18	No. 34	.060	1.135	820 Lbs.
NW-716 SJ	7	16	No. 34	.040	.400	125 Lbs.
NW-1216SJ	12	16	No. 34	.050	.535	195 Lbs.
NW-1916SJ	19	16	No. 34	.060	.635	275 Lbs.
NW-2716SJ	27	16	No. 34	.060	.735	375 Lbs.
NW-3716SJ	37	16	No. 34	.060	.820	500 Lbs.
NW-4816SJ	48	16	No. 34	.060	.935	700 Lbs.
NW-6016SJ	60	16	No. 34	.060	1.015	830 Lbs.
NW-714 SJ	7	14	No. 34	.050	.485	180 Lbs.
NW-1214SJ	12	14	No. 34	.050	.600	280 Lbs.
NW-1914SJ	19	14	No. 34	.060	.710	420 Lbs.
NW-2714SJ	27	14	No. 34	.060	.835	575 Lbs.
NW-512 SJ	5	12	No. 34	.050	.515	210 Lbs.
NW-712 SJ	7	12	No. 34	.050	.560	265 Lbs.
NW-1212SJ	12	12	No. 34	.060	.735	430 Lbs.
NW-1912SJ	19	12	No. 34	.060	.850	625 Lbs.

NATIONAL WIRE & CABLE CORP.

Net

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SPECIAL SHIELDED DATA & INSTRUMENTATION CABLES

Designed for Low Level or Low Capacitance Needs • All feature extremely low dielectric leakage both in insulation and outer sheath • Suitable for very long runs in tray or conduit. (1000 ft and up).

SINGLE CONDUCTOR SHIELDED

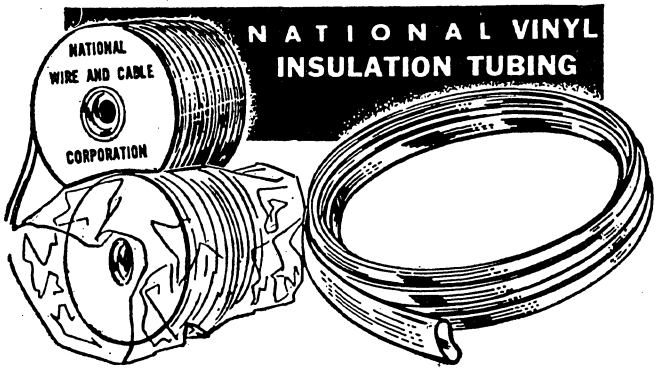
Part Number	AWG & Stranding	Drain AWG & Str.	Insulation & Thickness	Jacket Thickness	Nom. O.D.	Shld % Coverage	Cap. mmfd/ft	Working Voltage	Surge Impedance Ohms	Temp. °F
S10-516	28(7 x 38)	—	.086″ NAFOAM	.015″ pvc	.242″	TC Braid 90%*	12.	3000.	120.	+180
S10-328-1 S10-328-2	22(19 x 34)	—	.042″ NAFOAM	.020″ pvc	.182″	(1) 90% Braid* (2) 100% NAFOIL & Braid	20.7 20.7	1000. 1000.	60.	+180
S10-680	22(19 x 34)	22 7 x 30	.032″ poly	.016″ pvc	.135″	NAFOIL & Drain	30.	3000.	—	+180
S10-679	22(19 x 34)	24 7 x 32	.010″ pvc .002″ nylon	.015″ pvc	.091″	100% NAFOIL & Drain	100.	600.	25.	+221

TWO CONDUCTOR SHIELDED

Part Number	AWG & Stranding	Drain AWG & Str.	Insulation & Thickness	Jacket Thickness	Nom. O.D.	Shld % Coverage	Cap. mmfd/ft	Working Voltage	Surge Impedance Ohms	Temp. °F
S10-010-1 S10-010-2 S10-010-3	22(19 x 24)	—	.042″ NAFOAM	.020″ pvc	.295″	(1) 90% Braid (2) 100% NAFOIL + Braid (3) NAFOIL only	10.6 W-W	1000.	120.	+180
S10-681	22(19 x 34)	22 7 x 30	.025″ NAFOAM	.020″ poly	.210″	100% NAFOIL & Drain	15. W-W	600.	84.	+180
S10-686	22(19 x 34)	22 7 x 30	.018″ NAFOAM	.020″ poly	.178″	100% NAFOIL & Drain	20.	600.	63.	+180
S10-362	22(19 x 34)	22 7 x 30	.010″ pvc .002″ nylon	.020″ poly	.166″	100% NAFOIL & Drain	40. W-W	600.	52.	+180

THREE CONDUCTOR SHIELDED

Part Number	AWG & Stranding	Drain AWG & Str.	Insulation & Thickness	Jacket Thickness	Nom. O.D.	Shld % Coverage	Cap. mmfd/ft	Working Voltage	Surge Impedance Ohms	Temp. °F
S10-683	22(19 x 34)	18 19 x 30	.042″ NAFOAM	.020″ pvc	.297″	100% NAFOIL & Drain	10.	1000.	—	+180
S10-684	22(19 x 34	20 19 x 32	.018″ NAFOAM	.020″ pvc	.185″	100% NAFOIL & Drain	20.	600.	—	+180



INSULATION

EXTRUDED VINYL AND TEFLON TUBING

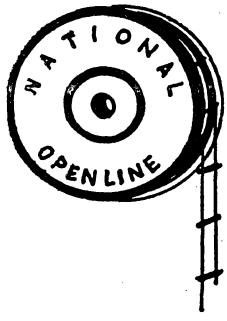
SIZES: #24 through 2½″ Diam.

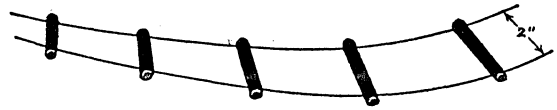
PUT-UP: #24 to ⅜″ on spools, completely sealed in plastic wrapping. Size 7/16″ to 2½″ in tied coils.

SPEC. Vinyl +105°C to —32°C Type: MIL-I-631C, ASTM-D922 Grade C

GRADES: Vinyl + 80°C to —55°C Type: MIL-I-7444B, MIL-I-22076

Teflon +250°C to —55°C Type: MIL-I-22129B (#20 to #2)





NATIONAL OPENLINE

DESIGNED FOR COMMERCIAL TV DISTRIBUTION SYSTEMS AND RF POWER TRANSMISSION

Specifications: two inch spacing between conductors . . . 12 gauge copperweld . . . 470 ohm impedance . . . attenuation: 150 mc 0.25 DB PER 100 FEET, AT 30 mc 0.1 DB PER 100 FEET. Velocity factor 0.975 . . . copperweld steel for maximum strength and electrical stability, and to insure permanent uniform performance . . . Spreaders are brown polystyrene, spaced at average five foot intervals, staggered slightly to avoid spurious resonances.

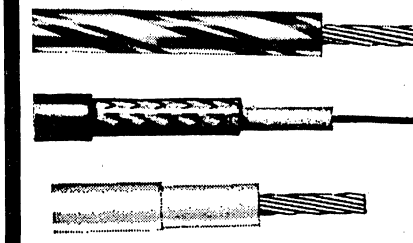
Also 1″ & ½″ copper line for TV leadin Formvar coated.

COMPLETE WIRE AND CABLE INVENTORY ALWAYS AVAILABLE FOR IMMEDIATE SHIPMENT!

National Wire and Cable Corporation maintains one of the largest and most complete stocks of electronic and aircraft wire and cable in the nation. **Total footage of floor stocks exceeds 50 million feet!**

Your immediate source for "MIL and Jan-Spec" wires, coaxial cables and vinyl sleeving.

Special color coded. shielded and jacketed combinations of hook-up wire and multi-conductor cables can be made to your specifications and delivered promptly without delay.



IN STOCK!

MIL-W-76 A
MW, HW, LW

MIL-W-16878/D
B, BN, C, CN, D, DN
E, EE, K, KK
J, JN

NAS -702
CLASS A, B, C

MIL-W-5086 A
Type I, II, III

MIL-C-7078/A
Type I, II, III

JAN-C-76
SRIR, SRHV

FOR COMPLETE INFORMATION AND PRICES, PHONE, WRITE OR WIRE NATIONAL.

NATIONAL WIRE & CABLE CORP.

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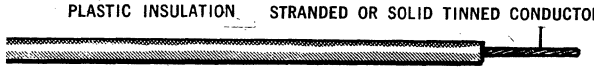
saxton WIRE & CABLE DIVISION

HOOK-UP WIRE

PLASTIC TYPE



SOLID CONDUCTOR

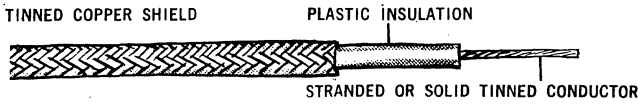
Saxton Number	Style No.	—Conductor— Size	Stranding	Insulation Thickness	Nominal O.D.
1300	1AD22	22	solid	.016"	.061"
1301	1AD20	20	solid	.016"	.064"
1302	1AD18	18	solid	.016"	.072"

STRANDED CONDUCTOR

Saxton Number	Style No.	—Conductor— Size	Stranding	Insulation Thickness	Nominal O.D.
1303	1A24	24	7 x 32	.016"	.056"
1304	1A22	22	7 x 30	.016"	.062"
1305	1A20	20	10 x 30	.016"	.067"
1306	1A18	18	16 x 30	.016"	.077"
1307	1A16	16	26 x 30	.016"	.092"
1308	1A14	14	41 x 30	.016"	.106"

SHIELDED HOOK-UP WIRE

PLASTIC TYPE

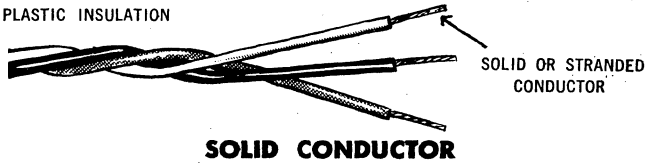


STRANDED CONDUCTOR

Saxton Number	Style No.	—Conductor— Size	Stranding	Insulation Thickness	Nominal O.D.
1309	1AS22	22	7 x 30	.016"	.090"
1310	1AS20	20	10 x 30	.016"	.100"
1311	1AS18	18	16 x 30	.016"	.120"
1312	1AS16	16	26 x 30	.016"	.130"
1313	1AS14	14	41 x 30	.016"	.150"
1314	1AS12	12	65 x 30	.016"	.170"
1315	1AS10	10	105 x 30	.025"	.195"

UNSHIELDED AUDIO CABLE

2 AND 3-CONDUCTOR • NO OUTER JACKET



SOLID CONDUCTOR

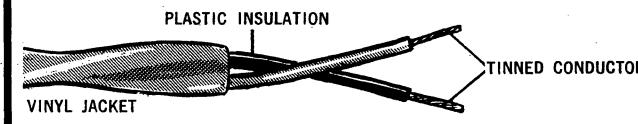
Saxton Number	Style No.	—Conductor— No.	Size	Stranding	Insulation Thickness	Nom. O.D.
1318	2AD22	2	22	solid	.016"	.100"
1319	3AD22	3	22	solid	.016"	.115"
1320	2AD20	2	20	solid	.016"	.120"
1321	3AD20	3	20	solid	.016"	.135"
1322	2AD18	2	18	solid	.016"	.145"
1323	3AD18	3	18	solid	.016"	.160"
1324	2AD16	2	16	solid	.016"	.175"
1325	3AD16	3	16	solid	.016"	.190"

STRANDED CONDUCTOR

Saxton Number	Style No.	—Conductor— No.	Size	Stranding	Insulation Thickness	Nom. O.D.
1326	2A22	2	22	7 x 30	.016"	.125"
1327	3A22	3	22	7 x 30	.016"	.140"
1328	2A20	2	20	10 x 30	.016"	.145"
1329	3A20	3	20	10 x 30	.016"	.160"
1330	2A18	2	18	16 x 30	.016"	.165"
1331	3A18	3	18	16 x 30	.016"	.180"
1332	2A16	2	16	26 x 30	.016"	.190"
1333	3A16	3	16	26 x 30	.016"	.210"

MULTI-CONDUCTOR JACKETED CABLE

.020"-WALL PLASTIC JACKET



SOLID CONDUCTOR

Saxton Number	Style No.	—Conductor— No.	Awg	Stranding	Insulation Thickness	Nom. O.D.
1334	2JD22	2	22	solid	.015"	.140"
1335	3JD22	3	22	solid	.015"	.150"
1336	4JD22	4	22	solid	.015"	.170"
1337	5JD22	5	22	solid	.015"	.185"
1338	6JD22	6	22	solid	.015"	.190"
1339	7JD22	7	22	solid	.015"	.200"
1340	8JD22	8	22	solid	.015"	.210"
1341	9JD22	9	22	solid	.015"	.240"
1342	10JD22	10	22	solid	.015"	.250"
1343	12JD22	12	22	solid	.015"	.270"
1345	2JD20	2	20	solid	.015"	.155"
1346	3JD20	3	20	solid	.015"	.165"
1347	4JD20	4	20	solid	.015"	.195"
1348	5JD20	5	20	solid	.015"	.220"
1349	6JD20	6	20	solid	.015"	.230"
1350	7JD20	7	20	solid	.015"	.240"
1351	8JD20	8	20	solid	.015"	.285"
1352	9JD20	9	20	solid	.015"	.300"
1353	10JD20	10	20	solid	.015"	.315"
1357	2JD18	2	18	solid	.015"	.188"
1358	3JD18	3	18	solid	.015"	.208"
1359	4JD18	4	18	solid	.015"	.223"
1360	5JD18	5	18	solid	.015"	.233"
1361	6JD18	6	18	solid	.015"	.263"

STRANDED CONDUCTOR

Saxton Number	Style No.	—Conductor— No.	Awg	Stranding	Insulation Thickness	Nom. O.D.
1370	2J22	2	22	7 x 30	.015"	.145"
1371	3J22	3	22	7 x 30	.015"	.160"
1372	4J22	4	22	7 x 30	.015"	.185"
1373	5J22	5	22	7 x 30	.015"	.190"
1374	6J22	6	22	7 x 30	.015"	.195"
1375	7J22	7	22	7 x 30	.015"	.215"
1376	8J22	8	22	7 x 30	.015"	.225"
1377	9J22	9	22	7 x 30	.015"	.245"
1378	10J22	10	22	7 x 30	.015"	.260"
1379	12J22	12	22	7 x 30	.015"	.285"
1381	2J20	2	20	10 x 30	.015"	.175"
1382	3J20	3	20	10 x 30	.015"	.185"
1383	4J20	4	20	10 x 30	.015"	.205"
1384	5J20	5	20	10 x 30	.015"	.230"
1385	6J20	6	20	10 x 30	.015"	.250"
1386	7J20	7	20	10 x 30	.015"	.260"
1387	8J20	8	20	10 x 30	.015"	.305"
1388	9J20	9	20	10 x 30	.015"	.320"
1389	10J20	10	20	10 x 30	.015"	.325"
1390	12J20	12	20	10 x 30	.015"	.345"
1391	15J20	15	20	10 x 30	.015"	.365"
1392	20J20	20	20	10 x 30	.015"	.420"
1393	2J18	2	18	16 x 30	.015"	.210"
1394	3J18	3	18	16 x 30	.015"	.230"
1395	4J18	4	18	16 x 30	.015"	.245"
1396	5J18	5	18	16 x 30	.015"	.260"
1397	6J18	6	18	16 x 30	.015"	.275"

TELEPHONE STATION WIRE

1051 2 Conductor Station Wire with Beige Jacket — 22 gauge solid bare copper — color coded legs. Strips easily and is staple-proof for installation along baseboards. Matches existing telephone installation color. Packed — 1 M' spools
500' spools

1050 3 conductor - same as above.

Net

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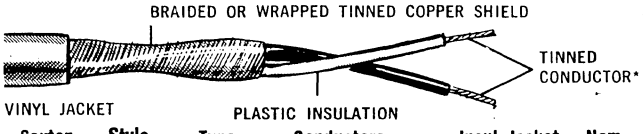
WIRE & CABLE DIVISION

MULTI-CONDUCTOR SHIELDED CABLE*

.020"-WALL PLASTIC JACKET



Saxton Number	Style No.	Type Shield	—Conductors— No.	Awg	Stranding	Insul. Thick.	Jacket Thick.	Nom. O.D.
1400	1SSJ22	wrap	1	22	7 x 30	.016"	.020"	.135"
1401	2SSJ22	wrap	2	22	7 x 30	.016"	.020"	.175"
1402	2SSJD22	wrap	2	22	solid	.016"	.020"	.170"
1403	2SSJ20	wrap	2	20	10 x 30	.016"	.020"	.195"
1404	3SSJ20	wrap	3	20	10 x 30	.016"	.020"	.210"
1405	4SSJ20	wrap	4	20	10 x 30	.016"	.020"	.225"
1406	2SSJ18	wrap	2	18	16 x 30	.016"	.020"	.230"
1407	2SSJ16	wrap	2	16	26 x 30	.016"	.020"	.250"
1408	2SJ22	braid	2	22	7 x 30	.016"	.020"	.183"
1409	2SJ20	braid	2	20	10 x 30	.016"	.020"	.195"
1410	2SJ18	braid	2	18	16 x 30	.016"	.020"	.235"

*Bare conductors available. For additional constructions see Audio Cable Section.

INTERCOM CABLE

TWISTED PAIRS WITH PLASTIC JACKET

SOLID CONDUCTOR

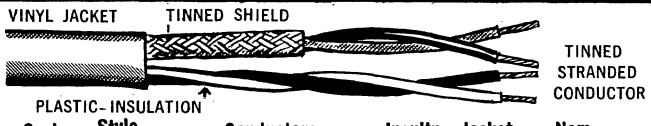
Saxton Number	Style No.	Number Pairs	—Conductors— No.	Awg	Stranding	Insul. Thick.	Jacket Thick.	Nom. O.D.
1411	2PD22	1	2	22	solid	.015"	.020"	.128"
1412	4PD22	2	4	22	solid	.015"	.020"	.205"
1413	6PD22	3	6	22	solid	.015"	.020"	.230"
1414	12PD22	6	12	22	solid	.015"	.020"	.330"
1415	14PD22	7	14	22	solid	.015"	.020"	.345"
1416	18PD22	9	18	22	solid	.015"	.020"	.370"
1417	22PD22	11	22	22	solid	.015"	.020"	.385"
1418	26PD22	13	26	22	solid	.015"	.025"	.415"
1419	30PD22	15	30	22	solid	.015"	.025"	.450"
1420	32PD22	16	32	22	solid	.015"	.025"	.470"
1421	54PD22	27	54	22	solid	.015"	.035"	.605"
1422	62PD22	31	62	22	solid	.015"	.035"	.630"
1423	82PD22	41	82	22	solid	.015"	.035"	.710"
1424	102PD22	51	102	22	solid	.015"	.045"	.845"

STRANDED CONDUCTOR

Saxton Number	Style No.	Number Pairs	—Conductors— No.	Awg	Stranding	Insul. Thick.	Jacket Thick.	Nom. O.D.
1425	2P22	1	2	22	7 x 30	.015"	.020"	.155"
1426	4P22	2	4	22	7 x 30	.015"	.020"	.220"
1427	6P22	3	6	22	7 x 30	.015"	.020"	.245"
1428	8P22	4	8	22	7 x 30	.015"	.020"	.275"
1429	10P22	5	10	22	7 x 30	.015"	.020"	.320"
1430	12P22	6	12	22	7 x 30	.015"	.020"	.340"
1431	18P22	9	18	22	7 x 30	.015"	.020"	.375"
1432	22P22	11	22	22	7 x 30	.015"	.020"	.415"
1433	30P22	15	30	22	7 x 30	.015"	.025"	.485"
1434	54P22	27	54	22	7 x 30	.015"	.035"	.645"

AUDIO CABLE

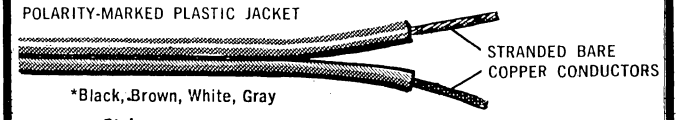
COMBINATION SHIELDED & JACKETED



Saxton No.	Style No.	Conductors No.	AWG	Stranding	Insltn. Thckns.	Jacket Thckns.	Nom. O.D.
1435	2S2J22	4	22	7 x 30	.016"	.020"	.315"
		(Two conductors shielded, two unshielded)					
1436	1S2J22	3	22	7 x 30	.016"	.020"	.200"
		(One conductor shielded, two unshielded)					

E-Z ZIP-CORD—LAMP-CORD

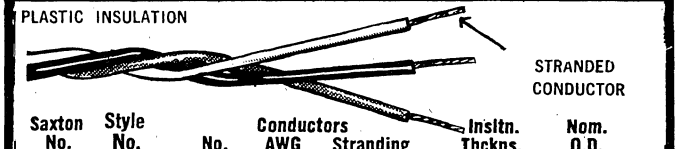
PLASTIC TYPE • 2 & 3-CONDUCTOR



Saxton No.	Style No.	Conductors No.	AWG	Stranding	UL Type	Wall Thckns.	Nominal O.D.
1437	2F24*	2	24	7 x 32	—	.016"	.061" x .137"
1437A	Same as above—clear. (polarized conductors)						
1438	2F20*	2	20	10 x 30	—	.016"	.105" x .210"
1438A	Same as above—clear. (polarized conductors)						
1439	2F18*	2	18	16 x 30	SPT-1	.016"	.130" x .215"
1439A	2F18A	Same as above—clear (polarized conductors)					
1440	3F18	3	18	16 x 30	SPT-2	.032"	.130" x .300"
1441	2F16	2	16	65 x 34	SPT-2	.032"	.160" x .300"
1442	3F24	3	24	7 x 32	—	.032"	.061" x .204"

STEREO PHONO WIRE

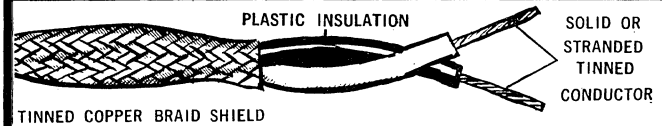
SHIELDED & UNSHIELDED



Saxton No.	Style No.	Conductors No.	AWG	Stranding	Insltn. Thckns.	Nom. O.D.
1163	3A33	3	33	6 x 41	.008"	—
1164	4A33	4	33	6 x 41	.008"	—
1444	2S33	2	33	6 x 41	Shielded	—

AUDIO CABLE

2-CONDUCTOR SHIELDED, UNJACKETED



SOLID CONDUCTOR

Saxton No.	Style No.	Conductors No.	AWG	Stranding	Insltn. Thckns.	Nom. O.D.
1445	2SD22	2	22	solid	.016"	.132"
1446	2SD20	2	20	solid	.016"	.148"
1447	2SD18	2	18	solid	.016"	.175"

STRANDED CONDUCTOR

Saxton No.	Style No.	Conductors No.	AWG	Stranding	Insltn. Thckns.	Nom. O.D.
1448	2S24	2	24	16 x 36	.016"	.125"
1449	2S22	2	22	7 x 30	.016"	.140"
1450	2S20	2	20	10 x 30	.016"	.155"
1451	2S18	2	18	16 x 30	.016"	.170"
1452	2S16	2	16	26 x 30	.020"	.210"
1453	2S14	2	14	41 x 30	.020"	.225"
1454	2S12	2	12	65 x 30	.025"	.295"

AUDIO CABLE

2-CONDUCTOR • SHIELDED & JACKETED

SOLID CONDUCTOR

Saxton No.	Style No.	Conductors No.	AWG	Stranding	Insltn. Thckns.	Jacket Thckns.	Nom. O.D.
1455	2SDJ22	2	22	solid	.016"	.020"	.172"
1456	2SDJ20	2	20	solid	.016"	.020"	.208"
1457	2SDJ18	2	18	solid	.016"	.020"	.218"

STRANDED CONDUCTOR

Saxton No.	Style No.	Conductors No.	AWG	Stranding	Insltn. Thckns.	Jacket Thckns.	Nom. O.D.
1458	2SJ22	2	22	7 x 30	.016"	.020"	.183"
1459	2SJ20	2	20	10 x 30	.016"	.020"	.195"
1460	2SJ18	2	18	16 x 30	.016"	.020"	.235"

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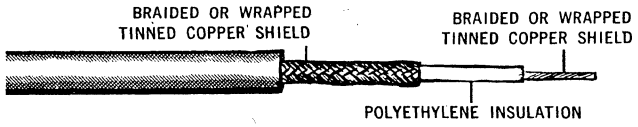
AUDIO CABLE

LOW LOSS MICROPHONE & INPUT

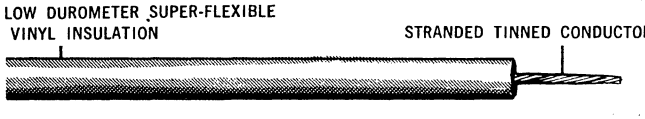


Saxton No.	Style No.	Nom. Cap./ft.	Shield Type	Conductors No.	AWG	Strdg.	Insl. Th.	Jkt. Th.	Nom. O.D.
1290†	1SSJC20RB	21 mmf.	wrap	1	20	19x34	Special		.200"
1291*	2MFSJC22	34 mmf.	foil	2	22	7x30	.022"	.028"	.225"
1292*	3MFSJC22	36 mmf.	foil	3	22	7x30	.027"	.031"	.286"
1293*	2MFSJC20	32 mmf.	foil	2	20	7x28	.024"	.029"	.228"
1294*	3MFSJC20	30 mmf.	foil	3	20	7x28	.026"	.035"	.288"
1461#	1SSJC26	36 mmf.	wrap	1	26	7x34	**.016	.020"	.125"
1462	1SJC24	35 mmf.	braid	1	24	10x34	.016"	.030"	.145"
1463	1SJC24A	23 mmf.	braid	1	24	10x34	.040"	.030"	.200"
1464	1SJC20	36 mmf.	braid	1	20	26x34	.030"	.030"	.175"
1465	2SJC20	31 mmf.	braid	2	20	16x34	.025"	.030"	.230"
1466	3SJC20	34 mmf.	braid	3	20	26x34	.025"	.035"	.290"
1467	4SJC20	36 mmf.	braid	4	20	26x34	.025"	.035"	.315"
1468	5SJC20	45 mmf.	braid	5	20	26x34	.025"	.035"	.340"
1469	6SJC20	51 mmf.	braid	6	20	26x34	.025"	.035"	.365"

†Heavy duty, foam insulated lo-loss mike cable with woven rayon braid—closely wrap shielded and flexible construction.
*Mylar-foil shield with ground runner. **Copperweld
#Wrap shield—easily pigtailed—for lapel and audio uses—low capacitance—extra flexible.

TEST LEAD WIRE

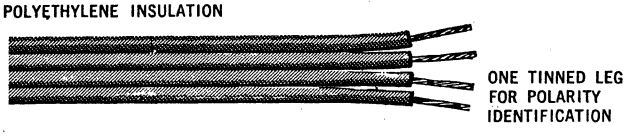
SUPER-FLEXIBLE VINYL INSULATION*



Saxton No.	Style No.	Type	Conductors AWG	Strndg.	Wall Thkns.	Brkdwn. Voltage	Nom. O.D.
1470	1C20	Standard	20	41 x 36	.040"	5,000	.120"
1471	1C20A	Standard	20	41 x 36	.044"	8,500	.130"
1472	1C20B	Standard	20	41 x 36	.047"	10,000	.135"
1473	1C18	Standard	18	41 x 34	.047"	12,000	.140"
1474	1C18A	Hvy.Duty	18	41 x 34	.109"	22,000	.245"
1475	1C20R*	Standard	20	41 x 36	.040"	5,000	.120"
1476	1C18R*	Standard	18	41 x 34	.045"	5,000	.138"

*Rubber, Also available to MIL-spec from stock. ALL TEST PROD WIRES RED or BLACK. Other colors available.

ROTOR CABLE



Saxton No.	Style No.	Conductors No.	AWG	Strndg.	Insulation Material	Nominal O.D.
1481	4FC2	4	22	7 x 30	polyethylene	.085 x .360"
*1483	4FC3	4	20	10 x 30	polyethylene	.085 x .360"
*1485	5FC3	5	20	7 x 28	polyethylene	.095 x .485"
1039	round	8	6/22-2/18	7 x 30 7 x 26	polyethylene	0.250
1040	round	8	6/18-2/22	7 x 26 7 x 30	polyethylene	0.375

* Also available in round constructions and with heavier conductors.

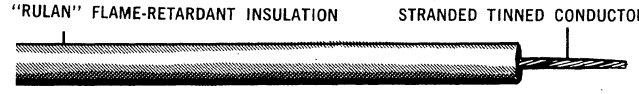
MIL-C-3432 SPECIAL CABLES

Saxton No.	Style No.	Specfctn.	Desgntn.	Construction	Specification Number	Nom. O.D.
1486	2M18	CO-02	MGF	2/18 SJO (shielded)	MIL-C-3432A	0.375
1487	2M18A	CO-02	MGF	2/18	MIL-C-3432B	0.300
1488	2M18B	CO-02	HGF	2/18	MIL-C-3432B	0.380
1489	2M18C	CO-02	LGF	2/18	MIL-C-3432B	0.250
1490	2M16	CO-02	HGF	2/16	MIL-C-3432B	0.405
1491	2M16A	CO-02	MGF	2/16	MIL-C-3432B	0.338

Many other types available; prices on request.

HIGH VOLTAGE WIRE

FLAME-RETARDANT RULAN INSULATION

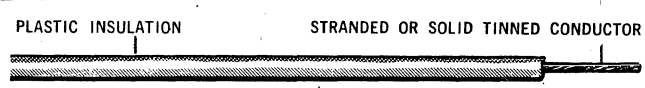


Saxton No.	Style No.	Type	Conductors AWG	Strndg.	Wall Thkns.	Brkdwn. Voltage	Nom. O.D.
1477	1R20	unshielded	20	10 x 30	.047"	10,000	.120"
1478	1R20A	unshielded	20	10 x 30	.063"	20,000	.170"
1479	1R18	unshielded	18	16 x 30	.095"	40,000	.240"
1480	1RS18	shielded	18	16 x 30	.075"	20,000	.243"

MIL-W-76B

WITH CERTIFICATION

TYPE MW—Uncovered Plastic, Medium Wall, 1000V. Rating



SOLID CONDUCTOR

Saxton No.	Style No.	Specification Designation	AWG	Insltn. Thkns.	Nom. O.D.
1503	1MD22	MW-C 22(1)U	22	.016"	.061"
1504	1MD20	MW-C 20(1)U	20	.016"	.064"
1505	1MD18	MW-C 18(1)U	18	.016"	.072"
1506	1MD16	MW-C 16(1)U	16	.016"	.083"

STRANDED CONDUCTOR

SPECIAL QUANTITY PRICES

Saxton No.	Style No.	Specification Designation	Conductor AWG	Strndg.	Insltn. Thkns.	Nom. O.D.
1507	1M24	MW-C 24(7)U	24	7 x 32	.016"	.056"
1508	1M22	MW-C 22(7)U	22	7 x 30	.016"	.062"
1509	1M20	MW-C 20(10)U	20	10 x 30	.016"	.067"
1510	1M18	MW-C 18(16)U	18	16 x 30	.016"	.077"
1511	1M16	MW-C 16(26)U	16	26 x 30	.016"	.092"
1512	1M14	MW-C 14(41)U	14	41 x 30	.016"	.106"
1513	1M12	MW-C 12(65)U	12	65 x 30	.016"	.127"

TYPE HW—Uncovered Plastic, Heavy Wall

Saxton No.	Style No.	Specification Designation	Conductor AWG	Strndg.	Insltn. Thkns.	Nom. O.D.
1514	1M22A	HW-C 22(7)U	22	7 x 30	.032"	.094"
1515	1M20A	HW-C 20(10)U	20	10 x 30	.032"	.099"
1516	1M18A	HW-C 18(16)U	18	16 x 30	.032"	.109"
1517	1M16A	HW-C 16(26)U	16	26 x 30	.032"	.122"
1518	1M14A	HW-C 14(41)U	14	41 x 30	.045"	.165"
1519	1M12A	HW-C 12(65)U	12	65 x 30	.045"	.185"

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saxton
WIRE & CABLE DIVISION

MIL-W-16878D

WITH CERTIFICATION • SPECIAL QUANTITY PRICES

EXTRUDED TEFLON INSULATION — SILVER-PLATED STRANDED CONDUCTOR

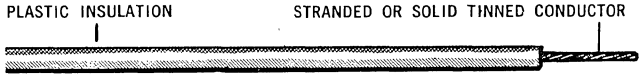
TYPE E—Extruded Teflon, 600 V. Rating

1520	1M30E	E-30	30	7 x 38	.010"	.033"
1521	1M28E	E-28	28	7 x 36	.010"	.036"
1522	1M26E	E-26	26	7 x 34	.010"	.041"
1523	1M24E	E-24	24	19 x 36	.010"	.046"
1524	1M22E	E-22	22	19 x 34	.010"	.052"
1525	1M20E	E-20	20	19 x 32	.010"	.060"
1526	1M18E	E-18	18	19 x 30	.010"	.072"
1527	1M16E	E-16	16	19 x 29	.010"	.084"
1528	1M14E	E-14	14	19 x 27	.010"	.098"

TYPE EE—Extruded Teflon, 1000 V. Rating

1529	1M30EE	EE-30	30	7 x 38	.015"	.043"
1530	1M28EE	EE-28	28	7 x 36	.015"	.046"
1531	1M26EE	EE-26	26	7 x 34	.015"	.050"
1532	1M24EE	EE-24	24	19 x 36	.015"	.056"
1533	1M22EE	EE-22	22	19 x 34	.015"	.062"
1534	1M20EE	EE-20	20	19 x 32	.015"	.070"
1535	1M18EE	EE-18	18	19 x 30	.015"	.081"
1536	1M16EE	EE-16	16	19 x 29	.015"	.090"
1537	1M14EE	EE-14	14	19 x 27	.015"	.104"

PLASTIC INSULATION — STRANDED OR SOLID TINNED CONDUCTOR



TYPE C—Uncovered Plastic, 1000 V. Rating

Saxton No.	Style No.	Specification Designation	Conductor AWG	Conductor Strndg.	Insltn. Thkns.	Nom. O.D.
1538	1M22C	C-22	22	7 x 30	.016"	.065"
1539	1M20C	C-20	20	7 x 28	.016"	.073"
1540	1M18C	C-18	18	7 x 26	.016"	.081"
1541	1M16C	C-16	16	19 x 29	.016"	.092"
1542	1M14C	C-14	14	19 x 27	.016"	.103"

TYPE D—Uncovered Plastic, 3000 V. Rating

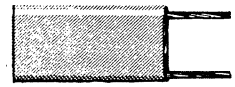
1543	1M22D	D-22	22	7 x 30	.032"	.097"
1544	1M20D	D-20	20	7 x 28	.032"	.105"
1545	1M18D	D-18	18	7 x 26	.032"	.113"
1546	1M16D	D-16	16	19 x 29	.032"	.124"
1547	1M14D	D-14	14	19 x 27	.032"	.135"

DISPENSER-PACKAGED TRANSMISSION LINE

TANGLE-FREE SELF-DISPENSING WIRE PACKAGES

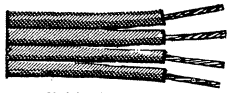
These easy to handle wire dispenser packages let you take the exact length you need. The rest stays neatly in place . . . never tangled, always clean. Ask your Saxton representative about the special dispenser "LIFELINE" series of wire packages.

◆LIFELINE TWIN LEAD



No. 1665
Full size, heavy duty deluxe twin lead constructed of the finest materials. Chemically protected against deterioration. In Magic Dispenser.
Saxton LTL (100-ft.),
Brown or Clear.

LIFELINE 100◆ ROTOR CABLE

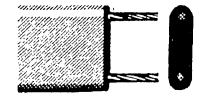
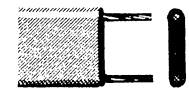
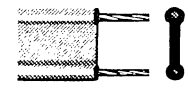
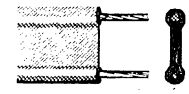
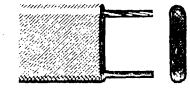
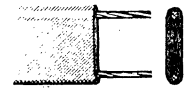
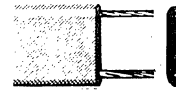
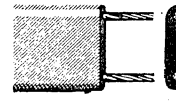
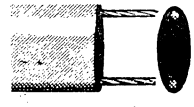
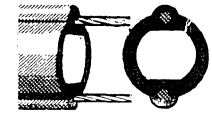
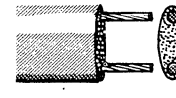
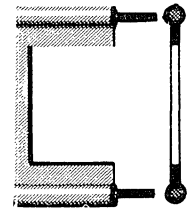


◆ Available 1000′ spools.

Extra heavy duty conductor rotor cable. Superior quality. One leg polarized for easy reference. Sold in exclusive Magic dispenser carton.
100′ Brown.
1483 - 4 Conductor
1485 - 5 Conductor

300-OHM TWIN LEAD

VHF-UHF TRANSMISSION LINE•

	Saxton No.	Style No.	Name	Stranding	Nom. Size Web Width
	1550	SH-100	—	7	0.100 x 0.400
	1551	TL-50	—	7	0.050 x 0.385
	1552*	TL-40	standard	7	0.040 x 0.0375
	1553*	TL-55	signal sender	7	0.055 x 0.385
	1554*	TL-80	trophy line	10	0.080 x 0.385
	1555*	TL-100	crusader	10	0.093 x 0.355
	1556*	TL-100DL	top notch	10	0.095 x 0.383
	1558*	TL-100SDL	double ten	20	0.100 x 0.400
	1559	18/125	brown or gold	41	0.125 x 0.415
	1560	TTL-22†	tubular	7	0.160x0.445
	1036		standard foam 22 gauge	10	.197 x .392
	1562**	INS-500	ins. open wire	1	0.075 x 0.975

MATCHING TRANSFORMER AVAILABLE

* Available in special tangle-free self-dispensing packages.
** 18 Gauge Copperweld, Solid, Non Stretch. Stranded Available, on request.

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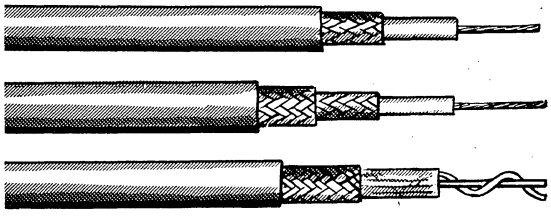
saxton WIRE & CABLE DIVISION

COAXIAL CABLE

COMMERCIAL TYPES

Quotations on cable to MIL-C-17B specifications on request. Quotations on RG-8/U and RG-11/U with 15 AWG solid copperweld conductor on request.

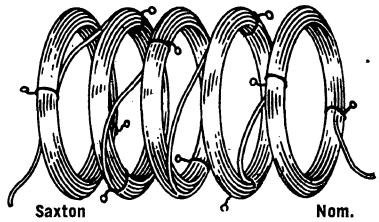


Saxton Cat. No.	Style No.	Type	Insula-tion	Nom. Imp. (Ohms)	Nom. O.D.	Jacket	Description
1582*	RG-8/U	A	reg.	52	.405	black PE	gen'l purpose
1583‡*§	RG-8/U	A	foam	52	.405	black PVC	—
1584*	RG-8A/U	A	reg.	50	.405	non-cont. PE	—
1585*	RG-11/U	A	reg.	75	.405	black PVC	TV & comm.
1586*	RG-11/U	A	foam	75	.405	black PVC	—
1587*	RG-11A/U	A	reg.	75	.405	non-cont. PE	—
1588*	RG-11/UDS	B	reg.	75	.465	black PVC	double-shielded
1589*	RG-58/U	A	reg.	53.5	.195	black PVC	20 AWG solid B.C.
1590‡*	RG-58A/U	A	reg.	52	.195	black PVC	19/.0071 TC
1591*	RG-58C/U	A	reg.	50	.195	non-cont. blk PE	19/.0071 TC
1592*§	RG-59/U	A	reg.	73	.242	black PVC	TV cable
1593*§	RG-59/UDS	B	reg.	73	.285	black PVC	double-shielded
1594*§	RG-59/U	A	foam	73	.242	black PVC	TV cable
1595*	RG-174/U	A	reg.	70	.100	black PVC	miniature "59/U"
1596*	RG-59A/U	A	reg.	75	.242	non-cont. blk PE	.023 copper-weld
1597*	RG-62/U	C	reg.	93	.242	black PVC	small size low cap.
1598*	RG-59/U 82-channel (UHF) 18 gauge LOW ATTENUATION, LOW LOSS	A	foam	72	.280	black PVC	special type
1599*	Aluminax Foam dielectric mylar foil aluminum shield (100%) PVC Jacket.						
1600*	RG58AU Extra Flexible. Low Loss Foam.						

*Available in 100-ft. lengths.
‡Available extra flexible. §Available in white

UNINSULATED COPPERWELD*

40% COPPERWELD CONDUCTOR • NON-STRETCH • HARD-DRAWN



Saxton Number	Awg	Nom. O.D.
5300	18 solid	.0403
5302	14 solid	.0641
5303	12 solid	.0808
5304	10 solid	.1019
5305	8 solid	.1285
5306	6 solid	.1620

* Saxton Copperweld available on 1M′ spools. Nos. 5300 to 5303 also in 50′ & 100′ interconnected coils of 1M′ total.

GUY WIRE & MESSENGER CABLE*

HEAVY GALVANIZED STEEL, ALUMINUM & COPPERWELD

Saxton No.	Spec. Desig.	Stranding	Material	Test Strgth. —P.S.I.	Strength Yield Per C Ft.
5100	GW-4/20	4 x 20	hvy. galv. steel	215	4%
5101	GW-6/20	6 x 20	hvy. galv. steel	335	3.6%
5103	GW-6/18	6 x 18	hvy. galv. steel	515	3%
5105	AL-7/18 Non Stretch ALCLAD	7 x 18	EC quality aluminum, aircraft temper	370	4.5%
5106		7 x 18	Same as 5105 except plastic insulated.		
5112	Tiller Cable Hi Strength	7 x 7 (49 str.)	3/32" cable vinyl jacket 3/16" O.D.	2100	—
5115	—	6 x 20	galv. steel, plastic coated.		

*50′ and 100′ interconnected coils are standard. 500′ or 1000′ spools available. See Saxton page 10 for non-radiating fibre-glass guy wire.

UNINSULATED TINNED COPPER

SOLID CONDUCTOR

Saxton No.	AWG No.	Saxton No.	AWG No.
1362	ADT-20	1570	ADT-28
1363	ADT-18	1571	ADT-26
1364	ADT-16	1572	ADT-24
1365	ADT-14	1573	ADT-22
1366	ADT-12		

STRANDED

Saxton No.	AWG No.	Stranding	Saxton No.	AWG No.	Stranding
1574	AT-24	7x30	1578	AT-16	26x30
1575	AT-22	7x30	1579	AT-14	41x30
1576	AT-20	10x30	1580	AT-12	65x30
1577	AT-18	16x30			

ANTENNA WIRE*

Saxton Number	Stranding	Material	Packing
1275	solid	#12 AWG enameled solid copper	1M′ interconnected coils of 100′ ea.
1280	solid	#14 AWG enameled solid copper	1M′ interconnected coils of 100′ ea.
1286/50	7 x 22	bare copper	1000′ interconnected coils of 50′ ea.
1286/100	7 x 22	bare copper	1M′ interconnected coils of 100′ ea.
1288/50	7 x 24	bare copper	1M′ interconnected coils of 50′ ea.
1288/100	7 x 24	bare copper	1M′ interconnected coils of 100′ ea.
1289	7 x 26	bare copper	1M′ interconnected coils of 50′ ea.

ALUMINUM GROUND WIRE

1240/1M	—	#8 AWG solid dead soft alum.	1000-ft. spool
1240/50	—	#8 AWG solid dead soft alum.	1M′ interconnected coils of 50′ ea.
1240/100	—	#8 AWG solid dead soft alum.	1M′ interconnected coils of 100′ ea.
1255/1M	—	#6 AWG solid dead soft alum.	1000-ft. spool
1255/50	—	#6 AWG solid dead soft alum.	1M′ interconnected coils of 50′ ea.
1255/100	—	#6 AWG solid dead soft alum.	1M′ interconnected coils of 100′ ea.

* Phosphor bronze and copperweld constructions available.

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saxton WIRE & CABLE DIVISION

COLORWIRE TRANSMISSION LINES

Exclusive "Magic Membrane" Makes the Difference!

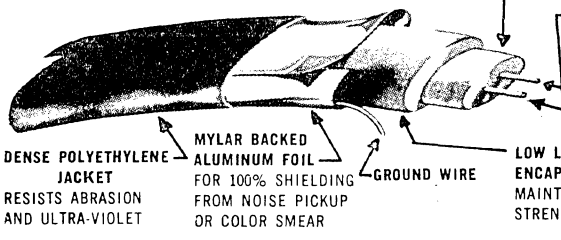
COLOR POWER

TV ANTENNA WIRE

FOR MORE BRILLIANT COLOR RECEPTION IN TOWN AND COUNTRY

FOR TOWN

Saxton #1041 SHIELDED TWIN-FOAM CABLE
300 ohm COLOR UHF-VHF
ALUMINIZED MYLAR SHIELDED CABLE
(Requires No Transformers)



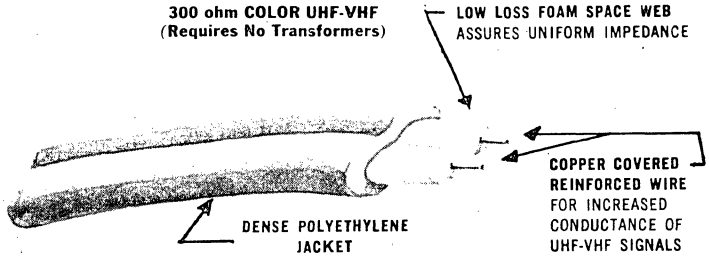
*"Magic Membrane" is Saxton's fully air-foam filled barrier that cuts signal loss to a minimum and sharpens picture clarity.

Sharpest, clearest, smear-free color reception for high noise, crowded, steel-and-concrete areas! Excellent VHF and UHF reception! These are among the many plus benefits available with the Saxton #1041 Foil Shielded Twin-Foam TV Antenna Wire. And they're all the result of our exclusive "Magic Membrane" process that encapsulates the sturdy copper conductor wire with layers of low-loss air foam polyethylene for maximum signal strength. In addition, a mylar-foil shield surrounds the foam to protect against electrical interference and reflected signals. The outer jacket of this highly flexible TV cable wire is made of carbon black filled polyethylene for extra protection against sun, heat, storm, snow . . . and ultra-violet rays! Want more? You can even run the #1041 down a drain-pipe for easy, out-of-sight installation.

UNCONDITIONALLY GUARANTEED FOR 20 YEARS

FOR COUNTRY

Saxton #1037 SUPER FOAM DELUXE TRANSMISSION WIRE
300 ohm COLOR UHF-VHF
(Requires No Transformers)



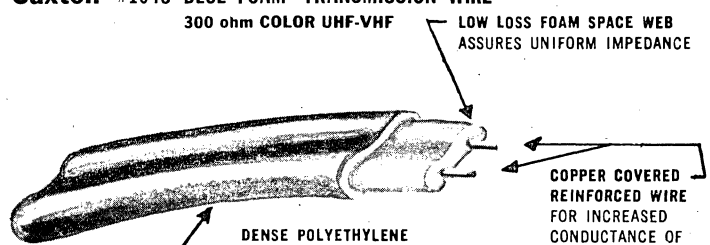
*"Magic Membrane" is Saxton's fully air-foam filled barrier that cuts signal loss to a minimum and sharpens picture clarity.

Open country and suburban fringe areas can now be assured of superb color reception with this remarkable TV antenna wire. Includes all the exclusive Saxton design features required to conduct and maintain signal strength from antenna to set. Electrically superior for all channels, the #1037 also provides unusually fine UHF and VHF results. Physically, this is a flat, twin lead transmission wire that features pre-stretched copper conductors with the exclusive "Magic Membrane" encapsulating the lead wire with polyethylene foam. All are surrounded by a high quality carbon black treated polyethylene jacket. This assures built-in resistance to severe weather conditions as well as ultra-violet rays, and provides finest possible reception.

UNCONDITIONALLY GUARANTEED FOR 20 YEARS

FOR ECONOMY

Saxton #1043 BLUE FOAM TRANSMISSION WIRE
300 ohm COLOR UHF-VHF



*"Magic Membrane" is Saxton's fully air-foam filled barrier that cuts signal loss to a minimum and sharpens picture clarity.

Made to Saxton standards of quality throughout, this sturdy polyethylene-and-foam encased transmission line answers the demand for clear VHF, UHF, and color reception at lowest cost. Delivers results that are sure to please the most cost-conscious customers, thanks to the engineering skill inherent in its design specifications. Highly resistant to dirt, oil, moisture and salt air, the #1043 outperforms any competitive make in its price class. Foot for foot, and signal for signal, it meets every requirement necessary for improving color reception under today's demanding conditions.

UNCONDITIONALLY GUARANTEED FOR 1 YEAR

See page 1786 for coaxial cable system

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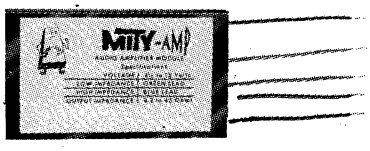
SPECIAL PRODUCT SECTION

"MITY-AMP" 2-WATT AUDIO AMPLIFIER

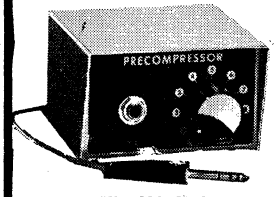


Saxton MA-100

COMPLETELY EPOXY ENCAPSULATED MODULE • Shockproof & Moisture-proof • Dirt & Dustproof

FEATURES

- SPACE-SAVING—2" x 3½" x ⅞"
- HI-FI AMPLIFIER—20 cy. to 15KC ±db at 1-watt level
- LIGHTWEIGHT—Weighs total of 6 ounces
- RUGGED—Unconditionally guaranteed. Shock, moisture and dust-proof
- EASY TO INSTALL & USE—Hooked up in minutes. Simple instructions make unit functional immediately.
- ECONOMICAL—Low in price, big in performance, Long, trouble-free life. Total power requirements 6 or 12 volts.
- PORTABLE—Operates on auto or boat battery
- VERSATILE—Uses limited only by your ingenuity. Ideal for p. a. system, phono amplifier, stereo, intercom, signal tracer, modulation, tape monitor, etc.



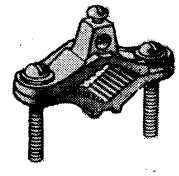
Model A
Saxton No. A-1011
Model B
Saxton No. A-1012

TRANSISTORIZED AUDIO PRECOMPRESSOR-AMPLIFIER

Specifically designed for CB and Amateur transmitters — Latest design incorporates all the advantages of conventional separate compressors, pre-amps, and clippers — Instantaneously compensates for voice fluctuations with low distortion — No wiring necessary, simply plugs into mike input — Requires no modification of transceiver.

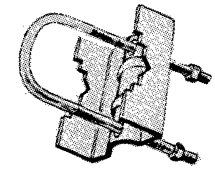
ANTENNA ACCESSORIES
SPECIAL HARDWARE

GROUND MAST CLAMPS



Saxton No. 1100

U-BOLTS AND SADDLES

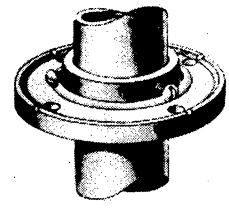


Saxton No. 1103
Also available without saddle

SAXTON BATTERIES

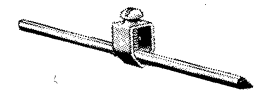
B	101	Equiv. to: Eveready S-76 - Used in A-1001 & A-1005. 1.5 volts.
B	102	Equiv. to: Eveready S-41 - Used in A-1002 1.5 volts
B	103	1.5 V Battery - Used on A-1003
B	104	9 V Battery - Used on A-733, Big Ear; A-988, Fun Gun

FLOATING GUY RINGS



Cast aluminum, two-piece floating guy ring. Fits most masts up to 1½" dia. Individually packed, complete with hardware, in plastic bags.
Saxton No. 1099

GROUND RODS



Saxton No. 1064
Four-foot overall length with clamp.

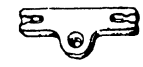
Airplane type "egg" insulator. Low air resistance, high tensile strength, white porcelain glaze. 1¾" long. Saxton No. 1156

ANTENNA WINDOW STRAPS

Saxton No. 1126

BROWN, PORCELAIN GLAZED INSULATOR

Saxton No. 1154



Doublet type antenna insulator, white glazed. Excellent electrical characteristics, high tensile strength. Dim.: 4½" x 2¾" Saxton No. 1155

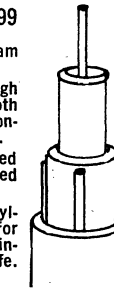
Transposition block with porcelain glaze finish. Use with many types of doublet antennae.
Saxton No. 1157

Film & Recording Tape STORAGE CHEST

Saxton No. 1230—Complete with 12 Swivel-locked, dust-proof storage cans. Insures moisture and dust-free storage of valuable tape and film. Attractive indexed storage chest. High-impact Styrene containers accommodate 5" and 7" tape or 8mm film
Saxton No. 1231 — Individual plastic storage can

ALUMINAX No. 1599

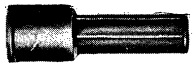
Uses ultra low loss foam dielectric.
Uses new super tough Mylar, coated on both sides with highly conductive aluminum foil.
Uses four equally spaced telephone sized stranded tinned conductors.
Uses virgin polyvinyl-chloride (PVC) jacket for flexibility, ease of installation and long life.

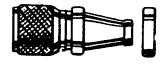


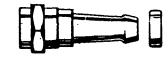
SOLDERLESS COAXIAL CONNECTORS
ADAPTERS & FITTERS, "F" AND "C" SERIES

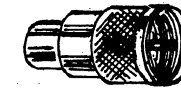
CONNECTORS
UHF - BNC

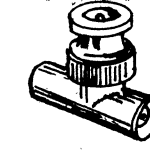
WEATHER BOOT *











Saxton No.	Type	Saxton Bubble Pk No.	Saxton No.	Type	Saxton Bubble Pk No.	Saxton No.	Type	Saxton No.	Type	Saxton No.	Type	Saxton Bubble Pk No.
700	UG88U		705	SO239	S-605¶	713	M-359A	716	C52	719	F59	S-601‡
703	UG175U	S-603‡	706	PL258	S-604¶	755	Weather Boot	717	C61	†719A	F59A	
704	UG176U		707	PL259	S-602‡			718	C81	720	F61	
										721	F81	

CUSTOM CABLES — Available with any combination of fittings or connectors.
Weatherproof fitting for RG/59U Types. ¶ 1 in a pack. ‡ 2 in a pack. † For use with 82-channel coax.

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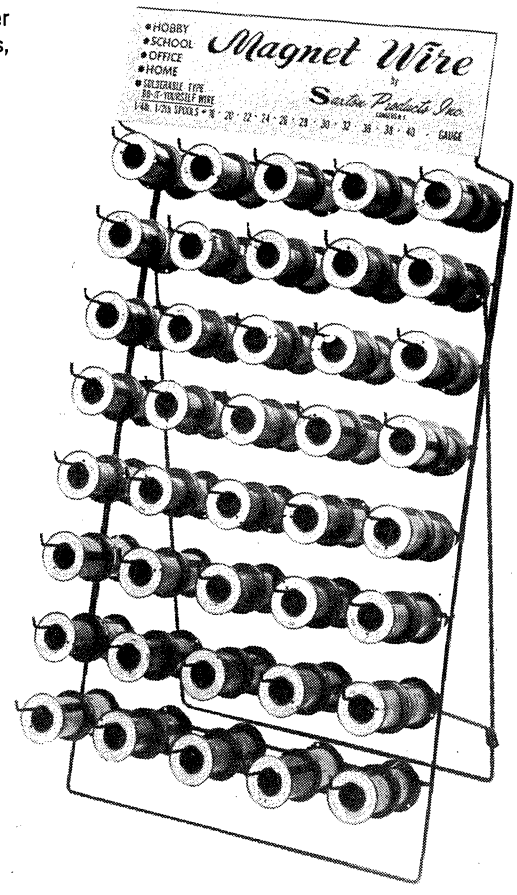
saxton
WIRE & CABLE DIVISION

SPECIAL PRODUCT SECTION

MAGNET WIRE MERCHANDISER
FOR HOBBY, SCHOOL, OFFICE, SCIENCE PROJECTS

Here's a complete assortment of Saxton's finest solderable, softdrawn, insulated copper magnet wire conveniently placed on spools and having many applications . . . wind coils, transformers, RF chokes, etc. Size #18 to #40; weighs ¼ lb. and ½ lb.
RACK FREE WITH YOUR INITIAL ORDER.



PICK THE DEAL THAT SUITS YOU BEST

DEAL A
Consists of 40 ¼ lb. and 40 ½ lb. spools
Two spools each pin: MWR10

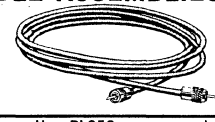
¼ lb. SPOOLS				
2 #18 Ga	2 #20 Ga	2 #22 Ga	2 #24 Ga	2 #24 Ga
2 #26 Ga	2 #26 Ga	2 #28 Ga	2 #28 Ga	2 #28 Ga
2 #30 Ga	2 #30 Ga	2 #32 Ga	2 #32 Ga	2 #32 Ga
2 #34 Ga	2 #34 Ga	2 #36 Ga	2 #38 Ga	2 #40 Ga
½ lb. SPOOLS				
2 #18 Ga	2 #20 Ga	2 #22 Ga	2 #24 Ga	2 #24 Ga
2 #26 Ga	2 #26 Ga	2 #28 Ga	2 #28 Ga	2 #28 Ga
2 #30 Ga	2 #30 Ga	2 #32 Ga	2 #32 Ga	2 #32 Ga
2 #34 Ga	2 #34 Ga	2 #36 Ga	2 #38 Ga	2 #40 Ga

DEAL B
Consists of 60 ¼ lb. and 60 ½ lb. spools
Three spools each pin: MWR12

¼ lb. SPOOLS				
3 #18 Ga	3 #20 Ga	3 #22 Ga	3 #24 Ga	3 #24 Ga
3 #26 Ga	3 #26 Ga	3 #28 Ga	3 #28 Ga	3 #28 Ga
3 #30 Ga	3 #30 Ga	3 #32 Ga	3 #32 Ga	3 #32 Ga
3 #34 Ga.	3 #34 Ga	3 #36 Ga	3 #38 Ga	3 #40 Ga
½ lb. SPOOLS				
3 #18 Ga	3 #20 Ga	3 #22 Ga	3 #24 Ga	3 #24 Ga
3 #26 Ga	3 #26 Ga	3 #28 Ga	3 #28 Ga	3 #28 Ga
3 #30 Ga	3 #30 Ga	3 #32 Ga	3 #32 Ga	3 #32 Ga
3 #34 Ga	3 #34 Ga	3 #36 Ga	3 #38 Ga	3 #40 Ga

RACK FREE WITH YOUR INITIAL ORDER.

COAXIAL CABLE ASSEMBLIES FOR CB & HAM USE



BAG-PACKED

Staxon Number	Length	Type	Description
800	10′	RG8U	Has PL259 on one end, two terminating spade lugs on the other
801	10′	RG8U	Same as #800 except PL259 to PL259
802	15′	RG8U	Has PL259 on one end, two terminating spade lugs on the other
803	15′	RG8U	Same as #802 except PL259 on both ends
804	20′	RG8U	Has PL259 on one end and two terminating spade lugs on the other
805	20′	RG8U	Same os #804 except PL259 to PL259
806	10′	RG58U	Has PL259 and UG175U reducer on one end, two univ. terminating lugs on other end
807	10′	RG58U	Same as #806 except PL259 and UG175U reducer at both ends
808	15′	RG58U	Has PL259 and UG175U reducer on one end, two univ. type terminating lugs on other end
809	15′	RG58U	Same as #808 except PL259 and UG175U reducers are at both ends
913	50′	RG8U	Foam — PL259 connectors each end.
914	100′	RG8U	Foam — PL259 connectors each end.
915	50′	RG58U	Foam — PL259 connectors with adaptors each end.
916	100′	RG58U	Foam — PL259 connectors with adaptors each end.

BUBBLE-PACKED

810	20′	RG58U	Has PL259 and UG175U reducer on one end, two univ. type terminating lugs on other end
811	20′	RG58U	Same as #810 except PL259 and UG175U reducers at both ends
812	2′	RG58U.CB test lead.	Same construction as #811.

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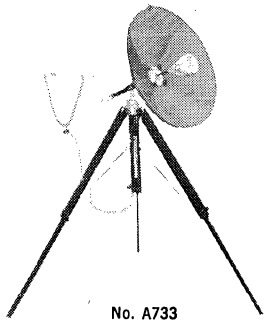
saxton WIRE & CABLE DIVISION

SPECIAL PRODUCT SECTION

THE "BIG EAR"

ELECTRONIC SOUND COLLECTOR



No. A733

Complete with stethoscope earphones less batteries

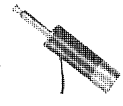
- **"Homes in" on faint sounds up to 100 feet away . . . twice as far over water.**
- **Exclusive Cordless Broadcast Accessory to increase sensitivity tenfold also available.**
- **Use indoors or outdoors—from baby sitting to bird watching.**
- **Practical, instructional and entertaining for young and old.**
- **The latest in solid state circuitry.**

"Big-Ear" opens up the fascinating world of sound around you. It enables you to hear normal, ordinary conversation at 100 feet away; bird calls at up to 200 feet. Basically the "Big-Ear" combines the principle of a parabolic microphone, a high gain amplification system, and stethoscope earphone, for intimate listening.

Operates for hours on a standard 9 volt transistor battery. Comes complete with sturdy, adjustable tripod legs for convenient use.

"Big-Ear" Broadcast Accessory

Broadcasts "Big-Ear" through FM Radio!



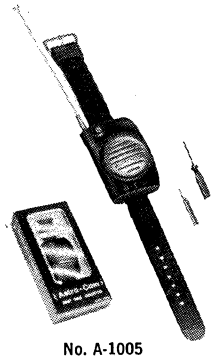
No. A-1000

Plug in our exclusive cordless Broadcast Accessory and convert "Big-Ear" into a professional listening device, without using the stethoscope. This enables you to broadcast "Big-Ear" sound to any FM receiver up to 30 feet away. With it you hear everything . . . laughing, breathing, crying — without connecting wires; with 30 times amplification. Includes battery.

Patented Nos. D212006, D212003, D212005

"ASTRO-COM"™

WRIST BROADCASTER



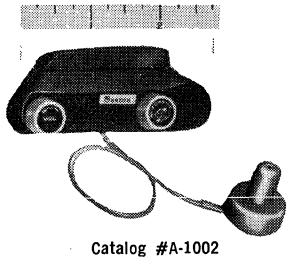
No. A-1005

- Broadcast your voice to any FM receiver within 50 feet in any direction.
- No wires! Powerful tiny silver oxide battery good for hours of broadcasting!
- Great for party fun; kids' games; keeps you in touch with playroom, bedroom, or sick room.
- Complete with replaceable silver oxide battery, nylon strap, rugged case, "whip" antenna, and tuning device.
- Electronic components designed by Saxton, first in miniature electronic equipment.

SPECIFICATIONS: Frequency Response: 300 to 6,000 hz. **Power:** 6 MW input. **Range:** Up to 50 feet, depending upon conditions. **Frequency:** FM broadcast band, (tunable ±3 megacycles through 88 megacycles. **Audio Sensitivity:** Normal voice at approximately 10 feet. **Case:** High impact polystyrene—electronics encapsulated in epoxy. **Weight:** 4 ozs. Includes B-101 battery.

eyeglass radio

CLIP INSTANTLY TO YOUR GLASSES ONLY 2¾ INCHES LONG. PICKS UP ANY STATION IN YOUR AREA!



Catalog #A-1002

Earphone plug guarantees complete privacy, while the magnetic swivel antenna permits instant adjustment for fine tuning and reception. On-off switch and tuning knob conveniently located . . . easy to use.

SPECIFICATIONS: Frequency: 550-1600 KHz. (AM Broadcast band). **Earpiece:** High fidelity magnetic. **Electronics:** 5 all Silicon Planar transistors. High gain regenerative circuit. **Antenna:** Super conductive magnetic ferrite. **Case:** High impact Polystyrene. **Batteries:** Includes (2) B-102 batteries.

Patented

HI-FI SENTINEL

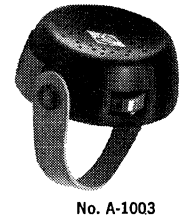
No. MM33

Automatically shuts off Hi-Fi system after last record is played on changer. A must for every hi-fi owner — it's so easy to use, you'll wonder why no one ever developed this before. Hi-Fi Sentinel not only acts as an automatic shut-off control after the last record has been played, but it's also a convenience outlet for auxiliary hi-fi equipment. As a result, it eliminates the usual messy look created by additional power cords plugged into the wall receptacle.

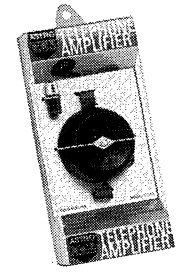
To operate, merely plug into connectors under the record changer and that's it! Conveniently located slide switch permits automatic or manual control.

IMPORTANT: May be used on all Garrard, BSR, and other changers employing AMP "mate-n-lok" panel mount connectors.

the new ASTRO COM telephone amplifier



No. A-1003



Transforms any ordinary telephone earpiece into a unique sound-control amplifier! It's a space-age electronic concept that assures the maximum in hearing range and comfort . . . attaches instantly and securely to any phone with a simple, snug-fitting band.

Carry it in your pocket . . . or in a purse, it's that portable! Especially suited for high-noise factory and office areas. And, it's a low-cost practical answer to public phone distractions. What's more, the hard-of-hearing, and elderly folks find it a definite aid, while guaranteeing privacy!

Precision-built for reliable performance, the ASTRO-COM amplifies any normal speaking voice up to five times. Complete with easily adjustable fingertip touch volume control.

SPECIFICATIONS:

Amplification:	More than 30 db.
Circuitry:	4 Transistors.
Case:	High Impact Polystyrene.
Battery:	For best results, use SAXTON #B-103 battery or equivalent.
Battery Life:	Approx. 25 hours use. Includes battery.

ASTRO COM GUITAR BROADCASTER

now—electric guitar sound, the cordless way

Catalog #A-999

Just 3¼" long, and no more than ⅝" in diameter at its widest . . . this unusual device is actually a solid-state electronic creation that transmits guitar sound — your sound, without cord, to any FM radio — as far as 50 feet away!

Easy to use! Simply plug into the output jack of your electric guitar. TUNE IN to your FM radio (88 to 94 mc). TURN ON big, quality sound! Thanks to the unique circuitry and quality components, you can be sure of full range frequency response hour after hour after hour. No distortion! No feedback!

SPECIFICATIONS: Frequency: 88 mc to 94 mc. **Range:** Up to 50 feet. **Power:** 6 MV Input. **Frequency Response:** 20 to 15,000 CPS. **Battery:** For best results, use SAXTON battery #B-101 or equivalent. Includes B-101 battery or equivalent.

Patented Nos. D212006, D212003, D212005

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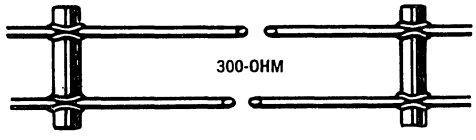
saxton WIRE & CABLE DIVISION

SPECIAL PRODUCT SECTION

** OPEN WIRE TRANSMISSION LINE
LOW LOSS AIR DIELECTRIC • BULK QUANTITIES

Saxton Number	Conductor	Spacing	Imped.	Awg No.	Insul. Spac.
2500	40% copperweld	1"	450-ohm	18	6"
2501	40% copperweld	1"	450-ohm	18	12"
2502	40% copperweld	7/16"	300-ohm	18	6"
2507	solid copper	1"	450-ohm	18	6"
2515	solid copper Formvar	1"	450-ohm	18	6"
2517	solid copper Formvar	7/16"	300-ohm	18	6"
2520	solid copper Formvar	1"	450-ohm	16	6"
2525	40% copperweld	2"	475-ohm	14	random spaced
2526	40% copperweld	2"	450-ohm	12	random spaced

MAX. SPOOL: 6" spacing, 500 ft.; 12" spacing, 1000 ft.; 300-ohm, 500 ft. 500' spool standard. 100' & 250' available.

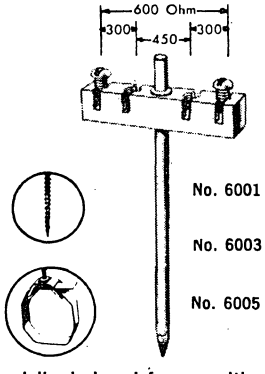


CHARACTERISTIC CHART — TRANSMISSION LINE LOSS DB LOSS PER 100 FT.

Type	100 MC Wet	100 MC Dry	500 MC Wet	500 MC Dry	1000 MC Wet	1000 MC Dry
300 Ohm Open Wire	1.20	0.40	2.30	.80	1.9	1.8
450 Ohm Open Wire		0.35		.78		1.1
*Two Inch Spaced Open Wire		.19		.42		.89
300 Ohm Tubular	2.8	1.1	6.8	3.1	10.2	4.8
300 Ohm Flat	7.6	1.5	20.0	3.2	30.0	5.0
RG-59U		3.8		9.4		14.2
RG-11U		1.8		5.0		7.6

* CHARACTERISTIC IMPEDANCE WILL VARY WITH WIRE SIZES USED
** PLASTIC INSULATED OPEN WIRE — SEE SAXTON PAGE 4 ITEM NO. 1562.

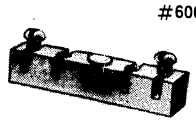
OPEN LINE ACCESSORIES
STAND-OFFS & STRESS INSULATORS



No. 6001

No. 6003

No. 6005



BLOCKS ONLY WITHOUT DRIVE-IN HARDWARE

Complete with 2 plated screws for use as spacer blocks in making your own open line installations.
Saxton No. 6000

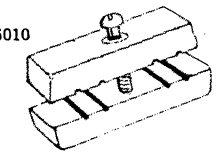
Especially designed for use with open line transmission wire installations. Tighten screws after pulling wire taut. For use as spacer, partially tighten set-screws. This permits movement of wire in the slots and avoids potential wire breaks. Use outside slots for 600-ohm wire. The "Tappee" Stand-off Insulator is good for community installations where random spacing of open line is desirable to avoid tuned circuits. Ideal also for use as anchor point or spacer for "fence wire" installations. "Tappee" permits inexpensive, time and labor-saving, trouble-free installations, and is made for use with No. 12 thru No. 18-gauge wire. Hardware constructed of double-dip galvanized steel; block is high impact polystyrene.

6000	Block only
6001	5½" nail type
6003	5" wood screw type
6005	5" pole clamp type
*6007	INS-500 type

SEE PAGE 4 FOR INSULATED OPEN WIRE TYPE INS-500.

OPEN LINE ACCESSORIES
STRESS INSULATORS AND BLOCKS

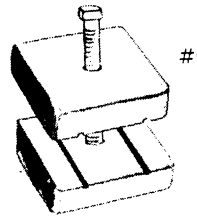
#6010



HEAVY DUTY OPEN LINE STRESS INSULATORS

Plastic blocks, slotted on either one or two-inch centers, for taking up slack or as anchor points in open line installations. Complete with plated lag bolt.12 or 14 gauge.
Saxton No. 6010

#6011



12 AWG INSULATOR

Same as Saxton No. 6010. Has 2-inch spacing for #12 AWG wires. Insulators for other gauges available on special order only.
Saxton No. 6011

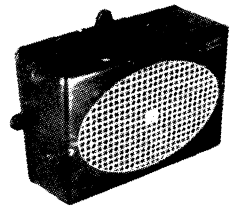
FIBRE GLASS GUY LINE

Non-radiating, non-absorbing, high-strength "wireless" guy wire in vinyl jacket. 500-lb test strength. 100-ft. coil.
Saxton No. 7000

SUPER-STRONG FIBRE GLASS GUY WIRE

Same as above but in grey vinyl jacket. 1000-lb. tensile strength. 100-ft. coil.
Saxton No. 7002

PATIO OR STATION WAGON

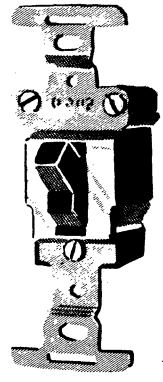


Saxton No. 1205

Made of unbreakable, high impact styrene. Mahogany color. Complete with hardware and mounting instructions. Use for paging, monitoring, patio and stereo extensions, or as extension speaker anywhere. Complete with mounting escutcheon for 5 x 7, 6 x 9, 4, 5 or 6" round speakers.

DELAYED ACTION • COMMERCIAL SAFETY SWITCH
HOME AND AUTO

Switch "off" and the lamp goes out SIXTY SECONDS LATER! Allows sufficient time to reach destination SAFELY. Replaces present wall switch in seconds. Ideal for Home, Farm or Auto. Fully guaranteed and UL Approved.
Saxton No. 560 (Ivory) Home
Saxton No. 561 (Brown) Home
Saxton No. 563 (Black) Auto



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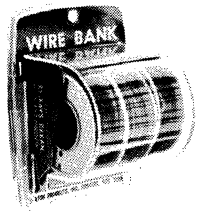
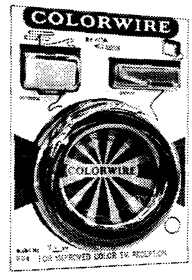
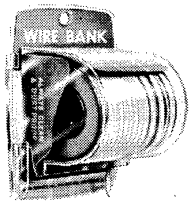
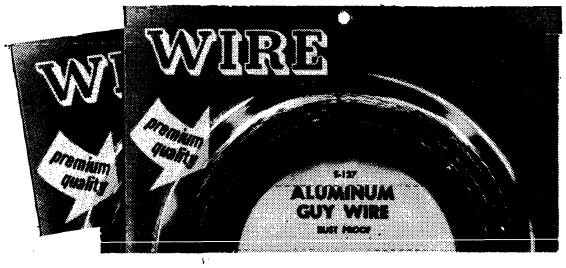
saxton
WIRE & CABLE DIVISION

SAXTON WINDOW-PAKS • BUBBLE-PAKS • DISPENSER PAKS









Saxton No.	Description	Footage
S-95	Ignition Wire for auto, boat, oil burner, or model airplane	20
S-96	Audio cable—shielded—2 cond.—22 ga. w/jacket	16
S-98	Mike cable—2 cond. low impedance—high quality audio cable	18
S-102	Intercom wire—2 cond.—no jacket (excellent thermostat wire)	60
S-103	Intercom wire—2 cond.—w/jacket (excellent thermostat wire)	35
S-104	Intercom wire—3 cond.—no jacket (excellent thermostat wire)	40
S-105	Intercom wire—3 cond.—w/jacket (excellent thermostat wire)	28
S-106	Microphone cable—single cond.—low capacitance high impedance—heavy duty	20
S-107	Zip cord—Vinyl—2 cond.—18 ga. lamp cord—available in gray, brown and white	30
S-109	Zip cord—rubber—extra flexible—lamp cord—oil resistant—available in brown and white	25
S-110	Guy wire—galvanized steel—4 strand—rust resistant	100
S-111	Speaker cable—clear plastic—polarized—heavy duty	25
S-125	Antenna wire—copper—7/24—prestretched	40
S-126	Antenna wire—copper—7/26—prestretched	50
S-127	Guy wire—aluminum—rust proof—will not stain wood or masonry—for guying and general utility use	40
S-128	Guy wire—steel—6 strand—bright galvanized-rust resistant	70
S-130	Ground wire—aluminum—dead soft #8 AWG solid	40
S-135	Copperweld wire—hard drawn—hi-conductivity antenna wire—18 ga. non-stretch	100
S-147*	Telephone extension kit—color coded—4 cond. wire w/plug and jack	25
S-148	Microphone cable—3 cond.—one lead shielded—2 leads unshielded ideal for push to talk microphone application	16
S-149*	Telephone extension cord—4 conductor—std. 4-pin molded plug and jack—adds mobility to phone or intercom	25
S-150	Shielded ignition wire	15
S-160	Television wire—twin lead—300 ohm—crystal clear—highly efficient for indoor use	21
S-161	Four conductor wires; with jacket—intercom, electric trains, kits, etc.	21
S-163	Lo-loss foam Twin Lead for indoor use	25
S-190	40 KV Hi-voltage wire 18 ga.—excellent for use as color picture tube anode wire replacement	10
S-191	3 Cond. Zip Cord—for use as extension for grounded power tools—remote control devices and appliance cords	20
S-192	Superphone—Makes your transistor radio sound like a console—personalized listening for radio, T.V., tape recorder, etc.	—
S-203*	Lazy bones-on-off appliance control for T.V., radio, fan, lamp, etc.	15
S-204*	Aerial kit for improved broadcast and shortwave reception	—
S-205*	Safe-pull—improved type of plug-in device for master T.V. antenna system. Replaces popular Motorola type plug	10
S-206	Same as above (Motorola type plug)	20
S-208*	Retractile coiled cord — microphone cable — 1 shielded — 2 unshielded	6
S-209*	Retractile coiled cord — microphone cable — 1 shielded — 3 unshielded	6
S-211*	Aerial kit — deluxe — for improved broadcast and shortwave reception—heavy duty antenna wire and heavy duty lead-in wire	—

*Special purpose cable.

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SAXTON WINDOW-PAKS • BUBBLE-PAKS • DISPENSER PAKS

Saxton No.	Description	Footage
S-212	Same as S-213 (RCA type plug)	10
S-213	Same as S-206 but RCA plugs one end, lugs other end	20
S-214*	Replacement cord—UL approved—w/molded male plug one end, tinned wires other end—suitable for vacuum cleaners, electric brooms, power tools, etc.	15
S-215*	Retractile telephone handset extension cord—available in black, white, beige	25
S-216*	Extension cord—heavy duty deluxe type—w/cube tap one end and molded male plug other end	15
S-222*	Stereo extension cord—to be used as extension cord for stereo headphones	15
S-223*	Stereo extension cord—to be used as extension cord for stereo headphones	25
S-224*	Retractile stereo extension cord for use with stereo headphones—15′ long extended	—
S-225*	Same as above—25′ long extended	—
S-226	CB and 2-way radio linear amplifier battery lead.	25′
S-230	Antenna wire—copper—7/22—prestretched	50
S-231*	Retractile electric guitar extension cord complete with regular and offset plugs	15
S-232*	Telephone handset extension—retractile—available in black, white or beige	15
S-233	Four conductor, flat extra flexible polarized cable for use with stereo tape players—can also be used for train sets, intercom and other purposes where 4 wires are required	30
S-234	Coaxial cable—RG-58/U—52 ohm—for CB—HAM—fixed or mobile use	22
S-235	Coaxial Cable—RG-59/U—72 ohm antenna leads	22
S-236	Single conductor—retractable mike cord	6
S-237	3 Conductor telephone wire—beige	25
S-301*	Test leads—3 color coded—leads w/alligator clips attached at both ends—for all automotive and household use	30″
S-302	Test Leads—(2) leads w/alligator clips	72″
S-306*	FM antenna—folded dipole	—
S-309	Heavy duty lightning arrestor deluxe type—ceramic shell, externally fused, suitable for UHF & VHF applications. Can accommodate coaxial cable, tubular, oval and flat twin lead as well as open wire line	—
S-310	2 set coupler — Deluxe	—
S-311	3 set coupler — Deluxe	—
S-317	Braided bonding strap—used for ground	10
S-318*	Shielded audio cables—retractile—color coded for quick and easy identification. RCA type plugs each end	8″-66″
S-319	Telephone plug and jack—make your own telephone extensions	—
S-320	Telephone plug only—(male)	—
S-321	Telephone jack only—(female)	—
S-325*	Shielded audio cable—retractile—color coded—RCA type plug one end, tinned leads other end	8″-66″
S-326*	Shielded audio cable—retractile—color coded—RCA type plug one end, alligator clips other end	8″-66″
S-327*	UHF folded dipole antenna	—
S-330	Indoor matching transformer—matches 75 ohm coax to 300 ohm terminals on T.V. sets—with F59 connector	—
S-331	Outdoor matching transformer—300 ohm to 75 ohm —with mounting strip, F59 cable connector and weather boot	—
S-332	UHF-VHF-FM antenna splitter—triple tuned—band pass filter	20

*Special purpose cable.

saxton WIRE & CABLE DIVISION

SAXTON WINDOW-PAKS • BUBBLE-PAKS • DISPENSER PAKS

Saxton No.	Description	Footage
S-334*	Audio accessory cord—w/plug and alligator clips—for portable and transistor radio speaker extensions and general utility extensions	6
S-335*	Audio accessory cord—w/built-in matching network—complete w/plug and alligator clips—record directly from output without overloading	6
S-336*	Audio accessory cord—inter-connects most audio components—RCA plugs each end	6
S-337*	Audio accessory cord — interconnects most audio components—RCA plugs each end	10
S-341*	Twin stereo audio cord assembly w/RCA plugs both ends—color coded	48″
S-342	Twin stereo audio cord assembly w/RCA plugs one end—other end tinned	48″
S-400	Matching transformer kit; 300 ohm to 75 ohm; includes one S-330 transformer, one S-331 outdoor transformer, one mounting strap, one F59 connector and one weather boot	—
S-501	Telephone jack and wall plate—for internal installation of phone extensions	—
S-560	Ivory Delay Switch for home—put off garage or basement lights after you leave	—
S-561	Brown Delay Switch for home—put off garage or basement lights after you leave	—
S-810*	Citizens Band extension; RG-58/U w/PL-259 and UG-175/U reducer one end and two universal terminating lugs other end	20
S-811*	Citizens Band extension; RG-58/U with PL-259 and UG-175/U at both ends	20
S-812*	CB cable assembly 24″ w/PL-259 plug and reducer at each end. Perfect for interconnecting ham or CB equipment—used in measuring signal strength standing wave ratios; excellent for use with coaxial relays or antenna selection switches	—
S-900	Low loss, foam-filled RG-59/U complete with pre-attached F59 fittings each end, weather boot and complete instructions	100
S-901	Same as above	75
S-902	Same as above	50
S-903	Same as above, including two 72/300 ohm matching transformers—one for outdoor use, one indoor, complete w/mounting hardware	100
S-904	Same as above	75
S-905	Same as above	50
S-907	All-channel (82 channel) coax complete w/terminal fittings on each end, weather boot, and complete instructions. UHF-VHF	100
S-908	Same as above	75
S-909	Same as above	50
S-910	Same as S-907, except includes two special matching transformers—one for outdoor use, one indoor. Complete w/fittings and mounting hardware	100
S-911	Same as S-910	75
S-912	Same as S-910	50
S-913	RG-8/U Poly foam w/PL-259 each end	50
S-914	Same as above	100
S-915	RG-58/U foam w/PL-259 each end	50
S-916	Same as above	100
S-917	RG-59/U w/PL-259 each end	4
WIRE BANKS		
WS-100	Cable—miniature parallel Speaker Wire—24 ga.—available in black, brown, gray, white and clear	53
WS-101	Microphone cable—lapel type	20
WS-108	Audio cable—wrap shield—easily pigtailed—available in other colors	20
WS-112	Phono or grid wire—shielded—single conductor	30
WS-113	High voltage wire—20 KV rating—flame retardant rulan	21
WS-115	Hook up wire—18 ga. solid	55
WS-115B	Hook up wire—18 ga. stranded	52
WS-116	Hook up wire—20 ga. solid	72
WS-116B	Hook up wire—20 ga. stranded	70
WS-117	Hook up wire—22 ga. solid	90
WS-117B	Hook up wire—22 ga. stranded	85
WS-118	Bell wire—18 ga	58
WS-122	Test prod wire—red—plastic	22
WS-122A	Test Prod wire—red—rubber—extra flexible	16
WS-123	Test prod wire—black—plastic	22
WS-123A	Test prod wire—black—rubber—extra flexible	16
WS-156	Three conductor, clear, miniature, parallel cable speaker extensions—stereo and monaural—low voltage applications	36
WS-162	Magnet wire for hobbyists—22 ga	93
WS-163	Magnet wire for hobbyists—24 ga	150
WS-164	Magnet wire for hobbyists—26 ga	240
WS-165	Magnet wire for hobbyists—16 ga	21
WS-166	Magnet wire for hobbyists—18 ga	36
WS-167	Magnet wire for hobbyists—20 ga	57
WS-170	Rainbow wire 2 color—2 conductor	38
WS-171	Rainbow wire 3 color—3 conductor	29
WS-172	Rainbow wire 4 color—4 conductor	25
WS-173	Magnet wire for hobbyists—27 ga	300
WS-174	Magnet wire for hobbyists—28 ga	378
WS-175	Magnet wire for hobbyists—30 ga	600
WS-176	#12 ga. stranded primary Hook-up wire	18
WS-177	#14 ga. stranded primary Hook-up wire	21
WS-178	#16 ga. stranded primary Hook-up wire	25
WS-179*	#32 ga. Magnet wire for hobbyists	953
WBS-100	Speaker extension cable—miniature parallel—24 ga. 3 colors—low voltage applications	54
WBS-115	Hook-up wire—3 colors—18 ga. solid	51
WBS-115B	Hook-up wire—3 colors—18 ga. stranded	48
WBS-116	Hook-up wire—3 colors—20 ga. solid	66
WBS-116B	Hook-up wire—3 colors—20 ga. stranded	60
WBS-117	Hook-up wire—3 colors—22 ga. solid	81
WBS-117B	Hook-up wire—3 colors—22 ga. stranded	72
WBS-119	Hook-up wire—3 colors—24 ga. solid	108
WBS-120	Hook-up wire—3 colors—24 ga. stranded—high quality	96
WBS-121	Bell wire—3 colors—22 ga.—high quality	69
WBS-122	Test prod wire—plastic—3 colors	27
WBS-123	Test prod wire—rubber—extra flexible—3 colors	18
WBS-129	Bell wire—3 colors—20 ga	54
WBS-131	Bell wire—3 colors—18 ga	48
WBS-165	Magnet wire—3 sizes—22 ga., 24 ga. 26 ga.—school experiments—coils—home and shop bench	—
WBS-166	Magnet wire—3 sizes—18 ga., 20 ga., 22 ga.—school experiments—coils—home and shop bench	—
WBS-167	Magnet wire—3 sizes—24 ga., 26 ga., 28 ga.—school experiments—coils—home and shop bench—thousands of uses	50-80-126
WBS-170	Phono pickup wire—stereo arm assortment	—
WBS-172	Bus wire—tinned—20, 22 and 24 ga.—electrical or electronic applications — high conductive — easily soldered—home or factory bench	108
WBS-175	Hook-up wire—Nylon—assortment—high temp	60
WBS-180	High temperature wire — Teflon coated — assorted colors—3 spools	69
TS-25	Twin Lead—300 ohm—Bubble pack—brown, clear—gold and silver	25
TS-50	Twin Lead—300 ohm—Bubble pack—brown, clear—gold and silver	50
TS-75	Twin Lead—300 ohm—same as above	75
TS-100	Twin Lead—300 ohm—same as above	100
DDS-50	Twin Lead—300 ohm—economy-bag—Clear, brown	50
DDS-75	Twin Lead—300 ohm—same as above	75
DDS-100	Twin Lead—300 ohm—same as above	100

*Special purpose cable.

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Page 2

AIRCRAFT WIRE (Unshielded) 600 VOLT 22 AWG to 4/0 AWG

STRANDED TINNED COPPER — POLYVINYL INSULATION (White) — NYLON JACKET

AWG SIZE	Stranding	Catalog No.	Nominal Diameter (Inches)	Nominal Weight (Lbs./M')	Catalog No.	Nominal Diameter (Inches)	Nominal Weight (Lbs./M')	Catalog No.	Nominal Diameter (Inches)	Nominal Weight (Lbs./M')
22	19 x 34	107-1	.066	3.96	107-1A	.075	4.55	107-1B	.085	5.45

Page 7

HIGH TEMPERATURE WIRE MIL-W-8777 B (ASG) MS 25471 (ASG) 200°C 600 VOLT

POLYESTER FIBER BRAID HEAT RESISTANT FINISHER — SILVER COATED COPPER — EXTRUDED SILICONE

Size	Catalog No.	Stranding	Cir. Mil. Area	Max. Bare Diam. (Inches)	Max. Resist. @ 20°C Ohms/1000 ft.	Max. Fin. Diam. (Inches)	Max. Wt. Lbs./1000 ft.
22	1105-3	19 x 34	755	0.033	15.2	.090	5.8

Page 42

ANTENNA WIRE

CATALOG NO.	MILITARY TYPE	AWG SIZE	DIELECTRIC	NOMINAL DIAMETER	MIN. LBS. CONDUCTOR BREAKING STRENGTH
801-175	6370-2	16 Solid CW	Poly	.183	250

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